

459, 459S, 559, and 559S Round Baler (Export)

(Serial No. 380001 -)



OPERATOR'S MANUAL

459, 459 Silage Special, 559, and 559 Silage Special Round Baler (Export)

OMFH313138 ISSUE H6 (ENGLISH)

CALIFORNIA Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

If this product contains a gasoline engine:

WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

The State of California requires the above two warnings.

Additional Proposition 65 Warnings can be found in this manual.

John Deere Ottumwa Works

Export
PRINTED IN U.S.A.



Introduction

Foreword



559 with MegaWide™ Plus Pickup and COVER-EDGE™ Net Wrap

READ THIS MANUAL carefully to learn how to operate and service your machine correctly. Failure to do so could result in personal injury or equipment damage. This manual and safety signs on your machine are available in other languages (see your John Deere dealer to order).

THIS MANUAL SHOULD BE CONSIDERED a permanent part of your machine and must remain with the machine when you sell it.

MEASUREMENTS in this manual are given in both metric and customary U.S. unit equivalents. Use only correct replacement parts and fasteners. Metric and inch fasteners require a specific metric or inch wrench.

RIGHT-HAND AND LEFT-HAND sides are determined by facing the direction the implement travels when going forward.

WRITE PRODUCT IDENTIFICATION NUMBERS (PIN) in the Specification or Identification Numbers section. Accurately record all the numbers to help in tracing the machine should it be stolen. Your dealer also needs these numbers when you order parts. File the identification numbers in a secure place off the machine.

BEFORE DELIVERING THIS MACHINE, ensure that your dealer performed a predelivery inspection.

THIS BALER IS DESIGNED SOLELY for use in customary agricultural or similar operations ("INTENDED USE"). Use in any other way is considered as contrary to the intended use. The manufacturer accepts no liability for damage or injury resulting from this misuse, and these risks must be borne solely by the user. Compliance with and strict adherence to the conditions of operation, service, and repair as specified by the manufacturer also constitute essential elements for the intended use.

THIS BALER SHOULD BE OPERATED, serviced and repaired only by persons familiar with all its particular characteristics and acquainted with the relevant safety rules (accident prevention). The accident prevention regulations, all other generally recognized regulations on safety and occupational medicine and the road traffic regulations must be observed at all times. Any arbitrary modifications carried out on this baler will relieve the manufacturer of all liability for any resulting damage or injury.

If you are not the original owner of this machine, it is in your interest to contact your local John Deere dealer to inform them of this unit's serial number. This will help John Deere notify you of any issues or product improvements.

E62395—UN—09APR12

PP98408,000067B -19-09APR12-1/1

Dealers Record

Owners Name _____ Date Sold _____
 Address _____ Model _____
 City _____ Serial Number _____
 State _____ Zip _____

PP98408,000067C -19-27SEP11-1/1

Predelivery

After the baler has been set up, make sure that it is in good running condition before delivering to the customer. The following checklist is a reminder of important points to inspect. Check off each item after it is found satisfactory or after the correct adjustment is made.

- ☐ Baler has been assembled correctly.
 - ☐ Check all hydraulic hoses and connections for oil leaks.
 - ☐ Check monitor-controller. Make sure that communication signal is received when monitor is turned on.
 - ☐ Check function of oversize bale alarm. (See TESTING GATE LATCH AND OVERSIZE BALE SWITCHES in Service—Baler section.)
 - ☐ Lower pickup and cycle twine arms or net wrap actuator (if equipped) to check for proper function.
 - ☐ Gate opens and closes freely and latches are adjusted correctly.
 - ☐ Gate lock valve functions correctly.
 - ☐ Belt tracking is satisfactory.
 - ☐ Machine lubricated and gear case level checked. (See LUBRICATION AND MAINTENANCE section.)
 - ☐ Drive chains have been adjusted correctly and lubricated.
 - ☐ Warning lights are operating correctly.
 - ☐ Check that shipping cover on SMV sign has been removed and sign is properly displayed.
 - ☐ Decals intact and legible.
 - ☐ Tire pressure checked.
 - ☐ Check operating functions of any optional equipment installed.
 - ☐ If equipped, make sure that fire extinguisher is filled and pressurized.
 - ☐ Washer baler to remove road salt and dirt. Avoid washing chains, bearings, and electrical components.
- (Date set up) _____
 (Signature) _____

PP98408,00009BE -19-03AUG12-1/1

Delivery

The following checklist is a reminder of important information which must be conveyed to the customer at the time the baler is delivered. Check off each item as it is fully explained to the customer.

- ☐ John Deere warranty.
- ☐ Safe and correct operation and service.
- ☐ Daily and periodic inspections.
- ☐ Servicing machine regularly and correctly.
- ☐ Explain proper bale handling procedures.
- ☐ Advise customer to use safety chain.
- ☐ Advise use of baler fire extinguisher.
- ☐ Explain correct ASABE standard dimensions for PTO hookup.
- ☐ Give the Operator's Manual to the customer and encourage customer to read entire manual.
- ☐ Advise customer of safety precautions that must be observed while using this baler.
- ☐ Advise the customer never to discharge bales on sloping ground and if moving bales with a tractor loader, the loader MUST have a grapple or bale spear.
- ☐ Advise the customer to set out front and rear wheels on tractors having adjustable tread width to avoid driving over hay. (See PREPARING the TRACTOR section.)
- ☐ Review information on how to prepare the baler. (See PREPARING the BALER section in Operator's Manual.)
- ☐ Review procedures for attaching or detaching from tractor including required drawbar shield. (See ATTACHING and DETACHING section.)

- ☐ Recommended transporting information including latching doors during transport. (See TRANSPORTING section.)
- ☐ Make customer aware of all optional equipment offered for this machine. (See ATTACHMENTS section in Operator's Manual.)
- ☐ Recommended lubricants. (See LUBRICATION and MAINTENANCE section.)
- ☐ Review service intervals and lubrication points. (See LUBRICATION and MAINTENANCE section.)
- ☐ Review all adjustments. (See SERVICE section in Operator's Manual.)
- ☐ Check bale diameter display. Actual bale diameter must match monitor bale diameter display. (See ADJUST BALE DIAMETER DISPLAY in Operating the Baler section.)
- ☐ Recommended machine storage. (See STORAGE section.)
- ☐ Have customer record machine serial number in the Specifications section.
- ☐ John Deere parts and service.
- ☐ If equipped, verify in field that Automation Mode is functioning properly.
- ☐ Remove and file this page.

(Date Delivered) _____

(Signature) _____

PP98408,00009BF -19-03AUG12-1/1

After-Sale

It is suggested the following items be checked sometime during the first season of operation.

- ☐ Inspect entire machine for loose or missing hardware.
- ☐ Check belt lacings for excess wear.
- ☐ Check belt pins every 2000 bales. Replace worn or damaged pins.
- ☐ All chains are correctly tightened.
- ☐ All safety shields and safety chain are in place.
- ☐ Check for broken or damaged parts.

- ☐ If possible, run the baler to see if it is functioning properly.
- ☐ A good quality twine and/or surface wrap is being used and is threaded correctly.
- ☐ Check operating adjustments. If possible, inspect wraps on a few bales.
- ☐ Review the entire Operator's Manual with the customer and stress the importance of safety precautions, special operating conditions, and proper and regular lubrication.

(Date Checked) _____

(Signature) _____

PP98408,00009C0 -19-03AUG12-1/1

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A John Deere ILLUSTRATION™ Manual

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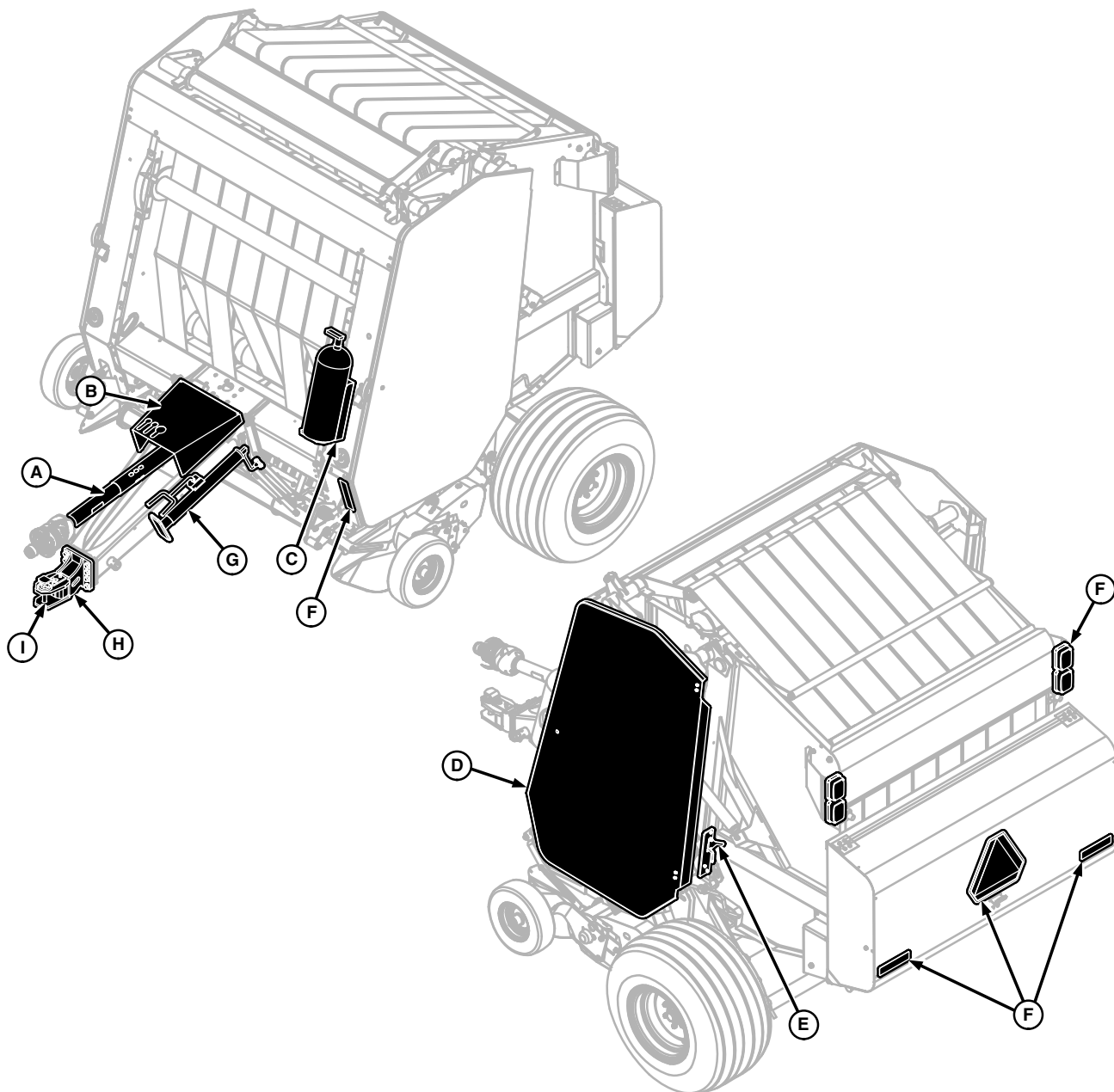
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Serial Numbers

Serial Number Plate	80-1
Serial Number Plate Description	80-1
Record Baler Serial Number.....	80-1
Keep Proof of Ownership	80-2
Keep Machines Secure	80-2

Safety Features

Machine Safety Features



A — Fully shielded power take-off (PTO).

B — Hinged shielding over slip clutch covers rotating input shaft. Provides easy service access.

C — Fire extinguisher mounting location to accommodate installation of extinguisher where use conditions dictate.

D — Doors or shields on both sides of baler cover drive components. Mechanical latch makes opening and closing convenient for service access.

E — Rear gate lockout secures gate in open position for access to inside of bale chamber.

F — Slow moving vehicle (SMV) emblem, flashing warning lights, red tail lamps, and reflectors enhance visibility during road transport. Flashing warning lights synchronize with tractor turn signals to indicate turn intention to vehicular traffic.

G — Hitch jackstand supports and positions hitch for hookup and removal.

H — Safety chain further secures machine to tractor drawbar.

Continued on next page

PP98408,000047C -19-10JUL13-1/2

E69499 —UN—21MAR13

Safety Features

I — Drawbar hitch pin retainer keeps implement hitch pin in place.

PP98408,000047C -19-10JUL13-2/2

Safety

Recognize Safety Information

This is a safety-alert symbol. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury.

Follow recommended precautions and safe operating practices.



DX,ALERT -19-29SEP98-1/1

T81389 —UN—28JUN13

Follow Safety Instructions

Carefully read all safety messages in this manual and on your machine safety signs. Keep safety signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from your John Deere dealer.

There can be additional safety information contained on parts and components sourced from suppliers that is not reproduced in this operator's manual.

Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.

Keep your machine in proper working condition. Unauthorized modifications to the machine may impair the function and/or safety and affect machine life.



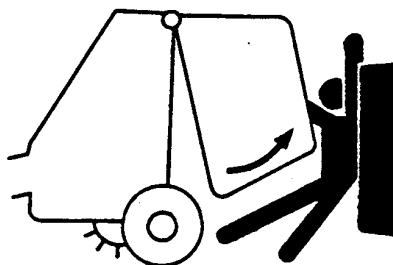
If you do not understand any part of this manual and need assistance, contact your John Deere dealer.

DX,READ -19-16JUN09-1/1

TS201 —UN—15APR13

Protect Bystanders

To prevent crushing injury be sure that bystanders stand clear before operating gate and unloading bale.



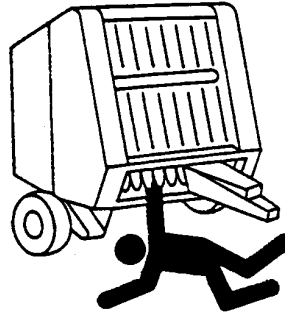
PP98408,0000681 -19-27SEP11-1/1

E32162 —UN—12SEP88

Operate Baler Safely

To avoid injury or death by being pulled into the machine:

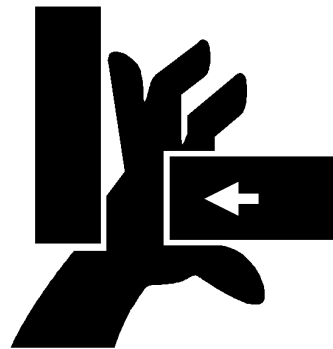
- DO NOT attempt to feed crop or twine into baler or unplug feed area WHILE BALER IS RUNNING. The baler feeds material faster than you can release it.
- Disengage PTO and shut off engine.
- Stand clear of baler at all times when machine is operating.



E32161—UN—12SEP88

PP98408,0000682 -19-27SEP11-1/2

If baler plugs during twine arm cycle, it is recommended that twine arms be manually positioned to release any "hold" they have on the crop plug. Turn off power to twine arms. This procedure makes the unplugging operation easier and prevents the twine arms from moving unexpectedly. Stay out of the path of twine arms at all times when power to the arms is ON.



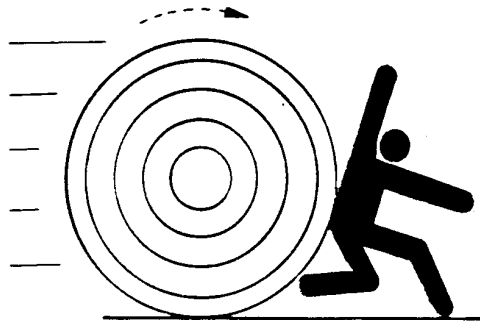
E47598—UN—07JAN00

PP98408,0000682 -19-27SEP11-2/2

Operate Safely on Slopes

Be especially careful when operating on hillsides. The baler can tip sideways if it strikes a hole, ditch, or other irregularity.

To prevent injury or damage from a rolling bale, discharge bales on level ground or in such a manner that the bale cannot roll.



E36866—UN—30APR92

PP98408,0000683 -19-27SEP11-1/1

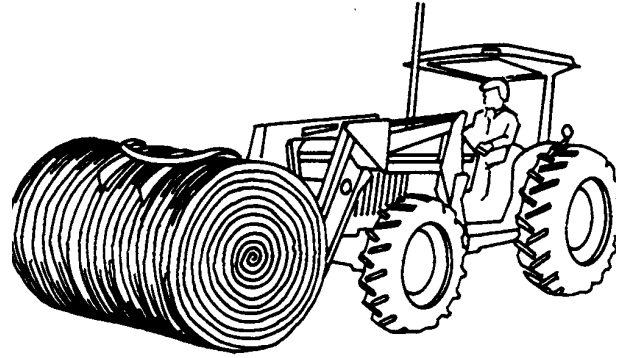
Handle Round Bales Safely

To help prevent personal injury, do not handle round bales without approved John Deere Round Bale Handling attachments.

Improper use of loaders to handle round bales can result in serious injury or death to the tractor or loader operator.

To attain optimum stability and visibility:

- Do not handle bales that exceed the bale weight limitations of the loader.
- Carry the bale slowly and as low as possible to the ground.
- Operate the loader controls smoothly, avoiding jerky operation.
- When handling round bales on a slope, always approach the bale with the tractor facing uphill.



- Never use the tractor or loader to stop a rolling bale.

PP98408,0000684 -19-27SEP11-1/1

W7718 —UN—06OCT88

Prepare For Emergencies

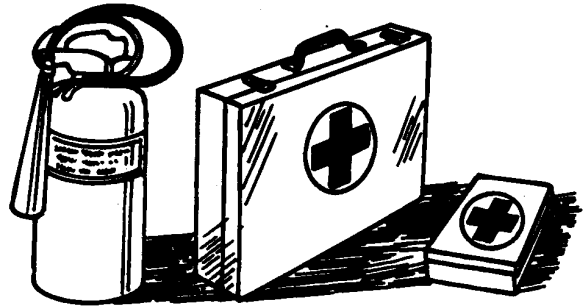
Be prepared if a fire starts.

1. Eject bale immediately.
2. Move tractor and baler upwind 9 m (30 ft.) away from flammable material.
3. Raise gate and engage gate lock valve.
4. Use fire extinguisher or other water supply to put out fire.

A 9.5 L (2-1/2 gal.) pressurized-water fire extinguisher is recommended. See manufacturers recommendation for inspection and maintenance.

Keep first aid kit handy.

Keep emergency numbers for doctors, ambulance service, hospital, and fire department near your telephone.



PP98408,0000685 -19-27SEP11-1/1

TS291 —UN—15APR13

Fire Prevention

To reduce the risk of fire, follow these guidelines, especially in any dry crop conditions:

- Equip the baler with a water-type fire extinguisher. Large capacity water fire extinguishers are recommended because application of water can cool hot parts to prevent a fire. (See Attachments section.)
- Keep foreign material (crop, chaff, twine, net wrap material) from building up on the machine near potentially hot areas. An example is bearings on the ends of baler rolls. Remove this buildup as part of the regular service operations.
- Prevent damaging seals by avoiding high-pressure power-washing adjacent to the bearings on ends of baler rolls.
- Check bearings on ends of baler rolls regularly for early signs of failure. (See Lubrication and Maintenance section or see your John Deere dealer.)
- If noticeable changes in machine performance occur indicating that a part is beginning to fail, stop baling immediately. Investigate cause of sounds, smells, or sights which are unusual.
- Promptly eject bales after they have been tied or wrapped. Do not use the baler to transport bales from the field. Do not bring a baler, with a bale inside it, into a building. Never leave a baler unattended with a bale inside the chamber.



- Use extreme care if it is necessary to park a baler in a field of a dry crop or stubble. Whenever possible, park baler on bare ground or in an area surrounded by bare ground. Before leaving a baler which has been operating, verify that there are no areas which are hot enough to start a fire. Do not leave the baler unattended near bales which have been baled wet, because spontaneous combustion can occur.
- If service requires using a welder, cutting torch or grinder, refer to Fire Prevention in Service—Baler section for guidelines which prove useful in preventing fire.
- Use extreme care when smoking around baler.

SF04007,0000C15 -19-13JUL16-1/1

TS227—JUN—15APR13

In Case of Fire

CAUTION: Avoid personal injury.

Stop machine immediately at the first sign of fire. Fire may be identified by the smell of smoke or sight of flames. Because fire grows and spreads rapidly, get off the machine immediately and move safely away from the fire. Do not return to the machine! The number one priority is safety.

Call the fire department. A portable fire extinguisher can put out a small fire or contain it until the fire department arrives; but portable extinguishers have limitations. Always put the safety of the operator and bystanders first. If attempting to extinguish a fire, keep your back to the wind with an unobstructed escape path so you can move away quickly if the fire cannot be extinguished.

Read the fire extinguisher instructions and become familiar with their location, parts, and operation before a fire starts. Local fire departments or fire equipment distributors may offer fire extinguisher training and recommendations.

If your extinguisher does not have instructions, follow these general guidelines:



1. Pull the pin. Hold the extinguisher with the nozzle pointing away from you, and release the locking mechanism.
2. Aim low. Point the extinguisher at the base of the fire.
3. Squeeze the lever slowly and evenly.
4. Sweep the nozzle from side-to-side.

DX,FIRE4 -19-22AUG13-1/1

TS227—JUN—15APR13

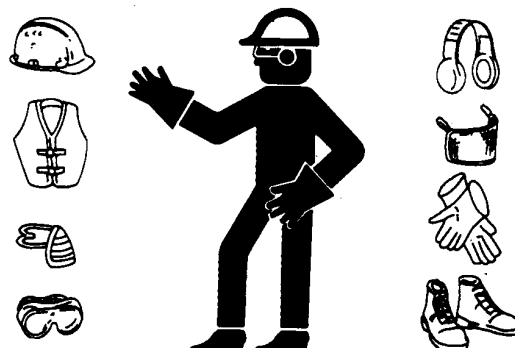
Wear Protective Clothing

Wear close fitting clothing and safety equipment appropriate to the job.

Prolonged exposure to loud noise can cause impairment or loss of hearing.

Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.

Operating equipment safely requires the full attention of the operator. Do not wear radio or music headphones while operating machine.



DX,WEAR -19-10SEP90-1/1

TS206 —UN—15APR13

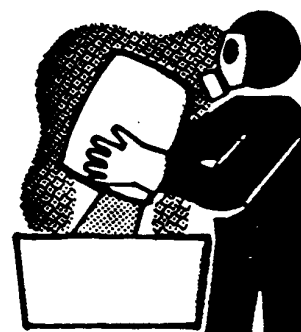
Handle Agricultural Chemicals Safely

Chemicals used in agricultural applications such as fungicides, herbicides, insecticides, pesticides, rodenticides, and fertilizers can be harmful to your health or the environment if not used carefully.

Always follow all label directions for effective, safe, and legal use of agricultural chemicals.

Reduce risk of exposure and injury:

- Wear appropriate personal protective equipment as recommended by the manufacturer. In the absence of manufacturer's instructions, follow these general guidelines:
 - Chemicals labeled **'Danger'**: Most toxic. Generally require use of goggles, respirator, gloves, and skin protection.
 - Chemicals labeled **'Warning'**: Less toxic. Generally require use of goggles, gloves, and skin protections.
 - Chemicals labeled **'Caution'**: Least toxic. Generally require use of gloves and skin protection.
- Avoid inhaling vapor, aerosol or dust.
- Always have soap, water, and towel available when working with chemicals. If chemical contacts skin, hands, or face, wash immediately with soap and water. If chemical gets into eyes, flush immediately with water.
- Wash hands and face after using chemicals and before eating, drinking, smoking, or urination.
- Do not smoke or eat while applying chemicals.
- After handling chemicals, always bathe or shower and change clothes. Wash clothing before wearing again.
- Seek medical attention immediately if illness occurs during or shortly after use of chemicals.
- Keep chemicals in original containers. Do not transfer chemicals to unmarked containers or to containers used for food or drink.



A34471

- Store chemicals in a secure, locked area away from human or livestock food. Keep children away.
- Always dispose of containers properly. Triple rinse empty containers and puncture or crush containers and dispose of properly.

DX,WW,CHEM01 -19-24AUG10-1/1

TS220 —UN—15APR13

A34471 —UN—11OCT88

Stay Clear of Rotating Drivelines

Entanglement in rotating driveline can cause serious injury or death.

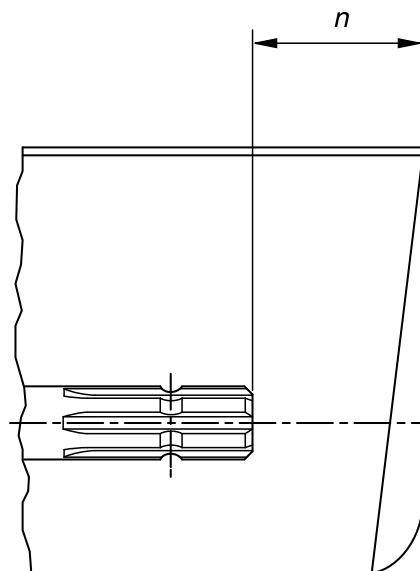
Keep tractor master shield and driveline shields in place at all times. Make sure rotating shields turn freely.

Wear close fitting clothing. Stop the engine and be sure that PTO driveline is stopped before making adjustments, connections, or cleaning out PTO driven equipment.

Do not install any adapter device between the tractor and the primary implement PTO drive shaft that will allow a 1000 rpm tractor shaft to power a 540 rpm implement at speeds higher than 540 rpm.

Do not install any adapter device that results in a portion of the rotating implement shaft, tractor shaft, or the adapter to be unguarded. The tractor master shield shall overlap the end of the splined shaft and the added adaptor device as outlined in the table.

PTO Type	Diameter	Splines	$n \pm 5 \text{ mm (0.20 in.)}$
1	35 mm (1.378 in.)	6	85 mm (3.35 in.)
2	35 mm (1.378 in.)	21	85 mm (3.35 in.)
3	45 mm (1.772 in.)	20	100 mm (4.00 in.)



TS1644 —UN—22AUG95

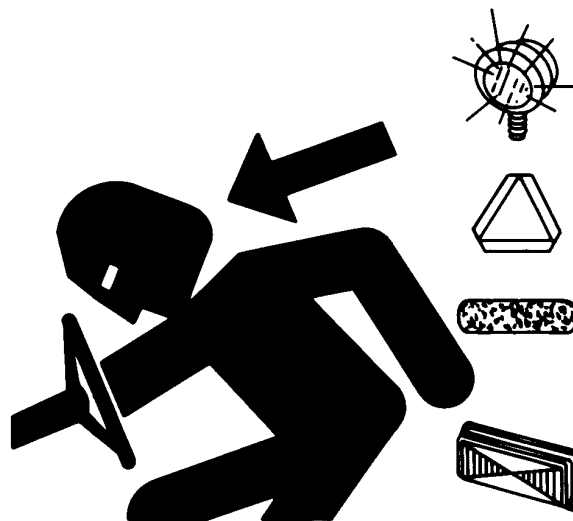
H96219 —UN—29APR10

DX,PTO -19-30JUN10-1/1

Use Safety Lights and Devices

Prevent collisions between other road users, slow moving tractors with attachments or towed equipment, and self-propelled machines on public roads. Frequently check for traffic from the rear, especially in turns, and use turn signal lights.

Use headlights, flashing warning lights, and turn signals day and night. Follow local regulations for equipment lighting and marking. Keep lighting and marking visible, clean, and in good working order. Replace or repair lighting and marking that has been damaged or lost. An implement safety lighting kit is available from your John Deere dealer.



TS951 —UN—12APR90

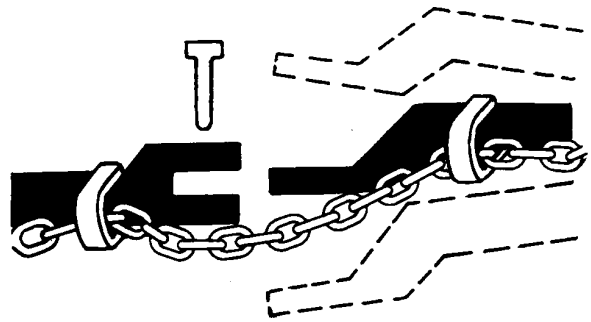
DX,FLASH -19-07JUL99-1/1

Use a Safety Chain

A safety chain will help control drawn equipment should it accidentally separate from the drawbar.

Using the appropriate adapter parts, attach the chain to the tractor drawbar support or other specified anchor location. Provide only enough slack in the chain to permit turning.

See your John Deere dealer for a chain with a strength rating equal to or greater than the gross weight of the towed machine. Do not use safety chain for towing.



DX,CHAIN -19-03MAR93-1/1

TS217 —UN—23AUG88

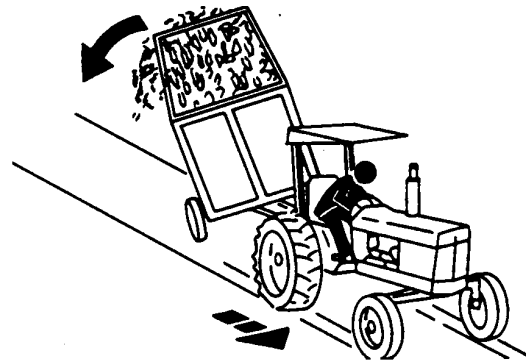
Tow Loads Safely

Stopping distance increases with speed and weight of towed loads, and on slopes. Towed loads with or without brakes that are too heavy for the tractor or are towed too fast can cause loss of control. Consider the total weight of the equipment and its load.

Observe these recommended maximum road speeds, or local speed limits which may be lower:

- If towed equipment does not have brakes, do not travel more than 32 km/h (20 mph) and do not tow loads more than 1.5 times the tractor weight.
- If towed equipment has brakes, do not travel more than 40 km/h (25 mph) and do not tow loads more than 4.5 times the tractor weight.

Ensure the load does not exceed the recommended weight ratio. Add ballast to recommended maximum for tractor, lighten the load, or get a heavier towing unit. The



tractor must be heavy and powerful enough with adequate braking power for the towed load. Use additional caution when towing loads under adverse surface conditions, when turning, and on inclines.

DX,TOW -19-02OCT95-1/1

TS216 —UN—23AUG88

Practice Safe Maintenance

Understand service procedure before doing work. Keep area clean and dry.

Never lubricate, service, or adjust machine while it is moving. Keep hands, feet, and clothing from power-driven parts. Disengage all power and operate controls to relieve pressure. Lower equipment to the ground. Stop the engine. Remove the key. Allow machine to cool.

Securely support any machine elements that must be raised for service work.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any buildup of grease, oil, or debris.

On self-propelled equipment, disconnect battery ground cable (-) before making adjustments on electrical systems or welding on machine.

On towed implements, disconnect wiring harnesses from tractor before servicing electrical system components or welding on machine.



TS218 —UN—23AUG88

DX,SERV -19-17FEB99-1/1

Remove Paint Before Welding or Heating

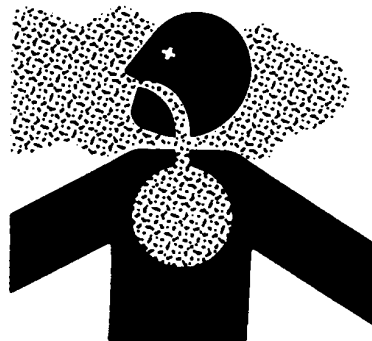
Avoid potentially toxic fumes and dust.

Hazardous fumes can be generated when paint is heated by welding, soldering, or using a torch.

Remove paint before heating:

- Remove paint a minimum of 100 mm (4 in.) from area to be affected by heating. If paint cannot be removed, wear an approved respirator before heating or welding.
- If you sand or grind paint, avoid breathing the dust. Wear an approved respirator.
- If you use solvent or paint stripper, remove stripper with soap and water before welding. Remove solvent or paint stripper containers and other flammable material from area. Allow fumes to disperse at least 15 minutes before welding or heating.

Do not use a chlorinated solvent in areas where welding will take place.



Do all work in an area that is well ventilated to carry toxic fumes and dust away.

Dispose of paint and solvent properly.

TS220 —UN—15APR13

DX,PAINT -19-24JUL02-1/1

Avoid Heating Near Pressurized Fluid Lines

Flammable spray can be generated by heating near pressurized fluid lines, resulting in severe burns to yourself and bystanders. Do not heat by welding, soldering, or using a torch near pressurized fluid lines or other flammable materials. Pressurized lines can accidentally burst when heat goes beyond the immediate flame area.



T5953 —UN—15MAY90

DX,TORCH -19-10DEC04-1/1

Avoid High-Pressure Fluids

Inspect hydraulic hoses periodically – at least once per year – for leakage, kinking, cuts, cracks, abrasion, blisters, corrosion, exposed wire braid or any other signs of wear or damage.

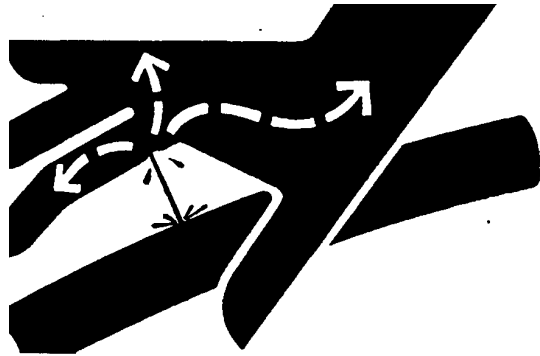
Replace worn or damaged hose assemblies immediately with John Deere approved replacement parts.

Escaping fluid under pressure can penetrate the skin causing serious injury.

Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high-pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar



X9811 —UN—23AUG88

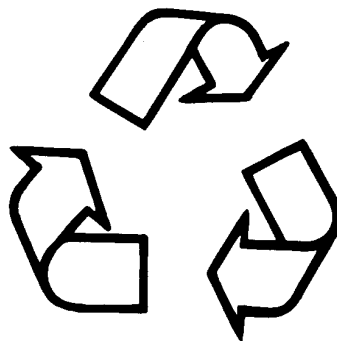
with this type of injury should reference a knowledgeable medical source. Such information is available in English from Deere & Company Medical Department in Moline, Illinois, U.S.A., by calling 1-800-822-8262 or +1 309-748-5636.

DX,FLUID -19-12OCT11-1/1

Decommissioning — Proper Recycling and Disposal of Fluids and Components

Safety and environmental stewardship measures must be taken into account when decommissioning a machine and/or component. These measures include the following:

- Use appropriate tools and personal protective equipment such as clothing, gloves, face shields or glasses, during the removal or handling of objects and materials.
- Follow instructions for specialized components.
- Release stored energy by lowering suspended machine elements, relaxing springs, disconnecting the battery or other electrical power, and releasing pressure in hydraulic components, accumulators, and other similar systems.
- Minimize exposure to components which may have residue from agricultural chemicals, such as fertilizers and pesticides. Handle and dispose of these components appropriately.
- Carefully drain engines, fuel tanks, radiators, hydraulic cylinders, reservoirs, and lines before recycling components. Use leak-proof containers when draining fluids. Do not use food or beverage containers.
- Do not pour waste fluids onto the ground, down a drain, or into any water source.
- Observe all national, state, and local laws, regulations, or ordinances governing the handling or disposal of waste fluids (example: oil, fuel, coolant, brake fluid);



TS1133 —JUN—15APR13

filters; batteries; and, other substances or parts. Burning of flammable fluids or components in other than specially designed incinerators may be prohibited by law and could result in exposure to harmful fumes or ashes.

- Service and dispose of air conditioning systems appropriately. Government regulations may require a certified service center to recover and recycle air conditioning refrigerants which could damage the atmosphere if allowed to escape.
- Evaluate recycling options for tires, metal, plastic, glass, rubber, and electronic components which may be recyclable, in part or completely.
- Contact your local environmental or recycling center, or your John Deere dealer for information on the proper way to recycle or dispose of waste.

DX,DRAIN -19-01JUN15-1/1

Safety Sign Location

Replace Safety Signs

Replace missing or damaged safety signs. Use this operator's manual for correct safety sign placement.

There can be additional safety information contained on parts and components sourced from suppliers that is not reproduced in this operator's manual.



DX,SIGNS -19-18AUG09-1/1

TS201 —UN—15APR13

Safety Signs

(A) — Danger DO NOT TAKE CHANCES. To avoid injury or death by being pulled into the machine.

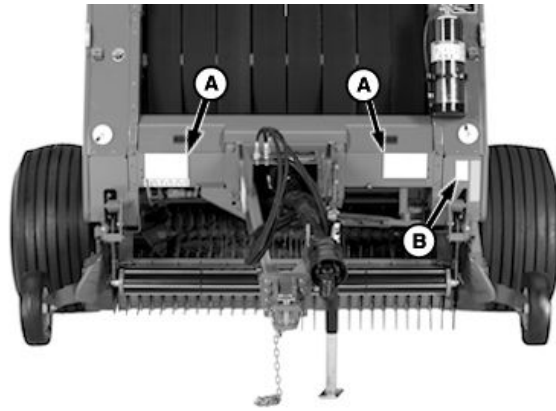
DO NOT attempt to feed crop or twine into baler or unplug feed area WHILE BALER IS RUNNING. The baler feeds material faster than you can release it.

Disengage PTO and shut off engine.

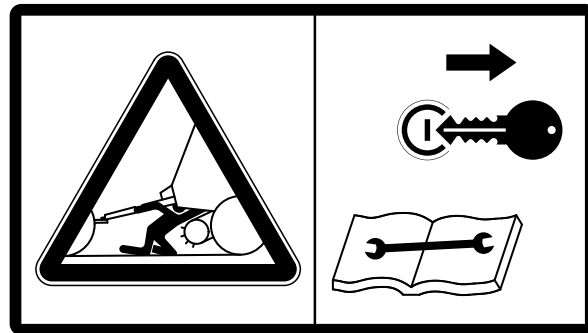
(B) — Warning Avoid crushing between twine arm and twine cutter.

Twine arm can move unexpectedly.

Keep hands out of its path and turn off power.



Front Frame



(A) — Danger



(B) — Warning

Continued on next page

OUO6064,000157E -19-09OCT15-1/13

E68049 —UN—20SEP12

SSE309022 —UN—26FEB09

SSH154128 —UN—24FEB09

(A) — **Caution** Operate only with 540 rpm PTO.



PTO Cover



(A) — *Caution*

Continued on next page

OUO6064,000157E -19-09OCT15-2/13

E67767 —UN—10SEP12

SSCC41458 —UN—24FEB09

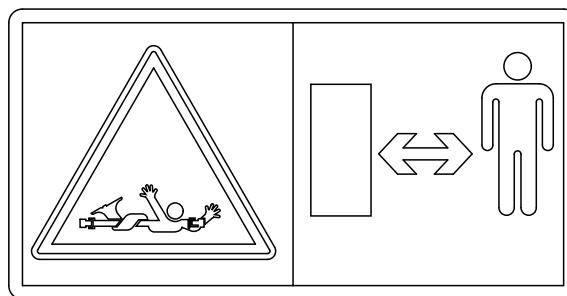
(A) — Danger Entanglement in rotating driveline can cause serious injury or death.

Keep all shield in place.

Avoid contact with rotating parts.



PTO Cover



(A) — Danger

Continued on next page

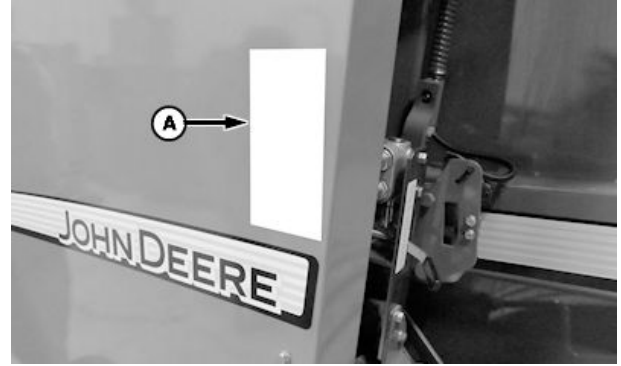
OUO6064,000157E -19-09OCT15-3/13

E67768 —UN—10SEP12

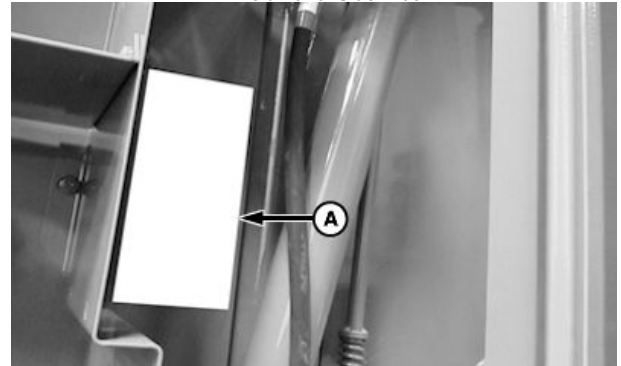
SSE307458 —UN—18SEP08

(A) — Warning ENGAGE GATE LOCK before working on or around gate in raised position.

STAND CLEAR before unlocking gate lock.



Left-Hand Side Door



Left-Hand Side Door Open



(A) — Warning

Continued on next page

OU06064,000157E -19-09OCT15-4/13

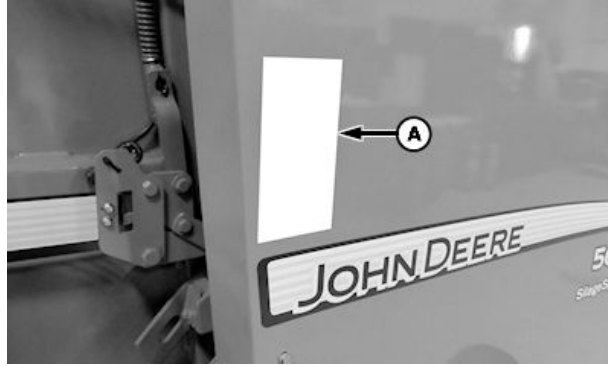
E68051 —UN—20SEP12

E68052 —UN—20SEP12

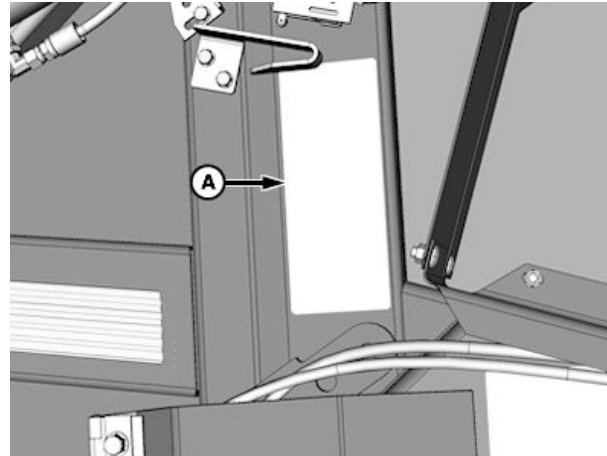
SSE309016 —UN—26FEB09

(A) — Warning ENGAGE GATE LOCK before working on or around gate in raised position.

STAND CLEAR before unlocking gate lock.



Right-Hand Side Door



Right-Hand Side Door Open



(A) — Warning

Continued on next page

OUC6064,000157E -19-09OCT15-5/13

E68053 —UN—20SEP12

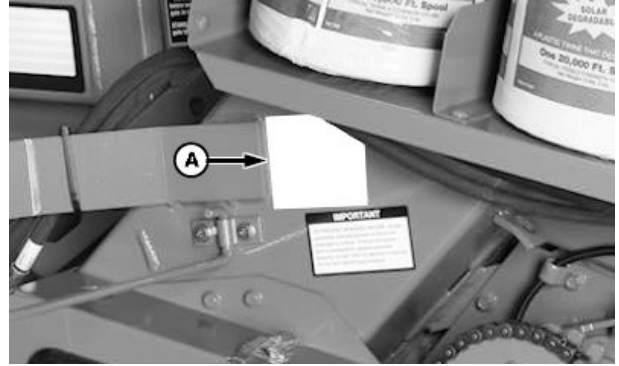
E68543 —UN—08OCT12

SSE309016 —UN—26FEB09

(A) — Caution Keep all shields in place.

Disengage and shut off all engine and motor power before servicing or unclogging machine.

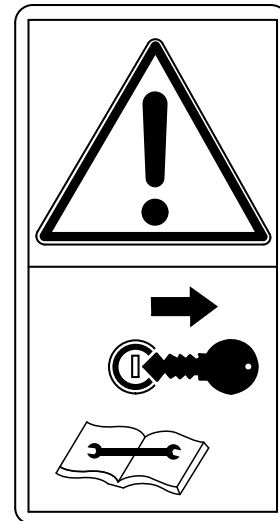
Keep hands, feet, and clothing away from power-driven parts.



Right-Hand Side Door Open



Left-Hand Side Door Open



(A) — Caution

Continued on next page

OUO6064,000157E -19-09OCT15-6/13

E68055 —UN—20SEP12

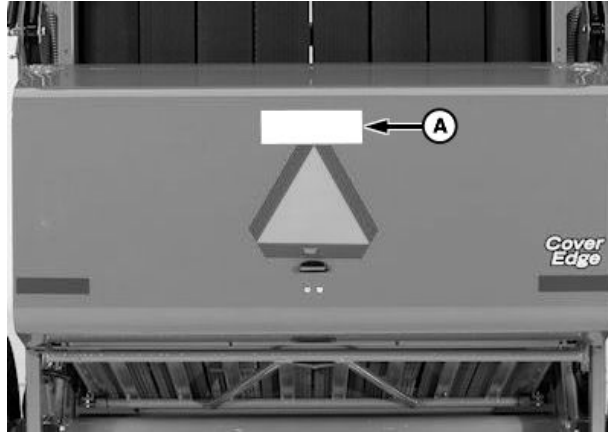
E68056 —UN—20SEP12

SSZ59872 —UN—16JUL08

(A) — Warning Help prevent crushing injury: Be sure bystanders stand clear before operating gate and unloading bale.

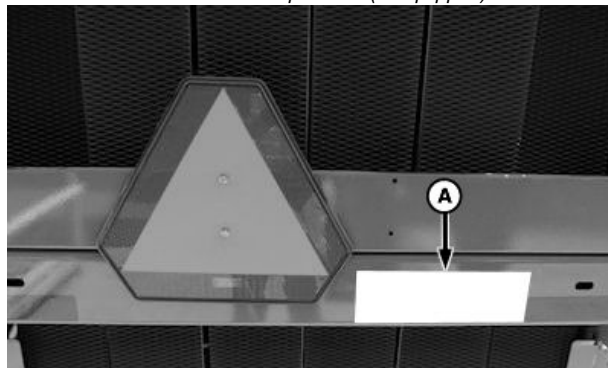
STAY CLEAR OF GATE AND PUSH BAR while being raised or lowered.

WATCH FOR ROLLING BALE.



E68057 —UN—20SEP12

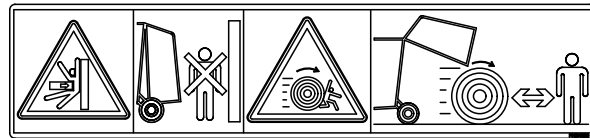
Surface Wrap Cover (If Equipped)



E68058 —UN—20SEP12

Without Surface Wrap Unit

SSE67780 —UN—11SEP12



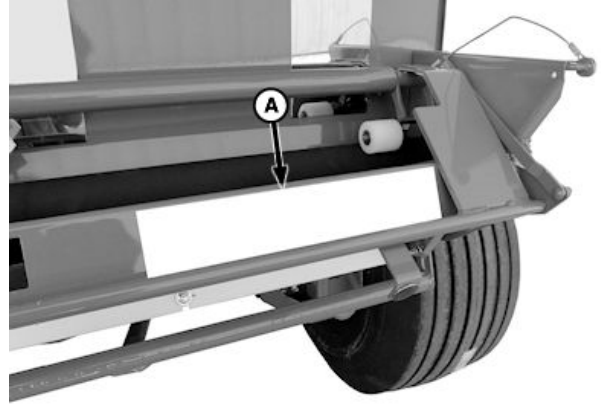
(A) — Warning

Continued on next page

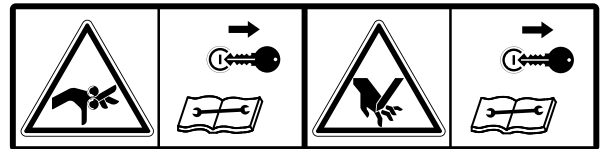
OOU6064,000157E -19-09OCT15-7/13

(A) — Warning Avoid injury from entanglement in moving rolls. Disengage drive and shut off engine before servicing.

Knife is extremely sharp and can move without warning. Shut off machine before servicing knife. Keep hands clear of sharp edges.



Surface Wrap Cover Open (If Equipped)



(A) — Warning

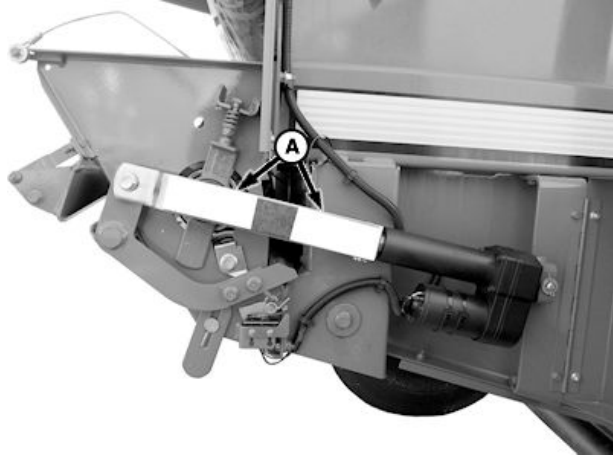
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OUC6064,000157E -19-09OCT15-8/13

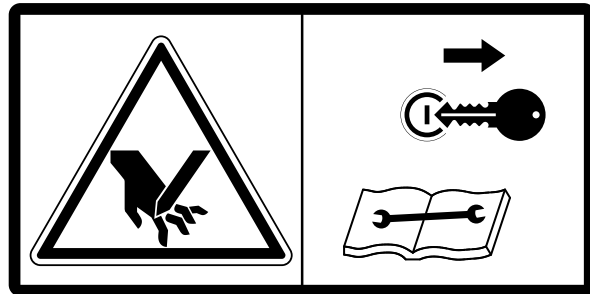
E66059 —UN—20SEP12

SS303020 —UN—26FEB09

(A) — Warning Knife is extremely sharp and knife arm can move without warning. Shut off all power before servicing knife. Keep hands clear of sharp edges.



Surface Wrap Cover Open (If Equipped)



(A) — Warning

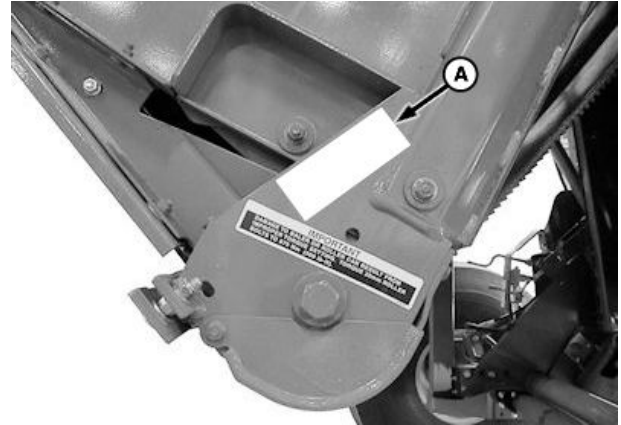
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OJ06064,000157E -19-09OCT15-9/13

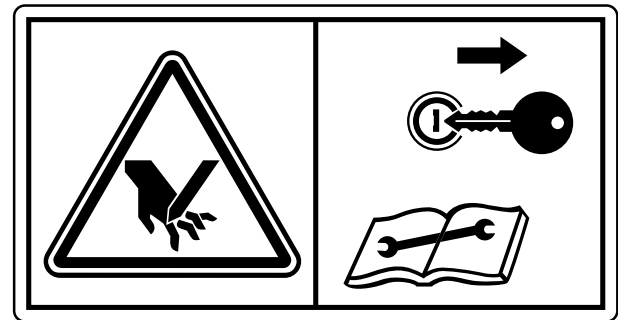
E68060 —UN—20SEP12

SSE309062 —UN—26FEB09

(A) — Warning AVOID INJURY TO FINGERS. Shut off all power before servicing. Keep hands clear when machine is running.



Gate Frame Both Sides



(A) — Warning

Continued on next page

OUC6064.000157E -19-09OCT15-10/13

E67779 —UN—11SEP12

SSE72518 —UN—07FEB14

(A) — Warning Do not exceed this implement's maximum transport speed of 32 km/h (20 mph).

Exceeding this speed may result in loss of control during transport or braking and serious injury or death.

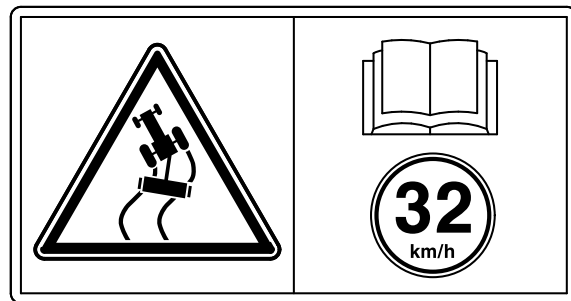
Transport only with a properly ballasted tractor and a properly attached safety tow chain.

Do not transport with a motor vehicle.

Reduce speed and use additional caution when on inclines, towing under adverse surface conditions, and turning.



Left-Hand Side



(A) — Warning

Continued on next page

OUC6064,000157E -19-09OCT15-11/13

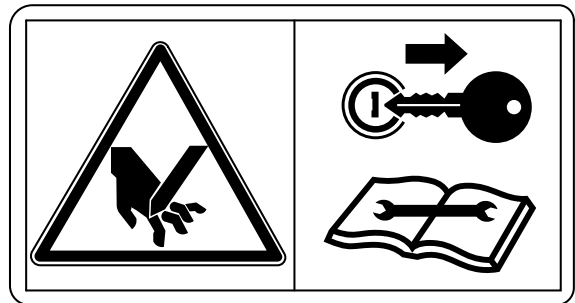
E67777 —JUN—11SEP12

SSA83030 —JUN—21FEB06

(A) — Warning AVOID INJURY TO FINGERS. Shut off all power before servicing. Keep hands clear when machine is running.



Gauge Wheel Arm Both Sides



(A) — Warning

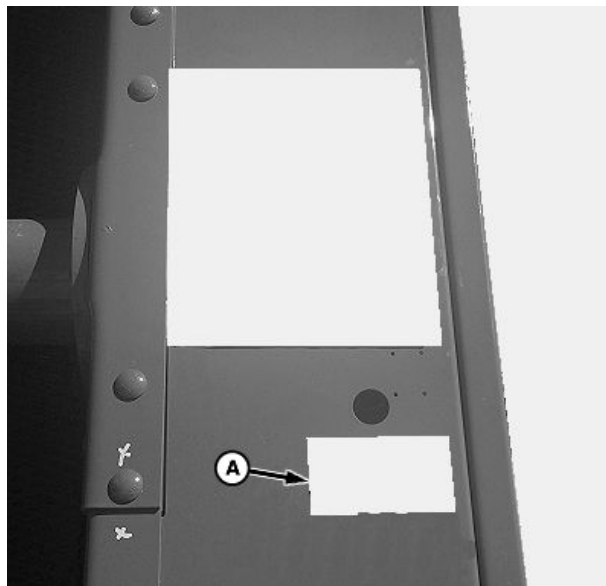
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OUC6064,000157E -19-09OCT15-12/13

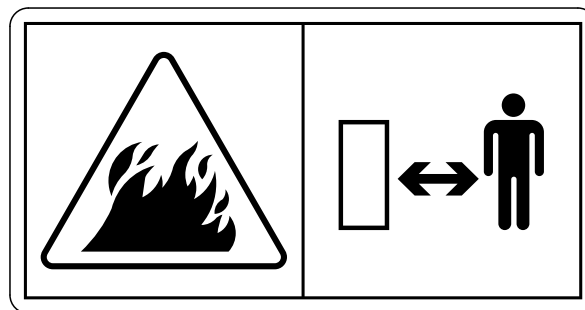
E67778 —UN—11SEP12

SSE67935 —UN—18SEP12

(A) — Warning Avoid serious personal injury from fire.
Do not attempt to extinguish a fire that is too far advanced.
See Operator's Manual for information about preventing and extinguishing fires before operating.



Left-Hand Side



(A) — Warning

E80257 —UN—09OCT15

SSCXT13504 —UN—28FEB14

OUO6064,000157E -19-09OCT15-13/13

In Case of Fire

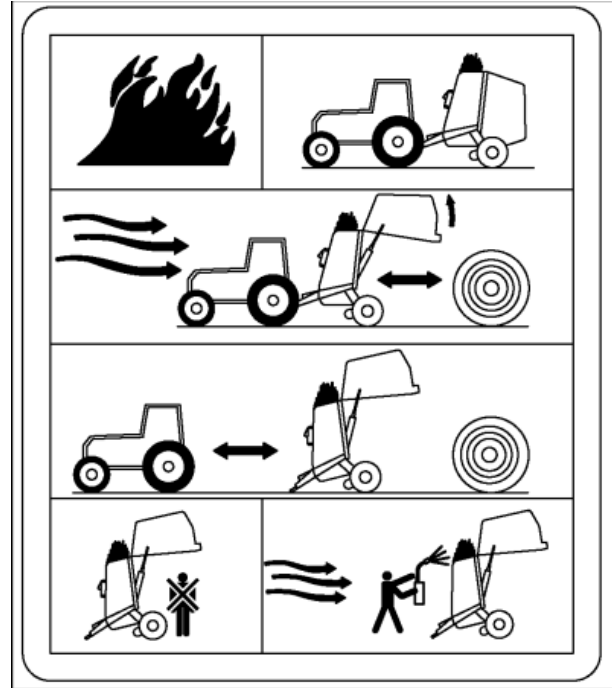
In the Case of Fire—Supplemental Information

Stop baling immediately at the first sign of flames, smoke, scorched smell, or an unusual sound.

CAUTION: Do not risk personal injury. Burning tires and heated gas springs can explode unexpectedly. Avoid burns or smoke inhalation. Do not attempt to extinguish a fire that is too far advanced, move safely away from the fire.

If the fire can be extinguished or contained safely, proceed carefully and follow these guidelines.

1. Avoid the fire taking over the tractor by positioning the tractor upwind from the baler.
2. Open the bale gate, eject any crop material from the bale chamber. Drive away from the material, shutoff PTO, stop tractor, disable movement (that is, neutral), set parking brake, or mechanism.
3. Pull the draw pin, unhook safety chains, and then drive the tractor away from the baler (letting the driveline, hydraulic, and electrical connections pull free).
4. If possible, call the fire department for help and give them your location.
5. Do not position yourself under an open baler gate. If the baler is on fire, the gate can fall.
6. Stay upwind of the fire; follow instructions on your fire extinguisher when available.



SF04007,0000C39 -19-10AUG16-1/1

TS227 —UN—15APR13

E81594 —UN—09AUG16

Preparing the Tractor

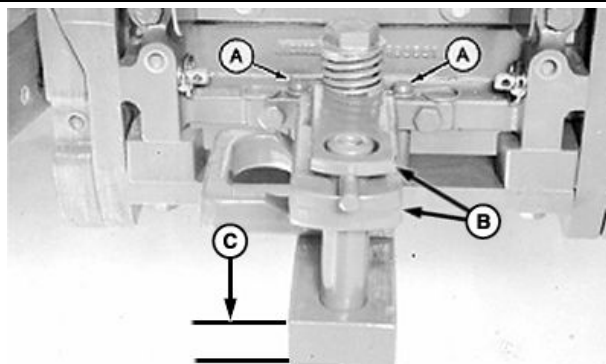
Adjust Drawbar

CAUTION: To avoid personal injury, use locking pins to hold drawbar stationary when operating PTO-driven implements.

1. Remove locking pins (A) and slide drawbar to center position (shown).
2. Install locking pins.
3. If equipped, remove clevis (B).

IMPORTANT: To avoid baler tongue or hitch damage, do not operate baler with tractor drawbar thicker than 51 mm (2.0 in.).

4. Measure drawbar thickness (C). Baler tongue hitch is compatible with tractor drawbar thickness up to 51 mm (2.0 in.).
5. Position 3-point hitch lower link sway blocks to provide maximum ground to tractor clearance. (See tractor operator's manual.)



John Deere 7000 Series Tractor Shown

A—Locking Pins
B—Clevis

C—Drawbar Thickness

E55187—UN—04JUN07

Continued on next page

PP98408,0000EA6 -19-07FEB13-1/2

IMPORTANT: If shaft adapter is used to reduce 44 mm (1-3/4 in.) diameter shaft to 35 mm (1-3/8 in.) diameter shaft, measure from end of adapter to drawbar hole.

Failure to conform to the following setup dimensions can result in serious powerline damage.

6. If drawbar is offset, turn drawbar so offset is down, as shown.

7. Set drawbar to the following dimensions:

PTO Size	A mm (in.)	B mm (in.)	C mm (in.)
540 rpm	356 (14)	152—305 (6—12)	330—508 (13—20)
1-3/8 in. 1000 rpm	406 (16)	152—305 (6—12)	330—508 (13—20)
1-3/4 in. 1000 rpm	508 (20)	203—305 (8—12)	330—559 (13—22)

IMPORTANT: To avoid powerline damage when front of tractor points down, there must be a minimum of 76—89 mm (3.0—3.5 in.) clearance (B) between powerline and top of hitch strap (D). Measure on level ground.

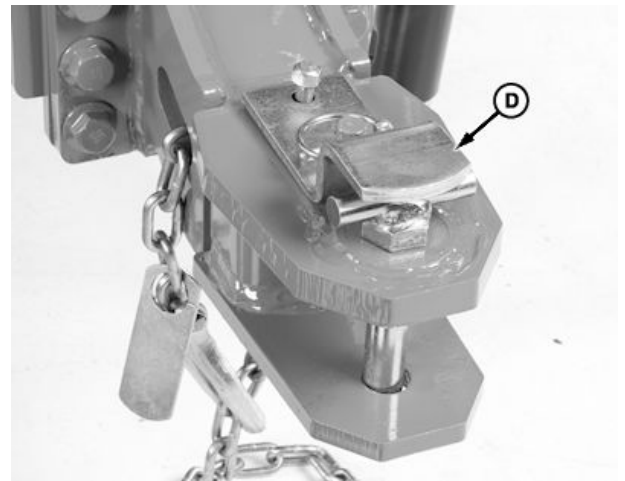
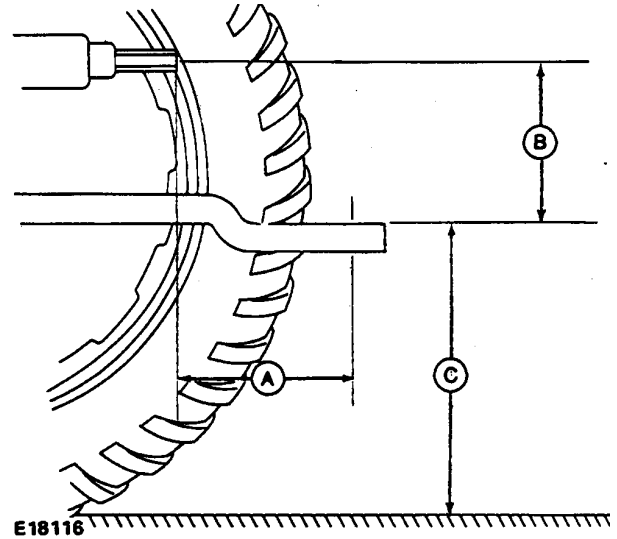
If tractor drawbar is too low the following problems can occur:

- Drag tall windrows
- Reduce feeding capacity by closing the feed opening
- Reduce pickup transport clearance
- Inadequate pickup float at recommended spring settings
- Slow bale discharge

To increase drawbar height, flip drawbar over (offset up).

If tractor drawbar is too high the following problems can occur:

- Pickup teeth will not touch ground
- Gate will not clear the bale during discharge
- Clearance (B) between powerline and top of hitch strap can be inadequate when front of tractor 'noses' down.



A—Dimension, End of PTO to Hole in Drawbar
B—Dimension, Center of PTO to Top of Drawbar
C—Dimension, Top of Drawbar to Ground
D—Hitch Strap

PP98408,0000EA6 -19-07FEB13-2/2

Tractor Drawbar (Heavy-Duty)

IMPORTANT: Some tractors are not equipped with a drawbar strong enough for use with the baler. If so, replace drawbar with a heavy-duty drawbar.

Inspect your tractor drawbar frequently for cracking or bending. Replace it immediately if any damage is observed.

Baler tongue hitch is compatible with tractor drawbar thickness up to 51 mm (2.0 in.).

See your John Deere dealer for information on special heavy-duty drawbars that are available for many John Deere tractor models.

PP98408,0000EA7 -19-07FEB13-1/1

Three-Point Hitch Position

IMPORTANT: To prevent damage to PTO driveline when making turns, lock tractor lower lift links in the up position.

Lock tractor lower lift links in the up position. (See tractor operator's manual.)

PP98408,0000EA8 -19-07FEB13-1/1

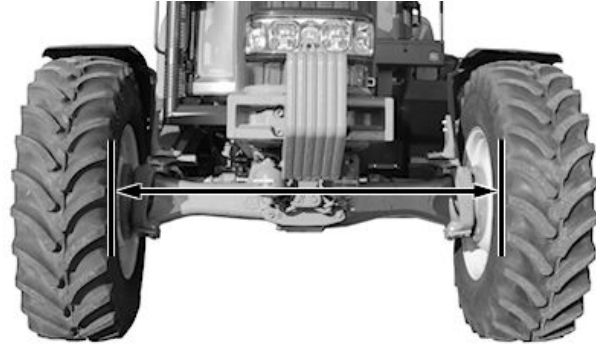
Adjust Tractor Wheels

NOTE: Adjust tractor wheels toward upper end of specifications to improve:

- Bale shape by crowding ends of pickup
- Ability to pick up crop

Adjust front wheels to provide an inside tire-to-tire dimension according to specifications.

Tire-to-Tire Inside Dimension	
459 and 459S	1372—1524 mm (54—60 in.)
559 and 559S	1676—1829 mm (66—72 in.)



E67206 —UN—07AUG12

PP98408,0000EA9 -19-07FEB13-1/2

Adjust rear tractor wheels to provide an inside dimension according to specifications. Do not exceed outside dimension limitations to prevent machine damage.

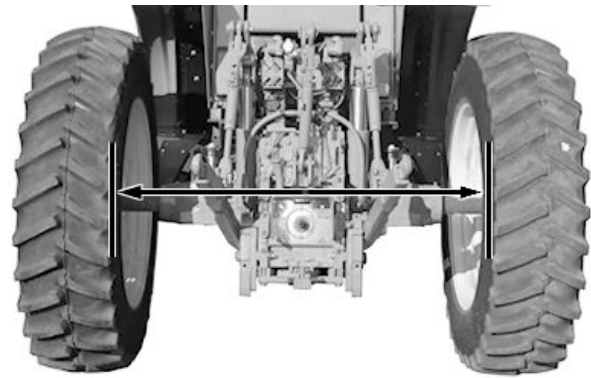
Tire-to-Tire Inside Dimension	
4 ft. Wide Baler	1372—1524 mm (54—60 in.) Outside dimension not to exceed 2591 mm (102 in.)
5 ft. Wide Baler	1676—1829 mm (66—72 in.) Outside dimension not to exceed 2743 mm (108 in.)

IMPORTANT: Do not make short turns or cause the baler to jackknife while backing, as damage can occur to the PTO driveline, tractor tires, baler frame, and gathering wheels.

If gathering wheels are installed, the outside dimension of the rear wheels must not exceed:

- **459 and 459S;** 2286 mm (90 in.)
- **559 and 559S;** 2388 mm (94 in.)

NOTE: If tread setting is too narrow, operator will not be able to make properly shaped bales without



E67207 —UN—07AUG12

driving on windrow. This can result in bales with soft ends and loose twine. (See *INTERPRET BALE SHAPE INDICATORS* in *Operating the Baler* or *INTERPRET BALE SHAPE BARS* in *Operating the Baler—BaleTrak Pro* section and *WEAVE IN THE WINDROW* in *Operating the Baler* section.)

PP98408,0000EA9 -19-07FEB13-2/2

Check Ballast, Wheel Spacing, and Tire Inflation

Provide sufficient weight to stabilize tractor when operating on hilly land or other adverse conditions. (See your tractor operator's manual).

To insure proper stability, adjust ballast, wheel spacing, and tire inflation according to tractor operator's manual.

PP98408,0000EAA -19-07FEB13-1/1

Adjust Tractor Hydraulic Outlets

The tractor must have a minimum of one double-acting selective control valves (SCVs).

If the baler is equipped with optional hydraulic pickup lift, the tractor must have an additional SCV (*two hydraulic circuits total*).

NOTE: Check times with no bale in chamber and hot oil. Use the same flow setting in the extend and retract directions.

Adjust tractor hydraulic remote outlets to provide approximately a 5 second gate opening time.

When lowering the baler gate, avoid putting hydraulics into float position. The SCV lever must return to the neutral position.

See Hydraulics and Selective Control Valves in the tractor operator's manual.

SF04007,0000C47 -19-24AUG16-1/1

Tractor Convenience Outlet

John Deere 55 Series, 5000, 5010, 6000, 7000, 7010, and 8000 Models

Standard convenience outlet (A) provides power for:

- BaleTrak™ Pro Monitor-Controller (If Equipped)
- Variable (Soft) Core Solenoid Valve (If Equipped)

A—Convenience Outlet



E66075 —UN—19JUN12

BaleTrak Pro is a trademark of Deere & Company

PP98408,0000EAC -19-07FEB13-1/3

Other tractor models without a convenience power outlet

Order convenience outlet kit AE50549 from your John Deere dealer. Kit consists of 12 gauge wires and a circuit breaker. When installing kit, attach the power and ground wires directly to the battery terminal clamp bolts, only.

IMPORTANT: If equipped with BaleTrak™ Pro, monitor-controller is polarity sensitive. The red lead from the monitor-controller power input **MUST** be installed on the positive (+) side of a 12 V system. Failure to do so will cause monitor-controller to not function.



E39605 —UN—27NOV95

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PP98408,0000EAC -19-07FEB13-2/3

Other tractor models with a convenience power outlet, equipped with BaleTrak™ Pro

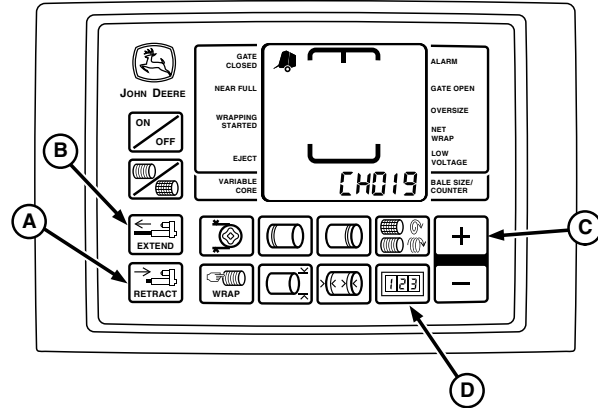
Complete the following check to determine if the convenience power outlet provides adequate power for the BaleTrak™ Pro system.

1. With tractor engine running and the monitor in twine mode, press and hold the COUNTER key (D) while turning on the monitor.
2. Continue to hold the COUNTER key and press PLUS key (C) until **CH019** appears in the digital display.
3. Release COUNTER key (D). View voltage readout.
4. Using the EXTEND key (B), extend twine actuator slightly.
5. Push and hold the RETRACT key (A) until the actuator stalls out in cutoff position and note voltage displayed.

IMPORTANT: Monitor-controller is polarity sensitive.

Red lead from monitor-controller power input MUST be installed on the positive (+) side of a 12 V system.

NOTE: If a convenience outlet is needed, order convenience outlet (AE50549) from your John Deere dealer.



A—RETRACT Key
B—EXTEND Key

C—PLUS Key
D—COUNTER Key

6. If voltage is less than 9.7 V, install convenience outlet kit. Attach power and ground wires directly to battery terminal clamp bolts, only.

PP98408,0000EAC -19-07FEB13-3/3

Right-Hand Rear-View Mirror

To assist in seeing bale size indicator while baling, install right-hand rear-view mirror. See your John Deere dealer.



PP98408,0000EAD -19-07FEB13-1/1

Extended Rear-View Mirror

Install an extended rear-view mirror on tractor to improve visibility of traffic behind the baler when towing on public roads. See your John Deere dealer.



E63790 —UN—15JUN12

PP98408,0000EAE -19-07FEB13-1/1

Preparing the Tractor for BaleTrak™ Pro

Install BaleTrak™ Pro Monitor-Controller on Open-Station Tractor

NOTE: Monitor-controller mounting bracket is available from your John Deere dealer.

Mount monitor-controller bracket on cowling or fender area. Be sure to check for mounting hardware clearance before drilling.

An additional monitor-controller unit is available to allow convenient changing of baler from one tractor to another.



E40573 —UN—22JUN96

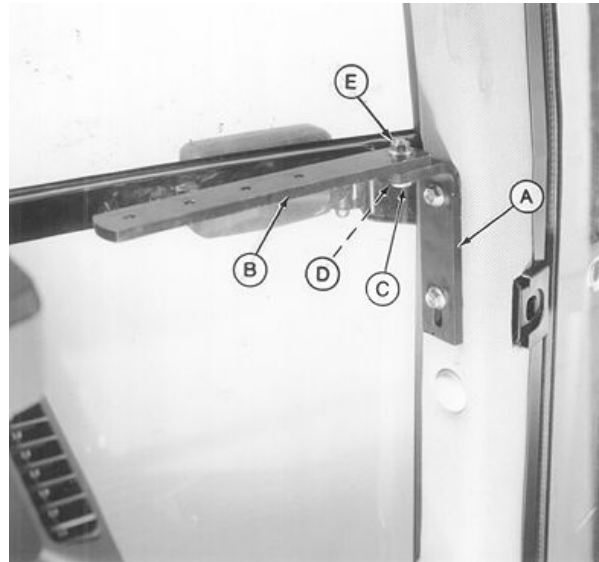
PP98408,0000EAF -19-07FEB13-1/1

Install BaleTrak™ Pro Monitor-Controller in ComfortGard™ Cab

NOTE: On some tractors, it is necessary to remove the foam corner post panel to gain access to the mounting studs. The panel will need holes drilled in order to fasten bracket (see photo).

1. Remove top two plugs from lower right-hand front cab post.
2. Install angle (A) to cab post. Fasten with two M10 x 20 flange-head cap screws.
3. Install monitor-controller strap (B) to angle (A). Fasten with M10 x 35 cap screw (C), washer (D) and flange nut (E).

A—Angle
B—Monitor-Controller Strap
C—Cap Screw, M10 x 35
D—Washer
E—Flange Nut



E38450 —UN—25APR95

PP98408,0000EB0 -19-30SEP15-1/3

4. Put monitor-controller (A) pivot bracket on top of mounting bracket. Fasten with M6 x 16 cap screw.
5. Route harness along right-hand side of cab, away from operating levers, and toward the rear of cab.

A—Monitor-Controller



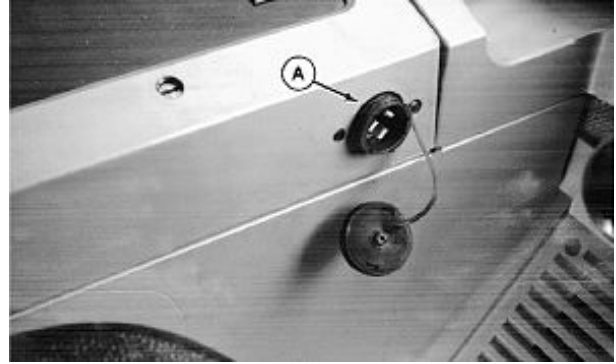
E52435 —UN—16JUN03

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PP98408,0000EB0 -19-30SEP15-2/3

6. Connect harness power plug to convenience outlet (A).
7. Route harness through grommet in back of cab, or drill a 44 mm (1-3/4 in.) diameter hole in rear wall if necessary.

A—Convenience Outlet



John Deere 7000 Series Tractor

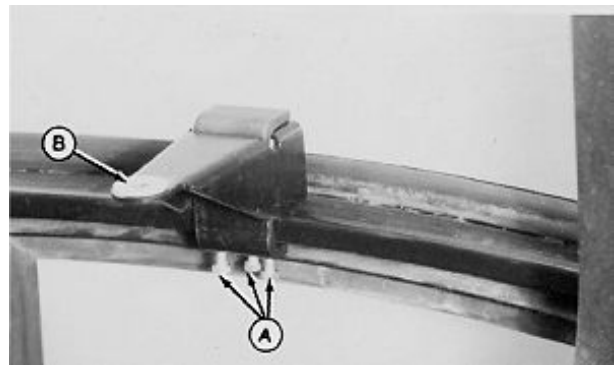
PP98408,0000EB0 -19-30SEP15-3/3

RW22076 —UN—04DEC92

Install BaleTrak™ Pro Monitor-Controller In SOUND-GARD™ Cab

1. Assemble monitor-controller bracket (B) to base.
2. Attach base to window ledge. Fasten with three 5/16 x 1-3/4 in. cap screws (A).

A—Cap Screws, 5/16 x 1-3/4 in. B—Bracket



PP98408,0000EB1 -19-30SEP15-1/3

E21705 —UN—16SEP88

3. Put monitor-controller (A) pivot bracket on top of mounting bracket. Fasten with M6 x 16 cap screw.
4. Route harness along right-hand side of cab, away from operating levers, and toward the rear of cab.

A—Monitor-Controller



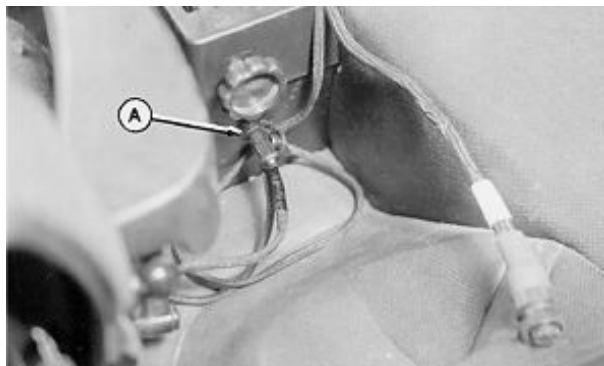
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PP98408,0000EB1 -19-30SEP15-2/3

E52435 —UN—16JUN03

5. Connect harness power plug to convenience outlet (A).
6. Route harness through grommet in back of cab, or drill a 44 mm (1-3/4 in.) diameter hole in rear wall if necessary.

A—Convenience Outlet



E21708—UN—06JUL89

PP98408,0000EB1 -19-30SEP15-3/3

Preparing the Baler

Select Twine

A good quality twine plays an important part in proper baler operation. Select the twine which meets the ASABE standards for a more trouble-free baling operation.

Twine of good tensile strength and uniformity in size must be selected for proper baling operation. This will also help prevent twine from breaking during handling and transporting of bales.

PP98408,0000EB2 -19-07FEB13-1/1

Load Twine Boxes



Right-Hand Side



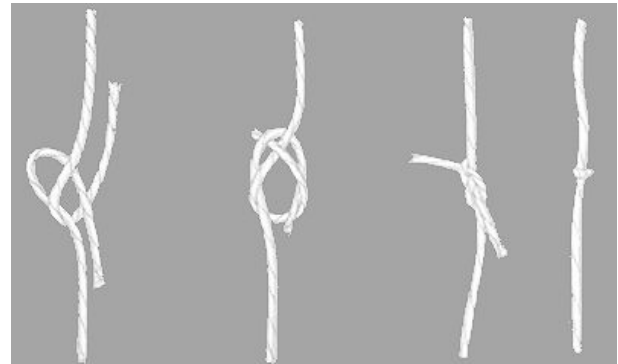
Left-Hand Side

1. Open side doors.
2. Place one ball of good quality twine in each twine box. Be sure that twine is pulled from end of the ball marked TOP.
3. Route twine through guides, as shown.

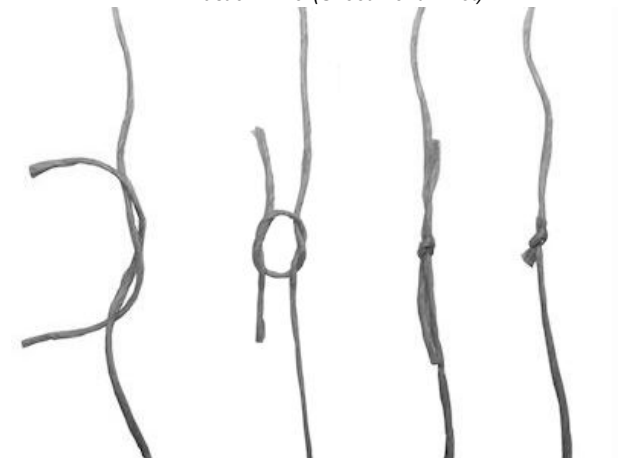
IMPORTANT: The twine knot must be small enough to pass through the guides and twine arm.

4. Join twine by tying the inside end of one ball to the outside of other ball.
 - Tie plastic twine balls together with a sheet bend knot.
 - Tie sisal twine balls together with a square knot.
5. Trim loose ends of twine as close to knot as possible.
6. Lift ball of twine and insert two lower twine balls in each twine box.
7. Connect twine ends as per label (A) provided on right-hand side of baler.

A—Threading Label



Plastic Twine (Sheet Bend Knot)



Sisal Twine (Square Knot)

PP98408,0000EB3 -19-08FEB13-1/1

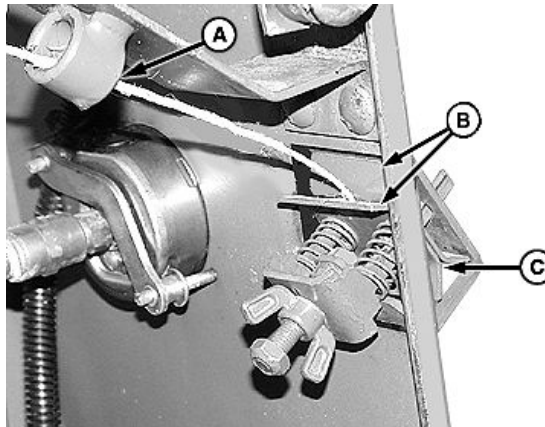
Route Twine—Right-Hand Side (Rear Arm)

NOTE: Detailed threading diagrams are located at right-hand side of tongue.

1. Pull twine through front guide (A) at front of twine box.
2. Insert twine between tension plates (B) and pull out through front side (C).

A—Front Guide
B—Tension Plates

C—Front Side of Baler



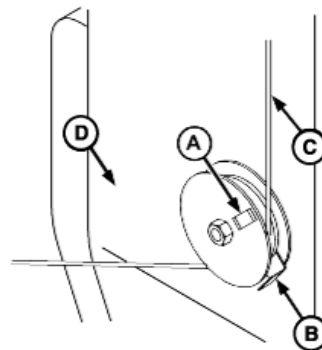
E48927 —UN—18SEP00

PP98408,0000EB4 -19-07FEB13-1/8

3. When using plastic twine and small sisal twine, wrap twine a FULL turn around twine moving indicator (A). Twine must wrap behind strand which comes down from twine box. Check that indicator is free to spin.

A—Twine Moving Indicator
B—Twine guide

C—Twine
D—Baler Front Sheet



Left-Hand Side Shown

E54349 —UN—06JUL05

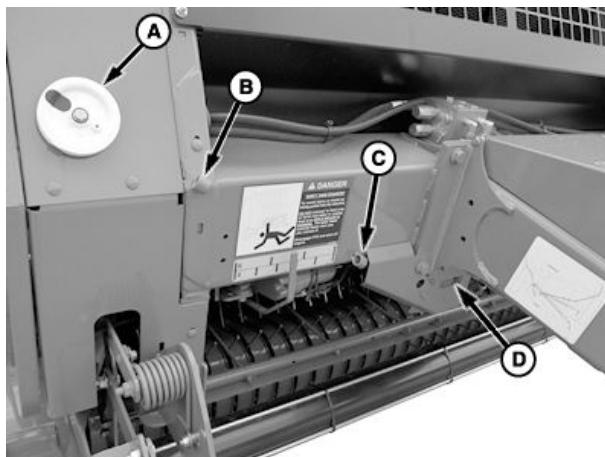
PP98408,0000EB4 -19-07FEB13-2/8

NOTE: Wrapping large sisal twine a full turn around the indicator can cause the twine to cling to itself and break or cause excessive twine tension.

4. When using large sisal twine, route twine around indicator (A) without making a full turn.
5. Route twine through guides (B—D).

A—Indicator
B—Guide

C—Guide (559 only)
D—Guide



559 Shown

E63049 —UN—11APR12

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PP98408,0000EB4 -19-07FEB13-3/8

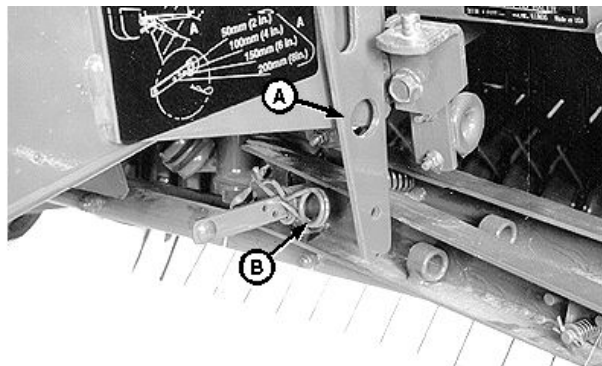
CAUTION: Twine arms can move unexpectedly. Keep hands out of twine arm path to avoid crushing. Turn off power **BEFORE** servicing or adjusting twine arms or twine cutter mechanism.

Stay out of the path of twine arms at all times when power to twine arms is ON.

6. Remove spring pin (B).
7. Lift twine arm stop (A) and move front twine arm away from rear twine arm.

A—Twine Arm Stop

B—Spring Pin



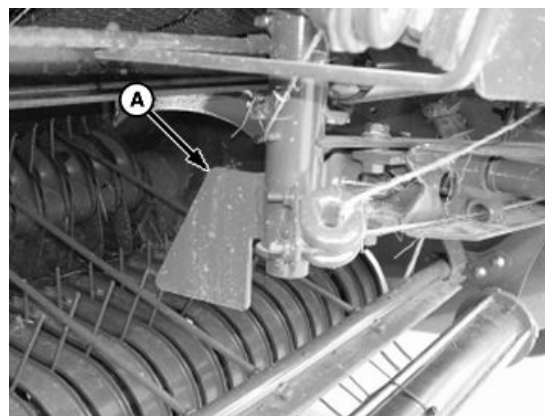
PP98408,0000EB4 -19-07FEB13-4/8

E47598 —UN—07JAN00

E40126 —UN—21JUN96

8. Ensure that twine is routed over top of baffle upstop flag (A).

A—Baffle Upstop Flag



MegaWide™ Pickup Only

MegaWide is a trademark of Deere & Company

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PP98408,0000EB4 -19-07FEB13-5/8

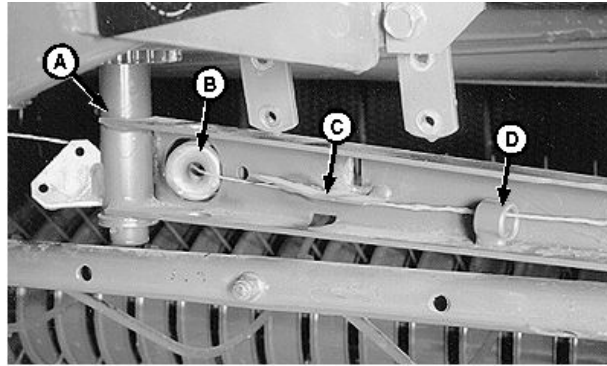
E54717 —UN—02JUN08

NOTE: Front twine arm is removed for illustration purpose.

9. Route twine behind arm pivot (A), through guide (B), under tab (C) and through guide (D).

A—Arm Pivot
B—Guide

C—Tab
D—Guide



E40127—UN—25JUN96

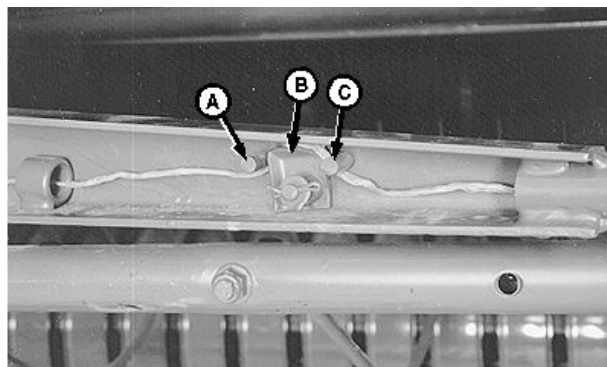
PP98408,0000EB4 -19-07FEB13-6/8

NOTE: Remove any crop buildup from tension plates area and make sure twine moving indicators pulleys spin freely.

10. Route twine under guide pin (A), over top of tension plate (B) and under guide pin (C). Pull on twine to get twine between plates.

A—Guide Pin
B—Tension Plate

C—Guide Pin



E40128—UN—21JUN96

PP98408,0000EB4 -19-07FEB13-7/8

11. Pull twine through twine tube (A). Pull on twine to remove slack between guides. Twine pull must be within specifications with twine perpendicular to the twine arm. To adjust twine tension, see ADJUST TWINE TENSION in Operating the Baler section.

Specification

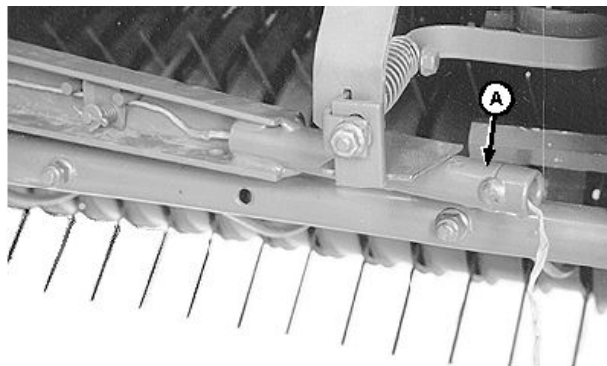
Twine Tension—Pull
(Force)..... 22—45 N
(5—10 lb.-force)

12. Cut twine 305—381 mm (12—15 in.) beyond end of twine tube (A).

13. Lift twine arm stop and move front twine arm toward rear twine arm. Install spring pin, removed in Step 6, in one of the four positions for desired twine spacing.

- BaleTrak™ Pro System; See SET TWINE SPACING in Operating Baler with BaleTrak™ Pro System section.

14. Route twine through front arm. (See ROUTE TWINE—LEFT-HAND SIDE [FRONT ARM] in this section.)



A—Twine Tube

E40129—UN—21JUN96

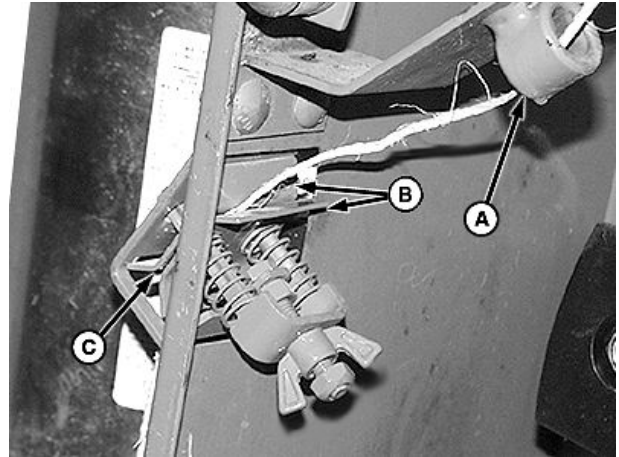
PP98408,0000EB4 -19-07FEB13-8/8

Route Twine—Left-Hand Side (Front Arm)

1. Route twine through rear arm. (See ROUTE TWINE—RIGHT-HAND SIDE [REAR ARM] in this section.)
2. Pull twine through front guide (A) at front of twine box.
3. Insert twine between tension plates (B) and pull out through front side (C).

A—Front Guide
B—Tension Plates

C—Front of Baler



E48928—UN—18SEP00

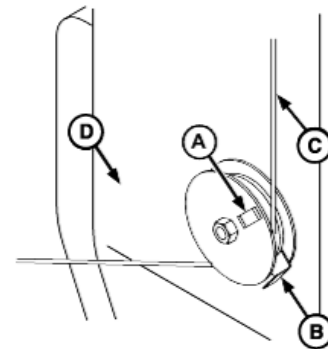
PP98408,0000EB5 -19-07FEB13-1/6

NOTE: Check that twine indicator (A) is free to spin without twine.

4. When using plastic twine and small sisal twine, wrap twine a FULL turn around twine moving indicator (A). Twine must wrap behind strand which comes down from twine box.

A—Twine Moving Indicator
B—Twine guide

C—Twine
D—Baler Front Sheet



Left-Hand Side Shown

E54349—UN—06JUL05

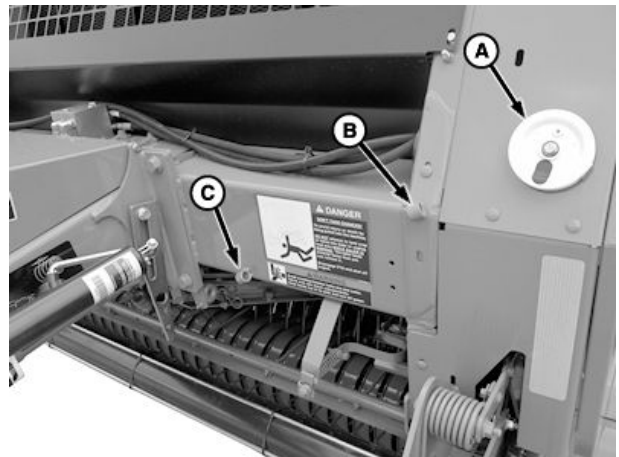
PP98408,0000EB5 -19-07FEB13-2/6

NOTE: Wrapping large sisal twine a full turn around the indicator can cause the twine to cling to itself and break or cause excessive twine tension.

5. When using large sisal twine, route twine around indicator (A) without making a full turn.
6. Route twine through guides (B) and (C) (559 only).

A—Twine Indicator
B—Twine Guide

C—Twine Guide (559 Only)



559 Shown

E63050—UN—11APR12

Continued on next page

PP98408,0000EB5 -19-07FEB13-3/6

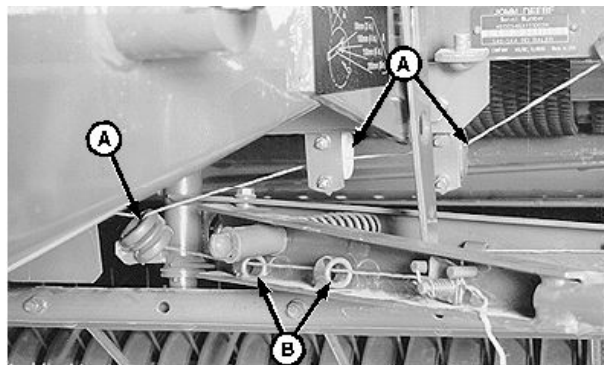
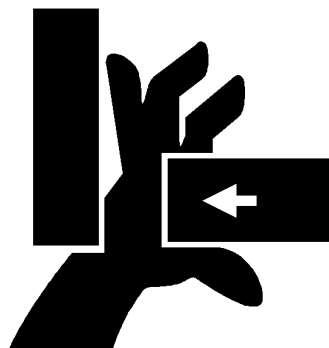
CAUTION: Twine arms can move unexpectedly. Keep hands out of twine arm path to avoid crushing. Turn off power **BEFORE** servicing or adjusting twine arms or twine cutter mechanism.

Stay out of the path of twine arms at all times when power to twine arms is ON.

7. Route twine through guides (A) and (B).

A—Twine Guides

B—Twine Guides



PP98408,0000EB5 -19-07FEB13-4/6

E47588 —UN—07JAN00

E40140 —UN—21JUN96

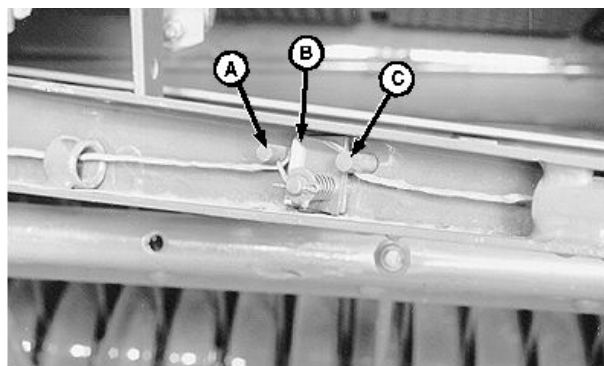
NOTE: Remove any crop buildup from tension plate area and make sure twine moving indicator pulleys spin freely.

8. Route twine under guide pin (A), over top of tension plate (B) and under guide pin (C). Pull on twine to get twine between plates.

A—Guide Pin

B—Tension Plate

C—Guide Pin



Continued on next page

PP98408,0000EB5 -19-07FEB13-5/6

E40141 —UN—21JUN96

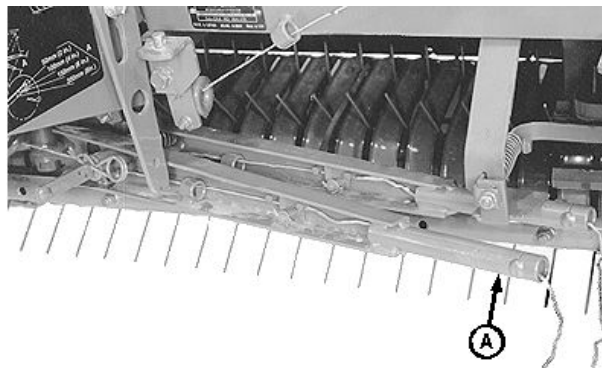
9. Pull twine through twine tube (A). Pull on twine to remove slack between guides. Twine pull must be within specifications with twine perpendicular to the twine arm. To adjust twine tension, see ADJUST TWINE TENSION in Operating the Baler section.

Specification

Twine Tension—Pull
(Force)..... 22—45 N
(5—10 lb.-force)

10. Cut twine 305—381 mm (12—15 in.) beyond end of twine tube (A).

A—Twine Tube



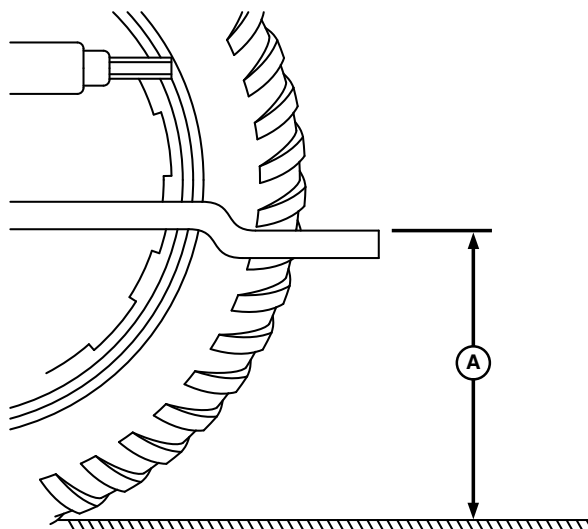
E40142 —UN—21JUN96

PP98408,0000EB5 -19-07FEB13-6/6

Adjust Baler Hitch

1. Measure from top of tractor drawbar to the ground. Measure on level ground.

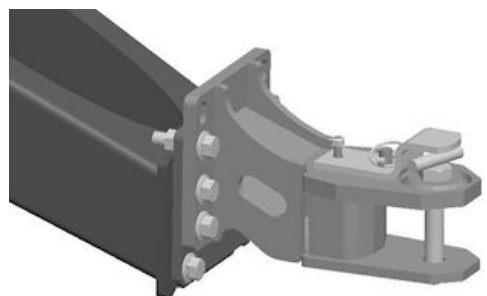
A—Dimension



E62317 —UN—04APR12

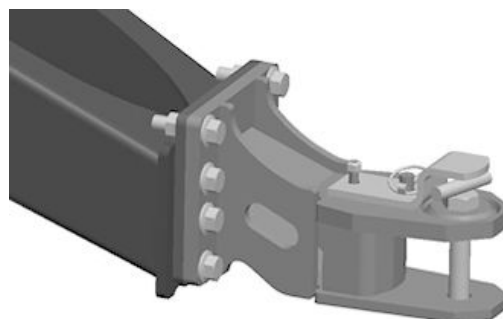
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PP98408,0000EB6 -19-07FEB13-1/3



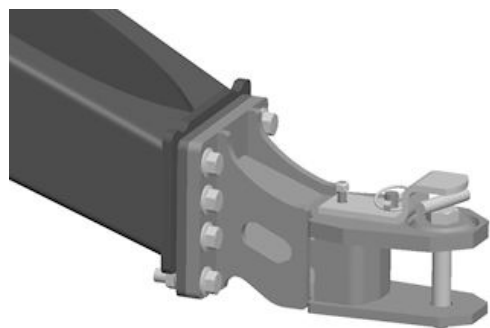
Position 1

E60309 —UN—13JUL11



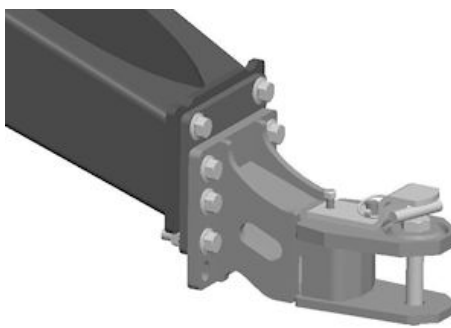
Position 2

E60310 —UN—13JUL11



Position 3 (Factory Setting)

E60311 —UN—13JUL11



Position 4

E60312 —UN—13JUL11

NOTE: All baler hitches are factory installed in position 3.

2. Adjust baler hitch according to the drawbar dimension.

MegaWide™ Plus Pickup	Drawbar Dimension (A)
Position 1	Not Recommended
Position 2	533—559 mm (21—22 in.)
Position 3	432—533 mm (17—21 in.)
Position 4	330—432 mm (13—17 in.)
Regular Pickup	Drawbar Dimension (A)
Position 1	432—559 mm (17—22 in.)
Position 2	330—432 mm (13—17 in.)
Position 3	Not Recommended
Position 4	Not Recommended

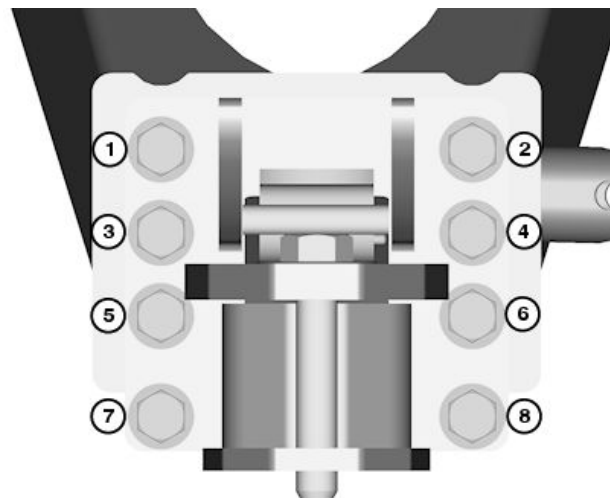
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PP98408,0000EB6 -19-07FEB13-2/3

3. Tighten hardware using sequence 1—8 as shown.
4. Tighten hardware to specification.

Specification

Adjustable Hitch
Hardware—Torque.....350 N·m
(258 lb.-ft.)



E62321—UN—04APR12

PP98408,0000EB6 -19-07FEB13-3/3

Adjust Wheel Spindles

Wheel spindle positions are determined by tire size, pickup type, and crop conditions. (See WHEEL SPINDLE POSITIONS in this section.)

IMPORTANT: When raising the baler with jack or hoist, place a jackstand or equivalent support under baler frame. Avoid placing jackstand under MegaWide™ pickup frame.

1. Park baler on level surface.
2. Using a jack or hoist, raise one side of baler. Place jackstand or equivalent support under baler frame.
3. Remove wheel.

4. Remove nuts, washers, and spindle.
5. Reposition wheel spindle and reinstall hardware. Tighten nuts to specifications.

Specification

Wheel Spindle Mounting
Hardware—Torque.....237 N·m
(175 lb.-ft.)

6. Install wheel. (See CHECK WHEEL NUT TORQUE in this section.)
7. Repeat procedure on opposite side.

PP98408,0000EB7 -19-07FEB13-1/1

Wheel Spindle Positions on 459 Baler with Regular Pickup and 11L-14 Tires

NOTE: Wheel spindle position controls baler height and feeding capacity.

Normal position is recommended for most baling conditions.

- Recommended with bale ramp. Bale diameter will have to be reduced depending tractor drawbar height.
- Pickup teeth will touch the ground when pickup is lowered. Recommended to adjust height with at least 25 mm (1 in.) ground clearance.

If wheel spindle position needs changed, see ADJUST WHEEL SPINDLES in this section.

Raised position is recommended for cornstalks, straw crops with tall stubble, or soft ground conditions. (See BALE CORNSTALKS in Operating the Baler section.)

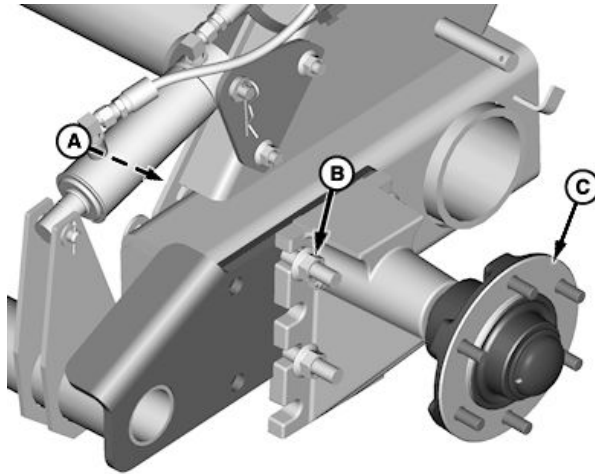
- Recommended with bale ramp.
- Pickup teeth will not touch the ground with pickup lowered.
- Tighten flange nuts to specification.

Specification

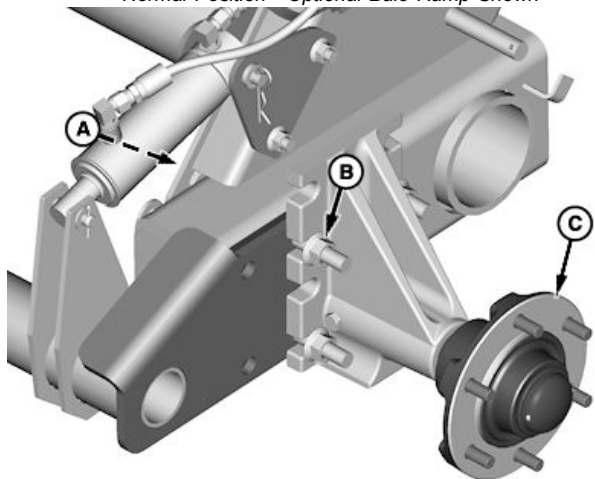
Flange Nuts—Torque.....237 N·m
(175 lb.-ft.)

- If pickup will not lower or bounces excessively, adjust pickup float springs to provide less force (float). (See ADJUST PICKUP FLOAT SPRINGS in Service—Baler section.)

A—Cap Screw, M16 x 160-10.9 (4 used) C—Spindle
B—Flange Nut, M16 (4 used)



Normal Position—Optional Bale Ramp Shown



Raised Position—Optional Bale Ramp Shown

E66117—UN—22JUN12

E66118—UN—22JUN12

PP98408,0000EB8 -19-07FEB13-1/1

Wheel Spindle Positions on 459 and 559 Balers with Regular Pickup and 14L x 16.1 Tires

NOTE: Wheel spindle position controls baler height and feeding capacity.

Normal position is recommended for most baling conditions.

- Pickup teeth do not touch the ground with pickup lowered depending on tractor drawbar height.

Raised position is recommended for cornstalks, straw crops with tall stubble, or soft ground conditions. (See BALE CORNSTALKS in Operating the Baler section.)

- Pickup teeth will not touch the ground with pickup lowered.
- Tighten flange nuts to specification.

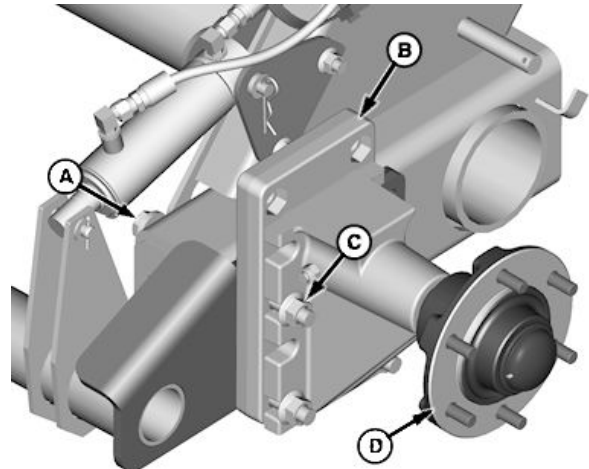
Specification

Flange Nuts—Torque.....237 N·m
(175 lb.-ft.)

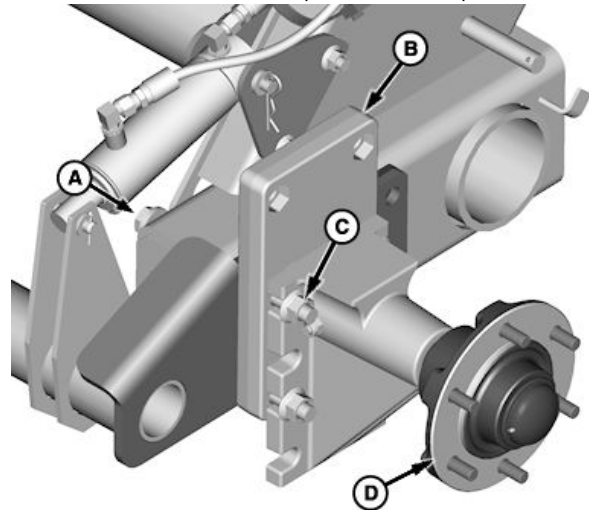
- If pickup will not lower or bounces excessively, adjust pickup float springs to provide less force (float). (See ADJUST PICKUP FLOAT SPRINGS in Service—Baler section.)
- Install Tires. (See TIRE INSTALLATION AND WHEEL NUT TORQUE in this section.)

If wheel spindle position needs changed, see ADJUST WHEEL SPINDLES in this section.

A—Cap Screw, M16 x 180-10.9 (4 used) (Without Bale Ramp)	C—Spacer Plate
A—Cap Screw and Flat Washer, M16 x 200-10.9 (4 used) (With Bale Ramp)	D—Spindle
B—Flange Nut, M16 (4 used)	



Normal Position—Optional Bale Ramp Shown



Raised Position—Optional Bale Ramp Shown

PP98408,0000EB9 -19-03JUL13-1/1

E66119 —UN—22JUN12

E66120 —UN—22JUN12

Wheel Spindle Positions on 459, 459S, and 559 Balers with MegaWide™ Plus Pickup and 14L x 16.1 Tires

NOTE: Wheel spindle position controls baler height and feeding capacity.

Normal position is recommended for most baling conditions.

- Pickup teeth do not touch the ground with pickup lowered depending on tractor drawbar height.

Raised position is recommended for straw crops with tall stubble and soft ground conditions.

- Pickup teeth will not touch the ground with pickup lowered.
- Tighten flange nuts to specification.

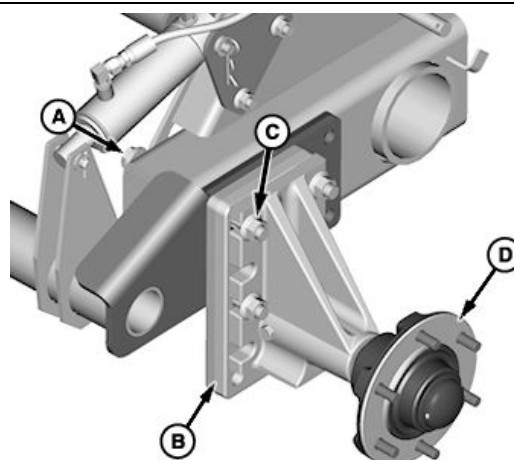
Specification

Flange Nuts—Torque.....237 N·m
(175 lb.-ft.)

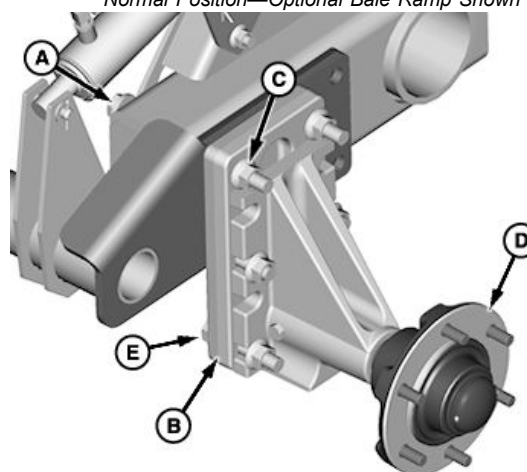
- Install tires. (See TIRE INSTALLATION AND WHEEL NUT TORQUE in this section.)

If wheel spindle position needs changed, see ADJUST WHEEL SPINDLES in this section.

A—Cap Screw, M16 x 180-10.9 (4 used) (Without Bale Ramp)	C—Flange Nut, M16 (6 used in Raised Position)
A—Cap Screw and Flat Washer, M16 x 200-10.9 (4 used) (With Bale Ramp)	D—Spindle
B—Spacer Plate	E—Cap Screw, M16 x 80-8.8 (2 used)
C—Flange Nut, M16 (4 used in Normal Position)	



Normal Position—Optional Bale Ramp Shown



Raised Position—Optional Bale Ramp Shown

E66800—UN—18JUL12

E66801—UN—18JUL12

PP98408,0000EBA -19-03JUL13-1/1

Wheel Spindle Positions on 459, 459S, 559, and 559S Balers with MegaWide™ Plus Pickup and 21.5L x 16.1 Tires

IMPORTANT: No raised baler position is available with this spindle. Using spindle positions other than **NORMAL** position can lead to machine damage.

Normal position, as shown, is recommended for all baling conditions.

- Pickup teeth do not touch the ground with pickup lowered, depending on tractor drawbar height.

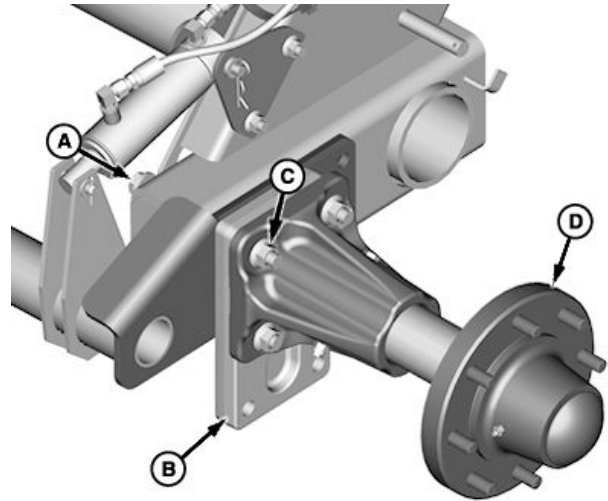
NOTE: Cap screw heads are to face inside of frame; nuts on outside of wheel spindle.

1. Install cap screws (A), spacer plate (B), flange nuts (C), and spindle (D).
2. Tighten flange nuts to specification.

Specification

Flange Nuts—Torque.....350 N·m
(255 lb.-ft.)

3. Repeat on opposite side.



Normal Position—Optional Bale Ramp Shown

- A—Cap Screw, M16 x 180-10.9 (4 used) (Without Bale Ramp)
A—Cap Screw with Flat Washer, M16 x 200-10.9 (4 used) (With Bale Ramp)
B—Spacer Plate
C—Flange Nut, M16 (4 used)
D—Spindle

PP98408,0000EBB -19-03JUL13-1/1

Tire Inflation Pressures

Tires	kPa (bar) (psi)
Regular, 11L-14, 8 PR	207 (2.1) (30)
14L x 16.1, 8 PR	207 (2.1) (30)
21.5L x 16.1, 10 PR	103 (1.0) (15)

PP98408,0000EBC -19-07FEB13-1/1

Tire Installation and Wheel Nut Torque

Machines with 11L-14 tires:

IMPORTANT: Install wheels with valve stems toward the inside. Incorrect assembly can cause wheel nuts to loosen.

Exceeding recommended tire pressure can damage baler frame.

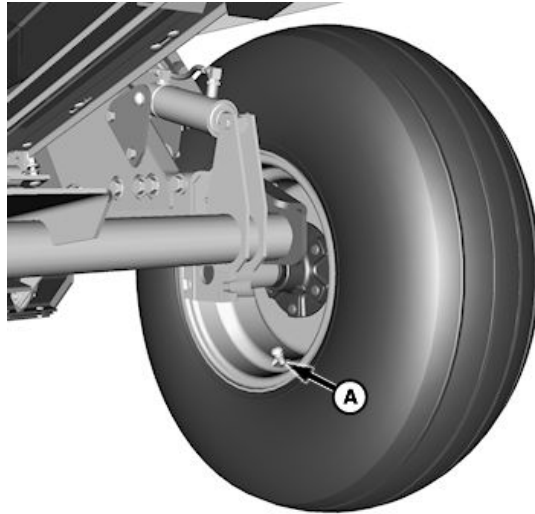
Whenever a wheel has been removed and installed, check wheel nut torque after one hour of operation and repeat until nuts maintain specified torque.

1. Install wheel with valve stem (A) toward the inside. Fasten with six 1/2 in. nuts.
2. Whenever a wheel has been removed and installed, check wheel nut torque after one hour of operation and repeat until nuts maintain specified torque. Wheel nuts must be tightened to specifications.

Specification

Wheel Nuts—Torque..... 115 N·m
(85 lb.-ft.)

3. Verify tire inflation pressure.



11L-14 Tires Shown

A—Valve Stem

Tires	kPa (bar) (psi)
11L-14, 8 PR ^a	207 (2.1) (30)

^aWhen making consistently heavy bales or operating with COVER-EDGE net wrap, 11L x 14 tires can be inflated up to 248 kPa (2.5 bar) (36 psi).

4. Repeat procedure on opposite side.

PP98408,0000EBD -19-03JUL13-1/3

E65913—UN—18JUN12

Machines with 14L x 16.1 tires:

IMPORTANT: Install wheels with valve stems toward the outside. Incorrect assembly can cause wheel nuts to loosen.

Exceeding recommended tire pressure can damage baler frame.

Whenever a wheel has been removed and installed, check wheel nut torque after one hour of operation and repeat until nuts maintain specified torque.

1. Install wheel with valve stem (A) toward the outside. Fasten with six 1/2 in. nuts.
2. Whenever a wheel has been removed and installed, check wheel nut torque after one hour of operation and repeat until nuts maintain specified torque. Wheel nuts must be tightened to specifications.

Specification

Wheel Nuts—Torque..... 115 N·m
(85 lb.-ft.)

3. Verify tire inflation pressure.



14L x 16.1 Tires Shown

A—Valve Stem

Tires	kPa (bar) (psi)
14L x 16.1, 8 PR	207 (2.1) (30)

4. Repeat procedure on opposite side.

Continued on next page

PP98408,0000EBD -19-03JUL13-2/3

E63107—UN—13APR12

Machines with 21.5L x 16.1 tires, MegaWide™ Plus pickup only:

IMPORTANT: Install wheels with valve stems toward the outside. Incorrect assembly can cause wheel nuts to loosen.

Exceeding recommended tire pressure can damage baler frame.

Whenever a wheel has been removed and installed, check wheel nut torque after one hour of operation and repeat until nuts maintain specified torque.

1. Install wheel with valve stem (A) toward the outside. Fasten with eight 5/8 in. nuts.
2. Whenever a wheel has been removed and installed, check wheel nut torque after one hour of operation and repeat until nuts maintain specified torque. Wheel nuts must be tightened to specifications.

Specification

Wheel Nuts—Torque.....237 N·m
(175 lb.-ft.)

3. Adjust tire inflation pressure.

MegaWide is a trademark of Deere & Company



21.5L x 16.1 Tires Shown

A—Valve Stem

Tires	kPa (bar) (psi)
21.5L x 16.1, 10 PR	103 (1.0) (15)

4. Repeat procedure on opposite side.

E65244 —UN—22MAY12

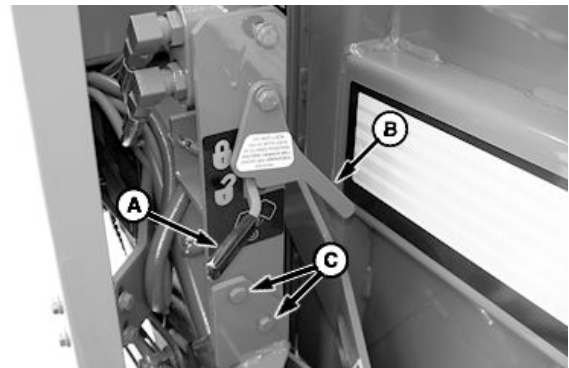
PP98408,0000EBD -19-03JUL13-3/3

Check Gate Lock Valve Interlock Lever Adjustment

IMPORTANT: Before operating baler, make sure that gate lock lever is in the UNLOCKED position and that gate lock lever cannot be moved into locked position when gate interlock lever is contacting closed gate. Forming bales with gate lock lever in locked position will damage baler.

Interlock lever (B) prevents gate lock valve lever (A) from being moved into the locked position with gate closed.

1. Close gate, shut off tractor engine, and remove key.
2. Rotate interlock lever (B) until it contacts the gate.
3. Move gate lock lever (A) to the locked position. If lever cannot be moved to locked position, no adjustment is needed.
4. If lever can be moved to locked position, loosen gate lock valve mounting cap screws (C) and move gate lock valve toward the gate. Distance between gate and end of interlock lever must be within specifications.



**A—Gate Lock Lever
B—Interlock Lever**

C—Cap Screws

Specification

Gate-to-Interlock
Lever—Gap..... 15—20 mm
(0.591—0.787 in.)

5. Tighten cap screws and repeat Step 2.

PP98408,0000EBE -19-07FEB13-1/1

E56976 —UN—26MAR09

Preparing Baler for Net or B-Wrap

Select Net Wrap Material

In order to achieve optimum performance, we recommend the use of high-quality net wrap. Use only John Deere approved net wrap material. Approved material is identified by a green strip near each end of the roll. (See your John Deere dealer.)

459 and 459S:

- CoverEdge wrap is available in roll lengths of 3688 m (12,100 ft.)
- Edge to Edge wrap is available in roll lengths of 4023 m (13,200 ft.)
- Alternatively, lighter weight rolls are available with CoverEdge 2999 m (9,840 ft.)
- B-Wrap material is available in a roll length containing 45 segments, each segment containing approximately 3 wraps of CoverEdge net and 1 wrap of Tama SCM™ breathable material.

559 and 559S:

- CoverEdge wrap is available in roll lengths of 2743 m (9,000 ft.)

- Edge to Edge wrap is available in roll lengths of 2956 m (9,700 ft.)
- Alternatively, lighter weight roll lengths are available with CoverEdge 2133 m (7,000 ft.)
- B-Wrap material is available in a roll length containing 35 segments, each segment containing approximately 3 wraps of CoverEdge net and 1 wrap of Tama SCM™ breathable material.

If using Edge to Edge net wrap material, it requires spacer plugs in end of roll and adjustments made to the net wrap attachment. (See ADJUST NET WRAP STRETCH in Service—Net Wrap section.)

Approximate Width of Net Wrap Rolls		
	459 or 459S	559 and 559S
Edge-to-Edge Net Width	122 cm (48 in.)	163 cm (64 in.)
COVER-EDGE Net Width	129 cm (51 in.)	170 cm (67 in.)
B-Wrap Net Width	129 cm (51 in.)	170 cm (67 in.)

OUO6064,00015CA -19-25SEP15-1/1

Care of Net Wrap Material

Store net and B-Wrap flat. Do not stand on end.

Protect wrap material from moisture and damage.

Store in a dry place and off the ground (for example on a wooden pallet) to prevent deformation of cardboard tube and net.

Be careful in handling net. It can be damaged by rolling around loose in back of a pickup truck or being dragged along the ground.

Snags can cause erratic performance and affect bale appearance and durability.

Store in a cool, dry place, away from direct sunlight.

Do not remove protective covering until ready for use.

Using balers storage location to carry an extra roll can help minimize damage to roll by improper transport.

NOTE: Damage can occur to wrap when moving bale to storage. DO NOT push bale on the ground when picking up the bale or storing.

OUO6064,00015CB -19-09OCT15-1/1

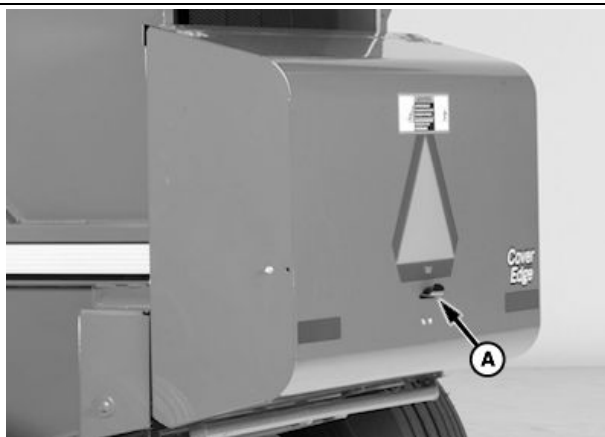
Open and Close Net Wrap Cover

CAUTION: Be sure PTO is disengaged, tractor engine is shut off, and monitor-controller power plug is disconnected from tractor convenience outlet before opening cover.

Cover is spring loaded and will move up quickly when released.

1. Pull rearward on handle (A) and raise cover.
2. To close, pull cover down and push shut.

A—Handle



E69391—UN—08FEB13

PP98408,0000EC1 -19-08FEB13-1/1

Load B-Wrap Material

CAUTION: Avoid injury from entanglement in moving rolls. Disengage PTO, shut off tractor engine, and disconnect monitor-controller power plug from tractor convenience outlet before servicing.

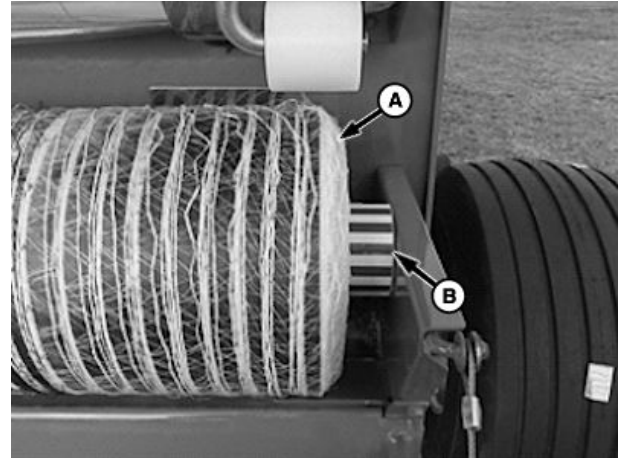
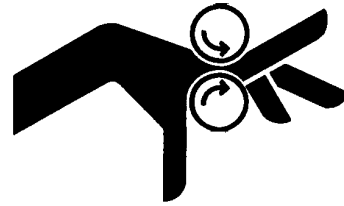
1. Open net wrap cover.
2. Swing lower tension arm out.

NOTE: Metal strip within B-Wrap material must be on left-hand side of baler.

3. Before loading B-Wrap material (A), make sure that striped end (B) is facing to the right-hand side. Place B-Wrap roll at loading position.
4. Place free end of B-Wrap from top of roll between net frame and cross-member and rubber roll.
5. Lift lower tension arm, placing B-Wrap roll in operating position.

A—B-Wrap Material

B—Striped End



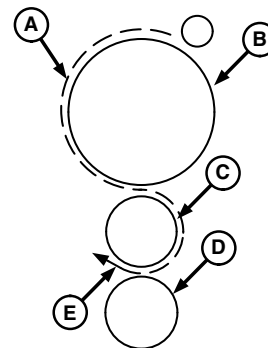
PP98408,0001227 -19-19FEB13-1/5

6. Thread B-Wrap (A), as illustrated, around net wrap roll (B) and rubber roll (C).
7. Extend B-Wrap (A) no more than 12—25 mm (1/2—1 in.) (E) between rubber roll (C) and steel roll (D).

NOTE: Maximum length is 25 mm (1 in.), any longer can cause wrapping.

A—B-Wrap
B—Net Wrap Roll
C—Rubber Roll

D—Steel Roll
E—Distance, 12—25 mm
(1/2—1 in.) B-Wrap
Extension



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PP98408,0001227 -19-19FEB13-2/5

E40200 —UN—08JUL96

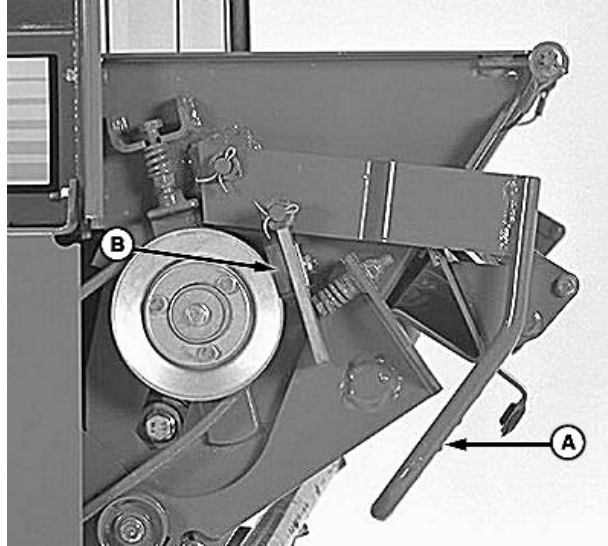
E69417 —UN—13FEB13

E55136 —UN—07MAY07

8. Pull lever (A) out and back to disengage roller brake pad (B).

A—Lever

B—Brake Pad



E48893 —UN—07SEP00

PP98408,0001227 -19-19FEB13-3/5

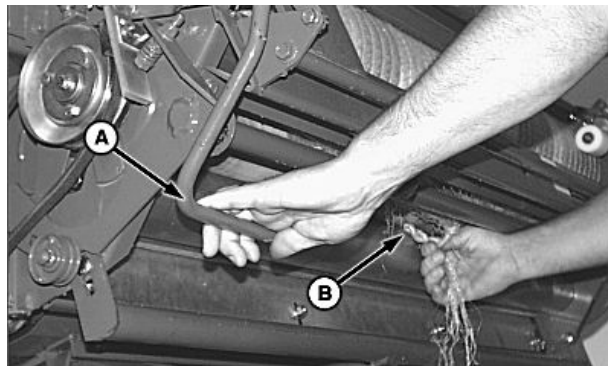
IMPORTANT: Do not thread more than 25 mm (1 in.) of loop between the two rolls or it can cause material to wrap around the rolls.

IMPORTANT: Avoid knife contact with rubber roll. Any knife cuts in rubber roll covering can result in more frequent wrapping around rolls and can require roll replacement.

NOTE: If B-Wrap is not being pulled off front face of roll, B-Wrap roll has been installed backwards. (See Steps 2—5 for correction installation.)

9. Gather the loose ends of B-Wrap together:

- Twist material (B) and make a loop.
- Thread the loop between rolls.
- Reengaging the brake lever (A) will turn rubber roll and start B-Wrap between two rolls.
- Engage and disengage brake lever about three times to advance B-Wrap through feed roll.



E48305 —UN—06JUL00

A—Lever

B—Material

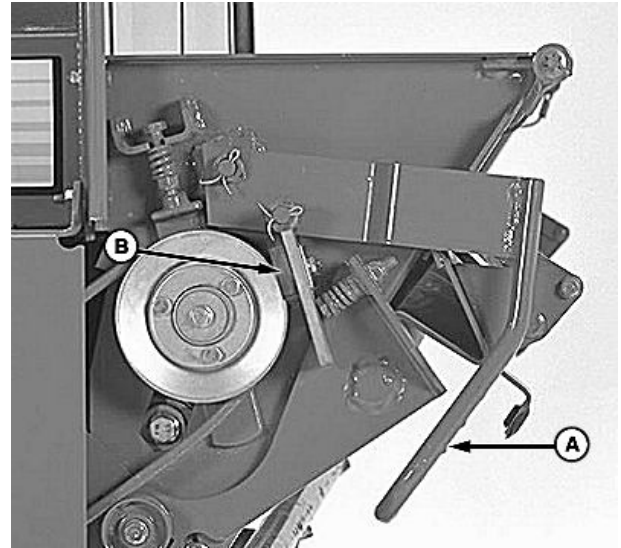
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PP98408,0001227 -19-19FEB13-4/5

10. Pull lever (A) out and push forward toward front of machine. Make sure that brake pad (B) contacts belt pulley.
11. Cut excess material off.
12. Close net wrap cover.
13. To avoid material wrapping rubber roll, release brake lever and reset brake before using the baler at the beginning of each day.
14. Adjust net wrap feed roll brake tension. (See CHECK AND ADJUST NET WRAP FEED ROLL BRAKE in Service—Net Wrap section of the Operator's Manual.)

A—Lever

B—Brake Pad



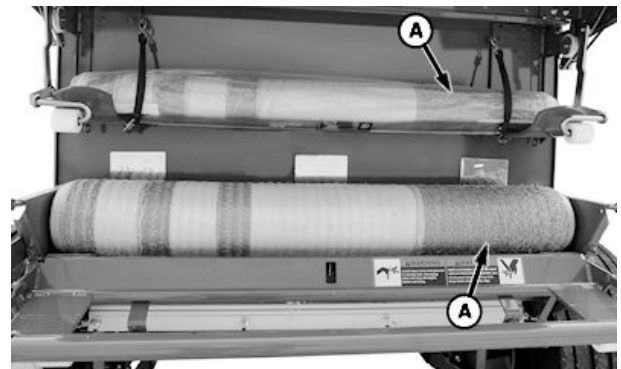
E48893 —UN—07SEP00

PP98408,0001227 -19-19FEB13-5/5

Wrap Material Storage

1. Load roll with wide green stripe (A) for net wrap or striped end of roll for B-Wrap on right-hand side, so you do not have to turn it end-for-end later when lowering it into operating position.

A—Wide Green Stripe

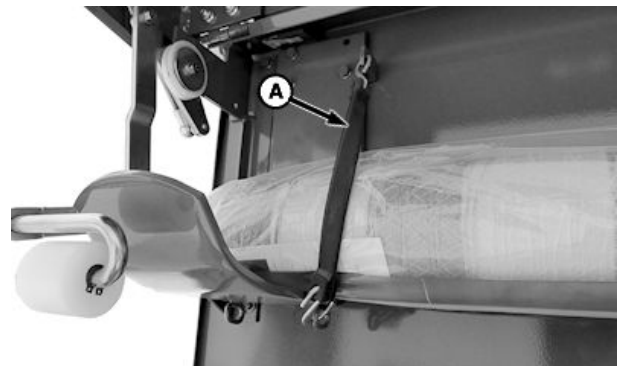


E67178 —UN—03AUG12

OOU6064,00015CC -19-25SEP15-1/4

2. To secure roll, stretch rubber straps (A) and hook them to support brackets on right and left-hand sides.

A—Rubber Straps



E67179 —UN—06AUG12

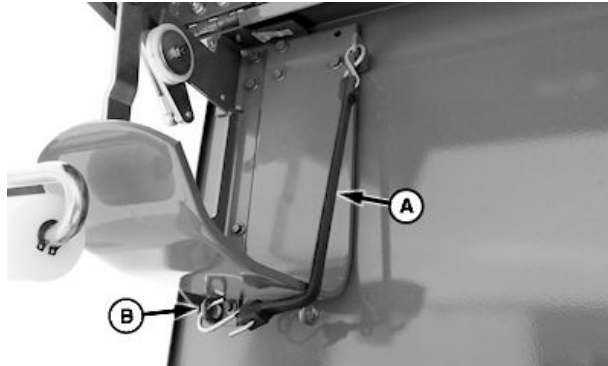
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OOU6064,00015CC -19-25SEP15-2/4

- When storage location is empty, make sure that rubbers straps (A) are secured to support brackets (B) and not left to hang free.

A—Rubber Straps

B—Support Brackets



E67180—UN—03AUG12

OUO6064,00015CC -19-25SEP15-3/4

- If rubber strap is allowed to hang free, S—hook (A) can snag the net and ruin several hundred feet on working roll.

A—S—Hook (Hanging Free)



E67181—UN—03AUG12

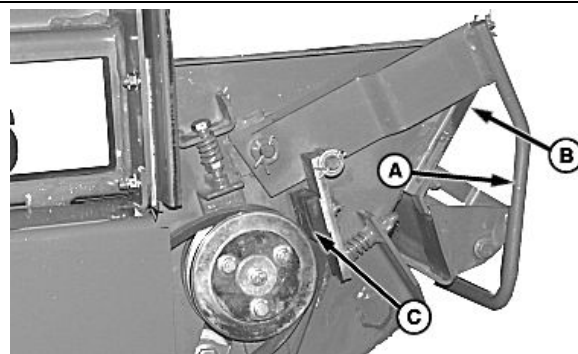
OUO6064,00015CC -19-25SEP15-4/4

Release Net Wrap Feed Roll Brake

The brake release disengages the net feed rolls. Release the brake when threading net wrap or servicing the net wrap unit.

- Disengage PTO, shut off tractor engine, and disconnect monitor-controller power plug from tractor convenience outlet.
- Open net wrap cover.
- Pull lever (A) out and up and rest on latch (B) to disengage roller brake pad (C).

NOTE: Brake torque must be checked. See *CHECK AND ADJUST NET WRAP FEED ROLL BRAKE in Service—Net Wrap* section.



A—Lever
B—Latch

C—Brake Pad

E48357—UN—12JUL00

- To reengage net wrap drive, return lever (A) to engaged position and check that pad (C) contacts belt pulley.
- Close net wrap cover.

PP98408,0000EC3 -19-08FEB13-1/1

Thread and Route Net Wrap Material

NOTE: It is recommended to use approved net wrap available from your John Deere dealer.

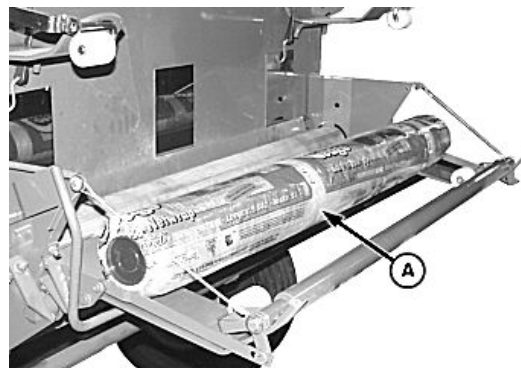
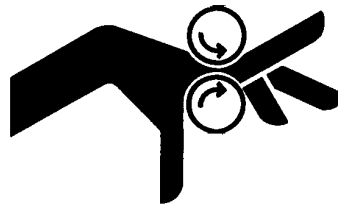
CAUTION: Avoid injury from entanglement in moving rolls. Disengage PTO, shut off tractor engine, and disconnect monitor-controller power plug from tractor convenience outlet before servicing.

NOTE: Edge-to-edge net wrap is available, but requires spacer plugs in end of roll and adjustments made to net wrap attachment. (See ADJUST NET WRAP STRETCH in Service Section.)

1. Open net wrap cover.

NOTE: Remove all package material from net wrap roll before installing.

2. Swing lower tension arm out, place net wrap roll (A) at loading position.
3. Place free end of net wrap from top of roll between net frame cross-member and rubber roll.
4. Lift lower tension arm, placing roll of net in operating position.



A—Net Wrap Roll

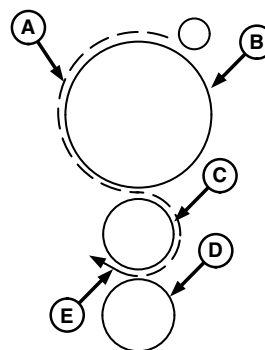
PP98408,0000EC4 -19-07FEB13-1/5

5. Place fewer number of stripes on net wrap toward right-hand side of baler so net is fed off front of roll. Thread net wrap (A), as illustrated, around net wrap roll (B) and rubber roll (C).
6. Extend net wrap (A) no more than 1/2—1 in. (E) between rubber roll (C) and steel roll (D).

NOTE: Maximum length is one inch, any longer can cause wrapping.

A—Net Wrap
B—Net Wrap Roll
C—Rubber Roll

D—Steel Roll
E—Distance, 1/2 to 1 in. Net Wrap Extension



Loop (E) Shown Larger for Illustration

Continued on next page

PP98408,0000EC4 -19-07FEB13-2/5

E40200 —UN—08JUL96

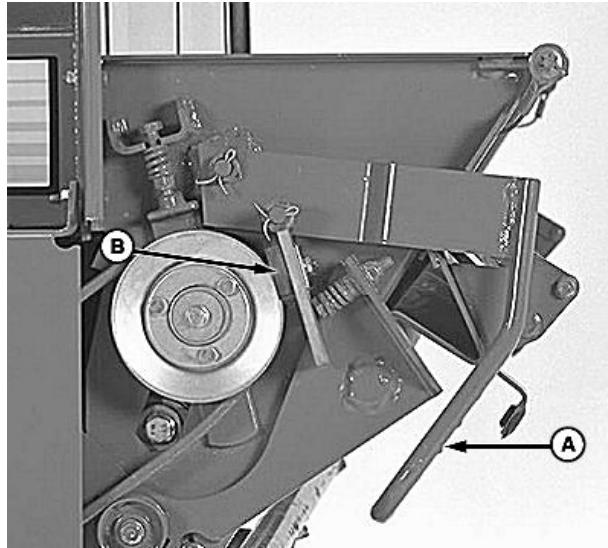
E51064 —UN—08JAN02

E55136 —UN—07MAY07

7. Pull lever (A) out and back to disengage roller brake pad (B).

A—Lever

B—Brake Pad



E48893—UN—07SEP00

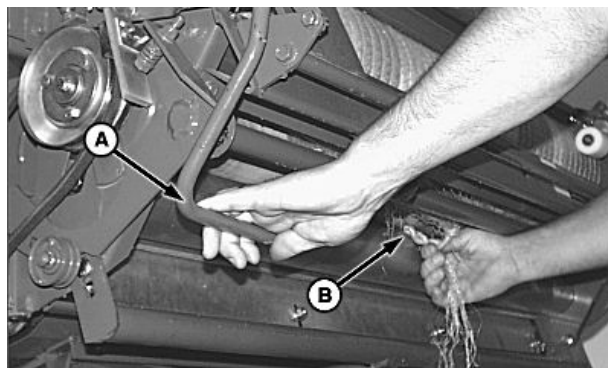
PP98408,0000EC4 -19-07FEB13-3/5

IMPORTANT: Do not thread more than 25 mm (1 in.) of loop between the two rolls or it can cause material to wrap around the rolls.

IMPORTANT: Avoid knife contact with rubber roll. Any knife cuts in rubber roll covering can result in more frequent wrapping around rolls and can require roll replacement.

NOTE: If net wrap is not being pulled off front face of roll, net roll has been installed backwards. (See Step 1 for correct installation.)

8. Gather the loose ends of net wrap together. Twist material (B) and make a loop. Thread the loop between rolls. Reengaging the brake lever (A) will turn rubber roll and start net wrap between two rolls. Engage and disengage brake lever about three times to advance net through feed roll.



E48305—UN—06JUL00

A—Lever

B—Net Wrap

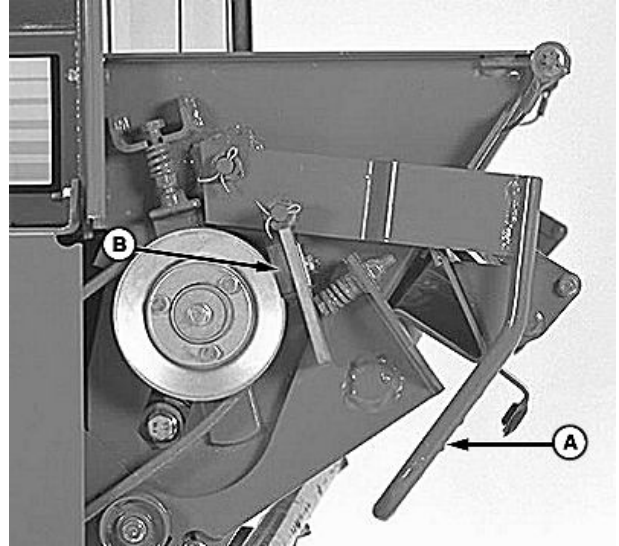
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PP98408,0000EC4 -19-07FEB13-4/5

9. Pull lever (A) out and push forward toward front of machine. Make sure brake pad (B) contacts belt pulley.
10. Cut excess material off.
11. Close net wrap cover.
12. To avoid net wrapping rubber roll, release brake lever and reset brake before using the baler at the beginning of each day.
13. Adjust net wrap feed roll brake tension. (See CHECK AND ADJUST NET WRAP FEED ROLL BRAKE in Service—Net wrap section.)

A—Lever

B—Brake Pad



E48893 —UN—07SEP00

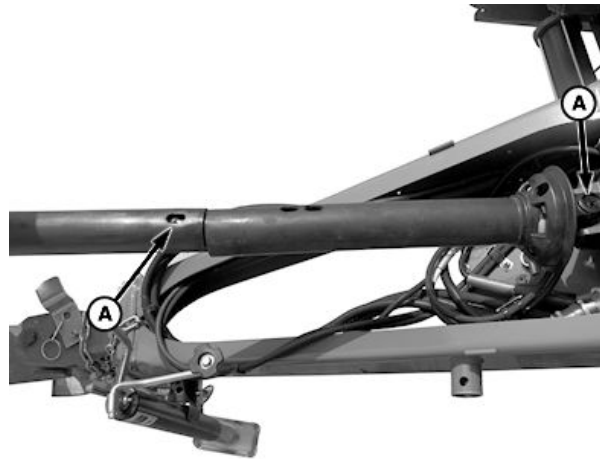
PP98408,0000EC4 -19-07FEB13-5/5

Attaching and Detaching

Assemble Main PTO Driveline (If Necessary)

1. Make sure to align lubrication fittings (A) when assembling PTO driveline.
2. Wipe dirt and any excess grease from shaft and sleeve to avoid contamination and wear. Assemble telescoping members together.
3. Apply multipurpose grease, or equivalent, to lubrication fitting at sleeve before operating. (See Lubrication and Maintenance section.)

A—Lubrication Fittings

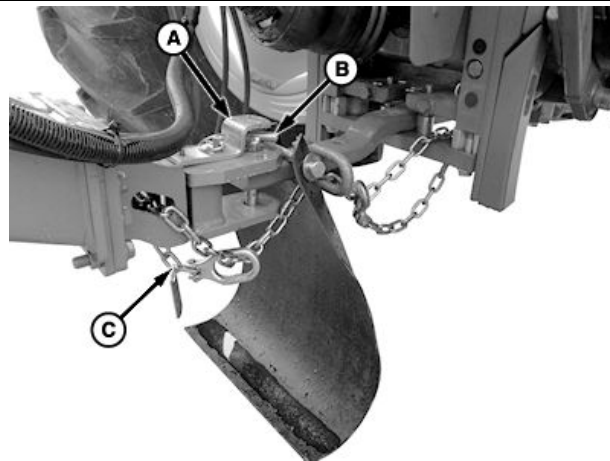


E62346—UN—05APR12

PP98408,0000EC5 -19-07FEB13-1/1

Attach Baler to Tractor Drawbar

1. Remove quick-lock pin, raise, and rotate bracket (A) 90°. Remove hitch pin (B).
2. Back up tractor to baler. Align tractor drawbar with front of baler tongue.
3. Engage tractor parking brake and place transmission in Park.
4. Shut off tractor engine and remove key.
5. Install hitch pin. Raise and rotate bracket (A) over hitch pin. Install quick-lock pin.
6. Route safety chain (C) through loop on drawbar (if equipped) and connect to tractor drawbar supporting structure, as shown. Do not fasten to drawbar. remove all slack except what is needed for turns.
7. Connect PTO driveline. (See CONNECT PTO DRIVELINE in this section.)



A—Bracket
B—Hitch Pin

C—Safety Chain

E61064—UN—30MAR12

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PP98408,0000EC6 -19-07FEB13-1/2

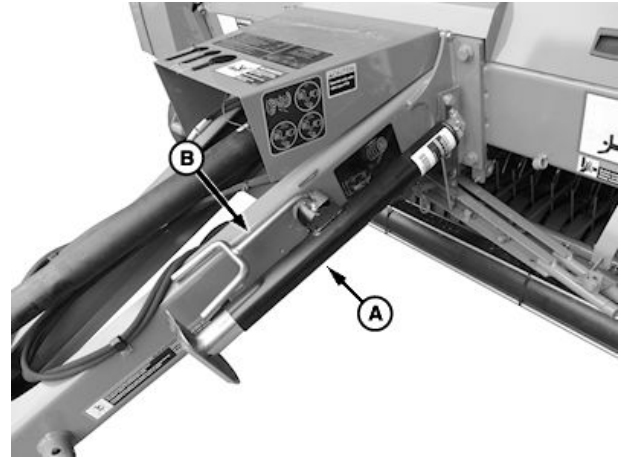
8. Turn handle to take load off jackstand.
9. Remove quick-lock pin, PTO support (B) and jackstand (A).

IMPORTANT: Store jackstand (A) with handle toward baler to prevent water entering jack gearset.

10. Install jackstand (A) in storage location (shown) with handle facing toward baler. Fasten PTO support (B) and quick-lock pin. Face PTO support towards front of tongue.

A—Jackstand

B—PTO Support



E62318—UN—04APR12

PP98408,0000EC6 -19-07FEB13-2/2

Install Drawbar Shield

IMPORTANT: Drawbar shield is required to keep crop flowing underneath tractor and baler hitch area.

1. Install pin (A), washers (B), and retaining ring (C).
2. Slide drawbar shield onto drawbar.
3. Drawbar shield can be installed with baler attached to tractor drawbar by removing pin (A) and reassembling in front of hitch.

A—Pin

B—Washers

C—Retaining Ring



E65201—UN—21MAY12

PP98408,0000EC7 -19-07FEB13-1/1

Connect PTO Driveline

CAUTION: Shut off tractor engine before attaching PTO driveline. Entanglement in rotating driveline can cause serious injury or death.

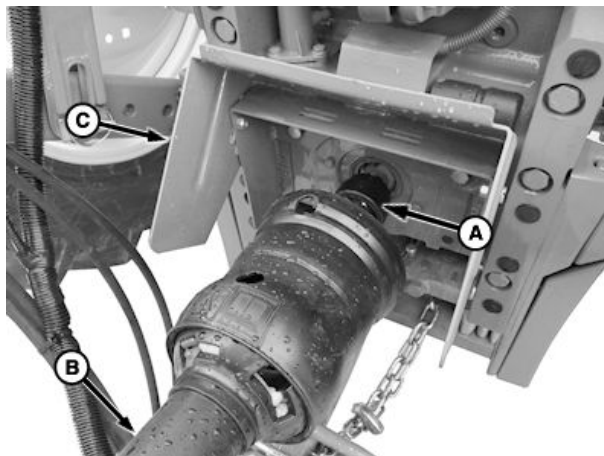
Never operate 540 rpm baler with 1000 rpm PTO tractor.

IMPORTANT: Keep driveline and powershaft splines clean of paint, dirt, and chaff. Apply John Deere Moly High Temperature EP Grease or John Deere EP Moly Grease on tractor PTO shaft before connecting PTO driveline.

1. Shut off tractor engine and remove key.
2. Raise tractor PTO shield, if equipped.
3. Pull back on collar (A). Collar will click and hold in ready position.
4. Align splines by rotating baler driveline. Push driveline onto tractor PTO shaft until collar (A) snaps forward.
5. To check if latched, pull back on shield (B). Do not pull on collar (A) as this will release latch.
6. Lower tractor PTO shield (C) or reinstall if removed.

A—Collar
B—Shield

C—PTO Shield



TS188 —UN—23AUG88

E62263 —UN—30MAR12

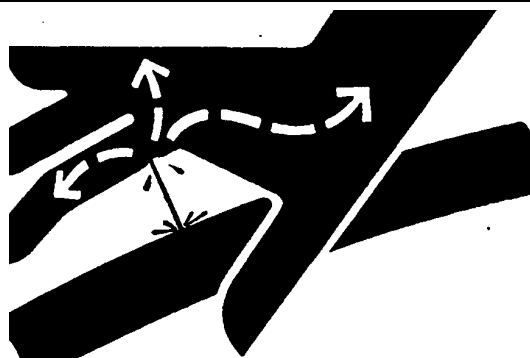
PP98408,0000EC8 -19-07FEB13-1/1

Attach to Tractor Hydraulic System

CAUTION: Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Search for leaks with a piece of cardboard. Protect hands and body from high-pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene can result. Doctors unfamiliar with this type of injury must reference a knowledgeable medical source. Such information is available from Deere & Company Medical Department in Moline, Illinois, U.S.A.

Hydraulic hoses can fail due to physical damage, kinks, age, and exposure. Check hoses regularly. Replace damaged hoses.



IMPORTANT: All hydraulic couplers must be clear of debris, dust, and sand. Use protective caps on fluid openings until ready to make connection. Foreign material can damage the hydraulic system.

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PP98408,0000EC9 -19-07FEB13-1/2

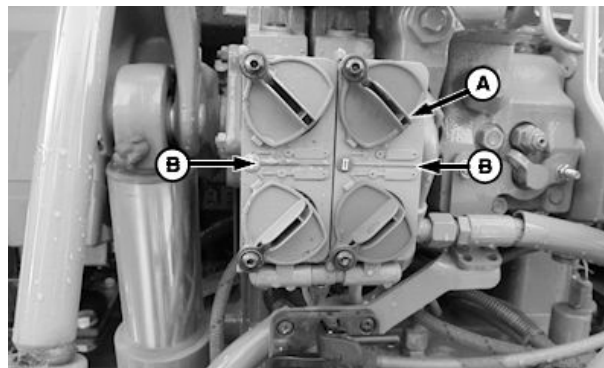
X9811 —UN—23AUG88

NOTE: Tractor must have one set of selective control valve (SCV) receptacles. Tractor must have two sets of selective control valve receptacles if baler is equipped with hydraulic pickup lift.

To help identify and properly connect hoses, Hose Identification Kits are available from your John Deere dealer.

Tractor remote cylinder receptacles are labeled I through IV. Receptacles are identified from top to bottom.

ISO hydraulic couplers are standard with the baler. If they do not fit the tractor, see your John Deere dealer.



A—Dust Covers

B—Cylinder Symbols

1. Clean off dust covers (A) and hose ends.
2. Check to be sure symbols (B) on receptacle identification plate, indicating cylinder movement, match cylinder travel direction.

CAUTION: On tractors with transport lock for selective control valve (SCV), such as John Deere 7000 Series tractors, push SCV lever into transport lock position before attaching implement, to prevent implement movement, and possible personal injury.

3. To operate the gate; Insert hydraulic hoses into tractor receptacles (SCV I). When tractor selector control valve lever is moved rearward, the gate will open.

4. When tractor selector control valve lever is moved forward, the gate will close.
5. If equipped with optional hydraulic pickup lift, insert hydraulic hoses into next set of tractor receptacles (SCV II).
6. Push hoses firmly into tractor receptacles.

PP98408,0000EC9 -19-07FEB13-2/2

Tractor Convenience Outlet

Convenience outlet (A) is used to power BaleTrak™ Pro monitor-controller.

NOTE: Outlet is protected by a 30 Amp fuse. The key switch must be in the ON or ACCESSORY position when using the outlet.

A—Convenience Outlet



PP98408,0000ECA -19-07FEB13-1/1

E62264—UN—30MAR12

E66075—UN—19JUN12

Connect Baler Wire Harness to Tractor (BaleTrak™ Pro System)

1. Route baler wire harness into tractor operator's platform or station.
2. Connect baler wire harness to BaleTrak™ Pro monitor-controller harness connector. Line up timing mark on connectors and tighten locking ring. *Monitor-controller power plug is connected to tractor convenience outlet.*

A—Monitor-Controller



PP98408,0000ECB -19-07FEB13-1/1

E52435—UN—16JUN03

Connect Tail or Warning Light Plug to Tractor

NOTE: If towing tractor is not equipped with an electrical outlet, field installation of Seven-Terminal Auxiliary Electric Kit is required. Kit can be ordered through your John Deere dealer.

Make sure that baler tail and warning lights operate with tractor tail and warning lights and turn signals.

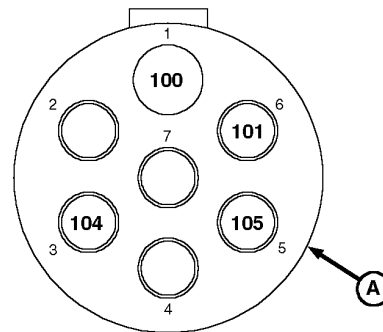
Connect tail or warning light plug (A) to seven-terminal outlet on tractor. Check tail or warning light function. (See LIGHT ENHANCEMENT MODULE OPERATION in Transporting section.)

Terminal	Circuit	Function	Wire Color
1	100	Ground	Black
2		Open	
3	104	Left-Hand Turn or Warning Light	Yellow
4		Open	
5	105	Right-Hand Turn or Warning Light	Green
6	101	Tail Lights	Brown
7		Open	

A—Baler Tail or Warning Light Plug



Tractor Seven-Terminal Outlet



Baler Tail or Warning Light Plug

PP98408,0000ECC -19-07FEB13-1/1

E62265—UN—30MAR12

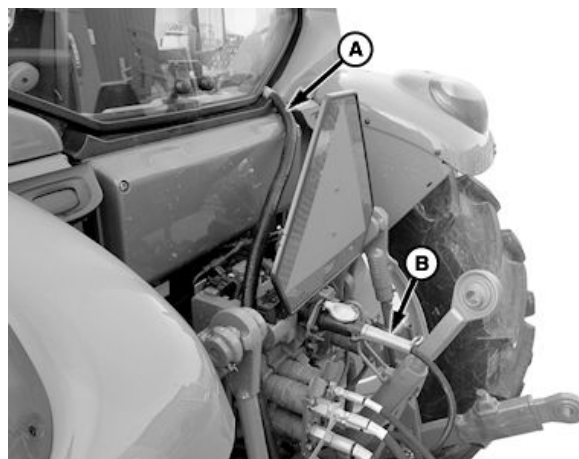
E47631—UN—08JAN00

Detach Baler From Tractor

CAUTION: To prevent personal injury caused by unexpected movement:

- Park machines on a level surface
- Engage tractor parking brake and place transmission in Park
- Disengage PTO
- Shut off tractor engine and remove key

1. Park baler on a level surface, or block both baler wheels so baler cannot roll after detaching from the tractor.
2. Engage tractor parking brake and place transmission in Park.
3. Shut off tractor engine and remove key.
4. Disconnect baler wire harness (A) and tail or warning light plug (B). Store warning light plug and wire harness in PTO shield slots.



A—Baler Wire Harness

B—Tail or Warning Light Plug

E61072 —UN—30MAR12

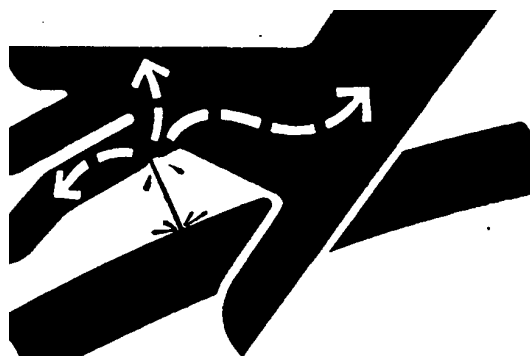
PP98408,0000ECD -19-07FEB13-1/5

CAUTION: Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Search for leaks with a piece of cardboard. Protect hands and body from high-pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene can result. Doctors unfamiliar with this type of injury must reference a knowledgeable medical source. Such information is available from Deere & Company Medical Department in Moline, Illinois, U.S.A.

On 7000 Series John Deere tractors; Push SCV lever lockout to the right (transport lock) before detaching implements to prevent implement movement and possible personal injury.

5. To disconnect hoses, pull hoses from tractor receptacles.



X9811 —UN—23AUG88

E62266 —UN—30MAR12

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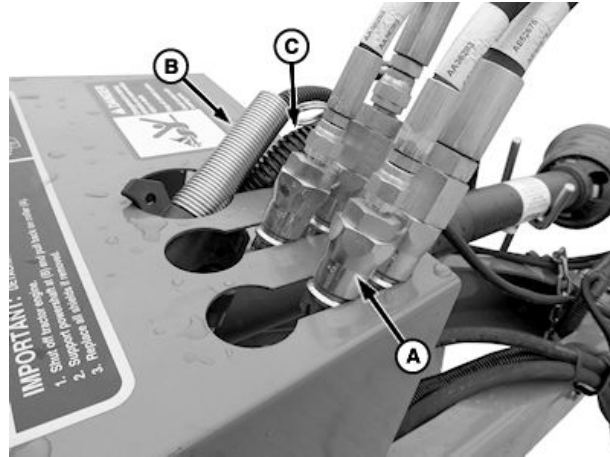
PP98408,0000ECD -19-07FEB13-2/5

IMPORTANT: Store hydraulic fittings and wire harnesses as shown. Damage can occur if not stored properly.

6. Store hydraulic hoses (A), warning light plug (B), and baler wire harness (C) in PTO shield.

A—Hydraulic Hoses
B—Warning Light Plug

C—Baler Wire Harness



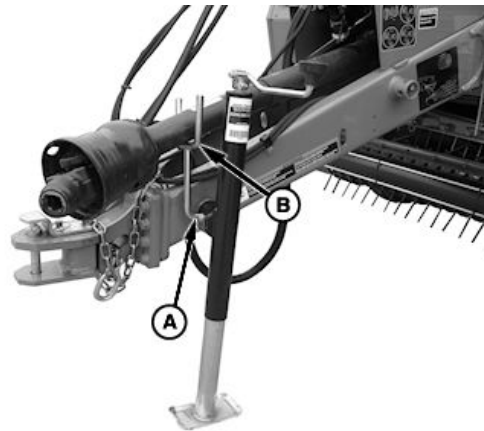
E61065 — UN—30MAR12

PP98408,0000ECD -19-07FEB13-3/5

7. Remove quick-lock pin, pin with PTO support and jackstand from storage location. Put jackstand in tongue support location.
8. Insert PTO support pin (A) through jackstand with support facing front of tongue and fasten with quick-lock pin.
9. Turn handle clockwise to take load off tractor drawbar. After disconnecting PTO from tractor, place driveline in PTO support (B).

A—Pin

B—PTO Support



E62267 — UN—02APR12

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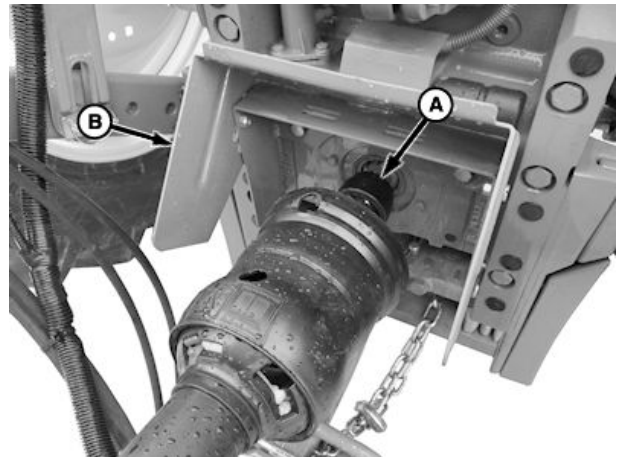
PP98408,0000ECD -19-07FEB13-4/5

⚠ CAUTION: Shut off tractor engine before detaching PTO driveline. Entanglement in rotating driveline can cause serious injury or death.

10. Raise tractor PTO shield (B), if equipped.
11. Support driveline and pull back on collar (A). Slide driveline off tractor shaft. Place driveline in PTO support on jackstand.
12. Lower tractor PTO shield (B) or reinstall if removed.
13. Disconnect safety chain from tractor.
14. Remove drawbar shield.
15. Remove hitch pin.
16. Carefully drive tractor away from baler.

A—Collar

B—PTO Shield



TS198 —UN—23AUG88

E62268 —UN—02APR12

PP98408,0000ECD -19-07FEB13-5/5

Transporting

Prepare Baler for Transport

The construction of this implement may not meet all local or national requirements for operation on a public roadway. In regions or countries that have national certification requirements for roadway operation, it may be impossible for this implement to be approved for such roadway operation. The customer is responsible for understanding and complying with all local, regional, and national requirements regarding roadway operation.

CAUTION: To avoid injury to others, transport baler with bale chamber empty.

1. Empty bale chamber before transporting.
2. Close gate.
3. Raise pickup fully.
4. Raise gathering wheels, if equipped.

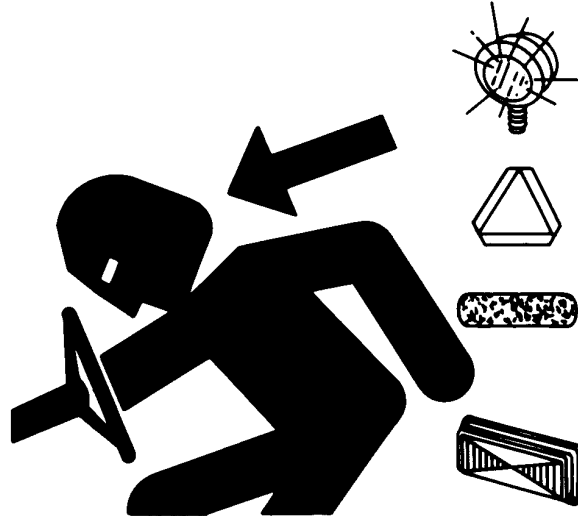
CAUTION: Prevent collisions between other road users, slow moving tractors with attachments or towed equipment, and self-propelled machines on public roads. Frequently check for traffic from the rear, especially in turns, and use hand signals or turn signal lights.

Use headlights, flashing warning lights, and turn signals day and night. Follow local regulations for equipment lighting and marking. Keep lighting and marking visible and in good working order. Replace or repair lighting and marking that has been damaged or lost.

5. Be sure SMV emblem (C), turn or warning lights (A), tail lights (B) and reflectors (D) are clean and visible. Make sure that baler turn or warning lights operate with tractor warning lights and turn signals.

A—Turn or Warning Lights
(Amber)
B—Tail Lights (Red)

C—SMV Emblem
D—Reflectors



TS951—UN—12APR90

E62414—UN—09APR12

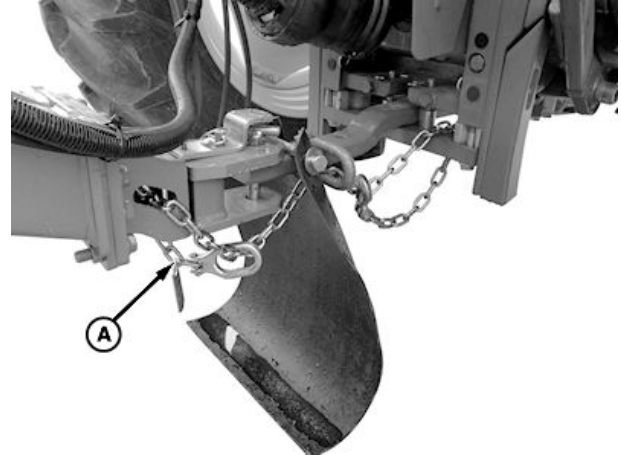
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PP98408,000054F -19-20AUG13-1/2

CAUTION: If baler separates from the drawbar, a safety chain (A) will help control drawn equipment. Using the appropriate adapter parts, attach the chain (A) to the tractor drawbar support or other specified anchor location. Provide only enough slack in the chain to permit turning. Do not use safety chain for towing.

6. If transporting machine behind a tractor without connecting PTO driveline, remove PTO driveline. Transport parts in another vehicle to prevent possible loss, damage, and contamination to driveline.

A—Safety Chain



Safety Chain

E62387—UN—05APR12

PP98408,000054F -19-20AUG13-2/2

Follow Safe Transport Procedures

CAUTION: To help prevent severe injury or death to you or someone else, follow recommended transport procedures:

- Transport with bale chamber empty.
- Raise pickup fully.
- Travel at a reasonable and safe speed. Do not exceed weight and speed guidelines shown in TOW LOADS SAFELY found in the Safety

section. Reduce speed considerably when traveling over rough ground.

- Stop slowly.
- Avoid possible loss of control or tractor overturn. Tow only with correctly ballasted tractor.
- Sound tractor horn before backing baler up.

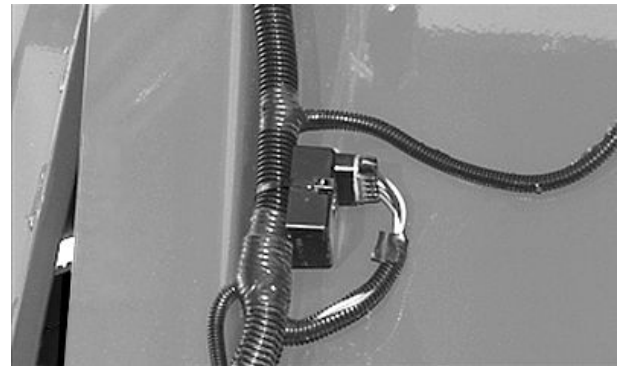
If necessary, add ballast as described in your tractor operator's manual. Add ballast to tractor as required to maintain stability.

PP98408,0000ECF -19-07FEB13-1/1

Light Enhancement Module Operation

In addition to tail and warning lights, the lighting circuit incorporates a lighting enhancement module. This module causes red tail lights to function as turn signals as well as tail lights. During normal transport, both amber warning lights will flash in unison at high intensity and both red tail lights will illuminate steady at low intensity.

When a turn is signaled, the red tail light in direction of turn will flash at high intensity in unison with the amber warning light. The opposite side amber and red lights will illuminate steady at high intensity.



Located on Right-Hand Sidesheet

E48532—UN—24MAR00

PP98408,0000ED0 -19-07FEB13-1/1

Extended Rear-View Mirror

⚠ CAUTION: When towing the baler on public roads, an extended mirror to improve visibility of traffic behind the baler is recommended. See your John Deere dealer.



E63790 —JUN—15JUN12

PP98408,0000ED1 -19-07FEB13-1/1

Break-In Period

Break-In Baler

IMPORTANT: Belts and drive loads increase as the bale size approaches maximum diameter. Frequent forming of oversize bales can lead to premature failures.

A break-in period of approximately 50 bales or until paint inside bale chamber has worn off can increase the life and reduce maintenance of baler. During the break-in period, a smaller and lower density bale is recommended.

BaleTrak™ Pro system is preset at factory. Monitor-controller setting for bale diameter is 1.42 m (56 in.).

Before operation, lubricate members of driveline liberally.

IMPORTANT: If slippage occurs during action on slip clutch, disengage PTO and reengage at low idle until slip clutch reengages, then operate at rated PTO speed.

Fraying of belts is possible. Cut the wires if necessary.

PP98408,0000ED2 -19-07FEB13-1/1

After the First 10 Hours—Wheel Nut Torque

Check wheel nut torque after the first 10 hours of use. (See TIRE INSTALLATION and WHEEL NUT TORQUE in Preparing the Baler section.)

IMPORTANT: Whenever a wheel has been removed and installed, check wheel nut torque after one hour of operation and repeat until nuts maintain specified torque.



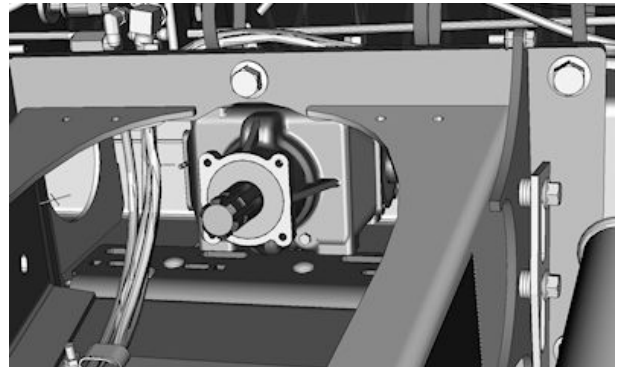
21.5L x 16.1 Tires

E67267 —UN—09AUG12

PP98408,0000ED3 -19-07FEB13-1/1

After the First 50 Hours—Gear Case

Change the oil in the gear case after the first 50 hours of operation. (See EVERY 100 HOURS or ANNUALLY in Lubrication and Maintenance section.)



E66194 —UN—26JUN12

PP98408,0000ED4 -19-07FEB13-1/1

After the First 50 Hours—Wheel Nut Torque

Check wheel nut torque after the first 50 hours of use. (See TIRE INSTALLATION and WHEEL NUT TORQUE in Preparing the Baler section.)

IMPORTANT: Whenever a wheel has been removed and installed, check wheel nut torque after one hour of operation and repeat until nuts maintain specified torque.



21.5L x 16.1 Tires

E67267—JUN—09AUG12

PP98408,0000ED5 -19-07FEB13-1/1

Operating the Baler

Before Each Use of the Baler

Check the belts:

NOTE: Belts are designed specifically for this machine and are tested to withstand a normal usage of the baler.

Due to the different environments, the belts may have been damaged by foreign bodies. This damage generally does not generate any functional or reliability issues. However, if the damage is located in the bale shape sensor path, contact your John Deere dealer to prevent any additional damage to the belt.

Adjust the baler:

1. Adjust pickup height. (See ADJUST PICKUP Height in this section.)
2. Adjust pickup float spring. (See ADJUST PICKUP FLOAT SPRING in Service-Baler section.)

3. Adjust pickup gauge wheels. (See ADJUST PICKUP GAUGE WHEELS in this section.)
4. Adjust windrow compressor roll height. (See ADJUST ROLLER BAFFLE HEIGHT in Service-Baler section.)

Set monitor-controller functions:

1. Adjust bale diameter. (See ADJUST BALE DIAMETER in this section.)
2. Adjust soft core diameter and density. (See ADJUST VARIABLE CORE DIAMETER in this section.)
3. Adjust bale density. (See ADJUST BALE DENSITY in this section.)
4. Reset bale counter. (See VIEW AND RESET BALE COUNTER in this section.)

PP98408,0000ED6 -19-07FEB13-1/1

Handle Round Bales

See the loader or tractor operator's manual on proper procedures for lifting and handling round bales.

PP98408,0000ED7 -19-07FEB13-1/1

Handle Round Bales with Net Wrap

Do not snag or tear the wrapping material. Snags or tears in the net wrapping can reduce durability of bales and detract from hay quality when bales are stored outside.

PP98408,0000ED8 -19-07FEB13-1/1

Handle Round Bales With B-Wrap

Do not snag or tear the wrapping material. Snags or tears in the net wrapping can reduce durability of bales and detract from hay quality when bales are stored outside.

Orientate breathable material seam so that water is shed after moving (between noon and six o'clock) so that the seam overlap faces down and water cannot get in.

PP98408,000002B -19-24JUL14-1/1

Feed Round Bales

Improperly disposing of waste can threaten the environment and ecology. Remove wrapping material from bales before they are fed to reduce possible

problems of material wrapping in machinery and ingestion by livestock. Inquire in proper way to recycle or dispose of waste from your local environmental or recycling center, or from your John Deere dealer.

PP98408,0000ED9 -19-07FEB13-1/1

Crop Preparation

Make windrows either:

- Up to one-half the width of the baler chamber.
- The full width of the baler chamber to eliminate weaving.

Unless bales are being made for silage or a preservative is being applied to hay, wait until moisture content of hay is 20% or drier before baling.

For additional information and a more in-depth description on hay and forage harvesting, see John Deere's Fundamentals of Machine Operation (FMO) Manual FMO14104B. This manual covers all types of vehicles, regardless of manufacturer, starting with basic theory and proceeding through complex systems. To order this manual and others, see the John Deere Service Literature



TS1646 —UN—02OCT95

form at the back of this manual or see your John Deere dealer.

PP98408,0000EDA -19-07FEB13-1/1

BaleTrak™ Pro Monitor-Controller System Introduction



A—Monitor-Controller

The BaleTrak™ Pro system provides accurate and useful information to help the operator make the best bales possible.

In addition, the operator can adjust most control settings from the tractor seat without inconvenience or delays. By pushing a single button, twine arms can be extended or extracted, or the auto wrap cycle can be initiated.

The BaleTrak™ Pro system is factory preset, functional, and ready to use. Operate the baler briefly with factory settings to become familiar with the settings before adjusting or resetting them. The system recalls the settings when power is shut off.

NOTE: Monitor will power off after approximately 30 minutes of inactivity.

The system can be used to troubleshoot baler malfunctions and gives error code messages during malfunctions. Convenient channels are available to ensure correct baler switch and sensor adjustments.

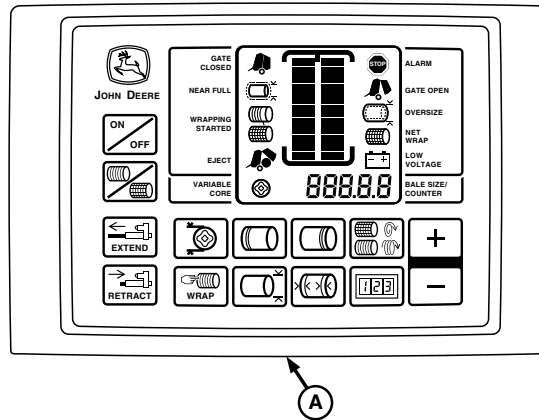
The BaleTrak™ Pro system monitors or controls the following baling operations and conditions:

- Bale Diameter
- Bale Shape
- Automatic Twine Wrapping
- Net Wrapping (if equipped)
- Bale Eject
- Bale Count
- Gate Closed
- Slip Clutch Alert
- Variable Core Diameter (if equipped)
- Alarms
 - Gate Open
 - Oversize Bale
 - Low Tractor Voltage
 - Net Wrap Misfed or Miscut (if equipped)
 - Error Codes of System Malfunctions

ES2435 —UN—16JUN03

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BaleTrak™ Pro Monitor-Controller Description



A—Monitor-Controller

The monitor-controller (A) uses switches, a liquid crystal display (LCD), and a microprocessor to monitor and control the baling and wrapping operations. The following conditions can be set (programmed) into the controller by the operator:

- Bale Diameter
- Twine Wrap:
 - Spacing
 - Number of End Wraps (Both Ends)
 - Twine End Wrap Distance (Both Ends)
 - Re-Extension Wrap Distance
 - Cinch Wrap
 - Delay of Twine Eject
 - Dry Straw
- Net Wrap; Number of Wraps
- Variable Core Diameter (if equipped)

NOTE: The conditions set by the operator will revert to the initial settings when controller is reset (Channel 001).

The monitor-controller is mounted on the tractor and is powered by the tractor's 12 V electrical system. When

first turned on, the controller performs a self-test to ensure that the system is ready to operate. The controller, then sends a brief communication signal to the wrap actuator (twine or net wrap) and waits for a reply before starting normal operations. If a reply signal is not received, the controller will not go into operating mode and the STOP indicator will light.

The monitor-controller uses three sensors and three switches to perform the following:

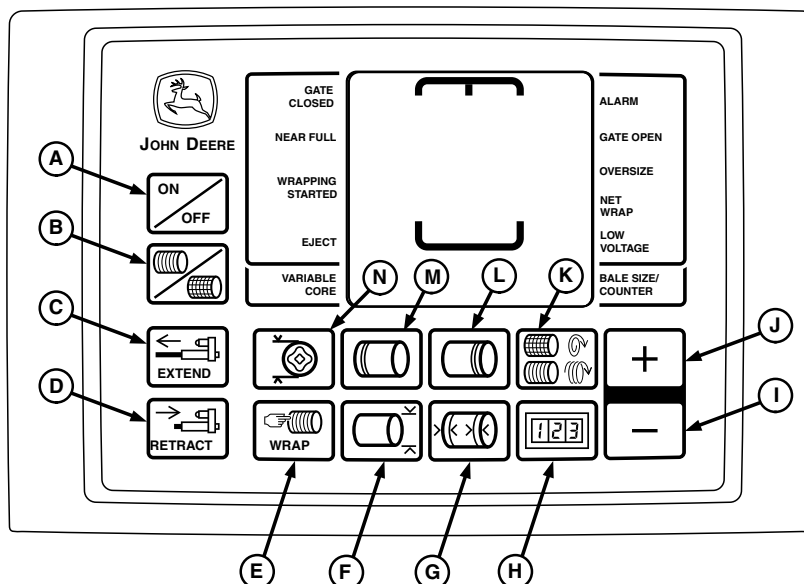
- The sensors are used for monitoring:
 - Bale Diameter (1)
 - Bale Shape (2)
- The switches are used for monitoring:
 - Gate (Open or Closed) (1)
 - Oversize Bale (1)
 - Net Wrapping (if equipped) (1)

To perform the wrapping process, the controller provides current to operate the bale wrap actuator (twine or optional net). This is done automatically by the controller or manually by the operator pressing the wrap key.

PP98408,0000EDC -19-07FEB13-1/1

E52440—UN—18JUN03

BaleTrak™ Pro Monitor-Controller Keys and Switches



A—Monitor ON or OFF Switch

B—Selector Switch (Twine or Net¹)

C—Actuator Extend—Manual (Twine Only²)

D—Actuator Retract—Manual (Twine Only²)

E—Wrap Cycle—Manual Start

F—Bale Diameter

G—End Wrap Distance (Twine Only)

H—Bale Counters

I—Minus Key

J—Plus Key

K—Twine Spacing or Number of Net Wraps

L—Number of Right-Hand End Wraps (Twine Only)

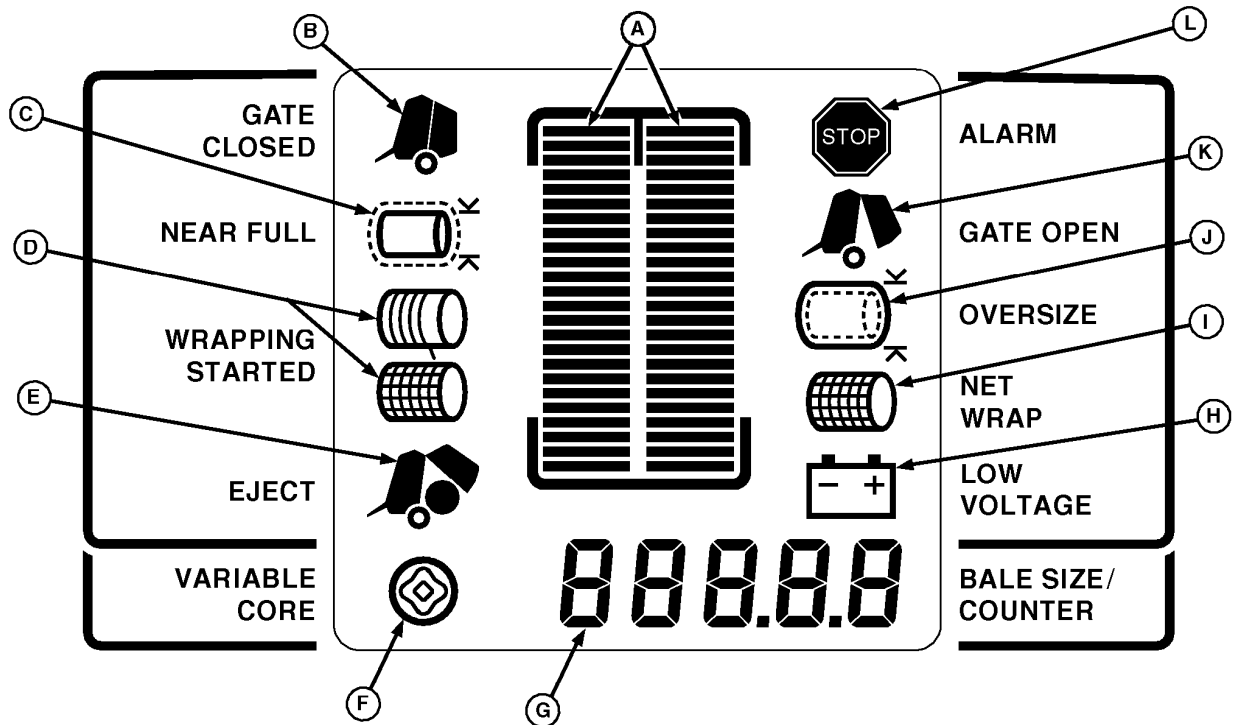
M—Number of Left-Hand End Wraps (Twine Only)

N—Variable Core Diameter¹

¹Optional equipment.

²Net actuator does not move when EXTEND or RETRACT keys are pressed in Net-mode. To move net actuator for servicing net unit, see TEST TWINE OR NET WRAP ACTUATOR CURRENT (CHANNEL 018), or see TEST TWINE OR NET WRAP ACTUATOR VOLTAGE (CHANNEL 019) in BaleTrak™ Pro Monitor-Controller section.

BaleTrak™ Pro Monitor-Controller Displays and Indicators



A—Bale Shape Bars

B—Gate Closed

C—Near Full

D—Wrapping Started (Twine or Net)

E—Eject

F—Variable Core ON¹

G—Digital Display (Bale Size or Counter)

H—Low Voltage Alarm

I—Net Wrap Alarm²

J—Oversize Alarm

K—Gate Open Alarm

L—Stop Indicator (Flashing or Steady)

M—Audible Alarm (Not Shown)

¹Optional equipment.

²Optional equipment

PP98408,0000EDE -19-07FEB13-1/1

E47504—UN—07JAN00

BaleTrak™ Pro Monitor-Controller Setup Values and Initial Settings

BALE DIAMETER

Readout Display Range	77—160 cm (30.5—63 in.)
Diameter Adjustment Range	91—152 cm (36—60 in.)
Diameter Initial Setting ^a	142 cm (56 in.)
Near Full Size Range	1—27 cm (0.5—10.0 in.)
Near Full Size Initial Setting ^a	11 cm (4.5 in.)
Bale Shape Sensitivity Range	1 (slowest) — 5 (fastest)
Bale Shape Sensitivity Initial Setting ^a	3 (medium)

^aSettings revert to these values when monitor-controller is reset. (See BaleTrak™ Pro MONITOR-CONTROLLER—RE-SET TO INITIAL SETTINGS [CH 001] in this section.)

TWINE WRAP

Spacing Range	2—26 cm (1—10 in.)
Spacing Initial Setting ^a	10 cm (4 in.)
Number of End Wraps Range	
Left-Hand End	0—5 Wraps
Right-hand End	0.5—5.0 Wraps
Number of End Wraps Initial Setting ^a	2 Wraps
Left-Hand, Right-Hand End Wrap Distance Range	8—26 cm (3—10 in.)
End Wrap Distance Initial Setting (Right and Left-Hand) ^a	10 cm (4 in.)
Re-Extension Wrap Distance Range	OFF ^a , 20, 40, 60 cm (8, 16, 24 in.)
Cinch Wrap Initial Setting (From Left-Hand End)	OFF ^a , 25 cm (10 in.)
Dry Straw	OFF ^a , ON
Delay of Twine Eject	0—10 Seconds
Delay of Twine Eject, Initial Setting	0 Seconds

^aSettings revert to these values when monitor-controller is reset. (See BaleTrak™ Pro MONITOR-CONTROLLER—RE-SET TO INITIAL SETTINGS [CH 001] in this section.)

NET WRAP

Number of Wraps	1.5—10.0
Number of Wraps Initial Setting ^a	2
Time Delay Range (From Full-Size Bale Alert to Start of Net Wrap Cycle)	0—8 Seconds
Time Delay Initial Setting ^a	2 Seconds

^aSettings revert to these values when monitor-controller is reset. (See BaleTrak™ Pro MONITOR-CONTROLLER—RE-SET TO INITIAL SETTINGS [CH 001] in this section.)

VARIABLE CORE DIAMETER

Diameter Adjustment Range	81—142 cm (32—56 in.) ^a
Diameter Initial Setting ^b	91 cm (36 in.)

^a10 cm (4 in.) below size setting.

^bSettings revert to these values when monitor-controller is reset. (See BaleTrak™ Pro MONITOR-CONTROLLER—RE-SET TO INITIAL SETTINGS [CH 001] in this section.)

PP98408,0000EDF -19-22FEB13-1/1

BaleTrak™ Pro Monitor-Controller Customer and Setup Channels

There are three types of channeled programs:

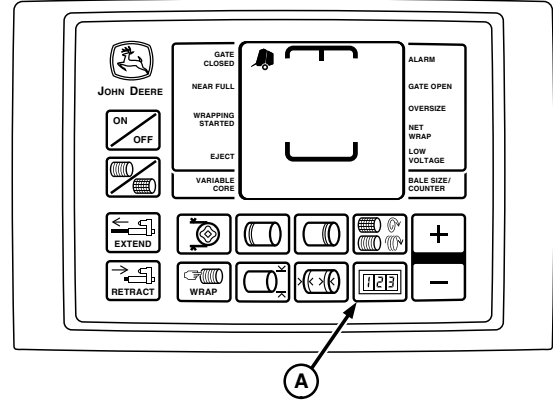
- Customer Channels (CH001—035)
- Setup Channels (CH201—208)
- Diagnostic Channels (CH301—312) (See your John Deere dealer)

Customer Channels (CH001—035) are used to:

- Adjust bale shape bar display.
- Set near-full indicator set point.
- Reset monitor-controller to initial settings.
- Adjust net wrap delay.
- Set bale shape display sensitivity.
- Access dry straw twine wrap program.
- Adjust bale diameter.
- Adjust twine wrap.
- Activate re-extension and cinch wrap program.
- Check positions of sensors and switches.
- Test twine or net actuators.
- Test LCD display.
- Test tractor voltage.
- Adjust delay of twine eject.
- Determine PTO and pickup drive speed.
- Set net cutoff point for B-Wrap.
- Set bale orientation for B-Wrap.

Setup Channels (CH201—208) are used to:

- Select baler model.



A—COUNTER Key

- Activate or deactivate twine arm.
- Activate or deactivate surface wrap.
- Activate or deactivate variable core.
- Set up and calibrate slip clutch alert functions.

The following setup channels are not used on a 459 and 559 baler equipped with a Regular Pickup:

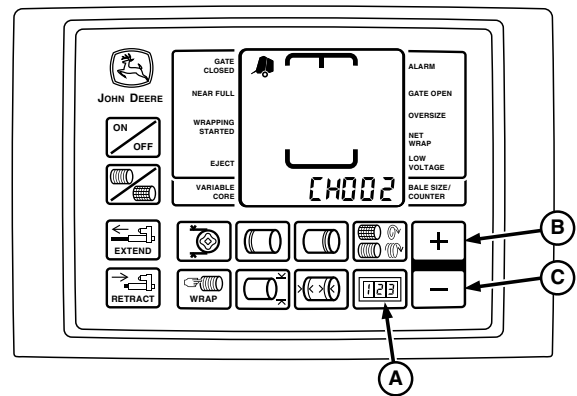
- Channel 204
- Channel 205
- Channel 206
- Channel 207

OUC06064,00015CD -19-25SEP15-1/3

To Enter Customer Channels:

1. Turn tractor key to ON position. Do not start tractor engine. Press and hold COUNTER key (A), while turning monitor-controller ON.
2. Continue to hold COUNTER key (A) and press PLUS key (B) or MINUS key (C) until desired channel appears in digital display. Release key to see the current value for this channel.

To change channels, press and hold COUNTER key (A) and use the PLUS key (B) and MINUS key (C) to access other channels.
3. Turn monitor-controller OFF to enter setting into memory.
4. Turn tractor key to OFF position and remove key.



A—COUNTER Key
B—PLUS Key

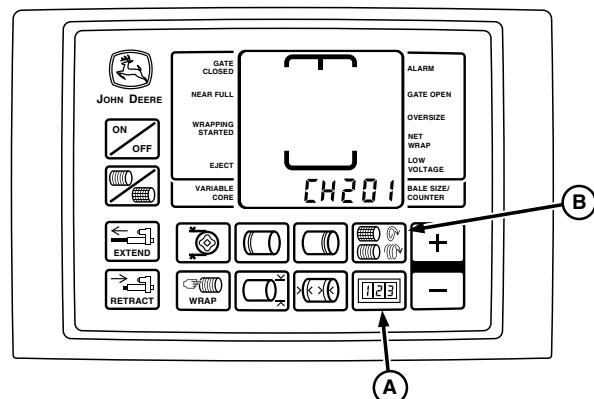
C—MINUS Key

Continued on next page

OUC06064,00015CD -19-25SEP15-2/3

To Enter Setup Channels:

1. Turn tractor key to ON position. Do not start tractor.
2. Press and hold COUNTER key (A) and NUMBER OF WRAPS key (B) while turning monitor-controller ON. **CH201** is displayed.
3. Release both keys. Bale model is displayed.
4. Press and hold COUNTER key (A) and press the PLUS key until desired channel is shown in display.
5. Turn monitor-controller OFF to enter setting into memory.
6. Turn monitor-controller ON. Baler model appears for approximately 2 seconds. Verify that model is correct.
7. Turn tractor key to OFF position and remove key.



A—COUNTER Key

B—NUMBER OF WRAPS Key

E52456—UN—10JUN08

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BaleTrak™ Pro Monitor-Controller Channels

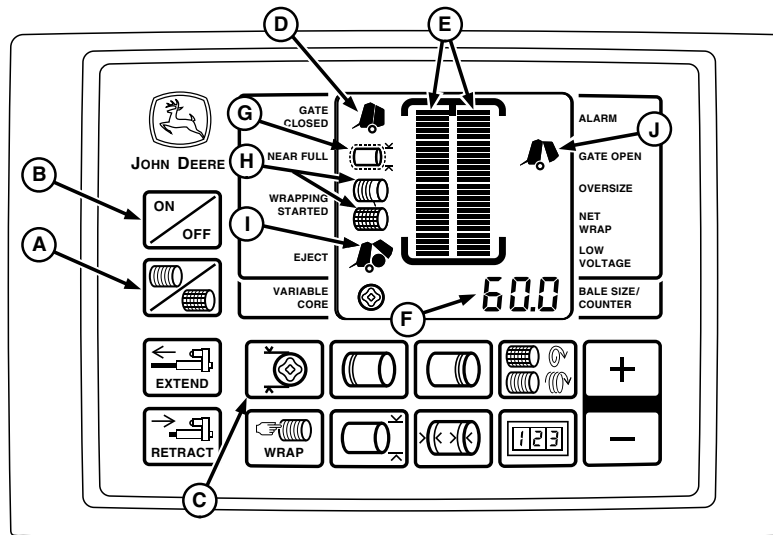
NOTE: Monitor will power off after 30 minutes of inactivity.

NOTE: Channel listings and page numbers can be found under Operating the Baler or Service—Baler in the Contents or under section C in the Index.

CUSTOMER and SETUP CHANNELS		
Channel Number	Contents	Remarks
001	Reset All Settings to Factory Initial Settings	See factory initial settings
002	Dry Straw Twine Wrap Program	Plus key turns ON, minus turns OFF
003	Re-extension Twine Tying Program	Plus key turns on and increases, minus turns off and decreases (OFF, 8.0, 16.0, 24.0)
004	Cinch Wrap Twine Tying Program	Plus key turns ON, minus turns OFF
005	Calibration of Bale Size Diameter Sensor	At value 173
006	Net Wrap Delay	Default value is 2 (0-8) seconds
007	Calibration of Right Belt Tension Sensor	At value 176
008	Measurement Units	Will display SI for metric and En for English
009	Calibration of Left Belt Tension Sensor	At value 176
010	Offset of Near Full Alarm	Initial setting is 4.5 (0.5-10.0) inches
011	Bale Shape Sensitivity	Initial setting is 3 (1-5)
012	Test of Net Switch	Released=12 & tone, depressed=00
013	Test of Oversize Switch	Released=12, depressed=00 & tone
014	Test of Right Gate Latch Switch	Released=12 & tone, depressed=00
015	Test of Left Gate Latch Switch	Released=12 & tone, depressed=00
016	PTO RPM Sensor Output	Read the speed
017	Pickup RPM Sensor Output	Read the speed
018	Test of Current in Actuators	Read the current
019	Test of System Voltage	Read the voltage
020	Test of LCD Screen	Display all segments
029	Twine Arm Calibration Value	
033	Delay of Twine Eject	Default 0 (0—10) Seconds
034	Net cutoff for B-Wrap	See Adjust Cut Position, this section for initial setting
035	Bale orientation for B-Wrap	See Adjust Bale Orientation, this section for initial setting
201	Baler Model	4xx to 5xx
202	Twine	0= OFF, 1= ON
203	Net	0= OFF, 1= ON
204	PTO Sensor (Not Used on 559 Baler with Regular Pickup)	0= OFF, 540 or 1000= ON
205	Pickup Sensor (Not Used on 559 Baler with Regular Pickup)	0= OFF, 310= ON
206	PTO Sensor Calibration (Not Used on 559 Baler with Regular Pickup)	24= Number of Fins on PTO Clutch
207	Pickup Sensor Calibration (Not Used on 559 Baler with Regular Pickup)	10= Number of Teeth on Wheel
208	Variable Core	0= OFF, 1= ON

OUC6064,00015CE -19-09OCT15-1/1

BaleTrak™ Pro Monitor-Controller Operation



A—Twine or Net Switch
B—ON or OFF Switch
C—Variable Core Key

D—Gate Closed Indicator
E—Bale Shape Bars
F—Digital Display

G—Near Full Indicator
H—Wrapping Started Indicator
I—Eject Indicator

J—Gate Open Indicator

Turn tractor key to ON position. Turn on monitor by pressing the on or off switch (B). Twine or net operation symbol will be briefly displayed. Press and hold twine or net switch (A) for 3 seconds to switch between net and twine. Desired icon will be displayed and two audible beeps will confirm change has been made.

NOTE: Both bale shape bars will read low when baler is empty.

GATE CLOSED (D) must be ON. This indicates gate is latched and ready to bale.

Bars (E) indicate bale shape. Bale shape bars in GREEN zone indicate tight belts and bale shape bars in RED zone indicate slack belts. For best bale shape, bars will be in the GREEN zone on both sides.

NOTE: Bars will read low while variable core valve is activated, until bale diameter grows larger than variable core diameter setting on monitor.

Digital display (F) will show bale diameter increasing in 1 cm (0.50 in.) increments within display range of 77—160 cm (30.5—63 in.).

NEAR FULL indicator (G) flashes and beeps twice when bale reaches a diameter 11 cm (4-1/2 in.) smaller than bale diameter setting. (Gives a chance to fill bale ends properly—bars in GREEN zone.)

WRAPPING STARTED indicator (H) (Twine or Net) will light, beep, and start wrapping automatically when bale reaches diameter setting. Stop travel and maintain engine speed at rated PTO during wrap and ejection cycle. When

wrapping with twine, observe twine arm pointer and twine pulleys on the baler for proper operation. When wrapping is completed and actuator returns to home position, **EJECT** indicator (I) will light and stay on until gate is opened.

When wrapping with net, net application and cut-off will be completed and indicated by the **EJECT** indicator (I) displaying and staying on until the gate is opened.

When wrapping with B-Wrap, application and cut off of material will be completed and indicated automatically. Operator must disengage PTO when indicated by monitor to orient bale correctly during ejection. (See Monitor Display for B-Wrap Baling in this section for more information.)

Confirm twine has been cut by observing twine pulleys. Back up (if not equipped with bale ramp). Eject bale using hydraulic control lever. **GATE OPEN** indicator (J) lights during normal ejection.

GATE OPEN indicator will go out and **GATE CLOSED** indicator will come on indicating normal operations can continue.

A wrap and gate open cycle adds one bale to both the total and resettable bale counters. Resettable counter is automatically displayed for 8 seconds when a bale is added.

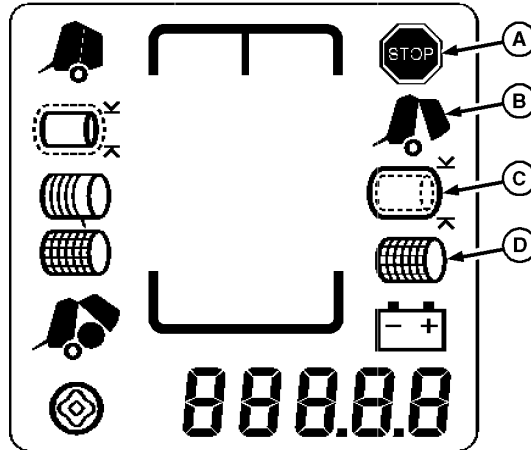
If equipped with variable core solenoid valve; Depress optional **VARIABLE CORE** key (C) if soft core is desired. Variable core indicator will light when optional variable core feature is selected. *Solenoid valve must be installed for indicator to light.*

E52485—UN—24JUN03

OUC6064,00015CF -19-25SEP15-1/1

Activate BaleTrak™ Pro Monitor-Controller Alarms

IMPORTANT: Continuing to operate with a **GATE OPEN** or **OVERSIZE** alarm will result in baler damage.



A—Stop Indicator
B—Gate Open Indicator

C—Oversize Bale Indicator

D—Net Wrap Indicator

Three conditions can activate the flashing **STOP** indicator (A) and alarm. Should the flashing **STOP** display and the alarm sound during normal operation, stop baling immediately. Take corrective action to silence alarm and cancel visual indicators.

The following conditions will activate the flashing **STOP** indicator (A) and alarm:

- **GATE OPEN (B):** Gate is open. Continuing to operate can twist gate and result in machine damage.

- **OVERSIZE (C):** Bale is above maximum allowable diameter. Continuing to operate with oversize bale in chamber can cause severe gate damage, roller breakage, and belt splice damage.
- **NET WRAP (D):** Net did not feed or knife did not cut net.

A flashing **STOP** indicator with no alarm can also appear at start-up if wiring to actuator is disconnected or damaged.

PP98408,0000EE3 -19-07FEB13-1/1

Adjust Audible Alarm Volume

Open or close alarm door (A) to obtain desired volume.

A—Alarm Door



PP98408,0000EE4 -19-07FEB13-1/1

Operation of Pickup Slip Clutch (MegaWide™ Plus Pickup)

IMPORTANT: The following procedure is not used on a 459 and 559 Baler with a Regular pickup.

When the pickup is plugged with too much crop or a foreign object, the pickup clutch will slip. The purpose of the slip clutch is to prevent damage to baler pickup.

- Slip clutch will only reengage if the PTO is stopped or tractor rpm is reduced to idle speed.
- Disengage PTO, shut off tractor, and remove key. Remove crop or foreign object.

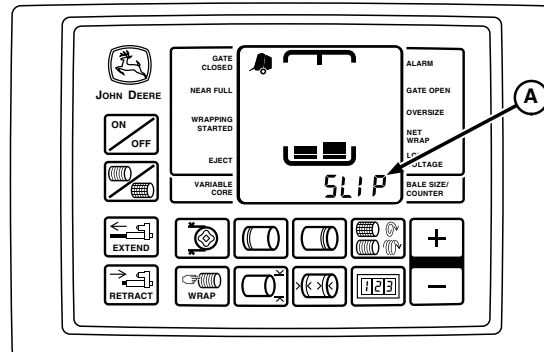
NOTE: Excessive clutch slipping, will reduce clutch life.

PP98408,0000EE5 -19-07FEB13-1/1

Slip Clutch Alert (MegaWide™ Plus Pickup)

This system alerts operator by an audible alarm and the word **SLIP** (A) in the digital display when either the main drive clutch on the PTO or the pickup drive slip clutches slip.

A—Digital Display



E52931—UN—12NOV03

Continued on next page

PP98408,0000EE6 -19-08FEB13-1/2

Understanding Slip Clutch Alert System

PTO driveline sensor (A) measures input speed of the PTO driveline. Lower drive roll sensor (B) measures output speed of the pickup slip clutch. The BaleTrak™ Pro monitor-controller compares these speeds, and activates slip alarm if speed drops below 10 percent of the calculated operating speed for more than 1 second. The system informs the operator if either of the two clutches is slipping.

Speed Compensation of Wrapping Program

The speed compensation program applies desired number of twine or net wraps, regardless of PTO speed.

For example:

If monitor-controller is set for 4 in. twine spacing and wrapping is done at less than full PTO speed, 4-in. twine spacing will be maintained.

If monitor-controller is set for two net wraps and wrapping is done at less than full PTO speed, two net wraps will be maintained.

The PTO driveline sensor (A) must be activated within the monitor-controller for proper operation of the speed compensation program. (See NET WRAP, SLIP CLUTCH ALERT, AND VARIABLE CORE FEATURES [TURNING ON and OFF] in the Service section.)

Turning PTO Speed Sensor ON and OFF:

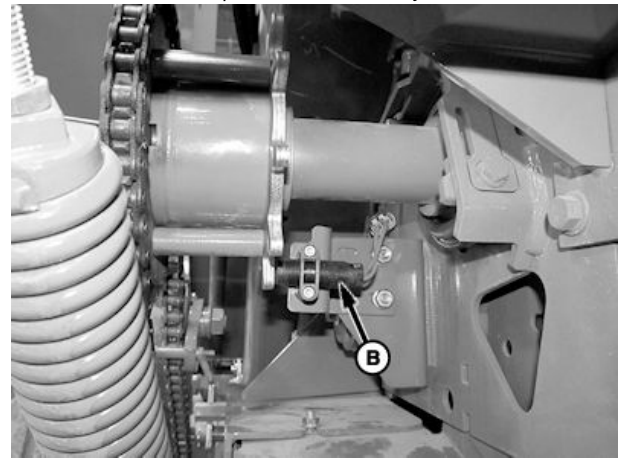
- PTO speed sensor can be turned OFF or ON by accessing channel 204.
- Feature can be turned ON by changing value to 540 rpm.
- Entire slip clutch alert feature can be turned OFF by changing value to 0.

Turning Pickup Speed Sensor ON and OFF:

- Pickup rpm sensor can be turned OFF and ON by accessing channel 205.
- Feature can be turned ON by changing value to 310 rpm.
- Pickup rpm sensor can be turned OFF by changing value to 0.



540 rpm Bracket Assembly Shown



Lower Drive Roll Sensor

A—Driveline Sensor

B—Lower Drive Roll Sensor

- Turning OFF the pickup sensor on channel 205 and turning ON PTO sensor on channel 204 still allows automatic speed compensation during wrapping cycle.

PP98408,0000EE6 -19-08FEB13-2/2

E69392 —UN—11FEB13

E69393 —UN—08FEB13

Set Bale Diameter

Initial setting for bale diameter is 142 cm (56 in.).

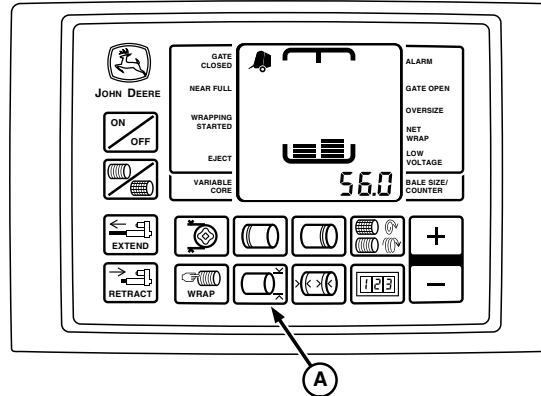
Bale diameter can be set from 91—152 cm (36—60 in.) at 1 cm (0.5 in.) increments.

- Press BALE DIAMETER key (A) and PLUS key to raise diameter setting.
- Press BALE DIAMETER key (A) and MINUS key to lower diameter setting.

Optional variable core diameter setting must be at least 10 cm (4 in.) under bale diameter setting.

Variable core setting need not be changed if bale size is increased, unless desired.

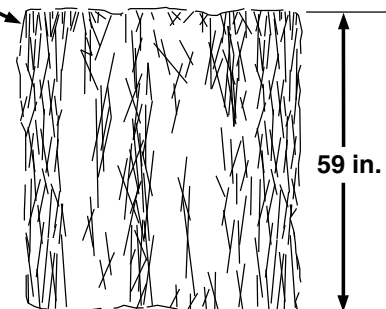
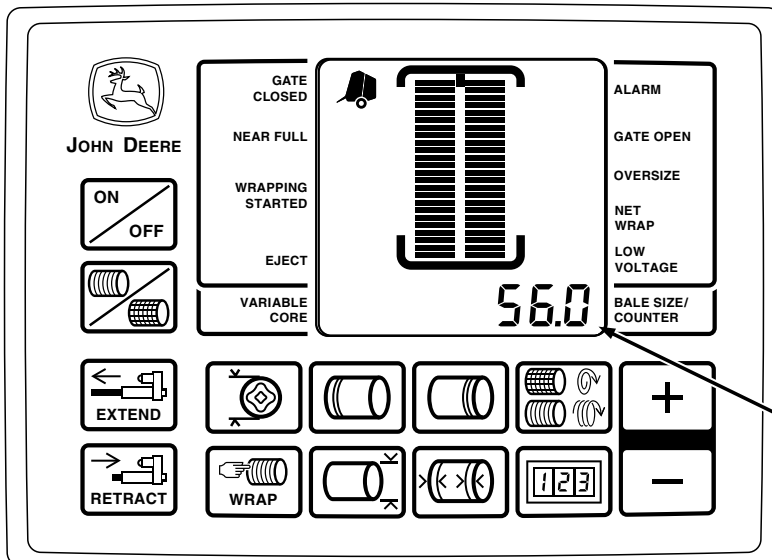
A—Bale Diameter Key



E58128 — UN—19OCT09

PP98408,0000EE7 -19-07FEB13-1/1

Adjust Bale Diameter Display



E58127 — UN—19OCT09

1. Make a bale and tie or wrap.
2. Before ejecting the bale, note the monitor-controller display for bale size or diameter setting.
3. Eject the bale and compare actual size of bale to the monitor-controller bale diameter setting.

NOTE: To check actual bale size, measure bale horizontally and vertically on both ends. Add the

four measurements together and divide by four to determine average bale diameter.

4. Determine the actual bale size difference from the monitor-controller setting.

For example, if the bale diameter setting is 142 cm (56 in.), but the actual bale measures 150 cm (59 in.), the bale is 8 cm (3 in.) larger than the monitor bale diameter setting.

Continued on next page

PP98408,0000EE8 -19-07FEB13-1/2

5. If bale diameter setting and actual bale size do not agree, make the following adjustment:

- Using tractor selector valve, raise belt tension arm until monitor-controller display reads 76—152 cm (50—60 in.). Note the displayed size.

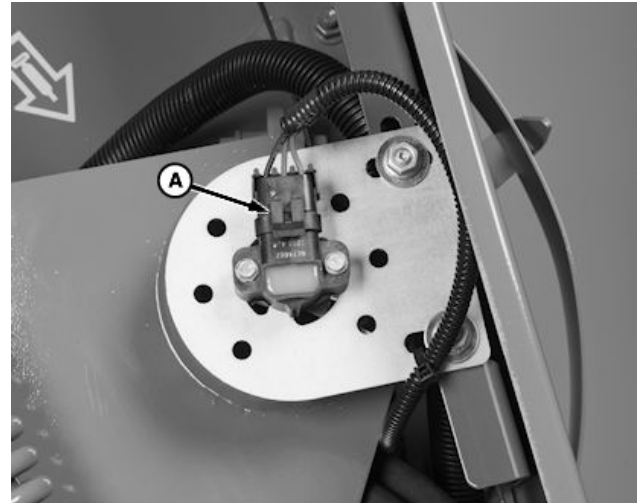
⚠ CAUTION: Adjusting bale diameter sensor can cause the twine arms or net wrap actuator to cycle if set size is exceeded during the adjustment. Stay clear of these areas.

- Adjust bale diameter sensor on the tension arm so monitor-controller displays actual bale diameter. (See ADJUST BALE DIAMETER SENSOR [Channel 005] in Service—BaleTrak™ Pro System.)

For example, if monitor-controller display reads 56 and the actual bale is 8 cm (3 in.) larger than the displayed diameter, adjust sensor until 59 is displayed on monitor.

- Lower belt tension arm.

6. Repeat Steps 1—5 as necessary.



A—Bale Diameter Sensor

E62531—UN—10APR12

PP98408,0000EE8 -19-07FEB13-2/2

Optional Variable Core Feature

The BaleTrak™ Pro system uses an optional VARIABLE (SOFT) CORE feature to lower the core density of the bale, or can improve bale starting in long, stiff, cane-type crops. This feature uses the monitor-controller in conjunction with the bale diameter sensor (A) and solenoid valve (B) (*located on the tensioning control valve*) to reduce hydraulic pressure at the rod end side of the tension and gate cylinders.

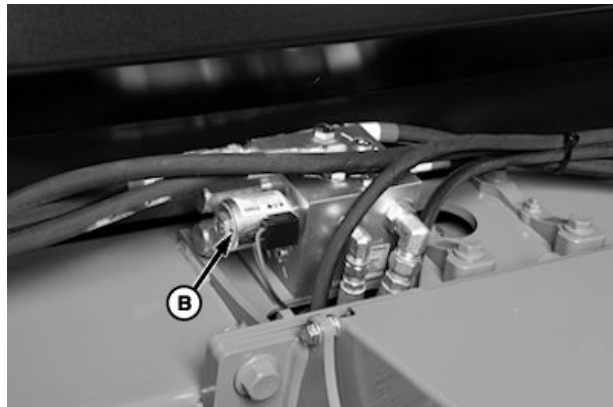
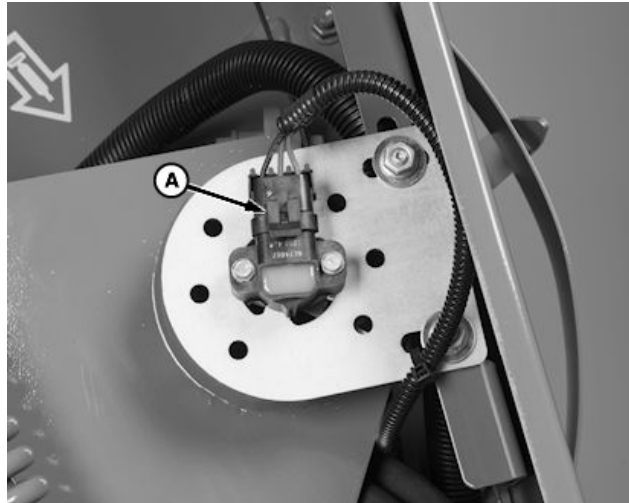
The diameter of the soft core can be adjusted 81—142 cm (32—56 in.) and is set by entering the desired core dimension into the monitor-controller.

NOTE: The conditions set by the operator will revert to initial settings when monitor-controller is reset. The initial setting for the variable core is 91 cm (36 in.).

Pushing the VARIABLE CORE DIAMETER button on the monitor-controller energizes the variable core solenoid. The energized solenoid routes the oil from rod end of tension and gate cylinders through the low pressure relief valve, then back to the base end of the tension and gate cylinders. The lower pressure allows a looser bale to form initially.

When the bale size reaches the variable core diameter setting (*preset by operator*), the monitor-controller de-energizes the solenoid. At this point, oil from rod end of tension and gate cylinders is routed through the adjustable pressure relief valve, then back to the base end of the tension and gate cylinders. Bale formation is then completed at the higher relief pressure. The higher pressure forms tighter and denser outer bale layers.

The tractor selector control valve lever must be in the neutral position. If the SCV lever is in the float position, the variable core feature will not work.



A—Bale Diameter Sensor

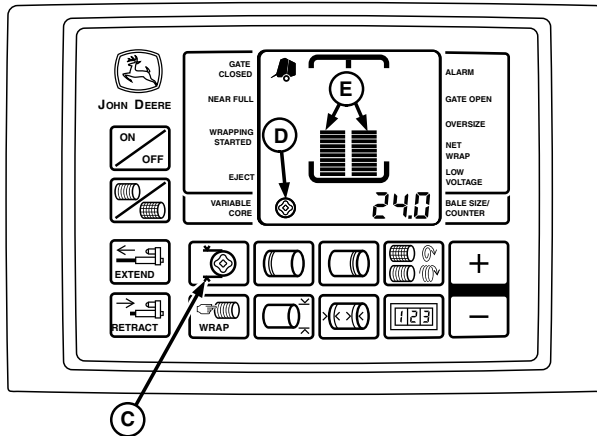
B—Solenoid Valve

E62531 —UN—10APR12

E66837 —UN—20JUL12

PP98408,0000EE9 -19-07FEB13-1/1

Adjust Variable Core Diameter (If Equipped)



A—Variable Core Diameter
B—High Density Outer Layers

C—VARIABLE CORE Key
D—Core ON Indicator

E—Bale Shape Bars

The variable core diameter (A) can be adjusted from 81 cm (32 in.) up to 4 inches below bale diameter setting at 1 cm (0.5 in.) increments.

The initial setting for variable core diameter is 91 cm (36 in.).

The variable core diameter (A) can only be set at least 10 cm (4 in.) under bale diameter setting so tight, dense, outer layers are formed. High density outer layers (B) helps the bale hold its shape when wrapped and repel water.

To set variable core diameter (A):

- Turn tractor key to ON. Do not start tractor engine.
- Turn monitor-controller ON.
- Depress and hold VARIABLE CORE key (C).
- Press the PLUS or MINUS key until desired setting appears in digital display. Release key to enter setting into memory. This setting will be used whenever the variable core feature is selected.

To use variable core feature:

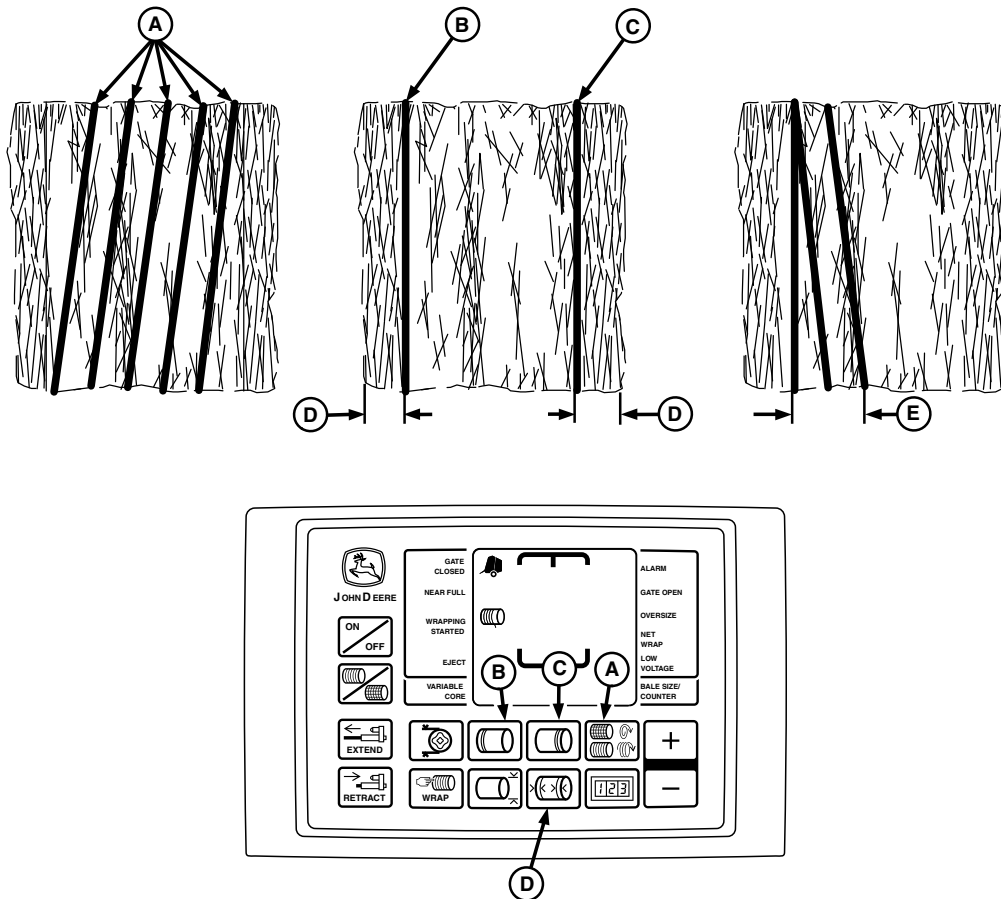
- Depress VARIABLE CORE key (C); core indicator (D) indicates that variable core is ON and will stay on throughout the baling process.
- To check variable core setting; depress and hold VARIABLE CORE key (C) to display setting. Release and depress VARIABLE CORE key (C) to activate variable core feature. Core indicator (D) must display on monitor-controller.
- To turn variable core feature OFF, depress VARIABLE CORE key (C) twice and core indicator (D) will go out.
- Variable core remains in last operation mode when monitor-controller is turned off and on.

NOTE: Bale shape bars (E) will not reach maximum height when variable core is being formed, due to lower bale forming pressure.

PP98408,0000EEA -19-07FEB13-1/1

E52467 —UN—19JUN03

Twine Wrap Terms and Settings



A—Twine Spacing
B—Number of Left-Hand End Wraps

C—Number of Right-Hand End Wraps
D—Left-Hand and Right-Hand End Wrap Distance

E—Re-Extension or Cinch Wrap Distance

There are eight factors involved in properly placing twine on the bale. The factors are:

- Twine Spacing
- Number of Left-Hand End Wraps
- Number of Right-Hand End Wraps
- Left-Hand End Wrap Distance
- Right-Hand End Wrap Distance
- Re-Extension Wrap Distance
- Cinch Wrap
- Dry Straw

NOTE: The monitor-controller is programmed to apply approximate twine spacing in the center of the bale. Twine spacing will decrease toward the ends of bale.

Twine Spacing (A) is the distance between twine wraps. Spacing is increased or decreased depending on how fast the twine arms move across the bale.

Mechanical twine arm spacing ranges are between 5, 10, 15, and 20 cm (2, 4, 6, and 8 in.).

Monitor-controller twine spacing range is between 5—26 cm (2—10 in.) at 1 cm (0.5 in.) increments. Initial setting is 10 cm (4 in.).

To obtain uniform twine spacing on a bale, the setting for twine arm spacing and the monitor-controller setting for twine spacing must be the same.

Number of Left-Hand End Wraps (B) and Right-Hand End Wraps (C) controls how long the twine arms pause at the end of the bale to apply the set number of end wraps for the bale diameter. End wrap setting ranges between 0.5—10 wraps. Initial setting is 2 wraps.

NOTE: The setting for the number of end wraps is approximate for each twine arm. With various settings of adjustable twine guide, the twine from both arms will be the same distance from the end of bale. The bale will have twice the number of end wraps as indicated on the monitor-controller. (See **SET TWINE END WRAP DISTANCE** in this section.)

Continued on next page

PP98408,0000EEB -19-07FEB13-1/2

808JUN-02—UN—E52468

Left-Hand or Right-Hand End Wrap Distance (D) limits the twine arm travel to the outer ends of the bale. An initial setting of 10 cm (4 in.) has been set for both sides. The settings can be changed in 1 cm (0.5 in.) increments.

- End wrap distance settings for left and right-hand sides range between 8—26 cm (3—10 in.).

NOTE: End wrap distances are an approximate indication where twine will be placed on the bale.

To place twine the same distance from the edge on both ends, a slightly different setting can be required for each end.

Check setting of mechanical twine guide when revising monitor-controller settings.

Re-Extension Wrap Distance (E) is a feature that can help prevent twine unrolling. It places a wrap of twine back toward middle of bale from left-hand end wrap

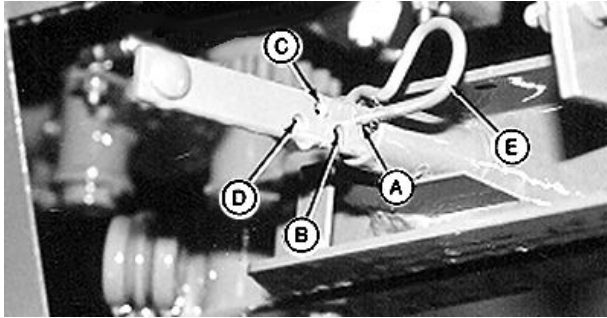
location AFTER the set number of end wraps have been applied. Re-Extension wrap settings are 20, 40, and 60 cm (8, 16 and 24 in.). (See SET TWINE RE-EXTENSION [Channel 003] in Operating Baler with BaleTrak™ Pro System section.)

Cinch Wrap is a feature that can decrease loose twine and improve twine spacing on left-hand end of the bale. It places a wrap of twine approximately 25 cm (10 in.) away from left-hand end wrap location PRIOR to applying the set number of end wraps. (See SET CINCH WRAP [Channel 004] in Operating Baler with BaleTrak™ Pro System section.)

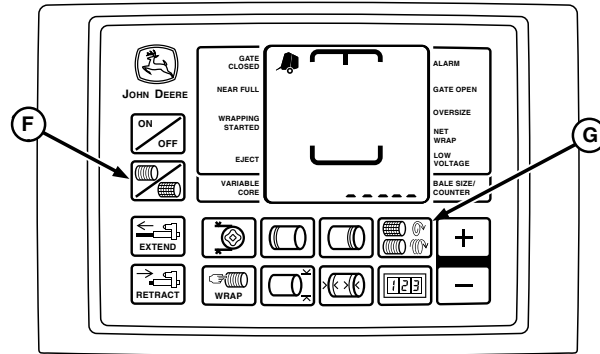
Dry Straw Twine Wrap is a feature to quickly place twine across full width of bale to reduce straw from flaking off bale during tying. Twine arms are programmed to quickly move to right, left, and back to right side to resume normal tying cycle. Turn program ON or OFF. (See DRY STRAW TWINE WRAP PROGRAM in this section.)

PP98408,0000EEB -19-07FEB13-2/2

Set Twine Spacing



E38438 —UN—19JUN96



E52444 —UN—02JUN08

A—5 cm (2.0 in.) Twine Arm Spacing
B—10 cm (4.0 in.) Twine Arm Spacing

C—15 cm (6.0 in.) Twine Arm Spacing
D—20 cm (8.0 in.) Twine Arm Spacing

E—Spring Pin
F—Twine Symbol
G—Twine Spacing Key

Set Mechanical Twine Arm Spacing:

The monitor-controller maintains twine spacing for various bale diameters at rated PTO speed.

1. Set distance between the twine arms by installing spring pin (E) in the desired position:

Hole ID	Twine Arm Spacing
A	5 cm (2.0 in.)
B	10 cm (4.0 in.)
C	15 cm (6.0 in.)
D	20 cm (8.0 in.)

2. When operating at rated PTO speed, the monitor-controller twine spacing setting must be the same as the mechanical twine arm spacing.
3. When operating less than rated PTO speed, set monitor-controller twine spacing setting less than mechanical twine arm spacing. This number will vary with different PTO speeds. Check twine spacing on bale and adjust monitor-controller setting to get desired twine spacing.

Set Monitor-Controller Twine Spacing:

1. Turn tractor key to ON position. Do not start tractor engine. Turn monitor-controller ON.
2. Press TWINE SPACING key (G). Press PLUS or MINUS keys until desired twine spacing, 2—26 cm (1.0—10.0 in.), appears in digital display.

Use the following chart as a guideline. Monitor-controller settings can vary with crop conditions and between balers.

Engine rpm	Mechanical Setting	Monitor-Controller Setting
Rated Speed	10 cm (4.0 in.)	10 cm (4.0 in.)
1800 rpm	10 cm (4.0 in.)	9 cm (3.5 in.)
1500 rpm	10 cm (4.0 in.)	8 cm (3.0 in.)
1300 rpm	10 cm (4.0 in.)	6 cm (2.5 in.)

NOTE: Slip clutch alert, if turned on, applies desired number of twine wraps regardless of PTO speed.

3. Six seconds after last adjustment, setting will be entered into memory. Be sure monitor-controller twine spacing setting and mechanical twine arm spacing setting agree with each other.
4. Turn monitor-controller OFF. Turn tractor key to OFF position. Remove key.

PP98408,0000EEC -19-07FEB13-1/1

Set Number of Twine End Wraps

Set Number of Right-Hand and Left-Hand End Wraps:

NOTE: The bale will have twice the number of left-hand end wraps, as indicated on the monitor-controller, when the twine contacts the twine guide. (See **SET TWINE END WRAP DISTANCE** in this section.) The setting for the number of end wraps is approximate for each twine arm.

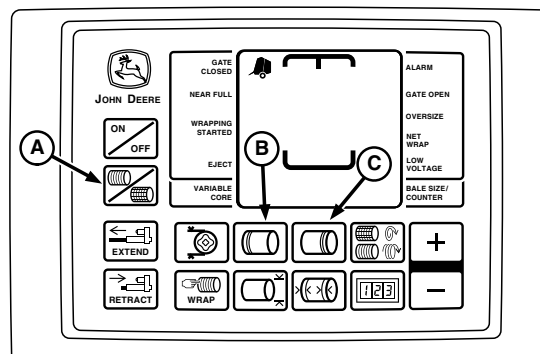
NOTE: If more end wraps are needed, increase number on the monitor.

If fewer end wraps are needed, decrease number on the monitor.

1. Turn tractor key to ON position. Do not start tractor engine. Turn monitor-controller ON.

NOTE: The reference numbers (0.5—5) displayed on monitor for desired number of end wraps, will not be the actual number of wraps on end of bale.

2. Press left-hand END WRAP key (B) or right-hand END WRAP key (C). Press Plus or MINUS keys until desired number of end wraps (0.5—5 for right-hand side) and (0.0—5 on left-hand side), appears in digital display.



A—Twine Symbol

B—Left-Hand End Wrap Key

C—Right-Hand End Wrap Key

3. After six seconds, setting will be entered into memory.

4. Turn monitor-controller OFF. Turn tractor key to OFF position. Remove key.

NOTE: Slip clutch alert, if turned on, supplies desired number of net wraps regardless of PTO speed.

PP98408,0000EED -19-07FEB13-1/1

E52445 —UN—02JUN08

Set Twine End Wrap Distance

Set Mechanical Twine Guide For End Wrap Distance (If Equipped)

NOTE: 459 and 459S; Equipped with left-hand twine guide only. (See **UNDERSTAND TWINE WRAP TERMS AND SETTINGS** in this section.)

The twine guide controls twine wrap distance from left-hand end of bale. Twine wrap distance can be adjusted 89—190 mm (3-1/2—7-1/2 in.) at 25 mm (1 in.) increments.

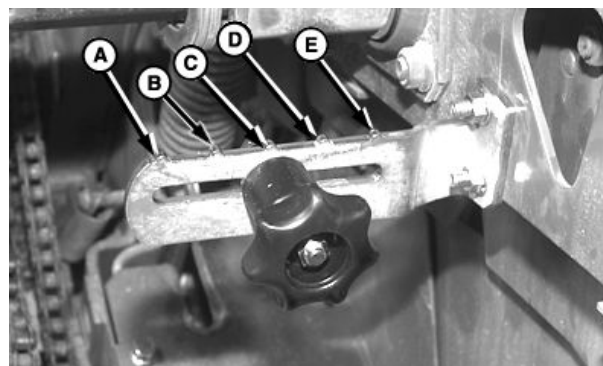
For most baling conditions, adjust twine guide to position (B). This setting will position twine end wraps approximately 114 mm (4-1/2 in.) from end of bale.

For dry, slick crops such as straw, coastal Bermuda grass, or flax, increase twine wrap distance to prevent twine from falling off bale.

For crops, such as alfalfa, that fill the bale ends well and produce square shoulders, decrease twine end wrap distance to improve bale appearance and reduce bale spoilage.

To adjust guide:

1. Loosen knob.
2. Move knob as follows:



Right-Hand Side Shown

A—Twine End Wrap Distance—89 mm (3-1/2 in.)

B—Twine End Wrap Distance—114 mm (4-1/2 in.)

C—Twine End Wrap Distance—140 mm (5-1/2 in.)

D—Twine End Wrap Distance—165 mm (6-1/2 in.)

E—Twine End Wrap Distance—190 mm (7-1/2 in.)

- Toward baler sidesheet to increase twine end wrap distance
- Away from baler sidesheet to decrease twine end wrap distance

3. Tighten knob.

Continued on next page

PP98408,0000EEE -19-07FEB13-1/2

E47542 —UN—06DEC99

Set Right-Hand and Left-Hand End Wrap Distance

NOTE: To ensure that twine placement is controlled by mechanical twine guide, adjust monitor-controller twine end wrap distance 1—3 cm (0.50—1.00 in.) less than mechanical twine guide setting. This adjustment will increase number of end wraps.

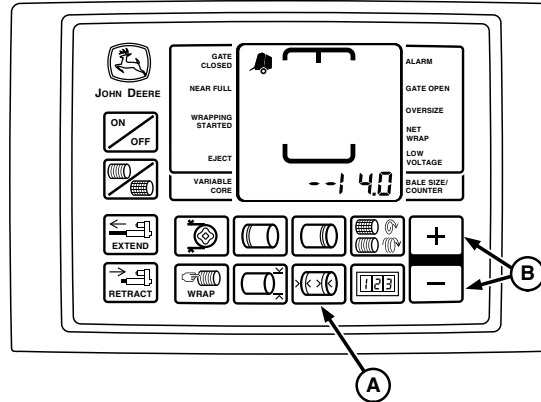
1. Turn tractor key to ON position. Do not start tractor engine. Turn monitor-controller ON.
2. Press right and left-hand END WRAP DISTANCE key (B). Right end wrap distance will be displayed as shown. Press PLUS or MINUS keys until desired distance 8—26 cm (3—10 in.) appears in digital display. Press END WRAP DISTANCE key a second time to set left end wrap distance. Display will be as shown. (End wrap distances are approximate.)

To place twine the same distance from the edge on both ends, a slightly different setting can be required for each end.

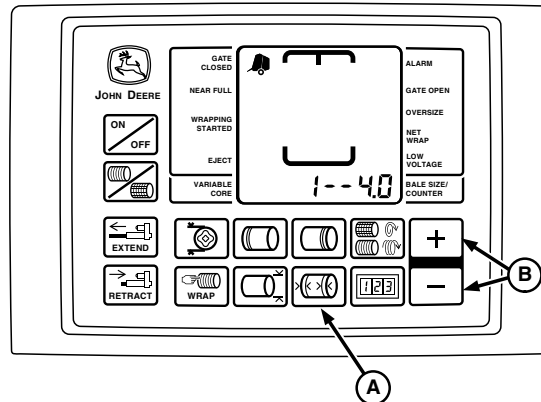
3. Turn monitor-controller OFF. Turn tractor key to OFF position. Remove key.

A—Twine Symbol

B—Right-Hand and Left-Hand End Wrap Distance



Right-Hand End Wraps Setting



Left-Hand End Wraps Setting

ES2447 —UN—29JUL03

ES2446 —UN—10JUL03

PP98408,0000EEE -19-07FEB13-2/2

Set Number of Net Wraps (If Equipped)

NOTE: Net wrap settings range between 1.5—10 wraps (in 0.1 wrap increments), with initial setting of two wraps.

1. Turn tractor key to ON position. Do not start tractor engine. Turn monitor-controller ON.
2. Briefly press NET symbol key (A) to ensure monitor-controller is in NET mode.
3. Press and hold NET WRAP key (B). Press PLUS or MINUS keys until desired number of wraps (1.5—5.0) appears in digital display.
4. Turn monitor-controller OFF. Turn tractor key to OFF position. Remove key.

NOTE: Recommended Wraps

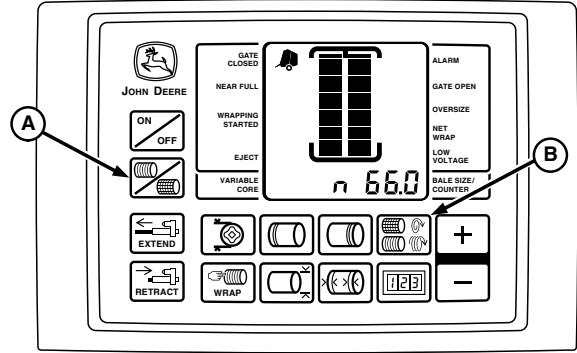
Bales stored with less than two wraps of net wrap can be damaged by handling or weather conditions.

Different crops require a different number of wraps for effective baling.

Minimum recommendations are:

- 2 Wraps for Hay
- 3 Wraps for Straw, Wheat Hay, and Cereal Grains
- 4 Wraps for Corn Stalks, Sudex, Hay Grazer, and Milo Stalks

5. If machine RPM is less than rated PTO speed, use the following chart as a guideline for desired wraps.



A—NET Symbol

B—NET WRAP Key

NET WRAP CHART		
Engine RPM	Desired No. Of Wraps	Approximate Monitor Setting Needed
Rated PTO	2	2
	3	3
1800 RPM	2	2.4
	3	3.6
1500 RPM	2	2.9
	3	4.3
1300 RPM	2	3.3
	3	5.0

NOTE: Slip clutch alert, if turned on, supplies desired number of net wraps regardless of PTO speed.

PP98408,0000EEF -19-07FEB13-1/1

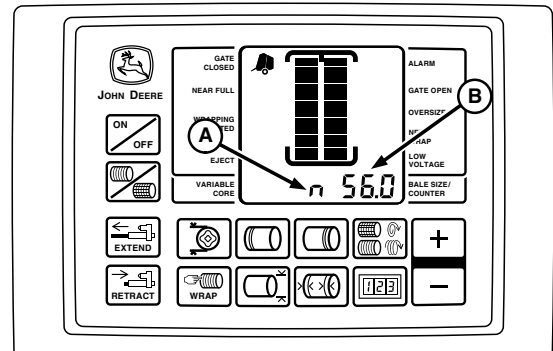
Net Switch Indicator

In net mode while wrapping, when net switch is depressed, an **n** will be displayed in the left end of digital display. This indicates that the net is feeding. Indicator **n** will be left of bale size (example—56.0) in digital display.

If the **n** is displayed during normal baling, stop immediately and investigate.

A—n

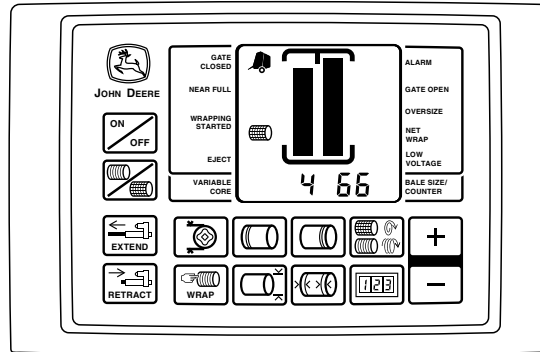
B—Bale Size



PP98408,0000EF0 -19-07FEB13-1/1

Monitor Display for B-Wrap Baling

1. Monitor display—Bale shape bars, near-full alarm, full-size alarm, and bale eject icons will function as normal.
2. Stop forward movement (baling) when monitor signals full bale (1676 mm [66 in.]).
3. Wrapping cycle is automatic—Monitor will display a series of numbers showing B-Wrap is feeding into baler:
 - 1 — B-Wrap actuator starting to extend (changes quickly).
 - 2 — B-Wrap feeding.
 - 3 — Sensor see start of metal tape (changes quickly).
 - 4 — Sensor see the end of metal tape.
 - 5 — B-Wrap actuator starting to retract.
 - 6 — B-Wrap cut-off.
 - 7 — Start of audible alarms for bale ejection.
4. After wrapping cycle is complete, monitor-controller will sound a series of 4 audible alarms (beeps).
 1. 4th alarm or beep will sound a longer tone.
 2. Disengage PTO during 4th alarm (beep), this will position the bale for ejection.
 3. If PTO is not disengaged during the first alarm cycle, the alarm cycle will start again. Disengage PTO during 4th alarm (beep).



NOTE: The system will eventually time out and show error code 213.

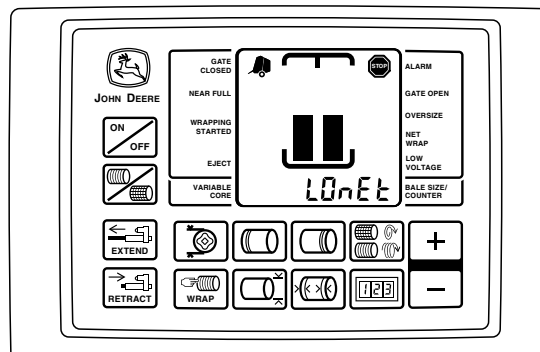
5. Eject bale icon will activate on monitor-controller.
 - a. Back up baler.
 - b. Eject bale.
 - c. Pull forward.
 - d. Close gate and engage PTO.

PP98408,0000BF8 -19-25FEB13-1/2

E69425—UN—20FEB13

6. **LOnEt** will display when last bale of wrap on roll has been used.

Stop machine and load a new roll of material.



PP98408,0000BF8 -19-25FEB13-2/2

E69426—UN—25FEB13

Recommended Baling Guidelines

IMPORTANT: Under normal to moderately heavy crop conditions, operate tractor at 1800 rpm. Under light crop conditions, it can help to operate even slower (example: 1500 rpm). Only under heavy crop conditions should you need to operate at a higher rpm (above 1800).

For consistent density and properly shaped bales the following conditions must be set:

- Bale shape sensors properly adjusted. (See ADJUST BALE SHAPE SENSOR (CHANNELS 007 AND 009—WITH SOUND) in Service—BaleTrak™ Pro System section.)
- Correct tractor tire spacing. (See ADJUST TRACTOR WHEELS in Preparing the Tractor section.)
- Proper driving technique.

Baling windrow one-half width or less than bale chamber:

1. Start feeding windrow in the center of baler.
2. Move quickly to one side for several yards feeding the baler, as close as possible to the sidesheet, without leaving hay in the field.

NOTE: Weaving back and forth across the windrow must be done quickly in a crisp zigzag fashion to balance crop intake side-to-side. Weaving too often or too slowly puts too much crop in the center of the bale and must be avoided.

3. Move quickly to the other side for several yards feeding the baler, as close as possible to the sidesheet, without leaving hay in the field.
4. Move quickly back to the other side feeding the baler, as close as possible to the sidesheet. Continue feeding this side until the top bar on the monitor-controller display lights or the other bale shape bars drop into the red.
5. Then quickly drive to the other side and continue feeding this side until the top bar on the monitor-controller display lights or the other bale shape bars drop into the red.

6. Continue to feed in this manner, weaving from one side to the other and taking one set of bars to the top and then the other, until the near full indicator is flashing. Then finish up the bale by getting the bars on both sides as high and as even as possible before reaching full size. Both sides must be in the green zone when finished and, if possible, finish bale by feeding the left side.

As bale diameter increases, bars are less sensitive to rise and fall as hay is fed into the baler. **Do not weave from one side unless the top bar is lit or the bars are at least in the green zone. Avoid baling for extended periods with either of the bale shape displays in the red zone.**

If operating at less than maximum pressure, with variable core engaged, or in some crop conditions, the top bar or bars on monitor-controller cannot come on. If after driving on one side for several inches of bale growth while feeding the crop as close as possible to the sidesheet, and the top bar has not come on, then the highest bar that has come on becomes the top bar.

If it is desired long term to operate at less than maximum pressure, then the bale shape sensors can be readjusted to cause the top bar of the display to come on by using ADJUSTING BALE SHAPE BAR DISPLAY—FIELD PROCEDURE (CHANNELS 007 AND 009) in Service—BaleTrak™ Pro System section.

Handling Round Bales With Net Wrap

Do not snag or tear the wrapping material. Snags or tears in the net wrapping can reduce life span of bales and detract from hay quality when bales are stored outside.

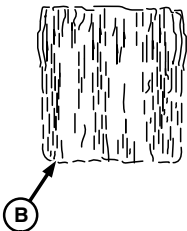
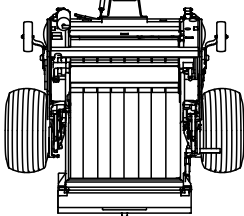
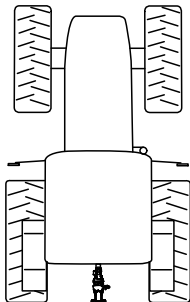
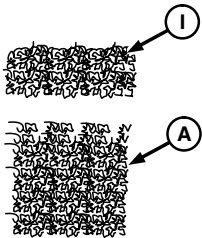
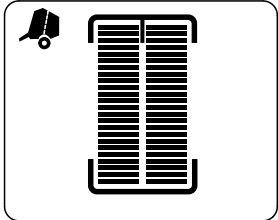
Feeding round Bales

Improperly disposing of waste can threaten the environment and ecology. Remove wrapping material from bales before they are fed to reduce possible problems of material wrapping in machinery and ingestion by livestock. Inquire on proper way to recycle or dispose of waste from your local environmental or recycling center, or from your John Deere Dealer.

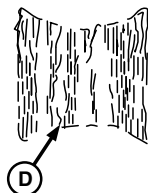
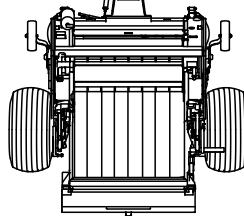
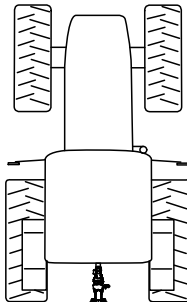
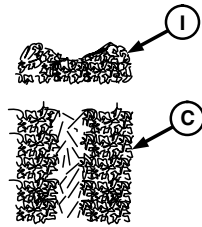
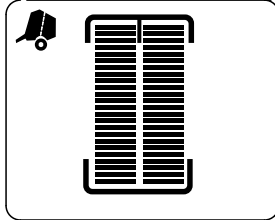
PP98408,0000EF1 -19-07FEB13-1/1

Interpret Bale Shape Indicators

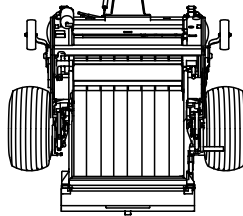
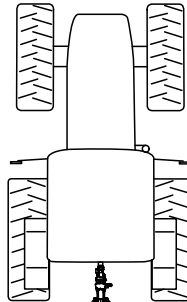
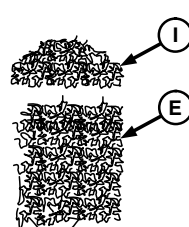
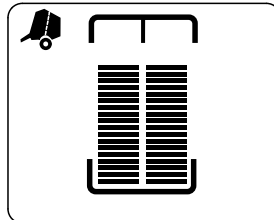
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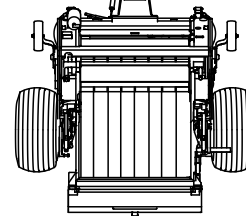
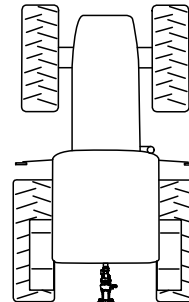
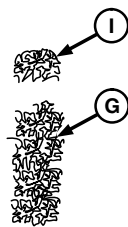
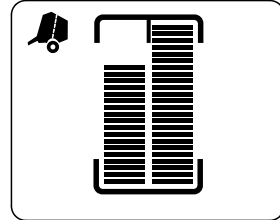
II



III



IV



E60997 —UN—13MAR12

Continued on next page

PP98408,0000EF2 -19-07FEB13-1/2

A—Uniform Windrow
B—Best Shaped Bale
C—Full-Width Windrow

D—Hourglass Shaped Bale
E—Less than Full-Width Windrow

F—Barrel Shaped Bale
G—Narrow Windrow
H—Cone Shaped Bale

I— Windrow Cross Section

The illustration on the facing page and the following information describes the relationship between the monitor-controller display, windrow variations, and actual bale shape.

To ensure optimum bale shape and maximum bale density, the top bar must be shown on BOTH sides of the bale shape indicator display as shown in Example I. The top bars must be displayed when bale is being wrapped. See **RECOMMENDED BALING GUIDELINES** in this section.

I— Best shape bales (B) are formed when windrow (A) has uniform density side-to-side and the width is the same as bale chamber.

Weaving is not necessary. If this is not practical, create windrows up to one-half the width of the bale chamber and follow the bale shape bars. (See **RECOMMENDED BALING GUIDELINES** in this section.)

II— If full-width windrow (C) is heavy on the outside edges and light at the center, an hourglass shaped bale (D) will be formed even though bale shape bars are balanced and all lit. This can also happen with wide windrows on balers equipped with MegaWide™ Plus pickup.

If possible, weaving back and forth across windrow will help fill the middle of the bale. Otherwise, proper windrow formation can be needed.

III— Bale shape bars will not reach maximum height and a barrel shaped bale (F) is formed if any of the following conditions exist:

- Windrow width (E) is approximately 2/3—3/4 the width of the baler.

- Windrow correct but operator not be weaving over far enough.
- The windrow is full width but heavier density in the middle of the windrow.
- Weaving back and forth too frequently.

If windrow is almost as wide as the bale chamber, reduce tractor rpm and increase ground speed to spread material across pickup.

Windrow preparation must be less than one-half bale chamber or full width of bale chamber. If necessary, rake windrow to obtain correct width.

Bale shape bars cannot reach maximum height when operating at reduced bale density or when using variable core option. This is also true when operating in certain crops such as light coastal Bermuda Grass or short wheat straw, because ends of bale are soft.

IV— If narrow windrow (G) is baled without weaving back and forth, a cone shaped bale (H) will be formed.

- Operator feeding one side more than other.

Weave back and forth across narrow windrow to keep bale shape bars as high as possible. (See **WEAVE IN THE WINDROW** in Operating the Baler section.)

*NOTE: Bale shape bars sensitivity is adjustable between responsive and very dampened. (See **SET BALE SHAPE SENSITIVITY [CHANNEL 011]** in this section.)*

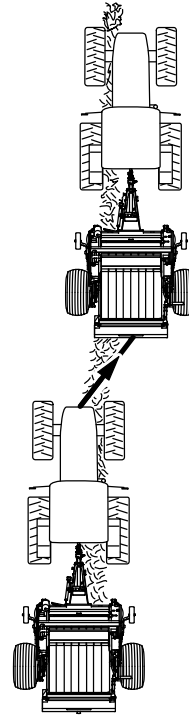
PP98408,0000EF2 -19-07FEB13-2/2

Weave in the Windrow

Weaving back and forth across the windrow must be done quickly in a crisp zigzag fashion to balance crop intake side-to-side. Weaving too often or too slowly puts too much crop in the center of the bale and must be avoided.

Move quickly to one side for several yards feeding the baler, as close as possible to the sidesheet, without leaving hay in the field. Then, move quickly to the other side for several yards feeding the baler, as close as possible to the sidesheet.

See RECOMMENDED BALING GUIDELINES in this section.



E60988 —UN—15MAR12

PP98408,0000EF3 -19-07FEB13-1/1

View and Reset Bale Counter

BaleTrak™ Pro monitor-controller is equipped with two bale counters; RESETABLE and TOTAL BALE.

The RESETABLE counter can be cleared or modified as desired, while the TOTAL BALE counter cannot be reset or cleared. A wrap and gate latch open cycle will add one bale to both of the counters.

To view counter memory:

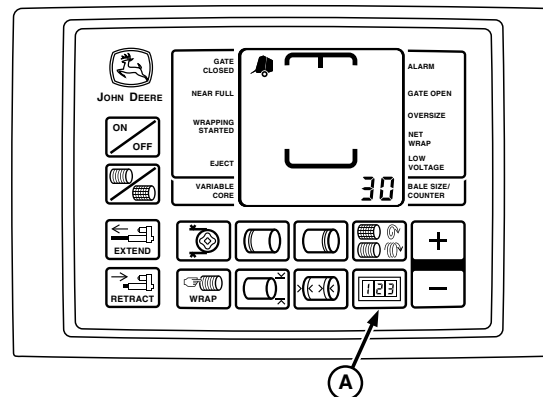
NOTE: When key (A) is pressed, display will show bale count for 6 seconds, then revert to regular display.

1. Depress COUNTER key (A) once to display RESETABLE counter.
2. Depress COUNTER key twice to display TOTAL BALE counter.

To clear RESETABLE counter memory:

1. Press COUNTER key (A) once, then release.
2. While count is displayed, press and hold MINUS key until display shows 0000.

NOTE: Bale count in RESETABLE counter can be increased to add fields together, or decreased, to remove aborted bales (such as bales not wrapped correctly). Adding or removing bales



A—COUNTER Key

from RESETABLE counter will not affect the TOTAL BALE counter.

To change number of bales in RESETABLE counter:

1. Press and hold COUNTER key (A).
2. While holding key (A), press PLUS or MINUS key to change bale count as desired.

E52449 —UN—02JUN08

PP98408,0000EF4 -19-07FEB13-1/1

Manual Actuator, Wrap, and Bypass Switches

Press and release WRAP key (C) to start an automatic twine or net wrap cycle before bale reaches preset diameter.

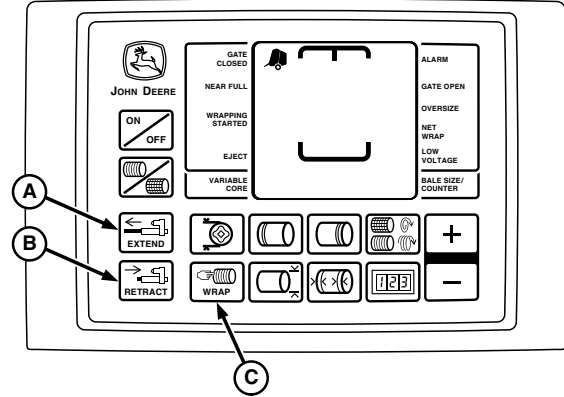
Once started, the bale wrapping cycle uses current settings stored in the monitor-controller memory (number of wraps, end wraps, and end wrap distance). This feature is useful to wrap an undersized bale when finishing a field. Monitor-controller resumes fully automatic operation on next bale.

EXTEND (A) and RETRACT (B) keys are used to manually operate **twine actuator only**. Pressing either key during an automatic wrap cycle will cancel the cycle and move actuator as desired.

NOTE: Twine end wrap spacing distance will be overridden when EXTEND or RETRACT keys are used.

For example, if right-hand end wrap distance is set at 5 in. (13 cm) and EXTEND key is pressed, twine arm will not stop at the 5 in. (13 cm) setting. It will either contact right-hand sidesheet, or actuator will be fully extended.

Bale can be finished using the EXTEND (A) or RETRACT (B) keys, or by pressing WRAP key (C) to start an automatic wrap cycle.



A—EXTEND Key
B—RETRACT Key

C—WRAP Key

When using EXTEND (A) and RETRACT (B) keys, bale counter will not register additional bales.

Bypass switch on the baler harness can also be used to manually operate twine actuator in the event of an electronic failure. (See BYPASS SWITCH [TWINE WRAP ONLY] in this section for additional information.)

PP98408,0000EF5 -19-07FEB13-1/1

Bypass Switch (Twine Wrap Only)

Bypass switch (A) allows direct operation of the twine actuator in the event of an electronic failure. Move switch to retract or extend twine actuator. Actuator is fully retracted when twine arms are in home position.

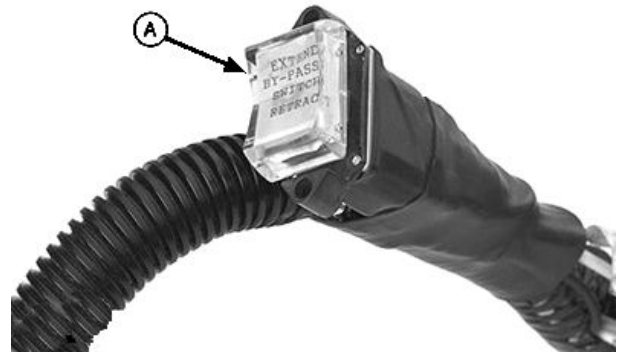
To use bypass switch:

1. Unplug TWINE ACTUATOR connector from NORMAL OPERATION connector in monitor-controller harness near rocker switch.
2. Remove dust cap from BYPASS connector. Install dust cap on NORMAL OPERATION connector.
3. Plug TWINE ACTUATOR connector into BYPASS connector.

NOTE: Twine arms will not cycle automatically if bypass switch is connected.

To return to electronic operation:

1. Unplug TWINE ACTUATOR connector from BYPASS connector.



A—Bypass Switch

2. Remove dust cap from NORMAL OPERATION connector. Install dust cap on BYPASS connector.
3. Plug TWINE ACTUATOR connector into NORMAL OPERATION connector.

PP98408,0000EF6 -19-07FEB13-1/1

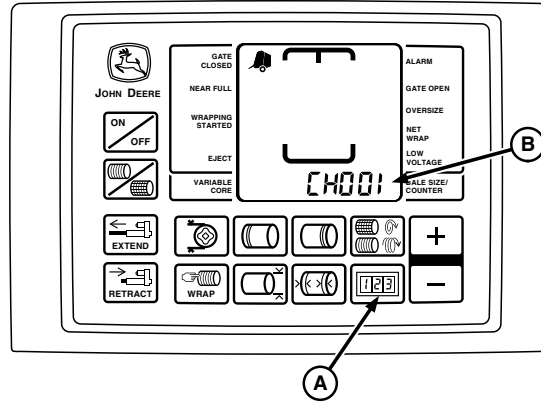
Reset BaleTrak™ Pro Monitor-Controller To Initial Settings (Channel 001)

All adjustable monitor-controller settings can be simultaneously reset to initial settings using the following Procedure:

1. Turn tractor key to ON position. Do not start tractor engine.
2. Press and hold COUNTER key (A) while turning monitor on.
3. Release key; digital display must show **050**.
4. Simultaneously press and hold Plus and MINUS keys until digital display changes from **050** to **099**; then release keys.

NOTE: Display change is a visual indication that adjusted set points have reverted to initial settings. (See BaleTrak™ Pro MONITOR-CONTROLLER SETUP VALUES AND INITIAL SETTINGS, in this section, to see which settings have changed.)

5. Turn monitor off to enter initial settings into memory.



A—COUNTER Key

B—CH 001 Displayed

- If in English units, the reset values will be in English.
- If in metric units, the reset values will be in metric.

6. Turn tractor key to OFF position. Remove key.

PP98408,0000EF7 -19-07FEB13-1/1

E52442 —UN—18JUN03

Dry Straw Twine Wrap Program (Channel 002)

NOTE: For a list of customer channels (See BaleTrak™ Pro Monitor-Controller Channels) in this section.

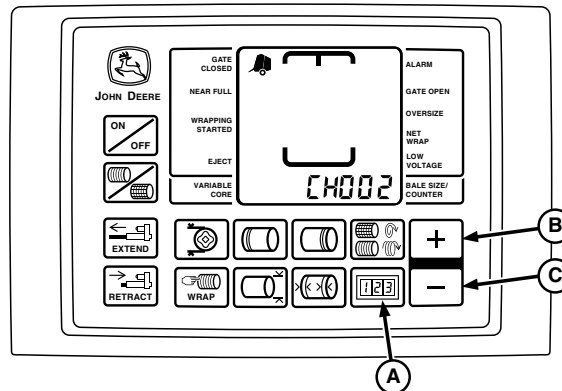
For how to access channels (See BaleTrak™ Pro Monitor-Controller Operation) in this section.

When baling dry straw, it can be desirable to quickly place twine across full width of bale to prevent straw from flaking off in the baler.

The dry straw twine program provides for full speed twine arm movement from right to left, after the normal full speed starting pass from left to right. The twine arms will return to the right side, pause to place the set number of right-end wraps on the bale, and continue to apply twines as set in the monitor-controller.

To Access Program:

1. Turn tractor key to ON position. Do not start tractor engine.
2. Press and hold COUNTER key (A) while turning monitor-controller ON.
3. Continue to hold COUNTER key (A) and press PLUS key (B) until **CH002** appears in digital display.
4. Release COUNTER key (A) and **OFF** must be displayed.



A—COUNTER Key
B—PLUS Key

C—MINUS Key

5. Press PLUS key (B) to turn on Program.
6. Turn monitor-controller OFF to enter setting into memory. This Program will stay active until **CH002** is accessed again and the MINUS key (C) is used to return display to OFF.
7. Turn tractor key to OFF position. Remove key.

PP98408,0000EF8 -19-07FEB13-1/1

E52451 —UN—18JUN03

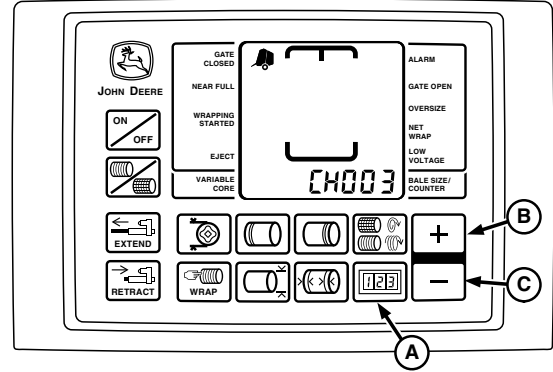
Set Twine Re-Extension (Channel 003)

Re-Extension is a feature that can help prevent twine unrolling. It places a wrap of twine back toward the middle of the bale from the left-hand end wrap location by the distance indicated by the setting. This is done **after** the set number of end wraps have been applied.

Setting	Feature
OFF	OFF
8	Approximately 20 cm (8 in.) of re-extension
16	Approximately 40 cm (16 in.) of re-extension
24	Approximately 60 cm (24 in.) of re-extension

To Access Special Wrap Program:

1. Turn tractor key to ON position. Do not start tractor engine.
2. Press and hold COUNTER key (A). Turn monitor-controller ON.
3. Continue to hold COUNTER key (A) and press PLUS key (B) until **CH003** appears in digital display.
4. Release COUNTER key (A) and view current setting (see chart).
 - Press PLUS key (B) to increase setting.



A—COUNTER Key
B—PLUS Key

C—MINUS Key

- Press MINUS key to reduce setting.
5. Turn monitor-controller OFF to enter setting into memory.
 6. Turn tractor key to OFF position. Remove key.

PP98408,0000EF9 -19-07FEB13-1/1

E52452—UN—18JUN03

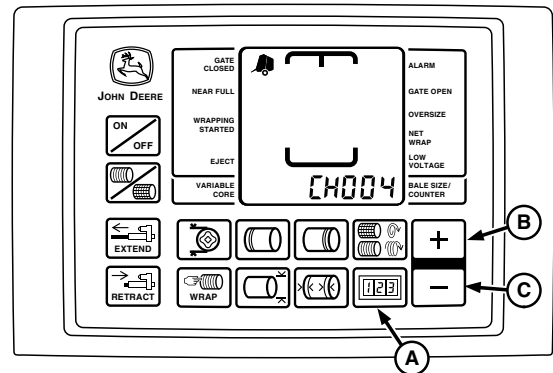
Set Cinch Wrap (Channel 004)

Cinch Wrap is a feature that can decrease loose twine and improve twine spacing on the left-hand side of the bale. It places a wrap of twine approximately 25 cm (10 in.) away from the left-hand end wrap location **prior** to applying the set number of end wraps.

Setting	Feature
Cinch	Cinch Wrap ON

To Access Special Wrap Program:

1. Turn tractor key to ON position. Do not start tractor engine.
2. Press and hold COUNTER key (A). Turn monitor-controller ON.
3. Continue to hold COUNTER key (A) and press PLUS key (B) until **CH004** appears in digital display.
4. Release COUNTER key (A) and view current setting (see chart).
 - Press PLUS key (B) to turn ON.
 - Press MINUS key (C) to turn OFF.



A—COUNTER Key
B—PLUS Key

C—MINUS Key

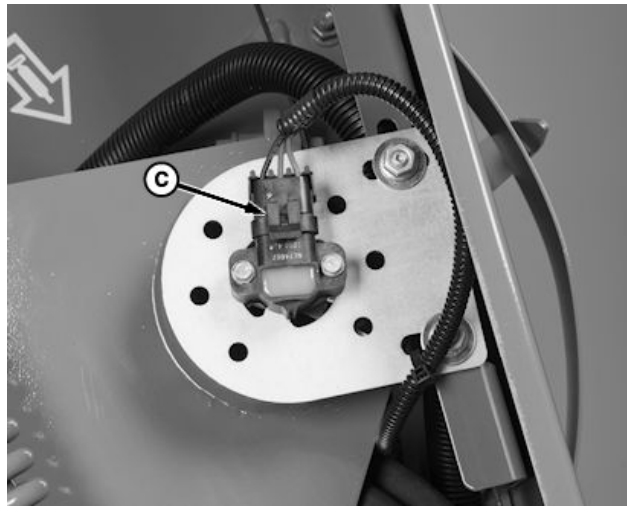
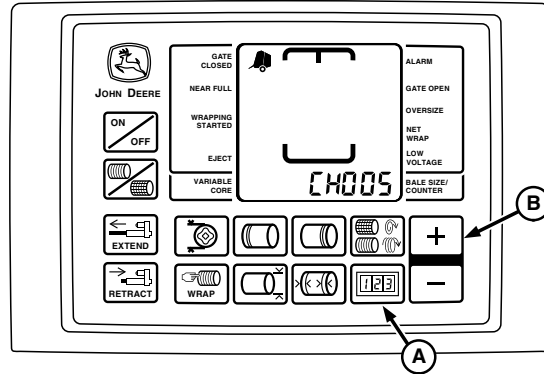
5. Turn monitor-controller OFF to enter setting into memory.
6. Turn tractor key to OFF position. Remove key.

PP98408,0000EFA -19-07FEB13-1/1

E52453—UN—18JUN03

Adjust Bale Diameter Sensor (Channel 005)

1. Start tractor engine.
 2. Using tractor selector valve, raise gate and belt tension arm all the way to the top.
 3. Engage tractor parking brake and place transmission in Park.
 4. Lock gate in open position.
 5. Shut off tractor engine.
 6. Turn tractor key to ON position. Do not start tractor engine.
 7. Press and hold COUNTER key (A) while turning monitor-controller ON.
 8. Continue to hold COUNTER key (A) and press PLUS key (B) until **CH005** appears in digital display. Release COUNTER key (A) and view bale size sensor number.
 9. Loosen mounting hardware and rotate sensor (C) fully clockwise. Rotate sensor counterclockwise until **173** is displayed and steady tone sounds.
- NOTE:** If **173** is exceeded while rotating sensor counterclockwise or while tightening screws, rotate sensor clockwise and repeat Steps 9 and 10 as necessary.
10. Tighten sensor mounting screws.
 11. Turn monitor-controller OFF. Turn tractor key to OFF position.
 12. Lower gate and belt tension arm using tractor selector valve.



A—COUNTER Key
B—PLUS Key

C—Sensor

PP98408,0000EFB -19-07FEB13-1/1

E57138 —UN—12MAY09

E66838 —UN—20JUL12

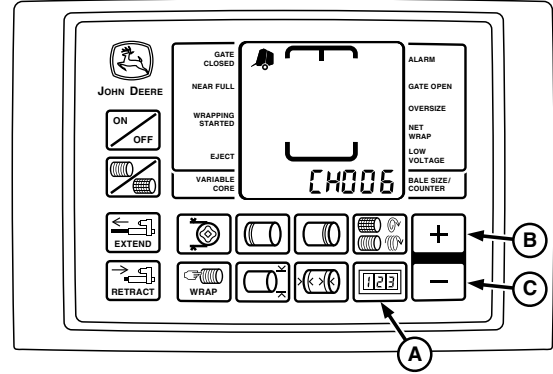
Adjust Net Wrap Delay (Channel 006)

The initial setting for net wrap delay is 2 seconds. This provides time to stop forward travel and avoid getting crop between layers of wrap.

If the operation requires additional delay before wrapping starts, such as operating on a hillside or baling at high ground speed, net wrap delay can be adjusted 0—8 seconds.

To Change Setting:

1. Turn tractor key to ON position. Do not start tractor engine.
2. Press and hold COUNTER key (A) while turning monitor-controller ON.
3. Continue to hold COUNTER key and press PLUS key until **CH006** appears in digital display.
4. Release COUNTER key and view current setting.
5. Use PLUS and MINUS keys (B) and (C) to change net wrap delay to desired setting (0—8 seconds).
6. Turn monitor-controller OFF to enter setting into memory.
7. Turn tractor key to OFF position. Remove key.



A—COUNTER Key
B—PLUS Key

C—MINUS Key

PP98408,0000EFC -19-07FEB13-1/1

E52524—UN—26JUN03

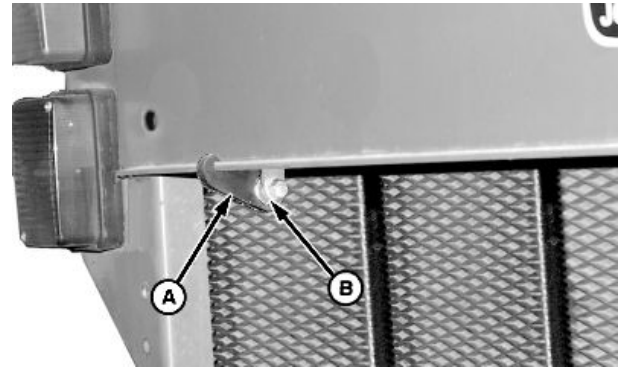
Adjust Bale Shape Sensor (Channels 007 and 009)

NOTE: Number of bale shape indicator bars displayed is 24.

Bale shape gauge strap (A) is available through your John Deere dealer.

1. If bale shape gauge strap (A) is used:
 - Install strap (A) over roller bearing (B).
 - Attach end of strap over baler frame cross-member. Make sure lip of cross-member is seated on strap.

A—Bale Shape Gauge Strap B—Bearing



Left-Hand Side Shown

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PP98408,0000EFD -19-07FEB13-1/5

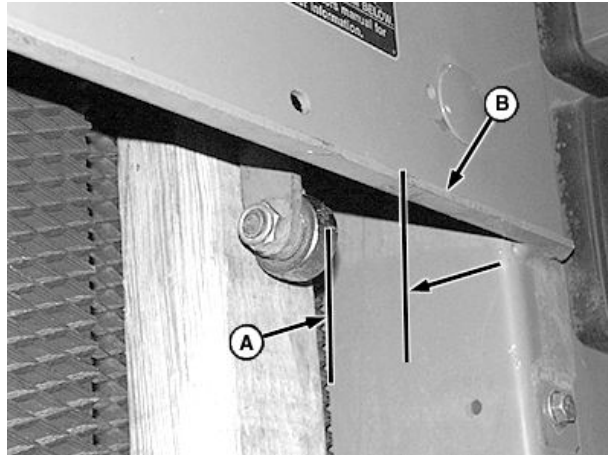
E48271—UN—06JUL00

2. If bale shape gauge strap is not used:

- Put a board approximately 51 x 102 x 457 mm (2 x 4 x 18 in.) between roller bearing and belt as shown.
- Position board to hold bale shape sender arm so rear of roller bearing is 62 mm (2-7/16 in.) (A) from rear edge of panel (B).

A—Dimension

B—Rear Edge of Panel



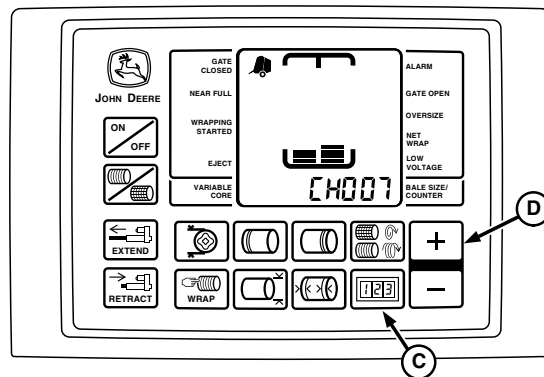
E47620 —UN—07JAN00

PP98408,0000EFD -19-07FEB13-2/5

- Press and hold COUNTER key (C) while turning monitor-controller ON.
- Continue to hold COUNTER key (C) and press PLUS key (D) until:
 - **CH007** is displayed to adjust right side
 - **CH009** is displayed to adjust left side
- Release COUNTER key (C) to display sensor value.
- If buzzer does not emit a setup tone and display readout is above or below setup value of **176**, bale shape sensor is out of adjustment.

C—COUNTER Key

D—PLUS Key



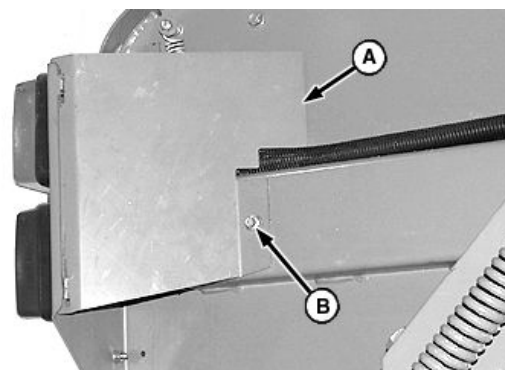
E52527 —UN—26JUN03

PP98408,0000EFD -19-07FEB13-3/5

- To adjust sensor, remove rolling thread cap screw (B). Rotate shield (A) away from baler.

A—Shield

B—Rolling Thread Cap Screw



Right-Hand Side Shown

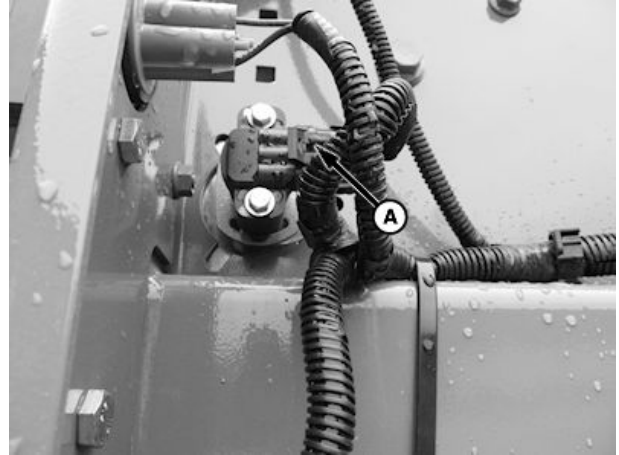
E47621 —UN—07JAN00

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PP98408,0000EFD -19-07FEB13-4/5

8. Loosen sensor mounting hardware and rotate sensor (A) until buzzer emits a tone and **176** is displayed. Tighten sensor mounting hardware.
9. Install shield by rotating toward baler and fastening with mounting cap screw.
10. Repeat procedure to adjust opposite side. Use appropriate channel for adjustment.

A—Bale Shape Sensor



E62314—UN—03APR12

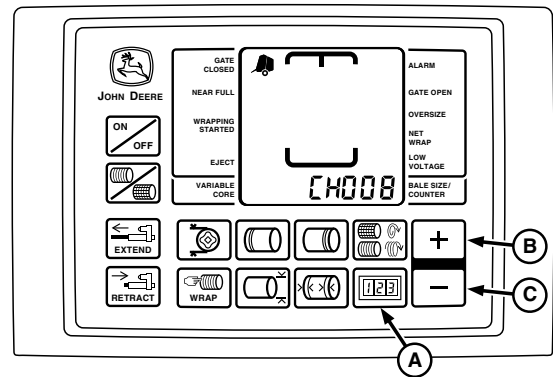
PP98408,0000EFD -19-07FEB13-5/5

Monitor-Controller Display, Metric or English Units (Setting) (Channel 008)

NOTE: Monitor-controller is initially set to display in English units (inches; in.).

To Change Setting:

1. Turn tractor key to ON position. Do not start tractor engine.
2. Press and hold COUNTER key (A) while turning monitor-controller ON.
3. Continue to hold COUNTER key and press PLUS key (B) until **CH008** appears in digital display.
4. Release COUNTER key and view current setting; either **En** for English (inches) or **SI** for metric (centimeters, cm).
5. Use PLUS key (B) and MINUS key (C) to change to desired setting.
6. Turn monitor-controller OFF to enter setting into memory.



A—COUNTER Key
B—PLUS Key

C—MINUS Key

7. Turn tractor key to OFF position. Remove key.

E52525—UN—26JUN03

PP98408,0000EFE -19-07FEB13-1/1

Set Near-Full Indicator Set Point (Channel 010)

NEAR-FULL indicator (A) informs operator when bale has almost reached desired size, based on the bale diameter setting. The point below the diameter setting, at which the indicator comes on, is adjustable between 1—27 cm (0.5—10.0 in.), in 1 cm (0.5 in.) increments.

Initial setting is 11 cm (4.5 in.).

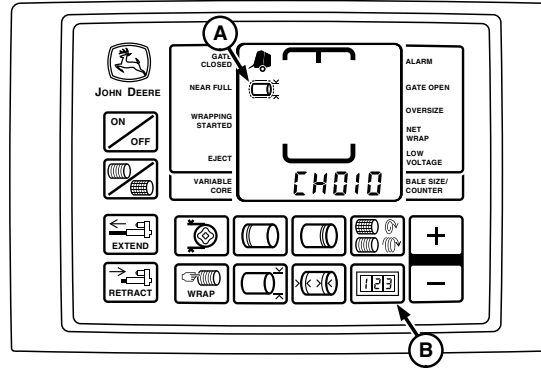
If bale diameter is set at 183 cm (72 in.) and the near-full distance is left at initial setting of 11 cm (4.5 in.), the near-full indicator will come on when bale diameter reaches 172 cm (67.5 in.).

If bale diameter setting is changed, near-full indicator set point need not change, unless a different near-full distance is desired.

To Change Near-Full Indicator Set Point:

1. Turn tractor key to ON position. Do not start tractor engine.
2. Press and hold COUNTER key (B) while turning monitor-controller ON.
3. Continue to hold COUNTER key (B) and press PLUS key until **CH010** appears in digital display.
4. Release COUNTER key and view current near full setting 1—27 cm (0.5—10.0 in.).

NOTE: Increasing near-full distance to highest setting of 27 cm (10.0 in.) provides maximum time between NEAR-FULL indication and the wrapping cycle.



A—Near-Full Indicator

B—COUNTER Key

Decreasing near full distance to lowest setting of 1 cm (0.5 in.) will minimize the time between the NEAR-FULL indication and the wrapping cycle.

5. Use PLUS and MINUS keys to change near-full distance to desired setting.
6. Turn monitor-controller OFF to enter setting into memory.
7. Turn tractor key to OFF position. Remove key.

E52455—UN—18JUN03

PP98408,0000EFF -19-08FEB13-1/1

Set Bale Shape Sensitivity (Channel 011)

The sensitivity of the bale shape bars (A) is factory set at 3 to dampen sensor signals. The reaction of bale shape bars to actual changes in the bale shape can be adjusted to be responsive or dampened.

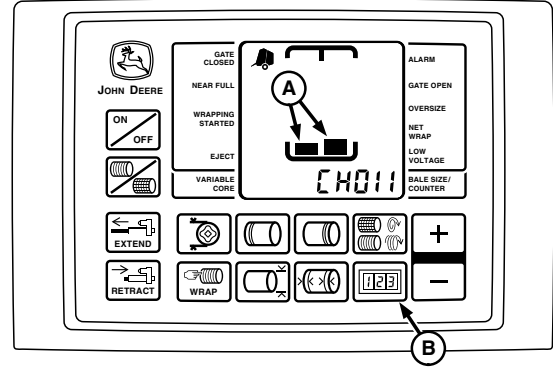
Decreasing the setting makes the bale shape bars less responsive (slower to react) to bale shape changes.

Increasing the setting makes the bale shape bars responsive (fast to react) to crop intake. It can be desirable to increase bale shape sensitivity when rapidly forming bales.

SETTING	REACTION
1	Slowest
2	Slow
3	Mid-Point (Initial Setting)
4	Fast
5	Fastest

To Adjust Bale Shape Sensitivity:

1. Turn tractor key to ON position. Do not start tractor engine.
2. Press and hold COUNTER key (B) while turning monitor-controller ON.
3. Continue to hold COUNTER key and press PLUS key until **CH011** appears in digital display. Release



A—Bale Shape Bars

B—COUNTER Key

COUNTER key and view current sensitivity setting (1—5).

4. Use PLUS key to increase setting, making indicators more responsive. Use MINUS key to reduce setting, making indicators less responsive.
5. Turn monitor-controller OFF to enter setting into memory.
6. Turn tractor key to OFF position. Remove key.

PP98408,0000F00 -19-07FEB13-1/1

E52454 —UN—18JUN03

Test Net Switch (Channel 012)

NOTE: Microswitch position and operation can be checked by using the monitor-controller diagnostic channels.

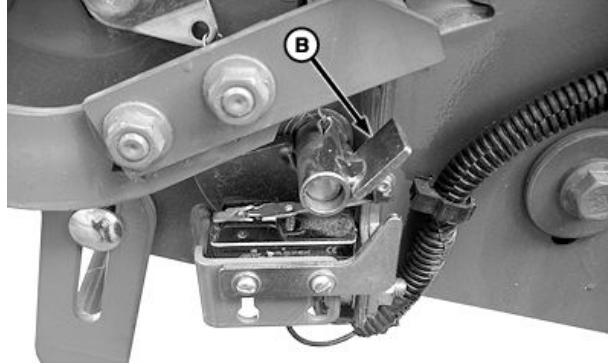
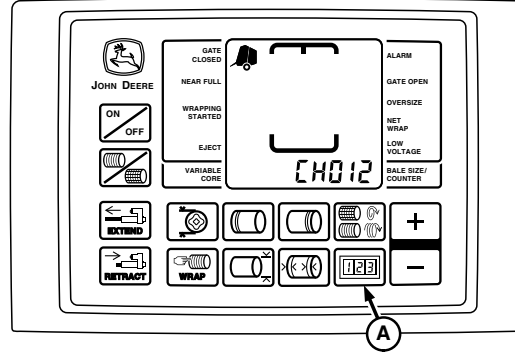
1. Turn tractor key to ON position. Do not start engine.
2. Press and hold COUNTER key (A) while turning monitor-controller ON. Continue to hold COUNTER key (A) and press PLUS key until **CH012** appears in digital display.
3. Release key and view reading (Switch Closed Internally).

Diagnostic Channel	Function	Switch Depressed Reading	Switch Released Reading
012	Net Wrap Switch	00 (Zero)—Cutting	12—Net Normal (Tone)

4. Depress lever (B) to open switch internally. View second reading or listen for tone (Switch Open).
5. If readings are not as shown, Check wire hookup. (See CHECK AND ADJUST NET WRAP SWITCH in Service section.)
6. If switch adjustment does not produce normal readings:
 - a. Turn monitor-controller OFF. Turn tractor key to OFF position. Remove key.
 - b. Check for correct wire connections.
 - c. Check wire harness for cuts and breaks.
 - d. Check harness connectors for damaged (pushed in) terminals.
 - e. Check that wires are not shorted to each other or to ground.
 - f. Replace switch if necessary.

A—COUNTER Key

B—Lever



Style "A"



Style "B"

OUC6064,000158C -19-21SEP15-1/1

E52494 —UN—24JUN03

E57909 —UN—25AUG09

E79990 —UN—22SEP15

Test Gate Close and Oversize Bale Switches—Monitor-Controller Assisted Test (Channels 013 and 014)

NOTE: Microswitch position and operation can be checked by using the monitor-controller diagnostic channels.

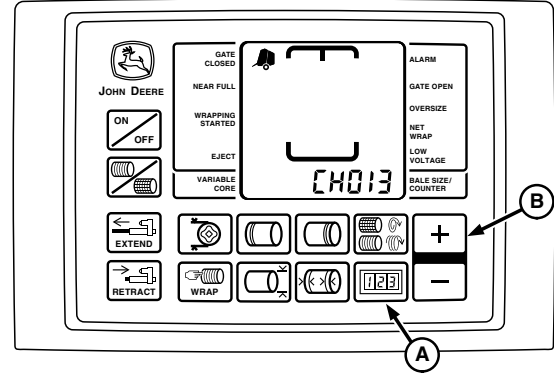
1. Start tractor engine.
2. Press and hold COUNTER key (A) while turning monitor-controller ON.
3. Continue to hold COUNTER key and press PLUS key (B) until digital display shows desired channel.
4. Release key and view reading (gate closed).

NOTE: Tension arm must be fully raised for oversize bale switch to be closed.

5. Open gate and view reading or listen for tone.
6. If readings are not as shown, adjust switch position and test again. (See ADJUST GATE CLOSE SWITCH

Diagnostic Channel	Function	Gate Closed Reading	Gate Open Reading
013	Oversize Bale Switch	013 (Switch Released)	00 (Zero) (Switch Depressed) (Tone)
014	Gate Switch	00 (Zero) (Switch Depressed)	014 (Switch Released) (Tone)

7. If switch adjustment does not produce normal readings:
 - a. Turn monitor-controller OFF. Turn tractor key to OFF position. Remove key.
 - b. Check for correct wire connections. (See WIRE HARNESS DIAGRAM—BALER in this section.)



A—COUNTER Key

B—PLUS Key

and ADJUSTING OVERSIZE BALE SWITCH in this section.)

- c. Check wire harness for cuts and breaks.
- d. Check harness connectors for damaged (pushed back) terminals.
- e. Replace switch if necessary. (See your John Deere dealer.)

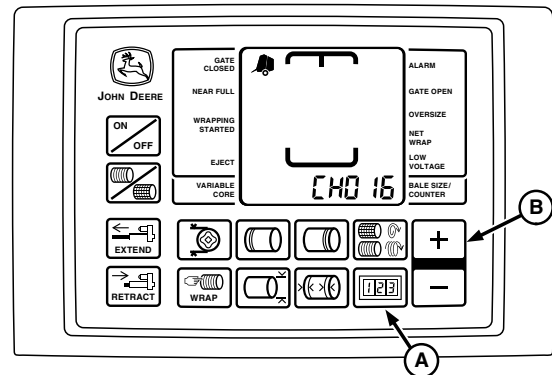
PP98408,0000F02 -19-07FEB13-1/1

Check PTO and Lower Drive Roll Speed (Channels 016 and 017)

IMPORTANT: The following procedure is not used on a 459 and 559 Baler with a Regular pickup.

Use speed readouts to verify operation and adjustment of sensors. Access channel 016 on monitor-controller for PTO speed and channel 017 for pickup drive speed.

1. Start tractor and operate engine at slow idle. Engage PTO.
2. Press and hold COUNTER key (A) while turning monitor-controller ON.
3. Continue to hold COUNTER key (A) and press PLUS key (B) until **CH016** appears in digital display.
4. Release COUNTER key (A) and PTO speed is displayed. Speed readout must be stable and not vary by ± 5 rpm.
5. Press and hold COUNTER key (A) and press PLUS key (B) until **CH017** appears in digital display.



A—COUNTER Key

B—PLUS Key

6. Release COUNTER key (A) and pickup drive speed is displayed. Speed must be stable and not vary by ± 5 rpm.

Continued on next page

PP98408,0000F03 -19-08FEB13-1/2

7. If speed variation exceeds ± 5 rpm, shut off tractor engine and remove key.

Adjust PTO sensor closer to clutch fins (A) but not closer than 1 mm (0.04 in.). Adjust pickup sensor closer to tone wheel (B) but not closer than 3 mm (0.12 in.).

When tractor is operated at rated PTO speed, channel 016 must display 540 rpm. Channel 017 must display approximately 310 rpm. Slip clutch alert system must be activated within the monitor-controller for proper operation.

Turning PTO Speed Sensor ON and OFF:

- PTO speed sensor can be turned OFF or ON by accessing channel 204.
- Feature can be turned ON by changing value to 540 rpm.
- Entire slip clutch alert feature can be turned OFF by changing value to 0.

Turning Pickup Speed Sensor ON and OFF:

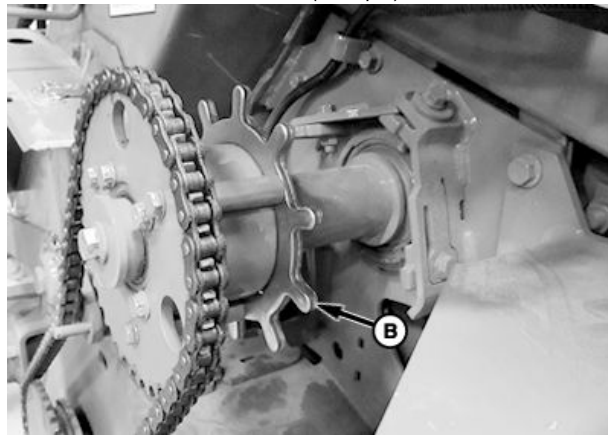
- Pickup rpm sensor can be turned OFF and ON by accessing channel 205.
- Feature can be turned ON by changing value to 310 rpm.
- Pickup rpm sensor can be turned OFF by changing value to 0.
- Turning OFF the pickup sensor on channel 205 and turning ON PTO sensor on channel 204 still allows automatic speed compensation during wrapping cycle.

A—Clutch Fins

B—Tone Wheel



PTO Sensor (540 rpm) Shown



Lower Drive Roll (Pickup) Shown

E69394—UN—11FEB13

E69395—UN—08FEB13

PP98408,0000F03 -19-08FEB13-2/2

Test Twine or Net Wrap Actuator Current (Channel 018)

IMPORTANT: Current overload protection to twine actuator is bypassed when using channel 018. Extended use of channel 018 can cause actuator damage.

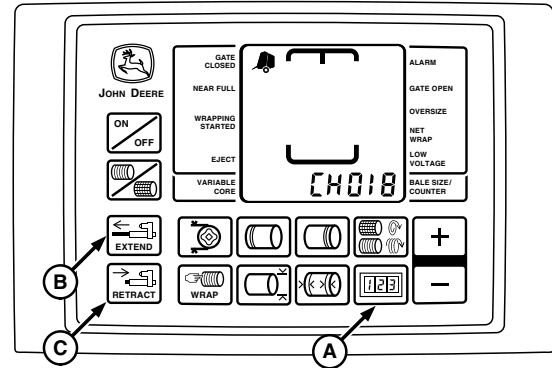
NOTE: Channel 018 allows operator use of **EXTEND** key (B) and **RETRACT** key (C) to position actuator for service.

This test is used to determine the working condition of the actuator through its entire range of operation.

To Test Actuator (Motor and Linkage):

IMPORTANT: Remove roll of net wrap material from baler if testing net actuator voltage. Otherwise, if PTO is engaged with net actuator extended, net will feed into empty baler and can cause damage to pickup or rotary feed system.

1. If testing net and wrap actuator current, remove roll of net wrap material from baler.
2. Turn tractor key to ON position. Do not start tractor engine.
3. Press and hold COUNTER key (A) while turning monitor-controller ON.
4. Continue to hold COUNTER key (A) and press PLUS key until **CH018** appears in digital display.
5. Release COUNTER key; digital display will change to show actuator static current flow reading of **0** to **1**.
6. Use **EXTEND** key (B) and **RETRACT** key (C) to operate actuator in both directions. Display must show a current flow reading between **1** and **8** while actuator motor is operating during mid stroke (no load).
 - Below normal readings indicate low tractor voltage, or poor or corroded harness connections
7. Continue to operate actuator to fully retracted position. Display must show stall (*load*) current reading between **22** and **30**.
 - Above normal readings indicate binding linkage or partially shorted motor windings
 - Current spike reading indicates mechanical obstruction to linkage
8. Press **RETRACT** key (C) to move actuator to home position.
9. Turn monitor-controller OFF. Turn tractor key to OFF position and remove key.



A—COUNTER Key
B—EXTEND Key

C—RETRACT Key

PP98408,0000F04 -19-07FEB13-1/1

E52520 — UN—26JUN03

Test Tractor Convenience Outlet Voltage (Channel 019)

Complete the following check to determine if the convenience outlet provides adequate power to the BaleTrak™ Pro system.

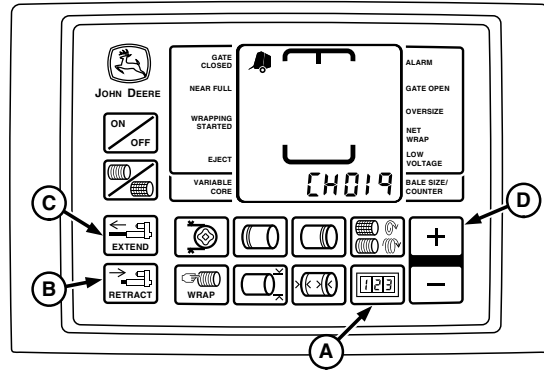
IMPORTANT: Remove roll of net wrap material from baler if testing net actuator voltage. Otherwise, if PTO is engaged with net actuator extended, net will feed into empty baler and can cause damage to pickup or rotary feed system.

1. If testing net wrap actuator current, remove roll of net wrap material from baler.
2. Start tractor engine.
3. Press and hold COUNTER key (A) while turning monitor-controller ON.
4. Continue to hold COUNTER key (A) and press PLUS key (D) until **CH019** appears in the digital display.
5. Release COUNTER key (A) and view voltage readout.
6. Using EXTEND key (C), extend twine or net actuator slightly.
7. Push and hold RETRACT key (B) until actuator stalls out in the fully retracted position. Note voltage displayed during first 4 seconds after stalling.

Specification

Convenience
Outlet—Voltage
(Minimum).....9.7 V

8. If voltage is less than specifications, install Convenience Outlet Kit AE50549. Only this kit must be used to provide a convenience outlet due to wire



A—COUNTER Key
B—RETRACT Key

C—EXTEND Key
D—PLUS Key

size, lack of splices, and a 30 Amp circuit breaker included in this kit. When installing this kit, attach power and ground wires directly to battery terminal clamp bolts, only. (See TRACTOR CONVENIENCE OUTLET in Preparing the Tractor section.)

CAUTION: Convenience outlet is wired directly to battery. Turning off tractor key will not disconnect power to monitor.

9. Turn monitor-controller OFF. Turn off tractor engine and remove key.

Disconnect power cord to monitor when working around knife arm. Turning off tractor key will NOT turn off power to monitor.

PP98408,0000F05 -19-07FEB13-1/1

E52521 — UN—26JUN03

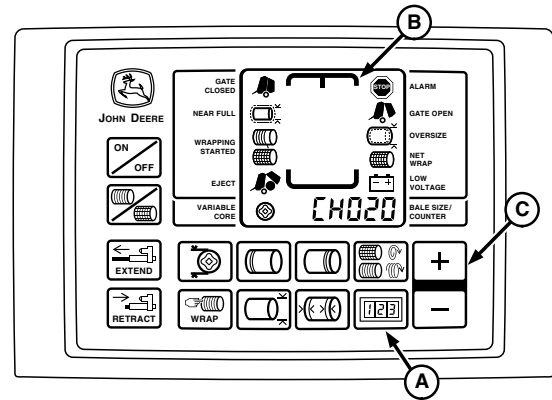
Test Liquid Crystal Display (LCD) Panel (Channel 020)

Use the following test procedure to check if a segment of the LCD panel has failed.

1. Turn tractor key to ON position. Do not start tractor engine.
2. Press and hold COUNTER key (A) while turning monitor-controller ON.
3. Continue to hold COUNTER key (A) and press PLUS key (C) until **CH020** appears in digital display.

NOTE: Number of bale shape indicator bars displayed is 24 bars per side.

4. Release keys and view entire LCD panel (B). Make sure that all segments and indicators are displayed. If not, see your John Deere dealer.
5. Turn monitor-controller OFF. Turn tractor key to OFF position and remove key.



A—COUNTER Key
B—LCD Panel

C—PLUS Key

E52529 — UN—10JUN08

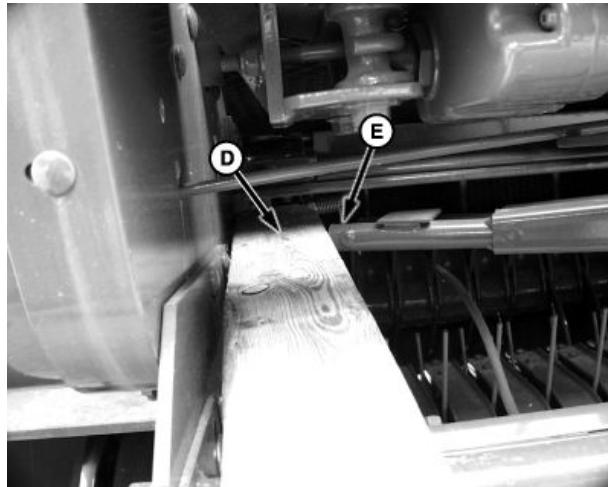
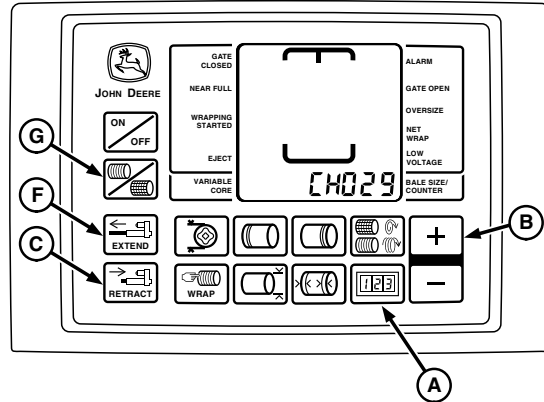
PP98408,0000F06 -19-07FEB13-1/1

Twine Arm Calibration (Channel 029)

1. Turn tractor key to ON position. Do not start tractor engine. Turn monitor-controller ON.
2. Briefly press TWINE or NET key (G), ensure monitor-controller is in TWINE mode (indicator will briefly show on screen).
3. Turn monitor-controller OFF.
4. Press and hold COUNTER key (A) while turning monitor ON.
5. Continue to hold COUNTER key (A) and press PLUS key (B) until **CH029** appears in digital display. Release both keys.
6. Press and hold RETRACT key (C) until twine actuator fully retracts and display reads zero.

NOTE: 89 mm equals 3-1/2 in., which is standard dimension for most 4 in. wide lumber, such as a 2 x 4 or 4 x 4.

7. Place an 89 mm (3-1/2 in.) wood block (D) on right side of bale chamber, so twine arm (E) will contact the wood block when actuator is extended.
8. Press EXTEND key (F), extend actuator until it stalls by contacting wood block (D).
9. Enter value displayed in to **CH029** by pressing PLUS and MINUS keys (B) together and listening for two confirming beeps.
10. Press RETRACT key (C) to release and Remove wood block.



A—COUNTER Key
B—PLUS Key
C—RETRACT Key
D—Wood Block

E—Twine Arm
F—EXTEND Key
G—TWINE or NET Key

E52575 —UN—10JUL03

E52472 —UN—19JUN03

PP98408,0000F07 -19-07FEB13-1/1

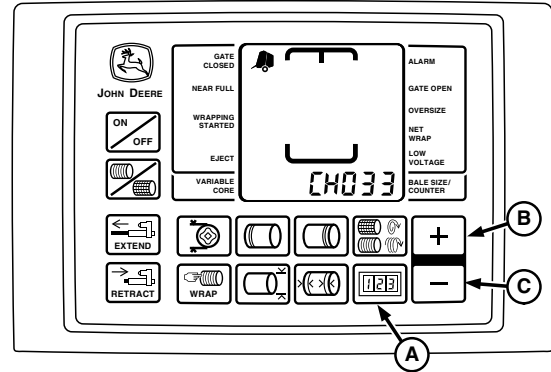
Adjust Delay of Twine Eject (Channel 033)

The initial setting for time between cut-off of twine and display of the eject icon is zero seconds.

In some conditions, twine unrolling can be reduced by delaying bale ejection until bale has rotated to a position where twine ends are just above contact area for the push bar. This time delay value depends on operator reaction time, bale size, and PTO speed. A suggested starting value of 1.5 seconds can be entered, but other values need to be tried to obtain best results, as small changes can have significant impact on twine unrolling. Also, ends of twine can adhere better to a bale, if bale continues to rotate after twine is cut.

To Change Setting:

1. Turn tractor key to ON position. Do not start tractor engine.
2. Press and hold COUNTER key (A) while turning monitor-controller ON.
3. Continue to hold COUNTER key and press PLUS key (B) until **CH033** appears in digital display.
4. Release COUNTER key and view current setting.
5. Use PLUS and MINUS keys (B) and (C) to change the delay of twine eject icon to desired setting (0—10 seconds).
6. Turn monitor-controller OFF to enter setting into memory.
7. Turn tractor key to OFF position. Remove key.



A—COUNTER Key
B—PLUS Key

C—MINUS Key

PP98408,0000F08 -19-07FEB13-1/1

E55146—UN—11MAY07

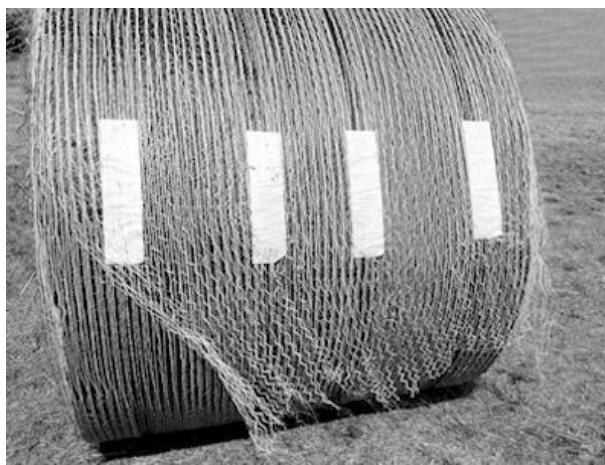
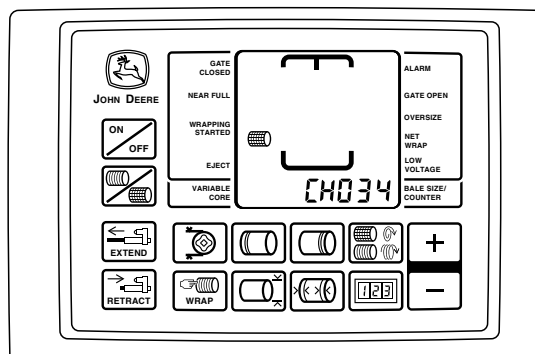
Adjust Cut Position (Channel 034)

Controls the length of net after the velcro.

- This is called the tail.
- Net should cut off a few inches past the velcro. Leaving long tail may cause wrap to pull off bale during handling.

Need to enter value in monitor-controller memory for B-Wrap (customer channels).

- Value will change by 10 (7 & 8 Series — 24 & 21 tooth) and 5 (9 Series & BE32327 — 10 tooth) each time you press the PLUS or MINUS key.
- Starting point value of 440 (7 & 8 Series) or 220 (9 Series).
- Changing value with either increase (PLUS key) the length of the tail or decrease (MINUS key) the tail by approximately 228 mm (9 in.)



This Tail is Too Long, Should Be 2—12 Inches

PP98408,0000BF9 -19-09OCT15-1/1

E69423 —UN—20FEB13

E69427 —UN—25FEB13

Adjust Bale Orientation (Channel 035)

Controls the position of bale when ejecting.

- This is the seam or overlap portion of the B-Wrap material.
- Seam must always be on the bottom of the bale or overlap is in a position to keep water from running into the bale.
- Aluminum tape (A) must be on left-hand side and back side of bale when facing rear of baler.

Need to enter value into monitor-controller on setup for B-Wrap.

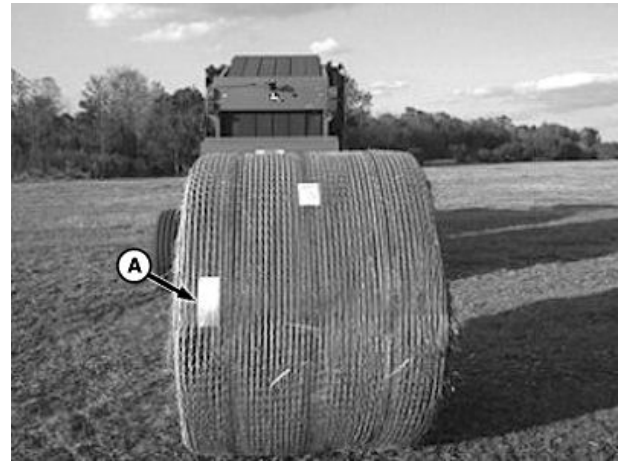
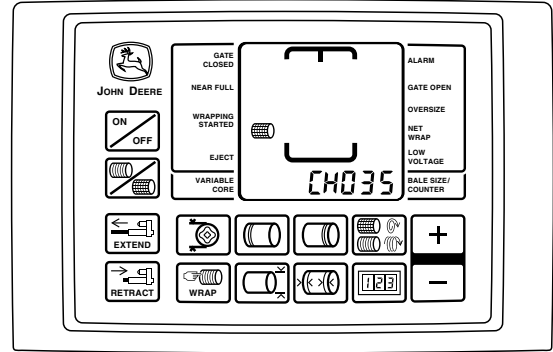
- Starting point value of 640 (7 & 8 Series) or 320 (9 Series).
- This value must always be at least 90 counts (7 & 8 Series) or 45 counts (9 Series) more than channel 034.
- Value will change by 10 (7 & 8 Series) or 5 (9 Series) each time you press the PLUS or MINUS key.

IMPORTANT: Disengage bale push bar for B-Wrap operation.

- **Bale push bar will affect seam location upon bale ejection and can damage B-Wrap material.**

With the B-Wrap sensor tied into the oversize bale sensor, false bale oversize alarms can occur. If a false oversize bale alarm occurs, with the PTO off, examine the B-Wrap sensor on the bottom of the gate for the following:

1. A belt lace is stopped above the sensor. If this has occurred, move the belt lacing past the sensor by turning on the PTO briefly.
2. A foreign metal object is caught on or around the sensor. If this has occurred, remove the foreign material and verify that they error does not reoccur.



A—Aluminum Tape

PP98408,0000003 -19-09OCT15-1/1

E69424 —UN—20FEB13

E69416 —UN—13FEB13

Baler Model Program (Channel 201)

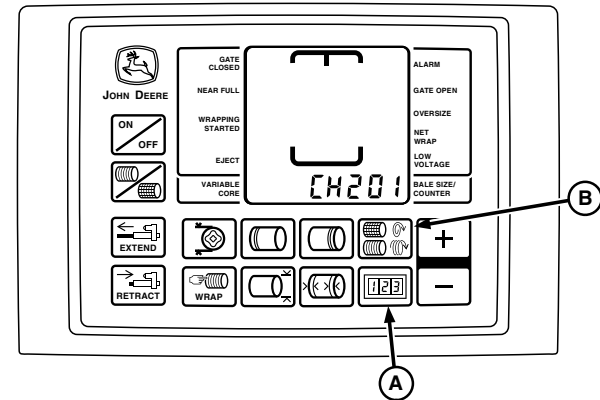
The monitor-controller software includes various model programs. Each program is written specifically for the baler model for which the monitor-controller was originally supplied.

When replacing monitor-controller with a new unit, or moving monitor-controller to a different model baler, review and revise the model program if necessary.

NOTE: The twine, net wrap, slip clutch alert, and optional variable core features will not operate correctly unless the model number displayed on monitor-controller matches baler model number.

To Change Model Program:

1. Turn tractor key to ON position. Do not start tractor.
2. Press and hold both COUNTER key (A) and NUMBER OF WRAPS key (B) while turning monitor-controller to ON. **CH201** must be displayed.
3. Release both keys. Baler model is displayed.
4. Press PLUS or MINUS key to change to desired model.
5. Turn monitor-controller OFF to enter setting into memory.



A—COUNTER Key

B—NUMBER OF WRAPS Key

6. Turn monitor-controller ON to verify baler model number. Baler model is displayed for approximately 2 seconds. If displayed baler model number is incorrect, repeat Steps 1—6.
7. Turn tractor key to OFF position and remove key.

PP98408,0000F09 -19-07FEB13-1/1

ES2456 — UN—10JUN08

Twine Feature (Channel 202) (Turning On and Off)

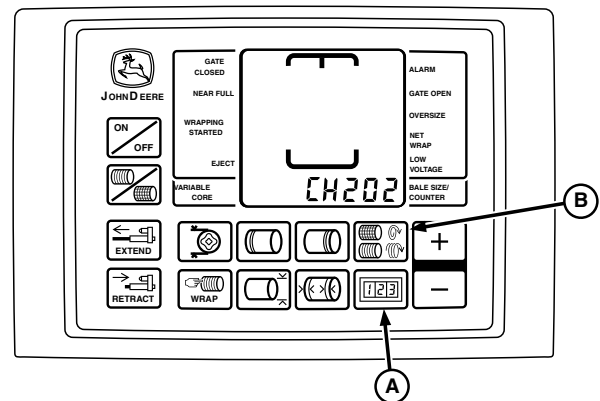
The twine feature can be turned OFF or ON by accessing Channel 202.

NOTE: The twine, net wrap, slip clutch alert, and optional variable core features will not operate correctly unless the model number displayed on monitor-controller matches baler model number.

NOTE: If both twine and net wrap features are turned OFF, the monitor will consider the twine feature ON.

Turning Feature On and Off:

1. Turn tractor key to ON position. Do not start tractor.
2. Press and hold both COUNTER key (A) and NUMBER OF WRAPS key (B) while turning monitor-controller to ON. **CH201** must be displayed.
3. Release both keys. Baler model is displayed.
4. Press and hold COUNTER key (A) and press the PLUS key until **CH202** is displayed.
5. Release COUNTER key (A).
6. Press PLUS or MINUS key to change displayed value to **0** (twine **OFF**) or **1** (twine **ON**).



A—COUNTER Key

B—NUMBER OF WRAPS Key

7. Turn monitor-controller OFF to enter setting into memory.
8. Turn monitor-controller ON to verify baler model number. Model number is displayed approximately 2 seconds. If displayed baler model number is incorrect, see **BALER MODEL PROGRAM (CHANNEL 201)** in this section.
9. Turn tractor key to OFF position and remove key.

PP98408,0000F0A -19-07FEB13-1/1

ES7095 — UN—08MAY09

Net Wrap and B-Wrap Feature (Channel 203) (Turning On and Off)

The net wrap feature can be turned OFF, ON, or switched to B-Wrap mode by accessing Channel 203.

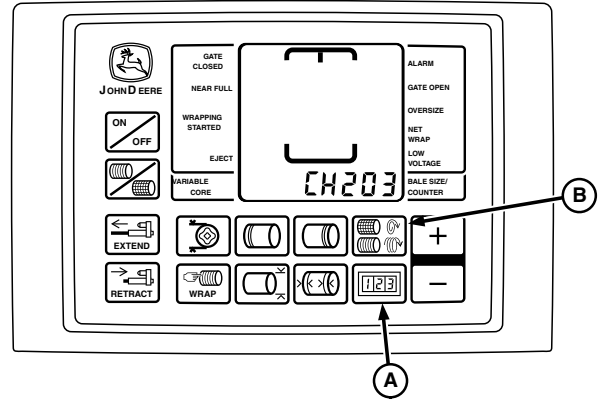
NOTE: The net wrap, B-Wrap, twine, slip clutch alert, and optional variable core features will not operate correctly unless the model number displayed on monitor-controller matches baler model number.

NOTE: If both net wrap and twine features are turned OFF, the monitor will consider the twine feature ON.

Turning Feature On and Off:

1. Turn tractor key to ON position. Do not start tractor.
2. Press and hold both COUNTER key (A) and NUMBER OF WRAPS key (B) while turning monitor-controller to ON. **CH201** must be displayed.
3. Release both keys. Baler model is displayed.
4. Press and hold COUNTER key (A) and press the PLUS key until **CH203** is shown in display.
5. Release COUNTER key (A).
6. Press PLUS or MINUS key to change displayed value to **0** (net **OFF**), **1** (net **ON**), or **b1** (B-Wrap **ON**).

IMPORTANT: Bale diameter must be set to 66 in and push bar disengaged to operate B-Wrap.



A—COUNTER Key

B—NUMBER OF WRAPS Key

7. Turn monitor-controller OFF to enter setting into memory.
8. Turn monitor-controller ON to verify baler model number. Model number is displayed approximately 2 seconds. If displayed baler model number is incorrect, see **BALER MODEL PROGRAM (CHANNEL 201)** in this section.
9. Turn tractor key to OFF position and remove key.

OUC6064,00015D0 -19-25SEP15-1/1

E57096 — UN—08MAY09

Slip Clutch Alert PTO Speed Sensor (Channel 204) (Turning On and Off)

IMPORTANT: The following procedure is not used on a 459 and 559 Baler with a Regular pickup.

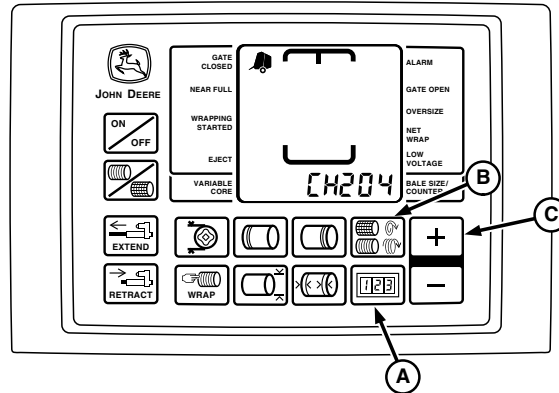
PTO speed sensor can be turned OFF or ON by accessing channel 204.

Entire slip clutch alert feature can be turned off by changing value to 0.

NOTE: Both channels 204 and 205 must be turned ON to use speed compensation and slip clutch alert features.

Turning Feature On and Off:

1. Turn tractor key to ON position. Do not start tractor.
2. Press and hold both COUNTER key (A) and NUMBER OF WRAPS key (B) while turning monitor-controller to ON. **CH201** must be displayed.
3. Release both keys. Baler model is displayed.
4. Press and hold COUNTER key (A) and press the PLUS key (C) until **CH204** is shown in display.
5. Release COUNTER key (A).
6. To turn PTO speed sensor ON, press PLUS key (C) until baler PTO speed **540** is shown in display. To turn PTO sensor OFF, press the PLUS key (C) until **0** value is displayed.
7. Release PLUS key (C).
8. Turn monitor-controller OFF to enter setting into memory.
9. Turn monitor-controller ON to verify baler model number. Model number is displayed approximately 2 seconds. If displayed baler model is incorrect, see **BALER MODEL PROGRAM (CHANNEL 201)** in this section.
10. Turn tractor key to OFF position and remove key.



E55069 —UN—25APR07

PP98408,0000F0C -19-07FEB13-1/1

Slip Clutch Alert Pickup RPM Sensor (Channel 205) (Turning On and Off)

IMPORTANT: The following procedure is not used on a 459 and 559 Baler with a Regular pickup.

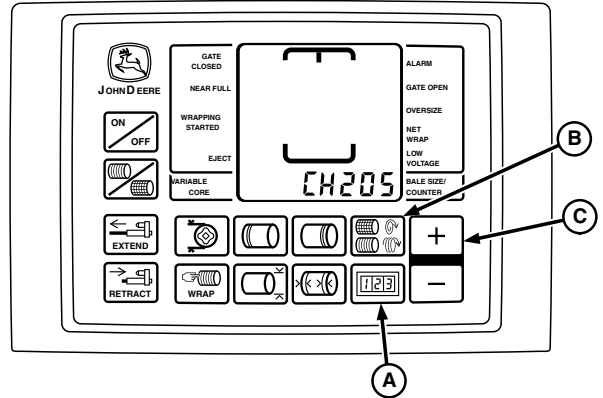
Pickup rpm sensor can be turned OFF and ON by accessing channel 205.

Turning OFF the pickup sensor on channel 205 and turning ON PTO sensor on channel 204 allows automatic speed compensation during wrapping cycle. If there is a malfunction, pickup rpm sensor can be turned OFF by changing channel 205 value to 0.

NOTE: Both channels 204 and 205 must be turned ON to use speed compensation and slip clutch alert features.

Turning Feature On and Off:

1. Turn tractor key to ON position. Do not start tractor.
2. Press and hold both COUNTER key (A) and NUMBER OF WRAPS key (B) while turning monitor-controller to ON. **CH201** must be displayed.
3. Release both keys. Baler model is displayed.
4. Press and hold COUNTER key (A) and press the PLUS key (C) until **CH205** is shown in display.
5. Release COUNTER key (A).
6. To turn rpm sensor ON, press PLUS key (C) until **310** value is displayed. To turn rpm sensor OFF, press the PLUS key (C) until **0** value is displayed.
7. Release PLUS key (C).
8. Turn monitor-controller OFF to enter setting into memory.
9. Turn monitor-controller ON to verify baler model number. Model number is displayed approximately 2 seconds. If displayed baler model number is incorrect, see **BALER MODEL PROGRAM (CHANNEL 201)** in this section.
10. Turn tractor key to OFF position and remove key.



A—COUNTER Key

B—NUMBER OF WRAPS Key

C—PLUS Key

PP98408,0000F0D -19-07FEB13-1/1

E57097 — UN—13MAY09

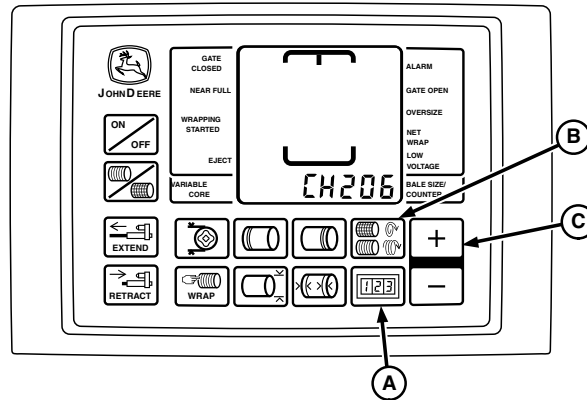
Calibrate Slip Clutch Alert PTO and Pickup RPM Sensors (Channels 206 and 207)

IMPORTANT: The following procedure is not used on a 459 and 559 Baler with a Regular pickup.

Both the PTO and pickup rpm sensors must be activated within the baler monitor-controller to enable operation of slip clutch alert and speed compensation features.

To Calibrate PTO RPM Sensor:

1. Turn tractor key to ON position. Do not start tractor.
2. Press and hold both COUNTER key (A) and NUMBER OF WRAPS key (B) while turning monitor-controller to ON. **CH201** must be displayed.
3. Release both keys. Baler model is displayed.
4. Press and hold COUNTER key (A) and press the PLUS key (C) until **CH206** is displayed.
5. Release COUNTER key (A).
6. Press the PLUS key (C) until desired value **24** is shown in display.
7. Release PLUS key (C).
8. Turn monitor-controller OFF to enter setting into memory.



A—COUNTER Key
B—NUMBER OF WRAPS Key

C—PLUS Key

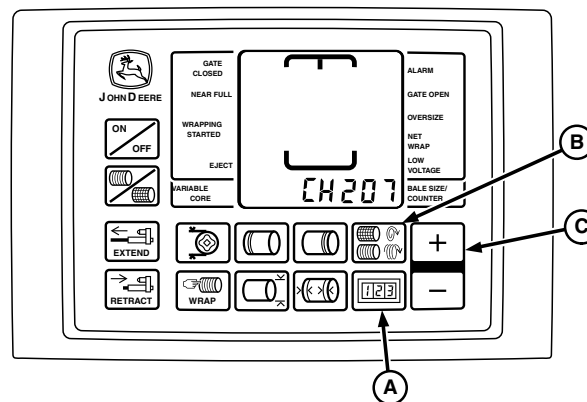
9. Turn monitor-controller ON to verify baler model number. Model number is displayed approximately 2 seconds. If displayed baler model number is incorrect, see **BALER MODEL PROGRAM (CHANNEL 201)** in this section.
10. Turn tractor key to OFF position and remove key.

PP98408,0000F0E -19-08FEB13-1/3

E57098 —UN—13MAY09

To Calibrate Drive Roll RPM Sensor:

1. Turn tractor key to ON position. Do not start tractor.
2. Press and hold both COUNTER key (A) and NUMBER OF WRAPS key (B) while turning monitor-controller to ON. **CH201** must be displayed.
3. Release both keys. Baler model is displayed.
4. Press and hold COUNTER key (A) and press the PLUS key (C) until **CH207** is displayed.
5. Release COUNTER key (A).
6. Press the PLUS key (C) until desired value **10** is shown in display.
7. Release PLUS key (C).
8. Turn monitor-controller OFF to enter setting into memory.
9. Turn monitor-controller ON to verify baler model number. Model number is displayed approximately 2 seconds. If displayed baler model number is incorrect, (see **BALER MODEL PROGRAM (CHANNEL 201)** in this section.



A—COUNTER Key
B—NUMBER OF WRAPS Key

C—PLUS Key

Check sensor output and verify proper operation using the following procedure.

10. Turn tractor key to OFF position and remove key.

Continued on next page

PP98408,0000F0E -19-08FEB13-2/3

E57099 —UN—13MAY09

Verify Operation and Adjustment of Sensors:

1. Start tractor. Operate tractor engine at slow idle and engage PTO.
2. Press and hold COUNTER key while turning monitor-controller ON.
3. Continue to hold COUNTER key and press PLUS key until **CH016** appears in digital display.
4. Release COUNTER key and PTO speed is displayed. Speed readout must be stable and not vary by ± 5 rpm.
5. Press and hold COUNTER key and press PLUS key until **CH017** appears in digital display.
6. Release COUNTER key and pickup drive speed is displayed. Speed readout must be stable and not vary by ± 5 rpm.
7. If speed variation exceeds ± 5 rpm, shut off tractor engine and remove key.

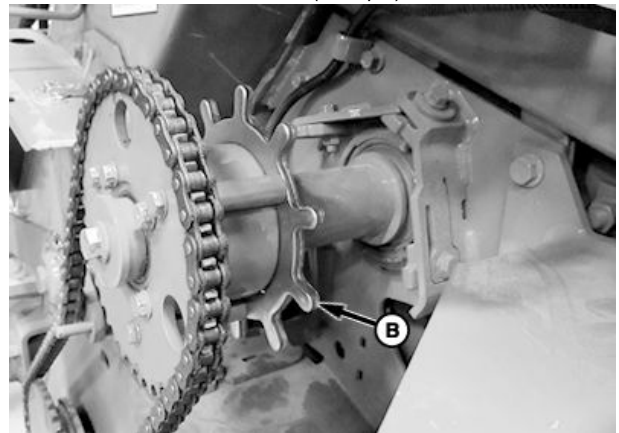
Adjust PTO sensor closer to clutch fins (A) but not closer than 1 mm (0.04 in.). Adjust pickup sensor closer to tone wheel (B) but not closer than 3 mm (0.12 in.).

A—Clutch Fins

B—Tone Wheel



PTO Sensor (540 rpm) Shown



Lower Drive Roll (Pickup) Sensor

E69394—UN—11FEB13

E69395—UN—08FEB13

PP98408,0000F0E -19-08FEB13-3/3

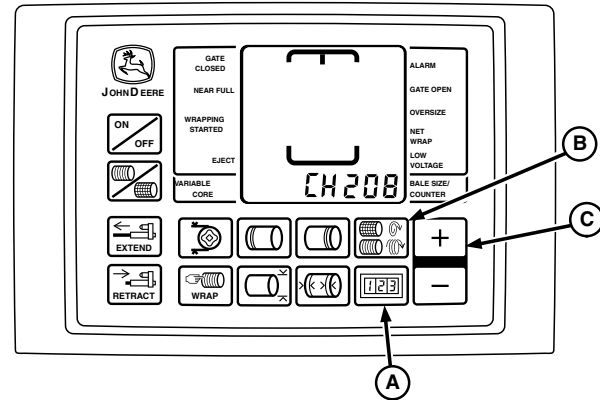
Activate Optional Variable Core Operation (Channel 208)

The optional variable core operation can be turned OFF and ON by accessing channel 208.

NOTE: The twine, net wrap, slip clutch alert, and optional variable core features will not operate correctly unless the model number displayed on monitor-controller matches baler model number.

Turning Feature On and Off:

1. Turn tractor key to ON position. Do not start tractor.
2. Press and hold both COUNTER key (A) and NUMBER OF WRAPS key (B) while turning monitor-controller to ON. **CH201** must be displayed.
3. Release both keys. Baler model is displayed.
4. Press and hold COUNTER key (A) and press the PLUS key (C) until **CH208** is displayed.
5. Release COUNTER key (A).
6. Press PLUS or MINUS key to change displayed value to **0** (variable core **OFF**) or **1** (variable core **ON**).
7. Turn monitor-controller OFF to enter setting into memory.
8. Turn monitor-controller ON to verify baler model number. Model number is displayed approximately 2 seconds. If displayed model number is incorrect, see **BALER MODEL PROGRAM (CHANNEL 201)** in this section.
9. Turn tractor key to OFF position and remove key.



A—COUNTER Key
B—NUMBER OF WRAPS Key

C—PLUS Key

E57156 — UN — 14MAY09

PP98408,0000F0F -19-07FEB13-1/1

Adjust Twine Tension

CAUTION: To avoid injury or death by being pulled into the machine:

DO NOT attempt to feed twine into baler or pull twine from twine arms **WHILE BALER IS RUNNING**. The baler feeds material faster than you can release it.

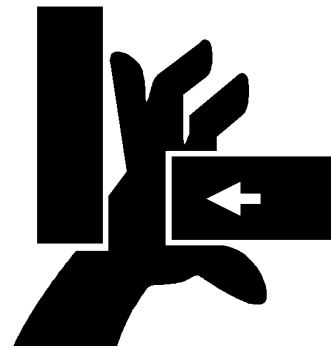
Disengage PTO and shut off tractor engine.

Twine arms can move unexpectedly. Keep hands out of twine arm path to avoid crushing. Turn off power to twine arms **BEFORE** servicing or adjusting twine arms or twine cutter mechanism.

Stay out of the path of twine arms at all times when power to twine arms is **ON**.

NOTE: It can be necessary to adjust twine tension when changing to a different size twine or when changing from sisal to plastic.

Left-hand side (front arm) shown. Right-hand side (rear arm) tension plates are the same.



TS679 — UN — 28SEP89

E47598 — UN — 07JAN00

Continued on next page

PP98408,0000F10 -19-07FEB13-1/3

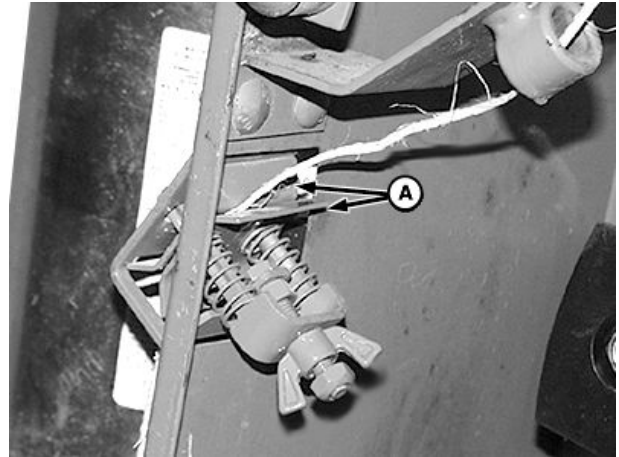
Twine tension is controlled by spring-loaded tension plates (A).

Adjust twine tension while pulling twine perpendicular to end of twine tube.

- If twine tension is too high, the twine cannot start to wrap around the bale or twine can break.
- If twine tension is too loose, the twine cannot hold the bale adequately.

To adjust twine tension:

1. Lower pickup to avoid twine arm from bending pickup teeth.
2. Move twine arms to home position. Make sure that twine is routed correctly. (See ROUTE TWINE—RIGHT-HAND SIDE [REAR ARM] and LEFT-HAND SIDE [FRONT ARM] in Preparing the Baler section.)



Left-Hand Tension Plate Shown

A—Tension Plates (Door Bands)

Continued on next page

PP98408,0000F10 -19-07FEB13-2/3

E54949—UN—25/JAN07

3. Remove crop buildup from tension plates (A) located on door bands and from tension plates (B) located on twine arms.
4. Attach spring scale to twine from rear twine arm (C). Pull twine perpendicular to the twine arm. Twine pull must be within specifications.

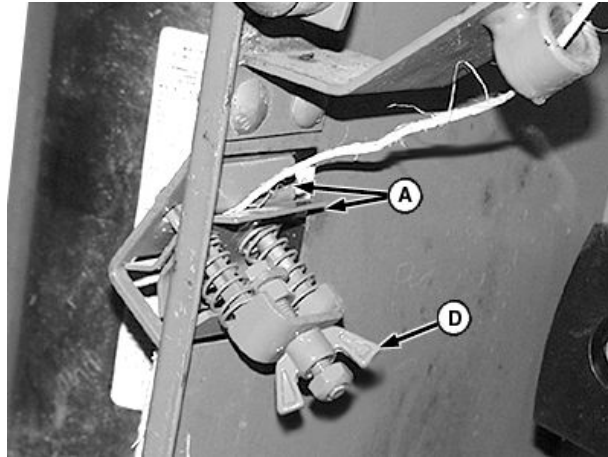
Specification

Twine Pull—Force..... 22—45 N
(5—10 lb.-force)

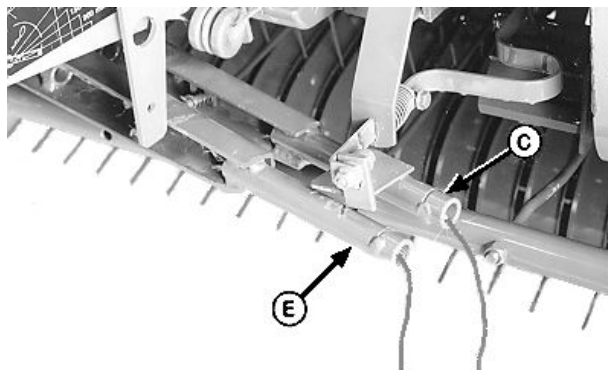
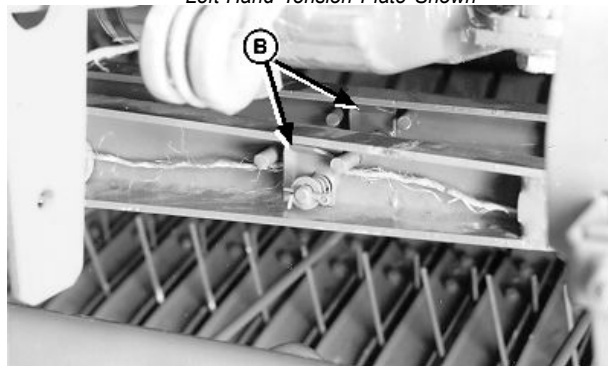
- Tighten wing nut (D) to increase tension on twine.
 - Loosen wing nut (D) to decrease tension on twine.
5. Repeat Step 4 to adjust twine tension for front twine arm (E).
 6. Cut twine 305—381 mm (12—15 in.) beyond end of twine arms (C and E)

A—Tension Plates (Door Bands)
B—Tension Plates (Twine Arms)
C—Rear Twine Arm

D—Wing Nut
E—Front Twine Arm



Left-Hand Tension Plate Shown



PP98408,0000F10 -19-07FEB13-3/3

E47616 —UN—07JAN00

E39752 —UN—17FEB96

E39751 —UN—19FEB96

Adjust Pickup Height

IMPORTANT: Operating with pickup teeth contacting the ground can cause pickup damage.

Operate pickup teeth as high as possible yet harvest field adequately.

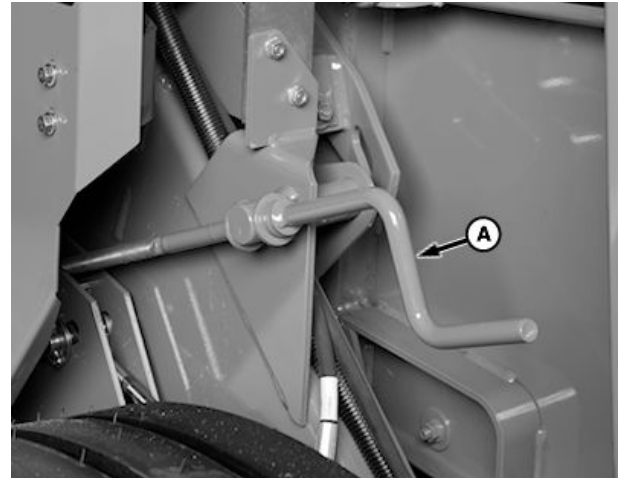
Adjust pickup teeth height to obtain a ground clearance of 25—50 mm (1—2 in.) for an initial setting. The final adjustment will be determined by field conditions.

To adjust pickup height:

- Turn crank (A) clockwise to raise the pickup
- Turn crank (A) counterclockwise to lower the pickup

If baler is equipped with a hydraulic pickup lift, the crank acts as the downstop controlling pickup operating height. This feature allows the pickup to return to the same operating height after raising and lowering hydraulically.

Always raise pickup to transport position when crossing ditches and moving from field to field.



A—Pickup Turn Crank

PP98408,0000F11 -19-14FEB13-1/1

E69413 —UN—12FEB13

Adjust Gauge Wheels

IMPORTANT: Gauge wheels must be positioned so pickup is as high as possible, but still allow the pickup teeth to clean the field adequately. Operating with pickup teeth contacting the ground will cause pickup damage.

NOTE: Pickup gauge wheels are optional on regular pickup.

Three factors determine the adjustment for gauge wheels:

- Tractor drawbar height
- Wheel spindle position
- Baler tire size
- See ADJUST BALER HITCH in Preparing the Baler section.

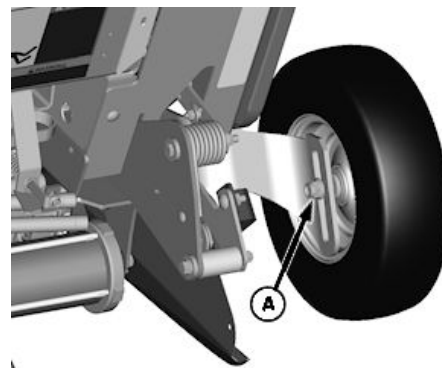
If any one of these factors change, adjust gauge wheels.

Position gauge wheels to operate pickup teeth as high as possible and clean field adequately.

1. Park baler on a level surface. Baler hitch height must match the drawbar height of the tractor used for baling.
2. Loosen lock nut (A) and raise wheel to top of slot. Tighten lock nut. Repeat on opposite side.

IMPORTANT: Distance between the gauge wheel and ground must always be equal to or less than the distance between pickup teeth and ground. If not, gauge wheels will not protect pickup.

3. Adjust pickup until pickup teeth have a minimum of 25 mm (1 in.) ground clearance.



A—Lock Nut

4. Loosen lock nut (A) and lower wheel until it contacts the ground. Tighten lock nut (A). Repeat on opposite side. (Final adjustment will be determined by field conditions.)

IMPORTANT: Pickup float springs must be adjusted after gauge wheels are installed.

5. For initial pickup float spring setting with gauge wheels installed, see ADJUST PICKUP FLOAT in Service—Baler section. If excessive bouncing of the pickup occurs, decrease float spring force as needed.

PP98408,0000F12 -19-07FEB13-1/1

E61044 —UN—13MAR12

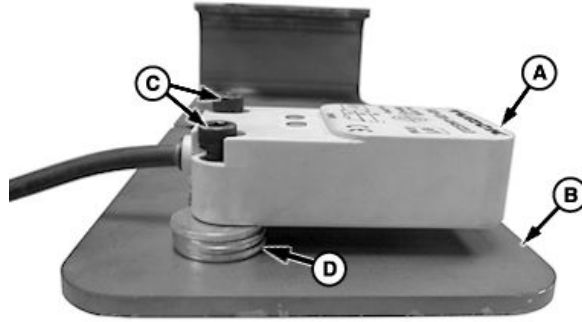
Adjust B-Wrap Sensor

NOTE: Be sure that sensor (A) is straight on bracket as screws are tightened.

1. Sensor (A) is mounted to bracket (B) using screws and lock nuts (C), and washers (D).

A—Sensor
B—Bracket

C—Screw and Lock Nut, M4 x 30 mm (2 used)
D—Washer, 5.3 x 15 x 1.2 mm (4 used per screw)



E69287 —UN—06JAN13

PP98408,000002C -19-04AUG14-1/2

2. Distance between top of sensor (A) and belt (B) **must be** within specification.

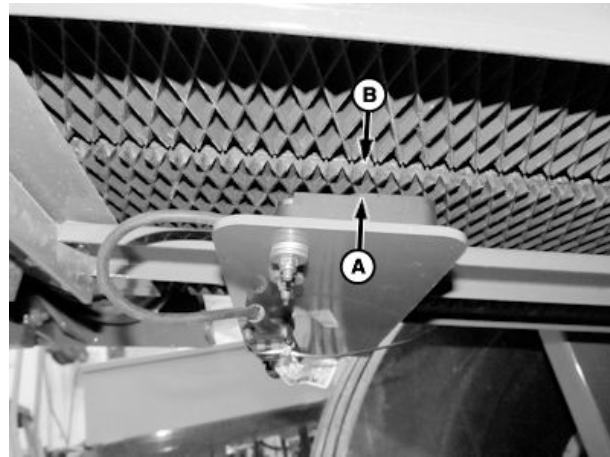
Specification

Sensor-to-
Belt—Distance.....4—8 mm
(0.16—0.31 in.)

Add or remove washers under sensor as needed. If washers need added, add them to the sensor side of the bracket.

A—Sensor

B—Belt



E75422 —UN—23APR14

PP98408,000002C -19-04AUG14-2/2

Adjust Gathering Wheel Height (If Equipped)

IMPORTANT: Gathering wheels must never be in heavy contact with the ground or damage to gathering wheels can occur.

NOTE: Gathering wheels are not available for the MegaWide™ Plus pickup.

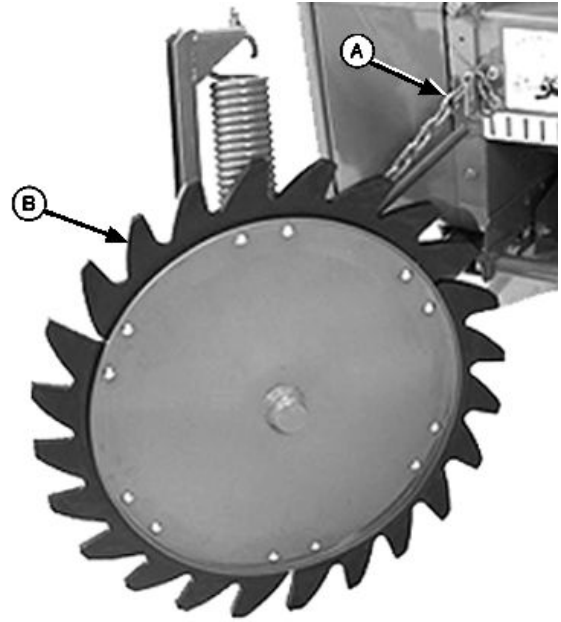
1. Remove chain (A) from chain anchor support and lower wheel (B) to ground.
2. Raise chain (A) one link and install back in chain anchor support. Wheel must be approximately 25 mm (1 in.) from the ground.

If less than one chain link is needed for an adjustment, twist the chain and install back in chain anchor support.

NOTE: Final adjustment will be determined by field conditions.

A—Chain

B—Gathering Wheel



E40021—UN—29MAY96

PP98408,0000F13 -19-07FEB13-1/1

Baler Performance in the Field

A performance check for the baler can be done after baler break-in period of 50 bales.

1. Set tractor tires at least as wide as the baler pickup (inside tire-to-tire dimension). (See ADJUST TRACTOR WHEELS in Preparing the Tractor section.)
2. Form a uniform windrow full width of baler pickup long enough to make one complete bale. Windrow width must be:
 - 459 and 459S; 1.22 m (4 ft.)
 - 559 and 559S; 1.52 m (5 ft.)
3. Run tractor at 1800—2000 rpm. Certain crop conditions can require reduced engine speed and

shifting transmission to higher gear to increase ground speed. Select a gear that will be approximately 6—8 km/h (4—5 mph).

4. Bale windrow. Observe the bale shape bar on the monitor-controller.
 - As the bale is being formed, the bale shape bars must be able to reach 24 bars when the respective side of the chamber is full.
5. Bale must be tight with uniform density and even on both corners. If not, see Troubleshooting section.

PP98408,0000F14 -19-07FEB13-1/1

Lock the Gate

CAUTION: While working inside or around the baler with an open gate, the tension arm must be fully raised and against its stops and gate lock lever must be moved to locked position. Use this safety feature anytime the gate is open.

Engage gate lock before working on or around gate in raised position. **ALWAYS** raise gate fully and lower to desired height before engaging gate lock. Failure to do this can result in serious injury or death.

Close the gate anytime the baler must be left unattended.

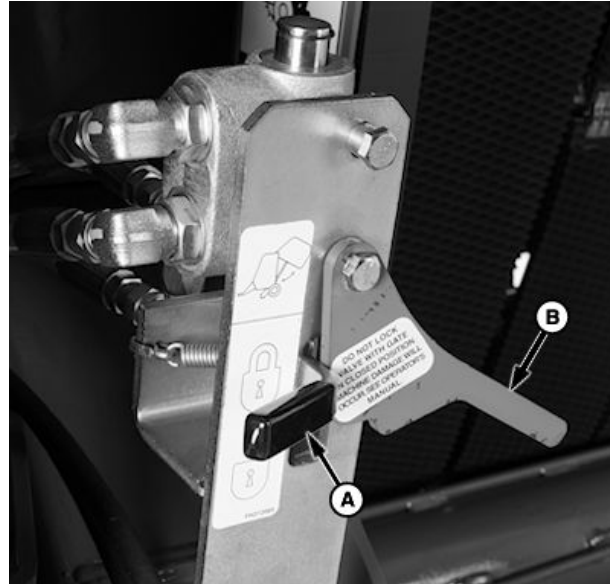
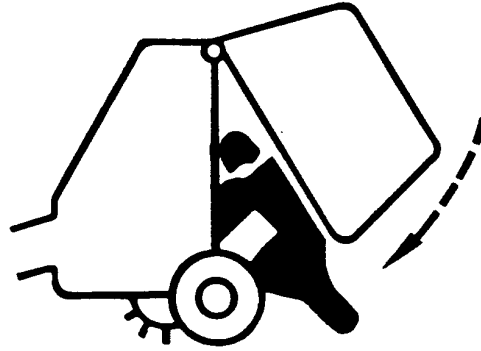
The gate lock valve locks each gate lift cylinder independently with gate in any position. If the hydraulic lift system failed on one side of machine, the gate would still be held open by the other side.

When locking the gate in any position:

1. Raise gate fully.
2. Lower gate to desired height.
3. Rotate interlock lever (B) and move gate lock lever (A) to locked position (shown).
4. Verify that tension arm is fully raised and against its stops.

IMPORTANT: Before operating baler, (GATE CLOSED) make sure that gate lock lever is in the **UNLOCKED** position. Operating baler with gate lock engaged will damage baler.

If gate lock lever can be moved to locked position with gate fully closed, interlock lever (B) is not adjusted properly. (See CHECK GATE LOCK VALVE INTERLOCK LEVER ADJUSTMENT in Preparing the Baler section.)



A—Gate Lock Lever

B—Interlock Lever

TS688 —UN—21SEP89

E67269 —UN—09AUG12

PP98408,0000F15 -19-07FEB13-1/1

Unplug Pickup

1. Back clear of windrow.

NOTE: MegaWide™ Plus pickups require low engine rpm to reset pickup slip clutch. Also, bump the PTO on and off to work the plug through.

2. Regular pickup only: Operate tractor at 1500—2100 rpm and engage PTO.

IMPORTANT: Do not prolong operating a raised pickup to clear the baler or the pickup drive can be damaged.

3. Raise and lower pickup a couple times by moving tractor selector valve.
4. If baler does not clear, shut off PTO and tractor. (See UNPLUG BALER UNDER POWER in this section.)
5. If baler clears, return pickup to operating height and continue baling.

PP98408,0000F16 -19-07FEB13-1/1

Start a Bale in Difficult Conditions

1. See BALE SHORT, DRY, SLICK CROPS; BALE CORNSTALKS; BALE WET HAY; and BALE LONG, STIFF, CANE-TYPE CROPS in this section.

2. Regular Pickup; Check pickup belt tension and condition. (See ADJUST PICKUP BELT IDLER in Service—Baler section.)

MegaWide™ Plus Pickup; Check pickup slip clutch. (See CHECK PICKUP SLIP CLUTCH TORQUE in Service—Baler section.)

3. Check for broken or missing pickup teeth.
4. To ensure smooth uninterrupted crop flow while starting a bale, try the following:
 - Select a gear that will give 6—8 km/h (4—5 mph) forward travel speed at rated PTO speed.
 - Reduce tractor engine speed to slow idle (900—1200 rpm) when starting the bale.
 - Drive forward at least 3 m (10 ft.) without stopping to allow enough crop into the baler to start rolling.
 - Resume rated PTO speed.

5. If windrows are wide and ropy, do the following:
 - a. Operate pickup as high as practical.
 - b. Start in a slow gear, allowing crop to feed in from the sides.
 - c. Approach windrow with crop centered on pickup to reduce plugging at crop dividers. Do not cut across the windrow.
 - d. Travel forward slowly, as needed, to allow material to feed smoothly.
6. Use variable core feature, if equipped, for long, stiff, cane-type crops.
7. Make windrows narrower than the bale chamber width and avoid getting crop under deflectors to improve bale starting in crops such as bahia grass, coastal bermuda grass, sudex, sudan grass, and star grass.
8. Check belt and starter roll bars for excessive wear that can contribute to bale starting problems. (See CHECK PICKUP TOOTH END PLAY in Service—Baler section.)

PP98408,0000F17 -19-07FEB13-1/1

Bale Short, Dry, Slick Crops

CAUTION: DO NOT TAKE CHANCES! To avoid injury or death by being pulled into the machine:

Do not attempt to feed crop or twine into baler or unplug feed area while baler is running. The baler feeds material faster than you can release it.

Disengage PTO and shut off engine.

To reduce plugging try one or more of the following techniques:

1. Regular Pickup: Check pickup belt tension and condition. (See ADJUST PICKUP BELT IDLER in Service—Baler section.)
MegaWide™ Plus Pickup: Check pickup slip clutch. (See CHECK PICKUP SLIP CLUTCH TORQUE in Service—Baler section.)
2. Check for missing or broken pickup teeth.
3. Raise pickup as high as practical.
4. Reduce engine speed to 1500 rpm or below (reduces chaffing) and shift transmission to higher gear to maintain ground speed.
5. If equipped with variable core valve, reduce bale density as necessary.

See OPERATE VARIABLE CORE VALVE in one of the following sections:

- Operating Baler with BaleTrak™ Pro System
6. Regular Pickup Only: Remove individual compressor rods, leaving one center rod and one rod on each end of the cross tube. If material still accumulates, remove compressor rack. **Always replace compressor rack under normal conditions.** (See REMOVE or INSTALL COMPRESSOR RACK in Service—Baler section.)
 7. Make larger windrows (rake together as necessary), but keep windrows narrower than bale chamber width.
 8. Disengage PTO anytime crop is not being fed into baler, such as turns and field borders.
 9. Regular Pickup Only: In short, dry conditions, it can be necessary to lower the baler. (See WHEEL SPINDLE POSITIONS in Preparing the Baler section.)
 10. Adjust pickup float springs to provide more force (float). (See ADJUST PICKUP FLOAT SPRINGS in Service—Baler section.)
 11. When baling dry straw, it can be necessary to place twine across full width of bale or use net wrap (if equipped) to prevent straw from coming out of feed opening while tying. (See DRY STRAW TWINE WRAP PROGRAM [ADVANCED OPERATION INFORMATION] [CHANNEL 002] in this section.)

NOTE: Recommended Wraps



TS679—UN—26SEP89

Bales stored with less than two wraps of net can be damaged by handling or weather conditions.

Different crops require a different number of wraps for effective baling.

Minimum recommendations are:

- 2 Wraps for Hay
- 3 Wraps for Straw, Wheat Hay, and Cereal Grains
- 4 Wraps for Corn Stalks, Sudex, Hay Grazer, and Milo Stalks

NOTE: If baler is equipped with slip clutch alert and it is turned on, net and twine wrapping is automatically adjusted as rpm is changed. Thus, no change is needed on the monitor.

12. If machine rpm is less than rated PTO speed, use the following charts as a guideline for desired wraps.

NET WRAP CHART		
Engine rpm	Desired No. Of Wraps	Approximate Monitor Setting Needed
Rated PTO	2	2
	3	3
1800 rpm	2	2.4
	3	3.6
1500 rpm	2	2.9
	3	4.3
1300 rpm	2	3.3
	3	5.0

TWINE WRAP CHART		
Engine rpm	Mechanical Setting	Monitor-Controller Setting
Rated Speed	10 cm (4.0 in.)	10 cm (4.0 in.)
1800 rpm	10 cm (4.0 in.)	9 cm (3.5 in.)
1500 rpm	10 cm (4.0 in.)	8 cm (3.0 in.)
1300 rpm	10 cm (4.0 in.)	6 cm (2.5 in.)

If bales fail to start rotating due to one or both sides of the windrow extending outside width of bale chamber, try the following suggestions:

1. Make windrows narrower than bale chamber width, even with MegaWide™ Plus pickup.

Continued on next page

PP98408,0000F18 -19-20MAR13-1/2

2. Center baler over windrow while starting, to avoid getting crop under the crop dividers.

PP98408,0000F18 -19-20MAR13-2/2

Bale Cornstalks

CAUTION: DON'T TAKE CHANCES! To avoid injury or death by being pulled into the machine:

Do not attempt to feed crop or twine into baler or unplug feed area while baler is running. The baler feeds material faster than you can release it.

Disengage PTO and shut off engine.

1. Cut or rake stalks before baling to improve pickup tooth life.
2. Do not rake more than six rows together or plugging can occur at the pickup area. Higher Productivity can be obtained by baling smaller windrows at faster ground speeds. Avoid crowding the edges of the windrow and avoid windrows wider than the baler chamber to reduce plugging at the crop dividers.
 - Since cornstalks tend to roll and spread out in front of the pickup, windrows 1/2—3/4 the width of the bale chamber usually do not require weaving, and reduce plugging at crop dividers.
 - Windrows less than 1/2 the width of the bale chamber, and normal weaving allows one side of the pickup to clear as the other side is feeding.
 - Let shredded cornstalk windrows sit overnight if possible. Windrows will settle overnight gaining moisture which will improve feeding and reduce wear on pickup components.
3. Maintain rated PTO speed for most cornstalk baling conditions, to facilitate a regular flow to the bale chamber.
4. If equipped, remove starter roll scraper.
5. MegaWide™ Plus pickup: Unhook both pickup baffle torsion springs allowing compressor rack to hold the crop down on the pickup and facilitate regular crop flow.
6. Check for missing or broken teeth. Replace if necessary.
7. Regular Pickup; Check pickup belt tension and condition. (See ADJUST PICKUP BELT IDLER in Service—Baler section.)

MegaWide™ Plus pickup; Check pickup slip clutch. (See CHECK PICKUP SLIP CLUTCH TORQUE in Service—Baler section.)
8. Add extra compressor rods if cornstalks push up between existing rods and cause plugging.
9. Install the following kits to increase productivity even further:
 - Cornstalk Feeding Enhancement Kit (559 and 559S only).
 - Pickup Filler Plates for Cornstalks (MegaWide™ Pickup Only).



TS679—UN—26SEP89

- Hydraulic Pickup Lift Kit (See Attachments section).

NOTE: Recommended Wraps

Bales stored with less than two wraps of net can be damaged by handling or weather conditions.

Different crops require a different number of wraps for effective baling.

Minimum recommendations are:

- 2 Wraps for Hay
- 3 Wraps for Straw, Wheat Hay, and Cereal Grains
- 4 Wraps for Corn Stalks, Sudex, Hay Grazer, and Milo Stalks

NOTE: If baler is equipped with slip clutch alert and it is turned on, net and twine wrapping is automatically adjusted as rpm is changed. Thus, no change is needed on the monitor.

10. If machine rpm is less than rated PTO speed, use the following charts as a guideline for desired wraps.

NET WRAP CHART		
Engine rpm	Desired No. Of Wraps	Approximate Monitor Setting Needed
Rated PTO	2	2
	3	3
1800 rpm	2	2.4
	3	3.6
1500 rpm	2	2.9
	3	4.3
1300 rpm	2	3.3
	3	5.0

TWINE WRAP CHART		
Engine rpm	Mechanical Setting	Monitor-Controller Setting
Rated Speed	10 cm (4.0 in.)	10 cm (4.0 in.)
1800 rpm	10 cm (4.0 in.)	9 cm (3.5 in.)
1500 rpm	10 cm (4.0 in.)	8 cm (3.0 in.)
1300 rpm	10 cm (4.0 in.)	6 cm (2.5 in.)

PP98408,0000F19 -19-20MAR13-1/1

Bale Long, Stiff, Cane-Type Crops

CAUTION: DON'T TAKE CHANCES! To avoid injury or death by being pulled into the machine:

Do not attempt to feed crop or twine into baler or unplug feed area while baler is running. The baler feeds material faster than you can release it.

Disengage PTO and shut off engine.

If bales fail to start rotating due to crop wedging into top of starting chamber, try the following suggestions:

1. Regular Pickup; Check pickup belt tension and condition. (See ADJUST PICKUP BELT IDLER in Service—Baler section.)
MegaWide™ Plus Pickup; Check pickup slip clutch. (See CHECK PICKUP SLIP CLUTCH TORQUE in Service—Baler section.)
2. Condition crop as much as possible so stems will bend and form bale core without wedging.
3. Make windrows narrower than bale chamber width.
4. Approach windrow with crop centered in pickup.
 - Avoid getting crop under crop dividers.
5. Approach windrow at an angle and immediately turn and drive forward.
 - This allows stems to bend and start bale core.
 - Avoid getting crop under crop dividers.
6. If equipped with hydraulic pickup lift, raise and lower pickup during bale starting. This is done at reduced ground speed.
7. Travel forward at least 3 m (10 ft.) without stopping to allow enough crop into baler to start rolling.
8. Use variable core feature, if equipped, to form bale core with less belt tension.
9. Surface moisture on bottom of windrow causes crop to slip more easily against forming belts. Turn windrows with a rake or tedder to improve bale starts.

NOTE: Recommended Wraps

Bales stored with less than two wraps of net can be damaged by handling or weather conditions.

Different crops require a different number of wraps for effective baling.

Minimum recommendations are:



- 2 Wraps for Hay
- 3 Wraps for Straw, Wheat Hay, and Cereal Grains
- 4 Wraps for Corn Stalks, Sudex, Hay Grazer, and Milo Stalks

NOTE: If baler is equipped with slip clutch alert and it is turned on, net and twine wrapping is automatically adjusted as rpm is changed. Thus, no change is needed on the monitor.

10. Reduce bale density or use variable (soft) core feature. (See ADJUST BALE DENSITY or ADJUST VARIABLE (SOFT) CORE DIAMETER in this section.) Reduced belt tension allows belts to deflect and start bale.
11. If machine rpm is less than rated PTO speed, use the following charts as a guideline for desired wraps.

NET WRAP CHART		
Engine RPM	Desired No. Of Wraps	Approximate Monitor Setting Needed
Rated PTO	2	2
	3	3
1800 RPM	2	2.4
	3	3.6
1500 RPM	2	2.9
	3	4.3
1300 RPM	2	3.3
	3	5.0

TWINE WRAP CHART		
Engine rpm	Mechanical Setting	Monitor-Controller Setting
Rated Speed	10 cm (4.0 in.)	10 cm (4.0 in.)
1800 rpm	10 cm (4.0 in.)	9 cm (3.5 in.)
1500 rpm	10 cm (4.0 in.)	8 cm (3.0 in.)
1300 rpm	10 cm (4.0 in.)	6 cm (2.5 in.)

PP98408,0000F1A -19-20MAR13-1/1

T5679—UN—28SEP89

Bale Wet Hay

CAUTION: DON'T TAKE CHANCES! To avoid injury or death by being pulled into the machine:

Do not attempt to feed crop or twine into baler or unplug feed area while baler is running. The baler feeds material faster than you can release it.

Disengage PTO and shut off engine.

If bales fail to start rotating due to windrows being wet on the bottom, try the following suggestions:

1. Regular Pickup; Check pickup belt tension and condition. (See ADJUST PICKUP BELT IDLER in Service—Baler section.)
MegaWide™ Plus Pickup; Check pickup slip clutch. (See CHECK PICKUP SLIP CLUTCH TORQUE in Service—Baler section.)
2. Increase feed opening by:
 - Lowering pickup as low as practical.
 - Make sure that wheel spindles are in normal position. (See WHEEL SPINDLE POSITIONS in Preparing the Baler section.)
3. Reduce tractor engine speed to slow idle (900—1200 rpm) while starting.
4. Approach windrow with crop centered on pickup to reduce plugging at crop dividers. Do not cut across the windrow.
5. Travel forward at least 3 m (10 ft.) without stopping to allow enough crop into the baler to start rolling.
6. Resume rated PTO speed.
7. Be sure that the tractor drawbar pin or hitch parts are not dragging and bunching the windrow. Use drawbar shielding as necessary.
8. Surface moisture on bottom of windrow causes crop to slip more easily against forming belts. Turn windrows with a rake or tedder to improve bale starts.
9. If not equipped, consider installing Silage Auger Kit to reduce wet crop buildup on belts and rollers.



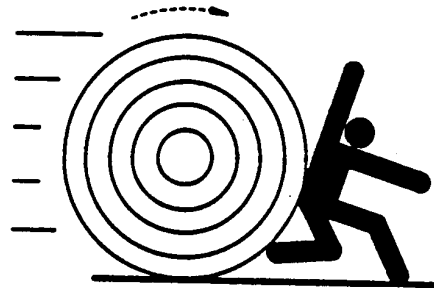
TS679 —UN—26SEP89

PP98408,0000F1B -19-20MAR13-1/1

Operate Baler With Bale Ramp (If Equipped)

CAUTION: To prevent injury or damage from a rolling bale, discharge bales on level ground or in such a manner that the bale will not roll.

Optional bale ramp allows the bale to roll away from the baler, minimizing the need to stop and reverse the tractor to eject the bale on level or moderately rolling terrain.



E32692 —UN—06DEC88

Continued on next page

PP98408,0000F1C -19-07FEB13-1/2

1. Form and wrap bale as usual.
2. Raise gate to eject bale. Hold tractor hydraulic lever until gate is fully raised. Do not stop gate while raising.

As gate is raising, hydraulic oil from tensioning valve is diverted through an add-on regulator valve to a hydraulic cylinder attached to bale ramp. Bale ramp tilts just before gate is fully open, causing the bale to roll away from the baler. Regulator valve is adjustable to set gate-to-bale ramp timing. (See ADJUST BALE RAMP [IF EQUIPPED] in this section.)

3. Push forward on tractor SCV lever to tilt bale ramp (to horizontal position) and close baler gate.
4. After gate is closed, continue baling operation.



E65276 —UN—23MAY12

PP98408,0000F1C -19-07FEB13-2/2

Understand Bale Ramp Regulator (Relief) Valve

The bale ramp uses baler hydraulics with an add-on regulator valve to direct oil flow to a hydraulic cylinder attached to bale ramp.

When operator pulls tractor SCV lever rearward, hydraulic oil from tractor flows through baler tensioning valve, gate lock valve, and base end of gate cylinders, raising gate.

As gate raises (gate cylinders extend), pressure in the gate raising circuit increases. When this pressure reaches the setting of the ramp regulator valve, oil flows to the ramp cylinder, and front of ramp will raise. *The gate cylinders must be almost extended before front of ramp raises.*

When operator pushes tractor SCV lever forward, gate cylinders retract and return oil from ramp cylinder flows through an internal check valve (within regulator valve), causing ramp to return (cylinder retracts).

Initial adjustment of relief valve (4-1/2 turns in from fully out) gives approximately 8274—10342 kPa (82.74—103.42 bar) (1200—1500 psi). At this setting, gate must be almost fully raised when front of bale ramp raises.

Adjusting the relief valve clockwise will delay the timing of the ramp.

NOTE: For further information, see **ADJUST BALE RAMP (IF EQUIPPED)** in this section.

PP98408,0000F1D -19-07FEB13-1/1

Adjust Bale Ramp (If Equipped)

IMPORTANT: Bale ramp regulator valve must be adjusted to initial setting (set for heaviest bale) before operating gate and bale ramp.

Initial setting:

- Loosen jam nut.
- Turn valve stem fully counterclockwise, then turn valve stem clockwise 4-1/2 turns. (*Final adjustment will be determined by field operation.*)
- Tighten jam nut.

Check operation of bale ramp by slowly opening and closing gate fully using tractor hydraulics.

Check initial timing setting by opening the gate and observing ramp operation. Gate must be almost fully raised before ramp tilts.

To adjust gate-to-ramp timing:

1. Loosen jam nut.
2. Turn valve stem in or out approximately 1/4 turn at a time to regulate oil flow, changing gate-to-ramp timing.
 - If ramp tilts too soon, delay timing (decrease oil flow) by turning valve stem clockwise approximately 1/4 turn at a time. Recheck timing.
 - If ramp does not tilt, advance timing (increase oil flow) by turning valve stem counterclockwise approximately 1/4 turn at a time. Recheck timing. *This will cause ramp to tilt sooner and provide more pressure to lift heavy bales.*
3. Tighten jam nut.
4. Start tractor engine and recheck timing. Adjust as necessary.

PP98408,0000F1E -19-07FEB13-1/1

Attachments

Pickup Gauge Wheels (459 and 559 with Regular Pickup)

NOTE: Gauge wheels are standard equipment on the MegaWide™ Plus pickup.

Improves pickup flotation in uneven terrain.



E54315 —UN—22JUN05

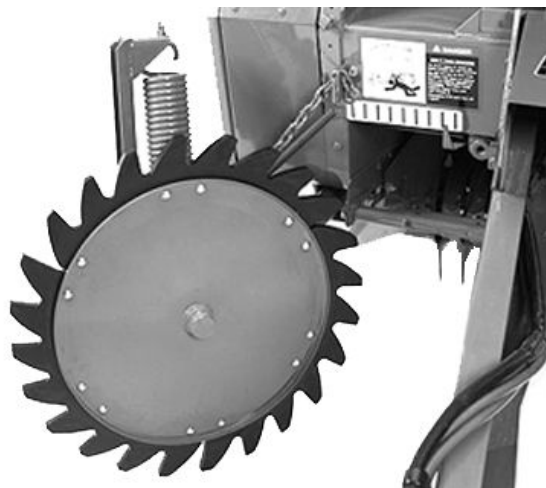
PP98408,0000F1F -19-07FEB13-1/1

Gathering Wheels

NOTE: If equipped with MegaWide™ Plus pickup, gathering wheels are not required.

Helps reduce crop loss in uneven windrows. The wheels also have a special feature to minimize damage from hitting obstructions.

Gathering wheels are mounted on each side of baler in front of the pickup.



E40020 —UN—29MAY96

PP98408,0000F20 -19-07FEB13-1/1

Hi-Flotation Tires

Hi-flotation tires reduce ground compaction.

21.5L x 16.1 tires are standard on 559S and available for 459, 459S, and 559 balers with MegaWide™ Plus pickups.



21.5L x 16.1 Tires

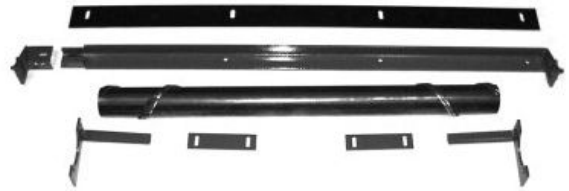
E62049 —UN—30MAR12

PP98408,0000F21 -19-07FEB13-1/1

High-Moisture Kit (459 and 559)

For use when baling high-moisture crops.

- Reduces wrappage of wet hay on the starter roll and staggered belt roll.
- Improved scraper bar with machined sharpened knife that scrapes crop from starter roll
- Spirals and scrapers add additional cleaning of wet crop from the staggered roll.



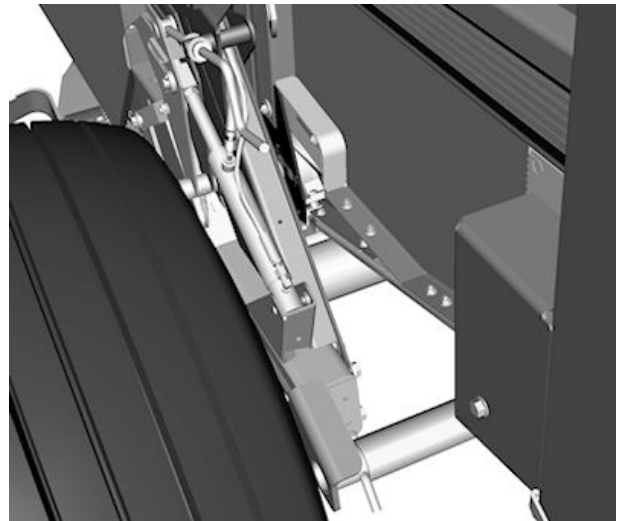
E52768 —UN—18AUG03

PP98408,0000F22 -19-07FEB13-1/1

Hydraulic Pickup Lift

The hydraulic pickup lift allows operator to lift pickup for transport from the tractor seat. Hydraulic lines attach to tractor hydraulic system. Tractor must be equipped with a second set of hydraulic outlets.

The baler pickup lift crank allows pickup to return to a preset height when pickup is lowered.



E66530 —UN—10JUL12

PP98408,0000F23 -19-07FEB13-1/1

Hydraulic Bale Ramp

Allows bale to roll away from baler eliminating the need to back up when ejecting the bale, except on sloping ground.



E66531 —UN—10JUL12

PP98408,0000F24 -19-07FEB13-1/1

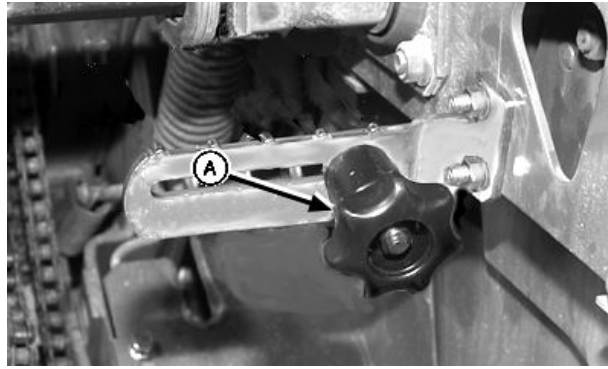
Adjustable Twine Guides

NOTE: For 459 and 459S baler, only a left-hand twine guide is used. 559 baler uses two twine guides.

Adjustable twine guides (A) are used to move the placement of the twine closer to the center of the bale. This is especially useful when baling slick grasses and straw.

Twine end wrap distance from end of bale can be adjusted 89—190 mm (3-1/2—7-1/2 in.) at 25 mm (1 in.) increments.

A—Twine Guide



Right-Hand Side Shown

E46440—UN—17MAR99

PP98408,0000F25 -19-07FEB13-1/1

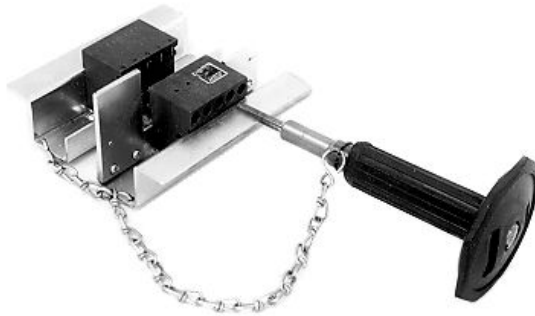
Belt Lacing Tool

For repairing failed splices or for splicing broken belts.

Allows tight, even spacing of segments when repairing belts.

For further information or to order belt lacing tool, phone or write to:

MATO Corporation
P.O. Box 7268
Beckley, West Virginia 25926-0268
Telephone: (800) 344-6286
Fax: (304) 255-2501



E39821—UN—21MAR96

PP98408,0000F26 -19-21FEB13-1/1

Skiving Tool

Enables easy removal of rubber layers on belts in preparation for belt splicing.



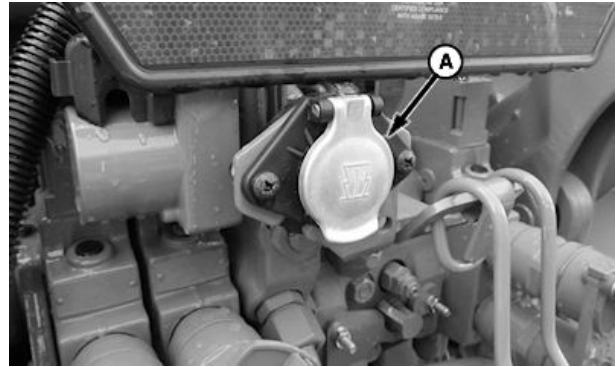
E39822—UN—21MAR96

PP98408,0000F27 -19-07FEB13-1/1

Electrical Outlet Socket

This seven-terminal auxiliary outlet socket (A) can be installed on tractors to plug in electrical equipment such as the tail or warning light plug.

**A—Seven-Terminal Auxiliary
Outlet Socket**



E65910 —UN—14JUN12

PP98408,0000F28 -19-07FEB13-1/1

Extended Rear-View Mirror

To improve visibility of traffic behind the baler, an extended mirror is recommended. See your John Deere dealer.



E63790 —UN—15JUN12

PP98408,0000F29 -19-07FEB13-1/1

Right-Hand Rear-View Mirror

Install mirror on right-hand side of tractor to see bale shape indicators and bale size indicator while baling.



E63789 —UN—15JUN12

PP98408,0000F2A -19-07FEB13-1/1

Variable Core Valve—BaleTrak™ Pro System

Reduces hydraulic pressure for easier bale starts in difficult conditions.

Reduces core density and is adjustable for soft core size.

Operator can engage, disengage, or adjust conveniently from the tractor seat using the BaleTrak™ Pro monitor-controller.



E40323 — UN—13JUN96

PP98408,0000F2B -19-07FEB13-1/1

COVER-EDGE™ Surface Wrap Unit

NOTE: Surface Wrap Unit is available only for machines equipped with the BaleTrak™ Pro monitor-controller system.

Wraps rolling surface of bale for a smooth weather resistant surface.

Increases baler productivity and improves ability to retain higher hay quality in storage.

Wrap time is reduced to only two turns of the bale (approximately six seconds or less), reducing loss of leaves and short material. Complete wrap and ejection time for full-size bales is approximately 20 seconds or less.

Twine is not required when using surface wrap. Net material clings to itself and holds the bale.

Operator can select twine or surface wrap application conveniently from the tractor seat using the BaleTrak™ Pro monitor-controller.

The roll of surface wrap is loaded in the unit at the back of the baler, making it easy to load.



E48204 — UN—21JUN00

PP98408,0000F2C -19-30SEP15-1/1

BaleTrak™ Pro Monitor-Controller (If Equipped)

A second monitor-controller can be ordered for installation on a second tractor, if desired.



E52436 — UN—16JUN03

PP98408,0000F2D -19-07FEB13-1/1

BaleTrak™ Pro Monitor-Controller Mounting Brackets

Required for installation of monitor-controller on 6000, 7000 and 8000 Series tractors with COMFORTGARD™ operator station, and for John Deere tractors with SOUND-GARD™ operator stations.



For COMFORTGARD™ Operator Station



For SOUND-GARD™ Operator Station

PP98408,0000F2E -19-07FEB13-1/1

E40571 —UN—22JUN96

E40572 —UN—22JUN96

Mounting Kit for Open Station 6000 and 7000 Series Tractors

Required for installation of BaleTrak™ Pro monitor-controller.



PP98408,0000F2F -19-07FEB13-1/1

E40573 —UN—22JUN96

Crop Deflector Kit

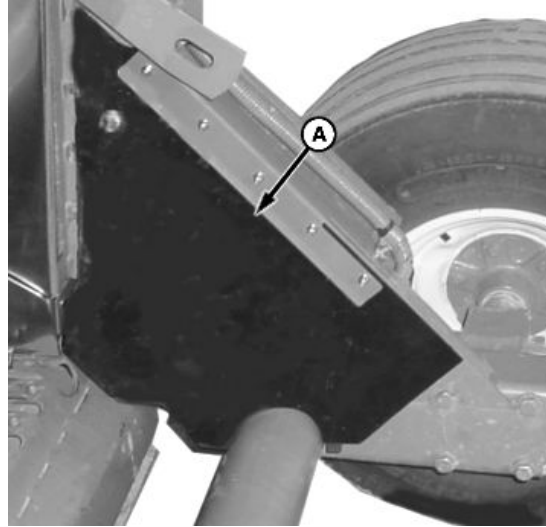
NOTE: Crop deflectors are standard equipment on Regular pickups, **with** COVER-EDGE™ Surface Wrap.

Crop deflectors are optional on Regular pickups, **without** COVER-EDGE™ Surface Wrap.

Crop deflectors are optional on MegaWide™ Plus pickups **with or without** COVER-EDGE™ Surface Wrap.

Prevents crop buildup in corners of baler.

A—Crop Deflector



E64424 —UN—10OCT05

PP98408,0000F30 -19-07FEB13-1/1

Fire Extinguisher

An optional 9.5 L (2-1/2 gal.) pressurized-water fire extinguisher can be mounted in the holes that are provided on the baler. (See ASSEMBLY section.)



E63926 —UN—30APR12

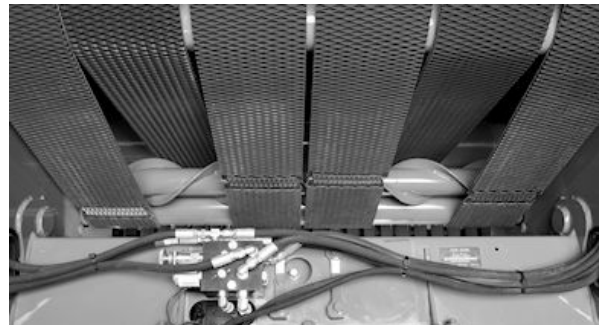
PP98408,0000F31 -19-07FEB13-1/1

Silage Auger Kit

In dry, fluffy crop conditions, this auger kit prevents crop from climbing the front of baler belts.

The silage kit prevents wet crop buildup on rollers and belts. The kit consists of a scraper knife for the starter roll and a chain-driven auger for the front staggered roll.

The Auxiliary Takeup Roll kit is recommended in conjunction with the silage auger kit



E64704 —UN—09MAY12

PP98408,0000F32 -19-07FEB13-1/1

Cornstalk Feeding Enhancement Kit (559 and 559S Only)

Cornstalk compressor rack is designed to improve the feeding of fluffy cornstalk windrows into the baler. The cornstalk compressor rack offers a full complement of compressor rods and utilizes a solid steel shaft to attach the compressor rods, which serves two purposes:

- The shaft withstands the abrasive tough conditions that cornstalk baling demands.
- The solid shaft adds additional weight to the compressor rack helping compress stalks and leaves against the pickup.

This heavy-duty rack is designed for use on 5 ft. wide balers. The conventional compressor rack must be reinstalled when baling other crops.



EE67581 —UN—28AUG12

PP98408,0000F33 -19-07FEB13-1/1

Pickup Filler Plates for Cornstalks (MegaWide™ Plus Pickup Only)

Pickup filler plates are available for MegaWide™ Plus pickups. The filler plates are designed to prevent corn cobs from becoming lodged in pickup strippers. Adding filler plates to a MegaWide™ Plus pickup improves pickup tooth and rotor tine reliability.

Utilization of the corn cob filler plates improves machine reliability in crops with high concentration of cobs and will not affect machine performance in other crop conditions.



EE60882 —UN—22FEB12

PP98408,0000F34 -19-07FEB13-1/1

Allied Equipment

The following Allied equipment is available for the baler from your John Deere dealer:

- Preservative applicator
- Baler's Choice Preservative
- Baler Twine
- Rolls of Net Wrap
- Automatic Chain Oiler
- Net Wrap Light Kit

PP98408,0000F35 -19-07FEB13-1/1

Lubrication and Maintenance

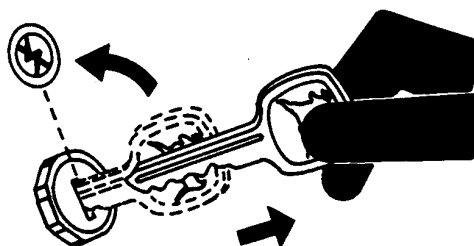
Lubricating and Maintaining Machine Safely

CAUTION: To help prevent personal injury caused by unexpected movement, be sure to service machine on a level surface.

Do not lubricate or maintain the machine while it is in motion.

If machine is connected to tractor, engage tractor park brake and place transmission in Park, shut off engine and remove key.

If machine is detached from tractor, block wheels to prevent movement.



TS230 —UN—24MAY89

PP98408,0000F36 -19-07FEB13-1/1

Grease

Use grease based on NLGI consistency numbers and the expected air temperature range during the service interval.

John Deere SD Polyurea Grease is preferred.

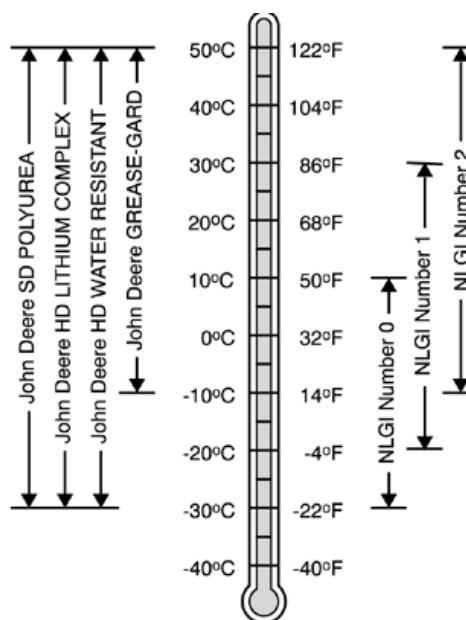
The following greases are also recommended:

- John Deere HD Lithium Complex Grease
- John Deere HD Water Resistant Grease
- John Deere GREASE-GARD™

Other greases may be used if they meet the following:

- NLGI Performance Classification GC-LB

IMPORTANT: Some types of grease thickeners are not compatible with others. Consult your grease supplier before mixing different types of grease.



Greases for Air Temperature Ranges

TS1673 —UN—31OCT03

GREASE-GARD is a trademark of Deere & Company

PP98408,0000F37 -19-07FEB13-1/1

Gear Case Oil

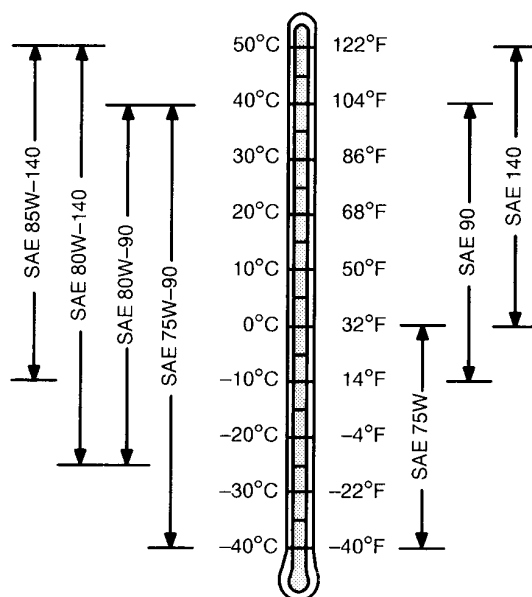
Use oil viscosity based on the expected air temperature range during the period between oil changes.

The following oils are preferred:

- John Deere GL-5 GEAR LUBRICANT
- John Deere EXTREME-GARD™

Other oils can be used if they meet the API Service Classification GL-5.

Arctic oils (such as Military Specification MIL-L-10324A) can be used at temperatures below -30 °C (-22 °F).



EXTREME-GARD is a trademark of Deere & Company.

PP98408,0000F38 -19-07FEB13-1/1

TS1653—UN—14MAR96

Alternative and Synthetic Lubricants

Conditions in certain geographical areas may require lubricant recommendations different from those printed in this manual.

Some John Deere brand coolants and lubricants may not be available in your location.

Consult your John Deere dealer to obtain information and recommendations.

Synthetic lubricants may be used if they meet the performance requirements as shown in this manual.

The temperature limits and service intervals shown in this manual apply to both conventional and synthetic lubricants.

Re-refined base stock products may be used if the finished lubricant meets the performance requirements.

PP98408,0000F39 -19-07FEB13-1/1

Observe Lubrication Symbols

&lubsym; Lubricate with John Deere EP Moly or an equivalent SAE multipurpose-type grease (unless otherwise specified) at hourly intervals indicated on the symbols.

&oilsym; Lubricate with SAE 30 or heavier oil at hourly intervals indicated on the symbols.

&brusym; Brush periodically with John Deere EP Moly or an equivalent SAE multipurpose-type grease.

PP98408,0000F3A -19-07FEB13-1/1

Perform Lubrication and Maintenance

CAUTION: Do not clean, lubricate, or adjust machine while it is in motion.

IMPORTANT: The maintenance intervals recommended are based on normal conditions. Severe or unusual conditions can require more frequent lubrication.

Perform each lubrication and service illustrated in this section at the beginning of the season and at the end of the season.

Clean lubrication fittings before using grease gun. Replace lost or broken fittings immediately. If a new fitting fails to take grease, remove and check for failure of adjoining parts.

PP98408,0000F3B -19-07FEB13-1/1

Fire Prevention

Keep foreign material from building up on the machine near potentially hot areas, such as bearings on the ends of baler rolls and slip-clutch. Remove this buildup as part of the regular service operations and at the end of each use.

Leaf blowers, blower-vacuums, or similar devices can be used to remove loose crop buildup. Compressed air can be used to remove more difficult buildup.

Avoid high-pressure power-washing next to the bearings to prevent damaging seals.

Regularly check bearings for early signs of failure, and replace as indicated. Turn off power to baler and check

for unusual noises, hot parts, smells of scorching, and discolored paint or metal. To check condition of bearings:

- Open gate and lock it.
- With the belts slackened, rotate each of the rollers by hand, paying attention to dry or grinding noises, or rough rotation.
- Push, pull, or gently pry to check bearing radial play.
- Watch and feel for looseness in the bearings.

Soon after operation, the temperature at each bearing location can be checked to see if it is noticeably hotter than the others. Replace worn or damaged bearings.

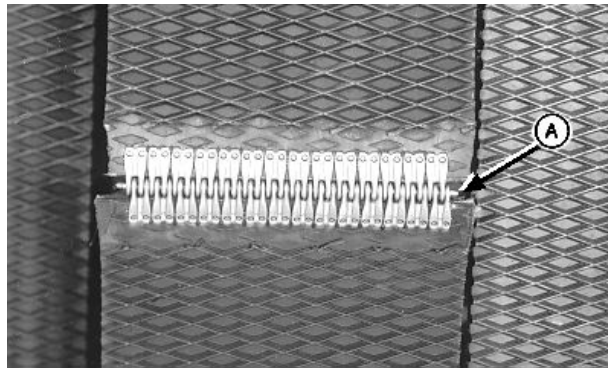
PP98408,0000F3C -19-07FEB13-1/1

As Required - Belt Pins

Check pins (A) for wear or damage every 2000 bales (every 1000 bales in sandy conditions), otherwise broken pins are difficult to remove. Replace pins if broken, or if more than one-third of pin thickness is worn. Do not deform ends of pins when installing new ones.

To remove pin, grip pin with pliers and turn 90 degrees (1/4 turn) before pulling or tapping out.

A—Pins



E39736 —UN—24MAY96

PP98408,0000F3D -19-07FEB13-1/1

As Required - Tension Arm Wear Channels

Check wear channels for groove depth every 5000 bales (every 2500 bales in sandy conditions).

CAUTION: To avoid injury or death caused by unexpected lowering of the gate, engage gate lock before working on, around, or under gate in raised position.

IMPORTANT: Excessive grooves worn into wear channel and tension arm will increase belt edge wear and can wear through tension arm.

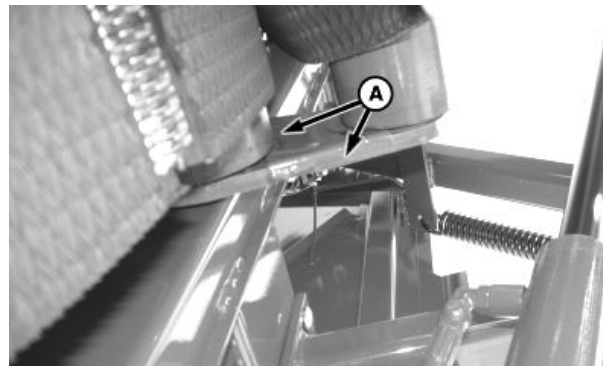
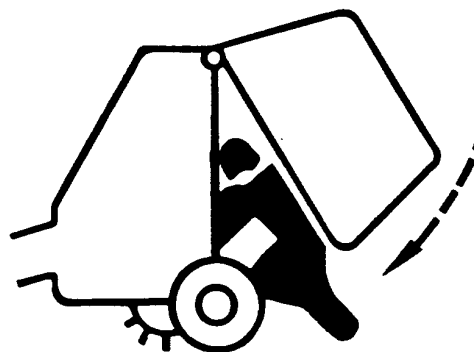
To check for groove depth in wear channels:

1. Fully raise and lock gate.
2. If groove depth (A) exceeds specifications, repair or replace wear channels and tension arm. See your John Deere dealer.

Specification

Maximum Groove	
Depth Worn Into Wear	
Channel and Tension	
Arm—Depth.....	3 mm
	(1/8 in.)

3. Repeat on opposite side.



A—Groove

PP98408,0000F3E -19-07FEB13-1/1

TS698 —UN—21SEP89

E56903 —UN—09MAR09

First 50 Hours

Gear Case

NOTE: Driveline removed for illustration purposes.

Drain and refill gear case after the first 50 hours.

IMPORTANT: Do not over fill gear case as this will result in overheating and oil leakage.

Check level of lubricant with dipstick. Lubricant must fall between grooves on dipstick.

Refill as necessary using SAE 85-140 API GL-5 gear lubricant. Drain and refill gear case once each season.

Specification

Gear Case—Capacity.....	1.2 L
	(1.25 qt.)

Tighten dipstick to specification.



Removing Drain Plug

Specification

Dipstick—Torque.....	29 ± 3 N·m
	(21 ± 2 lb.-ft.)

PP98408,0000F3F -19-07FEB13-1/1

E57911 —UN—25AUG09

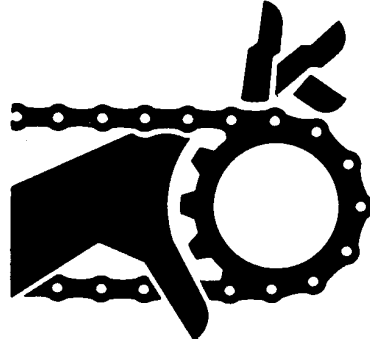
Every 10 Hours

Chains

CAUTION: To help prevent injury, do not lubricate chains with machine running.

Liberal apply SAE 30 or heavier oil to chains every 10 hours of operation.

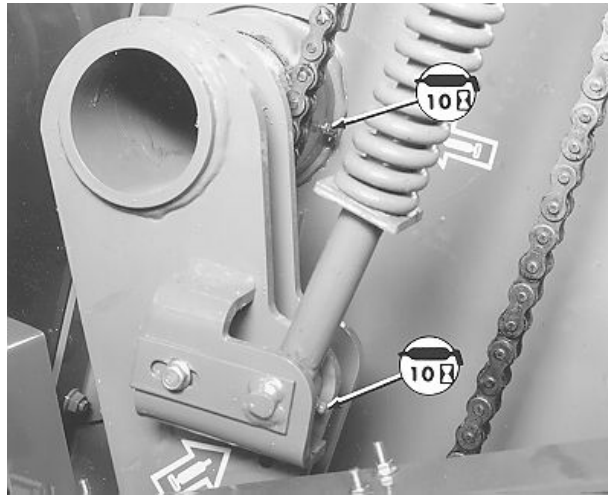
Lubricate chains immediately after operation when the chains are still warm. Let the machine stand idle for a short period to ensure effective oil penetration, resulting in longer chain life.



TS284 —UN—23AUG88

PP98408,0000F40 -19-07FEB13-1/4

Tension Arm Pivots



E39579 —UN—15NOV95

PP98408,0000F40 -19-07FEB13-2/4

Tension Cylinder Rods

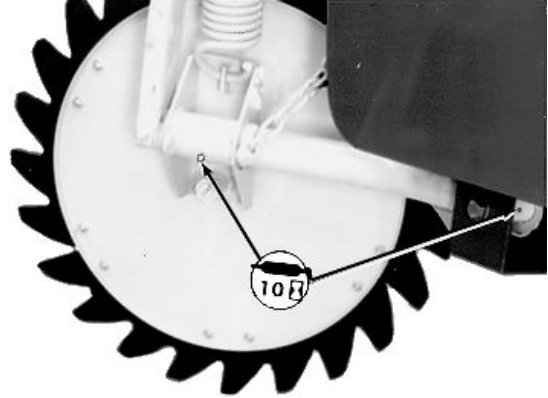


E39583 —UN—15NOV95

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PP98408,0000F40 -19-07FEB13-3/4

Gathering Wheels and Support Pivot (If Equipped)



E39589 —UN—30JUN99

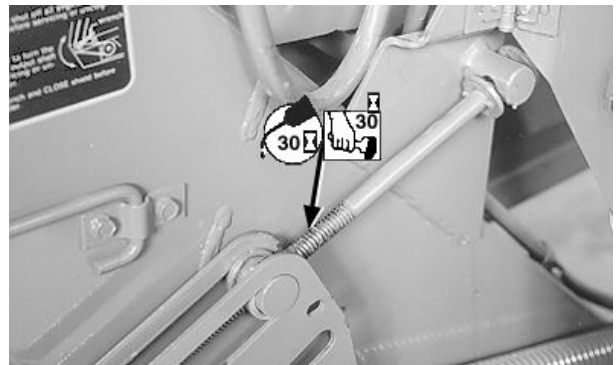
PP98408,0000F40 -19-07FEB13-4/4

Every 30 Hours

Pickup Lift Crank

Lubricate crank threads with SAE 30 or heavier oil, or with John Deere EP Moly or an equivalent SAE multipurpose grease.

A—Pickup Crank Thread



E47610 —UN—07JAN00

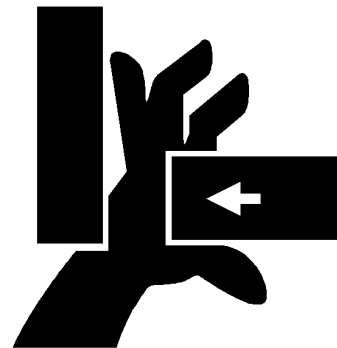
PP98408,0000F41 -19-07FEB13-1/7

Twine Arms and Twine Actuator Rod

CAUTION: Twine arms can move unexpectedly. Keep hands out of twine arm path to avoid crushing. Turn off power **BEFORE** servicing or adjusting twine arms or twine cutter mechanism.

Stay out of the path of twine arms at all times when power to twine arm is ON.

NOTE: Hydraulic cylinder pivot lubrication fitting is on machines equipped with hydraulic actuated twine wrap only.

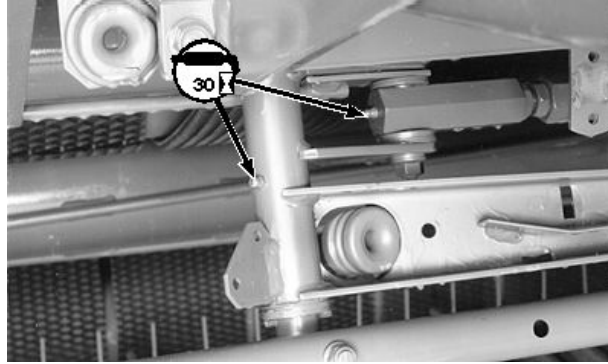


E47598 —UN—07JAN00

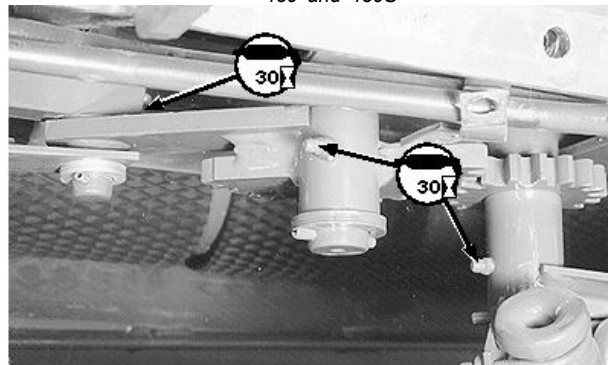
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PP98408,0000F41 -19-07FEB13-2/7

Clean off foreign material or crop buildup from actuator rod.



459 and 459S



559

E39204 —UN—16FEB96

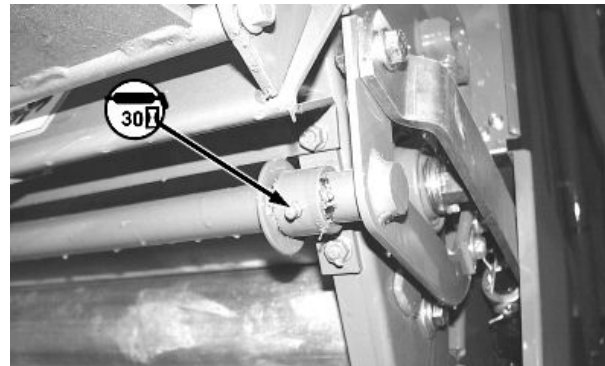
E39264 —UN—19JUN96

PP98408,0000F41 -19-07FEB13-3/7

COVER-EDGE™ Net Wrap Counterknife Arm Pivot (If Equipped)

IMPORTANT: Do not over lubricate counterknife arm pivot lubrication fittings. This will result in grease getting onto the rubber roll, causing wrappage.

Lubrication fittings are located on both left and right-hand sides.



Right-Hand Side Shown

E48340 —UN—12JUL00

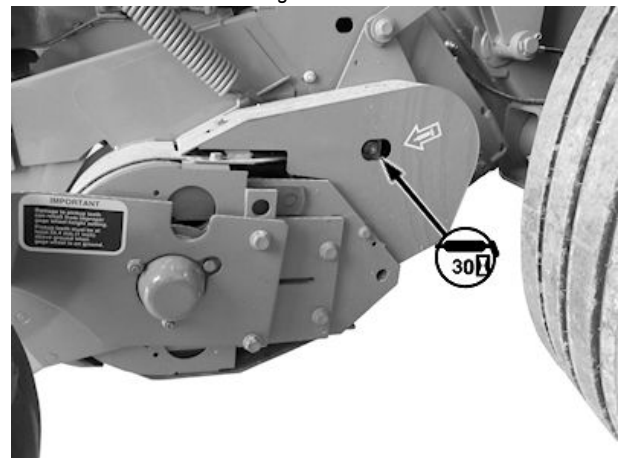
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PP98408,0000F41 -19-07FEB13-4/7

Pickup Idler Arm



Right-Hand Side



Left-Hand Side

PP98408,0000F41 -19-07FEB13-5/7

E61069 —UN—16AUG12

E61070 —UN—16MAR12

Pickup Lift Bellcrank Pivot



Left-Hand Side

Continued on next page

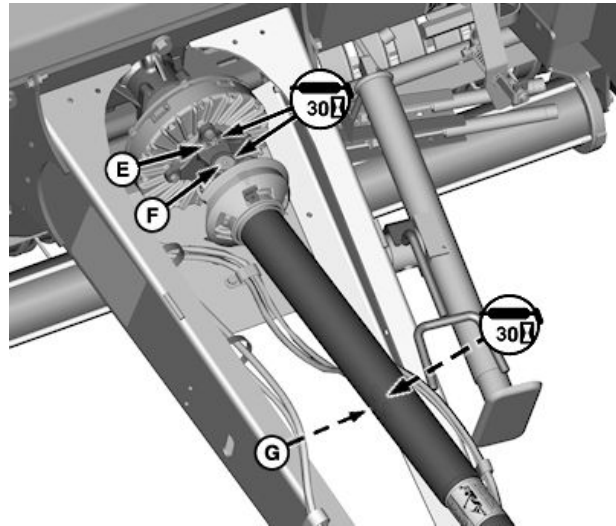
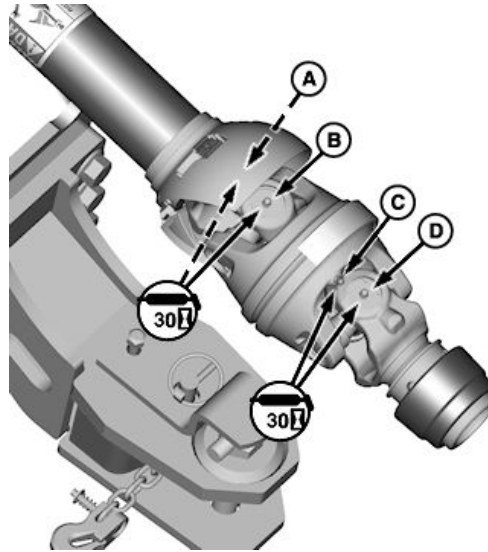
PP98408,0000F41 -19-07FEB13-6/7

E61081 —UN—16MAR12

PTO Driveline

A—5 Pumps
B—5 Pumps
C—30 Pumps
D—5 Pumps

E—5 Pumps
F—5 Pumps
G—10 Pumps



E62422 —UN—09AUG12

E62423 —UN—09AUG12

PP98408,0000F41 -19-07FEB13-7/7

Every 100 Hours

Gear Case

IMPORTANT: Do not over fill gear case as this will result in overheating and oil leakage.

Check level of lubricant with dipstick (A). Lubricant must fall between grooves on the dipstick.

Refill as necessary using SAE 85-140 API GL-5 gear lubricant. Drain and refill gear case once each season.

Specification

Gear Case—Capacity..... 1.2 L
(1.25 qt.)

Tighten dipstick to specification.

Specification

Dipstick—Torque..... 29 ± 3 N·m
(21 ± 2 lb.-ft.)



A—Dipstick

PP98408,0000F42 -19-07FEB13-1/1

E61068 —UN—16MAR12

Annually

Baler Wheel Bearings and Gathering Wheel Bearings (If Equipped)

Remove the wheels; then clean, repack, and adjust bearings. Use John Deere EP Moly or an equivalent SAE multipurpose type grease, or wheel bearing grease.

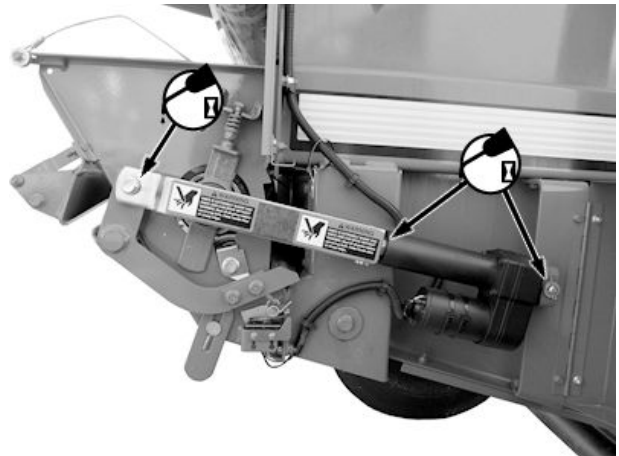


PP98408,0000F43 -19-07FEB13-1/4

E62049 —UN—30MAR12

COVER-EDGE™ Net Wrap Actuator (If Equipped)

Lubricate rod end and base end actuator and link mounting pins with SAE 30 or heavier oil.



Right-Hand Side

Continued on next page

PP98408,0000F43 -19-07FEB13-2/4

E61071 —UN—16MAR12

Gear Case

Drain and refill gear case annually.

NOTE: Driveline removed for illustration purposes.

IMPORTANT: Do not over fill gear case as this will result in overheating and oil leakage.

Check level of lubricant with dipstick. Lubricant must fall between grooves on dipstick.

Refill as necessary using SAE 85-140 API GL-5 gear lubricant. Drain and refill gear case once each season.

Specification

Gear Case—Capacity..... 1.2 L
(1.25 qt.)



Removing Drain Plug

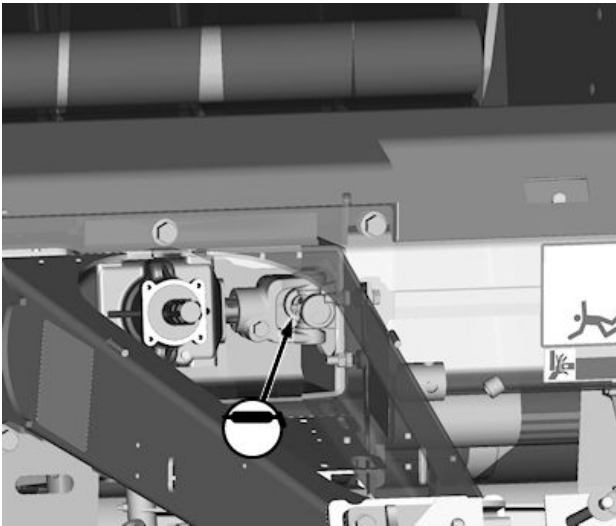
E57911 —UN—25AUG09

PP98408,0000F43 -19-07FEB13-3/4

Gearbox Output Shaft U-Joint

NOTE: Driveline and shields removed for illustration purposes.

Grease lubrication fitting annually or every 250 hours.



E62434 —UN—10APR12

PP98408,0000F43 -19-07FEB13-4/4

Troubleshooting

PTO Driveline Difficulties

Symptom	Problem	Solution
Driveline will not telescope correctly	Shield damaged.	Replace shield.
	Lack of lubrication.	Clean and lubricate.
	Tractor drawbar not installed correctly.	Check dimensions. Install drawbar correctly.
	Driveline bent or twisted.	Replace.
	Telescoping splines galled or worn.	Replace shaft and tube as necessary, apply John Deere EP Moly High-Temperature Grease, or equivalent.
Driveline vibrates excessively	CV joint balls or sockets worn.	Replace worn or damaged parts. Inject with John Deere EP Moly High-Temperature Grease, or equivalent.
	Driveline bent or twisted.	Replace.
	Driveline cross bearings worn.	Replace bearings.
	Constant velocity joint worn or damaged.	Replace worn or damaged parts.
	Splines on tractor shaft worn.	Replace tractor shaft.
Driveline will not stay engaged	Splines on yoke worn.	Replace yoke.
	Worn pawls.	Replace parts.

PP98408,0000F44 -19-07FEB13-1/1

Main Drive Friction Slip Clutch

Symptom	Problem	Solution
Clutch does not slip	Distance between rear plate and pressure plate is less than specifications.	Adjust clutch. (See ADJUST MAIN DRIVE SLIP CLUTCH in Service—Baler section.) Disassemble clutch and clean disk spring.
	Seized or rusted.	Slip the clutch. (See SLIP THE MAIN DRIVE SLIP CLUTCH in Service—Baler section.) Disassemble clutch and clean disk spring.
	Warped pressure plate or clutch disk.	Replace pressure plate or clutch disk. (See your John Deere dealer.)
	Dirt and fine crop builds up between disk spring and pressure plate and does not allow spring to flatten. Drive protection is reduced.	Disassemble main clutch and remove dirt between disk spring and pressure plate whether adjusting or slipping clutch.
Clutch slips excessively	During procedure to slip main clutch, loosening cap screws allows disk spring to widen and fill with dirt. While tightening six cap screws, disk spring will not flatten in areas filled with dirt.	Disassemble main clutch and remove dirt between disk spring and pressure plate whether adjusting or slipping clutch.
	Distance between rear plate and pressure plate is more than 7.1 mm (0.280 in.).	Adjust clutch. (See ADJUST MAIN DRIVE SLIP CLUTCH in Service—Baler section.) Disassemble clutch and clean disk spring.
	Disk spring weak from overheating.	Replace disk spring.
	Worn friction disk.	Replace friction disk. (See your John Deere dealer.)

PP98408,0000F45 -19-07FEB13-1/1

Drive Chain Difficulties

Symptom	Problem	Solution
Prematurely failed drive chains	Lack of lubrication.	Lubricate chains, every 10 hours, after operation when chains are still warm. (See EVERY 10 HOURS in Lubrication and Maintenance section.)
	Operating too tight or too loose.	Adjust chain tension. (See ADJUST LOWER AND UPPER ROLL DRIVE CHAINS in Service—Baler section.)
	Misalignment of drive sprockets and idlers.	Align all sprockets and idlers. (See your John Deere dealer.)
	Main drive friction slip clutch does not slip.	Slip the clutch. (See SLIP MAIN PTO DRIVELINE SLIP CLUTCH in Service—Baler section.) Disassemble clutch and clean disk spring.

PP98408,0000F46 -19-07FEB13-1/1

Gear Case Difficulties

Symptom	Problem	Solution
Gear case noisy	Lack of lubricant.	Check and add fluid if necessary.
	Loose or worn bearings.	See your John Deere dealer.
	Gears not meshing correctly.	See your John Deere dealer.
Gear case excessively hot (Over 105 °C [220 °F])	Oil level too high.	Operate with oil level at mark on dipstick.
	Lack of lubricant.	Check and add fluid if necessary.
	Defective bearings.	See your John Deere dealer.
	Bearings not installed correctly.	See your John Deere dealer.
	Bearings adjusted too tight.	See your John Deere dealer.
Leaking oil	Worn oil seals.	See your John Deere dealer.
	Missing or defective vent.	See your John Deere dealer.
	Oil level too high.	Drain to correct level. Operate with oil level at proper place on dipstick. (See EVERY 100 HOURS in Lubrication and Maintenance section.)
Gears noisy or wear prematurely	Lack of lubrication.	Add oil to correct level or replace worn gears.

PP98408,0000F47 -19-07FEB13-1/1

Diagnose Hydraulic Functions

Symptom	Problem	Solution
Baler will not feed; Hay plugged at feed opening.	Bale density is too high.	Check relief valve. Replace if defective. (See your John Deere dealer.) Adjust variable (soft) core valve (if equipped). (See OPERATE VARIABLE CORE [IF EQUIPPED] in Operating the Baler section.) If not equipped, install variable (soft) core option. (See Attachments section.)
	Gate opens while baling due to internal leakage in system components.	Repair or replace leaking component. (See your John Deere dealer.)
Bale sticks in chamber.	New baler.	Follow break-in instructions in Operating the Baler section.
	Bale density too high.	Check relief valve. Replace if defective. (See your John Deere dealer.)
	Damp crop or buildup on sidesheets.	Clean sidesheets.
	Excessive sidesheet friction.	Check straightness, and straighten front sidesheets of baler. (See your John Deere dealer.)
Bale density too low.	Faulty tension or gate cylinder.	Repair cylinder if leaking. (See your John Deere dealer.)
	Faulty relief valve.	Check relief valve. Replace if defective. (See your John Deere dealer.)
	Damaged O-rings or backup rings on relief or check valves.	Replace. (See your John Deere dealer.)
	Damaged seat or poppet in relief or check valves.	Replace. (See your John Deere dealer.)
	Foreign material keeping check or relief valve poppet from seating.	Clean or replace. (See your John Deere dealer.)
	Dirty hydraulic oil in tractor.	Change tractor filter and oil.
	Belts stretched too long.	Measure belts and replace or shorten if belts are longer than maximum listed. (See REPAIR BELTS in Service—Baler section.)
	Tension or gate cylinder extends when gate is closed and tractor selector control valve (SCV) is in neutral.	Air in hydraulic system. Open and close gate several times to remove air.

Continued on next page

PP98408,0000F48 -19-07FEB13-1/2

Troubleshooting

Symptom	Problem	Solution
Gate will not close or closes erratically.		Faulty relief valve. Replace. (See your John Deere dealer.)
	Tractor selector control valve (SCV) leaking.	Repair or replace. (See your John Deere dealer.)
	Internal leak in baler hydraulic system.	Repair. (See your John Deere dealer.)
	Tension arm twisted from baling with gate lock lever in LOCKED position.	Replace tension arm. (See your John Deere Dealer.) (See CHECK GATE LOCK VALVE INTERLOCK LEVER ADJUSTMENT in Preparing Baler section.)
	Obstruction between gate and frame.	Remove obstruction.
	Crop buildup on belts.	Remove buildup. Operate PTO while closing gate.
	One or both orifices (located near quick-disconnect end of hoses) not installed correctly.	Reverse direction of orifices.
	Hydraulic flow of tractor too low.	Adjust tractor hydraulic flow. (See your tractor operator's manual.)
	Crop buildup on belts.	Remove buildup. Operate PTO while closing gate.

PP98408,0000F48 -19-07FEB13-2/2

Twine Wrap Difficulties—BaleTrak™ Pro System

Symptom	Problem	Solution
EXTEND or RETRACT and switches will not move twine actuator. STOP flashes.	Electric actuator does not have electrical power.	Check if twine arms move using bypass switch. (See procedure in Operating the Baler section.) •If arms do not move; Check tractor convenience outlet for blown fuse or defective circuit breaker. Replace fuse or circuit breaker if necessary. Check electric actuator connector for: •Proper connection •Corrosion •Broken wires •Tractor voltage
Twine too tight on bale or twine breaks while wrapping.	Twine routing wrong.	Check for correct routing. (See Preparing the Baler section.)
	Bad twine, knots in twine, new ball with tight core, wet twine.	Pull out bad twine or replace twine.
	Twine tension too high.	Reduce twine tension. (See ADJUST TWINE TENSION in Preparing the Baler section.)
	Wrong twine tension plate pin or springs.	Replace with correct parts.
	Crop buildup at twine guides.	Remove crop buildup.
Twine falls off twine indicator wheel.	Deep grooves worn in twine guide.	Replace twine guide.
	Sisal twine binding at twine indicator wheel.	Route sisal twine 1/4 of a turn only around twine indicator wheel.
	Retaining strap behind twine indicator wheel is not in correct position.	Adjust retaining strap. (See ADJUST TWINE INDICATOR RETAINING STRAP in Service—Baler section.)
Twine too loose on bale.	Plastic twine not wrapped a full turn around pulley.	Wrap twine a full turn around indicator wheel.
	Broken or missing twine tension spring.	Replace spring.
	Crop buildup between twine tension plates.	Remove crop buildup.
	Wrong tension spring pin.	Replace pin.

Continued on next page

PP98408,0000F49 -19-07FEB13-1/7

Symptom	Problem	Solution
Twine tension not uniform across width of bale.	Bale density low in certain sections.	Review INTERPRET BALE SHAPE INDICATORS in Operating the Baler with BaleTrak™ Pro System section.
	Twine tension too low.	Increase twine tension. (See ADJUST TWINE TENSION in Preparing the Baler section.)
	Worn twine tension plates.	Replace worn parts.
	Less than two wraps of twine on end of bale.	Increase number of wraps. (See SET NUMBER OF TWINE END WRAPS in Operating Baler section.)
	Faulty bale tensioning valve.	Repair or replace valve. (See your John Deere dealer.)
	Belt tension or gate cylinder leaking.	Check for cylinder leaks. Repair as necessary. (See your John Deere dealer.)
	Twine not wrapped a full turn around twine indicators.	Wrap twine a full turn around twine indicators.
	Twine catching on bent compressor rod.	Straighten rod.
	Bale tension not uniform from side-to-side.	Check for correct twine routing. (See Preparing the Baler section for twine routing.) See Operating Baler with System section for proper baling technique. Check for leaks in tension system. Repair or replace parts as necessary. (See your John Deere dealer.) Adjust bale shape sensors. (See procedure in Service—BaleTrak™ Pro System section.)
	Faulty bale tensioning valve.	Repair or replace valve. (See your John Deere dealer.)
	Belt tension cylinder leaks.	Repair or replace cylinder. (See your John Deere dealer.)
	Monitor-controller bale shape bars read high before bale ends are tight.	Adjust bale shape sensors. (See procedure in Service— System section.) Review INTERPRET BALE SHAPE INDICATORS in Operating Baler with System section.

Continued on next page

PP98408,0000F49 -19-07FEB13-2/7

Symptom	Problem	Solution
	Tension arm twisted from baling with gate lock lever in LOCKED position.	Replace tension arm. (See your John Deere Dealer.) (See CHECK GATE LOCK VALVE INTERLOCK LEVER ADJUSTMENT in Preparing Baler section.)
Twine loose or wide twine spacing on left-hand side of bale.	Faulty bale tensioning valve.	Repair or replace valve. (See your John Deere dealer.)
	Belt tension cylinder leaks.	Repair or replace cylinder. (See your John Deere dealer.) Avoid overfilling right-hand side. Review INTERPRET BALE SHAPE INDICATORS in Operating Baler with BaleTrak™ Pro System section.
	Monitor-controller bale shape bars read high before bale ends are tight.	Adjust bale shape sensors. (See procedure in Service—BaleTrak™ Pro System section.)
	Twine slips with loose crop.	Activate cinch wrap on channel 018 of monitor.
Twine loose on right-hand side of bale.	Twine not anchored well and slips around bale.	Too much twine tension. Twine catches late. (See ADJUST TWINE TENSION in Operating the Baler section.) Incorrect twine routing. (See ROUTE TWINE in Preparing the Baler section.)
	Excess right-hand end wraps pull down end of bale and create loose twine or wide twine spacing near right-hand end.	Continue to drive forward until twine pulleys are moving.
Lack of density in left-hand side of bale.	Left-hand bale shape bar reaches top when left-hand belt is tight. Right-hand bar reaches top with tight right-hand belt resulting in overfilling right-hand side.	Adjust bale shape sensors. (See procedure in Service—BaleTrak™ Pro System section.)
	Left-hand end wraps pull down end of bale and create loose twine or wide twine spacing near left-hand end.	Adjust bale shape sensors. (See procedure in Service—BaleTrak™ Pro System section.)
Twine arms move to right-hand side of baler and will not return, or returns part way and stops.	Twine arm caught on compressor rod.	Align compressor rod down. (See ADJUST COMPRESSOR RACK in Operating the Baler section.)
	Buildup of crop or cornstalks on compressor rods prevents twine arm travel.	See BALE CORNSTALKS in Operating the Baler section. Raise baler. (See ADJUST WHEEL SPINDLES in Preparing the Baler section.)

Continued on next page

PP98408,0000F49 -19-07FEB13-3/7

Symptom	Problem	Solution
Twine spacing not consistent.	MegaWide™ Plus Pickup; Compressor rod caught above starter roll.	Install or adjust compressor rod channel. (See ADJUST COMPRESSOR RODS [MegaWide™ Plus Pickup] in Operating the Baler section.)
	Broken harness wire near slip clutch due to incorrect harness routing.	Route and clamp wire harness away from slip clutch.
	Twine arm speed and arm spacing are not matched.	Decrease or increase twine spacing on monitor. (See SET TWINE SPACING in Operating Baler with System section.)
	Twine not routed correctly.	Route twine correctly. (See ROUTE TWINE in Preparing the Baler section.)
	Baling dry, slick crops, such as coastal Bermuda grass, straw, prairie grasses, or flax. Twine will lag behind twine arm because of crop trying to come out of feed opening, then suddenly catching up with twine arm, leaving a space without twine.	Bale when crop has more moisture. Reduce engine speed to 1500 rpm or lower and shift to a higher gear. Use Dry Straw Twine Wrap program. (See procedure in Operating Baler with BaleTrak™ Pro System section.) Lower baler. (See WHEEL SPINDLE POSITIONS in Preparing the Baler section.)
	High twine tension on front twine arm causing distance between twine arms to change from setting.	Adjust twine tension. (See procedure in Operating the Baler section.)
	Twine indicator wheels binding.	Free up indicator wheels.
	Twine or twine arm contacting compressor rod.	Lower compressor rack or align rod. (See ADJUST COMPRESSOR RACK in Operating the Baler section.)
	Varying tractor engine speed.	Maintain consistent engine speed while wrapping all bales.
	Slip clutch alert turned off. (Not used on 559 with Regular pickup)	Slip clutch alert will control twine spacing independently of tractor PTO speed. (See Operating the Baler section.)
No twine on bale or twine not caught by bale.	Bale density varies across width of bale or shape not cylindrical.	Review INTERPRET BALE SHAPE INDICATORS in Operating Baler with BaleTrak™ Pro System section.
	Twine wrapped around twine tube.	Reduce twine tension, if necessary, on thin plastic twine. (See ADJUST TWINE TENSION in Operating the Baler section.)

Continued on next page

PP98408,0000F49 -19-07FEB13-4/7

Symptom	Problem	Solution
Twine too close to edge of bale.	Twine from end of twine tube too short.	With tractor shut off, pull out twine until 305—381 mm (12—15 in.) is exposed from end of twine arms. Remove crop buildup at twine arm tension plates. Reduce twine tension, if necessary, on thin plastic twine. (See ADJUST TWINE TENSION in Operating the Baler section.) Use heavier twine. Replace worn twine tension plates at twine arm. Replace broken or missing spring at twine tension plate on twine arm.
	Twine tension too high.	Reduce twine tension. (See ADJUST TWINE TENSION in Operating the Baler section.) Replace worn twine guides.
	Twine snagged on guide.	Check for correct twine routing.
	Twine not fed in with crop.	Do not stop forward travel of tractor as soon as monitor-controller WRAPPING STARTED indicator comes on. Allow a few seconds for twine to be fed in with hay.
	Twine box empty.	Add twine. (See LOAD TWINE BOXES in Preparing the Baler section.)
	Too many pickup teeth missing.	Replace pickup teeth.
	Adjustable twine guide out of adjustment.	Adjust twine guide. (See SET TWINE END WRAP DISTANCE in Operating Baler with System section.)
	Barrel or cone shaped bales.	Fill ends of bale by crowding windrow. Adjust bale shape sensors as necessary. (See procedure in Service— System section.)
	Twine guide too close to edge of bale.	Adjust twine guide. (See SET TWINE END WRAP DISTANCE in Operating Baler with System section.)

Continued on next page

PP98408,0000F49 -19-07FEB13-5/7

Symptom	Problem	Solution
Twine not cut.	Baling dry, slick crops such as straw or flax.	Use more twine. Increase twine distance from end of bale. (See UNDERSTAND TWINE WRAP TERMS AND SETTINGS in Operating Baler with BaleTrak™ Pro System section.)
	Twine arm travels too far at right-hand side of baler, due to manually moving twine arms using monitor-controller EXTEND key.	If recycling twine arm, press monitor-controller WRAP key so setting for end twine spacing occurs.
	Twine arm travel on right-hand side is out of adjustment.	Adjust. (See UNDERSTAND TWINE WRAP TERMS AND SETTINGS in Operating Baler with BaleTrak™ Pro System section.)
	Bale is ejected before twine is cut.	Look at twine to see that it has stopped moving before discharging bale.
	Twine cutter out of adjustment.	Adjust twine cutter tension. (See procedure in Service—BaleTrak™ Pro System section.)
	Dull knife or uneven edge not making contact with anvil.	Rotate, sharpen, or replace knife.
	Front twine arm stop installed backwards.	Install stop with trimmed edge toward twine arm.
	Crop buildup on top of anvil.	Adjust height of twine cutter to twine arm. (See procedure in Service—Baler section.)
	Twine cutter anvil not level.	Adjust twine cutter so anvil is level (parallel with bottom edge of frame).
	Knife not contacting anvil fully.	Adjust knife so full length of knife edge makes contact with anvil. (See CHECK AND ADJUST TWINE CUTTER KNIFE in Service—Baler section.)
	Obstruction causing twine not to be guided under knife.	Remove obstruction.
	Bent twine guide rod.	Straighten or replace.
	Anvil is worn under knife.	Replace anvil.
	Binding in twine knife pivot or cutter linkage.	Repair or replace so linkage operates freely.
	Incorrect twine routing or bad ball of twine causing high twine tension.	Correct cause of high tension.

Continued on next page

PP98408,0000F49 -19-07FEB13-6/7

Symptom	Problem	Solution
Twine unrolling.	Twine is above starter roll and misses twine guide.	Stop forward travel immediately when WRAPPING STARTED indicator is displayed and beeps. Reduce travel speed nearing completion of bale. Install compressor rack if removed. (See procedure in Operating the Baler section.) Add additional compressor rods.
	Twine not routed correctly.	Route twine correctly. (See ROUTE TWINE in Preparing the Baler section.)
	Low voltage prevents twine arms from activating twine cutter.	See your John Deere dealer.
	Twine tension too high, preventing twine arms from going to home position.	Reduce twine tension. (See ADJUST TWINE TENSION in Operating the Baler section.)
		Slow gate raise time by adjusting SCV flow to 7—8 seconds, to reduce bale rolling distance. Maintain engine rpm during discharge. Let bale turn 25 seconds after cutting. Increase twine tension. (See ADJUST TWINE TENSION in Operating the Baler section.) Reduce number of end wraps on left-hand side. Use re-extension or cinch wrap program on BaleTrak™ Pro system (if equipped).
Twine actuator does not come all the way home. Twine does not cut off.	Low voltage to the monitor-controller under load.	Check tractor voltage. (See procedure in Service—BaleTrak™ Pro System section.)
	Twine ends contact ground.	Adjust delay of twine eject value. (See ADJUST DELAY OF TWINE EJECT in Operating the Baler section.)

PP98408,0000F49 -19-07FEB13-7/7

BaleTrak™ Pro Monitor-Controller Difficulties

Symptom	Problem	Solution
Monitor-Controller LCD display and switches do not work.	Monitor-controller connection to tractor is unplugged.	Plug in connection.
	Monitor-controller was hooked up with reverse polarity.	Check polarity of 12 V power supply.
Twine arm actuator does not function. Stop indicator displays. Alarm does not sound.	Twine arm actuator failed.	Replace actuator. (See your John Deere dealer.)
		Inspect wire harness and repair or replace.
	Twine arm wedged against back side of knife.	Use monitor-controller RETRACT key and retract twine arm. Clean and lubricate knife pivot.
Twine arm actuator does not function. Stop indicator displays and alarm sounds.	Twine arm actuator failed.	Replace actuator. (See your John Deere dealer.)
		Inspect wire harness and repair or replace.
	Twine arm wedged against back side of knife.	Use monitor-controller RETRACT key and retract twine arm. Clean and lubricate knife pivot.
Twine actuator does not complete its travel. STOP indicator displays and alarm sounds. STOP indicator is displayed on monitor-controller when activated.	Twine arm travel restricted by foreign object or hay buildup.	Inspect and remove blockage.
	Twine or net actuator disconnected.	Check actuator connectors.
	Wiring is loose or cut.	Check wire harness connector for breaks.
Automatic twine cycle does not function. STOP indicator displays and alarm sounds.	Defective gate latch switch.	Replace switch. (See your John Deere dealer.)
	Incorrect gate latch switch adjustment.	Adjust gate latch switches. (See procedure in Service—Baler section.)
	Gate not closed and does not activate one gate switch.	Remove hay buildup from gate area. Operate baler at tractor rated PTO speed when closing the gate.
	Released selective control valve too soon after closing gate.	Continue to hold selective control valve 2 seconds after gate closes.
	Gate twisted and does not close.	See your John Deere dealer.
	Manual BYPASS wire harness connected.	Return twine actuator connector to NORMAL OPERATION connector. (See BYPASS SWITCH [TWINE WRAP ONLY] in Operating the Baler section.)

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PP98408,0000F4A -19-07FEB13-1/9

Symptom	Problem	Solution
Twine arm actuator stops at full extension and will not retract.	Monitor-controller set for incorrect baler model.	Change monitor-controller setting. (See CHANGE BALER MODEL PROGRAM in Operating Baler - BaleTrak™ Pro Monitor System section.)
		Inspect wire harness. Repair or replace.
Twine spacing to edge of bale is greater than monitor-controller setting.	Incorrect mechanical twine guide setting.	Adjust mechanical twine guide. (See SET TWINE SPACING in Operating the Baler section.)
Number of end wraps is different from monitor-controller setting.	Incorrect mechanical twine guide adjustment.	Adjust mechanical twine guide. (See SET TWINE SPACING in Operating the Baler section.)
	Not operating at tractor rated PTO speed.	Operate at rated PTO speed or at a consistent speed. A constant speed less than rated PTO speed will require a different monitor-controller setting.
Erratic twine spacing. (See Automatic Twine Spacing TWINE SPACING NOT CONSISTENT in this section.)	Twine catching on foreign object or compressor rods.	Inspect and remove blockage or adjust compressor rods. (See ADJUST COMPRESSOR RACK [REGULAR PICKUP] in Operating the Baler section.)
	Incorrect monitor-controller settings.	Reset to factory initial settings. (See procedures in Operating the Baler section.)
	Not operating at tractor rated PTO speed.	Operate at rated PTO speed or at a consistent speed. A constant speed less than rated PTO speed will require a different monitor-controller setting.
	Slip clutch alert turned off. (Not used on 459 and 559 Baler with Regular pickup)	Slip clutch alert will control twine spacing independent of tractor PTO speed. (See Operating the Baler section.)
	Distance between twine arms incorrect for monitor-controller setting.	Set twine arm spacing for monitor-controller setting. (See SET TWINE SPACING in Operating the Baler section.)
		Inspect wire harness. Repair or replace.

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Symptom	Problem	Solution
Net wrap indicator and alarm activates.	Knife did not cut the net wrap material.	Adjust brake. (See ADJUST NET WRAP STRETCH in Service—Net Wrap section.) Sharpen net wrap cut-off knife. (See procedure in Service—Net Wrap section.)
	Incorrect net wrap switch adjustment.	Adjust switch. (See procedure in Service—Net Wrap section.)
	Net wrap switch actuator lever not free to rotate.	Check actuator lever for obstruction or corrosion in hinged area.
Twine or net wrapping settings not consistent with different bale sizes.	Not operating at tractor rated PTO speed.	Operate at rated PTO speed or a consistent speed. A constant speed less than rated PTO speed will require a different monitor-controller setting.
	Slip clutch alert turned off. (Not used on 459 and 559 Baler with Regular pickup)	Slip clutch alert will control twine spacing independent of tractor PTO speed. (See Operating the Baler section.)
	Incorrect bale diameter sensor adjustment.	Adjust sensor. (See ADJUST BALE DIAMETER SENSOR in Service—Baler section.)
Bale shape is inconsistent with monitor-controller reading.	Operator not following recommended procedure.	See INTERPRET BALE SHAPE INDICATORS in Operating the Baler section.
	Incorrect bale shape bar and sensor adjustments.	Adjust bale shape bar display and bale shape sensors. (See procedures in Service—Baler section.)
	Bale shape sensors failed.	Replace sensors. (See procedure in Service—Baler section.)
	Broken bale shape sensor arm spring.	Replace spring.
Bale size inconsistent with monitor-controller setting.	Incorrect bale diameter sensor adjustment.	Adjust bale diameter sensor. (See procedure in Service—Baler section.)
	Bale diameter sensor failed.	Replace sensor. (See procedure in Service—Baler section.)
	Tension arm twisted from baling with gate lock lever in LOCKED position.	Replace tension arm. (See your John Deere Dealer.) (See CHECK GATE LOCK VALVE INTERLOCK LEVER ADJUSTMENT in Preparing Baler section.)
Near-full size indicator does not display on monitor-controller.	Bale diameter sensor failed.	Replace sensor. (See procedure in Service—Baler section.)

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Symptom	Problem	Solution
Bales are not dense.	Variable core feature is activated.	Turn off variable core.
	Variable core set for too large of diameter.	Reduce variable core diameter setting or turn off feature.
	Variable core solenoid failed.	Replace solenoid. (See your John Deere dealer.)
	Bale diameter sensor failed.	Replace sensor. (See procedure in Service—Baler section.)
	Incorrect bale diameter sensor adjustment.	Adjust bale diameter sensor. (See procedure in Service—Baler section.)
Gate open indicator is on when gate is closed.	Incorrect gate latch switch adjustment.	Adjust switches. (See ADJUST GATE LATCH SWITCHES in Service—Baler section.)
	Defective gate latch switches.	Replace switches. (See your John Deere dealer.)
GATE CLOSED indicator is not displayed after attempting to close gate; STOP indicator can flash and buzzer can sound.	Gate did not close because gate lock engaged.	Unlock gate.
	Gate not fully closed due to an obstruction or twisted condition.	Remove obstruction or straighten gate.
	Belts pinched between lower gate roll and axle tube.	Raise gate fully and close gate at full tractor rpm. If tractor has low hydraulic flow, install orifice. (See INSTALL ORIFICE IN TRACTORS WITH LOW HYDRAULIC FLOW in Service—Baler section.) Operate PTO while closing. Adjust upper tension (takeup) arm cylinder. (See ADJUST UPPER TENSION (TAKEUP) ARM CYLINDER in Service—Baler section.)
GATE CLOSED indicator goes out, STOP indicator and buzzer come on while baling.	Gate latch not adjusted properly.	Adjust gate latch stop. (See procedure in Service—Baler section.)
	Gate latch switches not adjusted properly.	Adjust gate latch switches. (See procedure in Service—Baler section.)
	Tractor selector control valve (SCV) leaking oil to gate hydraulic cylinder.	Repair tractor selector control valve (SCV). (See your John Deere dealer.)
	Gate latch hooks yielded.	Replace hooks and adjust gate latch. (See ADJUST GATE LATCH STOP in Service—Baler section.)

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Symptom	Problem	Solution
STOP indicator and buzzer come on when gate is closed.	Air in hydraulic system.	Open and close gate several times to remove air.
	Internal leak in gate hydraulic cylinder.	Repair or replace cylinder. (See your John Deere dealer.)
	Hydraulic cylinder not retracted when gate is closed.	Hold tractor SCV lever 2—3 seconds after GATE CLOSED indicator is displayed.
	Gate is not latched on one side.	Hold tractor SCV lever 2—3 seconds after GATE CLOSED indicator is displayed to make sure that both sides are latched. Repair or adjust latch stop. (See ADJUST GATE LATCH STOP in Service—Baler section.)
	Gate latch switches not adjusted properly.	Adjust gate latch switches. (See procedure in Service—Baler section.)
	Defective gate latch switches.	Check gate latch switches. (See TEST GATE LATCH AND OVERSIZE BALE SWITCHES in Service—Baler section.) Replace if necessary. (See your John Deere dealer.)
	Poor connections or broken wires to gate latch switches.	Test wires for continuity. Repair as necessary.
GATE CLOSED indicator is displayed, but gate is open or not latched.	Oversize bale switch out of adjustment.	Adjust oversize bale switch. (See procedure in Service—Baler section.)
	Shorted wires to oversize bale switch.	Test wire shorts. Repair as necessary.
	Gate latch switches not adjusted properly.	Adjust gate latch switches. (See procedure in Service—Baler section.)
	Defective gate latch switches.	Check gate latch switches. (See TEST GATE LATCH AND OVERSIZE BALE SWITCHES in Service—Baler section.) Replace if necessary. (See your John Deere dealer.)
	Crop buildup in latch area restricting hook engagement.	Remove buildup.
One or both bar graphs on LCD display do not correspond to shape of bale being formed.	Shorted wires to gate latch switches.	Test wires for shorts. Repair as necessary.
	Operator not interpreting signal properly.	Review INTERPRET BALE SHAPE INDICATORS in Operating the Baler section.

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Symptom	Problem	Solution
	Bale shape sensors not adjusted properly.	Adjust bale shape sensors. (See procedure in Service—Baler section.)
	Defective bale shape sensors.	Replace bale shape sensors. (See procedure in Service—Baler section.)
	Broken wires between monitor-controller and bale shape sensors or poor connection at harness connectors.	Check continuity. Repair wires or connections as necessary.
	Faulty display.	Test display. (See TEST LIGHTED CRYSTAL DISPLAY (LCD) in Service—Baler section.)
Low voltage light comes on.	Low voltage to monitor-controller under load.	Check voltage. (See CHECK TRACTOR VOLTAGE in Service—Baler section.)
Bale counter does not count bales.	For the monitor-controller to count a bale, an automatic wrap cycle must be followed by a gate opening cycle.	Check that both gate latch switches are functioning properly. (See TEST GATE LATCH SWITCHES in Service—Baler section.)
	Tension arm twisted from baling with gate lock lever in LOCKED position.	Replace tension arm. (See your John Deere Dealer.) (See CHECK GATE LOCK VALVE INTERLOCK LEVER ADJUSTMENT in Preparing Baler section.)
	Tension arm must go low enough to trigger next automatic wrap cycle.	Check that belts are correct length. Adjust or replace baler size sensor.
Monitor-controller functions do not display.	Monitor-controller was hooked up with reverse polarity.	Check polarity of 12 V power supply.
	Intermittent voltage loss due to loose connectors.	Disconnect and inspect connectors for bent or pushed back terminals.
	Intermittent connection in wire harness due to broken or frayed wire.	Inspect wire harness and repair or replace.
STOP indicator is displayed on monitor-controller when activated (E201).	Twine disconnected.	Check actuator connectors.
	Wiring is loose or cut.	Check wire harness connector for breaks.
Twine Wrap System: EXTEND or RETRACT and WRAP switches will not move twine actuator. STOP flashes.	Wiring has a break in it.	Check wire harness for breaks and check connectors for pushed back pins.
Twine arm actuator does not come all the way home. Twine does not cut off.	Low voltage to the monitor-controller under load.	See your John Deere dealer.

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Symptom	Problem	Solution
Twine arm actuator does not function. Stop indicator displays.	Twine arm actuator failed (E202).	Replace actuator. (See your John Deere dealer.) Inspect wire harness and repair or replace.
	Twine arm wedged against front side of knife.	Use monitor-controller RETRACT key to retract twine arm. Clean and lubricate knife pivot.
Twine actuator does not complete its travel. STOP indicator displays and alarm sounds.	Twine arm travel restricted by foreign object or hay buildup.	Inspect and remove blockage.
Automatic twine cycle does not function. STOP indicator displays and alarm sounds.	Defective gate latch switches.	Replace switches. See your John Deere dealer.
	Incorrect gate latch switch adjustment.	Adjust gate latch switches. (See procedure in Service—Baler section.)
	Gate not closed and does not activate one gate switch.	Remove hay buildup from gate area. Operate baler at tractor rated PTO speed when closing the gate.
	Released selective control valve too soon after closing gate.	Continue to hold selective control valve 2 seconds after gate closes.
	Gate twisted and does not close.	See your John Deere dealer.
	Manual BYPASS wire harness connected.	Return twine actuator connector to NORMAL OPERATION connector. (See BYPASS SWITCH [TWINE WRAP ONLY] in Operating the Baler section.)
Twine arm actuator stops at full extension and will not retract.	Monitor-controller set for incorrect baler model.	Change monitor-controller setting. (See CHANGE BALER MODEL PROGRAM in Operating the Baler section.) Inspect wire harness. Repair or replace.
Twine spacing to edge of bale is greater than monitor-controller setting.	Incorrect mechanical twine guide setting.	Adjust mechanical twine guide. (See SET TWINE SPACING and SETTING TWINE END WRAP DISTANCE in Operating the Baler section.)
Number of end wraps is different from monitor-controller setting.	Incorrect bale diameter sensor adjustment.	Adjust bale diameter sensor. (See procedure in Service—Baler section.)
	Not operating at tractor rated PTO speed. (without slip clutch alert)	Operate at rated PTO speed or at a consistent speed. A constant speed less than rated PTO speed will require a different monitor-controller setting.

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Symptom	Problem	Solution
Erratic twine spacing.	Slip clutch alert turned off. (Not used on 459 and 559 Baler with Regular pickup)	Slip clutch alert will control twine spacing independent of tractor PTO speed. (See Operating the Baler section.)
	Incorrect monitor-controller settings.	Reset to factory initial settings and check baler model number. (See RESET BaleTrak™ Pro TO INITIAL FACTORY SETTINGS and CHANGE BALER MODEL PROGRAM in Operating the Baler section.)
	Not operating at tractor rated PTO speed. (without slip clutch alert)	Operate at rated PTO speed or at a consistent speed. A constant speed less than rated PTO speed will require a different monitor-controller setting.
	Slip clutch alert turned off. (Not used on 459 and 559 Baler with Regular pickup)	Slip clutch alert will control twine spacing independent of tractor PTO speed. (See Operating the Baler section.)
Twine wrapping settings not consistent with different bale sizes.	Distance between twine arms incorrect for monitor-controller setting.	Set twine arm spacing for monitor-controller setting. (See SET TWINE SPACING in Operating the Baler section.) Inspect wire harness. Repair or replace.
	Not operating at tractor rated PTO speed.	Operate at rated PTO speed or a consistent speed. A constant speed less than rated PTO speed will require a different monitor-controller setting.
	Slip clutch alert turned off. (Not used on 459 and 559 Baler with Regular pickup)	Slip clutch alert will control twine spacing independent of tractor PTO speed. (See Operating the Baler section.)
	Incorrect bale diameter sensor adjustment.	Adjust sensor. (See ADJUST BALE DIAMETER SENSOR in Service—Baler section.)
Net Wrap System: (E211) Net actuator will not function during auto cycle. STOP flashes.	Wiring has a break in it.	Check wire harness for breaks and check connectors for pushed back pins.
Net actuator does not move when EXTEND or RETRACT switches are pressed in net mode.	The EXTEND or RETRACT switches are not intended to control net actuator in net mode.	See TEST TWINE WRAP ACTUATOR CURRENT (CHANNEL 018) in Service section.
Net actuator does not come all the way home. Net does not cut off.	Low voltage to the monitor-controller under load.	See Testing Tractor Convenience Outlet Voltage (Channel 019) in Service Baler section

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Symptom	Problem	Solution
Net wrap indicator and alarm activates.	Knife did not cut the net wrap material. (E401)	Adjust knife and brake. (See CHECK NET WRAP KNIFE ARM BRAKE in Service—Net Wrap section.) Sharpen knife. (See SHARPEN NET WRAP CUTOFF KNIFE in Service—Net Wrap section.) Adjust knife to rubber flap. (See ADJUST NET WRAP KNIFE ARM STOP in Service—Net Wrap section.)
	Incorrect net wrap switch adjustment. (E401)	Adjust net wrap switch. (See procedure in Service—Net Wrap section.)
	Net wrap switch actuator lever not free to rotate.	Check actuator lever for obstruction or corrosion in hinged area.
Net wrapping settings not consistent with different bale sizes.	Not operating at tractor rated PTO speed.	Operate at rated PTO speed or a consistent speed. A constant speed less than rated PTO speed will require a different monitor-controller setting.
	Slip clutch alert turned off. (Not used on 459 and 559 Baler with Regular pickup)	Slip clutch alert will control twine spacing independent of tractor PTO speed. (See Operating the Baler section.)
	Incorrect bale diameter sensor adjustment.	Adjust sensor. (See ADJUST BALE DIAMETER SENSOR in Service—Baler section.)

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Slip Clutch Alert

Symptom	Problem	Solution
False slip indication	Slip alarm sounds without PTO or pickup clutch slipping	Check pickup sensor by viewing rpm on channel 205. (See SLIP CLUTCH ALERT PICKUP RPM SENSOR in Operating the Baler section) Check PTO Speed on channel 204 is properly set. (See SLIP CLUTCH ALERT PTO SPEED SENSOR in Operating the Baler section) Slip alert feature can be turned off. (See TURN ON and OFF NET WRAP, SLIP CLUTCH ALERT, and VARIABLE CORE in Service section)
	Pickup rpm is higher than PTO sensor rpm	Reverse orange and brown terminals inside connector
One of the clutches slip but the slip alarm does not sound	Monitor not receiving PTO sensor input	Check PTO sensor by viewing rpm on channel 204. (See SLIP CLUTCH ALERT PTO SPEED SENSOR in Operating the Baler section)
	Both sensors have not been activated	Check that both sensors are activated and PTO set at proper speed. (See SLIP CLUTCH ALERT PTO SPEED SENSOR in Operating the Baler section)
Twine or net wrapping does not correct for slower speed	Improper sensor adjustment, faulty sensor, broken wires	Check PTO sensor by viewing rpm on channel 204. (See SLIP CLUTCH ALERT PTO SPEED SENSOR in Operating the Baler section) Check PTO speed on channel 204 is properly set. (See SLIP CLUTCH ALERT PTO SPEED SENSOR in Operating the Baler section)
Pickup sensor is damaged	Wheel on clutch contacts sensor	Adjust gap between sensor and tone wheel.
PTO sensor is damaged	PTO slip clutch contacts sensor	Tighten or replace PTO driveline mounting screws Check gear case shaft end play

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Troubleshooting

Symptom	Problem	Solution
		Repair or replace gear case
		Adjust gap between sensor and PTO clutch fins. (See Slip Clutch Alert PTO Speed Sensor in Operating the Baler section)

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Feed Difficulties

Symptom	Problem	Solution
Baler will not feed hay. Plugged at feed opening.	Missing pickup teeth.	Replace teeth.
	Regular Pickup; Pickup drive idler not adjusted properly or pickup belt damaged.	Adjust idler or replace belt, if necessary. (See ADJUST PICKUP BELT IDLER in Service—Baler section.)
	Pickup slip clutch with not engage.	Engage slip clutch by stopping PTO or reducing tractor rpm to idle speed.
	MegaWide™ Plus Pickup; Slip clutch worn.	Replace slip clutch. (See your John Deere dealer.)
Baler will not feed hay. Plugged at feed opening.	Missing pickup teeth.	Replace teeth.
	Regular Pickup; Pickup drive idler not adjusted properly or pickup belt damaged.	Adjust idler or replace belt, if necessary. (See ADJUST PICKUP BELT IDLER in Service—Baler section.)
	MegaWide™ Plus Pickup; Slip clutch worn.	Replace slip clutch. (See your John Deere dealer.)
	Compressor rack too low.	Raise rack. (See ADJUST COMPRESSOR RACK in Operating the Baler section.)
	Gate opening while baling.	Check for leaking tension or gate hydraulic cylinders and tractor valve. Repair or replace as necessary. (See your John Deere dealer.)
	Oversize bale.	Alarm not working or cannot be heard by operator. Adjust audible bale size alarm volume and bale size indicator. (See ADJUST AUDIBLE BALE SIZE ALARM VOLUME and ADJUST BALE SIZE INDICATOR in Operating Baler with BaleTrak Pro System section.)
	Plugging at crop dividers.	See PLUG AT CROP DIVIDERS in Pickup Difficulties in this section.
	Gate not closed.	Eject bale. Close gate.
	Belts pinched between gate roll and baler axle.	Always operate PTO at rated speed during gate closing cycle to avoid pinching belts. Adjust upper tension (takeup) arm cylinder. (See ADJUST UPPER TENSION (TAKEUP) ARM CYLINDER in Service—Baler section.)

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Symptom	Problem	Solution
Baler will not feed short, dry, slick, or brittle crops. (See BALE SHORT, DRY, SLICK CROPS in Operating the Baler section.)	Baler too low. Wheel spindles not installed in normal position.	Install spindles in normal position. (See BALE WET HAY in Operating the Baler section.)
	PTO driveline slip clutch not adjusted properly.	Adjust clutch. (See ADJUST MAIN DRIVE SLIP CLUTCH in Service—Baler section.)
	Wrappage of foreign material on starter roll.	Remove material.
	Large windrows and too fast ground speed.	Reduce windrow size and reduce speed.
	Incorrect belt routing.	Properly route belts. (See INSTALL BELTS in the Service—Baler section.)
	Pickup too low.	Raise pickup. (See ADJUST PICKUP HEIGHT in Operating the Baler section.)
	Dry material flaking off bale collects and blocks feed opening.	Disengage PTO when turning between windrows and when not feeding material.
	PTO speed too fast.	Reduce engine speed to 1500 rpm or lower and shift to higher gear. MegaWide™ Plus Pickup: Install optional slowdown sprockets.
	Regular Pickup: Excessive buildup on top of compressor rack.	Remove all compressor rods except one center rod and one rod on each end of cross tube.
	Regular Pickup; Pickup drive idler not adjusted properly or pickup belt damaged.	Adjust idler or replace belt, if necessary. (See ADJUST PICKUP BELT IDLER in Service—Baler section.)
	MegaWide™ Plus Pickup: Slip clutch worn.	Replace slip clutch. (See your John Deere dealer.)
	Bale density too high.	Decrease density. (See ADJUST BALE DENSITY in Operating the Baler section.) Use variable core feature to help start bale.
	Windrows too small.	Make larger windrows by raking.
	Weathered windrows (rained on several times).	Make larger windrows by raking.

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Symptom	Problem	Solution
	Brittle crop breaks into smaller pieces easily.	Bale with dew on crop especially rotary combined straw. User variable core feature to reduce density and breakage of crop.
	Bale fails to start rotating due to one or both sides of windrow extending outside of bale edge especially in dry bahia grass or coastal Bermuda grass.	Make windrow narrower than bale width even with wide pickup. Center baler over windrow while starting.
Baler will not feed cornstalks. (See BALE CORNSTALKS in Operating the Baler section.)	Pickup too high.	Lower pickup. (See ADJUST PICKUP HEIGHT in Operating the Baler section.) 459 and 559; Install Hi-Flotation tires. Raise baler. (See ADJUST WHEEL SPINDLES in Preparing the Baler section.)
	Windrows too large.	Make windrows smaller. Slow ground speed. Maintain PTO speed.
	Missing or broken pickup teeth.	Replace teeth.
	Regular Pickup; Pickup drive idler not adjusted properly or pickup belt damaged.	Adjust idler or replace belt, if necessary. (See ADJUST PICKUP BELT IDLER [REGULAR PICKUP] in Service—Baler section.)
	Slip clutch worn.	Replace pickup slip clutch. (See your John Deere dealer.)
	Compressor rack too low.	Raise rack. (See ADJUST COMPRESSOR RACK in Operating the Baler section.)
Pickup plugs in cornstalks.	Pickup stalls	For MegaWide™ Plus pickup, disengage spring for roller baffle. For 5' MegaWide™ Plus balers only, order Cornstalk Feeding Enhancement kit. (See your John Deere dealer.)
Baler will not feed long, stiff, cane-type crops. (See BALE LONG, STIFF, CANE-TYPE CROPS in Operating the Baler section.)	Material plugs at pickup and feed opening.	See BALE LONG, STIFF, CANE-TYPE CROPS in Operating the Baler section.

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Symptom	Problem	Solution
	Bale fails to start rotating due to crop wedging into top of starting chamber.	See BALE LONG, STIFF, CANE-TYPE CROPS in Operating the Baler section.
	Compressor rack too low.	Raise rack. (See ADJUST COMPRESSOR RACK in Operating the Baler section.)
Baler will not feed wet hay.	Surface moisture on bottom of windrow.	See BALE WET HAY in Operating the Baler section.
Starter roll chain breaks.	If equipped, PTO driveline slip clutch spring disk too tight or clutch plates seized.	Adjust or slip the main drive clutch. (See ADJUST or SLIP MAIN DRIVE SLIP CLUTCH in Service—Baler section.) See START A BALE IN DIFFICULT CONDITIONS in Operating the Baler section.

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Feed Difficulties With Roller Baffle

Symptom	Problem	Solution
Crop pushing ahead of roller	Not enough float	Increase float (See ADJUST ROLLER BAFFLE FLOAT TENSION in Service section.)
	Tall stubble	Raise pickup
	Low drawbar	Add drawbar shield
		Adjust roller baffle height
		Raise pickup
Crop wrapping on roller	Plastic ties missing	Replace missing ties on roller
		Tighten loose ties on roller
Roller not balanced	Crop not feeding under roller	Balance roller (See BALANCE ROLLER BAFFLE in Service section.)
Roller bouncing	Float too light	Reduce roller float spring pressure (See ADJUST ROLLER BAFFLE FLOAT TENSION in Service section.)
Pickup plugging	Crop pushing through compressor rack	Add compressor rods to each hole, except the outside hole on each end.
	Pickup stalls	MegaWide™ Plus pickup; Disengage torsion spring for roller baffle.
		For 5' MegaWide™ Plus pickup only; Order Cornstalk Feeding Enhancement kit. (See your John Deere dealer.)
Pickup plugs in cornstalks.	Pickup stalls	For MegaWide™ Plus pickup, disengage spring for roller baffle.
		For 5' MegaWide™ Plus balers only, order Cornstalk Feeding Enhancement kit. (See your John Deere dealer.)

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Pickup Difficulties

Symptom	Problem	Solution
Pickup teeth do not revolve.	Feed opening plugged with crop.	Reduce ground speed or windrow size.
	Regular Pickup; Pickup drive idler not adjusted properly or pickup belt damaged.	Adjust idler or replace belt, if necessary. (See ADJUST PICKUP BELT IDLER [REGULAR PICKUP] in Service—Baler section.)
	MegaWide™ Plus Pickup; Slip clutch worn.	Replace slip clutch. (See your John Deere dealer.)
	MegaWide™ Plus pickup; Pickup drive chain broken or missing.	Repair or replace chain. (See your John Deere dealer.)
	Regular pickup; Pickup drive belt broken.	Replace belt. (See your John Deere dealer.)
	Broken cam or other internal pickup parts.	Check for failed or worn cam or internal parts. Repair or replace as necessary. (See your John Deere dealer.)
Pickup will not float or drop freely.	Excess or insufficient float assist.	Adjust pickup float springs. (See ADJUST PICKUP FLOAT SPRINGS in Service—Baler section.)
	Binding between flare and end strippers.	Remove chaff and dirt. Straighten any bent parts.
	Regular Pickup; Install gauge wheels to improve ground gauging.	
Not picking up hay cleanly.	If equipped with gauge wheels; Crop or mud buildup between flare pivot plate and pickup gauge wheel arm.	Replace flare pivot plate. (See your John Deere dealer.)
	Pickup teeth set too high.	Lower pickup (See ADJUST PICKUP HEIGHT in Operating the Baler section.)
	Too much float spring tension, causing pickup to bounce or stay up.	Reduce float spring tension. (See ADJUST PICKUP FLOAT SPRINGS in Service—Baler section.)
	Damaged crop dividers or stripper, causing pickup to stay up.	Straighten or replace damaged parts. (See your John Deere dealer.)
	Ground speed too fast.	Reduce ground speed.
	Windrows too light.	Rake heavier windrows.
	Pickup teeth bent or broken.	Straighten or replace teeth. (See your John Deere dealer.)

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PP98408,0000F4E -19-07FEB13-1/4

Symptom	Problem	Solution
	Baler too high.	Lower baler. (See ADJUST WHEEL SPINDLES in Preparing the Baler section.)
	Hitch position not correct.	See ADJUST BALER HITCH in Preparing the Baler section.
	Light crop rolls forward instead of picking up.	Rake heavy windrows if possible. Operate baler at 1/2 to 2/3 normal rpm, and shift tractor to higher gear to maintain desired ground speed. MegaWide™ Plus Pickup; Install speed reduction sprocket at slip clutch. Reduce engine speed to 1500 rpm or lower and shift to a higher gear.
	Overcrowding ends.	Reduce crowding. Install converging wheels if not equipped.
	Tractor tires smashing crop into stubble.	Widen wheel spacing. (See ADJUST TRACTOR WHEELS in Preparing the Tractor section.)
Pickup teeth digging in ground.	Pickup set too low.	Raise pickup. (See ADJUST PICKUP HEIGHT in Operating the Baler section.)
	Gauge wheels (if equipped) are set too high relative to teeth.	Adjust gauge wheels. (See ADJUST GAUGE WHEELS in Operating the Baler section.)
	Poor pickup flotation.	Increase float spring tension. Check pivots. (See ADJUST PICKUP FLOAT SPRINGS in Service—Baler section.)
	Soft ground. Pickup will not raise high enough.	Raise baler. (See ADJUST WHEEL SPINDLES in Preparing the Baler section.) Turn tractor drawbar over. (See ADJUST THE DRAWBAR in Preparing the Tractor section.) 459 and 559; Install Hi-flotation tires.
	Rough terrain.	Regular Pickup; Install gauge wheels.
	If equipped, gauge wheel tire flat.	Inflate or repair as necessary. (See TIRE INFLATION PRESSURES in Preparing the Baler section.)

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Symptom	Problem	Solution
Pickup teeth contact starter roll.	Pickup raised too high.	Regular Pickup; Adjust upstop bracket inward so tab does not align with slot in end stripper. Repeat for other side.
Pickup teeth bent or broken	Pickup set too low.	Raise pickup. (See ADJUST PICKUP HEIGHT in Operating the Baler section.) Adjust gauge wheels (if equipped). (See ADJUST GAUGE WHEELS in Operating the Baler section.)
	Foreign material inside pickup strippers or broken teeth. Baling cornstalks.	Remove material or replace teeth. Raise pickup. Higher tooth breakage can be expected. (See BALE CORNSTALKS in Operating the Baler section.)
	Operating twine arms with pickup in transport position.	Lower pickup. (See ADJUST PICKUP HEIGHT in Operating the Baler section.)
Pickup too high with baler in lowered position.	Wheel spindles installed upside down.	Install spindles in correct position. (See WHEEL SPINDLE POSITIONS in Preparing the Baler section.)
	Baler height too high for crop condition.	Adjust baler to lower position on spindles. (See WHEEL SPINDLE POSITIONS in Preparing the Baler section.)
	Hitch position not correct.	See ADJUST BALER HITCH in Preparing the Baler section.
Plugging at crop dividers.	Overcrowding ends.	Reduce crowding. Install gathering wheels. (See Attachments section.)
	Pickup set too low.	Raise pickup. (See ADJUST PICKUP HEIGHT in Operating the Baler section.)
	Tractor tires smashing crop into stubble.	Widen wheel spacing. (See ADJUST TRACTOR WHEELS in Preparing the Tractor section.)
	Pivoting crop divider overlaps (shingles) stationary end stripper on the wrong side.	Straighten pivoting crop dividers to give proper overlap (shingle). Front crop divider must be inside end stripper.
Inside of strippers worn.	Strippers bent up hitting tooth coils.	Raise pickup. (See ADJUST PICKUP HEIGHT in Operating the Baler section.)

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Troubleshooting

Symptom	Problem	Solution
		Check for binding at crop dividers.
		Increase float. (See ADJUST PICKUP FLOAT SPRINGS in Service—Baler section.)
		Regular Pickup; Install gauge wheels. (See Attachments section.)
		Bend strippers down for clearance and check tooth coils on pickup teeth for damage.

PP98408,0000F4E -19-07FEB13-4/4

Bale Quality—BaleTrak™ Pro System

Symptom	Problem	Solution
Cone shaped bale. Monitor-controller bale shape bars read high and even	Bale shape sensors out of adjustment.	Adjust. (See ADJUST BALE SHAPE SENSORS in Service—BaleTrak™ Pro System section.)
	Broken spring on sender arm.	Replace spring.
	Outside belts are not the same length.	Belts must be the same length within 38 mm (1.496 in.). (See REPAIR BELTS in Service—Baler section.)
Barrel shaped bale. Bale shape bars read high and even	Bale shape sensors out of adjustment.	Adjust. (See ADJUST BALE SHAPE SENSORS in Service—BaleTrak™ Pro System section.)
	Outside belts too short.	Check and correct belt length. (See REPAIR BELTS in Service—Baler section.)
Baler will not make dense bales	Density control adjusted for light bales.	Adjust for heavier bale. (See ADJUST BALE DENSITY and CHECK BALER PERFORMANCE IN THE FIELD in Operating Baler with BaleTrak™ Pro System section.)
	Internal leak in belt tension hydraulic cylinders.	Repair or replace as necessary. (See your John Deere dealer.)
	Internal leak in tensioning valve.	Repair or replace as necessary. (See your John Deere dealer.)
	Dirty or defective relief valve.	Clean or replace. (See your John Deere dealer.)
	Bale ends not filled tightly.	Crowd more hay in ends of baler. (See INTERPRET BALE SHAPE INDICATORS in Operating Baler with BaleTrak™ Pro System section.)
	Light crop conditions.	Make larger windrows by raking.
	Dirty hydraulic oil in tractor.	Change tractor filter and oil.
	Bale forming belts too short or too long.	Check length and correct. (See REPAIR BELTS in Service—Baler section.)
	Bale diameter sensor is out of adjustment.	Adjust bale diameter sensor. (See procedure in Service—BaleTrak™ Pro System section.)
Baler will not make full-size bale	Bale diameter sensor is out of adjustment.	Adjust bale diameter sensor. (See procedure in Service—BaleTrak™ Pro System section.)

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PP98408,0000F4F -19-07FEB13-1/2

Troubleshooting

Symptom	Problem	Solution
Ends of bale have rough appearance (dry hay crops)	Not filling bale ends properly.	Drive to fill bale ends. (See INTERPRET BALE SHAPE INDICATORS and CHECK BALER PERFORMANCE IN THE FIELD in Operating Baler with BaleTrak™ Pro System section.) Remove gate fillers (if equipped).
	Gate deflectors can cause ends of bale to have rough appearance.	Polish rough cast surface of gate deflectors.

PP98408,0000F4F -19-07FEB13-2/2

General Baler Difficulties—BaleTrak™ Pro System

Symptom	Problem	Solution
Monitor-controller GATE CLOSED indicator does not come on and GATE OPEN indicator stays on.	Obstruction between gate and frame.	Remove obstruction.
	Hay buildup on belts in gate area in some crop conditions.	Remove buildup. Operate PTO while closing gate.
	Hay buildup at gate latch area due to incorrect routing of hydraulic pickup lift hoses.	Route hoses correctly.
Monitor-controller GATE CLOSED and STOP indicators are on.	Gate close switch not adjusted properly.	Adjust gate close switch. (See procedure in Service—BaleTrak™ Pro System section.)
	Tractor hydraulic valve leaking oil into baler.	Repair tractor hydraulic valve. (See your John Deere Dealer.)
	Air in hydraulic system.	Open and close gate several times to remove air.
	Internal leak in tension or gate hydraulic cylinder.	Repair or replace cylinder. (See your John Deere dealer.)
	Hydraulic cylinder not retracted when gate is closed.	Hold tractor selector control valve lever 2—3 seconds after green light is on.
	Gate sprung.	Straighten. (See your John Deere dealer.)
Gate not closed.	Obstruction between gate and frame.	Remove obstruction.
	Hay buildup on belts in gate area in some crop conditions.	Remove buildup. Operate PTO while closing gate.
	Hay buildup at gate close area due to incorrect routing of hydraulic pickup lift hoses.	Route hoses correctly.
Bale density gauge reading in red.	Tractor selector valve not in neutral position while baling.	Move hydraulic lever to neutral while baling.
	Defective density gauge.	Replace gauge. (See your John Deere dealer.)
	Defective bale density valve cartridge.	Replace or repair valve. (See your John Deere dealer.)
Starter roll wraps with hay.	Regular Pickup; Pickup drive idler not adjusted properly or pickup belt damaged.	Adjust idler or replace belt, if necessary. (See ADJUST PICKUP BELT IDLER in Service—Baler section.)

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PP98408,0000F50 -19-07FEB13-1/6

Symptom	Problem	Solution
	MegaWide™ Plus Pickup; Slip clutch worn.	Replace pickup slip clutch. (See your John Deere dealer.) Check pickup slip clutch torque. (See CHECK PICKUP SLIP CLUTCH TORQUE [MegaWide™ Plus] in Service—Baler section.)
	MegaWide™ Plus Pickup; Main drive slip clutch slipping.	Adjust main PTO driveline slip clutch. (See ADJUST MAIN PTO DRIVELINE SLIP CLUTCH in Service—Baler section.)
	Windrow wet on bottom.	Turn windrow. (See BALE WET HAY in Operating the Baler section.)
	Ground speed and rpm too high when starting bale.	Reduce rpm until bale core has formed.
	Windrow too large.	Decrease windrow size. Install starter roll scraper. (See your John Deere dealer.)
	Material pinched under pickup crop divider, tire, or gauge wheels (if equipped).	Start bale with windrow centered on pickup. Gathering wheels can help for scattered windrows.
	Nicks or rough places on starter roll.	Smooth with file.
	Hay too tough or tacky	Add high moisture kit.
Diamond surfaces on bale forming belts are rubbing together.	Upper belt tension roll in shipping position.	Move to operating position. (See ADJUST BELT TRACKING in Service—Baler section.)
	Crop or mud buildup on rolls.	Clean rolls.
	Belt tension arm not fully down.	Lower tension arm with tractor hydraulic lever.
	Belts not routed properly.	See belt routing diagram and reroute. (See INSTALL BELTS in Service—Baler section.)
	Belts too short.	Repair belts. (See REPAIR BELTS in Service—Baler section.)
Belt lacing failure.	Belts are not the same length.	Repair belts. (See REPAIR BELTS in Service—Baler section.)
	Belts not tracking correctly.	Adjust belt tracking. (See procedure in Service—Baler section.)

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PP98408,0000F50 -19-07FEB13-2/6

Symptom	Problem	Solution
	Making oversized bales.	Check maximum bale size adjustment. (See ADJUST OVERSIZE BALE SWITCH in Service—BaleTrak™ Pro System section.)
	Belts not routed correctly.	Route belts correctly. (See INSTALL BELTS in Service—Baler section.)
	Material wrapping on rolls.	Remove material from rolls.
Belt splice pins break.	Excessive wear on pins.	Check pins for wear or breakage every 2000 bales (every 1000 bales in sandy conditions). Replace pins if broken, or if more than one-third of pin thickness is worn through.
	Incorrect belt length can cause excessive load on shorter belts.	See REPAIR BELTS in Service—Baler section.
Belt slipping or not turning.	Belt tension arm not returning all the way down to tension belts.	Operate tractor at full rpm when closing gate to ensure that tension arm tightens belts before gate close indicator comes on.
	Water dripping off belts and rolls.	Avoid baling in rain or frosted crop.
	Belts too long.	Check belts for proper length. (See REPAIR BELTS in Service—Baler section.)
	Excessive wrappage of net material around top idler roll (No. 11) pinches belt against top baler frame tube.	Remove net and crop around top idler roll (No. 11).
	Upper tension arm compression spring out of adjustment.	Adjust spring. (See ADJUST TAKE-UP ARM COMPRESSION SPRING in Service—Baler section.)
Gate lock valve closes or locks before gate is closed.	Gate lock valve spool is not in full unlocked position (snap ring must be against housing).	Make sure that valve spool is not binding. If handle contacts bracket before spool is fully out, bend bracket slightly to allow full travel of valve spool in both directions.
	Binding at gate pivots.	Eliminate binding.
Gate twisted.	Gate close switch not adjusted properly.	Check gate close switch adjustment. (See ADJUST GATE CLOSE SWITCH in Service—BaleTrak™ Pro System section.)
	Tractor selector valve leaking.	Repair or replace gate as necessary. (See your John Deere dealer.)

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PP98408,0000F50 -19-07FEB13-3/6

Symptom	Problem	Solution
Tension arm twisted.	Baling with gate lock lever in LOCKED position prevents cylinder from extending while baling.	Operate baler with gate lock lever in UNLOCKED position. Repair or replace tension arm as necessary. (See your John Deere dealer.) (See CHECK GATE LOCK VALVE INTERLOCK LEVER ADJUSTMENT in Preparing the Baler section.)
Bale sticks in chamber.	Paint on sidesheet of new baler.	Make several bales out of dry hay to polish sidesheet. Do not crowd ends so finished bale has soft ends.
	459 and 559; Bale sticks in front frame due to damp crop.	Install High-Moisture Kit. (See Attachments section.)
	Excessive side sheet friction caused by buildup on side sheets.	Remove buildup. Make sure gate deflectors (if equipped) are installed in gate. Bale when hay is drier.
Damage to belt diamond pattern. Belts cut or broken.	Build up on compressor rack causing belts to contact starter roll.	See BALE SHORT, DRY, SLICK CROPS, and BALE CORNSTALKS in Operating the Baler section.
	Foreign objects in windrow (for example rocks, sticks, and others).	Operate with pickup as high as possible. (See ADJUST PICKUP HEIGHT in Operating the Baler section.) Remove foreign objects from windrow.
	Wrappage on lower drive roll forcing belt into starter roll.	Remove wrappage.
	Bale forming belts contacting each other.	See DIAMOND SURFACES ON BALE FORMING BELTS ARE RUBBING TOGETHER in this section.
Belt edges fuzzy.	Normal break-in.	After break-in period, the fuzziness will stop. Trim loose cords.
Excessive wear on belt guides or tension arm rear tips.	Improper belt tracking or tension arm rear tips not centered.	Adjust belt tracking. (See ADJUST BELT TRACKING in Service—Baler section.) Check for grooves worn into tension arm wear channels. (See TENSION ARM WEAR CHANNELS in Lubrication and Maintenance section.)

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PP98408,0000F50 -19-07FEB13-4/6

Symptom	Problem	Solution
Belts pinched between lower gate roll and axle tube.		Center tension arm rear tips and replace tension arm wear channels. (See your John Deere dealer.)
	Gate is closing before tension arm removes slack from belts.	Operate tractor at full rpm when closing gate to ensure that tension arm tightens belts. Adjust upper tension (takeup) arm cylinder. (See ADJUST UPPER TENSION (TAKEUP) ARM CYLINDER in Service—Baler section.)
	High hydraulic system back pressure.	Use lowest back pressure selective control valve (SCV). (See tractor manual). Inspect or change hydraulic tips for damage.
	Tractor selector control valve lever in detent while closing gate.	Adjust selector control valve lever for no detent, so lever returns to neutral when released. (See your tractor operator's manual.)
	Sticking or contaminated check valves in tensioning valve assembly.	Repair or replace as necessary. (See your John Deere dealer.)
Belts do not track properly.	Belt tracking rollers out of adjustment.	Adjust rollers. (See ADJUST BELT TRACKING in Service—Baler section.)
	Belts not correct length.	Correct belt length. (See REPAIR BELTS in Service—Baler section.)
	Belts not cut square when splicing.	Resplice belt. (See REPAIR BELTS in Service—Baler section.)
	Twine or mud buildup on baler rolls.	Remove buildup.
	Belts not routed correctly.	See belt routing diagram and reroute belts. (See INSTALL BELTS in Service—Baler section.)
Belts turn over or cross.	Bad bearing on roll.	Rotate all rolls by hand and inspect for loose bearings, and so on. Repair, or replace as necessary. (See your John Deere dealer.)
	Closing gate with PTO engaged and strong winds prevailing or side hill operation.	Disengage PTO before opening gate.

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PP98408,0000F50 -19-07FEB13-5/6

Symptom	Problem	Solution
		Install Auxiliary Takeup Roll kit to reduce belt slack during bale discharge. (See your John Deere dealer.)
	Operating baler empty with gate up and no tension on belts for extended periods.	Do not operate in this manner for an extended time.
	Driving too long on one side of windrow at bale start. Hay pushes out between belts.	Center pickup on windrow at bale start.
New belts track back and forth on rolls.	Wax from belts builds up on rolls.	Use oil dry granules or baby powder to polish rolls.
	Belts not correct length.	Belt lengths must be within 38 mm (1-1/2 in.) of each other. (See REPAIR BELTS in Service—Baler section.)
	Bad fabric or construction of belt.	Repair or replace belt. (See procedures in Service—Baler section.)
New belts cross and flip on rolls while raising and lowering gate	Wax from belts builds up on rolls.	Use oil dry granules or talcum powder to polish rolls. (See BELT TRACKING ISSUES in Preparing the Baler section.)
	High belt friction for sticky silicone on belts.	Use oil dry granules or talcum powder to polish rolls. (See BELT TRACKING ISSUES in Preparing the Baler section.)
	High roller friction from paint on rolls.	Use oil dry granules or talcum powder to polish rolls. (See BELT TRACKING ISSUES in Preparing the Baler section.)
	Improper belt tracking at belt guides	Check and adjust three belt tracking rolls as needed. (See ADJUST BELT TRACKING in Service—Baler section.)
Tension arm rubbing sidesheet.	Tension arm not centered between sides.	Adjust tension arm. (See ADJUST BELT TRACKING in Service—Baler section.)
Crop builds up at tension arm or upper belt guides.	Crop gets pinched between lower drive roller tube and belts. Crop sticks to back of belts and travels up front of baler.	Make sure that belts are centered on rubber stripe of drive roll. (See ADJUST BELT TRACKING in Service—Baler section.)
		Engage soft core option, if equipped, for the first 36 inches of bale. (See ADJUST VARIABLE CORE DIAMETER in Operating the Baler section.)

PP98408,0000F50 -19-07FEB13-6/6

Symptom	Problem	Solution
		Install silage auger kit. The auger can scrape off crop from back of belts, allowing crop to fall back onto windrow. (See your John Deere dealer.)
	Excessive wear of lower drill roll strips.	Replace lower and upper drive rolls. (See your John Deere dealer.)

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Bale Ramp Difficulties

Symptom	Problem	Solution
Ramp engages too quickly or too late.	Regulator valve needs adjustment.	Adjust. (See ADJUST BALE RAMP in Operating the Baler section.)
Bale sticks in chamber.	New baler.	Make several bales out of dry hay to polish sidesheets. Do not crowd ends so finished bale has soft ends.
	Excessive sidesheet friction caused by buildup on sidesheets.	Remove buildup. Be sure that gate deflectors are installed in gate.
	Bale ramp-to-gate timing needs adjustment.	Adjust. (See ADJUST BALE RAMP in Operating the Baler section.)
Bale will not roll back far enough.	Baler operating in lower position.	Raise baler or remove bale ramp. (See WHEEL SPINDLE POSITIONS in Preparing the Baler section.)
Bale ramp moves up too soon.	Regulator valve incorrectly adjusted.	Adjust by turning valve inward. (See ADJUST BALE RAMP in Operating the Baler section.)
	Gate lock valve not fully unlocked.	Be sure that snap ring on gate lock spool is against valve housing.
Bale ramp does not tilt.	Inadequate tractor hydraulic pressure.	Bale ramp requires 15 169 kPa (151.7 bar) (2200 psi) minimum hydraulic pressure.
	Regulator valve adjusted incorrectly.	Open valve 1/4 turn and try operating bale ramp again. (See ADJUST BALE RAMP in Operating the Baler section.)

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High-Moisture Kit (Silage Baling) Difficulties

NOTE: See BALE WET HAY in Operating the Baler section for proper baling procedures when making silage bales.

Symptom	Problem	Solution
Starter roll wraps with scraper installed.	Damaged scraper bar or too much clearance between scraper and starter roll bars.	Repair, replace, or adjust scraper bar. (See ADJUST STARTER ROLL SCRAPER [IF EQUIPPED] in Service—Baler Section.)
	Nicks on starter roll bars catch hay.	Remove nicks with a file.
459S and 559S; Excessive main drive clutch slippage.	Rocks caught between cleaning auger and staggered roll.	Remove rocks. Check for bent cleaning auger. Raise pickup height. (See ADJUST PICKUP HEIGHT in Operating the Baler section.)
459 and 559; Staggered roll spirals wrap.	Weld not on trailing side of spiral. Nicks or excess weld catches hay.	Relocate welds on trailing edge of spirals. Remove nicks by filing or grinding.
	Excessive scraper clearance.	Adjust scraper bar. (See ADJUST STARTER ROLL SCRAPER in Service—Baler Section.)
	Spirals installed incorrectly on roll.	Turn roll end for end. Roll must be installed with spirals converging toward the center of machine.
459 and 559; Staggered belt roll wraps in center of roll.	Acceptable if not over 8 mm (0.315 in.) thick. Generally does not continue to grow.	Remove wrappage once a day or as necessary.
Ticking noises while running empty baler.	459 and 559; Scrapers contacting spirals or starter roll bars. Spirals contacting sidesheet.	Adjust scraper bar. (See ADJUST STARTER ROLL SCRAPER in Service—Baler Section.)
	459S and 559S; Cleaning auger contacting staggered roll.	Check clearance between auger and staggered roll. (See ADJUST CLEARANCE BETWEEN CLEANING AUGER AND STAGGERED BELT ROLL in Service—Baler section.)
459 and 559; Loose buildup over spiral scrapers Belts slipping or not turning.	Normally occurs on downhill side and self-cleans on uphill side.	Remove once a day or as necessary.
	Excessive sidesheet friction caused by buildup on sidesheets.	Be sure that gate deflectors are installed in gate. Remove buildup by scraping or using high-pressure washer.
		Avoid baling when moisture content causes buildup. Bale crop when moisture content is different.

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PP98408,0000F52 -19-07FEB13-1/2

Troubleshooting

Symptom	Problem	Solution
	Dry crop conditions	See BALE SHORT DRY, SLICK CROPS in Operating the Baler section.
	Water dripping down from belts and rolls.	Avoid baling in rain or frosted conditions.
	Belts pinched between gate roll and baler axle.	Operate tractor at full rpm when closing the gate. This allows the tension arm to tighten the belts before gate is closed. Adjust upper tension (takeup) arm cylinder. (See ADJUST UPPER TENSION (TAKEUP) ARM CYLINDER in Service—Baler section.)
	Upper tension arm compression spring out of adjustment.	Adjust spring. (See ADJUST TAKE-UP ARM COMPRESSION SPRING in Service—Baler section.)
459S and 559S; Crop buildup at ends of cleaning auger.	Cleaning auger installed incorrectly (flighting moves crop to outside).	Turn cleaning auger roll end for end. Auger flighting must move crop toward center of baler when top of auger rotates forward. Check clearance between auger and staggered roll. (See ADJUST CLEARANCE BETWEEN CLEANING AUGER AND STAGGERED BELT ROLL in Service—Baler section.)
Bale does not eject.	Bale sticks in front frame due to buildup on baler sides.	Remove buildup. Be sure that gate deflectors are installed in gate. Avoid baling when moisture content causes buildup. Bale crop when moisture content is different.
	Belt tension arm not returning all the way down to tension belts.	Operate tractor at full rpm when closing the gate. This allows the tension arm to tighten the belts before gate is closed.
	Belts too long.	Check belts for correct length. (See REPAIR BELTS in Service—Baler section.)
Bale sticks in chamber.	Bale sticks in front frame due to damp crop.	Be sure that gate deflectors are installed in gate. Remove paint from inside of sidesheets.

PP98408,0000F52 -19-07FEB13-2/2

Net Wrap Difficulties

Symptom	Problem	Solution
Net wrap material wrapped around rubber feed roll. IMPORTANT: Do not cut net wrap material from rubber feed roll. Any knife cuts in the rubber roll covering can result in more frequent wrapping around the roll and can require roll replacement. (See CORRECT NET WRAP FEEDING PROBLEMS in Service—Net Wrap section.)	Brake torque too low.	Adjust brake (See CHECK AND ADJUST NET WRAP FEED ROLL BRAKE in Service—Net Wrap section)
	Lower portion of front sheet is too far away or too close to rubber roll.	Bend lower portion of front sheet to obtain 3—6 mm (0.12—0.24 in.) clearance between front sheet and rubber roll. (See CHECK FRONT SHEET TO RUBBER ROLL CLEARANCE in Service—Net Wrap section.) (See your John Deere dealer.)
	Net looped away from steel roll and contacting counterknife angle.	Adjust brake (See CHECK AND ADJUST NET WRAP FEED ROLL BRAKE in Service—Net Wrap section)
	Counterknife angle is not raising high enough.	Check idler. (See CHECK AND ADJUST V-BELT IDLER TENSION in Service—Net Wrap section.)
	Static electricity or dampness causing net wrap material to cling to the roll.	Dust the rubber drive roll and outside of net wrap with baby powder. (non-corn starch)
	Net wrap clings to rubber roll from weight of net wrap for extended periods of time (overnight or longer). Dirt, crop material, rust, or roughness on pan surface.	Unlock and relock brake on V-Belt pulley before each use. Clean and polish upper pan surface with SCOTCH-BRITE® or ultra fine sandpaper. Polish marks must be parallel to movement of mesh. (See NET WRAP USE AFTER EXTENDED STORAGE in Preparing Baler for Net Wrap section.)
	Hole wear in surface wrap side panel causes reduction in brake torque.	Check for hole wear in side panel. (See CHECK HOLE WEAR IN SURFACE WRAP SIDE PANEL in Service—Net Wrap section.) Weld key stock to side panel. (See your John Deere dealer.)

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OOU0604,00015D1 -19-25SEP15-1/12

Symptom	Problem	Solution
	Dust and moisture on surface of rubber roll causing net wrap to stick to roll.	Be sure to tape across cover hinge joint at top of cover is intact. Replace if necessary. (See your John Deere dealer.) Clean rolls. (See NET WRAP USE AFTER EXTENDED STORAGE in Preparing Baler for Net Wrap section.) Dry off rolls if dew is present. Thread net wrap.
	Contact between v-belt idler sheave bolt head and pan bolt head or strap will not allow counterknife angle to contact knife.	Check for contact between bolt heads. (See CHECK FOR LEFT-HAND SIDE COUNTERKNIFE CONTACT in Service—Net Wrap section.) Bend out left-hand counterknife arm. Remove washer between idler sheave and left-hand counterknife arm if necessary to align idler. (See your John Deere dealer.) Grind net pan bolt head or grind chamfer at front edge of net pan strap.
	Nicks or cuts on rubber feed roll.	Repair cuts or nicks. (See REPAIR CUTS ON RUBBER FEED ROLL in Service—Net Wrap section.)
	Lower net wrap guide (pan) not contacting belts.	Adjust net pan pressure. (See CHECK AND ADJUST NET PAN PRESSURE in Service—Net Wrap section.) Straighten net pan angle. (See CHECK AND STRAIGHTEN NET PAN ANGLE in Service—Net Wrap section.)
	Net switch plate attached to gate frame can cause right-hand side of net to hesitate and wrap on rubber roll.	Remove plate if slack belts do not cause net switch error codes.
	Counterknife angle not holding the net wrap.	See ADJUST NET WRAP KNIFE in Service—Net Wrap section.
		Clean brush. (See INSTALL AND ADJUST NET WRAP BRUSH in Service—Net Wrap section.)
	Feed roll pressure set too high.	Adjust feed roll pressure. (See ADJUST FEED ROLL PRESSURE in Service—Net Wrap section.)

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OUO6064,00015D1 -19-25SEP15-2/12

Symptom	Problem	Solution
	Long or uneven tails after cutoff.	(See ADJUST NET WRAP COUNTERKNIFE and SHARPEN NET WRAP KNIFE in Service—Net Wrap section.)
	Rubber roll damaged or sticky.	Clean by wiping with clean rag or soap and water. NEVER use solvents. Replace roller if damaged.
	Net wrap material sticky from adhesive used in packaging.	Remove any sticky material from the supply roll by unrolling, cutting, and discarding.
	Crop deflectors (belting) bent to rear and will not allow counterknife angle to raise high enough.	Check for bent deflectors (belts). (See CHECK FOR BENT RUBBER CROP DEFLECTORS in Service—Net Wrap section.) Remove deflectors if not baling cornstalks, milo, or sorghum. Trim deflectors. (See your John Deere dealer.)
	Net wrap material improperly routed, or too much of the end loop started through feed rolls when threading.	Route and thread net wrap correctly. (See THREAD NET WRAP AND ROUTE THROUGH ROLLS in Preparing Baler for Net Wrap section.)
Net wrap material wrapped around top idler roll. (No. 11)	Bale diameter too large.	Reduce bale diameter Avoid barrel shaped bales.
	Belts are muddy and sticky.	Clean belts.
	Belts are full of burrs or thorns.	Clean belts.
	Belt lacing pins are catching the net wrap material.	Make sure that splices are smooth.
	Net not cutting off cleanly	Sharpen knife, adjust cut-off angle to obtain clean cut-off. (See SHARPEN NET WRAP CUTOFF KNIFE in Service—Net Wrap section.) Remove and clean brush behind cut-off knife.
Net wrap wrapped around No. 8 roll spirals	Too much clearance between knife and counterknife angle, especially in middle. Center area cut is delayed and creates outside tails that can wrap spirals.	Adjust knife-to-counterknife angle clearance. (See ADJUST NET WRAP COUNTERKNIFE in Service—Net Wrap section.)
	Crop and dirt buildup at top of brush prevents counterknife angle from contacting knife.	Remove, clean, and install brush. (See INSTALL and ADJUST NET WRAP BRUSH in this section.)

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OOU6064,00015D1 -19-25SEP15-3/12

Symptom	Problem	Solution
Bale not wrapped (ALARM SOUNDS) Stop and Net Wrap indicators are displayed and E401 error code will be displayed.	Nicks and burrs on spirals.	Remove burrs with a hand file. Tighten left-hand side #8 roll support hardware. Avoid making oversize bales that deflect left-hand side #8 roll into frame.
	Crop deflectors (belting) bent to rear, splitting net approximately 75 mm (3 in.) from edge of net. Loose tails can wrap on #8 spirals.	Reverse or replace deflectors. Remove if not baling cornstalks, milo, or sorghum. Trim deflectors. (See your John Deere dealer.)
	Wrap material incorrectly threaded.	Rethread net. (See THREAD NET WRAP AND ROUTE THROUGH ROLLS in Preparing Baler for Net Wrap section.)
	Net wrap material wrapped around rubber feed roll.	Remove material from roll. (See NET WRAP DIFFICULTIES in this section), also, (See CORRECT NET WRAP FEEDING PROBLEMS in Service—Net Wrap section.)
	Net wrap material not started between feed roll.	Rethread net. (See THREAD NET WRAP AND ROUTE THROUGH ROLLS in Preparing Baler for Net Wrap section.)
	Net wrap roll installed backwards.	Install roll correctly. (See THREAD NET WRAP AND ROUTE THROUGH ROLLS in Preparing Baler for Net Wrap section.)
	Net wrap feed roll drive not engaged.	Check for broken, worn, or too long V-belt. (See CHECK V-BELT IDLER ADJUSTMENT in Service—Net Wrap section.) Check for binding at counterknife arm pivots and V-belt idler pivot. Check for movement of actuator.
	Feed roll pressure set too low.	Adjust feed roll pressure. (See ADJUST FEED ROLL PRESSURE in Service—Net Wrap section.)

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OUC6064,00015D1 -19-25SEP15-4/12

Symptom	Problem	Solution
Bale not wrapped. (NO ALARM, STOP, and NET WRAP indicators not displayed).	Roll of net wrap material larger than 305 mm (12 in.).	Use correct size roll of net wrap. (See your John Deere dealer.)
	Net wrap supply roll empty.	Install new roll. (See THREAD NET WRAP AND ROUTE THROUGH ROLLS in Preparing Baler for Net Wrap section.)
	Actuator not moving.	See your John Deere dealer
	Excess paint or paint runs on top surfaces of net pan are rough and can cause feeding problems.	Remove excess or rough paint and polish.
	Net wrap fed to other areas of the machine:	Locate and remove net wrap material before making the next bale. Otherwise, improper belt tracking and further incorrect feeding can result, if material is not removed promptly and the cause is not corrected.
	a) Starter roll wrappage.	Remove all burrs, weld splatters, rough spots, and imperfections on starter roll. Mud or sticky crop residue can cause occasional starter roll wrappage.
	b) Net wrapped on top idler roller	Bale diameter too large - Reduce baler diameter to 60 in. or smaller. (Measure a bale to check actual bale size, ensure its 60 in. or less.) Avoid making barrel shaped bales. (See WEAVE IN THE WINDROW in Operating the Baler section.) Check for mud or sticky crop on belts and rolls. Clean if necessary. Make sure that all belt pin ends are pointed toward back side of belt toward rolls, so the net wrap does not catch on bent ends of pins. Check for cut or damaged belt surface. Trim loose belt edges, repair, or replace. (See REPAIR BELTS in Service—Baler section.)
	c) Baler drive roll wrappage.	Do not damage rubber strips when removing net wrap material.
	d) Net splitting.	See NET WRAP IS SPLIT AROUND BALE OR STAYS BEHIND PICKUP in this section.

Continued on next page

OOU6064,00015D1 -19-25SEP15-5/12

Symptom	Problem	Solution
	e) Net wrap caught in rough belt splices (net wrap is not transferred from belts to bale during wrapping cycle).	Make sure that splices are smooth. Inspect and repair broken or damaged belt splices.
	f) Net wrap bunched behind lower belt guide on gate due to crop buildup.	Remove crop buildup from lower gate area. In some crops, reducing PTO rpm while baling will reduce buildup tendency. Ejecting bale with PTO running will reduce buildup in some conditions. (See BALE SHORT, DRY, SLICK CROPS in Operating the Baler section.) For extreme crop conditions install Build-Up Reduction Scraper Kit. (See Attachments section.)
	g) Bale forming belts sticky from silage buildup.	Diamond pattern on belts must be dry. Bale silage at a lower moisture content.
	h) Broken or damaged belt splices.	Repair belt splices.
	j) Adjacent belts track toward each other causing belts to pinch and pull net wrap around rolls.	Adjust belt tracking or move belt to another location to improve belt tracking. (See ADJUST BELT TRACKING in Service—Baler section.) Remove wrappage on baler rolls.
	Actuator or controller disconnected.	Check connections and wires.
	Monitor-controller not in NET mode.	Put monitor-controller selector switch on NET position.
Net will not start to feed. (If cover is open, net will feed.)	Shock contacts end of bolt on upper plastic roller arm.	Replace bolt with 5 mm (0.20 in.) shorter bolt or grind end of bolt flush with nut. Repeat on both sides.
Bale not uniformly wrapped (NO ALARM—stop and net wrap indicators are NOT displayed).	Buildup of crop behind lower belt guide on gate.	Clean out buildup. In some crops, reducing PTO rpm will reduce buildup tendency. Ejecting bale with PTO running will reduce buildup in some conditions. Install Build-Up Reduction Scraper Kit. (See Attachments section.)
	Insufficient number of wraps.	Make sure that the net wrap supply roll has not runout.

Continued on next page

OUO6064,00015D1 -19-25SEP15-6/12

Symptom	Problem	Solution
		Controller must be set to apply a minimum of two wraps. (See OPERATE NET WRAP CONTROL in Operating the Baler section.)
	Net wrap buildup at rear of pan.	Net wrap pan is not contacting belts at rear of pan. Adjust pan to contact belts.
	Holes worn in rear of pan catching net wrap.	Adjusting net pan pressure. (See ADJUST LOWER NET WRAP GUIDE in Service—Net Wrap section.)
	Belts not tracking properly.	See ADJUST BELT TRACKING in Service—Baler section.
	Too much tension on net wrap causing holes or tears in net wrap.	Reduce net wrap tension by adding shims between pulley halves. (See ADJUST NET WRAP TENSION in Service—Net Wrap section.)
	Net wrap cover not closed.	Cover must be closed and latched for best bale coverage.
	Net wrap cover gas springs weak.	Check springs on both sides of net wrap cover. Replace if necessary.
	Windguard angle damage or missing on MegaWide™ Plus pickup frame.	Install angle. (See your John Deere dealer)
	Net wrap not routed between steel and rubber roll .	See THREAD NET WRAP AND ROUTE THROUGH ROLLS in Preparing Baler for Net Wrap section.
	Roll of net wrap material too narrow.	See your John Deere dealer. Use only approved material for best results.
	Net wrap partially on bale, partially on feed roll or baler roll.	See BALE NOT WRAPPED (CUT OFF SIGNAL DOES ACTIVATE) in this section.
	Bale has crop between layers of net wrap on the bale or loose crop is outside the net wrap on the bale.	Stop forward travel immediately when the full bale alarm stops. Net wrap begins to feed at that time, and any crop picked up after this will be placed between the layers of net wrap or outside the wrapping. Adjust monitor to delay starting wrap on CH. 26.

Continued on next page

OOU06064,00015D1 -19-25SEP15-7/12

Symptom	Problem	Solution
Alarm Sounds. STOP and NET WRAP indicators are displayed on monitor-controller and alarm sounds when bale is wrapped correctly. E401 or E402 error codes will be displayed.	Switch activating flap is not adjusted or binding.	Adjust and correct binding or lube pivots. (See ADJUST NET WRAP SWITCH in Service—Net Wrap section).
	Net wrap material is not cut off cleanly.	Sharpen net wrap cut-off knife. (See SHARPEN NET WRAP CUTOFF KNIFE in Service—Net Wrap section.)
		Adjust net wrap knife arm brake. (See CHECK NET WRAP FEED ROLL BRAKE in Service—Net Wrap section.)
		Tighten rubber roll pressure springs. (See ADJUST NET WRAP FEED ROLL PRESSURE in Service—Net Wrap section.)
	Net wrap switch needs adjustment.	Adjust. (See ADJUST NET WRAP SWITCH in Service—Net Wrap section.)
	Return spring on net wrap switch is missing or damaged.	Replace spring.
	Cutoff indicator flap binding.	Check for bent or damaged parts. Repair or replace as necessary.
Net wrap not cut off at end of wrapping cycle. (Alarm Sounds—Stop and Net Wrap indicators displayed.) E402 error code will be displayed.	Microswitch failed.	Check net wrap switch. (See CHECK AND ADJUST SWITCH in Service—Baler section.) Replace if necessary.
	Wire connections unplugged, corroded, or dirty.	Inspect connections in harness next to oversize bale switch, just ahead of the net wrap unit on right-hand side, and at the net wrap microswitch.
	Brake on rubber feed roll out of adjustment or worn.	Check and adjust brake. (See CHECK NET WRAP FEED ROLL BRAKE in Service—Net Wrap section.)
	Cutoff angle not returning to cutting position freely.	Check for proper lubrication and binding at knife arm pivots. See your John Deere dealer if binding occurs.
		Check for voltage to net actuator.
	Dull knife.	Sharpen knife with file. Knife must be sharp for clean cut-off. (See SHARPEN NET WRAP CUTOFF KNIFE in Service—Net Wrap section.)

Continued on next page

OUC6064,00015D1 -19-25SEP15-8/12

Symptom	Problem	Solution
Net wrap loose around bale.	Net wrap cover open.	Cover must be closed for best cut-off.
	Cutoff angle out of adjustment.	Adjust. (See ADJUST NET WRAP COUNTERKNIFE ARM in Service—Net Wrap section).
		Remove and clean brush.
	Net wrap tails holds net switch actuator down.	See solutions above, from top of page.
	Inadequate tension on net.	Increase tension (See ADJUST NET WRAP STRETCH in Service—Net Wrap section.)
	Net Wrap traveling over idler roll (#11) due to too large bale.	Ensure that bales are not larger than 152 cm (60 in.) when measured. Reduce monitor size setting if necessary.
		Make smaller bale. (See ADJUST SWITCH OVERSIZE BALE in Service—Baler section.)
Varying number of wraps from one bale to the next.	V-belt idler out of adjustment.	Check idler. (See CHECK V-BELT IDLER ADJUSTMENT in Service—Net Wrap section.)
	Weak gas springs.	Check springs for proper force.
	Too many wraps applied.	Normally no more than three wraps are needed. Excess wraps can appear to be loose.
	Varying PTO speed while wrapping from one bale to the next.	Maintain rated PTO speed while wrapping. If difficult crop conditions require varying PTO speed while baling, return to rated speed for wrapping.
	Slip clutch alert turned off. (Not used on 559 Baler with Regular pickup)	Slip clutch alert will control number of wraps independent of tractor PTO speed. (See Operating the Baler section.)
	Bale size and shape not uniform.	Make bales uniform in shape. Follow operating instructions in Operating the Baler section.
		<i>NOTE: If wrapping a smaller bale with override switches, the small bale will have a higher number of wraps unless controller is readjusted.</i>

Continued on next page

OOU06064,00015D1 -19-25SEP15-9/12

Symptom	Problem	Solution
Net wrap is split around bale or stays behind the pickup.	Too much clearance between net wrap guide pan and belts.	Adjust rear of pan to contact belts at lower rear gate roller (see CHECK AND ADJUST LOWER NET WRAP GUIDE in Service Net Wrap section.)
	Buildup of crop stems in gate lower belt guide area.	Remove buildup. In some crops, reducing PTO rpm will reduce buildup tendency. Ejecting bale with PTO running will reduce buildup in some conditions.
	Over size bale compresses crop build up in lower gate belt guide area.	Adjust oversize bale switch. (See ADJUST OVERSIZE BALE SWITCH in Service section.)
		Remove buildup. In some crops, reducing PTO rpm will reduce buildup tendency. Ejecting bale with PTO running will reduce buildup in some conditions. (See ADJUST OVERSIZE BALE SWITCH in Service section.)
		Actual bale size is larger than displayed diameter. Adjust bale size display to match actual diameter. (See ADJUST BALE DIAMETER DISPLAY in Service section.)
	Oversize bale can allow some strands of net to wrap around number 11 idler roller.	Adjust oversize bale switch. (See ADJUST OVERSIZE BALE SWITCH in Service section.) Remove net from all rollers.
		Actual bale size is larger than displayed diameter. Adjust bale size display to match actual diameter. (See ADJUST BALE DIAMETER DISPLAY in Service section.)
	Too much pressure between net wrap pan channels and belts, causing net to become hot.	Check net pan pressure. (See CHECK AND ADJUST NET PAN PRESSURE in Service—Net Wrap section.)
		If a net pan channel is bowed up, straighten to match other channels.
	Stemmy crops causing splitting or snagging.	Use more wraps of net wrap material.
	Clearance exceeds 5 mm (0.20 in.) between lower guide crossbar and belt guide straps. (Belts track underneath belt guides and split net.)	Check for proper clearance. (See CHECK AND ADJUST LOWER NET WRAP GUIDE in Service—Net Wrap section.)

Continued on next page

OJ06064,00015D1 -19-25SEP15-10/12

Symptom	Problem	Solution
Net wrap breaking due to excess tension.	Insufficient clearance between lower guide crossbar and belt guide straps. (Net contacts belt guides.)	Check for proper clearance. (See CHECK AND ADJUST LOWER NET WRAP GUIDE in Service—Net Wrap section.)
	Clearance between lower guide crossbar and belt guide straps is 3—4 mm (0.12—0.16 in.) and causes crop to hairpin around belt guides and split net in cornstalks, cane, or sorghum crops.	Set clearance between lower guide crossbar and belt guide strap to 4—5 mm (0.16—0.20 in.). (See CHECK AND ADJUST LOWER NET WRAP GUIDE in Service—Net Wrap section.)
	Belts not tracking correctly.	See ADJUST BELT TRACKING in Service—Baler section.
	Material snagging on splices or pins.	Make sure that splices are smooth.
	Incorrect number of shims between pulley halves for net wrap being used.	See ADJUST NET WRAP STRETCH in Service—Net Wrap section.
Cover does not stay open.	Not enough wraps of net.	Adjust for at least two full wraps. More wraps in difficult crops for example straw and corn stalks.
	Weak gas springs.	Replace springs.
Cover will not open.	Brake lever not engaged and contacts shock mounting.	Engage brake lever before closing cover.
		Add washers to brake lever pivot pin to reduce lever end play.
Net is not out to edge of bale. (Using edge to edge material)	Roll of net too narrow.	See your John Deere dealer. Use only approved material for best results.
	Roll of net wrap not center in baler.	Use centering plugs. See your John Deere dealer.
	Overfilling ends of bale producing an hourglass shaped bale. Confirm net is to ends of bale in chamber. Net will move away from ends of bale after discharging bale.	Decrease windrow width, especially if equipped with MegaWide™ Plus pickup.
COVER-EDGE™ material not going over edge of bale.	Crop material blocking net wrap path.	Remove crop, check scraper, and cast gate filler adjustments.
		Reduce rpm. (See BALE SHORT, DRY, SLICK CROPS in Operating the Baler.)
	Belt tracking incorrect.	Be sure right-hand or left-hand end belts do not continuously contract guide washers. On pan, belts must be centered between washers.

Continued on next page

OUO6064,00015D1 -19-25SEP15-11/12

Symptom	Problem	Solution
	Not enough tension on net wrap.	Check tension. If needed, Increase tension by removing approximately two shims from between pulley halves. (See ADJUST NET WRAP STRETCH in Service—Net Wrap section).
Approximately 250 mm (10 in.) of CoverEdge™ net is cut or torn at bale edge on one or both sides.	When distance (1—3 mm [0.04—0.12 in.]) between lower rear corner of gate casting and sidesheet exceeds 3 mm (0.12 in.), gate casting can catch and damage net during discharge.	Check distance between lower rear corner of gate casting and sidesheet by placing feeler gauge against sidesheet. If 3 mm (0.12 in.) distance is exceeded: 1. Remove, clean, reinstall, and recheck distance. 2. Heat and bend lower rear corner within 1—3 mm (0.04—0.12 in.) of sidesheet. 3. Replace gate casting.
Metal strip not detected during a B-Wrap cycle.	Sensor not adjusted properly.	Ensure B-Wrap sensor is adjusted within specification. (See ADJUST B-WRAP SENSOR in Operating the Baler section.)
	Net not feeding properly causing metal strip not to pass the sensor.	Make sure that there is no buildup of net on the left-hand side of the net system and baler.
B-Wrap tail too long or short after velcro strips.	B-Wrap cut position needs to be adjusted.	If tail length is too long, decrease cut parameter. If tail length is too short, increase cut parameter. (See Adjust Cut Position in ADJUST B-WRAP SETTINGS in Operating Baler Application section.)
Overlap of breathable section of wrap is oriented incorrectly (not between noon and 6 o'clock when looking at left-hand side of bale).	B-Wrap seam orientation offset needs to be adjusted.	Increase orientation parameter if bale needs to rotate counterclockwise when looking at the left-hand side of the bale. Decrease orientation parameter if bale needs to rotate clockwise when looking at the left-hand side of the bale. (See Adjust Bale Orientation in ADJUST B-WRAP SETTINGS in Operating Baler Application section.)

OUC6064,00015D1 -19-25SEP15-12/12

Symptom	Problem	Solution
	PTO is not turned off before ejecting the bale in non-Automation mode.	Turn PTO off when beep sequence reaches end of countdown. (See MONITOR DISPLAY for B-WRAP BALING in Operating Baler Application section.)
	PTO is not turned off before ejecting the bale in Automation mode.	Ensure that the Auto-PTO off check box is selected on the Automation settings page. (See ENABLE AUTO-PTO OFF for B-WRAP AUTOMATION in Operating Baler in Automation Mode section.)
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BaleTrak™ Pro Monitor-Controller Error Codes

Error Code	Description	Solution
E0 01	Erratic supply voltage when actuator operating	Check Battery Check Alternator Check wires and connections see Channel 019 in Service section
E0 02	Low Voltage	Check Alternator Check that wires and connections perform voltage test, see Testing Tractor Outlet Voltage, Channel 019, in Service Section
E0 03	High Voltage	Check alternator See Channel 019 in Service section
E1 02	Bale size sensor disconnected or shorted to ground	Check wires and connectors Check sensor
E1 03M	Bale size sensor shorted to power	Check wires and connectors Check sensor
E1 04	Bale size sensor below working range	Check sensor adjustment, see Channel 005 in Service section
E1 05	Bale size sensor above working range	Check sensor adjustment, see Channel 005 in Service section
E1 12	Right bale shape sensor shorted to ground	Check wire and connectors Check sensor
E1 13	Right bale shape sensor shorted to power	Check wire and connectors Check sensor
E1 14	Right bale shape sensor below working range	Check sensor adjustment, see Channel 007 in Service section
E1 15	Right bale shape sensor above working range	Check sensor adjustment, see Channel 007 in Service section
E1 22	Left bale shape sensor shorted to ground	Check wire and connectors Check sensor
E1 23	Left bale shape sensor shorted to power	Check wire and connectors Check sensor
E1 24	Left bale shape sensor below working range	Check sensor adjustment , see Channel 009 in Service section
E1 25	Left bale shape sensor above working range	Check sensor adjustment , see Channel 007 in Service section
E2 01	Twine actuator disconnected	Check wires and connectors
E2 02	Twine actuator faulty	Check that twine actuator using extend or retract switches Check twine actuator using bypass switch
E2 03	Timeout error during twine wrapping cycle	Check for obstruction or binding
E2 04	Twine actuator harness shorted to battery	Check wires and connectors Check twine actuator
E2 05	Twine actuator harness shorted to ground	Check wires and connectors Check sensor
E2 11	Net actuator disconnected	Check wires and connectors
E2 12	Net actuator faulty	Using channel 019, check that net actuator using extend or retract switches
E2 13	Time-out error during net wrapping cycle	Check for obstruction or binding
E2 14	Net actuator harness shorted to battery	Check wires and connectors Check net actuator
E2 15	Net actuator harness shorted to ground	Check wires and connectors Check net actuator
E2 17	B-Wrap sensor did not detect metal tag	Check B-Wrap roll velcro fasteners Check B-Wrap sensor harness and adjustment
E2 21	Variable core valve disconnected	Check wires and connectors Check variable core valve solenoid
E2 22	Variable core valve shorted to power	Check wires and connectors Check variable core valve solenoid

Continued on next page

OUC06064,00015D2 -19-09OCT15-1/2

Troubleshooting

E2 23	Variable core valve shorted to ground	Check wires and connectors Check variable core valve solenoid
E3 01	Open circuit PTO RPM sensor (Not used on 559 Baler with Regular pickup)	Check wires, connectors, and sensor for damage. Check sensor readout on channel 016, See Wrap cycle without PTO engaged
E3 02	PTO sensor less than minimum speed (Not used on 559 Baler with Regular pickup)	Check sensor adjustment and sensor readout, See sensor readout on channel 017 for approximately 310 RPM. Speed must not vary more than 5 RPM
E3 03	PTO sensor exceeds maximum speed (Not used on 559 Baler with Regular pickup)	Check sensor adjustment and sensor readout, See sensor readout on channel 017 for approximately 310 RPM. Speed must not vary more than 5 RPM
E4 01	Net did not wrap bale	See net section of troubleshooting
E4 02	Net did not cut	See net section of troubleshooting
E4 11	Right gate switch always open	Check right gate switch adjustment and function. See right gate switch adjustment and testing, Channel 014 in Service section
E4 12	Right gate switch always closed	Check right gate switch adjustment and function. See right gate switch adjustment and testing, Channel 014 in Service section
E4 3	Oversize switch always open	Check oversize switch adjustment and function. See oversize bale switch adjustment and testing, Channel 013 in Service section
E5 01	Open circuit, negative sensor circuit	Check sensor wires, connectors, and sensors
E5 02	Grounded circuit, negative sensor circuit	Check sensor wires, connectors, and sensors
E5 03	Shorted circuit, negative sensor circuit	Check sensor wires, connectors, and sensors
E5 11	Open circuit, positive sensor circuit	Check sensor wires, connectors, and sensors
E5 12	Grounded circuit, positive sensor circuit	Check sensor wires, connectors, and sensors
E5 13	Shorted circuit, positive sensor circuit	Check sensor wires, connectors, and sensors
LOnEt	Roll of B-Wrap material is empty	Load new roll of wrap material

OUO6064,00015D2 -19-09OCT15-2/2

Service—Baler

Detailed Service Information

See the technical (repair) manual for detailed service information or see your John Deere dealer.



TS224 —UN—17JAN89

PP98408,0000F55 -19-07FEB13-1/1

Practice Safe Service Procedures

CAUTION: To help prevent personal injury caused by unexpected movement, be sure to service the machine on a level surface.

If machine is connected to a tractor, engage tractor parking brake and place transmission in Park, shut off engine and remove key. If machine is detached from tractor, block wheels to prevent movement.

While working inside or around the baler with an open gate, the tension arm must be fully raised and against its stops and gate lock lever must be moved to locked position (A). Use this safety feature anytime the gate is open. Close the gate anytime the baler must be left unattended.

When positioning the gate to provide access for service, always be sure that tension arm is fully raised, and against its stops. This is to prevent the gate from rotating downward unexpectedly while service work is being performed. **ALWAYS** raise the gate fully and lower it to the desired opening height before engaging the gate lock. Crop material can hold the tension arm at a lower position, and if this material is disturbed during service, the tension arm can swing up, and the gate can swing suddenly downward, even if the gate lock is engaged. Verifying that tension arm is positioned against its stops will avoid this situation. Failure to do this can result in serious injury or death.

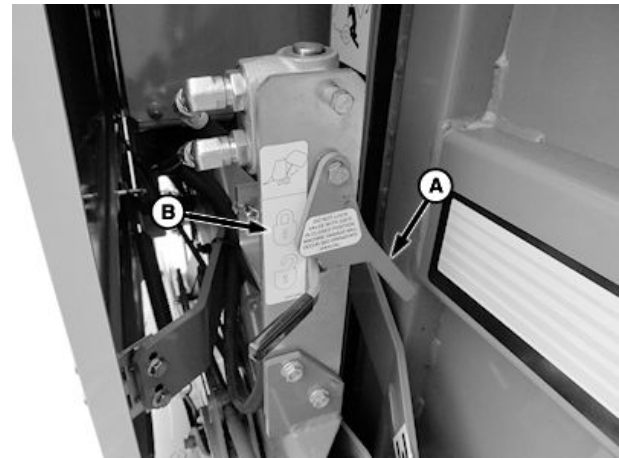
IMPORTANT: Before operating baler, make sure that gate lock lever is in the **UNLOCKED** position. Operating baler with gate lock engaged will damage baler.

The gate lock valve locks each gate lift cylinder independently with gate in any position. If the hydraulic lift system failed on one side of machine, the gate would still be held open by the other side.

When locking the gate in any position:

1. Raise gate fully.
2. Lower gate to desired height.
3. Rotate interlock lever (A) and move gate lock lever (B) to locked position.
4. Verify that tension arm is fully raised and against its stops.

If gate lock lever can be moved to locked position with gate fully closed, interlock lever is not adjusted properly.



A—Interlock Lever

B—Gate Lock Lever

See **CHECK GATE LOCK VALVE INTERLOCK LEVER ADJUSTMENT** in Operating the Baler section.

CAUTION: Before servicing or adjusting baler:

1. Disengage all power.
2. Shut off tractor engine.
3. Wait until all moving parts have stopped.
4. Let all components cool.

IMPORTANT: Disconnect power supply to electronic controls when servicing electrical systems or when welding on baler. Over-voltage can damage the electronic controls.

PP98408,0000F56 -19-20MAR13-1/1

TS698 —UN—21SEP89

E63101 —UN—13APR12

Fire Prevention

Keep foreign material from building up on the machine near potentially hot areas, such as bearings on the ends of baler rolls and slip-clutch. Remove this buildup as part of the regular service operations and at the end of each use.

Leaf blowers, blower-vacuums, or similar devices can be used to remove loose crop buildup. Compressed air can be used to remove more difficult buildup.

Avoid high-pressure power-washing near the bearings to prevent damaging seals.

Check bearings regularly for early signs of failure, replace as necessary. Turn off power to baler and check for unusual noises, hot parts, smells of scorching, and discolored paint or metal. Check condition of bearings. (See FIRE PREVENTION in Lubrication and Maintenance section.)

If service operations require using a welder, cutting torch or grinder on the baler, these guidelines can prove useful in preventing a fire:

1. Park baler on pavement or bare ground.
2. Remove chaff to minimize exposure of flammable material to sparks; if chaff cannot be removed, soak it thoroughly with water before starting. Protect hoses and belts from exposure to sparks, arcs, or flames.
3. Be sure a fully charged water-type fire extinguisher or other source of water is ready for immediate use.
4. Use an assistant to watch for fire while welding, cutting, or grinding.
5. After welding, cutting or grinding is finished, wait long enough to allow parts to cool down before starting to bale. Verify that no sparks or slag have started a fire before leaving service area.

PP98408,0000F57 -19-07FEB13-1/1

Keep Service Area Clean

⚠ CAUTION: Understand service procedure before doing work. Keep area clean and dry

Never lubricate, service, or adjust machine while it is moving. Keep hands, feet, and clothing from power-driven parts. Disengage all power and operate controls to relieve pressure. Lower equipment to the ground. Stop the engine. Remove the key. Allow machine to cool.

Securely support any machine elements that must be raised for service work.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any buildup of grease, oil, or debris.

On self-propelled equipment, disconnect battery ground cable (-) before performing adjustments on electrical systems or welding on machine.

On towed implements, disconnect wire harnesses from tractor before servicing electrical system components or welding on machine.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any buildup of grease, oil, or debris.

Disconnect battery ground cable (-) before performing adjustments on electrical systems or welding on machine.



TS218—UN—23AUG88

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Service Tires Safely

⚠ CAUTION: Explosive separation of a tire and rim parts can cause serious injury or death.

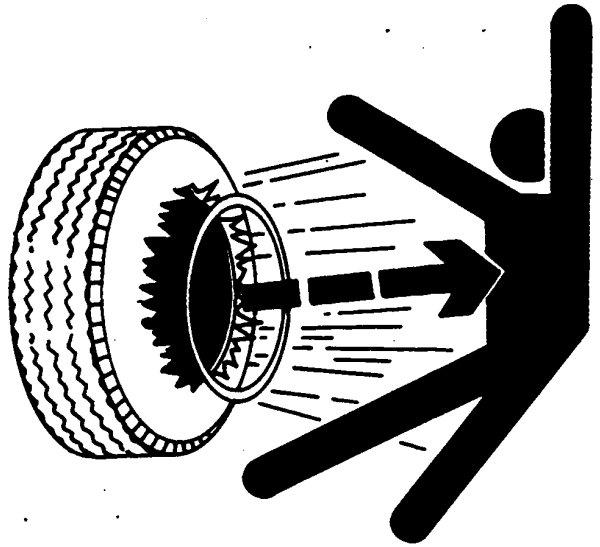
Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job.

Always maintain the correct tire pressure. Do not inflate the tires above the recommended pressure.

Never weld or heat a wheel and tire assembly. The heat can cause an increase in air pressure resulting in a tire explosion. Welding can structurally weaken or deform the wheel.

When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly. Use a safety cage if available.

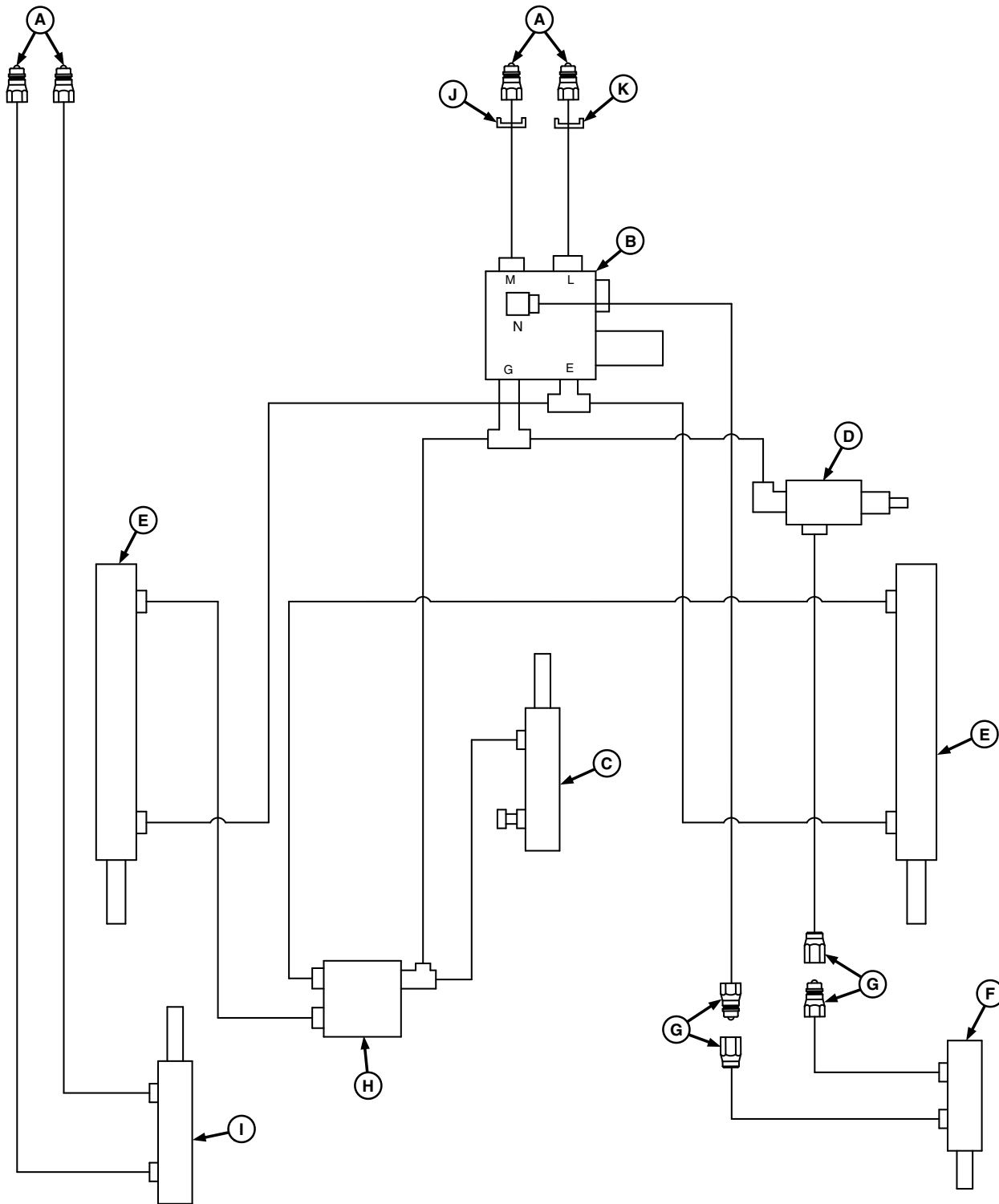
Check wheels for low pressure, cuts, bubbles, damaged rims or missing lug bolts and nuts.



TS211 —UN—15APR13

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Hydraulic System Diagram



E55064 —UN—19APR07

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PP98408,0000F5A -19-07FEB13-1/2

A—To Tractor SCV Ports

B—Tensioning Valve

C—Take-Up Arm Cylinder

D—Bale Ramp Regulator Valve (if equipped)

E—Tension or Gate Cylinders

F—Bale Ramp Cylinder (optional)

G—Quick-Disconnect Fittings (if equipped)

H—Gate Lock Valve

I—Pickup Lift Cylinder (if equipped)

J—Orifice (stamped 361)

K—Orifice (stamped 351)

An optional hydraulic bale ramp is available. Bale ramp is operated by bale tension or gate control system.

One set of hydraulic outlets is required to operate baler.

If baler is equipped with optional hydraulic pickup lift, an additional set of hydraulic outlets is needed.

The hydraulic system uses the following major components:

- Tensioning valve (B)—Used to direct oil flow, check flow, and limit hydraulic pressures.
- Tension or gate (*double-acting*) cylinders (E)—Used to raise and lower gate and to control bale tensioning.
- Take-up (*single-acting*) cylinder (C)—Used to provide proper sequencing between the tension arm and gate

opening. Also, it helps control belt slack during gate closing to avoid belt pinching.

- Optional pickup lift (*double-acting*) cylinder (J)—Used to raise and lower pickup using tractor SCV.
- Optional bale ramp (*double-acting*) cylinder (F)—Used to automatically lower or raise bale ramp when gate is opened fully.
- Optional regulator valve (D)—Used to regulate flow to and from optional bale ramp cylinder (F) for proper sequencing of ramp and gate positions.
- Gate lock valve (H)—Used to block flow of oil to and from base ports of tension or gate cylinders (E).

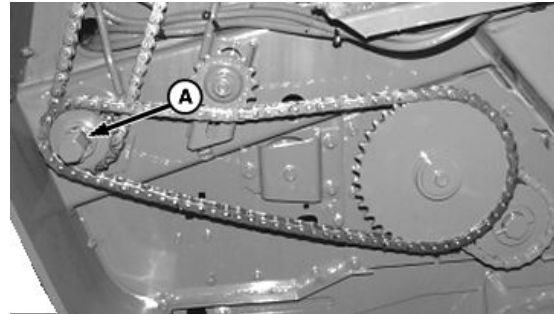
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Rotate Output Shaft By Hand

CAUTION: Never use any type of tool or wrench on shaft while tractor engine is running. Always remove tool from shaft as soon as you are finished using it.

If it is necessary to rotate the shaft by hand, an open-end wrench can be placed on the gear case output shaft (A).

A—Gear Case Output Shaft



E54534—UN—01MAY06

PP98408,0000F5B -19-07FEB13-1/1

Adjust Lower Drive Roll Chain

To ensure that all slack is removed from chains;

- Close gate and engage PTO a few seconds.
- Stop tractor engine and remove key.

1. Open left-hand side door.
2. To adjust idler sprocket on 459 and 559:
 - Loosen idler sprocket nut (A).
 - Adjust idler sprocket to meet total mid-span chain deflection (B) specifications.

Specification

Mid-Span
Deflection—Distance.....10—16 mm
(3/8—5/8 in.)

- Remove one or two links when idler sprocket is within last 10 mm (3/8 in.) of slot travel.
- Tighten idler nut (A) to specification.

Specification

Idler Nut—Torque.....163 N·m
(120 lb.-ft.)

3. To adjust idler sprocket on 459S and 559S:
 - Loosen idler sprocket nut (A).
 - Adjust idler sprocket to meet total mid-span chain deflection (B) specifications.

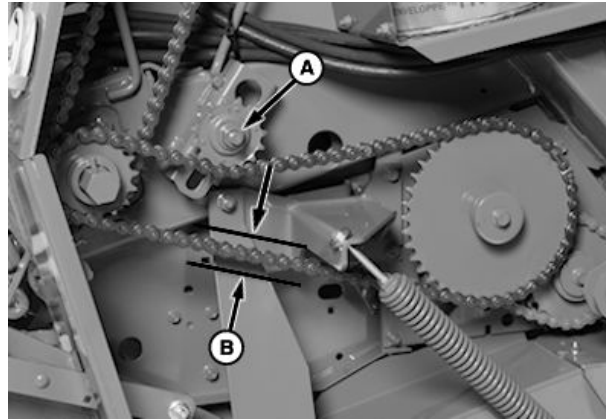
Specification

Mid-Span
Deflection—Distance.....10—16 mm
(3/8—5/8 in.)

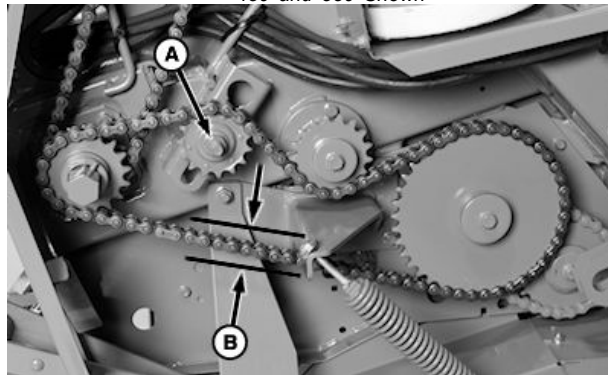
- Remove one or two links when idler sprocket is within 10 mm (3/8 in.) of slot travel.
- Tighten idler nut (A) to specification.

Specification

Idler Nut—Torque.....163 N·m
(120 lb.-ft.)



459 and 559 Shown



459S and 559S Shown

A—Idler Sprocket Nut

B—Dimension, 10—16 mm
(3/8—5/8 in.)

PP98408,0000F5C -19-07FEB13-1/1

E67218—UN—07AUG12

E67219—UN—07AUG12

Adjust Upper Roll Drive Chain

To ensure the rear strand is the tight side of chain:

- Close gate and engage PTO a few seconds.
- Stop tractor engine and remove key.

Open left-hand side door.

When idler arm stop (A) is within 3 mm (1/8 in.) of contacting drive roll bracket bolt (B), remove links from chain (C).

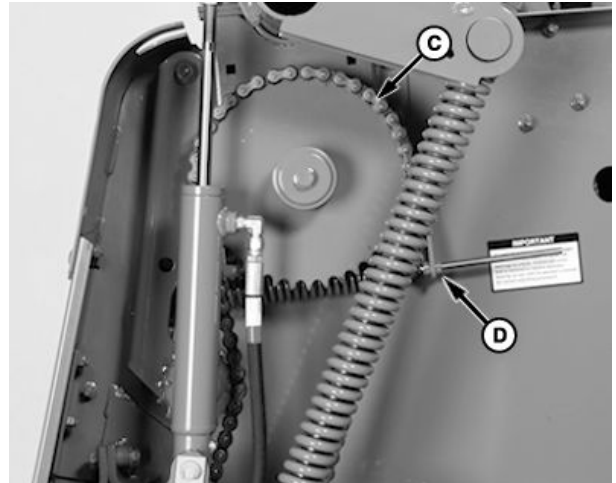
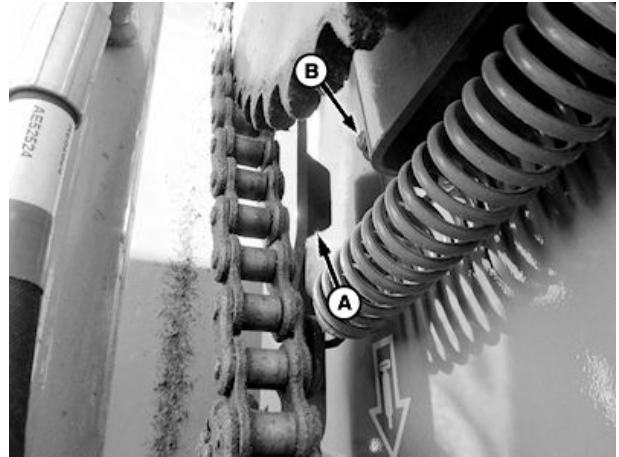
To remove chain link:

1. Loosen nut (D) to release chain tension.
2. Remove two links from chain (C).
3. Hold eyebolt from turning and tighten nut (D) against angle.
4. Check arm for contact. Repeat procedure as necessary.

Close left-hand side door.

A—Idler Arm Stop
B—Drive Roll Bracket Bolt

C—Chain
D—Nut



E67455 —UN—21AUG12

E67456 —UN—21AUG12

PP98408,0000F5D -19-07FEB13-1/1

Replace Drive Roll Bearings or Left-Hand Sprockets



Left-Hand Side Shown

E54511 —UN—15MAY06



Right-Hand Side Shown

E54507 —UN—04MAY06

IMPORTANT: 1.5 and 3.0 mm thick washers at lower left-hand drive roll position only, must be machined and hardened to keep shaft end center bolt tight.

NOTE: When replacing drive sprocket, the procedure for installing center bolt and washers in left-hand drive roll must be followed to avoid loosening of center bolt.

NOTE: Make note of all washers and spacers when removing drive roll bearing. Replace with new washers to ensure proper joint. The exact number of washers and spacers must be installed in the same order and in same location as removed when drive roll bearing is installed.

PP98408,0000F5E -19-07FEB13-1/1

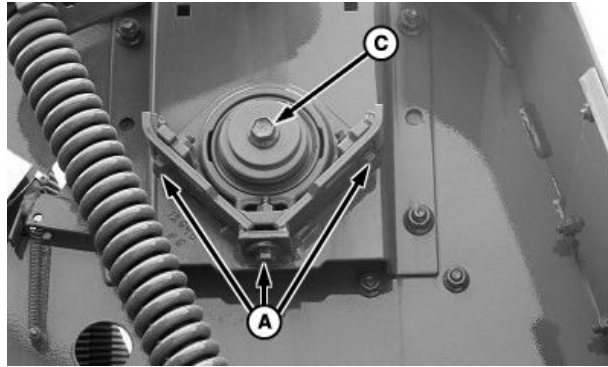
Install Left-Hand Upper Drive Roll Bearing

IMPORTANT: To prevent bearing failure, always loosen the three **RIGHT-HAND SIDE** flange mounting bolts (A) before tightening left-hand side (drive side) center bolt (B). Adjust and tighten right-hand side mounting bolts per this instruction **AFTER** left-hand side is tightened.

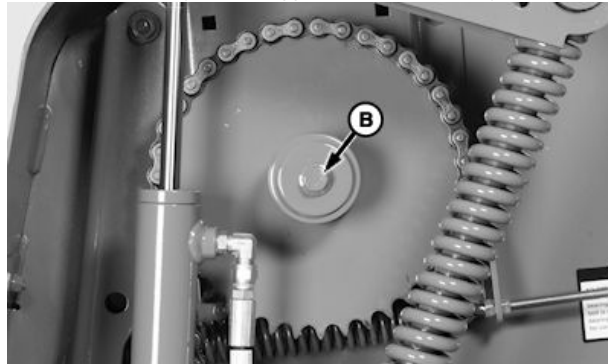
1. Right-hand side of baler: Loosen three flange mounting cap screws (A) and cap screw (C).
2. Loosen and remove cap screw (B) on left-hand side of baler.
3. Remove drive chain.
4. Carefully remove washers and sprocket, noting the position and number of washers removed at each location.
5. Remove flange nuts.
6. Remove and discard bearing.

A—Cap Screw, M8 (3 used)
B—Cap Screw, M12 (Drive Side)

C—Cap Screw, M12 x 80 mm



Right-hand Upper Drive Roll Bearing



Left-hand Upper Drive Roll Bearing

PP98408,0000F5F -19-07FEB13-1/8

7. Install chamfered spacer (A) (chamfer toward roll), washers (B), washer (E), and bearing on shaft, snug four flange nuts (C), and pull roll firmly to left-hand side of baler.
8. Center roll side-to-side:
 - Center roll side-to-side.
 - Measure from outer rubber strip to side sheet on both sides to check roll centering.
 - The difference between the two dimensions must be 6 mm (0.24 in.) or less.
 - If needed, add or remove washers between roll and left-hand bearing to center roll.
 - Washer (E) must be on both sides of bearing.
9. Tighten flange nuts (C) to specifications.

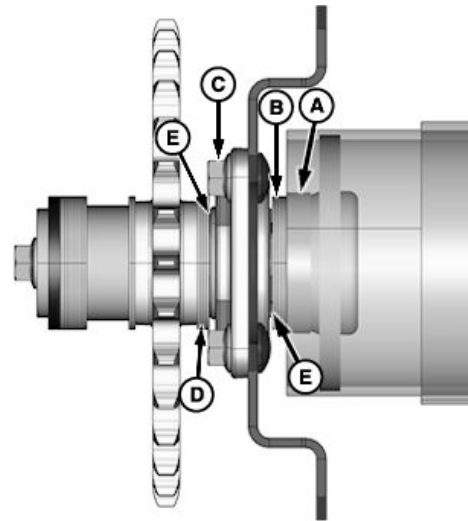
Specification

Flange Nut and
Bolt—Torque.....95 N·m
(70 lb.-ft.)

10. Install sprocket and two washers (D) and one washer (E). Be sure washer (E) is next to bearing on both sides.

A—Chamfered Spacer
B—Washers (5 Used, As
Required)
C—Flanged Nut

D—Washers (2 Used, As
Required)
E—Washers, 45.2 x 57.2 x .9
mm (Each Side of Bearing)



Continued on next page

PP98408,0000F5F -19-07FEB13-2/8

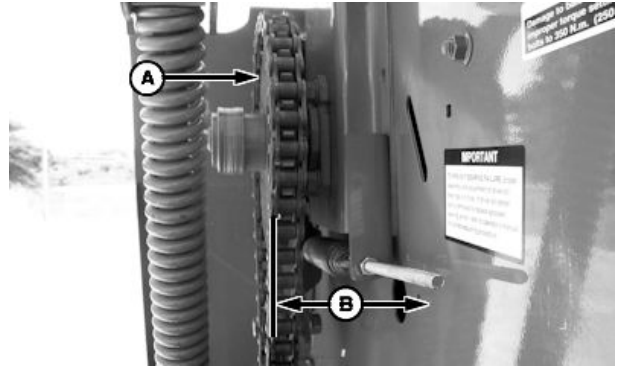
11. Measure clearance (B) between sidesheet and outer surface of sprocket (A). Clearance must be within specification.

Specification

Sidesheet-to-Outer
Surface of
Sprocket—Clearance..... 89.9 mm
(3.54 in.)

12. If not within specification, add or remove washers between sprocket and bearing as necessary.

A—Outer Surface of Sprocket B—Clearance, 89.9 mm (3.54 in.)



PP98408,0000F5F -19-07FEB13-3/8

E58846—UN—29JUL10

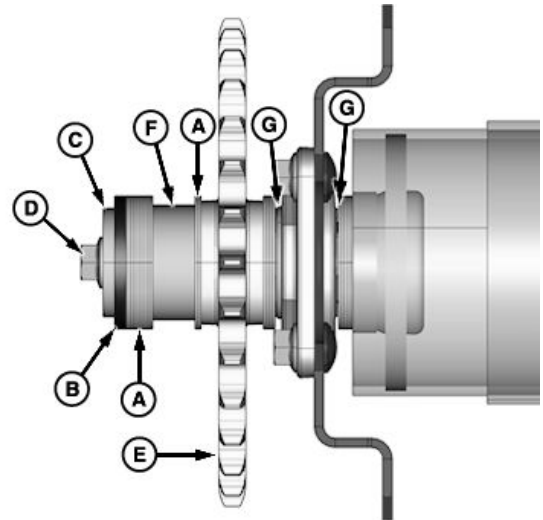
13. Tap right-hand side of upper roll to remove all end play to left-hand side of baler.
14. Hold upper roll shaft to left-hand side and push upper drive roll sprocket (E) and washers inward.

IMPORTANT: To avoid center bolt loosening or hex knock, keep washers (A and B) centered on shaft. Ensure that washers do not rotate by hand. Joint must be clamped to eliminate hex knock.

15. Install two washers (A) and spacer (F) on shaft.
16. Install washers (A) between spacer and end of shaft, so washers are flush with end of shaft, and add one washer (A). Add a 6 mm (0.25 in.) washer (B). Install washer (C).
17. Install and tighten cap screw (D) to specification.

Specification

Cap Screw—Torque..... 140 N·m
(103 lb.-ft.)



A—Thin Washers (1.5 mm, As Required)
B—Washer, 6 mm (0.25 in.)
C—Washer, 13 x 57 x 6 mm
D—Cap Screw, M12 x 75 mm

E—Upper Drive Roll Sprocket
F—Spacer
G—Washer, 45.2 x 57.2 x .9 mm (2 used) (Each Side of Bearing)

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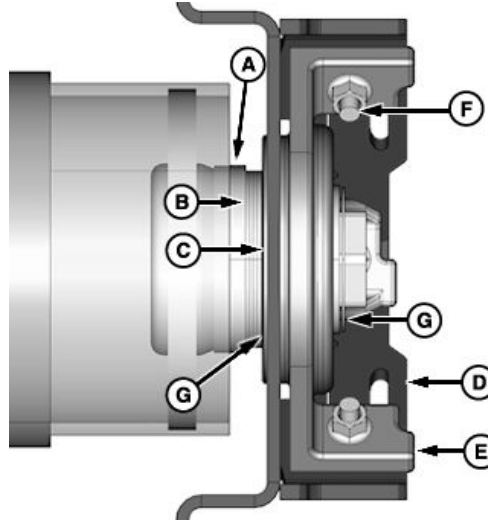
PP98408,0000F5F -19-07FEB13-4/8

E67562—UN—27AUG12

18. **Right-hand Side of Baler:** Make sure that there are enough washers (B) between end of roll tube and bearing to locate bearing cast housing correctly. Remove three M8 cap screws (F) to be installed later.
19. Hold bearing (C) tight against washers. Edge of mounting strap (D) must align within the step of cast housing (E) in three locations.
20. Washers (G) must be next to bearing on both sides.

A—Spacer
 B—Thin Washer (4 Used, As Required)
 C—Bearing
 D—Mounting Strap

E—Cast Housing
 F—Cap Screw, M8 (3 used)
 G—Washer, 45.2 x 57.2 x .9 mm (2 used) (Each Side of Bearing)



E67519 —UN—24AUG12

PP98408,0000F5F -19-07FEB13-5/8

21. Add or subtract washers behind bearing, if necessary, to locate cast step (A) correctly with mounting edge (B) in all three locations. Set mounting edge to specification (C).

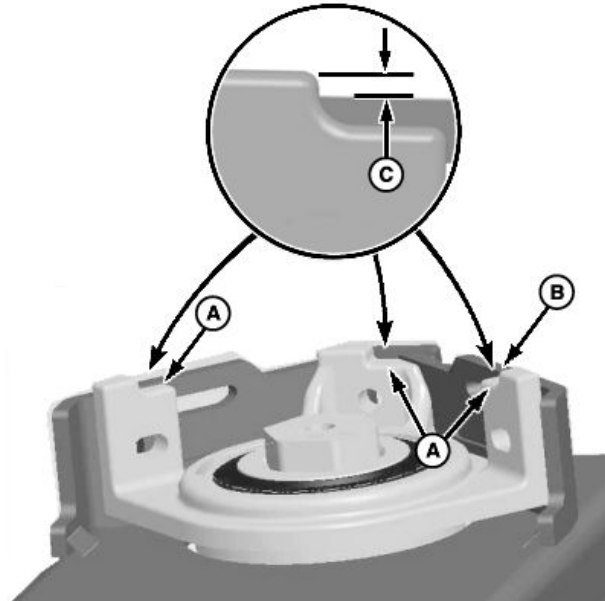
Specification

Cast Step—Distance.....1.5—4.5 mm
 (0.059—0.177 in.)

22. Washers (G) must be on each side of bearing.

A—Cast Step
 B—Mounting Strap Edge

C—Dimension, 1.5—4.5 mm
 (0.059—0.177 in.)



E54509 —UN—15MAY06

Continued on next page

PP98408,0000F5F -19-07FEB13-6/8

23. Install three flange mounting cap screws (A) and nuts (B). Only tighten cap screws enough to get a light between cast flange and mounting strap. Some rotation (a light tap) of the cast flange around the outer race can be required to align flange correctly at all three locations. Do not tighten cap screws at this time.

24. Check to see if roll is centered in hole in sidesheet.

25. If necessary, loosen cap screws (A) and flange nuts (B) to insert shims (F) between bearing mounting flange and cast bearing flange to center roll in holes in sidesheet.

26. Do not tighten cap screws at this time.

NOTE: Rolls must rotate freely. Check roll clearance through hole in sidesheet.

If roll is equipped with wiper pins, it is permissible to grind drive roll wiper pins to 3 mm (0.12 in.) minimum height.

27. Spin upper drive roll to verify clearance with sidesheet hole according to specifications. Add or remove shims (F) or move right-hand bearing plate, or grind drive roll wiper pins, if equipped.

Specification

Rollers-to-

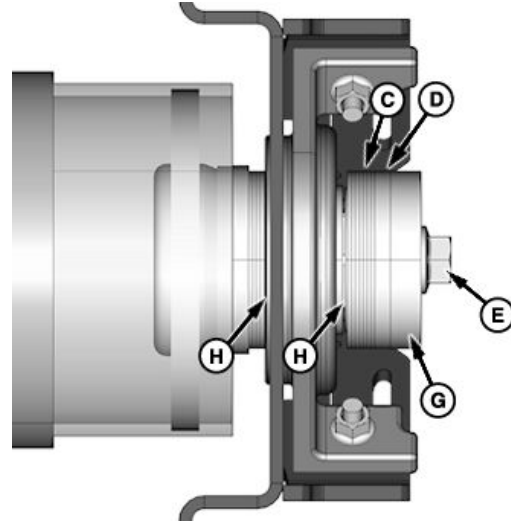
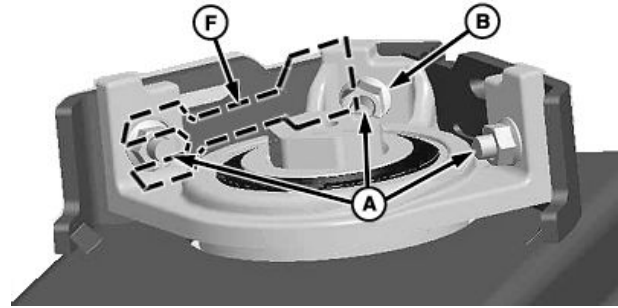
Sidesheet—Radial

Clearance..... 1 mm
(0.04 in.)

IMPORTANT: To avoid center cap screw from loosening or hex knock, keep washers (C and D) centered on shaft.

28. Install one washer (H) and washers (C) between bearing and end of hex shaft, so washers are flush with end of shaft, and add one more washer. Add large thick ID washer (D). Washer (H) must be next to bearing.

29. Install cap screw (E) and end washer (G).



A—Flanged Cap Screws (3 used)
B—Flanged Nut (3 used)
C—Washers
D—Large (Thick Washer)

E—Cap Screw, M12 x 80 mm
F—Shims
G—Washer, 13 x 70 x 12 mm
H—Washer, 45.2 x 57.2 x .9 mm

Continued on next page

PP98408,0000F5F -19-07FEB13-7/8

E67567 —UN—09JUL09

E67520 —UN—24AUG12

IMPORTANT: To prevent bearing failure, always tighten cap screw (C) before tightening flange mounting cap screws (A and B).

NOTE: Ensure that washers do not rotate by hand. Joint must be clamped to eliminate hex knock.

30. Tighten cap screw (C) to specification.

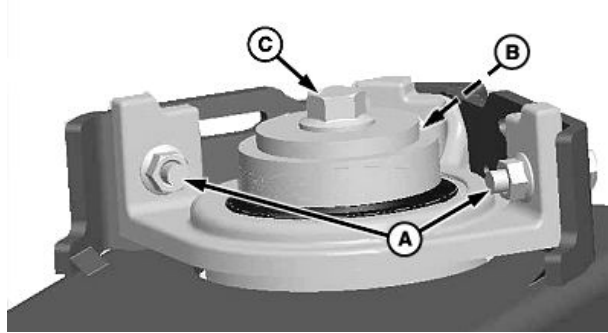
Specification

M12 Cap
Screw—Torque.....140 N·m
(103 lb.-ft.)

31. Tighten middle flange mounting cap screw (B) first. Tighten remaining two flange mounting cap screws (A). Tighten all three cap screws to specification.

Specification

Cap Screw—Torque.....40 N·m
(30 lb.-ft.)



A—Cap Screw, M8 (2 used)
B—Cap Screw, M8

C—Cap Screw, M12 x 80 mm

32. Check position of mounting edge to cast step in three locations. If mounting edge does not align in the cast sets, repeat Steps 19—31.

33. Reinstall and adjust drive chains.

PP98408,0000F5F -19-07FEB13-8/8

E57566 —UN—09JUL09

Replace Left-Hand Lower Drive Roll Bearing

CAUTION: To prevent bearing failure, always loosen the three right-hand side flange mounting bolts (A) before tightening left-hand side (drive side) center cap screw (B).

1. Right-hand Side of Baler:

- Loosen three flange mounting cap screws (A) and cap screw (C).
- Remove pickup drive roll chain (D).
- Finger tighten cap screws (A) to allow side-to-side movement of cast housing and position roll to check roll wiper-to-sidesheet clearance.

2. **Left-hand Side of Baler:** Remove crop buildup around shaft and roll area.

3. Remove cap screw (B) and sprocket, noting position and quantity of washers at each location.

4. Remove lower drive roll chain (E) and starter roll chain (F).

5. Remove four cap screws through bearing housing and remove bearing.

A—Flanged Mounting Bolts (3 used)

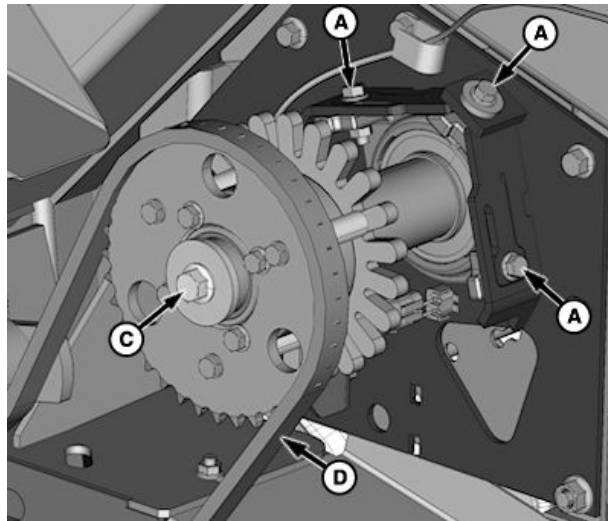
B—Cap Screw, M12 x 80 mm

C—Cap Screw, M12 x 80 mm

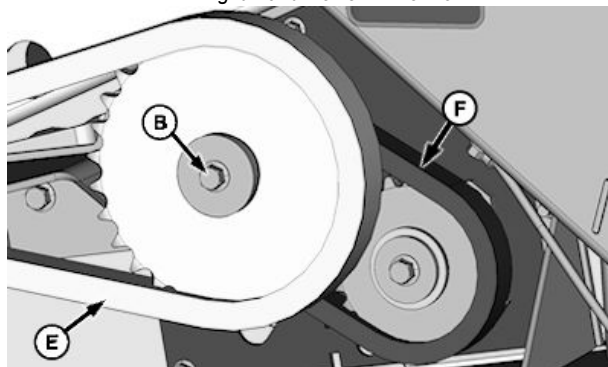
D—Pickup Drive Roll Chain

E—Lower Drive Roll Chain

F—Starter Roll Chain



Right-Hand Lower Drive Roll



Left-Hand Lower Drive Roll

Continued on next page

PP98408,0000F60 -19-07FEB13-1/13

E67554 —UN—27AUG12

E67522 —UN—24AUG12

6. Wire brush roll shaft.

IMPORTANT: Locate housing with UP stamp (A) toward top of baler.

Clean washers and replace if necessary.

A—Stamp (UP)

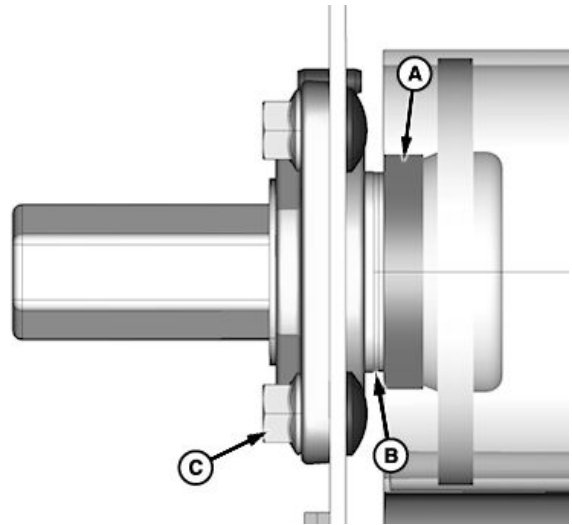


E54919 —UN—30NOV06

PP98408,0000F60 -19-07FEB13-2/13

IMPORTANT: All 1.5 and 3.0 mm (0.06 and 0.12 in.) thick washers must be machined and hardened on left-hand lower drive roll position to avoid center bolt loosening or hex knock.

7. Install chamfered spacer (A) (chamfer toward roll), hardened washers (B), and bearing (with UP stamp toward top of baler) on shaft, snug four flange nuts (C), and pull roll firmly to left-hand side of baler.
8. Center roll side-to-side:
 - Center roll side-to-side.
 - Measure from outer rubber strip to sidesheet on both sides to check roll centering.
 - The difference between the two dimensions must be 6 mm (0.24 in.) or less.
 - If needed, add or remove washers between roll and left-hand bearing to center roll.
9. Tighten flange nuts (C) to specifications.



E67502 —UN—22AUG12

	Specification
Flange Nut and Bolt—Torque.....	95 N·m (70 lb.-ft.)

A—Chamfered Spacer
B—Hardened Washers (1.5 or 3 mm, As Required)

C—Flange Nuts (4 used)

Continued on next page

PP98408,0000F60 -19-07FEB13-3/13

NOTE: Permissible to grind drive roll wiper pins to 3 mm (0.12 in.) height.

10. Wiper pins on lower drive roll (A) and starter roll bars (B) must clear sidesheet holes according to specifications.

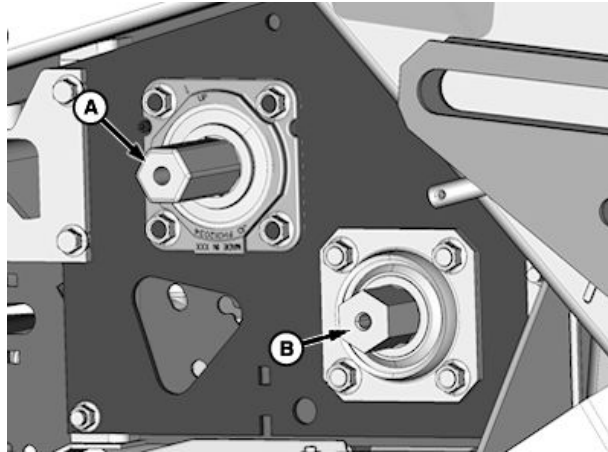
If roll wiper pin contacts sidesheet hole, reposition bearing housing or bearing plate or grind wiper pin.

Specification

Roll-to-Sidesheet—Radial Clearance..... 1 mm
(0.04 in.)

A—Lower Drive Roll

B—Starter Roll



E67503 —UN—23AUG12

PP98408,0000F60 -19-07FEB13-4/13

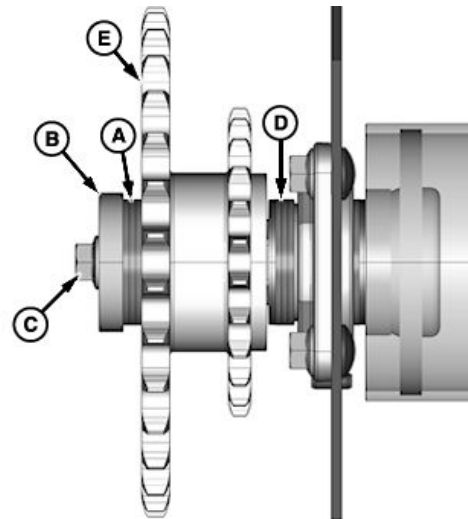
11. Install sprocket and hardened washers (D).
12. Tap right-hand side of roll to remove all end play to left-hand side of baler.
13. Hold lower roll shaft to left-hand side and push lower drive roll sprocket and washers inward.
14. Using a straight edge, check alignment between gear case output shaft outer sprocket and lower drive sprocket. Add or remove machined and hardened washers between bearing and sprocket on lower drive roll shaft, as needed.
15. Add or remove regular washers between bearing and sprocket on starter roll shaft, as needed, to align starter roll sprocket with lower drive roll sprocket.

IMPORTANT: To avoid hex knock and cap screw (C) from loosening, keep hardened washers (A) centered about shaft. Make sure hardened washers (A) are not clamped between end of shaft and thick washer (B).

16. Install hardened washers (D) between sprocket and end of shaft so washers extend 3—6 mm (0.12—0.24 in.) past end of shaft.
17. Install cap screw (C) with thick washer (B). Tighten cap screw (C) to specification.

Specification

Cap Screw—Torque..... 140 N·m
(103 lb.-ft.)



A—Hardened Washers (3 mm, As Required)
B—Thick Washer, 13 x 70 x 12 mm

C—Cap Screw, M12 x 80 mm
D—Hardened Washers (1.5 or 3 mm, As Required)

18. Ensure that washers do not rotate by hand. Joint must be clamped to eliminate hex knock.

E67563 —UN—18SEP12

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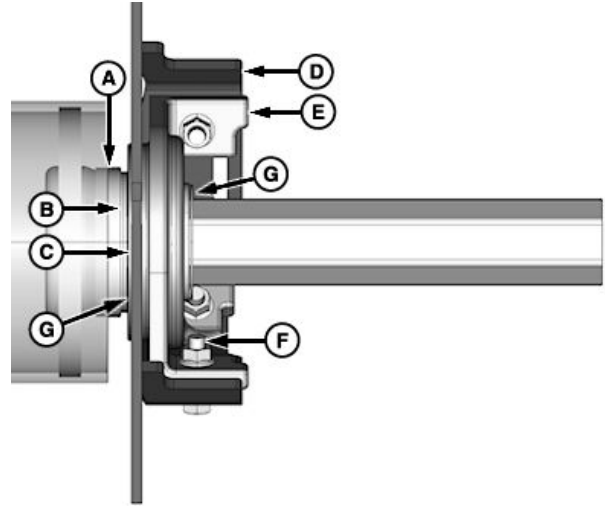
PP98408,0000F60 -19-07FEB13-5/13

19. **Right-hand Side of Baler:** Make sure that there are enough washers (B) between end of roll tube and bearing to locate bearing cast housing correctly. Remove three M8 cap screws (F) to be installed later. Washer (G) must be next to bearing on both sides.

20. Hold bearing (C) tight against washers. Edge of mounting strap (D) must align with the step of cast housing (E) in three locations.

A—Spacer
B—Thin Washer (2 Used, As Required)
C—Bearing
D—Mounting Strap

E—Cast Housing
F—Cap Screw, M8 (3 used)
G—Washers, 45.2 x 57.2 x .9 mm (2 used) (Each Side of Bearing)



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PP98408,0000F60 -19-07FEB13-6/13

E67545—UN—24AUG12

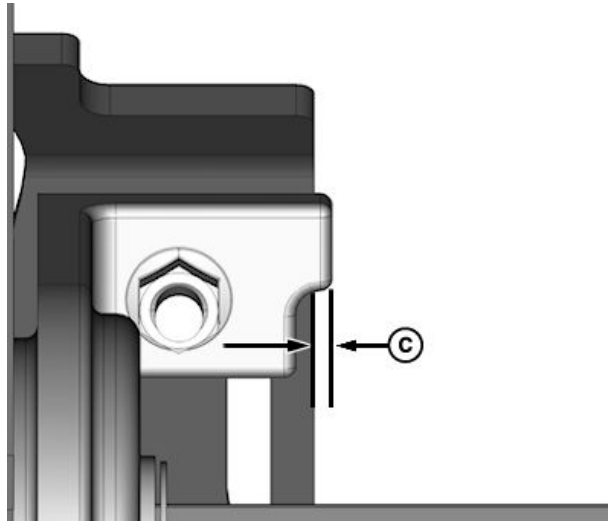
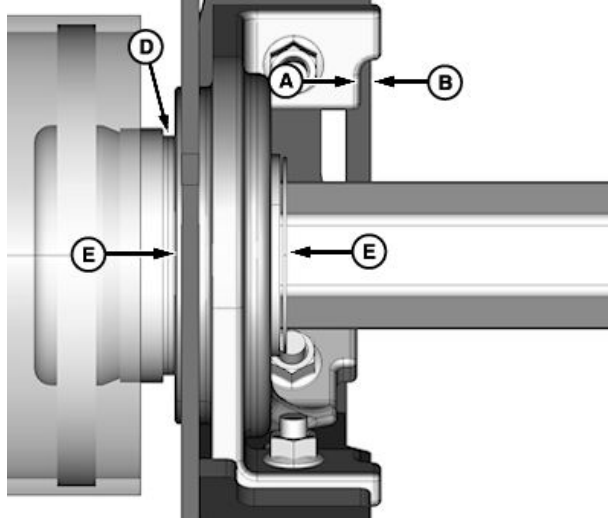
21. If necessary, add or subtract washers (D) behind bearing to locate cast step (A) correctly with mounting edge (B) in all three locations. Set mounting edge to specification (C).

Specification

Cast Step—Distance..... 1.5—4.5 mm
(0.059—0.177 in.)

Be sure there is one washer (E) on each side of bearing.

A—Cast Step	D—Washers, 1.5 mm (0.060 in.)
B—Mounting Strap Edge	(2 Used, As Required)
C—Dimension, 1.5—4.5 mm	E—Washers, 45.2 x 57.2 x .9
(0.059—0.177 in.)	mm (2 used) (Each Side of
	Bearing)



E61864—UN—24AUG12

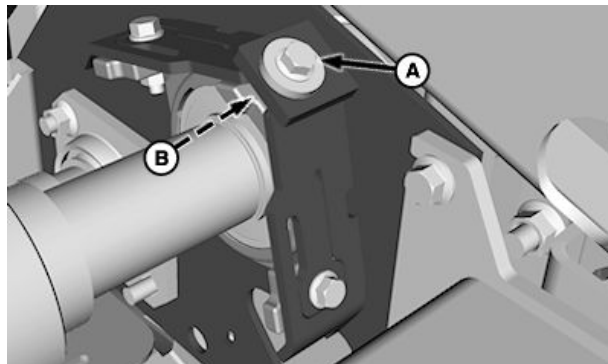
E61865—UN—22OCT12

PP98408,0000F60 -19-07FEB13-7/13

22. Install three flange mounting cap screws (A) and nuts (B). Only tighten cap screws enough to get a light contact between cast flange and mounting strap. Some rotation (a light tap) of the cast flange around the outer race can be required to align flange correctly at all three locations. Do not tighten cap screws at this time.

23. Check to see if roll is centered in hole in sidesheet.

A—Flanged Cap Screws (3	B—Flange Nut (3 used)
used)	



E67383—UN—21AUG12

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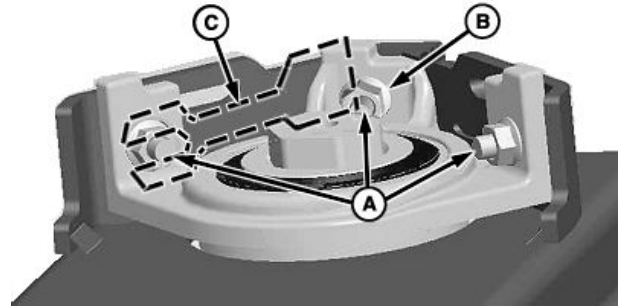
PP98408,0000F60 -19-07FEB13-8/13

24. If necessary, loosen cap screws (A) and flange nuts (B) to insert shims (C) between bearing mounting flange and the cast bearing flange to center rolls in holes in sidesheet.
25. Only retighten cap screws enough to get a light contact between cast flange and mounting strap. Some rotation (a light tap) of the cast flange around the outer race can be required to align flange correctly at all three locations. Do not tighten cap screws at this time.

NOTE: Rolls must rotate freely. Check roll clearance through hole in sidesheet.

If roll is equipped with wiper pins, it is permissible to grind drive roll wiper pins to 3 mm (0.12 in.) minimum height.

26. Spin upper drive roll to verify clearance with sidesheet hole according to specifications. Add or remove shims (C) or move right-hand bearing plate, or grind drive roll wiper pins, if equipped.



A—Cap Screws
B—Flange Nuts

C—Shims

Specification

Rollers-to-
Sidesheet—Clearance..... 1 mm
(0.04 in.)

PP98408,0000F60 -19-07FEB13-9/13

E67505—UN—23AUG12

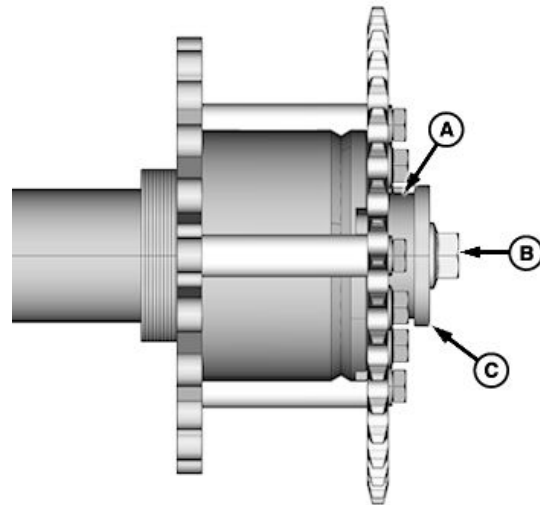
IMPORTANT: To avoid center cap screw from loosening or hex knock, keep washers or spacer (A) centered on shaft.

27. Install washers, hollow sleeve, washers, and slip clutch or sheave in same position and quantity removed. Then install washers or spacer (A) between clutch or sheave and washer (C) as specified here:

MegaWide™ Plus pickup: Install spacer (A) against face of clutch. Outside face of the spacer (A) must extend approximately 7 mm (0.28 in.) beyond end of hex shaft. If it does not extend far enough, add thin washers between spacer and clutch to obtain the required dimension.

NOTE: Be sure there is no clearance between components.

28. Install cap screw (B) and washer (C) and tighten securely to clamp components on shaft.



MegaWide™ Plus Pickup Shown

A—Washers (Regular Pickup)
A—Spacer (MegaWide™ Plus Pickup)

B—Cap Screw, M12 x 80 mm
C—Washer, 13 x 57 x 6 mm

Continued on next page

PP98408,0000F60 -19-07FEB13-10/13

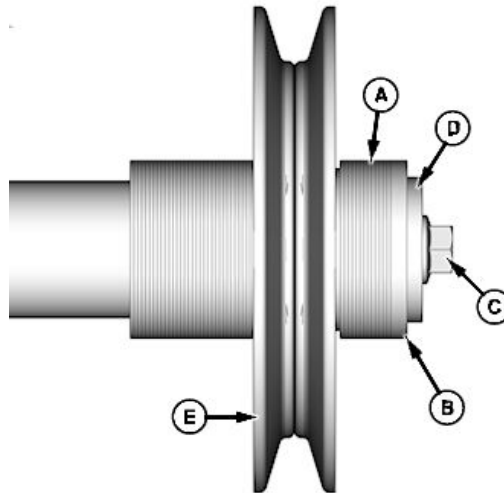
E67555—UN—27AUG12

29. **Regular pickup:** Install 1.5 mm (0.060 in.) washers (A) against the outside of sheave until flush with end of shaft, then add one more 6 mm (0.25 in.) washer (B).

IMPORTANT: To avoid center cap screw from loosening or hex knock, keep washer (A and B) centered on shaft.

30. Install cap screw (C) and end washer (D).

A—Washers
B—Washer, 6 mm (0.25 in.)
C—Cap Screw, M12 x 80 mm
D—End Washer, 13 x 57 x 6 mm
E—Hub of Sheave



Regular Pickup Shown

PP98408,0000F60 -19-07FEB13-11/13

E67524 —UN—24AUG12

31. Check dimension (A) between face of bearing plate and inside of slip clutch sprocket (MegaWide™ Plus pickup).

Specification

Dimension
(A)—Distance..... 218 mm
(8.58 in.)

Check dimension (B) between face of bearing plate and center of sheave groove (Regular pickup).

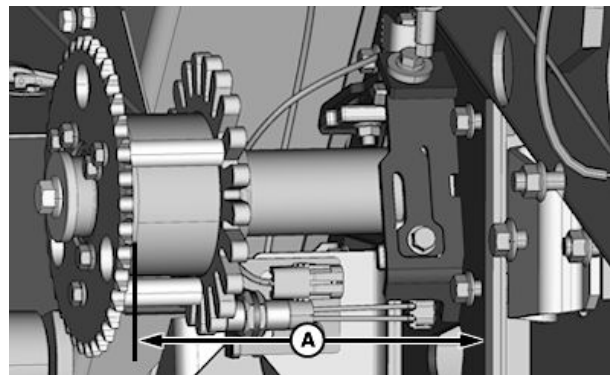
Specification

Dimension
(B)—Distance..... 190 mm
(7.48 in.)

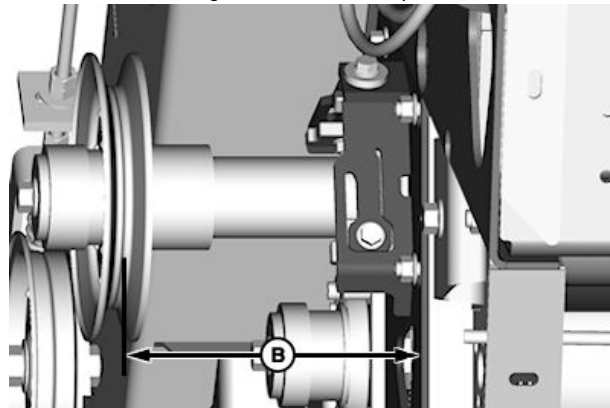
32. If dimension measured in Step 31 cannot be obtained within ± 1.5 mm (0.060 in.), add or remove washers inside slip clutch or sheave to obtain dimension.

33. If washers are added or removed inside slip clutch or sheave, repeat Steps 27—30 to clamp components securely in place on the shaft.

A—Dimension, 218 mm (8.58 in.) (MegaWide™ Plus Pickup)
B—Dimension, 190 mm (7.48 in.) (Regular Pickup)



MegaWide™ Plus Pickup Shown



Regular Pickup Shown

Continued on next page

PP98408,0000F60 -19-07FEB13-12/13

E67556 —UN—27AUG12

E67467 —UN—27AUG12

IMPORTANT: To prevent bearing failure, always tighten cap screw (C) before tightening flange mounting cap screws (A and B).

NOTE: Ensure that washers do not rotate by hand. Joint must be clamped to eliminate hex knock.

34. Tighten cap screw (C) to specification.

Specification

M12 Cap
Screw—Torque.....140 N·m
(103 lb.-ft.)

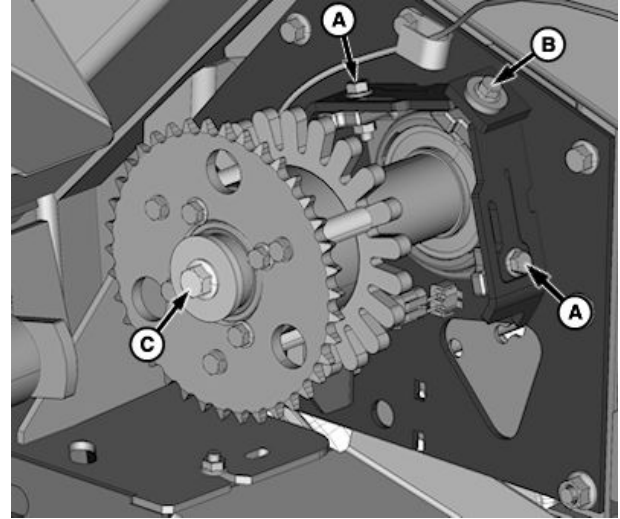
35. Tighten middle flange mounting cap screw (B) first. Tighten remaining two flange mounting cap screws (A). Tighten all three cap screws to specification.

Specification

Cap Screw—Torque.....40 N·m
(30 lb.-ft.)

36. Check position of mounting edge to cast step in three locations. If mounting edge does not align in the cast sets, repeat Steps 19—26.

37. Reinstall all chains or belts and adjust properly.



MegaWide™ Plus Pickup Shown

A—Cap Screw, M8

B—Middle Cap Screw, M8

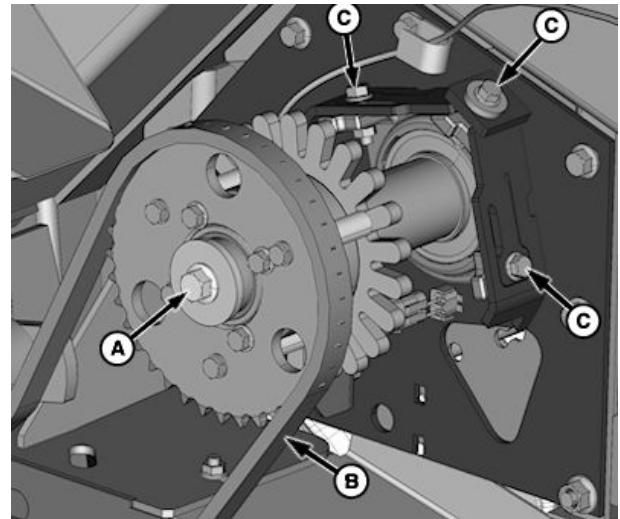
C—Cap Screw, M12 x 80 mm

PP98408,0000F60 -19-07FEB13-13/13

E67558—UN—27AUG12

Replace Right-Hand Lower Drive Roll Bearing

1. Loosen cap screw (A).
2. Remove drive chain (B).
3. Carefully remove cap screw (A) and washers outside sprocket or sheave taking note of quantity and position of washers.
4. Remove sprocket and slip clutch or sheave.
5. Remove remaining washers, hollow sleeve, and washers next to bearing again noting quantity and position of all the parts.
6. Loosen and remove cap screws (C) from bearing and mounting flange. Note position and quantity of any shims between cast bearing flange and mounting flange.
7. Remove old bearing.
8. Install new bearing with cast bearing flange.



A—Cap Screw
B—Drive Chain

C—Cap Screw (3 used)

Continued on next page

PP98408,0000F61 -19-07FEB13-1/8

E67559—UN—27AUG12

9. If necessary, add or subtract washers (D) behind bearing to locate cast step (A) correctly with mounting edge (B) in all three locations. Set mounting edge to specification (C).

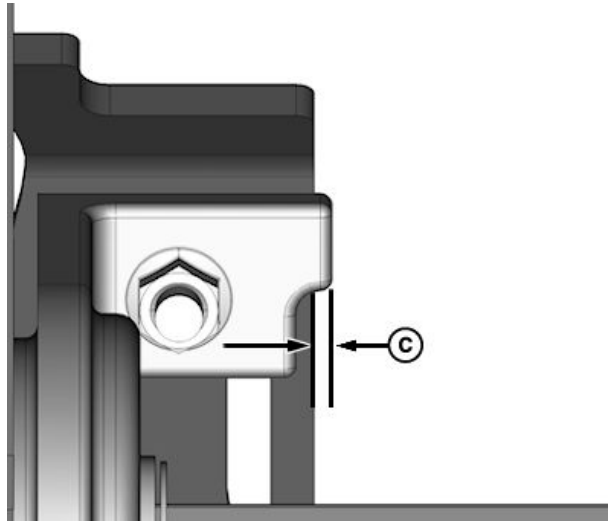
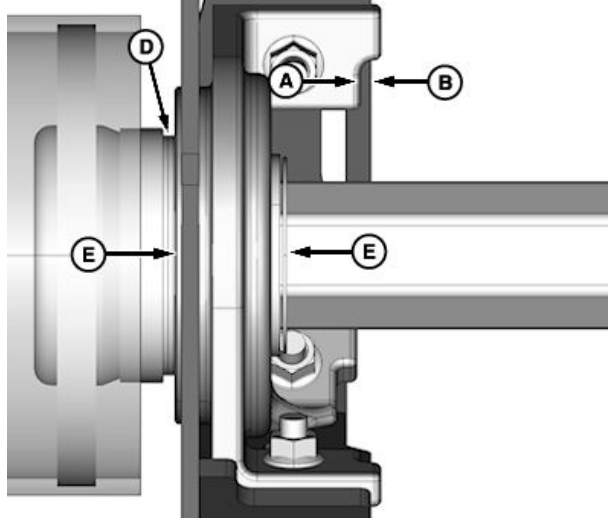
Specification

Cast Step—Distance..... 1.5—4.5 mm
(0.059—0.177 in.)

Be sure there is one washer (E) on each side of bearing.

A—Cast Step
B—Mounting Strap Edge
C—Dimension, 1.5—4.5 mm
(0.059—0.177 in.)

D—Washers, 1.5 mm (0.060 in.)
(2 used, As Required)
E—Washers, 45.2 x 57.2 x .9
mm (2 used) (Each Side of
Bearing)



E61864—UN—24AUG12

E61865—UN—22OCT12

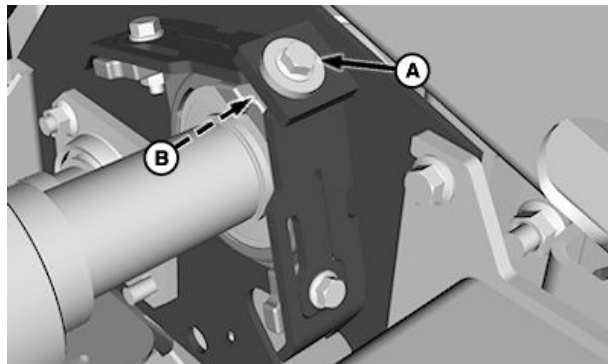
PP98408,0000F61 -19-07FEB13-2/8

10. Install three flange mounting cap screws (A) and nuts (B). Only tighten cap screws enough to get a light contact between cast flange and mounting strap. Some rotation (a light tap) of the cast flange around the outer race can be required to align flange correctly at all three locations. Do not tighten cap screws at this time.

11. Check to see if roll is centered in hole in sidesheet.

A—Flanged Cap Screws (3
used)

B—Flange Nut (3 used)



E67383—UN—21AUG12

Continued on next page

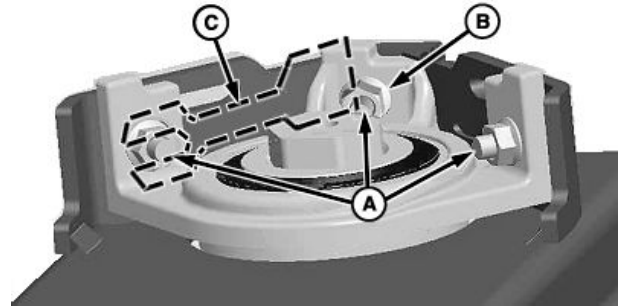
PP98408,0000F61 -19-07FEB13-3/8

12. If necessary, loosen cap screws (A) and flange nuts (B) to insert shims (C) between bearing mounting flange and the cast bearing flange to center rolls in holes in sidesheet.
13. Only retighten cap screws enough to get a light contact between cast flange and mounting strap. Some rotation (a light tap) of the cast flange around the outer race can be required to align flange correctly at all three locations. Do not tighten cap screws at this time.

NOTE: Rolls must rotate freely. Check roll clearance through hole in sidesheet.

If roll is equipped with wiper pins, it is permissible to grind drive roll wiper pins to 3 mm (0.12 in.) minimum height.

14. Spin upper drive roll to verify clearance with sidesheet hole according to specifications. Add or remove shims (C) or move right-hand bearing plate, or grind drive roll wiper pins, if equipped.



A—Cap Screws
B—Flange Nuts

C—Shims

Specification

Rollers-to-
Sidesheet—Clearance..... 1 mm
(0.04 in.)

PP98408,0000F61 -19-07FEB13-4/8

E67505 —UN—23AUG12

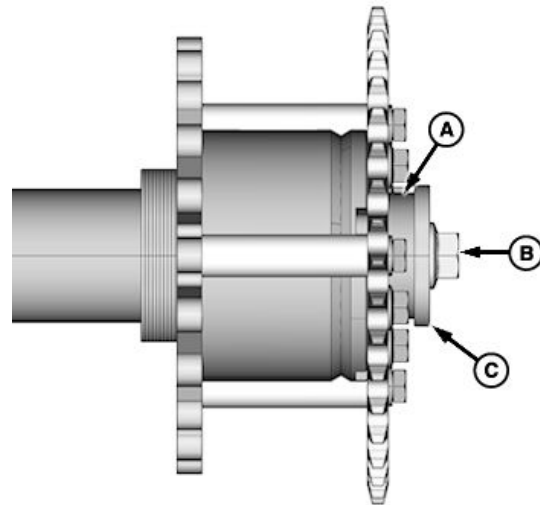
IMPORTANT: To avoid center cap screw from loosening or hex knock, keep washers or spacer (A) centered on shaft.

15. Install washers, hollow sleeve, washers, and slip clutch or sheave in same position and quantity removed. Then install washers or spacer (A) between clutch or sheave and washer (C) as specified here:

MegaWide™ Plus pickup: Install spacer (A) against face of clutch. Outside face of the spacer (A) must extend approximately 7 mm (0.28 in.) beyond end of hex shaft. If it does not extend far enough, add thin washers between spacer and clutch to obtain the required dimension.

NOTE: Be sure there is no clearance between components.

16. Install cap screw (B) and washer (C) and tighten securely to clamp components on shaft.



MegaWide™ Plus Pickup Shown

A—Washers (Regular Pickup)
A—Spacer (MegaWide™ Plus Pickup)

B—Cap Screw, M12 x 80 mm
C—Washer, 13 x 57 x 6 mm

Continued on next page

PP98408,0000F61 -19-07FEB13-5/8

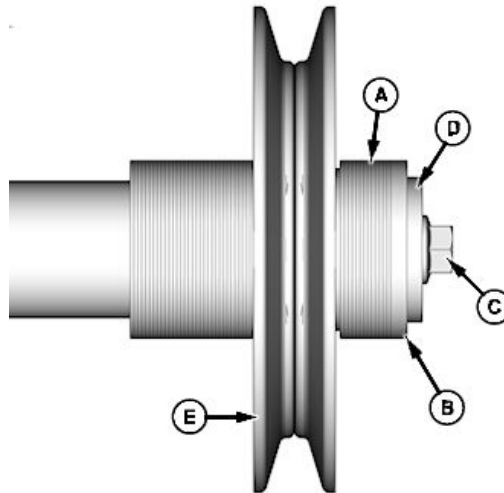
E67555 —UN—27AUG12

17. **Regular pickup:** Install 1.5 mm (0.060 in.) washers (A) against the outside of sheave until flush with end of shaft, then add one 6 mm (0.25 in.) washer (B).

IMPORTANT: To avoid center cap screw from loosening or hex knock, keep washer (A and B) centered on shaft.

18. Install cap screw (C) and end washer (D).

A—Washers
B—Washer, 6 mm (0.25 in.)
C—Cap Screw, M12 x 80 mm
D—End Washer, 13 x 57 x 6 mm
E—Hub of Sheave



Regular Pickup Shown

PP98408,0000F61 -19-07FEB13-6/8

E67524 —UN—24AUG12

19. Check dimension (A) between face of bearing plate and inside of slip clutch sprocket (MegaWide™ Plus pickup).

Specification

Dimension
(A)—Distance..... 218 mm
(8.58 in.)

Check dimension (B) between face of bearing plate and center of sheave groove (Regular pickup).

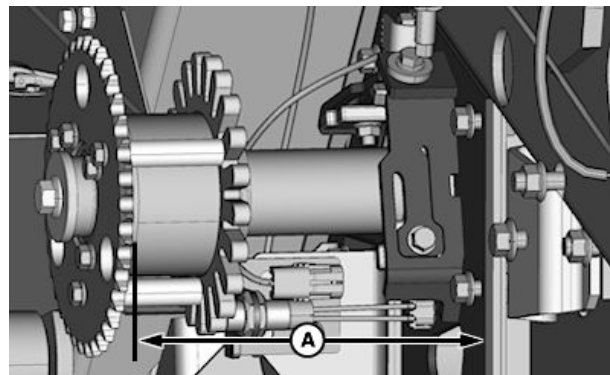
Specification

Dimension
(B)—Distance..... 190 mm
(7.48 in.)

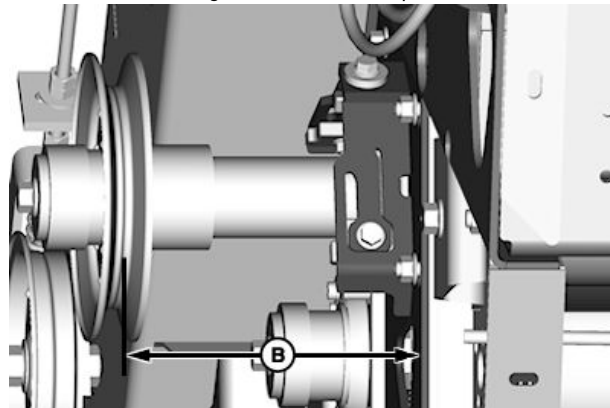
20. If dimension measured in Step 19 cannot be obtained within ± 1.5 mm (0.060 in.), add or remove washers inside slip clutch or sheave to obtain dimension.

21. If washers are added or removed inside slip clutch or sheave, repeat Steps 15—18 to clamp components securely in place on the shaft.

A—Dimension, 218 mm (8.58 in.) (MegaWide™ Plus Pickup)
B—Dimension, 190 mm (7.48 in.) (Regular Pickup)



MegaWide™ Plus Pickup Shown



Regular Pickup Shown

Continued on next page

PP98408,0000F61 -19-07FEB13-7/8

E67556 —UN—27AUG12

E67467 —UN—27AUG12

IMPORTANT: To prevent bearing failure, always tighten M12 cap screw (C) before tightening flange mounting M8 cap screws (A—B).

NOTE: Ensure that washers do not rotate by hand. Joint must be clamped to eliminate hex knock.

22. Tighten cap screw (C) to specification.

Specification

M12 Cap
Screw—Torque.....140 N·m
(103 lb.-ft.)

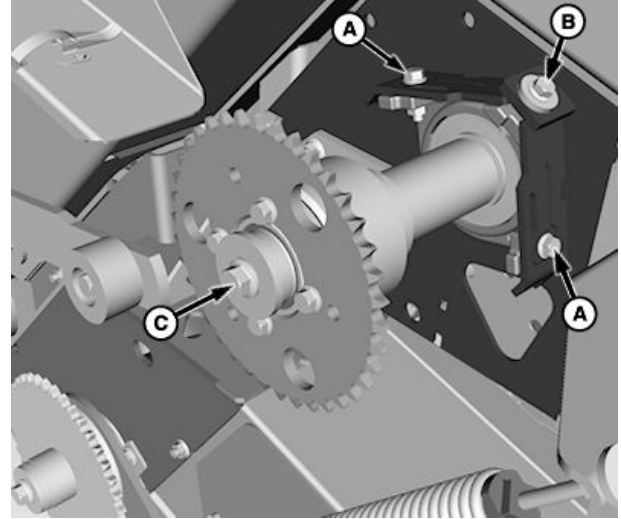
23. Tighten middle flange mounting cap screw (B) first. Tighten remaining two flange mounting cap screws (A). Tighten all three cap screws to specification.

Specification

Cap Screw—Torque.....40 N·m
(30 lb.-ft.)

24. Check position of mounting edge to cast step in three locations. If mounting edge does not align in the cast sets, repeat Steps 9—23.

25. Reinstall all chains or belts and adjust properly.



MegaWide™ Plus Pickup Shown

A—Cap Screw, M8
B—Middle Cap Screw, M8

C—Cap Screw, M12 x 80 mm

PP98408,0000F61 -19-07FEB13-8/8

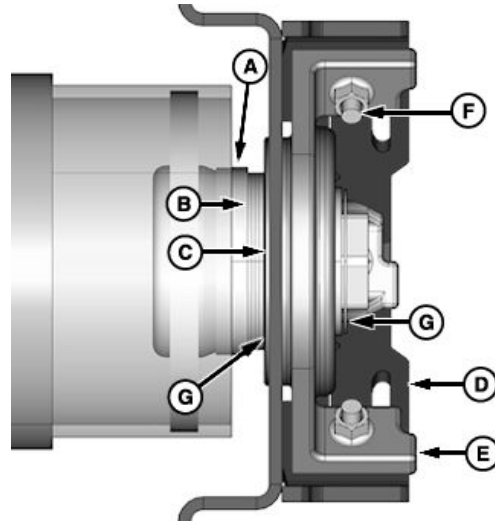
E67385—UN—15AUG12

Install Upper Right-Hand Drive Roll Bearing

1. Install spacer (A) with chamfer pointing towards center of baler.
2. Make sure that there are enough washers (B) between end of roll tube and bearing to locate bearing cast housing correctly. Remove three M8 cap screws (F) to be installed later. Washer (G) must be next to bearing on both sides.
3. Hold bearing (C) tight against washers. Edge of mounting strap (D) must align with the step of cast housing (E) in three locations.

A—Spacer
B—Thin Washer (4 Used, As Required)
C—Bearing
D—Mounting Strap

E—Cast Housing
F—Cap Screw, M8 (3 used)
G—Washers, 45.2 x 57.2 x .9 mm (2 used) (Each Side of Bearing)



Continued on next page

PP98408,0000F62 -19-07FEB13-1/4

E67519—UN—24AUG12

4. Add or subtract washers behind bearing, if necessary, to locate cast step (A) correctly with mounting edge (B) in all three locations. Set mounting edge to specification.

Specification

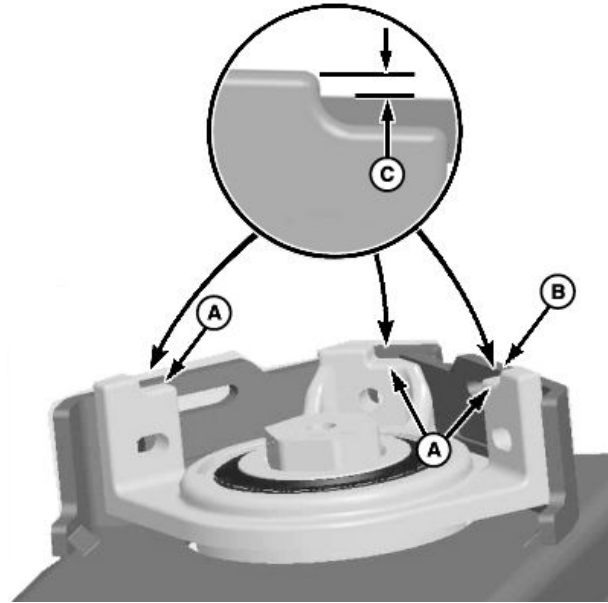
Cast Step—Distance..... 1.5—4.5 mm
(0.059—0.177 in.)

A—Cast Step

B—Mounting Strap Edge

C—Dimension, 1.5—4.5 mm

(0.059—0.177 in.)



E54509—UN—15MAY06

Continued on next page

PP98408,0000F62 -19-07FEB13-2/4

5. Install three flange mounting cap screws (A) and nuts (B). Only tighten cap screws enough to get a light contact between cast flange and mounting strap. Some rotation (a light tap) of the cast flange around the outer race can be required to align flange correctly at all three locations. Do not tighten cap screws at this time.

NOTE: Rolls must rotate freely. Check roll clearance through hole in sidesheet.

If roll is equipped with wiper pins, it is permissible to grind drive roll wiper pins to 3 mm (0.12 in.) minimum height.

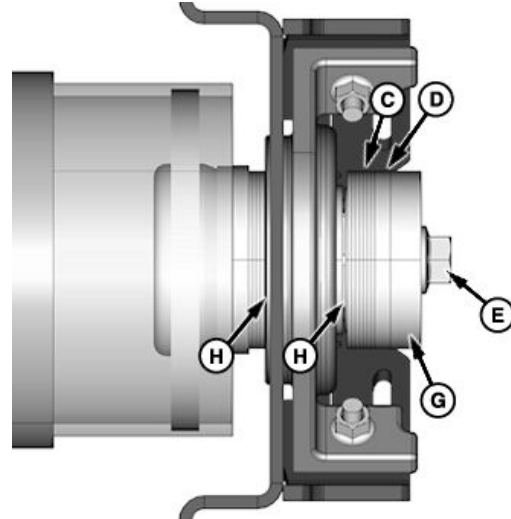
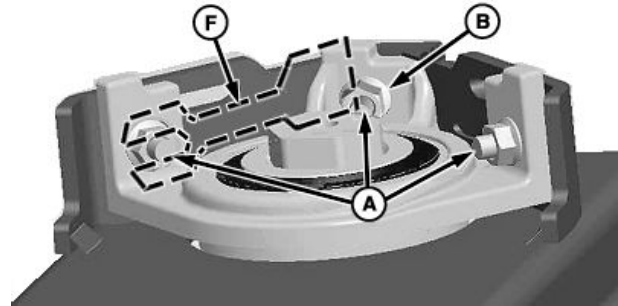
6. Spin upper drive roll to verify clearance with sidesheet hole according to specifications. Add or remove shims (F) or move right-hand bearing plate, or grind drive roll wiper pins, if equipped.

Specification

Rollers-to-
Sidesheet—Clearance..... 1 mm
(0.039 in.)

IMPORTANT: To avoid center bolt loosening or hex knock, keep washers (C) centered on shaft. Ensure that washers do not rotate by hand. Joint must be clamped to eliminate hex knock.

7. Install one washer (H) and washers (C) between bearing and end of hex shaft, so washers are flush with end of shaft, and add one more washer. Add large thick ID washer (D). Washer (H) must be next to bearing on both sides.
8. Install cap screw (E) and end washer (G).



A—Flanged Cap Screw (3 used)
B—Flanged Nut (3 used)
C—Washers
D—Large (Thick Washer)

E—Cap Screw, M12 x 80 mm
F—Shims
G—Washer, 13 x 70 x 12 mm
H—Washers, 45.2 x 57.5 x .9 mm (2 used) (Each Side of Bearing)

Continued on next page

PP98408,0000F62 -19-07FEB13-3/4

E57567 —UN—09JUL09

E67520 —UN—24AUG12

IMPORTANT: To prevent bearing failure, always tighten cap screw (C) before tightening flange mounting cap screws (A and B).

9. Tighten cap screw (C) to specification.

Specification

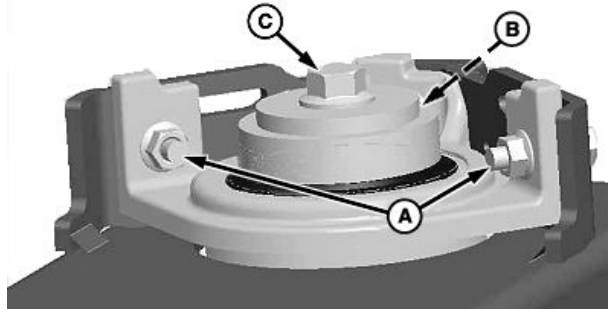
M12 Cap
Screw—Torque.....140 N·m
(103 lb.-ft.)

10. Tighten middle flange mounting cap screw (B) first. Tighten remaining two flange mounting cap screws (A). Tighten all three cap screws to specification.

Specification

Cap Screw—Torque.....40 N·m
(30 lb.-ft.)

11. Check position of mounting edge to cast step in three locations. If mounting edge does not align in the cast sets, repeat Steps 2—10.



A—Cap Screw, M8 (2 used)
B—Cap screw, M8

C—Cap Screw, M12 x 80 mm

E57566 —UN—09JUL09

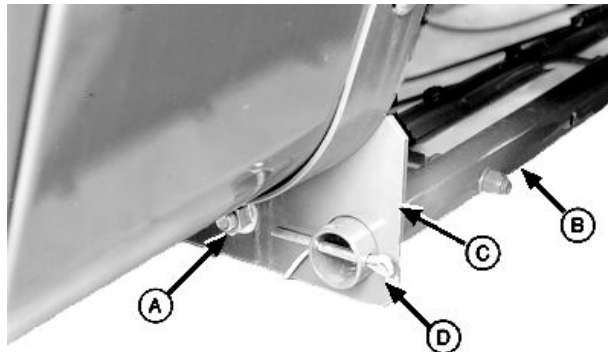
PP98408,0000F62 -19-07FEB13-4/4

Remove Compressor Rack (Regular Pickup)

1. Remove cap screw and lock nut (A). Remove cotter pin (D) from right-hand end of compressor rack tube.
2. Slide compressor rack (B) away from right-hand bracket (C).
3. Lower right-hand end and remove compressor rack from left-hand bracket.

A—Lock Nut
B—Compressor Rack

C—Right-Hand Bracket
D—Cotter Pin



E40057 —UN—17JUN96

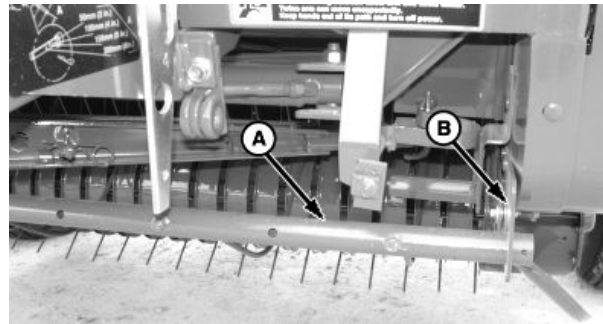
PP98408,0000F63 -19-07FEB13-1/1

Install Compressor Rack (Regular Pickup)

1. Install compressor rack (A) in left-hand bracket (B).

A—Compressor Rack

B—Left-Hand Bracket



E54718 —UN—28JUN06

Continued on next page

PP98408,0000F64 -19-07FEB13-1/2

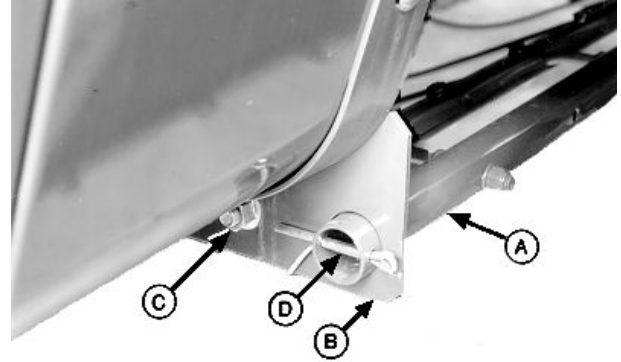
2. Lift right-hand end and slide compressor rack (A) into bracket (B).
3. Install cap screw and lock nut (C). Install cotter pin (D) into right-hand end of compressor rack tube.

NOTE: Make sure that compressor rods do not interfere with twine arms. Adjust individual rods, as necessary, or adjust compressor rack for clearance.

4. Adjust to desired operating height. Tighten lock nut (C). (See ADJUST COMPRESSOR RACK in this section.)

A—Compressor Rack
B—Bracket

C—Lock Nut
D—Cotter Pin



PP98408,0000F64 -19-07FEB13-2/2

E40061—UN—22JUN96

Adjust Compressor Rack (Regular Pickup)

To improve feeding, the compressor rack can be adjusted up or down.

1. Loosen lock nut (A).

NOTE: Make sure that compressor rods do not interfere with twine arm. Adjust individual rods, as necessary, for clearance.

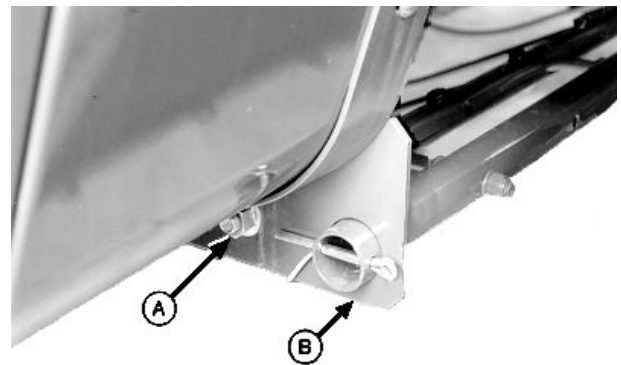
2. Adjust rack to desired height.

For an initial height setting, adjust compressor rack strap parallel to edge of mounting bracket (B).

3. Tighten lock nut (A).

IMPORTANT: Belt damage can occur if crop is allowed to build up on top of compressor rack.

In short, dry, slick crops it can be necessary to remove compressor rods or compressor rack, if material builds up on top of rods. (See REMOVE COMPRESSOR RACK in this section.)



A—Lock Nut

B—Mounting Bracket

NOTE: Reinstall compressor rack or compressor rods when buildup conditions cease or when returning to bale hay crops.

PP98408,0000F65 -19-07FEB13-1/1

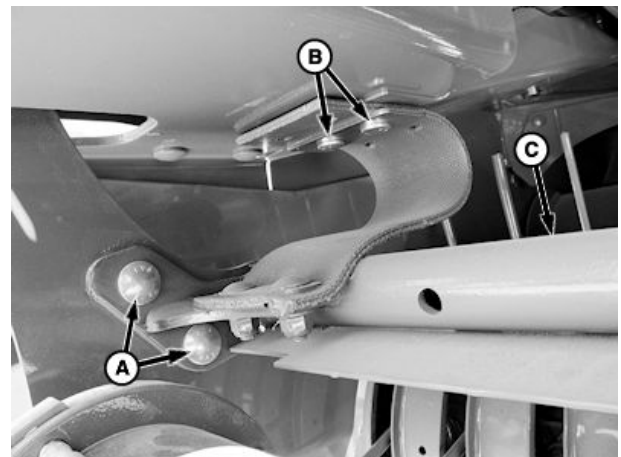
E40570—UN—23SEP99

Remove Compressor Rack (MegaWide™ Plus)

1. Remove two round-head bolts (B) from rubber strap. Do on opposite side of baler.
2. Remove two round-head bolts (A) from bracket. Do on opposite side of baler.
3. Carefully lift and remove compressor tube (C) and rods.

A—Round-Head Bolt and Nut
(2 on each side)
B—Round-Head Bolt and Nut
(2 on each side)

C—Compressor Tube



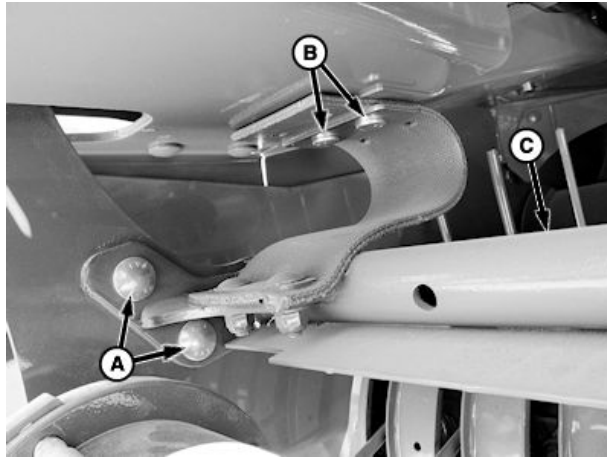
PP98408,0000F66 -19-07FEB13-1/1

E66832—UN—09AUG12

Install Compressor Rack (MegaWide™ Plus)

1. Place compressor tube (C) over top of roller baffle, with rods pointing inside pickup.
2. Fasten rubber strap with two round-head bolts (B).
3. Fasten compressor tube (C) with two round-head bolts (A) to bracket.
4. Repeat Steps 1 and 2 on other side.
5. Adjust clearance between compressor rods and rotor strippers. (See ADJUST COMPRESSOR RODS in this section.)

A—Round-Head Bolt and Nut (2 on each side)
 B—Round-Head Bolt and Nut (2 on each side)
 C—Compressor Tube



E66832—UN—09AUG12

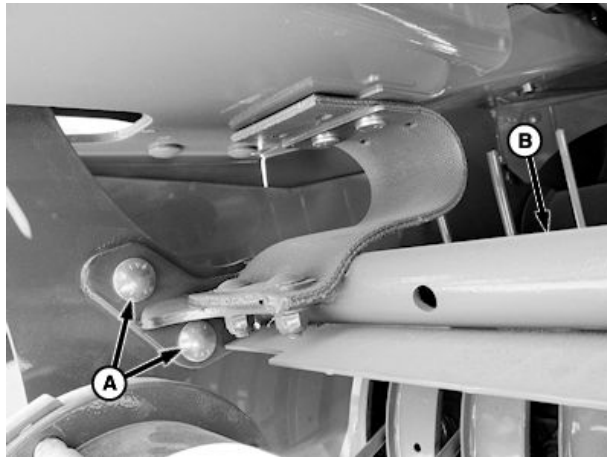
PP98408,0000F67 -19-07FEB13-1/1

Adjust Compressor Rods (MegaWide™ Plus)

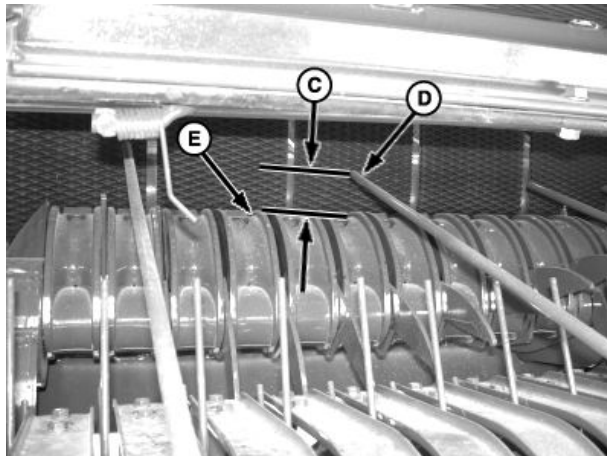
Adjust compressor rods whenever rods are replaced, roller baffle height is adjusted, or if compressor rack has been removed.

1. If rods are replaced, loosen two round-head bolts and nuts (A) on both sides of compressor rack.
2. Adjust compressor tube (B) until dimension (C) is 25—30 mm between compressor rods (D) and rotor stripper (E). Tighten round-head bolts (A) and nuts.
3. Cycle twine arm and check for interference.

A—Round-Head Bolt and Nut (2 on each side)
 B—Compressor Tube
 C—Dimension, 25—30 mm
 D—Compressor Rods
 E—Stripper



E66833—UN—19JUL12



E54549—UN—28JUN06

PP98408,0000F68 -19-07FEB13-1/1

Remove and Install Roller Baffle

1. Remove flange-head bolt (C) from each end of roller.

NOTE: Roller is heavy. Use care when removing locating pins from bracket. Support first end of roller before removing locating pins from opposite side.

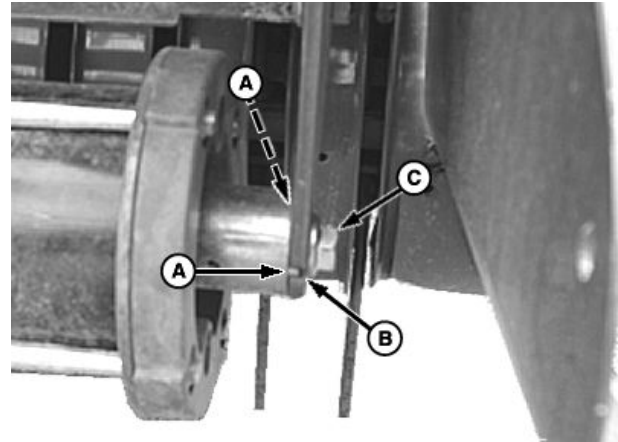
2. Carefully, remove locating pins (A) from slots (B). Lower end of roller to a support while removing locating pins from opposite side.
3. Remove locating pins from other side and carefully remove roller baffle.

Install Roller Baffle

NOTE: Support roller so each end will be approximately the same height.

1. Install roller baffle locating pins (A) into slots (B) on support bracket. Repeat on opposite side.
2. Fasten each end of roller baffle with flange-head bolt (C).

If an adjustment is needed, See ADJUST ROLLER BAFFLE HEIGHT in this section.



A—Locating Pins (2 one each side)
B—Slot (Front and Back of Bracket)
C—Flange-Head Bolt

E54716 —UN—27 JUN06

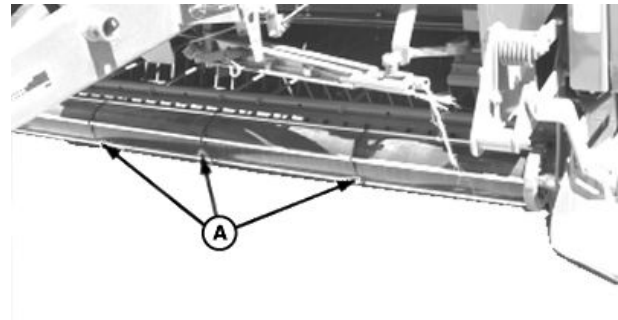
PP98408,0000F69 -19-07FEB13-1/1

Adjust Roller Baffle Height

IMPORTANT: Do not remove plastic tie bands from pickup baffle roller. If tie bands are removed, crop could wrap around roller between rods and tube.

Replace missing tie bands as soon as possible.

A—Tie Bands (2 used on 459 and 459S) (3 used on 559 and 559S)



E54551 —UN—02 MAY06

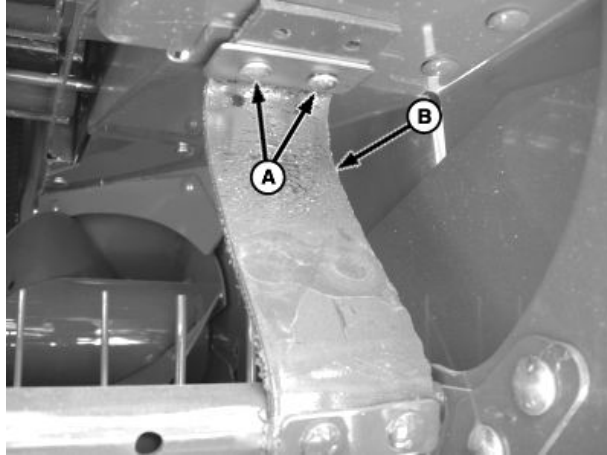
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PP98408,0000F6A -19-07FEB13-1/2

1. Baffle height is adjusted by removing two round-head bolts (A) and moving top end of rubber belt forward, or to the rear.
2. To increase baffle height from ground, move belt (B) to rear holes. Fasten with round-head bolts (A).
3. To decrease baffle height from ground, move belt (B) to front holes. Fasten with round-head bolts (A).
4. Repeat Steps 2 and 3 on opposite side.
5. Adjust clearance between compressor rods and rotor strippers. (See ADJUST COMPRESSOR RODS in this section.)

A—Round-Head Bolts (2 on each side)

B—Rubber Belt



E54550—UN—02MAY06

PP98408,0000F6A -19-07FEB13-2/2

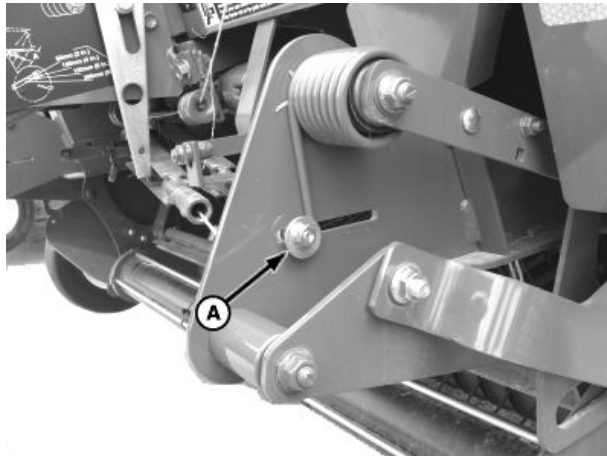
Adjust Roller Baffle Float Tension

NOTE: Float tension spring must be adjusted evenly on both sides of roller baffle.

To move tension spring, pry between washer and front of slot to move spring time to rear.

- To increase float, loosen nut (A) and move spring time to the rear.
- To decrease float, loosen nut (A) and let spring time move forward.
- Repeat on opposite side.

A—Nut



E54714—UN—28JUN06

PP98408,0000F6B -19-07FEB13-1/1

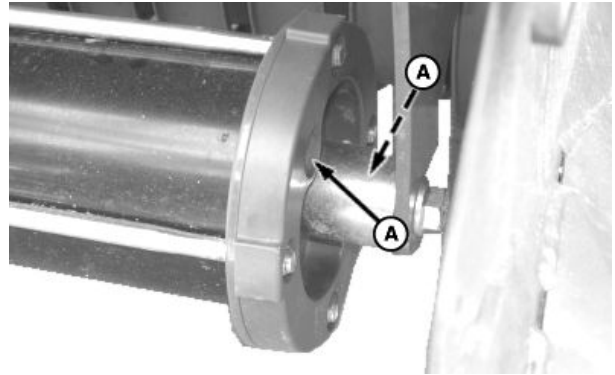
Balance Roller Baffle

IMPORTANT: Do not remove plastic tie bands from pickup baffle roller. If tie bands are removed, crop could wrap around roller between rods and tube.

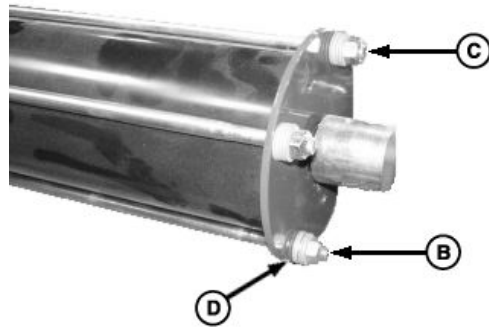
Replace missing tie bands as soon as possible.

1. Remove two self-tapping screws (A) and plastic cover.
2. Remove all crop and dirt buildup from between roller and rods, and at roller ends.
3. Adjust each rod using nut on end of rod. Measure from inside of wrench flat to inside edge of end cap (E), 18—20 mm (0.70—0.78 in.).
4. Spin roller to find the heavy point, or where bow in roller and gravity causes roller to stop turning.
5. At the heavy point (directly below roller axis), place a mark (D) beside closest nut. Tighten nut (B) 1/4 turn, then spin roller to check balance.
6. If roller is still heavy on the same point, loosen nut (C) 1/4 turn and spin roller to check balance.
7. Repeat Steps 3—5 until roller spins evenly.
8. Install plastic cover. Fasten with two self-tapping screws (A).

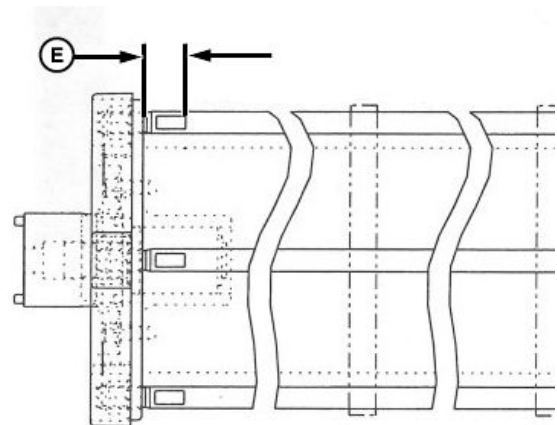
A—Self-Tapping Screw (2 used) D—Mark
 B—Nut E—Dimension, 18—20 mm
 C—Nut (0.71—0.78 in.)



E54778 —UN—25JUL06



E54924 —UN—30JAN07



E54914 —UN—30JAN07

PP98408,0000F6C -19-07FEB13-1/1

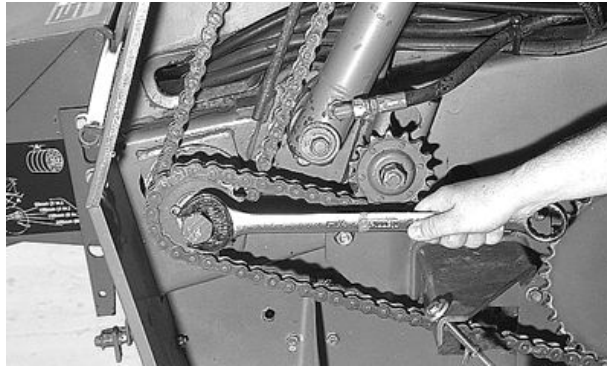
Replace Teeth (Pickup Installed)

MegaWide™ Plus and Regular Pickups

CAUTION: Never use any type of tool or wrench on shafts while tractor engine is operating. Always remove tools from shaft as soon as procedure is finished.

NOTE: To service pickup from the rear, open gate fully and lock gate.

1. Rotate pickup reel by turning gear case hex shaft using an open-end wrench as shown.

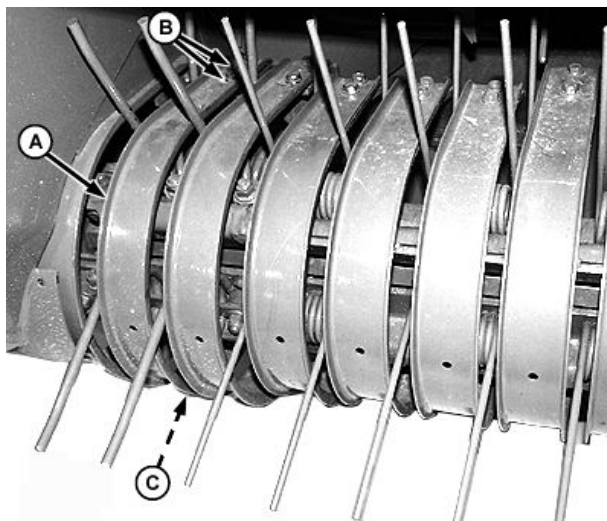


E48221—UN—23JUN00

PP98408,0000F6D -19-07FEB13-1/5

2. Loosen self-tapping cap screws (B) and nuts (C) (each stripper).
3. Remove strippers (A) that are directly over the damaged teeth.

A—Strippers
B—Self-Tapping Cap Screw (2 used)
C—Nut (2 used)



E48047—UN—20JUL00

Right-Hand End, 4 ft. MegaWide™ Plus Shown

Continued on next page

PP98408,0000F6D -19-07FEB13-2/5

MegaWide™ Plus Pickup Only

NOTE: Outside teeth (G) are larger than center teeth. Outside teeth are single tine pieces and center teeth are double tine pieces. Both types of teeth are mounted to tooth bar differently. There are large outside teeth on each tooth bar on both left and right-hand ends of pickup.

Right-hand end shown. Number of large outside teeth on each end of tooth bar:

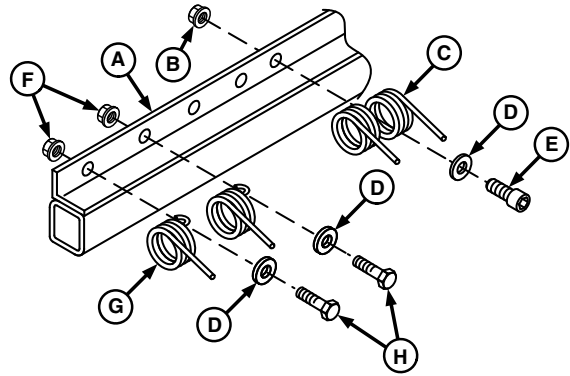
- 459 and 459S—MegaWide™ Plus—Two Teeth
- 559 and 559S—MegaWide™ Plus—One tooth

1. **Outside teeth:** Remove flange nuts (F), cap screws (H), washer (D), and tooth or tines (G).

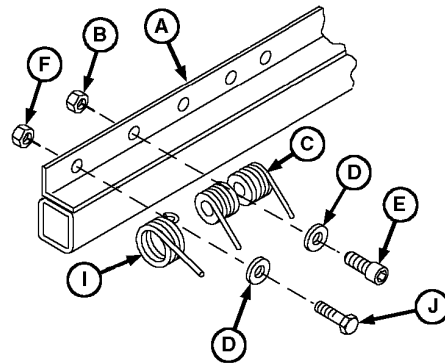
Center teeth: Remove flange nut (B), socket-head cap screw (E), washer (D) and tooth or tines (C).

A—Tooth Bar
B—Flange Nut
C—Tooth or Tines
D—Washer

E—Socket Head Cap Screw
F—Flange Nuts
G—Tooth
H—Cap Screw



459 and 459S MegaWide™ Plus



559 and 559S MegaWide™ Plus

Continued on next page

PP98408,0000F6D -19-07FEB13-3/5

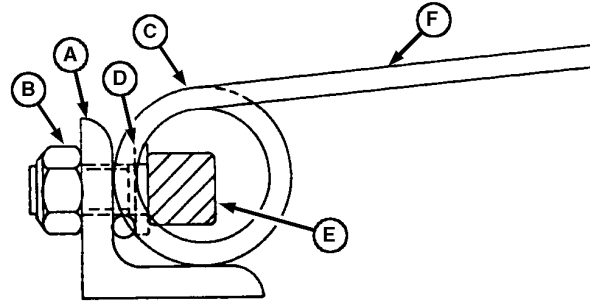
E60331 —UN—02AUG11

E48728 —UN—31JUL00

NOTE: Recommend always replacing hardware when replacing square wire teeth.

2. Install new teeth in reverse order as removed using the following special instructions:

- Coil (C) must rest against inside angle of bar (A) with tooth or tine (F) pointing away from bar.
- Washer (D) must be installed in position shown to fasten tooth to bar.
- Install teeth as shown.
- Tighten lock nuts to specifications.



Center Tooth or Tines

Specification

Center Spring	
Tooth-to-Tooth Bar Lock	
Nut—Torque.....	61 N·m (45 lb.-ft.)

Outside Spring	
Tooth-to-Tooth Bar Lock	
Nut—Two Single Teeth	
With Strap—Torque.....	61 N·m (45 lb.-ft.)

Outside Spring	
Tooth-to-Tooth Bar	
Lock Nut—Single	
Tooth—Torque.....	61 N·m (45 lb.-ft.)

- Tighten stripper self-tapping cap screws to specifications.

A—Tooth Bar
B—Flange Nut
C—Tooth Coil
D—Washer

E—Socket Head Cap Screw
F—Tooth or Tine
G—Strap

Specification

Stripper-to-Frame	
Self-Tapping Cap	
Screws—Torque.....	33 N·m (24 lb.-ft.)

NOTE: If mounting threads for stripper self-tapping cap screws become stripped, weld M8 nuts to bottom side of pickup frame strap.

Continued on next page

PP98408,0000F6D -19-07FEB13-4/5

E48049—UN—26MAY00

Regular Pickup Only

1. Loosen two self-tapping cap screws (A) and two round head bolts and nuts (B) to remove stripper directly over broken or bent teeth.
2. Remove lock nut, washer (D), socket-head cap screw (C) and spring tooth or tine (E).
3. Install new teeth (as shown in bottom illustration) in reverse order as removed using the following special instructions:
 - The tooth coil must rest against the inside angle of bar with tooth or tine (E) pointing away from bar.
 - Washer (D) must be installed in position shown to fasten tooth to bar.
 - Tighten lock nut to specifications.

Specification

Spring Tooth-to-Tooth Bar
 Lock Nut—Torque.....47 N·m
 (35 lb.-ft.)

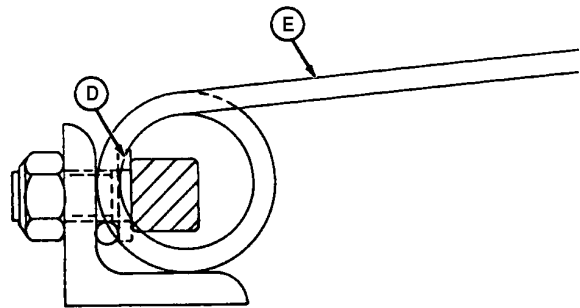
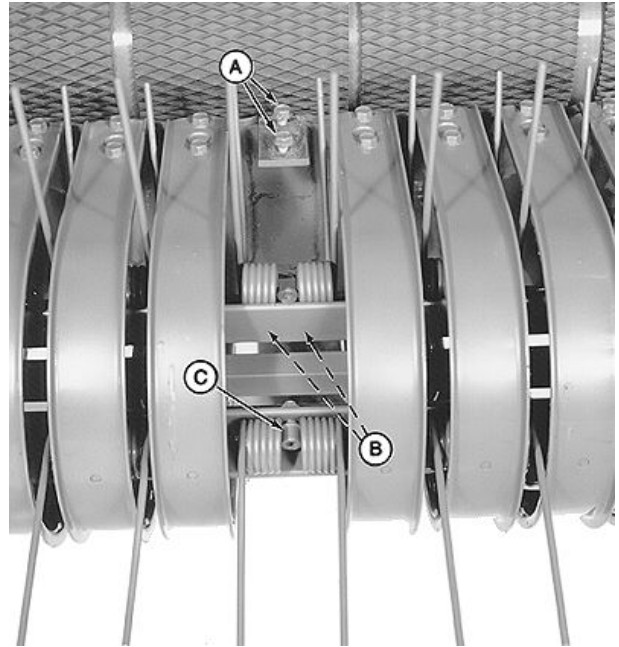
- Tighten stripper self-tapping cap screws to specifications.

Specification

Stripper-to-Frame
 Self-Tapping Cap
 Screws—Torque.....33 N·m
 (24 lb.-ft.)

NOTE: If mounting threads for stripper self-tapping cap screws become stripped, weld M8 nuts to bottom side of pickup frame strap.

A —Self-Tapping Cap Screw (2 used)	D —Washer
B —Round Head Bolt and Nut (2 used)	E —Spring Tooth or Tine
C —Socket-Head Cap Screw	



E40934 —UN—11NOV96

E40364 —UN—08AUG96

PP98408,0000F6D -19-07FEB13-5/5

Adjust Main PTO Driveline Slip Clutch

IMPORTANT: Disassemble and clean dirt between pressure plate and disk spring to maintain drive protection. Dirt can become trapped between pressure plate and disk spring and will not allow disk spring to flatten.

IMPORTANT: If distance between rear plate and tab on pressure plate is not within specifications, slip clutch will not slip, causing damage to drive components or can slip too easily.

Failure to follow the order of the following steps can damage the clutch.

NOTE: Clutch can be adjusted while on machine.

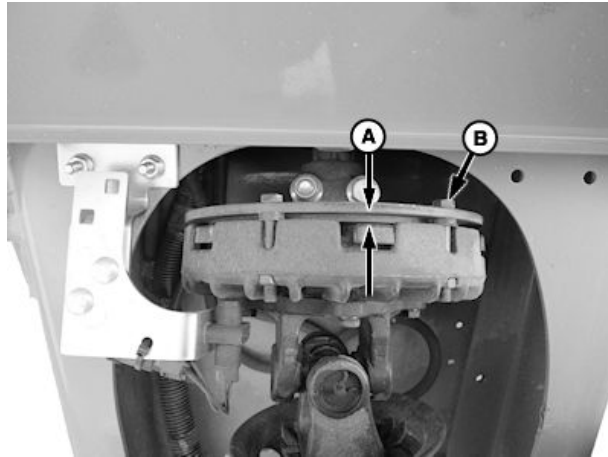
1. Raise gate fully using tractor hydraulics to slack belts.
2. Turn off tractor engine and remove key.
3. Lock gate.
4. Disconnect PTO driveline from tractor.
5. Measure distance (A).

Specification

Rear Plate-to-Tab on Pressure	
Plate—Distance.....	4.7—7.1 mm (0.185—0.280 in.)

NOTE: If distance (A) is less than specification, go to Step 7.

6. If distance (A) exceeds specification, perform the following special instructions:
 - a. Remove one cap screw (B) from clutch.
 - b. Remove one washer between rear plate and clutch housing.
 - c. Install washer between head of cap screw (B) and rear plate.



540 rpm Bracket Assembly Shown

A—Distance

B—Cap Screw

- d. Tighten cap screw.
- e. Repeat Steps a—d for remaining five cap screws.
7. If distance (A) is less than specification, perform the following special instructions:
 - a. Remove one cap screw (B) from clutch.
 - b. Remove one washer between head of cap screw (B) and rear plate.
 - c. Install washer between rear plate and clutch housing.
 - d. Tighten cap screw.
 - e. Repeat Steps a—d for remaining five cap screws.
8. Measure distance (A). If distance is still not within specification, and there are no washers between rear plate and housing, replace clutch friction disk.
9. Unlock and lower gate.

PP98408,0000F6E -19-11FEB13-1/1

E69396—JUN—11FEB13

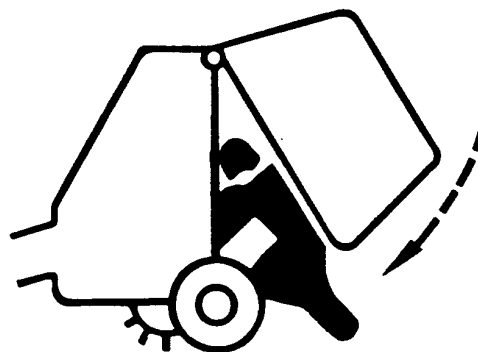
Slip Main PTO Driveline Slip Clutch

CAUTION: Make sure that gate is locked. If gate is not locked while performing this procedure, the gate could close suddenly causing injury or death.

IMPORTANT: Disassemble and clean dirt between pressure plate and disk spring to maintain drive protection. Dirt can become trapped between pressure plate and disk spring and will not allow disk spring to flatten.

IMPORTANT: At the beginning of each season, verify baler or tractor main drive slip clutch is not seized. Otherwise drive train damage can occur.

1. Raise gate fully using tractor hydraulics to slack belts.
2. Turn off tractor engine and remove key.
3. Lock gate.
4. Disconnect PTO driveline from tractor.



TS698 —UN—21SEP89

Continued on next page

PP98408,0000F6F -19-07FEB13-1/2

IMPORTANT: Loosen slip clutch bolts evenly. Failure to do so can cause clutch to fail.

If baler is operated with a seized-up clutch, damage to drive train can result.

NOTE: Do not loosen cap screws more than three turns.

5. Loosen six slip clutch cap screws (A) evenly, 1—2 turns at a time.

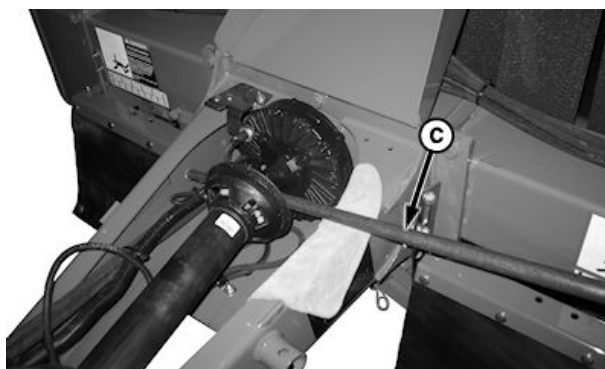
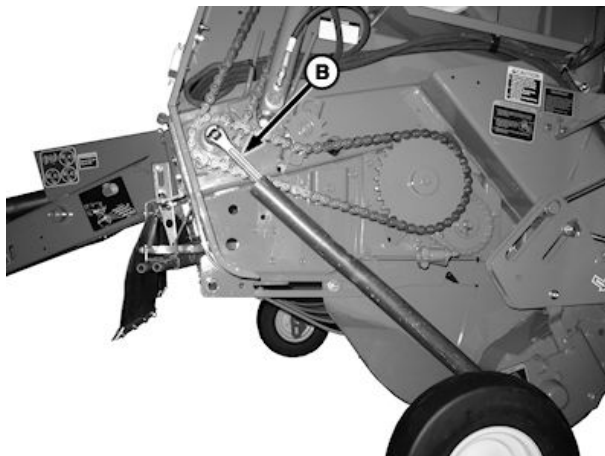
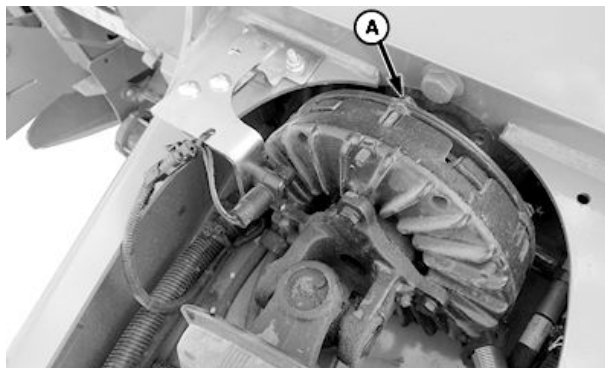
CAUTION: Never use any type of tool or wrench on shaft while tractor engine is running. Always remove tool from shaft immediately after use.

6. Put a 35 mm (1-3/8 in.) socket (B) and wrench with long handle on output shaft of gear case. Extend handle, if necessary, to contact baler axle or ground to keep wrench from rotating as shown.
7. Insert bar (C) between yoke and U-joint as shown.
8. Slip the clutch.
9. Remove socket (B) and bar (C).
10. Adjust slip clutch. (See ADJUST MAIN PTO DRIVELINE SLIP CLUTCH in this section.)
11. Unlock and lower gate.

A—Cap Screw (6 used)

C—Bar

B—Socket



E66562—UN—16AUG12

E61198—UN—22MAR12

E61199—UN—22MAR12

PP98408,0000F6F -19-07FEB13-2/2

Adjust Initial Length of Pickup Drive Belt Idler Spring—Regular Pickup (459 and 559)

IMPORTANT: If spring has been removed, the initial length of spring must be adjusted before adjusting the belt idler.

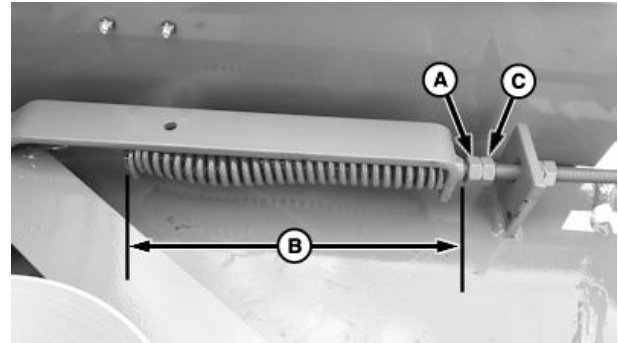
1. Adjust initial length of spring by obtaining distance (B) between far end of screw head and end of spacer.

Adjust nut (A) until distance (B) is within specifications and tighten jam nut (C) against nut (A).

Specification

Idler Spring—Initial
Length..... 215 mm
(8-1/2 in.)

2. Install spring on baler.
3. Adjust pickup drive belt idler. (See ADJUST PICKUP DRIVE BELT IDLER—REGULAR PICKUP [559] in this section.)



A—Nut
B—Distance

C—Jam Nut

E70458—UN—17JUL13

PP98408,0000F70 -19-22JUL13-1/1

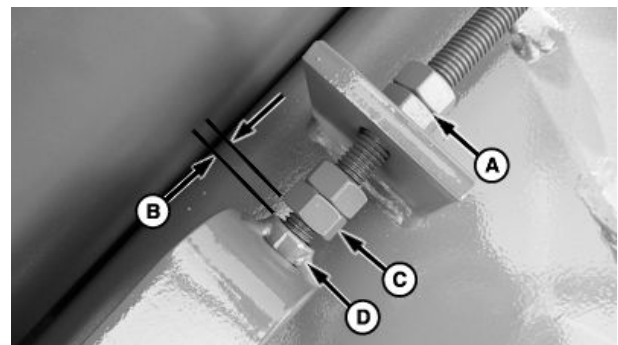
Adjust Pickup Drive Belt Idler—Regular Pickup (459 and 559)

IMPORTANT: The belt tensioner is designed to protect pickup components; overtightening reduces protection. Check adjustment daily.

1. Before adjusting idler, perform the following:
 - a. Start tractor engine and engage PTO.
 - b. Observe spacer (D) relative to nut (C).
 - If total movement is more than 3 mm (1/8 in.), inspect belt for a burn or thin spot and inspect drive sheave groove for debris.
 - Inspect belt and replace if necessary.
 - c. Stop tractor and remove engine key.
2. Adjust pickup idler as follows:
 - a. Loosen jam nuts (A).
 - b. Adjust rear jam nut (A) until clearance (B) between nut (C) and end of spacer (D) is within specifications.

Specification

Spacer-to-
Nut—Clearance..... 4—6 mm
(5/32—1/4 in.)



A—Jam Nuts
B—Clearance, 4—6 mm
(5/32—1/4 in.)

C—Nut
D—Spacer

- c. Tighten front jam nut (A) against rear jam nut.
- d. Install shield.

E70438—UN—12JUL13

PP98408,0000F71 -19-22JUL13-1/1

Adjust Pickup Drive Chains (MegaWide™ Plus Pickup)

To ensure that all slack is removed from chains;

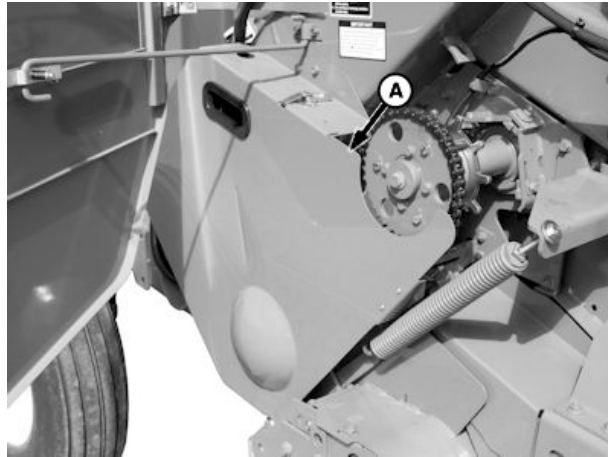
- Close gate and engage PTO a few seconds.
- Stop tractor engine and remove key.

1. Open side doors.

2. Right-Hand Side:

- a. Remove shield (A).

A—Shield



E70463 —UN—22JUL13

PP98408,0000F72 -19-22JUL13-1/5

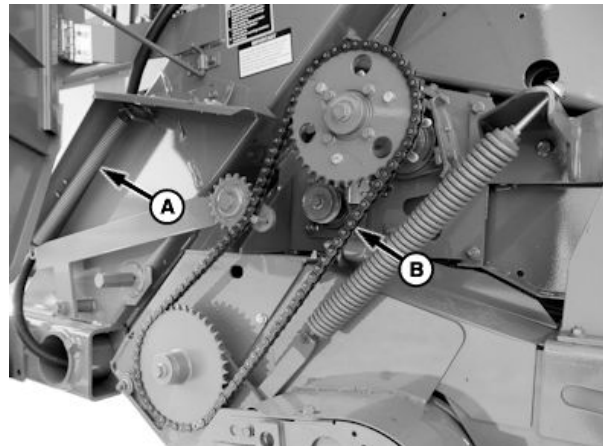
- b. Check distance between hooks on spring (A). If distance is less than specifications, remove one link from chain (B).

Specification

Idler Spring Hook-to-Hook—Distance..... 384 mm
(15-1/8 in.)

A—Idler Spring

B—Chain



E67411 —UN—11JUL13

PP98408,0000F72 -19-22JUL13-2/5

- c. Check distance between chain (A) and chain retainer (B). If distance is not within specifications, adjust chain retainer.

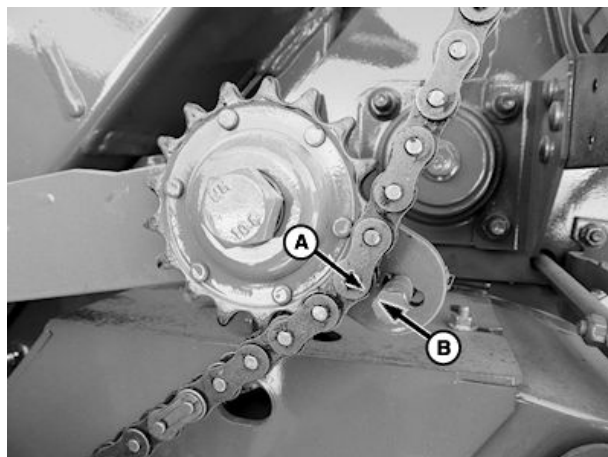
Specification

Chain-to-Chain Retainer—Distance..... 3—6 mm
(1/8—1/4 in.)

- d. Install shield.

A—Chain

B—Chain Retainer



E67412 —UN—28AUG12

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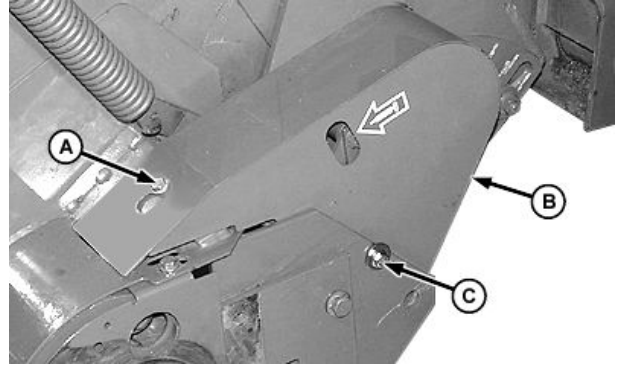
PP98408,0000F72 -19-22JUL13-3/5

3. Left-Hand Side:

- Loosen cap screws (A) and (C).
- Lift on rear of shield (B) and slide toward front of machine to remove.

A—Cap Screw
B—Shield

C—Cap Screw



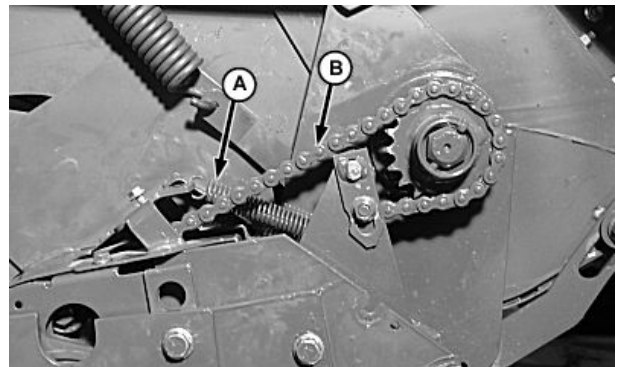
PP98408,0000F72 -19-22JUL13-4/5

E48160—UN—24JUL00

- If bottom of chain is contacting top of chain, remove one link from chain (B).
 - Install shield and tighten cap screws.
4. Close side doors.

A—Idler Spring

B—Drive Chain



PP98408,0000F72 -19-22JUL13-5/5

E48707—UN—25JUL00

Check Pickup Slip Clutch Torque (MegaWide™ Plus)

For beginning of season service, ensure that slip clutch is free to slip. Do not need to check slip clutch torque values.

NOTE: Excessive slip clutch slipping can be caused by improper pickup height, gauge wheel, or float spring adjustments.

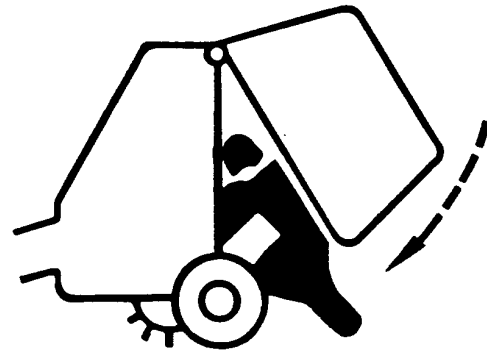
Clutch must slip within specifications when slipped at the gear case output hex shaft. As the clutch wears, it can gradually transmit less power due to slipping, and feeding performance can be unsatisfactory.

Specification

Clutch Slip—Distance..... 290—420 N·m
(214—310 lb.-ft.)

CAUTION: Ensure that gate is locked. If gate is raised and not locked while performing this procedure, the gate could close suddenly causing injury or death.

IMPORTANT: If slip clutch does not slip at 420 N·m (310 lb.-ft.), clutch is not working correctly. Replace slip clutch to avoid possible damage to pickup.



To check slip clutch torque:

- Raise gate fully and lock gate.
- To reduce torque reading variations, tighten lower drive roll chain. (See ADJUST LOWER DRIVE ROLL CHAIN in this section.)
- Raise pickup.
- Disconnect PTO from tractor.

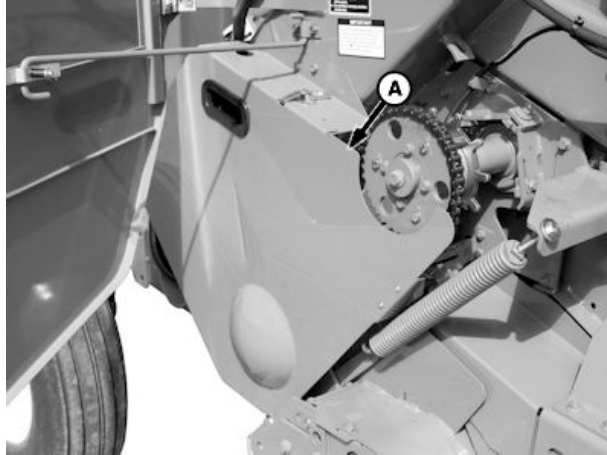
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PP98408,0000F73 -19-22JUL13-1/4

TS698—UN—21SEP89

5. Remove right-hand shield (A).

A—Right-Hand Shield



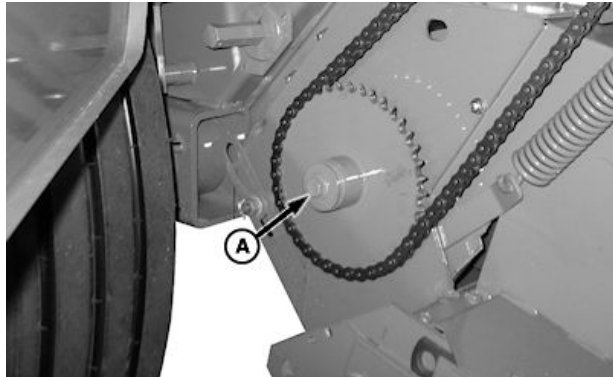
E70463 —UN—22JUL13

PP98408,0000F73 -19-22JUL13-2/4

6. MegaWide™ Plus Pickup; Remove cap screw (A) and washers from auger or rotor shaft.

CAUTION: Use a 1 in. drive breaker bar or weld a heavy 1-1/4 in. socket to a 10 x 76 x 914 mm bar to hold shaft in place. Smaller breaker bar or wrench can break or bend.

7. Install a tool on reel or auger or rotor shaft to prevent the shaft from rotating counterclockwise.
8. To avoid chain from jumping the sprocket while trying to slip the clutch:
 - Tighten the chain.
 - Make sure idler arm pivots freely and is spring loaded.
 - Add alignment marks (or tape) on the clutch sprocket and on the hex shaft going through the clutch. These marks can determine whether the clutch slipped or the chain jumped during each slip test.



Auger or Rotor Shaft

A—Quick-Lock or Cap Screw

E61192 —UN—22MAR12

Continued on next page

PP98408,0000F73 -19-22JUL13-3/4

NOTE: Rotate output shaft and slip clutch a minimum of four ratchets before recording measurements.

9. To identify clutch specifications:

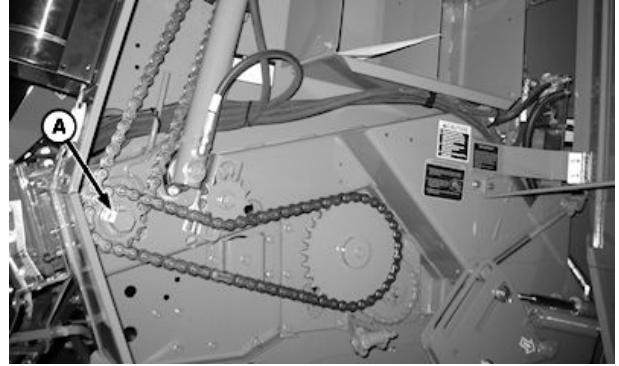
- Set click-type torque wrench to 290 N·m (214 lb.-ft.)
- Install torque wrench, with extension, on hex output shaft (A) at left-hand side of baler.
- Turn wrench clockwise. Wrench must click before clutch slips. Repeat procedure three times.
- Set torque wrench to 420 N·m (310 lb.-ft.)
- Turn wrench clockwise. Clutch must slip before wrench clicks. Repeat procedure three times.

10. If clutch slips below the following specifications, replace outer housing and ratchets with springs or replace complete clutch.

Specification

Pickup Clutch (Smooth Housing)—Slip (Minimum).....	290 N·m (214 lb.-ft.)

CAUTION: Never use any type of tool or wrench on shafts while tractor engine is operating.



A—Hex Output Shaft

Always remove tools from shaft as soon as procedure is finished.

11. Remove tools from shafts.
12. Install right-hand shields.
13. Unlock and close gate.

PP98408,0000F73 -19-22JUL13-4/4

E61193—UN—22MAR12

Adjust PTO and Drive Roll Slip Clutch Alert Sensors (MegaWide™ Plus Pickup)

IMPORTANT: The following procedure is not used on a 459 and 559 Baler with a Regular pickup.

Clearance between sensor (A) and PTO clutch fins (B) or wheel (C) must be within specification. A feeler gauge or washer of the same thickness can be useful in adjusting setting.

Specification

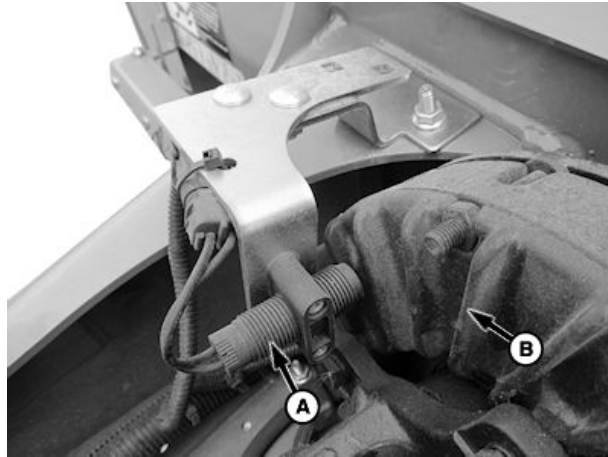
PTO Sensor—Clearance..... 2 ± 1 mm
(0.080 $\pm$ 0.040 in.)

Specification

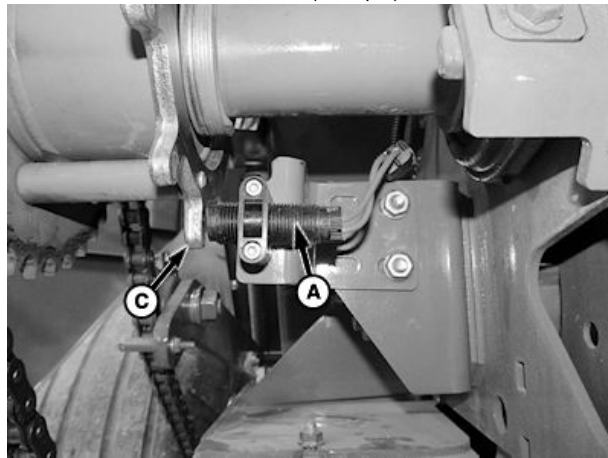
Drive Roll
Sensor—Clearance..... 4 ± 1 mm
(0.16 $\pm$ 0.040 in.)

A—PTO Sensor
B—PTO Clutch Fins

C—Tone Wheel



PTO Sensor (540 rpm) Shown



Lower Drive Roll Sensor (Pickup) Shown

Continued on next page

PP98408,0000F74 -19-11FEB13-1/4

E69397 —UN—11FEB13

E69398 —UN—08FEB13

Verify Operation and Adjustment of Sensors

Use speed readout to verify operation and adjustment of sensors. Access channel 016 on monitor-controller for PTO speed and channel 017 for lower drive roll speed.

1. Start tractor and operate tractor engine at slow idle. Engage PTO.
2. Press and hold COUNTER key while turning monitor-controller ON.
3. Continue to hold COUNTER key and press PLUS key until **CH016** appears in digital display.
4. Release COUNTER key and PTO speed is displayed. Speed readout must be stable and not vary by ± 5 rpm.
5. Press and hold COUNTER key and press PLUS key until **CH017** appears in digital display.
6. Release COUNTER key and pickup drive speed is displayed. Speed must be stable and not vary by ± 5 rpm.
7. If speed variation exceeds ± 5 rpm, shut off tractor and remove key.

Adjust PTO sensor closer to clutch fins (A) but not closer than 1 mm (0.04 in.). Adjust pickup sensor closer to tone wheel (B) but not closer than 3 mm (0.12 in.).

When tractor is operated at rated PTO speed, channel 016 must display 540 rpm. Channel 017 must display approximately 310 rpm. Slip clutch alert system must be activated within the monitor-controller for proper operation. (See NET WRAP, SLIP CLUTCH ALERT, and VARIABLE CORE FEATURES [TURN ON and OFF] in this section.)

Turning PTO Speed Sensor ON and OFF:

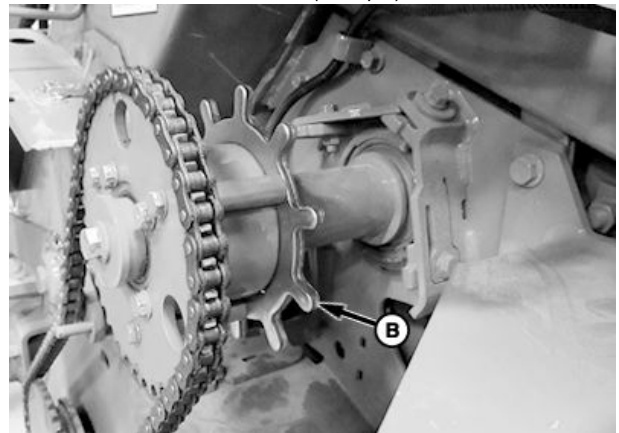
- PTO speed sensor can be turned OFF or ON by accessing channel 204.
- Feature can be turned ON by changing value to 540 rpm.
- Entire slip clutch alert feature can be turned OFF by changing value to 0.

Turning Lower Drive Roll Speed Sensor ON and OFF:

- Pickup rpm sensor can be turned OFF and ON by accessing channel 205.



PTO Sensor (540 rpm) Shown



Lower Drive Roll Sensor (Pickup) Shown

A—Clutch Fins

B—Tone Wheel

- Feature can be turned ON by changing value to 310 rpm.
- Pickup rpm sensor can be turned OFF by changing value to 0.
- Turning OFF pickup sensor on channel 205 and turning ON PTO sensor on channel 204 still allows automatic speed compensation during wrapping cycle.

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PP98408,0000F74 -19-11FEB13-2/4

E69394—UN—11FEB13

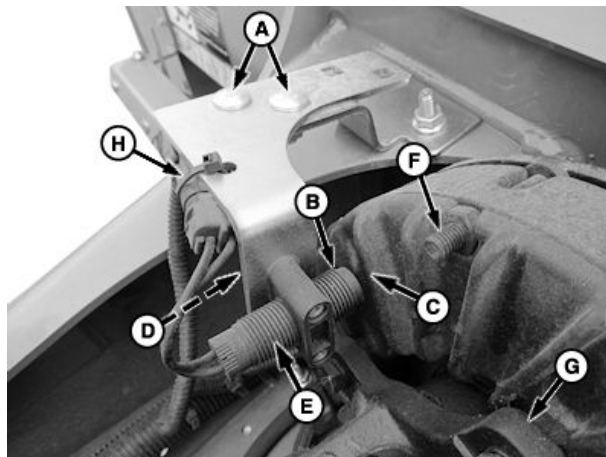
E69395—UN—08FEB13

Adjusting PTO Sensor

1. Adjust end of sensor (B) 2 ± 1 mm (0.080 ± 0.040 in.) from clutch fins (C) on PTO clutch.

NOTE: End of sensor is a magnet. Washer or feeler gauge can drag on magnet creating false sensor-to-fin reading during checks.

- Place a 2 mm (0.080 in.) washer or feeler gauge against end of sensor (B).
 - Advance sensor (B with washer or feeler gauge toward clutch fins until gauge just makes contact.
2. To tighten sensor:
 - a. With clamp snug against bracket, tight bottom lock nut (D) an additional one full turn.
 - b. Tighten top lock nut (D) until slit closes completely, then tighten one additional full turn.
 - c. Gently pull on end of sensor (E) to verify it does not move.
 - d. Using a 35 mm (1-3/8 in.) wrench, go to left-hand side of baler and turn gearbox output shaft to verify end of sensor clears clutch screws (F) and clutch yoke (G).
 - e. Adjust sensor side-to-side by loosening and tightening nuts (A) as needed.
 - f. **Remove** wrench from output shaft on left-hand side of baler.
 3. Verify that sensor is not damaged after tightening nuts.
 - Connect multimeter leads to sensor connector.
 - If multimeter reads approximately 3000 Ohms, sensor is good.
 - If multimeter reads zero, sensor is bad. Replace sensor.
 4. Recheck 2 ± 1 mm (0.080 ± 0.040 in.) clearance between clutch fins and sensor while gently prying PTO clutch forward to simulate PTO driveline thrust loads.



540 rpm Driveline

A—Round-Head Bolt and Flange Nut, M8 x 20 mm (2 used)	E—End of Sensor
B—Sensor	F—Clutch Screw
C—Clutch Fins	G—Clutch Yoke
D—Lock Nut (2 used)	H—Tie Band

Hold PTO clutch forward and perform the following:

- If 1 mm (0.040 in.) gauge does not pass between clutch fin and sensor, repeat Steps 1—3 to obtain proper clearance.
 - If 1 mm (0.040 in.) gauge passes between clutch fin and sensor, clearance is acceptable.
 - If 3 mm (0.12 in.) gauge passes between clutch fin and sensor, repeat Steps 1—3 to obtain proper clearance.
5. Make sure that sensor bracket is equipped with a tie band (H). Tighten tie band around wiring harness connector and secure to bracket.

Continued on next page

PP98408,0000F74 -19-11FEB13-3/4

E69399—JUN—11FEB13

Adjusting Lower Drive (Pickup) Roll Sensor

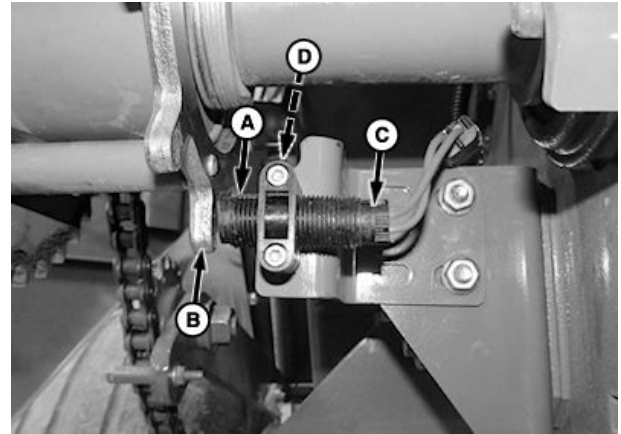
1. Adjust end of sensor (A) 4 ± 1 mm (0.16 ± 0.04 in.) from tone wheel (B).

NOTE: At end of sensor and each tone wheel tooth is a magnet. Washer or feeler gauge can drag on magnets creating false sensor-to-fin reading during rechecks.

- Using a 35 mm (1-3/8 in.) wrench, go to left-hand side of baler and turn gearbox output shaft until tone wheel tooth aligns with sensor.
- **Remove** wrench from gearbox output shaft on left-hand side of baler.
- Place two 2 mm (0.08 in.) washers or feeler gauge of this thickness against end of sensor (A).
- Advance sensor with washers or feeler gauge toward tone wheel until gauge just makes contact.

IMPORTANT: Overtightening clamp nuts can damage plastic block clamp.

2. To tighten sensor:
 - a. With clamp snug against bracket, tighten bottom lock nut (D) an additional one full turn.
 - b. Tighten top lock nut (D) until slit closes completely, then tighten one additional full turn.
 - c. Gently pull on end of sensor (C) to verify it does not move.



Lower Drive Roll Sensor

A—End of Sensor
B—Tone Wheel

C—Location, End of Sensor
D—Lock Nuts

- d. Remove washers or feeler gauge and recheck 4 ± 1 mm (0.16 ± 0.04 in.) dimension.
3. Verify that sensor is not damaged after tightening nuts.
 - Connect multimeter leads to sensor connector.
 - If multimeter reads approximately 3000 Ohms, sensor is good.
 - If multimeter reads zero, sensor is bad. Replace sensor.

PP98408,0000F74 -19-11FEB13-4/4

Net Wrap, Slip Clutch Alert, and Variable Core Features (Turn On and Off)

The following features must be activated before operation. These features can also be turned off if desired.

Feature	Channel	ON	OFF
Net Operation (If Equipped)	203	1	0
PTO Sensor ^a	204	540 or 1000	0
Pickup Sensor ^a	205	310	0
Variable Core Valve (If Equipped)	208	1	0

^aNot used on 559 with Regular Pickup

Turning Features On and Off

1. Turn tractor key to ON position. Do not start tractor.
2. Press and hold both COUNTER key and NUMBER OF WRAPS key while turning monitor-controller to ON.

3. Release both keys.
4. Press and hold COUNTER key and press the PLUS key until desired channel is shown in display.
5. Release COUNTER key.
6. Press PLUS or MINUS key to change display to desired value.
7. Turn monitor-controller OFF.
8. Turn tractor key to OFF position, remove key.

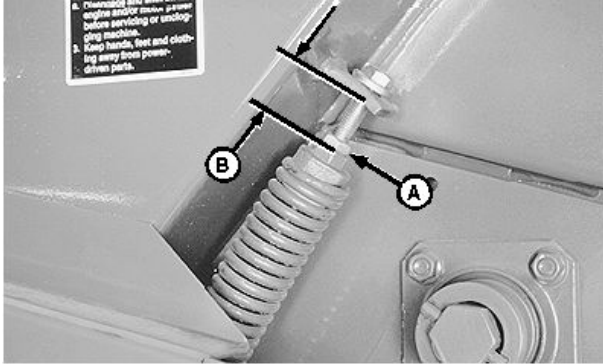
Slip Clutch Alert

- Accessing channel 205 and changing value to 0 will turn off slip alert feature. Shutting off the pickup sensor on channel 205, still allows automatic speed compensation during wrapping cycle.
- Entire system can be turned off by changing channel 204 to 0.

PP98408,0000F75 -19-07FEB13-1/1

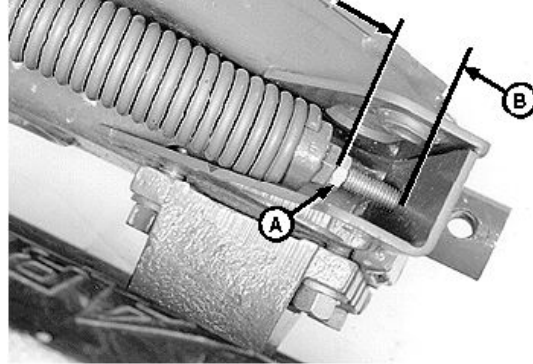
Adjust Pickup Float Springs—Regular Pickup (459 and 559)

NOTE: If equipped with hydraulic pickup lift; Remove cap screw from base end of cylinder (left-hand side) to gain access for spring adjustment.



Right-Hand Side

E39271—UN—19JUN96



Left-Hand Side

E39270—UN—19JUN96

A—Jam Nut

B—Float Spring Setting Dimension

Dimension (B) is an initial float spring setting for pickup tooth-to-ground clearance of 25—50 mm (1—2 in.) with wheel spindles in the normal position. (See WHEEL SPINDLE POSITIONS in Preparing the Baler section.)

More spring force will be needed if:

- Operating at pickup tooth-to-ground clearance above 50 mm (2 in.) with wheel spindles in the normal position.
- The baler has been lowered at the wheel spindles to improve feeding. (See BALE SHORT, DRY, SLICK CROPS in Operating the Baler section.)

Less spring force will be needed if:

- The pickup does not lower to desired operating height.
- The pickup bounces too much and leaves crop.
- The baler has been raised at the wheel spindles to improve feeding. (See BALE CORNSTALKS in Operating the Baler section.)

1. Loosen jam nut (A).

IMPORTANT: Any dimension less than 60 mm (2-3/8 in.) at the right-hand spring will stretch or weaken the spring.

2. Tighten screw into spring plug until dimension (B), between spring plug and spring anchor, is attained.

	459	559
WITHOUT GAUGE WHEELS		
Right-Hand Side	170 mm (6-11/16 in.)	140 mm (5-1/2 in.)
Left-Hand Side	155 mm (6-3/32 in.)	140 mm (5-1/2 in.)
WITH GAUGE WHEELS		
Right-Hand Side	100 mm (3-15/16 in.)	60 mm (2-3/8 in.)
Left-Hand Side	100 mm (3-15/16 in.)	10 mm (25/64 in.)

3. Tighten jam nut (A).

PP98408,0000F76 -19-07FEB13-1/1

Adjust Pickup Float Springs—MegaWide™ Plus Pickup

Dimension (B) is an initial float spring setting for pickup tooth-to-ground clearance of 25—50 mm (1—2 in.) with wheel spindles in the normal position. (See WHEEL SPINDLE POSITIONS in Preparing the Baler section.)

More spring force will be needed if:

- Operating at pickup tooth-to-ground clearance above 50 mm (2 in.) with spindles in the normal position.
- The baler has been lowered at the wheel spindles to improve feeding. (See BALE SHORT, DRY, SLICK CROPS in Operating the Baler section.)

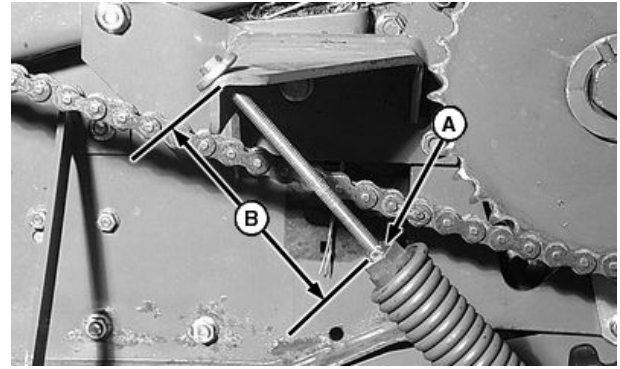
Less spring force will be needed if:

- The pickup does not lower to desired operating height.
- The pickup bounces too much and leaves crop.
- The baler has been raised at the wheel spindles to improve feeding. (See BALE CORNSTALKS in Operating the Baler section.)

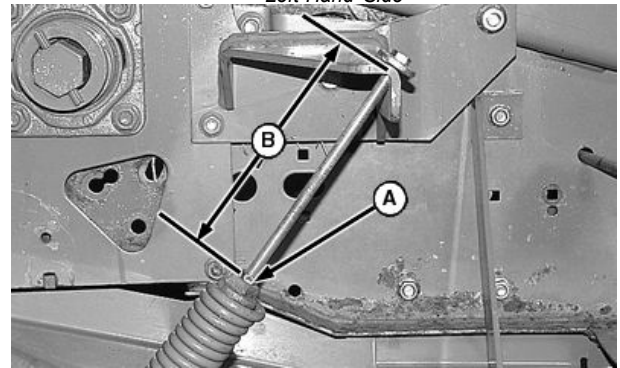
1. Loosen jam nut (A).
2. Tighten screw into spring plug until dimension (B), between spring plug casting and anchor, is attained. Dimension (B) is intended for pickup tooth ground clearance of 25—50 mm (1—2 in.) with wheel spindles in normal position.

DIMENSION (B)	
459 and 459S (Both Sides)	75 mm (3 in.)
559 and 559S (Both Sides)	55 mm (2 in.)

3. Tighten jam nut (A).



Left-Hand Side



Right-Hand Side

A—Jam Nut

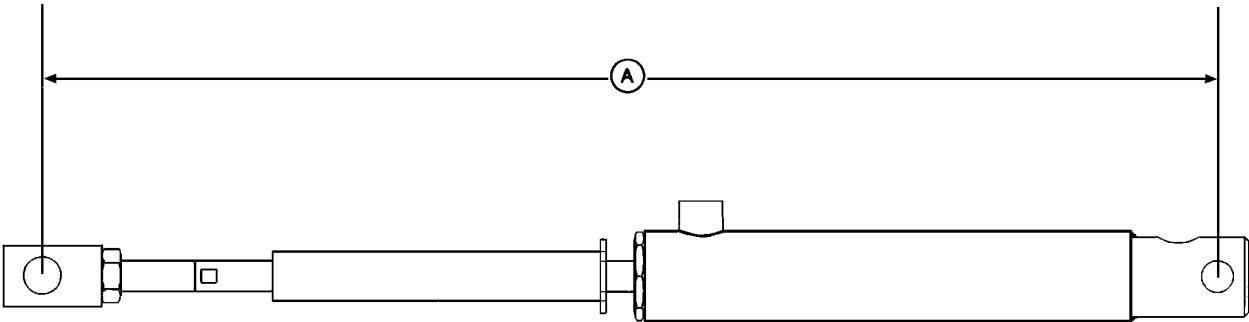
B—Float Spring Setting Dimension

E48174 —UN—19JUN00

E48175 —UN—19JUN00

PP98408,0000F77 -19-07FEB13-1/1

Adjust Initial Length of Hydraulic Lift Cylinder (If Equipped)



E39758 —UN—20FEB96

A—Distance

IMPORTANT: If the hydraulic pickup lift cylinder has been removed, the initial length of cylinder must be adjusted before installing the cylinder.

1. Extend cylinder fully.
2. Install cylinder stop, jam nut, washer (MegaWide™ Plus pickup only) and end block onto cylinder rod.
3. Turn cylinder rod into end block until distance (A), from center of hole in base end of cylinder-to-center hole in end block, is within specifications.

Specification

Center of Hole
in Base End of
Cylinder-to-Center Hole
in End Block—Distance
(Initial Length)..... 606 mm
(23-7/8 in.)

4. Install cylinder on baler.

PP98408,0000F78 -19-07FEB13-1/1

Check Pickup Tooth Rotational Play

CAUTION: To avoid injury or death caused by unexpected lowering of the gate, engage gate lock before working on, around, or under gate in raised position.

Excessive tooth rotational play in the feed opening area will reduce bale starting and feeding performance. Worn cams, spider bores, cam arm shafts, and cam bearings contribute to excessive tooth rotational play.

To check for rotational play:

1. Fully raise and lock gate.
2. Raise the pickup to transport position.

CAUTION: Never use any type of tool or wrench on shaft while tractor engine is running. Always remove tool from shaft as soon as you are finished using it.

3. Put a wrench on the gear case output shaft. Turn wrench clockwise until a row of pickup teeth are straight up.
4. Rotate the tooth bar forward, by hand, until the rotation has stopped. Mark the position of the outside tooth tip (A) on the end stripper panel.
5. Rotate the tooth bar rearward, by hand, until the rotation has stopped. Mark the position of the outside tooth tip (B) on the end stripper panel. Measure and record the distance between marks.

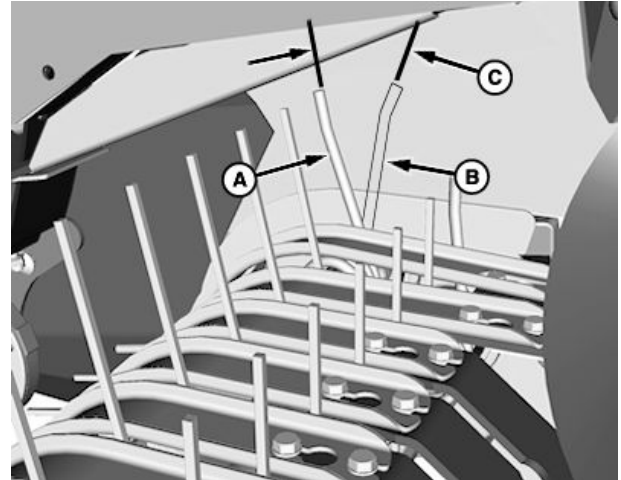
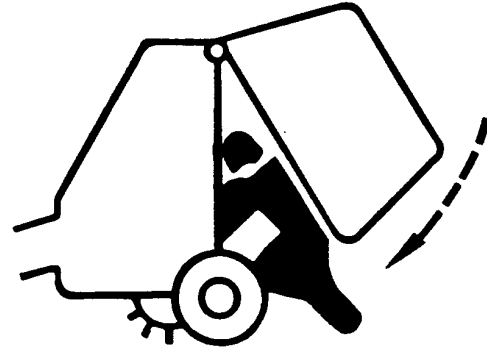
NOTE: Perform on each end of 5' pickup since tooth bars are staggered.

6. Mark the row and repeat Steps 3—5 on the remaining rows of teeth.
7. If the average distance (C) between marks exceeds specifications, check wear in cams, spider bores, cam arm shafts, and cam bearings, and replace as needed.

Specification

Marks on End Stripper

Panel—Distance..... 51 mm
(2 in.)



A—Tooth Tip Position
B—Tooth Tip Position

C—Dimension

8. Return pickup to operating height.
9. Remove wrench from output shaft.

TS698 —UN—21SEP89

E66866 —UN—23JUL12

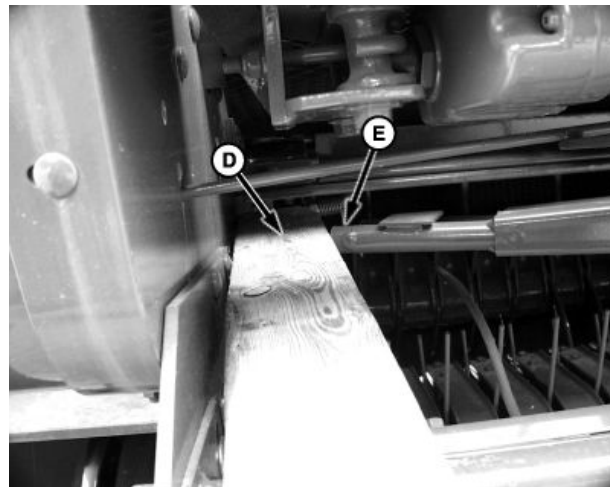
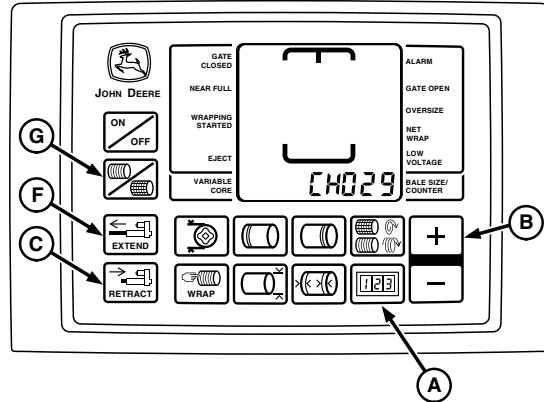
PP98408,0000F79 -19-07FEB13-1/1

Twine Arm Calibration (Channel 029)

1. Turn tractor key to ON position. Turn monitor-controller ON.
2. Briefly press TWINE or NET key (G), ensure monitor-controller is in TWINE mode (indicator will briefly show on screen).
3. Turn monitor-controller OFF.
4. Press and hold COUNTER key (A) while turning monitor ON.
5. Continue to hold COUNTER key (A) and press PLUS key (B) until **CH029** appears in digital display. Release both keys.
6. Press and hold RETRACT key (C) until twine actuator fully retracts and display reads zero.

NOTE: 89 mm equals 3—1/2 in., which is standard dimension for most 4 in. wide lumber such as a 2 x 4 or 4 x 4.

7. Place an 89 mm (3-1/2 in.) wood block (D) on right side of bale chamber so that the twine arm (E) will contact the wood block when actuator is extended.
8. Press EXTEND key (F), extend actuator until it stalls by contacting wood block (D).
9. Enter value displayed in to **CH029** by pressing PLUS and MINUS keys together and listening for two confirming beeps.
10. Press RETRACT key (C) to release and Remove wood block.



A—COUNTER Key
B—PLUS Key
C—RETRACT Key
D—Wood Block

E—Twine Arm
F—EXTEND Key
G—TWINE or NET key

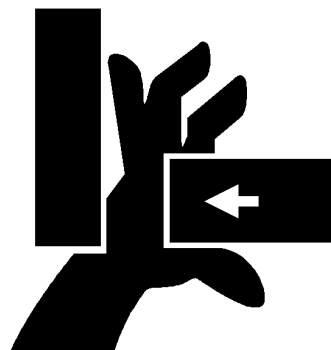
PP98408,0000F7A -19-07FEB13-1/1

Adjust Clearance Between Cutter Link Support and Twine Arm

CAUTION: Twine arms can move unexpectedly. Keep hands out of twine arm path to avoid crushing. turn off power **BEFORE** servicing or adjusting twine arms or twine cutter mechanism.

Stay out of the path of twine arms at all times when power to twine arms is ON.

IMPORTANT: Do not operate twine arms with pickup in raised position, or damage to pickup teeth can occur.



Continued on next page

PP98408,0000F7B -19-07FEB13-1/2

1. Move twine arm (A) under cutter link support (B) as follows:

Electric Twine Wrap;

- Turn tractor key to ON position. Do not start tractor engine.
- Turn monitor-controller ON.
- Press and momentarily hold TWINE or NET key to select TWINE mode.
- Press EXTEND or RETRACT key to move twine arm (A) under cutter link support (B).
- Turn monitor-controller OFF. Turn tractor key to OFF position. Remove key.

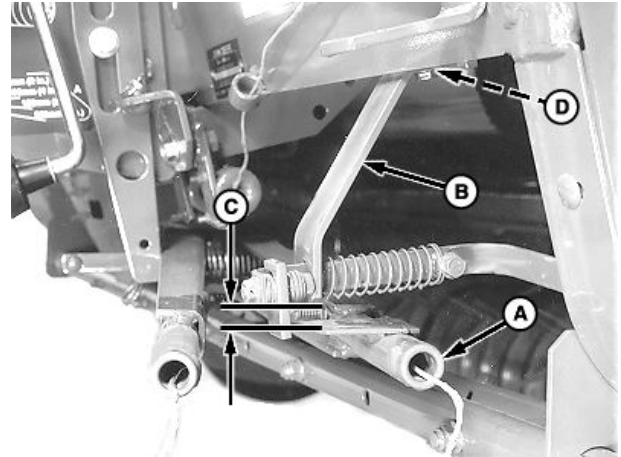
2. Measure clearance (C) between bottom edge of cutter link support (B) and top of twine arm strap. Clearance (C) must be within specifications.

Specification

Bottom Edge of Cutter
Link Support-to-Top
of Twine Arm

Strap—Clearance.....6—12 mm
(1/4—1/2 in.)

- If clearance (C) is less than specifications, remove shims (D) between cutter link support (B) and underneath crossbeam. If shims do not exist, lower twine arms relative to cutter link support. (See ADJUST TWINE ARM-TO-STARTER ROLL, CUTTER LINK SUPPORT AND TWINE ARM STOP in this section.)



A—Twine Arm
B—Cutter Link Support

C—Clearance
D—Shims

- If clearance (C) is more than specifications, add shims (D).
3. Change shims by loosening two self-tapping screws.
 4. Remove end play at front of cutter link support toward center of baler. Tighten screws.

PP98408,0000F7B -19-07FEB13-2/2

Adjust Front Twine Arm

CAUTION: Twine arms can move unexpectedly. Keep hands out of twine arm path to avoid crushing. turn off power BEFORE servicing or adjusting twine arms or twine cutter mechanism.

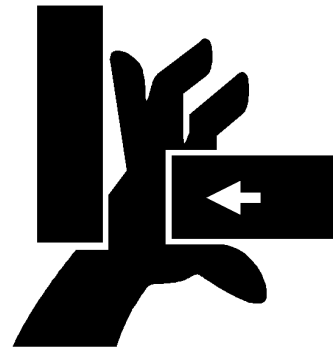
Stay out of the path of twine arms at all times when power to twine arms is ON.

1. Move twine arms to home position as follows:

Electric Twine Wrap;

- Turn tractor key to ON position. Do not start tractor engine.
- Turn monitor-controller ON.
- Press and momentarily hold TWINE or NET key to select TWINE mode.
- Press EXTEND or RETRACT key to move twine arm (A) under cutter link support (B).

- Set monitor-controller selector switch to OFF (centered) position. Turn tractor key to OFF position. Remove key.



Continued on next page

PP98408,0000F7C -19-07FEB13-1/2

2. Remove cap screw and nut (E), spring-locking pin (D), washer (G), spacer (H), spring (C) and twine spacing strap (F).
3. Measure height difference (I) between tops of twine arms (J) and (K). Twine arm (K) must be higher than twine arm (J) to within specifications.

Specification

Front Twine Arm-to-Rear

Twine Arm—Distance.....4.5—7.5 mm
(3/16—5/16 in.)

4. To adjust distance, loosen nut (A) enough so end of twine arm can be moved manually with some resistance.
 - If height difference (I) is less specified, move end of twine arm down until correct dimension is obtained.
 - If height difference (I) is greater than specified, move end of twine arm up until correct dimension is obtained.

5. Tighten nut (A) to specifications.

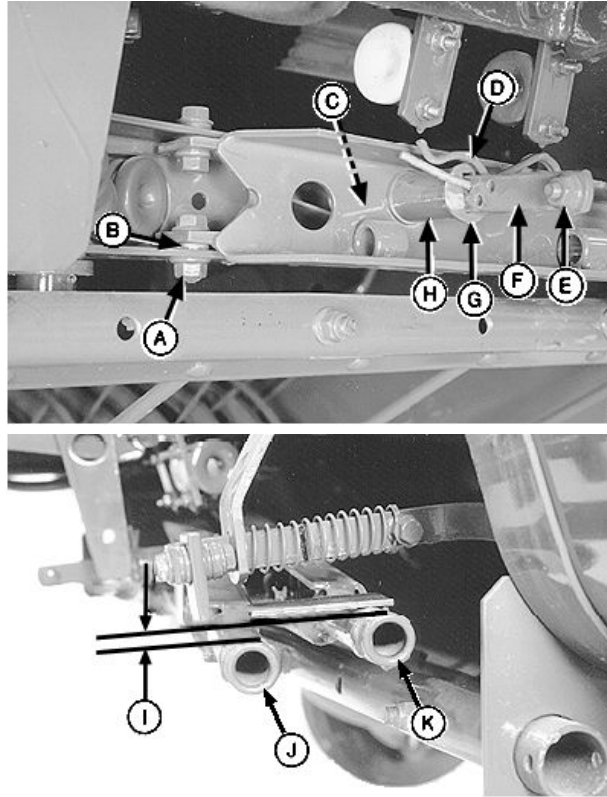
Specification

Twine Arm Nut—Torque.....80 N·m
(60 lb.-ft.)

6. Install twine spacing strap, spring, spacer, washer, and nut and bolt. Install spring-locking pin (D) in desired hole.

A—Cap Screw and Nut
B—Bushing
C—Spring
D—Spring-Locking Pin
E—Cap Screw and Nut
F—Twine Spacing Strap

G—Washer
H—Spacer
I—Height Difference
J—Front Twine Arm
K—Rear Twine Arm



E39280—UN—02JUL99

E39279—UN—30JUN99

PP98408,0000F7C -19-07FEB13-2/2

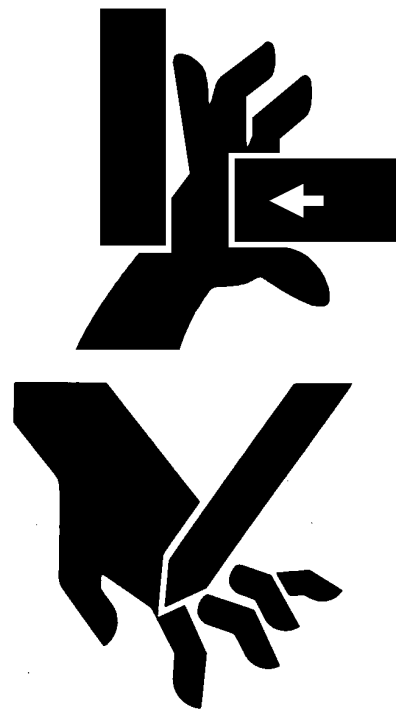
Adjust Twine Cutter-to-Twine Arm

⚠ CAUTION: Twine arms can move unexpectedly. Keep hands out of twine arm path to avoid crushing. Turn off power **BEFORE** servicing or adjusting twine arms or twine cutter mechanism.

Stay out of the path of twine arms at all times when power to twine arms is **ON**.

Twine knife has two cutting edges. Be careful when working around the knife. It is sharp.

1. Remove crop material from knife and hex anvil area.



Continued on next page

PP98408,0000F7D -19-07FEB13-1/2

E47598 —UN—07JAN00

TS268 —UN—23AUG88

NOTE: Dimension (F) applies to the front arm. Rear arm must clear the bottom of the twine knife.

- Move twine arms until front twine arm tube (E) is centered over hex anvil (D) as follows:

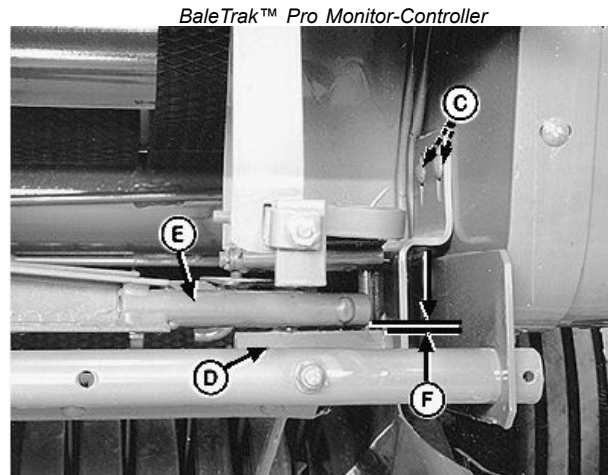
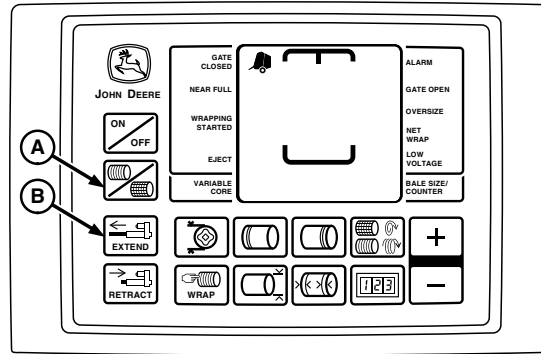
Electric Twine Wrap;

- Turn tractor key to ON position. Do not start tractor engine.
 - Turn monitor-controller ON.
 - While in TWINE mode, press monitor-controller EXTEND key (B) to move front twine arm tube until centered over hex anvil.
 - Turn monitor-controller OFF. Turn tractor key to OFF position. Remove key.
- Open left-hand door and loosen nuts (C).
 - Adjust twine cutter, so clearance (F) between knife hex anvil (D) and twine arm tube (E) is within specifications. Twine cutter bracket must be level (*parallel with bottom edge of frame*).

Specification

Knife Hex Anvil-to-	
Front Twine Arm	
Tube—Clearance.....	0.5—3.5 mm (0.020—0.138 in.)

- Tighten nuts (C).
- If rear twine arm contacts bottom side of knife support and minimum clearance in Step 4 is obtained, bend twine cutter bracket so hex anvil is parallel to twine arm.
- Check knife adjustment. (See CHECK KNIFE ADJUSTMENT in this section.)



A—Twine Symbol
B—EXTEND Key
C—Nuts

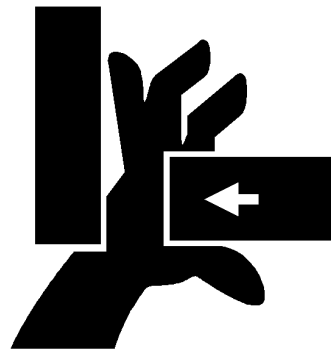
D—Knife Hex Anvil
E—Front Twine Arm Tube
F—Clearance

PP98408,0000F7D -19-07FEB13-2/2

Twine Arm Timing (559 and 559S)

CAUTION: Twine arms can move unexpectedly. Keep hands out of twine arm path to avoid crushing. turn off power BEFORE servicing or adjusting twine arms or twine cutter mechanism.

Stay out of the path of twine arms at all times when power to twine arms is ON.



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PP98408,0000F7E -19-07FEB13-1/2

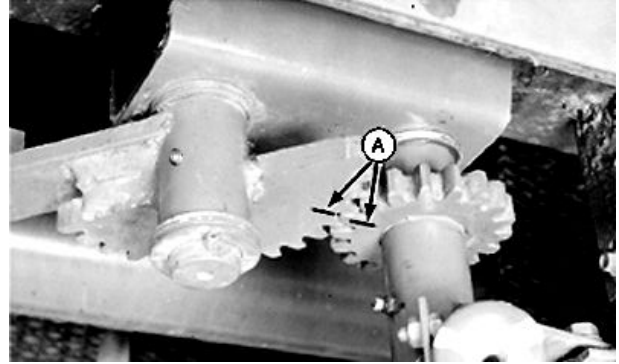
E52523 —UN—02JUN08

E40624 —UN—29JUN96

E47598 —UN—07JAN00

When replacing or servicing twine arms or drive gear, make sure timing marks (A) are lined up as shown.

A—Timing Marks



PP98408,0000F7E -19-07FEB13-2/2

E39695 —UN—31JAN96

Check and Adjust Twine Cutter Knife

CAUTION: Twine arms can move unexpectedly. Keep hands out of twine arm path to avoid crushing. Turn off power **BEFORE** servicing or adjusting twine arms or twine cutter mechanism.

Stay out of the path of twine arms at all times when power to twine ares is ON.

CAUTION: Twine knife has two cutting edges. Be careful when working around the knife. It is sharp.

IMPORTANT: Make sure that cutter anvil is properly adjusted before adjusting knife. (See **ADJUST TWINE CUTTER TO TWINE ARM** in this section.)

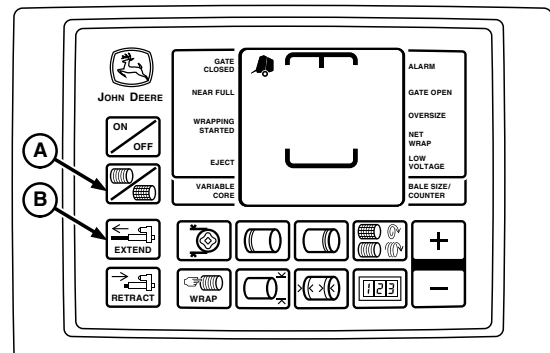
Do not operate twine arm with pickup in raised position, or damage to pickup teeth can occur.

NOTE: Make sure that knife edge is straight. If not, rotate, replace, or sharpen knife.

If knife edge is less than 3 mm (1/8 in.) from rear of hex flat, the knife has become too short due to sharpening. Invert or replace knife, if necessary.

1. Remove crop material from knife and hex anvil area.
2. Move twine arms behind twine cutter as follows:

Electric Twine Wrap;



A—Twine Symbol

B—Extend Key

- Turn tractor key to ON position. Do not start tractor engine.
- Turn monitor-controller ON.
- In TWINE mode, press monitor-controller EXTEND key (B) to move twine arm behind twine cutter.
- Turn monitor-controller OFF. Turn tractor key to OFF position. Remove key.

Continued on next page

PP98408,0000F7F -19-07FEB13-1/2

E52523 —UN—02JUN08

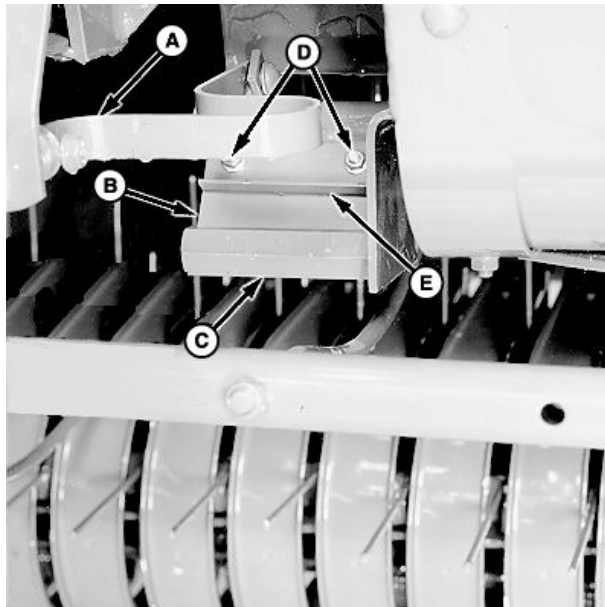
3. Pull cutter strap (A) forward until knife (B) contacts hex anvil (C). If full length of knife does not contact hex anvil, adjust knife.

To adjust knife:

- Loosen nuts (D).
- Pull angle (E) down until full width of knife (B) contacts hex anvil (C). Knife edge must be near center of hex flat
- Tighten nuts (D). Pull cutter strap forward to make sure full width of knife contacts hex anvil. If not, repeat adjustment procedure.
- Check twine cutter-to-twine arm clearance. (See ADJUST TWINE CUTTER TO TWINE ARM this section.)

A—Cutter Strap
B—Knife
C—Hex Anvil

D—Nuts
E—Angle



E39690 —UN—06SEP00

PP98408,0000F7F -19-07FEB13-2/2

Adjust Twine Arm-to-Starter Roll, Cutter Link Support, and Twine Arm Stop

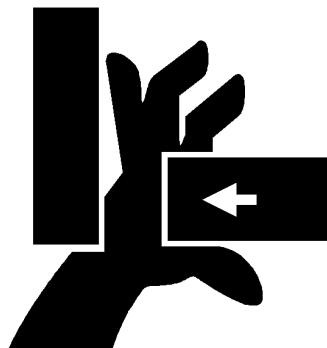
CAUTION: Twine arms can move unexpectedly. Keep hands out of twine arm path to avoid crushing. turn off power BEFORE servicing or adjusting twine arms or twine cutter mechanism.

Stay out of the path of twine arms at all times when power to twine arms is ON.

NOTE: Adding or removing shims located between the twine arm support and crossbeam will affect dimensions at the following locations:

- Twine arm to starter roll:
 - Twine arm pointing directly toward rear.
 - Twine arm toward right side of baler.
 - Twine arm toward left side of baler.
- Twine arm to cutter link support.
- Twine arm to twine arm stop.

Check dimensions at all locations before making any adjustments. Adding or removing shims at one location can change the dimension at another location.



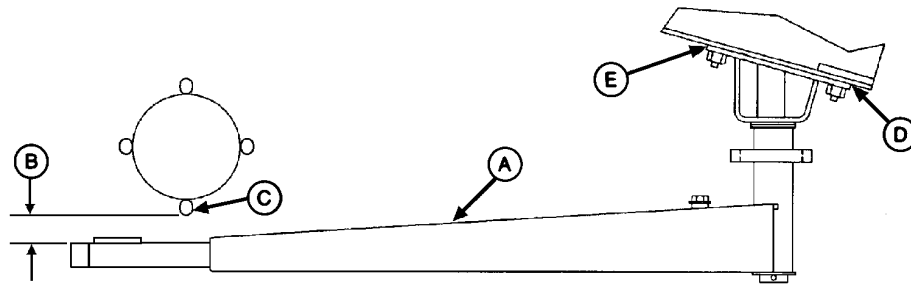
E47598 —UN—07JAN00

1. Start tractor engine and raise gate fully. Lower pickup so twine arm will not contact pickup teeth.
2. Shut off tractor engine and remove key. Lock the gate.
3. Remove lower drive roll chain so starter roll can be rotated by hand.

Continued on next page

PP98408,0000F80 -19-07FEB13-1/5

Adjust Twine Arm to Starter Roll



A—Twine Arm
B—Dimension

C—Starter Roll Rod
D—Shim Location

E—Shim Location

1. Move twine arms until rear twine arm (A) points toward rear of baler.

Electric Twine Wrap;

- Turn tractor key to ON position. do not start tractor engine.
 - Turn monitor-controller ON.
 - Press EXTEND key to move twine arm in position.
 - Turn monitor-controller OFF . Turn tractor key to OFF position. Remove key.
2. By hand, remove end play at end of twine arm toward starter roll. Check dimension (B) between starter roll rod (C) and twine arm tube. Dimension (B) must be within specifications.

Specification

Starter Roll Rod-to-Twine
Arm Tube—Distance.....6—12 mm
(1/4—1/2 in.)

3. If dimension (B) is less than specified:

- Remove shims, as necessary, at location (D) between twine arm support and crossbeam.

Remove an equal number of shims at the right-hand and left-hand mounting bolts. One shim moves twine arm approximately 3 mm (1/8 in.).

OR

- Add shims, as necessary, at location (E) between twine arm support and crossbeam. Add an equal number of shims at the right-hand and left-hand mounting bolts.

4. If dimension (B) is more than specified:

- Remove shims, as necessary, at location (E) between twine arm support and crossbeam. Remove an equal number of shims at the right-hand and left-hand mounting bolts. One shim moves twine arm approximately 3 mm (1/8 in.)

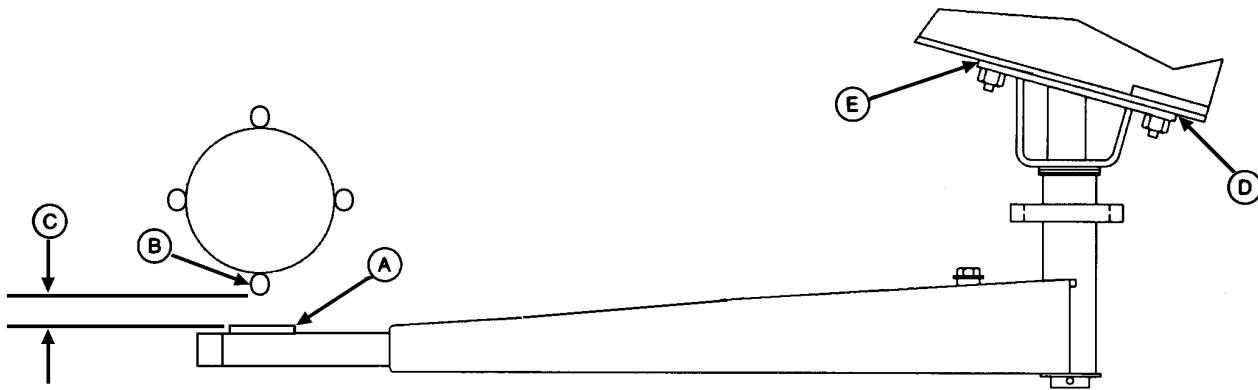
OR

- Add shims, as necessary, at location (D) between twine arm support and crossbeam.

Continued on next page

PP98408.0000F80 -19-07FEB13-2/5

E40616—UN—16DEC97



E41680—UN—31OCT96

A—Strap
B—Starter Roll Rod

C—Dimension
D—Shim Location

E—Shim Location

5. Move twine arms to right of center so strap (A) is below starter roll rod (B).

Electric Twine Wrap;

- Turn tractor key to ON position. do not start tractor engine.
 - Turn monitor-controller ON.
 - Press EXTEND key to move twine arm in position.
 - Turn monitor-controller OFF . Turn tractor key to OFF position. Remove key.
6. Rotate starter roll until starter roll rod (B) is closest to twine arm strap (A).
7. By hand, remove twine arm end play at end of twine arm toward starter roll.
8. Check dimension (C) between starter roll rod (B) and strap (A). Dimension (C) must be to specifications.

Specification

Starter Roll Rod-to-Strap—Clearance	
(Minimum).....	3 mm (1/8 in.)

9. If dimension (C) is less than specified, add an equal number of shims at right-hand location (D and E), or remove an equal number of shims at left-hand location (D) and (E).

10. Move twine arm left of center so strap (A) is below starter roll rod (B).

Electric Twine Wrap;

- Turn tractor key to ON position. do not start tractor engine.
 - Turn monitor-controller ON.
 - Press EXTEND key to move twine arm in position.
 - Turn monitor-controller OFF . Turn tractor key to OFF position. Remove key.
11. Rotate starter roll until starter roll rod (B) is closest to twine arm strap (A).
12. If dimension (C) is less than specified, add an equal number of shims at the left-hand locations (D and E), or remove an equal number of shims at the right-hand locations (D) and (E).

Continued on next page

PP98408,0000F80 -19-07FEB13-3/5

Adjust Twine Arm-to-Cutter Link Support

1. Move twine arms until twine arm (A) lightly contacts the cutter link contact tab.

Electric Twine Wrap;

- Turn tractor key to ON position. do not start tractor engine.
- Turn monitor-controller ON.
- Press RETRACT key to move twine arm in position.
- Turn monitor-controller OFF . Turn tractor key to OFF position. Remove key.

2. Check dimension (C) between top of twine arm strap and bottom edge of cutter link support (B). Dimension (C) must be within specifications.

Specification

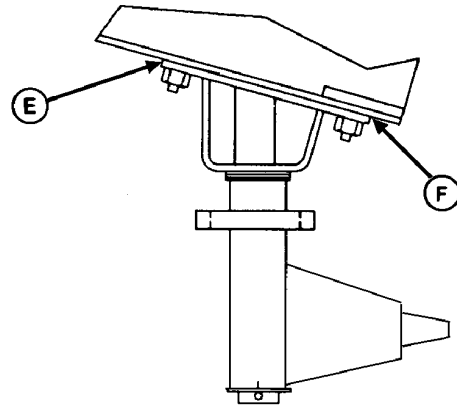
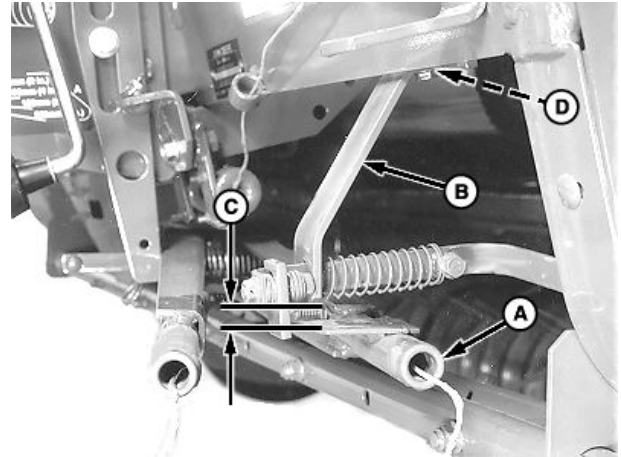
Top of Twine Arm	
Strap-to-Bottom	
Edge of Cutter Link	
Support—Clearance.....	6 mm
	(1/4 in.)

3. If dimension (C) is less than specified and no shims exist at location (D) between support (B) and crossbeam:

- Add an equal number of shims between twine arm support and crossbeam at left-hand locations (E) and (F).

OR

- Remove an equal number of shims between twine arm support and crossbeam at right-hand locations (E) and (F).



A—Twine Arm
B—Cutter Link Support
C—Dimension

D—Shim Location
E—Shim Location
F—Shim Location

Continued on next page

PP98408,0000F80 -19-07FEB13-4/5

E40634 —UN—06SEP00

E41682 —UN—24OCT96

Adjust Twine Arm-to-Twine Stop

1. Make sure twine arm stop (A) is in the down position.
2. Move twine arms to the home position.

Electric Twine Wrap;

- Turn tractor key to ON position. Do not start tractor engine.
 - Turn monitor-controller ON.
 - Press RETRACT key to move twine arm in position.
 - Turn monitor-controller OFF. Turn tractor key to OFF position. Remove key.
3. Check overlap (C). There must be a minimum overlap between bottom of stop (A) and front twine arm surface to within specifications.

Specification

Bottom of Stop-to-Front
Arm Surface—Overlap..... 2 mm
(3/32 in.)

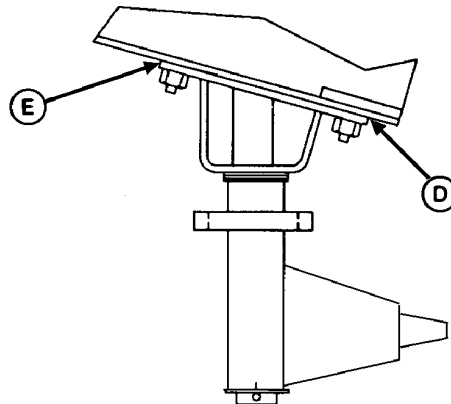
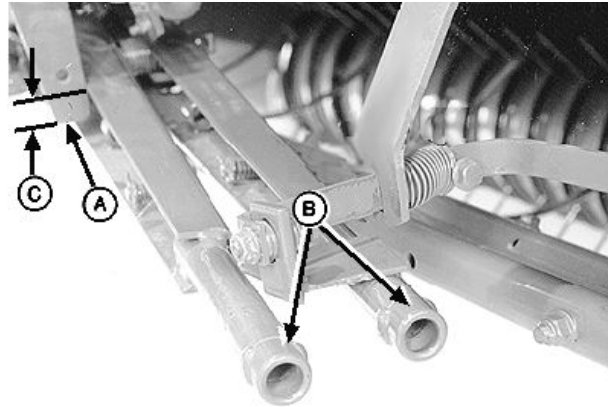
4. If dimension (C) is less than specified:
 - Add an equal number of shims at the right-hand locations (D) and (E).

OR

 - Remove an equal number of shims at the left-hand locations (D) and (E).

Checking Twine Arm Adjustments

1. Check clearances again between twine arm and starter roll, twine arm and cutter link support, and twine arm to twine arm stop. If twine arm to starter roll dimension has changed due to adjusting twine arm to cutter link support or twine arm stop, adjust shims between twine arm and crossbeam as needed.
2. Adjust twine cutter-to-twine arm. (See ADJUST TWINE CUTTER-TO-TWINE ARM in this section.)



A—Twine Arm Stop
B—Twine Arms
C—Minimum Overlap

D—Shim Location
E—Shim Location

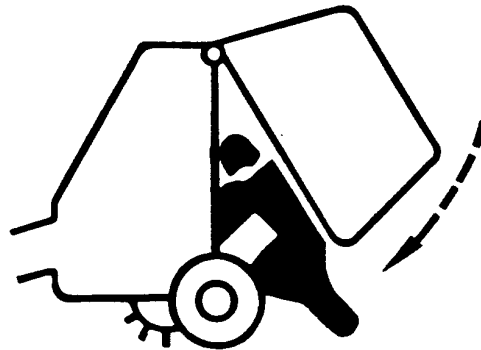
3. Install lower drive roll chain.
4. Unlock and close gate.

PP98408,0000F80 -19-07FEB13-5/5

Adjust Lower Feed Roll Scraper

CAUTION: To avoid injury or death caused by unexpected lowering of the gate, engage gate lock before working on, around, or under gate in raised position.

1. Open gate fully, then lower to a convenient height.
2. Shut off tractor engine and remove key.
3. Lock the gate.
4. Verify that tension arm is fully raised and against its stops.



Continued on next page

PP98408,0000F81 -19-07FEB13-1/2

E40623 —UN—01JUL96

E40617 —UN—07OCT96

TS698 —UN—21SEP89

5. Loosen mounting lock nuts on scraper (A).
6. Using feeler gauge, adjust scraper (A) until roll-to-scraper clearance is within specifications at tightest points. Tighten lock nuts.

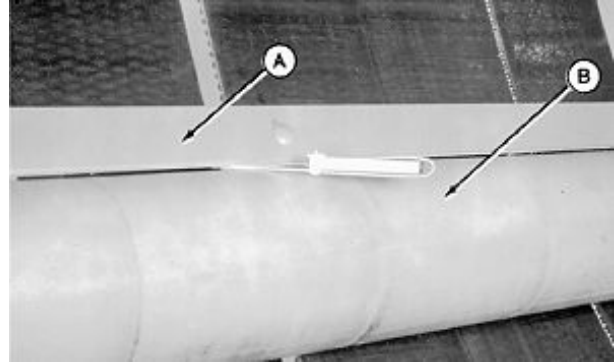
Specification

Lower Front Gate Roll-to-
Scraper—Clearance.....2.5—5.5 mm
(3/32—7/32 in.)

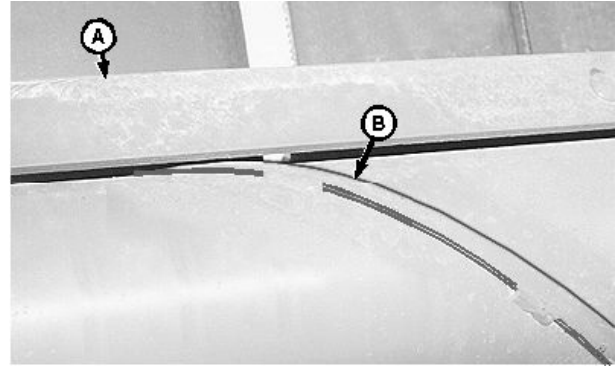
7. Rotate roll to make sure that scraper does not hit roll at any point as roll is rotated.
8. Unlock and lower gate.

A—Scraper

B—Gate Roll



Non-Net Wrap Balers



459S and Net Wrap Balers

PP98408,0000F81 -19-07FEB13-2/2

E21748 —UN—13SEP88

E40236 —UN—17JUL96

Adjust Starter Roll Scraper (If Equipped)

CAUTION: Be careful when working around starter roll scraper. The knife is sharp and can cause serious injury.

Rotate starter roll in direction shown to avoid pinching fingers.

1. Clear area of all debris between knife and starter roll.
2. Loosen cap screws (A).
3. Clearance (C) must be within specifications.

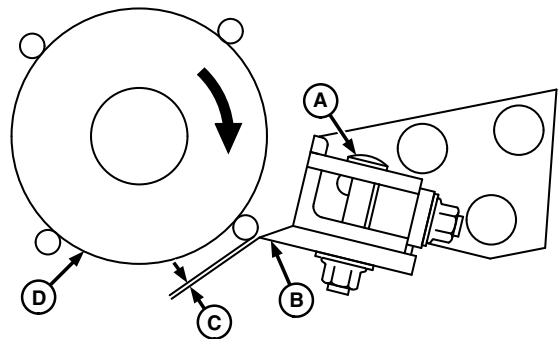
Specification

Scraper Bar-to-Starter
Roll—Clearance.....0.5—1.0 mm
(0.020—0.039 in.)

4. Tighten cap screws (A).
5. Manually rotate starter roll (D) to check clearance at all bars. Readjust if necessary.

A—Cap Screws
B—Scraper Bar

C—Clearance
D—Starter Roll



PP98408,0000F82 -19-07FEB13-1/1

TS268 —UN—23AUG88

E51108 —UN—17JAN02

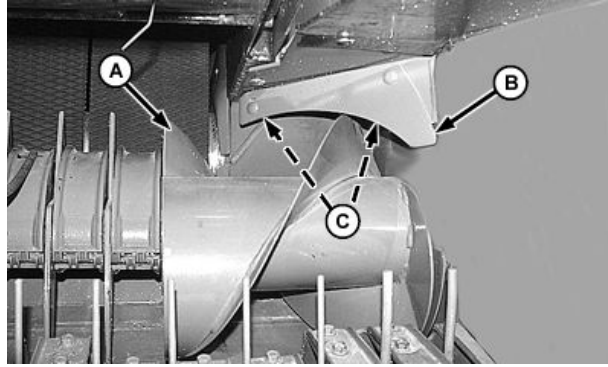
Adjust Auger Scrapers (MegaWide™ Plus Pickup)

1. Loosen nuts (C).
2. Position scraper (B) to auger (A) according to specifications at closest point. Rotate auger to check clearance.

Specification

Scraper-to-Auger—Clearance
(Minimum)..... 1 mm
(1/32 in.)

3. Tighten nuts.
4. Repeat procedure on opposite side.



Left-Hand Side Shown

A—Auger
B—Scraper

C—Nuts

PP98408,0000F83 -19-07FEB13-1/1

E48190—UN—03AUG00

Check and Adjust Clearance Between Cleaning Auger and Staggered Belt Roll (459S and 559S)

CAUTION: Make sure that gate is in the raised position and locked. If gate is not raised and locked while performing this procedure, the gate could close suddenly causing injury or death.



Continued on next page

PP98408,0000F84 -19-07FEB13-1/3

TS698—UN—21SEP89

NOTE: Shield removed for illustration purposes.

The cleaning auger (A) must operate close to the staggered belt roll (B) and belts to function correctly.

Clearance between auger flighting and outside diameter of staggered belt roll must be within specifications with gate fully closed and belts tensioned.

Specification

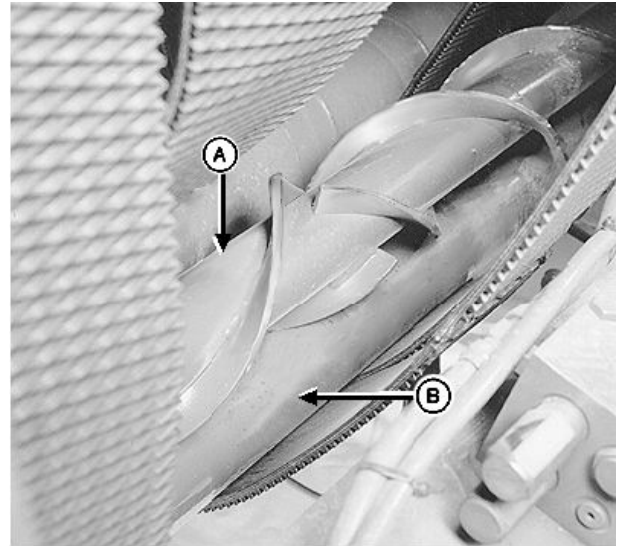
Auger Flighting-to-	
Staggered Belt Roll	
OD—Clearance.....	1—3 mm
	(1/32—1/8 in.)

Check Clearance

1. Start tractor engine.
2. Raise gate, shut OFF tractor engine, and remove key.
3. Lock the gate.
4. Disconnect cleaning auger drive chain.
5. Remove any crop or mud buildup on roll.

CAUTION: To reduce the risk of fire, verify cleaning auger flighting moves crop toward center of baler when top of auger rotates forward.

6. Check clearance with a feeler gauge at both ends and in the middle of the baler. Rotate auger and check for eccentricity.



A—Cleaning Auger

B—Staggered Belt Roll

7. Verify cleaning auger flighting moves crop toward center of baler when top of auger rotates forward.
8. Reconnect cleaning auger chain. (See ADJUST LOWER DRIVE ROLL CHAIN in this section.)

Continued on next page

PP98408,0000F84 -19-07FEB13-2/3

E41086—UN—04OCT96

Adjust Clearance

1. Remove cleaning auger chain.
2. Loosen staggered belt roll shaft bolt (A) and roll bracket bolts (B) on right and left-hand side of baler.
3. At both ends of staggered belt roll, put a 2 mm (0.078 in.) shim between flighting and outside diameter of staggered belt roll.

IMPORTANT: When tightening bolts, make sure that roll is free to rotate with a minimum gap of 1 mm (0.039 in.) between roll and hole in sidesheet.

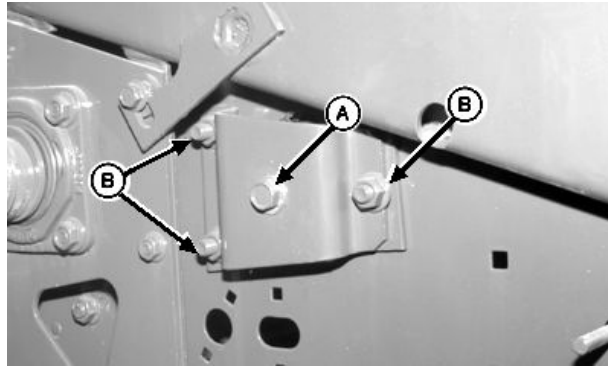
4. Hold roll firmly against shim and tighten all bolts.
5. Remove shims used in previous step.
6. Start tractor engine. Close gate, shut OFF tractor engine, and remove key.

CAUTION: To reduce the risk of fire, verify cleaning auger flighting moves crop toward center of baler when top of auger rotates forward.

7. Manually rotate auger. Check clearance between roll and auger flighting near both sidesheets and at a center location. Clearance must be within specifications. If not, reposition roller or check straightness of cleaning auger.

Specification

Auger Flighting-to-Staggered Belt Roll	
OD—Clearance.....	1—3 mm (1/32—1/8 in.)



Right-Hand Side Illustrated

A—Roll Shaft Bolt

B—Roll Bracket Bolts

CAUTION: To reduce the risk of fire, verify cleaning auger flighting moves crop toward center of baler when top of auger rotates forward.

8. Verify cleaning auger flighting moves crop toward center of baler when top of auger rotates forward.
9. Reconnect cleaning auger chain. Adjust chain idler. (See ADJUST LOWER DRIVE ROLL CHAIN in this section.)

PP98408,0000F84 -19-07FEB13-3/3

Adjust Twine Indicator Retaining Strap

1. Loosen cap screw (A).
2. Position retaining strap (B) as follows:
 - Right-hand side of baler; eight o'clock position
 - Left-hand side of baler; four o'clock position
3. Adjust dimension (C) between strap and twine indicator wheel according to specifications.

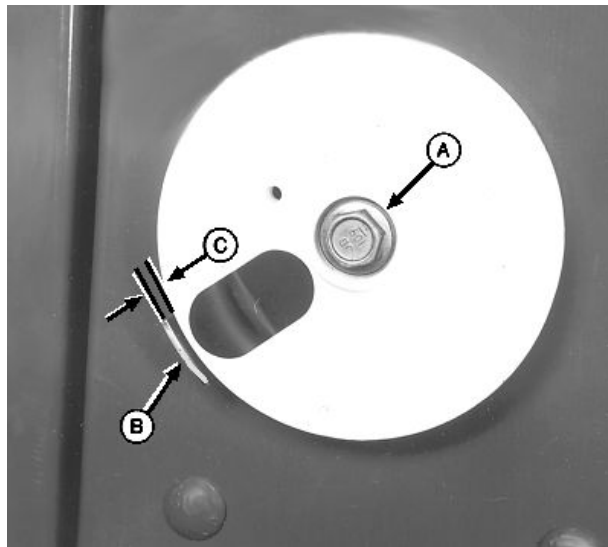
Specification

Strap-to-Twine Indicator	
Wheel—Distance.....	0.4—0.8 mm (0.016—0.031 in.)

4. Tighten cap screw (A).
5. Twine indicator wheel must spin freely after adjustment.

A—Cap Screw
B—Retaining Strap

C—Distance



Right-Hand Side Shown

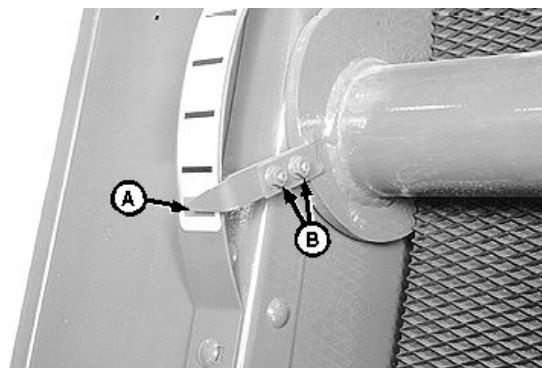
PP98408,0000F85 -19-07FEB13-1/1

Adjust Bale Size Indicator

1. Raise gate fully.
2. Shut off tractor and engage gate lock.
3. Loosen nuts (B) and line bottom edge of pointer (A) with bottom edge of red zone as viewed from tractor. Tighten nuts.
4. Disengage gate lock and lower gate.

A—Pointer

B—Nuts



E40191—UN—08JUL96

PP98408,0000F86 -19-07FEB13-1/1

Adjust Take-Up Arm Compression Spring

If spring has been replaced or stop nuts have been removed, adjust spring as follows:

1. Close gate and lower tension arm.
2. Remove any wrappage or buildup on rolls.
3. With chamber empty, gate shut and tension arm down, briefly engage PTO.

4. If forming belts are installed go to Step 6.

Without forming belts; Adjust stop nuts (A) until dimension (B) is within specifications.

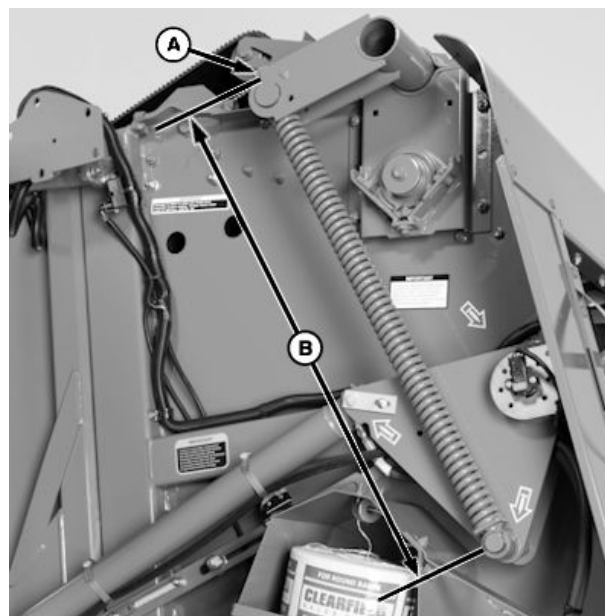
Specification

Spring—Distance..... 905 mm $\pm$ 1.5 mm
(35-5/8 in. $\pm$ 1/16 in.)

5. Adjust spring after forming belts are installed. (See Step 6.)

A—Stop Nuts

B—Dimension



E69505—UN—21MAR13

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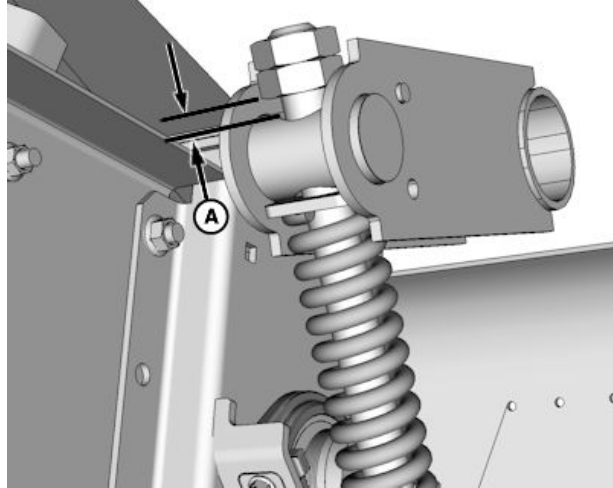
PP98408,0000F87 -19-21MAR13-1/2

6. With forming belts installed, adjust stop nuts until gap (A) is between nut and pivot to within specifications.

Specification

Nut-to-Pivot—Gap.....8—12 mm
(0.315—0.472 in.)

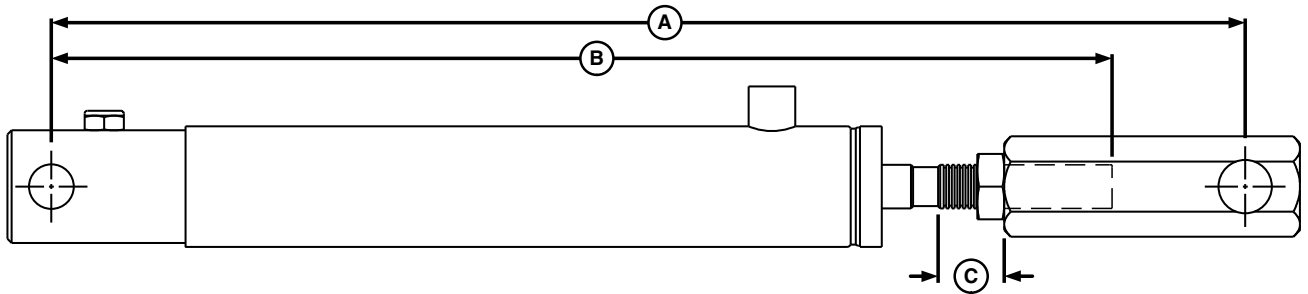
A—Gap



E69506—UN—21MAR13

PP98408,0000F87 -19-21MAR13-2/2

Adjust Upper Tension (Take-Up) Arm Cylinder



E65416—UN—24MAY12

A—Retracted Distance, 387.35 mm (15.25 in.) **B—Distance, 436 ± 1.5 mm (17.1 ± 0.05 in.)** **C—Reference Check, 24 mm (0.94 in.)**

1. Verify that rod end cylinder port contains breather that will pass air.
2. Install jam nut on cylinder rod and apply NEVER-SEEZ to 25 mm (1 in.) of end threads.
3. With hydraulic cylinder retracted (A), install end block to obtain distance (B) between center of hole in hydraulic cylinder base and center of hole in end block.
4. Tighten jam nut against end block. Wipe off excessive NEVER-SEEZ.

NOTE: A reference check for when the cylinder is already installed is from the base of the hex block to the end of the exposed threads (C).

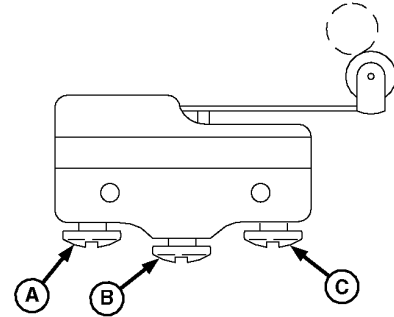
PP98408,0000F88 -19-07FEB13-1/1

Check Microswitches

NOTE: Label wires before disconnecting from switch to ensure proper connection to switch terminals.

Only terminals (A) and (B) are used.

1. Disconnect all wires from switch.
2. Attach multimeter leads to common (A) and normally open (B) terminals.
 - When switch lever is released, there must be no continuity through the switch.
 - When lever is depressed (click is heard), there must be continuity through the switch.
3. Move lead from normally open (B) to normally closed (C) terminal.
 - When switch lever is released, there must be continuity through the switch.
 - When lever is depressed (click is heard), there must be no continuity through the switch.



A—Common Terminal
B—Normally Open Terminal

C—Normally Closed Terminal

4. If continuity test results are not as described, replace switch.

PP98408,0000F89 -19-07FEB13-1/1

E38432 —UN—21FEB95

Raise Gate With Hoist

1. Remove four round head bolts (A) to remove top belt shield.
2. Wrap chain hoist around cross frame member and raise gate.
3. When finished, replace shield and SMV symbol.

A—Round-Head Bolts



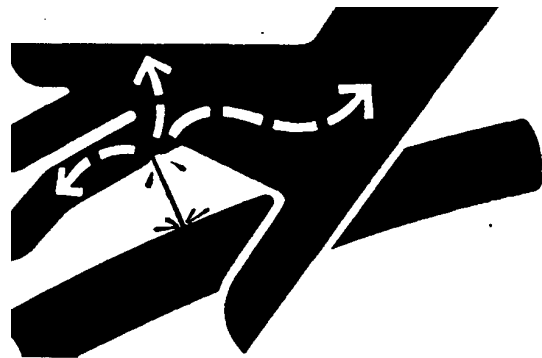
PP98408,0000F8A -19-07FEB13-1/1

E39739 —UN—16FEB96

Remove and Install Bale Ramp (If Equipped)

CAUTION: Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Search for leaks with a piece of cardboard. Protect hands and body from high-pressure fluids.

IMPORTANT: All hydraulic couplers must be clear of debris, dust, and sand. Use protective caps on fluid openings until ready to make connection. Foreign material can damage the hydraulic system.



Continued on next page

PP98408,0000F8B -19-07FEB13-1/3

X8811 —UN—23AUG88

1. With gate closed, disconnect hydraulic couplers (A) to ramp cylinder.
2. Raise gate fully using tractor hydraulics and lock gate open.
3. Remove pins (B) and remove hydraulic cylinder from baler.

A—Hydraulic Couplers

B—Pins (2 used)



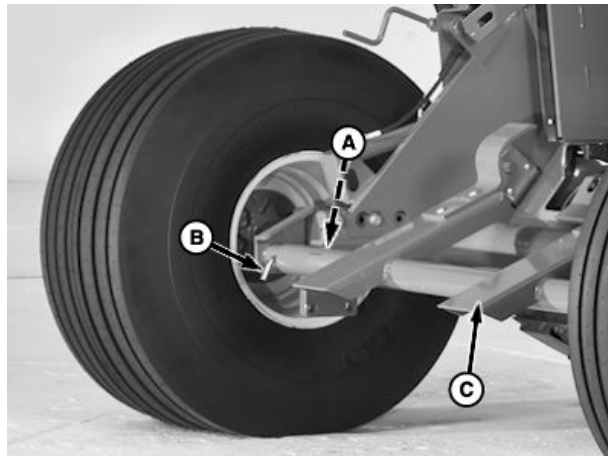
E67379 —UN—15AUG12

PP98408,0000F8B -19-07FEB13-2/3

4. Remove spring clip (A) and pin (B).
5. Remove bale ramp (C).
6. To reinstall bale ramp, reverse order of removal.
7. Make sure hydraulic couplers on baler and ramp cylinder are clean before reconnecting hoses.
8. Cycle bale ramp and gate to remove air from hydraulic hoses before baling.
9. If necessary, adjust bale ramp. (See ADJUST BALE RAMP in Operating the Baler section.)

A—Spring Clip
B—Pin

C—Bale Ramp



E67380 —UN—15AUG12

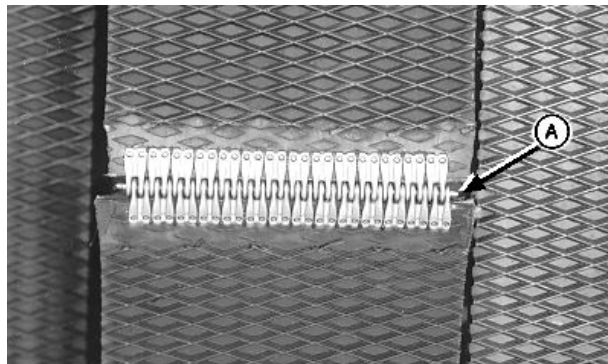
PP98408,0000F8B -19-07FEB13-3/3

Check Belt Pins

Check pins (A) for wear or damage every 2000 bales (every 1000 bales in sandy conditions) otherwise broken pins are difficult to remove. Replace pins if broken, or if more than one-third of pin thickness is worn. Do not deform ends of pins when installing new ones.

To remove pin, grip pin with pliers and turn 90 degrees (1/4 turn) before pulling or tapping out.

A—Pins



E39736 —UN—24MAY96

PP98408,0000F8C -19-07FEB13-1/1

Check Belt Tracking

IMPORTANT: If belts are new and have not been used, add baby powder to simulate crop dust or the belts cannot track properly on the rolls.

Use only baby powder made with talcum. Do not use powder with corn starch. Corn starch will absorb moisture and cling to rolls.

It is best to powder belts on a sunny, dry day with baler in a building or under shelter. If baler is outside, be sure that belts and rolls are dry. Do not powder on damp (early morning dew) belts.

Use baby powder that is made with talcum. A large bottle, 15 oz. plus, can be necessary.

CAUTION: When positioning the gate to provide access for service, always make sure tension arm (A) is fully raised and against tension arm stops (B). This prevents gate from lowering unexpectedly.

ALWAYS raise the gate fully and lower it to the desired opening height before engaging gate lock. Crop material can hold the tension arm at a lower position and material can be redistributed during servicing. This could cause tension arm (A) to swing up and suddenly lower the gate, even if the gate lock is engaged.

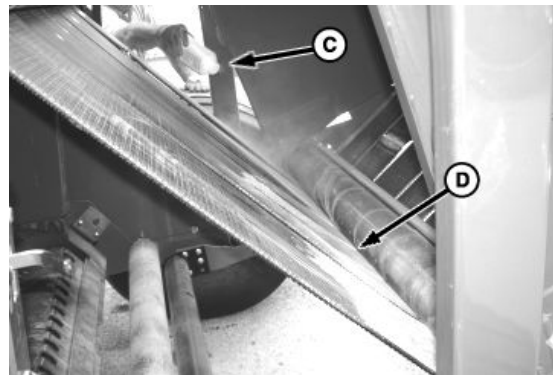
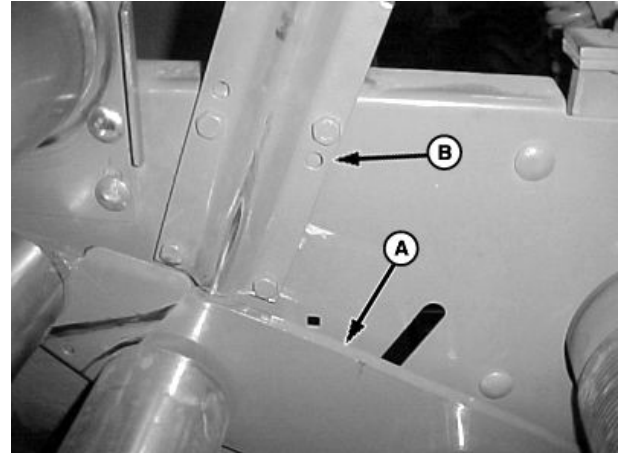
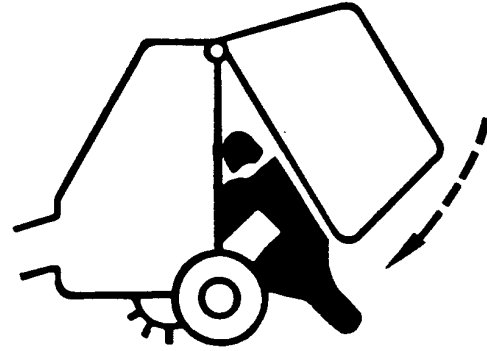
Failure to verify that tension arm (A) is positioned against stops (B) can result in serious injury or death.

Close the gate any time baler must be left unattended.

CAUTION: To avoid serious injury from entanglement, ensure bystanders stand clear when operating baler. **DO NOT** apply powder with baler running.

1. Position gate as follows:

- a. With tractor attached to baler, open gate fully, lower gate until belts are slack and tension arm (A) remains against tension arm stop (B). **Lock gate, shut off tractor engine, and remove key.**
- b. Stand outside of baler tire, and liberally sprinkle powder (C) on all belts (D). Unlock gate, start tractor, raise gate fully, engage PTO to rotate belts approximately 2.4 m (8 ft.) and disengage PTO. **Lock gate, shut off tractor engine, and remove key.**



A—Tension Arm
B—Tension Arm Stop

C—Talcum Powder
D—Powder on Belts

- c. Repeat step b until, complete length of belts are thinly coated.

Continued on next page

PP98408,0000F8D -19-07FEB13-1/2

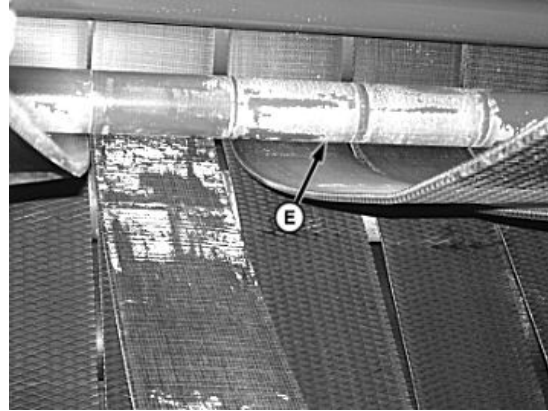
TS698 —UN—21SEP89

E55649 —UN—07APR08

E55650 —UN—07APR08

CAUTION: When removing powder from rolls (E), lock gate, shut off tractor engine and remove key.

2. If belts are slightly damp, or humidity is high, powder can stick to rolls (E). If rolls are coated, remove powder from rolls, and reapply powder to belts.
3. Remove any wrappage or buildup on rolls.
4. Determine if gate closes evenly using the following instructions:
 - a. Open gate using tractor hydraulics.
 - b. Stop tractor engine and remove key.
 - c. Move tractor SCV lever to float position to allow gate to close freely.
 - d. If both sides of gate contact main frame at the bottom, proceed to Step 5.
 - e. If one side makes contact but the other side has a gap between gate and frame, see your John Deere dealer for proper procedure to straighten the gate.
5. Park baler on a level surface. With baler empty and gate closed, engage PTO and run at slow speed.



E55228—UN—01JUN07

E—Rolls

Check the tracking of the belts by observing belt positions relative to belt guides.

6. Shut off tractor engine and remove key. Adjust rolls, if necessary. (See ADJUST BELT TRACKING in this section.)

PP98408,0000F8D -19-07FEB13-2/2

Adjust Belt Tracking

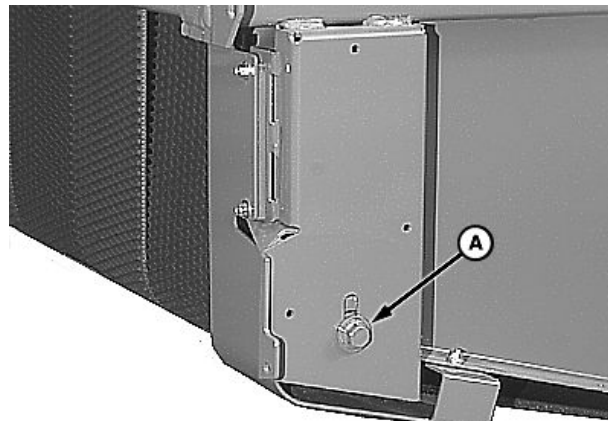
IMPORTANT: Check belt tracking before making any belt tracking adjustments.

If belts are new and have not been used, add baby powder to simulate crop dust and allow belts to track freely.

NOTE: Check belt tracking with PTO engaged and tractor at lowest rpm. Hold tractor hydraulic lever in gate closing position to apply tension to belts while checking.

NOTE: Light contact with belt guides is acceptable, but belts must not curl against guide straps.

1. If adjustment is needed, slack belts by doing the following procedure:
 - a. Raise gate fully so tension arm is against stop.
 - b. Lower gate slowly until belts are slack.
 - c. Lock the gate.
 - d. Shut off tractor and remove key.
2. Loosen cap screw (A) and adjust number 8 roll in slot with small movements. Let baler run at least 30—40 seconds to observe tracking between adjustments.



Without COVER-EDGE™ Net Wrap

A—Cap Screw

E54427—UN—17OCT05

Continued on next page

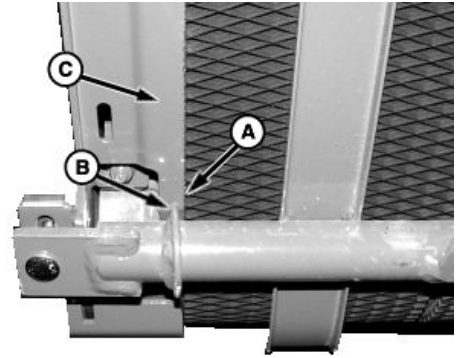
PP98408,0000F8E -19-07FEB13-1/6

NOTE: Check clearance between washer (B) and guide (C) before adjusting belt tracking. (See CHECK AND ADJUST LOWER NET WRAP GUIDE in this section.)

3. Check tracking of outside belts (A) relative to guide washers (B). **There must be clearance between outer edge of belt and guide washer on both sides of baler.** Some occasional contact between belt and washer is allowable, but continuous contact is not allowable.

A—Outside Belt
B—Guide Washer

C—Guide



Continued on next page

PP98408,0000F8E -19-07FEB13-2/6

E55290 —UN—22JUN07

4. If belts are not centered at lower belt guide (A), make the following adjustments:

- If belts track to the left:
 - a. Loosen cap screw (B) at right side.
 - b. Raise RIGHT end of lower rear gate roll.
 - c. Tighten cap screw (B).
- If belts track to the right:
 - a. Loosen cap screw (B) at right side.
 - b. Lower RIGHT end of lower rear gate roll.
 - c. Tighten cap screw (B).

NOTE: After adjustment, be sure neither belt contacts guide washers continuously as described previously.

Light contact with belt guides is acceptable, but belts must not curl against guide straps.

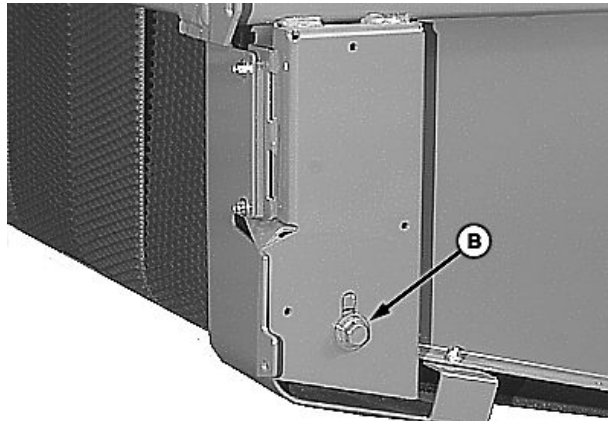
5. Tighten cap screw (B) to specification.

Specification

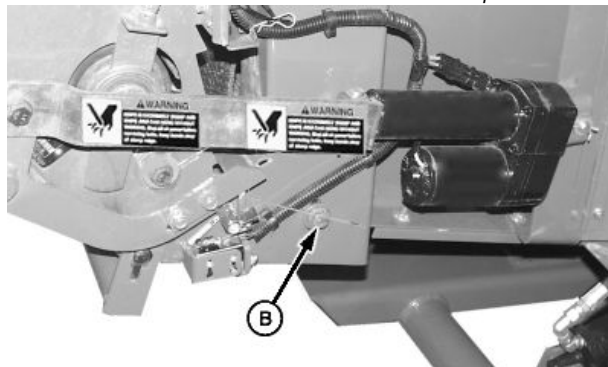
Cap Screw—Torque..... 140 N·m
(105 lb.-ft.)

A—Lower Belt Guide

B—Cap Screw



Without COVER-EDGE™ Net Wrap



With COVER-EDGE™ Net Wrap

Continued on next page

PP98408,0000F8E -19-07FEB13-3/6

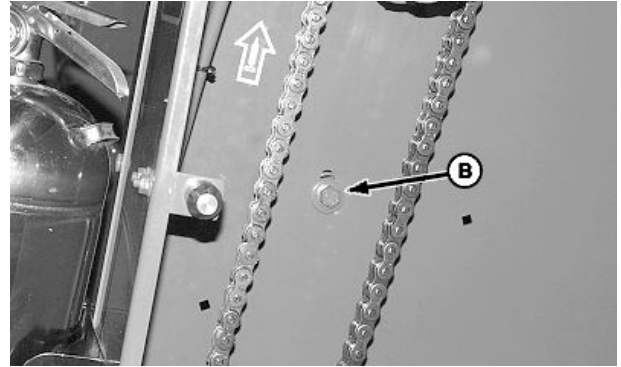
E40605—UN—26JUN96

E48783—UN—10AUG00

E48252—UN—08JAN02



E39723—UN—09FEB96



E54025—UN—05JAN05

Left-hand Side

A—Front Belt Guide

B—Cap Screw

6. If belts are not centered at the upper front belt guide (A), make the following adjustments:

- If belts track to the right:
 - a. Loosen cap screw at right-hand side.
 - b. Raise RIGHT end of front idler roll.
 - c. Tighten cap screw.

OR

- a. Loosen cap screw (B) at left-hand side.
- b. Lower LEFT end of front idler roll.
- c. Tighten cap screw (B).

- If belts track to the left:

- a. Loosen cap screw (B) at left-hand side.

- b. Raise LEFT end of front idler roll.
- c. Tighten cap screw.

OR

- a. Loosen cap screw at right-hand side.
- b. Lower RIGHT end of front idler roll.
- c. Tighten cap screw.

7. Tighten cap screw on both sides of roll to specification.

Specification

Mounting Cap	
Screw—Torque.....	140 N·m (105 lb.-ft.)

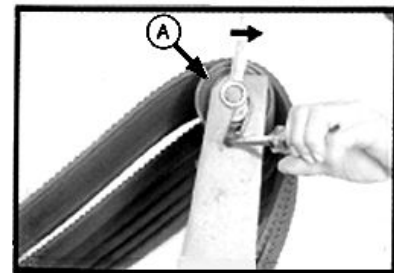
PP98408,0000F8E -19-07FEB13-4/6

8. If belts are not centered at the upper rear guide, make the following adjustment:

- If belts track to the right, move RIGHT end of take-up roll (A) (in direction shown) in short leg of L shaped slot.
- If belts track to the left, move LEFT end of take-up roll (A) (in direction shown) in short leg of L shaped slot.
- Tighten cap screw to specification.

Specification

Mounting Cap	
Screw—Torque.....	140 N·m (105 lb.-ft.)



A—Take-Up Roll

E39725—UN—09FEB96

Continued on next page

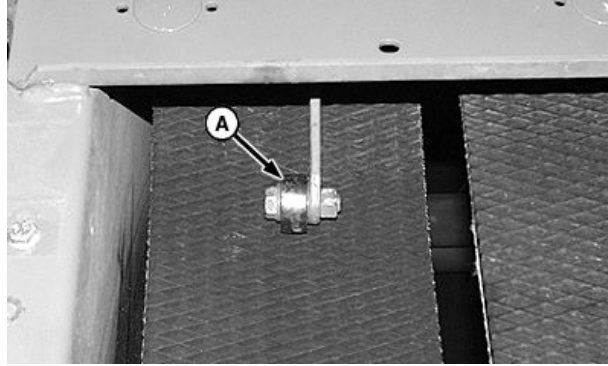
PP98408,0000F8E -19-07FEB13-5/6

9. If outside belts track to the outside, rubbing the lower belt guide or side of baler, adjust as follows:

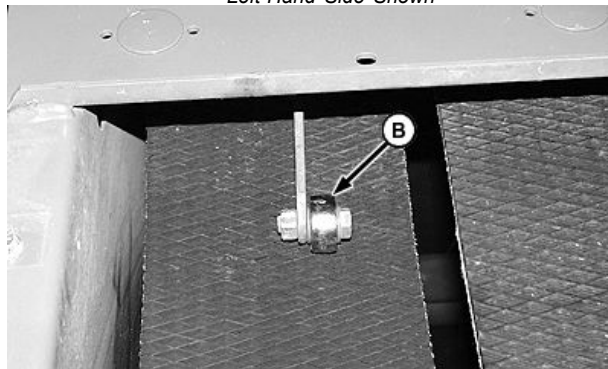
- Move roller from the normal outside position (A) on the sender arm to inside position (B). The belt will track towards the middle of the baler.

A—Roller (Normal Outside Position)

B—Roller (Inside Position)



Left-Hand Side Shown



Left-Hand Side Shown

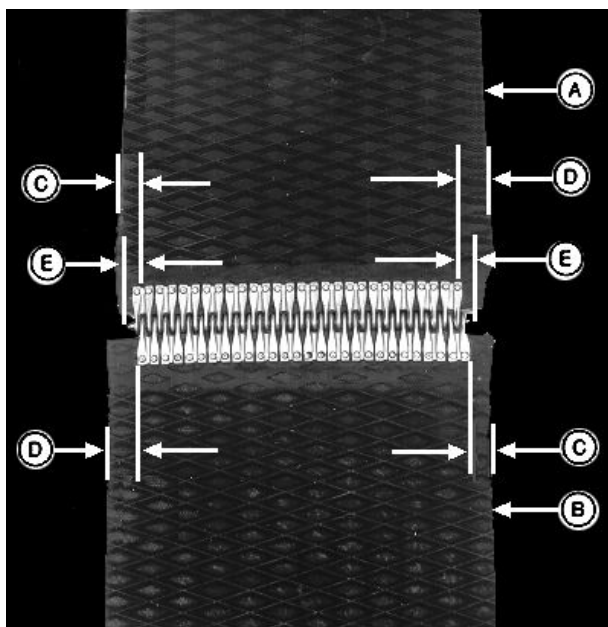
E47618—UN—07JAN00

E47619—UN—07JAN00

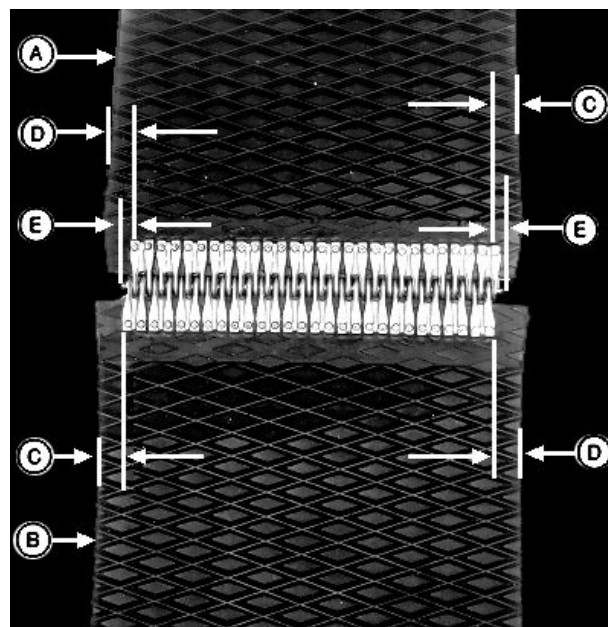
PP98408,0000F8E -19-07FEB13-6/6

Correct Belt Lacing and Pin Installation

IMPORTANT: When belts are assembled, edges must be aligned to prevent belt damage.



E40644 —UN—15JUL96



E40643 —UN—15JUL96

A—Belt Edge
B—Belt Edge
C—Dimension, 11 mm (0.433 in.)

D—Dimension, 14 mm (0.551 in.) E—Dimension, 3 mm (0.118 in.)

The laces use the same number of segments on each end of belt. This requires the laces to be offset slightly, as illustrated.

Belts illustrated are laced and pinned correctly with belt edges aligned.

The belt expands when laces are installed. Check alignment of belt edges approximately 51 mm (2 in.) back from end of belt. Belt edges (A and B) must be aligned when belt is joined.

PP98408,0000F8F -19-07FEB13-1/1

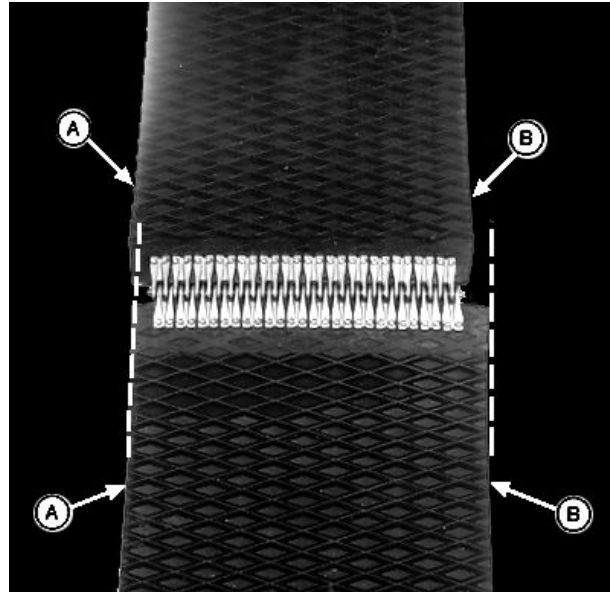
Incorrect Belt Lacing and Pin Installation

IMPORTANT: When belts are assembled, edges must be aligned to prevent belt damage.

Belt illustrated is pinned incorrectly. The edges (A and B) of belt do not align. Remove pin and offset laces one loop to align belt

A—Belt Edges

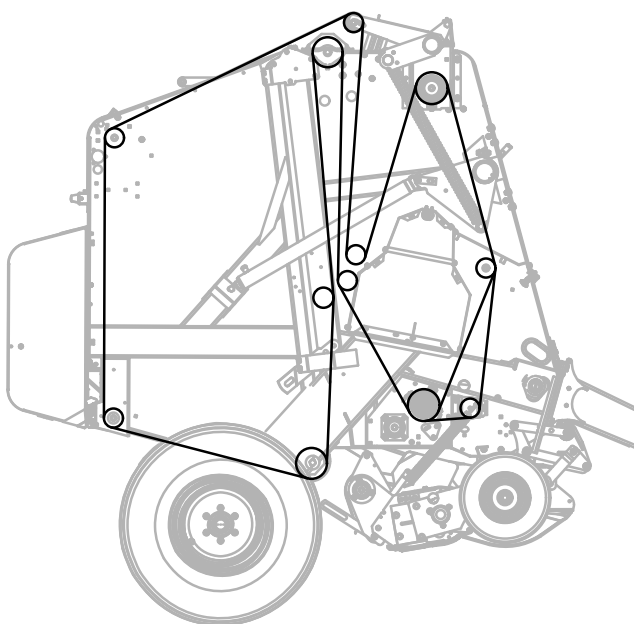
B—Belt Edges



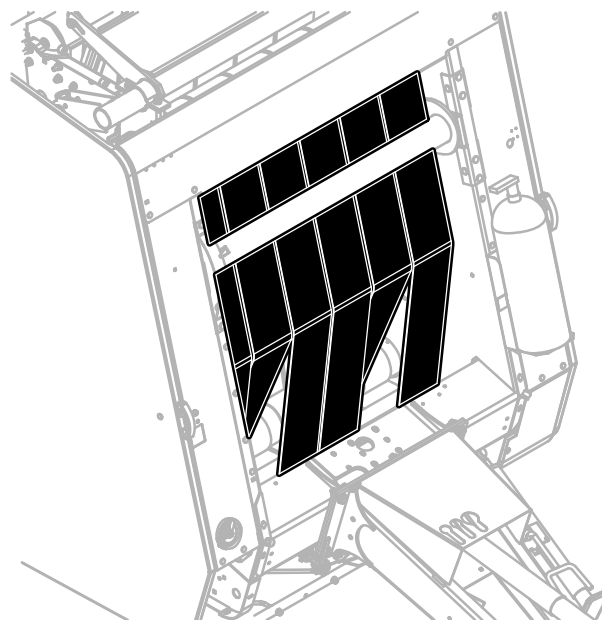
E40645—UN—15JUL96

PP98408,0000F90 -19-07FEB13-1/1

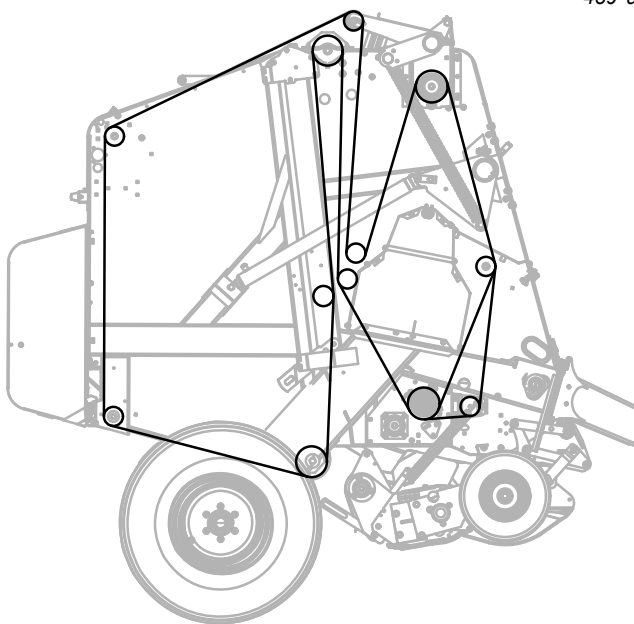
Install Belts



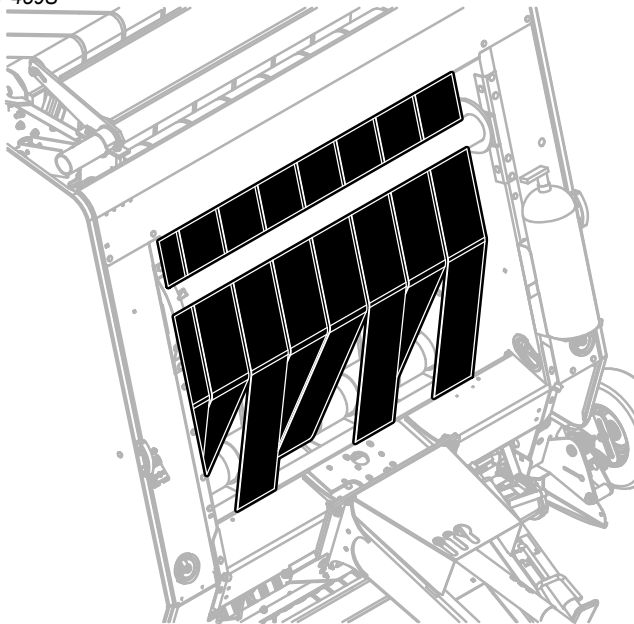
459 and 459S



E69500 —UN—22MAR13



559 and 559S



E69501 —UN—22MAR13

NOTE: See illustration for location of long and short belts. Install belts with diamond portion of the belt to the outside. Make sure that belts are installed through the individual guides.

See Specification section for proper length of belts.

1. Open gate fully. Lock gate.

2. Engage PTO and rotate belts until splice appears between bottom gate roll and tension arm roll.
3. Unlock gate, lower gate slowly until belts are slack, and lock gate.
4. Shut off tractor engine and remove key.

Continued on next page

PP98408,0000F91 -19-21MAR13-1/2

5. Remove splicing pin. Hook trimmed end of new belt to square end of old belt with splicing pin. Pull new belt through baler using the old belt.

Thread belts so when viewed in the direction of travel (see illustration), the square cornered end of belt leads the end with trimmed corners.

6. Fasten belt ends together with new pin. Make sure that belt sides are correctly aligned when installing pins. Do not deform ends of lacing pins during installation. Laces are slightly offset to allow alignment of belt ends.
7. Repeat Steps 2—6 for other belts.
8. Unlock and close gate.



E39737—UN—16FEB96

PP98408,0000F91 -19-21MAR13-2/2

Repair Belts

NOTE: For further information or to order belt lacing tool, phone or write to:

MATO Corporation
P.O. Box 7268
Beckley, West Virginia 25926-0268
Telephone: (800) 344-6286
Fax: (304) 255-2501

NOTE: Belts can fray at the edges. Cut off the frayed cords as they appear; this procedure reduces the chances of frayed cords being caught as the bale is formed, causing additional fraying or damage to the belts.

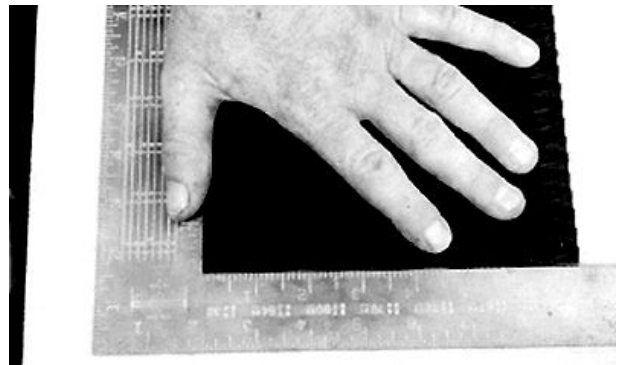
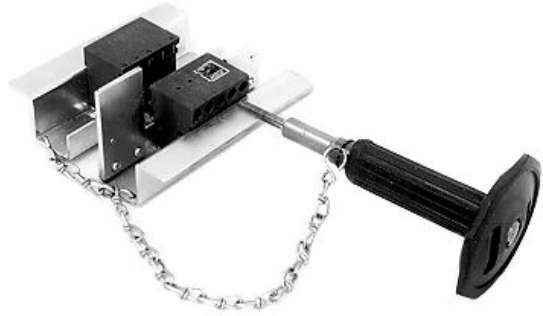
1. Remove broken belt.
2. Remove damaged area using a square and a sharp knife. Check to be sure that belt end was cut squarely.

IMPORTANT: If belt lengths are less than specified, belts will contact each other between the rear two tension arm rollers when baler is empty and gate is closed. When this happens, excessive wear to the belt diamond pattern will occur.

Make sure that all belts are within 38 mm (1-1/2 in.) of the other belts of similar length. There must not be more than 177 mm (7 in.) or less than 101 mm (4 in.) difference between the long and short belts.

NOTE: If belts are shorter than the specified dimensions, a short piece of belt can be added. Splices (on same belt) must be at least 305 mm (12 in.) apart.

3. Check belt length. Make sure that belt is neither longer or shorter than specified.



Belt Lengths			
mm (in.)	Minimum	Repair	Maximum
Short Belts	11 628 mm (457-3/4 in.)	11 679 mm (459-3/4 in.)	11 717 mm (461-1/4 in.)
Long Belts	11 768 mm (463-1/4 in.)	11 819 mm (465-1/4 in.)	11 857 mm (466-3/4 in.)

Continued on next page

PP98408,0000F92 -19-21FEB13-1/8

E39821 —UN—21MAR96

E40028 —UN—30MAY96

E21798 —UN—24JUN99

IMPORTANT: Cut only the diamond pattern. Cutting deeper can damage the belt cords.

Do not use a grinder to remove diamond pattern. Heat from grinder can damage rubber and fabric.

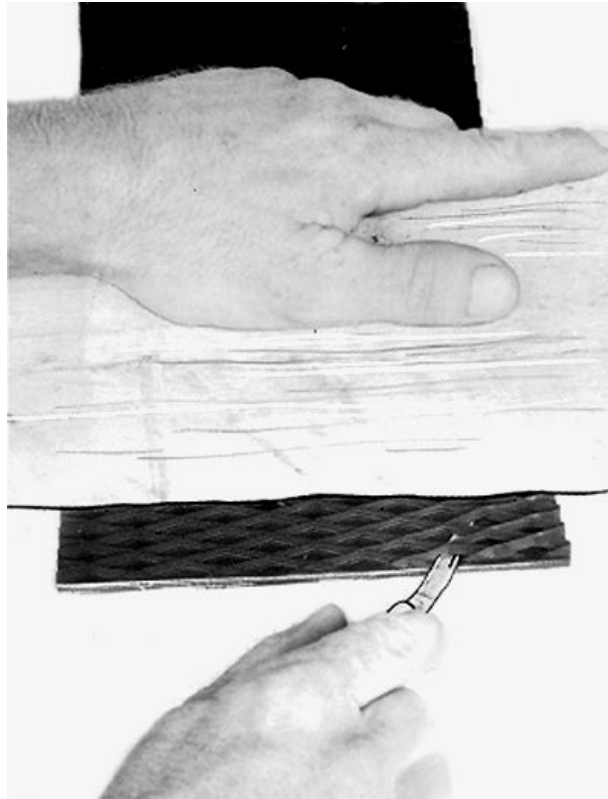
4. Remove diamond pattern from belt using a knife or skiving tool.

NOTE: To reduce cutting effort, dip knife blade in liquid soap.

- If using a knife:
 - Use approximately 25—51 mm (1—2 in.) thick board to hold belt as shown.
 - Measure 25 mm (1 in.) from end of belt. Use a sharp knife to remove diamond pattern while being careful not to cut to the cord.
- If using a skiving tool:
 - Lay belt on a flat surface against a back stop.
 - Adjust skiving tool pressure plate to thickness of belt using thumb screw (A).
 - Turn thumb screw (A) down another half turn and lock with outer screw (B).
 - Holding skiver firmly against belt, push skiver along full width of belt.
 - Repeat, if necessary, until diamond pattern is removed.

IMPORTANT: Do not leave more than 0.5 mm (0.020 in.) of pattern on belt in area to be laced. If too much material is left on belt, hooks will not fasten properly to belt.

Do not remove too much material. If belt cords show, repeat Steps 2—4. Make sure that belt length is still within specifications. Add section of belt if necessary.



E21799—UN—24JUN99



E39823—UN—24JUN99

Continued on next page

PP98408,0000F92 -19-21FEB13-2/8

Belt (A) is cut too deep. Damage to belt cords can occur.

Belt (B) is cut too high. Hooks will not fully penetrate through the belt.

Belt (C) is cut correctly.

More examples of incorrectly cut belts:

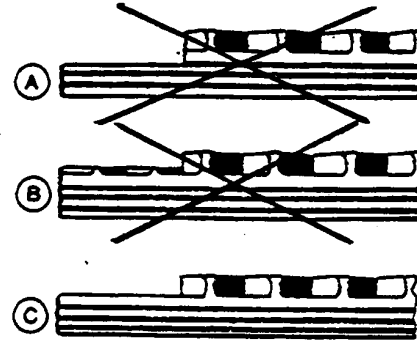
- Top photo shows vertical cut too deep; belt cords have been damaged (cut), seriously weakening the belt.
- Bottom photo shows too much diamond pattern was removed, exposing the belt cords.

A—Thumb Screw

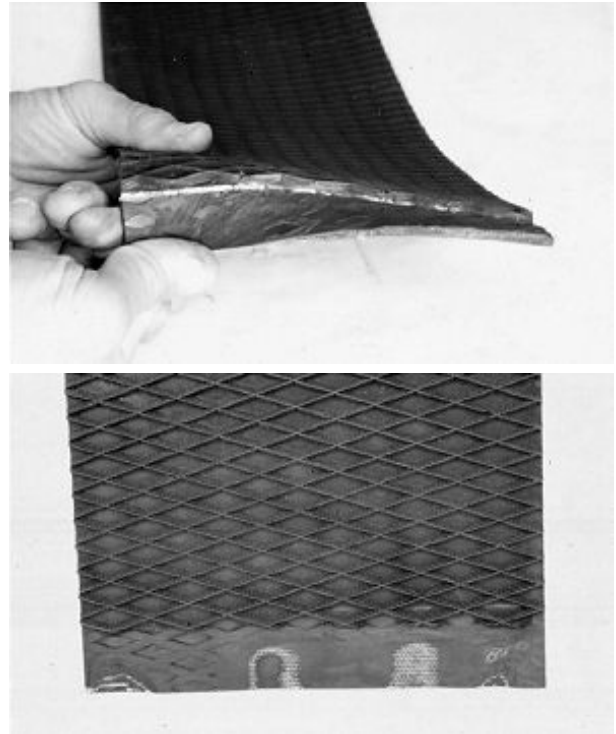
B—Outer Screw

A—Cut Too Deep
B—Cut Too High

C—Cut Correctly



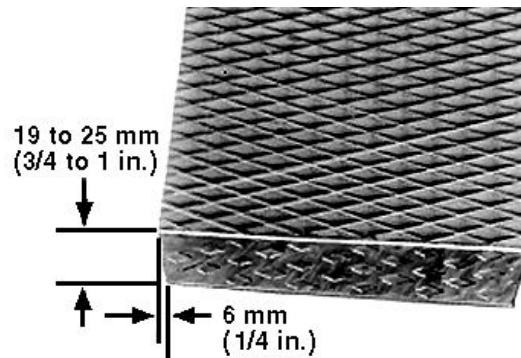
Belt Cross Section



PP98408,0000F92 -19-21FEB13-3/8

IMPORTANT: Trailing end of belt must be trimmed using dimensions shown in illustration. DO NOT vary from these dimensions.

5. Trim trailing end of belt as shown.



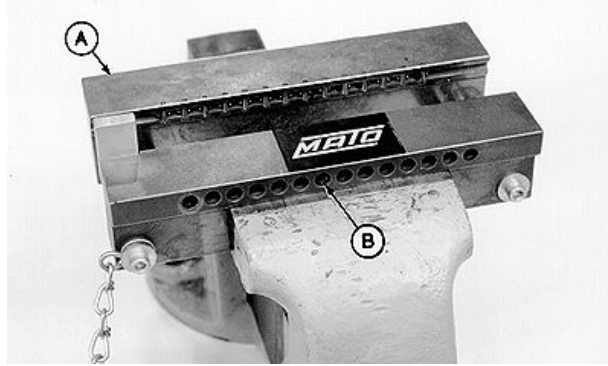
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PP98408,0000F92 -19-21FEB13-4/8

6. Put belt lacer tool (A) in vice with holes (B) toward the operator. The shoulder of lacer must rest on jaws of vise.

A—Lacer Tool

B—Holes



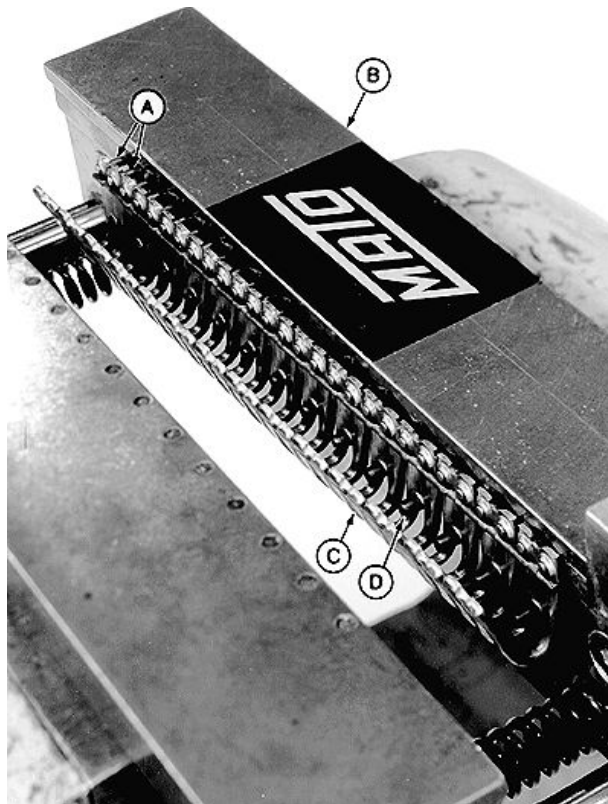
E40773—UN—08AUG96

PP98408,0000F92 -19-21FEB13-5/8

7. Install lacing strip (C) in lacer tool (B). Make sure two rivet pins (A), of each lacing segment are inserted into each of the tools' 14 holes in lacer tool. The lacing segments must rest against stop pins (D).
8. Tighten vise until lacing strip is lightly gripped and belt can be easily inserted.

A—Rivet Pins
B—Lacer Tool

C—Lacing Strip
D—Stop Pins



E40774—UN—08AUG96

Continued on next page

PP98408,0000F92 -19-21FEB13-6/8

9. Install belt (B) in lacing strip with diamond pattern away from operator. While holding edge of belt against stop plate (A), uniformly push belt down to the stop pins. Make sure that lacing strip is against stop pins.
10. Make sure that belt and lacing are positioned squarely in lacer plate tool. Close vise on belt and lacing until distance between lacer jaws equals width of belt.

IMPORTANT: If using a hand punch, using too large of a hammer or striking punch too hard can damage lacing tool or belt lacing.

If using pneumatic hammer, too high air pressure and too long riveting time can damage lacing tool or belt lacing.

11. Drive rivets through belt using a punch (C) or pneumatic hammer (D).

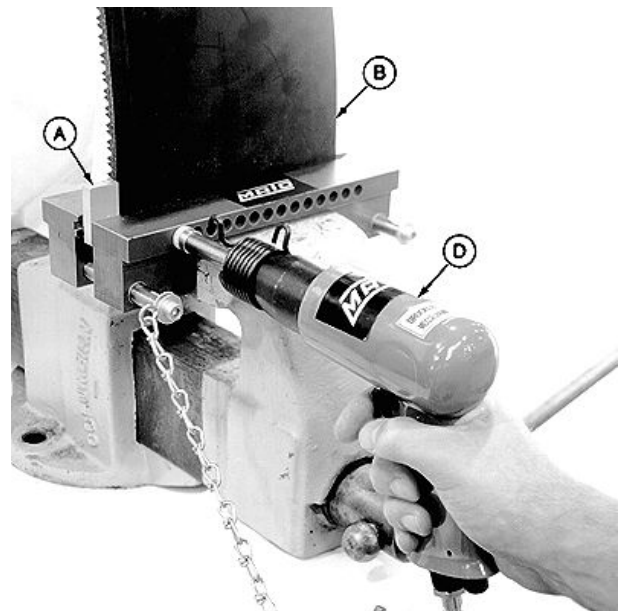
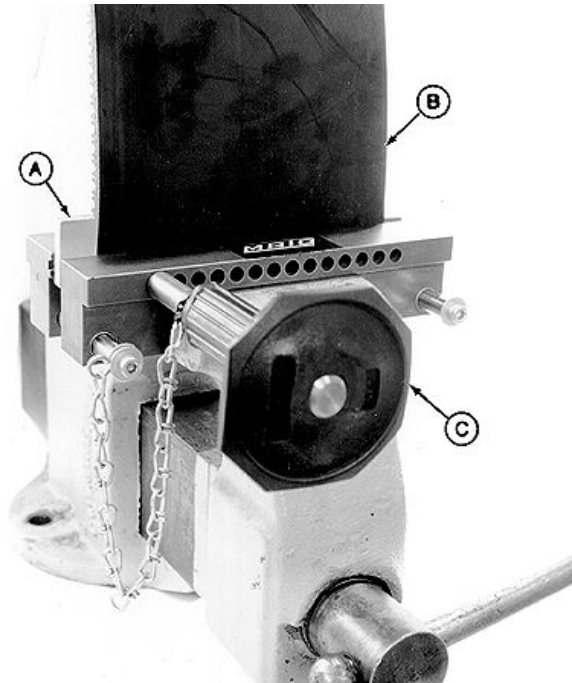
Rivet the two outer lacing segments first, then working from the outside to the inside, rivet the rest of lacing segments.

- If using punch (C), drive rivets until shoulder on punch shaft contacts lacer jaw. Hit punch an additional time to ensure contact between shoulder and lacer jaw.
- If using pneumatic hammer (D), set air pressure to 500—600 kPa (5—6 bar) (72—87 psi). Operate hammer for 1—2 seconds for each rivet. Riveting is not necessary.

12. Remove belt from vise and inspect lacing. All rivets must be driven through belt and show punch marks in center of rivets.

A—Stop Plate
B—Belt

C—Hand Punch
D—Pneumatic Hammer



E40775 —UN—08AUG96

E40776 —UN—08AUG96

Continued on next page

PP98408,0000F92 -19-21FEB13-7/8

IMPORTANT: Do not hit loop area of fastener when using hammer to flatten heads of rivets.

Do not hit rivets too hard or rivets can buckle and damage joints.

13. Put belt and lacing on a solid base. Flatten heads of rivets using the flat face of a small hammer. Strike several rivets at a time using a light tapping motion. Rivets must be flush with splice.
14. Repeat procedure for other end of belt.

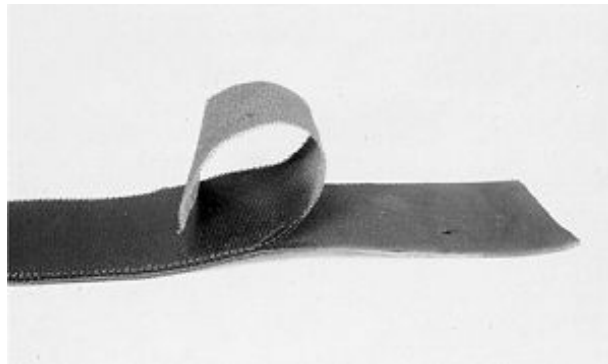


E40027—UN—30MAY96

PP98408,0000F92 -19-21FEB13-8/8

Belts Eligible for Warranty Replacement

Bale forming belts are warrantable if the material or workmanship is defective and machine is under warranty. Ply separation is considered warranty if within the item warranty.



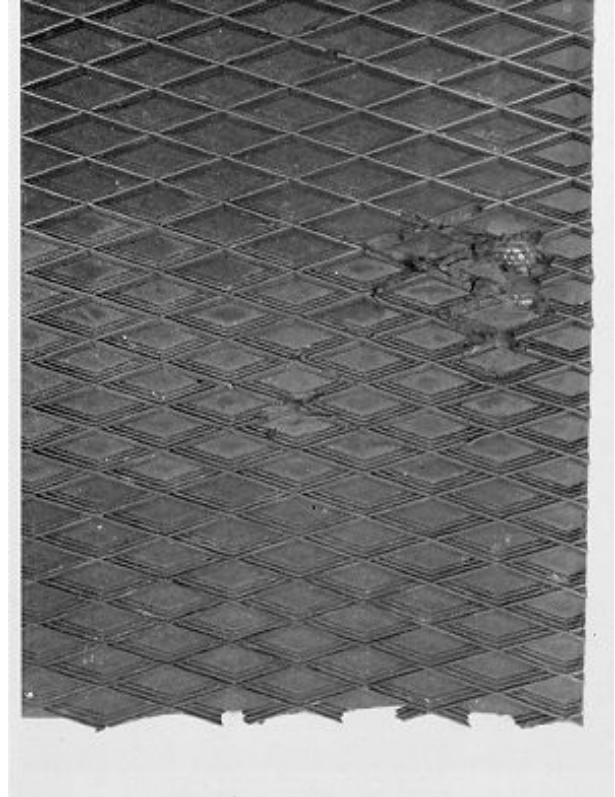
E27607—UN—12SEP88

PP98408,0000F93 -19-07FEB13-1/1

Belts Not Eligible for Warranty Replacement

The following illustrations are belts damaged by accumulation of crop or foreign objects on top of compressor rack and between belts in the starter roll area. A small slug of the buildup will pass between the lower drive roll and the belt, which forces the belt into the starter roll. The bars of the starter roll remove chunks of rubber from the belt and tear the belt fabric.

- Chunks of rubber missing from surface of belt.



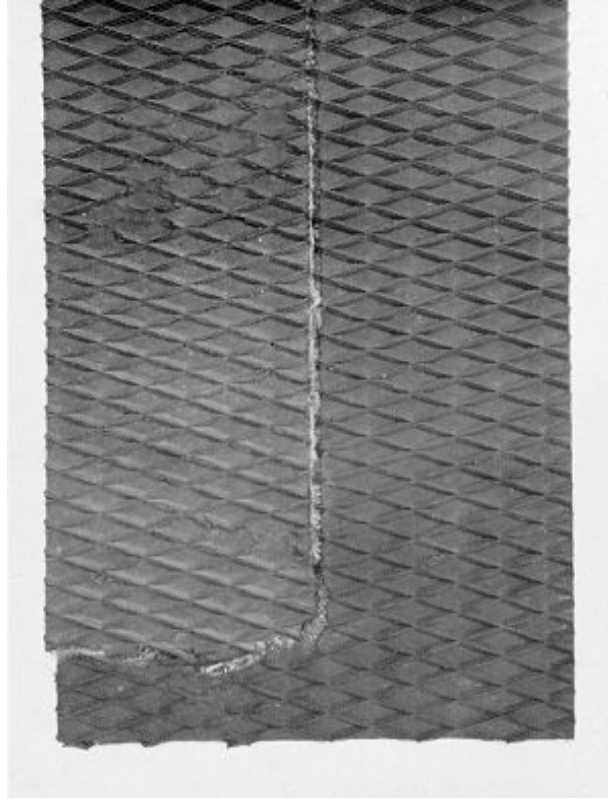
E27608—UN—12SEP88

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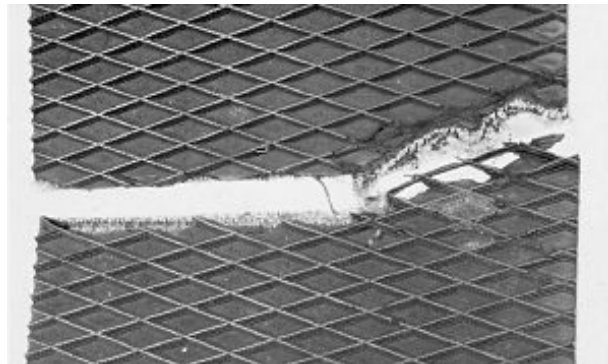
PP98408,0000F94 -19-07FEB13-1/3

NOTE: This example is not ply separation.

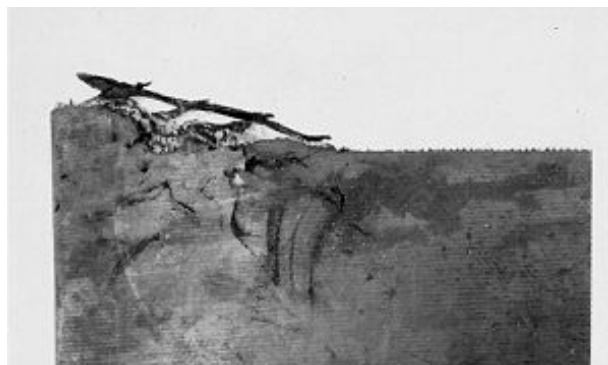
- Belts with holes and tears.
- Belts that are cut or torn in two.
- Back side of belt showing damage caused by foreign objects.



E27609—UN—12SEP88



E27610—UN—12SEP88



E27611—UN—12SEP88

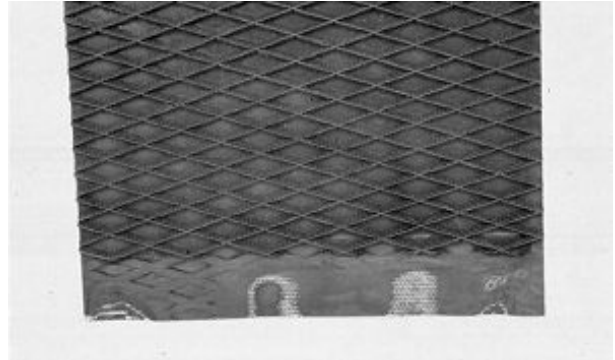
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PP98408,0000F94 -19-07FEB13-2/3

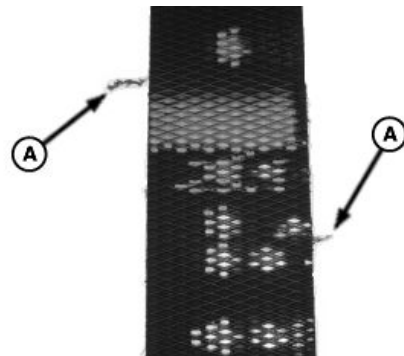
- Belt fabric cut when cutting down toward surface of the belt to remove diamond pattern.
- Too much of diamond pattern removed for belt lacing.
- Small frays (A) on a belt are normal.



E27614—UN—12SEP88



E27615—UN—12SEP88



E54524—UN—03MAY06

PP98408,0000F94 -19-07FEB13-3/3

Service—Net Wrap

Detailed Service Information

See the technical (repair) manual for detailed service information or see your John Deere dealer.



TS224 —UN—17JAN89

PP98408,0000F95 -19-07FEB13-1/1

Practice Safe Service Procedures

CAUTION: To help prevent personal injury caused by unexpected movement, be sure to service the machine on a level surface.

If machine is connected to a tractor, engage tractor parking brake and place transmission in Park, shut off engine and remove key.

If machine is detached from tractor, block wheels to prevent movement.

Before servicing net wrap unit:

1. Disengage all power.
2. Shut off tractor engine.
3. Wait until all moving parts have stopped.
4. Let all components cool.

To avoid personal injury from inadvertent movement of net actuator, disconnect monitor-controller power plug from tractor power source or unplug connector at net wrap actuator.



TS268 —UN—23AUG88

On some tractors, convenience outlet is wired directly to the battery. Turning tractor key to OFF position will NOT disconnect power to monitor-controller. Disconnect monitor-controller power plug from tractor power source or unplug connector at net wrap actuator.

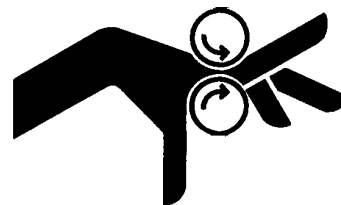
PP98408,0000F96 -19-07FEB13-1/1

Net Wrap Use After Extended Storage

CAUTION: Avoid injury from entanglement in moving rolls. Disengage PTO, shut off tractor engine, and disconnect monitor-controller power plug from tractor power source before servicing.

To minimize start-up problems after storage or after extended twine wrapping operation:

1. Raise net wrap cover. (See OPEN AND CLOSE NET WRAP COVER in Preparing Baler for Net Wrap section.)



E40200 —UN—08JUL96

Continued on next page

PP98408,0000F97 -19-08FEB13-1/7

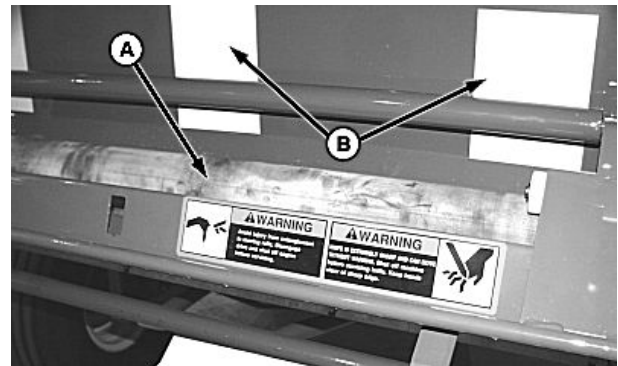
CAUTION: Be careful when working around the knife. It is sharp.

Be sure that bystanders stand clear before operating net wrap.

2. Remove net wrap and wipe excessive dust or crop material from feed roll (A) and stainless steel net roll supports (B) with a dry cloth.

A—Feed Roll

B—Stainless Steel Plates



PP98408,0000F97 -19-08FEB13-2/7

TS268 —UN—23AUG88

E48261 —UN—28JUN00

3. If new wrap is installed in baler, pull lever (A) out and up.
4. Move lever up and down one time to rotate the rolls to keep net from wrapping the roll. Place brake lever in locked operating position
5. Close net wrap cover.

A—Brake Lever



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PP98408,0000F97 -19-08FEB13-3/7

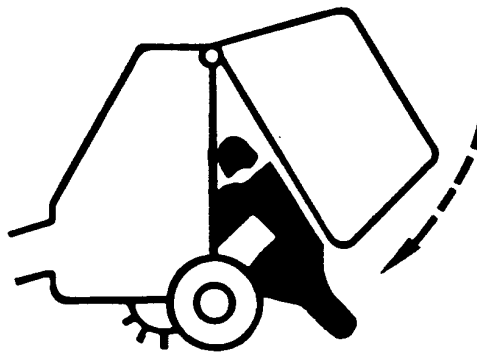
E54535 —UN—01MAY06

CAUTION: When positioning the gate to provide access for service, always be sure that tension arm is fully raised, and against its stops. This is to prevent the gate from rotating downward unexpectedly while service work is being performed. **ALWAYS** raise the gate fully and lower it to the desired opening height before engaging the gate lock. Crop material can hold the tension arm at a lower position, and if this material is disturbed during service, the tension arm can swing up, and the gate can swing suddenly downward, even if the gate lock is engaged. Verifying that tension arm is positioned against its stops will avoid this situation. Failure to do this can result in serious injury or death.

Close gate any time baler is left unattended.

IMPORTANT: Do not lower gate with the lower net wrap guide detached from the belt guide or damage to the guide will result.

Do not operate the baler belts with the lower net wrap guide detached from the belt guide, or belt damage can result.



6. Start tractor engine.
7. Raise gate fully, then lower gate until lower front gate roll is approximately 1 m (3-1/3 ft.) above the ground.
8. Shut off tractor engine and remove key.
9. Lock gate.

PP98408,0000F97 -19-08FEB13-4/7

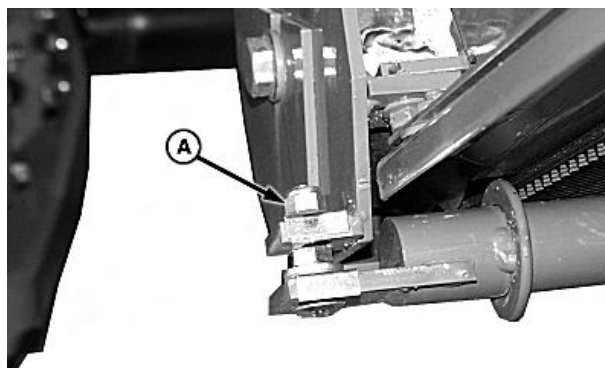
TS698 —UN—21SEP89

CAUTION: Guide will swing back when lower lock nuts are removed. **DO NOT** let guide swing back freely, can cause machine damage.

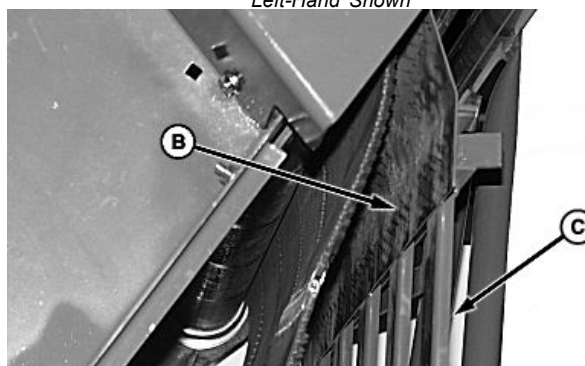
10. Remove lock nut (A) holding front corners of lower net wrap guide.
11. Repeat on opposite side.
12. Swing front of guide away from gate roll.
13. Polish all of sheet metal area (B) and tops of guide channels (C) until smooth using SCOTCH-BRITE® or ultra-fine sandpaper. When using sandpaper, polish marks must be parallel to movement of net.
14. Check sheet metal area (B) for holes made from wear. Holes can be caused by excessive net pan pressure against belts. (See CHECK AND ADJUST NET PAN PRESSURE in this section.)
15. If sheet metal has holes worn in it, replace guide. (See your John Deere dealer.)

A—Lock Nut
B—Sheet Metal Area

C—Guide Channels



Left-Hand Shown



SCOTCH-BRITE is a registered trademark of the 3M Company.

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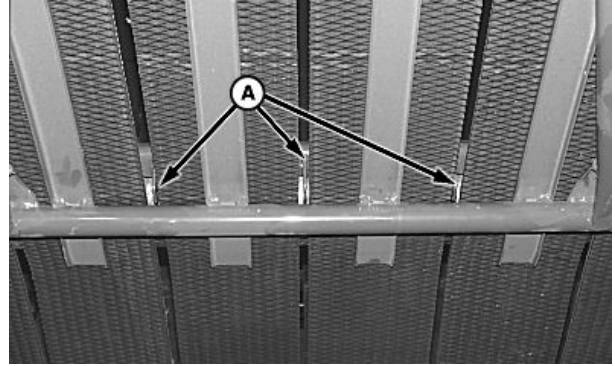
PP98408,0000F97 -19-08FEB13-5/7

E48474 —UN—21JUL00

E48313 —UN—28JUL00

16. Position belts between guide straps (A).
17. Swing front of assembly toward the bottom front roll.

A—Guide Straps



E48475—UN—21JUL00

PP98408,0000F97 -19-08FEB13-6/7

18. Align the holes and install lock nut (A).

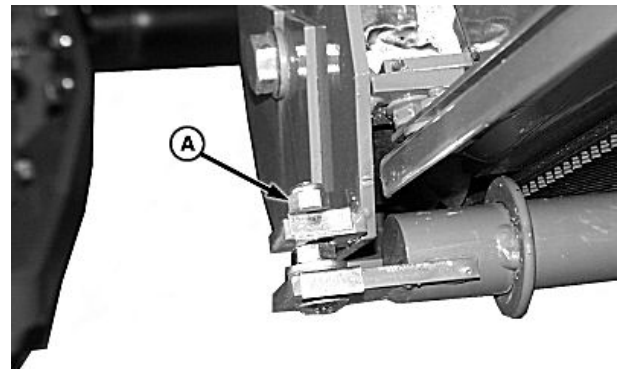
IMPORTANT: If belt guide strap clearance is more than 5 mm (3/16 in.), damage to baler belts can occur.

If belt guide strap clearance is less than 3 mm (1/8 in.), slitting of net material during feeding can occur.

NOTE: To reduce net material slits while baling cornstalk, milo, or sorghum, adjust clearance to 4—5 mm (0.16—0.20 in.).

19. Check and adjust clearance between ends of all belt guide straps and the bottom cross-member. (See CHECK AND ADJUST LOWER NET WRAP GUIDE in Service—Net Wrap section.)
20. Tighten lock nut (A) on each side.
21. Start tractor engine.
22. Unlock gate and lower fully.
23. Shut off tractor engine.

IMPORTANT: If Steps 24 through 26 are not followed, net wrap will be fed continuously during the next bale.



A—Lock Nut

E48474—UN—21JUL00

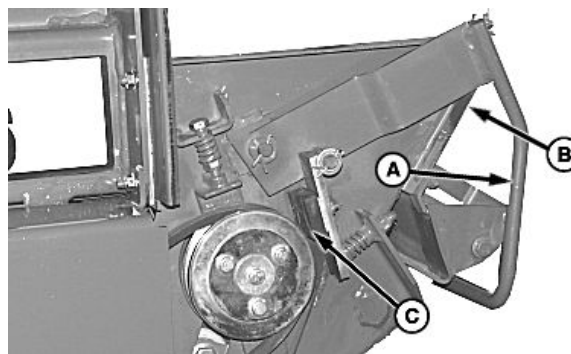
24. Connect monitor-controller power plug to tractor convenience outlet. Turn tractor key to ON position. Set monitor-controller selector switch to NET.
25. Press WRAP key to return net knife arms to home (forward) position.
26. Turn tractor key to OFF position. Remove key. Turn monitor-controller OFF.

PP98408,0000F97 -19-08FEB13-7/7

Release Net Wrap Feed Roll Brake

The brake release disengages the net feed rolls. Release the brake when threading net wrap or servicing the net wrap unit.

1. Disengage tractor PTO, shut off tractor engine, and disconnect monitor-controller power plug from tractor convenience outlet.
2. Open net wrap cover.
3. Pull lever (A) out and up and rest on latch (B) to disengage roller brake pad (C).
4. To engage net wrap brake, return lever (A) to engaged position. Check that pad (C) contacts belt pulley.
5. Close net wrap cover.
6. Reconnect monitor-controller power plug to tractor convenience outlet.



A—Brake Lever
B—Latch

C—Brake Pad

E48357—UN—12JUL00

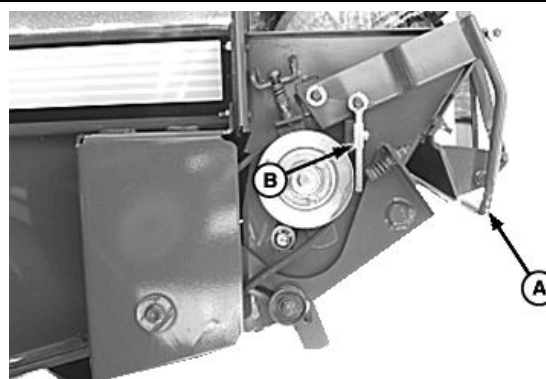
PP98408,0000F98 -19-08FEB13-1/1

Net Wraps on Rubber Drive Roll

1. Disengage tractor PTO, shut off tractor engine, and disconnect monitor-controller power plug from tractor convenience outlet.
2. Open net wrap cover.
3. Pull lever (A) out and back to disengage roller brake pad (B).

IMPORTANT: Do not cut net wrap material from rubber feed roll. Any knife cuts in the rubber roll covering can result in more frequent wrapping around the rolls and can require roller replacement.

4. Pull net wrap material away from the supply roll and steel roll. Cut net wrap material. Remove and discard all of the wrapped material, including all strings and staples.



A—Brake Lever

B—Brake Pad

E54528—UN—27APR06

Continued on next page

PP98408,0000F99 -19-07FEB13-1/3

5. Wipe off rubber drive roll and check for any sticky material. If necessary, roll can be washed with soap and water. NEVER use solvents to clean rubber roll. Allow rolls to dry before threading or wrappage can occur again.
6. Thread net wrap material. (See THREAD AND ROUTE NET WRAP MATERIAL in Preparing Baler for Net Wrap section.)

NOTE: Only use 100% baby power (NON CORN STARCH) when dusting rubber drive roller.

7. If static electricity or dampness causes net wrap material to cling to the rolls, dust the rubber drive roller with baby powder.



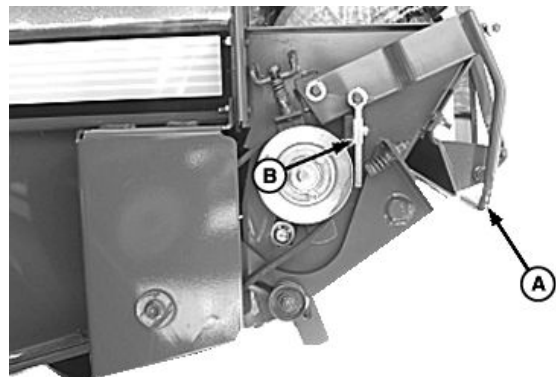
E48359 —UN—12JUL00

PP98408,0000F99 -19-07FEB13-2/3

8. Pull lever (A) out and down towards the front of machine to engage roller brake pad. Make sure brake pad (B) contacts belt pulley.
9. Close net wrap cover.

A—Brake Lever

B—Brake Pad



E54528 —UN—27APR06

PP98408,0000F99 -19-07FEB13-3/3

Correct Net Wrap Feeding Problems

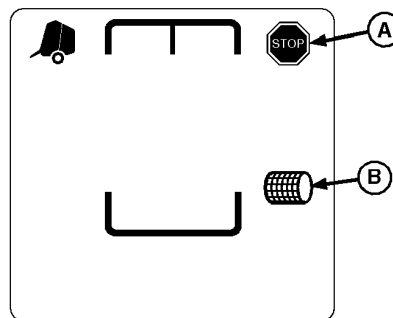
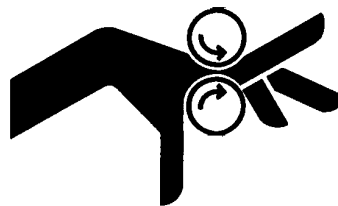
CAUTION: Avoid injury from entanglement in moving rolls. Disengage tractor PTO, shut off tractor and disconnect monitor-controller power plug before servicing.

STOP (A) and NET WRAP (B) indicators will display and the alarm will sound if net does not feed properly or if the knife does not cut the net.

- Code 401 will display on monitor if net does not feed properly.
- Code 402 will display on monitor if knife does not cut the net.

To correct net feeding or knife problems, perform the following:

- Check for net material looped away from steel roll and contacting counterknife. (See CHECK FOR LOOPED NET MATERIAL in this section.)
- Check brake roller torque. (See CHECK AND ADJUST NET WRAP FEED ROLL BRAKE in this section.)
- Check that gap between front panel and rubber feed roll is to specification. Gap must be 3—6 mm (0.12—0.24 in.). (See CHECK FRONT SHEET TO RUBBER ROLL CLEARANCE in this section.)
- Check for cuts or nicks on rubber feed roll that can make net material stick to rubber roll. (See REPAIR CUTS ON RUBBER FEED ROLL in this section.)
- Check for long or uneven tails of net material after cut-off. (See ADJUST NET WRAP COUNTERKNIFE and SHARPEN NET WRAP KNIFE in this section.)
- Remove and clean brush. Dirt fills brush and prevents clean cuts. (See INSTALL AND ADJUST NET WRAP BRUSH in this section.)
- Check that net pan is touching both outside belts and at least two of the four center belts. (See CHECK AND ADJUST NET PAN PRESSURE in this section.)
- Check if one or both crop deflector's are sticking out between the outside belts and side sheet of baler. (See CHECK FOR BENT CROP DEFLECTORS in this section.)



A—STOP Indicator

B—NET WRAP Indicator

- Check that counterknife is raising high enough to let net flow. (See CHECK AND ADJUST NET WRAP V-BELT IDLER TENSION in this section.)
- Check for contact between idler bolt head and bolt head after making net wrap pan adjustment. (See your John Deere dealer.)
- Check for pin wear in oval slot (below steel roll) in net wrap side sheets. (See CHECK PIN WEAR IN SURFACE WRAP SIDE PANEL in this section.)

E40200 —UN—08JUL96

E47600 —UN—07JAN00

PP98408,0000F9A -19-07FEB13-1/1

Check For Looped Net Material

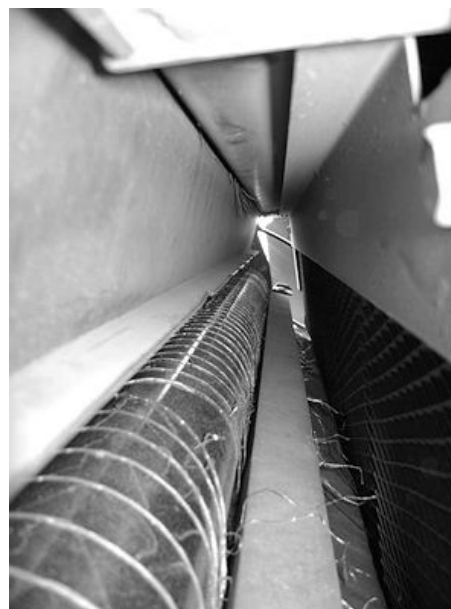
Net material looped above counterknife angle after cut off can get pinched between front sheet and rubber roll when counterknife angle is raised.

Looping net material is caused from brake not quickly stopping roll of net material.

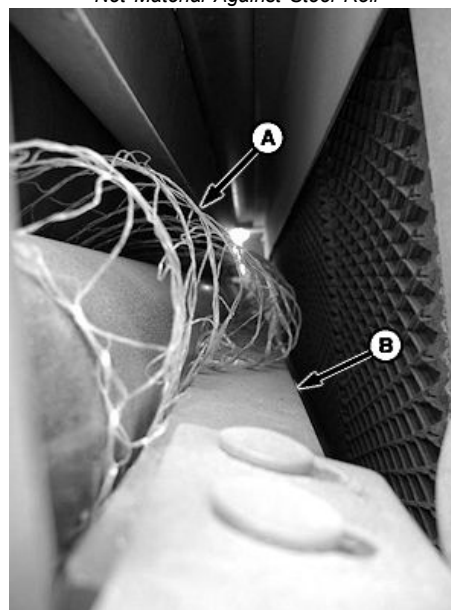
1. Make a bale and wrap.
2. Shut off tractor engine and remove key.
3. Open net wrap cover.
4. Perform visual check from right-hand side of baler.
 - If net material is against steel roll as shown, surface wrap must be performing acceptably.
 - If net material (A) is looped over counterknife angle (B), brake torque can be too low. (See CHECK AND ADJUST NET WRAP FEED ROLL BRAKE in this section.

A—Net Material

B—Counterknife Angle



Net Material Against Steel Roll



Looped Net Material Above Counterknife Angle

E58032 —UN—25SEP09

E58031 —UN—25SEP09

PP98408,0000F9B -19-07FEB13-1/1

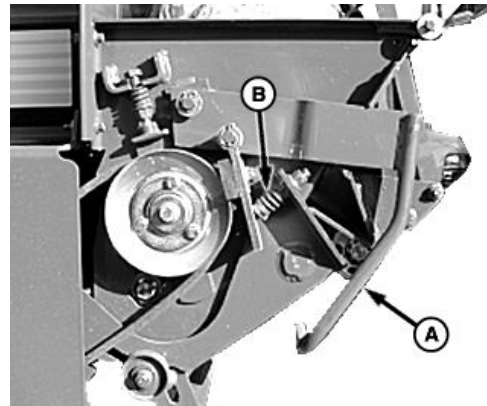
Check and Adjust Net Wrap Feed Roll Brake

1. Open net wrap cover.
2. Release brake lever (A). Check that spring length (B) is within specifications. Adjust by tightening or loosening bolt.

Specification

Spring—Length..... 22 ± 0.5 mm
(0.87 ± 0.20 in.)

3. Check that rubber and steel rolls are clean.
4. Check that brake pad and v-belt sheave are clean and dry.
5. Check that rubber and steel rolls turn freely by hand with brake lever disengaged.



A—Brake Lever

B—Spring Length

Continued on next page

PP98408,0000F9C -19-07FEB13-1/2

E55139 —UN—08MAY07

6. Engage brake lever (B).

IMPORTANT: Always check **ADJUSTING NET WRAP FEED ROLL PRESSURE** before performing this adjustment.

7. Connect monitor-controller power plug to power source. Turn tractor key to ON position. Do not start tractor engine. Turn monitor-controller ON.
8. Press WRAP key and return counterknife angle to home (downward) position.

CAUTION: To avoid personal injury from unexpected counterknife angle movement, disconnect net wrap actuator wire connector or power plug when performing adjustment or working in area.

9. Disconnect monitor-controller power plug from power source.

IMPORTANT: To avoid damage to cap screw (A), do not apply oil, grease, or anti-seize compound to threads.

10. Check roller torque by turning bolt (A) clockwise with torque wrench.

Specification

Rubber Pad	
Brake-to-Sheave Brake	
Roller Torque—Torque.....	54—95 N·m (40—70 lb.-ft.)

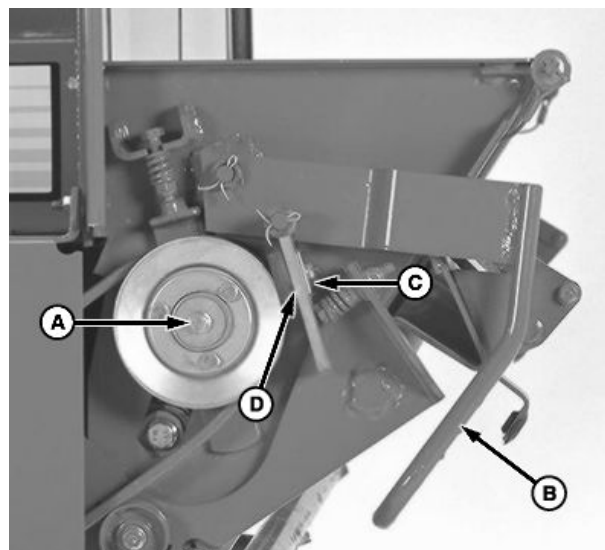
11. If torque is less than specification, net cut-off will not function correctly. Net can wrap around rubber feed roll, or net can feed over top of counterknife.

12. To adjust feed roll brake:

- a. Release feed roll brake by pulling out and up on lever (B).

NOTE: If worn, rubber brake pad can be reversed.

- b. Loosen nut. Install shims (C), one at a time, between brake pad (D) and bracket until torque is within specifications. Put extra shims behind bracket.



A—Cap Screw
B—Lever

C—Shims
D—Brake Pad

- c. Engage brake lever (B). Repeat Steps 6—9 as required to obtain proper torque. If torque cannot be obtained, replace brake pad or see CHECK PIN WEAR IN SURFACE WRAP PANEL in this section.

IMPORTANT: After performing this adjustment, turn monitor-controller ON. Press WRAP key to return net knife arms to home position. Turn monitor-controller off to cancel STOP alarm. If this procedure is not followed, net will be fed continuously during the next bale.

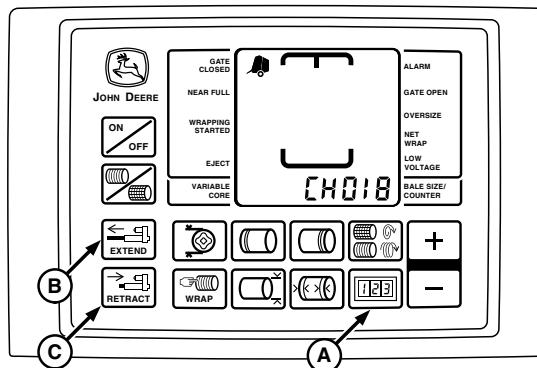
13. Connect monitor-controller power plug to power source. Turn tractor key to ON position. Turn monitor-controller ON.
14. Press WRAP key to cycle net wrap actuator. Counterknife at home (downward) position.
15. Turn monitor-controller OFF. Turn tractor key to OFF position. Remove key.

PP98408,0000F9C -19-07FEB13-2/2

E48483 —UN—24JUL00

Check Front Sheet-to-Rubber Roll Clearance

1. Open net wrap cover. Ensure that brake lever is engaged.
2. Remove net material.
3. Turn tractor key to ON position. Turn monitor-controller ON.
4. Ensure that monitor is in NET mode. Turn monitor OFF.
5. Press and hold COUNTER key (A) and press PLUS key to advance to **CH018**. Release COUNTER key (A).
6. Press and hold EXTEND key (B) to move counterknife to the up position.

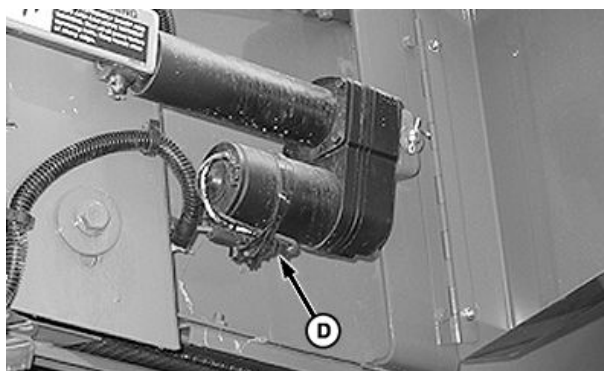


CAUTION: To avoid personal injury from unexpected knife movement, disconnect net wrap actuator wire connector or power plug when performing adjustment or working in area.

7. Turn monitor-controller selector switch to OFF. Turn tractor key to OFF position. Remove key. Disconnect monitor-controller power plug from power source or disconnect plug at net wrap wire harness connector (D).

A—COUNTER Key
B—EXTEND Key

C—RETRACT Key
D—Wire Harness Connector



OUC6064,0001618 -19-29SEP15-1/2

E52620 —UN—26JUN03

E80107 —UN—29SEP15

8. Check dimension between front sheet (A) and entire length of rubber roll (B) with drill bits.

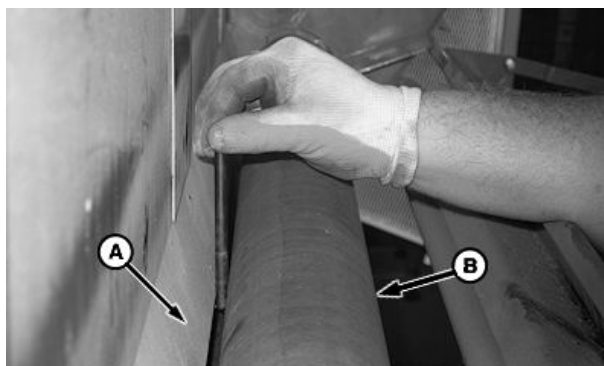
Specification

Front Sheet-to-Rubber
Roll—Distance.....3—6 mm
(0.12—0.24 in.)

9. If dimension is not within specification, bend front sheet to obtain 3—6 mm (0.12—0.24 in.) clearance. (See your John Deere dealer.)

A—Front Sheet

B—Rubber Roll



OUC6064,0001618 -19-29SEP15-2/2

E57351 —UN—19JUN09

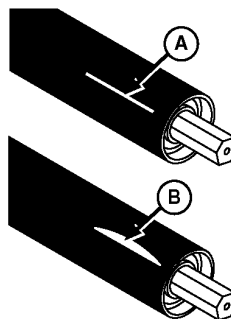
Repair Cuts on Rubber Feed Roll

NOTE: Horizontal (length wise) cuts on rubber feed roll can cause net wrap to be pinched in cut and wrap around feed rolls. This procedure will fix the cut so net wrap will not be pinched in cut. If damage to feed roll is excessive, feed roll must be replaced.

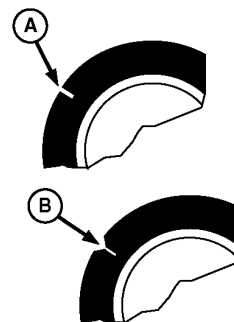
1. Locate horizontal cut (A) on rubber feed roll.
2. Use a sharp knife to cut along side the existing cut and make a V groove (B) approximately 1 mm (1/32 in.) deep. Be sure to remove all loose pieces of rubber.

The V groove removes the sharp corners of the cut reducing the possibility of the net wrap being pinched in cut.

3. Repeat step 2 on the other side of the cut if necessary or if the cut is directly towards the center of the feed roll.



A—Horizontal Cuts



B—V Groove

E42638 —UN—10APR97

PP98408,0000F9E -19-07FEB13-1/1

Adjust Net Wrap Counterknife

CAUTION: Knife is sharp and surface wrap cut-off arm can move with out warning. Shut off all power before servicing knife. Keep hands clear of sharp edge.

1. Turn tractor key to ON position. Do not start tractor engine. Press ON or OFF key to turn monitor-controller ON.
2. Press and briefly hold TWINE or NET key to select NET mode.
3. Press WRAP key to cycle surface wrap actuator and move surface wrap cut-off arm to home (downward) position.
4. Turn monitor-controller selector switch to OFF. Turn tractor key to OFF position. Remove key. Disconnect



monitor-controller power plug from power source or disconnect plug at surface wrap actuator.

5. Open net wrap cover.

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PP98408,0000F9F -19-07FEB13-1/5

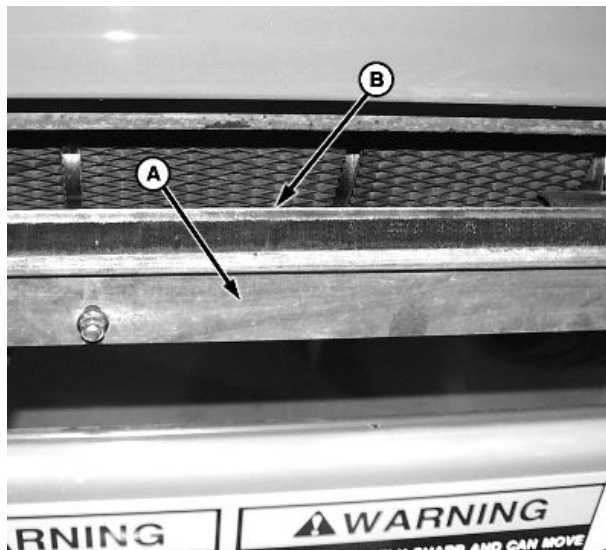
TS268 —UN—23AUG88

NOTE: Roll removed for photographic purpose only.

6. Mark brush mounting positions in order to place brush back in same position. Remove four nuts, washers, and brush. Set hardware and brush aside for later use.
7. Remove brush (A) to see alignment between knife (B) and counterknife.

A—Brush

B—Knife



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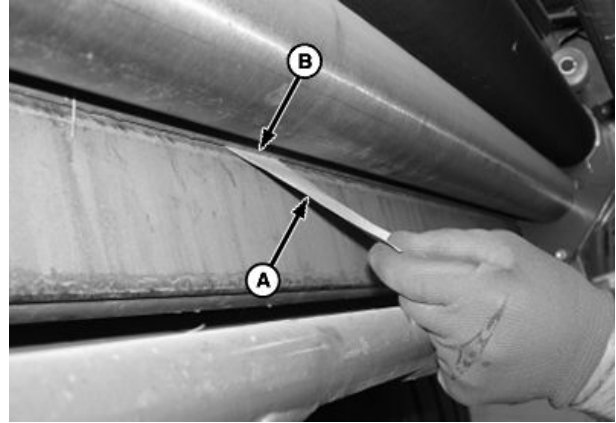
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E48362 —UN—13JUL00

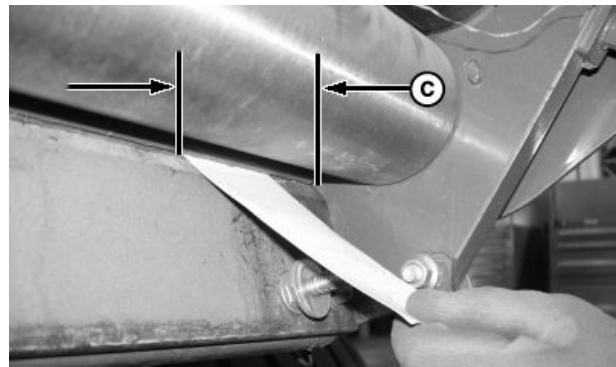
8. With a piece of note pad paper (A), approximately 50 x 100 mm (2 x 4 in.), insert paper between counterknife angle (B) and knife bevel in center area of knife. Paper must not pass in at least one point between two center bolts (D) holding knife.
9. With paper, check 102 mm (4.0 in.) area (C) at both ends of knife. Paper must not pass in at least one point within the 102 mm (4.0 in.) area.

If paper passes through any one of the three areas, see the following checks and adjustments in Steps 10—12.

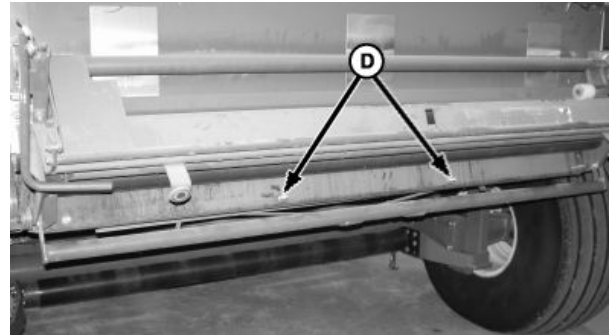
A—Paper, 50 x 100 mm (2 x 4 in.)
B—Counterknife Angle
C—Area, 102 mm (4.0 in.)
D—Center Knife Bolts



E55777 —UN—20MAY08



E55778 —UN—20MAY08



E55788 —UN—28MAY08

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PP98408.0000F9F -19-07FEB13-3/5

10. **Clearance between knife and counterknife angle is excessive:** Paper passes through center area. Both ends are acceptable. A most likely cause is knife (A) is bowed towards front of baler.

- a. Raise counterknife angle to highest position using monitor.
- b. Loosen six nuts that hold knife to mounting bracket.

IMPORTANT: It is important to maintain straightness of knife (or a slight rearward bow), to get good net cut-off. Hold knife in a slightly bowed position while tightening nuts. Once bolts are tight, knife will remain straight.

- c. Near center of knife, pull knife and support rearward by hand (B) until knife is bowed approximately 2 mm (0.08 in.)

NOTE: Bowing knife rearward more than 4 mm (0.16 in.) can cause center knife angle to catch on knife edge.

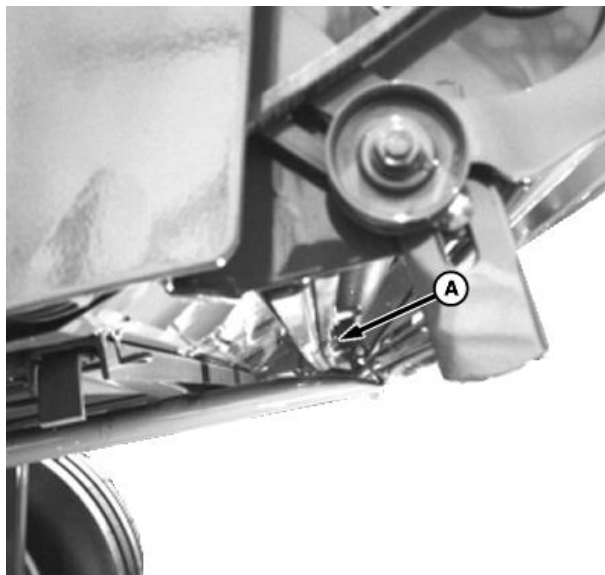
- d. Tighten center nuts (C) while holding knife in bowed position. Tighten remaining nuts.
- e. Recheck knife with straight edge or look down knife from side of baler. Knife must be straight (D) or bowed slightly rearward at center.
- f. Recheck counterknife to knife clearance. Repeat Steps 1—4 and 8—10 (a—f).

A—Knife Bowed Toward Front of Baler

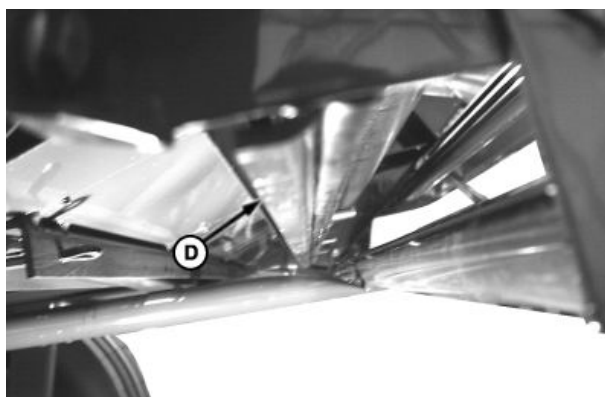
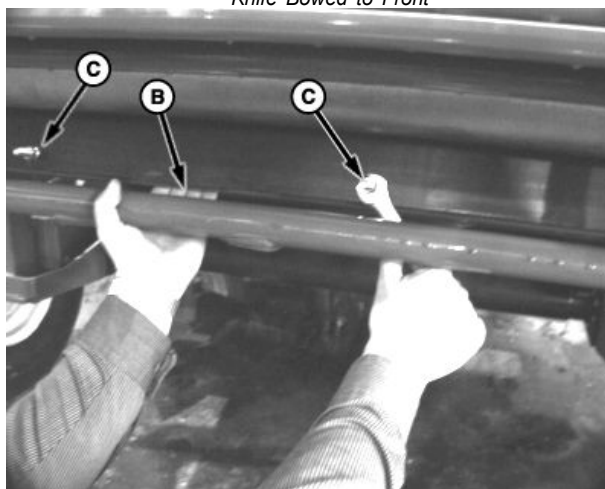
B—Hand (Pulling Knife Rearward)

C—Center Nuts

D—Knife Shown Bowed Rearward



Knife Bowed to Front



Knife Bowed to Rear

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PP98408,0000F9F -19-07FEB13-4/5

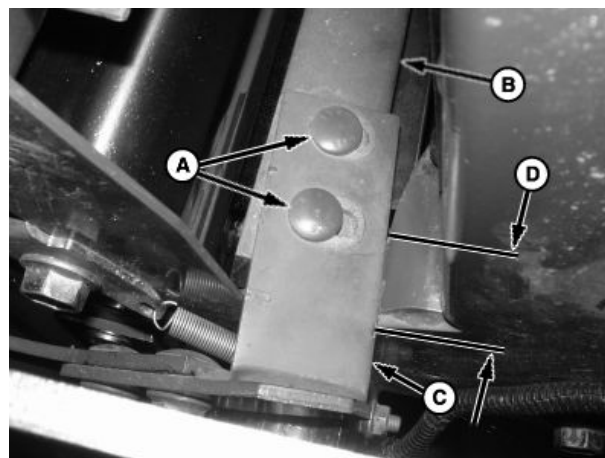
E53027 —UN—12JAN04

E55755 —UN—20MAY08

E55779 —UN—20MAY08

11. **Right-hand side clearance is excessive:** Paper passes through the 100 mm (4.0 in.) area.

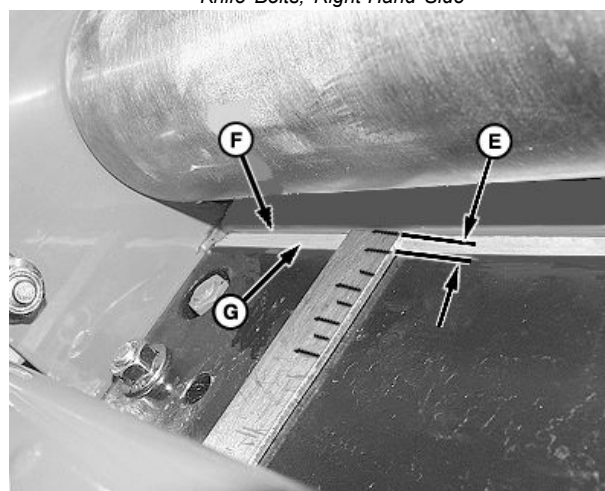
- With paper, check if right-hand side of counterknife angle (B) or counterknife arm support (C) contacts baler frame. If contact occurs, raise counterknife angle and grind contact area of frame (D) 1—2 mm (0.04—0.8 in.) deep.
- If paper still passes through on right-hand side of knife, adjust two bolts (A). Mark bolt heads relative to slots as reference. Raise counterknife angle to access bolts (A). Measure distance (E) from counterknife angle edge (F) to rear edge of knife bevel (G). Distance (E) must be 6—16 mm (0.23—0.63 in.) Distance must be the same on both ends of knife.
- Recheck with paper at both ends and center. If paper passes through on right-hand side, repeat steps a—c. If paper does not pass in at least one point in the three areas, adjustment is complete.



Knife Bolts, Right-Hand Side

12. **Left-hand side clearance is excessive:** Paper passes through 100 mm (4.0 in.) area

- Ensure that right-hand side is not contacting frame.
- If right-hand side contacts frame, raise counterknife angle and grind frame 1—2 mm (0.04—0.08 in.) deep. Lower counterknife angle and recheck both ends and center with paper.
- If paper still passes through on left-hand side, adjust two bolts holding counterknife angle.
- Mark bolt heads relative to slots as reference. Raise counterknife angle to access bolts (A). Measure distance (E) from counterknife angle edge (F) to rear edge of knife bevel (G). Distance (E) must be 6—16 mm (0.23—0.63 in.) Distance must be the same on both ends of knife.
- Recheck with paper at both ends and center. If paper passes through left-hand side, repeat steps a—e.



A—Bolts (2 each side)	E—Distance, 6—16 mm (0.24—0.63 in.)
B—Counterknife Angle	F—Counterknife Angle Edge
C—Counterknife Support Arm	G—Knife Bevel
D—Contact Distance	

13. If paper checks are acceptable, install and adjust brush. See INSTALL AND ADJUST NET WRAP BRUSH in this section.

14. Connect net actuator wire connector.

IMPORTANT: Make sure to move net wrap counterknife fully downward to home position. If baler is operated with counterknife at the up position, net will feed continuously during baling.

15. Turn tractor key to ON position.

16. Press WRAP key on monitor-controller to move counterknife fully downward to the home position.

17. Turn tractor key to OFF position. Turn off monitor-controller.

18. Close net wrap cover.

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E55727 —UN—19MAY08

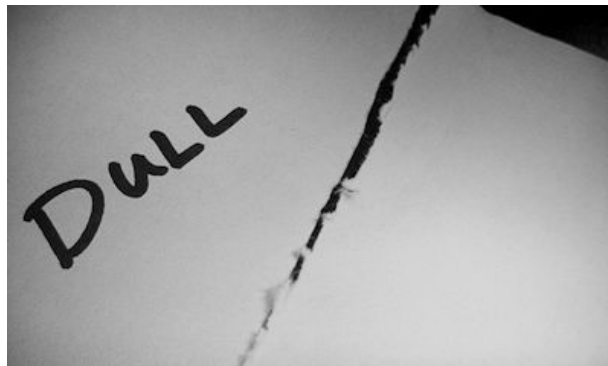
E55776 —UN—29MAY08

Sharpen Net Wrap Knife

NOTE: Sharpen knife when strings of net wrap material or patches of net wrap extend from the knife to gate roll, rubber roll wraps with net, or when knife does not cut the net wrap material.

CAUTION: Knife is sharp. Wear gloves when handling knife.

1. Remove knife. (See REMOVE AND INSTALL KNIFE in this section.)
2. Clamp knife in vise.
3. Using a piece of paper, check knife for sharpness.
 - Apply even pressure and drag paper down edge of knife.
 - Start cut at edge of paper.
 - If knife produces a dull cut, as illustrated, knife edge will need sharpened.



Cut From Dull Knife

PP98408,0000FA0 -19-07FEB13-1/3

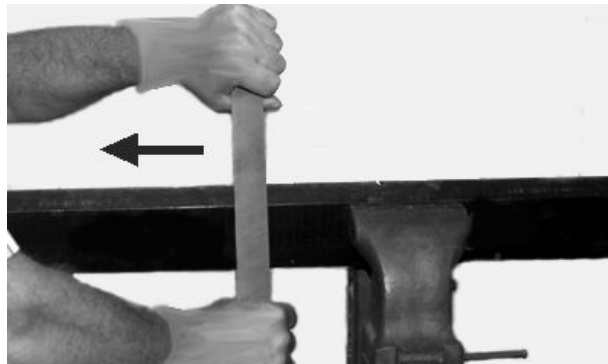
TS288 —UN—23AUG88

E56792 —UN—10FEB09

E57765 —UN—24JUL09

IMPORTANT: Do not use right angle disk grinder or flap disk grinder to sharpen knife. Knife edge damage will occur.

4. Use a clean sharp flat file to sharpen full length of knife edge. This procedure (like using a draw knife), will produce a sharp knife edge.
5. Remove burr from back side of knife.



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PP98408,0000FA0 -19-07FEB13-2/3

E41644 —UN—16OCT96

6. Repeat paper test along full length of knife edge to verify that full length of knife edge is sharp. A sharp knife will produce a smooth cut as illustrated.
7. Reinstall knife. (See REMOVE AND INSTALL KNIFE in this section.)



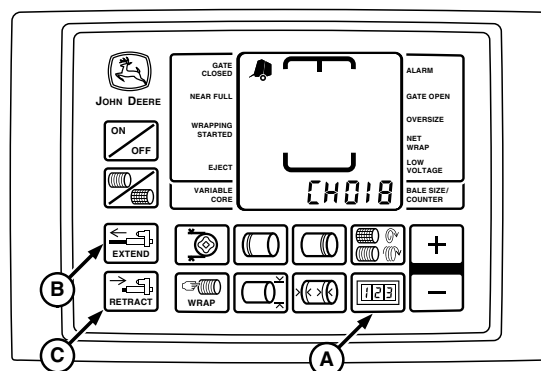
Smooth Cut From Sharp Knife

PP98408,0000FA0 -19-07FEB13-3/3

E57767 —UN—24JUL09

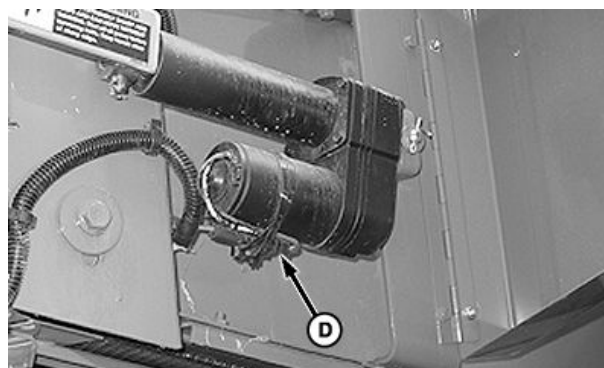
Install and Adjust Net Wrap Brush

1. Turn tractor key to ON position. Turn monitor-controller ON.
2. Ensure that monitor is in NET mode. Turn monitor OFF.
3. Press and hold COUNTER key (A) while turning monitor-controller ON. **CH001** will appear in the digital display.
4. Continue to hold COUNTER key (A) and press PLUS key to advance to **CH018**. Release COUNTER key (A).
5. Press and hold EXTEND key (B) to move counterknife to the up position.



CAUTION: To avoid personal injury from unexpected knife movement, disconnect net wrap actuator wire connector or power plug when performing adjustment or working in area.

6. Turn monitor-controller selector switch to OFF. Turn tractor key to OFF position. Remove key. Disconnect monitor-controller power plug from power source or disconnect plug at net wrap wire harness connector (D).
7. Open net wrap cover.



A—COUNTER Key
B—EXTEND Key

C—RETRACT Key
D—Wire Harness Connector

Continued on next page

OUC6064,0001619 -19-29SEP15-1/2

E52520 —UN—26JUN03

E80107 —UN—29SEP15

NOTE: If knife is bowed, bend brush away from steel roll between center bolts to maintain 1—3 mm (0.040—0.12 in.) clearance.

8. Install brush with bristle holder offset, towards plated roll. Using a feeler gauge (A), set clearance between steel roll and aluminum brush holder bracket to dimension.

Specification

Brush-to-Steel	
Roll—Clearance.....	1—3 mm (0.040—0.12 in.)

9. Tighten hardware to specification.

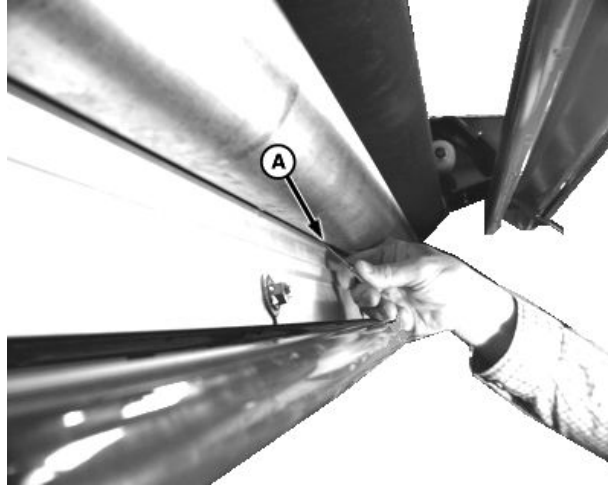
Specification

Knife-to-Brush—Torque.....	55 N·m (40 lb.-ft.)

10. Rotate rolls to ensure that clearance remains within specification.
11. Check net wrap switch adjustment. (See ADJUST NET WRAP SWITCH in this section.)
12. Connect net actuator wire connector.

IMPORTANT: Make sure to move net wrap counterknife fully downward to home position. If baler is operated with counterknife at the up position, net will feed continuously during baling.

13. Turn tractor key to ON position.



A—Feeler Gauge

14. Press WRAP key on monitor-controller to move counterknife fully downward to the home position.
15. Turn tractor key to OFF position. Turn OFF monitor-controller.
16. Close net wrap cover.

E53030 —UN—12JAN04

OUO6064,0001619 -19-29SEP15-2/2

Check and Adjust Net Pan Pressure

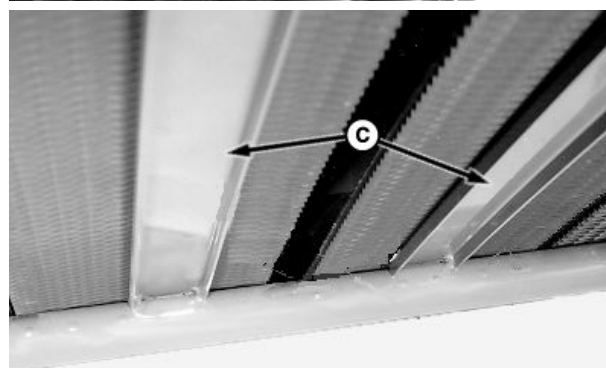
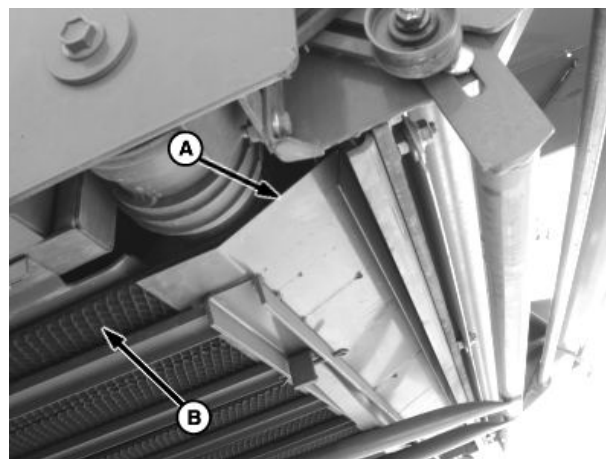
IMPORTANT: Belts must be tight before checking and adjusting net pan pressure.

IMPORTANT: Always adjust belt tracking at No. 9 roll (lower front gate roll) by adjusting No. 8 roll (lower rear gate roll), before checking or adjusting net pan pressure.

Lack of net pan angle (A) and channel (C) contact or pressure can cause net not to be applied (wraps rubber roll) or partially applied to bale. Net pan angle (A) must contact both outside belts (B) and at least two of the four center belts.

Excessive net pan angle (A) or channel (C) contact or pressure, can cause net feeding difficulties, holes worn in pan angle, or channels, or net slitting if heating weakens net.

1. Park tractor and baler on level surface. Shut off tractor engine and remove key.
2. Remove crop debris inside gate, near No. 8 and No. 9 rolls, and net pan.
3. Start tractor. With empty baler, gate lock lever unlocked, and gate closed, engage PTO and move tractor SCV lever to close gate and tension belts.
4. Disengage PTO, shut off tractor engine, and remove key.



A—Net Pan Angle
B—Outside Belts

C—Channels

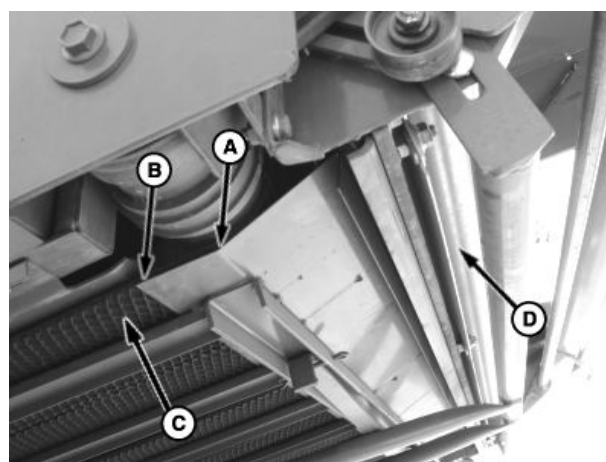
PP98408,0000FA2 -19-07FEB13-1/3

5. Check that net pan angle (A) is contacting both outside belts (C) and at least two of the four center belts.

- If net pan is contacting both outside belts and at least two of the four center belts, proceed to Step 6.
- If clearance (B) exists between net pan angle (A) and any belt, adjust crosstube (D) higher until both outside belts contact and at least two of the four center belts contact. Maintain 22—44 N (5—10 lb.) net pan pressure on both sides.
- If net pan pressure is 22—44 N (5—10 lb.) and either one or both outside belts (B) do not contact net pan angle (A), net pan angle is bowed too much and needs to be straightened. (See CHECK and STRAIGHTEN NET PAN ANGLE in this section.)

A—Net Pan Angle
B—Clearance

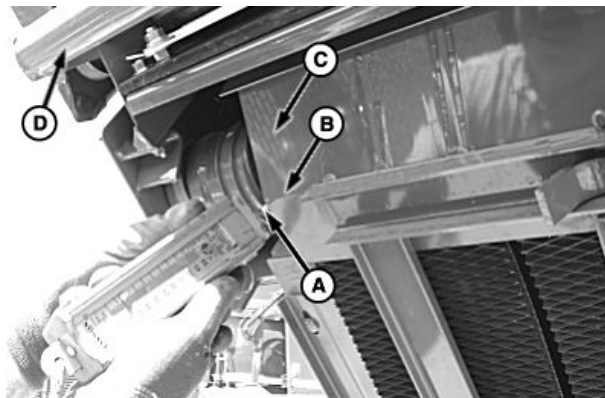
C—Outside Belts
D—Crosstube



Continued on next page

PP98408,0000FA2 -19-07FEB13-2/3

6. With a spring scale, engage scale hook (A) at bend (B) in net pan angle (C).
7. Force must be 22—44 N (5—10 lb.) to move net pan away from outside belts.
 - If force is less than 22 N (5 lb.), move left-hand side of crosstube (D) up until force is correct. Repeat on opposite side.
 - If force is more than 44 N (10 lb.), move left-hand side of crosstube (D) down until force is correct. Repeat on opposite side.
 - If crosstube (D) is in lowest position and force is more than 44 N (10 lb.), adjust net pan pressure. (See CHECK AND ADJUST NET PAN PRESSURE in this section.)



Gate Partially Open for Illustration

A—Scale Hook
B—Bend in Net Pan

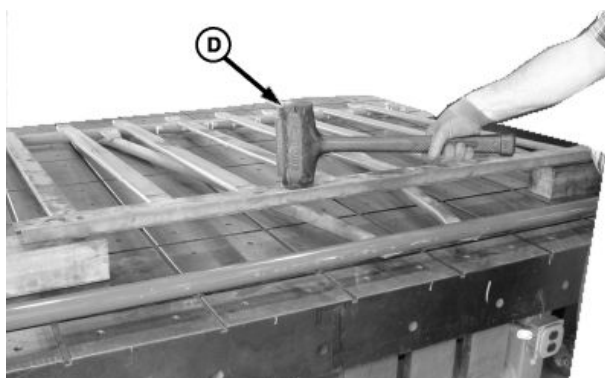
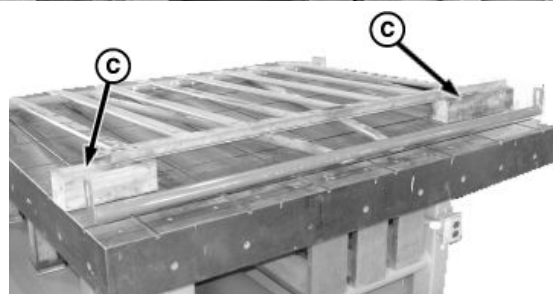
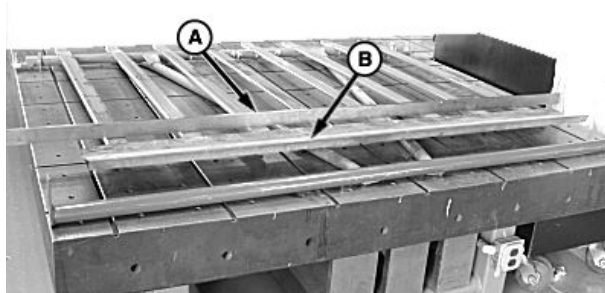
C—Net Pan Angle
D—Crosstube

E55324 —UN—09JUL07

PP98408,0000FA2 -19-07FEB13-3/3

Check and Straighten Net Pan Angle

1. Place net pan on solid, level surface.
2. Remove leaf spring by removing two cotter pins (one on each end of leaf spring).
3. Place a straight edge (A) on net pan angle (B) top (shown) or channel beneath net pan angle.
4. Net pan angle can be bowed up to 2.5 mm (0.10 in.).
5. If bow is high in the middle, place blocks (C) under each end and push down, or use a dead blow hammer (D) in middle of net pan angle to straighten.
6. Adjust net pan pressure. (See CHECK AND ADJUST NET PAN PRESSURE WITHOUT LEAF SPRING in this section.)



A—Straight Edge
B—Net Pan Angle

C—Blocks
D—Dead Blow Hammer

E55331 —UN—09JUL07

E55332 —UN—09JUL07

E55333 —UN—09JUL07

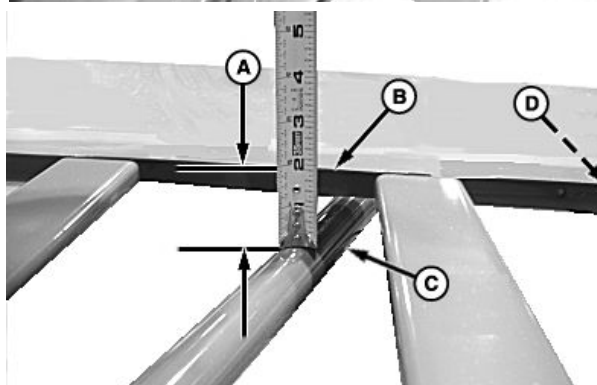
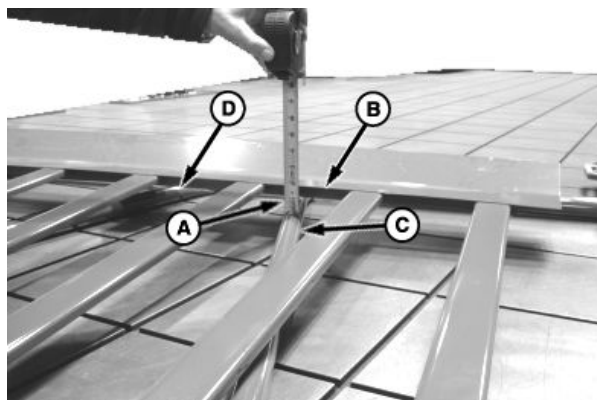
PP98408,0000FA3 -19-07FEB13-1/1

Check and Adjust Net Pan Pressure without Leaf Spring

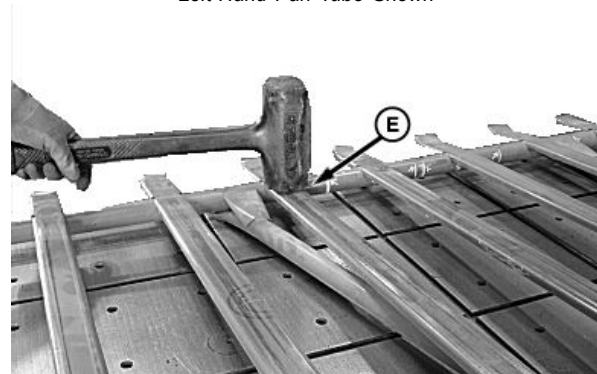
1. Remove net pan from baler. (See NET WRAP USE AFTER EXTENDED STORAGE in this section.)
2. Remove leaf spring by removing two cotter pins. Lay net pan flat on a level surface.
3. Measure distance (A) between top of net pan angle (B) and top of both support tubes (C) and (D). Distance (A) must be 52 ± 5 mm (2.0 ± 0.2 in.).
 - If distance (A) is more than 57 mm (2.2 in.), use a dead blow hammer and tap on each net pan channel (E) near front crossbar. Recheck distance (A) and repeat as needed.
 - If distance (A) is less than 47 mm (1.8 in.), place net pan on floor. Step on net pan rear crossbar near center and lift net pan angle (B) to bend channels. Recheck distance (A) and repeat as needed.
4. Straighten net pan angle. (See CHECK AND STRAIGHTEN NET PAN ANGLE in this section.)
5. Install leaf spring and net pan in reverse order as removed. After installing net pan:
 - See CHECK AND ADJUST LOWER NET WRAP GUIDE.
 - See CHECK BELT TRACKING.
 - See CHECK AND ADJUST NET PAN PRESSURE.

A—Distance, 52 ± 5 mm (2.0 ± 0.2 in.)
 B—Net Pan Angle
 C—Support Tube

D—Support Tube
 E—Net Pan Channel (near front crossbar)



Left-Hand Pan Tube Shown



E55596 —UN—13FEB08

E55596 —UN—13FEB08

E55597 —UN—13FEB08

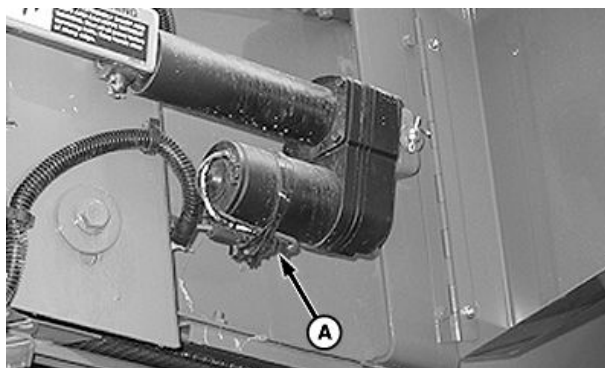
PP98408,0000FA4 -19-07FEB13-1/1

Check For Bent Rubber Crop Deflectors

NOTE: Bent rubber crop deflectors can prevent counterknife angle from raising high enough and net can wrap rubber roll or split net near edge and net can wrap #8 roll spirals.

CAUTION: To avoid personal injury from unexpected knife movement, disconnect net wrap actuator wire connector or power plug when performing adjustment or working in area.

1. Turn monitor-controller selector switch to OFF. Turn tractor key to OFF position. Remove key. Disconnect monitor-controller power plug from power source or disconnect net actuator wire harness connector (A).
2. Open net wrap cover.

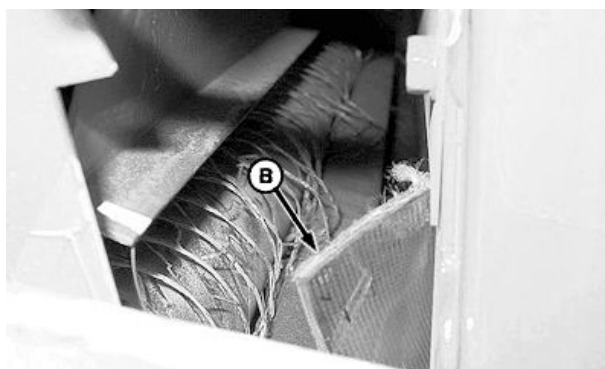


A—Wire Harness Connector

E80106—UN—29SEP15

OUC6064,000161A -19-29SEP15-1/2

3. Perform a visual check if one or both rubber crop deflector's (A) are sticking out between outside belts and side sheet of baler.
4. If rubber crop deflector's (A) are sticking out between outside belts and side sheet of baler:
 - Remove rubber crop deflector's if not baling cornstalks, milo, or sorghum.
 - Reverse or replace rubber crop deflector's.
 - Trim top edge of rubber crop deflector's. (See your John Deere dealer.)



B—Rubber Crop Deflector

E58059—UN—08OCT09

OUC6064,000161A -19-29SEP15-2/2

Check and Adjust Net Wrap V-Belt Idler Tension

CAUTION: Protect bystander. To prevent injury, be sure that bystanders stand clear before operating net wrap unit or baler.

1. Connect monitor-controller power plug to power source.
2. Turn tractor key to ON position. Do not start tractor engine.



TS268—UN—23AUG88

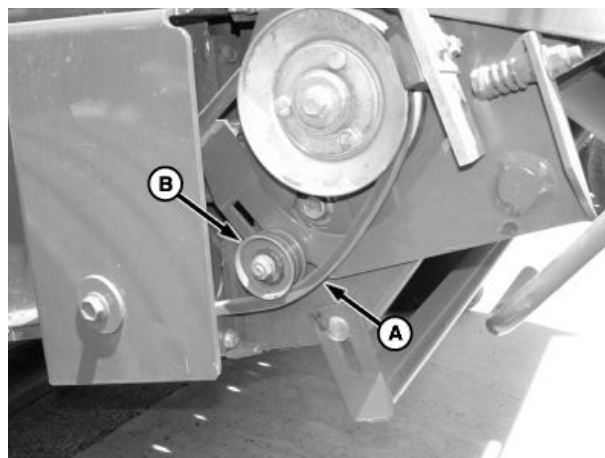
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PP98408,0000FA6 -19-07FEB13-1/6

3. With channel 018 on monitor, cycle actuator using extend or retract key, so actuator moves approximately half way up or down, to loosen belt.

CAUTION: To avoid personal injury from unexpected knife movement, disconnect net wrap actuator wire connector or power plug when performing adjustment or working in area.

4. Temporarily move V-belt from top of idler pulley to underside of idler pulley.
5. Reconnect power source.
6. With monitor-controller in NET mode, press and hold COUNTER key while turning monitor-controller ON.
7. Continue to hold COUNTER key and press PLUS key until **CH 018** appears in digital display.
8. Press EXTEND key to extend actuator fully (angle to highest position).



A—Belt

B—Idler Pulley

PP98408,0000FA6 -19-07FEB13-2/6

E55144—UN—10MAY07

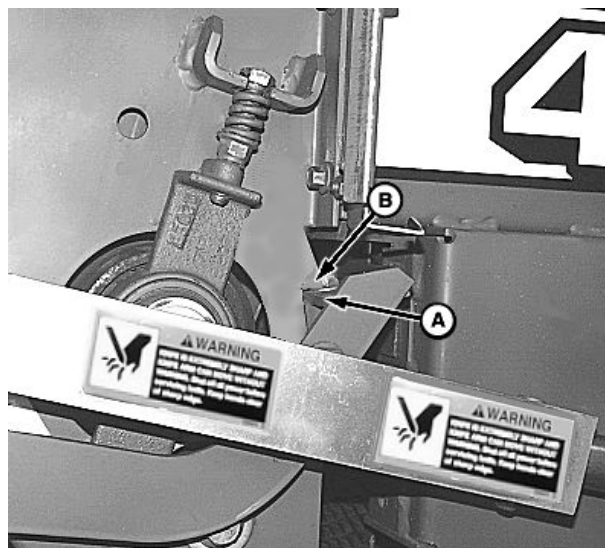
9. Check position of right-hand net wrap cut-off arm (A). Arm must contact tab (B) FIRMLY. If correct, proceed to Step 10.

If position is not correct, adjust base end of mounting bracket as follows to obtain firm contact:

- a. Disconnect monitor-controller power plug from power source.

A—Angle

B—Tab



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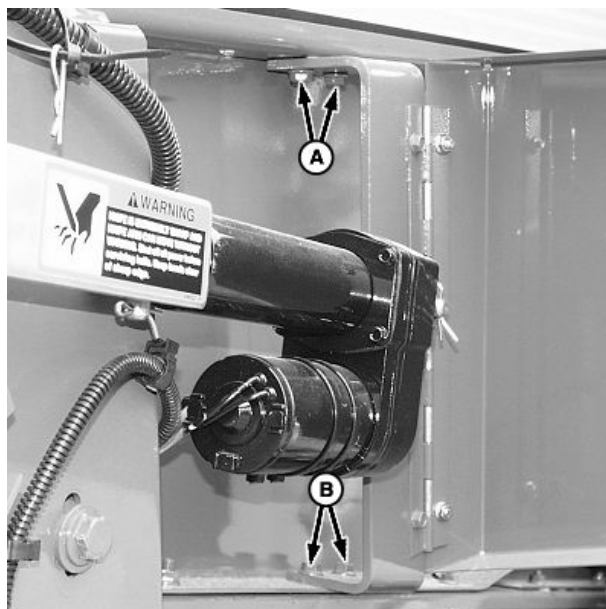
PP98408,0000FA6 -19-07FEB13-3/6

E51045—UN—03JAN02

- b. Loosen two screws (A) on top of bracket, two round-head bolts (B) and nuts on bottom end of bracket.
 - c. Connect monitor-controller power plug to power source. Repeat Steps 5—7.
 - d. Retract actuator fully (to shortest position), and tighten bracket mounting bolts.
 - e. Extend actuator and recheck for firm contact.
10. Ensure that monitor is on channel 018. Use extend or retract key and return actuator to approximately half way up or down.
 11. Disconnect actuator from power source.
 12. Move V-belt to top of idler pulley.
 13. Reconnect to power source.

A—Screws

B—Round-Head Bolts



E49027 —UN—18OCT00

PP98408,0000FA6 -19-07FEB13-4/6

NOTE: Engage brake before extending actuator.

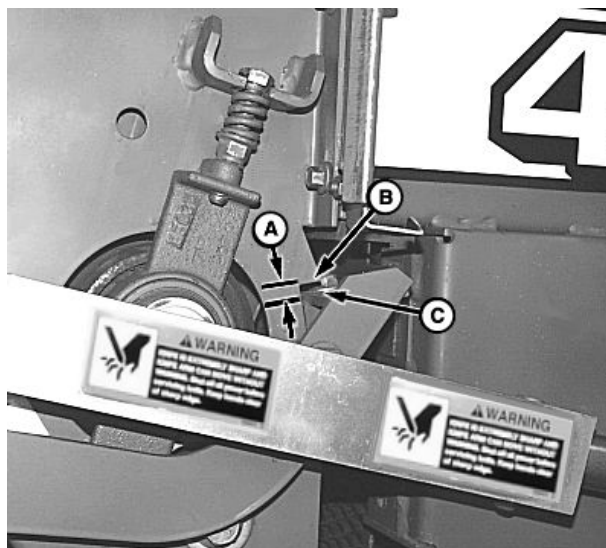
14. **Right-Hand Side ONLY;** Extend actuator. Check that clearance (A) from angle (C) to tab (B) on sidesheet is within specifications.

Specification

Angle-to-Tab On
Sidesheet—Clearance.....6—15 mm
(1/4—9/16 in.)

A—Clearance
B—Tab

C—Angle



Right-Hand Side

E51046 —UN—03JAN02

Continued on next page

PP98408,0000FA6 -19-07FEB13-5/6

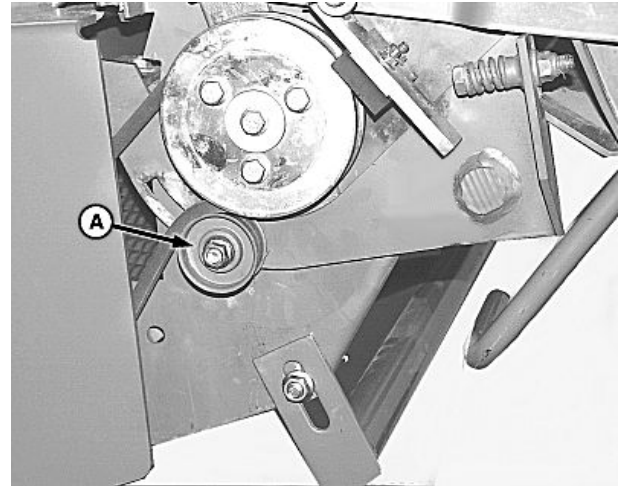
15. If clearance is not within specifications, adjust idler (A) in idler arm slot until clearance is within specified range.
16. Retract actuator and re-extend to check for correct clearance. If clearance is still not correct, readjust idler (A) and recheck.
17. Close net wrap cover and shut actuator door.

IMPORTANT: After adjustment, turn monitor-controller ON. Press WRAP key to return net wrap cut-off arm to home position. Turn monitor-controller off to cancel STOP alarm. If this procedure is not followed, net will be fed continuously during the next bale.

18. Connect monitor-controller power plug to power source. Turn tractor key to ON position. Do not start tractor engine. Turn monitor-controller ON.

NOTE: STOP alarm will sound while cycling actuator.

19. Cycle actuator several times using WRAP key.
20. Press WRAP key and return net knife to home (downward) position. (See CHECK AND ADJUST FEED ROLL BRAKE in this section.)



A—Idler

21. Turn monitor-controller to OFF.

E51252—UN—11FEB02

PP98408,0000FA6 -19-07FEB13-6/6

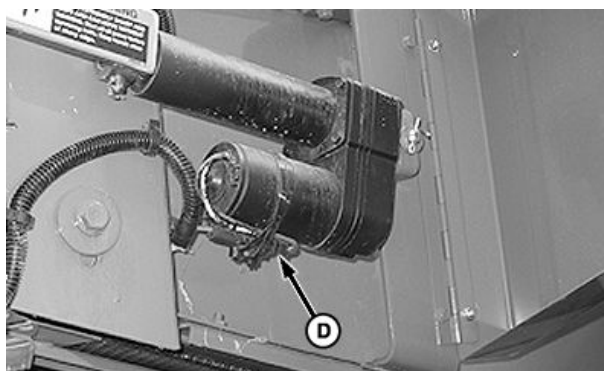
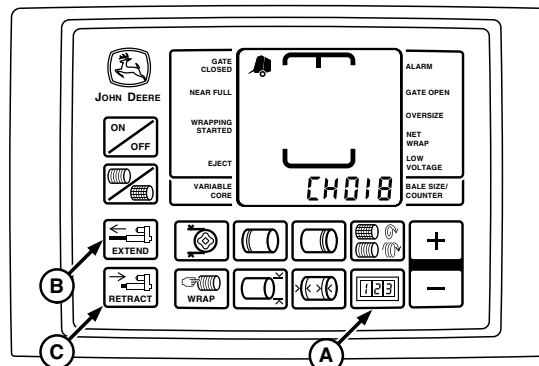
Check For Left-Hand Side Counterknife Contact

If counterknife angle does not contact knife on left-hand side or cut is poor on left-hand side, contact can be present between idler sheave bolt head and net pan bolt head and net pan bolt head or strap.

1. Open net wrap cover.
2. Engage brake lever.
3. Turn tractor key to ON position. Turn monitor-controller ON.
4. Ensure that monitor is in NET mode. Turn monitor OFF.
5. Press and hold COUNTER key (A) while turning monitor-controller ON. **CH001** will appear in the digital display.
6. Continue to hold COUNTER key (A) and press PLUS key to advance to **CH018**. Release COUNTER key (A).
7. Press and hold RETRACT key (C) to move counterknife angle to the down position.

CAUTION: To avoid personal injury from unexpected knife movement, disconnect net wrap actuator wire connector or power plug when performing adjustment or working in area.

8. Turn monitor-controller selector switch to OFF. Turn tractor key to OFF position. Remove key. Disconnect monitor-controller power plug from power source or disconnect net actuator wire harness connector (D).



A—COUNTER Key
B—EXTEND Key

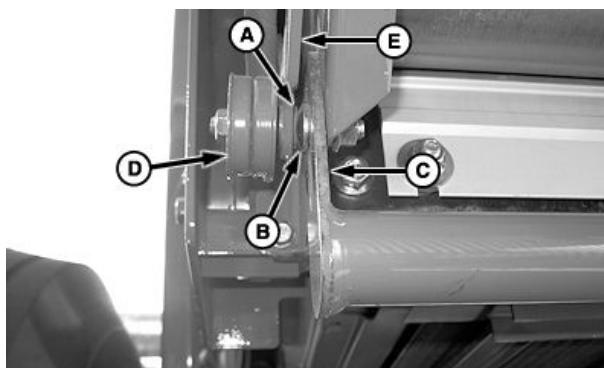
C—RETRACT Key
D—Wire Harness Connector

OUC6064,000161B -19-29SEP15-1/2

9. If there is contact between idler sheave bolt head (A) and net pan bolt head (B) or strap:
 - Grind net pan bolt head (B) or grind chamfer at front edge of net pan strap (C). (See your John Deere dealer.)
 - Bend arm (E) out and remove washer between idler sheave and arm if required to align idler sheave (D) with v-belt. (See your John Deere dealer.)

A—Idler Sheave Bolt
B—Net Pan Bolt
C—Net Pan Strap

D—Idler Sheave
E—Arm



OUC6064,000161B -19-29SEP15-2/2

Check Hole Wear in Surface Wrap Side Panel

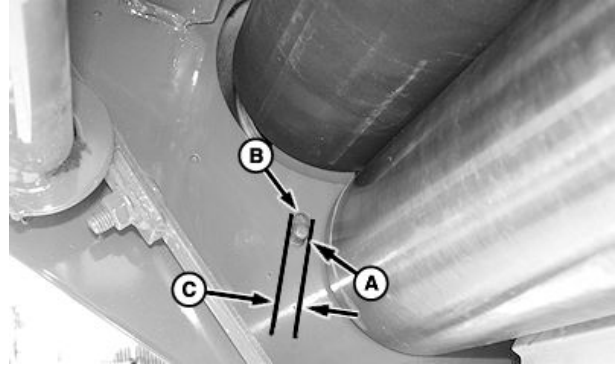
Hole wear in surface wrap side panel causes a reduction in brake torque.

1. Open net wrap cover.
2. Perform visual check of rubber feed roll bearing support pin (A) wear in slotted hole (B) on left- and right-hand side panels.
3. If slotted hole width (C) is over 8 mm (0.32 in.), weld key stock to side panels. (See your John Deere dealer.)

A—Pin

B—Slotted Hole

C—Slotted Hole Width



E56760 —UN—09FEB09

PP98408,0000FA8 -19-07FEB13-1/1

Check and Adjust Net Wrap Feed Roll Brake Spring

1. Open net wrap cover.
2. Disengage brake by pulling out and up on handle (A).
3. Check that spring length (C) is within specifications. Adjust by tightening or loosening nut (D).

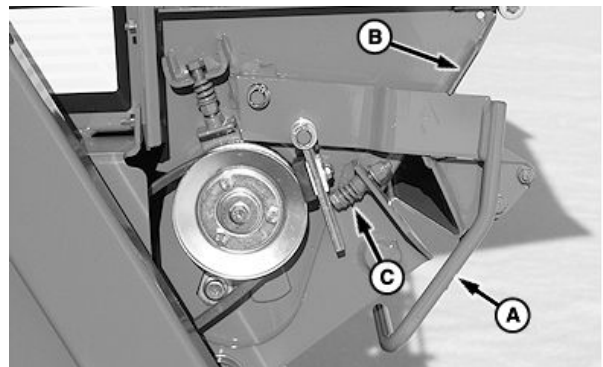
Specification

Spring—Length Over
Coils..... 22 ± 0.5 mm
(0.87 ± 0.02 in.)

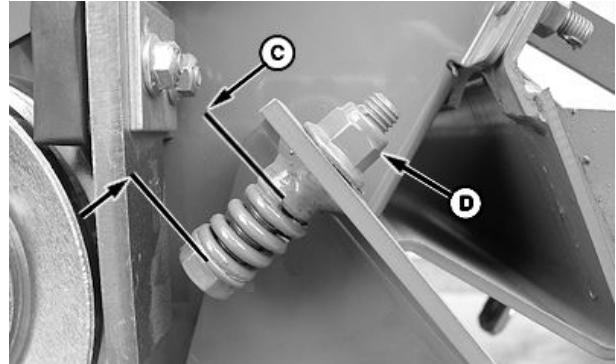
4. Engage brake by pulling out and down on handle (A) and positioning handle under tab (B).
5. Close net wrap cover.

A—Brake Handle
B—Tab

C—Spring Length Over Coils
D—Nut



Left-hand Side Shown



E56781 —UN—10FEB09

E57644 —UN—14JUL09

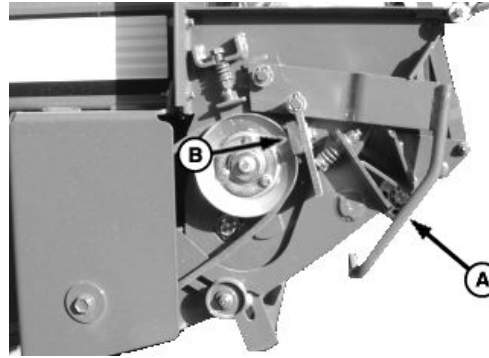
PP98408,0000FA9 -19-07FEB13-1/1

Adjust Net Wrap Feed Roll Pressure

1. Open net wrap cover.
2. Pull lever (A) out and up to disengage roller brake pad (B).
3. Remove any foreign material or net wrap from between the rolls.

A—Brake Lever

B—Brake Pad



E54537—UN—01MAY06

PP98408,0000FAA -19-07FEB13-1/2

NOTE: Too much pressure can cause net wrap to wrap on rubber roll. A lack of pressure will prevent net wrap from being fed by the rolls to the bale or can cause poor placement of net wrap material on the bale.

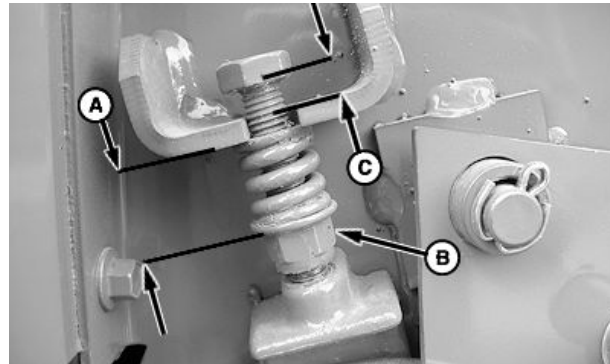
4. Adjust spring length by loosening or tightening spring adjusting nut (B) until dimensions (A) and (C) are within specifications.

Specification

Feed Roll	
Spring—Distance Over	
Coils.....	20.5 mm
	(0.807 in.)

Specification

Bolt Head to	
Bracket—Distance.....	1—12 mm
	(0.039—0.197 in.)



Left-hand Side Shown

A—Distance, Over Coils
B—Adjusting Nut

C—Distance, Bolt Head to
Bracket

E57645—UN—14JUL09

5. Engage brake by pulling out lever and positioning lever under tab.

6. Repeat on opposite side.

PP98408,0000FAA -19-07FEB13-2/2

Test Net Wrap Switch—Monitor-Controller Assisted Test (Channel 012)

NOTE: Microswitch position and operation can be checked by using the monitor-controller diagnostic channels.

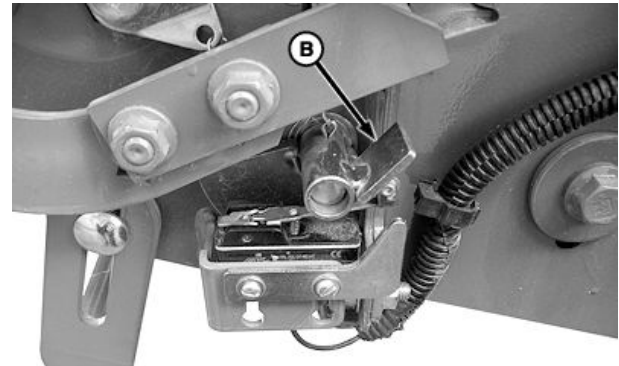
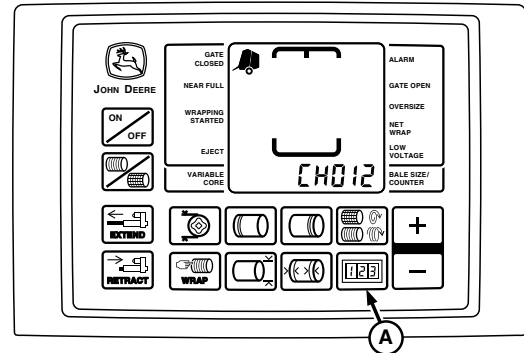
1. Turn tractor key to ON position. Do not start engine.
2. Press and hold COUNTER key (A) while turning monitor-controller ON. Continue to hold COUNTER key (A) and press PLUS key until **CH012** appears in digital display.
3. Release key and view reading (Switch Closed Internally).

Diagnostic Channel	Function	Switch Depressed Reading	Switch Released Reading
012	Net Wrap Switch	00 (Zero)—Cutting	12—Net Normal (Tone)

4. Depress lever (B) to open switch internally. View second reading or listen for tone (Switch Open).
5. If readings are not as shown, Check wire hookup. (See CHECK AND ADJUST NET WRAP SWITCH in this section.)
6. If switch adjustment does not produce normal readings:
 - a. Turn monitor-controller OFF. Turn tractor key to OFF position. Remove key.
 - b. Check for correct wire connections.
 - c. Check wire harness for cuts and breaks.
 - d. Check harness connectors for damaged (pushed in) terminals.
 - e. Check that wires are not shorted to each other or to ground.
 - f. Replace switch if necessary.

A—COUNTER Key

B—Lever



Style "A"



Style "B"

OUC6064,000158D -19-21SEP15-1/1

E52494 —UN—24JUN03

E57909 —UN—25AUG09

E79990 —UN—22SEP15

Check and Adjust Net Wrap Switch

CAUTION: Knife is sharp and net wrap cut-off arm can move with out warning. Keep hands clear of knife arm.

1. Turn tractor key to ON position. Do not start tractor engine.
2. Turn monitor-controller ON. Ensure monitor-controller is in NET mode.
3. Open net wrap cover.
4. Clean area around switch.

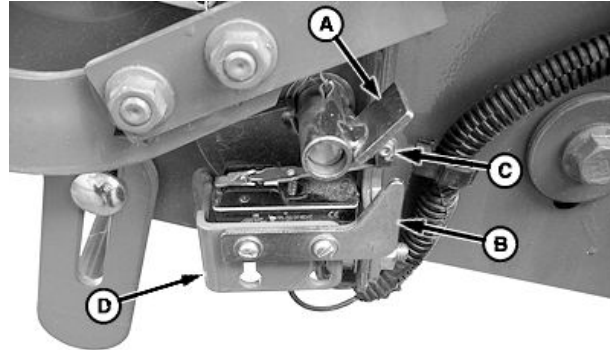
NOTE: Style "A"—Verify actuator tab (C) overlaps down stop plate (B). Bend plate (B) or bracket (D) to obtain overlap.

Style "B"—Verify actuator tab (C) overlaps bracket (D). Bend bracket (D) to obtain overlap.

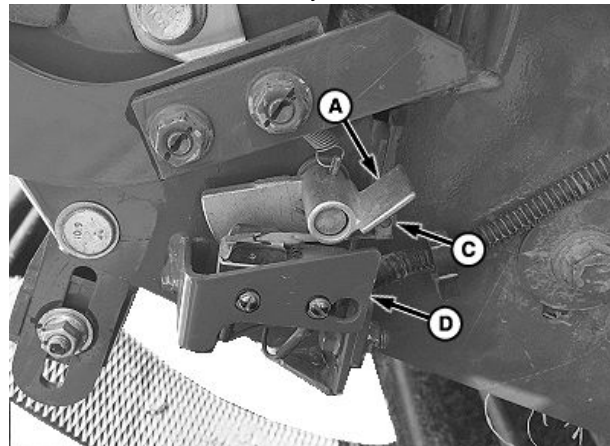
5. Verify monitor display and switch operation:
 - Move knife arm angle to down position.
 - Go to channel 012. Tone must come on.
 - Rotate switch arm (A) down and tone must quit.
 - Release switch arm (A) and tone must come on.
 - If letter **n** does not appear on monitor display when actuator is down, or, letter **n** does not disappear when actuator is released, adjust switch.
6. Turn tractor ignition OFF and remove key.

A—Switch Arm
B—Down Stop Plate

C—Actuator Tab
D—Bracket



Style "A"



Style "B"

Continued on next page

OUC6064,000158E -19-21SEP15-1/3

TS288 —UN—23AUG88

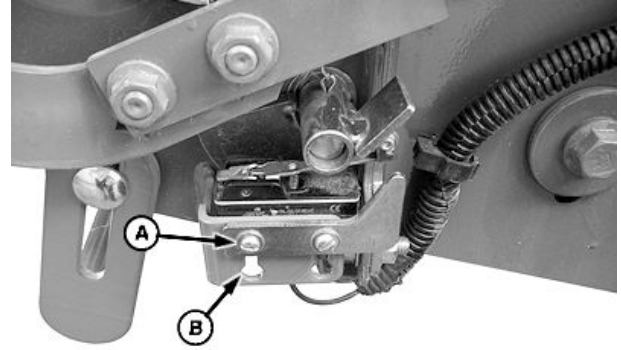
E57795 —UN—03AUG09

E79891 —UN—22SEP15

NOTE: If switch is replaced, connect black wire to common (rear) terminal and green wire to normally closed (front) terminal.

7. Switch Adjustment:

- Loosen and position switch and stop plate screws (A) against top of switch mounting slots (B). Ensure that both screws are against top of slots.
- Tighten screws until heads are just contacting washers. Turn screws 1/4—1/2 turn more to tighten securely.
- Recheck monitor display and switch operation. (See Test Net Wrap Switch—Monitor-Controller Assisted Test (Channel 012 in this section.)



Adjustable Down Stop Plate Only—Style “A”

A—Screws (2 used)

B—Mounting Slots

OUC6064,000158E -19-21SEP15-2/3

E57796—UN—03AUG09

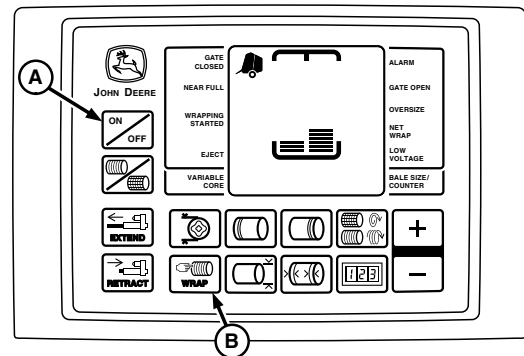
- Close net wrap cover.
- Press WRAP key (B) to cycle net wrap actuator. Net wrap cut-off arm must be at home (downward) position.

IMPORTANT: If this procedure is not followed, net will be fed continuously during the next bale. The letter n will appear in monitor-controller display.

- Turn monitor-controller OFF (A). Turn tractor key to OFF position. Remove key.

A—ON or OFF Key

B—WRAP Key



OUC6064,000158E -19-21SEP15-3/3

E52493—UN—24JUN03

Final Adjustment of Net Wrap Switch—In Field

1. Make level firm bale in chamber with monitor-controller in net mode. Stop tractor before auto wrap cycle begins.
2. Set number of wraps of net to 3.
3. With PTO running at rated speed, press WRAP key. After five seconds, turn monitor box switch to OFF position.

CAUTION: Shut off tractor PTO, engine, place in park, and remove key.

4. Unhook harness at tractor.
5. Open shield to access cut-off switch. Net must hold the actuator flap in a horizontal position.

NOTE: Flap spring must be forward (towards front of baler) on its anchor.

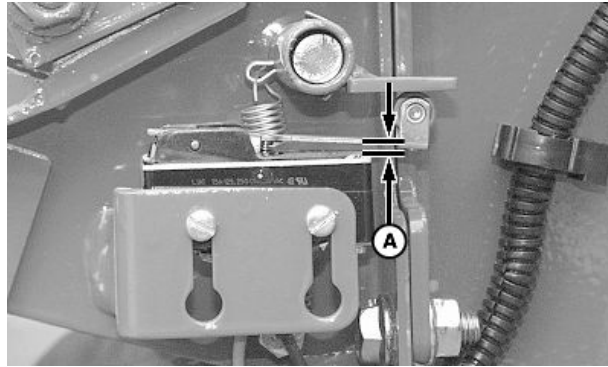
6. Adjust switch to ensure roller arm-to-flap clearance (A) is within specifications.

Specification

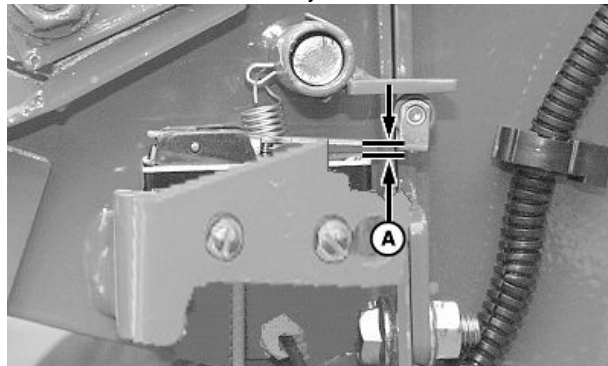
Switch Arm-to-Body of
Switch—Clearance (A).....0.2—1 mm
(0.008—0.040 in.)

7. Reconnect wire harness.
8. Start tractor. Turn on PTO. Then Press WRAP key. Net must cycle and cut off normally.

IMPORTANT: Failure to press WRAP key will result in continuous feeding of net and no cut-off.



Style "A"



Style "B"

A—Clearance

9. Set monitor to number of wraps desired.

E49026—UN—18OCT00

E79992—UN—22SEP15

OOU0604,000158F -19-21SEP15-1/1

Remove and Install Knife

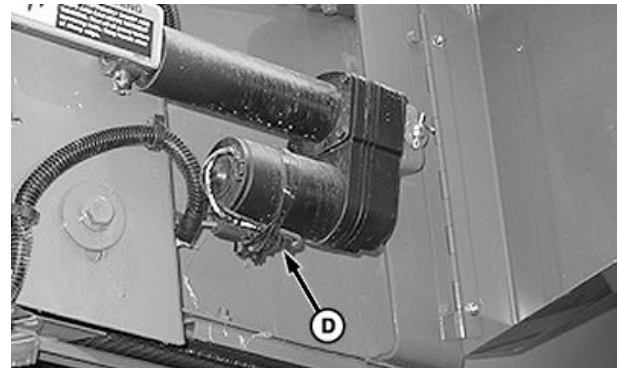
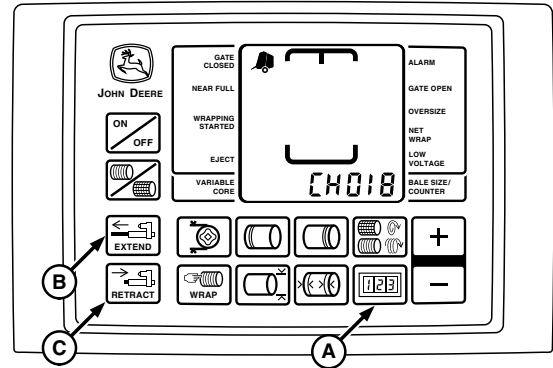
1. Turn tractor key to ON position. Turn monitor-controller ON.
2. Ensure that monitor is in NET mode. Turn monitor OFF.
3. Press and hold COUNTER key (A) while turning monitor-controller ON. **CH001** will appear in the digital display.
4. Continue to hold COUNTER key and press PLUS key to advance to **CH018**. Release COUNTER key.
5. Press and hold EXTEND key (B) to move counterknife angle to the up position.

CAUTION: To avoid personal injury from unexpected knife movement, disconnect net wrap actuator wire connector or power plug when performing adjustment or working in area.

6. Turn monitor-controller selector switch to OFF. Turn tractor key to OFF position. Remove key. Disconnect monitor-controller power plug from power source or disconnect plug at net wrap actuator wire harness connector (D).

A—COUNTER Key
B—EXTEND Key

C—RETRACT Key
D—Wire Harness Connector



Continued on next page

OUC6064,000161C -19-29SEP15-1/3

E52520 —UN—26JUN03

E80107 —UN—29SEP15

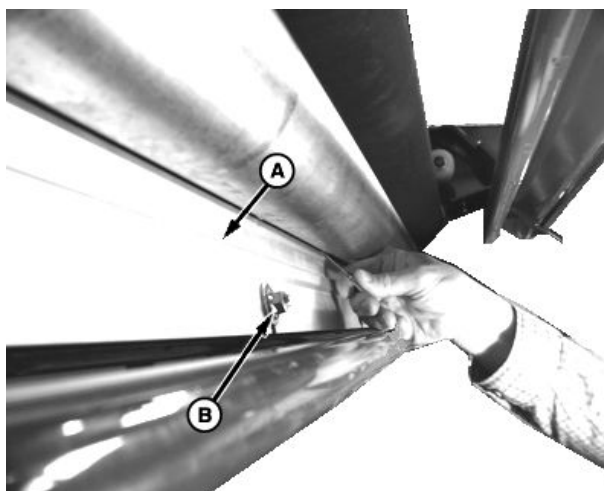
⚠ CAUTION: Cutoff knife is sharp. Wear gloves when handling cut-off knife.

NOTE: Roll removed for illustration only.

7. Remove brush (A) from knife by removing four nuts (B) and washers.

A—Brush

B—Nuts



TS288 —UN—23AUG88

E57769 —UN—24JUL09

Continued on next page

OOU6064,000161C -19-29SEP15-2/3

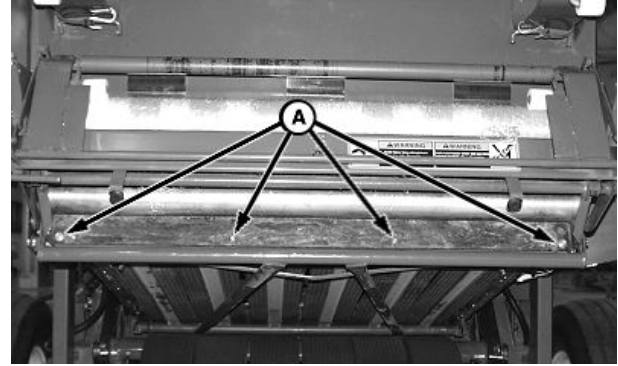
8. Remove four round-head bolts, washers, and nuts (A) on each end of cut-off knife. Remove knife from knife bracket.
9. Repair or replace if necessary.
10. Install knife with beveled surface up and facing rear of machine.
11. Install round-head bolts, washers, and nuts (A) so the round heads facing front of machine. Tighten to specification.

Specification

Knife-to-Knife
Bracket—Torque.....55 N·m
(40 lb.-ft.)

12. Check proper knife-to-counterknife angle contact. (See ADJUST NET WRAP COUNTERKNIFE in this section.)
13. Install brush to knife by using four washers and nuts. Do not tighten at this time.
14. Install brush. (See INSTALL AND ADJUST NET WRAP BRUSH in this section.)
15. Connect net actuator wire connector.

IMPORTANT: Make sure to move net wrap counterknife fully downward to home position. If baler is



A—Bolts, Washers, and Nuts

operated with counterknife at the up position, net will feed continuously during baling.

16. Turn tractor key to ON position.
17. Press WRAP key on monitor-controller to move counterknife fully downward to the home position.
18. Turn tractor key to OFF position. Remove key. Turn OFF monitor-controller.
19. Close net wrap cover.

OUC6064,000161C -19-29SEP15-3/3

E55845—UN—26JUN08

Test Net Wrap Actuator Current (Channel 018)

NOTE: Channel 018 allows operator use of **EXTEND** and **RETRACT** keys to position net actuator for service.

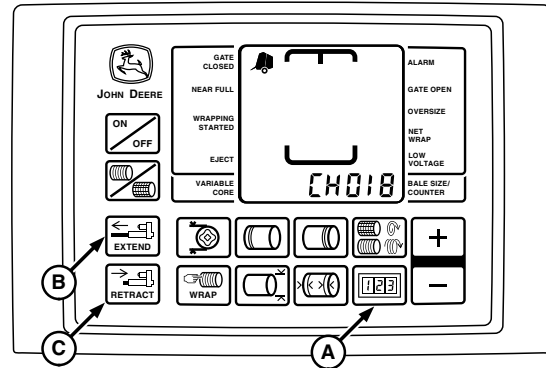
This test is used to determine the working condition of the actuator through its entire range of operation.

To test actuator (motor and linkage):

1. Turn tractor key to ON position. Do not start tractor engine.
2. With monitor-controller in NET mode, press and hold COUNTER key (A) while turning monitor-controller ON.
3. Continue to hold COUNTER key and press PLUS key until **CH 018** appears in digital display.
4. Release COUNTER key; digital display will change to show actuator static current flow reading of 0—1.
5. Use EXTEND and RETRACT keys (B) and (C) to operate actuator in both directions. Display must show a current flow reading between 1—8 while actuator motor is operating during mid stroke (no load).
 - Below normal readings indicate low tractor voltage, or poor or corroded harness connections
 - Above normal readings indicate binding linkage or partially shorted motor windings
 - Current spike reading indicates mechanical obstruction to linkage

NOTE: Net wrap actuator is at full stroke position when actuator is fully extended.

6. Continue to operate actuator to full stroke position. Display must show stall (*load*) current reading between 20—30.



A—COUNTER Key
B—EXTEND Key

C—RETRACT Key

- Below normal reading indicates bad or corroded harness connections
 - Above normal reading indicates partially shorted motor windings or actuator binding
7. Press EXTEND or RETRACT keys to move counterknife to home position.
 8. Turn monitor-controller OFF. Turn tractor key to OFF position. Remove key.

E52520 —JUN—26JUN03

PP98408,0000FAF -19-07FEB13-1/1

Remove Net Wrap Actuator

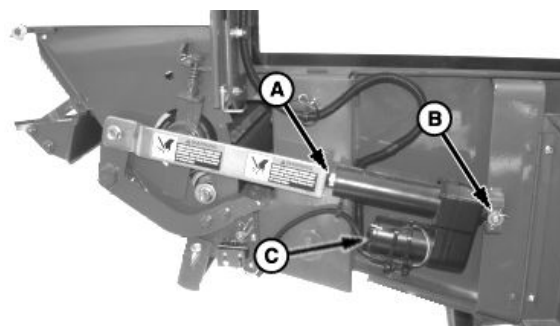
NOTE: Use monitor-controller channel 019 when removing net wrap actuator. This allows **EXTEND** and **RETRACT** keys to control actuator position and remove load from actuator mounting pins.

1. Open net wrap cover.
2. Unlatch and fully open actuator door.
3. Turn tractor key to ON position. Do not start tractor engine.
4. With monitor-controller in NET mode, press and hold COUNTER key. Turn monitor-controller ON. **CH 001** will appear in the digital display.
5. Continue to hold COUNTER key and press PLUS key to advance to **CH 019**. Release COUNTER key.

NOTE: Retracting the actuator will cause the mounting pins to bind.

6. Press and briefly hold EXTEND key to move actuator (C) to release load from mounting pins (A and B).

CAUTION: To avoid personal injury from unexpected knife movement, disconnect net wrap actuator wire connector or monitor-controller power plug from power source when performing adjustment or working in area.



A—Pin
B—Pin

C—Actuator

7. Turn monitor-controller OFF. Turn tractor key to OFF position. Remove key. Disconnect monitor-controller power plug from power source.
8. Remove tie strap from around actuator motor and disconnect actuator wire connector.

NOTE: Record location of washers on mounting pins used to aid in installation of actuator.

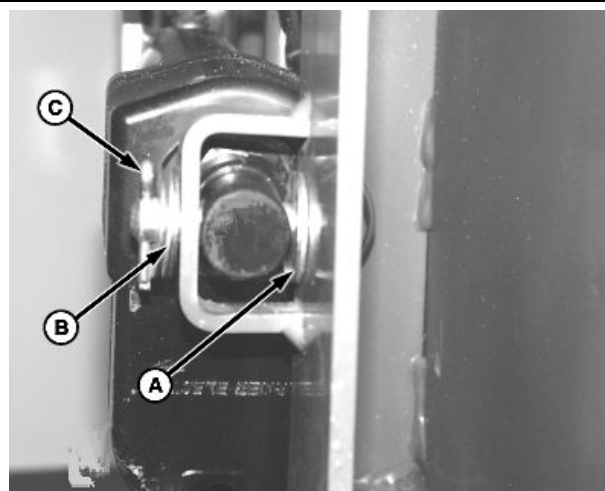
9. Remove mounting pins (A and B), washers, and actuator (C).

PP98408,0000FB0 -19-07FEB13-1/1

Install Net Wrap Actuator

1. Install base end of actuator (motor down) on right-hand side of gate with one crowned pin. Insert pin through inside hole in actuator support, through one 13 x 25 x 3 mm washer (A), actuator, and second hole in support.
2. Install two 13 x 25 x 3 mm washers (B) and 4 x 25 mm cotter pin (C).

A—Washer, 13 x 25 x 3 mm C—Cotter Pin, 4 x 25 mm
B—Washers, 13 x 25 x 3 mm (2 used)



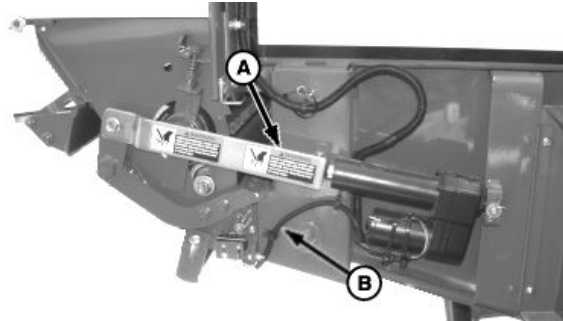
Continued on next page

PP98408,0000FB1 -19-07FEB13-1/3

3. Install link (A) over rod end of actuator as shown. Insert one crowned pin from top through link and actuator rod.
4. Install 13 x 25 x 3 mm washer and 4 x 25 mm cotter pin.
5. Connect wire harness (B) to actuator. Fasten connector and harness to actuator motor with a tie strap.
6. Shut actuator door.

IMPORTANT: After installing actuator, turn monitor-controller ON. Press WRAP key to return counterknife arms to home position. Turn monitor-controller off to cancel STOP alarm. If this procedure is not followed, net will be fed continuously during the next bale.

7. Connect monitor-controller power plug to power source. Turn tractor key to ON position. Do not start tractor engine. Turn monitor-controller ON.



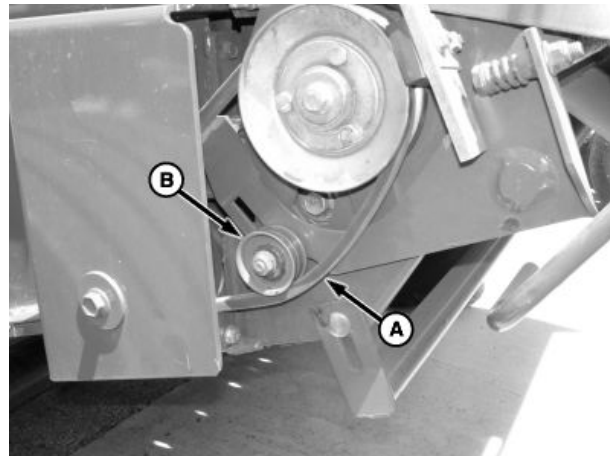
A—Pin

B—Wire Harness

E54541 —UN—01MAY06

PP98408,0000FB1 -19-07FEB13-2/3

8. With channel 018 on monitor, cycle actuator using extend or retract key so actuator moves just half way up or down, so belt will be loose.
9. Temporarily move V-belt from top of idler pulley to underside of idler pulley.
10. Cycle actuator several times using WRAP key. Observe actuator to make sure that it fully extends and fully retracts. If not, check for binding at mounting pins and washers, clean electrical connections, and check for low tractor voltage. There must be a minimum of 9.7 V with tractor engine running and the net actuator installed.
11. Place monitor on channel 018. Use extend or retract key and return actuator to approximately half way up or down.
12. Move V-belt to top of idler pulley.
13. Using extend or retract key, retract actuator so idler pulley will not have pressure on the belt.
14. Turn monitor-controller OFF. Turn tractor key to OFF position. Remove key.
15. Check and adjust net wrap V-belt idler tension. (See CHECK AND ADJUST NET WRAP V-BELT IDLER TENSION in this section.)



A—Belt

B—Idler Pulley

E55144 —UN—10MAY07

16. Check and adjust feed roll brake (See CHECK AND ADJUST FEED ROLL BRAKE in this section.)

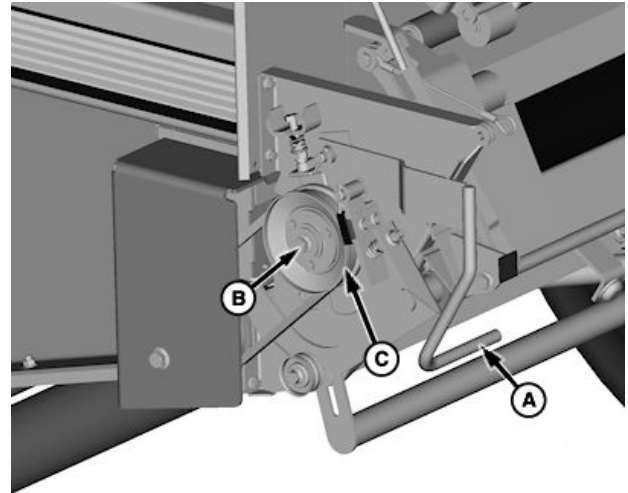
PP98408,0000FB1 -19-07FEB13-3/3

Remove and Install Net Wrap V-Belt

1. Lock gate.
2. Start tractor and raise tension arm fully using tractor hydraulics.
3. Turn tractor key to off position and remove key.
4. Disconnect monitor-controller power plug from tractor convenience outlet.
5. Open net wrap cover.
6. Put support under drive roll to help support weight of roll.
7. Raise brake lever (A) and place on tab.
8. Remove cap screw and washer (B) and sheave (C).

A—Brake Lever
B—Cap Screw and Washer

C—Sheave



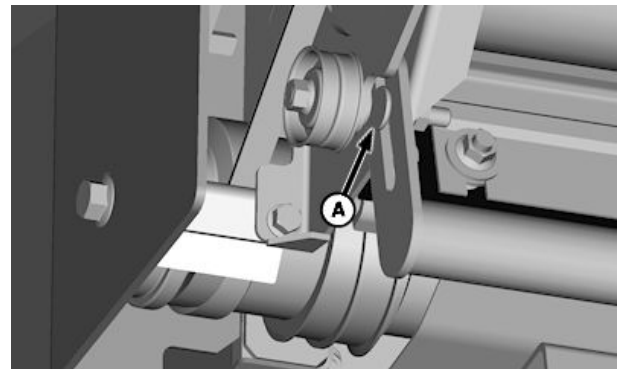
Left-Hand Side

OUC6064,0001591 -19-24SEP15-1/3

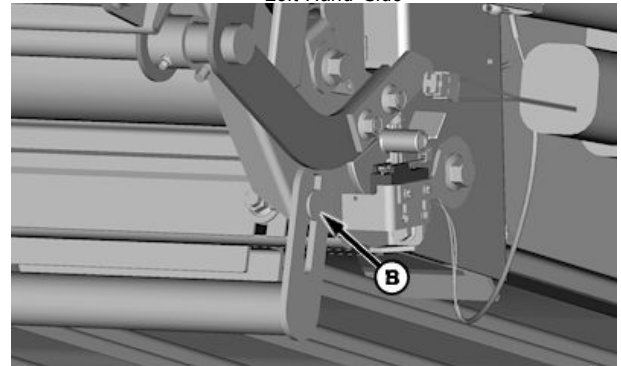
E62347—UN—05APR12

9. Lower net pan by removing bolts (A) on both sides of net wrap.

A—Bolts



Left-Hand Side



Right-Hand Side

Continued on next page

OUC6064,0001591 -19-24SEP15-2/3

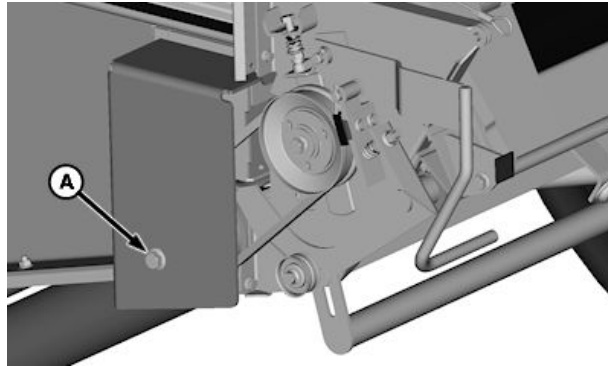
E62348—UN—05APR12

E62349—UN—05APR12

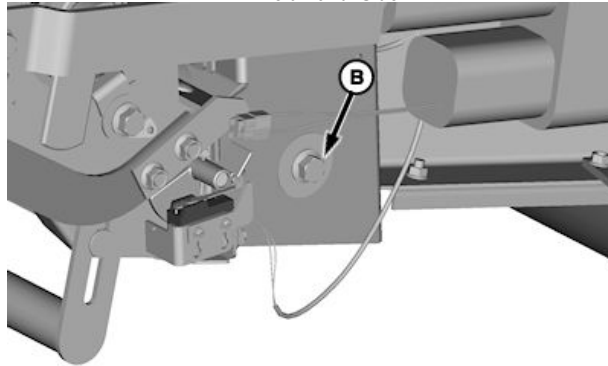
10. Remove cap screw (A).
11. Loosen cap screw (B) until roll on left-hand side drops enough to remove v-belt.
12. Replace v-belt and install in reverse of removal using the following special instructions:
 - Check and adjust net wrap v-belt. (See CHECK AND ADJUST NET WRAP V-BELT IDLER TENSION in this section.)
 - Check net pan pressure. (See CHECK AND ADJUST NET PAN PRESSURE in this section.)

A—Cap Screw

B—Cap Screw



Left-Hand Side



Right-Hand Side

E62354—UN—05APR12

E62356—UN—05APR12

OUC6064,0001591 -19-24SEP15-3/3

Check and Adjust Lower Net Wrap Guide

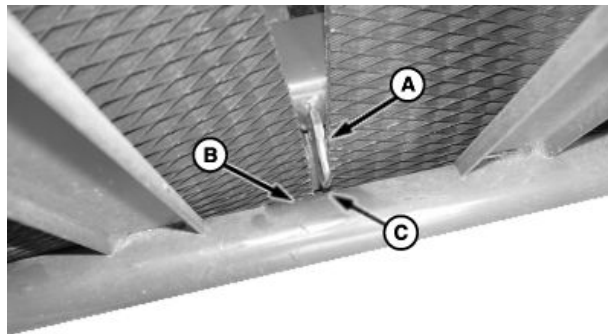
IMPORTANT: If clearance (C) is too close, slitting of net material can occur.

1. Check that belts are not pinched between lower belt guides straps (A) and crossbar (B). Tighten nuts on both sides of crossbar.

A—Strap

B—Crossbar

C—Clearance



E55312—UN—28JUN07

Continued on next page

PP98408,0000FB3 -19-07FEB13-1/3

NOTE: To reduce net material slits while baling cornstalk, milo, or sorghum, adjust clearance to 4—5 mm (0.16—0.20 in.).

NOTE: Use 3 mm (0.12 in.) and 5 mm (0.20 in.) drill bit as a gauge to check clearance between each strap and crossbar.

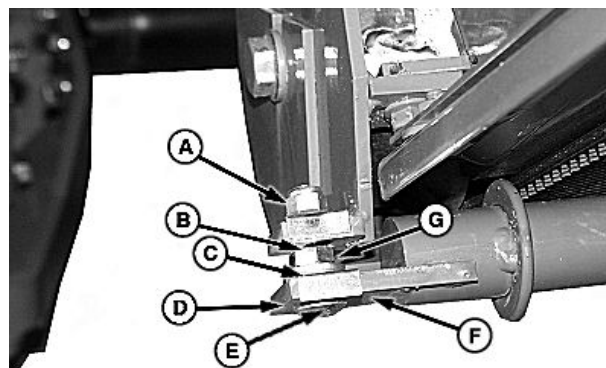
2. Check and adjust clearance between ends of all belt guide straps and bottom crossbar. Clearance must be within specifications.

Specification

Ends of Belt	
Guides-to-Bottom	
Crossbar—Clearance.....	3—5 mm (0.12—0.20 in.)

To obtain clearance:

- a. Loosen lock nut (A) and nut (B).
- b. Add or subtract washer (G) and shims (C) on each side as needed.
- c. Tighten nut (B). Then tighten lock nut (A) on both sides.



A—Lock Nut, M10
B—Nut, M10
C—Shims
D—Shims—Storage Position
E—Round-Head Bolt, M10 x 50
F—Crossbar Mounting Bracket
G—Washer, 10.50 x 18 x 1.60 mm

- d. Recheck clearance on both sides and adjust as needed.

PP98408,0000FB3 -19-07FEB13-2/3

NOTE: Always check clearance between ends of all belt guide straps and bottom crossbar. (See Steps 1 and 2 before proceeding to Step 3.)

IMPORTANT: If 0.5—2.5 mm (0.020—0.100 in.) clearance (A) is exceeded, outside belts will pass between belt guide washer (B) and guide (C) and damage belts.

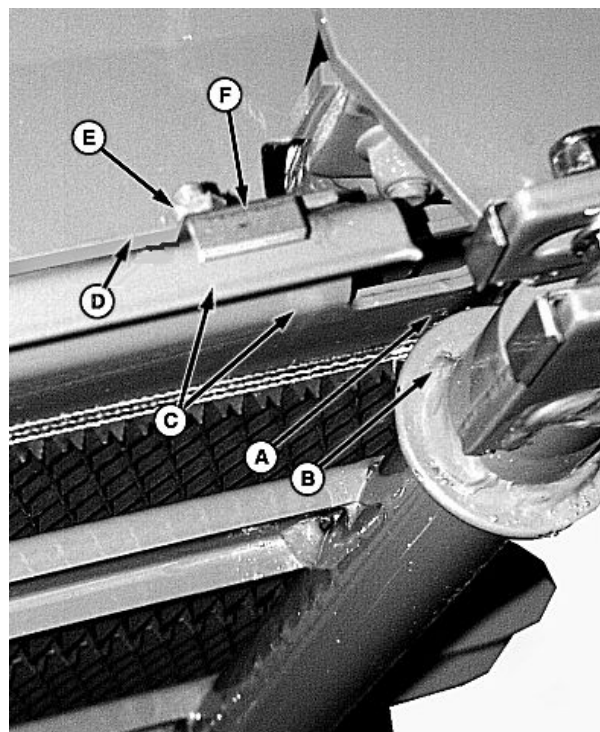
3. Check clearance (A) between guide washer (B) and lower net wrap guide (C). Clearance must be within specifications.

Specification

Belt Guide Washer-	
to-Lower Net Wrap	
Guide—Clearance.....	0.5—2.5 mm (0.020—0.100 in.)

4. If clearance is not within specifications, loosen nut (E) and add or subtract shims (F) between net wrap guide (C) and deflector (D), as necessary. Tighten nut (E).
5. Recheck belt guide washer-to-lower net wrap guide clearance (A), on both sides and adjust if necessary.
6. Adjust belt tracking. (See ADJUST BELT TRACKING in Service section.)

A—Clearance
B—Belt Guide Washer
C—Lower Net Wrap Guide
D—Deflector
E—Nut
F—Shims



PP98408,0000FB3 -19-07FEB13-3/3

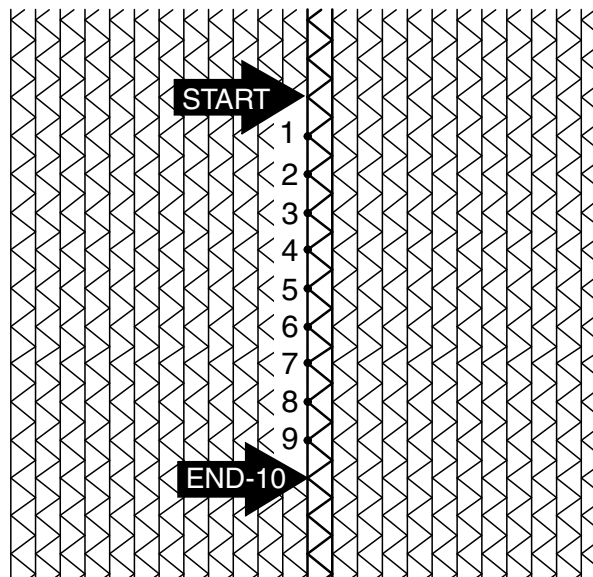
Adjust Net Wrap Stretch

1. Unroll 1 m (3 ft.) of material from roll of net being used. Locate a starting point in the net and, with net wrap pulled snug, measure between 10 weaves as shown in illustration. Divide the measurement by 10 to obtain the initial net measurement.

2. Thread net properly and make, wrap, and dump a bale

NOTE: Make a uniform, cylindrical bale. (DO NOT try to measure net stretch on a barrel shaped, lumpy, or crooked bale). Measure stretch on the bale at a point where net feels tightest.

3. Locate the end cut-off on the bale. Use the net directly under the cut-off as a starting point for measurement.
4. Take the measurement between 10 weaves as shown in illustration. Divide the measurement by 10 to obtain the net stretch value.
5. The net stretch value must be 3—4 mm (0.118—0.157 in.) greater than the value measured in Step 1. If measurement is not within this range, proceed to Step 6.



E51238 —19—20FEB02

PP98408,0000FB4 -19-07FEB13-1/2

6. Put pressure on brake lever (D) while loosening three cap screws (C) and cap screw and washer (A).
7. Release brake lever (D).
8. Remove cap screw and washer (A). Remove sheave (B) and belt (E).
9. Separate sheave (B) by removing three cap screws (C).

NOTE: Balers are shipped from factory with two shims (G) between sheave halves.

10. Transfer shims (G) to and from stored location (F) to meet net stretch value of 3—4 mm (0.118—0.157 in.) more than the value measured in Step 1.

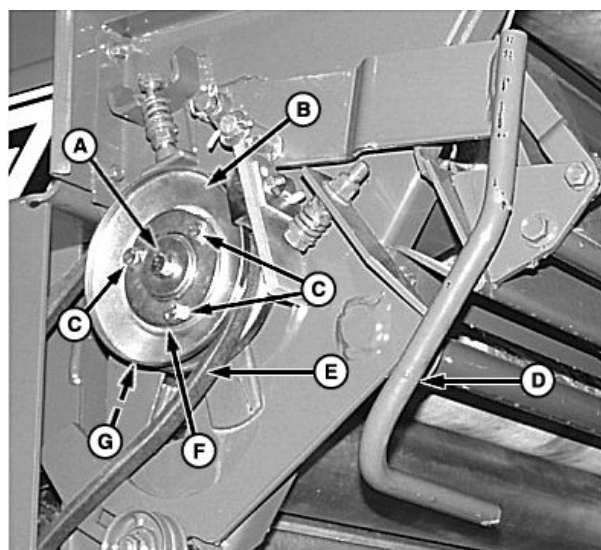
- Decreasing the number of shims (G) between sheave halves will increase the distance (stretch).
- Increasing the number of shims (G) will decrease the distance (stretch).

11. When changing shims, if necessary, readjust v-belt idler. (See CHECK AND ADJUST NET WRAP V-BELT IDLER TENSION in this section).

12. When installing sheave (B), torque cap screw (A) to specification.

Specification

Cap Screw—Torque.....80 N·m
(60 lb.-ft.)



A—Cap Screw and Washer
B—Sheave
C—Cap Screws (3 used)
D—Lever

E—Belt
F—Shims (Stored)
G—Shims (In Use)

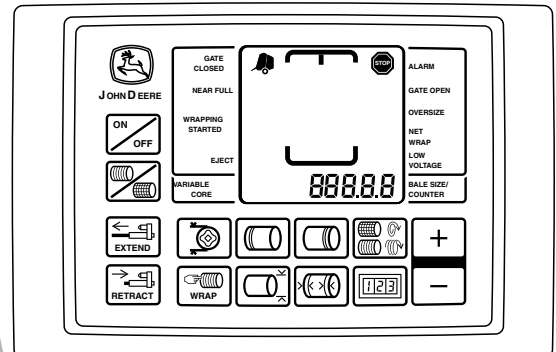
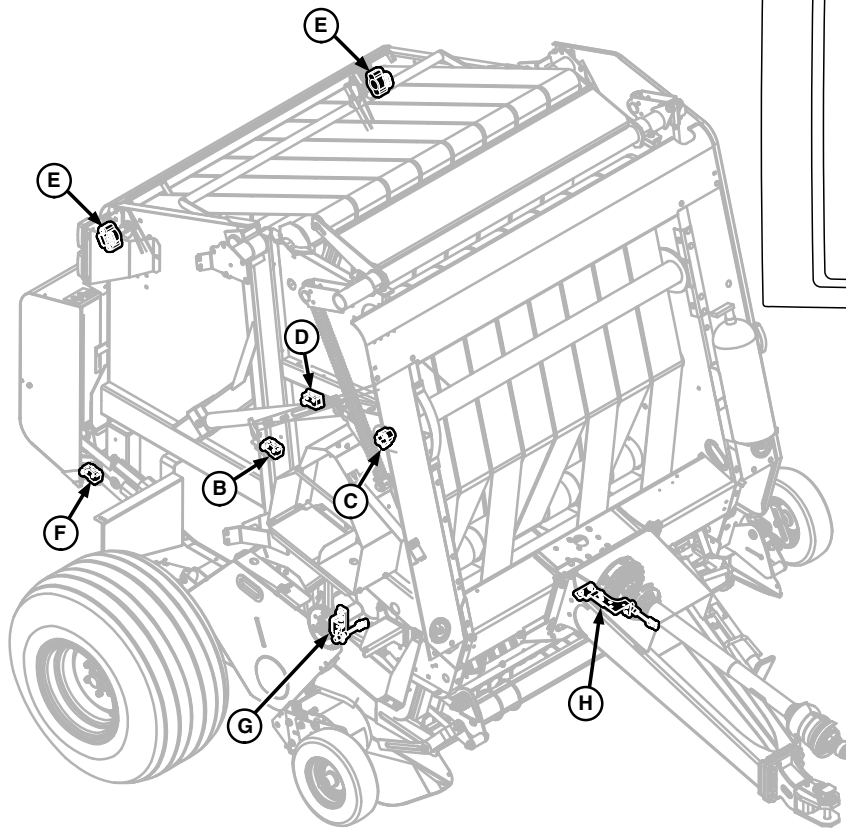
E51264 —UN—25FEB02

PP98408,0000FB4 -19-07FEB13-2/2

Service—BaleTrak™ Pro System

BaleTrak™ Pro System Component Locations

IMPORTANT: Not used on a 459 and 559 Baler with a Regular pickup.



A—Monitor-Controller (located on tractor)
B—Gate Latch Switch (left-hand switch not used)

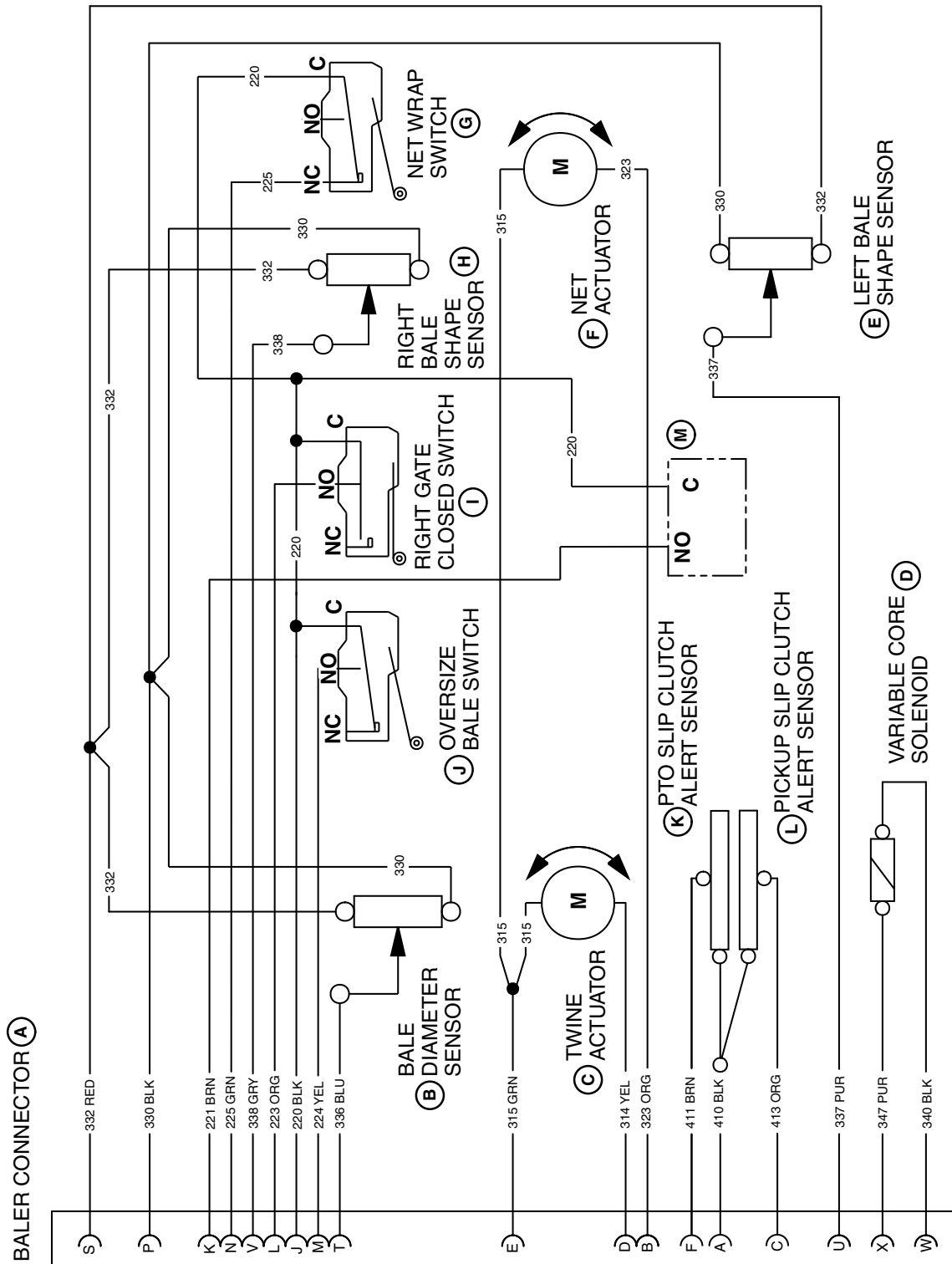
C—Bale Diameter Sensor
D—Oversize Bale Switch
E—Bale Shape Sensors

F—Net Wrap Switch (if equipped)
G—Pickup Slip Clutch Alert Sensor
H—PTO Slip Clutch Alert Sensor

PP98408,0000FB5 -19-21MAR13-1/1

E69502—UN—22MAR13

Wire Diagram—BaleTrak™ Pro Monitor-Controller Control System



SWITCHES SHOWN IN NORMAL BALING POSITION

E57241 —UN—23JUN09

Continued on next page

PP98408,0000FB6 -19-07FEB13-1/2

A—Baler Connector
B—Bale Diameter Sensor
C—Twine Actuator
D—Variable Core Solenoid
E—Left Bale Shape Sensor

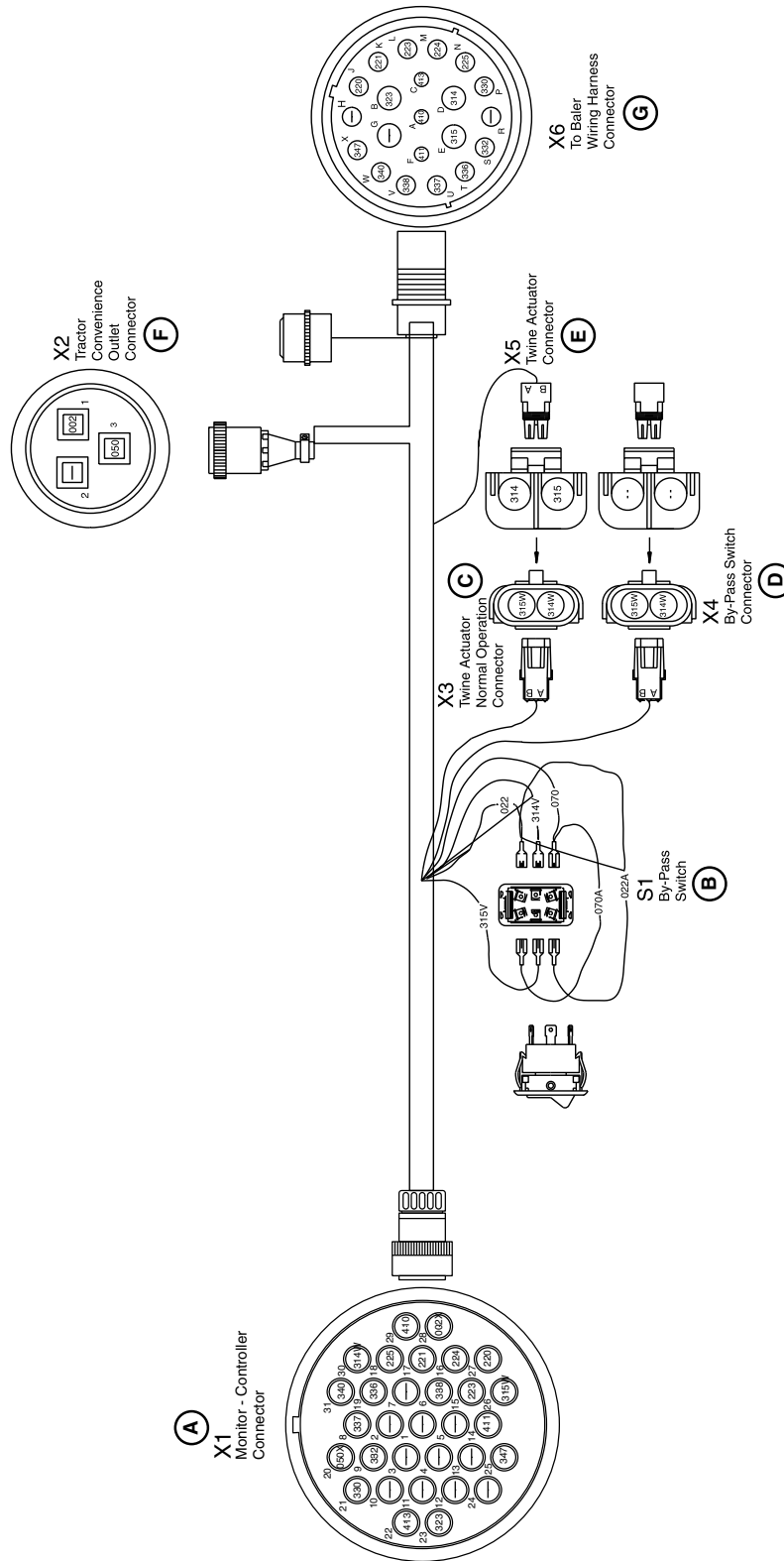
F—Net Actuator
G—Net Wrap Switch
H—Right Bale Shape Sensor
I—Right Gate Closed Switch
J—Oversize Bale Switch

K—PTO Slip Clutch Alert Sensor
(Not Used on 459 and 559
with Regular Pickup)
L—Pickup Slip Clutch Alert
Sensor (Not Used on 459 and
559 with Regular Pickup)

M—Left-hand Gate Closed (Not
Used)

PP98408,0000FB6 -19-07FEB13-2/2

Wire Harness Diagram—BaleTrak™ Pro Monitor-Controller



Continued on next page

PP98408,0000FB7 -19-07FEB13-1/2

E57278 —UN—02JUN09

A—Monitor-Controller Connector (X1)
B—By-Pass Switch (S1)
C—Twine Actuator Normal Operation Connector (X3)
D—By-Pass Switch Connector (X4)
E—Twine Actuator Connector (X5)

F—Tractor Convenience Outlet Connector (X2)
G—To Baler Wire Harness Connector (X6)

X1 BaleTrak™ Monitor-Controller Connector			
Terminal	Circuit	Function	Wire Color
1		Open	
2		Open	
3		Open	
4		Open	
5		Open	
6	338	Right Bale Shape Sensor	Gray
7		Open	
8	337	Left Bale Shape Sensor	Purple
9	332	Bale Shape Sensor Power	Red
10		Open	
11		Open	
12		Open	
13		Open	
14	411	PTO Speed	Brown
15	223	Right Gate Closed Switch	Orange
16	224	Oversize Switch	Yellow
17	221	Left Gate Latch Switch	Brown
18	225	Net Switch	Green
19	336	Bale Size Sensor	Blue
20	050X	Ground	Black
21	330	Bale Shape Sensor Ground	Black
22	413	Pickup Speed	Orange
23	323	Net Actuator	Orange
24		Open	
25	347	Variable Core Valve	Purple
26	315W	Net and Twine Actuator	Green
27	220	Switch Ground	Black
28	002X	Power	Red
29	410	Speed Sensor Ground	Black
30	314W	Twine Actuator	Yellow
31	340	Variable Core Valve Ground	Black

X2 Tractor Convenience Outlet Connector			
Terminal	Circuit	Function	Wire Color
1	002	Power	Red
2		Open	
3	050	Ground	Black

X3 Twine Actuator Normal Operation Connector			
Terminal	Circuit	Function	Wire Color
A	314W	Twine Actuator	Yellow
B	315W	Twine or Net Actuator	Green

X4 Bypass Switch Connector			
Terminal	Circuit	Function	Wire Color
A	314V	Twine Actuator	Yellow
B	315V	Twine or Net Actuator	Green

X5 Twine Actuator Connector			
Terminal	Circuit	Function	Wire Color
A	314	Twine Actuator	Yellow
B	315	Twine or Net Actuator	Green

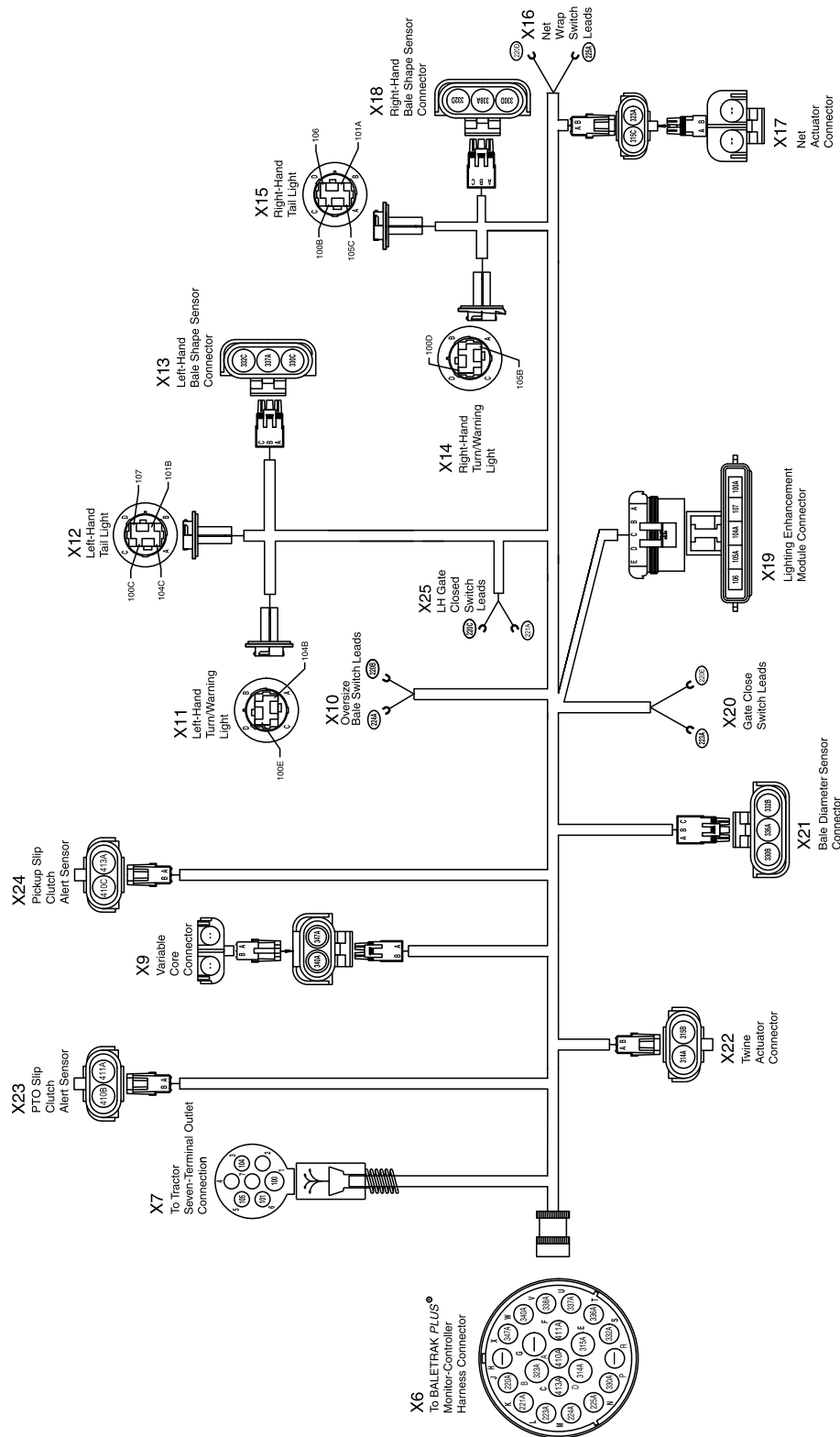
X6 Monitor Harness-to-Baler Harness Connector			
Terminal	Circuit	Function	Wire Color
A	410	Speed Sensor Ground	Black
B	323	Net Actuator	Orange
C	413	Pickup Speed ^a	Orange
D	314	Twine Actuator	Yellow
E	315	Twine or Net Actuator	Green
F	411	PTO Speed ^a	Brown
G		Open	
H		Open	
J	220	Ground	Black
K	221	Left Gate Closed Switch	Brown
L	223	Right Gate Closed Switch	Orange
M	224	Oversize Bale Switch	Yellow
N	225	Net Switch	Green
P	330	Ground	Black
R		Open	
S	332	Bale Shape Sensor	Red
T	336	Bale Diameter Sensor	Blue
U	337	Left Bale Shape Sensor	Purple
V	338	Right Bale Shape Sensor	Gray
W	340	Ground	Black
X	347	Variable Core	Purple

^aNot used on 559 with Regular pickup.

S1 Bypass Switch Connector			
Terminal	Circuit	Function	Wire Color
—	315V	Twine or Net Actuator	Green
—	070A	Ground	Black
—	022A	Power	Red
—	070	Ground	Black
—	314V	Twine Actuator	Yellow
—	022	Ground	Black

PP98408,0000FB7 -19-07FEB13-3/2

Wire Harness Diagram—Baler



Continued on next page

PP98408,0000FB8 -19-07FEB13-1/3

E57245 —UN—25JUN09

X6 To BaleTrak™ Pro Monitor-Controller Harness Connector			
Terminal	Circuit	Function	Wire Color
A	410A	Ground	Black
B	323A	Net Actuator	Orange
C	413A	Pickup Slip Clutch Alert Sensor ^a	Orange
D	314A	Twine Actuator	Yellow
E	315A	Twine or Net Actuator	Green
F	411A	PTO Pickup Slip Clutch Alert Sensor ^a	Brown
G		Open	
H		Open	
J	220A	Ground	Black
K	221A	Left-hand Gate Closed Switch	Brown
L	223A	Right-hand Gate Closed Switch	Orange
M	224A	Oversize Bale Switch	Yellow
N	225A	Net Switch	Green
P	330A	Sensor Ground	Black
R		Open	
S	332A	Bale Diameter Sensor	Red
T	336A	Bale Diameter Sensor	Blue
U	337A	Left Bale Shape Sensor	Purple
V	338A	Right Bale Shape Sensor	Gray
W	340A	Ground	Black
X	347A	Power	Purple

^aNot used on 459 and 559 with Regular pickup.

X7 To Tractor Seven-Terminal Outlet Connector			
Terminal	Circuit	Function	Wire Color
1	100	Ground	Black
2		Open	
3	104	Left-hand Turn or Warning Light	Yellow
4		Open	
5	105	Right-hand Turn or Warning Light	Green
6	101	Tail Lights	Brown
7		Open	

X9 Variable Core Connector			
Terminal	Circuit	Function	Wire Color
A	347A	Power	Purple
B	340A	Ground	Black

X10 Oversize Bale Switch Leads			
Terminal	Circuit	Function	Wire Color
—	224A	Power	Yellow
—	220B	Ground	Black

X11 Left-Hand Turn or Warning Light Connector			
Terminal	Circuit	Function	Wire Color
A	104B	Power	Yellow
B		Open	
C		Open	
D	100E	Ground	Black

X12 Left-Hand Tail Light Connector			
Terminal	Circuit	Function	Wire Color
A	104C	Left-hand Turn or Warning Light	Yellow
B	101B	Left-hand Tail Lamp	Brown
C	100C	Ground	Black
D	107	Left-hand Flasher	Orange

X13 Left-Hand Bale Shape Sensor Connector			
Terminal	Circuit	Function	Wire Color
A	330C	Ground	Black
B	337A	Left Bale Shape	Purple
C	332C	Left Bale Shape	Red

X14 Right-Hand Turn or Warning Light Connector			
Terminal	Circuit	Function	Wire Color
A	105B	Power	Green
B		Open	
C		Open	
D	100D	Ground	Black

X15 Right-Hand Tail Light Connector			
Terminal	Circuit	Function	Wire Color
A	105C	Right-hand Turn or Warning Light	Green
B	101A	Right-hand Tail Lamp	Brown
C	100B	Ground	Black
D	106	Right-hand Flasher	Violet

X16 Net Wrap Switch Leads			
Terminal	Circuit	Function	Wire Color
—	220D	Ground	Black
—	225A	Power	Green

X17 Net Actuator Connector			
Terminal	Circuit	Function	Wire Color
A	315C	Net Actuator	Green
B	323A	Net Actuator	Orange

X18 Right-Hand Bale Shape Sensor Connector			
Terminal	Circuit	Function	Wire Color
A	330D	Ground	Black
B	338A	Right Bale Shape	Gray
C	332D	Right Bale Shape	Red

Continued on next page

PP98408,0000FB8 -19-07FEB13-2/3

X19 Lighting Enhancement Module Connector			
Terminal	Circuit	Function	Wire Color
A	100A	Ground	Black
B	107	Left-hand Flasher	Orange
C	104A	Left-hand Turn or Warning Light	Yellow
D	105A	Right-hand Turn or Warning Light	Green
E	106	Right-hand Flasher	Violet

X20 Right-Hand Gate Closed Switch Leads			
Terminal	Circuit	Function	Wire Color
—	220E	Ground	Black
—	223A	Power	Orange

X21 Bale Diameter Sensor Connector			
Terminal	Circuit	Function	Wire Color
A	330B	Ground	Black
B	336A	Bale Diameter	Blue
C	332B	Bale Diameter	Red

X22 Twine Actuator Connector			
Terminal	Circuit	Function	Wire Color
A	314A	Twine Actuator	Yellow
B	315B	Twine Actuator	Green

X23 PTO Speed Sensor			
Terminal	Circuit	Function	Wire Color
A	411A	PTO Slip Clutch Alert ^a	Brown
B	410B	Ground	Black

^aNot used on 459 and 559 with Regular pickup.

X24 Pickup Speed Sensor			
Terminal	Circuit	Function	Wire Color
A	413A	Pickup Slip Clutch Alert ^a	Orange
B	410C	Ground	Black

^aNot used on 459 and 559 with Regular pickup.

X25 Left-Hand Gate Closed Switch Leads (Not Used)			
Terminal	Circuit	Function	Wire Color
—	221A	Left Gate Closed	Brown
—	220C	Ground	Black

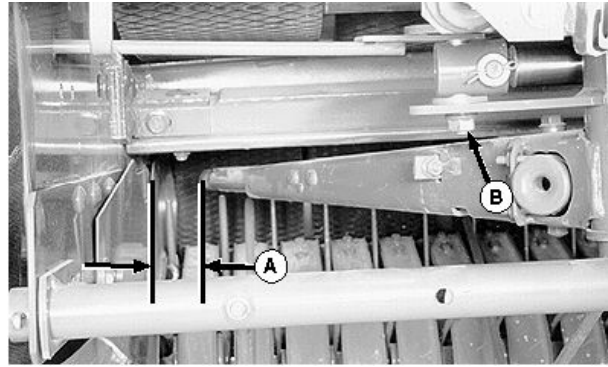
PP98408,0000FB8 -19-07FEB13-3/3

Adjust Twine Arm Distance From Right Sidesheet —(459 and 459S) (Electric)

IMPORTANT: Do not operate twine arms with pickup in raised position or damage to pickup teeth can occur.

The twine cutter tension must be adjusted first before performing this procedure.

NOTE: For 559 and 559S balers, the right-hand twine guide controls twine distance from the right end of bale. Because of this, the following adjustment procedure does not apply to these balers.



E39282—UN—19JUN96

1. Lower pickup.
2. Turn tractor key to ON position. Do not start tractor engine.
3. Turn monitor-controller ON
4. Move twine arms all the way to right-hand side of baler using monitor-controller EXTEND key.
5. Turn monitor-controller OFF. Turn tractor key to OFF position. Remove key.
6. Measure sidesheet to twine arm distance (A). Distance must be within specifications with actuator fully extended and twine arm end play removed toward the rear.

Specification

Twine Arm-to-
Right Sidesheet
(Electric)—Distance.....83—133 mm
(3-1/4—5-1/4 in.)

7. To adjust, loosen nut (B) enough so twine arms can be moved by hand, but with some resistance.
8. Move twine arms toward sidesheet as far as possible, then move twine arms to the rear to obtain recommended distance (A).
9. Tighten nut (B) enough to hold actuator bolt in position on twine arm when twine arm is moved to home position.

A—Twine Arm Distance

B—Nut

10. Turn tractor key to ON position. Do not start tractor engine.
11. Turn monitor-controller ON.
12. Move twine arms to the home position (*actuator fully retracted*) using monitor-controller RETRACTED key.
13. Set monitor-controller selector switch to OFF (centered) position. Turn tractor key to OFF position. Remove key.
14. Tighten nut (B) to specifications with twine arms in home position.

Specification

Actuator Nut—Torque.....95 N·m
(70 lb.-ft.)

15. Repeat Steps 3—6 to confirm correct distance from right-hand end of bale. Repeat Steps 7—13 as necessary.
16. Adjust twine cutter tension. (See ADJUST TWINE CUTTER TENSION in this section.)

PP98408,0000FB9 -19-07FEB13-1/1

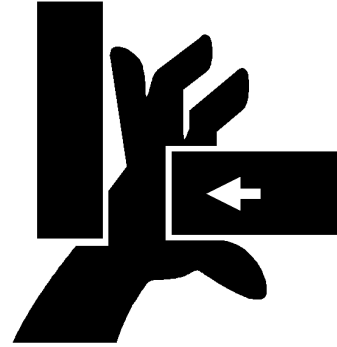
Twine Electric Actuator Installation Adjustment

⚠ CAUTION: Twine arms can move unexpectedly. Keep hands out of twine arm path to avoid crushing. Turn off power to twine arms **BEFORE** servicing or adjusting twine arms or twine cutter mechanism.

Stay out of the path of twine arms at all times when power to twine arms is ON.

NOTE: 459 and 459S are illustrated for the following procedure. On the 559, actuator is installed on right-hand side.

If electric actuator has been removed or replaced, or the twine cutter tension adjustment cannot be made by

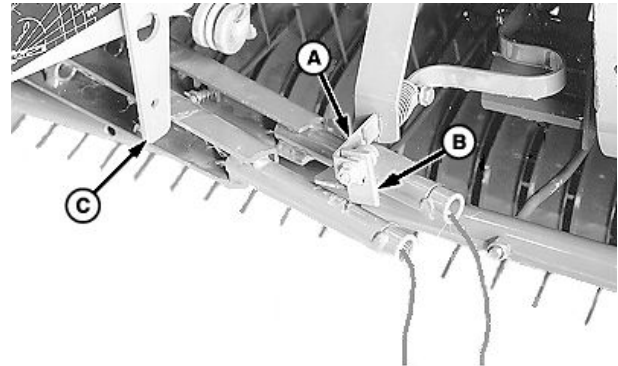


moving washers on the cutter strap, make the following adjustment:

1. Adjust cutter strap (A) by putting two washers in front of contact tab (B) and four washers behind contact tab (B). Make sure twine arm stop (C) is in the down position.
2. Turn tractor key to ON position. Do not start tractor engine. Set monitor-controller selector switch to TWINE symbol to turn monitor-controller ON.

A—Twine Cutter Strap
B—Contact Tab

C—Twine Arm Stop



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PP98408,0000FBA -19-07FEB13-2/5

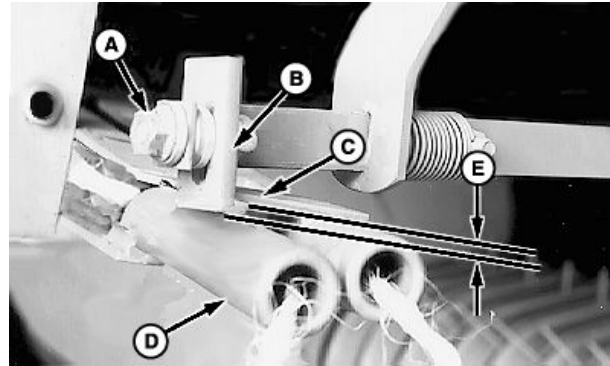
E47598 —UN—07JAN00

E40625 —UN—06SEP00

3. Press monitor-controller RETRACT key and move twine arms until twine arm (D) lightly contacts tab (B) and strap (C).
4. Set monitor-controller selector switch to OFF (centered) position. Turn tractor key to OFF position. Remove key.
5. Loosen nut (A) and adjust tab (B) to obtain dimension (E) between bottom edge of tab (B) and bottom side of strap (C) according to specifications. Keep tab (B) vertical and tighten nut (A).

Specification

Bottom Edge of	
Tab-to-Bottom Side of	
Strap—Overlap.....	2—4 mm
	(3/32—5/32 in.)



A—Nut
B—Tab
C—Strap

D—Twine Arm
E—Dimension

6. Turn tractor key to ON position. Set monitor-controller selector switch to TWINE symbol to turn monitor-controller ON.
7. Move twine arms forward using monitor RETRACT key.
8. Set monitor-controller selector switch to OFF (centered) position. Turn tractor key to OFF position. Remove key.
9. Check overlap dimension (E). Front twine arm must pass under tab (B). If necessary, adjust tab (B). Light contact between tab (B) and front twine arm (D) is acceptable.

10. Turn tractor key to ON position. Set monitor-controller selector switch to TWINE symbol to turn monitor-controller ON.
11. Move twine arms behind twine cutter using monitor-controller EXTEND key.
12. Set monitor-controller selector switch to OFF (centered) position. Turn tractor key to OFF position. Remove key.

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PP98408,0000FBA -19-07FEB13-3/5

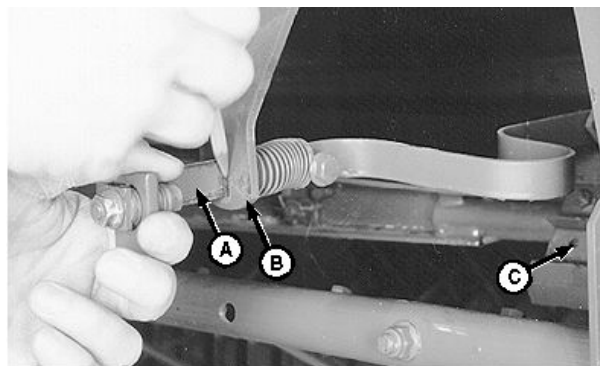
E40583—UN—06SEP00

⚠ CAUTION: Be careful when working around the knife. It is sharp.

13. Pull cutter strap (A) gently forward until knife (C) contacts hex anvil. Remove slack, but DO NOT deform cutter strap.
14. Mark along cutter strap (A) at support (B), as shown.

A—Cutter Strap
B—Support

C—Knife

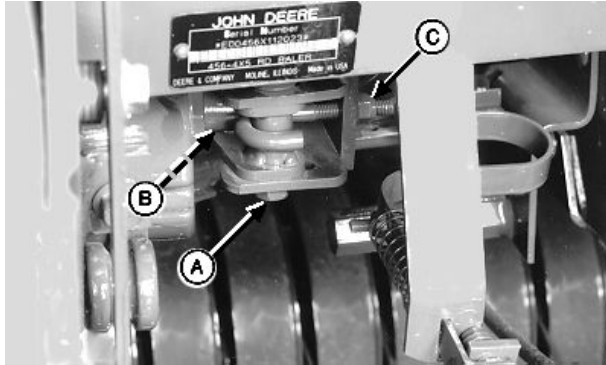


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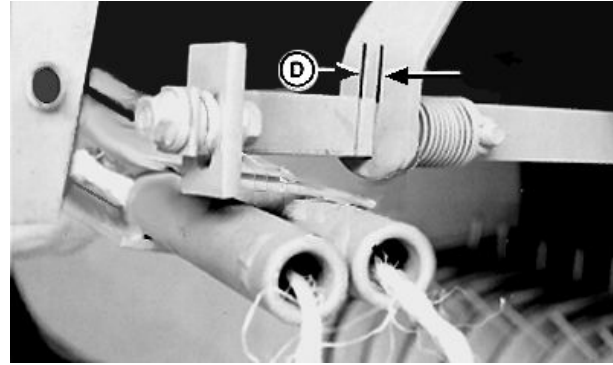
PP98408,0000FBA -19-07FEB13-4/5

TS268 —UN—23AUG88

E39276 —UN—19JUN96



E40647—UN—17JUL96



E40626—UN—29JUN96

- A—Cap Screw
B—Cap Screw
C—J-Bolt Nut
D—Twine Cutter Dimension

15. Loosen cap screw (A and B).
16. Loosen J-bolt nut (C).
17. Move cap screw (A) to end of slot toward actuator.
18. Tighten cap screws (A and B) enough so actuator pivot can be moved by hand, but with some resistance.
19. Turn tractor key to ON position. Set monitor-controller selector switch to TWINE symbol to turn monitor-controller ON.
20. Using monitor-controller RETRACT key, move twine arms to home position.
21. Set monitor-controller selector switch to OFF (centered) position. Turn tractor key to OFF position. Remove key.
22. Tighten J-bolt nut (C) to obtain dimension (D) between mark on cutter strap and strap support according to specifications.

Specification

Mark on Cutter	
Strap-to-Strap	
Support—Distance.....	5—7 mm
	(3/16—9/32 in.)

23. Tighten cap screw (A) to specifications.

Specification

Cap Screw (A)—Torque.....	140 N·m
	(103 lb.-ft.)

24. Tighten cap screw (B) to specifications.

Specification

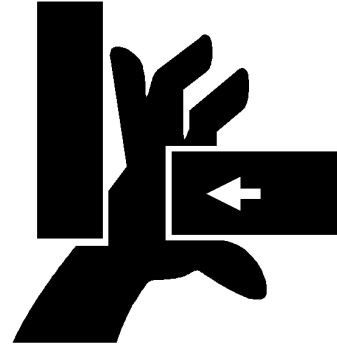
Cap Screw (B)—Torque.....	95 N·m
	(70 lb.-ft.)

25. Turn tractor key to ON position. Set monitor-controller selector switch to TWINE symbol to turn monitor-controller ON.
 26. Using monitor-controller RETRACT key, cycle twine arm to home position (actuator fully retracted).
 27. Set monitor-controller selector switch to OFF (centered) position. Turn tractor key to OFF position. Remove key.
 28. Check twine cutter dimension (D).
 29. If dimension (D) is less than specified, loosen cap screws (A) and (B). Tighten J-bolt nut (C) until dimension (D) is obtained. Tighten cap screws (A) and (B).
- If dimension (D) is more than specified, loosen cap screws (A and B). Loosen J-bolt nut (C) until dimension (D) is obtained. Tighten cap screws (A) and (B).

PP98408,0000FBA -19-07FEB13-5/5

Adjust Twine Cutter Tension (Electric)

1. Turn tractor key to ON position. Do not start tractor engine. Set monitor-controller selector switch to TWINE symbol to turn monitor-controller ON.
2. Using monitor-controller EXTEND key, move twine arms behind twine cutter.
3. Set monitor-controller selector switch to OFF (centered) position. Turn tractor key to OFF position. Remove key.



CAUTION: Twine arms can move unexpectedly. Keep hands out of twine arm path to avoid crushing. Turn off power to twine arms BEFORE servicing or adjusting twine arms or twine cutter mechanism.

Stay out of the path of twine arms at all times when power to twine arms is ON.

PP98408,0000FBB -19-07FEB13-1/4

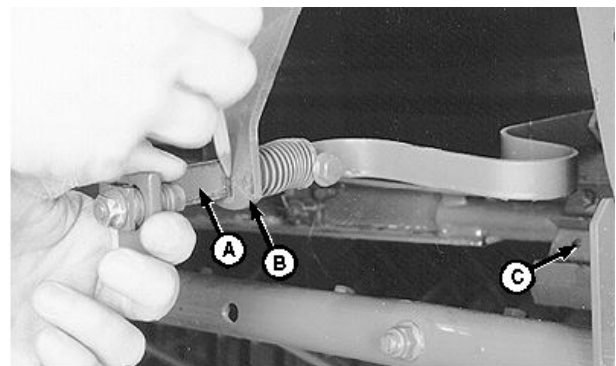
E47598 —UN—07JAN00

CAUTION: Be careful when working around the knife. It is sharp.

4. Pull cutter strap (A) gently forward until knife (C) contacts hex anvil. Remove slack, but DO NOT deform cutter strap.
5. Mark along cutter strap (A) at support (B), as shown.

A—Cutter Strap
B—Support

C—Knife



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PP98408,0000FBB -19-07FEB13-2/4

TS268 —UN—23AUG88

E39276 —UN—19JUN96

6. Make sure twine arm stop (A) is in the down position.
7. Turn tractor key to ON position. Set monitor-controller selector switch to TWINE symbol to turn monitor-controller ON.
8. Cycle twine arms (B) to home position using monitor-controller WRAP key.
9. Set monitor-controller selector switch to OFF (centered) position. Turn tractor key to OFF position. Remove key.
10. Distance (C) between mark on cutter strap and strap support must be within specifications.

Specification

Mark on Cutter

Strap-to-Strap

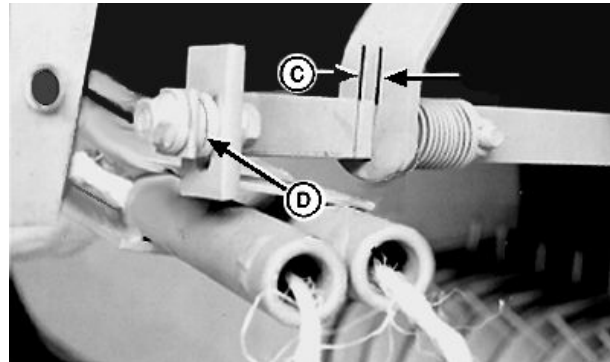
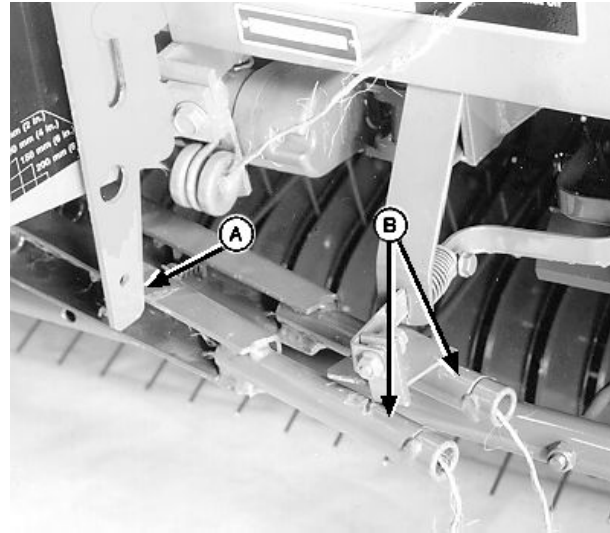
Support—Distance.....5—7 mm
(3/16—9/32 in.)

- To decrease distance (C), move washers (D) from front of strap to rear of strap.
- To increase distance, move washers from rear of strap to front of strap.

If twine cutter adjustment cannot be made by moving washers on cutter strap, see TWINE ELECTRIC ACTUATOR INSTALLATION ADJUSTMENT in this section.

A—Twine Arm Stop
B—Twine Arms

C—Dimension
D—Washers



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PP98408,0000FBB -19-07FEB13-3/4

E39771 —UN—21FEB96

E39773 —UN—29JUN96

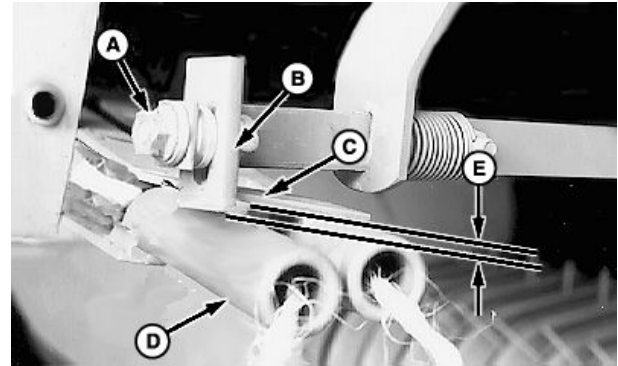
11. If washers have been moved, check overlap dimension (E) between bottom edge of tab (B) and bottom edge of strap (C). Dimension (E) must be within specifications.

Specification

Bottom Edge of
Tab-to-Bottom Edge
of Strap—Overlap
Distance.....2—4 mm
(3/32—5/32 in.)

To check overlap dimension:

- Turn tractor key to ON position. Turn monitor-controller ON.
- Using monitor-controller RETRACT key, move twine arms until twine arm (D) lightly contacts tab (B) and strap (C).
- Set monitor-controller selector switch to OFF. Turn tractor key to OFF position. Remove key.
- Loosen nut (A) and adjust tab (B) to obtain specification (E) between bottom edge of tab (B) and bottom side of contact strap (C). Keep tab (B) vertical and tighten nut (A).
- Turn tractor key to ON position. Turn monitor-controller ON.
- Move twine arms forward using monitor-controller RETRACT key.



A—Nut
B—Tab
C—Strap

D—Twine Arm
E—Dimension

- Turn monitor-controller OFF. Turn tractor key to OFF position. Remove key.
- Check overlap dimension (E). Front twine arm must pass under tab (B). If necessary, adjust tab (B). Light contact between tab (B) and front twine arm (D) is acceptable.
- Make sure distance between mark on cutter strap and strap support is to specification.

PP98408,0000FBB -19-07FEB13-4/4

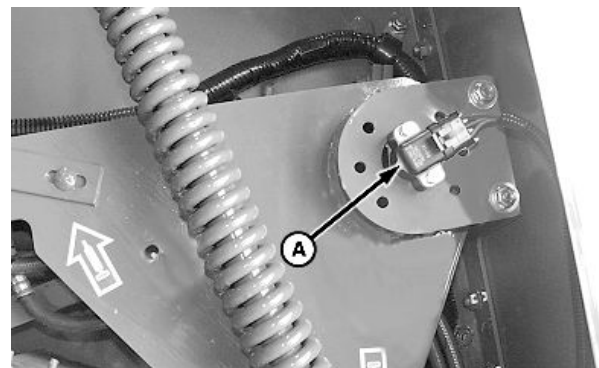
Replace Bale Diameter Sensor

- Turn monitor-controller selector OFF. Turn tractor key to OFF position. Remove key.

NOTE: Sensor is located on right-hand side of tension arm.

- Disconnect wire connector (A).

A—Wire Connector

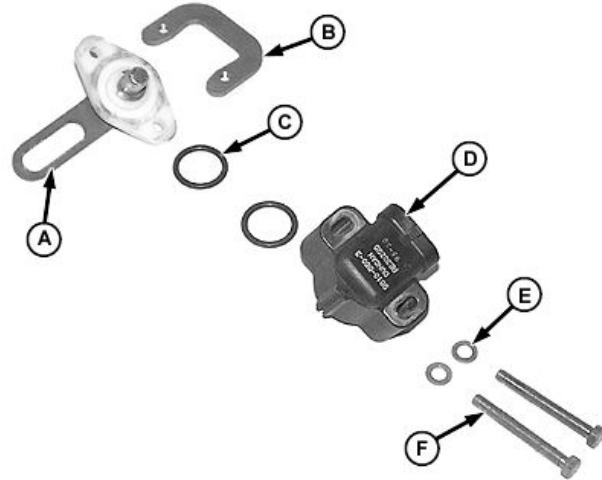


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PP98408,0000FBC -19-07FEB13-1/3

3. Remove parts (A—F). Replace sensor (D).

A—Arm
B—Mounting Strap
C—O-ring (2 used)
D—Sensor
E—Washer (2 used)
F—Mounting Screw (2 used)



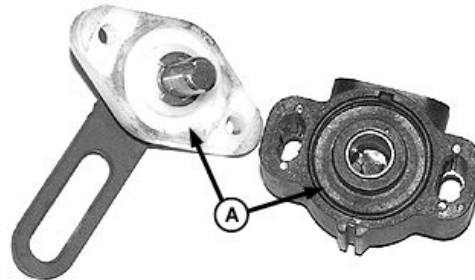
E48043 —UN—22MAY00

PP98408,0000FBC -19-07FEB13-2/3

4. Install new sensor in reverse order of removal using the following procedure:

- Make sure that O-rings are inserted in grooves (A).
- Adjust sensor. (See REPLACE and ADJUST BALE DIAMETER SENSOR MOUNTING BRACKET and ADJUST BALE DIAMETER SENSOR [CHANNEL 005] in this section.)

A—Grooves



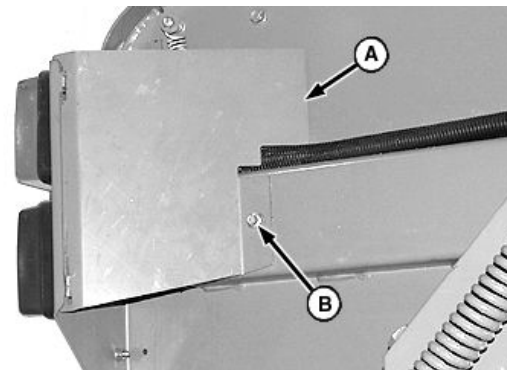
E48044 —UN—22MAY00

PP98408,0000FBC -19-07FEB13-3/3

Replace Bale Shape Sensor

1. Engage gate lock and raise tension arm.
2. Turn monitor-controller OFF. Turn tractor key to OFF position. Remove key.
3. To replace sensor remove rolling thread cap screw (B). Rotate shield (A) away from baler.

A—Shield
B—Rolling Thread Cap Screw



Right-Hand Side Shown

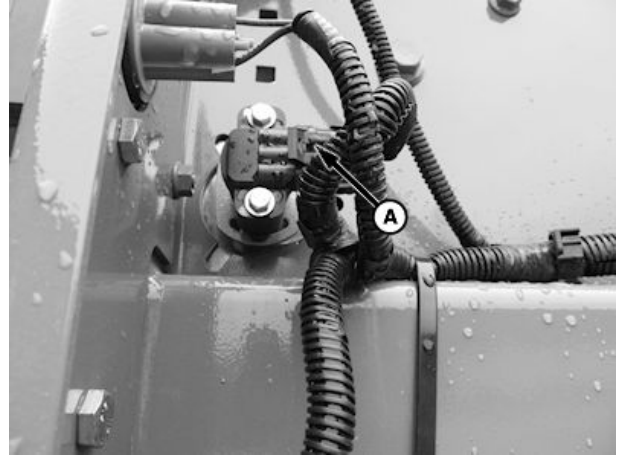
E47621 —UN—07 JAN00

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PP98408,0000FBD -19-07FEB13-1/4

4. Disconnect wire connector (A).

A—Wire Connector



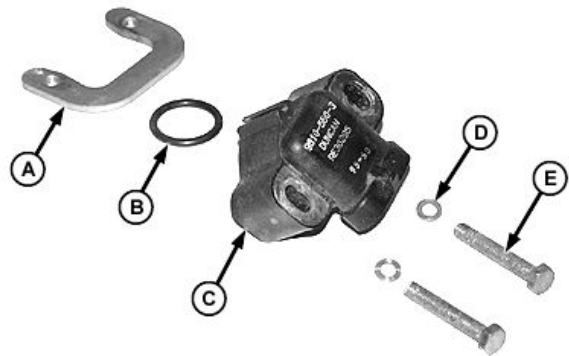
E62314—UN—03APR12

PP98408,0000FBD -19-07FEB13-2/4

5. Remove parts (A—E).

A—Mounting Strap
B—O-ring
C—Sensor

D—Washer (2 used)
E—Mounting Screw (2 used)



E48084—UN—06JUN00

PP98408,0000FBD -19-07FEB13-3/4

6. Install new sensor in reverse order of removal using the following procedure:

- Make sure that O-ring is inserted in groove (A).
- Adjust sensor. (See ADJUST BALE SHAPE SENSOR [CHANNEL 007 and 009] in this section.)

A—Groove



E48085—UN—06JUN00

PP98408,0000FBD -19-07FEB13-4/4

Replace Gate Close Switch

1. Turn monitor-controller OFF. Turn tractor key to OFF position. Remove key.

NOTE: Label wires before disconnecting from switch to ensure proper connection to new switch terminals.

2. Label wires.
3. Remove mounting hardware and bracket with switch (A).
4. Disconnect wires from switch.
5. Remove switch from mounting bracket.
6. Install new switch in reverse order of removal using the following procedure:
 - Adjust switch or bracket position for proper operation. (See ADJUST GATE CLOSE SWITCH in this section.)
 - Confirm switch operation by taking test readings using monitor-controller. (See TEST GATE CLOSE



A—Switch

AND OVERSIZE BALE SWITCHES [CHANNELS 013 AND 014] in this section.)

PP98408,0000FBE -19-07FEB13-1/1

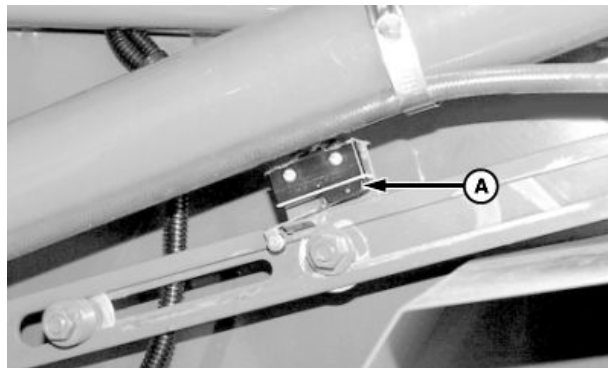
E48458—UN—20JUL00

Replace Oversize Bale Switch

1. Turn monitor-controller OFF. Turn tractor key to OFF position. Remove key.

NOTE: Label wires before disconnecting from switch to ensure proper connection to new switch terminals.

2. Label wires.
3. Remove mounting hardware and bracket with switch (A).
4. Remove switch from mounting bracket.
5. Disconnect wires from switch.
6. Install new switch in reverse order of removal using the following procedure:
 - Adjust switch or bracket position for proper operation. (See ADJUST OVERSIZE BALE SWITCH in this section.)
 - Confirm switch operation by taking test readings using monitor-controller. (See TEST GATE CLOSE



A—Oversize Bale Switch

AND OVERSIZE BALE SWITCHES [CHANNELS 013 AND 014] in this section.)

PP98408,0000FBF -19-07FEB13-1/1

E48470—UN—21JUL00

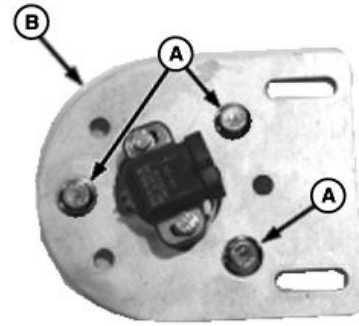
Replace and Adjust Bale Diameter Sensor Mounting Bracket

When replacing mounting bracket, or before adjusting the sensor, the mounting bracket must be checked to ensure that it is properly centered.

NOTE: Ensure that seam in tube does not interfere with cap screws when centering mounting bracket.

1. Insert three 5/16 x 2.0 in. cap screws (A) into three of the six holes in a triangular pattern on mounting bracket (B) with heads facing out.
2. Fasten cap screws with nuts on back of mounting bracket.
3. Loosen two mounting bolts holding bracket to baler.
4. Adjust bracket (B) so there is equal space between inside of the tube and the three cap screws. Tighten bracket mounting bolts.

CAUTION: Remove the three 5/16 in. cap screws and nuts before tension arm is



A—Cap Screws (3 used)

B—Sensor Mounting Bracket

moved. Failure to do this, will destroy the mounting bracket and sensor.

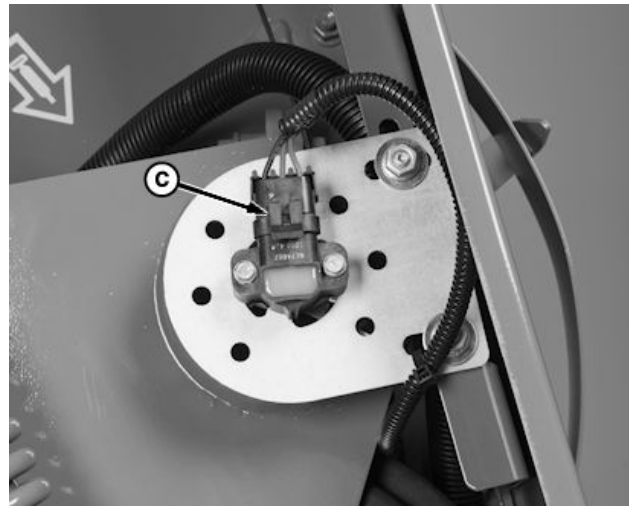
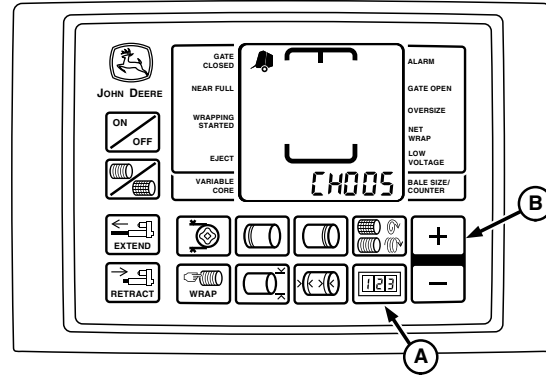
5. Perform sensor adjustment procedure.

PP98408,0000FC0 -19-07FEB13-1/1

E54773 —UN—13JUL06

Adjust Bale Diameter Sensor (Channel 005)

1. Start tractor engine.
 2. Using tractor selector valve, raise gate and belt tension arm all the way to the top.
 3. Engage tractor parking brake and place transmission in Park.
 4. Lock gate in open position.
 5. Shut off tractor engine.
 6. Turn tractor key to ON position. Do not start tractor engine.
 7. Press and hold COUNTER key (A) while turning monitor-controller ON.
 8. Continue to hold COUNTER key (A) and press PLUS key (B) until **CH005** appears in digital display. Release COUNTER key (A) and view bale size sensor number.
 9. Loosen mounting hardware and rotate sensor (C) fully clockwise. Rotate sensor counterclockwise until **173** is displayed and steady tone sounds.
- NOTE:** If **173** is exceeded while rotating sensor counterclockwise or while tightening screws, rotate sensor clockwise and repeat Steps 9 and 10 as necessary.
10. Tighten sensor mounting screws.
 11. Turn monitor-controller OFF. Turn tractor key to OFF position.
 12. Lower gate and belt tension arm using tractor selector valve.



A—COUNTER Key
B—PLUS Key

C—Sensor

PP98408,0000FC1 -19-07FEB13-1/1

E67138 —UN—12MAY09

E67276 —UN—10AUG12

Adjust Bale Shape Sensor—Field Procedure (Channels 007 and 009)

The best bales will be formed at maximum density with dry hay. Check and adjust the bale density to the highest pressure that will ever be used. It is suggested to set baler at maximum density. (See ADJUST BALE DENSITY in Operating Baler with BaleTrak™ Pro System section.)

IMPORTANT: Calibration must be done with variable core off (if equipped).

When in the calibration mode neither the automatic wrap cycle or oversize bale warning will function. There is a risk of making an oversize bale without knowing and causing damage to baler. Observe the mechanical size indicator on front of baler and avoid baling near the red zone. It can be necessary to make two bales to adjust both sensors.

NOTE: Proper windrow formation is important for this adjustment. Windrow width MUST be half or less than half of the bale chamber width OR full width. If it is full width, it must be uniform density.

1. Begin baling and make a 1.27—1.40 m (50—55 in.) bale in the chamber.
2. Stop tractor leaving engine running.
3. Turn off monitor-controller.
4. Press and hold COUNTER key. Then press ON or OFF key to put monitor-controller in calibration mode.
5. Continue to hold COUNTER key and press PLUS key until **CH007** appears in the digital display.
6. Release COUNTER key and begin driving down the windrow to feed crop into the extreme right side of

baler. Be sure to crowd the end of the pickup to fill the right end of bale. If necessary, allow some hay to be missed off the end of the pickup to ensure maximum end density.

7. Drive until calibration numbers on digital display stop increasing. Continue for a short distance, stop, and disengage PTO. The belt on right side is now at its tightest.
8. The number on monitor-controller must be **176** and a tone must be heard.

If **176** is not displayed:

- Shut off tractor engine.
- Press and hold COUNTER key while turning on monitor-controller.
- Continue to hold COUNTER key and press PLUS key until **CH007** appears in digital display.
- Loosen right-hand bale shape sensor.
- Rotate sensor slowly until the number **176** appears in digital display and a tone is heard.

IMPORTANT: Do not overtighten sensor or damage can occur.

- Tighten sensor while maintaining **176** in display.

NOTE: It can be necessary to return monitor-controller to normal operating mode to finish bale in baler to avoid creating an oversize bale.

9. Repeat procedure for left side except use **CH009**.
10. After bale shape sensors have been adjusted, turn monitor-controller off to exit calibration mode, then back on, for normal operation.

PP98408,0000FC2 -19-30SEP15-1/1

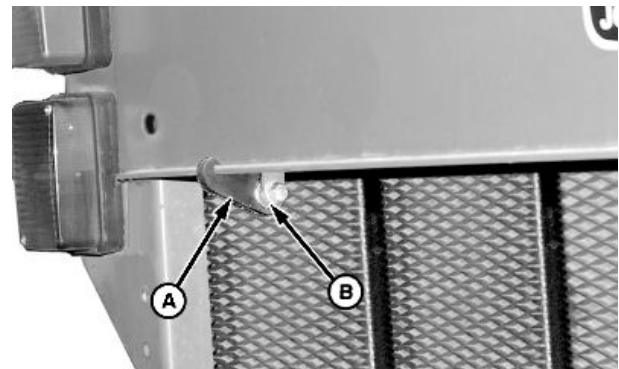
Adjust Bale Shape Sensor—In Shop Procedure (Channels 007 and 009)

NOTE: Number of bale shape indicator bars displayed is 24.

Bale shape gauge strap (A) is available through your John Deere dealer.

1. If bale shape gauge strap (A) is used:
 - a. Install strap (A) over roller bearing (B).
 - b. Attach end of strap over baler frame cross-member. Make sure lip of cross-member is seated on strap.

A—Bale Shape Gauge Strap B—Bearing



Left-Hand Side Shown

E48271—UN—06JUL00

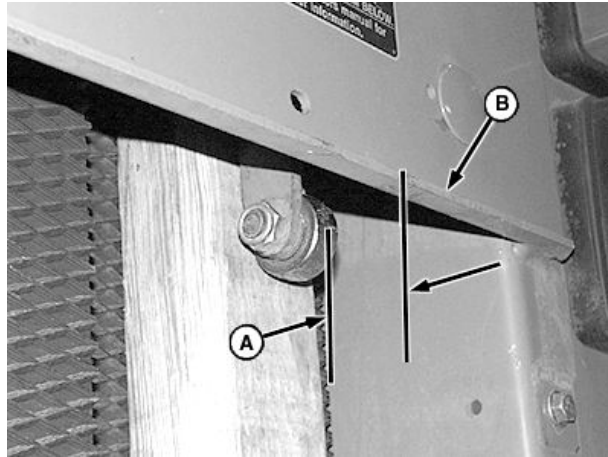
Continued on next page

PP98408,0000FC3 -19-07FEB13-1/5

2. If bale shape gauge strap is not used:
 - a. Put a board approximately 51 x 102 x 457 mm (2 x 4 x 18 in.) between roller bearing and belt as shown.
 - b. Position board to hold bale shape sender arm so rear of roller bearing is 62 mm (2-7/16 in.) (A) from rear edge of panel (B).

A—Dimension

B—Rear Edge of Panel



Right-Hand Side Shown

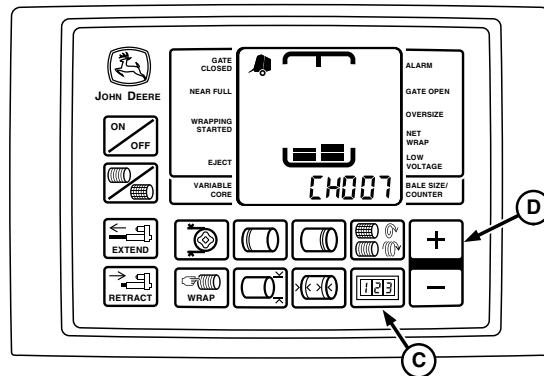
PP98408,0000FC3 -19-07FEB13-2/5

E47620 —UN—07JAN00

3. Press and hold COUNTER key (C) while turning monitor-controller ON.
4. Continue to hold COUNTER key (C) and press PLUS key (D) until:
 - **CH007** is displayed to adjust right side
 - **CH009** is displayed to adjust left side
5. Release COUNTER key (C) to display sensor value.
6. If buzzer does not emit a setup tone and display readout is above or below setup value of **176**, bale shape sensor (E) is out of adjustment.

C—COUNTER Key

D—Plus Key



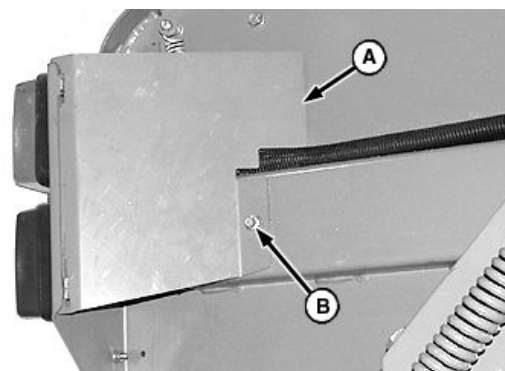
PP98408,0000FC3 -19-07FEB13-3/5

ES2527 —UN—26JUN03

7. To adjust sensor, remove rolling thread cap screw (B). Rotate shield (A) away from baler.

A—Shield

B—Rolling Thread Cap Screw



Right-Hand Side Shown

Continued on next page

PP98408,0000FC3 -19-07FEB13-4/5

E47621 —UN—07JAN00

8. Loosen sensor mounting hardware and rotate sensor (A) until buzzer emits a tone and **176** is displayed. Tighten sensor mounting hardware.
9. Install shield by rotating toward baler and fastening with mounting cap screw.
10. Repeat procedure to adjust opposite side. Use appropriate channel for adjustment.

A—Bale Shape Sensor



PP98408,0000FC3 -19-07FEB13-5/5

E62314—UN—03APR12

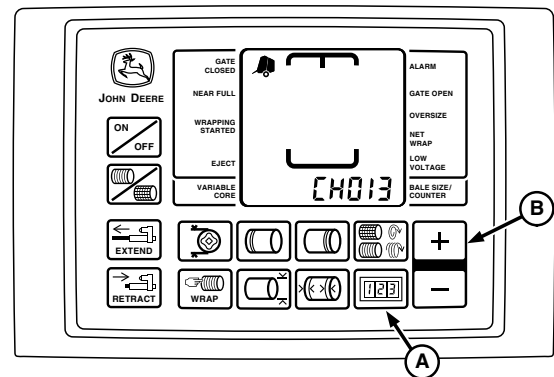
Test Gate Close and Oversize Bale Switches—Monitor-Controller Assisted Test (Channels 013 and 014)

NOTE: Microswitch position and operation can be checked by using the monitor-controller diagnostic channels.

1. Start tractor engine.
2. Press and hold COUNTER key (A) while turning monitor-controller ON.
3. Continue to hold COUNTER key and press PLUS key (B) until digital display shows desired channel.
4. Release key and view reading (gate closed).

NOTE: Tension arm must be fully raised for oversize bale switch to be closed.

5. Open gate and view reading or listen for tone.
6. If readings are not as shown, adjust switch position and test again. (See ADJUST GATE CLOSE SWITCH and ADJUST OVERSIZE BALE SWITCH in this section.)



A—COUNTER Key

B—PLUS Key

Diagnostic Channel	Function	Gate Closed Reading	Gate Open Reading
013	Oversize Bale Switch	013 (Switch Released)	00 (Zero) (Switch Depressed) (Tone)
014	Gate Switch	00 (Zero) (Switch Depressed)	014 (Switch Released) (Tone)

7. If switch adjustment does not produce normal readings:
 - a. Turn monitor-controller OFF. Turn tractor key to OFF position. Remove key.
 - b. Check for correct wire connections. (See WIRE HARNESS DIAGRAM—BALER in this section.)
 - c. Check wire harness for cuts and breaks.
 - d. Check harness connectors for damaged (pushed back) terminals.
 - e. Replace switch if necessary. (See your John Deere dealer.)

PP98408,0000FC4 -19-07FEB13-1/1

E52528—UN—26JUN03

Test Twine or Net Wrap Actuator Current (Channel 018)

IMPORTANT: Current overload protection to twine actuator is bypassed when using channel 018. Extended use of channel 018 can cause actuator damage.

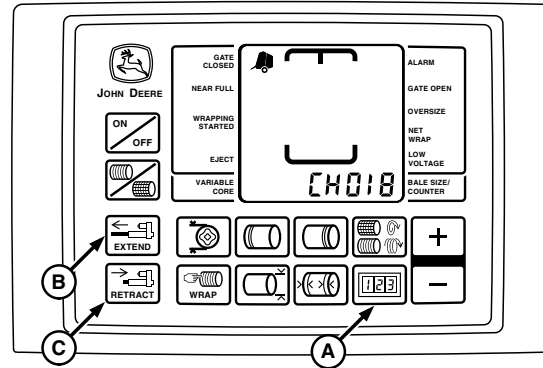
NOTE: Channel 018 allows operator use of EXTEND and RETRACT keys to position actuator for service.

This test is used to determine the working condition of the actuator through its entire range of operation.

To Test Actuator (Motor and Linkage):

IMPORTANT: Remove roll of net wrap material from baler if testing net actuator voltage. Otherwise, if PTO is engaged with net actuator extended, net will feed into empty baler and can cause damage to pickup or rotary feed system.

1. If testing net and wrap actuator current, remove roll of net wrap material from baler.
2. Turn tractor key to ON position. Do not start tractor engine.
3. Press and hold COUNTER key (A) while turning monitor-controller ON.
4. Continue to hold COUNTER key and press PLUS key until **CH018** appears in digital display.
5. Release COUNTER key; digital display will change to show actuator static current flow reading of **0** to **1**.
6. Use EXTEND and RETRACT keys (B) and (C) to operate actuator in both directions. Display must show a current flow reading between **1** and **8** while actuator motor is operating during mid stroke (no load).
 - Below normal readings indicate low tractor voltage, or poor or corroded harness connections



A—COUNTER Key
B—EXTEND Key

C—RETRACT Key

- Above normal readings indicate binding linkage or partially shorted motor windings
 - Current spike reading indicates mechanical obstruction to linkage
7. Continue to operate actuator to fully retracted position. Display must show stall (*load*) current reading between **22** and **30**.
 - Below normal reading indicates bad or corroded harness connections
 - Above normal reading indicates partially shorted motor windings or actuator binding
 8. Press RETRACT key to move actuator to home position.
 9. Turn monitor-controller OFF. Turn tractor key to OFF position. Remove key.

E52520 — UN — 26/JUN03

PP98408,0000FC5 -19-07FEB13-1/1

Test Tractor Convenience Outlet Voltage (Channel 019)

Complete the following check to determine if the convenience outlet provides adequate power to the BaleTrak™ Pro system.

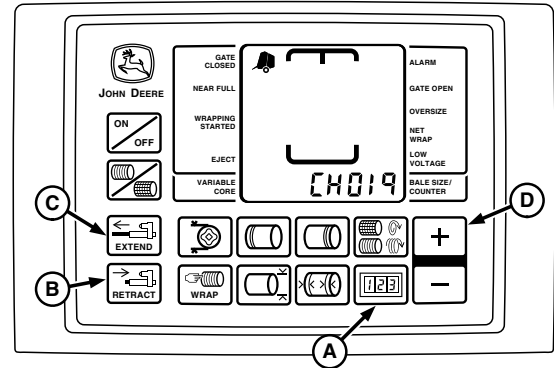
IMPORTANT: Remove roll of net wrap material from baler if testing net actuator voltage. Otherwise, if PTO is engaged with net actuator extended, net will feed into empty baler and can cause damage to pickup or rotary feed system.

1. If testing net wrap actuator current, remove roll of net wrap material from baler.
2. Start tractor engine.
3. Press and hold COUNTER key (A) while turning monitor-controller ON.
4. Continue to hold COUNTER key and press PLUS key (D) until **CH019** appears in the digital display.
5. Release COUNTER key and view voltage readout.
6. Using EXTEND key (C), extend twine or net actuator slightly.
7. Push and hold RETRACT key (B) until actuator stalls out in the fully retracted position. Note voltage displayed during first 4 seconds after stalling.

Specification

Convenience
Outlet—Voltage
(Minimum).....9.7 V

8. If voltage is less than specifications, install Convenience Outlet Kit AE50549. Only this kit must be used to provide a convenience outlet due to wire



A—COUNTER Key
B—RETRACT Key

C—EXTEND Key
D—PLUS Key

size, lack of splices, and a 30 Amp circuit breaker included in this kit. When installing this kit, attach power and ground wires directly to battery terminal clamp bolts, only. (See TRACTOR CONVENIENCE OUTLET in Preparing the Tractor section.)

CAUTION: Convenience outlet is wired directly to battery. Turning off tractor key will not disconnect power to monitor.

9. Turn monitor-controller OFF. Turn off tractor engine and remove key.

Disconnect power cord to monitor when working around knife arm. Turning off tractor key will NOT turn off power to monitor.

PP98408,0000FC6 -19-07FEB13-1/1

E52521 — UN—26JUN03

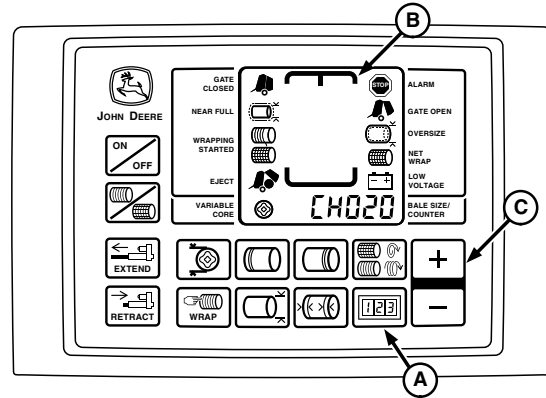
Test Liquid Crystal Display (LCD) Panel (Channel 020)

Use the following test procedure to check if a segment of the LCD panel has failed.

1. Turn tractor key to ON position. Do not start tractor engine.
2. Press and hold COUNTER key (A) while Pressing TWINE or NET key to turn monitor-controller ON.
3. Continue to hold COUNTER key (A) and press PLUS key (C) until **CH020** appears in digital display.

NOTE: Number of bale shape indicator bars displayed is 24 bars per side.

4. Release keys and view entire LCD panel (B). Make sure that all segments and indicators are displayed. If not, see your John Deere dealer.
5. Turn monitor-controller OFF. Turn tractor key to OFF position. Remove key.



A—COUNTER Key
B—LCD Panel

C—PLUS Key

PP98408,0000FC7 -19-07FEB13-1/1

E52529 — UN—10JUN08

Adjust Oversize Bale Switch

CAUTION: Make sure that gate is locked. If gate is not locked while performing this procedure, the gate could close suddenly causing injury or death.

1. Raise gate until roller on bale size switch arm is centered over washers (C).
2. Loosen screws (B) and adjust switch to obtain a gap (A) between switch arm and body to specifications.

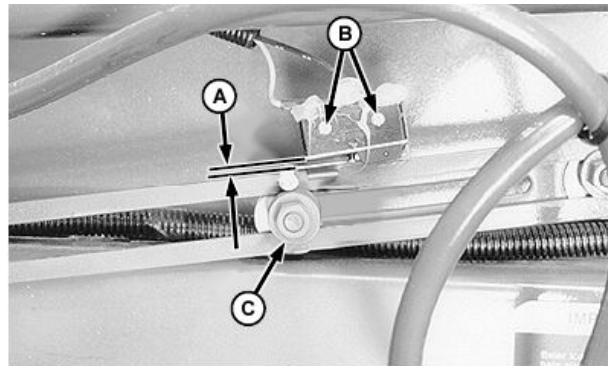
Specification

Arm-to-Body—Gap..... 3 mm
(1/8 in.)

3. Turn tractor key to ON position. Do not start tractor engine.
4. Turn monitor-controller ON. Bale size alarm (in tractor) must be activated when switch is at this position. If not, repeat Step 2 and decrease gap (A) dimension.
5. Raise gate fully using tractor hydraulics (*tension arm must be raised*), then lock gate.

A—Gap
B—Screw

C—Washers



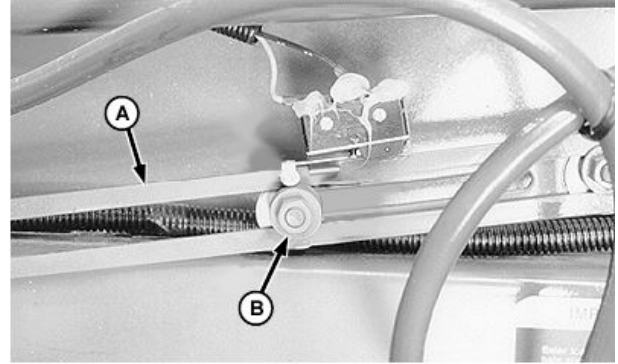
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PP98408,0000FC8 -19-07FEB13-1/2

TS698 — UN—21SEP89

E48969 — UN—02OCT00

6. Manually push sliding link (A) forward until bale size switch roller is centered over washers (B).
7. Bale size alarm (in tractor) must activate when switch is at this position. If not, repeat Step 2 and decrease gap.
8. Lower gate.
9. Turn monitor-controller OFF. Turn tractor key to OFF position. Remove key.
10. Adjust bale size link for maximum bale size. (See ADJUST BALE SIZE LINK FOR MAXIMUM BALE SIZE in this section.)



A—Link

B—Washers

PP98408,0000FC8 -19-07FEB13-2/2

E48970—UN—02OCT00

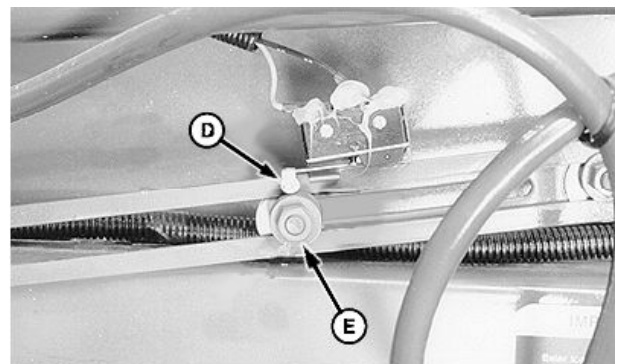
Adjust Bale Size Link For Maximum Bale Size (Oversize Warning)

1. Adjust bale size switch. (See ADJUST BALE SIZE SWITCH — MANUAL HYDRAULIC TIE in this section.)
2. Close gate.
3. Clamp bale size link (C) to the spring strap cap screw (B) using a pair of locking jaw pliers. (*This is to keep the link from moving as the gate is opened.*) Position the plier jaws over the spring strap cap screw (or washers) and under lower edge of link.
4. Raise gate fully using tractor hydraulics (*tension arm must be raised*), then lock gate.
5. Switch roller (D) must be centered on washers (E). If roller is not centered on washers, measure the distance between center of roller to center of rear washers.
6. Close gate and move bracket (A), forward or rearward, the number previously measured.
7. Repeat Steps 2—6, as necessary, until roller is properly centered.

NOTE: If unable to attain proper roller position, see your John Deere dealer.

A—Bracket
B—Spring Strap Cap Screw
C—Bale Size Link

D—Switch Roller
E—Washers



PP98408,0000FC9 -19-07FEB13-1/1

E39178—UN—30JAN96

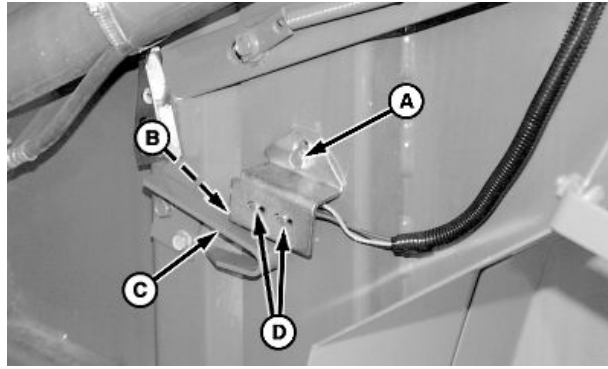
E56969—UN—24MAR09

Adjust Gate Close Switch

1. Close gate. (*Gate or tension cylinders must be fully retracted.*)
2. If necessary, loosen screws (D) and move switch front-to-rear so roller (B) is centered on short leg of ramp (C).
3. Push switch arm against switch body and measure clearance between roller and ramp. Clearance must meet specifications.

Specification

Roller-to-	
Ramp—Clearance.....	0.05—2.00 mm (0.02—0.08 in.)



A—Cap Screw
B—Roller

C—Ramp
D—Screws

4. Loosen cap screw (A) and adjust switch up-and-down to obtain specified clearance.
5. Confirm switch operation by taking test readings using monitor-controller. (See TEST GATE CLOSE

AND OVERSIZE BALE SWITCHES—MONITOR ASSISTED [CHANNELS 011 AND 012] in this section.)

PP98408,0000FCA -19-07FEB13-1/1

E48468—UN—21JUL00

Storage

End of Season

1. Move baler to a dry place. If baler must be stored outside, belt life can be prolonged by covering or removing belts to protect from sunlight and ozone exposure.
2. Remove twine from twine boxes. Store twine inside during storage season.

If net wrap is installed, remove roll of net wrap material and store in a cool, dry place.
3. Clean baler thoroughly inside and out. Trash and dirt will draw moisture and cause rust.
4. Apply a few drops of oil to all pivot points and linkages.
5. Thoroughly lubricate baler. (See Lubrication and Maintenance section.)
6. Apply a thin layer of grease to threads of all adjustment bolts.
7. Retract all hydraulic cylinders.
8. Paint all parts of net wrap from which paint has been worn.

Paint surfaces of mechanism, especially inside surfaces of net wrap box and net pan. Do not get paint on rubber feed roll.
9. Coat chain with oil.
10. If equipped with fire extinguisher, follow manufacturers recommendation for inspection and maintenance. If baler is subjected to cold weather, drain or treat fire extinguisher fluid with a nonflammable antifreeze solution to prevent damage.
11. Check all belt guides for wear especially wear channels at rear of tension arm. (See TENSION ARM WEAR CHANNELS in Lubrication and Maintenance section.)
12. Order replacement parts as needed.

PP98408,0000FCB -19-11FEB13-1/1

Start of Season

1. Check and fill gear case to dipstick level. (See Lubrication and Maintenance section.)
2. Lubricate complete machine. (See Lubrication and Maintenance section.) This procedure removes moisture out of the bearings.
3. Check tires for correct air pressure.
4. Make sure that main drive slip clutch is free to slip. (See SLIP THE MAIN DRIVE SLIP CLUTCH in Service—Baler section.)
5. If equipped with pickup slip clutch, ensure that slip clutch is free to slip. (See CHECK PICKUP SLIP CLUTCH in Service—Baler section.)
6. Tighten all hardware.
7. Check all belt splice pins for breakage and wear. Replace as necessary.
8. If equipped with fire extinguisher, follow manufacturers recommendation for inspection and maintenance. Refill, pressurize, and test the fire extinguisher.
9. Review operator's manual and check adjustments.
10. If equipped with gathering wheel, lubricate fittings and trip wheel. If wheel does not pivot freely by hand, remove wheel bracket from tube. Apply grease to pivoting surfaces and reassemble.
11. Check function of oversize bale alarm. (See ADJUST BALE SIZE SWITCH in Service—Baler section.)
12. If net wrap unit is installed, check areas that can contact net wrap. These areas must be clean and smooth to help prevent mesh wrappage on rubber roll. Polish all of sheet metal area until smooth using SCOTCH-BRITE or ultra-fine sandpaper. When using sandpaper, polish marks must be parallel to movement of mesh. (See NET WRAP USE AFTER EXTENDED STORAGE in Service-Net Wrap section.)
13. If net wrap unit is installed: Remove and clean brush behind cut-off knife. (See REMOVE AND INSTALL NET WRAP CUTOFF KNIFE in Service-Net Wrap section.)
14. Disengage and engage net wrap brake DAILY, before starting baler operation. This procedure helps to reposition the feed rolls and avoid wrappage due to cling of net material on the rubber roll surface.

PP98408,0000FCC -19-11FEB13-1/1

Assembly

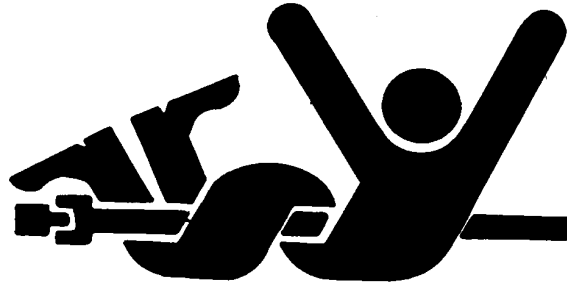
Perform Predelivery Service Safely

Understand the predelivery procedure before doing the work.

During the assembly, test, and adjustment procedures, it can be necessary to operate drives and hydraulic systems. Stay clear of machine elements when raising or lowering of gate or pickup and during operation of hydraulics, electronics, or drivelines.

Practice good communication with other service technicians. Be aware of their actions and alert them to potential hazards.

Never lubricate, service, or adjust machine while it is running. Keep hands, feet, and clothing away from power-driven or hydraulically operated parts. If it is



TS188 —UN—23AUG88

necessary to inspect the machine while it is in operation, be alert to moving parts in the immediate area.

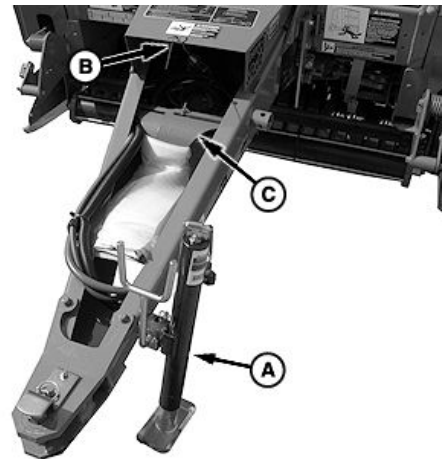
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Install Jack

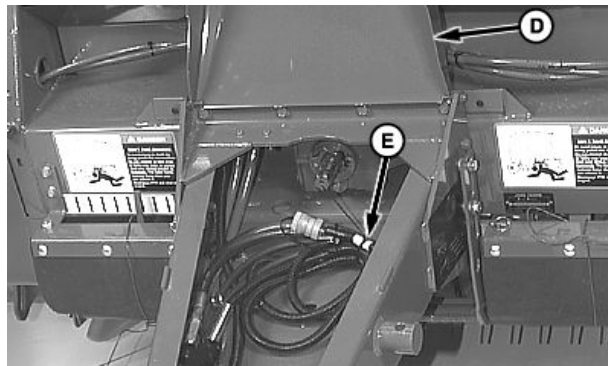
1. Park baler on level surface.
2. Block both wheels at front and rear to prevent baler rolling.
3. Raise tongue with appropriate lifting device. Remove jack from storage location. Place in vertical location (A) and secure with PTO support and quick-lock pin.
4. Remove wire (B) from shield.
5. (MegaWide™ Plus pickup only) Remove gauge wheel arms (C) from tongue. Set aside for installing gauge wheel arms.
6. Raise PTO shield (D) and remove tie strap (E) from hoses and wire harness.

A—Vertical Position
B—Wire
C—Gauge Wheel Arm

D—PTO Shield
E—Tie Strap



E57045 —UN—20APR09



E57047 —UN—20APR09

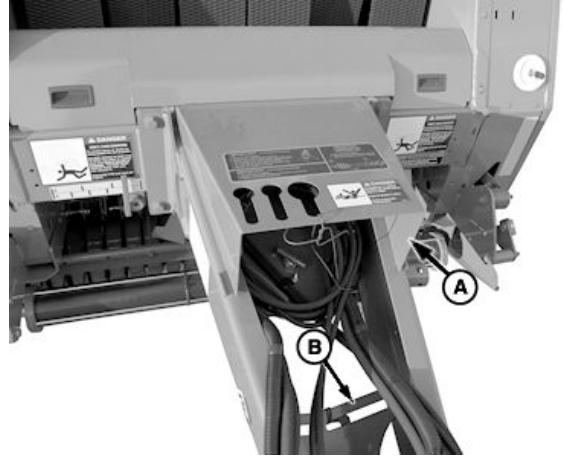
PP98408,0000FCE -19-07FEB13-1/1

Install PTO Slip Clutch Alert Sensor and Driveline

1. Remove and discard shipping wire securing PTO shield (A).
 2. Raise PTO shield.
 3. If equipped, remove gauge wheel arms (B) from tongue. Set aside for gauge wheel arm assembly.
- Gauge wheel arms are secured to side of tongue using shipping wire. Remove and discard.

A—PTO Shield

B—Gauge Wheel Arms



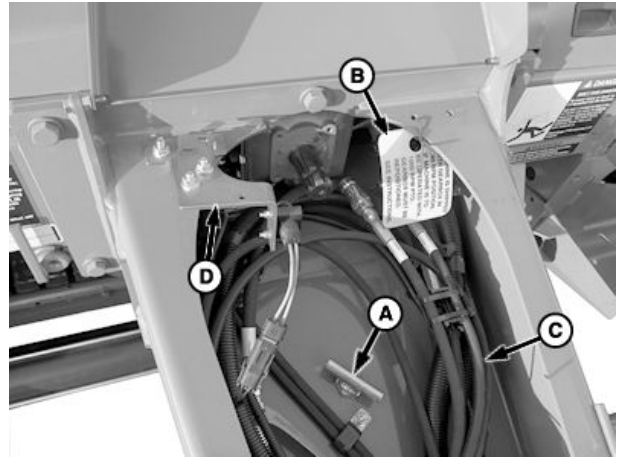
PP98408,0000FCF -19-08FEB13-1/7

E69351 —UN—23JAN13

4. Remove hit pin (A) from tongue. Set aside for hitch pin and safety chain assembly.
5. Remove and discard tag (B). Read and understand tag before discarding.
6. Remove wire harness and hydraulic hoses (C) from tongue and set aside.
7. Remove sensor angle (D) and hardware. Set aside for PTO driveline assembly.

A—Hitch Pin
B—Tag

C—Wire Harness and Hydraulic Hoses
D—Sensor Angle



Continued on next page

PP98408,0000FCF -19-08FEB13-2/7

E69352 —UN—23JAN13

8. If baler is equipped with regular pickup proceed to Step 19.

If baler is equipped with MegaWide™ Plus pickup proceed to Step 9.

IMPORTANT: Cap screw heads (B) lead as driveline rotates counterclockwise when looking toward rear of baler.

9. Install PTO driveline (A) using cap screws (B) and lock nuts (C) (included with driveline).

Tighten cap screws to specification.

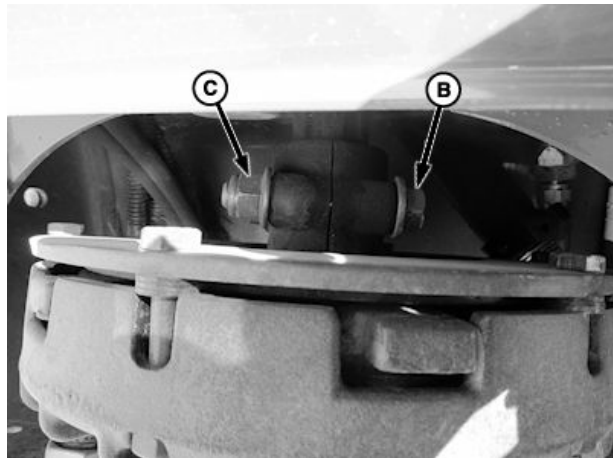
Specification

Cap Screws—Torque..... 140 N·m
(105 lb.-ft.)

A—PTO Driveline

B—Cap Screws, M12 x 1.75 x
70 mm (2 used)

C—Lock Nuts (2 used)



ES7639—JUN—14JUL09

E66308—JUN—02JUL12

Continued on next page

PP98408,0000FCF -19-08FEB13-3/7

IMPORTANT: Ensure wire harness to sensor is clear of slip clutch, damage to wire harness can occur. Retain harness to hoses using tie bands.

10. Install sensor angle (A) using round-head bolt and flange nuts (B). Leave hardware loose, sensor requires adjustment.
11. Adjust end of sensor (C) 2 ± 1 mm (0.080 ± 0.040 in.) from clutch fins (D) on PTO clutch.

NOTE: End of sensor is a magnet. Washer or feeler gauge can drag on magnet creating false sensor-to-fin reading during checks.

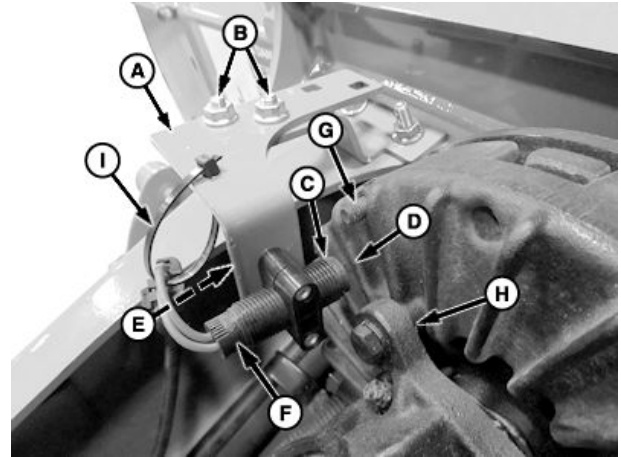
- Place a 2 mm (0.080 in.) washer or feeler gauge against end of sensor (C).
- Advance sensor (C) with washer or feeler gauge toward clutch fins until gauge just makes contact.

12. To tighten sensor:

- a. With clamp snug against bracket, tight bottom lock nut (E) an additional one full turn.
- b. Tighten top lock nut (E) until slit closes completely, then tighten one additional full turn.
- c. Gently pull on end of sensor (F) to verify it does not move.
- d. Using a 35 mm (1-3/8 in.) wrench, go to left-hand side of baler and turn gearbox output shaft to verify end of sensor clears clutch screws (G) and clutch yoke (H).
- e. Adjust sensor side-to-side by loosening and tightening nuts (B) as needed.
- f. **Remove** wrench from output shaft on left-hand side of baler.

13. Verify that sensor is not damaged after tightening nuts.

- Connect multimeter leads to sensor connector.
- If multimeter reads approximately 3000 Ohms, sensor is good.
- If multimeter reads zero, sensor is bad. Replace sensor.



540 rpm Driveline

A—Sensor Angle	F—End of Sensor
B—Round-Head Bolt and Flange Nut, M8 x 20 mm (2 used)	G—Clutch Screw
C—Sensor	H—Clutch Yoke
D—Clutch Fins	I—Tie Band
E—Lock Nut (2 used)	

14. Recheck 2 ± 1 mm (0.080 ± 0.040 in.) clearance between clutch fins and sensor while gently prying PTO clutch forward to simulate PTO driveline thrust loads.

Hold PTO clutch forward and perform the following:

- If 1 mm (0.040 in.) gauge does not pass between clutch fin and sensor, repeat Steps 4—6 to obtain proper clearance.
- If 1 mm (0.040 in.) gauge passes between clutch fin and sensor, clearance is acceptable.
- If 3 mm (0.12 in.) gauge passes between clutch fin and sensor, repeat Steps 4—6 to obtain proper clearance.

15. Tighten tie band (I) around wiring harness connector and secure to bracket.

Continued on next page

PP98408,0000FCF -19-08FEB13-4/7

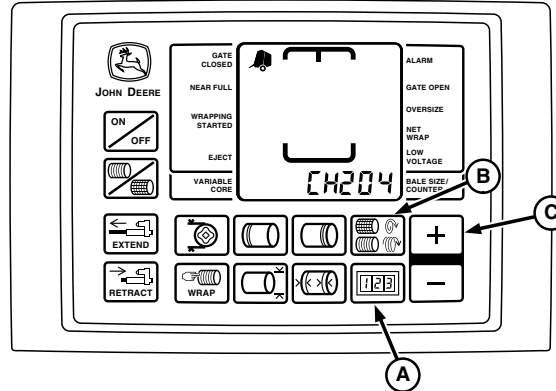
E69326—UN—11JAN13

NOTE: Not used on 459 or 559 with a Regular pickup.

NOTE: PTO and pickup sensor values are set at factory.

16. Verify PTO and pickup sensor values are activated using the following procedure:

- Turn tractor key to ON position. Do not start tractor.
- Press and hold both COUNTER key (A) and NUMBER OF WRAPS key (B) while turning monitor-controller ON. **CH201** must be displayed.
- Release both keys. Baler model is displayed.
- Press and hold COUNTER key (A) and press the PLUS key (C) until **CH204** is shown in the display.
- Release COUNTER key (A).
- Press PLUS key (C) to change display to **540** PTO speed.
- Press and hold COUNTER key (A) and press the PLUS key (C) until **CH205** is shown in the display.
- Press PLUS key (C) to change display to **310**.
- Press and hold COUNTER key (A) and press the PLUS key (C) until **CH206** is shown in the display.
- Press PLUS or MINUS key to change display to **24** (number of fins on slip clutch).
- Press and hold COUNTER key (A) and press the PLUS key (C) until **CH207** is shown in the display.



A—COUNTER Key
B—NUMBER OF WRAPS Key

C—PLUS Key

- Press PLUS or MINUS key to change display to **10** (number of teeth on tone wheel).
- Turn monitor-controller OFF.
- Turn tractor key to OFF position. Remove key.

Continued on next page

PP98408,0000FCF -19-08FEB13-5/7

E55069 —UN—25APR07

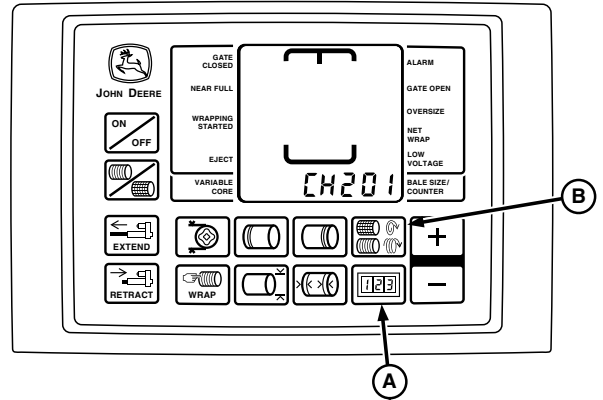
NOTE: The twine, net wrap, slip clutch alert, and optional variable core features will not operate correctly unless the model number displayed on monitor-controller matches baler model number.

17. Verify correct baler model program using the following procedure:

- Turn tractor key to ON position. Do not start tractor.
- Press and hold COUNTER key (A) and NUMBER OF WRAPS key (B) while turning monitor-controller ON. **CH201** must be displayed.
- Release both keys. Baler model is displayed.
- Press PLUS or MINUS key to change to desired model.
- Turn monitor-controller OFF to enter setting into memory.
- Turn monitor-controller ON to verify baler model number. Baler model is displayed for approximately 2 seconds. If displayed baler model number is incorrect, repeat procedure.
- Turn tractor key to OFF position and remove key.

18. To check sensor output and verify proper operation, use the following procedure:

- Start tractor, operate at low, but stable, rpm and engage PTO.
- Press and hold COUNTER key while turning monitor-controller ON.
- Continue to hold COUNTER key and press PLUS key until **CH016** appears in the digital display.
- Release COUNTER key and PTO speed is displayed. This speed readout must be stable and not vary by more than 5 rpm.
- Press and hold COUNTER key and press the PLUS key until **CH017** appears in the digital display.
- Release COUNTER key and pickup drive speed is displayed. This speed must be stable and not vary by more than 5 rpm.
- If there is a variation in either sensor output, shut off tractor and remove key. Adjust appropriate sensor closer to clutch fins or tone wheel, but not closer than 1 mm (0.040 in.). Then recheck.
- With tractor PTO speed of 540 rpm, pickup sensor must read approximately **310** rpm. If pickup sensor rpm is greater than PTO clutch rpm, then orange and brown wires are reversed at the harness connector. Example of a problem: Monitor displays slipping. (See SLIP CLUTCH ALERT in Troubleshooting section).



A—COUNTER Key

B—NUMBER OF WRAPS Key

If there is a variation in this output, readjust sensors closer to tone wheel or clutch fins.

NOTE: Not used on 459 and 559 with a Regular pickup.

Turning PTO Speed Sensor ON and OFF:

- PTO speed sensor can be turned OFF or ON by accessing channel 204.
- Feature can be turned ON by changing value to 540 rpm.
- Entire slip clutch alert feature can be turned OFF by changing value to 0.

NOTE: Not used on 459 and 559 with a Regular pickup.

Turning Pickup Speed Sensor ON and OFF:

- Pickup rpm sensor can be turned OFF and ON by accessing channel 205.
- Feature can be turned ON by changing value to 310 rpm.
- Pickup rpm sensor can be turned OFF by changing value to 0.
- Turning OFF the pickup sensor on channel 205 and turning ON PTO sensor on channel 204 still allows automatic speed compensation during wrapping cycle.

Continued on next page

PP98408,0000FCF -19-08FEB13-6/7

E52456—UN—10JUN08

IMPORTANT: Tie band wire harness to hoses, as needed, to keep harness away from rotating slip clutch.

IMPORTANT: Cap screw heads (B) must lead as driveline rotates counterclockwise when looking toward rear of baler.

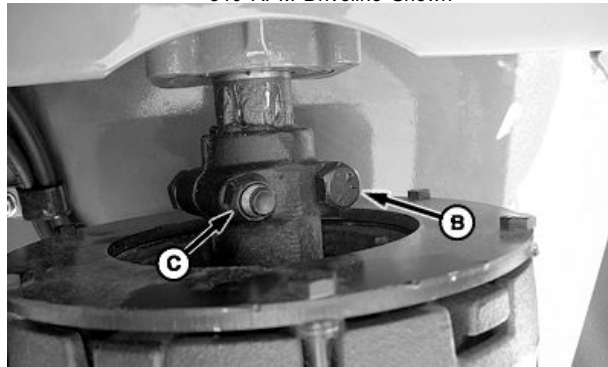
NOTE: Adjust cap screws evenly.

19. Install slip clutch and driveline (A) using cap screws (B) and lock nuts (C) (included with driveline).

A—Slip Clutch and Driveline C—Lock Nuts (2 used)
B—Cap Screws, M12 x 1.75 x 70 mm (2 used)



540 RPM Driveline Shown



E57787—UN—30JUL09

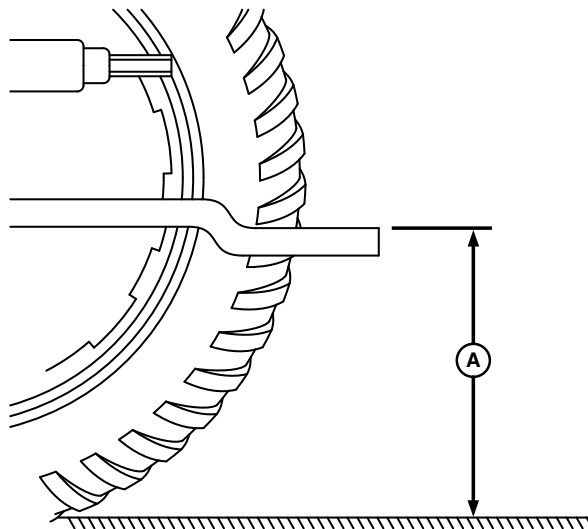
E57882—UN—16JUL09

PP98408,0000FCF -19-08FEB13-7/7

Adjust Baler Hitch

1. Measure from top of tractor drawbar to the ground.
Measure on level ground.

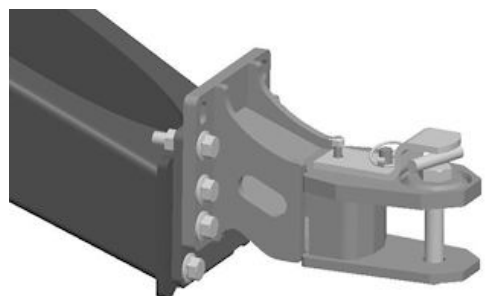
A—Dimension



E62317 —UN—04APR12

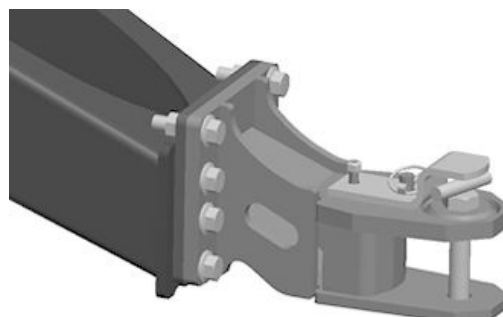
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PP98408,0000FD0 -19-07FEB13-1/3



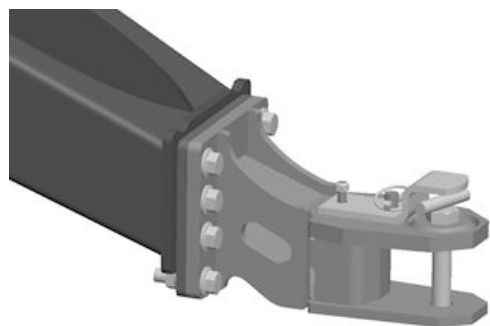
Position 1

E60309 —UN—13JUL11



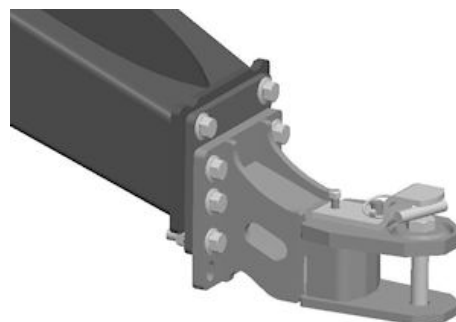
Position 2

E60310 —UN—13JUL11



Position 3 (Factory Setting)

E60311 —UN—13JUL11



Position 4

E60312 —UN—13JUL11

NOTE: All baler hitches are factory installed in position 3.

2. Adjust baler hitch according to the drawbar dimension.

MegaWide™ Plus Pickup	Drawbar Dimension (A)
Position 1	Not Recommended
Position 2	533—559 mm (21—22 in.)
Position 3	432—533 mm (17—21 in.)
Position 4	330—432 mm (13—17 in.)
Regular Pickup	Drawbar Dimension (A)
Position 1	432—559 mm (17—22 in.)
Position 2	330—432 mm (13—17 in.)
Position 3	Not Recommended
Position 4	Not Recommended

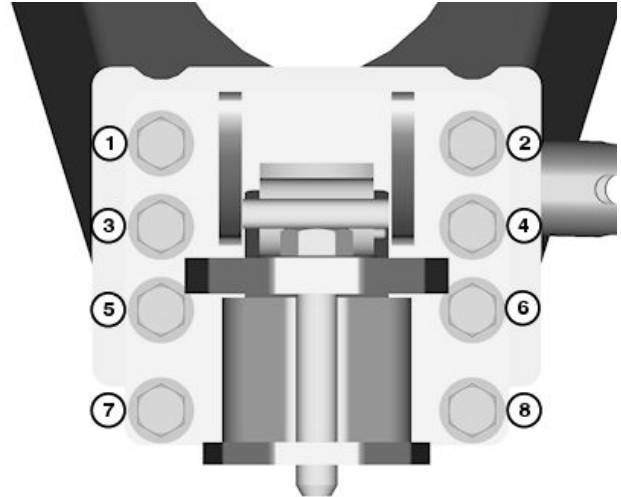
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PP98408,0000FD0 -19-07FEB13-2/3

3. Tighten hardware using sequence 1—8 as shown.
4. Tighten hardware to specification.

Specification

Adjustable Hitch
 Hardware—Torque.....350 N·m
 (258 lb.-ft.)



E62321—UN—04APR12

PP98408,0000FD0 -19-07FEB13-3/3

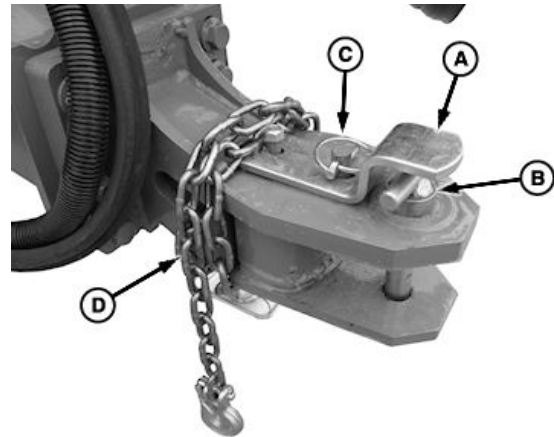
Install Hitch Pin and Safety Chain

IMPORTANT: Verify that bracket (A) is installed on tongue before performing procedure.

1. Turn bracket (A) to the side and install hitch pin (B).
2. Return bracket (A) to operating position and install quick-lock pin (C).
3. Install safety chain (D).

A—Bracket
 B—Hitch Pin

C—Quick-Lock Pin
 D—Safety Chain



E69228—UN—07DEC12

PP98408,0000FE1 -19-11FEB13-1/1

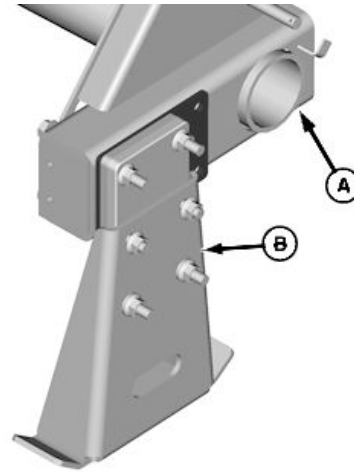
Prepare to Install Wheel Spindles and Tires

IMPORTANT: When raising baler with a jack or hoist, place a jackstand or equivalent support under baler frame before removing shipping skid (B). Do not place jackstand under MegaWide™ Plus pickup frame.

1. Park baler on level surface.
2. Using a jack or hoist, raise one side of baler. Place a jackstand or equivalent support under baler frame (A).
3. Remove and discard shipping skid (B). Retain hardware and spacer plate, if equipped, to install spindles.

A—Location (Baler Frame)

B—Shipping Skid



E65991—UN—14JUN12

PP98408,0000FD1 -19-07FEB13-1/1

Install Wheel Spindles on 459 Baler with Regular Pickup and 11L-14 Tires

NOTE: Wheel spindles and tires are factory installed in the shipping position on baler with regular pickup. Change spindles from shipping position to normal position.

IMPORTANT: Do not operate baler with wheel spindle in shipping position.

NOTE: Wheel spindle position controls baler height and feeding capacity.

NOTE: Normal position illustrated is used for most baling conditions. For other crop conditions, see **WHEEL SPINDLE POSITIONS** in *Preparing the Baler* section.

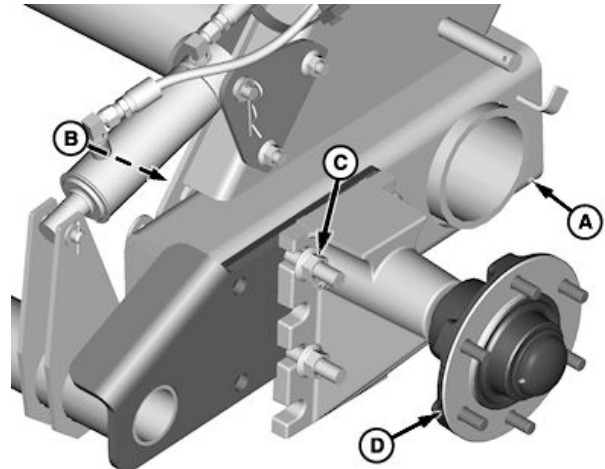
IMPORTANT: When raising baler with a jack or hoist, place a jackstand or equivalent support under baler frame (A) before installing spindles and tires.

1. Park baler on level surface.
2. Using a jack or hoist, raise one side of baler. Place a jackstand, or equivalent support, under baler frame (A).
3. Remove cap screws (B), flange nuts (C), and spindle (D).
4. Install spindle (D) with hub offset up. Fasten with cap screws (B) and flange nuts (C) using the top and third notches in spindle (D). Tighten flange nuts to specification.

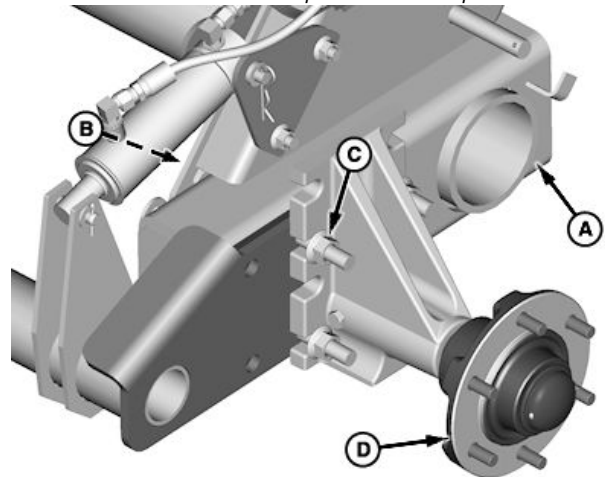
Specification

Flange Nuts—Torque.....237 N·m
(175 lb.-ft.)

5. Repeat procedure on opposite side.



Normal Position—Optional Bale Ramp Shown



Raised Position—Optional Bale Ramp Shown

A—Location (Baler Frame) C—Flange Nut, M16 (4 used)
B—Cap Screw, M16 x 160-10.9 D—Spindle
(4 used)

PP98408,0000FD2 -19-07FEB13-1/1

E66124 —UN—22JUN12

E66125 —UN—22JUN12

Install Wheel Spindles on 459 and 559 Baler with Regular Pickup and 14L x 16.1 Tires

NOTE: Wheel spindle position controls baler height and feeding capacity.

NOTE: Normal position shown is used for most baling conditions. For other crop conditions, see **WHEEL SPINDLE POSITIONS** in *Preparing the Baler* section.

IMPORTANT: When raising baler with a jack or hoist, place a jackstand or equivalent support under baler frame (A) before installing spindles and tires.

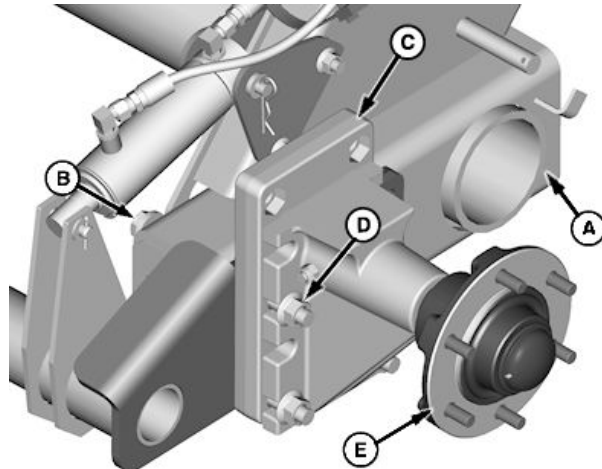
1. Park baler on level surface.
2. Using a jack or hoist, raise one side of baler. Place a jackstand or equivalent support under baler frame (A).
3. Install cap screws (B), spacer plate (C), flange nuts (D), and spindle (E) with offset down.
4. Tighten flange nuts to specification.

Specification

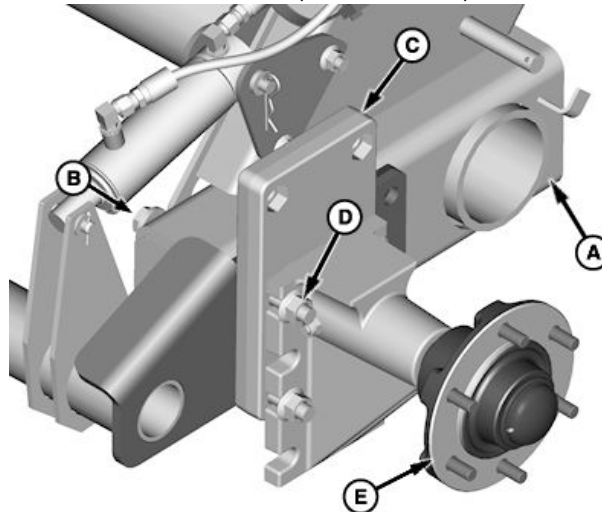
Flange Nuts—Torque.....237 N·m
(175 lb.-ft.)

5. Repeat on opposite side.

A—Location (Baler Frame)	C—Spacer Plate
B—Cap Screw, M16 x 180-10.9 (4 used) (Without Bale Ramp)	D—Flange Nut, M16 (4 used)
B—Cap Screw, M16 x 200-10.9 (4 used) (With Bale Ramp)	E—Spindle



Normal Position—Optional Baler Ramp Shown



Raised Position—Optional Baler Ramp Shown

E66126—UN—22JUN12

E66127—UN—22JUN12

PP98408,0000FD3 -19-07FEB13-1/1

Install Wheel Spindles on 459, 459S, and 559 Balers with MegaWide™ Plus Pickup and 14L x 16.1 Tires

NOTE: Wheel spindles and tires are factory installed in the normal position on 459, 459 Silage Special, and 559 balers with MegaWide™ Plus pickup.

NOTE: Wheel spindle position controls baler height and feeding capacity.

NOTE: Normal position shown is used for most baling conditions. For other crop conditions, see **WHEEL SPINDLE POSITIONS** in *Preparing the Baler* section.

IMPORTANT: When raising baler with a jack or hoist, place a jackstand or equivalent support under baler frame (A) before installing spindles and tires. Do not place jackstand under MegaWide™ Plus pickup frame.

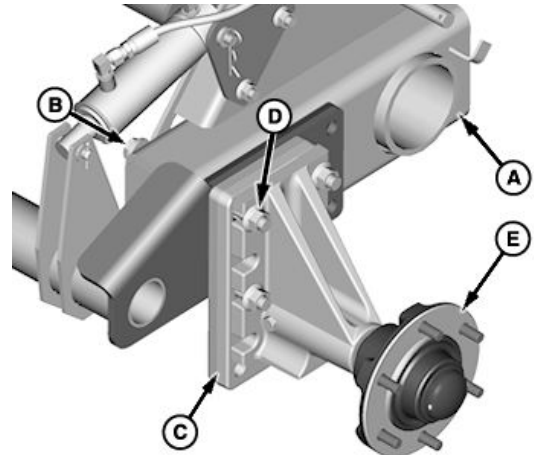
1. Park baler on level surface.
2. Using a jack or hoist, raise one side of baler. Place a jackstand or equivalent support under baler frame (A).
3. Install cap screws (B), spacer plate (C), flange nuts (D), and spindle (E) with offset down.
4. Tighten flange nuts to specifications.

Specification

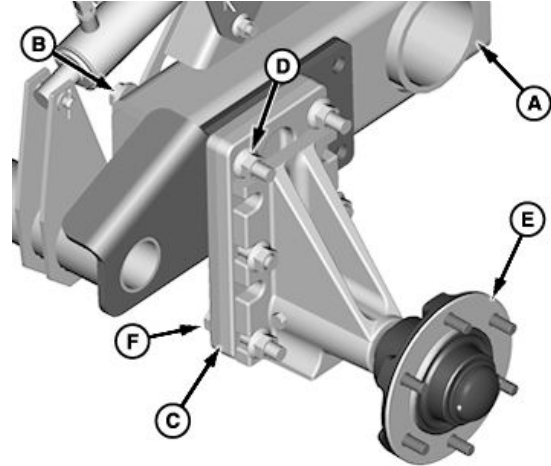
Flange Nuts—Torque.....237 N·m
(175 lb.-ft.)

5. Repeat on opposite side.

A —Location (Baler Frame)	D —Flange Nut, M16 (4 used on Normal Position)
B —Cap Screw, M16 x 180-10.9 (4 used) (Without Bale Ramp)	D —Flange Nut, M16 (6 used on Raised Position)
B —Cap Screw and Flat Washer, M16 x 200-10.9 (4 used) (With Bale Ramp)	E —Spindle
C —Spacer Plate	F —Cap Screw, M16 x 80-8.8 (2 used)



Normal Position—Optional Bale Ramp Shown



Raised Position—Optional Bale Ramp Shown

E66828—UN—19JUL12

E66829—UN—19JUL12

PP98408,0000FD4 -19-07FEB13-1/1

Install Wheel Spindles on 459, 459S, 559, and 559S Balers with MegaWide™ Plus Pickup and 21.5L x 16.1 Tires

IMPORTANT: No raised baler position is available with this spindle. Using spindle positions other than NORMAL position can lead to machine damage.

Normal position, as shown, is recommended for all baling conditions.

- Pickup teeth do not touch the ground with pickup lowered, depending on tractor drawbar height.

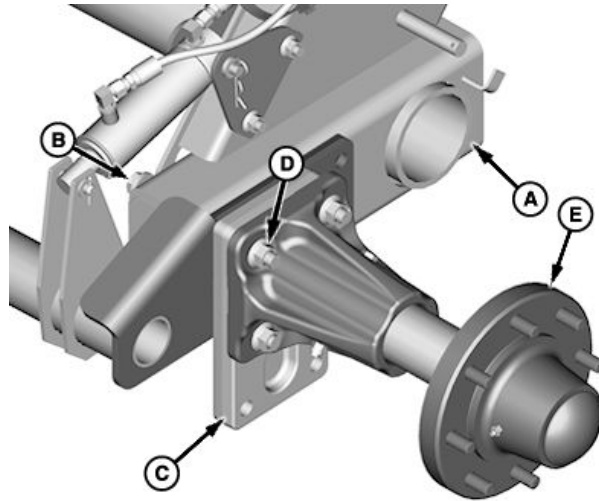
NOTE: Cap screw heads are to face inside of frame; nuts on outside of wheel spindle.

IMPORTANT: When raising baler with a jack or hoist, place a jackstand or equivalent support under baler frame (A) before installing spindles and tires. Do not place jackstand under MegaWide™ Plus pickup frame.

1. Park baler on level surface.
2. Using a jack or hoist, raise one side of baler. Place a jackstand or equivalent support under baler frame (A).
3. Install cap screws (C), spacer plate (C), flange nuts (D), and spindle (E).
4. Tighten flange nuts to specification.

Specification

Flange Nuts—Torque.....350 N·m
(255 lb.-ft.)



Normal Position—Optional Bale Ramp Shown

A—Location (Baler Frame)	C—Spacer Plate
B—Cap Screw, M16 x 180-10.9 (4 used) (Without Bale Ramp)	D—Flange Nut, M16 (4 used)
B—Cap Screw and Flat Washer, M16 x 200-10.9 (4 used) (With Bale Ramp)	E—Spindle

5. Repeat on opposite side.

E66513 —UN—10JUL12

PP98408,0000FD5 -19-03JUL13-1/1

Check Wheel Nut Torque

Machines with 11L-14 tires:

IMPORTANT: Install wheels with valve stems toward the inside. Incorrect assembly can cause wheel nuts to loosen.

Exceeding recommended tire pressure can damage baler frame.

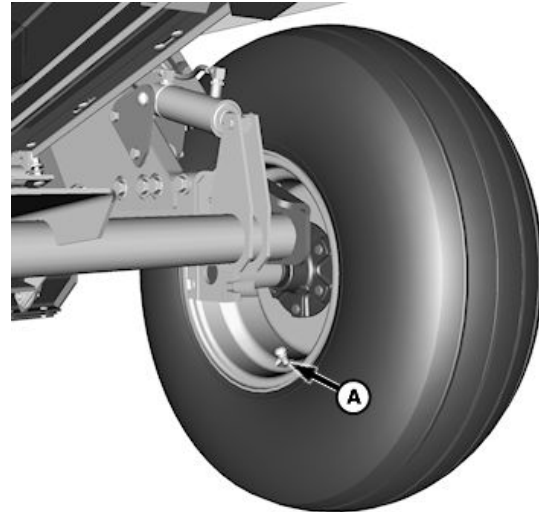
Whenever a wheel has been removed and installed, check wheel nut torque after one hour of operation and repeat until nuts maintain specified torque.

1. Install wheel with valve stem (A) toward the inside. Fasten with six 1/2 in. nuts.
2. Whenever a wheel has been removed and installed, check wheel nut torque after one hour of operation and repeat until nuts maintain specified torque. Wheel nuts must be tightened to specifications.

Specification

Wheel Nuts—Torque..... 115 N·m
(85 lb.-ft.)

3. Verify tire inflation pressure.



11L-14 Tires Shown

A—Valve Stem

Tires	kPa (bar) (psi)
11L-14, 8 PR ^a	207 (2.1) (30)

^aWhen making consistently heavy bales or operating with COVER-EDGE net wrap, 11L x 14 tires can be inflated up to 248 kPa (2.5 bar) (36 psi).

4. Repeat procedure on opposite side.

PP98408,0000FD6 -19-03JUL13-1/3

E65913—UN—18JUN12

Machines with 14L x 16.1 tires:

IMPORTANT: Install wheels with valve stems toward the outside. Incorrect assembly can cause wheel nuts to loosen.

Exceeding recommended tire pressure can damage baler frame.

Whenever a wheel has been removed and installed, check wheel nut torque after one hour of operation and repeat until nuts maintain specified torque.

1. Install wheel with valve stem (A) toward the outside. Fasten with six 1/2 in. nuts.
2. Whenever a wheel has been removed and installed, check wheel nut torque after one hour of operation and repeat until nuts maintain specified torque. Wheel nuts must be tightened to specifications.

Specification

Wheel Nuts—Torque..... 115 N·m
(85 lb.-ft.)

3. Verify tire inflation pressure.



14L x 16.1 Tires Shown

A—Valve Stem

Tires	kPa (bar) (psi)
14L x 16.1, 8 PR	207 (2.1) (30)

4. Repeat procedure on opposite side.

Continued on next page

PP98408,0000FD6 -19-03JUL13-2/3

E63107—UN—13APR12

Machines with 21.5L x 16.1 tires, MegaWide™ Plus pickup only:

IMPORTANT: Install wheels with valve stems toward the outside. Incorrect assembly can cause wheel nuts to loosen.

Exceeding recommended tire pressure can damage baler frame.

Whenever a wheel has been removed and installed, check wheel nut torque after one hour of operation and repeat until nuts maintain specified torque.

1. Install wheel with valve stem (A) toward the outside. Fasten with eight 5/8 in. nuts.
2. Whenever a wheel has been removed and installed, check wheel nut torque after one hour of operation and repeat until nuts maintain specified torque. Wheel nuts must be tightened to specifications.

Specification

Wheel Nuts—Torque.....237 N·m
(175 lb.-ft.)

3. Adjust tire inflation pressure.



21.5L x 16.1 Tires Shown

A—Valve Stem

Tires	kPa (bar) (psi)
21.5L x 16.1, 10 PR	103 (1.0) (15)

4. Repeat procedure on opposite side.

PP98408,0000FD6 -19-03JUL13-3/3

Check Tire Inflation Pressures

Tires	kPa (bar) (psi)
Regular, 11L-14, 8 PR	207 (2.1) (30)
14L x 16.1, 8 PR	207 (2.1) (30)
21.5L x 16.1, 10 PR	103 (1.0) (15)

PP98408,0000FD7 -19-07FEB13-1/1

E65244 —UN—22MAY12

Install Gauge Wheels (Regular Pickup)

CAUTION: While working inside or around the baler with an open gate, the tension arm must be fully raised and against its stops, and gate lock lever must be moved to locked position (A). Use this safety feature anytime the gate is open. Close the gate anytime the baler must be left unattended.

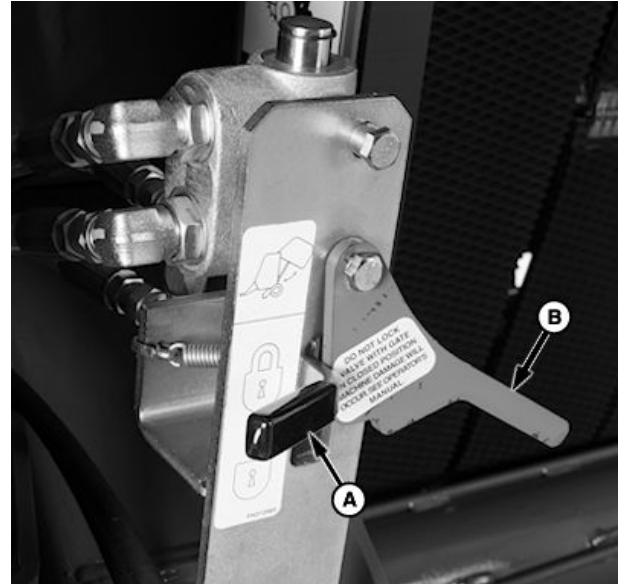
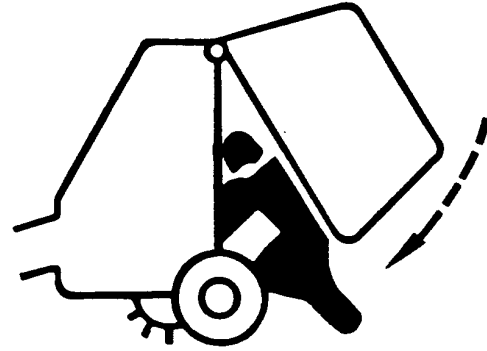
When positioning the gate to provide access for service, always be sure that tension arm is fully raised, and against its stops. This is to prevent the gate from rotating downward unexpectedly while service work is being performed. **ALWAYS** raise the gate fully and lower it to the desired opening height before engaging the gate lock. Failure to do this can result in serious injury or death.

NOTE: Tension arm must remain up against tension arm stops.

1. Start tractor engine, raise gate, and slowly lower gate to slack belts.
2. Shut off tractor engine and remove key.
3. Rotate interlock lever (B) and move gate lock lever (A) to locked position (shown).
4. Remove gauge wheels from inside bale chamber. Unlock and lower gate.
5. Open right-hand side door and remove hardware package from twine box.

A—Gate Lock Lever

B—Interlock Lever

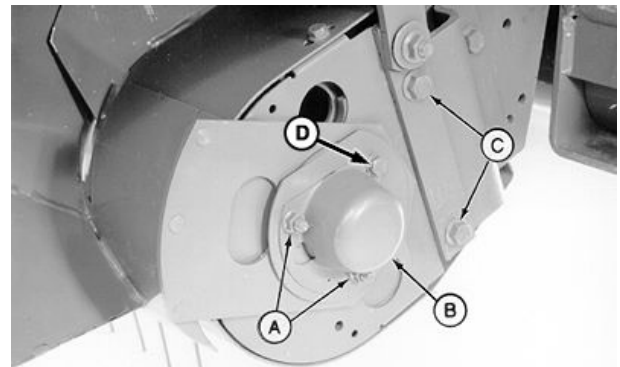


PP98408,0000FD8 -19-07FEB13-1/9

6. Remove two nuts (A), bearing cover (B), and two cap screws (C). Discard cap screws.
7. Do not remove bolt (D).

A—Nuts (2 used)
B—Bearing Cover

C—Cap Screws (2 used)
D—Bolt



Continued on next page

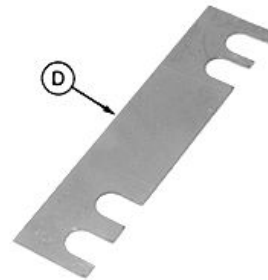
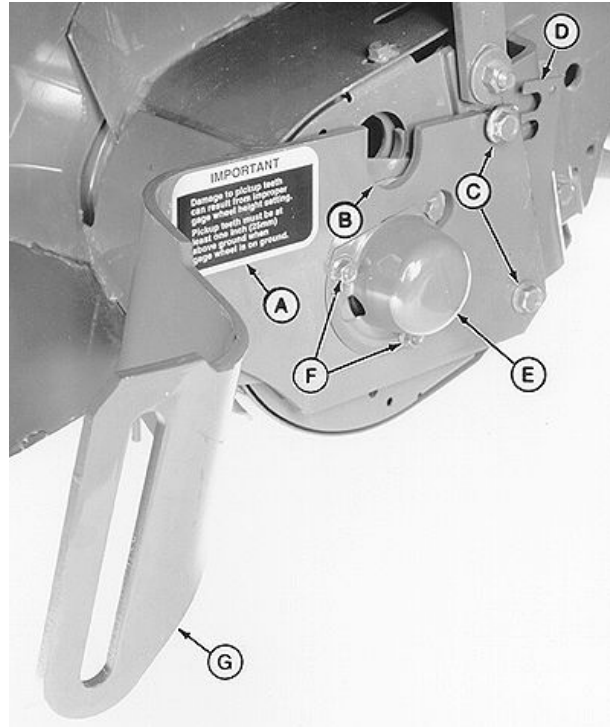
PP98408,0000FD8 -19-07FEB13-2/9

8. Install gauge wheel arm (G) with slot (B) toward top.
9. Install bearing cover (E), nuts (F), cap screws (C). Do not tighten nuts and cap screws at this time.

IMPORTANT: Install shim (D) with notches toward front of baler to avoid binding with flare pivot plate.

10. Insert shim (D) between arm and frame. Tighten cap screws (C) and nuts (F).
11. Attach decal (A) near top edge of arm as shown.
12. Install wheel. (See INSTALL WHEEL SPINDLES in this section.)

A—Decal	E—Bearing Cover
B—Slot	F—Nuts (2 used)
C—Cap Screw, M12 x 60 mm (2 used)	G—Gauge Wheel Arm
D—Shim	



Continued on next page

PP98408,0000FD8 -19-07FEB13-3/9

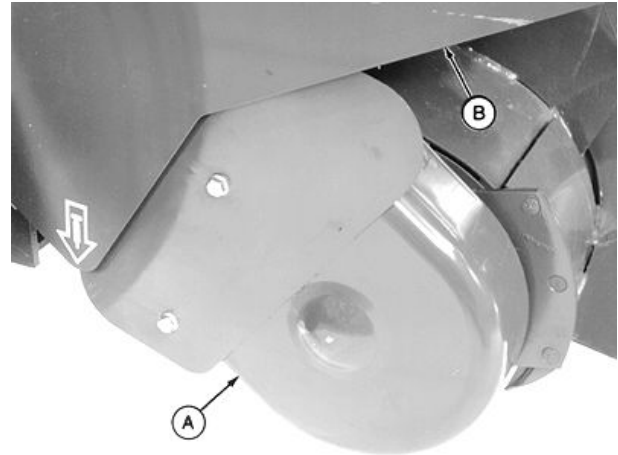
E40797 —UN—23AUG96

E39329 —UN—14MAR96

13. Remove shield (A and B).

A—Shield

B—Shield



E39320 —UN—14MAR96

PP98408,0000FD8 -19-07FEB13-4/9

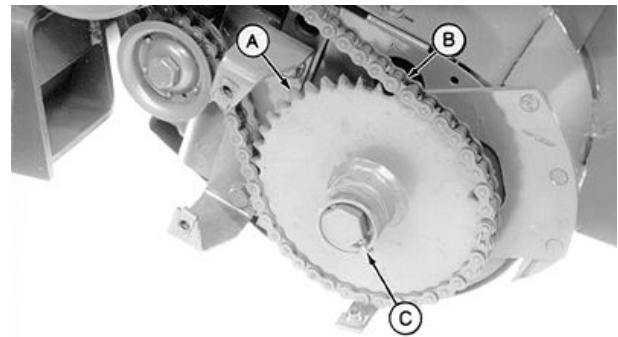
14. Remove chain (B) from sprocket (A).

15. Remove quick-lock pin (C), hex washer, and washers.

16. Remove sprocket (A).

A—Sprocket
B—Chain

C—Quick-Lock Pin



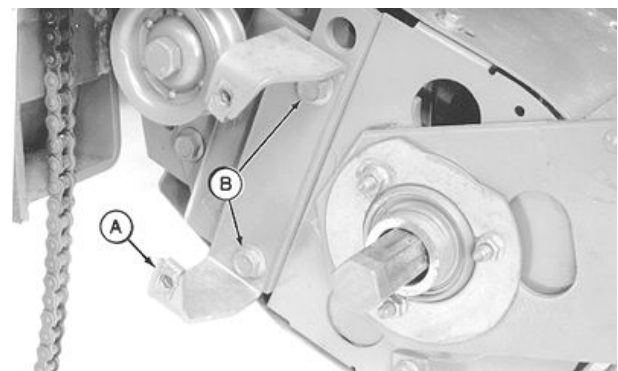
E39321 —UN—14MAR96

PP98408,0000FD8 -19-07FEB13-5/9

17. Remove cap screws (B) to remove bracket (A).
Discard cap screws.

A—Bracket

B—Cap Screws (2 used)



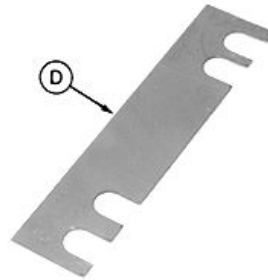
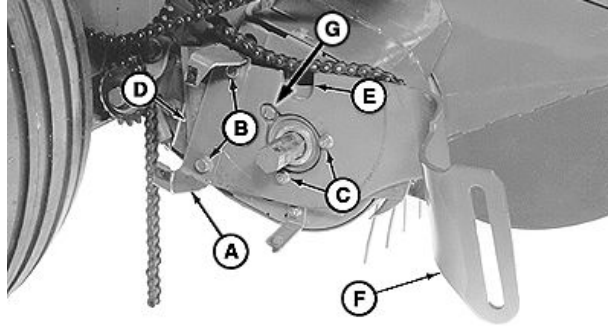
E39322 —UN—14MAR96

Continued on next page

PP98408,0000FD8 -19-07FEB13-6/9

18. Remove nuts (C), then install gauge wheel arm (F) with slot (E) toward top. Install nuts (C), but do not tighten at this time.
19. Do not remove bolt (G).
20. Install bracket (A) and cap screws (B). Do not tighten at this time.
21. Install shim (D) between arm (F) and frame. Tighten cap screws and nuts.

A—Bracket
 B—Cap Screw, M12 x 60 mm (2 used)
 C—Nuts (2 used)
 D—Shim
 E—Slot
 F—Gauge Wheel Arm
 G—Bolt



PP98408,0000FD8 -19-07FEB13-7/9

E66615—UN—12JUL12

E39329—UN—14MAR96

NOTE: Use 34 mm (1-11/32 in.) [distance (F)] as a starting point to align sprocket (A) to the sprocket with sheave.

Distance (F) is the distance between the outside surface of the end stripper support and inside face of sprocket (A).

22. Install sprocket (A) with hub toward outside.

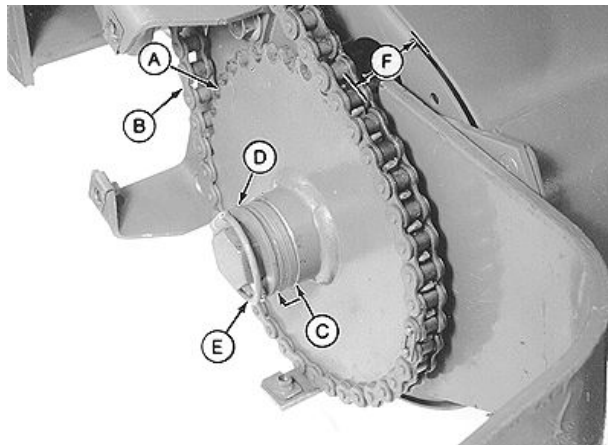
IMPORTANT: Distance (F) must not be less than 31 mm (1-7/32 in.). If distance (F) is less than specified, sprocket (A) can contact ends of the bearing flange studs or the drive chain can contact the shield bracket.

23. Check alignment of sprocket (A) to the sprocket with sheave. If sprockets do not align, add or remove washers between sprocket (A) and bearing until alignment is obtained.

If sprocket alignment cannot be obtained while keeping distance (F) at a minimum 31 mm (1-7/32 in.), then the chain idler, sprocket with sheave, and drive sheave must be adjusted accordingly.

24. Install washers (C) (as needed), hex washer (D), and quick-lock pin (E).

25. Install chain (B).



A—Sprocket
 B—Chain
 C—Washer (As Required)
 D—Hex Washer

E—Quick-Lock Pin
 F—34 mm (1-11/32 in.) Initial Distance
 F—31 mm (1-7/32 in.) Minimum Distance

IMPORTANT: If the chain idler spring was disconnected or removed, install the spring with open portion of top hook toward rear and open portion of bottom hook toward the baler.

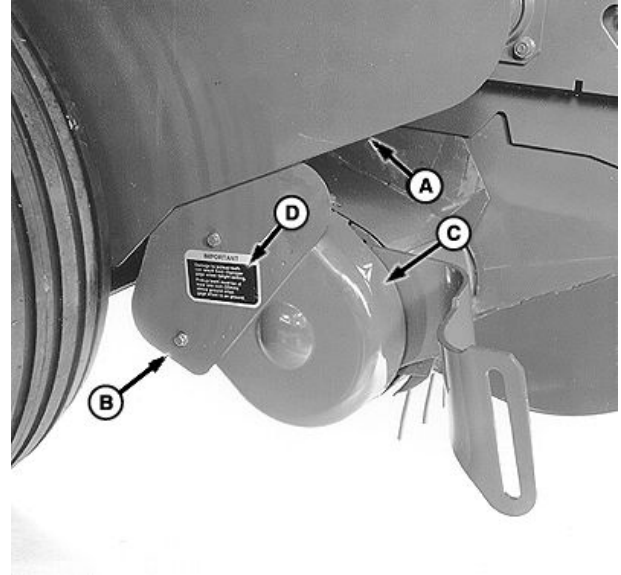
Continued on next page

PP98408,0000FD8 -19-07FEB13-8/9

E39324—UN—30OCT96

26. Install shield (A and B).
27. Attach decal (C) to shield (A) as shown.
28. Install wheel. (See INSTALL WHEEL SPINDLES in this section.)

A—Shield
B—Shield
C—Decal



E40799—UN—11OCT12

PP98408,0000FD8 -19-07FEB13-9/9

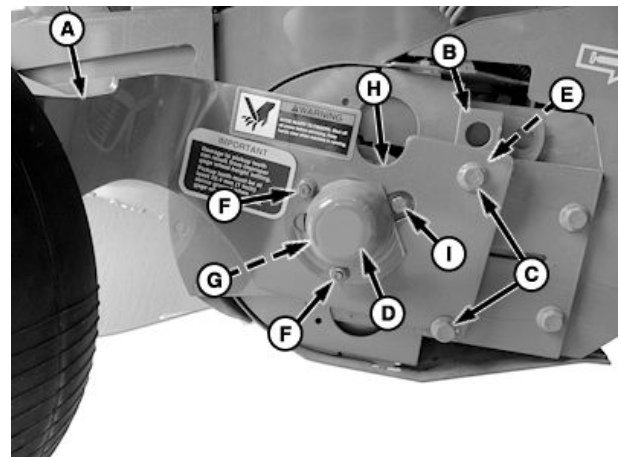
Install Gauge Wheel Arms (MegaWide™ Plus Pickup)

IMPORTANT: If 1/2 to 2 threads are not shown beyond flange locknuts, studs (F) may have turned back inside while tightening locknuts. If stud has backed inside, remove gauge wheel arm, place double nuts on cam studs and turn counterclockwise to turn out studs until 1/2 to 2 threads will extend beyond lock nut when reinstalled. Remove double nuts and continue installation.

1. Remove gauge wheel arms (A) from tongue.
2. Remove locknuts (F) and end cap (D). Disk (G) remains in place.
3. Remove and retain cap screws (C).
4. Do not remove bolt (I).
5. Install gauge wheel arm with notch (H) as shown. Insert two straps (B) and shims (E) between gauge wheel arm and pickup frame and install using previously removed cap screws (C).
6. Install end cap (D) with two 3/8 in. nuts. Tighten to specification.

Specification

End Cap Nuts—Torque.....47 N·m
(35 lb.-ft.)



Left-Hand Side Shown

A—Gauge Wheel Arm
B—Straps (2 used)
C—Cap Screws, M12 x 40 (2 used)
D—End Cap
E—Shim
F—Flange Locknut, 3/8 in. (2 used)
G—Disk
H—Notch
I— Bolt

7. Tighten cap screws (C).
8. Repeat on opposite side.

E67703—UN—04SEP12

PP98408,0000FD9 -19-08FEB13-1/1

Install Gauge Wheels (MegaWide™ Plus Pickup)

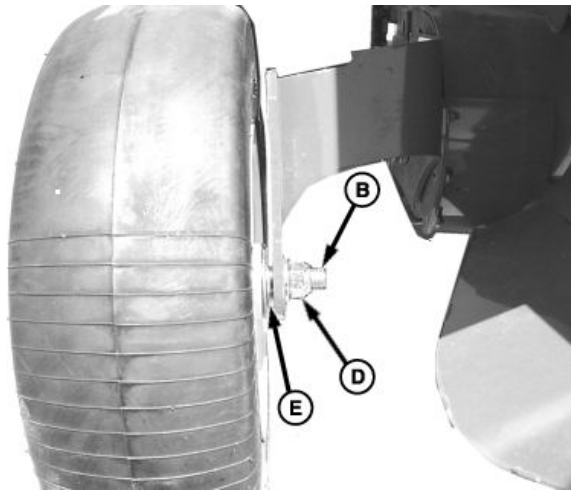
1. **Silage Special balers:** Gauge wheels are shipped in the surface wrap unit. Open surface wrap cover unit door and remove gauge wheels from shipping location.

Non-Silage Special balers: Gauge wheels are shipped between main frame crossbeam and belts. Remove gauge wheel from shipping location.

2. Assemble wheel and gauge arm in the following manner:
 - Stand wheel (A) upright. Long hub points toward baler.
 - Insert bushing or spacer (C) inside wheel bearings.
 - Place a washer (E) on each side of wheel.
 - Insert bolt (B) through washers, wheel (A) and gauge wheel arm so threads are facing towards baler.
 - Place flange nut (D) on cap screw (B).
3. Tighten cap screw and nut, ensure that wheel will rotate freely.
4. Repeat Steps 1 and 2 for opposite side.
5. Adjust gauge wheels. (See ADJUST GAUGE WHEELS in the Final Inspection and Adjustments section.)

A—Gauge Wheel
B—Cap Screw
C—Bushing or Spacer

D—Flange Nut
E—Washer



E54423—UN—06OCT05

E54251—UN—20JUL05

PP98408,0000FDA -19-08FEB13-1/1

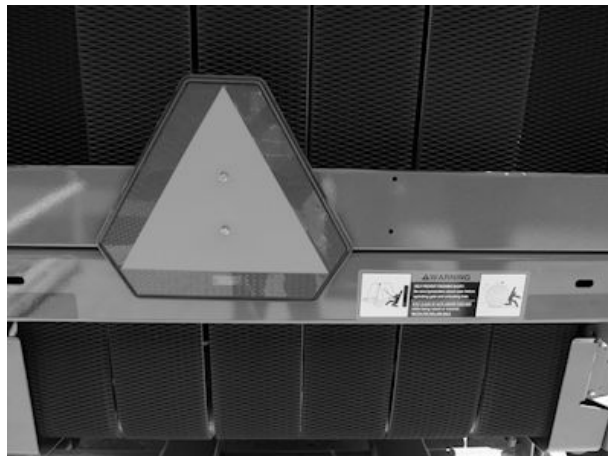
Install Slow Moving Vehicle (SMV) Sign in Operating Position

Without COVER-EDGE™ Net Wrap Unit;

1. Remove two M6 x 20 mounting cap screws, nuts and SMV sign.
2. Reinstall sign with reflective side away from machine (as shown). Fasten sign to machine using existing hardware.

With COVER-EDGE™ Net Wrap Unit;

1. Remove protective covering from sign.



Without COVER-EDGE™ Net Wrap Unit Shown

E67277—UN—10AUG12

PP98408,0000FDC -19-07FEB13-1/1

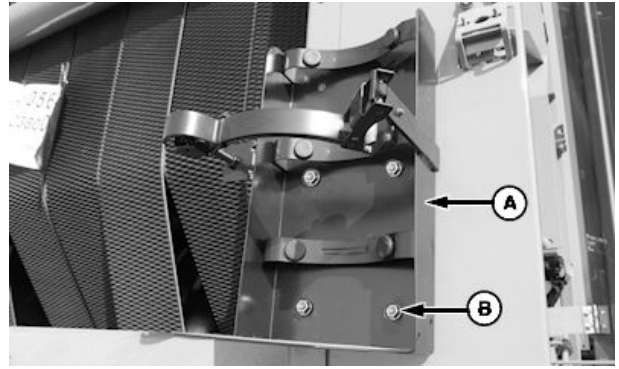
Install Fire Extinguisher—459 and 559

A 9.5 L (2-1/2 gal.) pressurized-water fire extinguisher can be mounted in the holes that are provided on the baler. (See your John Deere dealer.)

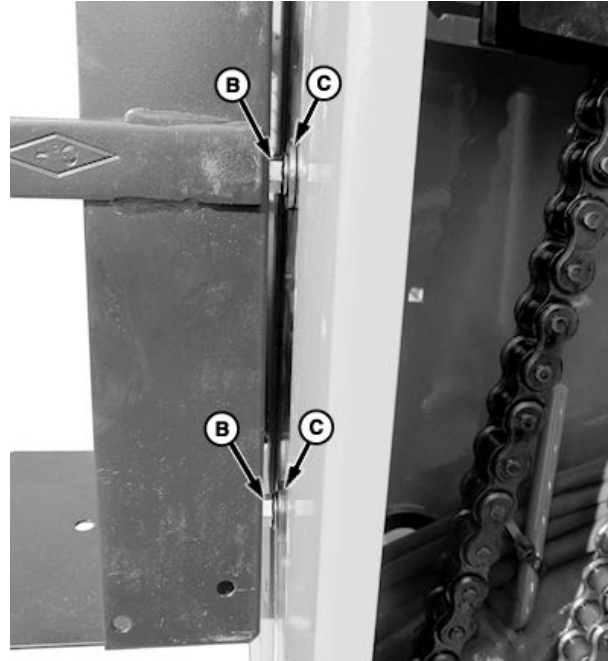
1. Install bracket (A) using nuts (B), washers (C), cap screws (D), and plate (E).

A—Bracket
B—Nuts (8 used)
C—Washers (8 used)

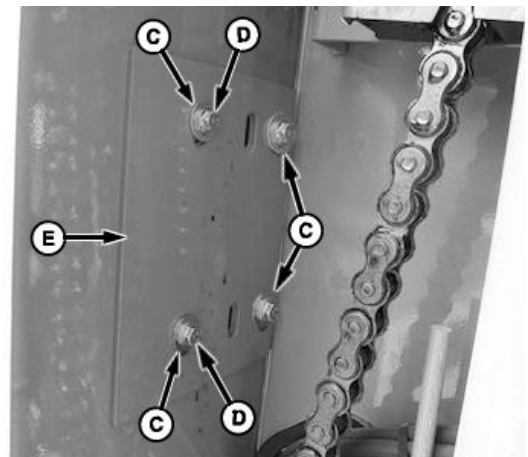
D—Cap Screws (4 used)
E—Plate



E66360 —UN—10AUG12



E66365 —UN—10AUG12



E66366 —UN—10AUG12

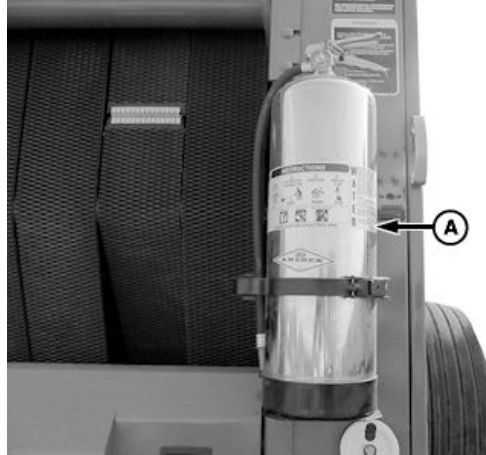
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PP98408,0000FDD -19-07FEB13-1/2

IMPORTANT: If baler is subjected to cold weather, a nonflammable antifreeze solution must be used to prevent damage to extinguisher.

2. Fill, pressurize, and test fire extinguisher.
3. Secure fire extinguisher (A) to bracket.

A—Fire Extinguisher



E66363 — UN — 03JUL12

PP98408.0000FDD -19-07FEB13-2/2

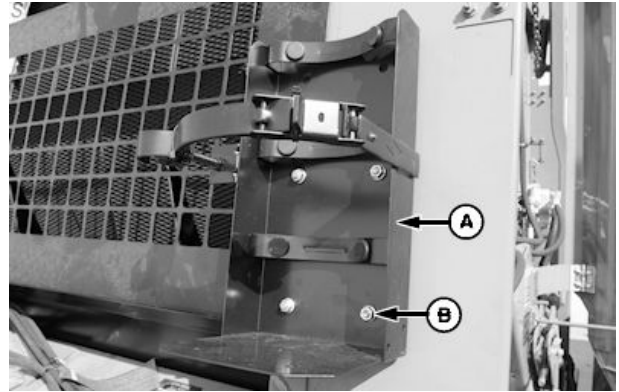
Install Fire Extinguisher—459S and 559S

A 9.5 L (2-1/2 gal.) pressurized-water fire extinguisher can be mounted in the holes that are provided on the baler. (See your John Deere dealer.)

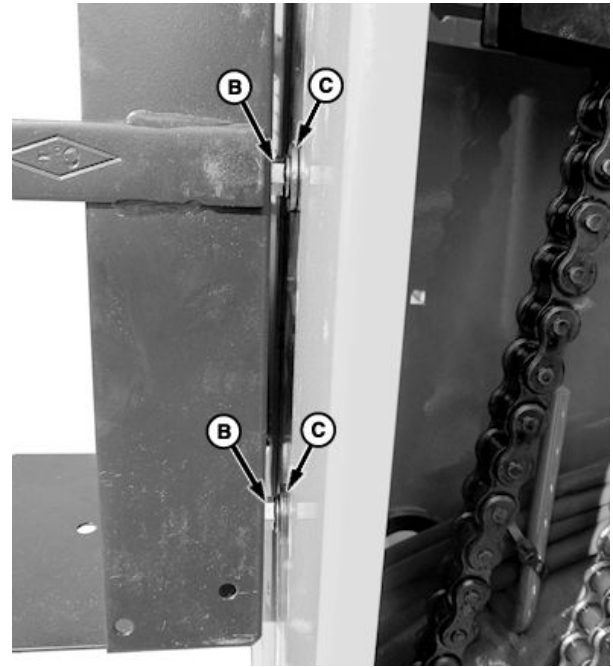
1. Install bracket (A) using nuts (B), washers (C), cap screws (D), and plate (E).

A—Bracket
B—Nuts (6 used)
C—Washers (6 used)

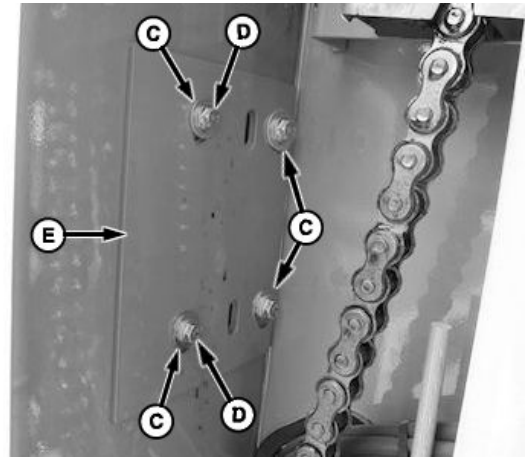
D—Cap Screws (2 used)
E—Plate



E66364—UN—03JUL12



E66365—UN—10AUG12



E66366—UN—10AUG12

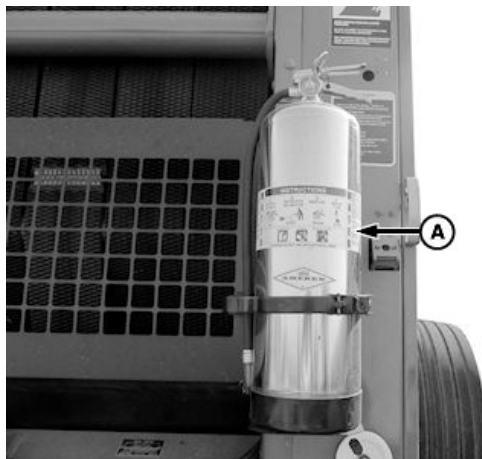
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PP98408,0000FDE -19-07FEB13-1/2

IMPORTANT: If baler is subjected to cold weather, a nonflammable antifreeze solution must be used to prevent damage to extinguisher.

2. Fill, pressurize, and test fire extinguisher.
3. Secure fire extinguisher (A) to bracket.

A—Fire Extinguisher



E66374 — UN — 03JUL12

PP98408,0000FDE -19-07FEB13-2/2

Apply Powder to Belts

IMPORTANT: If belts are new and have not been used, add baby powder to simulate crop dust or the belts will not track properly on the rolls.

Use only baby powder made with talcum. Do not use powder with corn starch. Corn starch will absorb moisture and cling to rolls.

It is best to powder belts on a sunny, dry day with baler in a building or under shelter. If baler is outside, be sure that belts and rolls are dry. Do not powder on damp (early morning dew) belts.

Use baby powder that is made with talcum. A large bottle, 15 oz. plus, can be necessary.

CAUTION: When positioning the gate to provide access for service, always make sure tension arm (A) is fully raised and against tension arm stops (B). This prevents gate from lowering unexpectedly.

ALWAYS raise the gate fully and lower it to the desired opening height before engaging gate lock. Crop material can hold the tension arm at a lower position and material can be redistributed during servicing. This could cause tension arm (A) to swing up and suddenly lower the gate, even if the gate lock is engaged.

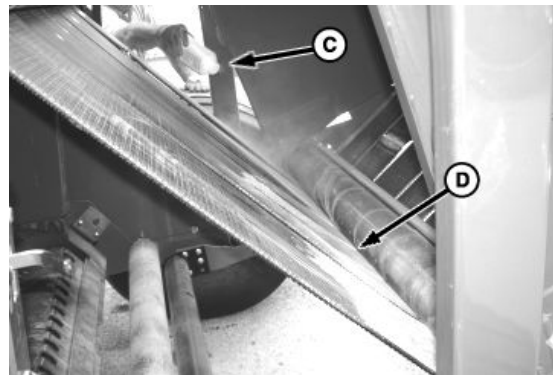
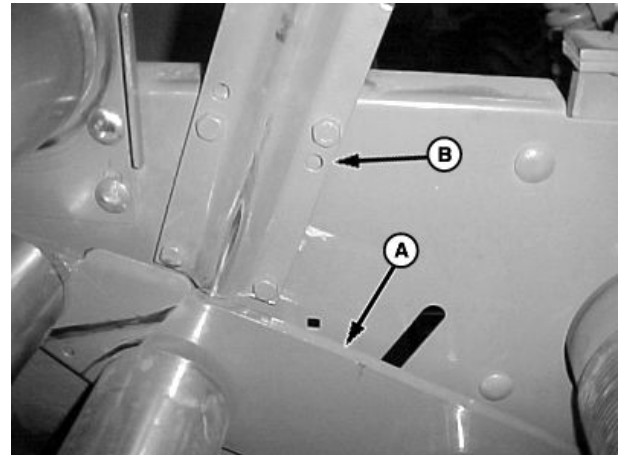
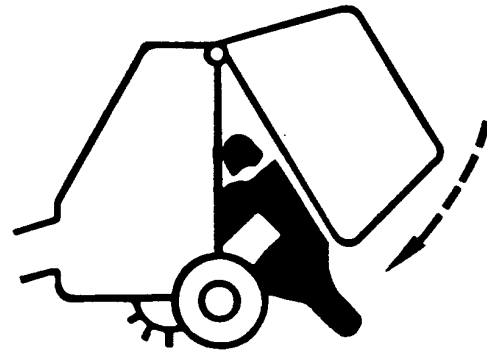
Failure to verify that tension arm (A) is positioned against stops (B) can result in serious injury or death.

Close the gate any time baler must be left unattended.

CAUTION: To avoid serious injury from entanglement, ensure bystanders stand clear when operating baler. **DO NOT** apply powder with baler running.

1. Position gate as follows:

- With tractor attached to baler, open gate fully, lower gate until belts are slack and tension arm (A) remains against tension arm stop (B). **Lock gate, shut off tractor engine, and remove key.**
- Stand outside of baler tire, and liberally sprinkle powder (C) on all belts (D). Unlock gate, start tractor, raise gate fully, engage PTO to rotate belts approximately 2.4 m (8 ft.) and disengage PTO. **Lock gate, shut off tractor engine, and remove key.**



A—Tension Arm
B—Tension Arm Stop

C—Talcum Powder
D—Powder on Belts

- Repeat step b until, complete length of belts are thinly coated.

Continued on next page

PP98408,0000FDF -19-07FEB13-1/2

TS698 —UN—21SEP89

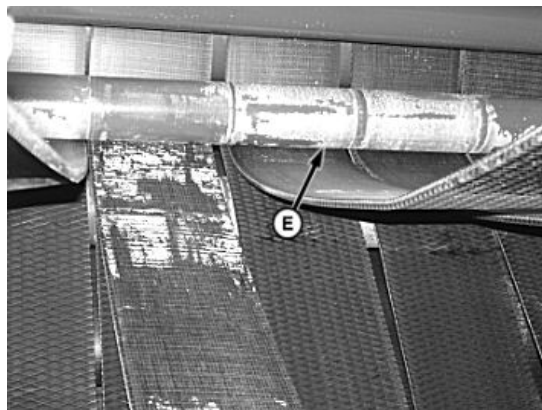
E55649 —UN—07APR08

E55650 —UN—07APR08

⚠ CAUTION: When removing powder from rolls (E), lock gate, shut off tractor engine and remove key.

2. If belts are slightly damp, or humidity is high, powder can stick to rolls (E). If rolls are coated, remove powder from rolls, and reapply powder to belts.

E—Rolls



E55228 —UN—01 JUN07

PP98408,0000FDF -19-07FEB13-2/2

Specifications

459 Round Baler Specifications

1

Baler Dimensions

Length: Gate Closed; without COVER-EDGE™ Net Wrap	3612 mm (142.2 in.)
Length: Gate Closed; with COVER-EDGE™ Net Wrap	3980 mm (156.7 in.)
Length: Gate Open.....	4542 mm (178.8 in.)
Height: Gate Closed	2597 mm (102.2 in.)
Height: Gate Open	3251 mm (128 in.)
Width: Regular Pickup with Gauge Wheels	2136 mm (84.1 in.)
Width: MegaWide™ Plus Pickup with Gauge Wheels	2516 mm (99.1 in.)

Bale

Diameter	889—1524 mm (35—60 in.)
Width	1171 mm (46.1 in.)
Typical Weight ^a	499 kg (1100 lb.)
Maximum Weight	794 kg (1750 lb.)

^aDepending on crop conditions.

Regular Pickup

Width: Inside.....	1166 mm (45.9 in.)
Width: On Flare	1410 mm (55.5 in.)
Width: Between Outer Teeth	1123 mm (44.2 in.)
Drive.....	Roller chain with V-belt
Toothbars.....	4
Number of Teeth	36 (72 tines)
Tooth Spacing	66 mm (2.6 in.)
Stripper Diameter	254 mm (10 in.)

MegaWide™ Plus Pickup

Width: Inside.....	1586 mm (62.4 in.)
Width: On Flare	1803 mm (71 in.)
Width: Between Outer Teeth	1518 mm (59.7 in.)
Drive.....	Roller chain with slip clutch
Toothbars.....	4
Number of Center Teeth.....	40 (80 tines)
Number of Outside (Mega) Teeth.....	16 (16 tines)
Tooth Spacing	66 mm (2.6 in.)
Stripper Diameter	254 mm (10 in.)

Forming Belts

Number	6
Width	178 mm (7 in.)
Type	DiamondTough™, diamond tread, friction surface, with plate-type splices
Length.....	(2) 11 709 mm (461 in.) (4) 11 849 mm (466.5 in.)

Bale Wrap (BaleTrak™ Pro)

Type	Twine wrap (standard) COVER-EDGE™ Net wrap (if equipped)
Control	Self-activating; automatic at desired bale size
Actuator Type.....	Electric, double twine arms
Twine Spacing.....	Adjustable

Mechanical Bale Forming Indicators

Bale Size	Pointer or Scale
Twine Arm Position.....	Pointer or Scale

Continued on next page

PP98408,000122B -19-30SEP15-1/2

Specifications

Electrical Bale Forming Indicators

Bale Shape.....	BaleTrak™ Pro
Twine Arm Position.....	BaleTrak™ Pro
Bale Size Alert.....	BaleTrak™ Pro

Gear Case Oil Capacity

Oil Capacity	1.2 L (1.25 qt.)

Tire Size

Standard.....	11L-14, 8 ply rating
Hi-Flotation (if equipped)	21.5L x 16.1, 10 ply rating

Power Train

PTO Shaft Speed	540 rpm
Drive Protection	Slip clutch

Tractor Recommended

Minimum Power	41 kW (55 hp.)
Hydraulics (recommended)	
Control Valve	One double-acting selective control valve. Two, if equipped with hydraulic pickup lift.

¹(Specifications and design subject to change without notice.)

PP98408,000122B -19-30SEP15-2/2

459 Silage Special Round Baler Specifications

1

Baler Dimensions

Length: Gate Closed; without COVER-EDGE™ Net Wrap	3612 mm (142.2 in.)
Length: Gate Closed; with COVER-EDGE™ Net Wrap	3980 mm (156.7 in.)
Length: Gate Open	4542 mm (178.8 in.)
Height: Gate Closed	2597 mm (102.2 in.)
Height: Gate Open	3251 mm (128 in.)
Width: MegaWide™ Plus Pickup with Gauge Wheels	2516 mm (99.1 in.)

Bale

Diameter	889—1524 mm (35—60 in.)
Width	1171 mm (46.1 in.)
Typical Weight ^a	499 kg (1100 lb.)
Maximum Weight	794 kg (1750 lb.)

^aDepending on crop conditions.

MegaWide™ Plus Pickup

Width: Inside	1586 mm (62.4 in.)
Width: On Flare	1803 mm (71 in.)
Width: Between Outer Teeth	1518 mm (59.7 in.)
Drive	Roller chains with slip clutch
Toothbars	4
Number of Center Teeth	40 (80 tines)
Number of Outside (Mega) Teeth	16 (16 tines)
Tooth Spacing	66 mm (2.6 in.)
Stripper Diameter	254 mm (10 in.)

Forming Belts

Number	6
Width	178 mm (7 in.)
Type	DiamondTough™, diamond tread, friction surface, with plate-type splices
Length	(2) 11 709 mm (461 in.) (4) 11 849 mm (466.5 in.)

Bale Wrap (BaleTrak™ Pro)

Type	Twine wrap (standard) COVER-EDGE™ Net wrap (if equipped)
Control	Self-activating; automatic at desired bale size
Actuator Type	Electric, double twine arms
Twine Spacing	Adjustable

Mechanical Bale Forming Indicators

Bale Size	Pointer or Scale
Twine Arm Position	Pointer or Scale

Electrical Bale Forming Indicators

Bale Shape	BaleTrak™ Pro
Twine Arm Position	BaleTrak™ Pro
Bale Size Alert	BaleTrak™ Pro

Gear Case Oil Capacity

Oil Capacity	1.2 L (1.25 qt.)

Continued on next page

PP98408,000122C -19-30SEP15-1/2

Specifications

Tire Size

Standard	11L-14, 8 ply rating
Hi-Flotation (if equipped)	21.5L x 16.1, 10 ply rating

Power Train

PTO Shaft Speed	540 rpm
Drive Protection	Slip clutch

Tractor Recommended

Minimum Power	41 kW (55 hp.)
Hydraulics (recommended)	
Control Valve	One double-acting selective control valve. Two, if equipped with hydraulic pickup lift.

¹(Specifications and design subject to change without notice.)

PP98408,000122C -19-30SEP15-2/2

559 Round Baler Specifications

1

Baler Dimensions

Length: Gate Closed; without COVER-EDGE™ Net Wrap	3612 mm (142.2 in.)
Length: Gate Closed; with COVER-EDGE™ Net Wrap	3980 mm (156.7 in.)
Length: Gate Open	4542 mm (178.8 in.)
Height: Gate Closed	2597 mm (102.2 in.)
Height: Gate Open	3251 mm (128 in.)
Width: Regular Pickup with Gauge Wheels	2516 mm (99.1 in.)
Width: MegaWide™ Plus Pickup with Gauge Wheels	2882 mm (113.5 in.)

Bale

Diameter	889—1524 mm (35—60 in.)
Width	1565 mm (61.6 in.)
Typical Weight ^a	658 kg (1450 lb.)
Maximum Weight	794 kg (1750 lb.)

^aDepending on crop conditions.

Regular Pickup

Width: Inside	1560 mm (61.4 in.)
Width: On Flare	1803 mm (71 in.)
Width: Between Outer Teeth	1519 mm (59.8 in.)
Drive	Roller chain with V-belt
Toothbars	4
Number of Teeth	48 (96 tines)
Tooth Spacing	66 mm (2.6 in.)
Stripper Diameter	254 mm (10 in.)

MegaWide™ Plus Pickup

Width: Inside	1982 mm (78 in.)
Width: On Flare	2210 mm (87 in.)
Width: Between Outer Teeth	1914 mm (75.3 in.)
Drive	Roller chain with slip clutch
Toothbars	4 Left-Hand and 4 Right-Hand
Number of Center Teeth	56 (112 tines)
Number of Outside (Mega) Teeth	8 (8 tines)
Tooth Spacing	66 mm (2.6 in.)
Stripper Diameter	254 mm (10 in.)

Forming Belts

Number	8
Width	178 mm (7 in.)
Type	DiamondTough™, diamond tread, friction surface, with plate-type splices
Length	(4) 11 709 mm (461 in.) (4) 11 849 mm (466.5 in.)

Bale Wrap (BaleTrak™ Pro)

Type	Twine wrap (standard) COVER-EDGE™ Net wrap (if equipped)
Control	Self-activating; automatic at desired bale size
Actuator Type	Electric, double twine arms
Twine Spacing	Adjustable

Mechanical Bale Forming Indicators

Bale Size	Pointer or Scale
Twine Arm Position	Pointer or Scale

Continued on next page

PP98408,000122E -19-30SEP15-1/2

Specifications

Electrical Bale Forming Indicators

Bale Shape.....	BaleTrak™ Pro
Twine Arm Position.....	BaleTrak™ Pro
Bale Size Alert.....	BaleTrak™ Pro

Gear Case Oil Capacity

Oil Capacity	1.2 L (1.25 qt.)

Tire Size

Standard.....	14L x 16.1, 8 ply rating
Hi-Flotation (if equipped)	21.5L x 16.1, 10 ply rating

Power Train

PTO Shaft Speed	540 rpm
Drive Protection	Slip clutch

Tractor Recommended

Minimum Power	41 kW (55 hp.)
Hydraulics (recommended)	
Control Valve	One double-acting selective control valve. Two, if equipped with hydraulic pickup lift.

¹(Specifications and design subject to change without notice.)

PP98408,000122E -19-30SEP15-2/2

559 Silage Special Round Baler Specifications

1

Baler Dimensions

Length: Gate Closed; without COVER-EDGE™ Net Wrap	3612 mm (142.2 in.)
Length: Gate Closed; with COVER-EDGE™ Net Wrap	3980 mm (156.7 in.)
Length: Gate Open	4542 mm (178.8 in.)
Height: Gate Closed	2597 mm (102.2 in.)
Height: Gate Open	3251 mm (128 in.)
Width: MegaWide™ Plus Pickup with Gauge Wheels	2882 mm (113.5 in.)

Bale

Diameter	889—1524 mm (35—60 in.)
Width	1565 mm (61.6 in.)
Typical Weight ^a	658 kg (1450 lb.)
Maximum Weight	794 kg (1750 lb.)

^aDepending on crop conditions.

MegaWide™ Plus Pickup

Width: Inside	1982 mm (78 in.)
Width: On Flare	2210 mm (87 in.)
Width: Between Outer Teeth	1914 mm (75.3 in.)
Drive	Roller chain with slip clutch
Toothbars	4 Left-Hand and 4 Right-Hand
Number of Center Teeth	56 (112 tines)
Number of Outside (Mega) Teeth	8 (8 tines)
Tooth Spacing	66 mm (2.6 in.)
Stripper Diameter	254 mm (10 in.)

Forming Belts

Number	8
Width	178 mm (7 in.)
Type	DiamondTough™, diamond tread, friction surface, with plate-type splices
Length	(4) 11 709 mm (461 in.) (4) 11 849 mm (466.5 in.)

Bale Wrap (BaleTrak™ Pro)

Type	Twine wrap (standard) COVER-EDGE™ Net wrap (if equipped)
Control	Self-activating; automatic at desired bale size
Actuator Type	Electric, double twine arms
Twine Spacing	Adjustable

Mechanical Bale Forming Indicators

Bale Size	Pointer or Scale
Twine Arm Position	Pointer or Scale

Electrical Bale Forming Indicators

Bale Shape	BaleTrak™ Pro
Twine Arm Position	BaleTrak™ Pro
Bale Size Alert	BaleTrak™ Pro

Gear Case Oil Capacity

Oil Capacity	1.2 L (1.25 qt.)

Continued on next page

PP98408.000122F -19-30SEP15-1/2

Specifications

Tire Size

Standard	14L x 16.1, 8 ply rating
Hi-Flotation (if equipped)	21.5L x 16.1, 10 ply rating

Power Train

PTO Shaft Speed	540 rpm
Drive Protection	Slip clutch

Tractor Recommended

Minimum Power	41 kW (55 hp.)
Hydraulics (recommended)	
Control Valve	One double-acting selective control valve. Two, if equipped with hydraulic pickup lift.

¹(Specifications and design subject to change without notice.)

PP98408,000122F -19-30SEP15-2/2

BaleTrak™ Pro Monitor-Controller Specifications

BaleTrak™ Monitor-Controller

Near-Full Bale	Indicator displayed and audible alarm
Full Bale	Indicator displayed and audible alarm
Auto-Wrap	Indicator displayed and audible alarm
Oversize Bale Protection	STOP or oversize indicator and audible alarm
Gate Closed	Indicator displayed
Nighttime Operation	Display area backlight
Continuous Twine Application	Indicator displayed
Net Wrap Application	Indicator displayed
Auto Wrap Cycle	Activates when bale reaches preset size
Gate Closed	Indicator displayed
Bale Full Size—Wrapping Started	Indicator displayed
Wrapping Completed—Eject Bale	Indicator displayed
Bale Shape	Vertical bars displayed: 24 each column
Wrap of Undersize Bale	Touch wrap key
Bale Size Indicator	Digital display
Set Bale Size	Touch bale size key and touch plus or minus key
Set Twine Spacing or Net Wraps	Touch key and touch plus or minus key
Set Number of End Wraps, Right or Left	Touch key and touch plus or minus key
Set End Wrap Location, Right or Left	Touch key and touch plus or minus key
Set Re-extension and Cinch Wrap	Hold key and touch plus or minus key
Out of Net Wrap	STOP indicator displayed and audible alarm
Surface Wrap Cutoff	Indicator displayed
Selection of Twine or Net Wrap	Touch and hold twine or net key
Control of Variable Core	Diameter setting and on or off key
On Board Diagnostics	Digital LCD
Bale Counters	Resettable and total
Manual Actuator Movement with Electronic By-pass	Separate switch in harness
Low Voltage Indicator	Indicator displayed
Change Baler Model	Touch key and touch plus or minus key

PP98408,000123B -19-22FEB13-1/1

Tractor Compatibility

IMPORTANT: See tractor operator's manual for proper ballast.

459, 459 Silage Special, 559, and 559 Silage Special Baler Tractor Compatibility (1 of 2)					
Tractor Requirements					
Model No.	Recommended PTO Horsepower	Implement Weight (goes into tractor ballast calculation)	7-Pin Connector Required	Number of SCV Pairs	Hydraulic Minimum Flow Rate from SCV
459	41 kW (55 hp.) minimum	2650 kg (5843 lb.)	Yes	One (Two if equipped with hydraulic pickup lift)	22.7—24.6 L/min. (6—6.5 gpm)
459 Silage Special	41 kW (55 hp.) minimum	2650 kg (5843 lb.)	Yes	One (Two if equipped with hydraulic pickup lift)	22.7—24.6 L/min. (6—6.5 gpm)
559	41 kW (55 hp.) minimum	3092 kg (6817 lb.)	Yes	One (Two if equipped with hydraulic pickup lift)	22.7—24.6 L/min. (6—6.5 gpm)
559 Silage Special	41 kW (55 hp.) minimum	3092 kg (6817 lb.)	Yes	One (Two if equipped with hydraulic pickup lift)	22.7—24.6 L/min. (6—6.5 gpm)

459, 459 Silage Special, 559, and 559 Silage Special Baler Tractor Compatibility (2 of 2)								
Tractor Requirements								
Model No.	PTO Speed	Road Speed Maximum Limit	Drawbar Vertical Capacity	Drawbar Size	Electrical System Voltage	Electrical System Amps	Electrical System Grounding	Tractor Cab Required
459	540	32 km/h (20 mph)	538 kg (1187 lb.)	Accept up to 51 mm (2 in.) thick drawbar.	12 VDC	20	Negative	No
459 Silage Special	540	32 km/h (20 mph)	538 kg (1187 lb.)	Accept up to 51 mm (2 in.) thick drawbar.	12 VDC	20	Negative	No
559	540	32 km/h (20 mph)	661 kg (1458 lb.)	Accept up to 51 mm (2 in.) thick drawbar.	12 VDC	20	Negative	No
559 Silage Special	540	32 km/h (20 mph)	661 kg (1458 lb.)	Accept up to 51 mm (2 in.) thick drawbar.	12 VDC	20	Negative	No

PP98408,00006D0 -19-06JUL12-1/1

Hitch Weights

NOTE: Weights are with typical optional equipment. Weights with other optional equipment will vary.

The maximum static vertical load for these machines is achieved with the bale chamber empty.

Maximum Static Vertical Load on Tractor Drawbar—Specification

Specification	
459 Baler—Weight on Drawbar.....	546 kg (1204 lb.)

Specification	
459 Silage Special Baler—Weight on Drawbar.....	546 kg (1204 lb.)

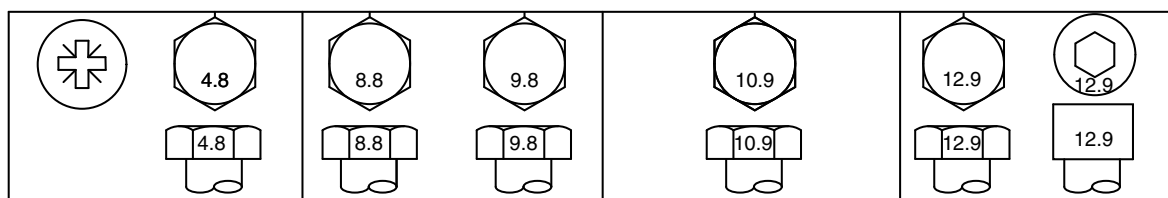
Specification	
559 Baler—Weight on Drawbar.....	632 kg (1394 lb.)

Specification	
559 Silage Special Baler—Weight on Drawbar.....	632 kg (1394 lb.)

PP98408,00006D1 -19-06JUL12-1/1

Metric Bolt and Screw Torque Values

TS1670 —UN—01MAY03



Bolt or Screw Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Lubricated ^a		Dry ^b		Lubricated ^a		Dry ^b		Lubricated ^a		Dry ^b		Lubricated ^a		Dry ^b	
	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.
M6	4.7	42	6	53	8.9	79	11.3	100	13	115	16.5	146	15.5	137	19.5	172
									N·m	lb.-ft.	N·m	lb.-ft.	N·m	lb.-ft.	N·m	lb.-ft.
M8	11.5	102	14.5	128	22	194	27.5	243	32	23.5	40	29.5	37	27.5	47	35
			N·m	lb.-ft.	N·m	lb.-ft.	N·m	lb.-ft.								
M10	23	204	29	21	43	32	55	40	63	46	80	59	75	55	95	70
	N·m	lb.-ft.														
M12	40	29.5	50	37	75	55	95	70	110	80	140	105	130	95	165	120
M14	63	46	80	59	120	88	150	110	175	130	220	165	205	150	260	190
M16	100	74	125	92	190	140	240	175	275	200	350	255	320	235	400	300
M18	135	100	170	125	265	195	330	245	375	275	475	350	440	325	560	410
M20	190	140	245	180	375	275	475	350	530	390	675	500	625	460	790	580
M22	265	195	330	245	510	375	650	480	725	535	920	680	850	625	1080	800
M24	330	245	425	315	650	480	820	600	920	680	1150	850	1080	800	1350	1000
M27	490	360	625	460	950	700	1200	885	1350	1000	1700	1250	1580	1160	2000	1475
M30	660	490	850	625	1290	950	1630	1200	1850	1350	2300	1700	2140	1580	2700	2000
M33	900	665	1150	850	1750	1300	2200	1625	2500	1850	3150	2325	2900	2150	3700	2730
M36	1150	850	1450	1075	2250	1650	2850	2100	3200	2350	4050	3000	3750	2770	4750	3500

Torque values listed are for general use only, based on the strength of the bolt or screw. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For stainless steel fasteners or for nuts on U-bolts, see the tightening instructions for the specific application. Tighten plastic insert or crimped steel type lock nuts by turning the nut to the dry torque shown in the chart, unless different instructions are given for the specific application.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical property class. Replace fasteners with the same or higher property class. If higher property class fasteners are used, tighten these to the strength of the original. Make sure fastener threads are clean and that you properly start thread engagement. When possible, lubricate plain or zinc plated fasteners other than lock nuts, wheel bolts or wheel nuts, unless different instructions are given for the specific application.

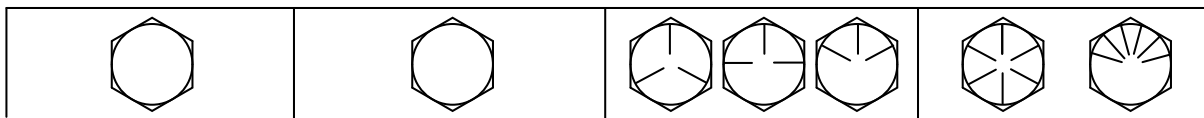
^a“Lubricated” means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or M20 and larger fasteners with JDM F13C, F13F or F13J zinc flake coating.

^b“Dry” means plain or zinc plated without any lubrication, or M6 to M18 fasteners with JDM F13B, F13E or F13H zinc flake coating.

DX,TORQ2 -19-12JAN11-1/1

Unified Inch Bolt and Screw Torque Values

TS1671 —UN—01MAY03



Bolt or Screw Size	SAE Grade 1				SAE Grade 2 ^a				SAE Grade 5, 5.1 or 5.2				SAE Grade 8 or 8.2			
	Lubricated ^b		Dry ^c		Lubricated ^b		Dry ^c		Lubricated ^b		Dry ^c		Lubricated ^b		Dry ^c	
	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.
1/4	3.7	33	4.7	42	6	53	7.5	66	9.5	84	12	106	13.5	120	17	150
													N·m	lb.-ft.	N·m	lb.-ft.
5/16	7.7	68	9.8	86	12	106	15.5	137	19.5	172	25	221	28	20.5	35	26
									N·m	lb.-ft.	N·m	lb.-ft.				
3/8	13.5	120	17.5	155	22	194	27	240	35	26	44	32.5	49	36	63	46
			N·m	lb.-ft.	N·m	lb.-ft.	N·m	lb.-ft.								
7/16	22	194	28	20.5	35	26	44	32.5	56	41	70	52	80	59	100	74
	N·m	lb.-ft.														
1/2	34	25	42	31	53	39	67	49	85	63	110	80	120	88	155	115
9/16	48	35.5	60	45	76	56	95	70	125	92	155	115	175	130	220	165
5/8	67	49	85	63	105	77	135	100	170	125	215	160	240	175	305	225
3/4	120	88	150	110	190	140	240	175	300	220	380	280	425	315	540	400
7/8	190	140	240	175	190	140	240	175	490	360	615	455	690	510	870	640
1	285	210	360	265	285	210	360	265	730	540	920	680	1030	760	1300	960
1-1/8	400	300	510	375	400	300	510	375	910	670	1150	850	1450	1075	1850	1350
1-1/4	570	420	725	535	570	420	725	535	1280	945	1630	1200	2050	1500	2600	1920
1-3/8	750	550	950	700	750	550	950	700	1700	1250	2140	1580	2700	2000	3400	2500
1-1/2	990	730	1250	930	990	730	1250	930	2250	1650	2850	2100	3600	2650	4550	3350

Torque values listed are for general use only, based on the strength of the bolt or screw. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For plastic insert or crimped steel type lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application. Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade.

Replace fasteners with the same or higher grade. If higher grade fasteners are used, tighten these to the strength of the original. Make sure fastener threads are clean and that you properly start thread engagement. When possible, lubricate plain or zinc plated fasteners other than lock nuts, wheel bolts or wheel nuts, unless different instructions are given for the specific application.

^aGrade 2 applies for hex cap screws (not hex bolts) up to 6 in. (152 mm) long. Grade 1 applies for hex cap screws over 6 in. (152 mm) long, and for all other types of bolts and screws of any length.

^b"Lubricated" means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or 7/8 in. and larger fasteners with JDM F13C, F13F or F13J zinc flake coating.

^c"Dry" means plain or zinc plated without any lubrication, or 1/4 to 3/4 in. fasteners with JDM F13B, F13E or F13H zinc flake coating.

DX,TORQ1 -19-12JAN11-1/1

Serial Numbers

Serial Number Plate

Serial number identifying the baler is stamped on factory serial number plate.

These numbers and letters are required when ordering baler or attachment replacement parts.

To ensure that you have these numbers at hand, enter the appropriate serial number in the table provided under the illustration.

PP98408,00006CA -19-06MAR12-1/1

Serial Number Plate Description

Position	Use	Example
1—3	Factory Code	1E0
4—8	Model	0559X
9	Security Code	V
10	Year of Manufacture	C
11	Model Year	C
13—17	Sequential Manufacturing Number	380001



E60952—UN—05MAR12

Example Shown

PP98408,00006CB -19-06MAR12-1/1

Record Baler Serial Number

The serial number plate (A) is located on the left-hand side of the front frame.

Record the serial number in the table below.



E60918—UN—02MAR12

A—Serial Number Plate

Serial Number															
*															*

PP98408,00006CC -19-06MAR12-1/1

Keep Proof of Ownership

1. Maintain in a secure location an up-to-date inventory of all product and component serial numbers.
2. Regularly verify that identification plates have not been removed. Report any evidence of tampering to law enforcement agencies and order duplicate plates.
3. Other steps you can take:
 - Mark your machine with your own numbering system
 - Take color photographs from several angles of each machine

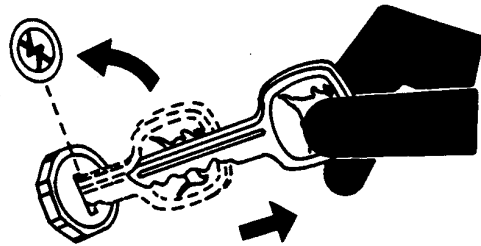


TS1680 —UN—09DEC03

DX, SECURE1 -19-18NOV03-1/1

Keep Machines Secure

1. Install vandal-proof devices.
2. When machine is in storage:
 - Lower equipment to the ground
 - Set wheels to widest position to make loading more difficult
 - Remove any keys and batteries
3. When parking indoors, put large equipment in front of exits and lock your storage buildings.
4. When parking outdoors, store in a well-lighted and fenced area.
5. Make note of suspicious activity and report any thefts immediately to law enforcement agencies.
6. Notify your John Deere dealer of any losses.



TS230 —UN—24MAY89

DX, SECURE2 -19-18NOV03-1/1

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John Deere Service Literature Available

Technical Information

Technical information can be purchased from John Deere. Publications are available in print or CD-ROM format.

Orders can be made using one of the following:

- John Deere Technical Information Store:
www.JohnDeere.com/TechInfoStore
- Call 1-800-522-7448
- Contact your John Deere dealer

Available information includes:

- **PARTS CATALOGS** list service parts available for your machine with exploded view illustrations to help you identify the correct parts. It is also useful in assembling and disassembling.
- **OPERATOR'S MANUALS** providing safety, operating, maintenance, and service information.
- **TECHNICAL MANUALS** outlining service information for your machine. Included are specifications, illustrated assembly and disassembly procedures, hydraulic oil flow diagrams, and wiring diagrams. Some products have separate manuals for repair and diagnostic information. Some components, such as engines, are available in a separate component technical manual.
- **EDUCATIONAL CURRICULUM** including five comprehensive series of books detailing basic information regardless of manufacturer:
 - Agricultural Primer series covers technology in farming and ranching.
 - Farm Business Management series examines "real-world" problems and offers practical solutions in the areas of marketing, financing, equipment selection, and compliance.
 - Fundamentals of Services manuals show you how to repair and maintain off-road equipment.
 - Fundamentals of Machine Operation manuals explain machine capacities and adjustments, how to improve machine performance, and how to eliminate unnecessary field operations.
 - Fundamentals of Compact Equipment manuals provide instruction in servicing and maintaining equipment up to 40 PTO horsepower.



TS189 —UN—17JAN89



TS191 —UN—02DEC88



TS224 —UN—17JAN89



TS1663 —UN—10OCT87

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John Deere Service Keeps You On The Job

John Deere Is At Your Service

CUSTOMER SATISFACTION is important to John Deere.

Our dealers strive to provide you with prompt, efficient parts and service:

- Maintenance and service parts to support your equipment.
- Trained service technicians and the necessary diagnostic and repair tools to service your equipment.



TS201 —UN—15APR13

CUSTOMER SATISFACTION PROBLEM RESOLUTION PROCESS

Your John Deere dealer is dedicated to supporting your equipment and resolving any problem you may experience.

1. When contacting your dealer, be prepared with the following information:

- Machine model and product identification number
- Date of purchase
- Nature of problem

2. Discuss problem with dealer service manager.

3. If unable to resolve, explain problem to dealership manager and request assistance.

4. If you have a persistent problem your dealership is unable to resolve, ask your dealer to contact John Deere for assistance. Or contact the Ag Customer Assistance Center at 1-866-99DEERE (866-993-3373) or e-mail us at www.deere.com/en_US/ag/contactus/.

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