

4MZ-5 (9970) Self-propelled Cotton Picker - Stage II Machine (Serial No. 020001—)



OPERATOR'S MANUAL

4MZ-5 (9970) Self-propelled Cotton Picker - Stage II Machine (Serial No. 020001—)

OMKK32866 ISSUE H7 (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.

约翰迪尔 (佳木斯) 农业机械有限公司



Introduction

Foreword

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 may also be available in other languages (see your John Deere dealer to order).

THIS MANUAL SHOULD BE CONSIDERED a permanent part of your machine and should 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 may require a specific metric or inch wrench.

RIGHT-HAND AND LEFT-HAND sides are determined by facing the direction of forward travel.

WRITE PRODUCT IDENTIFICATION NUMBERS (P.I.N.) 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.

WARRANTY is provided as part of John Deere's support program for customers who operate and maintain their equipment as described in this manual. The warranty is explained on the warranty certificate which you should have received from your dealer.

This warranty provides you the assurance that John Deere will back its products where defects appear within the warranty period. In some circumstances, John Deere also provides field improvements, often without charge to the customer, even if the product is out of warranty. Should the equipment be abused, or modified to change its performance beyond the original factory specifications, the warranty will become void and field improvements may be denied. Setting fuel delivery above specifications or otherwise overpowering machines will result in such action.

SETTING FUEL DELIVERY BEYOND PUBLISHED factory specifications or otherwise overpowering will result in loss of warranty protection for this machine.

BEFORE DELIVERING THIS MACHINE, your dealer performed a predelivery inspection. After operating for the first 50 hours, schedule an after-sale inspection with your dealer to ensure best performance.



N42167NW —UN—17JUN97

THIS COTTON PICKER 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 COTTON PICKER 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 cotton picker will relieve the manufacturer of all liability for any resulting damage or injury.

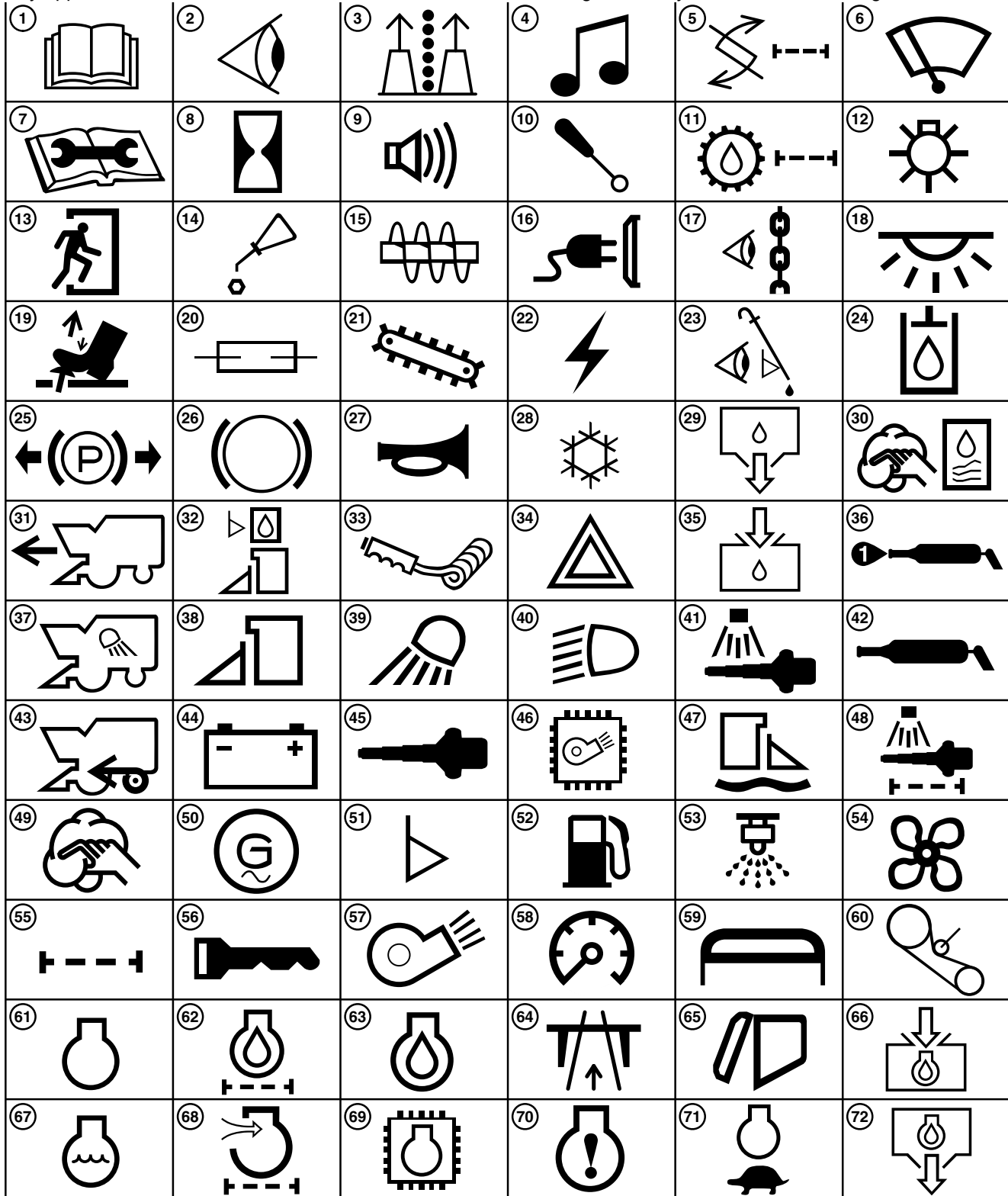
If you are not the original owner of this machine, it is in your interest to contact your local John Deere dealer to inform them of this unit's serial number. This will help John Deere notify you of any issues or product improvements.

CP00596,0000BA6 -19-30JUL15-1/1

Symbol Definitions

The following illustration shows graphical symbols which may appear in this manual, on machine controls, or on

instructional decals on the machine. A definition of the meaning of each symbol is listed in the legend.



N89614 —UN—05OCT10

Continued on next page

DP99999,000064D -19-12OCT10-1/2

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1— Read Manual	18— Interior Light	36— Grease-One Shot	56— Key
2— Inspect	19— Release Park Brake	37— Basket Light	57— Cotton Fan
3— Row-Trak Guidance System	20— Fuse	38— Picking Unit	58— Gauges
4— Radio	21— Basket Conveyor	39— Work Light	59— Basket Extension
5— Change Filter	22— Electrical Power	40— Headlight	60— Cotton Fan Actuator
6— Windshield Wiper	23— Check Dipstick	41— Spindle Cleaner	61— Engine
7— Read Manual Before Work	24— Hydraulic Oil	42— Grease	62— Engine Oil Filter
8— Time Interval (Hours)	25— Release Park Brake	43— Powered Rear Axle	63— Engine Oil
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10— Hydro Lever	27— Horn	45— Spindle	65— Cotton Basket Dump
11— Transmission Filter	28— Air Conditioner	46— Cotton Fan Control Unit	66— Add Engine Oil
12— Corner Post Monitor	29— Drain Oil	47— Height Sensing	67— Engine Coolant
13— Enter Cab	30— Clean Oil Cooler	48— Spindle Cleaner Filter	68— Engine Air Filter
14— Oil Threads	31— Forward Movement	49— Clean	69— Engine Control Unit
15— Compactor Auger	32— Check Unit Gear Case Oil	50— Alternator	70— Engine Malfunction
16— Electrical Connection	33— Tether Control	51— Level Indicator	71— Slow Idle
17— Check Conveyor Chain	34— Hazard Warning Lights	52— Fuel	72— Drain Engine Oil
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Original Instructions. All information, illustrations and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

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A John Deere ILLUSTRATION™ Manual

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Safety Signs

Do Not Contact Electrical Lines Label

DANGER: To avoid injury or death, do not contact electrical lines when moving or operating this machine.



N89554 —UN—24SEP10

CP00596,0000B93 -19-16JUL15-1/1

Seat Belt Label

CAUTION: USE SEAT BELT whenever operating the machine. For best protection, pull belt fully from retractor and adjust.

Keep children and all other riders off.



N89553 —UN—24SEP10

CP00596,0000B83 -19-16JUL15-1/1

Seat Switch Bypass Label

WARNING: Avoid serious injury or death from entanglement in header row units.

Do not bypass seat switch. Operator presence system will be disabled.



N89550 —UN—24SEP10

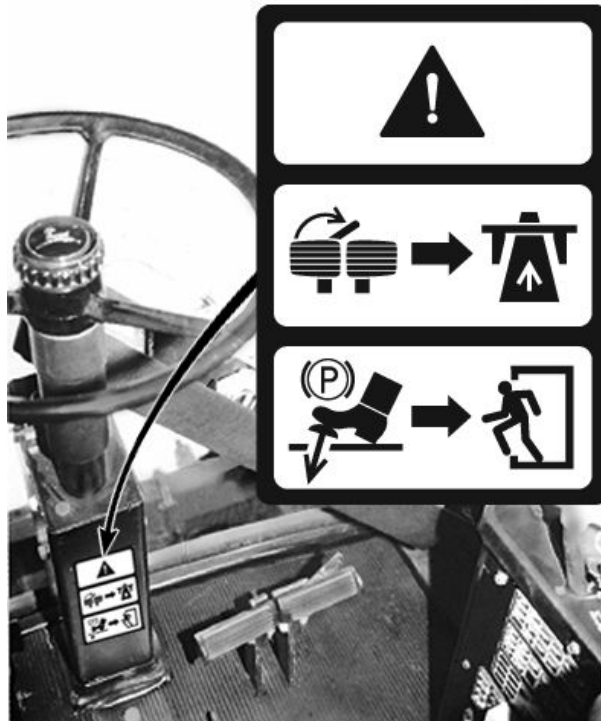
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Park Brake Label

CAUTION: Couple brakes together for road transport.

Engage park brake before leaving cab.

Disengage park brake moving machine.



N89549 —UN—24SEP10

CP00596,0000B82 -19-16JUL15-1/1

Tip Over Hazard Label

WARNING: Do not turn with basket raised.
Do not dump basket toward a down slope.



N89555 —UN—24SEP10

CP00596,0000B92 -19-16JUL15-1/1

Do Not Ride Label

WARNING: Avoid serious injury from falling. Do not ride on machine.



N89551 —UN—24SEP10

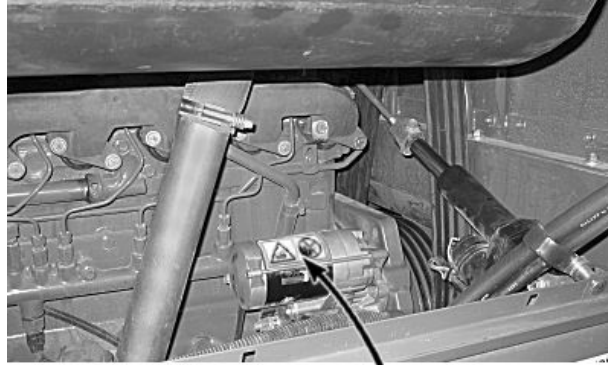
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Bypass Start Label

DANGER: Avoid possible injury or death from machine runaway.

DO NOT start engine by shorting across starter terminals. Machine will start in gear if normal circuitry is bypassed.

NEVER start engine while standing on the ground. Start engine only from the operator's seat, with transmission in neutral.



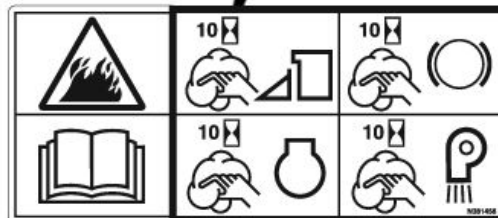
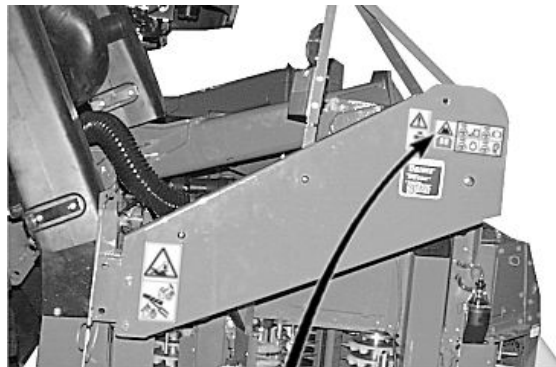
N89565 —UN—24SEP10

CP00596,0000B87 -19-16JUL15-1/1

Fire Prevention Label

CAUTION: TO PREVENT FIRE

- Clean picking units.
- Inspect regularly.
- Always check:
 - Doffer cutoffs
 - Side and suction doors
 - Moistener columns
 - Wrapped spindles
- Clean brakes.
- Clean engine.
- Clean cotton fan.



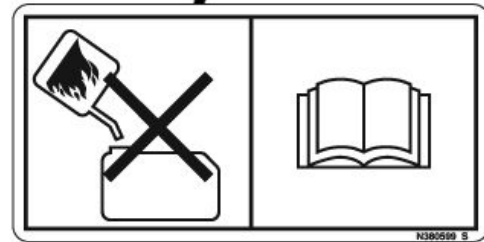
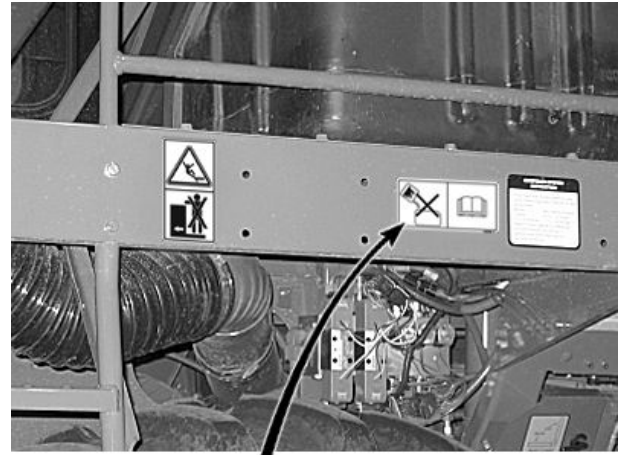
N89558 —UN—24SEP10

CP00596,0000B8C -19-16JUL15-1/1

Fire Hazard Label

WARNING: A fire hazard exists when flammable moistening agents are used.

Use John Deere Spindle Cleaner, John Deere Wetting Agent, or equivalent.



CP00596,0000B91 -19-16JUL15-1/1

N89552 —UN—24SEP10

Power Driven Parts Label

CAUTION: Keep all shields in place during normal operation.

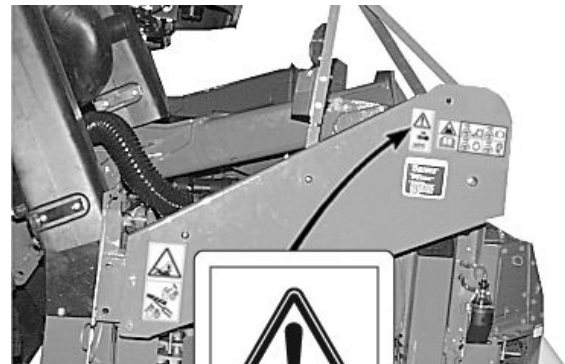
Keep hands, feet and clothing away from power-driven parts.

Disengage power-driven parts and shut off engine before unclogging or servicing machine.

If service procedure requires engine to be running:

- Only engage power-driven parts required by service procedure.
- Ensure other people are clear of operator station and machine.

Do not leave running machine unattended.



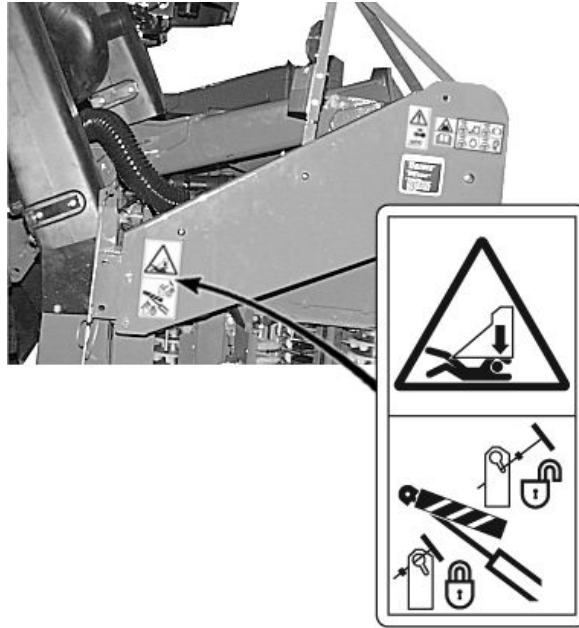
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N89557 —UN—24SEP10

Hydraulic Lift Cylinder Safety Stops Label

DANGER: Avoid serious injury or death. Fully raise units and engage safety stops before getting under units.

Stay clear of unlocked units.



N89556 —UN—24SEP10

CP00596,0000B84 -19-16JUL15-1/1

Rotating Driveline Label

DANGER: ROTATING DRIVELINE

Contact can cause death

KEEP AWAY!

DO NOT OPERATE WITHOUT:

- All driveline guards, tractor, and equipment shields in place
- Drivelines securely attached at both ends
- Driveline guards that turn freely on driveline



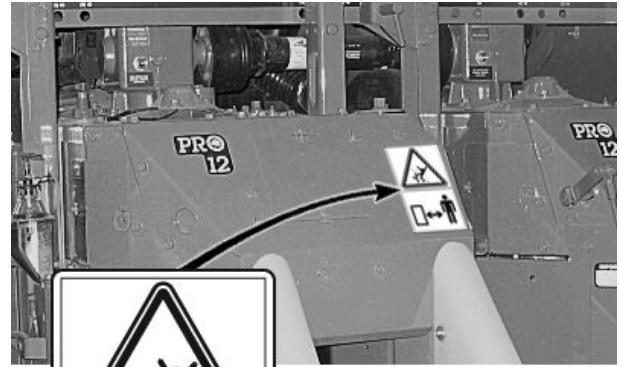
N89567 —UN—24SEP10

CP00596,0000B8E -19-16JUL15-1/1

Row Unit Entanglement Labels

DANGER: If you become entangled or are drawn into moving row unit parts, serious injury or death can result.

Keep away from all moving parts.



N89559 —UN—24SEP10

CP00596,0000B8D -19-16JUL15-1/2

DANGER: Disengage row unit drive, shut off engine, and remove key before unclogging machine.

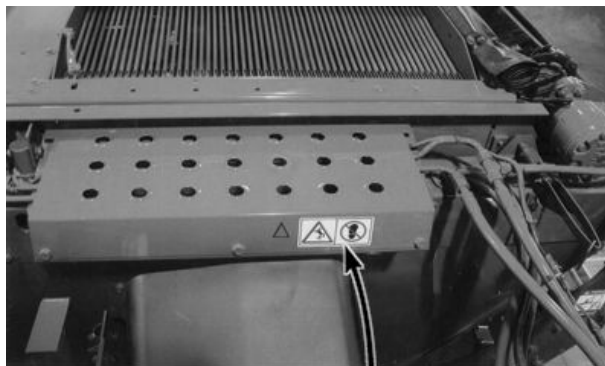


N89560 —UN—24SEP10

CP00596,0000B8D -19-16JUL15-2/2

Do Not Step Label

⚠ CAUTION: Avoid injury to foot and leg. Do not step on finger grates.



N89562 —UN—24SEP10

CP00596,0000B8A -19-16JUL15-1/1

Conveyor Hazard Label

DANGER: STAY CLEAR OF CONVEYORS

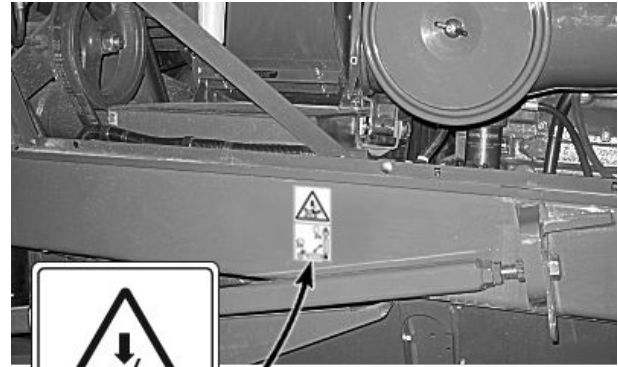


N89561 —UN—24SEP10

CP00596,0000B89 -19-16JUL15-1/1

Basket Cylinder Lock Label

WARNING: DO NOT GET UNDER BASKET WITHOUT LOCKING BOTH BASKET CYLINDERS WITH HYDRAULIC LOCKING VALVE.



NB9563 —UN—24SEP10

CP00596,0000B86 -19-16JUL15-1/1

Hot Exhaust Label

CAUTION: Exhaust system components may be hot. To avoid severe burns, keep away from exhaust system components.

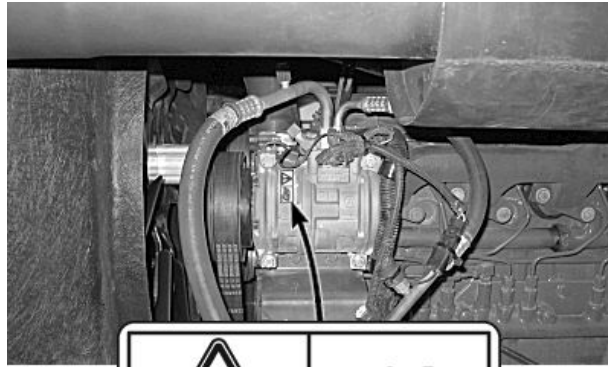


YC8390 —UN—16JUL15

CP00596,0000B94 -19-16JUL15-1/1

Refrigerant Caution Label

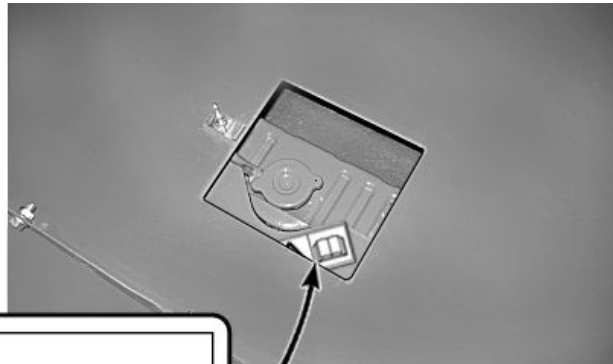
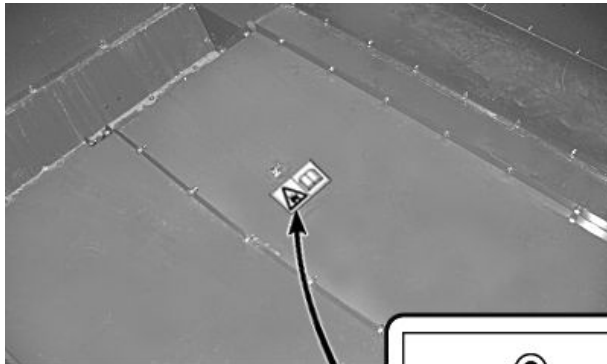
⚠ CAUTION: Refrigerant under pressure. Improper servicing may cause refrigerant to penetrate eyes and skin or cause burns. Wear goggles and protect skin. For use with R134a only.



N89564 —UN—24SEP10

CP00596,0000B8B -19-16JUL15-1/1

Pressurized Cooling System Label



WARNING: Pressurized cooling system. To avoid burns from escaping coolant, do not remove radiator cap when coolant is hot.

N89566 —UN—24SEP10

CP00718,0002C2E -19-01NOV16-1/1

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

TS1389 —UN—28JUN13

Understand Signal Words

DANGER; The signal word DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING; The signal word WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION; The signal word CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury. CAUTION may also be used to alert against unsafe practices associated with events which could lead to personal injury.

A signal word—DANGER, WARNING, or CAUTION—is used with the safety-alert symbol. DANGER identifies the most serious hazards. DANGER or WARNING safety signs are located near specific hazards. General

precautions are listed on CAUTION safety signs. CAUTION also calls attention to safety messages in this manual.

▲ DANGER

▲ WARNING

▲ CAUTION

DX,SIGNAL -19-05OCT16-1/1

TS187 —19—30SEP88

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

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.



TS201 —UN—15APR13

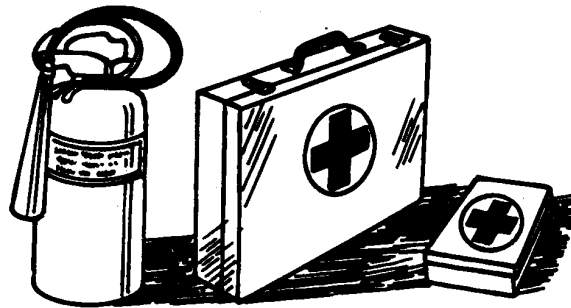
DX,SIGNS -19-18AUG09-1/1

Prepare for Emergencies

Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher handy.

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



TS291 —UN—15APR13

DX,FIRE2 -19-03MAR93-1/1

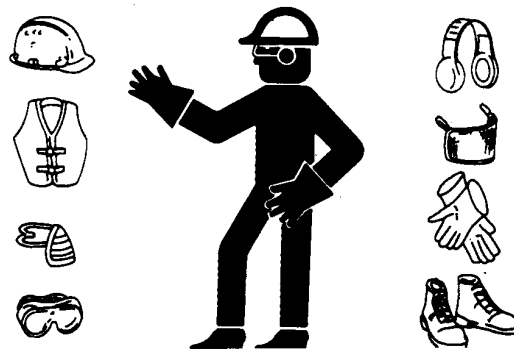
Wear Protective Clothing

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.



TS206 —UN—15APR13

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

Protect Against Noise

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.



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

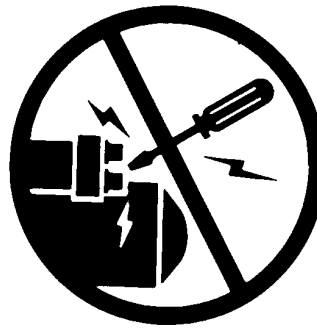
TS207 —UN—23AUG88

Prevent Machine Runaway

Avoid possible injury or death from machinery runaway.

Do not start engine by shorting across starter terminals. Machine will start in gear if normal circuitry is bypassed.

NEVER start engine while standing on ground. Start engine only from operator's seat, with transmission in neutral or park.



DX,BYPAS1 -19-29SEP98-1/1

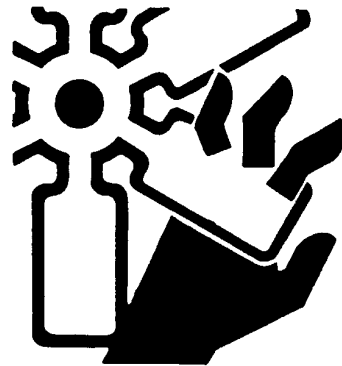
TS177 —UN—11JAN89

Install All Guards

Rotating cooling system fans, belts, pulleys, and drives can cause serious injury.

Keep all guards in place at all times during engine operation.

Wear close-fitting clothes. Stop the engine and be sure fans, belts, pulleys, and drives are stopped before making adjustments, connections, or cleaning near fans and their drive components.



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

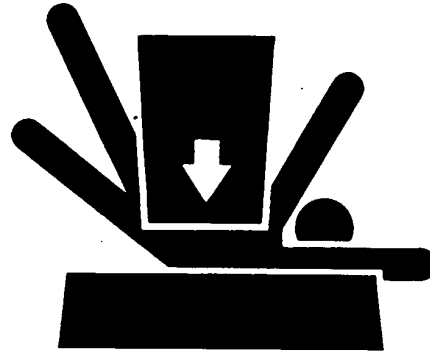
TS677 —UN—21SEP89

Support Machine Properly

Always lower the attachment or implement to the ground before you work on the machine. If the work requires that the machine or attachment be lifted, provide secure support for them. If left in a raised position, hydraulically supported devices can settle or leak down.

Do not support the machine on cinder blocks, hollow tiles, or props that may crumble under continuous load. Do not work under a machine that is supported solely by a jack. Follow recommended procedures in this manual.

When implements or attachments are used with a machine, always follow safety precautions listed in the implement or attachment operator's manual.



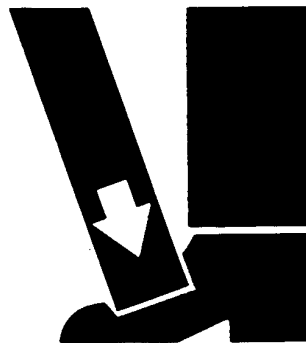
TS229 —UN—23AUG88

DX,LOWER -19-24FEB00-1/1

Use Proper Lifting Equipment

Lifting heavy components incorrectly can cause severe injury or machine damage.

Follow recommended procedure for removal and installation of components in the manual.



TS226 —UN—23AUG88

DX,LIFT -19-04JUN90-1/1

Handle Fuel Safely—Avoid Fires

Handle fuel with care: it is highly flammable. Do not refuel the machine while smoking or when near open flame or sparks.

Always stop engine before refueling machine. Fill fuel tank outdoors.

Prevent fires by keeping machine clean of accumulated trash, grease, and debris. Always clean up spilled fuel.

Use only an approved fuel container for transporting flammable liquids.

Never fill fuel container in pickup truck with plastic bed liner. Always place fuel container on ground before refueling. Touch fuel container with fuel dispenser nozzle before removing can lid. Keep fuel dispenser nozzle in contact with fuel container inlet when filling.



TS202 —UN—23AUG88

Do not store fuel container where there is an open flame, spark, or pilot light such as within a water heater or other appliance.

DX,FIRE1 -19-12OCT11-1/1

Fire Prevention



To reduce the chance of a fire, be sure to follow these important procedures:

IMPORTANT: VIEW Cotton Picker Fire Safety portion of operator's video. See you John Deere dealer if you do not have this tape.

- **ADJUST** and maintain row units regularly.
- **BE ALERT** for rocks, wood or debris that can lodge in picking units and cause sparks.
- **REPAIR** leaks and clean up all fuel/oil spills before cotton lint or trash can mix in and become very combustible and hard to control if ignited.
- **DO NOT** unload near electrical lines.
- **DO NOT** unload into the wind, cotton and trash could blow into engine compartment and ignite.
- **DO NOT** refuel with engine running, while smoking or around open flame.
- **DO NOT** use flammable petroleum wetting agents in the moistener system.
- **AVOID SPARKS** when using a battery charger or booster battery.
- **INSPECT** all bearings daily for signs of overheating or excessive looseness. Replace promptly.

REMOVE ALL lint and trash from the following areas prior to operating your machine each day or more frequently if required to avoid fire and also make an accidental

fire much easier to control. See LUBRICATION AND MAINTENANCE section.

Picking Units

- Doffers
- Moistener pads
- Behind picker bars
- Suction doors
- Unit drums

Engine Area

- Engine
- Turbocharger and exhaust system
- Alternator Screen
- Starting motor

Chassis

- Engine hood
- Platform
- Hydro module
- Cotton fan rotor
- Transmission
- Brake drums

Basket

- Basket screens
- Finger grates

MM95366.00000C9 -19-16SEP10-1/1

TS227 —UN—15APR13

Operate Safely



N42176DA —UN—23MAY97

DO NOT operate picker without reading this Operator's Manual.

DO NOT operate picker unless you are completely familiar with your machine.

DO NOT operate picker with more than one person (the operator) on the machine. Keep riders off.

Come to a complete stop before reversing direction.

DO NOT operate close to a ditch or creek.

Slow down when turning.

Drive slowly over rough ground.

DO NOT unload on a slope or grade.

DO NOT unload near overhead wires.

DO NOT unload unless you are certain that no one is near basket, trailer, or module builder.

DO NOT drive the picker with the basket raised.

DO NOT START ENGINE UNLESS TRANSMISSION LEVER IS IN NEUTRAL.

DO NOT enter basket with conveyor operating.

OPERATE picker only when all guards are fitted and in their correct position.

ALWAYS wear seat belt when driving machine.

Before moving or operating machine, check immediate vicinity of machine for bystanders. Use the horn as a warning immediately before driving away.

CP00718,00019A0 -19-16JUL15-1/1

Handle Starting Fluid Safely

Starting fluid is highly flammable.

Keep all sparks and flame away when using it. Keep starting fluid away from batteries and cables.

To prevent accidental discharge when storing the pressurized can, keep the cap on the container, and store in a cool, protected location.

Do not incinerate or puncture a starting fluid container.

Do not use starting fluid on an engine equipped with glow plugs or an air intake heater.



TS-1356 —UN—18MAR92

DX,FIRE3 -19-14MAR14-1/1

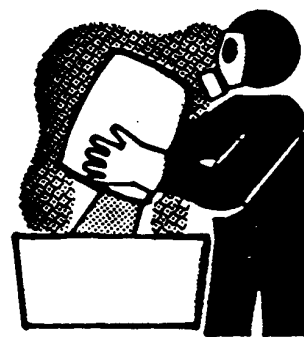
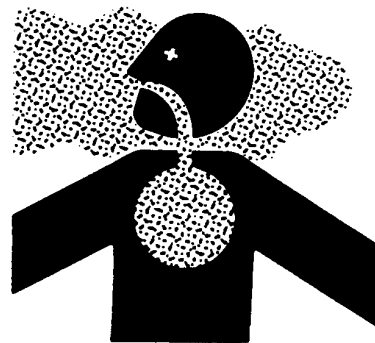
Handle Agricultural Chemicals Safely

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.
- 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.



A34471

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

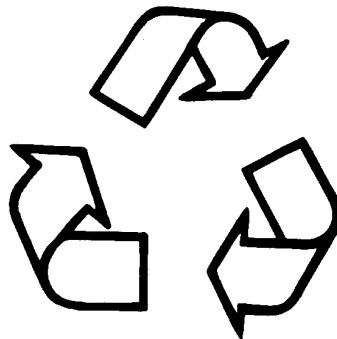
TS220 —UN—15APR13

A34471 —UN—11OCT88

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);



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

TS1133 —UN—15APR13

Handling Batteries Safely

Battery gas can explode. Keep sparks and flames away from batteries. Use a flashlight to check battery electrolyte level.

Never check battery charge by placing a metal object across the posts. Use a voltmeter or hydrometer.

Always remove grounded (-) battery clamp first and replace grounded clamp last.

Sulfuric acid in battery electrolyte is poisonous and strong enough to burn skin, eat holes in clothing, and cause blindness if splashed into eyes.

Avoid hazards by:

- Filling batteries in a well-ventilated area
- Wearing eye protection and rubber gloves
- Avoiding use of air pressure to clean batteries
- Avoiding breathing fumes when electrolyte is added
- Avoiding spilling or dripping electrolyte
- Using correct battery booster or charger procedure.

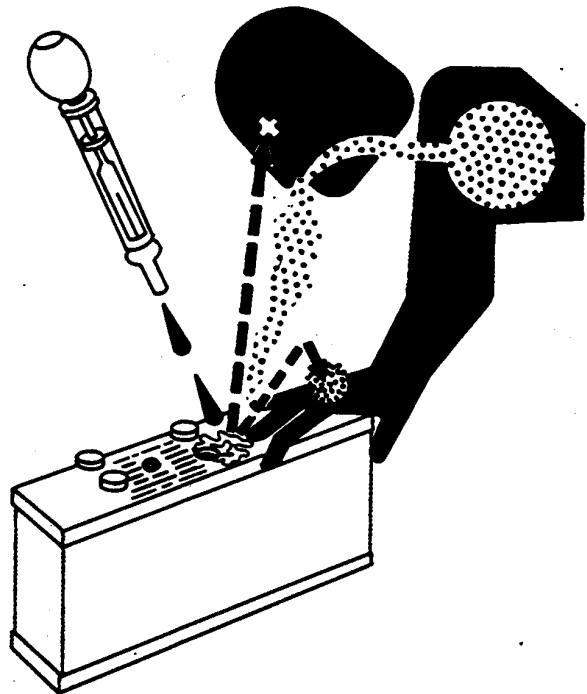
If acid is spilled on skin or in eyes:

1. Flush skin with water.
2. Apply baking soda or lime to help neutralize the acid.
3. Flush eyes with water for 15—30 minutes. Get medical attention immediately.

If acid is swallowed:

1. Do not induce vomiting.
2. Drink large amounts of water or milk, but do not exceed 2 L (2 qt.).
3. Get medical attention immediately.

WARNING: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. **Wash hands after handling.**



TS204 —UN—15APR13

TS203 —UN—23AUG88

DX,WW,BATTERIES -19-02DEC10-1/1

In Case Of Fire

CAUTION: Avoid possible injury or death from fire or smoke from burning machine or material. Determine extent and intensity of the fire before attempting to put it out. Do not attempt to stamp out the fire, always use a fire extinguisher.

Immediately contact your local fire department.

1. **DO NOT PANIC.** Stop machine immediately and disengage fan and row units at the first sign of trouble. This may be a scorched smell, an unusual sound, or the sight of smoke or flame.
2. Quickly raise row units and drive the machine to a clean or harvested area in the field, away from cotton modules, dead grass or other equipment.
3. Verify wind direction. Move machine as necessary so cotton will blow away from machine when unloading the basket.
4. Completely unload all cotton from the basket and move machine a safe distance from unloaded cotton. Shut off engine, engage parking brake.

NOTE: Be familiar with fire extinguisher locations on the machine and follow directions on the extinguisher label before operating them.



5. Check harvester for hot spots, starting with the picking units, then the engine and chassis. Extinguish fire using fire extinguishers. Always spray extinguisher solution at the base of the fire.
6. Warn others of the fire hazard and check machine again to verify the fire is completely out.
7. Check cotton dumped in the field for fire or hot spots. Extinguish as necessary. Do not stamp out fire! Only use a fire extinguisher to put out any fire.

CP00718,00019A2 -19-16JUL15-1/1

TS227 —UN—15APR13

Fire Extinguishers (China Machines)

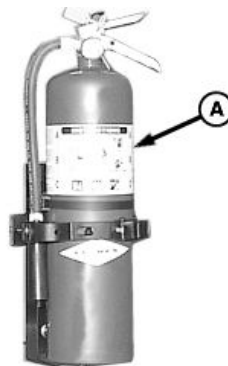
One rechargeable 4 Kg ABC type dry chemical fire extinguisher (A) and one rechargeable 9 L water type fire extinguisher (B) and mounting brackets are installed on your machine.

- Water type fire extinguisher is for cotton lint and trash fires.
- ABC chemical type fire extinguisher is for grease, oil, electrical and chemical fires.
- Always direct extinguisher at the base of the fire no matter which type of extinguisher is used.

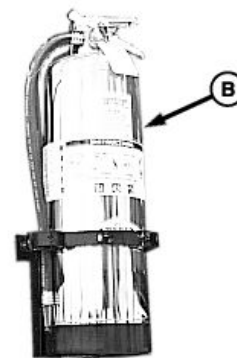
Read the fire extinguisher labels and inform everyone necessary of there exact location on the machine and how to use and maintain them. Recharge after every use.

Both fire extinguishers should be inspected at least every 10 hours or daily. Keep a record of inspections on the tag attached to the extinguisher.

Fire extinguishers are available from your John Deere dealer.



A— 4 Kg ABC Type Dry Chemical Fire Extinguisher



B— 9 L Water Type Fire Extinguisher

CP00596,0000BA7 -19-20JAN16-1/1

N58491 —UN—04OCT01

Water-type Fire Extinguisher Location (China Machines)

One 9 L water type fire extinguisher is located on cab platform next to the ladder.



N58480 —UN—08 OCT01

CP00596,0000BA8 -19-31JUL15-1/1

Water Fire Extinguisher—Charging

NOTE: Water fire extinguisher is shipped uncharged. Before delivery of machine the water fire extinguisher must be charged.

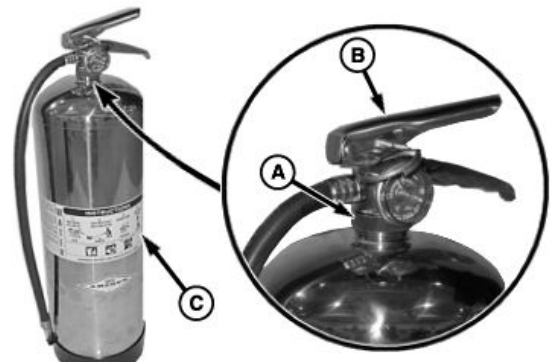
When an antifreeze charge is used to protect the extinguisher, a complete discharge and maintenance is required.

CAUTION: Before attempting to recharge, verify that extinguisher is depressurized.

1. Discharge all remaining pressure and water (or antifreeze solution) making sure that there is no remaining air pressure.
2. Loosen nut (A) and remove valve assembly (B) from cylinder (C).

IMPORTANT: If freezing temperatures are expected, add antifreeze to the fire extinguisher to protect it from freezing. See instructions decal on the extinguisher for further information.

NOTE: Corrosion inhibitor must be used, if water includes high levels of chlorides (40 ppm).



A—Nut
B—Valve Assembly

C—Cylinder

3. Fill cylinder with 9 L (2.5 gal) of clean water or antifreeze solution.

NOTE: Fluid level is approximately 15.2 cm (6 in) below the top of the cylinder.

H92727 —UN—10SEP08

Continued on next page

OUC045,000064E -19-05JUN17-1/3

CAUTION: Hand tighten nut to specification. Over tightening with a wrench damages valve.

4. Install valve assembly (A) and tighten nut (B) to specification.

Specification	
Nut—Torque.....	11.3—11.9 N·m (100—105 lb·in)

5. Remove cap from the pressurizing valve (C).

NOTE: Set pressure regulator on the air compressor to no more than 175 kPa (1.75 bar) (25 psi) higher than gauge operating pressure.

CAUTION: Never leave fire extinguisher connected to a regulator of a high-pressure source for an extended period. Do not over pressurize fire extinguisher. Fire extinguisher can rupture if over pressurized.

6. Pressurize fire extinguisher to specification using air or nitrogen.

Specification	
Fire Extinguisher—Pres- sure.....	690 kPa 6.9 bar (100 psi)



A—Valve Assembly
B—Nut

C—Pressurizing Valve

NOTE: Check nut, gauge, pressurizing valve, cylinder welds, and valve orifice for leaks using leak detection fluid or a solution of soapy water.

7. Install previously removed cap on the pressurizing valve.

H92728 —UN—08SEP08

OOU6045,000064E -19-05JUN17-2/3

8. Install pin (A) with ring facing towards the front of extinguisher and install tamper seal.
9. Install hose and nozzle assembly (B) in holder (C).
10. Install fire extinguisher on the machine.

A—Pin
B—Hose and Nozzle Assembly
C—Holder

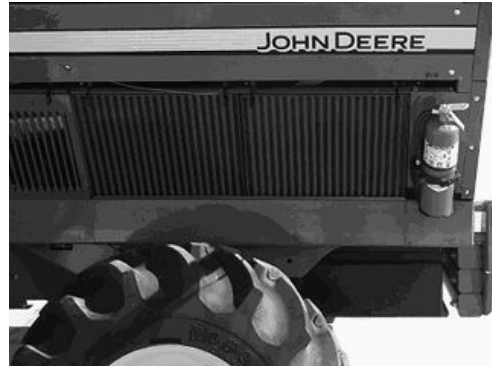


H92729 —UN—08SEP08

OOU6045,000064E -19-05JUN17-3/3

Dry Chemical Fire Extinguisher Location (China Machines)

One 4 Kg ABC type dry chemical fire extinguisher is located on left-rear corner of machine.



YC9489 —UN—23NOV15

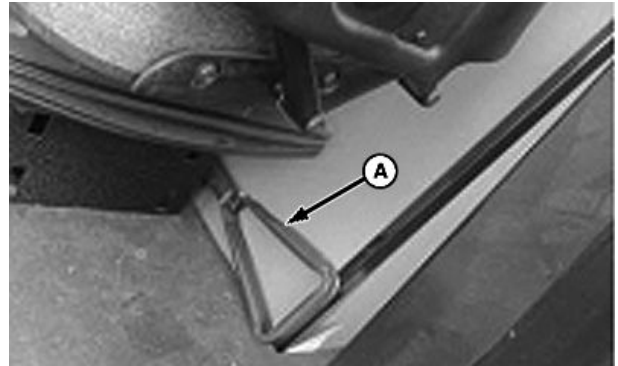
CP00718,0001C9C -19-23NOV15-1/1

Fire Protection Shovel

One fire protection shovel (A) is installed behind operator seat.

Shovel soil to fire, clear away obstructions and inflammable, when firing.

Instruction:

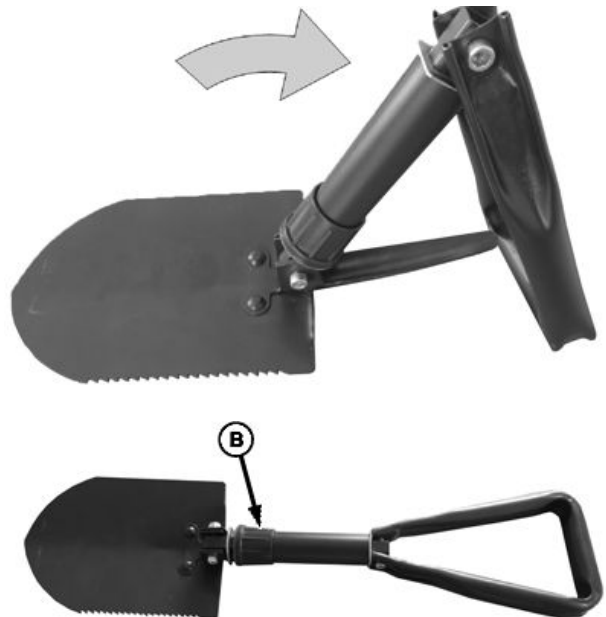


YC5481 —UN—18OCT13

CP00596,0000B9D -19-28JUL15-1/2

1. Unbend shovel rod.
2. Tighten clockwise nut (B).

A—Fire Protection Shovel B—Nut



YC5482 —UN—18OCT13

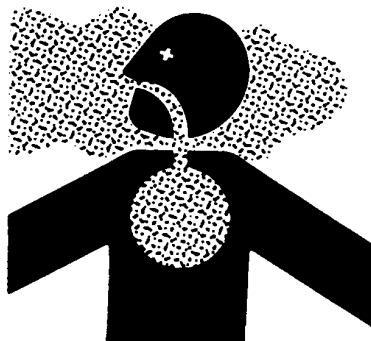
YC5483 —UN—18OCT13

CP00596,0000B9D -19-28JUL15-2/2

Work In Ventilated Area

Engine exhaust fumes can cause sickness or death. If it is necessary to run an engine in an enclosed area, remove the exhaust fumes from the area with an exhaust pipe extension.

If you do not have an exhaust pipe extension, open the doors and get outside air into the area.



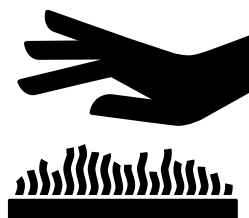
TS220 —UN—15APR13

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

Avoid Hot Exhaust

Servicing machine or attachments with engine running can result in serious personal injury. Avoid exposure and skin contact with hot exhaust gases and components.

Exhaust parts and streams become very hot during operation. Exhaust gases and components reach temperatures hot enough to burn people, ignite, or melt common materials.



RG17488 —UN—21AUG09

DX,EXHAUST -19-20AUG09-1/1

Remove Paint Before Welding or Heating

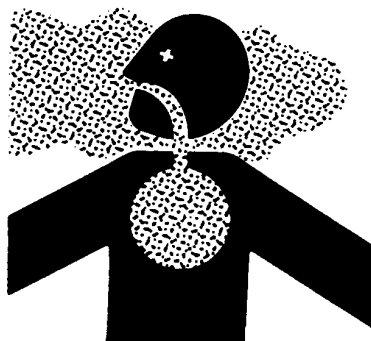
Avoid potentially toxic fumes and dust.

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.



TS220 —UN—15APR13

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

Dispose of paint and solvent properly.

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

Welding Near Electronic Control Units

IMPORTANT: Do not jump-start engines with arc welding equipment. Currents and voltages are too high and may cause permanent damage.

1. Disconnect the negative (-) battery cable(s).
2. Disconnect the positive (+) battery cable(s).
3. Connect the positive and negative cables together. Do not attach to vehicle frame.
4. Clear or move any wiring harness sections away from welding area.
5. Connect welder ground close to welding point and away from control units.



6. After welding, reverse Steps 1—5.

DX,WW,ECU02 -19-14AUG09-1/1

TS953 —UN—15MAY90

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.



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

TS953 —UN—15MAY90

Use Handholds and Steps

Falling is a major cause of personal injury.

When you get on and off machine, always maintain a three-point contact with steps and handrails and face the machine. Unfold and use handrails whenever you climb on top of the basket.

Never jump on or off the machine. Never mount or dismount a moving machine.

Be careful of slippery conditions on platforms, steps and handrails when leaving the machine.



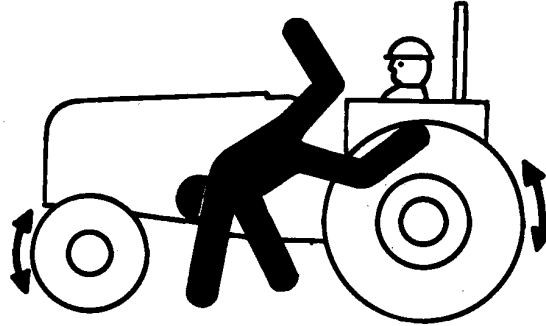
MM95366,00000C5 -19-16SEP10-1/1

T6981AN —UN—15JUN89

Keep Riders Off Machine

Only allow the operator on the machine. Keep riders off.

Riders on machine are subject to injury such as being struck by foreign objects and being thrown off of the machine. Riders also obstruct the operator's view resulting in the machine being operated in an unsafe manner.



TS290 —UN—23AUG88

MM95366,00000C6 -19-16SEP10-1/1

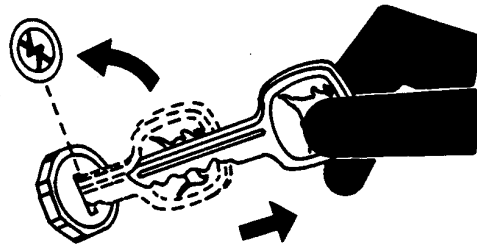
Parking and Leaving the Machine

Lower harvesting unit to the ground.

Before leaving machine, disengage harvesting unit and separator. Move multi-function lever to neutral position and shut OFF machine. Apply parking brake, remove key, and lock the operator's cab.

Never leave machine unattended as long as engine is running.

Never leave the operator's cab when driving.



TS230 —UN—24MAY89

OUC6075,0000AEB -19-11FEB14-1/1

Practice Safe Service and Maintenance

Unauthorized modifications to the machine may impair the function and/or safety and affect machine life.

Before working under units, fully extend unit lift cylinders and use cable (A) to lower safety stops over cylinder rods.

DO NOT lubricate or adjust picker when it is in motion.

DO NOT check the water level in a hot radiator by removing cap. Check overflow tank.

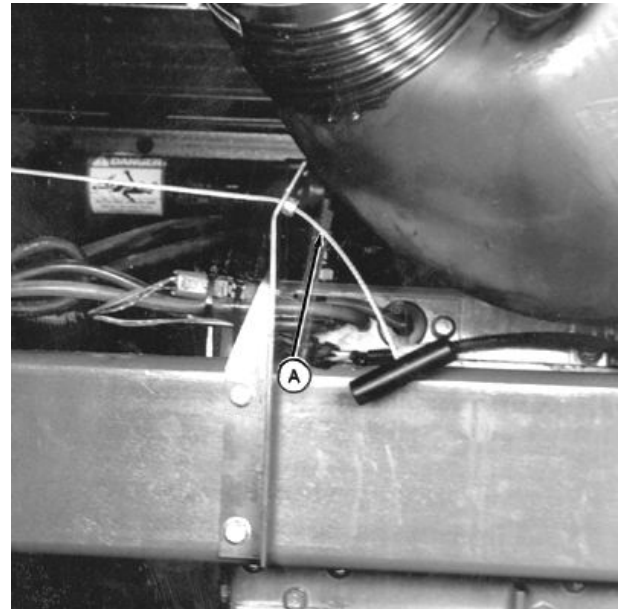
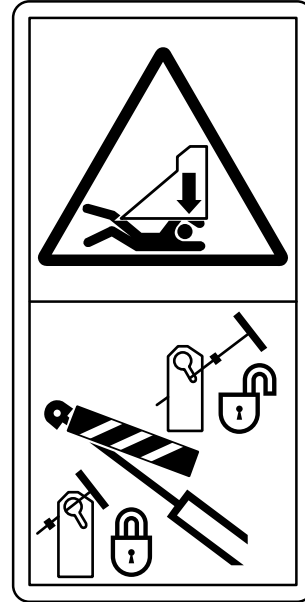
Shut off engine and remove key when working on picker unless specifically told to leave engine running.

Replace all guards and shields removed for servicing.

DO NOT attempt to remove an obstruction unless:

- units are disengaged
- transmission lever is in neutral
- hydro lever is in neutral
- park brake is engaged
- ignition is off
- switch key is removed

A—Cable



Right-Hand Side

CP00718,000199E -19-16JUL15-1/1

N89568 —UN—23SEP10

N42176AL —UN—26FEB97

Transport Safely

DO NOT transport without first raising picking units and lowering picking unit lock-up brackets.

When driving on a road or highway at night or during the day, use necessary lights and devices for adequate warning to operators of other vehicles. In this regard, check local governmental regulations. Various safety lights and devices are available from your John Deere dealer.

ALWAYS wear your seat belt.

Check clearance before driving under electric wires, bridges, or through doorways. Know the height and width of the picker.

Fold radio antenna (if equipped) DOWN.

Latch the brakes together.

Stop slowly to avoid “nose-diving.”

Keep the SMV emblem, reflectors, and warning lights clean and in place.

ALWAYS DISENGAGE UNITS BEFORE ROAD TRANSPORT. TRANSPORTING WITH UNITS ENGAGED WILL CAUSE MACHINE TO STOP SUDDENLY IF OPERATOR LEAVES SEAT FOR MORE THAN 5 SECONDS.

ALWAYS lower basket completely for safe transport. See LOWERING TELESCOPING BASKET in OPERATING THE MACHINE section. ALWAYS engage front left-hand corner basket latch pin.



N42167NW —UN—17JUN97

Keep away from moving parts.

Know the transport height of your machine.

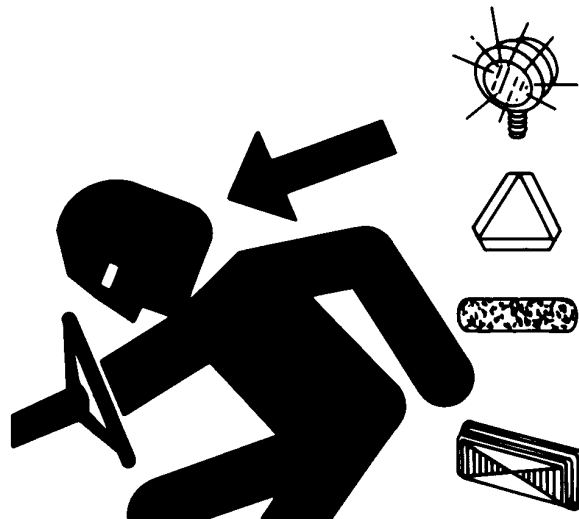
Know the transport width of your machine and check local regulations before transporting.

CP00718,0001CC7 -19-01DEC15-1/1

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.

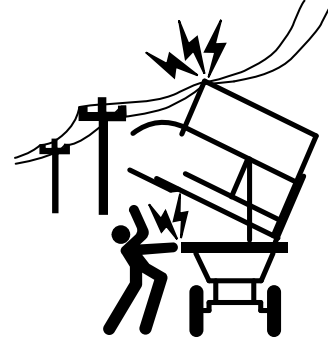


TSS51 —UN—12APR90

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

Avoid Electrical Power Lines

⚠ CAUTION: Serious injury or death can result to you or others if machine comes in contact with overhead electrical wires when in transport on public roads or when maneuvering to top off trailers or modules with basket raised. **ALWAYS** watch for and avoid overhead electrical wires.



N58969 —UN—30NOV01

CP00718,00019A1 -19-16JUL15-1/1

Avoid Backover Accidents

Before moving machine, be sure that all persons are clear of machine path. Turn around and look directly for best visibility. Use a signal person when backing if view is obstructed or when in close quarters.

Do not rely on a camera to determine if personnel or obstacles are behind the machine. The system can be limited by many factors including maintenance practices, environmental conditions, and operating range.



PC10857XW —UN—15APR13

DX,AVOID,BACKOVER,ACCIDENTS -19-30AUG10-1/1

Avoid Tip-Over

Always use seat belt.

Avoid holes, ditches, and obstructions which may cause the machine to tip, especially on hillsides.

Never drive near the edge of a gully or steep embankment—it might cave in.

Slowdown for hillsides, rough ground, and sharp turns.

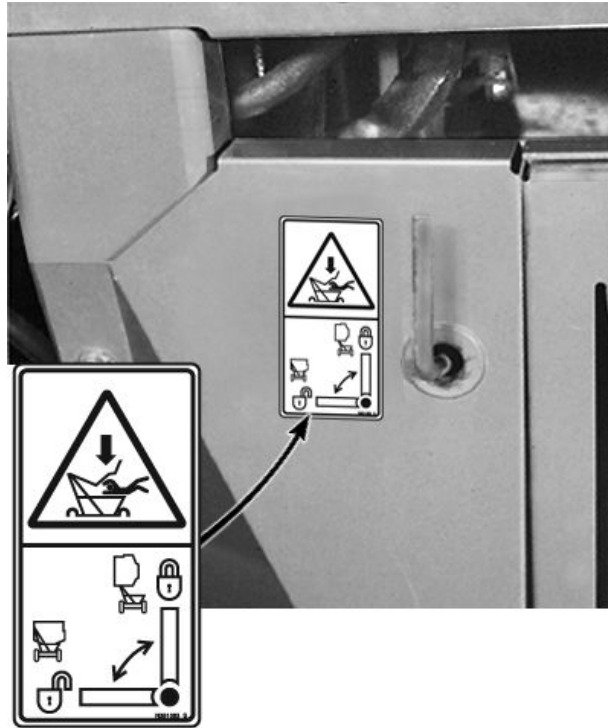


N39084 —UN—30MAR89

MM95366,00000C4 -19-16SEP10-1/1

Operate Basket Cylinder Lock Valve

When basket is in the raised position, set valve handle to lock position BEFORE working under the basket. When lowering basket, stand clear. Turn valve handle down to unlock. Basket will not lower unless valve is unlocked.

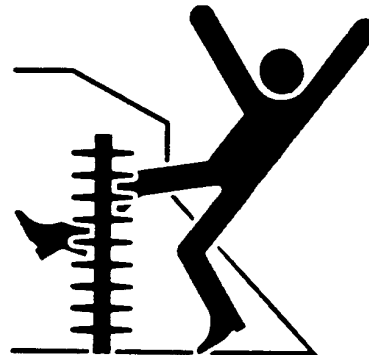


N89569 —UN—27SEP10

MM95366,00000D8 -19-24SEP10-1/1

Avoid Contact with Moving Parts

Shut off engine and remove key before unplugging units.
Keep hands, feet, and clothing away from moving parts.
Never walk or stand on row units when engine is running.
Never clean or service machine when it is running.



TS675 —UN—21SEP89



TS256 —UN—23AUG88

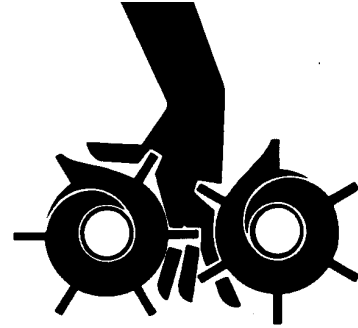
NXLN,9976,C1N1 -19-06MAR14-1/1

Avoid Entanglement

Entanglement in machine can cause serious injury or death.

DO NOT feed crop material in machine by hand or attempt to manually unplug machine while it is running. Picking unit can feed crop material in faster than you can release your grip on material.

H45810



H45810 —UN—22JUL93

OUO1078,00004C1 -19-23MAR06-1/1

Stay Clear of Rotating Drivelines

Entanglement in rotating driveline can cause serious injury or death.

Keep all shields in place at all times. Make sure rotating shields turn freely.

Wear close-fitting clothing. Stop the engine and be sure that all rotating parts and drivelines are stopped before making adjustments, connections, or performing any type of service on engine or machine driven equipment.



TS1644 —UN—22AUG95

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

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.

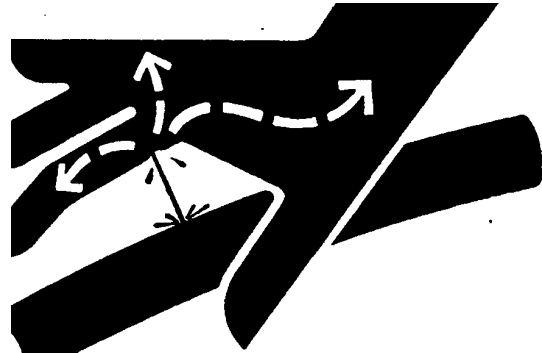
Replace worn or damaged hose assemblies immediately with John Deere approved replacement parts.

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



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.

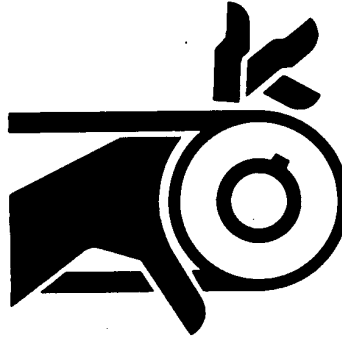
X9811 —UN—23AUG88

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

Service Drive Belts Safely

When servicing drive belts always observe these precautions:

- Avoid serious injury from hand or arm entanglement. Never attempt to clean, check or adjust belts while the machine is running. Always shut off the engine, set the parking brake and remove the key.
- Do not attempt to clean belts with flammable cleaning solvents.



TS285 —UN—23AUG88

OUO6043,00015E3 -19-24MAY04-1/1

Service Cooling System Safely

CAUTION: Explosive release of fluids from pressurized cooling system can cause serious burns.

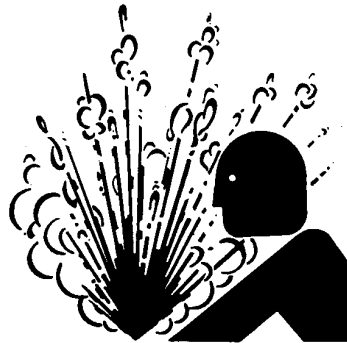
Shut off engine, set park brake, and remove key.

NEVER add coolant when engine is overheated. Wait for it to cool.

NEVER remove surge tank cap when coolant or engine is hot. Wait until engine coolant is cool to remove cap.

SLOWLY loosen cap to relieve pressure before removing completely.

Add coolant only when engine is shut off.



TS281 —UN—15APR13

OUO6092,000026F -19-11FEB14-1/1

Service Tires Safely

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.



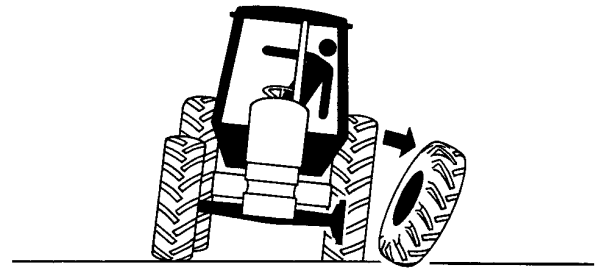
Wheels and tires are heavy. When handling wheels and tires use a safe lifting device or get an assistant to help lift, install, or remove.

RXA0103438 —UN—11JUN09

DX,WW,RIMS -19-28FEB17-1/1

Tightening Wheel Retaining Bolts/Nuts

Torque wheel retaining bolts/nuts at the intervals specified in section Break-In Period and Service.



L124 516

L124516 —UN—03JAN95

DX,WW,WHEEL -19-12OCT11-1/1

Use Proper Tools

Use tools appropriate to the work. Makeshift tools and procedures can create safety hazards.

Use power tools only to loosen threaded parts and fasteners.

For loosening and tightening hardware, use the correct size tools. DO NOT use U.S. measurement tools on metric fasteners. Avoid bodily injury caused by slipping wrenches.

Use only service parts meeting John Deere specifications.

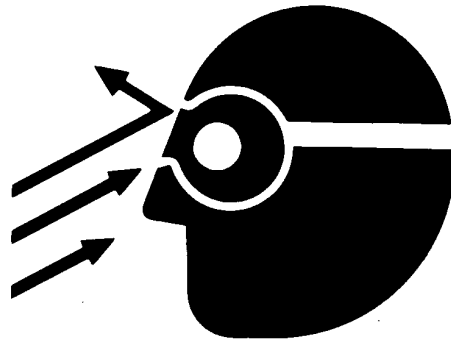


TS779 —UN—08NOV89

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

Using Compressed Air For Cleaning

CAUTION: Reduce compressed air to 210 kPa (2 bar) (30 psi) or less when using for cleaning purposes. Clear area of bystanders, guard against flying debris, and wear personnel protective equipment, including eye protection.



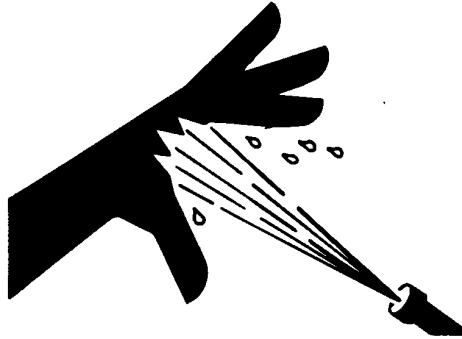
TS266 —UN—23AUG88

AG,OUC6043,83 -19-28JUL99-1/1

Do Not Open High-Pressure Fuel System

High-pressure fluid remaining in fuel lines can cause serious injury. Do not disconnect or attempt repair of fuel lines, sensors, or any other components between the high-pressure fuel pump and nozzles on engines with High Pressure Common Rail (HPCR) fuel system.

Only technicians familiar with this type of system can perform repairs. (See your John Deere dealer.)



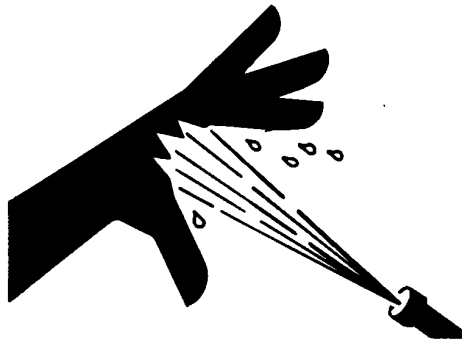
TS1343—UN—18MAR92

DX,WW,HPCR1 -19-07JAN03-1/1

Protect Against High Pressure Spray

Spray from high pressure nozzles can penetrate the skin and cause serious injury. Keep spray from contacting hands or body.

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

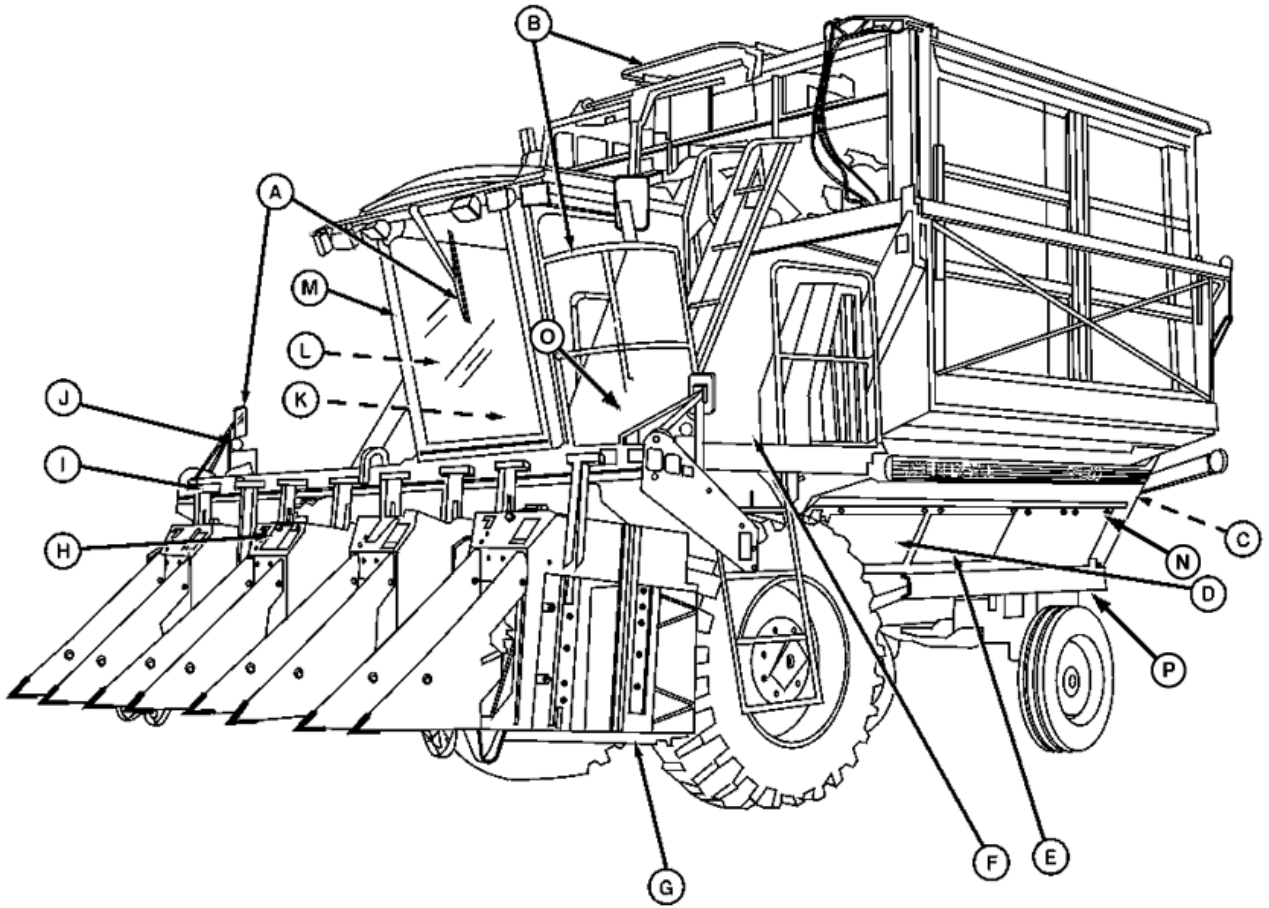


TS1343—UN—18MAR92

DX,SPRAY -19-16APR92-1/1

Safety Features

Safety Features



A—Windshield Wipers and Large Rear View Mirrors — For clear view of surroundings.

B—Hand Rails — Gives support when climbing on machine, walking on platform or walking on basket.

C—SMV Emblem — Alerts following traffic of your presence on roadway.

D—Basket Cylinder Lock Valve — Prevents basket unload cylinders from operating when working under basket.

E—Starter Solenoid Shielding — For bypass start prevention.

F—Divotted Steps and Platform — Helps prevent slipping when on platform or ladder, also diminishes dirt and mud buildup

G—Unit Lift Cylinder Lock Up — Prevents units from moving down.

H—Inspection Bypass for Operator Presence System

I—Front and Rear Reflectors — Alerts traffic of your presence on roadway.

J—Front and Rear Hazard Lights — Alerts oncoming and following traffic of your presence on roadway.

K—Park Brake

L—Horn — To alert others in area.

M—Cab With Seat Belt and Operator Presence System — For operator comfort and safety.

N—Fire Extinguisher (Dry Chemical) — Rechargeable 4 kg (10 lb.) ABC dry chemical, for use on grease, oil, electrical, and chemical fires.

O—Fire Extinguisher (Water-Type) — Rechargeable 9 L (2.5 gal.), for use on non-electrical fires such as cotton and lint.

P—Backup Alarm — Alerts others in area of machine backing up.

In addition to safety features described here, other components and systems, safety signs on machine, safety messages in Operator's Manual and elsewhere, as

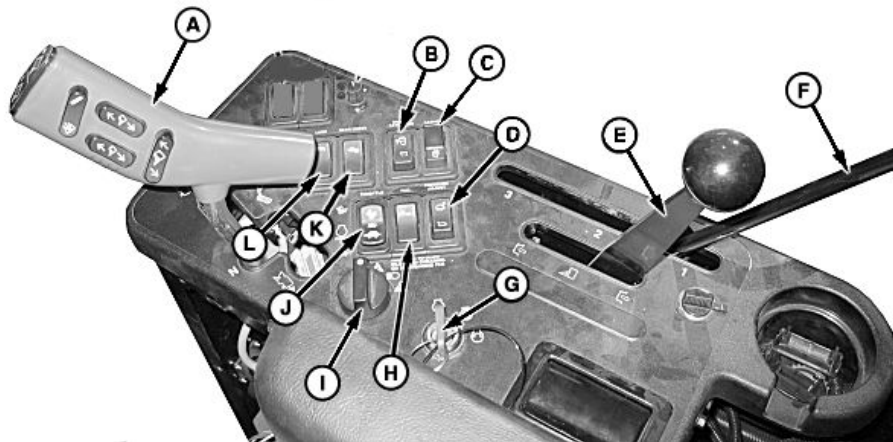
well as care and concern of a capable operator contribute to safety of operators and others nearby.

CP00718,0001CC6 -19-30NOV15-1/1

YC8392 —UN—28JUL15

Operator's Station

Console Controls—Location



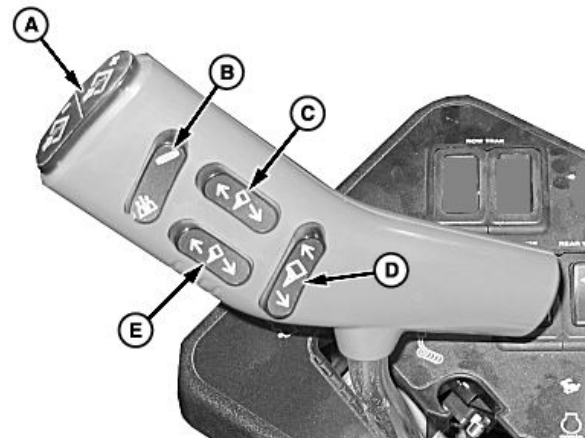
A—Hydro Lever	E—Unit Shift Lever	I—Light Switch	L—Lube Switch
B—Basket Extension Switch	F—Transmission Lever	J—Throttle Switch	
C—Basket Dump Switch	G—Key Switch	K—Rear Wheel Drive Switch (if equipped)	
D—Water Pressure Adjustment Switch	H—Fan Switch		

CP00718,0002CC7 -19-21NOV16-1/1

YC10799—UN—07DEC16

Hydro Lever Controls

A—Fan Speed Alarm Adjustment Switch	D—Unit Lift/Lower-All Units Switch ¹
B—Conveyor Switch	E—Unit Lift/Lower Left-hand Frame Switch
C—Unit Lift/Lower Right-hand Frame Switch	



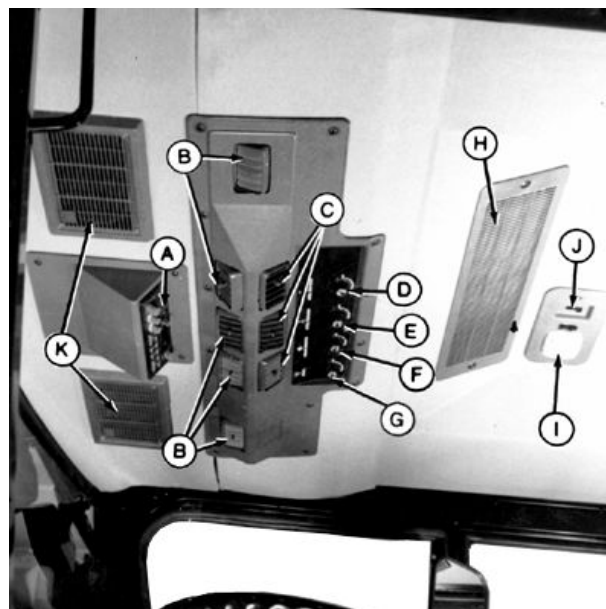
¹Height sensing system operates only when switch D is used.

CP00718,0002CC9 -19-21NOV16-1/1

YC10886—UN—07DEC16

Cab Roof Controls

A—Radio	G—Wiper Control
B—Defogging Louvers	H—Air Filter
C—Louver	I— Dome Light
D—Air Conditioning Control	J— Light Switch
E—Heater Control	K—Speakers
F—Blower Control	



N42181CD —UN—05MAY97

MM95366,00000DB -19-16SEP10-1/1

Using Blower

N42189SW —UN—08DEC98

CAUTION: Some agricultural chemicals can cause serious injury or death to you or others if inhaled. The air filter in the cab WILL NOT filter out harmful chemicals. When using or working with agricultural chemicals, follow the manufacturer's instructions.

Operate blower with door and window closed.

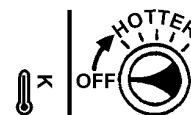


MM95366,00000DC -19-16SEP10-1/1

Using Heater

N42189SX —UN—08DEC98

Control temperature with the heater and blower switch.

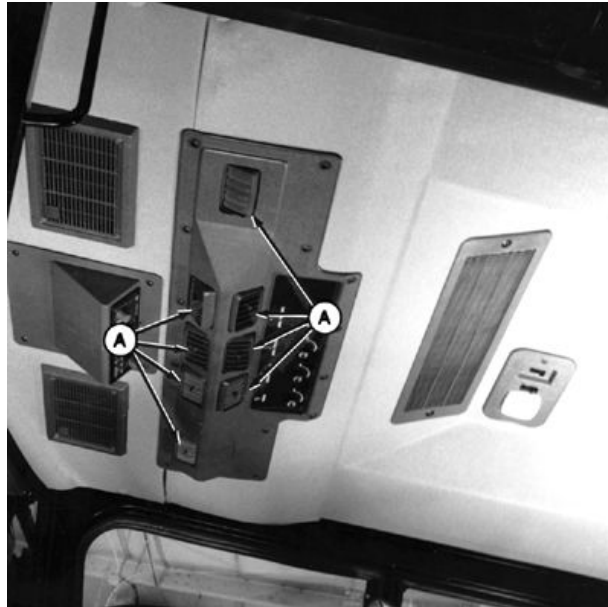


MM95366,00000DD -19-16SEP10-1/1

Adjusting Air Outlet Vents

Adjust vents (A) to direct air where needed, such as for defogging windows.

A—Vents



N42167OF —UN—18JUN97

MM95366,00000DE -19-16SEP10-1/1

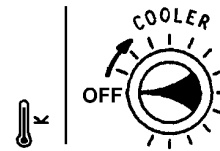
Using Air Conditioner

N42189SY —UN—08DEC98

NOTE: If air conditioner stops functioning, dirty condenser or low refrigerant charge may be at fault.

Blower switch must be turned on before air conditioning will operate. Heater can be used with air conditioner to control humidity. Regulate cab temperature with air conditioning control and blower speed.

NOTE: Use the highest comfortable blower speed and adjust air conditioning temperature to an intermediate setting. Avoid operating with blower speed on low and the cooling temperature at maximum cool.



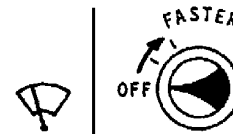
For optimum cooling, close heater valve on engine.

MM95366,00000DF -19-16SEP10-1/1

Using Windshield Wiper

N42189SZ —UN—08DEC98

Wiper will return to "Park" position when the switch is turned off.

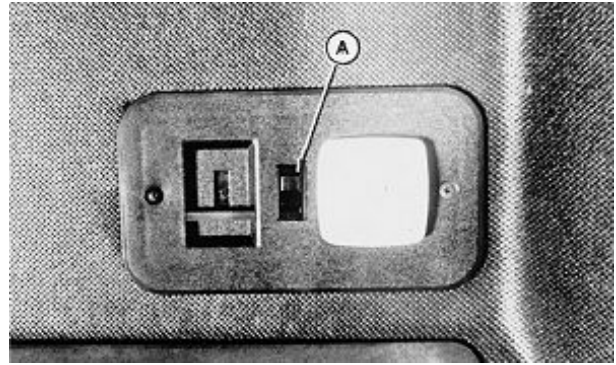


MM95366,00000EO -19-16SEP10-1/1

Using Dome Light

Dome light switch (A) operates dome light only if main key switch is turned on.

A—Dome Light Switch

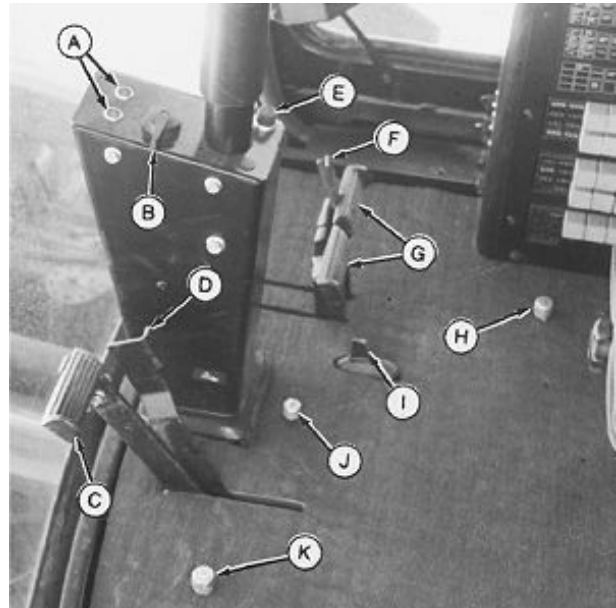


N82252C4—UN—27SEP88

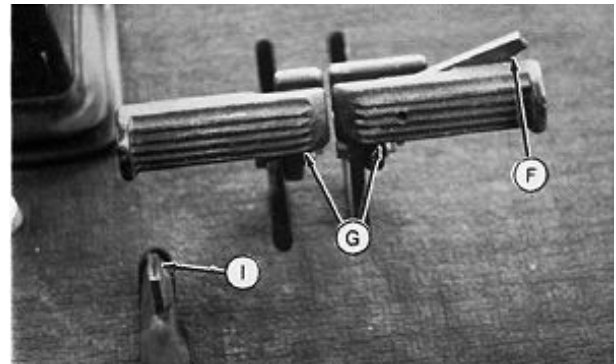
MM95366,00000E1 -19-16SEP10-1/1

Steering Pedestal and Floor Switches

A—Turn Indicator Lights	G—Brake Pedals
B—Turn Indicator Switch	H—Compactor Switch
C—"Park" Brake	I—Steering Pedestal Tilt Pedal
D—"Park" Brake Release	J—Basket Lamp Switch
E—Horn Button	K—Flush Switch
F—Brake Pedal Interlock Latch	



N42152DN—UN—20OCT93



N42152DF—UN—20OCT93

MM95366,00000E2 -19-16SEP10-1/1

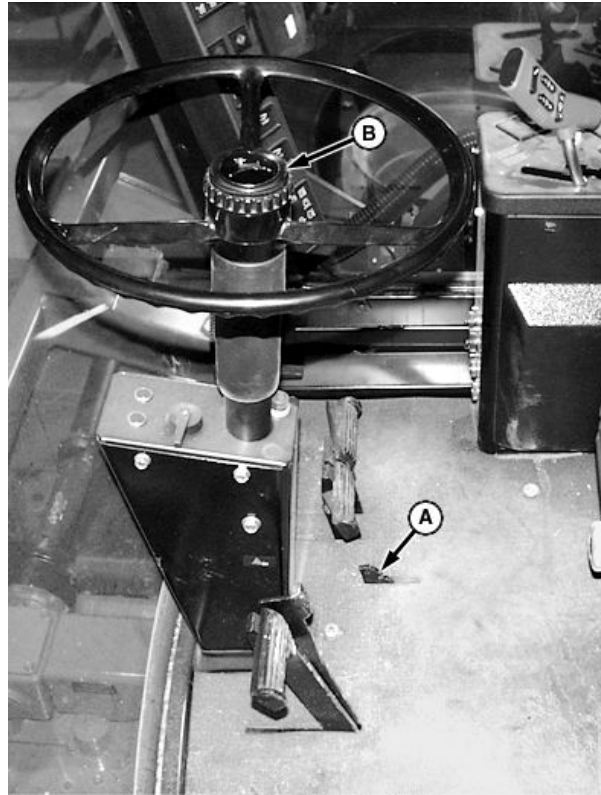
Adjusting Steering Column Tilt and Wheel Height

Depress control pedal (A) to adjust steering column to a comfortable angle.

Loosen retaining nut (B) to adjust steering wheel height to a comfortable level. Tighten nut after adjustment.

A—Control Pedal

B—Retaining Nut

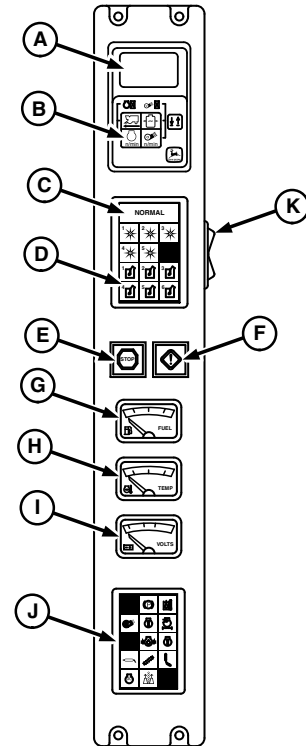


N51046—UN—31AUG99

MM95366,00000E3 -19-16SEP10-1/1

Indicators and Gauges—Location

A—Display Panel	G—Fuel Level
B—Tachometer—Ground	H—Engine Coolant
Speed, Water Pressure,	Temperature
Engine RPM, Fan Speed,	I— Battery Charge (Voltmeter)
Engine Hours, Fan Hours,	J— Indicator Display Panel
Active Line Select	K—Fan Speed Alarm Switch
C—NORMAL Light	
D—Monitor Display Panel	
E—STOP Indicator	
F— Caution Indicator	



MM95366,00000E4 -19-16SEP10-1/1

N73362 —UN—02OCT06

Tachometer/Hour Meter

Digital tachometer consists of four "touch" switches (A, B, C, D) that display a total of six different kinds of data.

This data consists of ground speed, engine rpm, water pressure, fan speed values, and engine and fan hours of the machine.

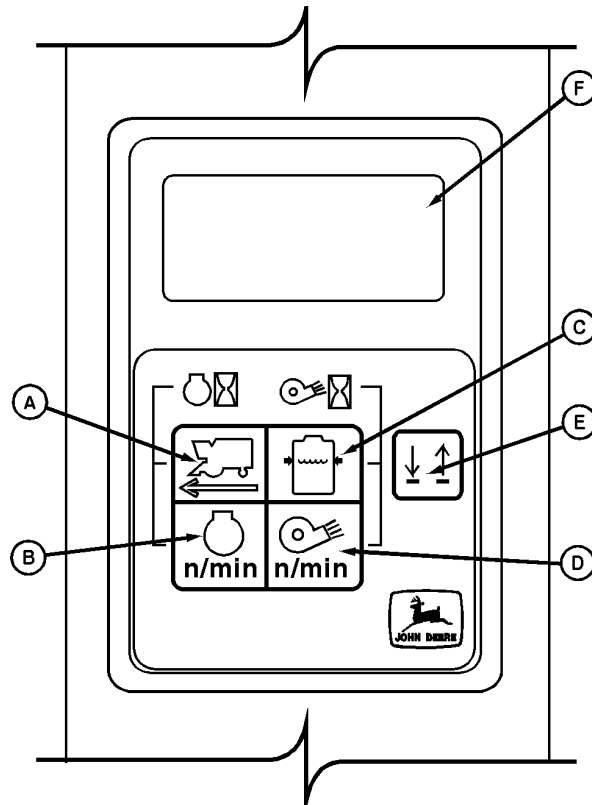
The Active Line Select switch (E) selects between the top and bottom line on the display panel (F).

Use the hour readings to help schedule regular service and lubrication.

NOTE: Digital tachometer displays the message "SEU1" after each 50 hours of engine operation. This is the service interval display message designed to help schedule regular lubrication and maintenance. See **CLEARING 50 HOUR SERVICE CODE** in this section.

A—Ground Speed Switch
B—Engine RPM Switch
C—Water Pressure Switch
D—Fan Speed Switch

E—Active Line Select Switch
F—Display Panel
A/B— Engine Hours
C/D— Fan Hours



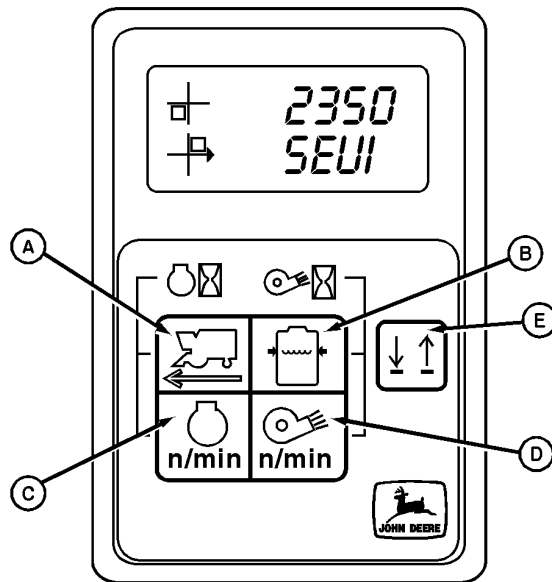
N42177AL—UN—27FEB97

MM95366,00000E5 -19-16SEP10-1/1

Programming Tachometer

NOTE: Tachometer is programmed at factory and must be reprogrammed only if tire size is changed.

1. Turn key switch OFF.
2. Press ground speed switch (A) and water pressure switch (B) simultaneously while turning key to ON position, then release switches. Tachometer displays a code indicating the design level of the tachometer while initializing.
3. After initializing, tachometer displays a three-digit number in the display panel. A cross-shaped symbol is displayed on the left side of the number. An indicator square appears in the upper left quadrant of the symbol. An arrow head on the right-hand side of the symbol points toward the active data line. The data value can be changed and the new value stored as follows:
 - Press ground speed switch (A) to increase displayed value.
 - Press engine rpm switch (C) to decrease displayed value.
 - Press water pressure switch (B) and fan speed switch (D) at same time to store displayed value.



A—Ground Speed
B—Water Pressure
C—Engine RPM

D—Fan Speed
E—Active Line Select

N73863—UN—19SEP06

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MM95366,00000E6 -19-22SEP10-1/2

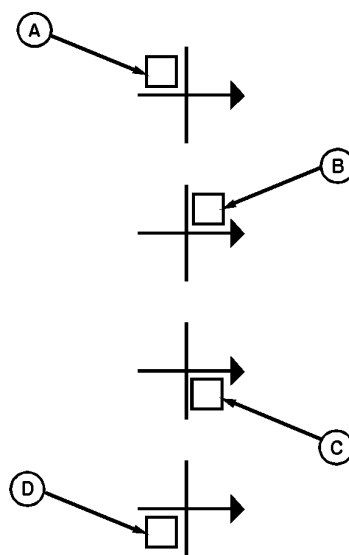
4. With indicator square in upper left quadrant (A), set displayed value to 026 for metric measurement units or 006 for English units.
5. Store units setting in tachometer memory. Indicator square moves to upper right quadrant (B).
6. Set displayed value on tachometer to 003 and store setting. Indicator square moves to lower right quadrant (C).

NOTE: Settings given are for standard 520/85D38 R1 or 20.8-38 R2 tires. If non-standard tires are installed, actual radius must be obtained and used for setting.

7. Set tire radius on display to 848 for metric units or 33.4 for English units and store setting. Indicator square moves to lower left quadrant (D).
8. Set engine pulse value on display to 30 and store setting.
9. Turn key switch OFF. Tachometer is now programmed.

A—Upper Left Quadrant
B—Upper Right Quadrant

C—Lower Right Quadrant
D—Lower Left Quadrant



N42189NL—UN—16OCT98

MM95366,00000E6 -19-22SEP10-2/2

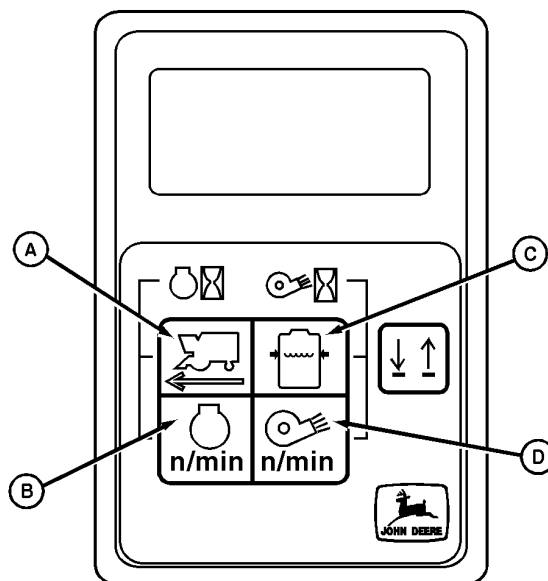
Operating Tachometer

To display specific data press tachometer switch or switches as follows:

- To display machine ground speed, press switch (A).
- To display engine RPM, press switch (B).
- To display water pressure, press switch (C).
- To display fan speed, press switch (D).
- To display engine hours, press switches (A) and (B) at the same time.
- To display fan hours, press switches (C) and (D) at the same time.

A—Ground Speed Switch
B—Engine RPM Switch

C—Water Pressure Switch
D—Fan Speed Switch



N42189NK—UN—16OCT98

MM95366,00000E7 -19-16SEP10-1/1

Setting Fan Speed Alarm Set Point

NOTE: Since the normal operating fan speed is 4000 rpm when the engine is at 2350 rpm, it is recommended that the alarm be set to go off when the fan speed drops below 3500 rpm (set point).

1. Start picker or turn key switch to "ON" position.

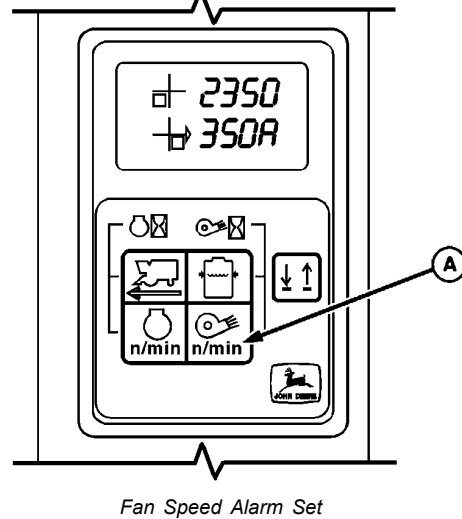
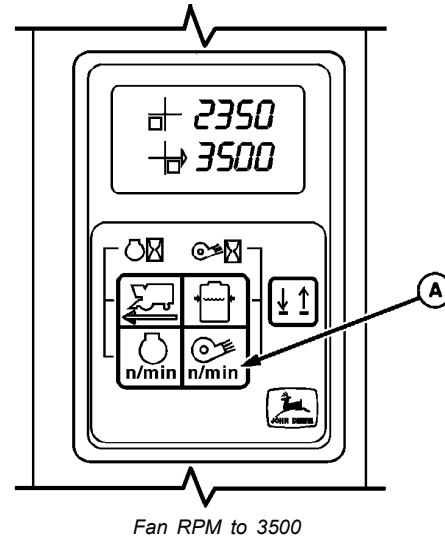
Specification

Fan—Normal Fan Speed
(Engine at 2350 rpm)..... 4000 rpm
Alarm Set Speed
(Recommended)..... 3500 rpm

2. Push fan speed switch (A) on tachometer display.
3. Depress and hold fan speed alarm enable switch (B) on right-hand monitor panel near tachometer. A number near 3500 RPM should now be displayed on tach.
4. Use the switches on top of the hydro handle to increase or decrease the fan speed alarm set point.
5. With the fan speed alarm switch still depressed, press the fan speed switch (A) on the tachometer until an "A" appears at the end of fan speed value.

A—Fan Speed Switch

B—Fan Speed Alarm Enable Switch



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MM95366,00000E8 -19-16SEP10-1/2

N73954 —UN—02OCT06

N73955 —UN—02OCT06

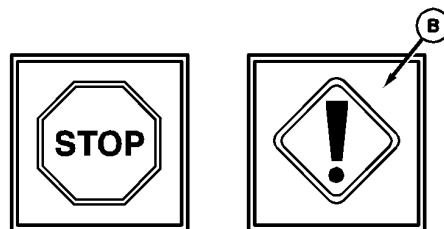
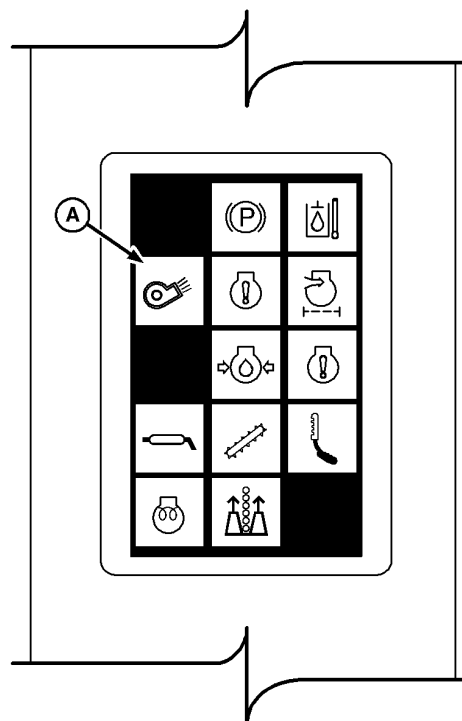
N73950 —UN—12OCT06

6. If the fan speed drops below alarm set point, the fan speed indicator (A) and "Caution" (B) lights will come on and a 3-second alarm will sound.

Low fan speed can be caused by a loose belt or low engine rpm. The alarm horn and indicator light will delay for two seconds after fan engagement to allow engine speed to be increased.

A—Fan Speed Indicator

B—Caution Indicator



N73363 —UN—11AUG06

N42165BY —UN—10AUG95

MM95366,00000E8 -19-16SEP10-2/2

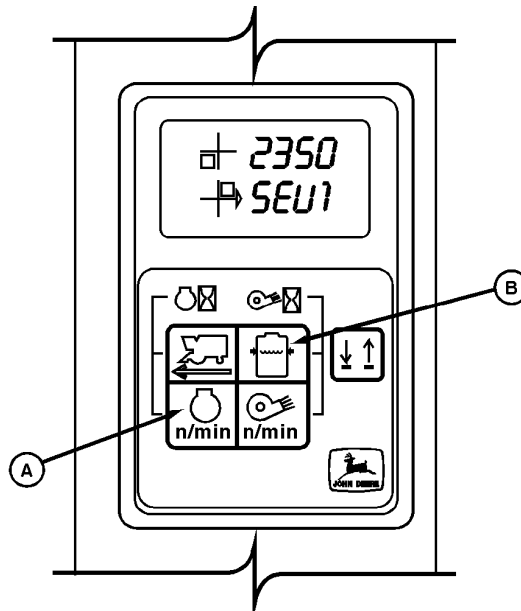
Clearing 50 Hour Service Code

IMPORTANT: Improper lubrication can cause machine damage. Check appropriate lubrication and maintenance procedures for 100, 200 and other multiple 50 hour service intervals.

Digital tachometer displays message "SEU1" after each 50 hours of engine operation. This service interval message helps schedule regular lubrication and maintenance. When service is complete, use following steps to clear service interval display message and reset counter to zero.

1. Turn key switch OFF.
2. Press engine rpm (A) and solution pressure (B) switches simultaneously.
3. While holding switches down, turn key switch ON.

NOTE: If service cannot be performed at this time, digital tachometer can be returned to normal operation by pressing one of the function select switches. Message will reappear each time engine is started until service procedure is completed.



A—Engine RPM Switch

B—Solution Pressure Switch

N73866 —UN—19SEP06

MM95366,00000E9 -19-16SEP10-1/1

Unit Monitor Display Panel

This panel displays indicator lights for unit drums (A) and unit doors (B). If a drum should stop or slow down due to spindle wrap, the appropriate indicator will light.

If a unit door should become plugged, an indicator for the appropriate door will light.

IMPORTANT: If an indicator light (for a stopped drum or plugged unit door) should come on the "STOP" light (C) will flash and a continuous pulsed alarm sound. Stop the machine immediately, disengage the units and determine what the problem is.

NOTE: Drum will stop because of gear case or idler clutch slippage.

If unit doors and unit drums are operating properly, the NORMAL light is on.

BULB CHECK:

1. Set Park brake.
2. Place transmission in Neutral.
3. Move hydro handle to full forward position.
4. Turn Key switch to "START" position.

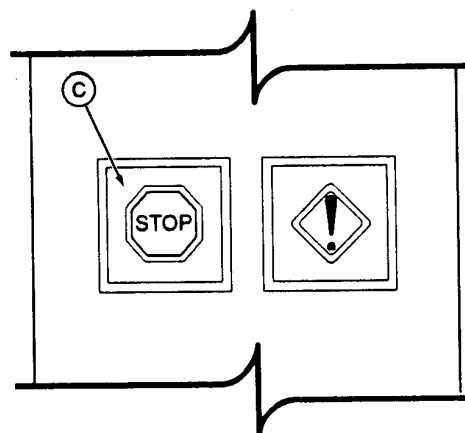
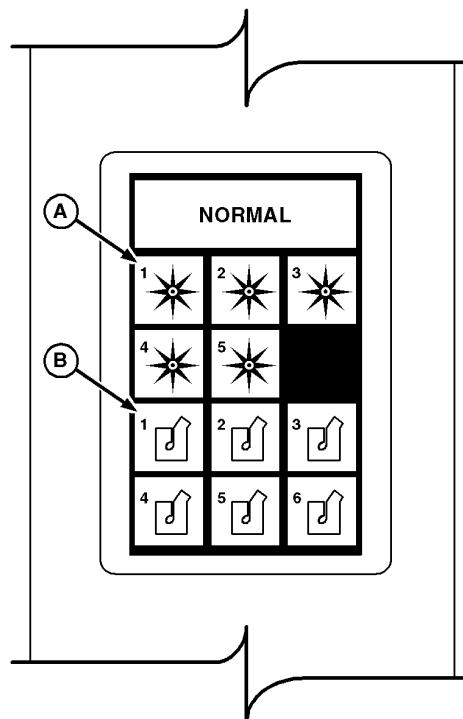
If any lights do not come on, refer to REPLACING INDICATOR, MONITOR AND GAUGE LIGHT BULBS in CAB AND AIR CONDITIONING section.

WARNING ALARM

Continuous pulsed alarm will sound when any indicator light is activated.

A—Unit Drums
B—Doors

C—Stop Indicator

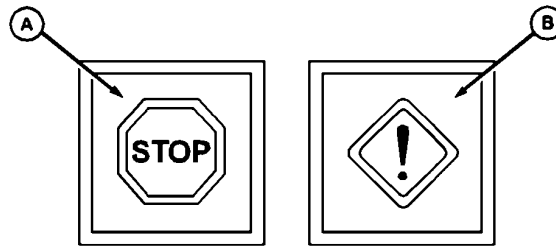


N73364 —UN—11AUG06

N42132AE —UN—15JAN93

MM95366,00000EA -19-16SEP10-1/1

Stop and Caution Indicators and Warning Alarms



A—Stop Indicator

B—Caution Indicator

IMPORTANT: If STOP indicator comes on, shut down engine immediately. Determine and correct the cause before restarting engine.

STOP INDICATOR (A):

Red STOP indicator flashes when a vital system malfunctions (such as engine cooling or lubrication). A pulsed warning alarm accompanies the flashing indicator.

CAUTION INDICATOR (B):

Amber caution indicator glows when a problem develops which does not usually require immediate engine shut-down (such as a dirty air filter). A steady alarm will sound for three seconds after the indicator first appears. Observe gauges and indicators for possible cause. A maintenance check or a change in machine operation should be initiated as soon as possible.

BULB CHECK:

1. Set Park brake.
2. Place transmission in Neutral.
3. Move hydro handle to full forward position.
4. Turn Key switch to "START" position.

If any lights do not come on, refer to REPLACING INDICATOR, MONITOR AND GAUGE LIGHT BULBS in CAB AND AIR CONDITIONING section.

WARNING ALARMS:

Machine is equipped with two warning alarms. One alarm sounds a steady tone, while the other alarm sounds a pulsing signal. The two different alarms are used to draw the operator's attention to the machine indicator or unit monitor display panel for identification of operator error or system failure.

- STEADY ALARM sounds for three seconds when:
 - Parking brake is engaged
 - Hydraulic oil temperature is high
 - Cotton fan speed is low
 - Air filter is restricted

NOTE: If yellow caution light is already on and a second caution signal is received, indicator light will come on but the steady alarm will not sound.

- PULSED ALARM sounds when:
 - Parking brake is engaged and hydro lever is moved out of neutral
 - Engine oil pressure is low
 - Engine coolant temperature is high
 - Unit monitor activates

N51123 —UN—14SEP99

MM95366,00000EB -19-16SEP10-1/1

Indicator Display Panel (When Lit)

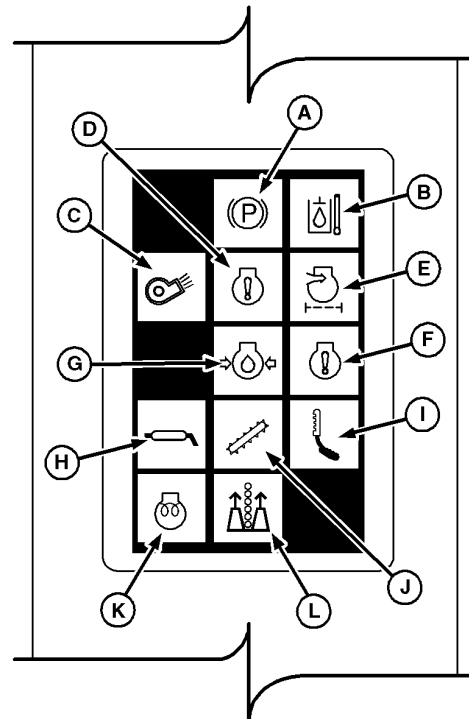
NOTE: For details of each indicator light, see individual descriptions in this section.

BULB CHECK:

1. Set Park brake.
2. Place transmission in Neutral.
3. Move hydro handle to full forward position.
4. Turn Key switch to "START" position.

If any lights do not come on, refer to REPLACING INDICATOR, MONITOR AND GAUGE LIGHT BULBS in CAB AND AIR CONDITIONING section.

A—Park Brake Engaged	G—Engine Oil Pressure Low
B—Hydraulic/Hydrostatic Temperature Too High	H—Lube Switch Engaged
C—Fan Speed Too Slow	I—Tether in Use
D—Engine Stop Lamp Indicator	J—Basket Conveyor Operating
E—Engine Air Filter Plugged	K—Glow Plug Indicator Lamp
F—Engine Warning Lamp Indicator	L—Row-Trak Indicator—If Equipped



N73365 —UN—11AUG06

MM95366,00000EC -19-16SEP10-1/1

Park Brake Indicator

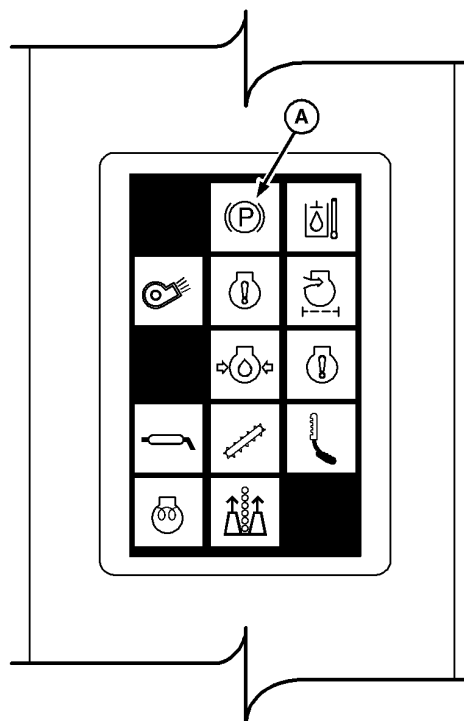
When the park brake is engaged, indicator light (A) and the CAUTION light (B) will come on and steady alarm sounds for three seconds. Pulsed alarm will sound if hydro lever is moved out of neutral with park brake engaged.

BULB CHECK:

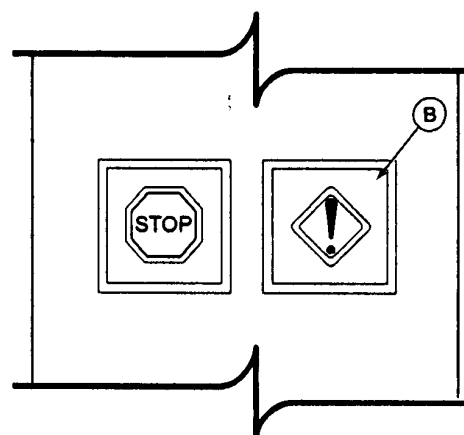
1. Set Park brake.
2. Place transmission in Neutral.
3. Move hydro handle to full forward position.
4. Turn Key switch to "START" position.

A—Park Brake Indicator

B—Caution Indicator



N73366 —UN—11AUG06



N42132P —UN—15JAN93

MM95366,00000ED -19-16SEP10-1/1

Hydraulic/Hydrostatic Oil Temperature Indicator

Hydraulic oil temperature (A) and CAUTION (B) indicators will glow and steady warning alarm will sound for three seconds when hydraulic oil temperature reaches 104.4°C (220°F). Immediately stop machine and reduce load on hydraulic system (disengage compactor auger) to allow oil to cool.

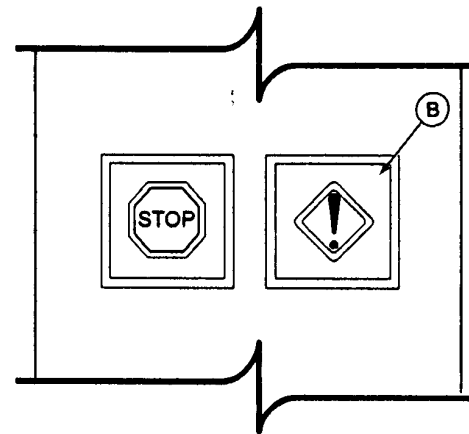
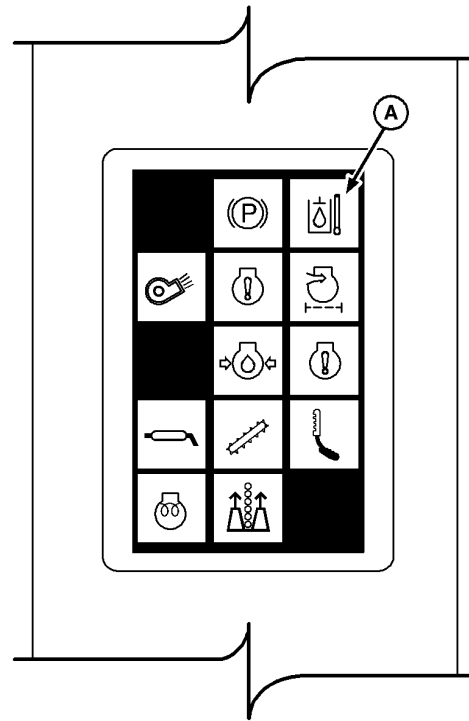
Continued operation may cause oil temperature to rise even higher, resulting in machine damage. See TROUBLESHOOTING section.

Check oil level. Clean accumulated debris from oil cooler.

BULB CHECK:

1. Set Park brake.
2. Place transmission in Neutral.
3. Move hydro handle to full forward position.
4. Turn Key switch to "START" position.

A—Hydraulic Oil Temperature Indicator **B**—Caution Indicator



N73367 —UN—11AUG06

N42132P —UN—15JAN93

MM95366,00000EE -19-16SEP10-1/1

Fan Speed Indicator

When the fan speed is too slow (below alarm set point), the indicator (A) and CAUTION (B) lights will come on. Steady alarm will sound for three seconds after the indicator first appears.

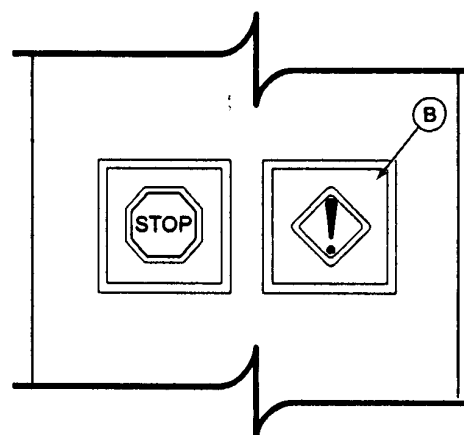
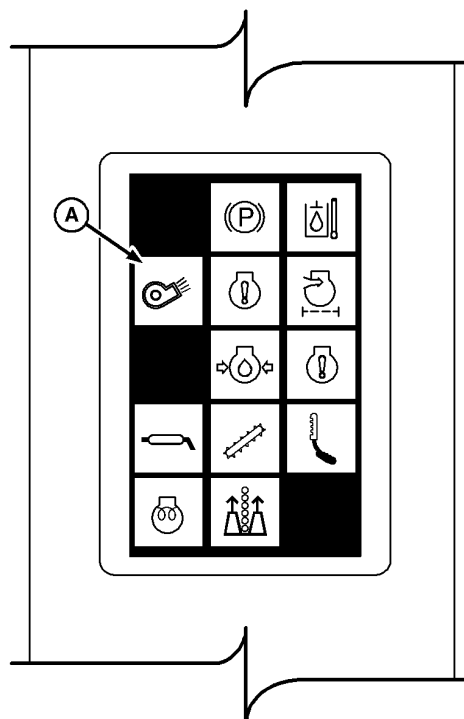
BULB CHECK:

1. Set Park brake.
2. Place transmission in Neutral.
3. Move hydro handle to full forward position.
4. Turn Key switch to "START" position.

Refer to SETTING FAN SPEED ALARM SET POINT in this section.

A—Fan Speed Indicator

B—Caution Indicator



N73363 —UN—11AUG06

V42132P —UN—15JAN93

MM95366,00000EF -19-16SEP10-1/1

Air Filter Indicator

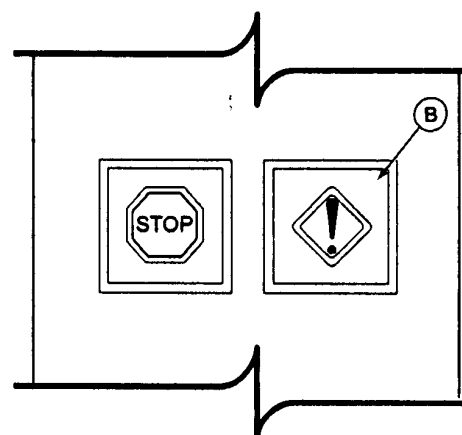
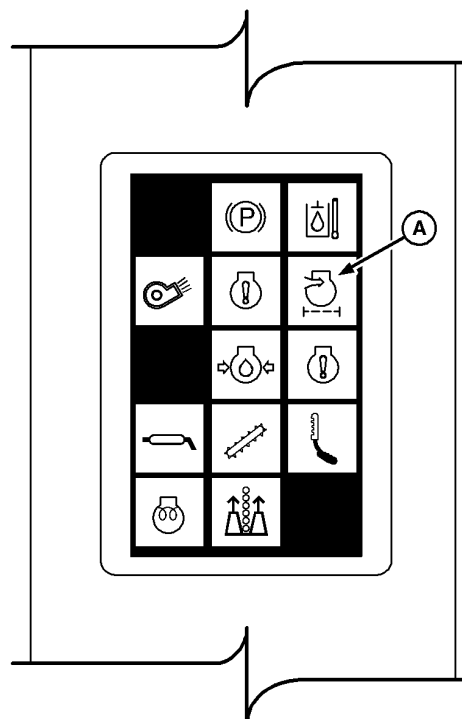
Air filter indicator (A) and CAUTION indicator (B) will glow when air cleaner element is dirty and needs servicing. Steady alarm will sound for three seconds after the indicator first appears. Check and clean air filter. See ENGINE AND DRIVE TRAIN section.

BULB CHECK:

1. Set Park brake.
2. Place transmission in Neutral.
3. Move hydro handle to full forward position.
4. Turn Key switch to "START" position.

A—Air Filter Indicator

B—Caution Indicator



N73368 —UN—11AUG06

N42132P —UN—15JAN93

MM95366,00000F0 -19-16SEP10-1/1

Engine Oil Pressure Indicator

IMPORTANT: Prevent possible engine damage. If engine oil pressure indicator comes on while operating, stop engine immediately.

Engine oil pressure indicator (A) glows, STOP indicator (B) flashes and pulsed warning alarm sounds when engine oil pressure is low. If indicator comes on, stop engine immediately. Determine and correct cause before restarting engine. See TROUBLESHOOTING section.

Indicator will glow when engine is not running if key switch is turned to ON position.

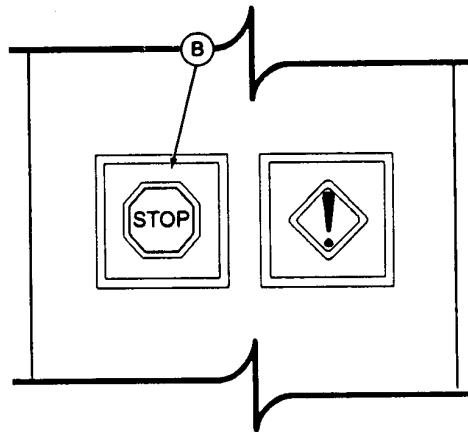
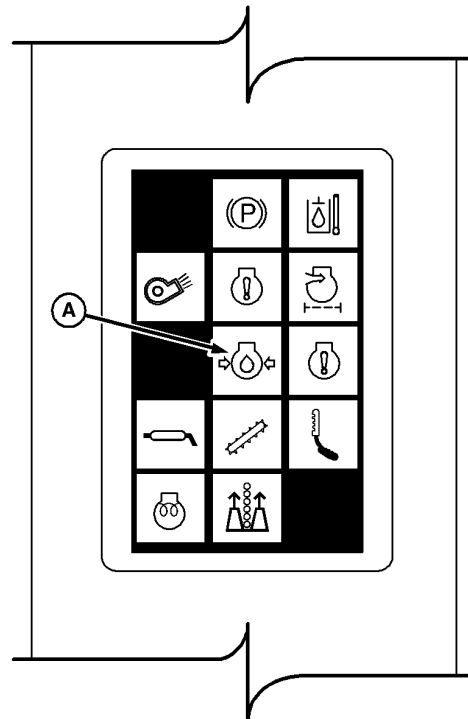
NOTE: Cold oil, low oil level or extreme off-level operation may cause indicator to light.

BULB CHECK:

1. Set Park brake.
2. Place transmission in Neutral.
3. Move hydro handle to full forward position.
4. Turn Key switch to "START" position.

A—Engine Oil Pressure Indicator

B—Stop Indicator



N73369 —UN—11AUG06

N42132U —UN—15JAN93

MM95366,00000F1 -19-16SEP10-1/1

Engine Coolant Temperature Indicator and Gauge

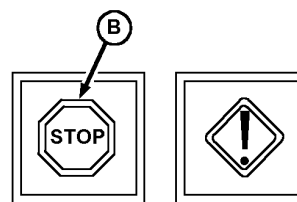
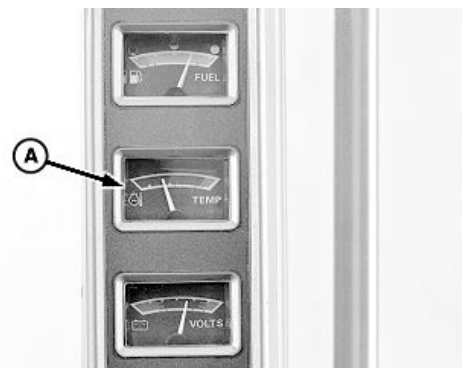
IMPORTANT: Prevent possible engine damage. Do not stop engine if indicator comes on and gauge needle enters red zone or coolant temperature will rise even higher, resulting in machine damage. Reduce load and run engine at slower speed to lower coolant temperature.

Engine stop lamp indicator (B) will illuminate and a pulsed warning alarm will sound when engine coolant overheats. Reduce load immediately and run engine at slower speed. Inspect for debris around radiator. Check for low coolant level in recovery tank.

Observe engine coolant temperature gauge (A). Should coolant temperature continue to rise, immediately shut engine off without waiting for cool down. Inspect for plugged radiator or coolant leakage.

A—Engine Coolant
Temperature Gauge

B—Stop Indicator



N72287 —UN—27MAR06

N51118 —UN—13SEP99

MM95366,00000F2 -19-16SEP10-1/1

Lube Indicator

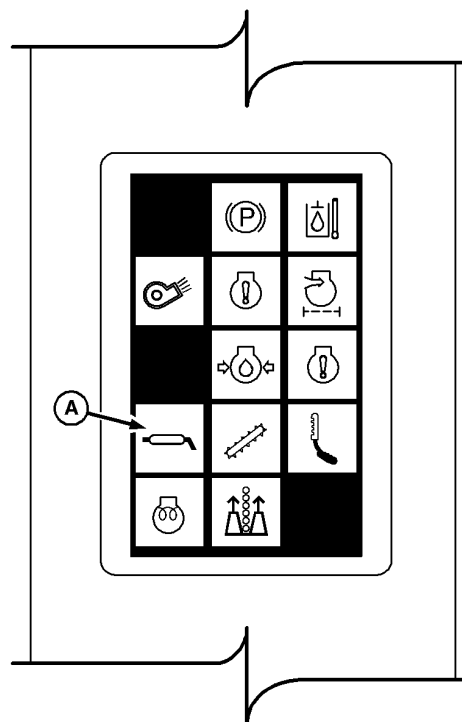
When the lube switch on the console is activated, the lube indicator light (A) will come on.

BULB CHECK:

1. Set Park brake.
2. Place transmission in Neutral.
3. Move hydro handle to full forward position.
4. Turn Key switch to "START" position.

If any lights do not come on, refer to REPLACING INDICATOR, MONITOR AND GAUGE LIGHT BULBS in CAB AND AIR CONDITIONING section.

A—Lube Indicator



N73371 —UN—11AUG06

MM95366,00000F3 -19-16SEP10-1/1

Basket Conveyor Indicator

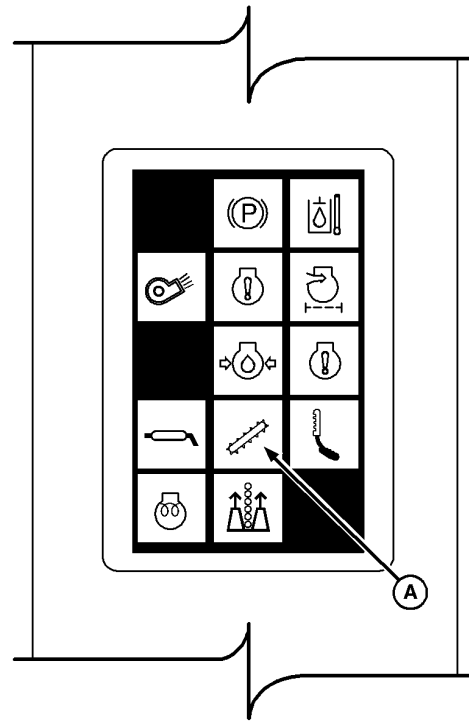
When the basket conveyor switch is activated, the basket conveyor indicator light (A) will come on.

BULB CHECK:

1. Set Park brake.
2. Place transmission in Neutral.
3. Move hydro handle to full forward position.
4. Turn Key switch to "START" position.

If any lights do not come on, refer to REPLACING INDICATOR, MONITOR AND GAUGE LIGHT BULBS in CAB AND AIR CONDITIONING section.

A—Basket Conveyor Indicator



N73372 —UN—11AUG06

MM95366,00000F4 -19-16SEP10-1/1

Tether Indicator

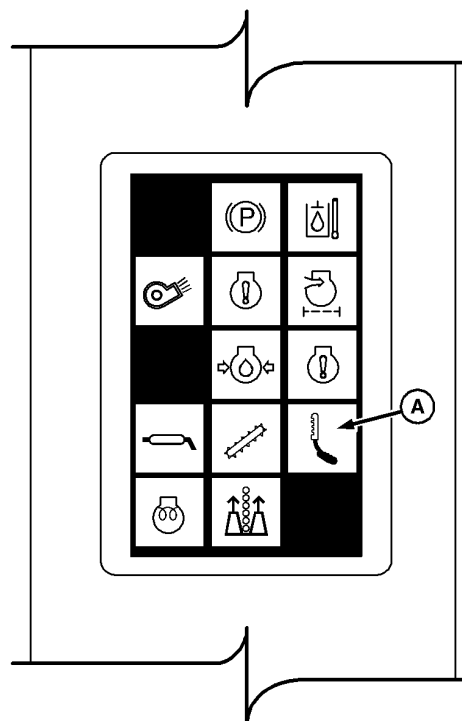
When the transmission is in neutral, the park brake engaged and hydro lever is in tether position, the tether indicator light (A) will come on.

BULB CHECK:

1. Set Park brake.
2. Place transmission in Neutral.
3. Move hydro handle to full forward position.
4. Turn Key switch to "START" position.

If any lights do not come on, refer to REPLACING INDICATOR, MONITOR AND GAUGE LIGHT BULBS in CAB AND AIR CONDITIONING section.

A—Tether Indicator Light



N73373 —UN—11AUG06

MM95366,00000F5 -19-16SEP10-1/1

Glow Plug Indicator

NOTE: Operator may start engine at any time during or after preheat time. If operator starts engine during preheat time, the glow plugs are turned off as soon as the ECU detects engine speed.

Glow plug indicator will light when Key is turned to ON position and will stay lit for preset time depending on fuel temperature.

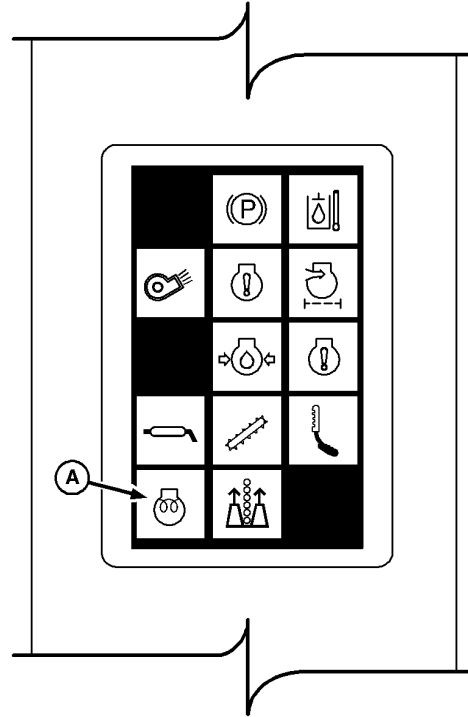
The following table shows preheat times with corresponding fuel temperatures.

Fuel Temperature	Preheat Time	Reheat Time
-30°C (-22°F)	15 seconds	10 seconds
-25°C (-13°F)	15 seconds	10 seconds
-20°C (-4°F)	11 seconds	10 seconds
-15°C (5°F)	7 seconds	10 seconds
-10°C (14°F)	4.5 seconds	10 seconds
-5°C (23°F)	2.2 seconds	10 seconds
0°C (32°F)	0 seconds	0 seconds

BULB CHECK:

1. Set Park brake.
2. Place transmission in Neutral.
3. Move hydro handle to full forward position.
4. Turn Key switch to "START" position.

A—Glow Plug Indicator



N73370 —UN—11AUG06

MM95366,00000F6 -19-16SEP10-1/1

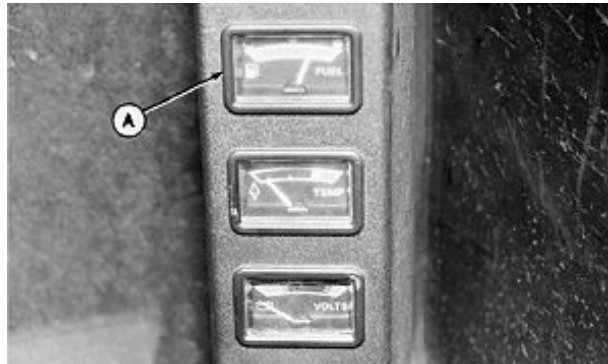
Fuel Gauge

Fuel gauge (A) displays approximate fuel level in tank.

Stop to refuel before fuel gauge needle reaches the empty mark. Never allow a diesel engine to run out of fuel. For diesel fuel specifications, see LUBRICATION AND MAINTENANCE section.

Fuel system will need to be bled and primed, should engine run out of fuel. See BLEEDING FUEL SYSTEM in the ENGINE AND DRIVE TRAIN section.

A—Fuel Gauge



N44437 —UN—13MAY92

MM95366,00000F7 -19-16SEP10-1/1

Battery Charge Gauge (Voltmeter)

Charge gauge (voltmeter) (A) shows battery and charging system voltage.

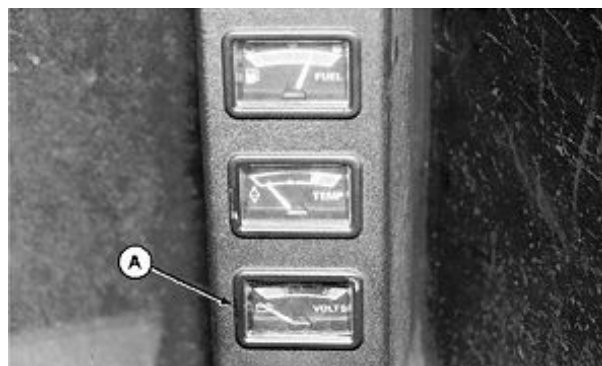
With the key switch ON and the engine off, the voltmeter needle should register slightly above the red/black band (12.0 volts).

Gauge needle in first red band indicates a discharged battery or low charging system voltage. Check battery condition and alternator belt tension.

With the engine running:

Needle in center band indicates that charging system voltage is normal (at least 13 volts).

Gauge needle in far red band indicates an overcharge condition. See your John Deere dealer for alternator/regulator troubleshooting and repair.



A—Charge Gauge (Voltmeter)

MM95366,00000F8 -19-16SEP10-1/1

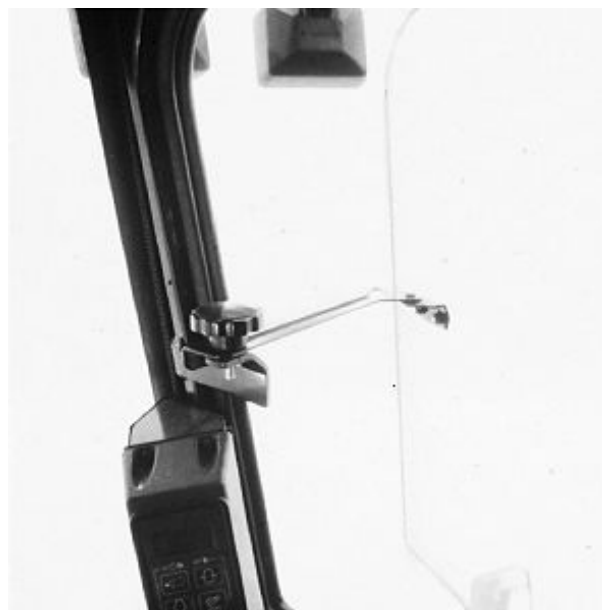
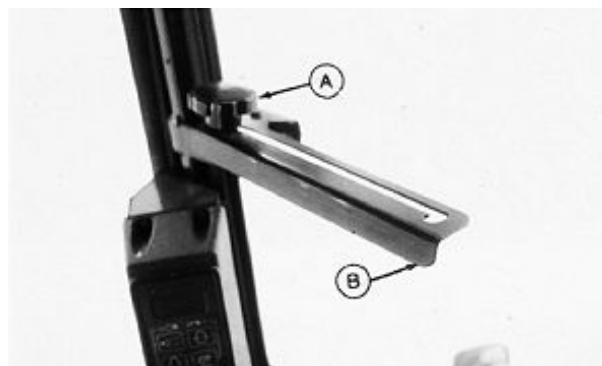
N44438 —UN—13MAY92

Opening Window

1. Loosen knob (A) by turning counterclockwise.
2. Grasp pivot arm (B) and swing away from window.
3. Push arm out and position window in desired position.
4. Tighten knob.

A—Knob

B—Pivot Arm



MM95366,00000F9 -19-16SEP10-1/1

N42152DG —UN—20OCT93

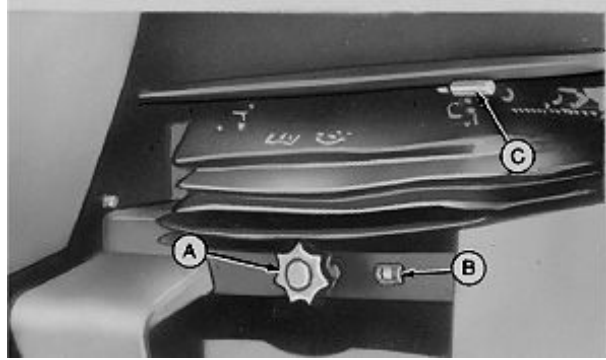
N42152EO —UN—20OCT93

Adjusting for Height, Weight, and Fore-and-Aft on PERSONAL-POSTURE™ Seat

The seat suspension has three height positions. Adjust as follows:

- To set in the lowest position, grasp the front edge of the seat cushion base and pull seat upward as far as possible. Let seat all the way down.
- To change from the lowest to the middle height position, lift seat up slowly until a "click" sound is heard; then release seat.
- To change from the middle to the highest position, slowly lift seat up until "click" sound is heard; then release seat.
- To adjust seat suspension for proper weight-to-ride, turn handwheel (A) until the operator's weight (in pounds) is shown in window (B). Weight adjustment must be dialed in with operator OUT of seat.
- To adjust seat fore-and-aft, pull lever (C) upward to slide cushion forward or backwards

PERSONAL-POSTURE is a trademark of Deere & Company.



A—Handwheel
B—Window

C—Lever

N38422—UN—25SEP89

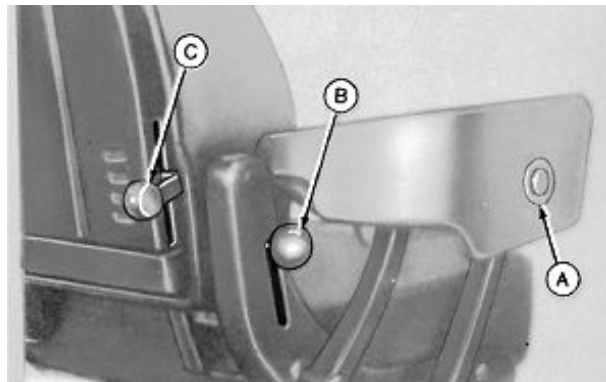
MM95366,00000FA -19-16SEP10-1/1

Adjusting Armrest Height, Backrest Angle, and Lumbar Support on PERSONAL-POSTURE™ Seat

1. Press button (A) and move armrest to desired position. Do not sit on armrest.
2. To change backrest angle, raise or lower control lever (B).
3. For more pressure against your lower back, push control lever (C) down.

A—Button
B—Control Lever

C—Control Lever



R29446—UN—17NOV88

PERSONAL-POSTURE is a trademark of Deere & Company.

MM95366,00000FB -19-16SEP10-1/1

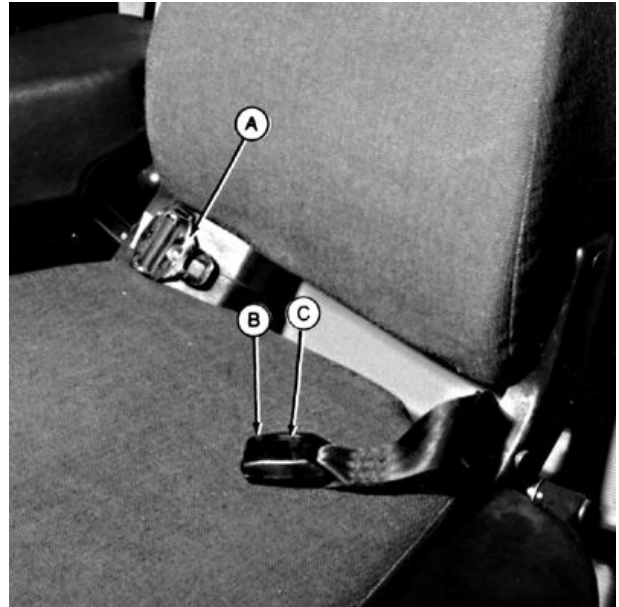
Using Seat Belt

Seat belts are supplied as standard equipment, and should be used every time the machine is operated.

Pull seat belt (A) across lap and attach to latch (B). Push seat belt button (C) to release belt.

A—Seat Belt
B—Latch

C—Seat Belt Button



N42166HE—UN—16/JAN96

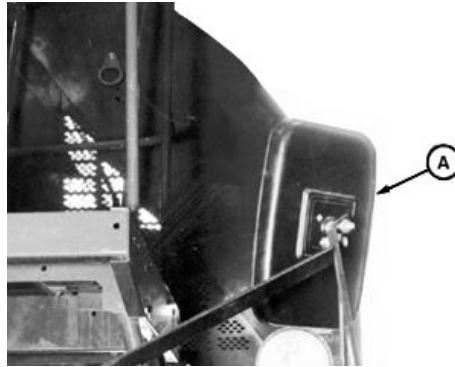
MM95366,00000FC -19-16SEP10-1/1

Adjusting Rear View Mirrors

A rear view mirror is located on the right-hand and left-hand sides of the unit lift frames as well as on the platform railing.

Adjust mirrors (A) for best view.

A—Mirrors



Left-Hand Mirror



Mounted on Platform

N42189UX—UN—08DEC98

N42132AJ—UN—15JAN93

MM95366,00000FD -19-16SEP10-1/1

Theft Deterrent Feature

THEFTLOCK™ is designed to discourage theft of your receiver. It works by using a secret code that you select to disable all receiver functions whenever the receiver is disconnected from the vehicle or battery power is lost.

The THEFTLOCK feature of the receiver may be used or ignored. If ignored, the audio system plays normally, and the receiver is not protected by the feature. If THEFTLOCK is activated, your receiver will not operate if stolen. Whether THEFTLOCK has been activated or not, a red light on the receiver will flash when the ignition is off. This light is intended to deter thieves.

THEFTLOCK is a registered trademark of Delco Electronics Corp.

When THEFTLOCK is activated, the receiver will display "LOCK" to indicate a locked condition anytime battery power is lost. If your battery loses power for any reason, you must unlock the receiver with the secret code before it will operate.

The instructions that follow explain how to enter your secret code and activate the THEFTLOCK system. It is recommended that you read through all 11 steps. Before starting the procedure.

MM95366,0000101 -19-16SEP10-1/1

Activating THEFTLOCK

NOTE: If you allow more than 15 seconds to elapse between any of the steps, the receiver will automatically revert to time and you must start the procedure over at step 4.

1. Write down any four-digit number from 0000 to 9999 and keep it in a safe place separate from your machine.
2. Turn the ignition "ON".
3. Turn the receiver "OFF".
4. Press and hold push-button 1 and 5 at the same time until "---" shows on the display.
5. Press TUNE/SEEK and "0000" will appear on the display.
6. Press SEEK as many times as needed to make the last two digits agree with the secret code you have written down.
7. Press TUNE as many times as needed to make the first two digits agree with the code you have written down.
8. Confirm that the code on the display matches the secret code that you have written down.
9. Press BAND. The display will show "REPEAT" to let you know that you need to confirm your code.
10. Repeat steps 5-8 to confirm your code.
11. Press BAND. The display will show "SECURE" to let you know that your receiver is secure (if THEFTLOCK has not been activated, "---" will show on the display. To activate, repeat steps 4-11).

MM95366,0000102 -19-16SEP10-1/1

Disabling THEFTLOCK

To disable THEFTLOCK, enter your secret code as follows; pause no more than 15 seconds between steps:

1. Turn the ignition "ON".
2. Turn the receiver "OFF".
3. Press and hold push-button 1 and 5 together until "SECURE" shows on the display.
4. Press TUNE/SEEK. The display will show "0000".
5. Press SEEK as many times as needed to make the last two digits agree with your secret code.
6. Press TUNE as many times as needed to make the first two digits agree with your code.
7. Confirm that the code on the display matches the code you have written down.
8. Press BAND. The display will show "---" indicating that the receiver is no longer secure (if the display shows "SECURE", the incorrect code was entered. Repeat steps 1-8).

If your receiver is secure and battery power is lost, the receiver will not operate. "LOCKED" will appear on the display when the receiver PWR button is pushed or when the ignition is turned on.

MM95366,0000103 -19-16SEP10-1/1

Unlocking a Locked Receiver

To unlock a locked receiver after a battery power loss, complete the following; pause no more than 15 seconds between steps:

1. Press TUNE/SEEK. The display will show "000".
2. Press SEEK as many times as needed to make the last two digits agree with your secret code.
3. Press TUNE as many times as needed to make the first two digits agree with your code.
4. Confirm that the code on the display matches the code you have written down.
5. Press BAND. The display will show "SECURE" indicating that the receiver is operational and

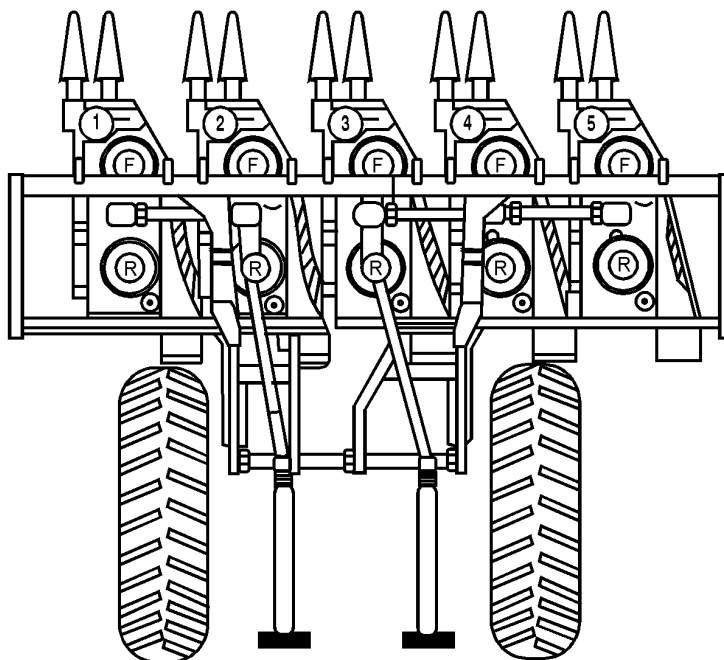
THEFTLOCK is active (if "LOCKED" appears on the display, the incorrect code was entered. Repeat steps 1-5).

If the wrong code is entered 8 times, "InoP" will appear on the display. You MUST wait an hour with the ignition "ON" before you can try to unlock the receiver again. When you try again, you will only have three more chances to enter the correct code before "InoP" appears again.

If you lose or forget your code, contact your dealer.

MM95366,0000104 -19-16SEP10-1/1

Picker Unit and Drum Identification



Units are numbered 1 through 4, or 1 through 5, from the left-hand side of the driver's station facing in the direction of travel.

Picker drums are identified by "F" for front drum and "R" for rear drum.

MM95366,0000107 -19-16SEP10-1/1

N42182JA —UN—01OCT97

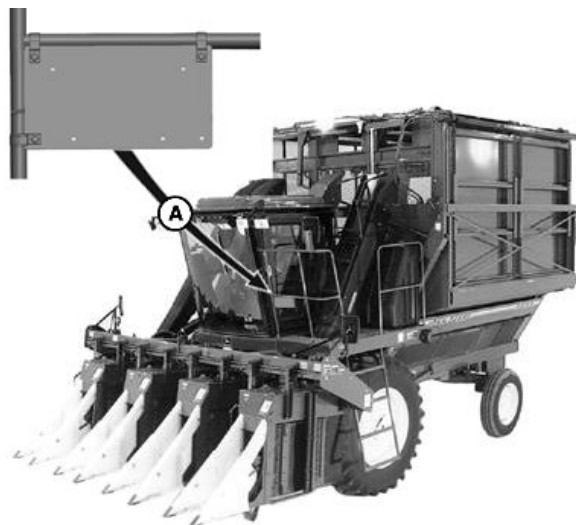
License Plate Bracket

NOTE: No threaded holes or weld nuts, customers provide hardware to mount license plate.

License plate bracket (A) is tied to handrail by three clamps on the left side of machine.

Mount license plate on license plate bracket.

A—License Plate Bracket



YC7871 —UN—24NOV14

CP00596,0000913 -19-25NOV14-1/1

Break-In

Fan Control Switch

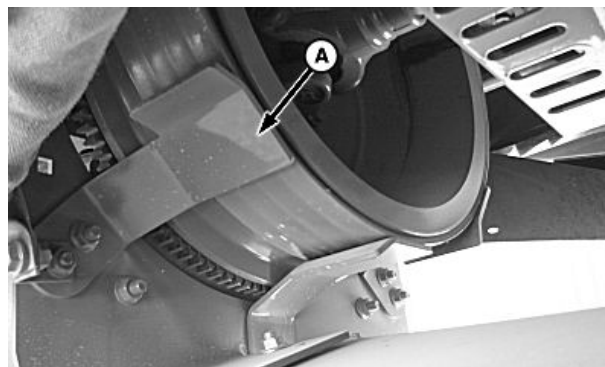
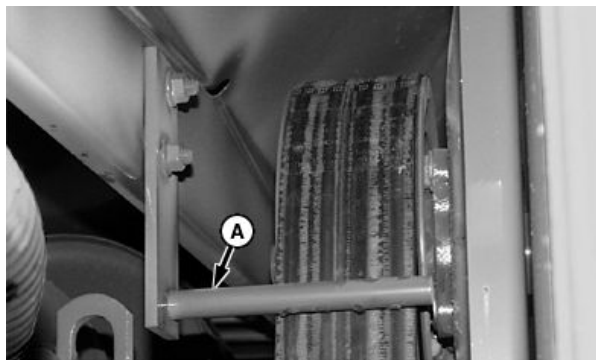
IMPORTANT: Fan control switch is shipped from the factory in **ENGAGED** position. **DO NOT** disengage fan drive until the first basket is unloaded in field. Failure to adhere can result in shortened belt life.

Fan may be disengaged for adjustments, but engage fan control switch again after adjustments have been made. This provides proper belt break-in.

Solution pump **MUST NOT** run dry. Solution pump can be damaged if it runs dry.

*NOTE: Check fan belt guides (A) and fan belt tension during break-in. See **ADJUSTING COTTON FAN BELT AND GUIDES** in **AIR SYSTEM** section.*

A—Fan Belt Guides



N51047 —UN—31AUG99

N73941 —UN—28SEP06

OOU6043,0001507 -19-27SEP06-1/1

Breaking-In Engine

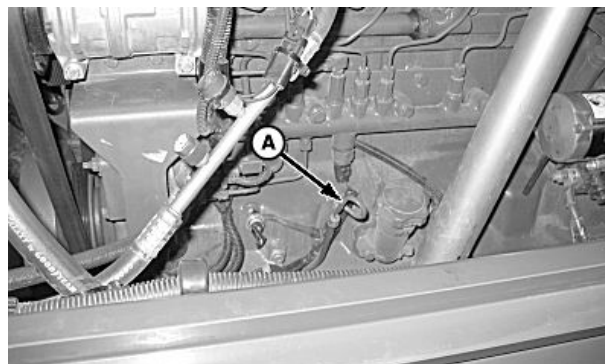
*NOTE: See **LUBRICATION AND MAINTENANCE** section for correct break-in oil to use during break-in period.*

The engine is ready for normal operation. However, be cautious during the first 100 hours.

1. Avoid unnecessary engine idling. If cotton picker will be idling longer than 5 minutes, stop engine.

IMPORTANT: New engines are filled with John Deere **ENGINE BREAK-IN OIL**. Break-in oil **WILL NOT** provide adequate protection when used after the 100 hour break-in period. After 100 hours change oil. See **BREAK-IN SERVICE AND DIESEL ENGINE OIL** in **Lubrication and Maintenance** section.

2. Use dipstick (A) to check engine oil level frequently. Watch for any signs of leaks. If oil must be added



A—Dipstick

during break-in, use oil specified in **Lubrication and Maintenance** section.

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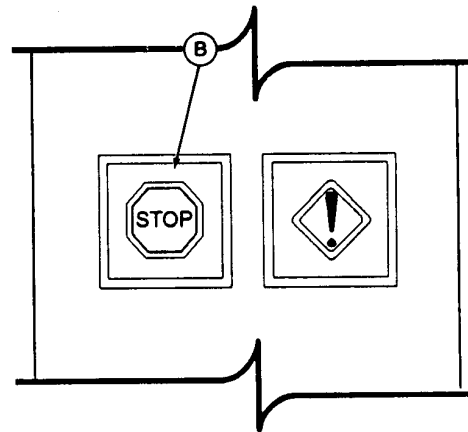
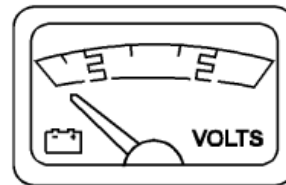
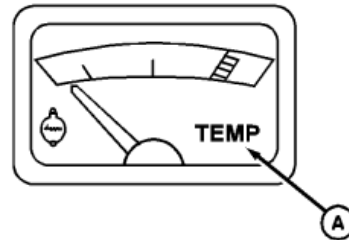
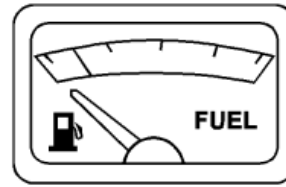
AG,OOU1011,1059 -19-03AUG06-1/3

N73259 —UN—16AUG06

3. Watch coolant temperature gauge (A) closely. If gauge needle rises into the warning zone and/or coolant indicator light comes on, engine is overheating. Shift to lower gear or reduce load by reducing ground speed. Unless temperature drops quickly STOP the engine. If STOP warning light (B) comes on, immediately stop the engine and determine cause of overheating.

A—Coolant Temperature Gauge

B—Stop Warning Light



N4216SZ —UN—28JUN95

N42132U —UN—15JAN93

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AG,OUO1011,1059 -19-03AUG06-2/3

⚠ CAUTION: Explosive release of fluids from pressurized cooling system can cause serious burns.

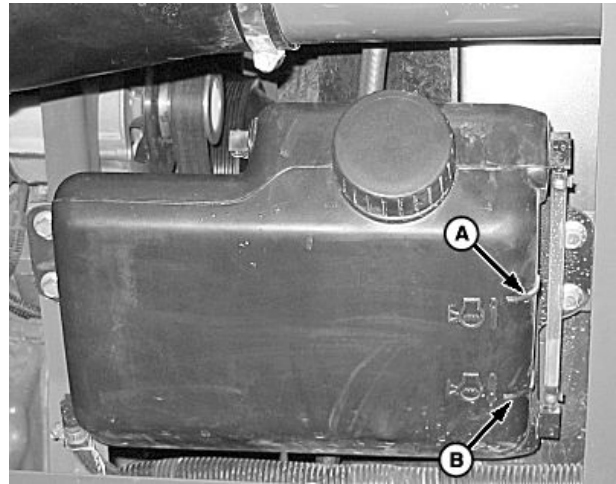
If radiator cap must be removed, do not remove when engine is hot. Shut engine off and wait until cap is cool enough to touch with bare hands. Slowly loosen cap to first stop to relieve pressure before removing completely.

Never add coolant when engine is overheated. Wait for it to cool.

DO NOT raise basket to remove radiator cap and check radiator. The basket is heavy and can cause serious injury or death to you or others if it falls. Check and remove radiator cap from **INSIDE** basket only.

Under certain conditions coolant conditioner can cause serious injury or death to you or others. Never inhale or ingest conditioner and avoid contact with skin or eyes. When adding coolant conditioner observe all precautions listed on container.

4. Check coolant level frequently. Watch for any signs of leaks. Coolant level should remain between the cold mark (B) (when the engine is cool) and the hot mark (A) (when the engine is hot).
5. Become thoroughly familiar with the sound and feel of your cotton picker, stay attentive and alert.



A—Hot Mark

B—Cold Mark

AG,OUO1011,1059 -19-03AUG06-3/3

TS281 —UN—15APR13

N73022 —UN—17JUL06

After One Hour

1. Check drive wheel, guide wheel, or power rear axle wheel bolt torques.

Specification

Drive Wheels (Lubricated

Bolts M20) —Torque.....(Serial No. 020001—025134) 490 N·m
(360 lb-ft)

Drive Wheels (Lubricated

Bolts M22) —Torque.....(Serial No. 025135—) 610 N·m
(450 lb-ft)

Non-Powered

Guide Wheels (Dry

Bolts) —Torque.....312 N·m
(230 lb-ft)

Power Rear Axle Wheels

(Dry Bolts) —Torque.....610 N·m
(450 lb-ft)



Continued on next page

CP00718,0002D7F -19-12APR17-1/2

N42167NW —UN—17JUN97

2. For machine with non-powered axle without heavy duty extensions, tighten steering knee bolt (4 on each side) to specification.

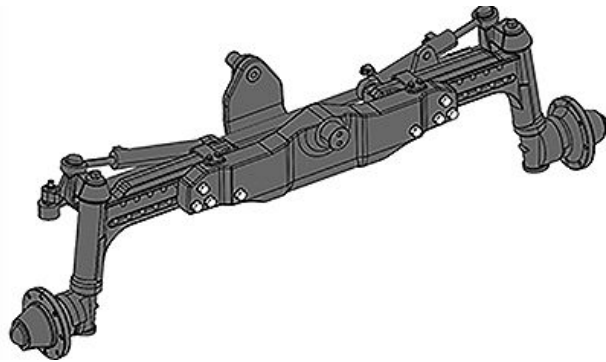
For machine with powered axle, tighten steering knee bolt (4 on each side) to specification.

For machine with non-powered axle with heavy duty extensions, tighten steering knee bolt (8 on each side) to specification.

Specification

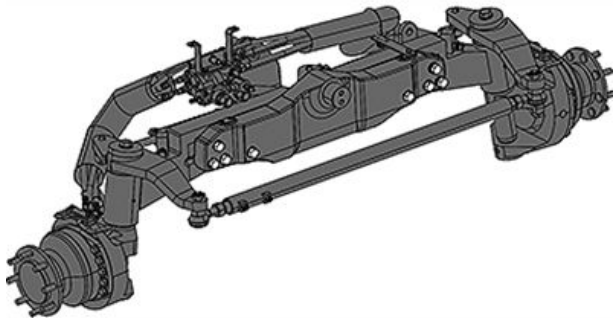
Steering Knee Bolt—Torque.....	610 N·m (450 lb-ft)

NOTE: After any service requiring loosening of guide axle hardware, the one hour torque check must be completed after operation of machine.



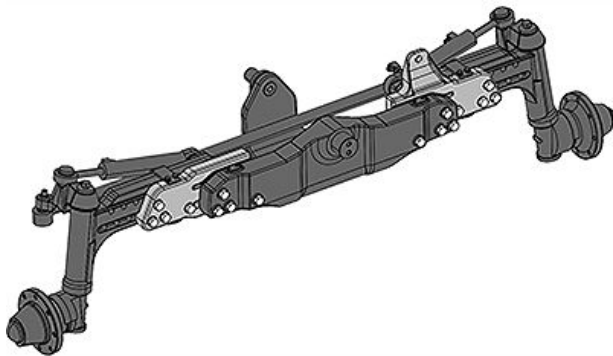
Non-powered Axle without Heavy Duty Extension

YC10992 —UN—07DEC16



Powered Axle

YC10993 —UN—07DEC16



Non-powered Axle with Heavy Duty Extension

YC10994 —UN—07DEC16

CP00718,0002D7F -19-12APR17-2/2

After Five Hours

Check all belts for initial stretch. Adjust tension as necessary. Continue to check all belts every few hours for the first 50 hours.

- Unit Drive Belts—See PICKING UNITS section
- Engine Accessory Drive Belt (Alternator and Air Conditioning Compressor)—See ENGINE AND DRIVE TRAIN section

NOTE: *Engine accessory drive belt is automatically tensioned and cannot be manually adjusted. Check this belt for proper alignment only.*



Unit Drive Belt Shown

N42132AQ —UN—15JAN93

OUO6043,0001508 -19-25OCT01-1/1

After Ten Hours

1. Tighten drive wheels, guide wheels, or power rear axle wheel bolts to specifications.

Specification

Drive Wheels (Lubricated)
Bolts M20—Torque.....(Serial No. 020001—025134) 490 N·m
(360 lb-ft)

Drive Wheels (Lubricated)
Bolts M22—Torque..... (Serial No. 025135—) 610 N·m
(450 lb-ft)

Non-Powered
Guide Wheels (Dry)
Bolts—Torque.....312 N·m
(230 lb-ft)

Power Rear Axle Wheels
(Dry Bolts)—Torque.....610 N·m
(450 lb-ft)

If torque fails to stabilize after first ten hours, tighten to above values every ten hours. After torque stabilizes, tighten every 100 hours.

NOTE: After any service requiring loosening of guide axle hardware, the one hour torque check must be completed after operation of machine followed by the above torque requirements.

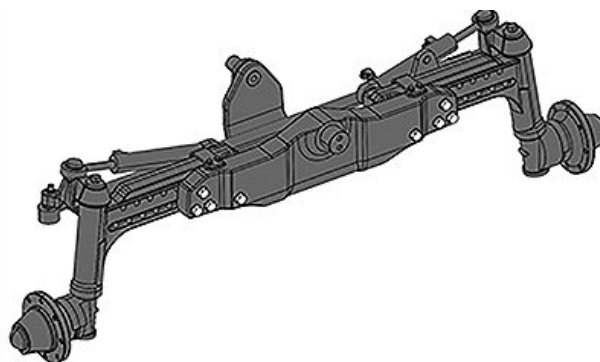
2. For machine with non-powered axle without heavy duty extensions, tighten steering knee bolt (4 on each side) to specification. For machine with powered axle, tighten steering knee bolt (4 on each side) to specification. For machine with non-powered axle with heavy duty extensions, tighten steering knee bolt (8 on each side) to specification.

Specification

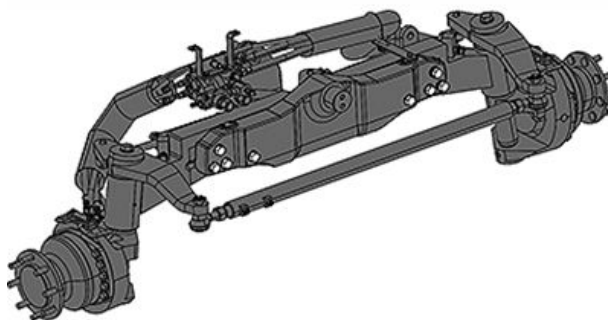
Steering Knee
Bolt—Torque.....610 N·m
(450 lb-ft)

If torque fails to stabilize after first ten hours, tighten to above values every ten hours. After torque stabilizes, tighten every 100 hours.

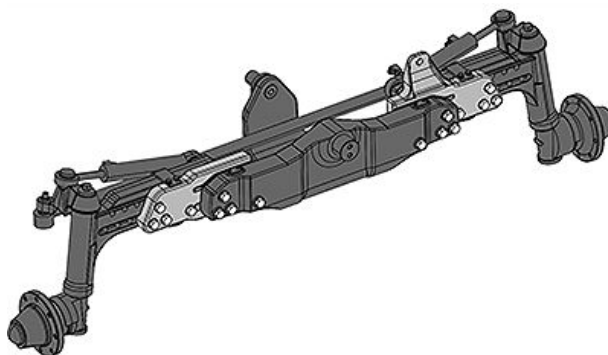
3. Check basket conveyor chains for tightness. With basket in unload position, chains should just contact chain guides on bottom side of conveyor. If conveyor



Non-powered Axle without Heavy Duty Extension



Powered Axle



Non-powered Axle with Heavy Duty Extension

chains need tightening, see ADJUSTING CONVEYOR CHAIN TENSION in BASKET section of this manual.

CP00718,0002D80 -19-13APR17-1/1

YC10992—UN—07DEC16

YC10993—UN—07DEC16

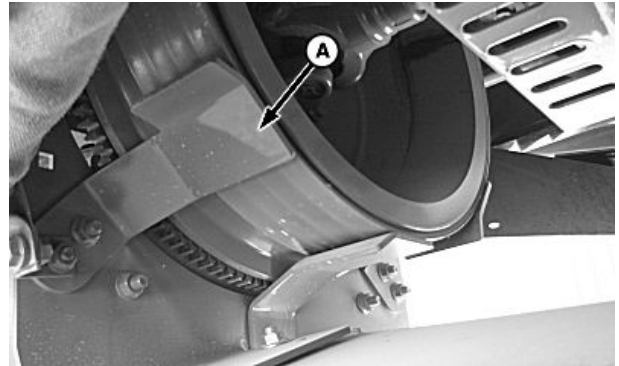
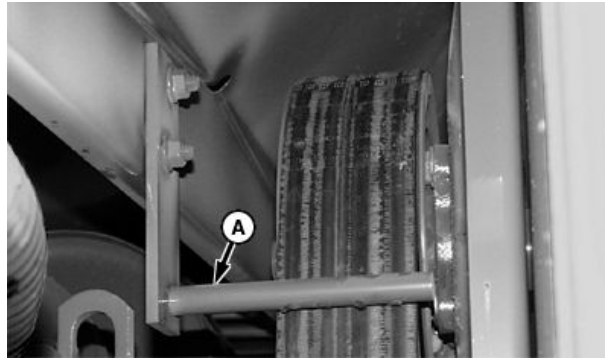
YC10994—UN—07DEC16

After 20 Hours

IMPORTANT: Adjust cotton fan drive belt tension. Failure to maintain proper tension will significantly reduce belt life.

Check and adjust belt guides (A) as necessary. See **ADJUSTING COTTON FAN BELT AND GUIDES** in **AIR SYSTEM** section.

A—Belt Guides



N51047 —UN—31AUG99

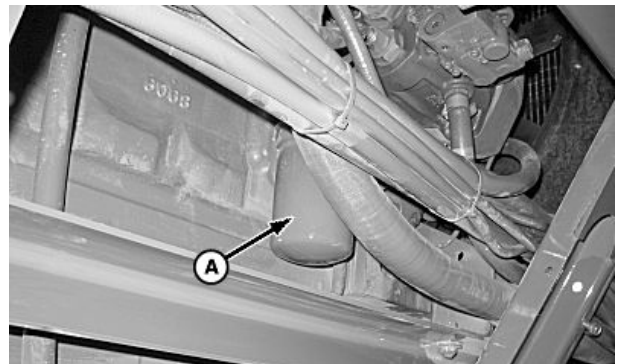
N73941 —UN—28SEP06

OUO6043,000150A -19-27SEP06-1/1

After 100 Hours

Drain oil from crankcase and change filter (A). Fill crankcase with recommended oil. See **LUBRICATION AND MAINTENANCE** section for proper oil specifications.

A—Crankcase Oil Filter



N73218 —UN—16AUG06

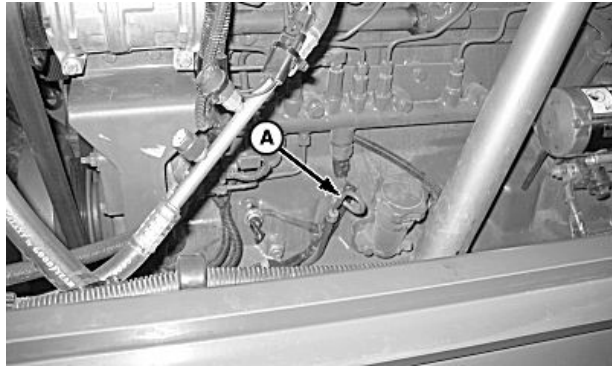
OUO6043,000150B -19-03AUG06-1/1

Prestarting Checks

Checking Engine Oil Level

DO NOT operate engine when oil level is below the "ADD" mark on dipstick (A). Add oil if necessary. See LUBRICATION AND MAINTENANCE section for engine oil specifications.

A—Dipstick



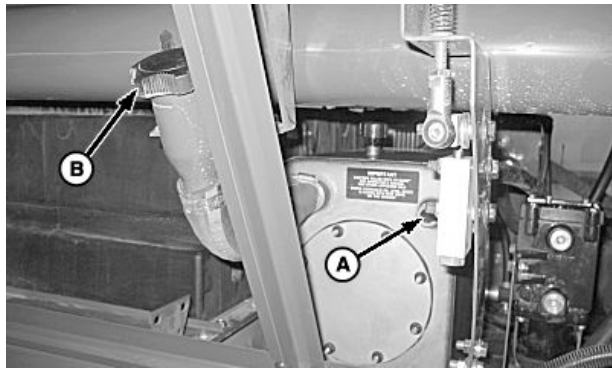
N73259—UN—16AUG06

OUC6043,000150C -19-27JUL06-1/1

Checking Hydrostatic/Hydraulic Oil Level

The oil should be visible in the oil reservoir sight glass (A) with the units lowered, basket dump cylinders lowered, and the basket extension cylinders fully extended. Remove cap (B) and add oil if necessary. See LUBRICATION AND MAINTENANCE section for proper oil specifications.

A—Oil Reservoir Sight Glass B—Cap



N73260—UN—16AUG06

OUC6043,000150D -19-18SEP06-1/1

Checking Coolant Level

⚠ CAUTION: Explosive release of fluids from pressurized cooling system can cause serious burns.

If radiator cap must be removed, do not remove when engine is hot. Shut engine off and wait until cap is cool enough to touch with bare hands. Slowly loosen cap to first stop to relieve pressure before removing completely.

Never add coolant when engine is overheated. Wait for it to cool.

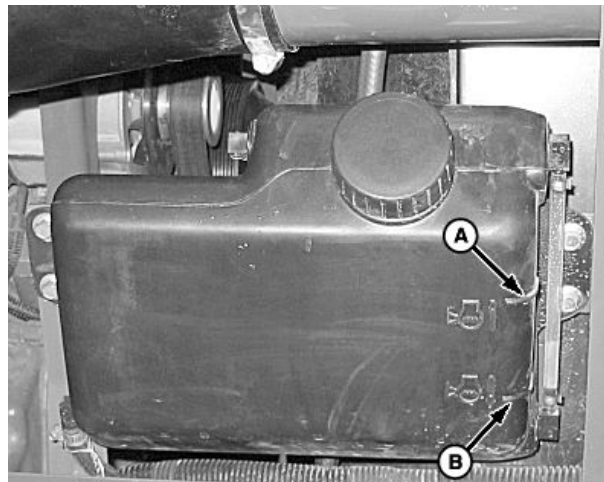
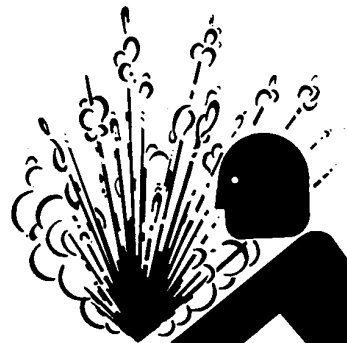
Under certain conditions coolant conditioner can cause serious injury or death to you or others. Never inhale or ingest conditioner and avoid contact with skin or eyes. When adding coolant conditioner observe all precautions listed on container.

Coolant level should remain between the cold mark (B) (when the engine is cool) and the hot mark (A) (when the engine is hot) on the overflow tank.

Add coolant as needed. Coolant can normally be added to the overflow tank. If overflow is empty, add coolant directly to radiator and to overflow tank. See LUBRICATION AND MAINTENANCE section for proper coolant specifications.

A—Hot Mark

B—Cold Mark



OUO6043,000150E -19-27JUL06-1/1

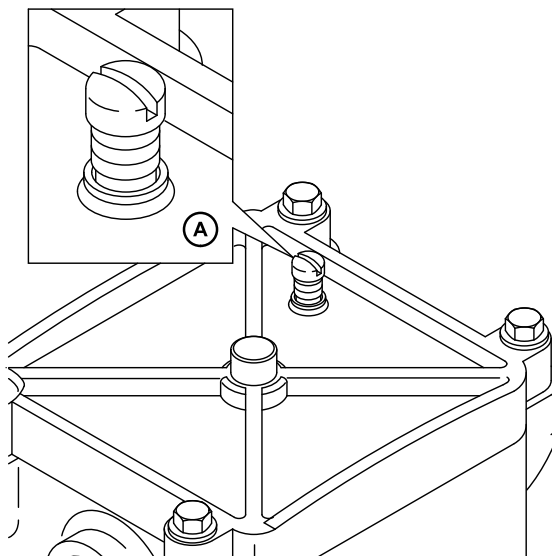
T5281 —UN—15APR13

N73022 —UN—17JUL06

Flushing Fuel/Water Separator Bow (If Equipped)

1. Turn off engine.
2. Open bleed screw (A). This will relieve vacuum in filter and allow water and particulate matter to be released from filter element.

A—Bleed Screw



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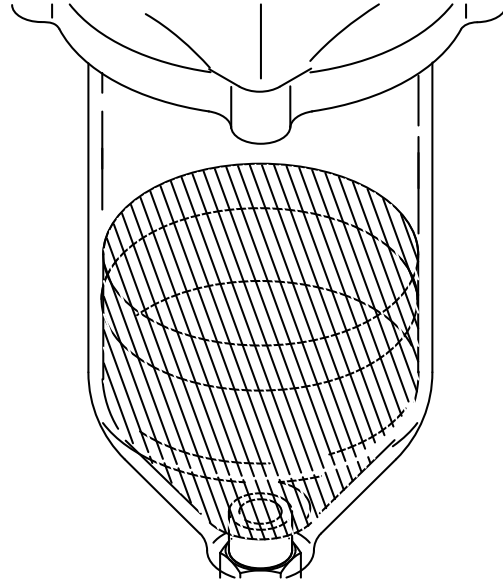
CP00718,0001DB2 -19-29DEC15-1/3

N73205 —UN—12JUL06

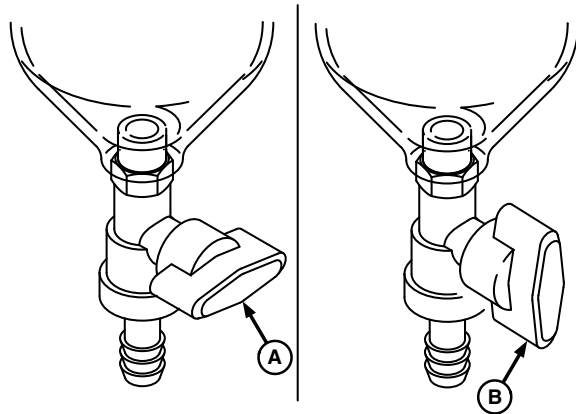
3. Allow water and particulate matter to settle to bottom of bowl.
4. Push in and turn drain valve to drain water and particulate matter into a proper container for disposal.
5. Close drain valve.
6. As water and particulate matter is drained from bowl, more water and particulate matter may be flushed from filter. If necessary, open valve again to drain water and particulate matter, close valve.

A—Drain Valve (Closed Position)

B—Drain Valve (Open Position)



N72821 —UN—25MAY06



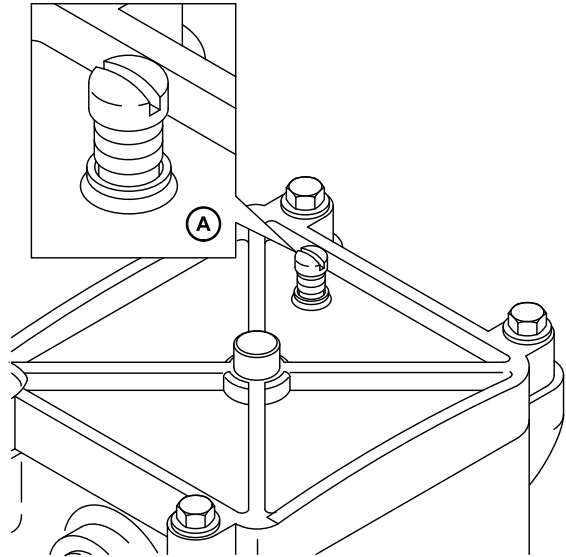
N72822 —UN—25MAY06

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CP00718,0001DB2 -19-29DEC15-2/3

7. Prime filter and close bleed screw (A).

A—Bleed Screw



N73205 —UN—12JUL06

CP00718,0001DB2 -19-29DEC15-3/3

Drain Water from Primary Fuel Filter/Water Separator

1. Visually inspect glass bowl (A) for water or sediment.

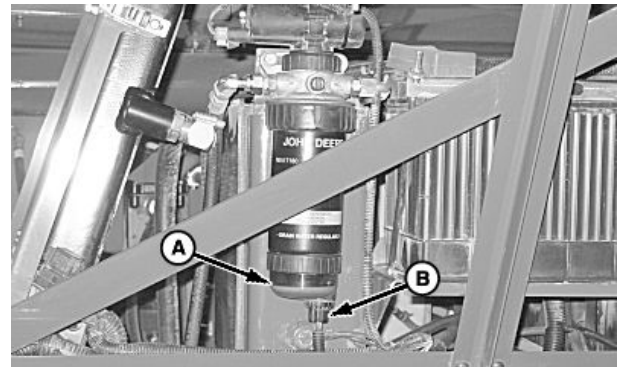
NOTE: Sensor wiring may need to be disconnected to drain water from sight glass.

2. Open valve (B) to drain accumulated water and sediment. Close valve after draining.

NOTE: Fuel tank should be drained and refilled with fresh fuel if water and sediment are regularly found in separator bowl.

A—Glass Bowl

B—Valve



N73261 —UN—16AUG06

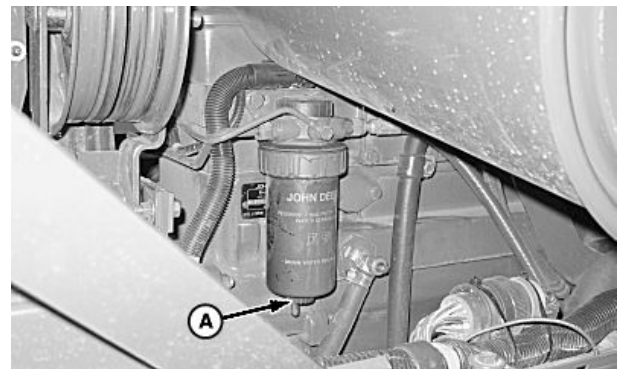
CP00718,0001DB3 -19-29DEC15-1/1

Draining Water from Final Fuel Filter

1. Open valve (A) to drain small amounts of water or sediment.
2. Tighten valve after draining filter.
3. Replace fuel filter element if excessive amounts of water or sediment are present. See REPLACING FUEL FILTER ELEMENT in ENGINE AND DRIVE TRAIN section.

NOTE: Fuel tank should be drained and refilled with fresh fuel if water and sediment are regularly found.

A—Valve



N73262 —UN—16AUG06

OUC6043,000150F -19-28JUL06-1/1

Filling the Fuel Tank

CAUTION: Fuel is highly flammable and can cause serious injury or death to you or others if it spills from fuel tank and is ignited. Do not refuel machine while smoking or when near an open flame or spark. Always stop engine before refueling. Fill fuel tank outdoors. Be sure to replace fuel fill cap and rear screen after filling. Always clean up spilled fuel.

1. If engine has not been operated for a long time, remove the fuel tank plug and allow any accumulated water to drain out. Replace plug.



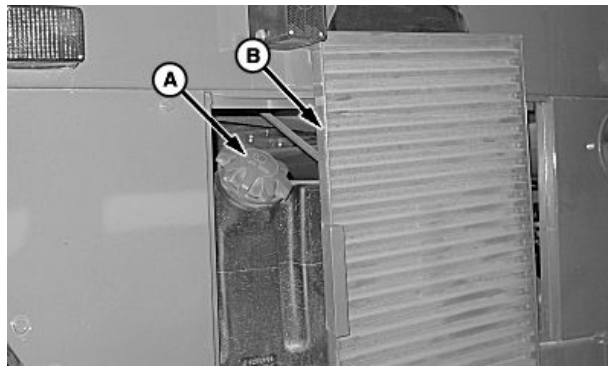
TS202—UN—23AUG88

OOU6043,0001510 -19-19SEP06-1/2

2. Pull spring-retained rear screen (B) out. Position it to allow access to fuel fill cap (A).
3. Fill tank with proper grade of diesel fuel. See LUBRICATION AND MAINTENANCE section.

A—Fuel Fill Cap

B—Rear Screen



N73862—UN—27SEP06

OOU6043,0001510 -19-19SEP06-2/2

Clean Windows, Mirrors, and Lights

Be sure there is good visibility in all directions. Clean windows, mirrors and lights to ensure good visibility.



N42167NW—UN—17JUN97

AG,OOU1011,1070 -19-07SEP99-1/1

Operating the Machine

Operate Safely

Before operating your cotton harvester in the field, verify the machine is properly prepared. Check the following items before operating.

- Operator is familiar with all machine controls, their functions, and safe operations. See SAFETY and OPERATORS STATION sections.
- All maintenance has been performed. See LUBRICATION AND MAINTENANCE section.
- Moistener system is working properly and solution tank is full. See MOISTENER SYSTEM section.
- Row units have been adjusted to the correct row width. See PICKING UNITS section.

- All safety systems are operating properly. See SAFETY and OPERATORS PRESENCE SYSTEM sections.
- Fire extinguishers are located correctly on the machine, properly charged and the operator is properly trained on using them. See FIRE EXTINGUISHERS (DOMESTIC MACHINES), FRONT FIRE EXTINGUISHER LOCATION (DOMESTIC MACHINES) and REAR FIRE EXTINGUISHER LOCATION (DOMESTIC MACHINES) in the SAFETY section.
- All precautions have been taken to prevent fires and the operator is properly trained on what to do in case of fire. See FIRE PREVENTION and IN CASE OF FIRE in the SAFETY section.

OUC6043,00014E6 -19-03OCT01-1/1

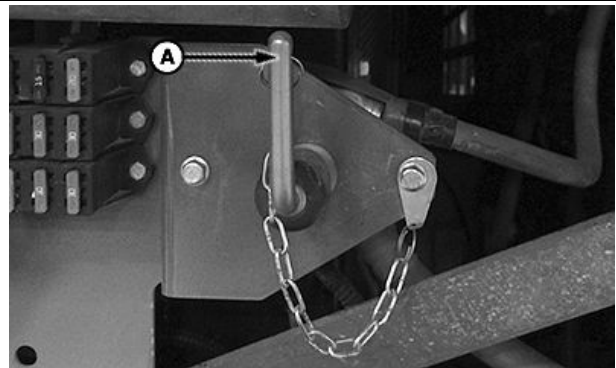
Battery Disconnect Switch

NOTE: Turn battery disconnect switch OFF if machine is stored longer than 25 days. If storage period is longer than 90 days, remove negative lead to batteries to minimize load to batteries.

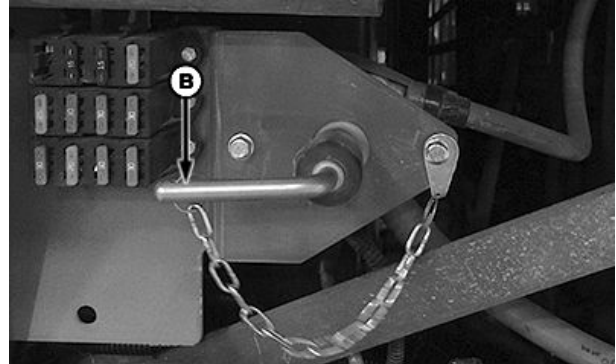
Turn battery disconnect switch clockwise to ON position (A) to power machine electrical system. Turn switch counter clockwise to OFF position (B) to remove power from machine electrical system.

A—ON Position

B—OFF Position



Switch Shown in On Position



Switch Shown in Off Position

Continued on next page

CP00718,0002EAE -19-23JAN17-1/2

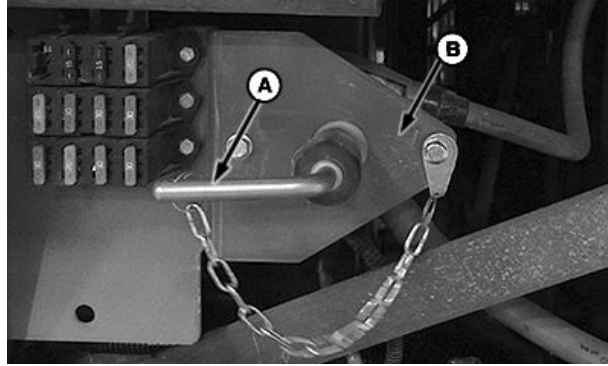
YC11011 —UN—12JAN17

YC11012 —UN—12JAN17

Switch handle (A) can be removed from switch body (B) when switch is in OFF position.

A—Switch Handle

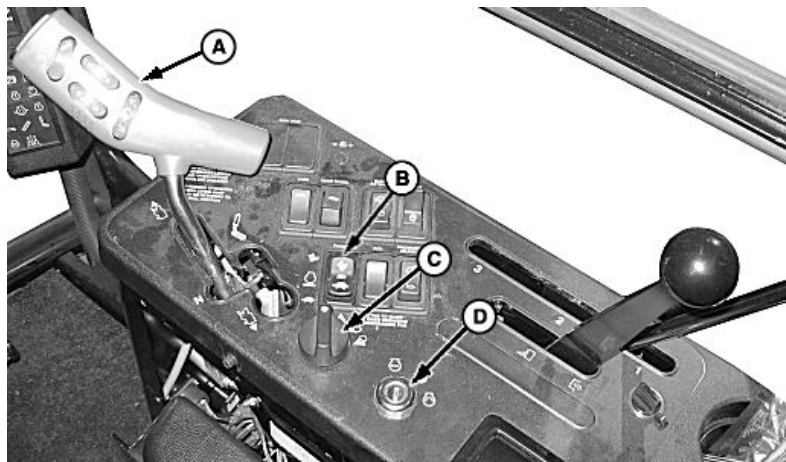
B—Switch Body



YC11013—UN—12JAN17

CP00718,0002EAE -19-23JAN17-2/2

Starting the Engine



A—Hydro Lever
B—Throttle Switch

C—Lighting Switch

D—Key

CAUTION: If the machine should suddenly move forward when starting, serious injury or death to you or others could result. Make sure park brake is set and no one is standing near the picker when you start the machine.

NOTE: Picture of control console does not necessarily indicate position of levers stated in steps. This is also applicable elsewhere in manual.

1. Position hydro lever (A) in neutral.
2. Place throttle switch (B) in idle position.
3. Turn lighting (C) and accessory switches off before starting engine.
4. Turn key (D) to "ON" position.

Continued on next page

OOU6043,0001511 -19-02OCT06-1/4

NT3359—UN—16AUG06

5. With key ON and engine off:

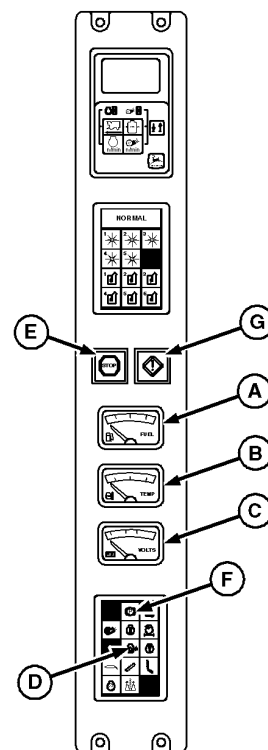
- Fuel gauge (A) needle will rise to show fuel level in the tank. Be sure picker has plenty of fuel.
- When "cold" starting, coolant temperature gauge (B) needle will stay on the left-hand (cold) end of the temperature range. If restarting a hot engine, gauge needle will rise to show current coolant temperature.
- Voltmeter (C) needle should rise slightly above the red and black band (12 volts) into "normal" range. If voltage is low, batteries are undercharged and engine may be hard to start. See your John Deere dealer if batteries are not charging properly.
- Check operation of engine oil pressure indicator (D) and STOP indicator (E). Oil pressure indicator will glow steady and STOP indicator will flash. If lamps fail to illuminate, turn off key switch and determine cause.

NOTE: Park indicator (F) and caution indicator (G) will glow steady if parking brake is engaged.

6. **BULB CHECK:**

1. Set Park brake.
2. Place transmission in Neutral.
3. Move hydro handle to full forward position.
4. Turn Key switch to "START" position.

If any lights do not come on, refer to REPLACING INDICATOR, MONITOR AND GAUGE LIGHT BULBS in CAB AND AIR CONDITIONING section.



A—Fuel Gauge
B—Temperature Gauge
C—Voltmeter
D—Oil Pressure Indicator

E—Stop Indicator
F—Park Indicator
G—Caution Indicator

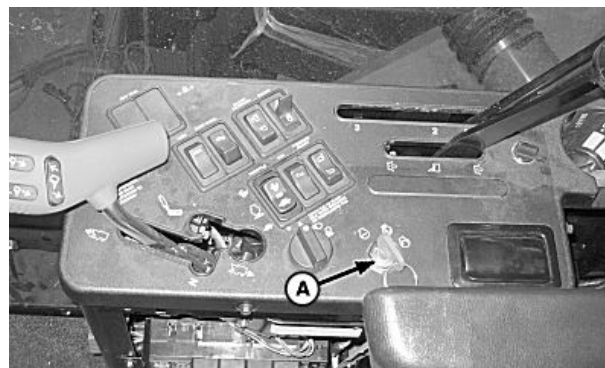
OUC6043,0001511 -19-02OCT06-2/4

N73360 —UN—11AUG06

IMPORTANT: Starter damage can result if operated for more than 30 seconds. DO NOT operate starter for more than 30 seconds at a time. If engine does not start, wait at least 2 minutes before trying again.

7. Sound horn to warn bystanders that the engine is going to be started. Turn key switch (A) farther clockwise to "START" position. Release key when engine starts. If key is released before engine starts, wait until starter and engine stop turning before trying again.

A—Key Switch



Continued on next page

OUC6043,0001511 -19-02OCT06-3/4

N73374 —UN—16AUG06

IMPORTANT: Engine may be damaged if oil pressure is low or slow to rise. After starting engine, do not accelerate or apply load until engine oil pressure indicator lamp goes out.

8. Be sure engine oil pressure indicator (A) and STOP indicator (B) go out. Voltmeter (C) needle should move into charging zone.

NOTE: Park and caution indicators will stay on if parking brake is engaged.

IMPORTANT: Under normal circumstances, protect turbocharger during:

Start up: By not accelerating above 1000 rpm until normal engine idle speed is established (800—900 rpm).

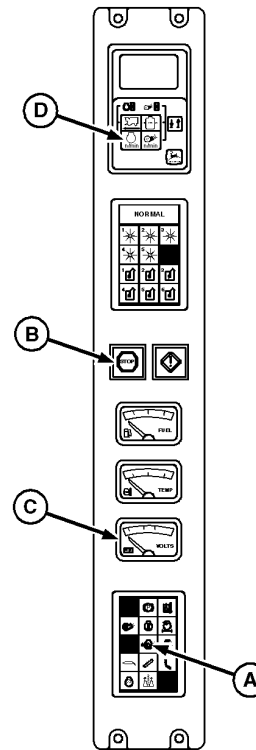
Shut-down: By idling for at least one-to-two minutes before stopping engine.

NOTE: Should engine stall while operating under load, re-start it immediately to prevent overheating.

9. Depress switch (D) to view engine RPM display.

A—Engine Oil Pressure Indicator
B—Stop Indicator

C—Voltmeter
D—Switch



N73361—UN—11AUG06

OUC6043,0001511 -19-02OCT06-4/4

High Coolant Temperature

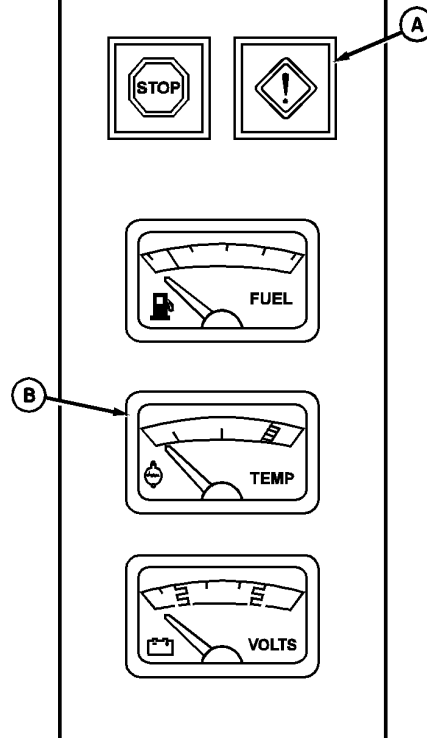
When coolant temperature rises above 110°C (230°F), Caution indicator (A) will come on. Indicator remains on until coolant temperature falls below 110°C (230°F) or machine load is reduced by backing off of hydro handle until light goes out.

IMPORTANT: Check temperature gauge (B) if CAUTION indicator comes on. DO NOT operate an overheated engine or damage WILL result.

1. Reduce machine load by using a lower gear or pulling back on hydro handle until light goes out. If light remains on proceed to next step.
2. Stop engine.
3. Clean side screens, radiator and oil cooler.
4. Let engine cool.

A—Caution Indicator

B—Temperature Gauge



OUO6043,0001512 -19-20SEP06-1/1

N42166CE —UN—18SEP95

Starting Engine in Cold Weather

⚠ CAUTION If machine should suddenly move forward when starting, serious injury or death to you or others could result. Make sure park brake is set, transmission is in **NEUTRAL**, and no one is standing near the machine when you start it.

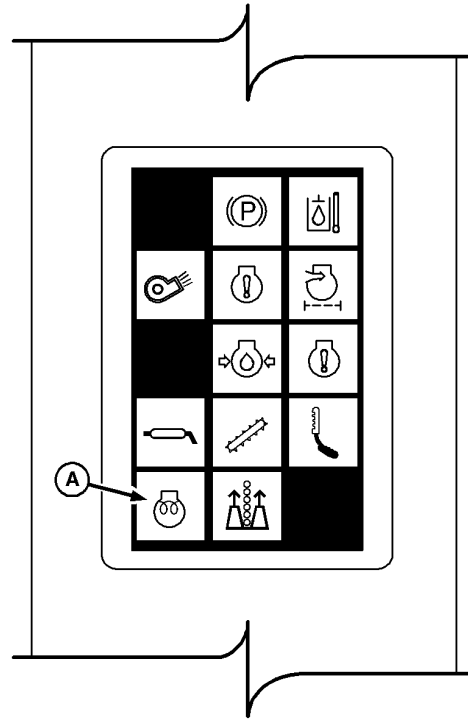
Before starting engine, be sure there is plenty of fresh air to prevent buildup of harmful gases which could cause serious injury or death to you or others.

1. Position hydro lever and gear transmission lever in NEUTRAL.
2. Place throttle switch in idle position.
3. Turn lighting and accessory switches off before attempting to start engine.
4. Turn key switch to ON position.
5. Glow plug indicator (A) will light if fuel temperature is -5°C (23°F) or below. (See Glow Plug Indicator in Operator's Station section.)

IMPORTANT: Starter damage can result if operated for more than 30 seconds. DO NOT operate starter for more than 30 seconds at a time. If engine does not start, wait at least two minutes before trying again.

CAUTION: Sound horn to warn bystanders the engine is going to be started.

6. Turn key switch fully clockwise to engage starter after glow plug indicator light has gone out. Release key when engine starts.



A—Glow Plug Indicator

N73370 —UN—11 AUG06

OUO6043,0001513 -19-29SEP06-1/1

Coolant Heater—If Equipped

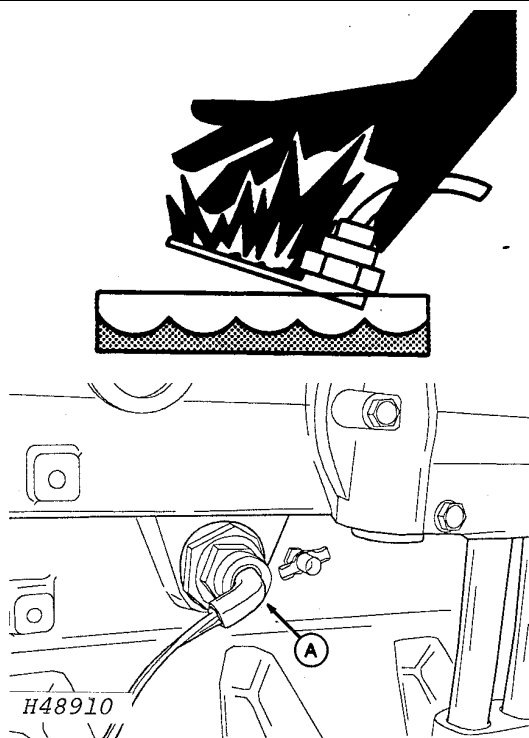
CAUTION: To avoid shock or hazardous operation, always use a three wire heavy duty electrical cord equipped with three wire connectors. If a two to three contact adapter is used at the wall receptacle, always connect green wire to a good ground.

Before connecting heater to power source, be sure element is immersed in coolant. **NEVER** energize heater in air. Doing so can cause element sheath to burst causing personnel injury.

The 1000-watt 110-volt coolant heater (A) mounts in the freeze plug opening on the front side of the engine. By warming engine coolant, the heater reduces oil drag, eases starting, and shortens warm up time.

See your John Deere dealer for the correct coolant heater for your machine.

A—Coolant Heater



OUO6043,0001390 -19-31JAN01-1/1

T5210 —UN—23AUG88

H48910 —UN—08AUG97

Cold Weather Operation

IMPORTANT: Damage to hydrostatic pump can occur during extreme cold weather. When cold, hydrostatic transmission oil becomes thick and **MUST** be warmed before moving picker. Failure to warm oil can result in machine damage. Warm the oil before moving the picker as follows:

1. Before starting the picker, verify hydro lever is in neutral, park brake is engaged, transmission is in neutral, and units and fan switch are disengaged.
2. Start engine and operate at mid idle at for 4 minutes.
3. With main transmission still in "neutral", advance hydro lever halfway forward and allow engine to operate at mid idle for another 4 minutes before moving picker.

OUO6043,0001514 -19-20SEP06-1/1

Warming Engine

IMPORTANT: To avoid engine damage due to the lack of proper lubrication, operate engine at mid idle, no load for 2 minutes. At temperatures below freezing point, this period must be extended from 2 to 4 minutes.

DO NOT place engine under full load until it is properly warmed up. Watch coolant temperature gauge to determine when engine has warmed up.



OUO6043,0001515 -19-20SEP06-1/1

N42166RS —UN—24SEP96

Idling Engine

IMPORTANT: Avoid excessive engine idling. Prolonged idling can cause the engine coolant temperature to fall below its normal range. This, in turn, causes crankcase oil dilution, due to incomplete fuel combustion, and permits formation of gummy deposits on valves,

pistons, and piston rings. It also promotes rapid accumulation of engine sludge and unburned fuel in the exhaust system.

Once engine is warmed to normal operating temperatures, idle at slow idle speed. If idling for more than 5 minutes, stop engine and restart later.

AG,OUO1011,1076 -19-07SEP99-1/1

Stopping the Engine

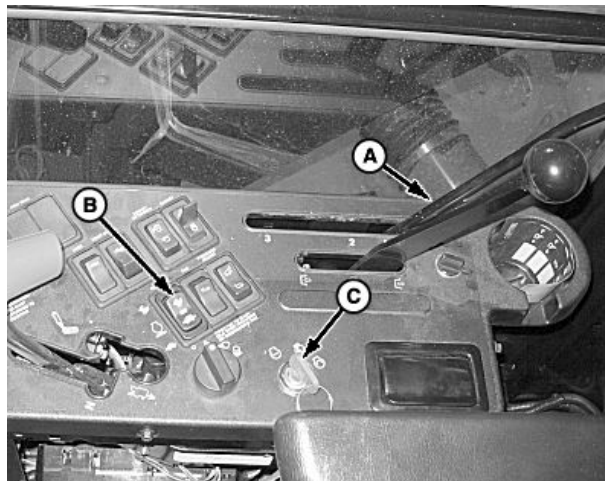
1. Stop machine, place hydro lever and transmission lever (A) in neutral. Engage the "park" brake.

IMPORTANT: Cooling of turbocharger and certain engine parts is provided by engine oil. Stopping a hot engine abruptly can cause damage to these parts by overheating.

2. Place throttle switch (B) in idle position. Allow engine to idle 2 minutes.
3. Lower units.
4. Turn ignition switch (C) off and remove key.
5. Be sure all switches are turned off.

A—Transmission Lever
B—Throttle Switch

C—Ignition Switch



N73375—UN—16AUG06

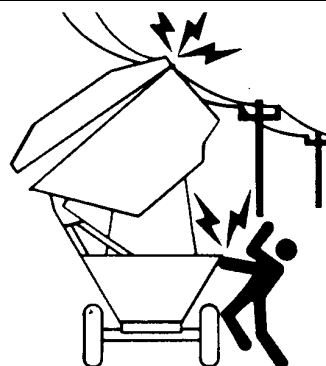
AG,OUO1011,1077 -19-15AUG06-1/1

Preparing to Drive Machine

CAUTION: Failure to follow safe driving procedures can result in serious injury or death to you or others. Be sure to follow the safe driving procedures.

Serious injury or death can result to you or others if machine comes in contact with overhead electrical wires when maneuvering to top off trailers or modules with basket raised. **ALWAYS** watch for and avoid overhead electrical wires.

- ALWAYS wear your seat belt.
- Drive slowly over rough ground and when turning.
- Check clearance before driving under electric wires, bridges, or through doorways.
- Remove or lower radio antenna.
- Plan ahead and stop slowly to prevent nose-diving.
- Except when slowly maneuvering at a module or trailer, NEVER drive with the basket in unloading position.
- NEVER transport machine with picking units engaged.



Before driving the machine adjust the following:

- seat
- steering pedestal
- rear view mirrors
- lights for maximum visibility

TS683—UN—21SEP89

AG,OUO1011,1079 -19-07SEP99-1/1

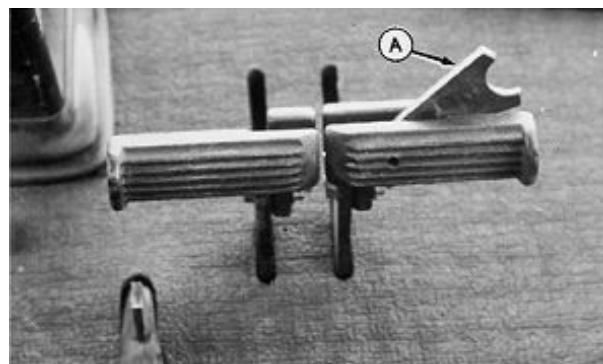
Using Brake Latch

To use the brakes individually to assist in low-speed turning, flip brake latch to the right-hand (unlatched) position (A). Depress the brake pedal which corresponds with the direction of the turn.

When the picker is to be driven at high speed or when the brakes are not needed to assist in low speed turning, latch brake pedals together by flipping brake latch to the left-hand position (B) (into the groove in the left-hand brake pedal).

A—Unlatch Position

B—Latch Position



Unlatch Position



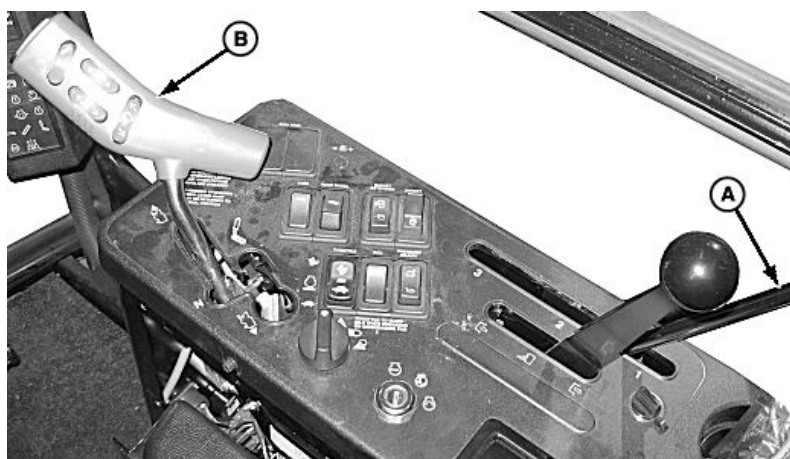
Latch Position

N42152DP —UN—20OCT93

N42152DQ —UN—20OCT93

OUO6043,0001517 -19-25OCT01-1/1

Engaging Transmission



A—Transmission Lever

B—Hydro Lever

1. Position transmission lever (A) in desired gear (see chart below). If transmission does not readily go into gear, move hydro lever (B) slightly to align gears.
2. Move hydro lever forward for forward travel (picking and transporting) speeds or rearward for reverse travel.

Type of Operation 2-Wheel Drive	Gear	Picking Unit	km/h (mph)
Picking	1	Engage	0-6.1 (0-3.8)
Picking	2	Engage	0-7.2 (0-4.5)
Transporting	3	Disengage	0-25.1 (0-15.6)
Reverse	1	Disengage	0-4.3 (0-2.7)
Reverse	2	Disengage	0-5.0 (0-3.1)
Reverse	3	Disengage	0-17.2 (0-10.7)
Type of Operation 4-Wheel Drive	Gear	Picking Unit	km/h (mph)
Picking	1	Engage	0-4.7 (0-2.9)
Picking	2	Engage	0-5.6 (0-3.5)
Transporting	3	Disengage	0-14.5 (0-9.0)
Reverse	3	Disengage	0-8 (0-5.0)

OUO6043,0001518 -19-20SEP06-1/1

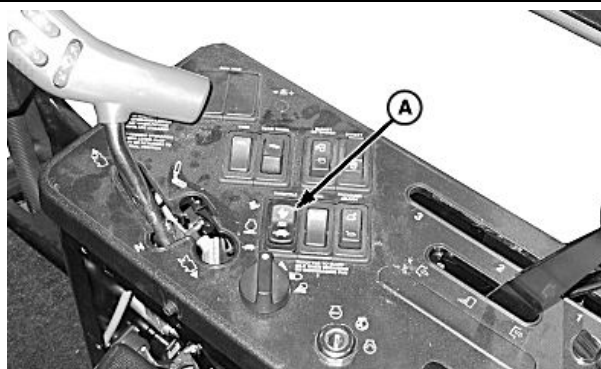
N73376—UN—16AUG06

Using Throttle Switch

NOTE: To ensure full output from air system, throttle should ALWAYS be at fast throttle position when picking cotton.

Place throttle switch (A) in idle or fast throttle position as required.

A—Throttle Switch



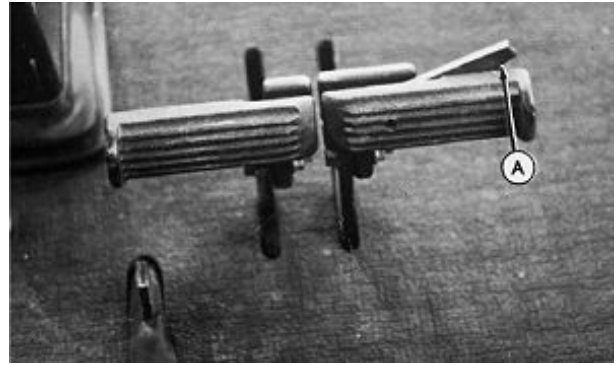
OUO6043,0001519 -19-27SEP06-1/1

N73377—UN—16AUG06

Driving Machine

CAUTION: Machine is heavy. If the machine should move suddenly forward or backward, serious injury or death can result to you or others. Be sure that all people and objects are safely away from the picker before driving the machine.

1. Set brake latch (A) in the desired position.
2. Be sure park brake is released.
3. Place transmission in desired gear.
4. Push hydro lever slowly forward to increase ground speed.



Unlatched Position Shown

A—Brake Latch

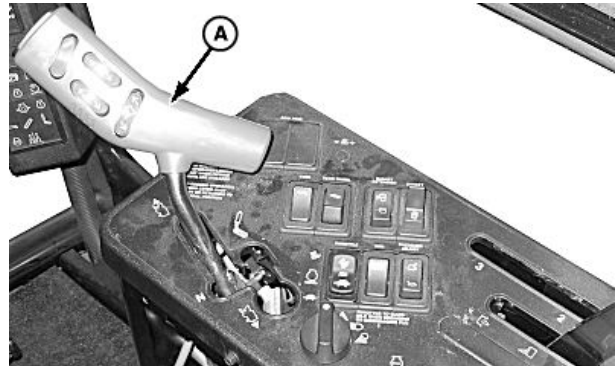
OUC6043,000151A -19-25OCT01-1/1

N42152KF—UN—08NOV93

Stopping Machine

1. To slow down and stop machine, slowly return hydro lever (A) to neutral.
2. Apply brakes as necessary to achieve a smooth stop and hold the machine in position.
3. Reduce engine speed to slow idle.

A—Hydro Lever



OUC6043,000151B -19-11AUG06-1/1

N73340—UN—16AUG06

Parking Machine

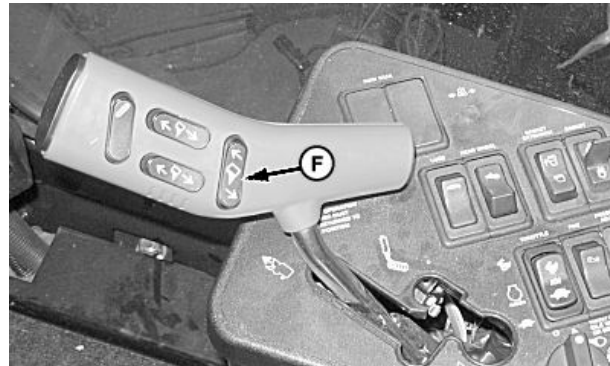
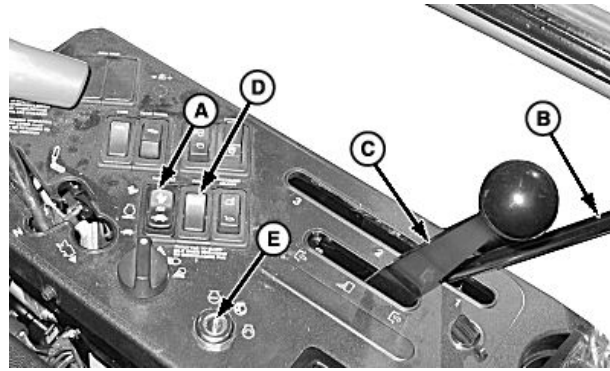
1. Stop machine on a level surface and engage park brake.

IMPORTANT: Reduce engine speed to low idle throttle position prior to engaging or disengaging the cotton fan. Failure to adhere can result in shortened belt life.

2. Place throttle switch (A) in low idle position.
3. Place transmission lever (B) in neutral.
4. Using unit lift/lower switch (F) on hydro lever, lower picking units to ground.
5. Disengage picking units with unit engagement lever (C).
6. Disengage cotton fan using fan engagement switch (D).
7. Lower the basket if raised.
8. Turn off all lights and accessories.

IMPORTANT: Before stopping engine that has been operating at working load, idle engine at least two minutes at slow idle to cool turbocharger and hot engine parts. If engine is not properly cooled, damage can result.

9. Turn off key switch (E) and remove key.



A—Throttle Switch
B—Transmission Lever
C—Unit Engagement Lever

D—Fan Engagement Switch
E—Key Switch
F—Unit Lift/Lower Switch

N73378—UN—27SEP06

N73379—UN—16AUG06

OUC6043,000151C -19-03MAR17-1/1

Operating Field and Highway Transport Lights

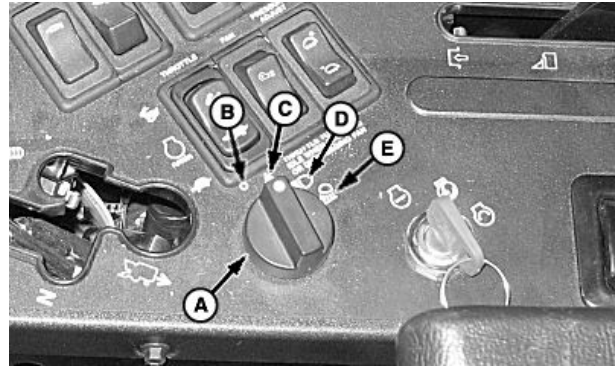
CAUTION: When transporting the machine on a road or highway at night or during the day, use lights and devices for adequate warning to operators of other vehicles or serious injury or death can result to you or others. Check local governmental regulations. Various safety devices are available from your John Deere dealer. Keep safety items in good condition. Replace missing or damaged items.

To avoid motorist confusion, do not operate work lights when transporting on public roadways.

Light switch (A) operates independently of key switch.

NOTE: See local regulations regarding lighting.

Light Switch Position	Function
(B)	All Lights Off
(C)	Warning Lights
(D)	Headlamps, Tail Lights, Warning Lights, Instrument Lights, and Console Light
(E)	Headlights, Tail Lights, Instrument and Dome Light



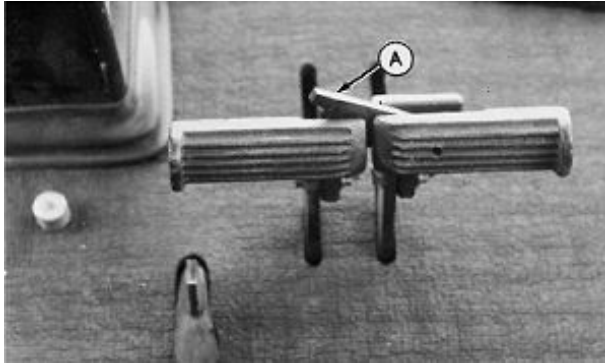
A—Light Switch

NOTE: To turn on basket lights for field operation, see STEERING PEDESTAL AND FLOOR SWITCHES in OPERATORS STATION section.

OUO6043,000151D -19-11AUG06-1/1

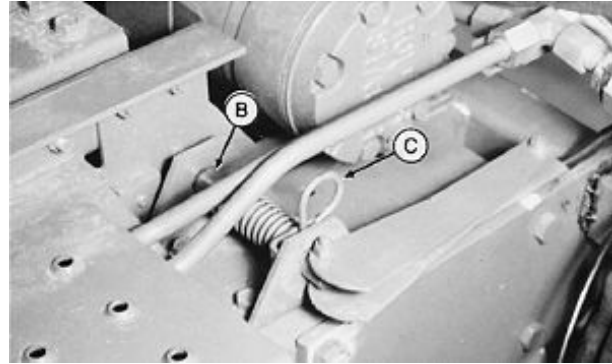
N73380—UN—16AUG06

Driving/Transporting the Machine on Public Roads



Brakes Latched

A—Brakes Latched



B—Corner Latch Pin

C—Spring Pin

CAUTION: When transporting the machine on a road or highway at night or during the day, use lights and devices for adequate warning to operators of other vehicles or serious injury or death can result to you or others. Check local governmental regulations. Various safety devices are available from your John Deere dealer. Keep safety items in good condition. Replace missing or damaged items.

To avoid motorist confusion, do not operate work lights when transporting on public roadways.

- Latch (A) brakes together. See USING BRAKE LATCH in this section.
- Reduce ground speed when traveling over rough ground.
- Raise the picking units all the way and lower safety stops.
- Drive as far to the side of the road as safely possible.
- Reduce speed when turning.
- NEVER drive with basket in unload position.

IMPORTANT: To prevent basket extension from raising when the basket extension is in lowered position, engage front left-hand corner latch pin.

- Engage corner latch pin (B) and install spring pin (C).
- Check clearance before driving under electric wires, bridges, or through doorways. It may be necessary to lower extension to transport position. See LOWERING TELESCOPING BASKET and RAISING TELESCOPING BASKET in this section. Lower radio antenna. See SPECIFICATIONS section for height and width of machine.
- Before hauling cotton picker on public roads, check your local and state government regulations regarding height and width restrictions.
- ALWAYS disengage picking units before road transport. This will deactivate operator presence system. See OPERATOR PRESENCE SYSTEM section.
- Keep away from power lines.
- Know the transport height and width of your machine and check local regulations before transporting.

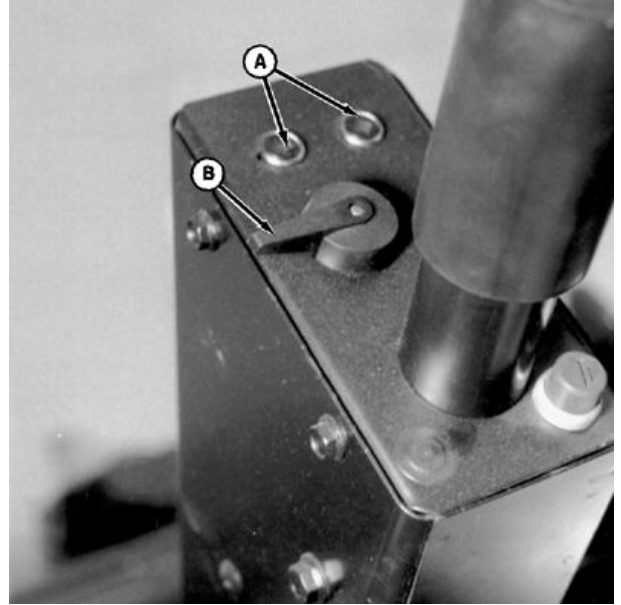
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OUO6043,000151E -19-25OCT01-1/2

- Always use turn signals when turning (turn signals work independently of the key switch and light switch). Move switch lever down to signal left-hand turn; up for right-hand turn.

A—Turn Indicator Lights

B—Turn Indicator Switch



N42165CW —UN—01AUG95

OUC6043,000151E -19-25OCT01-2/2

Pulling Cotton Picker Out of the Mud (Towing)

CAUTION: Do not tow machine with wire rope. If rope breaks, the whipping action could cause bodily injury.

Do not remove couplers. When couplers are removed, brakes are disabled.

Avoid crushing injuries from runaway machine. If machine is on a slope, do not disengage park brake until wheels are blocked.

Check local governmental regulations regarding driving or towing equipment on public roads. Use headlights, flashing warning lights, and turn signals day and night. Use auxiliary lights and devices available from your John Deere dealer to warn other roadway users.

Prevent collisions between other road users and slow moving towed equipment on public roads. Frequently check for traffic from the rear, especially in turns, and use hand signals or turn signal lights.

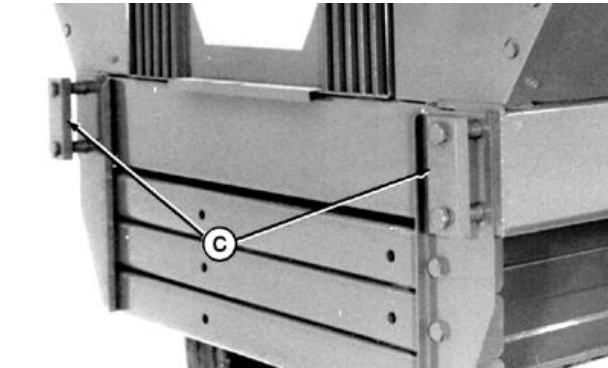
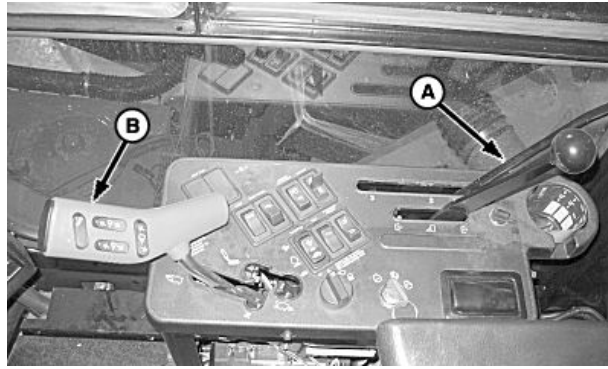
Release park brake mechanical lock **ONLY** for towing purposes. **NEVER** operate machine with park brake mechanically released. **ALWAYS** set park brake lock back to its initial status when towing is no longer required.

Machine can be towed for emergency situations up to 10 minutes at maximum speed of 10 km/h (6.2 mph).

To tow machine, proceed as follows:

1. Release the park brake.
2. Shift transmission lever (A) and hydro lever (B) to neutral.

IMPORTANT: Damage to picking units can occur from contact to ground. Raise units all the way up before pulling machine.



A—Transmission Lever
B—Hydro Lever

C—Attaching Points

3. Raise units and attach safety stops over unit lift cylinder rods.
4. Retain chains to both attaching points (C) at rear of machine. Always pull picker straight out. **NEVER** pull on attaching points at a sideways angle. Use a steady pull on chains. **DO NOT** jerk.

N73381—UN—16AUG06

N42189HE—UN—11AUG98

CP00718,0001D3E -19-08DEC15-1/1

Pushing the Machine

1. Release park brake.
2. Shift transmission lever (A) and hydro lever (B) to neutral.

IMPORTANT: Damage to picking units can occur from contact to ground. Raise units all the way up before pushing machine.

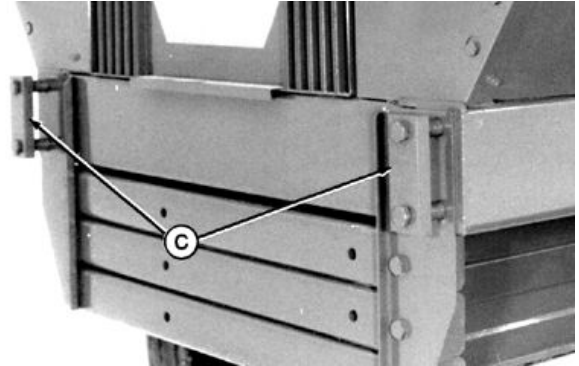
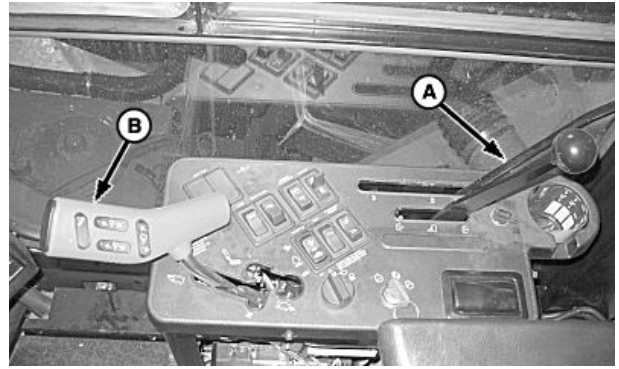
3. Raise units when pushing the machine. Lower safety stops over unit lift cylinder rods.

CAUTION: Fuel is highly flammable and can cause serious injury or death to you others if it is accidentally ignited. DO NOT push against fuel tank because fuel tank can rupture and spill fuel.

4. Push against mainframe (C). If machine is equipped with weight bracket, DO NOT push on rear cross bar of machine.

A—Transmission Lever
B—Hydro Lever

C—Mainframe

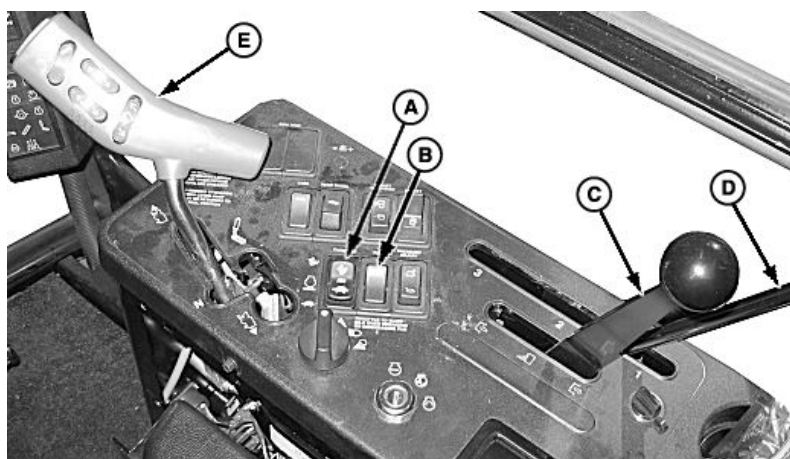


OUO6043,000151F -19-11AUG06-1/1

N73381 —UN—16AUG06

N42189HE —UN—11AUG98

Starting Fan and Units



A—Throttle Switch
B—Fan Switch

C—Picking Unit Lever
D—Transmission Lever

E—Hydro Lever

CAUTION: If the machine should suddenly move forward or backward, serious injury or death to you or others can result. **ALWAYS** be sure no one is standing on or near the picker when operating.

IMPORTANT: Unit input slip clutches will slip during cold temperature start-up. To avoid damage to clutch jaws, gradually increase engine speed until units can operate at fast throttle position and full hydro without clutch slippage.

1. Engage park brake.

2. Place throttle switch (A) in idle position (fan cannot be engaged if engine is not at slow idle).
3. Engage fan by pushing fan switch (B).
4. Engage picking units by pushing picking unit lever (C) fully forward.
5. With transmission lever (D) in neutral, slowly advance hydro lever (E) to start units.

OUC6043,0001520 -19-15AUG06-1/1

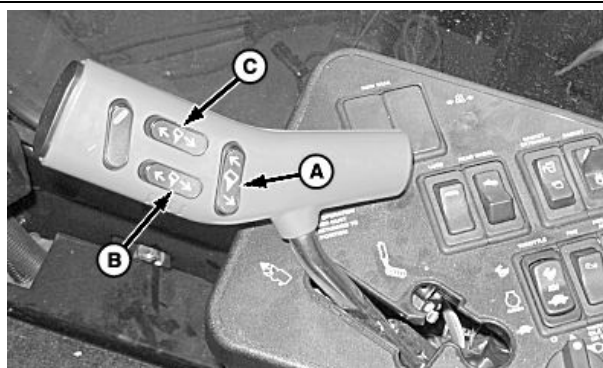
N73382 —UN—22SEP06

Lowering Picking Units

Using unit lift/lower-all units switch (A) on hydro lever, lower units. This will activate the height sensing system. To lower units press left-side of switch. To raise units press right-side of switch.

The unit height sensing shoes will maintain the proper unit-to-ground clearance. For adjustment, see HEIGHT SENSING section.

Unit lift/lower left-hand frame switch (B) and unit lift/lower right-hand frame switch (C) will raise and lower units (units mounted on left-hand unit frame and right-hand unit frame), but the height sensing system WILL NOT be activated. Only the all units switch (A) activates height sensing system. See HEIGHT SENSING section.



A—Lift/Lower-All Units Switch
B—Lift-Lower Left-Hand Frame Switch

C—Lift/Lower Right-Hand Frame Switch

OUC6043,0001521 -19-11AUG06-1/1

N73407 —UN—16AUG06

Starting Down Rows

IMPORTANT: Damage to picking units can occur. Avoid rocks, roots and wire. Raise picking units to clear irrigation ditch or other obstacles.

- Engine and picking units are properly warmed.
- Engine is operating at fast throttle.
- Moistener system is at proper pressure.
- Units are centered on the rows.

Before starting down rows, verify the following;

OUO6043,0001522 -19-25OCT01-1/1

Picking Cotton

1. Adjust ground speed to control green boll and lint loss. Do first picking in first gear. Second gear should only be used for second picking.
2. Reduce ground speed at row ends. Completely raise row units and use individual brake pedals to aid in turning as necessary.
3. To fully utilize basket capacity, operate compactor augers as follows:

Activate augers (using switch (A) located on cab floor near base of console) OCCASIONALLY when cotton nears top of front screen and when cotton builds up on auger flighting.

Activate augers CONTINUOUSLY when cotton fully covers the front basket screen and the compactor augers.

NOTE: Use good judgement when the basket is almost full. Unload early to prevent plugging of ducts.

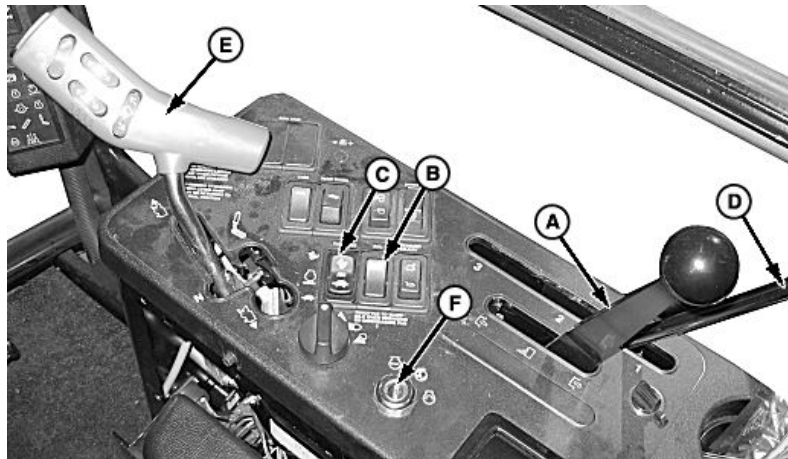


A—Activate Augers Switch

N42166SW—UN—24SEP96

OUO6043,0001523 -19-25OCT01-1/1

Reacting to a Plugged Picking Unit



A—Row Units Lever
B—Fan Switch

C—Throttle Switch
D—Transmission Lever

E—Hydro Lever
F—Key

When an obstruction enters a picking unit, the drum clutch will slip causing the monitor indicator light to glow, the stop light to come on and the alarm to sound. When this happens:

1. Stop picker immediately.
2. Pull lever (A) back to disengage row units.

IMPORTANT: Reduce engine speed to low idle throttle position prior to engaging or disengaging the cotton fan. Failure to adhere can result in shortened belt life.

3. Throttle switch (C) to idle position.

4. Raise units partially.
5. Disengage fan using switch (B).
6. Back the picker up 1 to 2 m (3 to 6 ft).
7. Place transmission lever (D) and hydro lever (E) in "Neutral".
8. Set PARK brake (not shown).
9. Lower units to the ground or install unit safety stops.
10. Turn key (F) to OFF position and remove.

OUO6043,0001538 -19-03MAR17-1/1

N73343—UN—16AUG06

Unplugging a Picking Unit

CAUTION: If a unit falls or you or others become entangled in the moving parts of a unit, serious injury or death can result. **DO NOT** attempt to remove an obstruction unless units are disengaged, engine is stopped, transmission and hydro lever are in **NEUTRAL**, park brake is engaged and key is removed. The units should be lowered or the unit safety stops installed.

Inspect unit and remove obstruction, if possible.

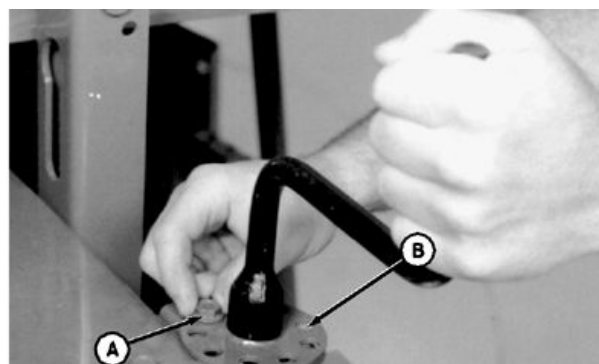
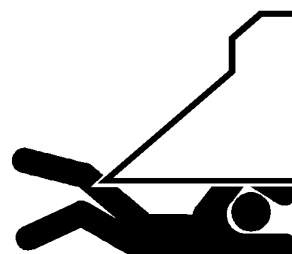
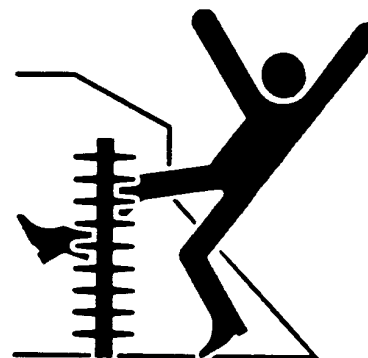
If obstruction cannot be easily removed, do the following:

CAUTION: Shaft is under spring tension. When flange cap screw is removed, shaft can spin quickly and release spring tension. Avoid serious injury or death to you or to others from flying parts. Control shaft from releasing spring tension by securely holding wrench in position on top of shaft.

1. Release all tension on pressure plate by removing flange cap screw (A). Note that adjusting holes (B) are not threaded.
2. Manually turn drum in reverse. (Rotate doffer shaft with open-end wrench.)
3. Apply physical force to a picker bar to rotate drum backwards if obstruction is still not released.
4. Clean and inspect unit.
5. Repair all damage to unit.
6. Reinstall and adjust all parts removed.

If clutch continues to slip after obstruction is removed, check for plugging, bent picker bars, or misaligned doffer.

If picker was stopped in the row, operate fan and units until all cotton is doffed from spindles and suction doors are clean before starting to pick again.



A—Cap Screw

B—Adjusting Holes

AG.OUO1011,1151 -19-08SEP99-1/1

TS675 —UN—21SEP89

N51100 —UN—08SEP99

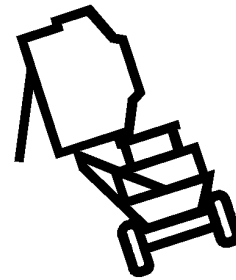
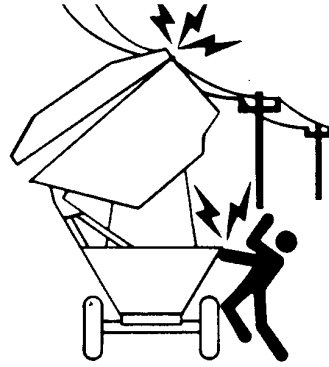
N42165DX —UN—01AUG95

Unloading Basket

⚠ CAUTION: To avoid serious injury or death to you or others, **DO NOT** unload basket if the following conditions exist:

- If picker can come in contact with electrical wires.
- If picker is on a slope.
- If anyone can come in contact with conveyor basket.
- If anyone is around picker.

1. Reduce engine speed to slow idle.
2. Disengage picking units and fan.
3. Move picker into position.
4. Increase engine speed to fast throttle position.



TS683 —UN—21SEP89

N51101 —UN—08SEP99

N51102 —UN—08SEP99

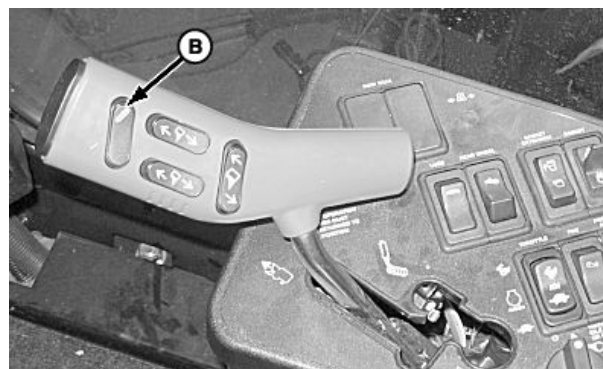
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OUC6043,0001524 -19-11AUG06-1/2

5. Use basket dump switch (A) to raise basket.
6. Activate conveyor with conveyor switch (B).
7. After unloading, lower basket with basket dump switch.
8. Reduce engine speed.
9. Perform periodic service. See LUBRICATION AND MAINTENANCE section.

A—Basket Dump Switch

B—Conveyor Switch



OUO6043,0001524 -19-11AUG06-2/2

N73408 —UN—16AUG06

N73409 —UN—27SEP06

Positioning Units for Transport

IMPORTANT: Outer ducts (A) may require that retaining rings (B) be loosened in order to avoid possible interference with upper ducts.

Remove 76 mm (3 in.) hose from nozzle on ladder duct to avoid possible damage to hose before raising units and lowering basket. Retain hose to hydraulic line.

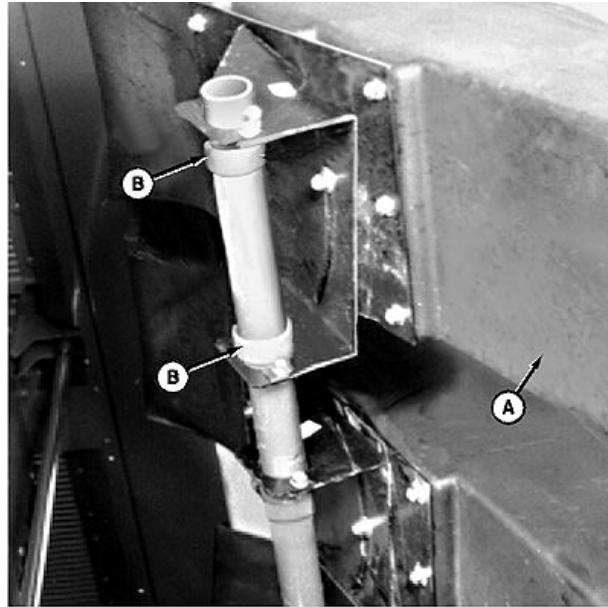
With 4-row 965 and 1016 mm (38 and 40 in.) spacings, units are located properly for transport without repositioning.

Skip row: Move No. 1 unit to 965 mm (38 in.) skip location. Move No. 3 and 4 units to 762 mm (30 in.) location.

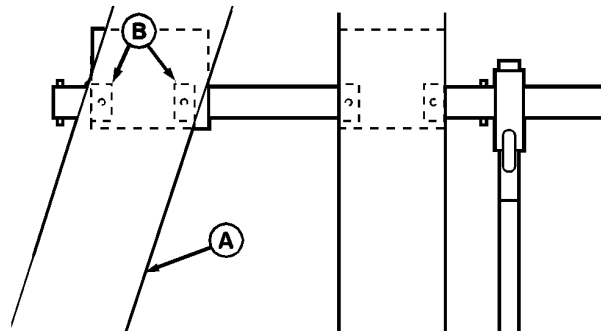
All other row spacings: Position units in 762 mm (30 in.) locations.

A—Outer Ducts

B—Retaining Rings



N42166AE—UN—03OCT95



N42166AF—UN—18SEP95

No. 4 and No. 3 Ducts

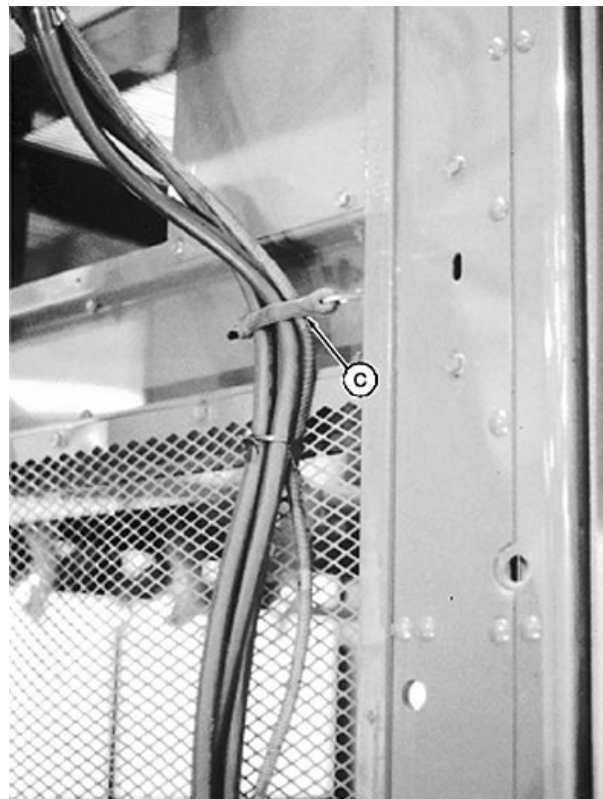
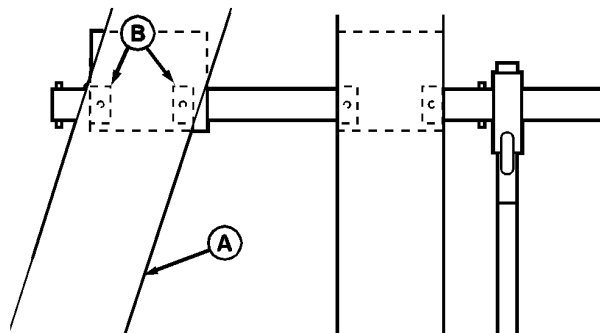
OUC6043,0001525 -19-25OCT01-1/1

Lowering Telescoping Basket

IMPORTANT: Outer ducts (A) may require loosening of retaining rings (B) to avoid possible interference with upper ducts.

A—Outer Ducts
B—Retaining Rings

C—Hose Strap



N42166AF —UN—18SEP95

N42189EL —UN—23NOV98

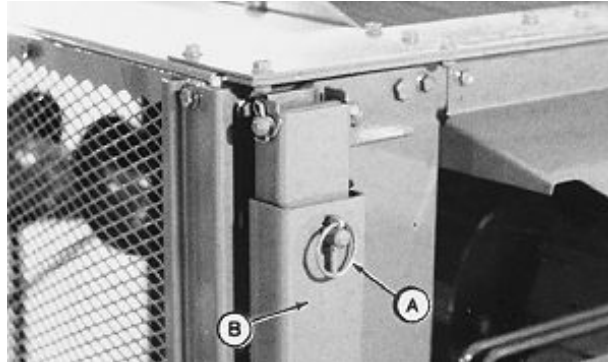
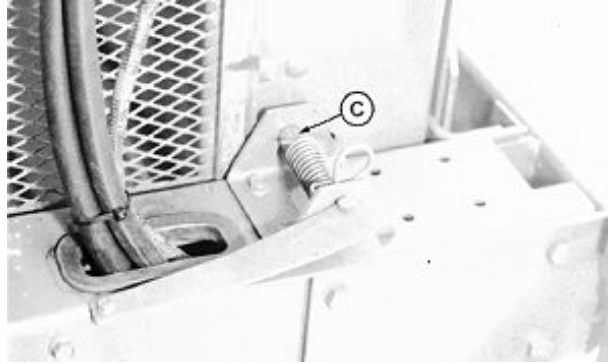
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OUC6043,0001526 -19-16JAN17-1/6

1. Pull spring pin from front left-hand corner basket latch pin (C) and rotate the handle with the cam action to withdraw the pin. If pin cannot be pulled, extension must be raised slightly to remove the load.
2. Remove quick-lock pins (A) (three locations) from lock-up beams (B). After lock-up beams swing away, reinstall quick-lock pin.

A—Quick-Lock Pins
B—Lock-Up Beams

C—Basket Latch Pin



N42132YM—UN—21JAN93

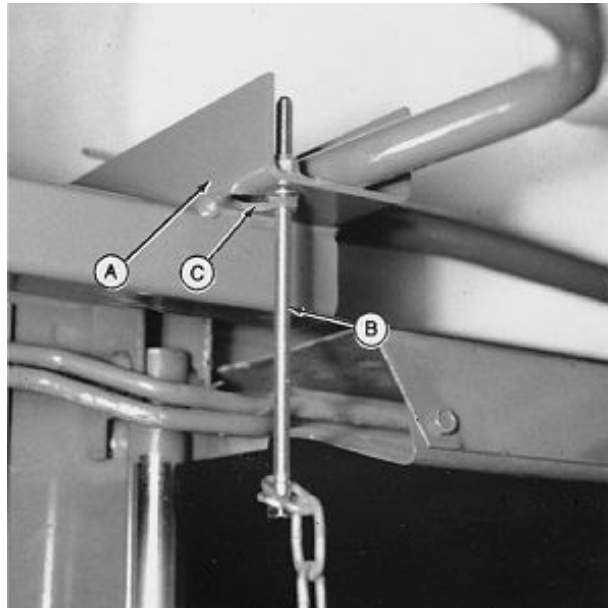
N42107AI—UN—25JAN91

OOU6043,0001526 -19-16JAN17-2/6

3. Partially lower basket extensions till duct chains can be attached.
4. Attach duct chains to bracket (A) by sliding bolt (B) into slot (C). (Washer MUST be on top of bracket.)
5. Remove any slack in chains by adjusting bolt length.

A—Bracket
B—Bolt

C—Slot



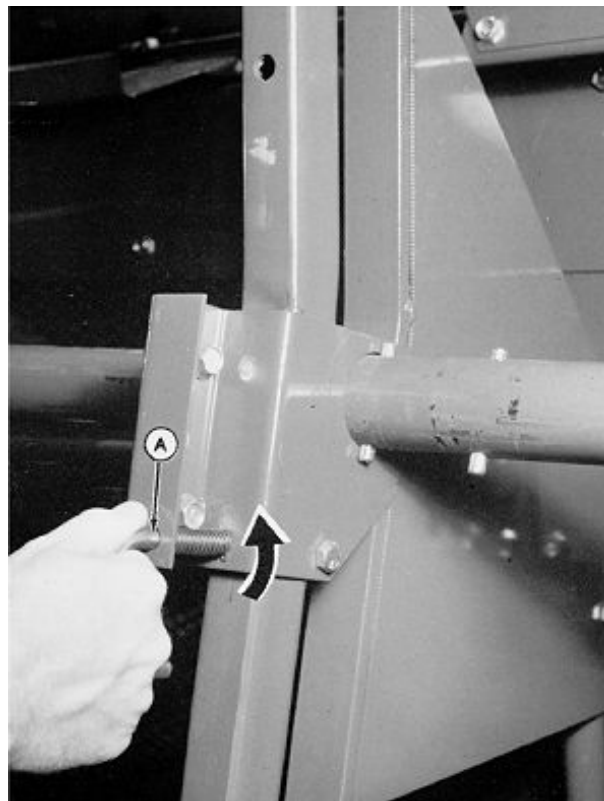
N42107H—UN—25JAN91

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OOU6043,0001526 -19-16JAN17-3/6

6. Unlatch the duct support pins (A) (two locations) and rotate so they will not relatch.

A—Duct Support Pins

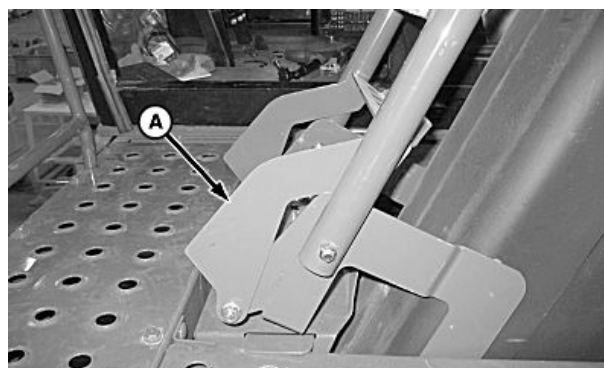


N41614 —UN—18MAY90

OOU6043,0001526 -19-16JAN17-4/6

7. Fold bottom duct ladder step (A) up.

A—Duct Ladder Step



N73850 —UN—22SEP06

Continued on next page

OOU6043,0001526 -19-16JAN17-5/6

IMPORTANT: To avoid damage to basket extension and air ducts during the lowering process, make sure extension ducts lower smoothly and evenly. Stop if lowering is uneven and check for binding. Correct and continue lowering extension.

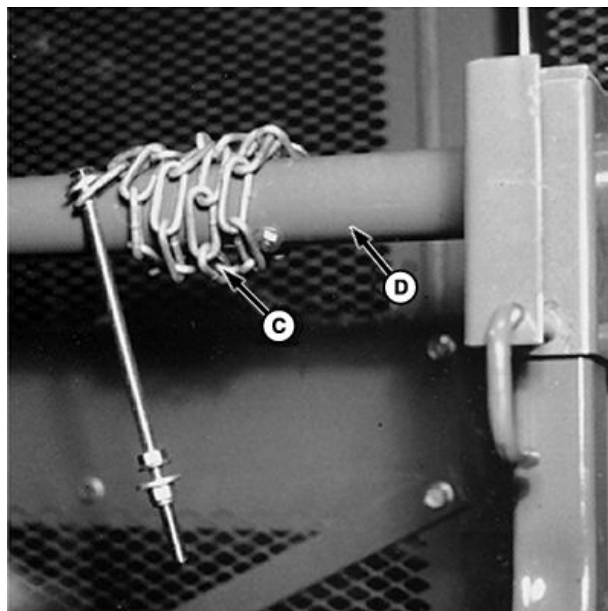
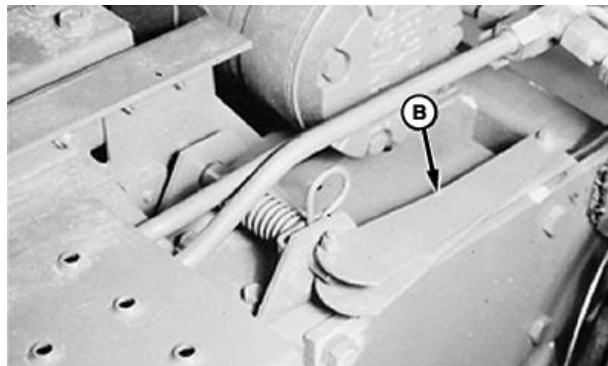
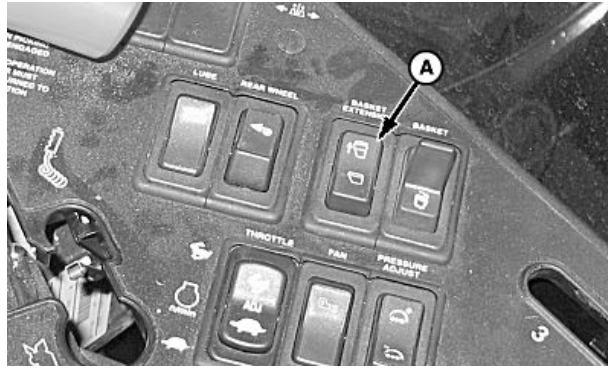
8. Lower basket extension by pressing on lower portion of basket extension switch (A). Continue down until hydraulic cylinders are completely retracted.

NOTE: To raise extension press upper portion of basket extension switch.

IMPORTANT: To avoid damage to machine and prevent extension from raising during transport, always engage latch pin in left-hand front corner of basket.

9. Engage latch pin (B).
10. Disconnect chains (C) from lid linkage frame. Wrap chains around duct support pipe (D) for storage.

A—Basket Extension Switch C—Chain
B—Left-Hand Basket Latch Pin D—Duct Support Pipe



N73410—UN—16AUG06

N58587—UN—10OCT01

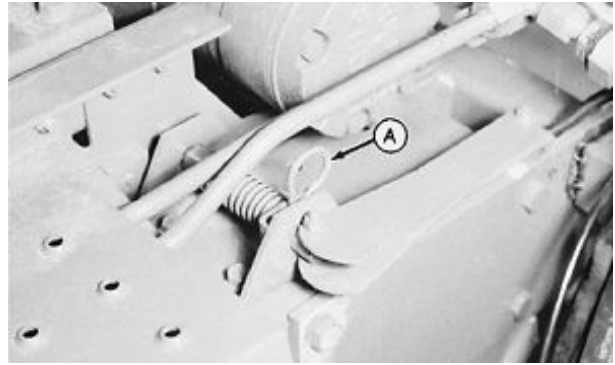
N58588—UN—10OCT01

OUO6043,0001526 -19-16JAN17-6/6

Raising Telescoping Basket

1. Remove spring pin (A). Retract and lock-out front left-hand basket pin.

A—Spring Pin



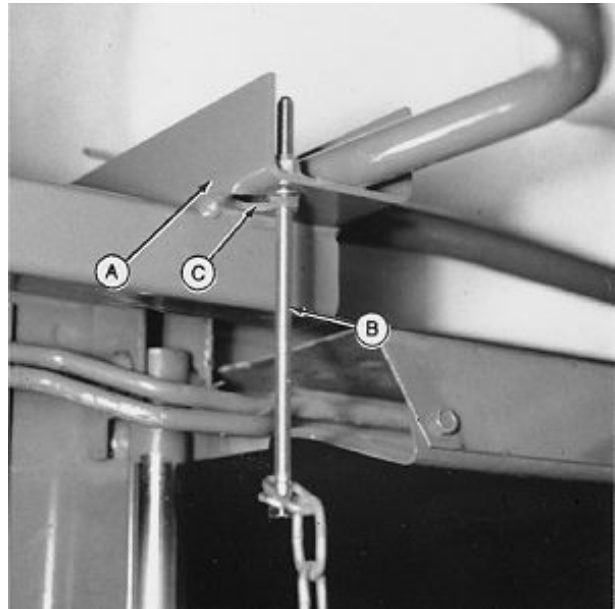
N42152KC—UN—08NOV93

OUC6043,0001527 -19-16JAN17-1/8

2. Connect duct lift chains to lid linkage frame (A) by sliding bolt (B) into slot (C). (Washer MUST be on top surface of linkage frame.)

A—Lid Linkage Frame
B—Bolt

C—Slot



N42107H—UN—25JAN91

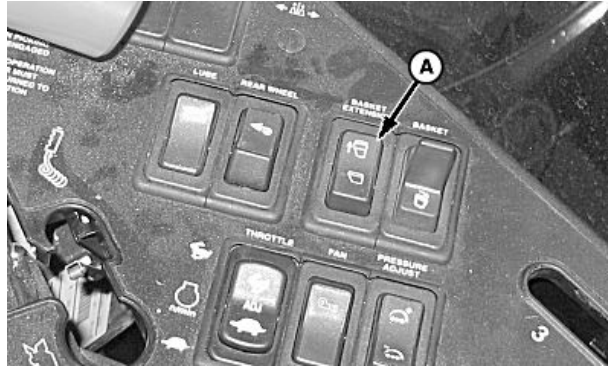
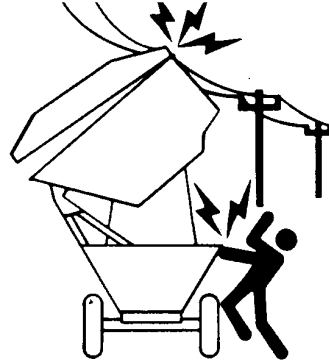
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OUC6043,0001527 -19-16JAN17-2/8

CAUTION: If basket should come in contact with overhead electrical wires, serious injury or death to you or others can occur. Be certain of adequate overhead clearance before raising basket extension.

3. Raise basket extension by pressing upper portion of basket extension switch (A). Stop raising extension slightly below desired pinned location (intermediate or full position).

A—Switch



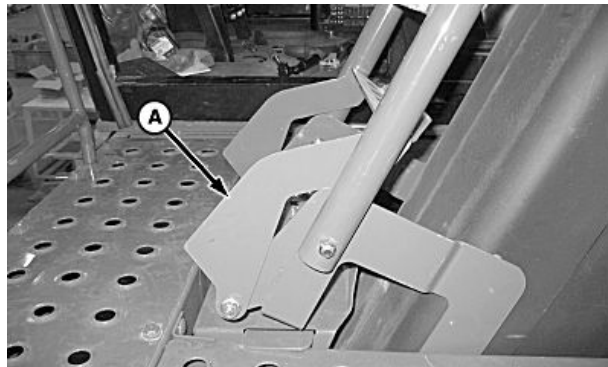
OUO6043,0001527 -19-16JAN17-3/8

TS683 —UN—21SEP89

N73410 —UN—16AUG06

4. Unfold duct ladder step (A).

A—Duct Ladder Step



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OUO6043,0001527 -19-16JAN17-4/8

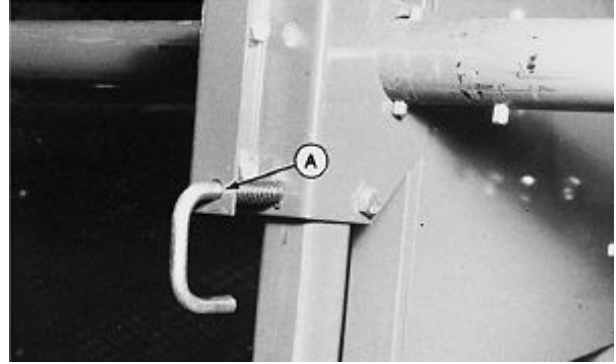
N73850 —UN—22SEP06

5. Release duct support pins (A) both sides. Place left-hand basket lock-up pin in disengaged position.
6. Continue raising basket until duct support pins engage in desired (upper or lower) holes. Make sure pins engage into holes of duct support.

NOTE: If pins do not engage, adjust lock nuts (B) on chain bolts until duct support pins snap into the duct support holes.

A—Duct Support Pins

B—Lock Nuts



N42107J —UN—25JAN91



N42107V —UN—25JAN91

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OUO6043,0001527 -19-16JAN17-5/8

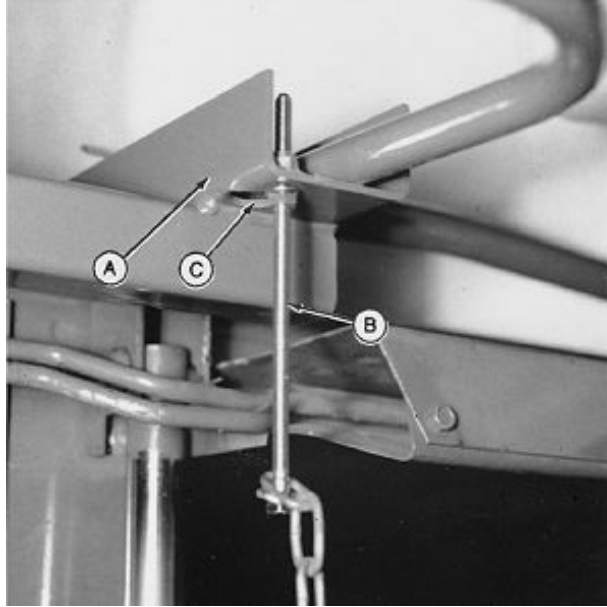
7. Slightly lower basket extension to put slack in duct support chains.

IMPORTANT: Remove duct support chains or damage will occur duct supports and bracket when basket unloads.

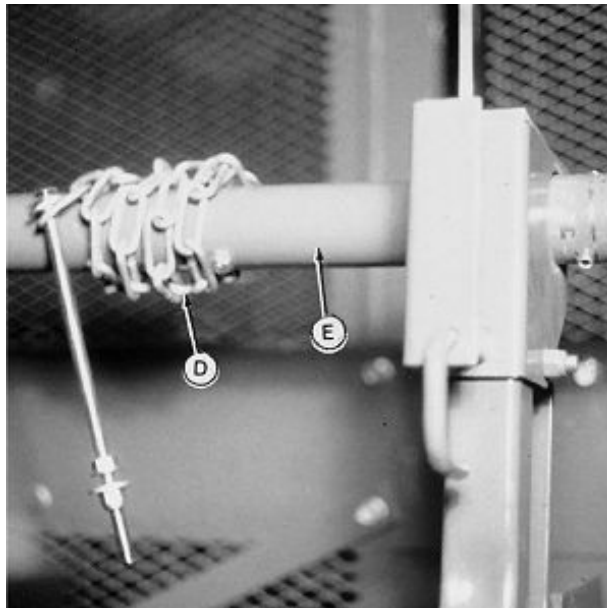
8. Remove bolt (B) from slots (C) in lid linkage tube (A). Wrap chain (D) around duct support pipe (E).
9. Continue to raise lid until basket pin snaps into place.
10. Release front left-hand basket pin so it is spring loaded.
11. Retain pin with spring locking pin.

A—Lid Linkage Tube
B—Bolt
C—Slot

D—Chain
E—Duct Support Pipe



N42107H—UN—25JAN91



N42107K—UN—25JAN91

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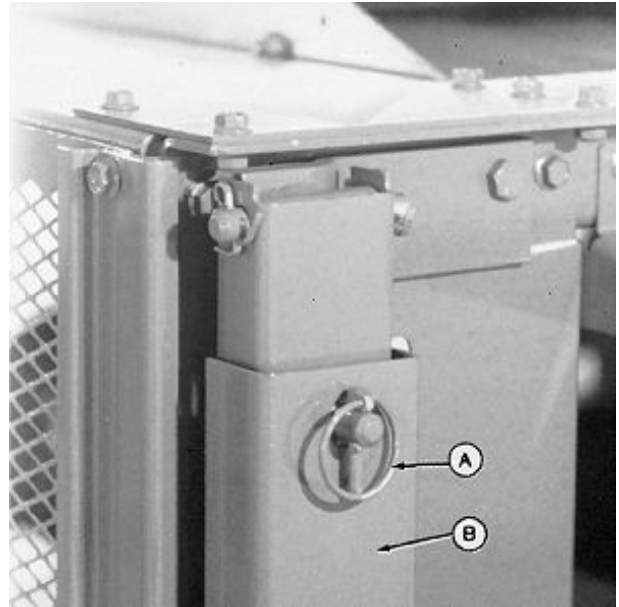
OUC6043,0001527 -19-16JAN17-6/8

IMPORTANT: NEVER leave basket in telescoped position without pins engaged. Basket can come down if pins are not engaged.

12. On right-hand front and rear basket corners, remove quick-lock pins (A) (three locations). Push lower lock-up beam (B) over pin (three locations). Reinstall quick-lock pins.

A—Quick-Lock Pins

B—Lower Lock-Up Beam



N90027AL —UN—06MAR90

OUO6043,0001527 -19-16JAN17-7/8

13. Attach basket hydraulic hoses to conveyor channel using straps (A).

NOTE: If necessary to reposition upper duct(s), follow steps 17 through 20.

14. Loosen set screws in retaining rings (B).
15. Locate the upper duct (A) left or right so it is in the best position to deliver cotton to the basket and to avoid interference with support pipe.

NOTE: Locate remaining upper ducts in a similar manner if necessary.

16. Tighten retaining ring set screws to lock duct in position so it does not slide right or left.
17. If retaining rings were loosened before lowering the telescoping basket, tighten retaining rings.

A—Straps



N42132WK —UN—21JAN93

OUO6043,0001527 -19-16JAN17-8/8

Bleeding Telescoping Cylinders

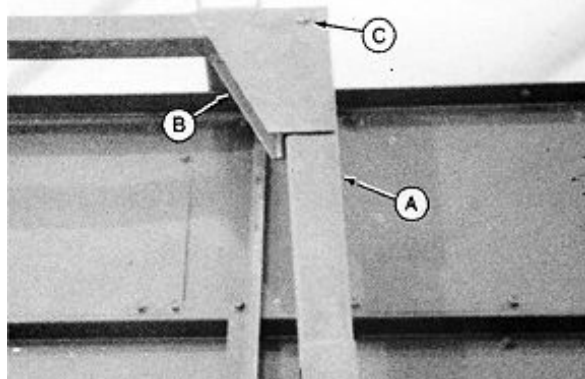
IMPORTANT: Bleeding the telescoping cylinders can only be accomplished when the front cylinder is allowed to reach full extension of the piston rod. Cylinders left un-bled can cause basket to come down causing basket damage.

NOTE: If basket extension is pinned in the intermediate field position, complete Steps 1 and 3. If machine does not have intermediate field position, proceed to Step 4.

1. Disconnect front and rear upper arm assemblies (A) from lid lift frame (B) by removing screw (C).

A—Rear Upper Arm
Assemblies
B—Lid Lift Frame

C—Screw

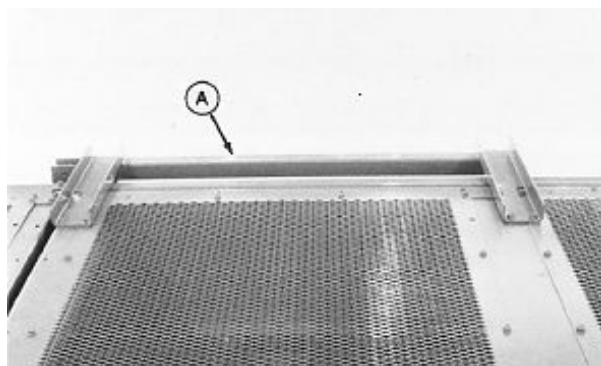


N42138HE—UN—29JAN93

OOU6043,0001528 -19-11AUG06-1/6

2. Remove front and rear lid lift frames (A).

A—Lid Lift Frames



Rear Lid Lift Frame

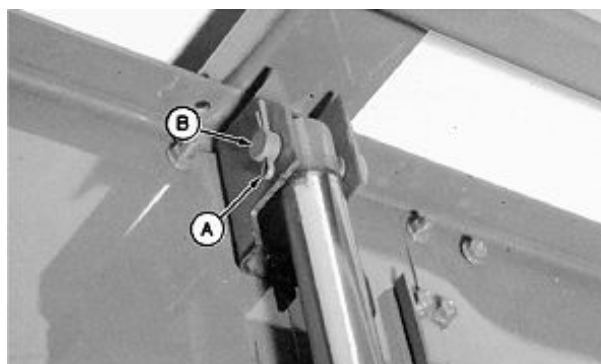
N89165G1—UN—16MAR90

OOU6043,0001528 -19-11AUG06-2/6

3. Unpin telescoping cylinder at top by removing cotter pin (A) and round head pin (B).

A—Cotter Pin

B—Round Head Pin



N89114J1—UN—18MAY90

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OOU6043,0001528 -19-11AUG06-3/6

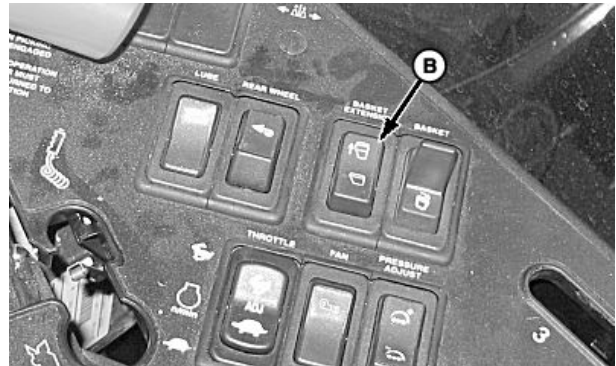
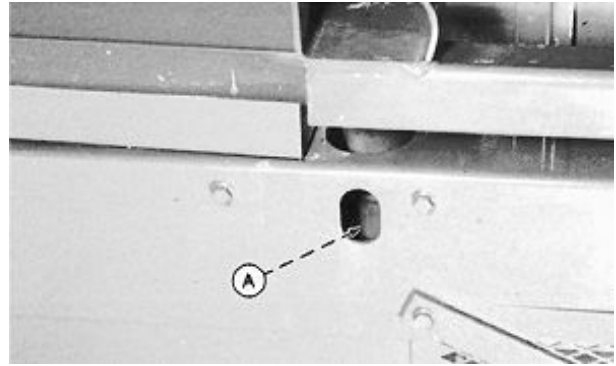
4. Loosen bleed screw (A) on rear cylinder 1/4 to 1/2 turn.
5. Start engine and operate at slow idle.

IMPORTANT: If basket extension is pinned in intermediate position, hold the cylinder piston rods out from basket extension to prevent them from contacting top of extension when raising.

6. Slowly extend the telescoping cylinders using basket extension switch (B).
7. Continue to press basket extension switch until front cylinder is fully extended and a solid flow of oil (without bubbles) is present at bleed screw.
8. Tighten bleed screw.

A—Bleed Screw

B—Basket Extension Switch



OUO6043,0001528 -19-11AUG06-4/6

N90136D1 —UN—18MAY90

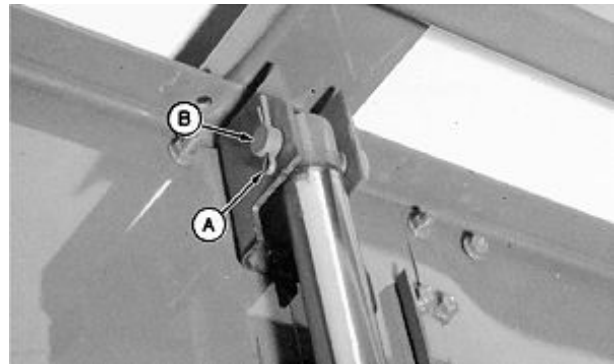
N73411 —UN—16AUG06

9. Pin cylinders (front and rear) to extension using round head pin (B) and cotter pin (A).

NOTE: On baskets with extension in intermediate position 3 people will be needed to perform this task. One person in operator's station holding basket telescoping switch. One person at each cylinder, pushing down on rod until it can be pinned in position.

A—Cotter Pin

B—Round Head Pin



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OUO6043,0001528 -19-11AUG06-5/6

N89114J1 —UN—18MAY90

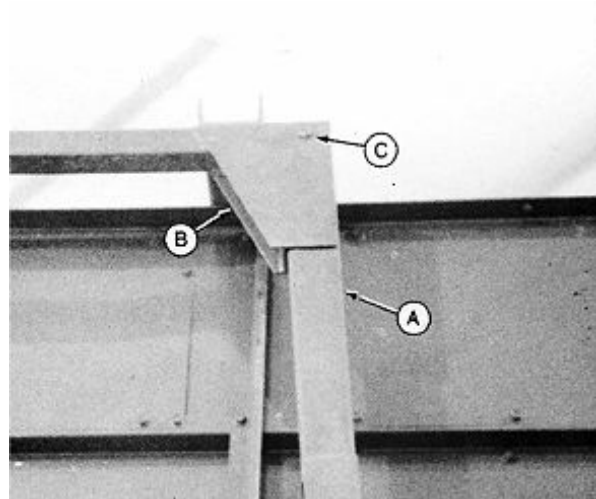
NOTE: On baskets with extensions in intermediate position, complete Steps 10 and 11.

10. Install front and rear lift frames.

11. Insert upper arm assembly (A) into lid lift frame (B). Reinstall screw (C) and lock nut. Tighten nut just enough to retain nut on screw but still allow parts to rotate on screw. DO NOT OVERTIGHTEN. Upper arm MUST pivot freely.

A—Upper Arm Assembly
B—Lid Lift Frame

C—Screw



N42138HE—UN—29JAN93

OUC6043,0001528 -19-11AUG06-6/6

Operator Presence System

Operator Presence System

To enhance the safety of the picker operator, this cotton picker is equipped with a passive operator presence system.

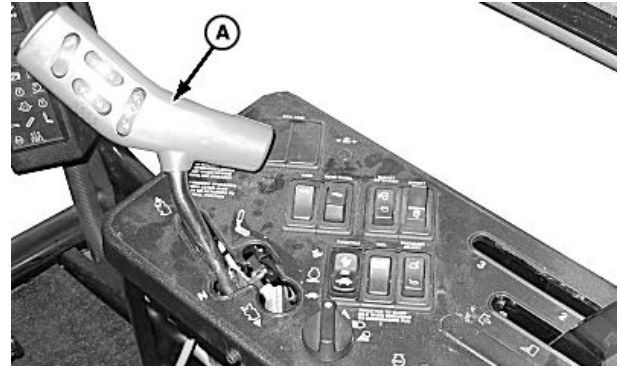
The system will sense the presence of the operator in the seat whenever the picking units are engaged.

Should the operator leave the seat for more than 5 seconds, the operator presence system will immediately stop picker and the picking units. The engine will remain running.

To resume operation, return to the seat and momentarily move the hydro lever (A) to the neutral position.

CAUTION: If the operator presence system fails to function correctly, the machine can stop or move unexpectedly causing serious injury or death to you or others. If the system ever fails to operate exactly as described above, see your John Deere dealer.

An inspection bypass for the operator presence system allows the operator to control slow forward rotation of



A—Hydro Lever

the picking units from the ground during inspection. The bypass system consists of a hand-held, spring-loaded tether switch. See PREPARING INSPECTION BYPASS SYSTEM in this section.

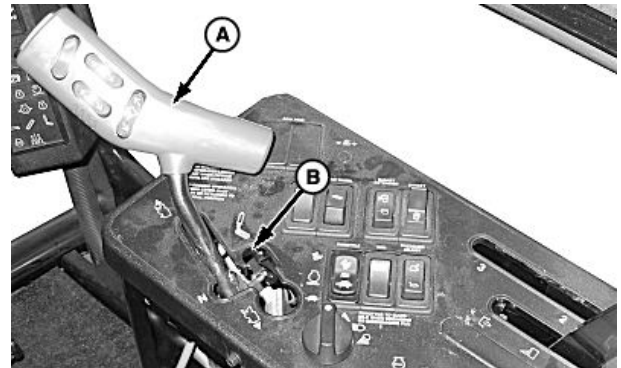
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N73340 —UN—16AUG06

Preparing Inspection Bypass System

CAUTION: Be sure park brake is engaged before using inspection bypass operation. The unexpected movement of the machine can cause serious injury or death to you or others.

1. Engage park brake.
2. Place transmission in neutral.
3. Operate engine at slow idle.
4. Engage picking units.
5. Move hydro lever (A) into inspection bypass position (B).



A—Hydro Lever

B—Bypass Position

OUG6043,0001529 -19-08AUG06-1/1

N73341 —UN—16AUG06

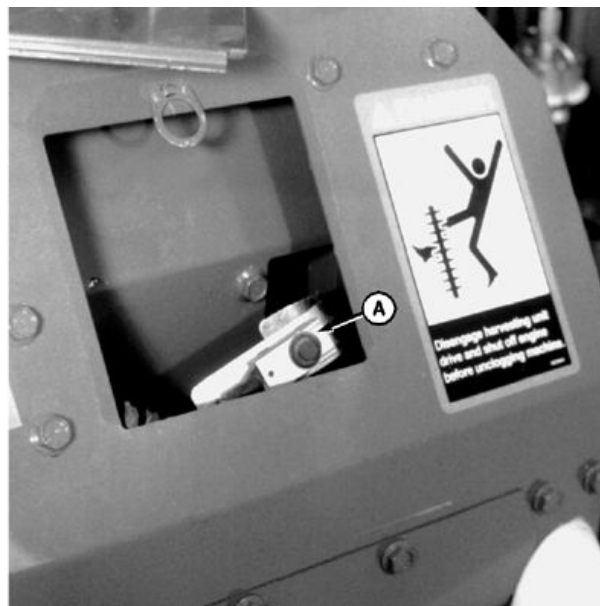
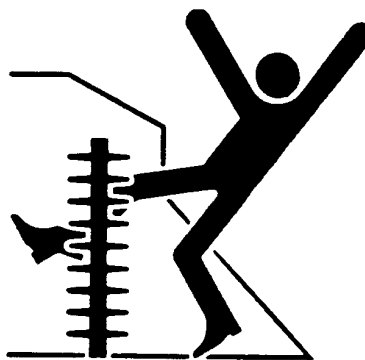
Operating Inspection Bypass System

CAUTION: Serious injury or death can result if you or others become entangled or are drawn into moving parts of unit. Keep away from all moving parts to prevent injury and death. Always keep inspection bypass cord away from moving parts on picking units.

Be sure park brake is engaged. The unexpected movement of the machine can cause serious injury or death to you or others. If the inspection bypass system does not operate exactly as described below, see your John Deere dealer.

1. Remove unit No.3 front cover.
2. Remove tether switch (A) from storage position. Stand clear of units. Never operate inspection bypass while standing on top of row units. Keep thumb free of tether switch.
3. After ensuring solid footing and clearance from moving parts, proceed with bypass operation by depressing tether switch. Slow unit rotation will begin immediately, and continue until the tether switch is released.

A—Tether Switch



Unit No. 3

OJ06043,000152A -19-18SEP06-1/1

TS675—UN—21SEP89

N42165CX—UN—01AUG95

Deactivating Inspection Bypass System

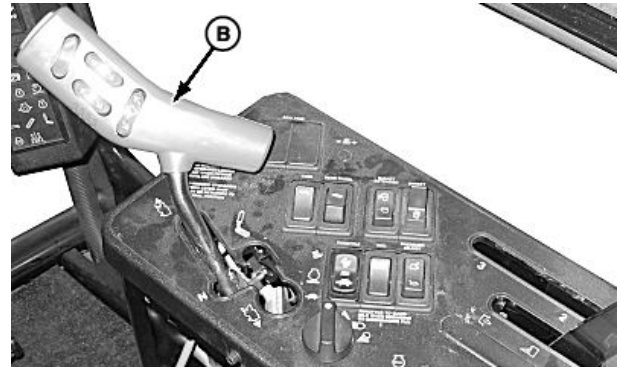
1. Release tether switch (A) and place in storage position.
2. Install cover.
3. Move hydro lever (B) to neutral position.
4. Disengage picking unit lever.

A—Tether Switch

B—Hydro Lever



N42165CX —UN—01AUG95



N73342 —UN—16AUG06

OOU6043,000152B -19-08AUG06-1/1

Operator Presence System Check

CAUTION: Make sure everyone and everything is clear of picking units before engaging. If any of the steps described do not give the proper result, **DO NOT** attempt to adjust them yourself. Failure to adhere to these directives can result in serious injury or death to you or others. See your local John Deere dealer for service.

EIGHT STEP CHECK

Step One

1. Verify park brake is engaged.
2. Make sure transmission is in neutral and hydro lever is in neutral.
3. Sit squarely in seat. Start engine, and operate at slow idle.
4. Lower units into height sensing position.
5. Engage picking units.
6. Move hydro lever forward approximately 1/4 of slot.
7. Picking units should be operating and remain operating. If not, see your John Deere dealer. **DO NOT** attempt to adjust them yourself.

Step Two

1. Raise completely off operator's seat; then sit back down within 2 seconds.
2. Picking units should continue to operate without indication of stopping.

Step Three

1. Remain in operator's seat for 10 seconds before proceeding.
2. Again, raise completely off seat. Wait for a minimum of 6 seconds before sitting back down.
3. Picking units should stop operating within 5 seconds of raising off seat.
4. Picking units should **NOT** resume operation when operator sits back down (until STEP FOUR is completed).

Step Four

1. While sitting in operator's seat return hydro lever to neutral position.
2. Again, move hydro lever forward approximately 1/4 of slot.
3. Picking units should begin operating again.

Step Five

1. Place hydro lever in inspection by-pass position on console.
2. Picking units should not be operating.
3. Tether indicator light should be illuminated on monitor panel. If not, see your John Deere dealer. **DO NOT** attempt to adjust them yourself.
4. Place transmission in gear, tether indicator light should turn off.
5. Move transmission shifter back to neutral. Tether indicator light will turn back on.

Step Six

1. Depress tether switch.
2. Picking units should **BEGIN** operating with drums rotating slowly.

Step Seven

1. Release tether switch.
2. Picking units should stop operating.

Step Eight

1. Return hydro lever to neutral position.
2. Disengage picking units.

NOTE: Machine will not move if transmission lever is in neutral.

3. Place hydro lever in forward or reverse and machine should move.

OUO6043,000152C -19-20SEP06-1/1

Height Sensing

Leveling Outer Height Sensing Shoes

IMPORTANT: Before adjusting height sensing on units, adjust the tilt of picking units. See **PICKING UNITS** section. Failure to adjust picking units can result in damage to units or machine.

1. Loosen lock nut (A).

NOTE: With inner unit height sensing, verify all shoes are level.

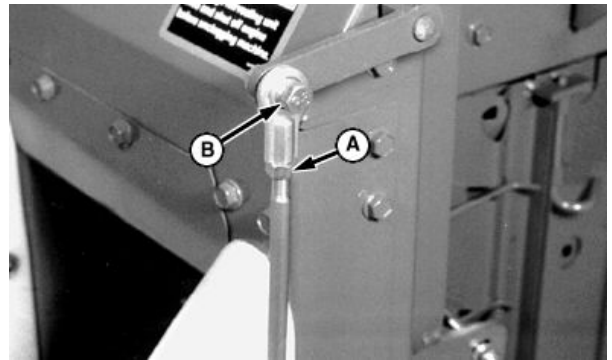
2. Remove cap screw (B).
3. Adjust linkage until inside and outside shoes (C) are level.

NOTE: Before installing cap screw, verify a minimum of three threads are engaged in linkage end.

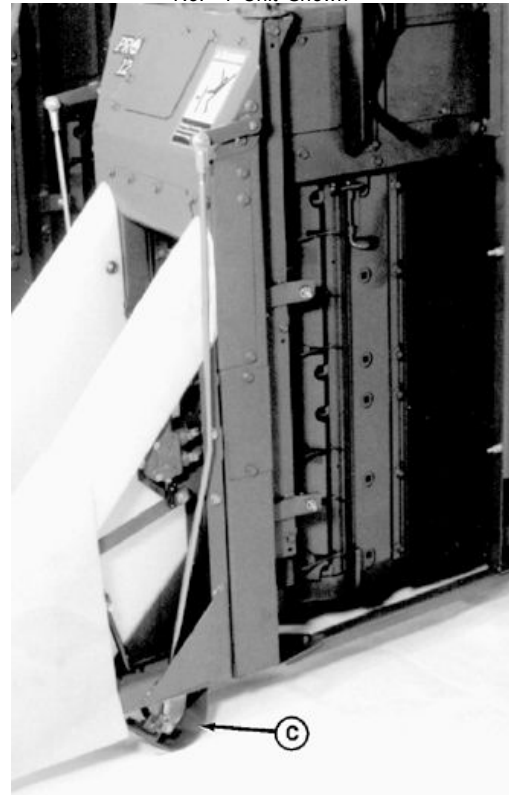
4. Install cap screw and tighten lock nut.
5. Check that shoes are level. If more adjustment is required, repeat process on opposite end of linkage.

A—Lock Nut
B—Cap Screw

C—Outside Shoes



No. 1 Unit Shown



N51081 —UN—03SEP99

N51082 —UN—03SEP99

OUO6043.000152D -19-18SEP06-1/1

Setting Automatic Height Control

1. Position the entire picker on the cotton rows. Drive and guide wheels must be in the field, on the rows, and at the same level.
2. With engine operating at mid throttle and hydraulic system warmed up, lower units using switch on the hydro lever.

CAUTION: If you or others become entangled in a unit, serious injury or death can result. Be sure units are disengaged. Keep away from areas which might pinch or crush as units move up and down.

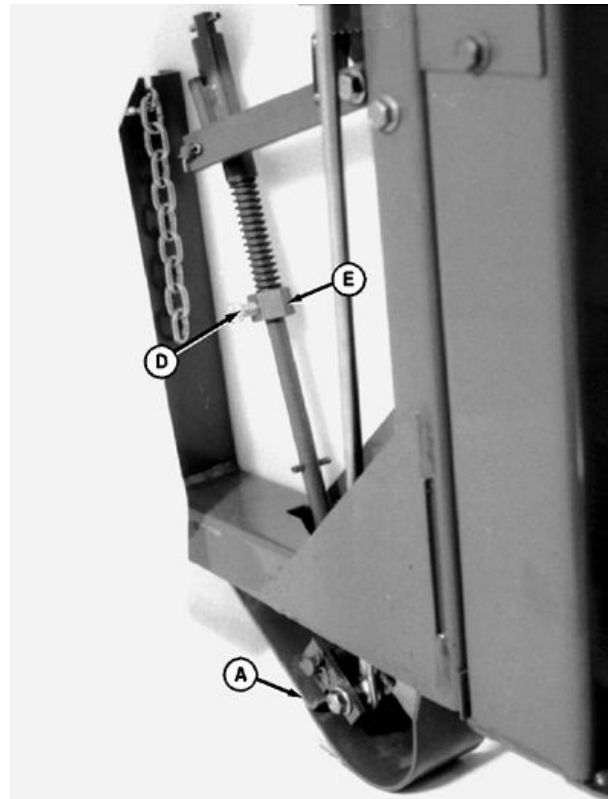
3. Lift unit height sensing shoes (A) until units are fully raised, then release shoes. Set height sensing so units are positioned no lower than necessary to pick cotton.
4. To adjust: Loosen cap screw (D) adjust collar (E) to make the unit operate higher or lower. Retighten cap screw and nut.

IMPORTANT: Adjust collar on each unit to the same level. Failure to equally adjust collars can result in damage to units or machine.

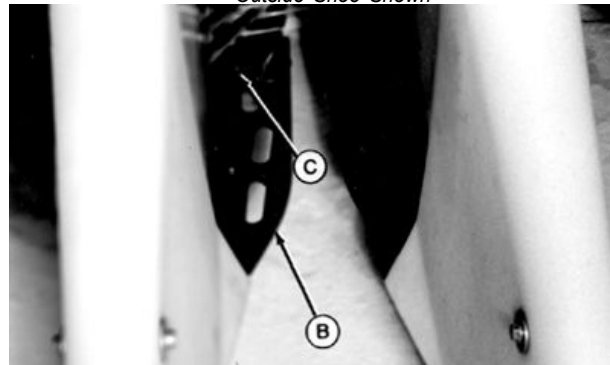
5. Recheck unit tilt adjustment.
6. For low hanging bolls or lodged and tangled limbs, position plant guides (B) or wear plate (C) on unit bottom so they just touch the top of the beds (just skim the surface, not plow).
7. Check automatic height control. If it performs as described, the height sensing system is properly adjusted; DO NOT perform further adjustments.

A—Height Sensing Shoes
B—Plant Guides
C—Wear Plate

D—Cap Screw
E—Collar



Outside Shoe Shown



Plant Guides and Wear Plate

N42165DE —UN—01AUG95

N42166LV —UN—20MAR96

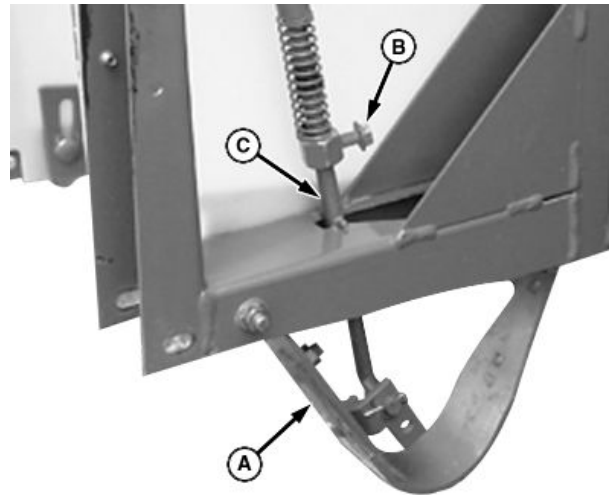
AG,OUO1011,1119 -19-08SEP99-1/1

Leveling Inner Height Sensing Shoes

CAUTION: The unexpected movement of the machine can cause serious injury or death to you or others. Be sure park brake is engaged.

Serious injury or death can result if you or others become entangled or are drawn into moving parts of unit. Keep away from all moving parts to prevent injury or death.

1. With machine positioned on flat surface, raise units to release lockup brackets from cylinders.
2. Raise or lower picking units until height sensing shoes (A) are just contacting the surface.
3. Loosen collar screw (B) on height sensing assembly.
4. Move rod (C) up or down until shoes just contact the surface like outer shoes.
5. Tighten collar screw.



A—Height Sensing Shoes
B—Collar Screw

C—Rod

N51083 —UN—03SEP99

AG,OUO1011,1120 -19-18SEP06-1/1

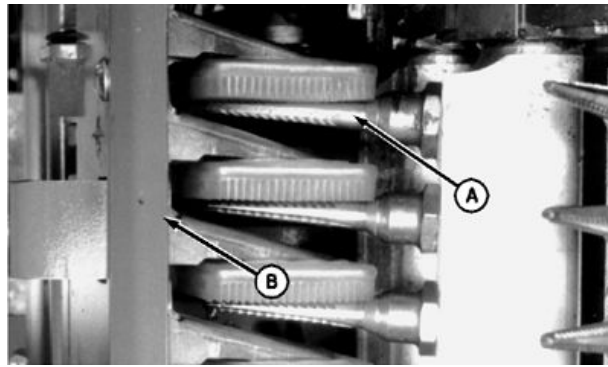
Moistener System

Preparing the Moistener System

IMPORTANT: Using doffers to clean spindles can result in excessive wear and damage to doffers and spindles. Spindle cleaning is accomplished through the use of the moistener system and NOT by the use of the doffers.

Spindle (A) cleaning is achieved by the following:

- proper mixture of water and spindle cleaner or wetting agent.
- correct nozzle size for type of solution additive.
- adequate water pressure.
- periodic use of moistener flush system.
- proper adjustment of moistener column (B).



A—Spindle

B—Moistener Column

N42165DG —UN—01AUG95

CP00718,0001D25 -19-08DEC15-1/1

Cold Weather Operation

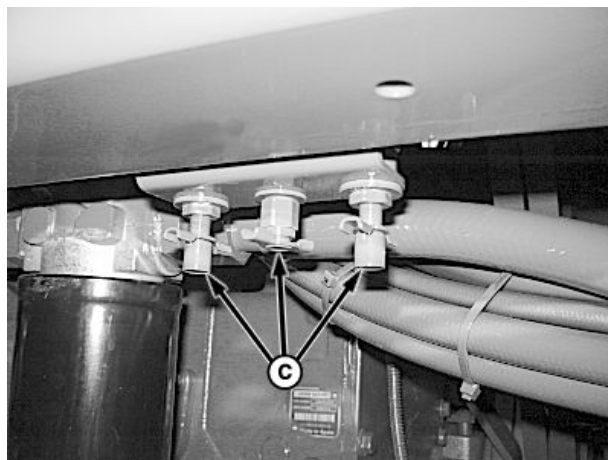
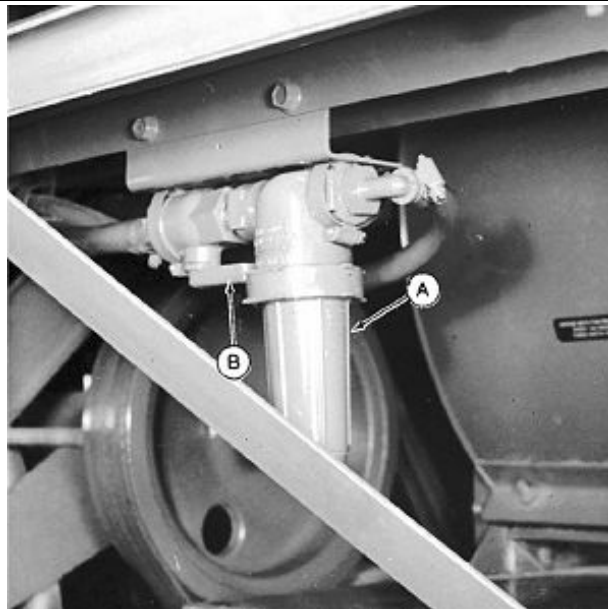
IMPORTANT: Damage can occur to moistener system if machine is left outside in extreme cold weather. Follow the procedure listed below if machine will be left outside in extreme cold weather.

Solution pump damage can occur if pump is operated without water in system.

1. Drain moistener system tank by removing strainer (A), opening valve (B), and opening drain valves (C) under left-hand side of machine.
2. Replace strainers, close drain valves, and refill moistener system before operating machine.

A—Strainer
B—Valve

C—Drain Valves (3 Used)



N42132CG —UN—21JAN93

N74395 —UN—01DEC06

CP00718,0001D26 -19-08DEC15-1/1

Adjusting Solution Pump Belt

1. Loosen lock nuts (A).

IMPORTANT: To avoid pump damage, do not let pump run without solution in system. Always remove belt for dry picking.

2. Align belt (B) with sheaves by loosening pump mounting bolts (C) and moving pump or by loosening pump sheave set screw (D) and moving sheave.

IMPORTANT: To avoid bearing damage, DO NOT overtighten solution drive belt. When tightened properly belt should be easily deflected with thumb and forefinger.

3. Tighten belt to specifications using nuts (C).

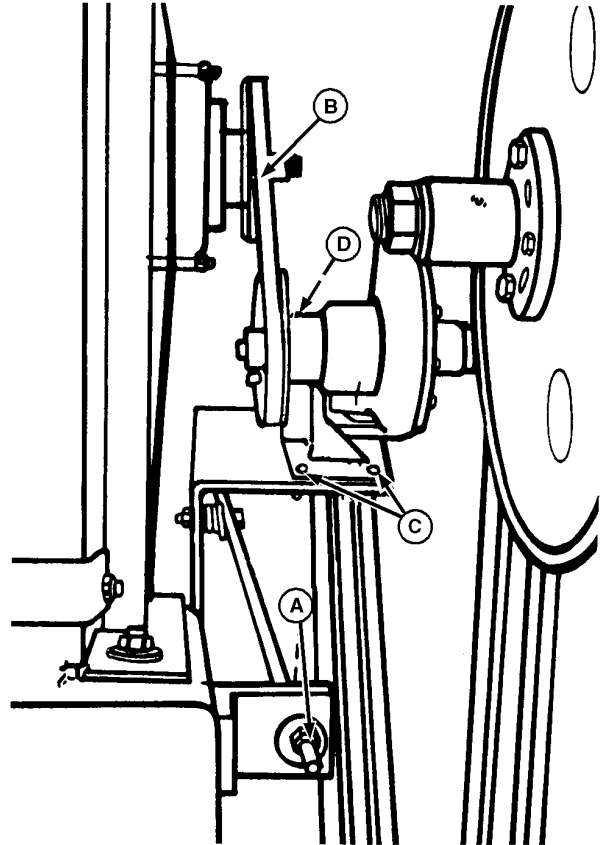
Specification

Solution Pump	
Belt—Static Tension.....	67–85 N (16–19 lb)

4. Tighten all loose hardware.

A—Lock Nuts
B—Belt

C—Mounting Bolts
D—Set Screw



N58560 —UN—12OCT01

CP00718,0001D27 -19-08DEC15-1/1

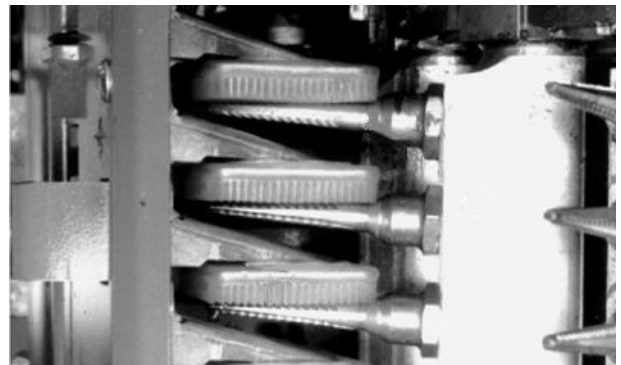
Moistener Column

IMPORTANT: Excessive wear or damage on moistener pads and spindles can occur. Moistener column **MUST** be correctly aligned to avoid damage.

To avoid damage during shipping, the moistener column is NOT set at the factory.

The moistener column has two adjustments:

- Column position
- Column height



N42166Y1 —UN—24JAN97

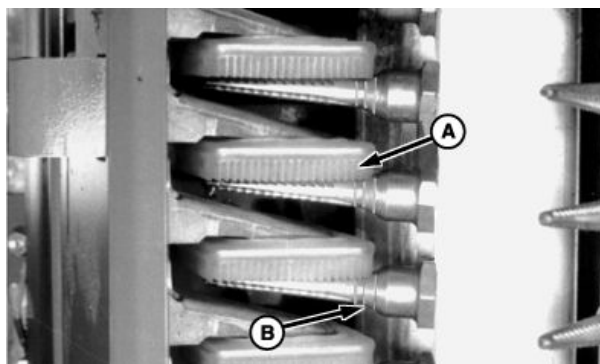
CP00718,0001D28 -19-08DEC15-1/1

Checking Moistener Column Position

Position of moistener column should be set so that the first fin of the moistener pad (A) just touches the front edge of the spindle dust collar (B) as the spindle exits the moistener pad. Top and bottom moistener pads should be set the same.

IMPORTANT: Moistener pads have been factory installed with fins perpendicular to spindle as shown. Excessive wear to spindle and spindle bushings can result if moistener pads are installed with fins parallel to spindle.

NOTE: Edge of moistener pad should not move more than one-half way up dust collar at point of farthest penetration of spindle.



A—Moistener Pad

B—Spindle Dust Collar

N51438 —UN—12OCT99

CP00718,0001D29 -19-08DEC15-1/1

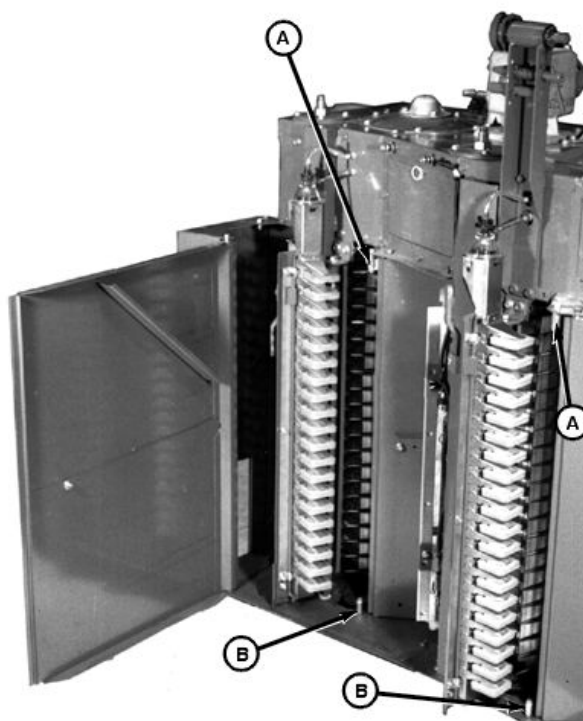
Adjusting Moistener Column Position

IMPORTANT: To ensure proper adjustment, the moistener column door **MUST** be closed and handle latched. Remove the inspection door in front of the moisture column being adjusted in order to see the moisture pad/spindle relationship.

1. Rotate drum so spindles are just exiting the moistener pads.
2. Loosen door latch stop cap screws at top (A) and bottom (B).

A—Door Latch Stop Cap Screw—Top

B—Door Latch Stop Cap Screw—Bottom



N42176QL —UN—01FEB99

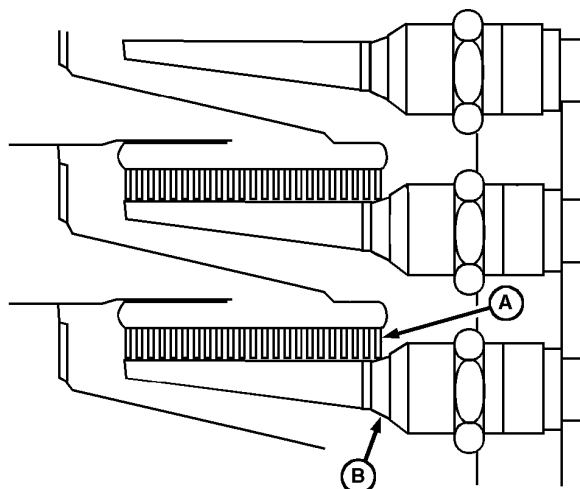
Continued on next page

CP00718,0001D2A -19-08DEC15-1/2

3. Move door in or out until first fin (A) of each pad aligns halfway up on its respective dust collar (B).
4. Tighten door latch stop cap screws.
5. Adjust moistener column height. See ADJUSTING MOISTENER COLUMN HEIGHT in this section.

A—Fin

B—Dust Collar



N51444 —UN—12OCT99

CP00718,0001D2A -19-08DEC15-2/2

Checking Moistener Column Height

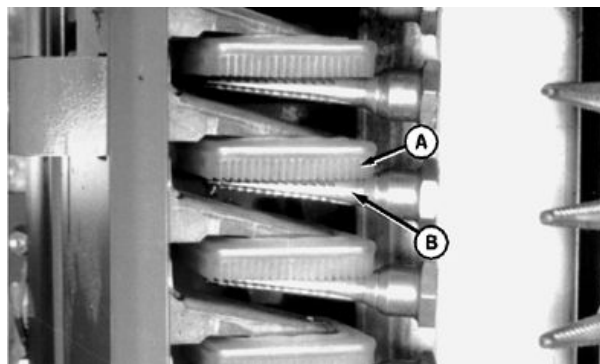
1. Frequently check moistener pads for wear. If moistener pads show too much wear, vertical adjustment of the moistener column is required.

IMPORTANT: Premature wear will result if the moistener pads are too low.

Poor cleaning will result if moistener pads are too high due to lack of sufficient fluid on spindles and lack of scrubbing by moisture pads. The spindles must be cleaned by the moistener pads; NOT the doffers.

2. Adjust moisture column height so all fins of each moistener pad (A) just touch the spindles (B).

NOTE: As spindle just begins to pass under the moistener pad, all fins should flex slightly. With new moistener pads, fins near the dust collar may flex more than fins near the spindle tip.



A—Moistener Pad

B—Spindles

N42165DJ —UN—01AUG95

CP00718,0001D2B -19-08DEC15-1/1

Adjusting Moistener Column Height

1. Loosen lock nut (A).
2. Turn adjusting screw (B) clockwise to raise column; counterclockwise to lower. (Prevent lock nut from turning while adjusting column height.)
3. Tighten lock nut.

A—Lock Nut

B—Adjusting Screw



N42169FG—UN—30OCT96

CP00718,0001D2C -19-08DEC15-1/2

IMPORTANT: After height adjustment, close and lock door; then check for tight fit between stick guard panel (A) and row unit floor. If a gap is found, loosen hardware, push down on stick guard panel to eliminate gap and tighten hardware.

Stick guard panel prevents trash from reaching moistener column and plugging air door.

A—Stick Guard Panel



N42169EQ—UN—28OCT96

CP00718,0001D2C -19-08DEC15-2/2

Filling Moistener System Tank (Mixing Solution in Tank)

CAUTION: Flammable petroleum wetting agents can accidentally ignite and cause serious injury or death to you or others. Do not use a flammable petroleum wetting agent.

Keep spindle cleaner out of reach of children. It can cause serious injury or death if ingested. Induce vomiting if swallowed. Spindle cleaner can cause eye irritation. Flush eyes with water if cleaner makes contact with eyes. In either case, contact a physician immediately.

IMPORTANT: Water **MUST** be clean and free of trash. Contaminated water will cause a malfunction in the moistening system.

Water and cleaner **WILL NOT** mix if cleaner is poured into empty tank and water then added.

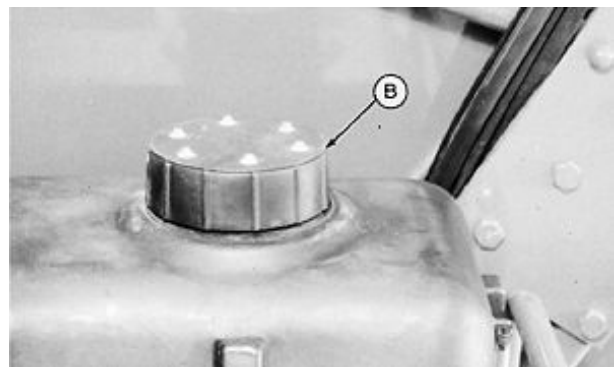
Use of some wetting agents may lower grade of cotton. Water **MUST** be added first.

The moistening system tank can be filled using the remote fill attachment (A) or through the fill lid (B). When mixing solution in tank, either through remote fill attachment or fill lid, do the following:

- Fill tank half full of water.
- Engage fan to agitate water.
- While water is agitating, slowly add John Deere Spindle Cleaner or Wetting Agent.
- Finish filling tank with water.
- Continue agitation for approximately five minutes.

NOTE: Use pre-mixed solution within 24 hours. If not used in one day, agitate solution for several minutes before picking

NOTE: Additional cleaner can be added to a tank that already contains pre-mixed solution. Determine how much solution (gallons) is needed to fill the tank. Add this amount of clean water AND enough cleaner concentrate to meet correct mix ratio and fill tank.



A—Remote Fill Attachment

B—Fill Lid

CP00718,0001D2D -19-08DEC15-1/1

TS227 —UN—15APR13

N42152EP —UN—03NOV93

N42132DQ —UN—19JAN93

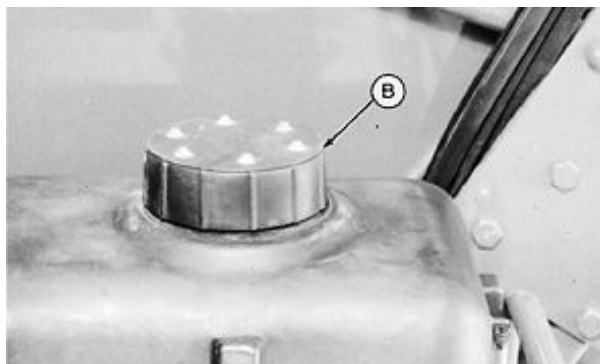
Filling Moistener System Tank Remote Fill (Pre-Mixed Solution)

If solution is pre-mixed in bulk tank, agitate solution in bulk tank for several minutes immediately before filling cotton picker tank.

1. Attach line from bulk tank to remote fill attachment (A) or filter fill lid (B).
2. Open shut off valve. (Remote fill only).
3. When tank is full, close shut off valve.
4. Remove line.

A—Remote Fill Attachment

B—Filter Fill Lid



N42152EP —UN—03NOV93

N42132DQ —UN—19JAN93

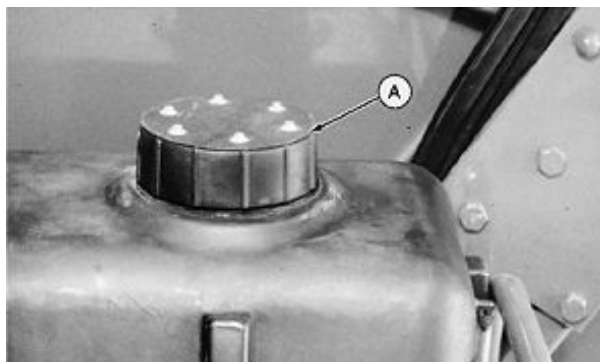
CP00718,0001D2E -19-08DEC15-1/1

Cleaning Moistener Tank Air Vent

NOTE: Cleaning moistener solution tank air vents is not required with remote fill. Large overflow hose acts as vent with remote fill.

1. Check tank fill lid (A) daily to see that air vent is not plugged with dirt or trash.
2. Clean sponge filter as necessary. Cut tie strap to remove sponge. Replace with new strap. Remove dirt and debris from under cap.

A—Tank Fill Lid



N42132DR —UN—19JAN93

N85316M1 —UN—07OCT88

CP00718,0001D2F -19-08DEC15-1/1

Using John Deere Spindle Cleaner

CAUTION: Keep spindle cleaner out of reach of children. It can cause serious illness or death to you or others if ingested. Induce vomiting if swallowed. Spindle cleaner can cause eye irritation. Flush eyes with water if cleaner makes contact with eyes. In either case, contact a physician immediately.



YC9602—UN—24DEC15

Item	Measurement	Specification
AN114022 John Deere Spindle Cleaner	Pail Capacity	19 L (5 gal)
AN114023 John Deere Spindle Cleaner	Drum Capacity	208 L (55 gal)

NOTE: The use of John Deere Spindle Cleaner results in the following:

- Reduced moistener solution usage
- Drier doors and associated picking parts
- Less mud build up
- Less cleaning of picking units
- More productivity due to less time filling tank
- Elimination of green stain/sticky spindles
- Less moistener system maintenance (adjustment and replacement of pads)
- More efficient doffing

This cotton picker is equipped with number 3 nozzles for use with spindle cleaner. Spindle cleaner allows longer intervals between tank refills.

Recommended solution ratio for average conditions is 15.6L (4-1/8 gal) per full 1041L (275 gal) tank of water.

Specification

Spindle Cleaner—Capacity.....15.6L per full tank
(4-1/8 gal) per full tank

John Deere Spindle Cleaner/Solution Ratios

Example that follows shows how to use chart to add proper specified water and spindle cleaner ratios to tank.

Example: If tank level is 946.3L (250 gal), add 94.6L water and 1.4L spindle cleaner (25 gal water and 3/8 gal spindle cleaner.)

Spindle Cleaner/Water Mix Ratio—Specification	
English	1.5 gal/100 gal
Metric	1.5 L/100L

If Tank Level Is At:	Add L (gal) Water/L (gal) Spindle Cleaner
946 L (250 gal)	94.6 L (25 gal) water/1.4 L (3/8 gal) spindle cleaner
757 L (200 gal)	283 L (75 gal) water/4.3 L (1-1/8 gal) spindle cleaner
568 L (150 gal)	473 L (125 gal) water/7.1 L (1-7/8 gal) spindle cleaner
378 L (100 gal)	662 L (175 gal) water/10.9 L (2-5/8 gal) spindle cleaner
189 L (50 gal)	852 L (225 gal) water/12.8 L (3-3/8 gal) spindle cleaner
Empty	1041L (275 gal) water/15.6 L (4-1/8 gal) spindle cleaner

CP00718,0001CD1 -19-24DEC15-1/1

Storing John Deere Spindle Cleaner

CAUTION: Store spindle cleaner in locked and secure area. Spindle cleaner can cause serious illness or death if ingested. It can also cause serious injury if it comes in contact with the eyes.

Store containers so water cannot seep in. Water will cause curdling.



N36950—19—13MAR89

CP00718,0001D31 -19-08DEC15-1/1

Adjusting Water Pressure

IMPORTANT: The water pump is engaged whenever cotton fan is engaged. **DO NOT** let water pump run dry or bearing failure can result. Always remove water pump drive belt for dry picking.

1. Engage fan and increase engine speed to fast throttle position.

NOTE: Use the active line select switch (D) to select the appropriate line on the digital display.

2. Change digital display (B) to indicate water pressure by pressing switch (C).
3. Adjust water pressure with switch (A) until display readout is between 103—172 kPa (1.0—1.7 bar) (15—25 psi). To raise pressure, press + (increase) side of switch; to lower pressure, press — (decrease) side. Recommended pressure for average conditions is 138 kPa (1.4 bar) (20 psi). See REACTING TO SPINDLE BUILDUP in this section.

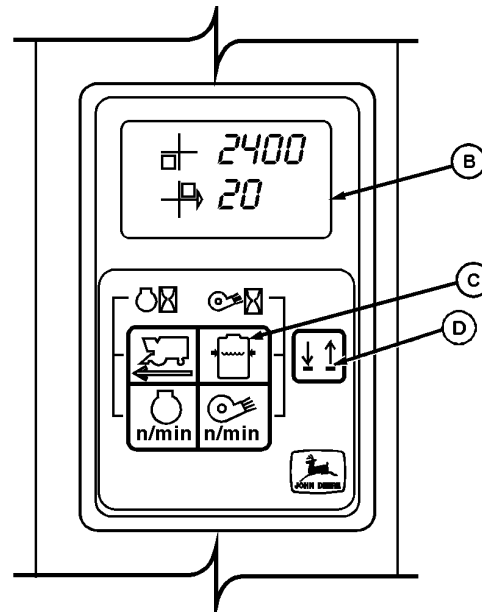
Specification

Water Pressure—Pres-
sure..... 138 kPa
(1.4 bar) (20 psi)

Check and adjust pressure periodically throughout the day to meet changing conditions.

A—Water Pressure Switch
B—Digital Display

C—Water Pressure Switch
D—Active Line Select Switch



Engine Speed at Fast Throttle Position



N42189GL—UN—04AUG98

N73292—UN—16AUG06

CP00718,0001D34 -19-08DEC15-1/1

Using the Moistener Flush System

To ensure lowest solution usage when spindle buildup is observed, activate moistener flush system to clean spindles in the following order.

NOTE: Some conditions (green sappy plants) will require more frequent flushing.

With units and fan running, depress moistener flush switch (A) on the cab floor:

- At each basket unload for 10—15 seconds (normal conditions).
- At one end of field for 4—5 seconds (tough staining conditions).
- At both ends of field for 4—5 seconds (extreme staining conditions).

When flushing at a turn row, depress foot pedal as row units are just starting to raise. Release pedal halfway through turn (approximately 4—5 seconds). This allows excess solution to be removed before re-entering the row.

DO NOT operate flush system in row while picking or plugging may result.



A—Moistener Flush Switch

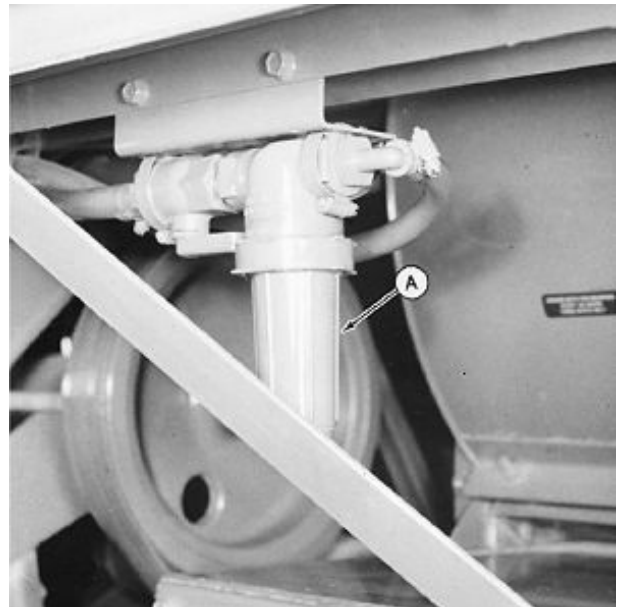
N42132DU —UN—19JAN93

CP00718,0001D35 -19-08DEC15-1/1

Cleaning Strainers

Main System Strainer—Clean 100 mesh strainer (A) daily, or whenever plugged, by closing the valve and removing.

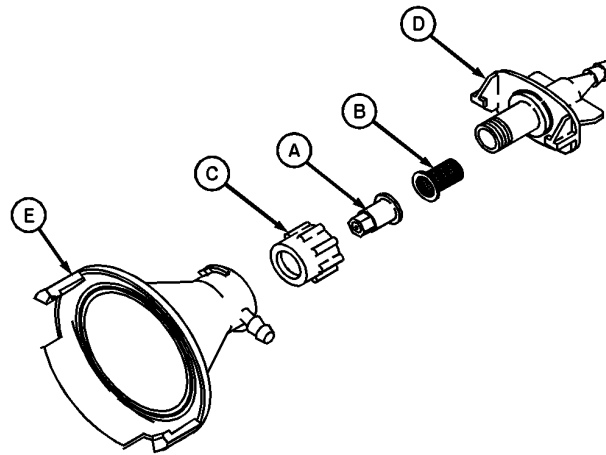
A—Strainer



N42132DV —UN—19JAN93

CP00718,0001D36 -19-08DEC15-1/1

Cleaning Nozzles



A—Nozzle
B—Filter Screen

C—Nut
D—Nozzle Fitting

E—Housing

Unit Nozzle Strainers—Each nozzle has a strainer that requires a daily check and cleaning if required.

When replacing or reinstalling nozzle tips, do not overtighten nozzles or flow of solution may be restricted.

Machine is shipped with No. 3 nozzles as standard equipment. To increase spray by 100% use a No. 6 nozzle.

1. Remove nozzle fitting (D) from housing (E).

2. To access the nozzle (A) and filter screen (B), remove nut (C) from nozzle fitting. If either the nozzle or screen are plugged, clean with water.
3. Reassemble the nozzle assembly in reverse order of the way it was disassembled.

N42189/Q—UN—01SEP98

CP00718,0001D37 -19-08DEC15-1/1

Replacing Moistener Column Pads

IMPORTANT: To enable proper access to moistener column, remove excess cotton and leaf trash from fins and side of moistener column, before beginning service.

1. Make a hooked pad removal tool (A) from heavy wire.
2. Remove moistener pad (B) with removal tool.
3. Inspect moistener pads for excessive wear or damage. If excessive wear or damage is evident, replace pad. If reusing moistener pad, clean holes (C) before installing.

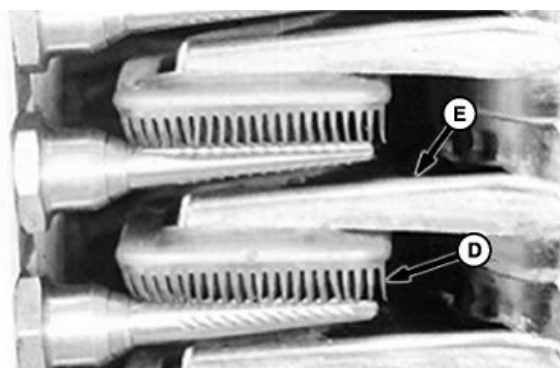
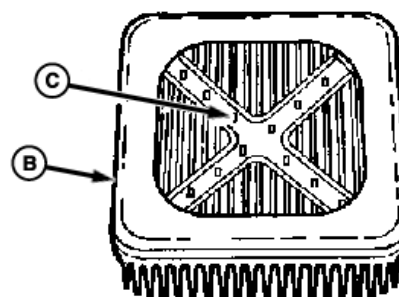
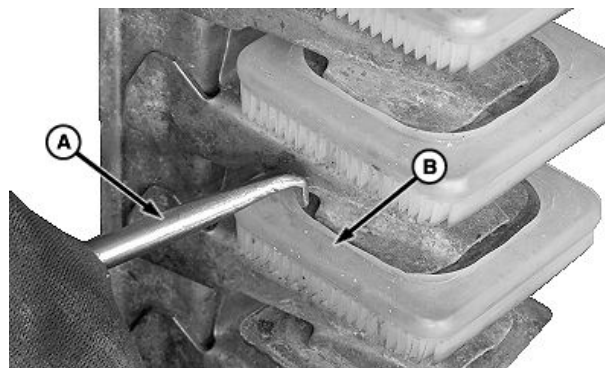
IMPORTANT: Excessive spindle or bushing wear results when pads are not installed properly. Install pads so fins are perpendicular to pad stem.

4. To install pad, start pad on rear of pad holder, then pull pad over front of holder. Pad fins (D) must be perpendicular to pad stem (E) to prevent premature spindle and bushing wear.

A—Pad Removal Tool
B—Moistener Pad
C—Holes

D—Pad Fins
E—Pad Stem

N84924 —UN—01JUN09



N113915 —UN—11AUG14

N84926 —UN—01JUN09

N84927 —UN—01JUN09

CP00718,0001D38 -19-08DEC15-1/1

Reacting to Spindle Buildup

IMPORTANT: Moistener system must keep spindles clean and slick. If buildup is allowed and spindle wrap occurs, moistener columns and doffers can be damaged.

NOTE: The less solution used to keep spindles clean and slick, the less trash and mud buildup will occur. This may prevent excessive maintenance.

Initial adjustments for each item have been included in this section. Whenever spindle buildup is detected, review the following adjustments before proceeding with further adjustment.

Initial Adjustment Checklist

Check tank ratio. (15.6L [4-1/8 gal] of John Deere Spindle Cleaner per full tank.)

Nozzle tip: Use Number 3 size tip for John Deere Spindle Cleaner. (Be sure tip and tip strainer are not plugged.)

NOTE: If spindle buildup is observed, be sure you are using John Deere Spindle Cleaner and proper nozzle tips before proceeding.

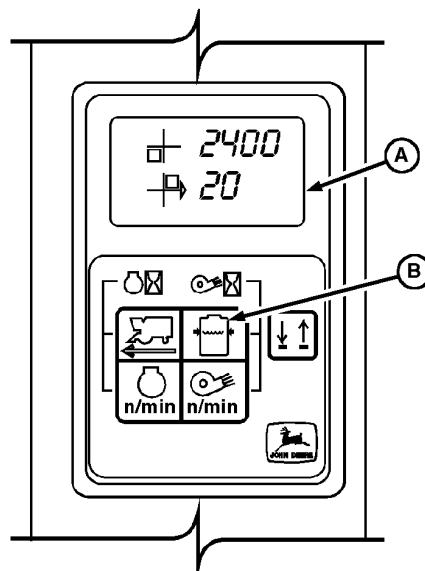
At fast throttle position, pressure reading on digital display (A) should be 138 kPa (1.4 bar) (20 psi). (Press switch (B) for water pressure display).

Be sure moistener columns are properly adjusted for height and position.

Check to be sure moistener pads are not plugged.

Adjustments

1. Increase John Deere Spindle Cleaner ratio from 15.6L (4-1/8 gal) to 18 L (4-3/4 gal) per tank full.
2. Operate the flush system 10—15 seconds at each basket unload.



Engine Speed at Fast Throttle Position

A—Digital Display

B—Switch

3. Operate the flush system for 4—5 seconds at each turn at one end of field only.
4. Operate the flush system for 4—5 seconds at both ends of field.
5. Increase solution pressure in 34 kPa (0.34 bar) (5 psi) increments.

N51104—UN—07SEP99

CP00718,0001D39 -19-08DEC15-1/1

Picking Units

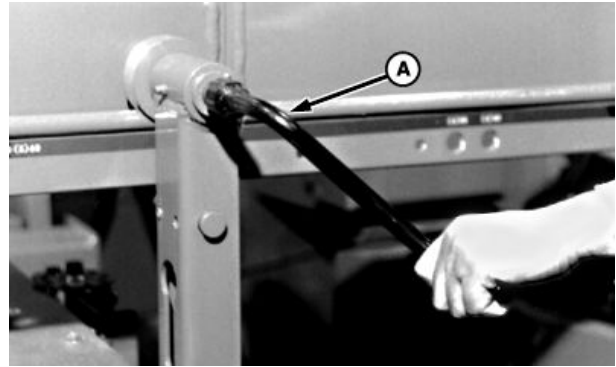
Moving Picking Units

Picking units can be moved apart to gain access for cleaning, inspection and service.

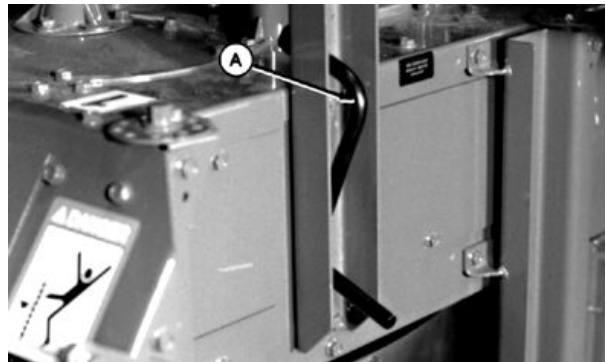
1. Place unit moving tool (A) on roller hex.
2. Pull spring loaded pin (B) from hole.
3. Turn tool to move unit until pin aligns with desired hole location. To prevent roll-back, make sure pin fully engages new hole.
4. After service, repeat above steps and return unit to original position. Make sure pin fully engages hole.
5. Return tool to storage position.

A—Moving Tool

B—Spring Loaded Pin



Unit Moving Tool



Tool Storage Position

AG.OUO1011,1765 -19-12NOV99-1/1

N51679 —UN—12NOV99

N51680 —UN—12NOV99

N51681 —UN—12NOV99

Adjusting Picking Unit Tilt

CAUTION: Units are heavy. If a unit moves unexpectedly, or if you or others become entangled in moving parts of a unit, serious injury or death can result. Shut off engine and remove key before approaching units.

Adjust each turnbuckle (A) so front drum operates 19 mm (3/4 in.) lower than rear drum in actual field conditions. This will allow spindles to contact more cotton and maximize trash flow out of unit bottom.

Initial pin-to-pin dimension (B) must be 584 mm (23 in.).

Specification

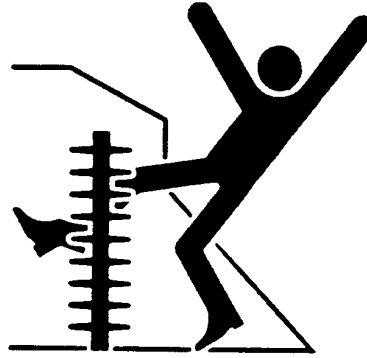
Initial Pin-To-Pin—Dimension.....	584 mm (23 in.)

NOTE: Make sure both lift frames are adjusted equally.

Final tilt adjustment should be made in row as pin-to-pin dimension can vary according to bed height.

A—Turnbuckle

B—Pin-to-Pin Dimension



TS675 —UN—21SEP89

N42152EQ —UN—03NOV93

OUC6043,0001534 -19-25OCT01-1/1

Adjusting Stalklifters

IMPORTANT: Excessive stalklifter wear can occur. **DO NOT** set points lower than necessary while still gathering low hanging stalks and branches.

Stalklifter damage can occur. Chain **MUST** be positioned in bottom of slot to prevent chain from coming loose and causing stalklifter point to contact ground.

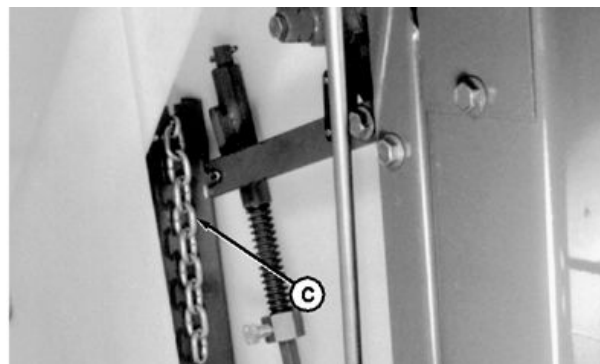
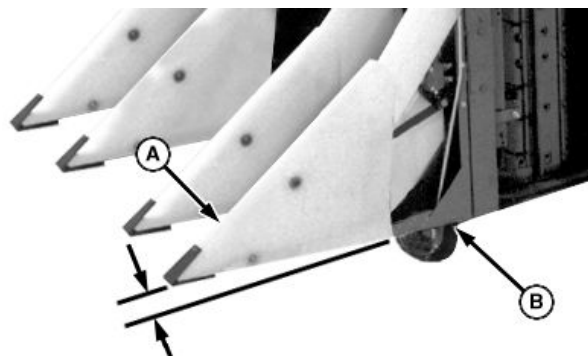
Before adjusting stalklifters, unit tilt and height sensing must be properly adjusted.

Initially, adjust point (A) about 25 mm (1 in.) above bottom of stalklifter extension (B). Adjust with chain (C).

Position stalklifters lower than bottom of extension **ONLY** if cotton is being left in the field because of low hanging bolls or lodged and tangled limbs. In this condition, set stalklifter points to skim but not plow the bed. In this setting, periodically check wear on metal wear plate located on stalklifter point.

A—Adjust Point
B—Stalklifter Extension

C—Chain



N51105—UN—12OCT99

N42165DS—UN—01AUG95

AG,OUO1011,1141 -19-08SEP99-1/1

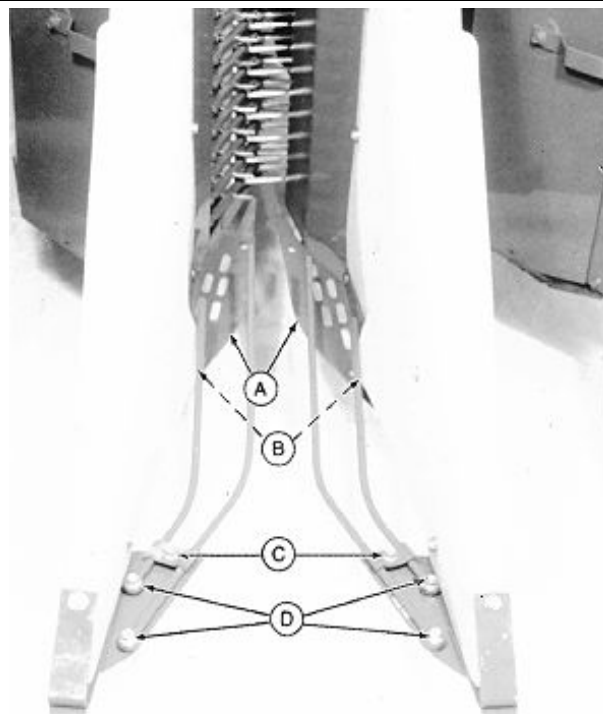
Adjusting Lower Plant Guides and Optional Stalklifter Rods

NOTE: The plant guides lift and direct cotton closer to the lower spindles. The plant guides are installed at the factory in maximum lift position. Adjust the plant guides to deliver cotton most efficiently to the lower spindles depending on your field conditions.

1. Loosen cap screws (B) and lower or raise plant guides (A).
2. Tighten cap screws.
3. Stalklifter rods (attachment) can be installed using cap screws (C) and (D) and plates as shown.

A—Plant Guides
B—Plant Guides Adjusting Bolts

C—Stalklifter Cap Screws
D—Stalklifter Cap Screws



N42132WS—UN—21JAN93

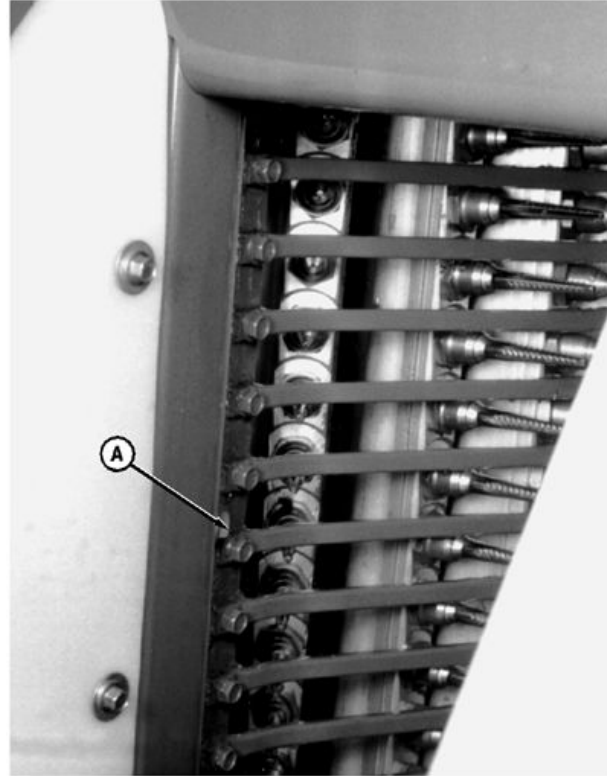
AG,OUO1011,1142 -19-08SEP99-1/1

Adjusting Grid Bars

Adjust grid bars so spindles do not strike bars when entering the row and cotton is not removed when spindles are leaving the row. Adjust front end of both front and rear drum grid bars to center bars between spindles where spindles leave the row.

To adjust front end of grid bars, loosen four attaching cap screws (A) and slide bolting strip with grid bars up or down. Retighten attaching cap screws.

A—Cap Screws



N42165DU—UN—01AUG95

AG,OUO1011,1143 -19-08SEP99-1/1

Adjusting Pressure Plate Clearance

CAUTION: Moving spindles can cause death or injury if you or others become entangled. Stay clear and use caution around moving parts.

Repair worn or bent pressure plates and hinges before adjusting.

To check pressure plate clearance, rotate units SLOWLY using the tether. See OPERATING INSPECTION BYPASS SYSTEM in OPERATOR PRESENCE SYSTEM section. If pressure plate moves as spindles pass by, adjust pressure plate outward until contact between spindle and pressure plate is eliminated as noted below:

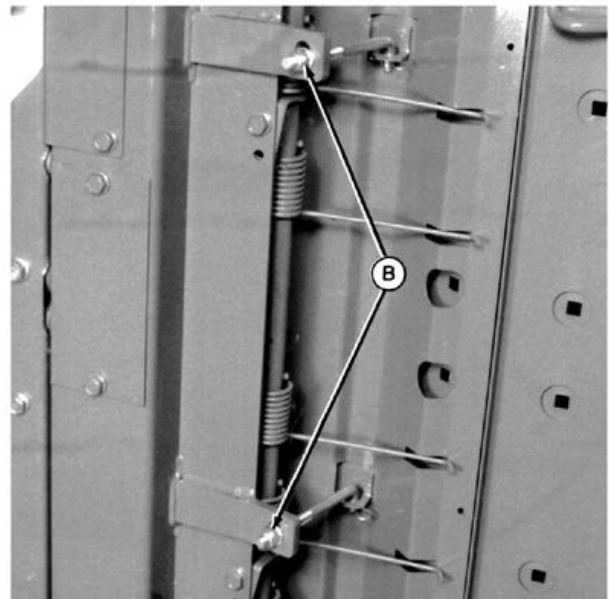
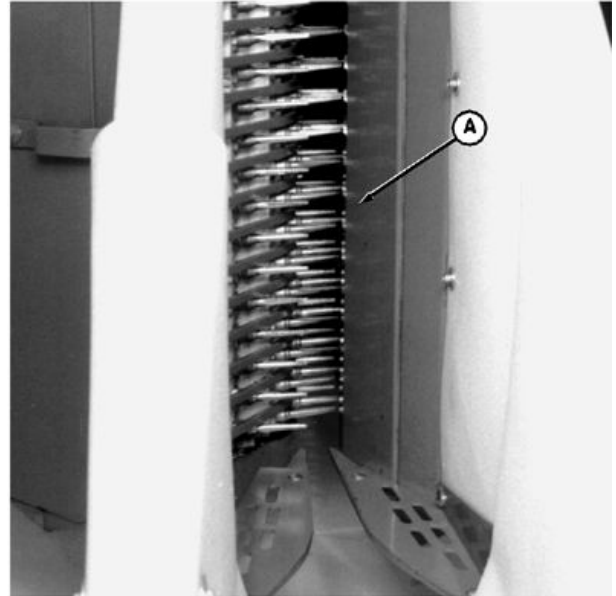
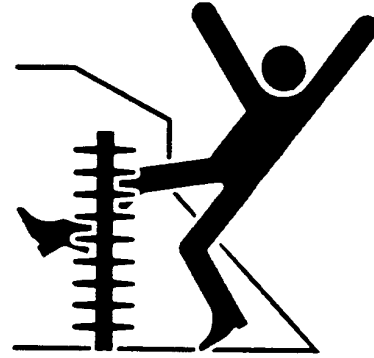
Adjust pressure plates (A) so that spindles just clear it approximately 3 to 6 mm (0.12 to 0.25 in.) from spindle tips. Use nuts (B) to adjust plates.

DO NOT back pressure plates away from spindles farther than 6 mm (0.25 in.) or a white streak of cotton may be observed along left-hand side of row.

Adjust top and bottom evenly.

A—Pressure Plates

B—Nuts



AG.OUO1011,1144 -19-08SEP99-1/1

TS675 —UN—21SEP89

N42165DV —UN—01AUG95

N42166BL —UN—18SEP95

Adjusting Pressure Plate Spring Tension

CAUTION: Shaft is under spring tension. Once flange cap screw is removed shaft can spin quickly and release spring tension. Avoid serious injury or death to you or to others from flying parts. Control shaft from releasing spring tension by securely holding wrench in position on top of shaft.

NOTE: Recommended spring tension is best for most conditions but can be altered for varying crop and field conditions. Too much tension can knock off green bolls and cause too much trash in basket; too little tension can cause tagging leaving open cotton on the plant.

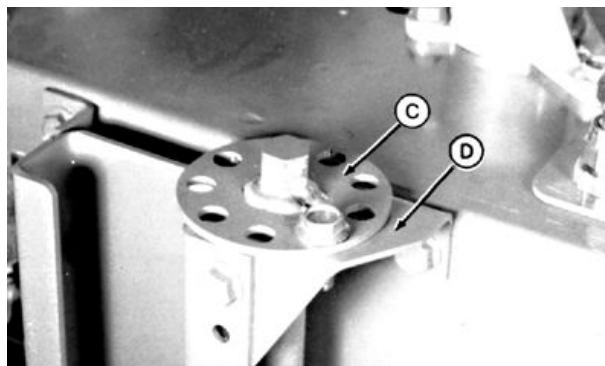
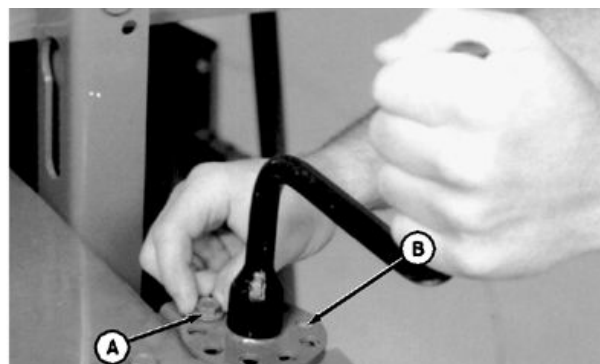
For First Picking

1. Holding shaft firmly with wrench, remove flange cap screw (A). Note that adjusting holes (B) are not threaded.
2. Rotate adjusting plate (C) until springs just touch pressure plate. One of the two holes in bracket (D) will align with an adjusting plate hole.
3. Tighten front adjusting plate two holes (three holes for rocky fields). Install flange cap screw.
4. Tighten rear adjusting plate three holes. Install flange cap screw.

For Tall Rank or Very Bushy Plants (First Picking):

- Set front pressure plate to 1/2 hole initially.
- Set rear pressure plate to 3 hole initially.

If too much cotton is left on plant, tighten rear pressure plate first. Tighten front pressure plate only if necessary.



A—Flange Cap Screw
B—Adjusting Holes

C—Adjusting Plate
D—Bracket

DO NOT use scrapping plates (particularly in front drum) in tall rank or very bushy plants or unit plugging and plant damage can result.

For Second Picking

Tighten front and rear pressure plates one or two additional holes if desired.

N42165DX—UN—01AUG95

N42168HJ—UN—16JAN96

AG,OUO1011,1145 -19-08SEP99-1/1

Scrapping Plates (Attachment)

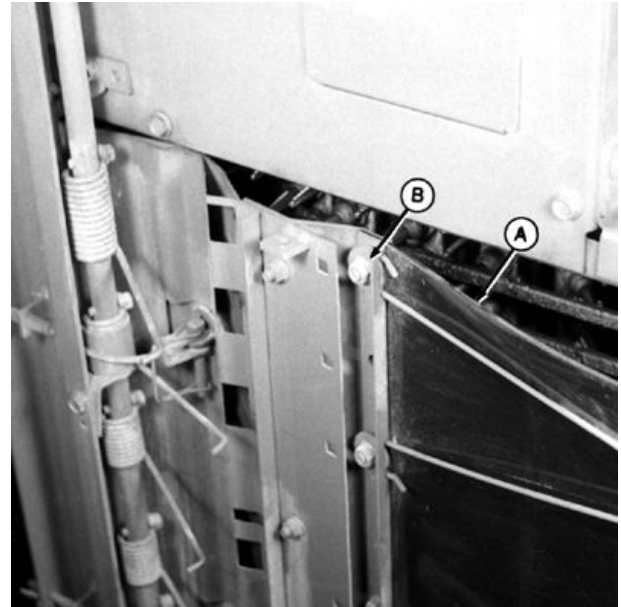
NOTE: Install scrapping plates to increase efficiency in short, knotty cotton or during last picking.

Use of scrapping plates is not recommended for first picking in heavy cotton.

1. Remove five M10 x 20 cap screws (B), nuts and extension (A).

A—Extension

B—Cap Screws, M10 x 20



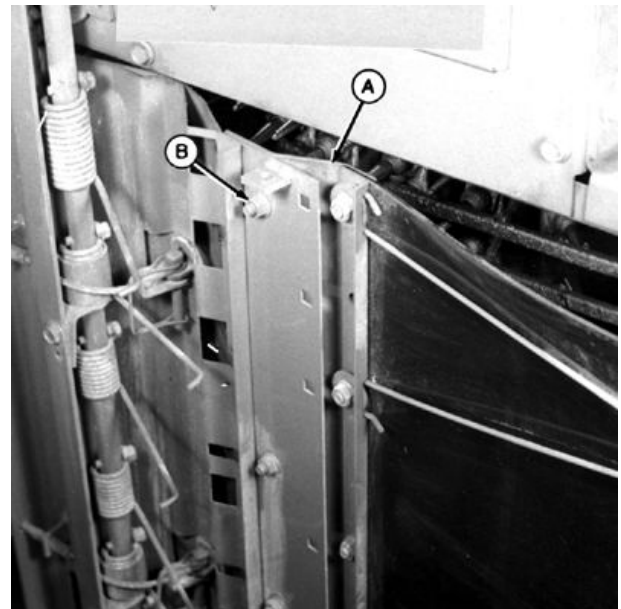
N421820N —UN—23SEP97

OUO6043,0001535 -19-25OCT01-1/3

2. Remove five M10 x 25 cap screws (B), nuts and pressure plate extension (A).

A—Pressure Plate Extension

B—Cap Screws, M10 x 25



N421820F —UN—23SEP97

Continued on next page

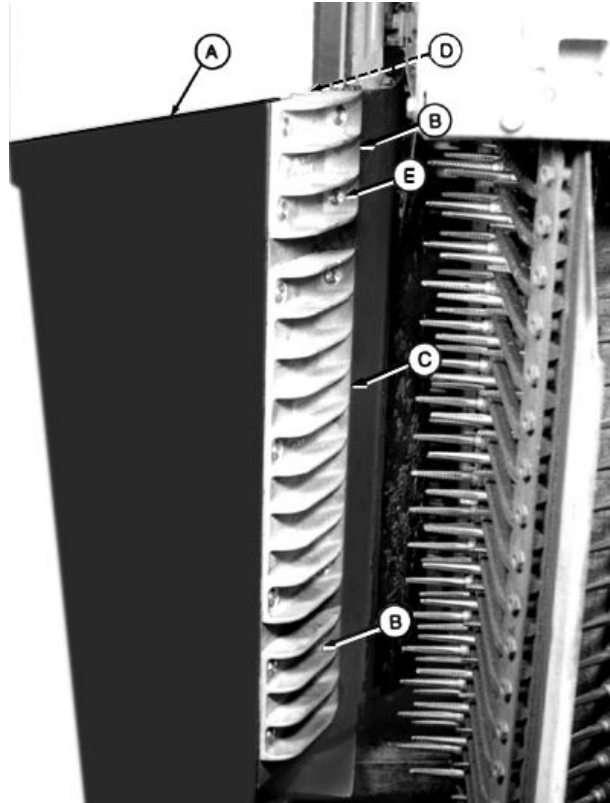
OUO6043,0001535 -19-25OCT01-2/3

3. Attach extension (A) and scrapper plates (B and C) to inside of pressure plate (D) using M10 x 30 plow bolts (E) and nuts. Position 4-spindle scrapper plates (B) at top and bottom with 10-spindle plate (C) in-between. Use four plow bolts to attach top and bottom scrapper plates and five bolts to attach center plate.

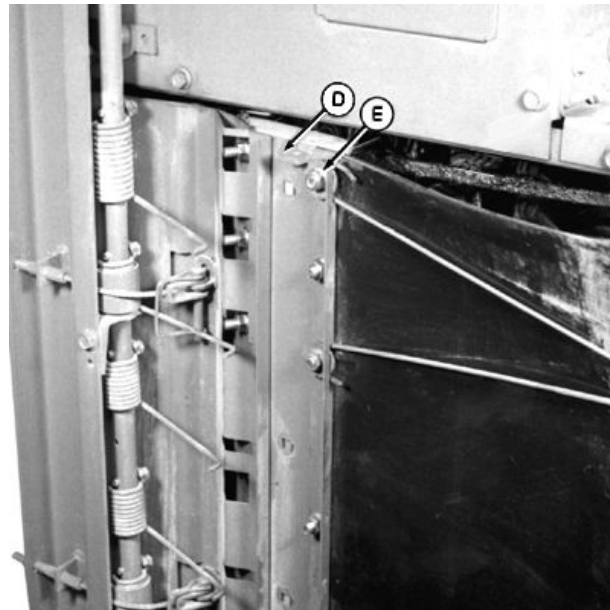
4. Tighten all hardware.

A—Pressure Plate Extension
B—4 Spindle Plate (2 used)
C—10 Spindle Plate (1 used)

D—Pressure Plate
E—Plow Bolts, M10 x 30 (13 Used)



N42182OG—UN—23SEP97



N42182OH—UN—23SEP97

OOU6043,0001535 -19-25OCT01-3/3

Check Doffer Column Adjustments

A properly positioned doffer will have the following features:

- Doffer pads parallel to top of spindles when spindles are fully under pads.

- The upper housing positioned so doffer pads DO NOT gouge top spindle nuts and collars.
- Spindles “lightly touch” doffer pads as they enter, and clear as they leave.

Recheck doffer height to make sure doffer pads “lightly touch” spindles at leading edge of pad.

AG,OUO1011,1238 -19-14SEP99-1/1

Checking Doffer Column Height

IMPORTANT: Operating with doffer column adjusted too low will result in excessive doffer pad, spindle bushing, and barb wear. If doffer column is adjusted too high, spindles WILL NOT doff properly. DO NOT operate without doffer column properly adjusted.

To verify proper doffer column height adjustment do the following:

1. Check spindles for wrap at each basket unload.
2. Check to make sure there is slight drag between spindle and doffer.

NOTE: Verify air and moistener systems are operating properly and correct moistener solution is being used before adjusting doffer column height.



N42132KM —UN—19JAN93

AG,OUO1011,1147 -19-08SEP99-1/1

Adjusting Doffer Height—Normal Conditions

1. Position drum until one row of spindles on that drum is directly in line with slot (A) on bottom frame. This provides proper doffer/spindle relationship for doffer adjustment. (Proper position is with spindle just under leading edge of doffer.)

A—Slot

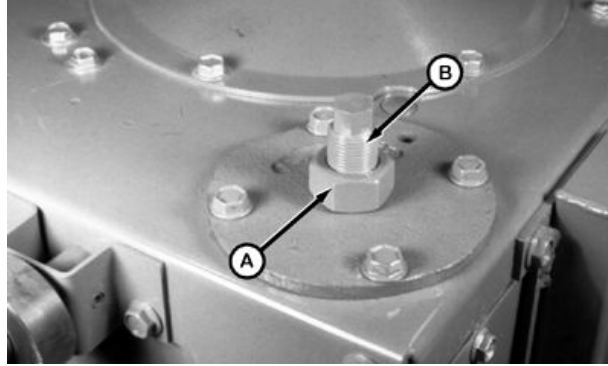


N42176SL —UN—10JUN97

Continued on next page

OUO6043,0001536 -19-25OCT01-1/2

2. Loosen lock nut (A).
3. Turn adjusting screw (B) counterclockwise until doffer column rotates freely (until spindles are clear of doffers.)
4. (For average conditions) While rotating doffer back and forth, turn adjusting screw clockwise until a slight drag between spindles and doffers is felt.
5. Tighten lock nut while holding adjusting screw in position.
6. At least twice a day check doffer height adjustment. Adjust if required.



A—Lock Nut

B—Adjusting Screw

NOTE: Proper doffer adjustment is only effective if doffer pad spacing is equal. If spacing is unequal due to wear, remove doffer column and grind.

If doffer pads touch the spindle nuts, align the doffer column.

See next page for additional adjustments needed for extreme conditions.

OUO6043,0001536 -19-25OCT01-2/2

N42182YH—UN—24FEB98

Adjusting Doffer Height—Extreme Conditions

IMPORTANT: Uneven doffer wear **WILL** result when operated in extreme conditions such as tall rank plants where most cotton is doffed by top few doffers or very short plants where most cotton is doffed by few lowest doffers.

NOTE: When unusual crop conditions cause spindle wrap, adjust doffers more often than what is considered normal for your area.

1. In extreme conditions (tall rank plants or short plants), align spindles and adjust column height until slight drag is achieved as described in steps one through four in Adjusting Doffer Height-Normal Conditions in this section.

IMPORTANT: The additional 1/8 turn **WILL** result in only a small increase of drag on spindles. At no time should the doffers actually bind against the spindles. This **WILL** cause spindles and bushings to be prematurely worn.

It is important that doffers are not set an additional 1/8 turn if it is not necessary.

2. Tighten doffer an additional 1/8 turn to compensate for uneven doffer wear.
3. Under extreme conditions, check and adjust doffers at least twice a day. Raise doffer off spindles and readjust.

NOTE: In a normal crop, where doffer wear is more uniform, it is only necessary to check the doffer adjustment. In that situation, all that is required is to align a bar over the slot, and check for the drag on the spindles. In tall rank cotton or other extreme conditions with uneven doffer wear a given, the operator may still feel a drag when he checks, and just be feeling the drag on only the doffers that have not worn excessively.

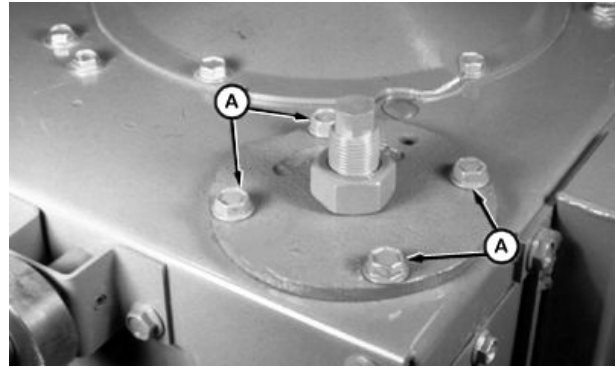
NXH,OM997060,9 -19-23SEP97-1/1

Adjusting Doffer Column Tilt

NOTE: Radius and leaf gauges for PRO-12 units are available through your John Deere dealer.

1. Loosen four upper housing cap screws (A).

A—Cap Screws



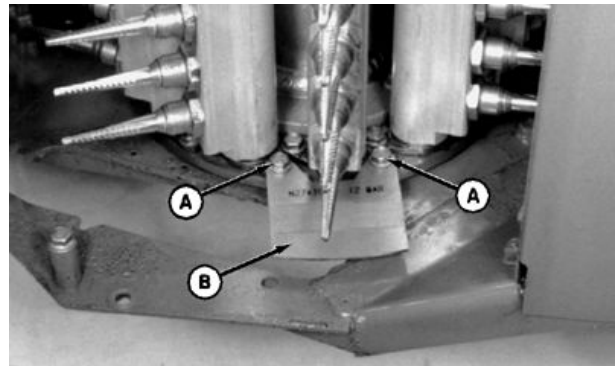
N42182YK—UN—24FEB98

CP00596,00012B9 -19-24AUG17-1/6

2. Remove two picker-bar-pivot-stud screws (A). Install radius gauge (B) (N274391) with offset portion down and part number on top side.

A—Stud Screws

B—Radius Gauge (N274391)



N42166BP—UN—18SEP95

Continued on next page

CP00596,00012B9 -19-24AUG17-2/6

3. Hang N117835 gauge (A) 1.52 mm (0.060 in.) over top spindle.
4. Hang N273460 gauge (B) 2.29 mm (0.090 in.) over third spindle from bottom.
5. Loosen three adjusting plate cap screws (E).

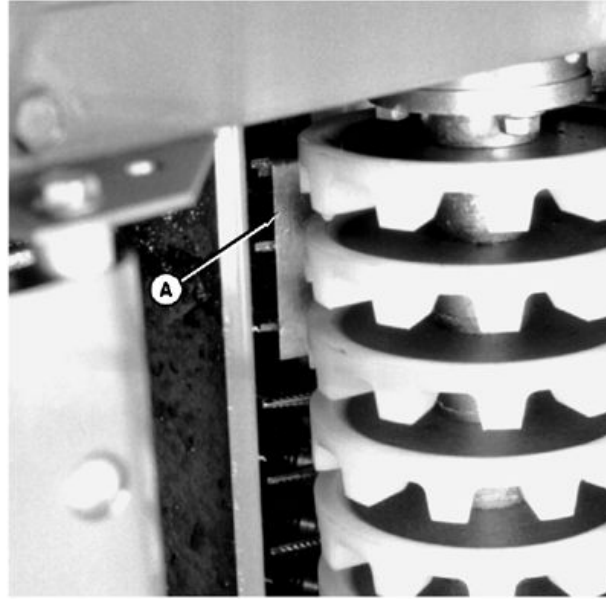
NOTE: Do not loosen bearing housing cap screws (D).

6. Rotate doffer column until gauges touch doffer. Position doffer against upper and lower gauges with radius gauge (C) (N274391) against lower bearing housing.
7. Tighten adjusting plate cap screws to specification.

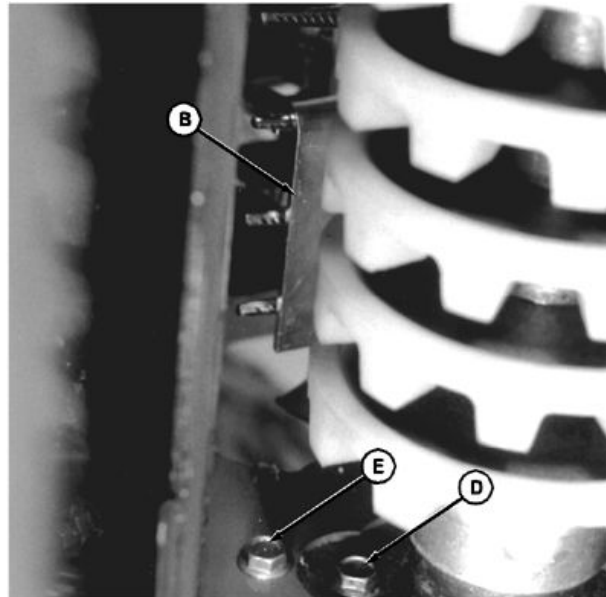
Specification

Adjusting Plate Cap
Screws—Torque.....50 N·m
(37 lb-ft)

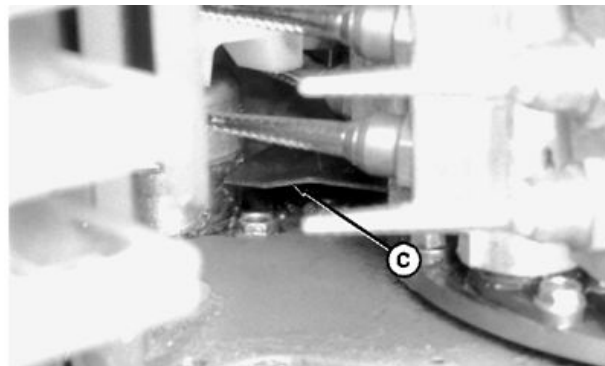
A—Gauge (N117835) D—Bearing Housing Cap
B—Gauge (N273460) Screws
C—Radius Gauge (N274391) E—Adjusting Plate Cap Screws



N42165EH—UN—01AUG95



N42165EI—UN—01AUG95



N42165EJ—UN—19SEP95

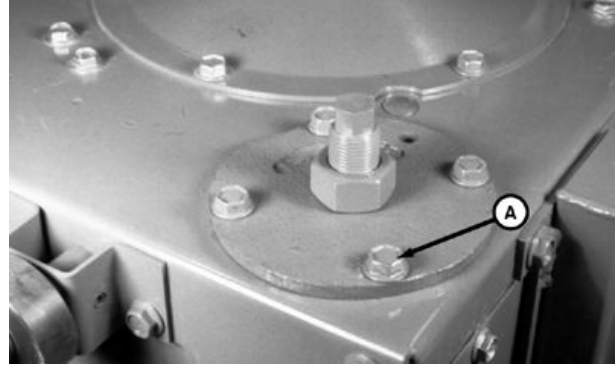
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CP00596,00012B9 -19-24AUG17-3/6

8. Tighten upper housing cap screws (A) to specification.

Specification

Upper Housing Cap
Screws—Torque.....50 N·m
(37 lb-ft)



N42178RT —UN—03JUN97

CP00596,00012B9 -19-24AUG17-4/6

9. If doffer bearings bind after making previous adjustment, loosen top and/or bottom bearing cover flange cap screws (A) and shim any gap. Use N34164 shims (B) 0.254 mm (0.010 in.) at locations (C) as necessary.

10. Tighten all flange cap screws to specification.

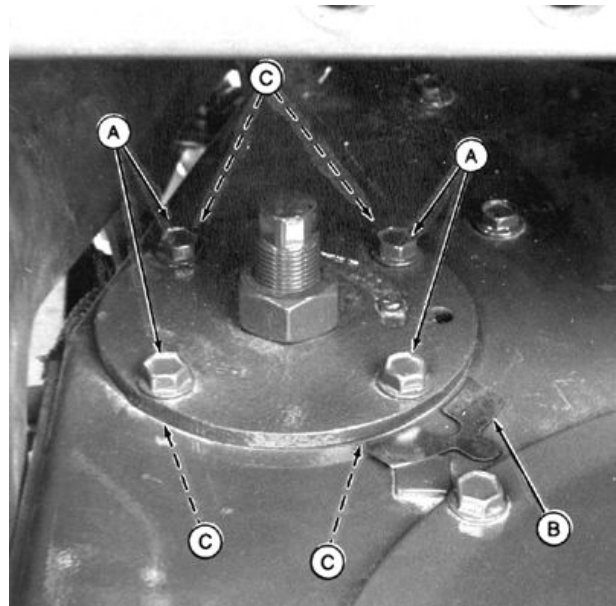
Specification

Flange Cap
Screws—Torque.....50 N·m
(37 lb-ft)

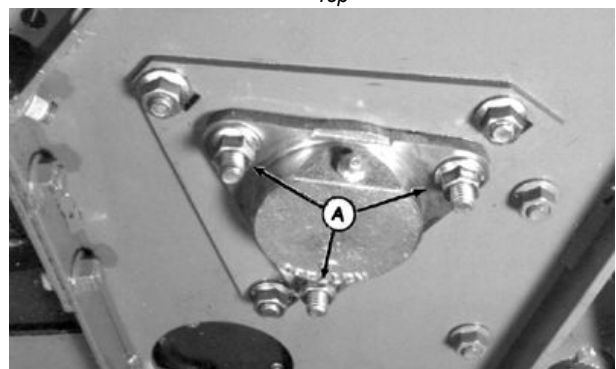
11. Check doffer height to see that pads “lightly touch” the spindles under the leading edge of the column. See ADJUSTING DOFFER HEIGHT—NORMAL CONDITIONS in this section.

A—Flange Cap Screws
B—Shims (N34164)

C—Shim Locations



Top



Bottom

N42176FZ —UN—15AUG97

N42169JA —UN—09JUN97

Continued on next page

CP00596,00012B9 -19-24AUG17-5/6

12. Check doffer stub shaft run-out using a dial indicator.
Maximum allowable run-out is 0.25 mm (0.010 in.).

Specification

Doffer Stub	
Shaft—Maximum	
Allowable Run-Out.....	0.25 mm (0.010 in.)



N42178RW —UN—03JUN97

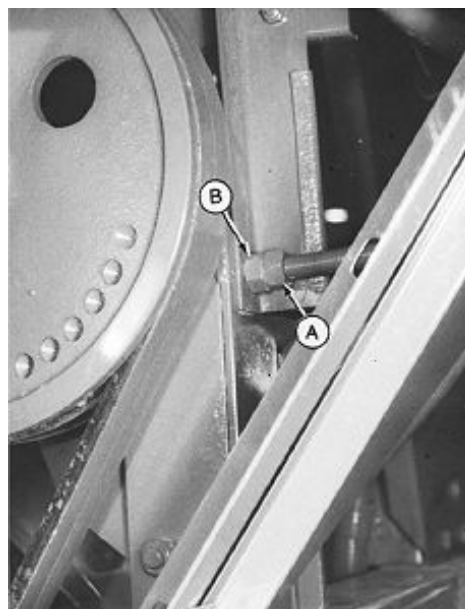
CP00596,00012B9 -19-24AUG17-6/6

Adjusting Picking Unit Drive Belt

1. Loosen jam nut (A).
2. Turn adjusting nut (B) clockwise to tighten belt. See UNIT DRIVE BELT TENSIONS in this section for specifications.
3. Tighten jam nut.

A—Jam Nut

B—Adjusting Nut



N42132KN —UN—19JAN93

OOU6043,0001537 -19-25OCT01-1/1

Unit Drive Belt Tensions

Using a SERVICE-GARD[™] belt tension gauge (JDST28) or equivalent, tighten belts to the following values.

SERVICE-GARD is a trademark of Deere & Company.

Belt Tension—7 mm (0.30 in.) Deflection with 7.7 to 11.0 kg (17.0 to 24.0 lb) Force Per Belt (Matched Set-2)

NXH,OM997060,11 -19-30SEP97-1/1

Replacing Spindles

CAUTION: If a unit falls or you or others become entangled in the moving parts of a unit, serious injury or death can result. Lower units completely or raise units and lower unit safety stops before working on or around units. Shut off engine and remove key before approaching units.

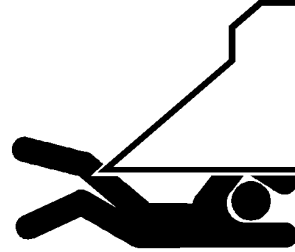
To prevent bevel gears from meshing too tightly, there must be a slight amount of end play in the spindle. Place L2889N shims, 0.13 mm (0.005 in.) under spindle nut, if necessary. DO NOT use more than two shims. Tighten to specifications.

Specification

Spindles—Torque.....68 N·m
(50 lb-ft)

Use spindle wrench (A) furnished with the picker.

A—Spindle Wrench



N51100 —UN—08SEP99

N42176FT —UN—09JUN97

AG,OOU01011,1152 -19-08SEP99-1/1

Replacing Picker Bars

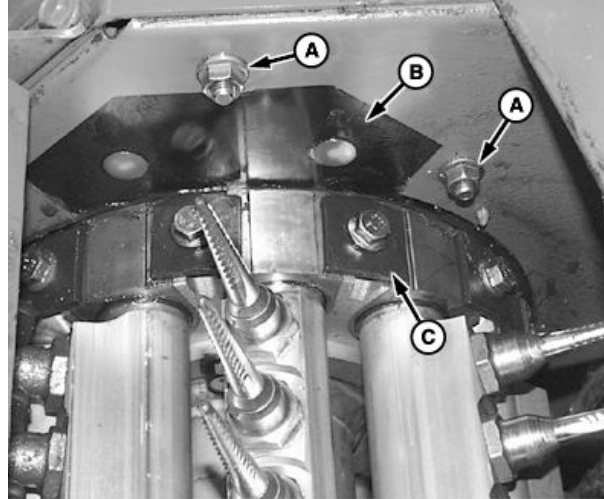
1. Remove M10 hardware (A) and picker bar access cover (B).
2. Rotate drum manually (with a wrench on upper hex shaft of doffer) until picker bar is at opening.

IMPORTANT: Picker bar damage can occur. Front and rear square spring washers MUST be reinstalled to the same drum from which they were removed.

3. Remove drum head bolts and square spring washers (C) from both sides of picker bar journal.

A—Hardware, M10
B—Access Cover

C—Square Spring Washer



N58583 —UN—10OCT01

DP99999,0000636 -19-23SEP10-1/3

4. Remove two pivot stud screws (A).

NOTE: Care must be taken so the plastic grease seal (B) is not misplaced upon picker bar removal.

5. Lift picker bar out of unit, bottom end first.

IMPORTANT: Spindle drive gear damage can occur. New picker bar MUST be completely assembled and run-in by your John Deere dealer.

6. When installing picker bar assembly do the following:
 - a. Make sure that plastic grease seal is securely positioned in picker bar journal or drumhead.
 - b. Make sure that cam roller chamfer is up.

IMPORTANT: If all bars have been removed from drum, reinstall all bars loosely, then tighten hardware.

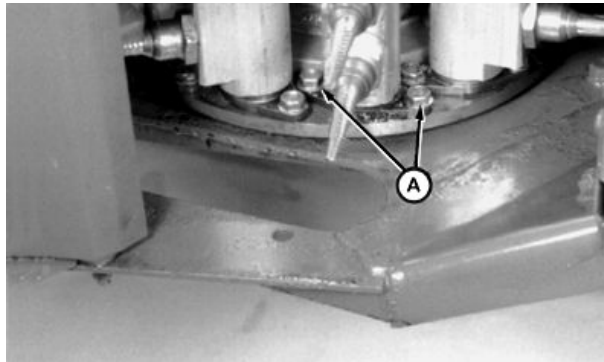
- c. Tighten pivot stud screws to specification.

Specification

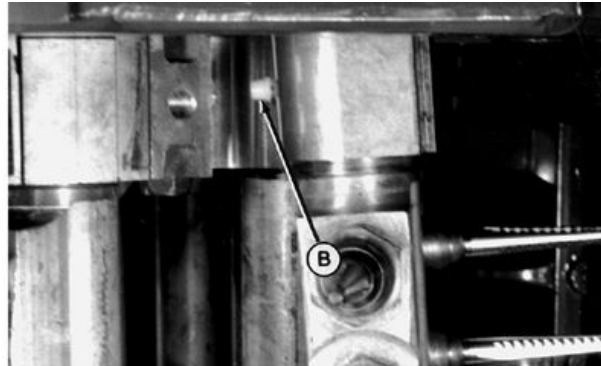
Pivot Stud
Screws—Torque.....30 N·m
(22 lb.-ft.)

A—Pivot Stud Screws

B—Plastic Grease Seal



N42182YJ —UN—24FEB98



N42166BN —UN—18SEP95

Continued on next page

DP99999,0000636 -19-23SEP10-2/3

- d. Install square spring washers (B) with drum head bolts (A). Tighten drum head bolts to specifications.

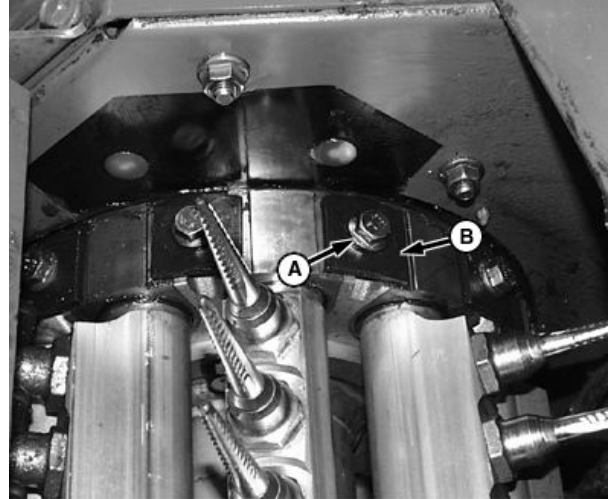
Specification

Drum Head
Bolt—Torque.....54 N·m
(40 lb.-ft.)

- e. If picker bar cannot be moved up and down slightly, picker bar may require planing. (See your John Deere Dealer.)
- f. Lubricate picker bar. (See PICKER BAR AND SPINDLE LUBRICANTS in Lubrication and Maintenance section.)

A—Drum Head Bolts

B—Square Spring Washer



N51085 —UN—03SEP99

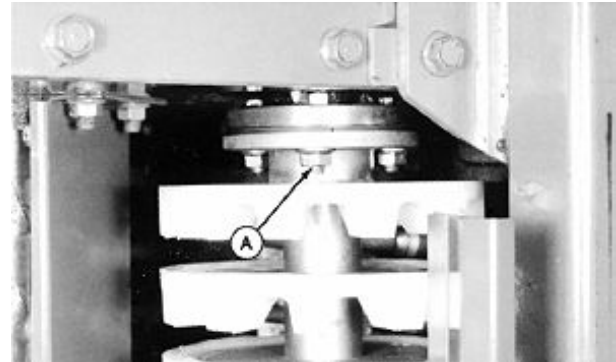
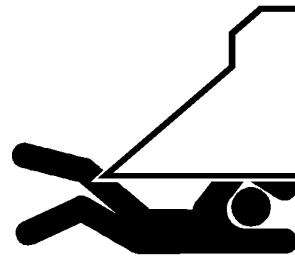
DP99999,0000636 -19-23SEP10-3/3

Remove Doffer Column

CAUTION: Units are heavy. If a unit falls, serious injury or death to you or others can occur. Lower unit safety stops over cylinder rods before working under units.

1. Remove cap screws (A).

A—Cap Screws



N51100 —UN—08SEP99

N5236D1 —UN—06APR93

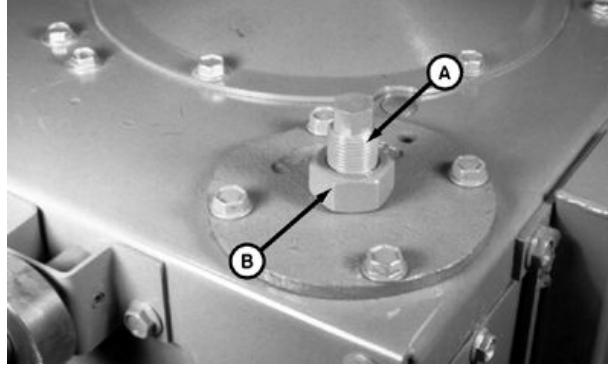
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OUC6043,000153A -19-25OCT01-1/4

2. Loosen nut (B).
3. Turn adjusting screw (A) counterclockwise until adjusting screw is fully raised off stub shaft.

A—Adjusting Screw

B—Nut

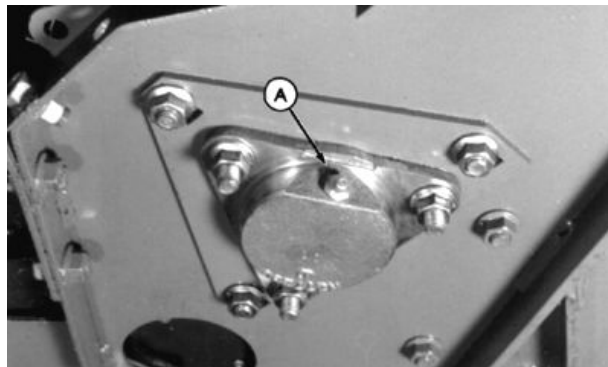


N42178RS —UN—03JUN97

OUC6043,000153A -19-25OCT01-2/4

4. Remove grease fitting (A) from lower bearing housing.

A—Grease Fitting



N42169FY —UN—05NOV96

Continued on next page

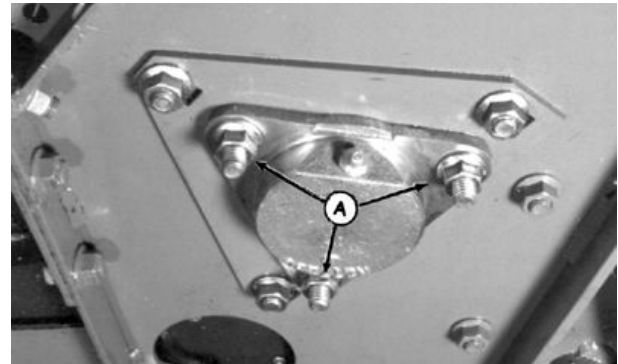
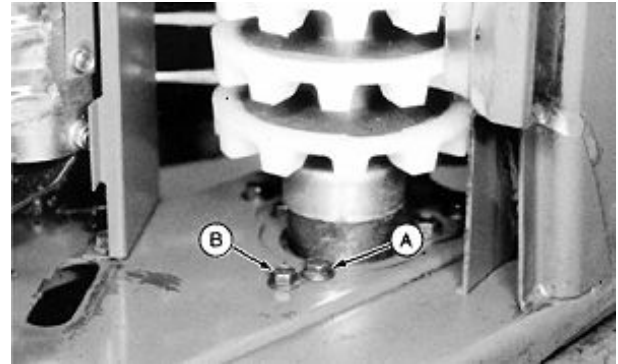
OUC6043,000153A -19-25OCT01-3/4

IMPORTANT: Do not loosen adjusting plate cap screws (B) or complete realignment will be required.

5. Remove three nuts and flange screws (A).
6. Remove lower bearing housing.
7. Remove doffer column.

A—Flange Screws

B—Adjusting Plate Cap Screws



Underside View

OUO6043,000153A -19-25OCT01-4/4

N92336E2—UN—06APR93

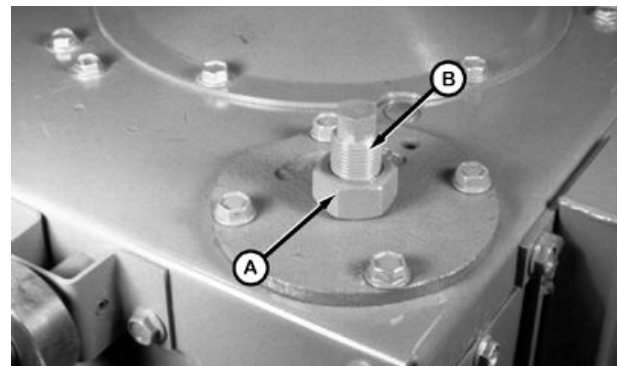
N42169JA—UN—09JUN97

Install Doffer Column

1. Clean top of doffer column and mounting flange to remove any debris from mating surfaces.
2. Insert doffer column into picking unit.
3. If necessary, turn adjusting screw (B) clockwise until mounting flange meets top of doffer column. Leave nut (A) loose.

A—Nut

B—Adjusting Screw



Continued on next page

OUO6043,000153B -19-25OCT01-1/4

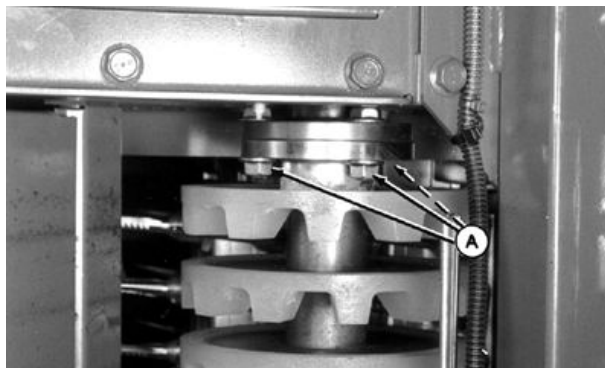
N42182YH—UN—24FEB98

4. Install flange cap screws (A) and sequentially tighten to specifications.

Specification

Flange Cap
Screws—Torque.....50 N·m
(37 lb-ft)

A—Flange Cap Screws

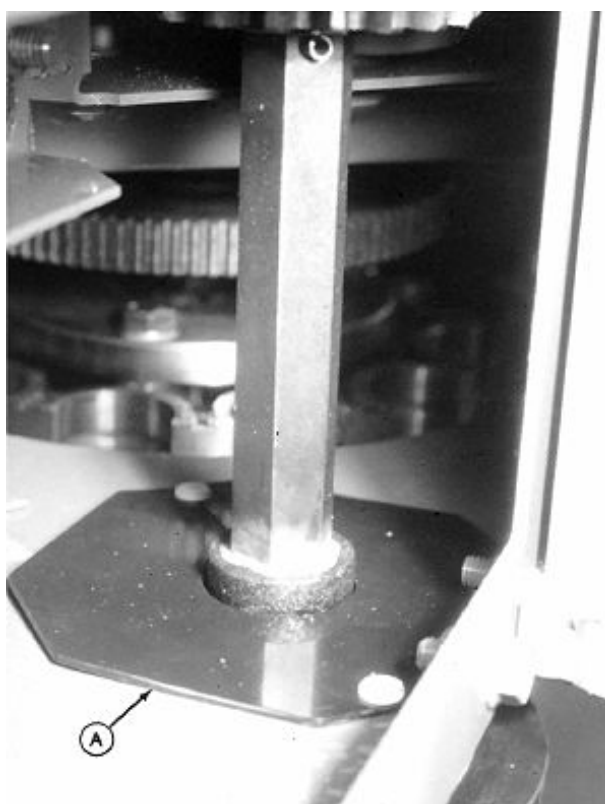


N42166UD —UN—24SEP96

OUO6043,000153B -19-25OCT01-2/4

5. Make sure inner cabinet seal (A) is retained with plastic clips.

A—Inner Cabinet Seal



N91323Q1 —UN—13DEC91

Continued on next page

OUO6043,000153B -19-25OCT01-3/4

6. Pack doffer bearing housing half-full of John Deere Moly High-Temperature (EP) Grease, or equivalent. See GREASE in LUBRICATION AND MAINTENANCE section.
7. Position bearing housing so grease fitting is to the rear of the unit.
8. Slide housing through bottom of cabinet onto doffer column and attach with flange cap screws and nuts (A). Tighten to specifications.

Specification

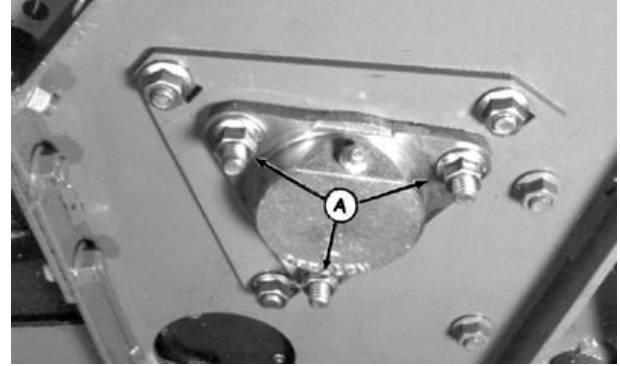
Lower Bearing Housing	
Hardware—Torque.....	50 N·m (37 lb·ft)

9. Adjust doffer column height before operating picking unit. See ADJUSTING DOFFER COLUMN HEIGHT in this section.

The doffer column height is correct when:

- Doffer pads are parallel to top of spindles when spindles are fully under pads.
- Spindles lightly touch (zero clearance) doffer pads as they enter the doffer assembly and clear when leaving.

If doffer column is not correctly adjusted, the following occurs:



A—Bearing Housing Hardware

- If doffers are set too high, spindles will not clean properly.
- If doffers are set too low, excessive wear of doffer pads, premature spindle bushing and barb wear, and possible bending of the cam followers and picker bar will occur.

10. Reinstall and/or tighten grease fitting. Lubricate bearing housing using John Deere Moly High Temperature (EP) Grease or equivalent.

OUO6043,000153B -19-25OCT01-4/4

Changing Machine Configuration

See your John Deere dealer to set up different row spacings or to add/remove row units.

NXN,9976,ZZZ -19-08OCT96-1/1

Vari-Row System (VRS) Row Units

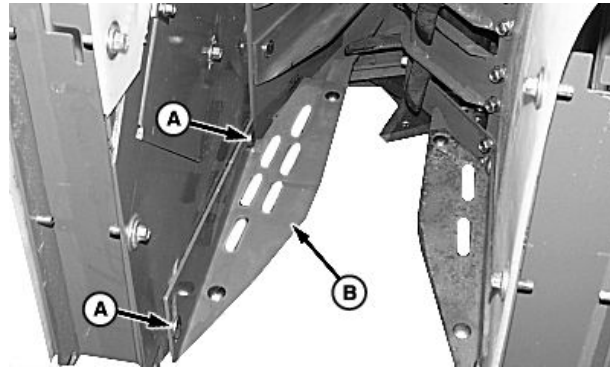
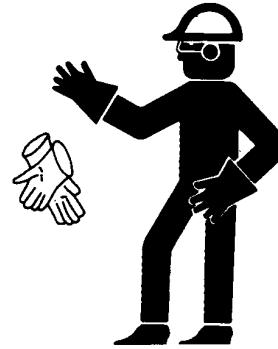
Adjust Stationary Knife

CAUTION: To avoid serious injury, always wear gloves when handling knives.

1. Remove carriage bolts (A) and guide (B).

A—Carriage Bolt

B—Guide



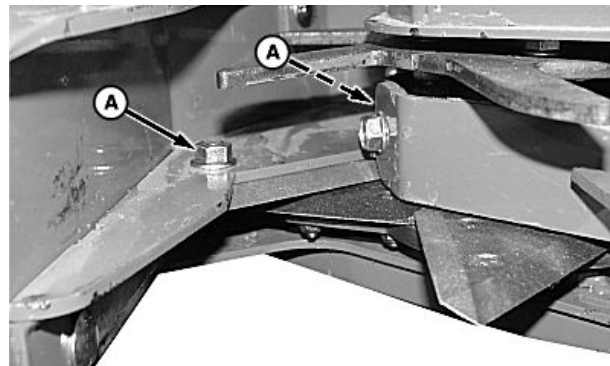
N64891—UN—15DEC03

N64401—UN—11NOV03

OUC1078,0000510 -19-22SEP06-1/4

2. Loosen nuts (A).

A—Nut



N64403—UN—11NOV03

Continued on next page

OUC1078,0000510 -19-22SEP06-2/4

NOTE: Clearance (D) must be same across length of stationary knife and rotary knife. Use half shim if clearance is not same from one end of stationary knife to opposite end.

3. Add shim(s) (A) to achieve clearance between stationary knife (B) and rotary knife (C). Clearance (D) must be within specification.

Specification

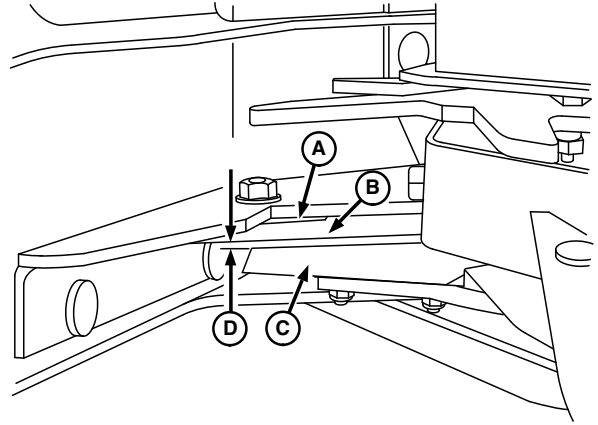
Stationary Knife	
Blade-to-Rotary	
Knife—Clearance.....	0.127—0.762 mm (0.005—0.030 in.)

4. Tighten nuts (A). Check clearance. If clearance is not within specification, repeat previous step.

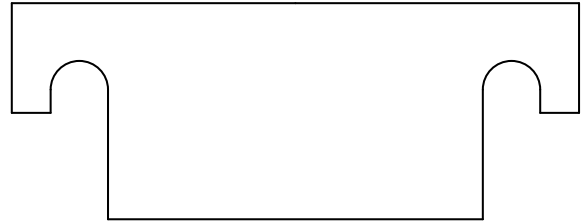
NOTE: Alternate method is to loosen bolts in knife floor and lower floor.

A—Shim
B—Stationary Knife

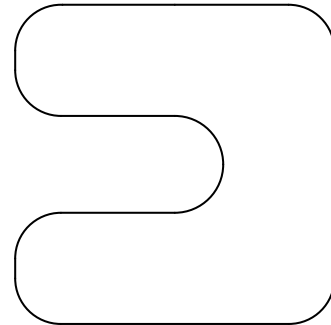
C—Rotary Knife
D—Clearance



N64402 —UN—04NOV03



Stationary Knife Full Shim, 0.25 mm (0.010 in.)



Stationary Knife Half Shim, 0.25 mm (0.010 in.)

N64608 —UN—02DEC03

N64609 —UN—02DEC03

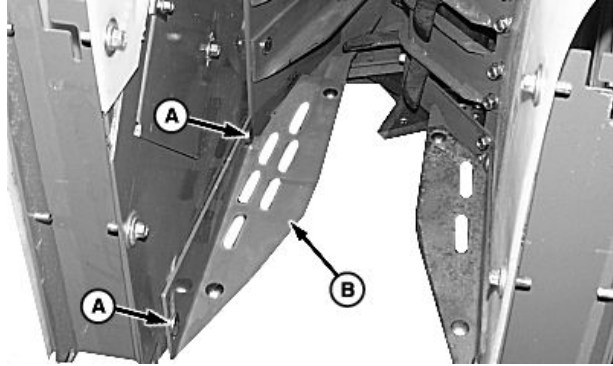
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OUO1078,0000510 -19-22SEP06-3/4

5. Install guide (B) using carriage bolts (A).

A—Carriage Bolt

B—Guide



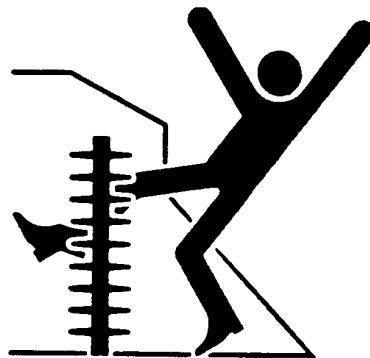
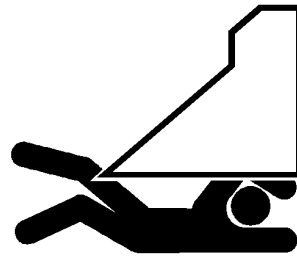
N64401—UN—11NOV03

OOU1078,0000510 -19-22SEP06-4/4

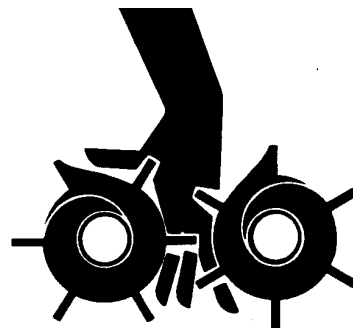
Unplugging a Picking Unit

⚠ CAUTION: If a unit falls or you or others become entangled in moving parts of a unit, serious injury or death can result. **DO NOT** attempt to remove an obstruction unless units are disengaged, engine is stopped, transmission and hydro lever are in NEUTRAL, park brake is engaged, and key is removed. Units should be lowered or unit safety stops installed.

To avoid entanglement or serious injury, **DO NOT** feed crop material in machine by hand or attempt to manually unplug machine while it is running. Unit can feed crop material in faster than you can release your grip on material.



H45810



N51100—UN—08SEP99

TS675—UN—21SEP89

H45810—UN—22JUL93

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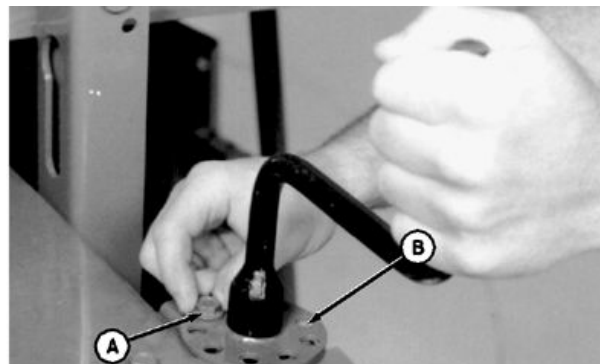
OOU1078,0000511 -19-22SEP06-1/2

Inspect unit and remove obstruction, if possible.

If obstruction cannot be easily removed, do following:

⚠ CAUTION: Shaft is under spring tension. When flange head cap screw is removed, shaft can spin quickly and release spring tension. Avoid serious injury or death to you or to others from flying parts. Control shaft from releasing spring tension by securely holding wrench in position on top of shaft.

1. Release all tension on pressure plate by removing flange head cap screw (A). Note that adjusting holes (B) are not threaded.
2. Manually turn drum in reverse. (Rotate doffer shaft with hand-crank wrench.)
3. Apply physical force to a picker bar to rotate drum backwards if obstruction is still not released.
4. Clean and inspect unit.
5. Repair all damage to unit.
6. Reinstall and adjust all parts removed.



A—Flange Head Cap Screw B—Adjusting Hole

If clutch continues to slip after obstruction is removed, check for plugging, bent picker bars, or misaligned doffer.

If machine was stopped in row, operate fan and units until all cotton is doffed from spindles and suction doors are clean before starting to pick again.

OUO1078,0000511 -19-22SEP06-2/2

N42165DX —UN—01AUG95

Remove and Replace Rotary Knife Sections

CAUTION: To avoid personal injury, always wear gloves when handling knives.

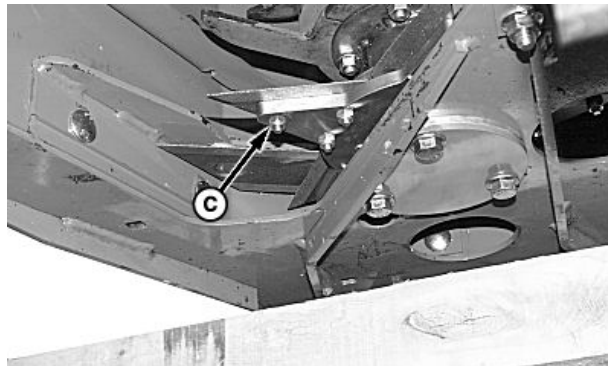
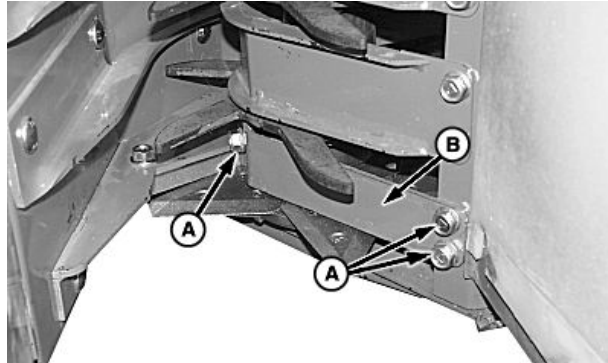
1. Remove flange head cap screws (A) and guard (B).
2. Remove lock nuts and cap screws (C) and knife section.
3. Install new knife section in reverse order as removed.
4. Tighten lock nut (C) to specification.

Specification

Lock Nut—Torque..... 12 N·m
(102 lb-in.)

A—Flange Head Cap Screw
B—Guard

C—Lock Nut and Cap Screw (3
used)



OUO1078,0000512 -19-22SEP06-1/1

Adjust Header Height Control

1. Open cover (A).

A—Cover



Continued on next page

OUO1078,0000528 -19-02OCT06-1/2

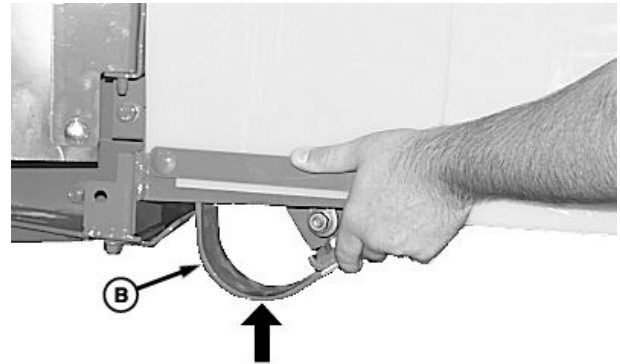
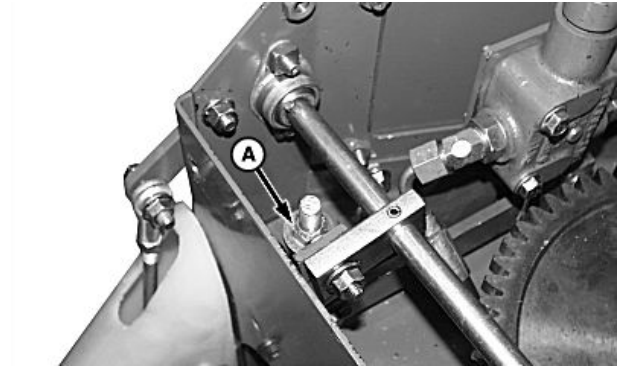
2. Tighten or loosen lock nut (A) to achieve correct setting.

NOTE: If experiencing knife plugs, perform the following procedure to verify that row unit height sensing is calibrated correctly across all units.

CAUTION: If you or others become entangled in a unit, serious injury or death can result. Verify units are disengaged. Keep away from areas which might pinch or crush as units move up and down.

- a. Park machine on a flat level concrete surface and engage parking brake. disengage units and turn off all accessories.
- b. Lower lift frames until height sensing shoes are slightly off the ground.
- c. Slowly lift and note how far height sensing shoe (B) on each unit must be raised before lift frame reacts. When calibration is correct the lift frame will react when lift shoes are raised an equal amount. Adjust unit(s) as described in steps 1 and 2 until calibration is correct.

NOTE: When adjusting in the field, turn lock nut (A) in 1/2 turn increments. Whenever making a height sensing adjustment to one lift frame, make sure to rotate nut (A) the same number of turns on each row unit on that lift frame.



A—Lock Nut

B—Height Sensing Shoe

OUO1078,0000528 -19-02OCT06-2/2

N64647 —UN—05DEC03

N66779 —UN—18AUG04

Unit Monitor System

Unit Monitor Display Functions

Unit monitor display indicators will inform the operator of the following:

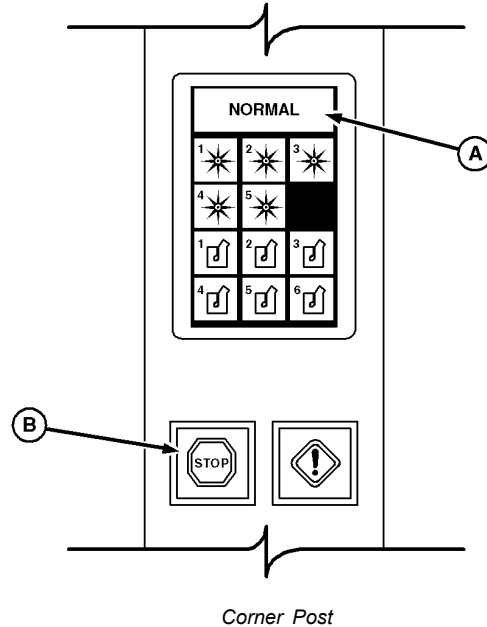
- unit drive idler clutch slippage
- main unit clutch slippage
- restricted suction door or duct
- abnormal unit speed
- normal operation

IMPORTANT: If an indicator light (for a stopped drum or plugged unit door) should come on, “STOP” light (B) will flash and a continuous pulsed alarm will sound. Stop machine immediately, disengage units and determine problem.

NORMAL indicator (A) is on when all systems function properly.

A—NORMAL Indicator

B—STOP Light



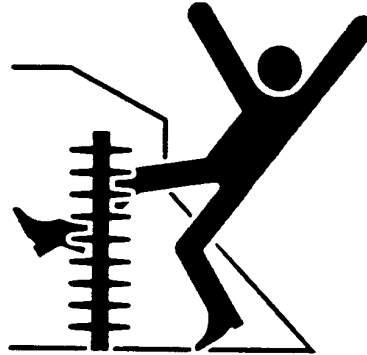
NT3351 —UN—11AUG06

OUO6043,000153C -19-10AUG06-1/1

Unit and Drum Clutch Slippage

CAUTION: If you or others become entangled in moving parts of a unit, serious injury or death can result. DO NOT attempt to remove an obstruction from units unless:

- Units are disengaged.
- Transmission is in neutral.
- Ignition is off. Key is removed.
- Park brake is engaged.



TS675 —UN—21SEP89

Continued on next page

AG,OUO1011,1160 -19-10AUG06-1/2

When an obstruction enters the picking unit, the drum clutch will slip causing the monitor indicator light(s) (A) and the flashing STOP light (B) to come on and activate the alarm.

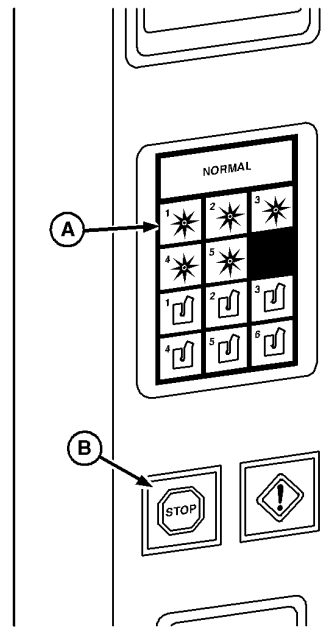
IMPORTANT: Picking unit damage can occur. DO NOT operate units in reverse to remove obstruction. See UNPLUGGING A PICKING UNIT in PICKING UNITS section.

If clutch continues to slip after the obstruction is removed, check for plugging, bent picker bars, or misaligned doffer.

If picker is stopped in the row, operate units and fan until all cotton is doffed from the spindles and the suction doors are clean before starting to pick again.

If row unit lights do not light when plugged, see your John Deere dealer.

A—Monitor Indicator Light(s) B—STOP Light



N73352 —UN—11AUG06

AG,OU01011,1160 -19-10AUG06-2/2

Suction Door or Duct Restriction

When a suction door plugs, the appropriate unit light (A) and flashing STOP light (B) will come on. These lights will stay on and the alarm WILL BE activated.

If one or more unit lights appear, move hydro lever to neutral and reduce engine speed to idle.

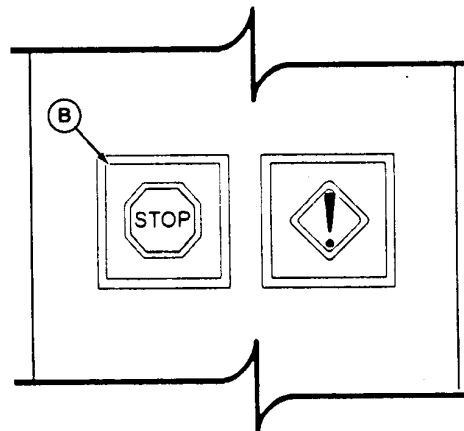
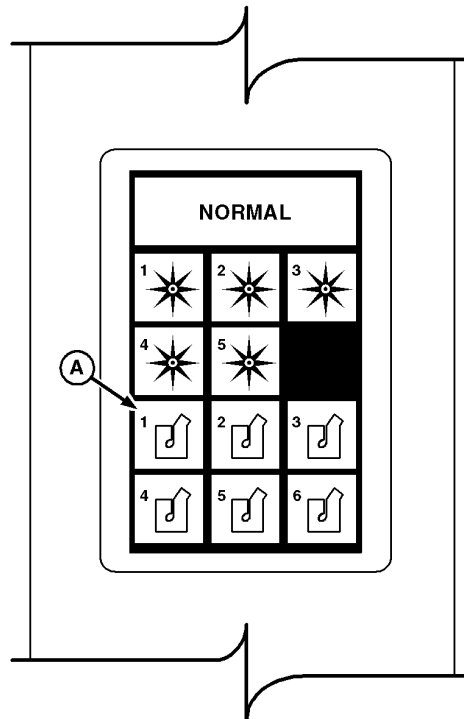
CAUTION: If you or others become entangled in the moving parts of a unit, serious injury or death can result. To prevent injury, be sure machine is OFF, park brake is engaged and key is removed to prevent injury.

Proceed as follows to remove restriction from suction door or duct.

1. Disengage row units and fan.
2. Place transmission and hydro lever in neutral.
3. Engage park brake.
4. Turn off machine and remove key.
5. Remove restriction from suction door or duct.
6. Clean off doffer monitor contact point and area where it attaches to post.

A—Unit Light

B—STOP Light



N73353 —UN—11AUG06

N42139E9 —UN—08FEB93

OUO6043.000153D -19-10AUG06-1/1

Monitor Checkout Procedure

NOTE: If any of the following steps do not perform as indicated, see your John Deere dealer.

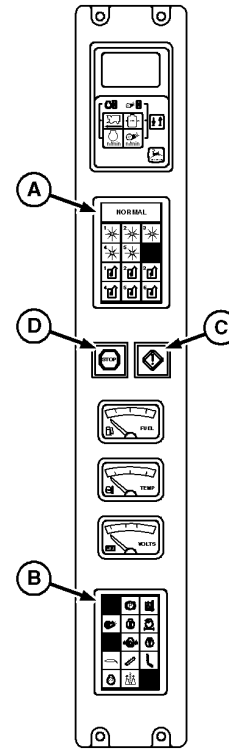
1. Checking power, bulbs and alarm:
 - a. Verify row units are disengaged.
 - b. Place transmission in neutral. Move hydro handle to forward position. Engage park brake.
 - c. Turn key switch to "START" position.
 - d. LOOK: Monitor lights (A), indicator display lights (B), CAUTION indicator (C) and STOP indicator are all on.

A—Monitor Lights

B—Indicator Display Lights

C—CAUTION Indicator

D—STOP Indicator



Continued on next page

OUO6043,000153E -19-02OCT06-1/6

N73354 —UN—11AUG06

CAUTION: If you or others become entangled in moving parts, serious injury or death can result. Be sure machine is "OFF" and park brake is engaged before performing this step to prevent injury.

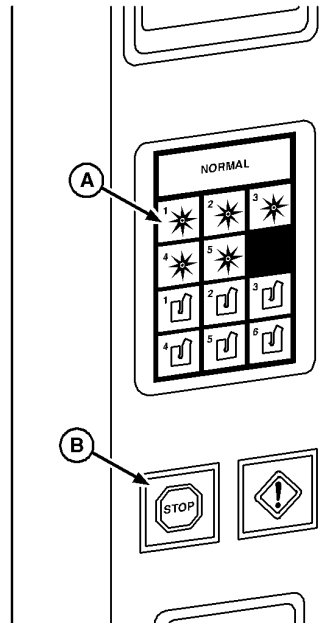
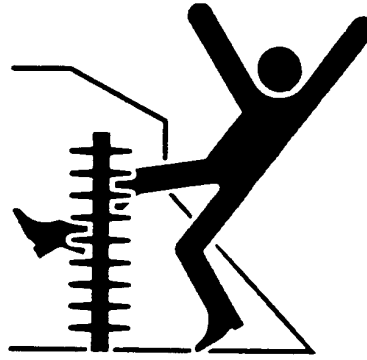
NOTE: An assistant is required for the following procedure.

2. Checking Drum Rotation Monitor:

- a. With engine not running, transmission and hydro handle in "neutral", park brake engaged and row units disengaged, turn key switch to ON position.
- b. LOOK: Lights (A and B) are ON.
- c. LISTEN: ALARM is ON.

A—Row Unit Light

B—STOP Indicator



TS675 —UN—21SEP89

N73356 —UN—11AUG06

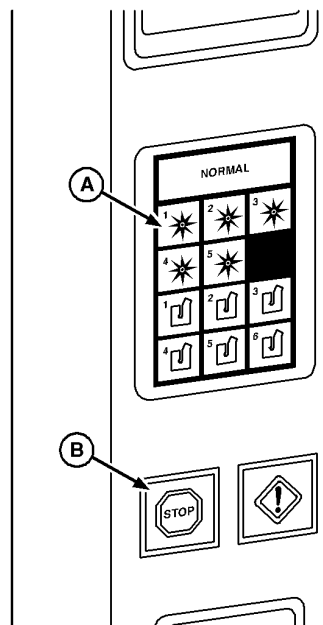
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OUC6043,000153E -19-02OCT06-2/6

- d. Have assistant rotate all drums backwards, causing idler clutch to slip.
- e. LOOK: Respective row unit light (A) and "STOP" indicator (B) is on for each individual unit.
- f. LISTEN: Alarm is ON.

A—Row Unit Light

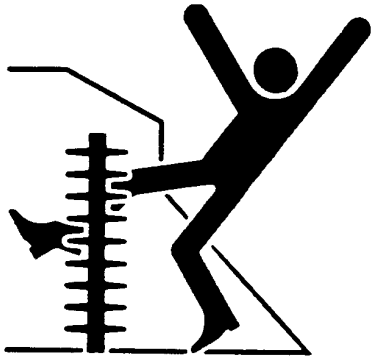
B—STOP Indicator



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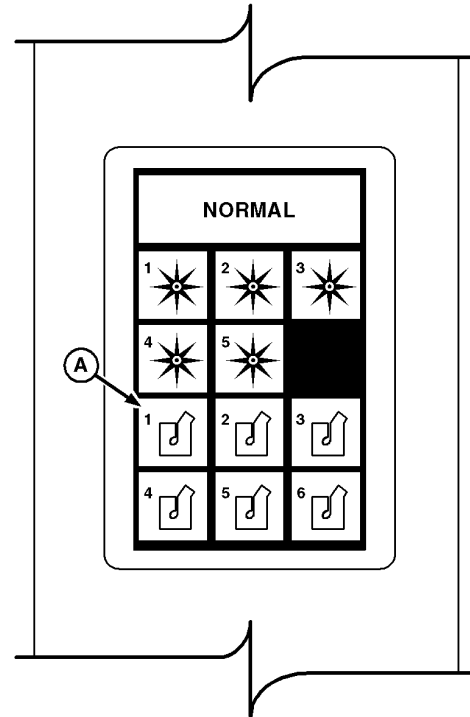
OUC6043,000153E -19-02OCT06-3/6

N73356 —UN—11AUG06



Moving Parts Safety

TS675—UN—21SEP89



N73357—UN—11AUG06

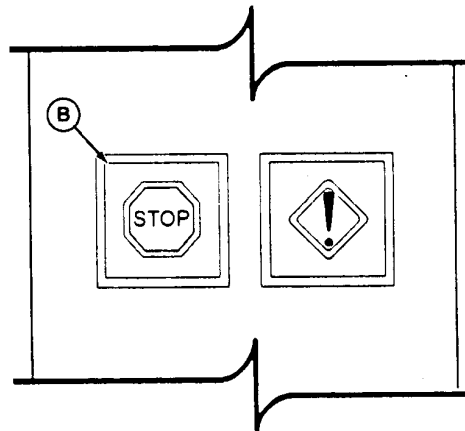
CAUTION: If you or others become entangled in moving parts, serious injury or death can result. To prevent injury, make sure engine is OFF and park brake engaged before performing next procedure.

NOTE: An assistant is required for the following procedure.

3. Verify correct operation of suction door indicators:
 - a. With transmission and hydro handle in "neutral", park brake engaged and row units disengaged, turn key switch to ON position. DO NOT START ENGINE.
 - b. LOOK: Door lights (A) and STOP indicator (B) are off.
 - c. LISTEN: Alarm is off.

A—Door Lights

B—STOP Indicator

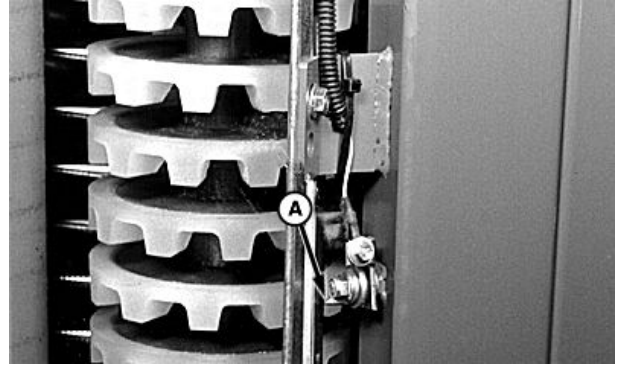


N42139E9—UN—08FEB93

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OUO6043,000153E -19-02OCT06-4/6

- d. Have assistant push contact flap against grounding clip (A).
- e. LOOK: Respective door light and STOP indicator are on.
- f. LISTEN: Alarm is off.
- g. Repeat steps on remaining suction doors.
- h. If system does not react for all suction doors as stated above, contact flap and/or grounding clip may be dirty or out of adjustment. See ADJUSTING DOFFER ZONE MONITOR in this section. If cleaning or adjustment does not solve problem, see your John Deere dealer.

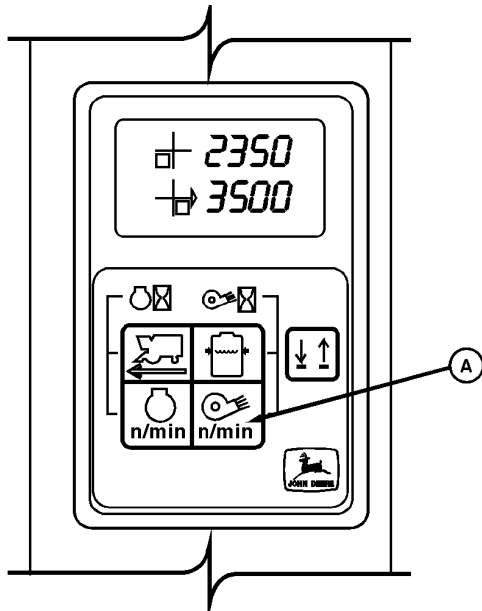


A—Grounding Clip

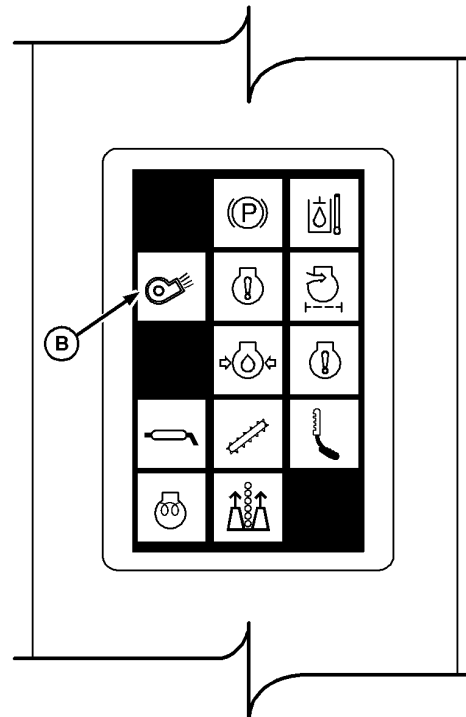
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OUO6043,000153E -19-02OCT06-5/6

N58584—UN—10OCT01



N73864 —UN—19SEP06



N73358 —UN—11AUG06

1. Check fan speed:

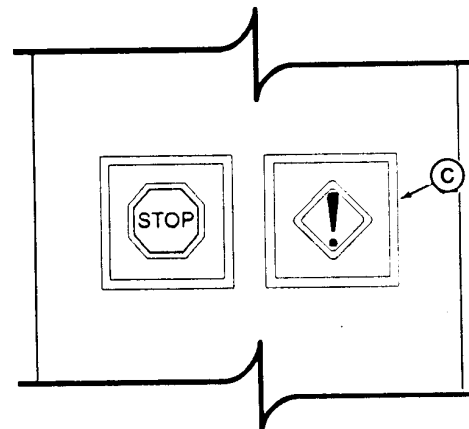
NOTE: Verify fan engage switch is in the ON position.

- a. Check fan speed by pressing switch (A) and placing throttle switch in high idle position.

NOTE: See SETTING FAN SPEED ALARM SET POINT.

- b. Lower fan speed below set point rpm by placing throttle switch in mid idle position. LOOK: Fan light (B) and "CAUTION" light (C) is on. LISTEN: Alarm sounds for three seconds.
- c. Raise fan speed above set point rpm by placing throttle switch in high idle position. LOOK: Fan light (B) and "CAUTION" light (C) are OFF.

2. If system does not react as stated, see your John Deere dealer.



N42132YC —UN—21JAN93

A—Fan Speed Switch
B—Fan Light

C—Caution Indicator

OUO6043,000153E -19-02OCT06-6/6

Adjusting Doffer Zone Monitor

If you have a row unit warning on overhead display without a door plug there is either material buildup on flap or too sensitive adjustment. Remove buildup. If problem continues, reduce adjustment sensitivity.

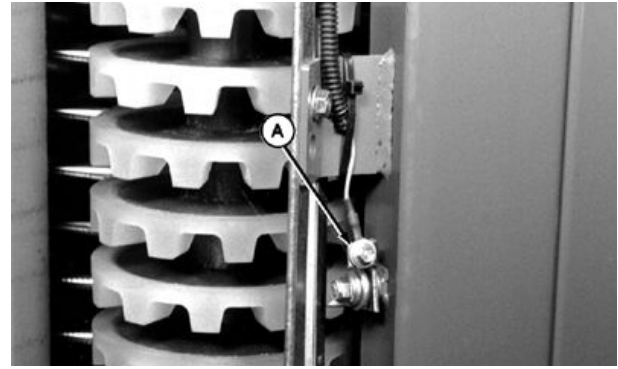
If you have no warning when you have a plug, material buildup or corrosion could prevent clip from grounding on flap, or adjustment is not set sensitive enough. Correct by cleaning with a wire brush to remove corrosion from clip.

1. Adjust flap-to-doffer clearance to specification by pushing flap all the way in before tightening mounting hardware.

Specification

Flap-to-Doffer—Clear-
 ance.....2.80—7.90 mm
 (0.11—0.31 in.)

2. For material buildup problems or for less sensitive monitoring, flap can be moved away from doffer.



A—Grounding Point

3. Sensitivity can also be adjusted by rotating monitor clip (A) grounding point away from flap.

OUC6043,000153F -19-18SEP06-1/1

N42166UF —UN—08OCT96

Air System

Adjusting Cotton Fan Belt and Guides

CAUTION: If engine is running and fan belt is engaged, you or others can become entangled resulting in serious injury or death. Before making belt adjustments, make sure engine is stopped, park brake is engaged and key is removed.

IMPORTANT: Belt damage can occur. Correct belt tension **MUST** be maintained to avoid premature wear.

1. Engage fan drive.
2. Turn key "Off" and remove from switch.
3. The end of spring (A) **MUST** be flush with gauge surface (B). Adjust as follows:
 - Loosen jam nut (C) and adjusting nut (D).
 - Adjust nut (D) to gauge surface (B).
 - Loosen cap screw (E) and jam nut (F) in strap assembly (G) and move on actuator rod (H) until a 25.4 mm (1 in.) gap (I) exists between strap assembly and spacer (J).
 - Recheck gauge surface to make sure spring is still flush with it.
 - Tighten cap screw (E) and jam nut (F). Tighten cap screws to specifications.

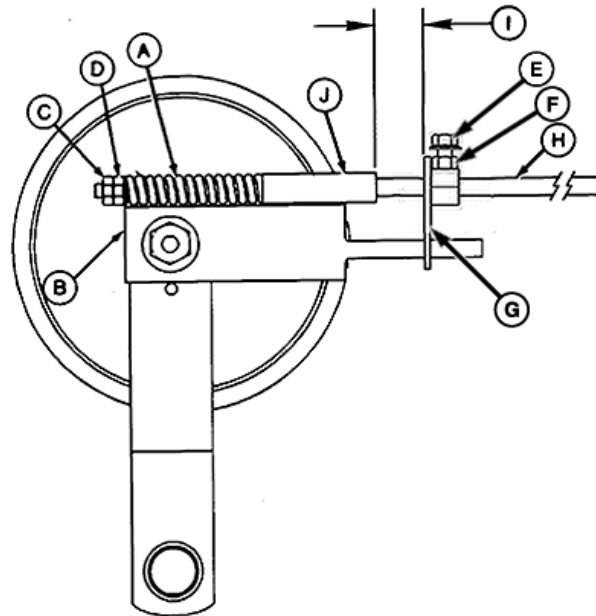
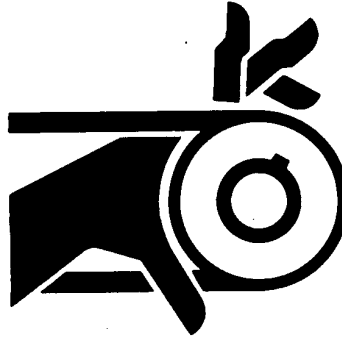
Specification

Cap Screw—Torque.....47 N·m
(35 lb-ft)

- Tighten jam nut (C)

NOTE: Be sure nuts that retain strap which holds actuator rod in place are tight to prevent rotation when linkage is extended or retracted.

4. Operate fan at full speed, slow engine to idle, disengage fan, and recheck guide and belt.
5. If fan is operating with switch disengaged, stop engine and adjust idler linkage.



A—Spring
B—Gauge Surface
C—Jam Nut
D—Adjusting Nut
E—Cap Screw

F—Jam Nut
G—Strap Assembly
H—Actuator Rod
I— 25.4 mm (1 in.) Gap
J—Spacer

Continued on next page

AG,OUO1011,1164 -19-03MAR17-1/3

TS285 —UN—23AUG88

YC11027 —UN—15MAR17

- Check clearance between guide pin (A) and fan belt. Belt clearance should be 3 mm (1/8 in.). If necessary, loosen cap screws (B) and rotate guide to adjust.

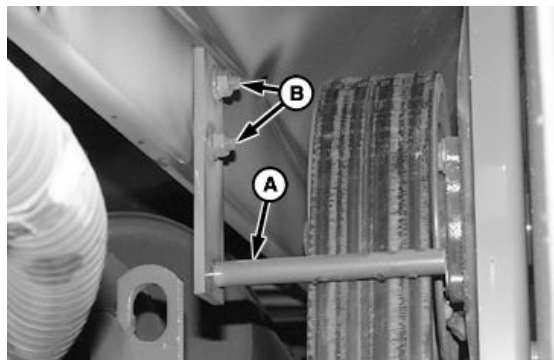
Specification

Guide Pin-to-Fan
Belt—Clearance..... 3 mm
(1/8 in.)

- If guide pin is not perpendicular to fan belt, remove guide. Add or remove 13/32 x 13/16 x 0.060 in. washers as needed to properly position guide.

A—Guide Pin

B—Cap Screws



N58585 —UN—10OCT01

AG,OUO1011,1164 -19-03MAR17-2/3

- Loosen nuts (C) on each belt guide (A).
- Adjust clearance between belt guides (A) and belt (B) to specification.

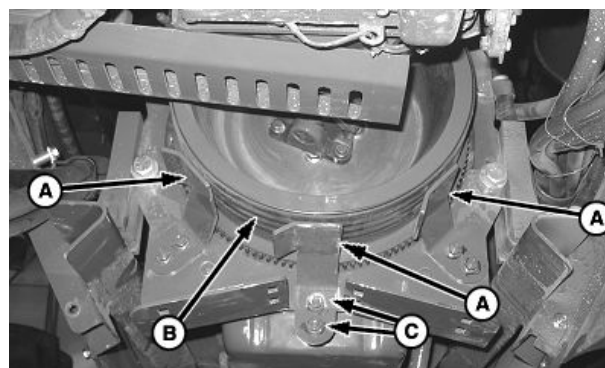
Cotton Fan Belt—Specification

Lower Belt
Guide—Clearance With
Belt.....3—4.5 mm
(0.080—0.180 in.)

- Tighten nuts (C).

A—Belt Guide
B—Belt

C—Nuts



N73215 —UN—18JUL06

AG,OUO1011,1164 -19-03MAR17-3/3

Seating New Fan Belt

- Start engine.
- Engage fan at slow engine idle speed.
- Fully advance throttle to fast throttle position speed for 3 minutes.

IMPORTANT: Reduce engine speed to low idle throttle position prior to engaging or disengaging

the cotton fan. Failure to adhere can result in shortened belt life.

- Reduce engine speed to low idle throttle position and disengage fan.
- Repeat Steps 2, 3, and 4, three more times.
- Stop engine.

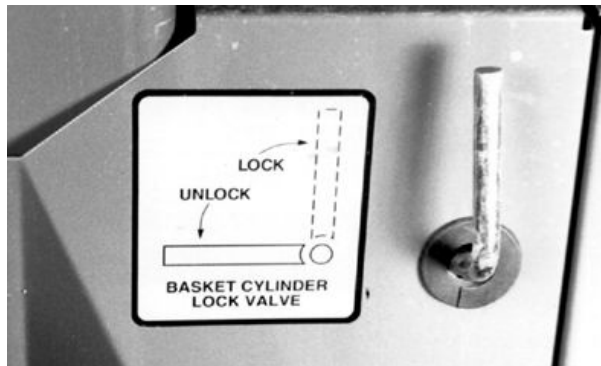
OUO6043,0001540 -19-03MAR17-1/1

Basket

Operating Basket Cylinder Lock Valve

CAUTION: The basket is heavy and can cause serious injury to you or others if it falls. Engage valve to lock position **BEFORE** working under the basket when basket is in raised position to avoid serious injury or death to you or others.

When lever basket is in raised position, ALWAYS engage valve to lock position. When lowering basket, stand clear; then turn valve lever to unlock position. Basket will not lower unless valve is unlocked.



AG,OUO1011,1166 -19-08SEP99-1/1

TS261—UN—23AUG88

N42167NY—UN—17JUN97

Adjusting Conveyor Chain Tension

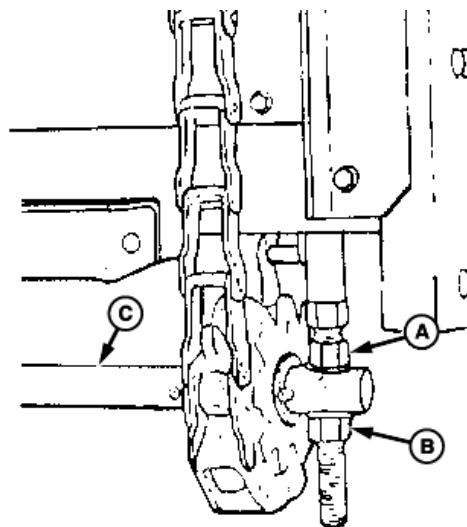
NOTE: To prevent damage to chain bearings when basket is in unload position, chain should *JUST* touch chain guides.

If chain is out of adjustment, adjust chain tension as follows:

1. Loosen jam nuts (B).
2. Evenly tighten or loosen adjusting nuts (A) on each end of conveyor shaft (C) until proper chain tension is achieved.
3. Tighten jam nuts against channel.
4. Repeat procedure for remaining set of chains on other conveyor shaft.

A—Adjusting Nuts
B—Jam Nuts

C—Conveyor Shaft



MM95366,000013A -19-20SEP10-1/1

N89522—UN—20SEP10

Intermediate Basket Position

NOTE: The 9970 provides for an intermediate basket position. In order to take advantage of the intermediate basket position, a kit needs to be obtained from your John Deere dealer.

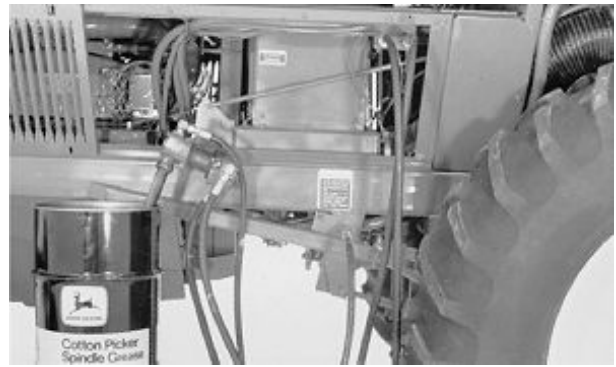
This kit provides the parts of the three lock-up beams that allow the 9970 basket to lock-up in the intermediate position.

AG,OUO1011,1168 -19-08SEP99-1/1

Onboard Lubrication System

Filling Lubrication Reservoir

1. Shut off engine.
2. Place inlet tube of transfer pump in a drum of John Deere Spindle Lubricant. Attach outlet hose to fill port.
3. If the machine is equipped with the power drive outlet attachment, attach hydraulic lines to ISO couplers with check valve line on right-hand side.
4. Start engine and operate at low idle.
5. Bleed system for initial filling or if the reservoir has been pumped dry.
6. Open air purge valve while filling until grease begins to flow from the valve to bleed air from system. Close air purge valve.
7. Continue pumping until reservoir is full.

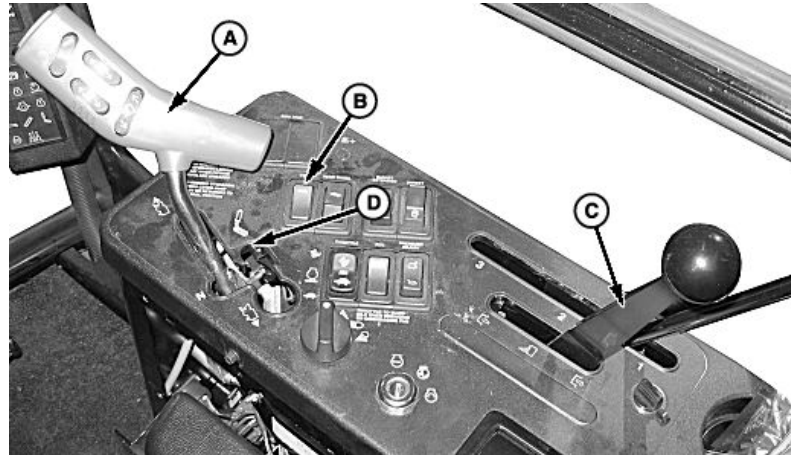


N85330G1—UN—23FEB89

8. Shut off engine.
9. Disconnect hydraulic couplers and fill line.

OUC6043,0001541 -19-18SEP06-1/1

Operating Onboard Lube System



A—Hydro Lever
B—Lube Switch

C—Row Units
D—Inspection Bypass Position

1. Engage park brake.
2. Place transmission in neutral.
3. Operate engine at slow idle, and move hydro lever (A) to inspection bypass position (D).
4. Engage row units (C).
5. Turn on lube switch (B).

Continued on next page

OUC6043,0001542 -19-20SEP06-1/3

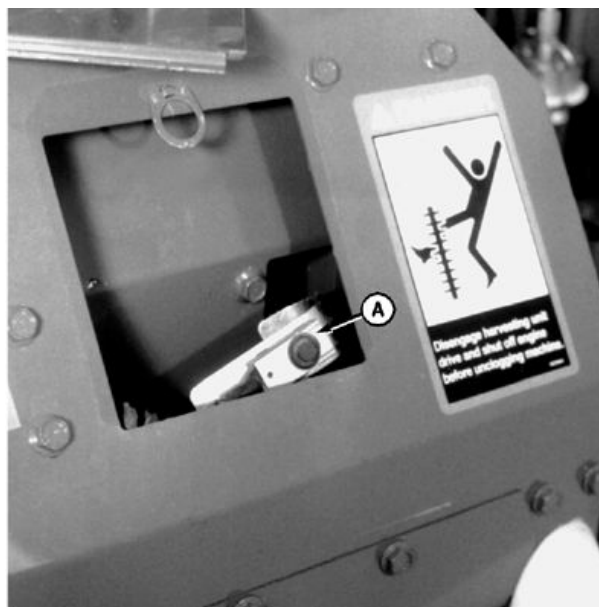
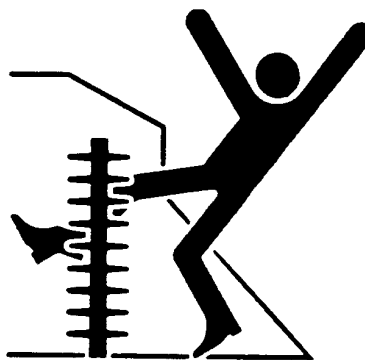
N73344—UN—27SEP06

CAUTION: Be sure park brake is engaged. The unexpected movement of the machine can cause serious injury or death to you or others. If the inspection bypass system does not operate exactly as described below, see your John Deere dealer.

Serious injury or death can result if you or others become entangled or are drawn into moving parts of unit. Keep away from all moving parts to prevent injury or death. Always keep inspection bypass cord away from moving parts on picking units.

6. Remove tether switch (A) from storage position in unit No. 3. Stand clear of units. Never operate the inspection bypass while standing on top of the row units. Keep thumb free of tether switch.

A—Tether Switch



TS675—UN—21SEP89

N42165CX—UN—01AUG95

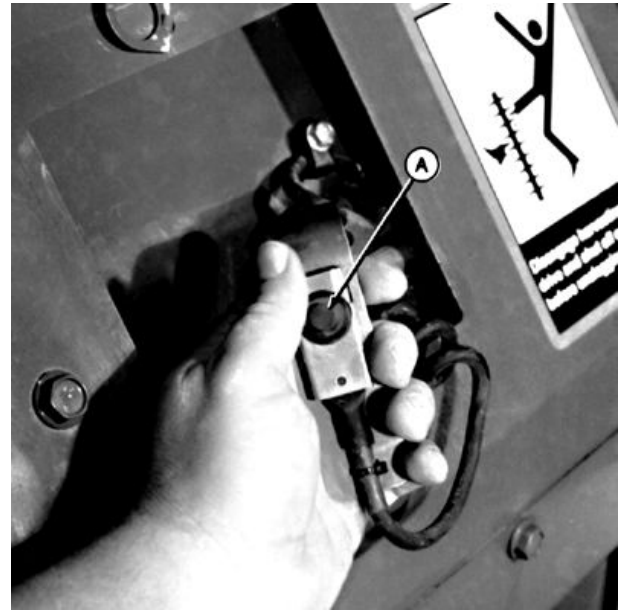
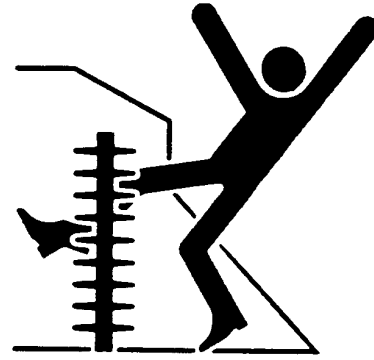
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OUO6043,0001542 -19-20SEP06-2/3

CAUTION: If you or others would fall or be pulled into an operating row unit, serious injury or death can result. Keep a safe distance from moving parts on an operating row unit. **ALWAYS** keep inspection bypass cord away from moving parts on row units.

7. Establish solid footing and clearance from moving parts; then depress tether switch button (A). Slow unit rotation will begin immediately and continue until the switch is released; a chime will also sound indicating grease is flowing.
8. Fresh grease should be present at two of the top six spindles at the dust collars. Verify every bar of every unit is greased properly.
9. Release tether switch button. The chime should go off and the units should stop.
10. Check for fresh grease in upper drive gear area and in cam tracks of all drums.

A—Tether Switch Button



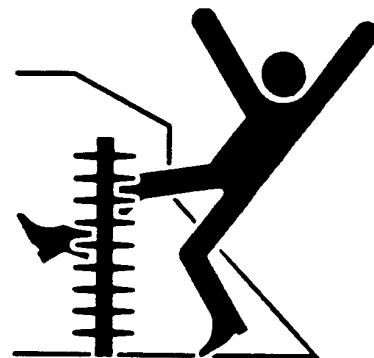
TS675 —UN—21SEP89

N42166JJ —UN—12MAR96

OUO6043,0001542 -19-20SEP06-3/3

Deactivate Inspection Bypass and Lube System

CAUTION: Keep away from all moving parts. Be sure to keep thumb free of tether switch. **NEVER** operate the inspection bypass while standing on top of row units or you or others can fall and become entangled in moving parts of unit causing serious injury or death to you or others.



Continued on next page

MM95366,000013B -19-20SEP10-1/2

TS675 —UN—21SEP89

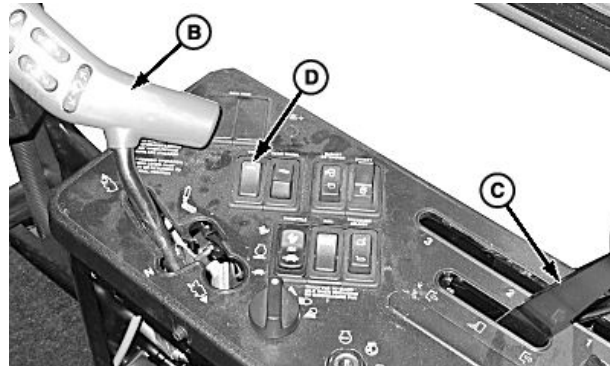
1. Place tether switch in storage position (A). Close unit plate.
2. Move hydro lever (B) to neutral position.
3. Disengage picking unit with lever (C).
4. Turn off lube switch (D).

A—Tether Switch in Storage
Position
B—Hydro Lever

C—Lever
D—Lube Switch



N42165CX —UN—01AUG95



N73345 —UN—16AUG06

MM95366,000013B -19-20SEP10-2/2

Manual Lubrication Procedure

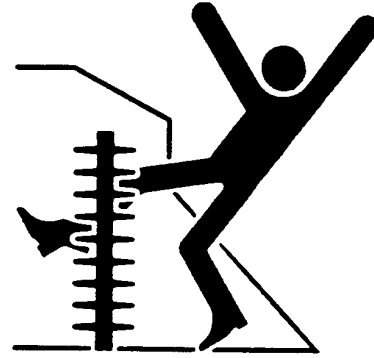
Use this manual procedure **ONLY** if the Onboard Lube System fails.

CAUTION: If you or others become entangled in unit moving parts, serious injury or death can result. **ALWAYS** maintain a safe distance from units and be careful of moving parts.

1. Lubricate picker bars, sun gear housing bearings, and upper gear train at grease fitting on grease manifold (A), while slowly rotating units.
2. Fresh grease should be present at two of the top six spindles at the dust collars. Verify every bar of every unit is greased properly.
3. Check for fresh grease in upper drive gear area and in cam tracks of all drums.
4. Repeat lubrication for each unit.

See your John Deere dealer for system repair.

A—Grease Manifold



OUO6043,0001544 -19-25OCT01-1/1

TS675 —UN—21SEP89

N57462 —UN—05JUN01

Replacing Lubrication System Filters

IMPORTANT: Internal machine damage can occur. **Keep the cap clean and ON the fitting when not filling the onboard lubrication tank to prevent system contamination.**

1. Remove coupler fitting (A).

A—Coupler Fitting



AG,OUO1011,1174 -19-08SEP99-1/4

N42132FE —UN—21JAN93

2. Remove 40 mesh filter (A).
3. Clean filter in solvent or replace if necessary.
4. Reinstall filter and coupler fitting.

A—Mesh Filter



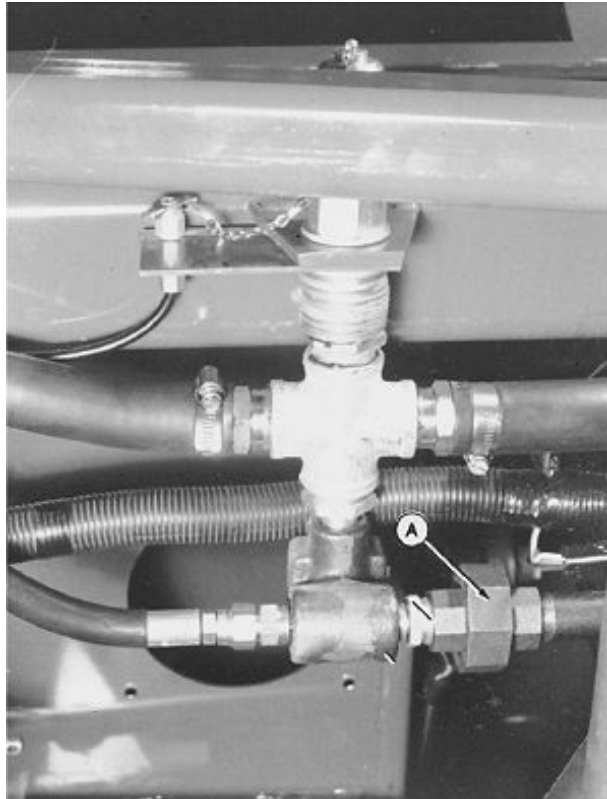
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AG,OUO1011,1174 -19-08SEP99-2/4

N42132FG —UN—21JAN93

5. Uncouple 3/4 in. pipe union (A) under fan manifold.

A—Pipe Union, 3/4 in.



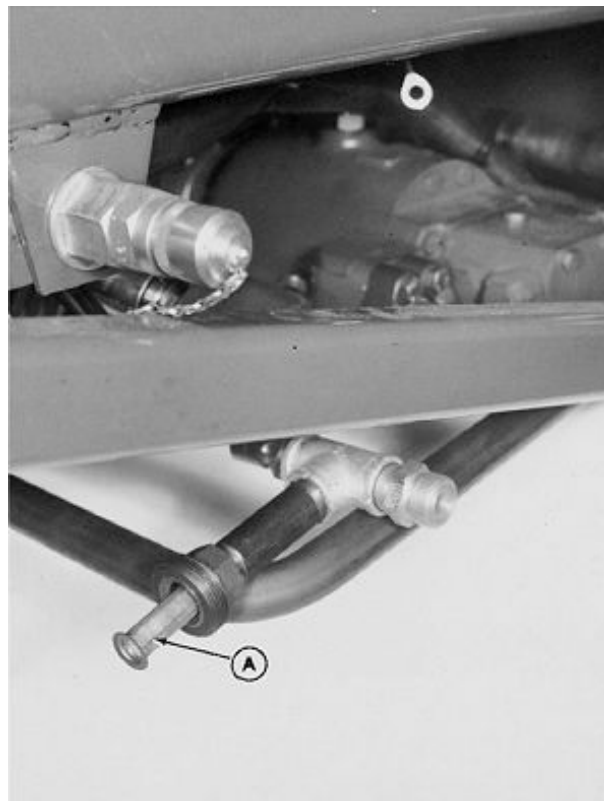
N41253A—UN—08JUN89

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AG,OUO1011,1174 -19-08SEP99-3/4

6. Remove 40 mesh filter (A).
7. Clean filter in solvent or replace if necessary.
8. Install filter and connect pipe union.

A—Mesh Filter

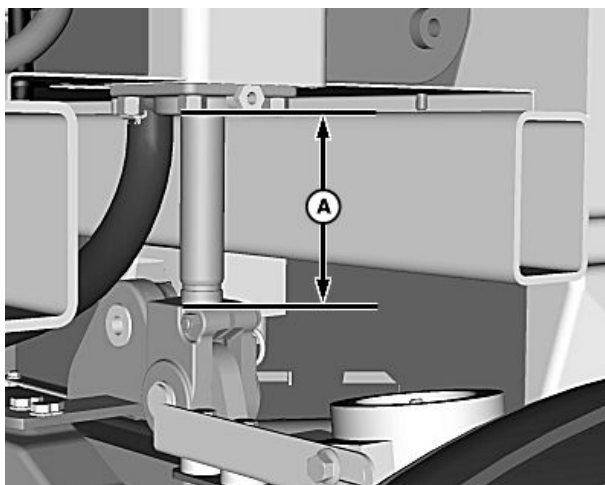


N41222B —UN—08JUN89

AG.OUO1011,1174 -19-08SEP99-4/4

Chassis

Checking Stabilizer Cylinder Function



A—Exposed Stabilizer Cylinder Rod

Check stabilizer cylinder function as described below.

NOTE: Before proceeding, verify tires are inflated to proper pressure and that right-hand drive wheel has proper ballast. See WHEEL AND TIRE section.

1. Move picker to a firm, level surface.
2. Place a 200 x 200 mm (8 x 8 in.) block in front of left-hand guide wheel.
3. Raise basket 30° to engage the valve.
4. Drive picker slowly on the block.
5. Measure the length of exposed stabilizer cylinder rod (A).
6. Drive machine off the block and lower the basket fully.
7. Repeat the measurement of the exposed stabilizer cylinder rod.
8. If the cylinder rod retracts more than 6 mm (1/4 in.), the system is not functioning correctly. The problem may be incorrect valve and linkage adjustment and/or air in the stabilizer cylinder. Proceed to CHECKING STABILIZER VALVE AND LINKAGE.
9. If the cylinder rod retraction is 6 mm (1/4 in.) or less, the system is functioning correctly.

CP00596,00012C5 -19-28AUG17-1/1

N73491—JUN—22SEP06

Checking Stabilizer Cylinder Valve and Linkage

NOTE: Before proceeding with the following procedure, verify proper stabilizer cylinder function. See **CHECKING STABILIZER CYLINDER FUNCTION** in this section.

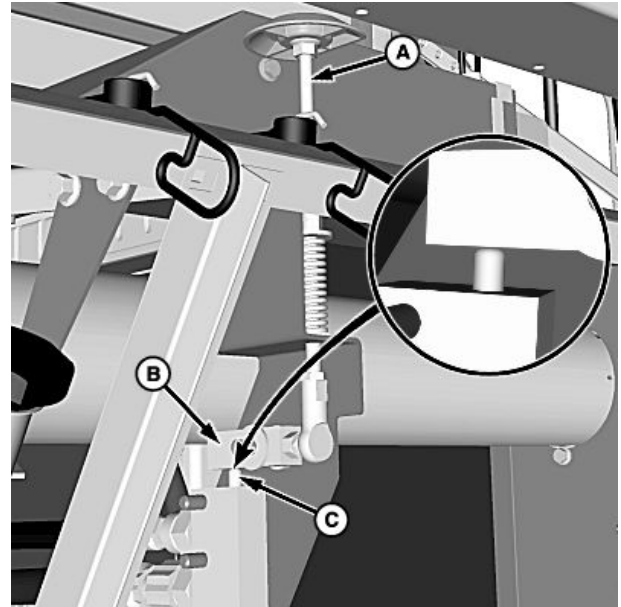
Panels have been removed for photographic purposes.

If cylinder retraction was more than 6 mm (1/4 in.), proceed with steps below to ensure optimum valve and linkage adjustment.

1. Remove right-hand radiator screens to expose stabilizer valve.
2. Verify actuator rod (A) is not bent.
3. Pivot arm (B) should just clear the top of valve pin (C).
4. Start engine, raise basket just enough (approximately 102 mm [4 in.]) to actuate valve linkage.
5. Shut off engine.
6. Valve pin should be "bottomed" fully (approximately 5 mm [0.20 in.] of valve pin should be exposed).

If stabilizer valve and linkage does not react as described in steps 1 through 6, see **ADJUSTING STABILIZER VALVE AND LINKAGE** in this section.

If stabilizer valve and linkage reacts as described in steps 1 through 6, see **BLEEDING STABILIZER CYLINDER** in this section.



A—Contact Lever
B—Basket Angle

C—Pivot Arm

N73944 —UN—28SEP06

OUO6043,0001547 -19-28SEP06-1/1

Adjusting Stabilizer Cylinder Valve and Linkage

1. Completely lower basket.

NOTE: Actuation rod should never be exposed above the top of nylon guide.

2. Verify nut (B) holding nylon guide (A) is tight.
3. Loosen jam nut (D).

NOTE: Minimum thread engagement in ball joint is 3 full turns. If there is less thread engagement than 3 full turns when the pivot arm just contacts the valve pin, move the valve downward to allow more thread engagement of the rod in the ball joint.

Maximum thread engagement is approximately 16 full turns until the rod bottoms out in the ball joint. If the rod bottoms out in the ball joint and the pivot arm still does not contact the valve pin, move the valve upward to allow the pivot arm to contact the valve pin without reaching the end of the threads.

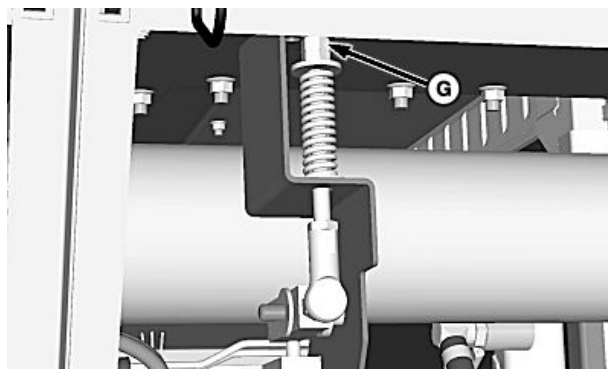
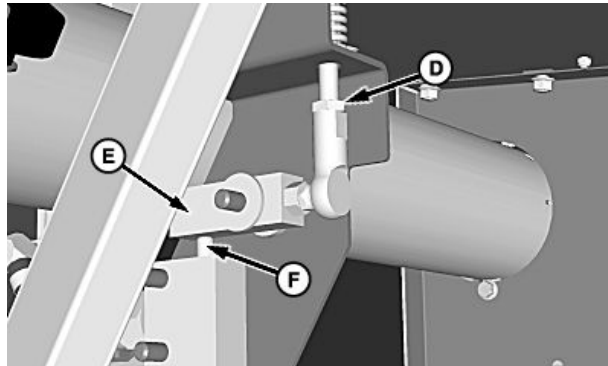
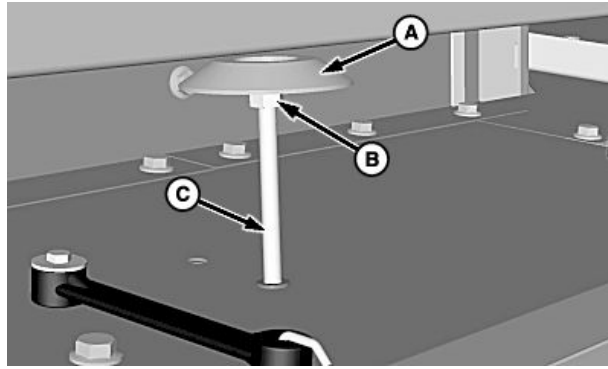
4. Thread actuation rod (C) in or out of ball joint until pivot arm (E) just clears top of valve pin (F).
5. Tighten jam nut (D).
6. Adjust jam nuts (G) so that gap between spring coils are within specification.

Specification

Spring Coils—Gap..... 0.51 mm
(0.020 in.)

A—Nylon Guide
B—Nut
C—Actuation Rod
D—Jam Nut

E—Pivot Arm
F—Valve Pin
G—Jam Nuts



N73945—UN—28SEP06

N73946—UN—28SEP06

N73947—UN—28SEP06

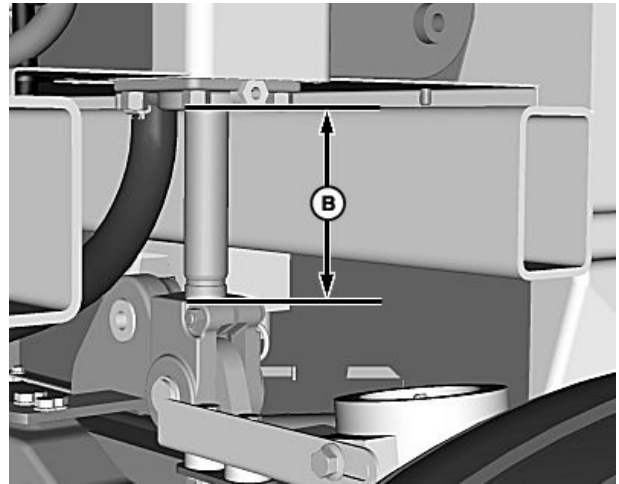
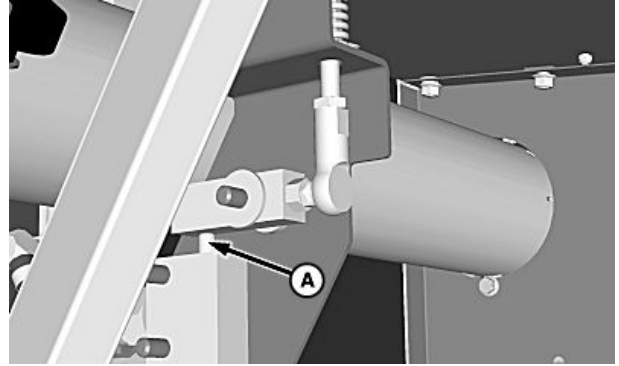
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OUO6043,0001548 -19-28SEP06-1/2

7. Raise basket approximately 102 mm (4 in.) (enough to actuate the valve linkage). Valve pin (A) should be “bottomed” fully (approximately 5 mm [0.20 in.] of valve pin exposed).
8. Repeat stabilizer function test. If cylinder rod retraction (B) is 6 mm (1/4 in.) or less, machine is functioning properly. If cylinder rod retraction is greater than 6 mm (1/4 in.), see BLEEDING STABILIZER CYLINDER in this section.

A—Valve Pin

B—Cylinder Rod Retraction, 6 mm (1/4 in.) Or Less



N73948 —UN—28SEP06

N73764 —UN—22SEP06

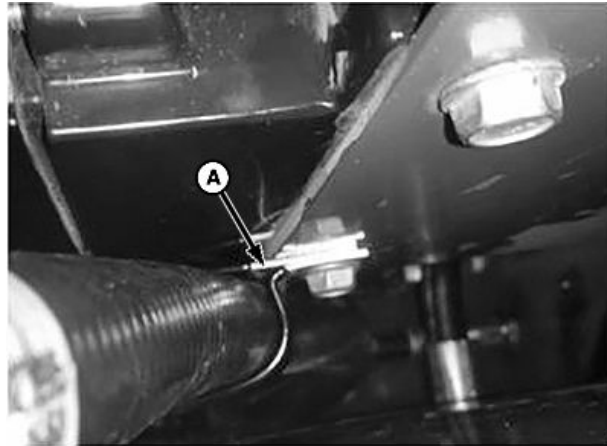
OUO6043,0001548 -19-28SEP06-2/2

Bleeding Stabilizer Cylinder (Two Person Job)

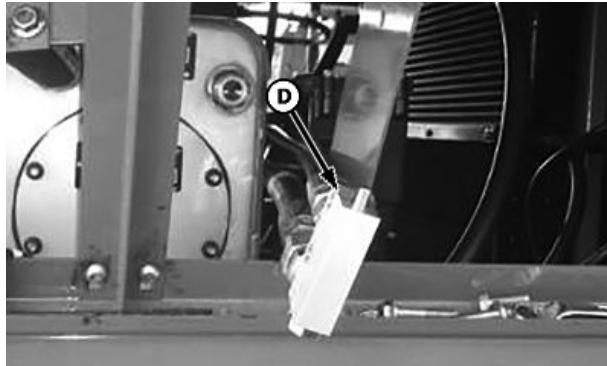
CAUTION: During bleeding process, make sure that one person is in the cab and remains alert to actions of the other person. The machine is heavy and can cause serious injury or death if it should move unexpectedly. Be sure that the transmission is in neutral. Place basket lock valve in the LOCK position.

NOTE: Before proceeding, see *CHECKING STABILIZER CYLINDER FUNCTION* in this section.

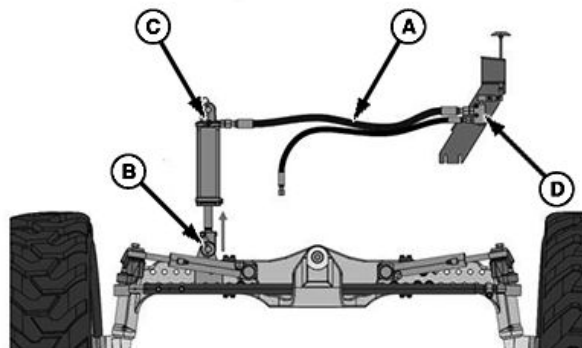
1. Remove clamp (A) on hose between the valve block (D) and the cylinder.
2. Remove the bolts retaining the valve block and let it rest on the machine frame.
3. Place a 200 mm wooden block under the right rear wheel. This will extend the cylinder rod and move the air and fluid toward the cylinder.
4. Remove the cylinder rod pin (B) at the axle.
5. With engine off, loosen the bleed screw (C) on the top of the cylinder and attach a tube so that the oil and air can be caught in a container.
6. Push the rod all the way into the cylinder to expel the oil and air contained in the cylinder. Tighten the bleed screw.
7. Start the engine and turn the auger floor switch to provide pressure to the system which will extend the cylinder. Turn off engine.
8. Repeat steps 5—7 until oil comes out of the bleed screw.
9. Reinstall the cylinder rod pin.
10. Reinstall the valve on the frame and verify the linkage adjustment.
11. Start engine and raise basket 30° to engage the valve. Remove the wooden block from the right side and place behind the left rear wheel.
12. Back over the wooden block and verify that the stabilizer cylinder prevents the axle from pivoting.
13. If the cylinder fails to prevent the axle from pivoting then perform bleeding process again.



YC11794 —UN—29AUG17



YC11793 —UN—29AUG17



YC11792 —UN—29AUG17

A—Clamp
B—Cylinder Rod Pin

C—Bleed Screw
D—Valve Block

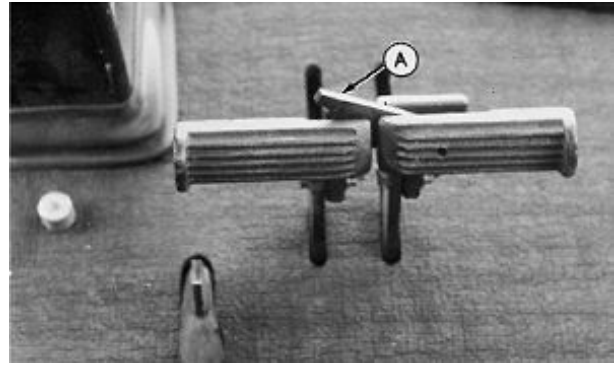
CP00596,00012BD -19-30AUG17-1/1

Deglazing Brake Linings

When a loss of brake power is noticed, or when the park brake will not hold, deglaze the brake linings as follows:

1. Lock pedals together with latch (A), start engine, and place transmission in first gear.
2. Drive forward at fast throttle position and at full hydro lever travel.
3. Apply brakes firmly for 60—75 m (200—250 ft). Engine speed should drop about 200 rpm.
4. Bring machine to a stop, shut off engine and allow brakes to cool for 15 minutes.
5. After the brakes have cooled, start engine and drive machine slowly FORWARD in first gear. Repeatedly apply the brakes to actuate the automatic adjusters.

From a stop, the service brakes should hold the machine in first gear; the park brake should hold the machine in second gear.



Brake Pedals Locked

A—Latch

If the brakes still do not work properly, see your John Deere dealer.

AG,OUO1011,1179 -19-08SEP99-1/1

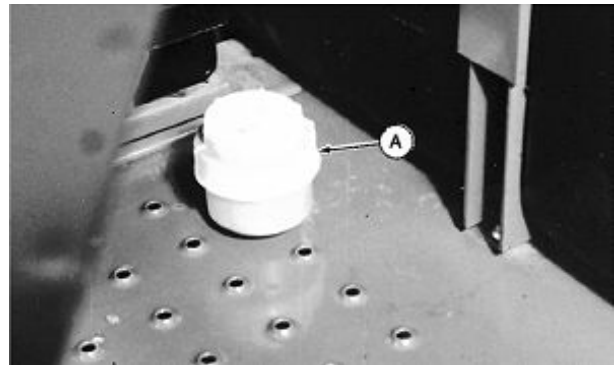
N42152DR —UN—20OCT93

Checking Brake Fluid Reservoir

IMPORTANT: Keep brake fluid off painted surfaces or paint will be damaged.

1. Remove cap (A).
2. Check fluid level. Fluid level should be within 6 mm (0.25 in.) from top of reservoir.
Use J1703d or DOT-3 Hydraulic Brake Fluid to fill reservoir.
3. Replace cap.

A—Cap



AG,OUO1011,1181 -19-08SEP99-1/1

N42132FN —UN—21JAN93

Adjusting Basket Cylinder

NOTE: If one end of basket raises first after all air has been purged from system, adjust cylinder on that end first. This will balance the upward force.

Adjust cylinder so basket rests on basket supports when down rather than being suspended by cylinders. Do not shorten cylinder so it pulls down on basket when resting on basket supports.

To adjust cylinder, perform the following procedure:

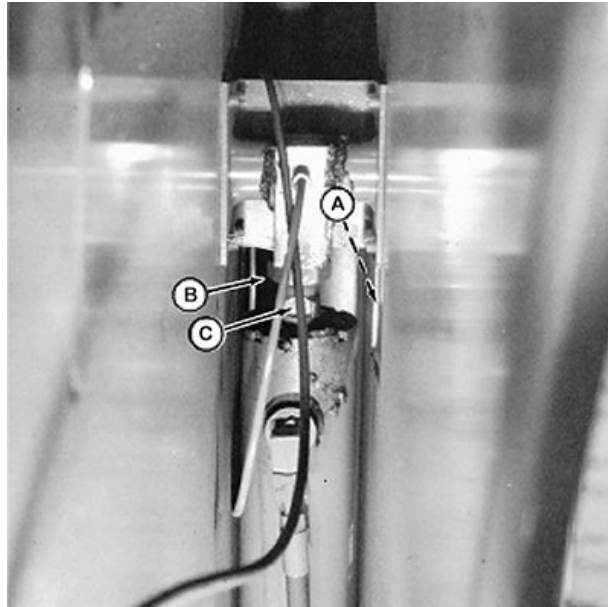
1. Insert wrench through access hole (A) and loosen jam nut (B).
2. Screw cylinder piston (C) to desired length and tighten jam nut to specifications.

Specification

Jam Nut—Torque..... 136 N·m
(100 lb-ft)

A—Access Hole
B—Jam Nut

C—Cylinder Piston



N42189EO —JUN—23NOV98

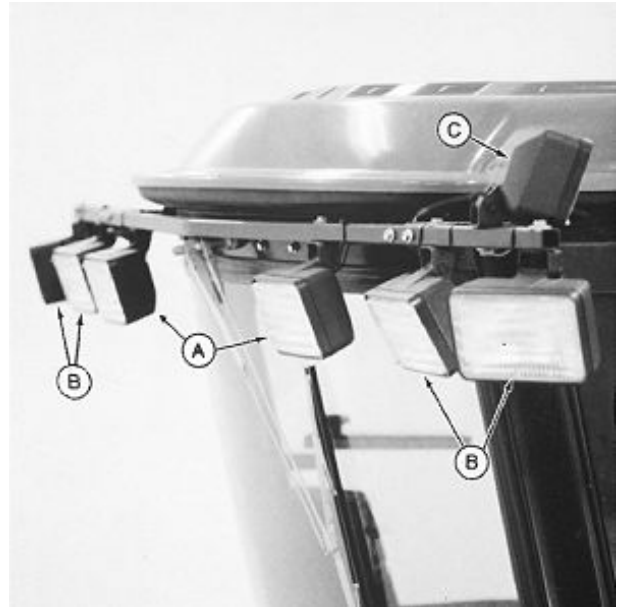
OUC6043,0001549 -19-25OCT01-1/1

Replacing Sealed Lights

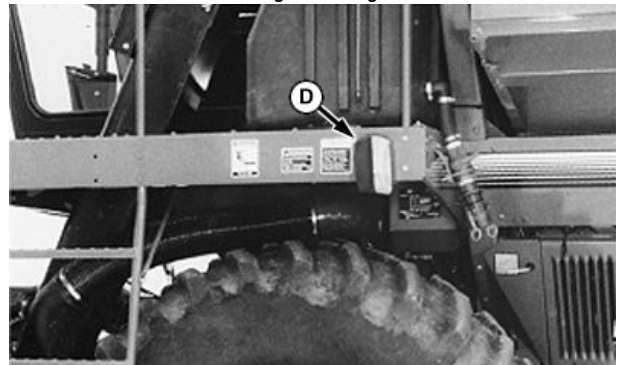
Non-serviceable sealed lights are used as headlights (A), field lights (B), basket/rockshaft (C) platform (D), and in-basket lights. Should one of these lights burn out, the entire sealed assembly needs to be replaced.

A—Headlights
B—Field Lights

C—Basket/Rockshaft Light
D—Platform Light



Light Bar Lights



Platform Light

AG,OUO1011,1183 -19-20SEP06-1/1

N42138AD —UN—26JAN83

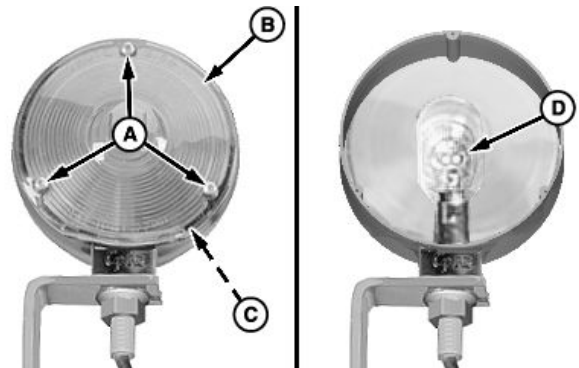
N51122 —UN—14SEP99

Replacing Front and Rear Warning Light Bulbs

1. Remove screws (A).
2. Remove lens (B) and gasket (C).
3. Replace bulb (D) and reinstall lens and gasket. (See BULB PART NUMBERS in this section for proper replacement.)

A—Screws
B—Lens

C—Gasket
D—Bulb



AG,OUO1011,1184 -19-30JUL12-1/1

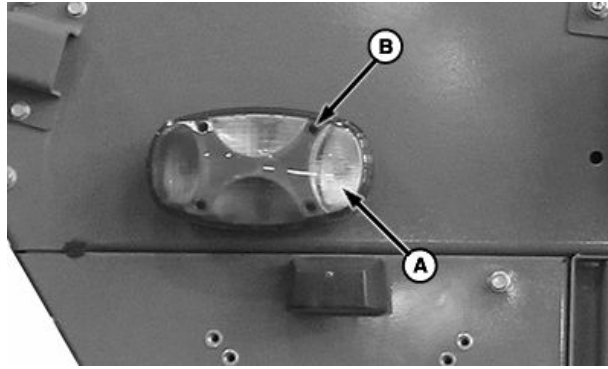
N71822 —UN—08MAR06

Replacing Tail Light Bulb

1. Remove two screws (B) and tail light lens (A).
2. Replace tail light bulbs, Type 3057 (H133384) (C).
3. Install lens.

A—Tail Light Lens
B—Screws (4 Used)

C—Bulb



YC10995—UN—07DEC16



N42194JN—UN—08FEB99

CP00718,0002D84 -19-05DEC16-1/1

Replacing Fuses

All electrical circuits are protected by fuses. Amperage rating is marked on each fuse plus fuses are color coded to ensure proper replacement.

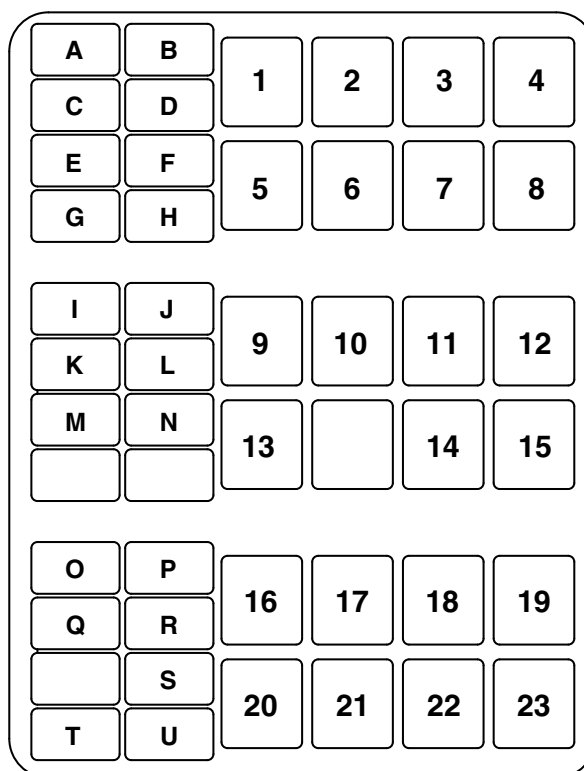
Fuse Rating	Color
3 Amp	Pink
5 Amp	Tan
7.5 Amp	Brown
10 Amp	Red
20 Amp	Yellow
25 Amp	Natural (White)
30 Amp	Green

IMPORTANT: Do not replace original fuse with higher rated fuse or machine damage may occur. If original size fuse will not carry electrical load

and continues to blow, have the electrical system checked by your John Deere dealer.

OUC6043,000154A -19-08SEP06-1/1

Fuses and Relays



A—Gauges—3A
 B—Cab Relay & Alt—3A
 C—Monitor—5A
 D—WPR/Radio/Dome Lamp—10A
 E—Moistener System—10A
 F—Tach—5A
 G—ECU Run—3A
 H—Lube/Tether—7.5A
 I—Acc Power Outlet—10A
 J—Hydro Handle—3A
 K—Radio Memory—3A
 L—Hyd Valve Relays—10A

M—Aux Plug 12V Bat—5A
 N—Bskt/Comp/Conveyor—10A
 O—Row-Trak—10A
 P—Rear Wheel Drive—10A
 Q—Reverse Alarm—5A
 R—Aux Plug 12V Acc—5A
 S—Fan Actuator—3A
 T—Engine Diagnostic (no fuse)
 U—Hyd Valve Control—3A
 1—LH Units Raise

2—RH Units Raise
 3—Cab Blower
 4—Normal Lamp
 5—LH Units Latch
 6—RH Units Latch
 7—Destroke Power
 8—Destroke Control
 9—LH Units Lower & Batch
 10—RH Units Lower & Batch
 11—Hyd Valve Power
 12—Basket Lamps
 13—Tether

14—LH Field Lamps
 15—RH Field Lamps
 16—Conveyor
 17—LH Units Lower
 18—RH Units Lower
 19—Hydraulic Valve Control
 20—Rear Wheel Drive
 21—Park Brake Alarm Bypass
 22—Fan Actuator
 23—Low Idle Enable

NOTE: These fuses and relays are located on console next to operator's seat.

AG,OUO1011,1187 -19-10AUG06-1/1

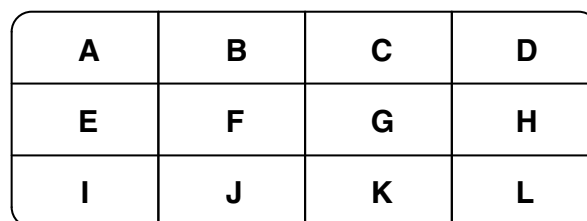
N73347 —UN—20SEP06

Fuses—Radiator Compartment

NOTE: These fuses are located in the radiator compartment.

A—Beacon—20A
 B—Fuel Pump—5A
 C—Backup Alarm—15A
 D—ECU (BAT)—10A
 E—Fan—25A
 F—Bat A—30A

G—Bat B—30A
 H—Fld Lamps—30A
 I—Hyd Valves—30A
 J—12V Bat—20A
 K—Key Sw—30A
 L—Cab Blower—30A



CP00718,0002EEF -19-19JAN17-1/1

YC11016 —UN—14FEB17

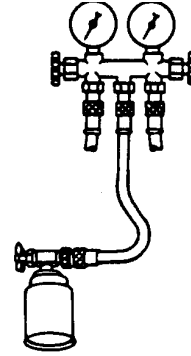
Cab and Air Conditioning

Observe Air Conditioning Precautions

⚠ CAUTION: Refrigerant (R134A) under pressure. Improper servicing may cause refrigerant to penetrate eyes and skin or cause burns.

Special equipment and procedures are required to service air conditioning system. (See Your John Deere dealer).

H44933



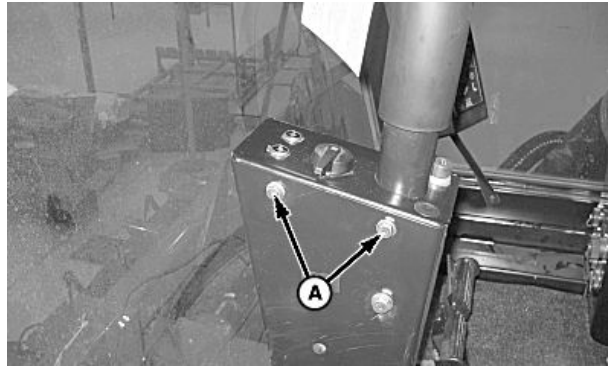
H44933—UN—20JUL92

OUO1078,00004EE -19-09AUG06-1/1

Replacing Signal Indicator Light Bulbs

1. Remove four (2 per side) screws (A) and lift top cover.
2. Replace bulbs R56409 or Type 1895G, and install cover.

A—Screws (4 used)



N73346—UN—16AUG06

AG,OUO1011,1190 -19-02OCT06-1/1

Replacing Dome and Console Bulbs

1. Remove plastic lens (A) by squeezing sides together to replace dome lamp bulb AR86969 or Type 105.
2. Remove lamp assembly (C) from cab roof to replace shift console lamp bulb (B) AR48015 or Type 168.

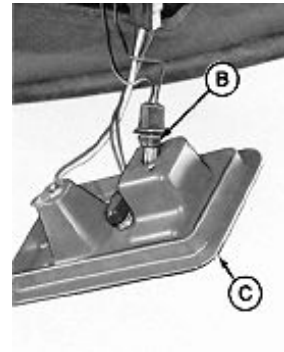
A—Plastic Lens

B—Console Lamp Bulb

C—Lamp Assembly



RW4886—UN—09DEC88



RW4887—UN—09DEC88

AG,OUO1011,1191 -19-09SEP99-1/1

Replacing Indicator, Monitor and Gauge Light Bulbs

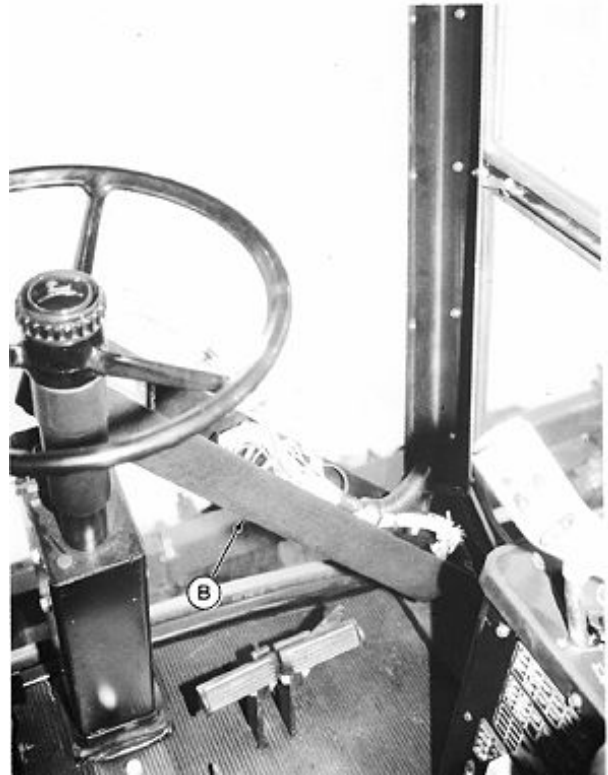
1. Remove four self-tapping screws (A).
2. Lay corner post (B) down.

A—Self-Tapping Screws

B—Corner Post



N51057 —UN—02SEP99



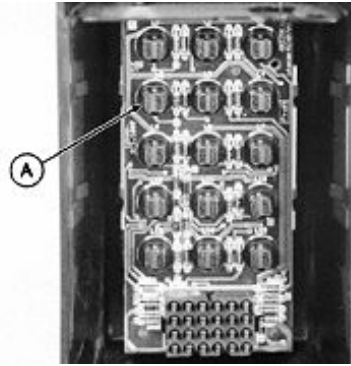
N92140AG1 —UN—11MAR93

Continued on next page

AG,OUO1011,1192 -19-09SEP99-1/4

3. Twist indicator and monitor lights (A) 1/4-turn to remove. Replace with new bulb, AL65575.

A—Lights



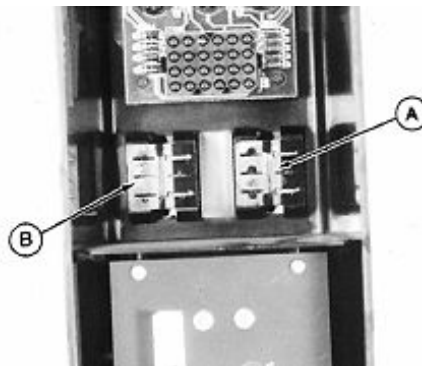
N92140AJ1 —UN—11MAR93

AG,OUO1011,1192 -19-09SEP99-2/4

4. Depress retaining clips and remove STOP (A) and "!" (CAUTION) (B) lights through front side of panel.

A—Stop Light

B—Caution Light



N92140AK1 —UN—11MAR93

Continued on next page

AG,OUO1011,1192 -19-09SEP99-3/4

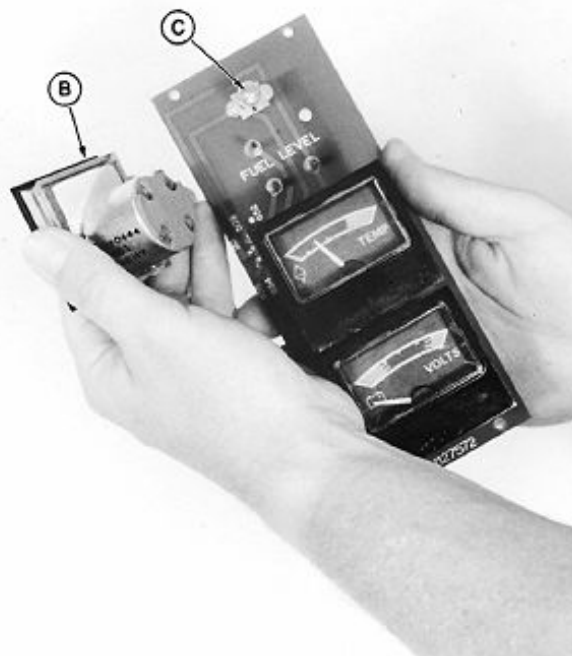
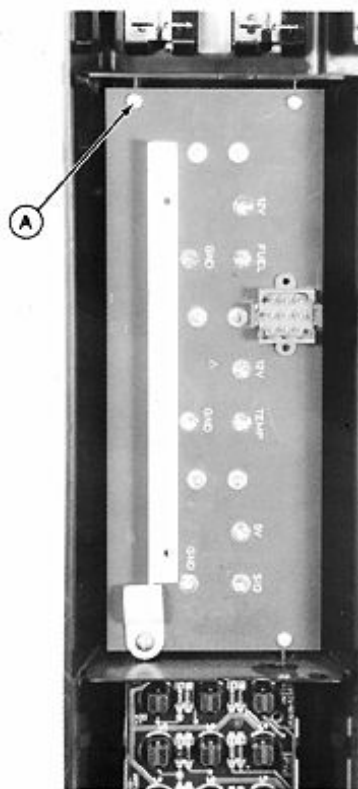
5. To replace gauge bulbs, remove four screws (A) and lift circuit board out of housing.

NOTE: Same procedure is used for all three gauge light bulbs.

6. Pull out gauge (B).
7. Remove gauge light bulb (C) by pulling from circuit board.
8. Install new bulbs, Type 161 (AA27536), and return parts to original positions.

A—Screws (4 Used)
B—Gauge

C—Gauge Light Bulb



N92140AL1 —UN—11MAR93

N92140AN1 —UN—11MAR93

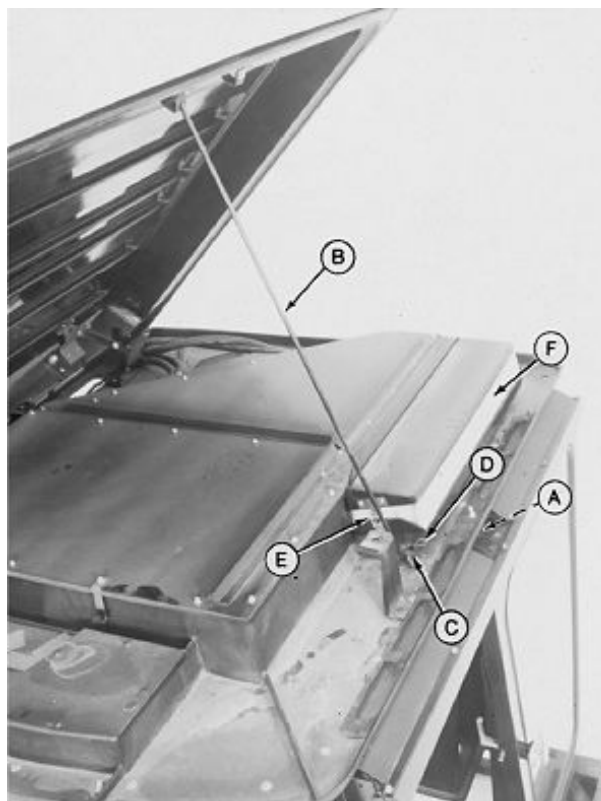
AG,OUO1011,1192 -19-09SEP99-4/4

Replacing Primary Filter Element

1. Remove two hold-down screws (if equipped), one on each side of roof. Unscrew thumb screw (A).
2. Lift roof. Remove rod (B) from storage clips. Insert bottom of one-piece support rod into support hole (C) of inner roof. Install spring pin (D).
3. Unlatch clips (E) on both sides. Remove filter element (F).
4. Install filter element using reverse procedure.

A—Thumb Screw
B—Rod
C—Support Hole

D—Spring Pin
E—Filter Clips
F—Filter Element



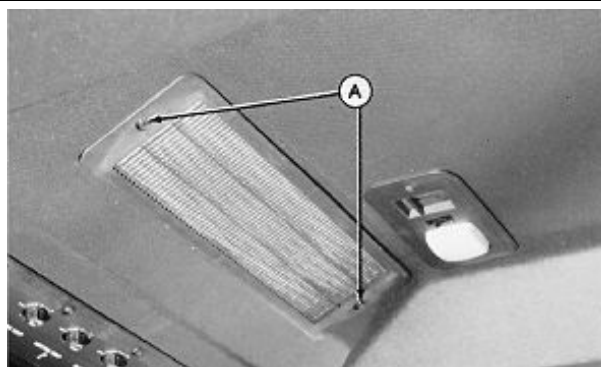
N85046G1—UN—28SEP88

AG,OUO1011,1193 -19-09SEP99-1/1

Removing Secondary (Recirculating) Air Filter

1. Remove two screws (A).
2. Lift element out of housing and clean.
3. Install element and replace hardware.

A—Screws



H50314—UN—23JAN89

OUO6043,000154B -19-25OCT01-1/1

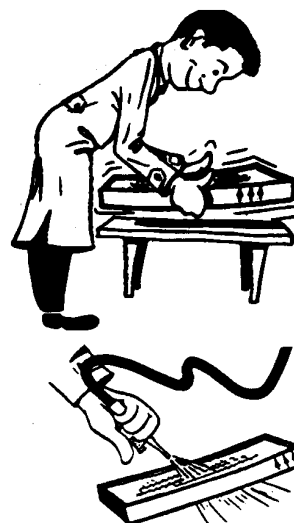
Cleaning Cab Filters

Clean cab filters by one of the following methods:

1. Tap gently on flat surface, dirty side down. Do not tap on a tire.

CAUTION: Compressed air can cause dust and debris to become airborne which can cause serious injury to you or others by striking eyes or unprotected areas. Reduce compressed air to less than 210 kPa (2.1 bar) (30 psi) when using for cleaning purposes. Clear area of bystanders. Guard against flying chips and wear personal protection equipment including eye protection.

2. Direct compressed air (210 kPa (2.1 bar) [30 psi] maximum) through filter in opposite direction of arrows on filter.



AG,OUO1011,1195 -19-09SEP99-1/2

H18472 —UN—10FEB89

H18473 —UN—10FEB89

3. Soak filter 15 minutes in warm water (not over 38°C [100°F]) with R36757 John Deere Filter Element Cleaner or its equivalent (non-sudsing detergent).
4. Rinse filter until clean with water from hose. Hose should have a maximum pressure of 272 kPa (2.7 bar) (40 psi).

IMPORTANT: Avoid damage to wet filter. **DO NOT** use compressed air to dry filter as it can rupture wet element.

5. Shake excessive water from filter and allow element to dry. **DO NOT** use compressed air to dry filter as it might rupture wet element.



H18474N

AG,OUO1011,1195 -19-09SEP99-2/2

H18474 —UN—10FEB89

Engine and Drive Train

Engine Control Unit (ECU) Diagnostic Codes

NOTE: For technical assistance on engine codes, see your Technical Manual or John Deere dealer.

When an error is detected, the red engine information light will flash on monitor and flashes must be counted. To inform about level of Diagnostic Trouble Code (level of concern), there are 2 different lamps used in this application. These lamps will be activated for 3 seconds after power up as a lamp test. The corresponding lamp will turn ON when a fault is active.

NOTE: A fuse must be installed in fuse block in order to access blink codes.

Install a fuse in engine diagnostic location (T) to access blink codes. See Fuses and Relays in Chassis section for fuse location.

Warning Lamp	Used for conditions when machine is operable but should be serviced to insure optimum performance.
Stop Lamp	Used for conditions when the engine should be stopped immediately.

Blink Code	Warning Lamp	Stop Lamp	Condition Which Causes The Fault	Description
11	On		Throttle signal voltage OOR high	Throttle sensor open or shorted to ground.
12	On		Throttle signal voltage OOR high	Throttle sensor shorted to high source.
17	On		The current to the injector in cylinder #3 is less than expected	Open circuit in the injector wiring on either connection. Injector solenoid failure. G2 configuration running X2 injectors.
18	On		Coolant temperature voltage OOR high	Open circuit in the harness, either signal or ground. Coolant temperature sensor failure.
19	On		Coolant temperature voltage OOR low	Coolant temperature sensor signal shorted to ground. Coolant temperature sensor failed.
23	On		Water in fuel voltage OOR high	Open circuit in the harness, either signal or ground. Water in fuel sensor failure.
24	On		Water in fuel voltage OOR low	Water in fuel sensor signal shorted to ground. Water in fuel sensor failed.
25	On		Manifold air temperature voltage OOR high	Open circuit in the harness, either signal or ground. Manifold air temperature sensor failure.
26	On		Manifold air temperature voltage OOR low	Manifold air temperature sensor signal shorted to ground. Manifold air temperature sensor failed.
27		On	Fuel rail pressure voltage OOR high	An open in the ground of the rail pressure sensor. Short in the harness to high voltage Rail pressure sensor failure. See Engine Protection for derate information.
28		On	Fuel rail pressure voltage OOR low	Rail pressure sensor not connected or open in the signal line. Rail pressure sensor supply connection open. Harness shorted to ground. Rail pressure sensor failure. See Engine Protection for derate information. The ECU has failed. Reprogram / Replace the ECU.
29	On		The current to the injector in cylinder #2 is less than expected	Open circuit in the injector wiring, on either connection. Injector solenoid failure. G2 configuration running X2 injectors.
31	On		The current to the injector in cylinder #1 is less than expected	Open circuit in the injector wiring on either connection. Injector solenoid failure. G2 configuration running X2 injectors.
32			Start of active codes	Short pin D3 to ground.
33			Start of previously active codes	Short pin D3 to ground.
34	On		The current to the injector in cylinder #4 is less than expected	Open circuit in the injector wiring, on either connection. Injector solenoid failure. G2 configuration running X2 injectors.

Continued on next page

OUO1078,0000509 -19-03OCT06-1/4

Engine and Drive Train

Blink Code	Warning Lamp	Stop Lamp	Condition Which Causes The Fault	Description
35	On		The current to the injector in cylinder #5 is less than expected	Open circuit in the injector wiring, on either connection. Injector solenoid failure. G2 configuration running X2 injectors.
36	On		The current to the injector in cylinder #6 is less than expected	Open circuit in the injector wiring, on either connection. Injector solenoid failure. G2 configuration running X2 injectors.
37	On		Fuel temperature voltage OOR high	Open circuit in the harness, either signal or ground. Fuel temperature sensor failure.
38	On		Fuel temperature voltage OOR low	Fuel temperature sensor signal shorted to ground. Fuel temperature sensor failed.
39	On		Timing sensor pattern error detected	Noise is being detected on the engine position sensor on the crankshaft. The sensor connections or the sensor has an intermittent failure. The sensing target is damaged. The signal from the engine position sensor on the crankshaft does not have the proper pulse pattern. The sensing target is damaged. The sensor is improperly installed.
41	On		Timing sensor signal missing	The signal from the engine position sensor on the crankshaft is missing. The connections to the sensor are open circuit. The sensor has failed.
43	On		Engine position sensor signal missing	The signal from the engine position sensor in the high-pressure pump is missing. The connections to the sensor are open circuit. The sensor has failed.
44	On		Engine position sensor pattern error detected	Noise is being detected on the engine position sensor in the high-pressure pump. The connections to the sensor or the sensor have an intermittent failure. The sensor target is damaged. The signal from the engine position sensor in the high-pressure pump does not have the proper pulse pattern. The sensing target is damaged. The sensor is improperly installed.
45	On		Timing sensor / engine position sensor mismatch	The relationship between the two engine position signals is not correct. The signal polarity is incorrect possibly due to mis-wiring. The high-pressure pump is incorrectly mounted.
48		On	Sensor supply voltage for rail pressure OOR high	The sensor supply connection to the rail pressure sensor is shorted to a higher voltage. The ECU has failed. ECU, pin R3 (5V) and P3 (Return).
49		On	Sensor supply voltage for rail pressure OOR low	The sensor supply connection to the rail pressure sensor is shorted to ground. The rail pressure sensor has failed. ECU, pin R3 (5V) and P3 (Return).
56	On		The injector fuel flow at Cylinder #5 is lower than expected	Injector is not working. Injector flow limiter is closed.
59	On		The injector fuel flow at Cylinder #3 is lower than expected	Injector is not working. Injector flow limiter is closed.
62	On		Coolant temperature high - moderately severe level	Cooling system performance has degraded or failed. See Engine Protection for derate information.
63		On	Coolant temperature high - most severe level	Cooling system performance has degraded or failed. See Engine Protection for derate information.
65	On		The injector fuel flow at Cylinder #1 is lower than expected	Injector is not working. Injector flow limiter is closed.
66	On		Manifold air temperature high - moderately severe level	Cooling system performance has degraded or failed. See Engine Protection for derate information.
67	On		The injector fuel flow at Cylinder #4 is lower than expected	Injector is not working. Injector flow limiter is closed.

Continued on next page

OUO1078,0000509 -19-03OCT06-2/4

Engine and Drive Train

Blink Code	Warning Lamp	Stop Lamp	Condition Which Causes The Fault	Description
68	On		A condition exists which is causing the engine to derate	One of the derate conditions exists on the engine.
69	On		The injector fuel flow at Cylinder #6 is lower than expected	Injector is not working. Injector flow limiter is closed.
71	On		The injector fuel flow at Cylinder #2 is lower than expected	Injector is not working. Injector flow limiter is closed.
75		On	Water in fuel detected	Water has been detected in the separator bowl.
77		On	The circuit to pump solenoid #1 is open, shorted to ground, or overloaded	A wiring connection to pump solenoid #1 is open. Wiring to pump solenoid #1 is shorted to ground. Pump solenoid #1 has failed.
78	On		Rail pressure control is unable to match the required rail pressure. It may be either too high or too low	The fuel filter is plugged or there is some other fuel restriction present. The high-pressure pump has failed.
79		On	Voltage above normal or shorted to a high source	Pump return shorted to a high source.
81	On		Fuel temperature high - moderately severe level	Cooling system has degraded or failed. See Engine Protection for derate information.
82	On		Glow plug relay output low when relay active	GlowPlug relay output is high when the relay is not energized by the ECU. Short to battery or relay is stuck on. Glow plug relay output is low when the relay is not energized by the ECU. Open circuit or failed relay.
83	On		Relay output high when not active or low when active	Relay output is high when the relay is not energized by the ECU. Short to battery or relay is stuck on. Or output is low when the relay is energized by the ECU. Open circuit or failed relay.
84	On		ECU cannot power down	Switched voltage does not go to 0V.
85	On		Fuel rail pressure not developed during cranking	During start, the engine is not able to develop 10 MPa rail pressure. Fuel system is not primed properly. Fuel is not being supplied to the engine.
86	On		Fuel rail pressure drops too fast	When the engine is motoring and the high-pressure pump is off, rail pressure decays too fast. High-pressure leak in the fuel system.
87	On		Pump element #1 is not delivering expected fuel flow.	Pump element #1 is not working.
88			No codes found	N/A
91	On		The current to the injector in cylinder #1 increases too rapidly	Injector solenoid failure. Short across the injector wires. X2 configuration running G2 injectors. Engine will not run.
92	On		The current to the injector in cylinder #2 increases too rapidly	Injector solenoid failure. Short across the injector wires. X2 configuration running G2 injectors, engine will not run.
93	On		The current to the injector in cylinder #3 increases too rapidly	Injector solenoid failure. Short across the injector wires. X2 configuration running G2 injectors, engine will not run.
94	On		The current to the injector in cylinder #4 increases too rapidly	Injector solenoid failure. Short across the injector wires. X2 configuration running G2 injectors, engine will not run.

Continued on next page

OUC1078,0000509 -19-03OCT06-3/4

Blink Code	Warning Lamp	Stop Lamp	Condition Which Causes The Fault	Description
95	On		The current to the injector in cylinder #5 increases too rapidly	Injector solenoid failure. Short across the injector wires. X2 configuration running G2 injectors, engine will not run.
96	On		The current to the injector in cylinder #6 increases too rapidly	Injector solenoid failure. Short across the injector wires. X2 configuration running G2 injectors, engine will not run.
97	On		Injector pull in current too low or hold current incorrect	All injector currents are out of specification for various reasons. The initial pull in current is too low or the hold current is incorrect. The battery supply to the ECU is unusually low. The ECU has failed. Will set if running G2 configuration on the X2 injectors.
98		On	Short to battery on the injector lines	The injector drive circuit has detected a short to ground on the injector wires.
99		On	Short to ground on the injector lines	The injector drive circuit has detected a short to ground on the injector wires.

OUO1078,0000509 -19-03OCT06-4/4

Do Not Modify Fuel System

IMPORTANT: Modification or alteration of the injection pump, the injection pump timing, electronic control unit, or the fuel injectors in ways not recommended by the manufacturer **WILL** terminate the warranty obligation to the purchaser.

DO NOT attempt to service injection pump or fuel injectors yourself. Special training and special tools are required. See your authorized servicing dealer or engine distributor.

NX,OM9976,90B -19-20SEP06-1/1

Replacing Engine Accessory Drive Belt—Alternator, Fan and Air Conditioning Compressor

Recommended Service Interval	
Check Belt Tension	Annually

NOTE: Fan, air conditioner compressor and alternator share the same belt. Verify belt is in good condition.

Accessory drive belt is equipped with an automatic tensioner which **DOES NOT** require adjustment.

- To replace accessory drive belt (A), place a 1/2 in. breaker bar in tensioner as shown and rotate tensioner arm counter-clockwise.
- Remove belt from drive pulley.
- Relax breaker bar tension and remove belt from alternator and air conditioning compressor pulleys.
- Install new belt in reverse order of removal.

A—Drive Belt



N96108H1 —UN—09MAY96

OUO1078,00004E1 -19-15JUN06-1/1

Replacing Primary Fuel Filter/Water Separator

1. Thoroughly clean exterior of filter element (A) and mounting base (B). Also clean around filter mounting area.

NOTE: Lifting up on ring as it is rotated helps to get it past the retaining detent.

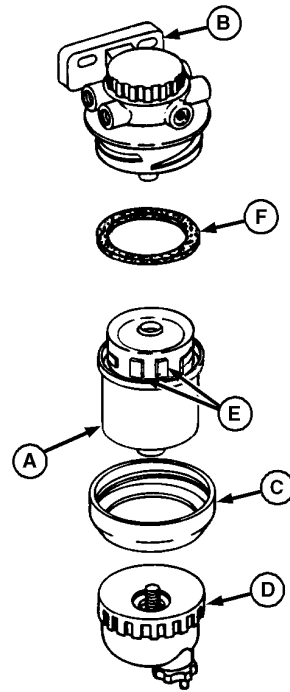
2. Rotate retaining ring (C) counterclockwise (left) 1/4 turn. Remove ring with filter element.
3. Remove water separator (D) from filter element. Drain and clean separator. Dry using compressed air.

NOTE: Indexing keys (E) on filter element insure proper alignment of filter to mounting base.

4. Install water separator on new filter element.
5. Index filter element until longer, vertical keys are oriented away from the engine. Insert filter element in mounting base until tight. It may be necessary to rotate filter for proper alignment.
6. Install retaining ring on mounting base, making sure dust seal (F) is in place on filter base. Tighten retaining ring until it locks into detent position and a "click" is heard.
7. Bleed fuel system. See instructions in this section.

A—Filter Element
B—Mounting Base
C—Retaining Ring

D—Water Separator
E—Indexing Keys
F—Dust Seal



N73258—UN—16AUG06

N58641—UN—11OCT01

OUO1078,00004E9 -19-26JUL06-1/1

Drain and Replace Final Fuel Filter/Water Separator

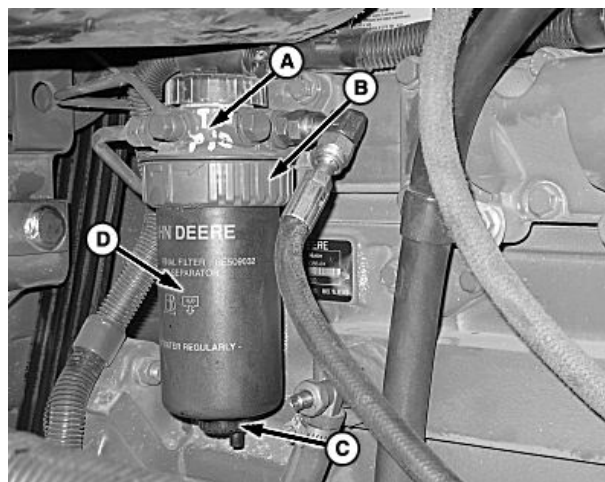
1. Thoroughly clean exterior of fuel filter (D) and mounting base (A). Also clean around filter mounting area.
2. Remove drain plug (C).
3. Allow water separator to drain until all water and sediment has been removed from filter.

IMPORTANT: Leaving plug out will drain fuel tank.

4. If draining only, reinstall drain plug. If replacing filter, continue.
5. Rotate retaining ring (B) counterclockwise (left) 1/4 turn. Remove ring with filter element.
6. Before installing new filter element, make sure sealing surface is completely clean.

IMPORTANT: Any dirt or contamination left on sealing surface will be washed into injection system. This may cause serious damage to injection pump or nozzles.

7. Install new filter element.
8. Install drain plug (C).
9. Remove outlet hose. This allows air to escape during filling of filter.



A—Mounting Base
B—Retaining Ring

C—Drain Plug
D—Fuel Filter

10. When fuel starts coming from top fitting, reinstall outlet hose.

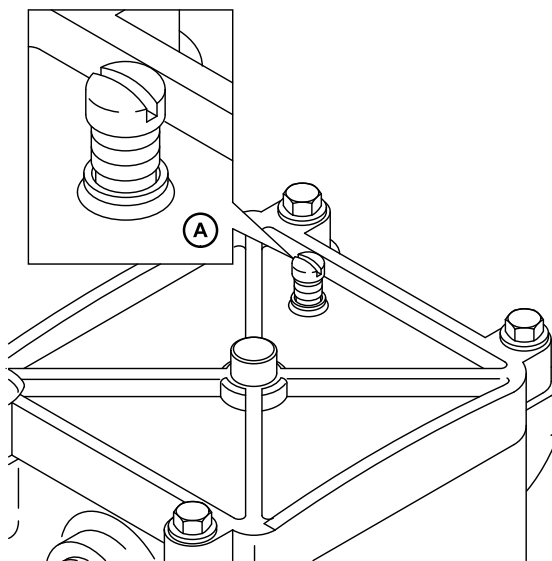
OU01078,00004E8 -19-12JUL06-1/1

N73852 —UN—27SEP06

Flushing Fuel/Water Separator Bowl (If Equipped)

1. Turn off engine.
2. Open bleed screw (A). This will relieve vacuum in filter and allow water and particulate matter to be released from filter element.

A—Bleed Screw



Continued on next page

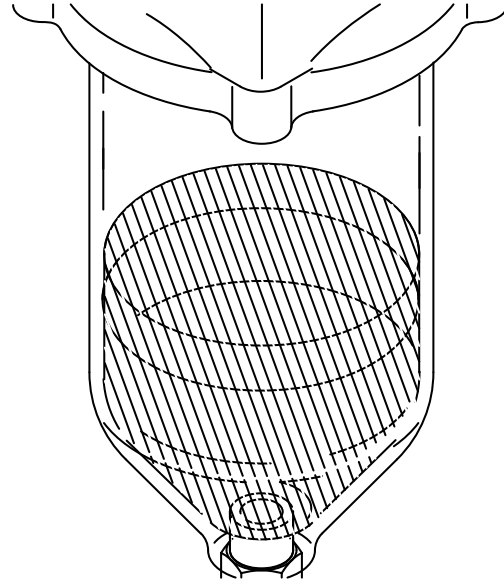
CP00718,0001DB4 -19-29DEC15-1/3

N73205 —UN—12JUL06

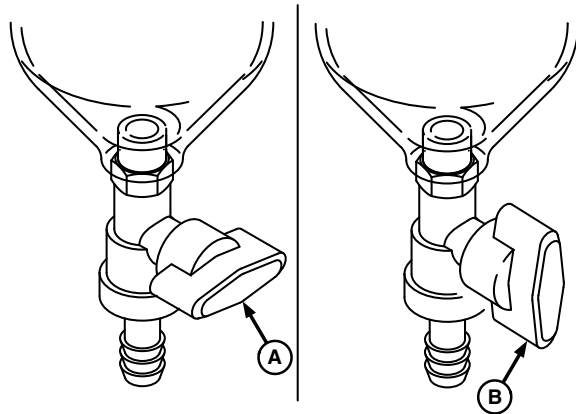
3. Allow water and particulate matter to settle to bottom of bowl.
4. Push in and turn drain valve to drain water and particulate matter into a proper container for disposal.
5. Close drain valve.
6. As water and particulate matter is drained from bowl, more water and particulate matter may be flushed from filter. If necessary, open valve again to drain water and particulate matter, close valve.

A—Drain Valve (Closed Position)

B—Drain Valve (Open Position)



N72821 —UN—25MAY06



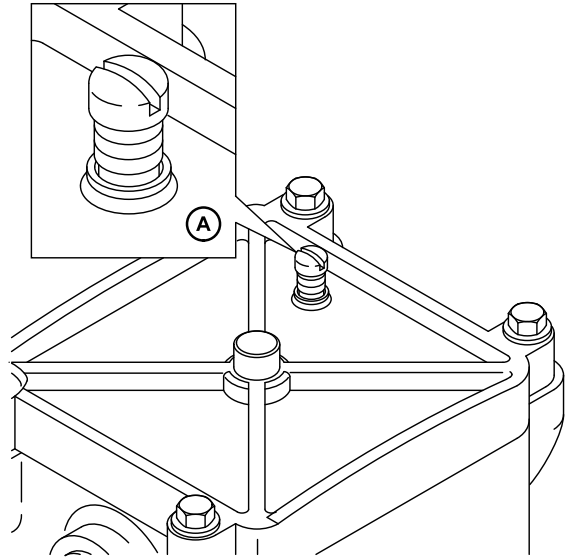
N72822 —UN—25MAY06

Continued on next page

CP00718,0001DB4 -19-29DEC15-2/3

7. Prime filter and close bleed screw (A).

A—Bleed Screw



N73205 —UN—12JUL06

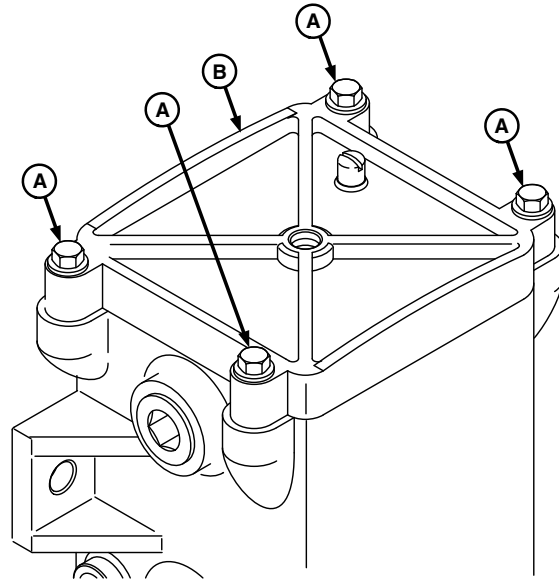
CP00718,0001DB4 -19-29DEC15-3/3

Cleaning and Replacing Fuel/Water Separator Bowl Filter Element (If Equipped)

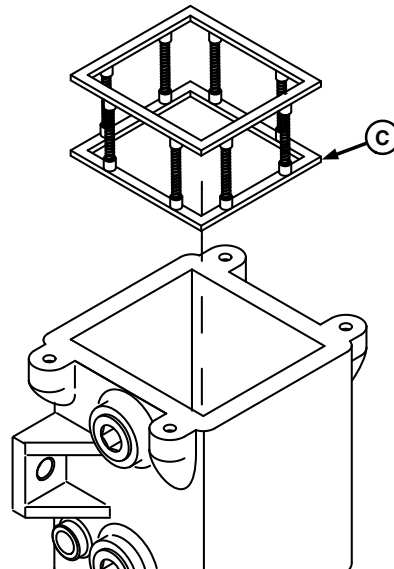
1. Turn off engine.
2. Open drain valve and drain fuel from bowl.
3. Loosen wing nuts (A) on lid (B) evenly.
4. Remove wing nuts and lid.
5. Remove spring cassette (C).

A—Wing Nuts
B—Lid

C—Spring Cassette



N73206 —UN—12JUL06



N72829 —UN—25MAY06

Continued on next page

CP00718,0001DB5 -19-29DEC15-1/3

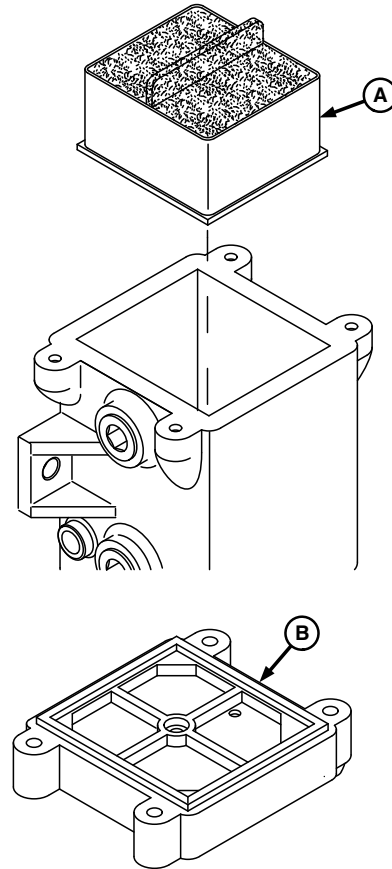
6. Lift out filter element (A) by handle.
7. Wash filter in clean diesel fuel or mineral spirits.
8. Inspect filter for damage. If damaged, replace with a new filter.

NOTE: If cover is removed, fill filter body with diesel fuel before installing cap.

9. Install filter element.
10. Install spring cassette.
11. Inspect lid gasket (B). Replace if necessary.

A—Filter Element

B—Gasket

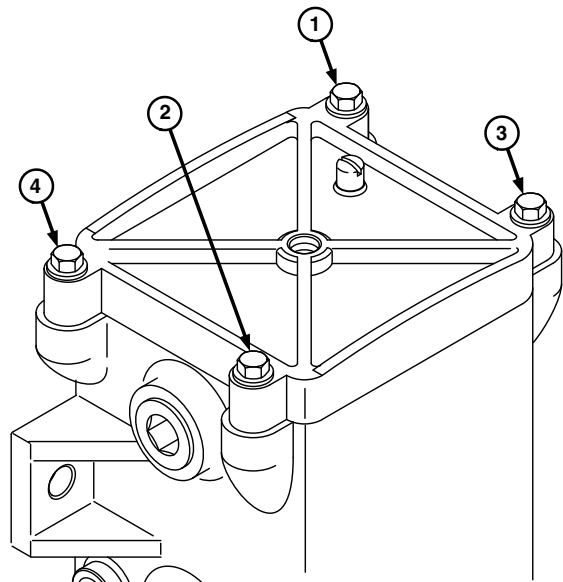


CP00718,0001DB5 -19-29DEC15-2/3

N72830 —UN—25MAY06

N73207 —UN—12JUL06

12. Align lid on filter assembly, install all four wing nuts and lightly tighten.
13. Tighten wing nuts in sequence as shown.
14. Prime fuel system.
15. Check for leaks.



CP00718,0001DB5 -19-29DEC15-3/3

N73208 —UN—12JUL06

Bleed Fuel System

CAUTION: Shut OFF engine, set parking brake and remove key before performing maintenance work.

Air can enter the fuel system when changing the filter or running out of fuel. Air in the fuel system could prevent the engine from starting. If engine will not start use the following procedure to bleed the filter.

NOTE: Pump will only run for 10 seconds if engine is not running. Turn key off and back on as necessary to continue priming pump.

Turn key switch ON so electric fuel pump primes the fuel system.

OUO1078,00004E6 -19-20SEP06-1/1

Servicing Precleaner

NOTE: Precleaner is an aspirator that operates by muffler (Venturi) suction.

Hose (A) MUST be clear so the muffler produces suction while operating.

A—Hose



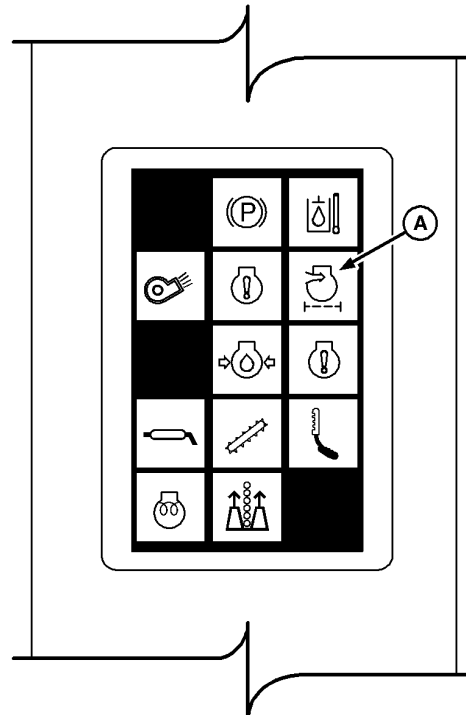
N73021 —UN—17JUL06

AG,OUO1011,1200 -19-27JUN06-1/1

Servicing Air Cleaner

A dual-element air cleaner is standard. When air filter indicator (A) glows, service air cleaner. Replace primary and secondary elements at least once a year.

A—Air Filter Indicator



N73368 —UN—11AUG06

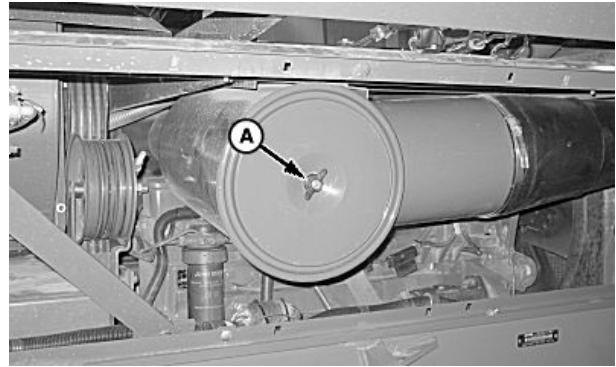
AG,OUO1011,1201 -19-30AUG06-1/1

Removing and Replacing Air Cleaner Elements

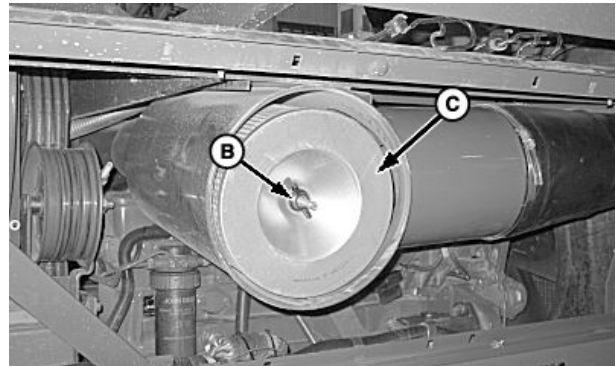
1. Remove wing nut (A) and canister cover.
2. Remove wing nut (C) and primary element (B).
3. Wipe inside of canister and cover using a clean cloth.

A—Wing Nut
B—Primary Element

C—Wing Nut



N73008 —UN—17JUL06



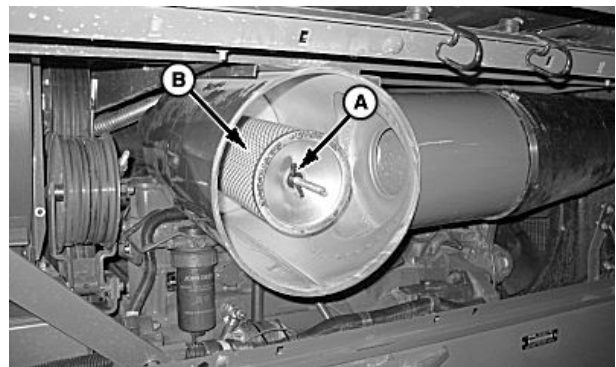
N73009 —UN—17JUL06

AG.OUO1011,1202 -19-27JUN06-1/2

4. Remove wing nut (A) and secondary element (B) ONLY if it is to be replaced. DO NOT ATTEMPT TO CLEAN SECONDARY ELEMENT.
5. Install element(s) with wing nut(s). Make sure elements are properly seated.
6. Install canister cover and tighten wing nut.

A—Wing Nut

B—Secondary Element



Secondary Element

N73020 —UN—17JUL06

AG.OUO1011,1202 -19-27JUN06-2/2

Cleaning Engine and Radiator Side Screens

Whenever trash builds up on screens, stop engine and brush engine screens (A) and radiator screens (B) clean.

A—Engine Screens

B—Radiator Screens



N42152KB—UN—08NOV93

AG,OUO1011,1206 -19-09SEP99-1/1

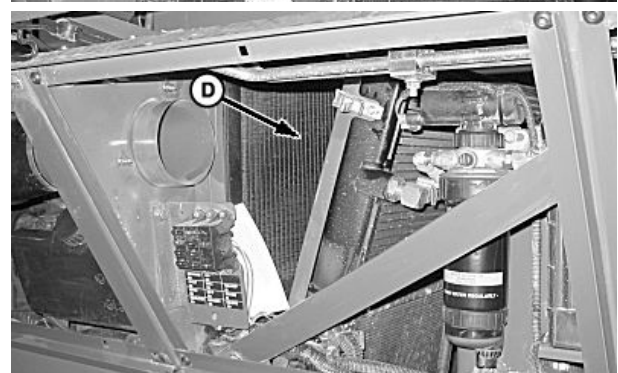
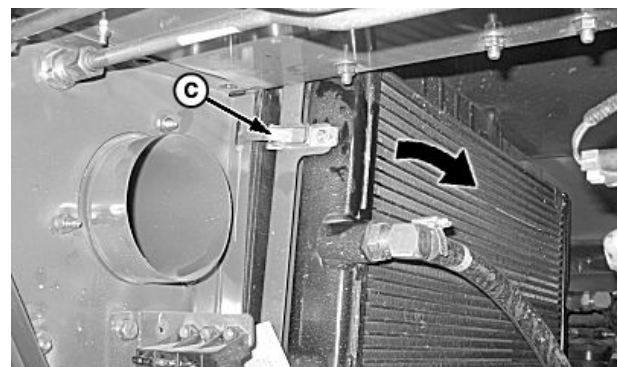
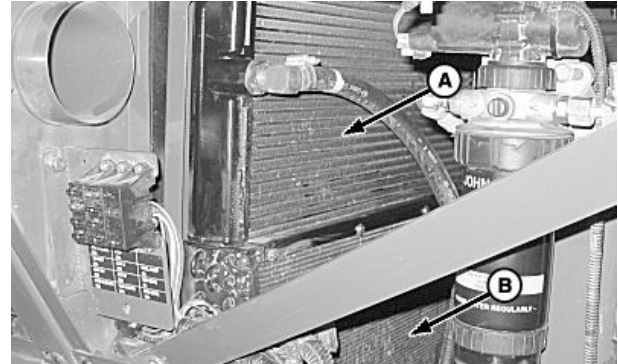
Cleaning Radiator

1. Remove side screen and brush debris from radiator, oil cooler and air conditioning condenser (A).

⚠ CAUTION: Condenser core is heavy and **WILL** fall when latch is released which can cause serious injury to you or others. Support condenser adequately when unlatching.

2. Pull out latch to clean between radiator and oil cooler condenser. Pivot condenser rearward carefully.

A—Condenser



AG,OUO1011,1207 -19-11JUL06-1/1

TS286 —UN—23AUG88

N73019 —UN—16AUG06

N73012 —UN—17JUL06

N73013 —UN—17JUL06

Checking Coolant Level

CAUTION: The basket is heavy and if it falls, serious injury or death to you or others can result. **NEVER** remove radiator filler cap or check coolant by lifting and working under basket.

Explosive release of fluids from pressurized cooling system can cause serious burns.

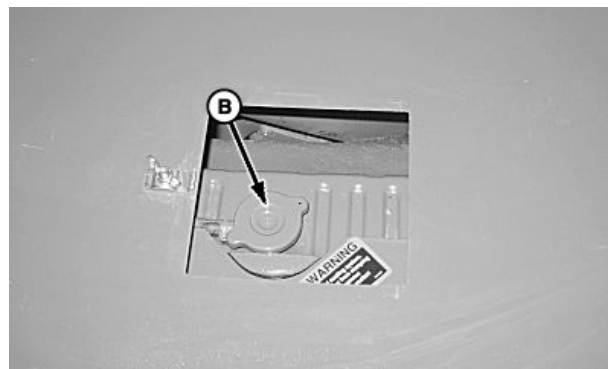
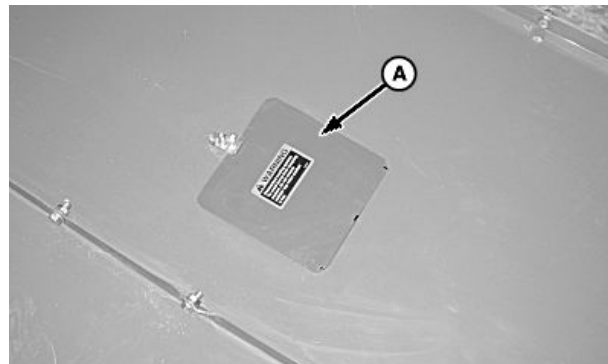
If radiator fill cap must be removed, do not remove when engine is hot. Shut engine off and wait until cap is cool enough to touch with bare hands. Slowly loosen cap to first stop to relieve pressure before removing completely.

Never add coolant when engine is overheated. Wait for it to cool.

1. Loosen wing nut and remove cover (A) at bottom of basket.
2. Keep radiator pressure cap (B) tight and gasket surface in good condition or loss of pressure and coolant will result.

A—Cover

B—Radiator Pressure Cap



Continued on next page

AG,OUO1011,1208 -19-11AUG06-1/3

TS261—UN—23AUG88

TS281—UN—15APR13

N73025—UN—17JUL06

N73026—UN—16AUG06

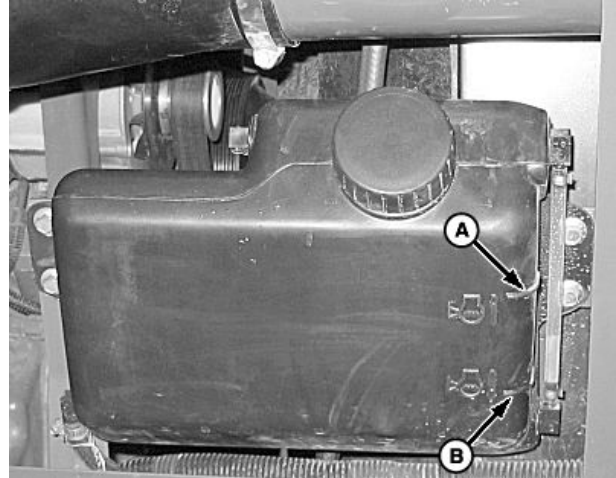
3. Check coolant level in overflow tank when engine is cold.

IMPORTANT: To prevent damage from overheating engine check the overflow hose for kinks and check the coolant level in the radiator through the radiator cap.

4. Keep overflow tank filled to level between the "HOT" (A) and "COLD" (B) marks. Add coolant to the overflow tank until the level appears at the "HOT" mark, if necessary.

A—Hot Mark

B—Cold Mark

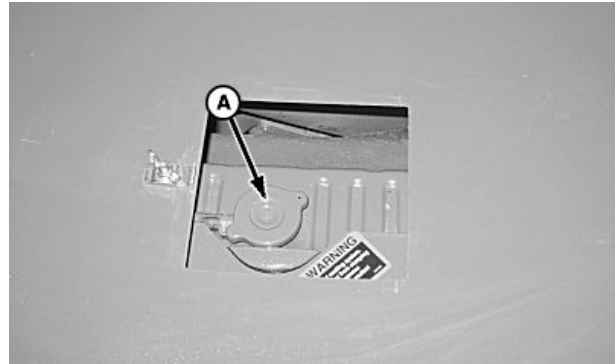


N73022 —UN—17JUL06

AG,OUO1011,1208 -19-11AUG06-2/3

5. Remove radiator pressure cap (A) if overflow tank becomes empty. Add coolant to radiator until coolant is level with top of radiator tank. Replace radiator pressure cap and fill overflow tank to HOT mark.

A—Radiator Pressure Cap



N73194 —UN—16AUG06

AG,OUO1011,1208 -19-11AUG06-3/3

Filling Coolant System

IMPORTANT: Follow this procedure if coolant system has been drained or flushed.

DO NOT use methoxyl propanol antifreeze in the cooling system or coolants that contain a stop-leak additive. Engine damage may result. See **FUELS, LUBRICANTS AND COOLANTS** section for proper coolant specifications.

CAUTION: Explosive release of fluids from pressurized cooling system can cause serious burns.

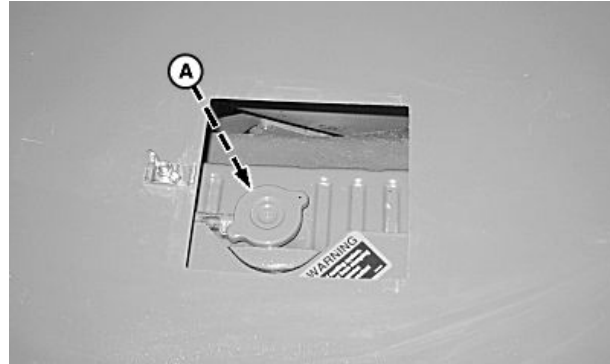
DO NOT raise basket to remove radiator cap and check radiator. The basket is heavy and can cause serious injury or death to you or others if it falls. Check and remove radiator cap from **INSIDE** basket only.

If radiator cap must be removed, do not remove when engine is hot. Shut engine off and wait until cap is cool enough to touch with bare hands. Slowly loosen cap to first stop to relieve pressure before removing completely.

Never add coolant when engine is overheated. Wait for it to cool.

Under certain conditions coolant conditioner can cause serious injury or death to you or others. Never inhale or ingest conditioner and avoid contact with skin or eyes. When adding coolant conditioner observe all precautions listed on container.

1. Add specified coolant to radiator until filler neck (A) is completely full prior to starting engine if radiator has been drained or if cooling system has been back-flushed. Open heater valves and operate heater. See **DIESEL ENGINE COOLANT** and all associated coolant information in **FUELS, LUBRICANTS AND COOLANT** section.



A—Filler Neck

2. Start engine and operate at idle throttle until thermostat opens.
3. Refill radiator to top of filler neck using coolant specified in Step 1.
4. Install and tighten radiator cap.
5. Shut off engine.

Continued on next page

OUC6043,000149D -19-10JUL06-1/2

TS281 —UN—15APR13

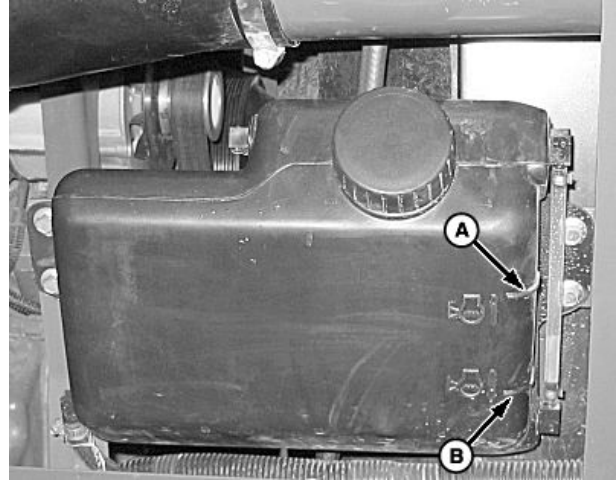
N73027 —UN—16AUG06

6. Fill overflow tank to the "HOT" mark.

NOTE: The coolant level in the overflow recovery tank will go down as air is removed from the cooling system. When coolant is hot, the level in the overflow recovery tank will be higher than when coolant is cold. Coolant should be added to the overflow recovery tank as required, to maintain level between the "HOT" (A) and "COLD" (B) marks when the engine is cold. When coolant is hot the level will be 1.8—3.7 L (2—4 qts) higher than when cold.

A—Hot Mark

B—Cold Mark



N73022 —UN—17JUL06

OUO6043,000149D -19-10JUL06-2/2

Flushing Cooling System

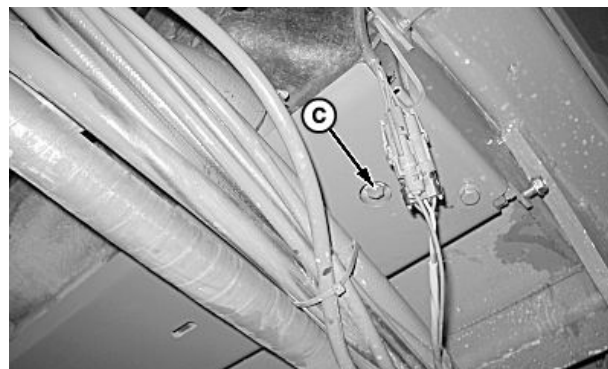
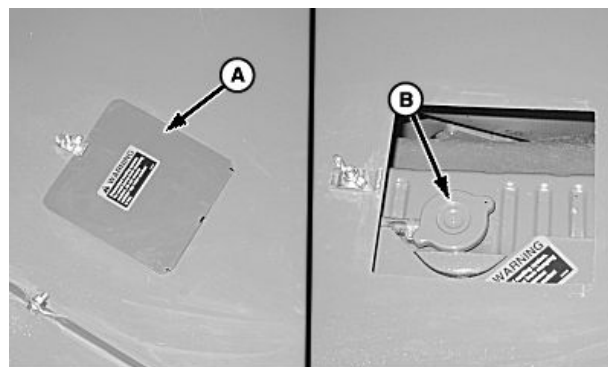
CAUTION: The basket is heavy and can cause serious injury or death to you or others if it falls. Never remove radiator filler cap or check coolant by lifting basket and working under basket.

NEVER remove radiator filler cap while coolant or engine is hot. Explosive release of fluids from pressurized cooling system can cause serious burns to you or others. **ALWAYS** loosen water pump drain valve and engine block drain plug slowly to relieve any excess pressure. Add coolant directly into radiator when cooled. See **FILLING RADIATOR** in this section.

1. Remove cover (A) and radiator cap (B).
2. Drain cooling system by opening drain plug (C) on bottom of radiator.
3. Close drain and fill system with clean water. See Filling Coolant System in this section.
4. Operate engine until it reaches operating temperature.
5. Turn heater on and leave on until finished.
6. Stop engine and drain water out before rust or sediment settles.
7. Close radiator drain plug and fill system with a solution of clean water and John Deere Cooling System Cleaner or its equivalent. Follow instructions provided with cleaner.
8. Drain system again.
9. Fill radiator with coolant. See Lubrication and Maintenance section for proper mixture.

A—Cover
B—Radiator Cap

C—Radiator Drain Plug



TS261—UN—23AUG88

TS281—UN—15APR13

N73216—UN—16AUG06

N73024—UN—17JUL06

OUO6043,0001551 -19-18JUL06-1/1

Winterizing Cooling System

IMPORTANT: Damage to cooling system can result. **DO NOT** drain cooling system to protect against freezing. Operator's station heater does not drain completely.

Stop-leak additives can plug radiator, causing overheating and engine damage. Do not use coolants that contain a stop-leak additive.

1. Be sure cooling system has sufficient coolant prior to cold weather. Add only specified coolant. See **DIESEL ENGINE COOLANT** and all associated information in **LUBRICATION AND MAINTENANCE** section for coolant recommendations and information.
2. After adding coolant, turn heater switch (A) on and operate engine until it reaches normal operating temperature. This mixes solution uniformly and circulates it through entire system.

A—Heater Switch



N42152EX—UN—03NOV93

OUO6043,0001552 -19-25OCT01-1/1

Diagnosing Engine Problems

[illegible]

N42186IK —19—16SEP97

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AG,OUO1011,1212 -19-09SEP99-1/2

POSSIBLE CAUSES Columns numbered for reference purposes	PERFORMANCE										EMISSION										LUBRICANT / COOLANT										OPERATION													
	SYMPTOMS																																											
	LOW/LOSS OF POWER	HARD/FAIL TO START	ENGINE MISFIRES	POOR ACCELERATION	POOR DECELERATION	ERRATIC IDLE	ENGINE DIES	ENGINE WON'T SHUT DOWN	CANNOT REACH GOVERNED RPM	SURGING AT GOVERNED RPM	EXCESSIVE WHITE SMOKE	BLACK SMOKE (FULL LOAD)	EXCESSIVE BLUE SMOKE	GREY SMOKE	EXCESSIVE ACCELERATION SMOKE	EXCESSIVE LUBE OIL CONSUMPTION	EXCESSIVE FUEL OIL CONSUMPTION	EXCESSIVE COOLANT CONSUMPTION	OIL OUT THE BREATHERS	LUBE OIL CONTAMINATED	FUEL CONTAMINATED	COOLANT CONTAMINATED	HIGH COOLANT TEMPERATURE	LOW COOLANT TEMPERATURE	LONG COOLANT FILL TIME	HIGH OIL SUMP TEMPERATURE	CRANKCASE SLUDGE	OIL OUT OF TURBO DRAIN	WATER OUT OF TURBO DRAIN	LOW OIL PRESSURE	HIGH CRANKCASE PRESSURE	LOW AIR INLET RESTRICTION	HIGH AIR INLET RESTRICTION	SHORT AIR CLEANER LIFE	HIGH OIL PRESSURE	MECHANICAL KNOCKS	GEAR TRAIN NOISE	FUEL KNOCKS (COMBUSTION NOISE)	EXCESSIVE ENGINE VIBRATION	SEIZED ENGINE COMPONENT				
ADJUSTMENTS OR REPAIRS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40				
GASKET BLOW-BY OR SEAL LEAKAGE	•																																											
FAULTY DAMPER/FLYWHEEL BALANCE																																												
VALVE LEAKAGE/FAULTY ADJUSTMENT		•	•	•	•							•	•				•	•																										
BROKEN, SCORED OR WORN CYLINDER PARTS	•	•							•			•	•				•			•	•							•	•															
INCORRECT BEARING CLEARANCE																																•												
WORN CAMSHAFT LOBES	•																																											
MAIN BEARING BORE ALIGNMENT																																												
ENGINE OVERHAUL NEEDED	•																																											
DAMAGED MAIN OR ROD BEARINGS																																												
GEARTRAIN BACKLASH INCORRECT																																												
MISALIGNMENT THRU DRIVE COUPLING																																												
LOOSE ENGINE MOUNTING BOLTS																																												
LOW POWER																																												
ADJUSTMENTS - GOVERNOR/INJECTOR	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
PUSH RODS - BROKEN/BENT	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
THROTTLE DELAY OR FUEL MODULATOR	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
EXTERNAL THROTTLE LINKAGE	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
ENGINE TIMING	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
FAULTY DRILLED PASSAGES																																												
CRANKING SPEED (150 RPM MIN.)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
SHUTDOWN SYSTEM FAULTY	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
OPERATION & MAINTENANCE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40				
DIRTY/FAULTY FILTERS AND BREATHERS	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
LONG IDLE PERIODS																																												
ENGINE OVERLOADED	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
OIL CHANGE INTERVAL																																												
CRANKCASE OVERFILLED	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
LOW OIL LEVEL	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
ENGINE DRIVEN ACCESSORIES	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
STORAGE AND HANDLING OF LUBE OIL																																												
STORAGE AND HANDLING OF FUEL OIL																																												
STORAGE AND HANDLING OF COOLANT																																												
FUEL SYSTEM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40				
LOSS OF FUEL FLOW		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
NO FUEL AT INJECTOR		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
QUALITY/GRADE OF FUEL	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
AIR IN THE FUEL	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
HIGH FUEL TEMPERATURE (ABOVE 130°)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
FUEL PUMP INOPERATIVE	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
FUEL INLET RESTRICTION HIGH AT PUMP	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
FUEL SUPPLY PRESSURE BELOW 35 PSI	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
FAULTY INJECTOR	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
WRONG INJECTOR SEAL	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
DEBRIS IN FUEL TANK	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

NOTE: See your John Deere dealer for engine repairs.

AG,OUO1011,1212 -19-09SEP99-2/2

N42176C1 —19—07MAR97

Wheels and Tires

Service Tires Safely

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.



Wheels and tires are heavy. When handling wheels and tires use a safe lifting device or get an assistant to help lift, install, or remove.

RXA0103438 —UN—1 JUN09

DX,WW,RIMS -19-28FEB17-1/1

Checking Tires

IMPORTANT: Maintain correct tire pressure to prevent damage to the tire.

Visually inspect all tires. Consider replacing the tire if the following conditions exist:

- Worn tread
- Unusual or spotty tread wear
- Isolated bulges or bubbles in tread or sidewall
- Deep cracks or cuts in tread or sidewall that extend to the cord body
- If the tire repeatedly loses more than 20% of its rated pressure without explanation, and repair does not eliminate repeated pressure loss

NOTE: Tires exposed to sunlight, ozone, or electrical discharge will eventually develop cracks or checking. If these cracks extend to the cord body, the tire should be replaced.

Check tires daily for damage or noticeably low pressure.

At least every 100 hours of operation, check tire pressure.

Protect tires from exposure to sunlight, petroleum products and chemicals.

Drive carefully. Try to avoid rocks and sharp objects.

IMPORTANT: Tighten wheel bolts to specification every ten hours until torque stabilizes.

Specification

Wheel Bolts (Lubricated M20)—Drive Wheels—Torque.....(Serial No. 020001—025134)	490 N·m (360 lb-ft)
Wheel Bolts (Lubricated M22)—Drive Wheels—Torque..... (Serial No. 025135—)	610 N·m (450 lb-ft)
Wheel Bolts (Dry)—Non-Powered Guide Wheels—Torque.....	312 N·m (230 lb-ft)
Wheel Bolts (Dry)—Powered Guide Wheels—Torque.....	610 N·m (450 lb-ft)

Inflate tires to specification

Item	Measurement	Specification
Drive Wheels Cleat Tires 520/85D38 (R1)	Inflation Pressure	441 kPa (4.4bar) (64 psi)
Drive Wheels Cleat and Rice Tires 520/85D38 (R2)	Inflation Pressure	441 kPa (4.4bar) (64 psi)
Non-Powered Guide Axle Rib Tires 9.00 x 24 8 PR (I1)	Inflation Pressure	303 kPa (3.0 bar) (44 psi)
Non-Powered Guide Axle Cleat Tires 14.9 x 24 8 PR (R4)	Inflation Pressure	234 kPa (2.3 bar) (34 psi)
Non-Powered Guide Axle Cleat Tires 14.9 x 24 12 PR (R4)	Inflation Pressure	290 kPa (2.9 bar) (42 psi)
Power Axle Cleat Tires 14.9 x 24 12 PR (R2)	Inflation Pressure	165 kPa (1.7 bar) (24 psi)

CP00718,0002C26 -19-12APR17-1/1

Check Liquid Ballast to Right-Hand Drive Tire (On 4-Row Machines) and Rear Guide Wheels (5-Row Machine Only)

CAUTION: On any machine, to lessen the possibility of the machine tipping over and causing serious injury or death to you or others when unloading a basket of high moisture cotton, add liquid ballast to the right-hand drive wheel.

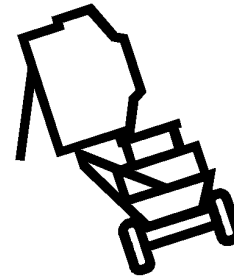
On any 5-row set-up machine, to improve fore and aft stability while making quick stops, add liquid ballast to rear tires.

IMPORTANT: Cover rim completely with solution to avoid corrosion, but **NEVER** fill any tire to more than 90 percent full. More solution would leave too little air space to absorb shocks. Damage to tire could occur.

NOTE: If machine is to have the row spacings adjusted, add liquid ballast as a last step.

A solution of water and calcium chloride provides safe, economical ballast. Used properly, it will not damage tires, tubes, or rims.

Use calcium chloride to prevent water from freezing. A mixture of 1.6 kg (3.5 lb) of calcium chloride per L (gal) will not freeze solid above -45°C (-50°F).



Specification

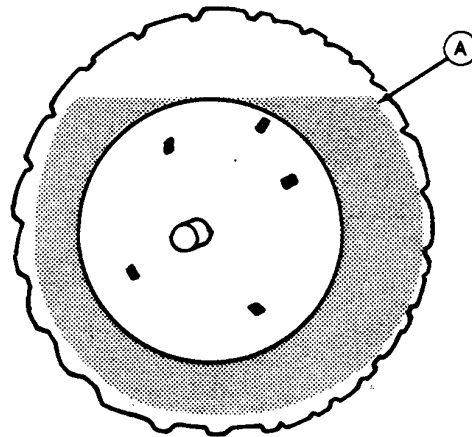
Calcium Chloride of
1.6 kg (3.5 lb) Per L
(gal)—Freeze Protection
Limit Above..... -45°C
(-50°F)

NOTE: Use of alcohol as liquid ballast is not recommended. Calcium chloride solution is heavier and more economical.

AG,OUO1011,1214 -19-09SEP99-1/3

N51101—UN—08SEP99

Fill tubeless tires slightly above valve level (minimum 75 percent full) (A). Less solution would expose part of rim, possibly causing corrosion. Tube-type tires may be filled to any level below 90 percent. Radial-ply and bias-ply tires hold same amount of liquid.



Continued on next page

AG,OUO1011,1214 -19-09SEP99-2/3

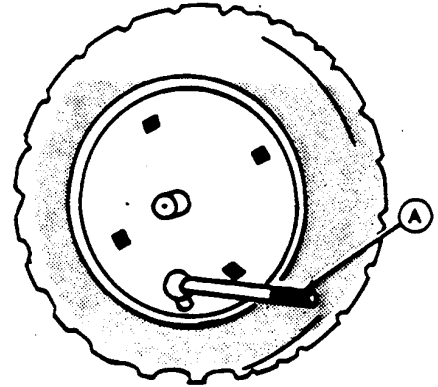
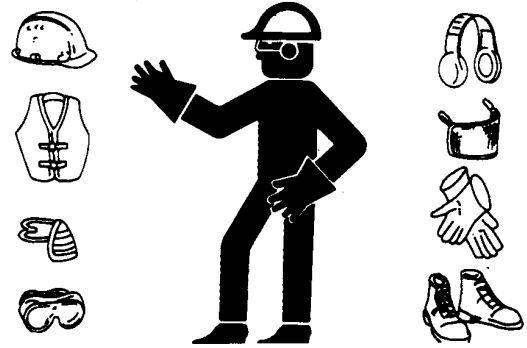
RW4568—UN—23JAN89

CAUTION: Wear protective clothing. Protect eyes, skin and clothing from escaping calcium chloride solution. If contact is made with solution, promptly rinse off with plenty of water. Do not allow calcium chloride to dry on skin or clothing in contact with skin. Dispose of solution in a manner where it will not find its way into potable water used by humans or livestock. Refilling a liquid ballast tire requires special equipment and training. Have the job done by your John Deere dealer or a tire service dealer.

Use a special air-liquid gauge (A) when filling right-hand drive tires with liquid ballast. Check with valve stem at BOTTOM for the most accurate reading.

IMPORTANT: Inflation pressure in liquid filled tires should be checked frequently using an air-liquid gauge. Checking liquid filled tires with a standard air gauge will ruin the gauge. Any air leak in a liquid weighted tire results in a much greater decrease in pressure, because air volume is relatively small. Replace valve caps and rinse air-liquid gauge out after use.

A—Air-Liquid Gauge



TS206 —UN—15APR13

N36585 —UN—05OCT88

AG.OUO1011,1214 -19-09SEP99-3/3

Jacking Up Front Axle

CAUTION: Machine is heavy and can fall or roll causing serious injury or death to you or others. Use a jack with a minimum jacking capability of 13 t (15 tons). Machine must be on a flat, level surface with transmission lever in neutral, park brake engaged and key removed.

Do not perform service or jack machine when parked on a grade. Park on a level surface and chock drive wheels to prevent machine movement.

IMPORTANT: Machine damage can occur. Jack up the front axle only at designated jacking locations.

1. Position machine on a flat, level surface.
2. Position jack on a solid, flat surface beneath the jacking plate (A).

CAUTION: Machine is heavy and can fall or roll causing serious injury or death to you or others. Clear all bystanders away from machine before jacking up machine.

3. Clear all bystanders away from machine, then using jack, raise the front axle only enough to change/repair tire.
4. Change/repair tire. Tighten the drive tire wheel bolts to specification.

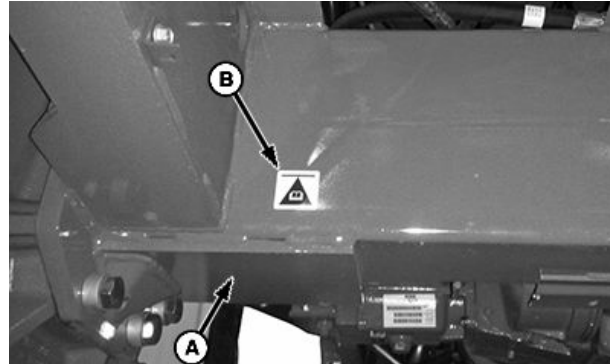
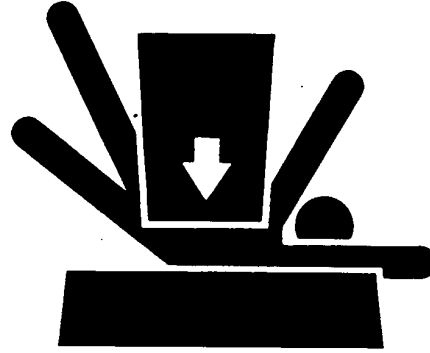
Specification

Drive Tire Wheel
Bolts (Lubricated
M20)—Torque.....(Serial No. 020001—025134) 490 N·m
(360 lb·ft)

Specification

Drive Tire Wheel
Bolts (Lubricated
M22)—Torque.....(Serial No. 025135—) 610 N·m
(450 lb·ft)

Tighten guide wheel bolts to specifications.



A—Jacking Plate

B—Jacking Location Decal

Specification

Non-Powered
Guide Wheel Bolts
(Dry)—Torque.....312 N·m
(230 lb·ft)

Tighten the power rear axle wheel bolts to specifications.

Specification

Power Rear Axle Wheel
Bolts (Dry)—Torque.....610 N·m
(450 lb·ft)

5. Lower machine to ground.

CP00596,00012C6 -19-29AUG17-1/1

TS229 —UN—23AUG88

YC11788 —UN—24AUG17

Jacking Up Rear Axle

1.

CAUTION: Machine is heavy and can fall or roll, causing serious injury or death to you or others. Use the jack with a minimum lifting capacity of 2272 kg (6000 lb). Chock the drive wheels to prevent machine movement. Clear all bystanders away from the machine before lifting the machine.

IMPORTANT: Machine damage can occur. Jack up the rear axle only at the designated jacking locations.

Position machine on a flat, level surface.

2. Place tripod-type jack beneath the rear main frame.

CAUTION: Machine is heavy and can fall or roll causing serious injury or death to you or others. Clear all bystanders away from machine before jacking up the machine.

3. Clear all bystanders away from machine, then using jack, Raise the rear axle only enough to change/repair tire.

4. Change/repair tire. Tighten the guide wheel bolts to specifications.

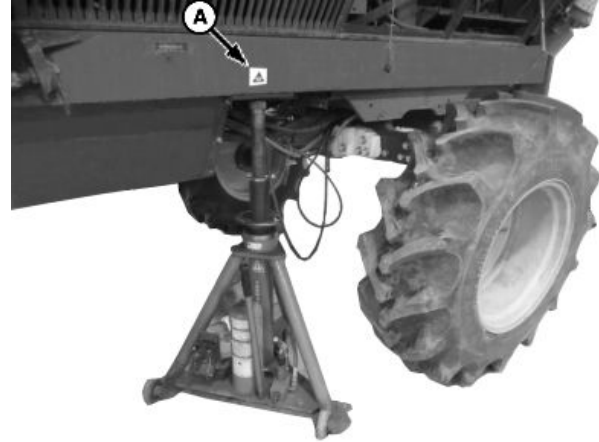
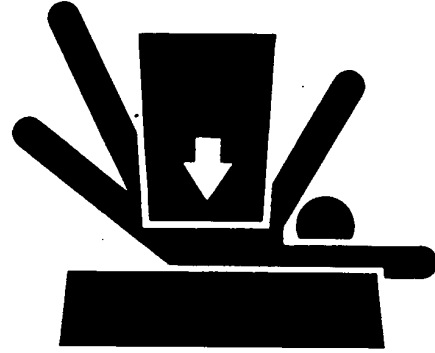
Specification

Non-Powered	
Guide Wheel Bolts	
(Dry)—Torque.....	312 N·m 230 lb·ft

Tighten the power rear axle wheel bolts to specifications.

Specification

Power Rear Axle Wheel	
Bolts (Dry)—Torque.....	610 N·m 450 lb·ft



A—Jacking Location Decal (2 used, 1 per side)

5. Lower machine to ground.

TS229 —UN—23AUG88

YC11791 —UN—28AUG17

CP00596,00012C7 -19-29AUG17-1/1

Adjusting Mud Scrapers (Attachment)

Scrapers are used to prevent accumulation of mud on the unit lift cylinders and unit pressure plates. The amount of clearance is determined by field conditions. Move scraper up or down in slots to adjust clearance.

Attach scrapers as shown.

NOTE: For 4 and 5-row 762 mm (30 in.) spacings skip row spacings, attach support brackets (A) so angle is toward outside. For 4-row 965 and 1016 mm (38 and 40 in.) spacings, support bracket angle (B) is toward inside.

Angled out:

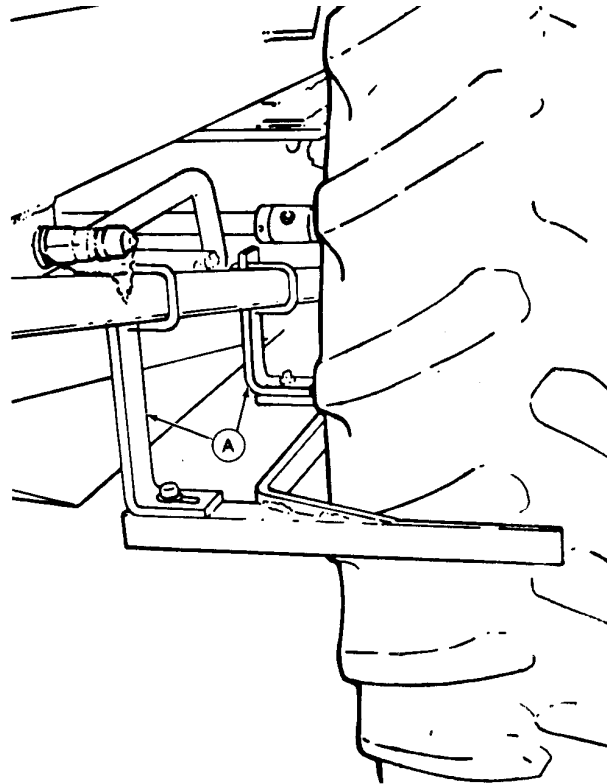
- 4 Row 762, 914 mm (30, 36 in.)
- 5 Row 762 mm (30 in.)
- All Skip Rows

Angled in:

- 4 Row 965, 1016 mm (38 and 40 in.)

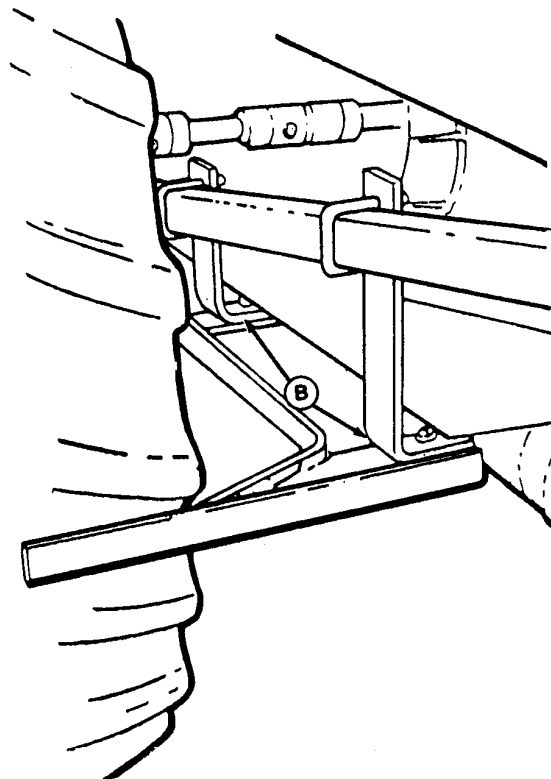
A—Support Brackets

B—Support Bracket Angle



30 in. Spacing

N42132YR—UN—21JAN93



4-Row 38 and 40 in. Spacing

N42152FL—UN—03NOV93

AG,OUO1011,1216 -19-29DEC15-1/1

Checking Guide Wheels—Toe-In

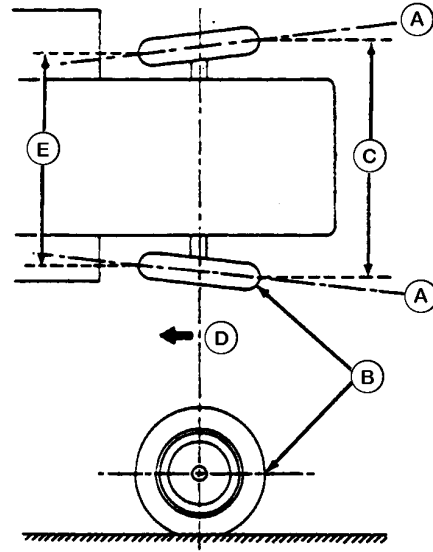
1. Mark center (A) of each tire tread at rear, in line with axle centerline.
2. Measure and record rear spacing (C).
3. Move machine forward (D) until marks are in front, in line with axle centerline.
4. Measure and record front spacing (E).
5. Subtract measurement (E) from (C). The difference should be 3—10 mm (1/8—3/8 in.) less. If not, adjust toe-in. See ADJUST TOE-IN in this section.

Specification

Toe-in—Distance.....3—10 mm
(1/8—3/8 in.)

A—Tire Centerline
B—Axle Centerline
C—Rear Spacing

D—Forward Travel
E—Front Spacing



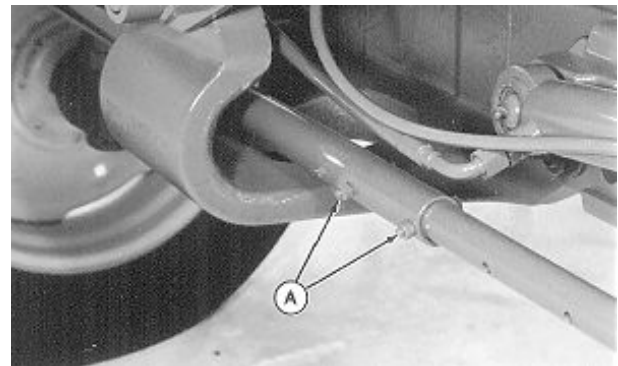
N42189EH—UN—02JUN98

AG,OUO1011,1217 -19-09SEP99-1/1

Adjusting Toe-In

1. Remove bolts (A).

A—Bolts (2 used)



N4214T2—UN—14MAR95

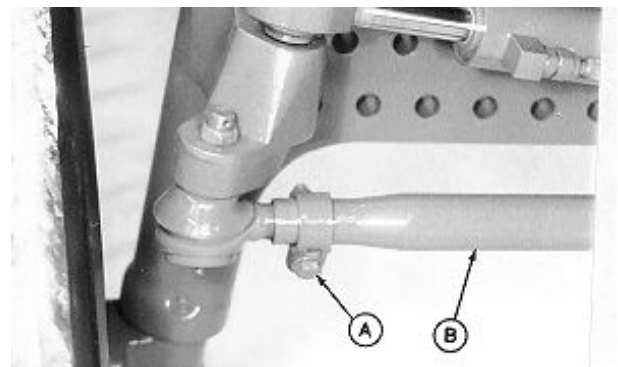
OUO1078,0000525 -19-27SEP06-1/2

2. Loosen clamp (A).
3. To adjust toe-in, rotate tube (B) to lengthen or shorten tie rod.
4. Tighten clamp bolt.
5. Install tie rod bolts in same holes as removed. If this cannot be done without throwing toe-in out of specification, bolt in next set of holes and adjust tie rod clamp end again.
6. Tighten bolts.
7. Check toe-in again.

Specification

Clamp bolt—Torque.....47 N·m
(35 lb·ft)

Tie rod bolts—Torque.....47 N·m
(35 lb·ft)



A—Clamp

B— Tube

N94214Q4—UN—14MAR95

OUO1078,0000525 -19-27SEP06-2/2

Batteries

Battery Safety

CAUTION: Battery gas can explode. Keep sparks and flames away from batteries. Use a flashlight to check battery electrolyte level.

Never check battery charge by placing a metal object across the posts. Use a voltmeter or hydrometer.

Always remove grounded (-) battery clamp first and replace grounded clamp last.

Sulfuric acid in battery electrolyte is poisonous. It is strong enough to burn skin, eat holes in clothing, and cause blindness if splashed into eyes.

Avoid the hazard by:

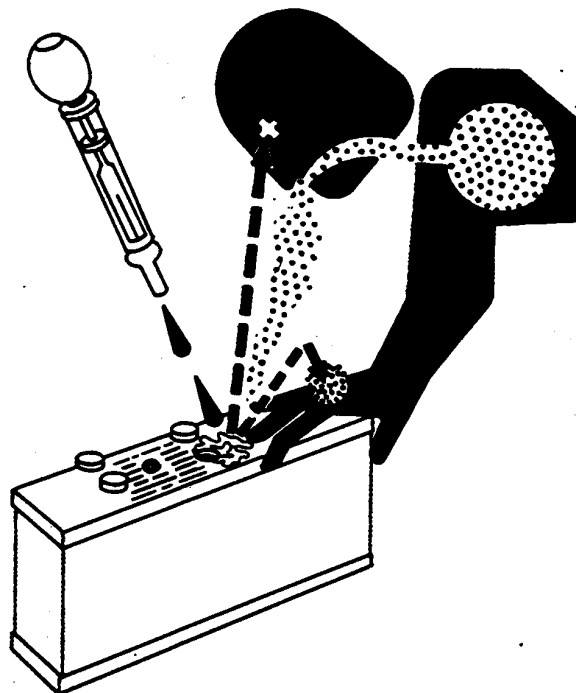
1. Filling batteries in a well-ventilated area.
2. Wearing eye protection and rubber gloves.
3. Avoiding breathing fumes when electrolyte is added.
4. Avoiding spilling or dripping electrolyte.
5. Use proper jump start procedure.

If you spill acid on yourself:

1. Flush your skin with water.
2. Apply baking soda or lime to help neutralize the acid.
3. Flush your eyes with water for 10—15 minutes. Get medical attention immediately.

If acid is swallowed:

1. Drink large amounts of water or milk.
2. Then drink milk of magnesia, beaten eggs, or vegetable oil.



3. Get medical attention immediately.

WARNING: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. **Wash hands after handling.**

TS203 —UN—23AUG88

CP00596,0000B98 -19-27JUL15-1/1

Servicing Battery

WARNING: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer and reproductive harm. **Wash hands after handling.**

CAUTION: Batteries produce explosive gas and contain sulfuric acid which is strong enough to eat holes in clothing and cause blindness. Improper servicing of battery can result in serious injury to you or others. **DO NOT** attempt to service battery unless you have the proper equipment and experience to perform the job. Have it done by your John Deere dealer or other qualified dealers.

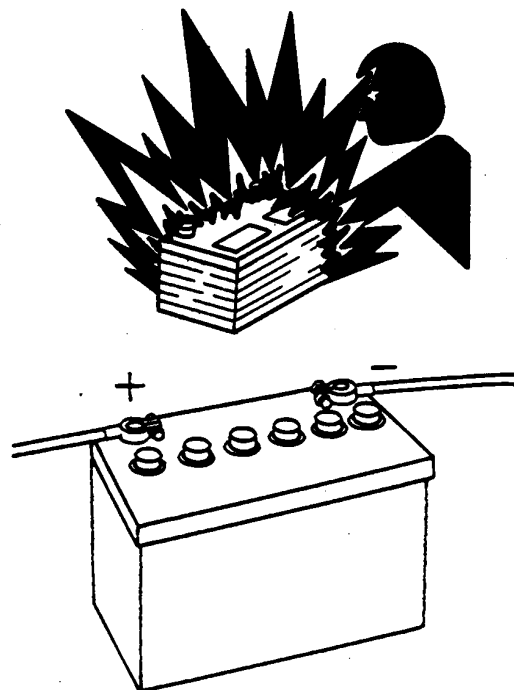
IMPORTANT: BATTERY IS NEGATIVE GROUNDED.

Always connect starter cable to positive (+) terminal of battery and battery ground cable to negative (-) terminal of battery. Reversed polarity in battery or alternator may result in permanent damage to electrical system.

Use a John Deere battery or an equivalent with a rating of at least 650 cold cranking amps at -18.8°C (0°F).

Proper battery maintenance is vital to dependable service. Keep water level even with bottom of cell filler neck and never below the top of the cell plates. Do not add water in freezing weather unless engine is operated 2 to 3 hours to mix electrolyte.

Keep battery clean by wiping it with a damp cloth. Keep all connections clean and tight. Remove any corrosion,



and wash terminals with solution of baking soda and water. Coat with grease prior to attaching cable.

Keep battery fully charged, especially during cold weather.

CP00596,0000B99 -19-27JUL15-1/1

T5204 —UN—15APR13

N36877 —UN—07OCT88

Checking Battery Fluid Level

WARNING: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer and reproductive harm. **Wash hands after handling.**

CAUTION: Sulfuric acid in battery electrolyte is poisonous. It is strong enough to burn skin, eat holes in clothing and cause blindness if splashed into eyes. Wear rubber gloves and goggles when checking battery fluid level.

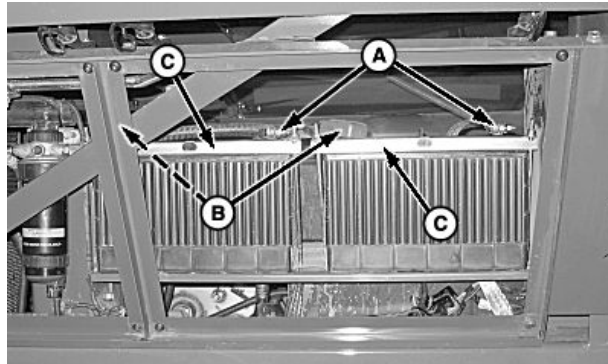
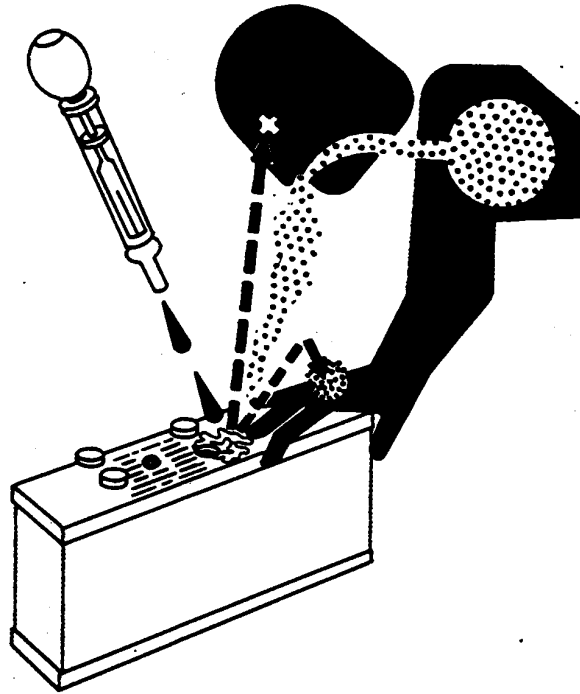
1. Disconnect battery negative (—) terminals (A) and positive (+) terminals (B).
2. Remove battery retaining brackets (C).
3. Remove batteries.

NOTE: Fluid level cannot be accurately checked with battery tilted.

4. Battery must be on a flat surface to accurately check fluid level. With the battery level, fluid should be visible at the top of each fill port covering plates in each cell.
5. Install batteries in reverse order as removed.

A—Negative (—) Terminals
B—Positive (+) Terminals

C—Battery Retaining Brackets



TS203 —UN—23AUG88

N73338 —UN—16AUG06

OUO1078,00004EA -19-08AUG06-1/1

Charging Batteries

WARNING: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer and reproductive harm. **Wash hands after handling.**

Keep battery fully charged, especially during cold weather.

CAUTION: Never charge a frozen battery. Thaw at room temperature before connecting to battery charger. Only charge batteries in a well ventilated area. Disconnect both cables from battery terminals when charging batteries in machine.

Determine which battery needs to be charged.

Disconnect both battery cables and connect charger positive cable to “+” terminal and charger negative cable to “—” terminal.

Follow instructions provided with charger or reference the charging chart below. Always charge batteries with a 12-Volt charger.

Ventilate the area where batteries are being charged.

CAUTION: DO NOT charge a frozen battery. Warm to 16°C (60°F) before charging.

NOTE: Attach a ground strap to negative “—” battery post so ground connection can be made away from the battery.

IMPORTANT: DO NOT connect or disconnect live circuits. Turn off charger and connect ground cable last, away from battery.

Stop or cut back charging rate if battery cable feels hot, or is venting electrolyte. Battery temperature must not exceed 52°C (125°F).

Battery Charging According to Battery Size/Charge/Output in Amperes							
Typical Battery Group Size		Group 31					
Reserve Capacity		126—180 Minutes					
Charger Output (Amperes)		2	10	15	30	40	60
Battery Voltage (Specific Gravity) ^a	% State of Charge	Charging Time In Hours					
12.4—12.6V (1.225)	75%	19	6	5	4	4	4
12.2—12.4V (1.190)	50%	35	9	7	5	5	4
12.0—12.2V (1.155)	25%	51	13	9	6	5	5
11.7—12.0V (1.120)	0%	67	16	12	7	6	5
<10 Volts	Initially set charge to BOOST to see appreciable charge. Then switch to medium setting for the remaining of charge per above.						

^aSpecific gravity *MUST* be between 1.265—1.285 to consider battery fully charged.

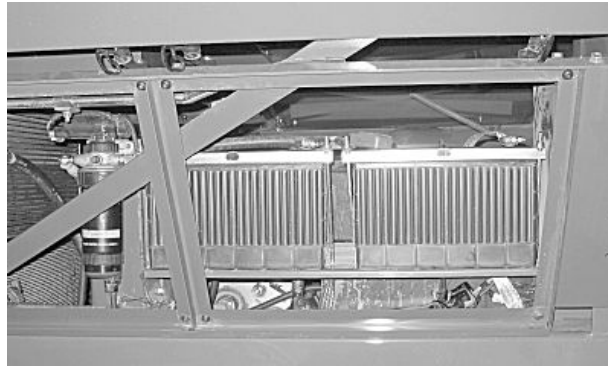
OUC1078,00004EB -19-08AUG06-1/1

Connecting Starter Cables and Ground Straps

WARNING: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer and reproductive harm. **Wash hands after handling.**

CAUTION: Batteries contain an explosive gas and sulfuric acid. Improper cable connections can result in an explosion and release of the sulfuric acid which can cause serious burns and blindness to you or others. Wear protective clothing and goggles when servicing batteries. Follow instructions below carefully. **BATTERIES ARE NEGATIVE GROUNDED ONLY.**

Always remove ground cable (—) first and connect it last. Connect starter cables to positive (+) terminals of battery. Always connect battery ground cables to negative (—) terminals of battery. Reversed polarity in battery or alternator connections can result in permanent damage to electrical system.



N73339 —UN—16AUG06

NOTE: Batteries must have the same terminal orientation to allow battery cables to reach.

To connect batteries:

1. Turn off all electrical switches and accessories.
2. Clean all battery posts and cable terminals.
3. Connect starter cables to positive (+) battery terminals.
4. Connect negative (—) battery ground cables.

OUO1078,00004EC -19-20SEP06-1/1

Preventing Battery Damage

CAUTION: Battery gas can explode. Keep sparks and flames away from batteries. Use a flashlight to check battery electrolyte level.

NEVER check battery charge by placing a metal object across the posts. Use a voltmeter or hydrometer.

Always remove grounded (-) battery clamp first and replace it last.

Be sure alternator connections are correct before cables are connected to battery.

Carefully observe polarity when attaching booster battery.

DO NOT operate the engine with alternator or battery disconnected.

DO NOT short across battery or alternator terminals, or allow battery positive (+) cable or alternator wire to become grounded.

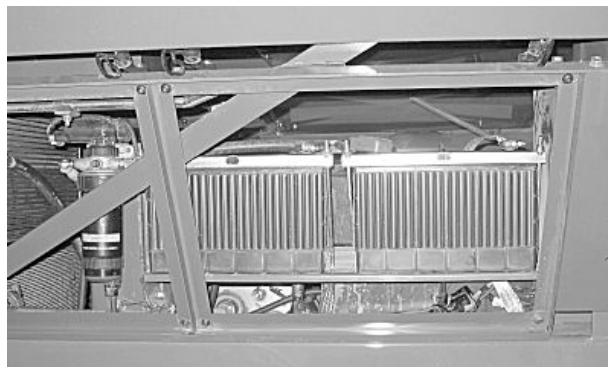
DO NOT polarize the alternator.

Disconnect battery cables before using an electric welder on the picker.

Store batteries below 26°C (80°F) for maximum shelf life. Check voltage after storage, and recharge as needed as recommended by battery manufacturer.



TS204 —UN—15APR13

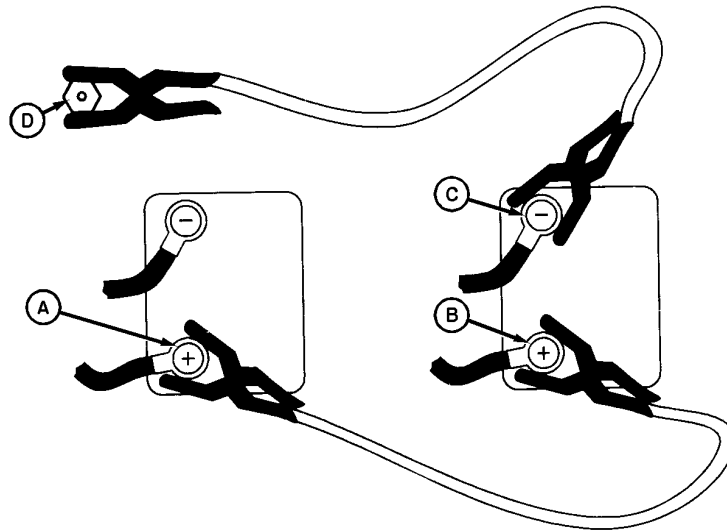


N73339 —UN—16AUG06

Do not store batteries in discharged state, or stack batteries on top of each other.

AG,OUO1011,1222 -19-08AUG06-1/1

Using a Booster Battery



A—Positive Post

B—Positive Post

C—Negative Post

D—Engine Block

⚠ CAUTION: Gas given off by batteries is explosive. Keep sparks and flames away from battery. Make last connection and first disconnection at a point away from battery.

IMPORTANT: Always connect starter cable to positive (+) terminal of battery and battery ground cable to negative (-) terminal of battery. Reversed polarity in battery or alternator can result in permanent damage to electrical system.

When jump starting, always remember the following:

- Use batteries of same voltage.
- Be sure both negative posts are grounded.
- Check fluid for freezing.
- Be sure machine is not touching another vehicle.

- Ignitions should be off, accessories off, gears in "PARK" or "NEUTRAL", and brakes engaged.
- Attach clamps in order indicated and remove in exact opposite order.

1. Connect positive (+) cable to positive post (A) of discharged battery and the other end of the same cable to positive post (+) (B) of booster battery.
2. Connect second cable (negative) (-) to negative post (C) of booster battery.
3. Connect the other end of the negative (-) cable to the engine block (D) of the stalled machine, away from the battery. Stand clear.
4. Start machine and remove cables in reverse order of connection.

AG,OUO1011,1223 -19-09SEP99-1/1

N42191ZK—UN—28OCT98

Lubrication and Maintenance

Diesel Fuel

Consult your local fuel distributor for properties of the diesel fuel available in your area.

In general, diesel fuels are blended to satisfy the low temperature requirements of the geographical area in which they are marketed.

Diesel fuels specified to EN 590 or ASTM D975 are recommended. Renewable diesel fuel produced by hydrotreating animal fats and vegetable oils is basically identical to petroleum diesel fuel. Renewable diesel that meets EN 590, ASTM D975, or EN 15940 is acceptable for use at all percentage mixture levels.

Required Fuel Properties

In all cases, the fuel shall meet the following properties:

Cetane number of 40 minimum. Cetane number greater than 47 is preferred, especially for temperatures below -20°C (-4°F) or elevations above 1675 m (5500 ft.).

Cold Filter Plugging Point (CFPP) should be at least 5°C (9°F) below the expected lowest temperature or **Cloud Point** below the expected lowest ambient temperature.

Fuel lubricity should pass a maximum scar diameter of 0.52 mm as measured by ASTM D6079 or ISO 12156-1. A maximum scar diameter of 0.45 mm is preferred.

Diesel fuel quality and sulfur content must comply with all existing emissions regulations for the area in which the engine operates. DO NOT use diesel fuel with sulfur content greater than 10 000 mg/kg (10 000 ppm).

E-Diesel fuel

DO NOT use E-Diesel (Diesel fuel and ethanol blend). Use of E-Diesel fuel in any John Deere machine may void the machine warranty.

 **CAUTION:** Avoid severe injury or death due to the fire and explosion risk from using E-Diesel fuel.

Sulfur content for Interim Tier 4, Final Tier 4, Stage III B, and Stage IV Engines

- Use ONLY ultra low sulfur diesel (ULSD) fuel with a maximum of 15 mg/kg (15 ppm) sulfur content.

Sulfur Content for Tier 3 and Stage III A Engines

- Use of diesel fuel with sulfur content less than 1000 mg/kg (1000 ppm) is RECOMMENDED.
- Use of diesel fuel with sulfur content 1000—2000 mg/kg (1000—2000 ppm) REDUCES the oil and filter change interval.
- BEFORE using diesel fuel with sulfur content greater than 2000 mg/kg (2000 ppm), contact your John Deere dealer.

Sulfur Content for Tier 2 and Stage II Engines

- Use of diesel fuel with sulfur content less than 2000 mg/kg (2000 ppm) is RECOMMENDED.
- Use of diesel fuel with sulfur content 2000—5000 mg/kg (2000—5000 ppm) REDUCES the oil and filter change interval.
- BEFORE using diesel fuel with sulfur content greater than 5000 mg/kg (5000 ppm), contact your John Deere dealer.

Sulfur Content for Other Engines

- Use of diesel fuel with sulfur content less than 5000 mg/kg (5000 ppm) is RECOMMENDED.
- Use of diesel fuel with sulfur content greater than 5000 mg/kg (5000 ppm) REDUCES the oil and filter change interval.

IMPORTANT: Do not mix used diesel engine oil or any other type of lubricating oil with diesel fuel.

Improper fuel additive usage may cause damage on fuel injection equipment of diesel engines.

DX,FUEL1 -19-13JAN16-1/1

Handling and Storing Diesel Fuel

⚠ CAUTION: Reduce the risk of fire. Handle fuel carefully. DO NOT fill the fuel tank when engine is running. DO NOT smoke while you fill the fuel tank or service the fuel system.

Fill the fuel tank at the end of each day's operation to prevent water condensation and freezing during cold weather.

Keep all storage tanks as full as practical to minimize condensation.

Ensure that all fuel tank caps and covers are installed properly to prevent moisture from entering. Monitor water content of the fuel regularly.

When using biodiesel fuel, the fuel filter may require more frequent replacement due to premature plugging.

Check engine oil level daily prior to starting engine. A rising oil level may indicate fuel dilution of the engine oil.

IMPORTANT: The fuel tank is vented through the filler cap. If a new filler cap is required, always replace it with an original vented cap.

When fuel is stored for an extended period or if there is a slow turnover of fuel, add a fuel conditioner to stabilize the fuel and prevent water condensation. Contact your fuel supplier or John Deere dealer for recommendations.

DX,FUEL4 -19-15FEB13-1/1

Lubricity of Diesel Fuel

Most diesel fuels manufactured in the United States, Canada, and the European Union have adequate lubricity to ensure proper operation and durability of fuel injection system components. However, diesel fuels manufactured in some areas of the world may lack the necessary lubricity.

IMPORTANT: Make sure the diesel fuel used in your machine demonstrates good lubricity characteristics.

Fuel lubricity should pass a maximum scar diameter of 0.52 mm as measured by ASTM D6079 or ISO 12156-1. A maximum scar diameter of 0.45 mm is preferred.

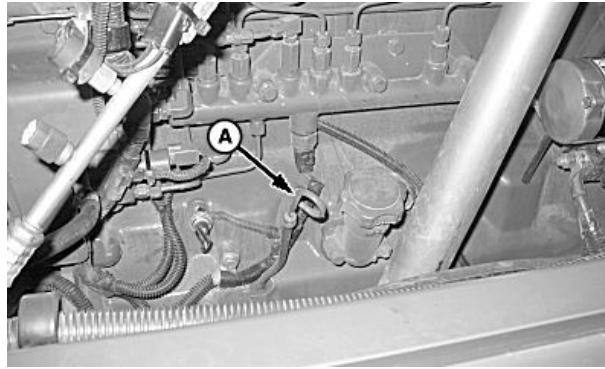
If fuel of low or unknown lubricity is used, add John Deere Fuel-Protect Diesel Fuel Conditioner (or equivalent) at the specified concentration.

Lubricity of BioDiesel Fuel

Fuel lubricity can improve significantly with BioDiesel blends up to B20 (20% BioDiesel). Further increase in lubricity is limited for BioDiesel blends greater than B20.

DX,FUEL5 -19-07FEB14-1/1

Break-In Service



A—Dipstick

The engine is ready for normal operation. However, extra care during the first 100 hours of operation will result in more satisfactory long-term engine performance and life. DO NOT exceed 100 hours of operation with break-in oil.

1. This engine is factory-filled with John Deere Engine Break-In Oil. Operate the engine at heavy loads with minimal idling during the break-in period.
2. If the engine has significant operating time at idle, constant speeds, and/or light load usage, or makeup oil is required in the first 100 hour period, a longer break-in period may be required. In these situations, an additional 100 hour break-in period is recommended using a new change of John Deere Engine Break-In Oil and a new John Deere oil filter.

IMPORTANT: DO NOT add makeup oil until the oil level is BELOW the ADD mark on dipstick (A).

PLUS-50 is a trademark of Deere & Company

John Deere Engine Break-In Oil (TY22041) should be used to make up any oil consumed during the break-in period.

DO NOT use PLUS-50® Engine Oil during break-in period of a new engine or engine that has had a major overhaul. PLUS-50™ oil WILL NOT allow a new or overhauled engine to properly wear during this break-in period.

DO NOT fill above the crosshatch pattern or the FULL mark, whichever is present. Oil levels anywhere within the crosshatch are considered in the acceptable operating range.

3. Check engine oil level more frequently during engine break-in period. If oil must be added during this period, John Deere Engine Break-In Oil is preferred.

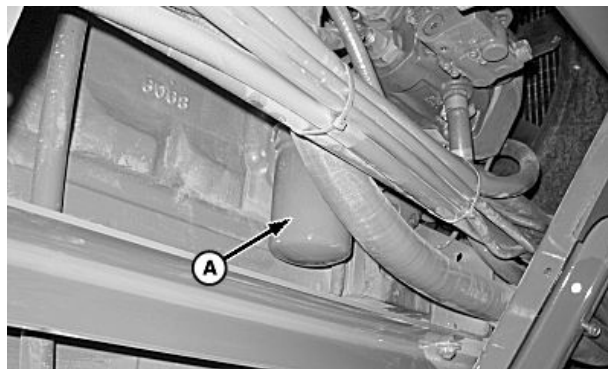
N73229 —UN—16AUG06

NOTE: Side panel removed for photographic purposes.

4. During the first 20 hours of machine operation, avoid prolonged periods of engine idling or sustained maximum load operation. If engine will idle longer than 5 minutes, stop engine.
5. After the first 100 hours maximum, change engine oil and replace engine oil filter (A). See CHANGING ENGINE OIL AND REPLACING OIL FILTER in LUBRICATION AND MAINTENANCE-250 HOUR section. Fill crankcase with seasonal viscosity grade oil. See DIESEL ENGINE OIL in this section.

NOTE: Some increase in oil consumption may be expected when low viscosity oils are used. Check oil levels more frequently.

If air temperature is below -10°C (14°F), use an engine block heater.



A—Engine Oil Filter

N73218 —UN—16AUG06

AG,OUO1011,1099 -19-20JUL06-2/2

Diesel Engine Break-In Oil — Non-Emissions Certified and Certified Tier 1, Tier 2, Tier 3, Stage I, Stage II, and Stage III

New engines are filled at the factory with either John Deere Break-In™ or John Deere Break-In Plus™ Engine Oil. During the break-in period, add John Deere Break-In™ or Break-In Plus™ Engine Oil, respectively, as needed to maintain the specified oil level.

Operate the engine under various conditions, particularly heavy loads with minimal idling, to help seat engine components properly.

If John Deere Break-In™ Engine Oil is used during the initial operation of a new or rebuilt engine, change the oil and filter at a maximum of 100 hours.

If John Deere Break-In Plus™ Engine Oil is used, change the oil and filter at a minimum of 100 hours and a maximum equal to the interval specified for John Deere Plus-50™ II or Plus-50™ oil.

After engine overhaul, fill the engine with either John Deere Break-In™ or Break-In Plus™ Engine Oil.

If John Deere Break-In™ or Break-In Plus™ Engine Oil is not available, use an SAE 10W-30 viscosity grade diesel engine oil meeting one of the following and change the oil and filter at a maximum of 100 hours of operation:

- API Service Classification CE
- API Service Classification CD
- API Service Classification CC

Break-In is a trademark of Deere & Company.

Break-In Plus is a trademark of Deere & Company

Plus-50 is a trademark of Deere & Company.

- ACEA Oil Sequence E2
- ACEA Oil Sequence E1

IMPORTANT: Do not use Plus-50™ II, Plus-50™, or engine oils meeting any of the following for the initial break-in of a new or rebuilt engine:

API CK-4	ACEA E9
API CJ-4	ACEA E7
API CI-4 PLUS	ACEA E6
API CI-4	ACEA E5
API CH-4	ACEA E4
API CG-4	ACEA E3
API CF-4	
API CF-2	
API CF	

These oils do not allow the engine to break in properly.

John Deere Break-In Plus™ Engine Oil can be used for all John Deere diesel engines at all emission certification levels.

After the break-in period, use John Deere Plus-50™ II, John Deere Plus-50™, or other diesel engine oil as recommended in this manual.

DX,ENOIL4 -19-02NOV16-1/1

Extended Diesel Engine Oil Service Intervals — Non-Emissions Certified and Certified Tier 1 and Stage I

When John Deere Plus-50™ II or John Deere Plus-50™ is used with the specified John Deere filter, the service interval for engine oil and filter changes may be increased by 50% but not to exceed a maximum of 500 hours.

Use oil analysis to evaluate the condition of the oil and to aid in selection of the proper oil and filter service interval. Contact your John Deere dealer for more information on engine oil analysis.

Change the oil and oil filter at least once every 12 months even if the hours of operation are fewer than the otherwise recommended service interval.

When ACEA E9, ACEA E7, ACEA E6, ACEA E5, or ACEA E4 oils are used with specified John Deere filter, use engine oil analysis to determine if the service interval for engine oil and filter changes may be increased by a maximum of 50% but not to exceed 500 hours. Oil analysis means taking a series of oil samples at 50-hour increments beyond the normal service interval until either the data indicates the end of useful oil life or the maximum service interval is reached.

*Plus-50 is a trademark of Deere & Company
Torq-Gard is a trademark of Deere & Company*

If John Deere Plus-50™ II or John Deere Plus-50™, ACEA E9, ACEA E7, ACEA E6, ACEA E5, or ACEA E4 oils are used with other than the specified John Deere filter, change the engine oil and filter at the normal service interval.

If John Deere Torq-Gard™, API CK-4, API CJ-4, API CI-4 PLUS, API CI-4, API CH-4, or ACEA E3 oils are used, change the engine oil and filter at the normal service interval.

If API CG-4, API CF-4, or ACEA E2 oils are used, change the engine oil and filter at 50% of the normal service interval.

IMPORTANT: To avoid engine damage:

- **Reduce oil and filter service intervals by 50% when using BioDiesel blends greater than B20. Oil analysis may allow longer service intervals.**
- **Use only approved oil types.**

DX,ENOIL6 -19-02NOV16-1/1

Diesel Engine Oil — Non-Emissions Certified and Certified Tier 1 and Stage I

Use oil viscosity based on the expected air temperature range during the period between oil changes.

John Deere Plus-50™ II oil is preferred.

John Deere Plus-50™ is also recommended.

Other oils may be used if they meet one or more of the following:

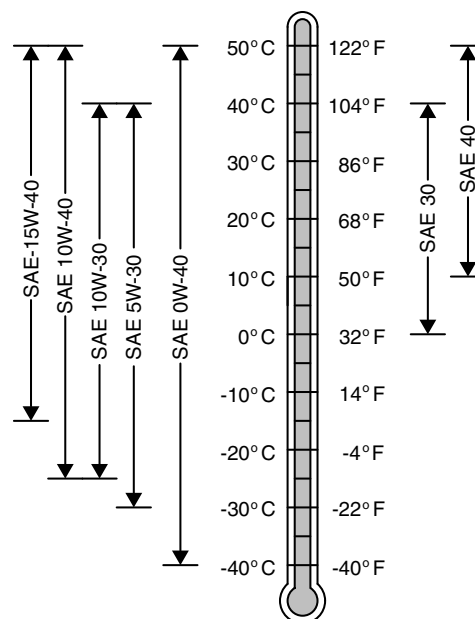
- John Deere Torq-Gard™
- API Service Category CK-4
- API Service Category CJ-4
- API Service Category CI-4 PLUS
- API Service Category CI-4
- API Service Category CH-4
- API Service Category CG-4
- API Service Category CF-4
- ACEA Oil Sequence E9
- ACEA Oil Sequence E7
- ACEA Oil Sequence E6
- ACEA Oil Sequence E5
- ACEA Oil Sequence E4
- ACEA Oil Sequence E3
- ACEA Oil Sequence E2

If oils meeting API CG-4, API CF-4, or ACEA E2 are used, reduce the service interval by 50%.

Multi-viscosity diesel engine oils are preferred.

Diesel fuel quality and fuel sulfur content must comply with all existing emissions regulations for the area in which the engine operates.

Plus-50 is a trademark of Deere & Company
Torq-Gard is a trademark of Deere & Company



Oil Viscosities for Air Temperature Ranges

If diesel fuel with sulfur content greater than 5000 mg/kg (5000 ppm) is used, reduce the service interval by 50%.

DO NOT use diesel fuel with sulfur content greater than 10000 mg/kg (10000 ppm).

DX,ENOIL -19-02NOV16-1/1

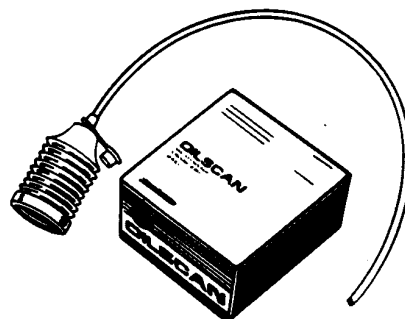
TS1687 —UN—18JUL07

Oilscan™ and CoolScan™

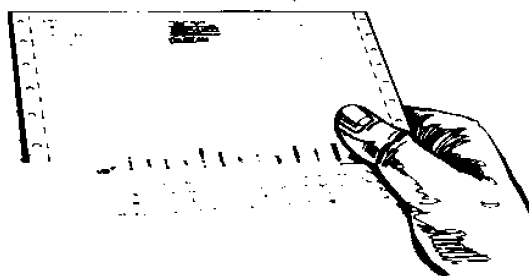
Oilscan™ and CoolScan™ are John Deere sampling programs to help you monitor machine performance and identify potential problems before they cause serious damage.

Oil and coolant samples should be taken from each system before its recommended change interval.

Check with your John Deere dealer for the availability of Oilscan™ and CoolScan™ kits.



T6828AB—UN—15JUN89



T6829AB—UN—26AUG11

Oilscan is a trademark of Deere & Company
CoolScan is a trademark of Deere & Company

DX,OILSCAN -19-13SEP11-1/1

Hydraulic/Hydrostatic Oils

Use oil viscosity based on the expected air temperature range during the period between oil changes.

The following oils are preferred:

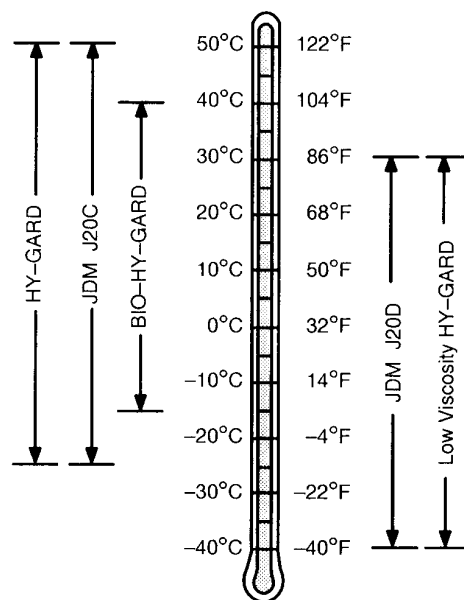
- John Deere HY-GARD ®
- John Deere Low Viscosity HY-GARD ®

Other oils may be used if they meet one of the following:

- John Deere Standard JDM J20C
- John Deere Standard JDM J20D

Use the following oil when a biodegradable fluid is required:

- John Deere BIO-HY-GARD ™



HY-GARD is a registered trademark of Deere & Company.
BIO-HY-GARD is a trademark of Deere & Company.

NX,OM530,OIL -19-09DEC96-1/1

TS1651 —UN—14MAR96

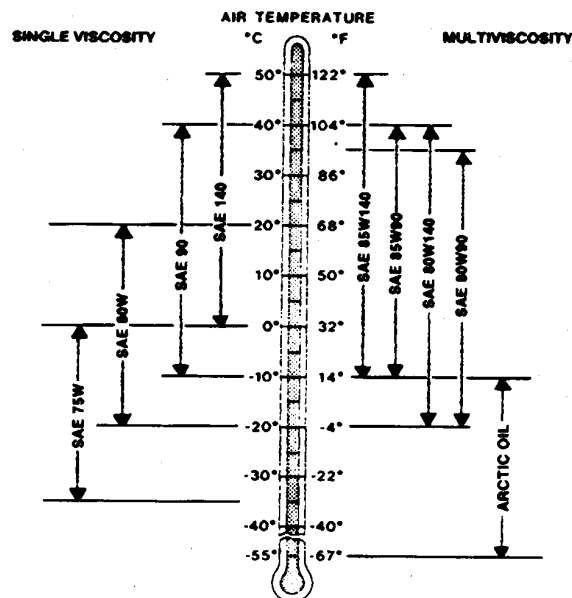
Transmission and Final Drive Lubricant

IMPORTANT: Using gear lubricant with SCL additives can result in increased wear and damage to transmission and final drive. Do not use gear lubricant with SCL additives in transmission and final drive.

Depending upon the expected air temperature range during the drain interval, use oil viscosity shown on the adjoining temperature chart.

John Deere 85W/140 API GL-5 gear oil is recommended. If other oils are used, they must meet performance requirements of:

- API Service Classification GL-5
- Military Specification MIL-L-2105C



AG,OUO1011,1102 -19-07SEP99-1/1

X9322 —19—30SEP98

Diesel Engine Coolant

The engine cooling system is filled to provide year-round protection against corrosion and cylinder liner pitting, and winter freeze protection to -37°C (-34°F).

John Deere COOL-GARD is preferred for service.

If John Deere COOL-GARD is not available, use a low silicate ethylene glycol or propylene glycol base coolant concentrate in a 50% mixture of concentrate with quality water.

The coolant concentrate shall be of a quality that provides cavitation protection to cast iron and aluminum parts in the cooling system. John Deere COOL-GARD meets this requirement.

Freeze protection

A 50% mixture of ethylene glycol engine coolant in water provides freeze protection to -37°C (-34°F).

A 50% mixture of propylene glycol engine coolant in water provides freeze protection to -33°C (-27°F).

If protection at lower temperatures is required, consult your John Deere dealer for recommendations.

Water quality

Water quality is important to the performance of the cooling system. Distilled, deionized, or demineralized water is recommended for mixing with ethylene glycol and propylene glycol base engine coolant concentrate.

IMPORTANT: Do not use cooling system sealing additives or antifreeze that contains sealing additives.

IMPORTANT: Do not mix ethylene glycol and propylene glycol base coolants.

DX,COOL8 -19-16NOV01-1/1

Supplemental Coolant Additives

Some coolant additives will gradually deplete during engine operation. For nitrite-containing coolants, replenish coolant additives between drain intervals by adding a supplemental coolant additive as determined necessary by coolant testing.

John Deere Liquid Coolant Conditioner is recommended as a supplemental coolant additive for nitrite-containing coolants.

John Deere Liquid Coolant Conditioner is not designed for use with John Deere COOL-GARD™ II Premix, COOL-GARD II PG Premix, or COOL-GARD II Concentrate.

IMPORTANT: Do not add a supplemental coolant additive when the cooling system is drained and refilled with any of the following:

COOL-GARD is a trademark of Deere & Company

- John Deere COOL-GARD II
- John Deere COOL-GARD II PG

If other coolants are used, consult the coolant supplier and follow the manufacturer's recommendation for use of supplemental coolant additives.

The use of non-recommended supplemental coolant additives may result in additive drop-out and gelation of the coolant.

Add the manufacturer's recommended concentration of supplemental coolant additive. DO NOT add more than the recommended amount.

DX,COOL4 -19-14APR11-1/1

Operating in Warm Temperature Climates

John Deere engines are designed to operate using recommended engine coolants.

Always use a recommended engine coolant, even when operating in geographical areas where freeze protection is not required.

IMPORTANT: Water may be used as coolant in emergency situations only.

Foaming, hot surface aluminum and iron corrosion, scaling, and cavitation occur when water is used as the coolant, even when coolant conditioners are added.

Drain cooling system and refill with recommended engine coolant as soon as possible.

DX,COOL6 -19-15MAY13-1/1

Additional Information About Diesel Engine Coolants and John Deere LIQUID COOLANT CONDITIONER

Engine coolants are a combination of three chemical components: ethylene glycol or propylene glycol antifreeze, inhibiting coolant additives, and quality water.

Coolant Specifications

Some products, including John Deere COOL-GARD™ Premix coolant, are fully formulated coolants that contain all three components in their correct concentrations. Do not add an initial charge of supplemental coolant additives or water to John Deere COOL-GARD Premix.

John Deere COOL-GARD Concentrate contains both ethylene glycol and inhibiting coolant additives. Mix COOL-GARD Concentrate with quality water, but do not add an initial charge of supplemental coolant additives.

Replenish Coolant Additives

Some coolant additives will gradually deplete during engine operation. Periodic replenishment of inhibitors is required, even when John Deere COOL-GARD Premix, COOL-GARD Concentrate, or COOL-GARD PG Premix is used. Follow the recommendations in this manual for the use of supplemental coolant additives.

Why use John Deere LIQUID COOLANT CONDITIONER?

Operating without proper coolant additives will result in increased corrosion, cylinder liner erosion and pitting, and other damage to the engine and cooling system. A simple mixture of ethylene glycol or propylene glycol and water will not give adequate protection.

John Deere LIQUID COOLANT CONDITIONER is an additive system designed to reduce corrosion, erosion, and pitting when used with nitrite-containing diesel engine coolants such as John Deere COOL-GARD Premix, COOL-GARD Concentrate, and COOL-GARD PG Premix. Maintaining John Deere COOL-GARD coolants with John Deere LIQUID COOLANT CONDITIONER provides optimum protection for up to 5 years or 5000 hours of operation.

COOL-GARD is a trademark of Deere & Company

Avoid Automotive-type Coolants

Never use automotive-type coolants (such as those meeting ASTM D3306). These coolants do not contain the correct additives to protect heavy-duty diesel engines. They often contain a high concentration of silicates and may damage the engine or cooling system. Do not treat an automotive engine coolant with a supplemental coolant additive because the high concentration of additives can result in additive fallout.

Water Quality

Water quality is important to the performance of the cooling system. Distilled, deionized, or demineralized water is recommended for mixing with ethylene glycol and propylene glycol base engine coolant concentrate. All water used in the cooling system should meet the following minimum specifications for quality:

Chlorides	<40 mg/L
Sulfates	<100 mg/L
Total dissolved solids	<340 mg/L
Total hardness	<170 mg/L
pH	5.5 to 9.0

Freeze Protection

The relative concentrations of glycol and water in the engine coolant determine its freeze protection limit.

Ethylene Glycol	Freeze Protection Limit
40%	-24°C (-12°F)
50%	-37°C (-34°F)
60%	-52°C (-62°F)
Propylene Glycol	Freeze Protection Limit
40%	-21°C (-6°F)
50%	-33°C (-27°F)
60%	-49°C (-56°F)

DO NOT use a coolant-water mixture greater than 60% ethylene glycol or 60% propylene glycol.

DX,COOL7 -19-03NOV08-1/1

Testing Diesel Engine Coolant

Maintaining adequate concentrations of glycol and inhibiting additives in the coolant is critical to protect the engine and cooling system against freezing, corrosion, and cylinder liner erosion and pitting.

Test the coolant solution at intervals of 12 months or less and whenever excessive coolant is lost through leaks or overheating.

Coolant Test Strips

Coolant test strips are available from your John Deere dealer. These test strips provide a simple, effective method to check the freeze point and additive levels of your engine coolant.

When Using John Deere COOL-GARD II

John Deere COOL-GARD II Premix™, COOL-GARD II PG Premix and COOL-GARD II Concentrate are maintenance free coolants for up to six years or 6000 hours of operation, provided that the cooling system is topped off using only John Deere COOL-GARD II Premix or COOL-GARD II PG premix. Test the coolant condition annually with coolant test strips designed for use with John Deere COOL-GARD II coolants. If the test strip chart indicates that additive is required, add John Deere COOL-GARD II Coolant Extender as directed.

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Add only the recommended concentration of John Deere COOL-GARD II Coolant Extender. DO NOT add more than the recommended amount.

When Using Nitrite-Containing Coolants

Compare the test strip results to the supplemental coolant additive (SCA) chart to determine the amount of inhibiting additives in your coolant and whether more John Deere Liquid Coolant Conditioner should be added.

Add only the recommended concentration of John Deere Liquid Coolant Conditioner. DO NOT add more than the recommended amount.

Coolant Analysis

For a more thorough evaluation of your coolant, perform a coolant analysis. The coolant analysis can provide critical data such as freezing point, antifreeze level, pH, alkalinity, nitrite content (cavitation control additive), molybdate content (rust inhibitor additive), silicate content, corrosion metals, and visual assessment.

Contact your John Deere dealer for more information on coolant analysis.

DX,COOL9 -19-11APR11-1/1

Picker Bar and Spindle Lubricants

IMPORTANT: Use of inadequate lubricants can result in poor start-up, rapid wear, residue buildup, and can cause damage to bearings, bushings, and spindles. Use adequate lubricants.

John Deere Spindle Grease is highly recommended and is the only grease that is factory approved for use in John Deere cotton pickers.

Other greases may be used, but they must meet the minimum requirement of JDN360 specifications. John Deere Spindle Grease surpasses this minimum

specification. It provides the cotton picker with the best protection and gives the best performance, with superior wear characteristics, rust inhibitors, and better start-up at low temperatures.

Item	Container Size
AN113719 John Deere Spindle Lubricant	15.9 kg (35 lb)
AN31360 John Deere Spindle Lubricant	54.4 kg (120 lb)
AN31361 John Deere Spindle Lubricant	186 kg (410 lb)

NXD8,M997650,J1 -19-14JUL06-1/1

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.

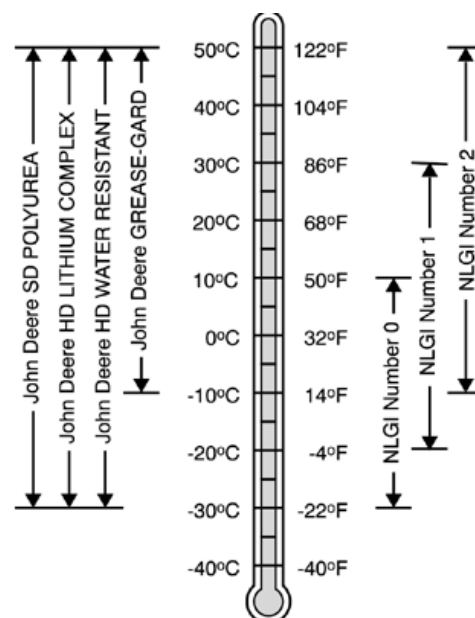
The following greases are also recommended:

- 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

GREASE-GARD is a trademark of Deere & Company

DX,GREAI -19-14APR11-1/1

TS1673 —UN—31OCT03

Row Unit Gear Case Lubricant—Oil Type

IMPORTANT: Lubricants that are not recommended can result in high start-up torques, rapid wear, residue buildup, and damage to components. Always follow recommended service intervals.

HY-GARD is a trademark of Deere & Company

Row unit gear cases are shipped from the factory filled with HY-GARD® JDM J2OC oil. Use only HY-GARD oil when adding to, or re-filling row unit gear cases.

OOU6043,000144C -19-04JUN01-1/1

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.

DX,ALTER -19-11APR11-1/1

Lubricant Storage

Your equipment can operate at top efficiency only when clean lubricants are used.

Use clean containers to handle all lubricants.

Store lubricants and containers in an area protected from dust, moisture, and other contamination. Store containers on their side to avoid water and dirt accumulation.

Make certain that all containers are properly marked to identify their contents.

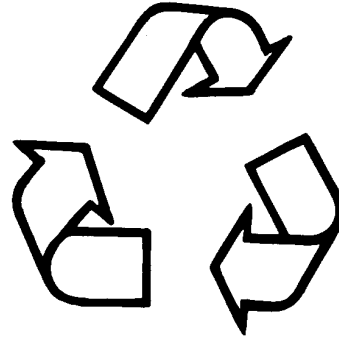
Properly dispose of all old containers and any residual lubricant they may contain.

DX,LUBST -19-11APR11-1/1

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 —UN—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

Discarded Tires

It is illegal to burn discarded tires. Tires cannot be used to start piles of trees and buildings on fire. Tires can be used to fill ravines, washes, streams, etc.

Discarded tires can be disposed of in a permitted landfill. These tires must first be processed (shredded or

quartered) before taking to landfill. Call your local landfill for requirements.

Discarded tires may also be recycled if a recycling plant is nearby.

Tires may be used for stream bank stabilization. Contact the DNR for guidance.

OUO6043,00014E7 -19-09OCT01-1/1

Lubrication and Maintenance Intervals

Check, clean and lubricate at intervals indicated. Refer to pages in this section for specific locations, instructions and specifications.

OUO6043,0001558 -19-25OCT01-1/1

Service Interval Charts

SERVICE	INTERVAL							
	5 Hrs	10 Hrs	50 Hrs	100 Hrs	250 Hrs	Every Year	2000 Hrs	4500 Hrs or 5 Years
Inspect solution nozzles on row units. Clean as necessary.	•							
Check and clean doffer, drums, inside of suction doors and moistener column as required.	•							
Check for cotton buildup on engine and fan hoods. Clean as required to prevent damage.	•							
Clean exterior of radiator screens.	•							
Check engine oil level.		•						
Check coolant level and overflow hoses.		•						
Check hydraulic/hydrostatic oil level.		•						
Clean oil cooler and air conditioning condenser.		•						
Check fuel filters. Drain and clean if necessary.		•						
Lubricate picker bars, sun gears, upper gear train and cam tracks. Use onboard lubrication system.		•						
Clean moistener strainer.		•						
Clean lint from starter area.		•						
Check for cotton build up between the cab and the tanks.		•						
Lubricate unit lift rockshaft bearings.		•						
Lubricate basket rockshaft unload cylinder bearings.		•						
Check basket conveyor and door chain tension.		•						
Clean lint and trash from engine, alternator screen, cotton fan rotor, hydro module, transmission, lower plant shields, and cab inlet air screen.		•						
Lubricate telescoping shaft on unit driveshafts.		•						
Check solution level in moistener system tank.		•						
Check lubricant level in onboard lubrication system grease tank.		•						
Check unit gear case oil level.		•						
Check cutter knives for missing or damaged knives. (VRS-Row Unit)		•						
Check front feeder fingers for missing or damage fingers. (VRS-Row Unit)		•						
Check rear feeder fingers for missing or damage fingers. (VRS-Row Unit)		•						
Clean primary cab recirculating filter—if operating in dusty conditions.		•						
Clean cab fresh air filter—if operating in dusty conditions.		•						
Clean rotary screen and cooling cores.		•						
Check basket, brush bar, door sensors, lower basket, extension, base of rear basket cylinder and auger gear train		•						
Inspect tires and check pressures.		•						
Check fire extinguishers.		•						
Tighten steering knee bolts torque at 10 hours, and every 10 hours until they stabilize.		•						

Interval								
Service	5 Hrs	10 Hrs	50 Hrs	100 Hrs	250 Hrs	Every Year	2000 Hrs	4500 Hrs or 5 Years
Lubricate lower doffer bearing.			•					

Continued on next page

CP00718,0002D81 -19-08DEC16-1/3

Lubrication and Maintenance

Lubricate unit lift pivots.			•					
Lubricate rod end of unit lift cylinder.			•					
Clean cab fresh air filter—Normal Conditions.			•					
Reset digital tachometer.			•					
Check all belts tension..			•					
Change row unit gear case oil. (First 50 hours of operation ONLY.)			•					

SERVICE	INTERVAL							
	5 Hrs	10 Hrs	50 Hrs	100 Hrs	250 Hrs	Every Year	2000 Hrs	4500 Hrs or 5 Years
Lubricate cotton fan bearings.				•				
Lubricate cotton fan linkage, bell crank and idler pivot..				•				
Lubricate front and rear crosses of unit drive universal joints on unit drive shaft.				•				
Lubricate unit drive shaft.				•				
Lubricate universal joints and shafts on unit drive cross shafts.				•				
Lubricate the crosses of universal joint on picking unit cross-shaft.				•				
Lubricate final drive axle bearings.				•				
Clean battery connections if corroded				•				
Lubricate hydrostatic universal joint.				•				
Lubricate turnbuckles.				•				
Lubricate final drive axle couplers.				•				
Lubricate unit support frame rollers.				•				
Check transmission fluid level.				•				
Tighten steering knee bolts.				•				
Tighten wheel hardware and check tire pressures.				•				
Clean primary cab recirculating filter—Normal Conditions.				•				
Lubricate rim on cleated tires (if equipped).				•				
Change engine oil and filter. ^{a,b}					•			
Clean and/or replace lubrication system filters.					•			
Clean or replace secondary (recirculating) cab air filter.					•			
Remove, clean, and inspect fuel/water separator bowl					•			
Replace primary and final fuel filters.					•			

^aExtend service interval by 50 percent when using PLUS-50 oil. Example: 250 Hours extends to 375 hours.

^bChange engine oil and filter after initial 100 hours.

SERVICE	INTERVAL							
	5 Hrs	10 Hrs	50 Hrs	100 Hrs	250 Hrs	Every Year	2000 Hrs	4500 Hrs or 5 Years ⁰
Clean/fill doffer bearing housings.						•		
Change transmission oil.						•		
Check coolant condition, add coolant conditioner as necessary.						•		
Repack wheel bearings.						•		
Check final drive oil level.						•		
Lubricate brake pedal pivots.						•		
Clean battery connections.						•		
Lubricate unit idler bearings.						•		
Change hydraulic/hydrostatic oil and filters.						•		

Continued on next page

CP00718,0002D81 -19-08DEC16-2/3

Change row unit gear case oil.						•		
Inspect seat belt.						•		
Check all drive belts for alignment and tension.						•		
Replace primary and secondary air cleaner elements.						•		
Clean fuel tank vent.						•		
Remove and clean cab air inlet panel.						•		
Drain and replace final drive lubricant.							•	
Drain and refill transmission lubricant							•	
Check engine valve tappet clearance.							•	
Drain, flush and fill cooling system.								•
Replace thermostats.								•

CP00718,0002D81 -19-08DEC16-3/3

Lubrication Symbols



Lubricate with John Deere Moly High-Temperature Extreme Pressure (EP) Grease, John Deere Multipurpose Lubricant or an equivalent SAE multi-purpose type grease may be used as an alternative. Lubricate at hourly intervals indicated on the symbols.



Lubricate with SAE 10 oil at hourly intervals indicated on the symbols.



Hand pack at hourly intervals indicated with John Deere Moly High-Temperature Extreme Pressure (EP) Grease. John Deere Multipurpose Lubricant or an equivalent SAE multi-purpose type grease may be used as a substitute.

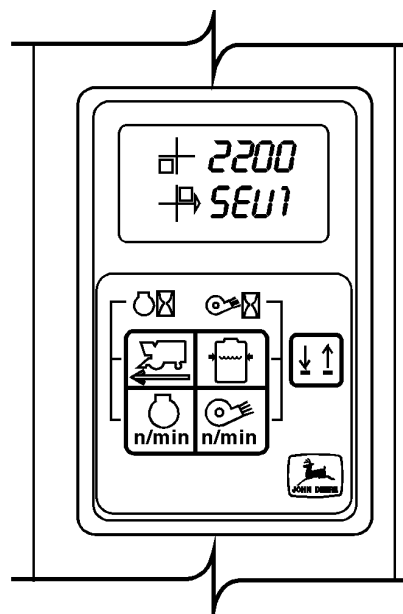
Clean illustrated machine component at hourly intervals indicated on the symbols.

NX,9965,N12 -19-23NOV92-1/1

Service Interval Display Message

The digital tachometer displays the message "SEU1" after each 50 hours of engine operation. This is the service interval display message designed to help schedule regular lubrication and maintenance.

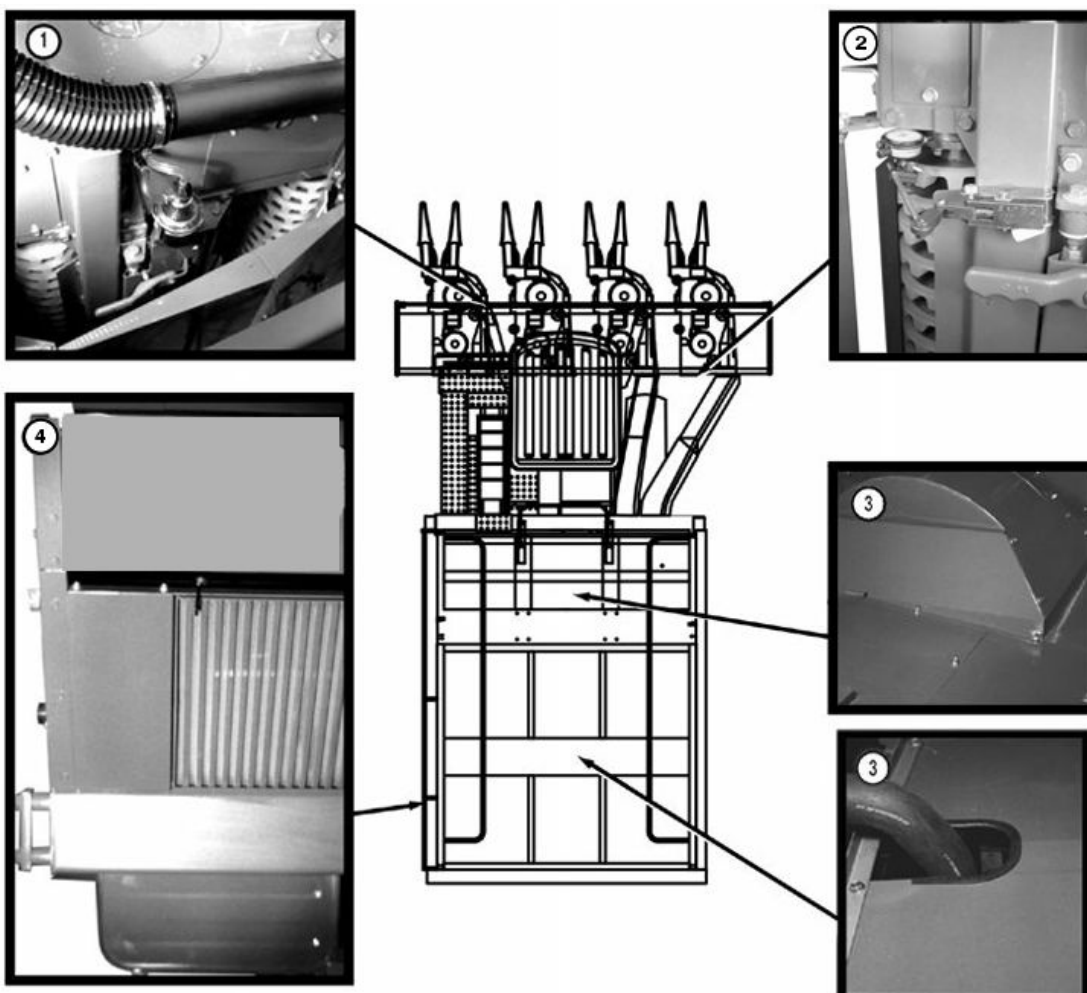
To reset the digital tachometer to normal operation, see CLEARING 50 HOUR SERVICE CODE in OPERATORS STATION section.



N42182GY —UN—20JUN97

OUO6043,000155B -19-24JUL06-1/1

Every 5 Hours of Operation



1. Inspect solution nozzles on row units. Clean as necessary.
2. Check and clean doffer, drums, inside of suction doors and moistener column as required.

⚠ CAUTION: The basket is heavy. If basket should suddenly lower serious injury or death

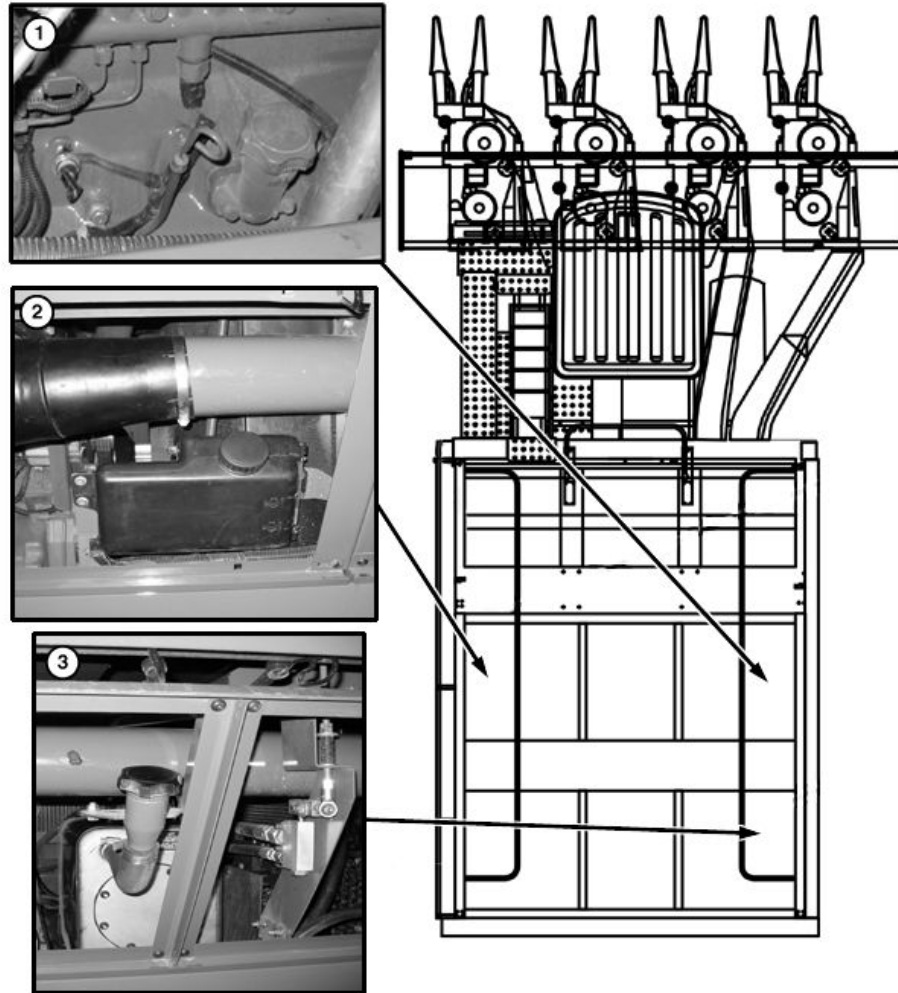
can result to you or others. Be sure to turn basket cylinder stop to prevent basket from lowering while cleaning hood.

3. Check for cotton buildup on hood. Clean as required to prevent damage to hood.
4. Clean exterior of radiator screens.

CP00718,0001DBB -19-07JAN16-1/1

YC9604 —JUN—06JAN16

Every 10 Hours of Operation



1. Check engine oil level. See DIESEL ENGINE OIL in this section.
2. Check coolant level and add if necessary. See DIESEL ENGINE COOLANT in this section.

IMPORTANT: Check the overflow hose for kinks.
Check the coolant level in the overflow bottle.

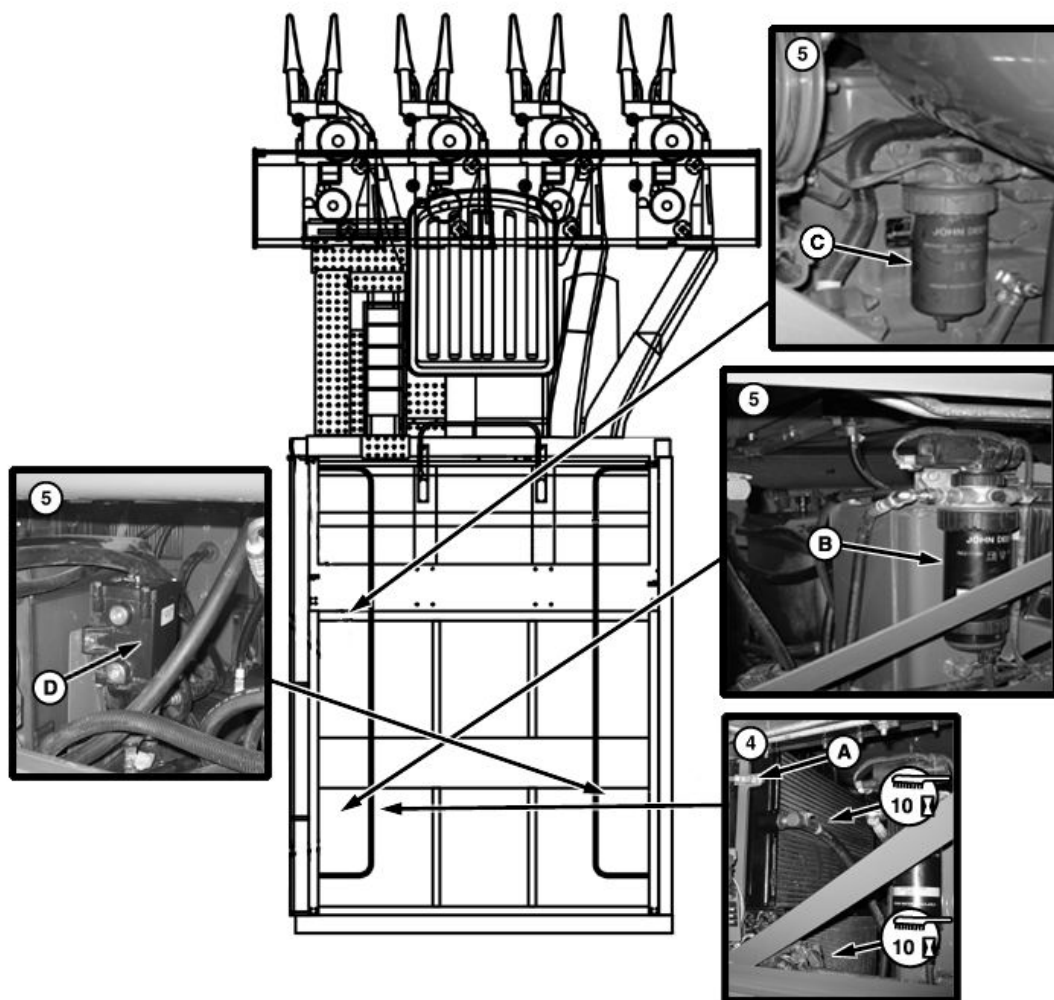
See CHECKING COOLANT LEVEL in ENGINE AND DRIVE TRAIN section.

3. Check hydraulic/hydrostatic oil level. See HYDRAULIC/HYDROSTATIC OILS in this section.

Continued on next page

CP00718,0002D82 -19-03MAR17-1/16

N73230 —UN—31JUL06



A—Latch
B—Primary Fuel Filter

C—Final Fuel Filter

D—Fuel/Water Separator Bowl

CAUTION: Oil cooler/air conditioning condenser is heavy and can fall when latch is released, causing serious injury. Support properly before unlatching.

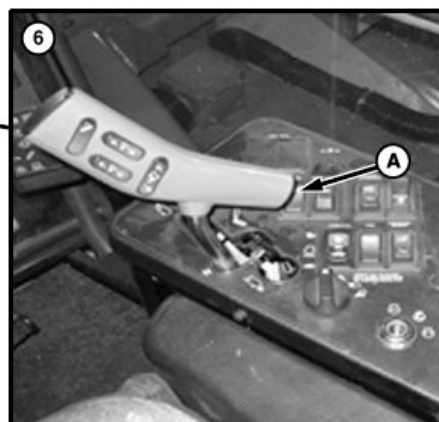
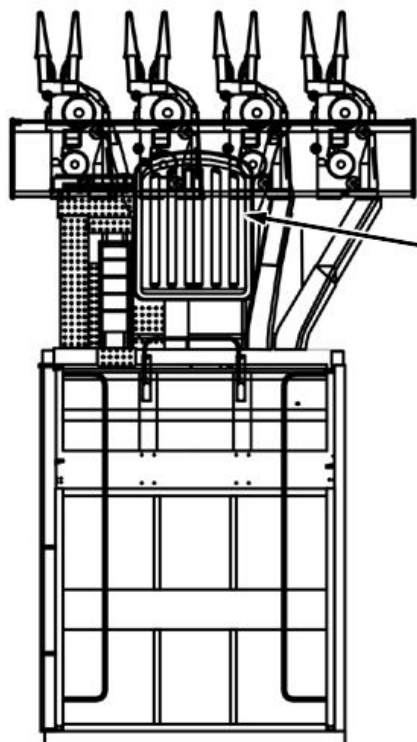
4. Clean oil cooler and air conditioning condenser. Release latch (A) and carefully lower oil cooler/air conditioning condenser carefully.

5. Check primary (B), final (C), Fuel/Water Separator Bowl (D) fuel filters for water and sediment. Drain (or clean) if necessary.

Continued on next page

CP00718,0002D82 -19-03MAR17-2/16

N73231 —UN—27SEP06



A—Onboard Lubrication System

6. Lubricate picker bars, sun gears, upper gear train and cam tracks using onboard lubrication system (A).

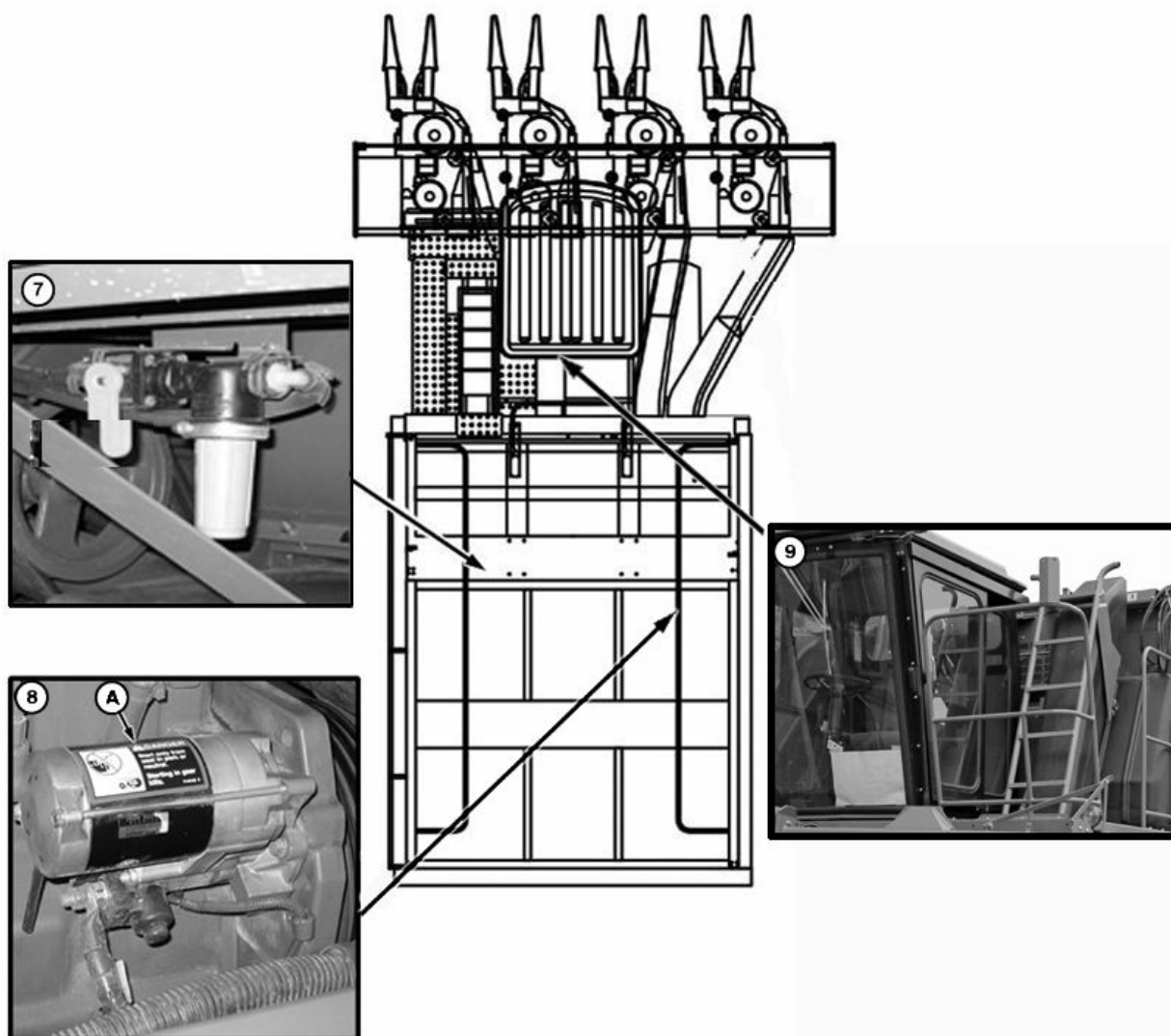
NOTE: For details on the use of the onboard lubrication system, refer to OPERATING THE

ONBOARD LUBE SYSTEM in the ONBOARD LUBRICATION SYSTEM section.

Continued on next page

CP00718,0002D82 -19-03MAR17-3/16

N73232 —UN—31JUL06



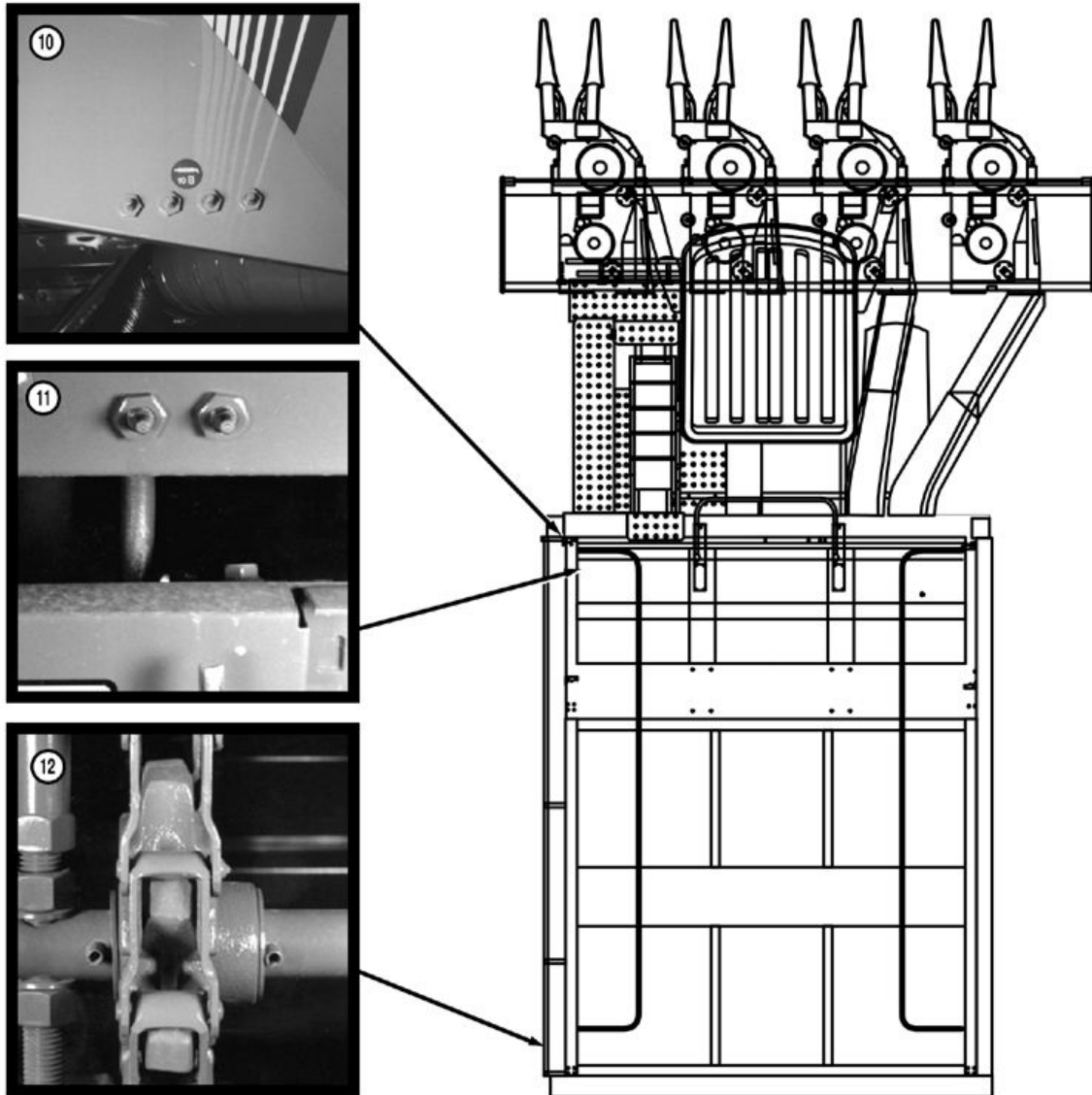
A— Starter

7. Close moistener system shut-off valve. Remove and clean strainer.
8. Clean lint from starter area.
9. Check for cotton build up between the cab and the tanks.

Continued on next page

CP00718,0002D82 -19-03MAR17-4/16

YC9609 —UN—27DEC15



IMPORTANT: Premature wear of pivot joints can occur if not properly lubricated. Remove weight from pivot joints to allow lubricant to distribute thoroughly and avoid premature wear.

10. Lower row units onto suitable blocks to remove weight from pivot joints and lubricate unit lift rockshaft bearings (four places).

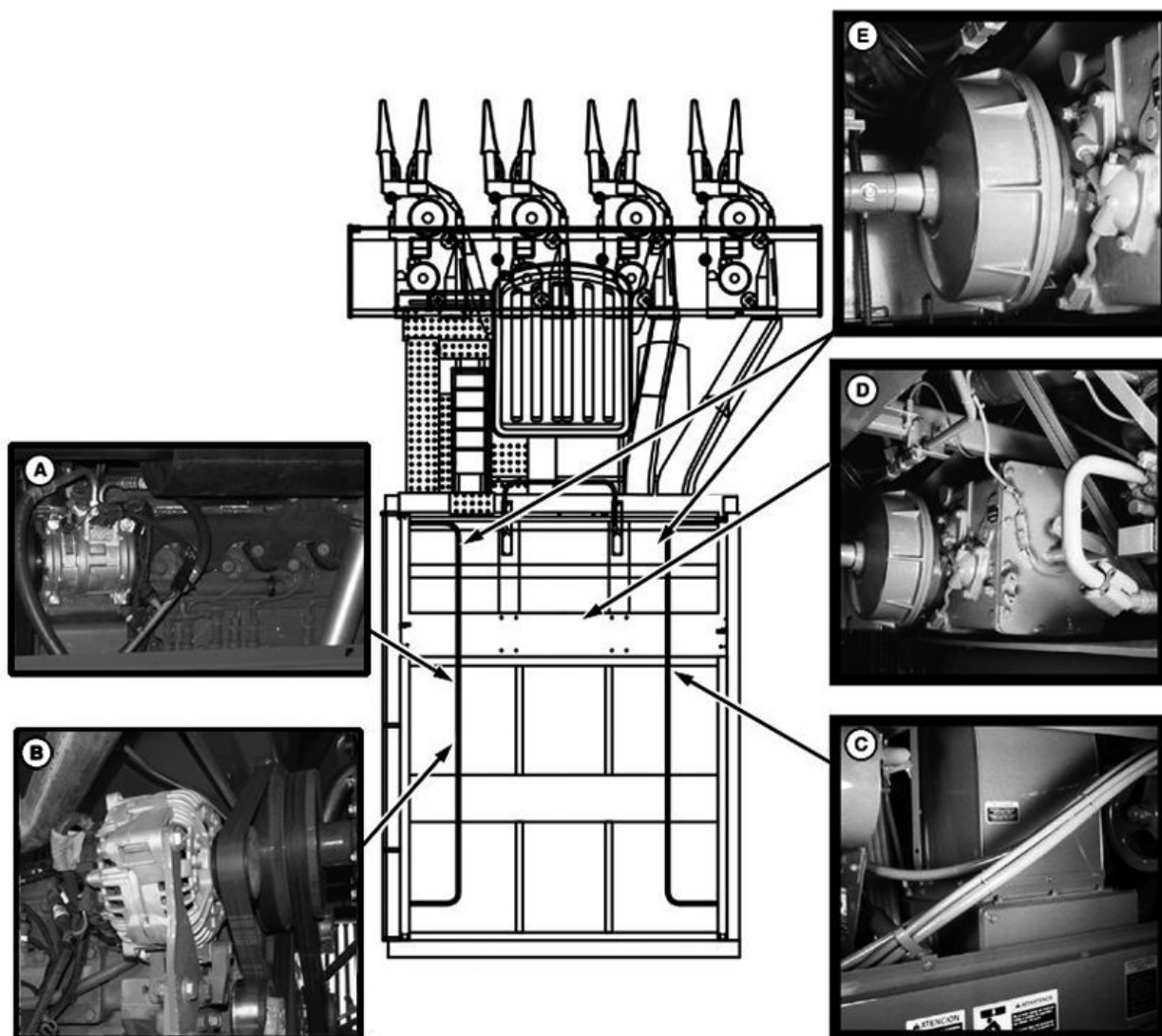
11. Lubricate basket rockshaft unload cylinder bearings, four places (two in front, two in rear). (Front shown.)

12. Check basket conveyor chain tension.

Continued on next page

CP00718,0002D82 -19-03MAR17-5/16

N42182NO —UN—26SEP97

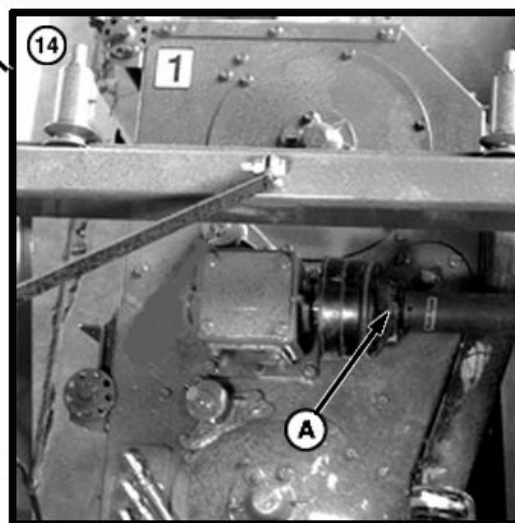
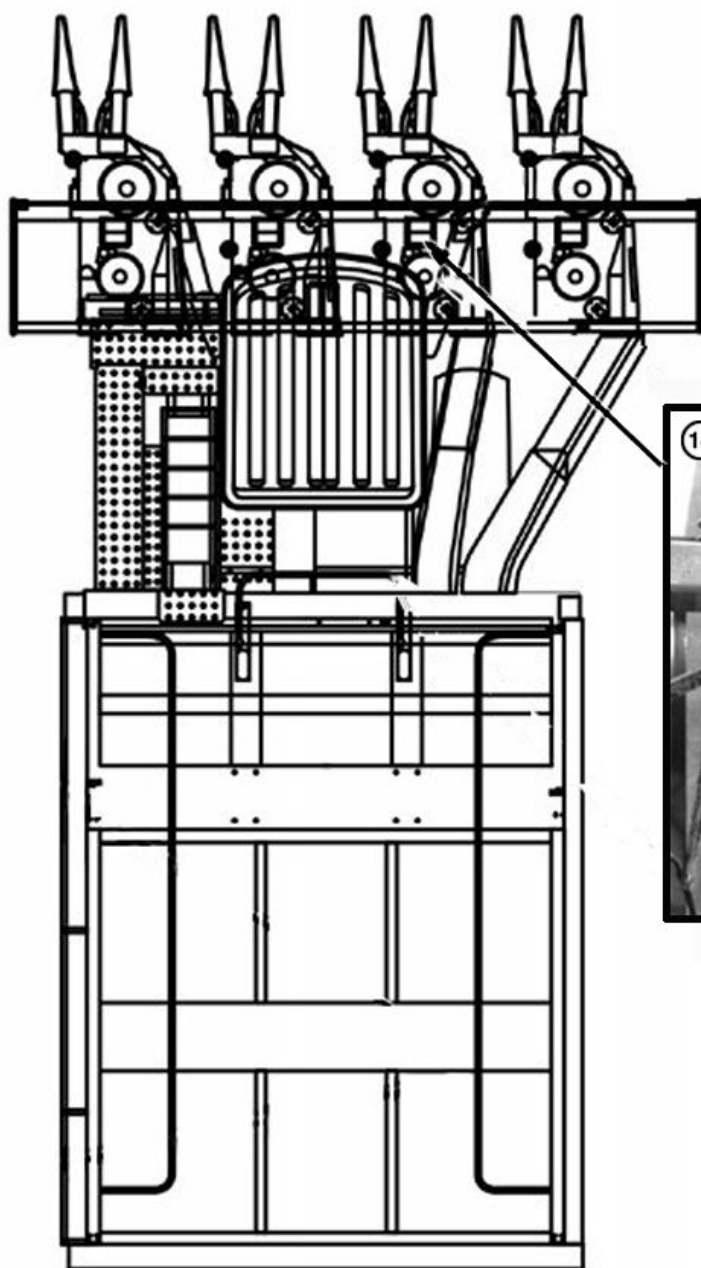


13. Clean lint and trash from the following areas: engine (A), alternator (B), cotton fan rotor (C), transmission (D) and brakes (E).

Continued on next page

CP00718,0002D82 -19-03MAR17-6/16

YC9488 —UN—20NOV15



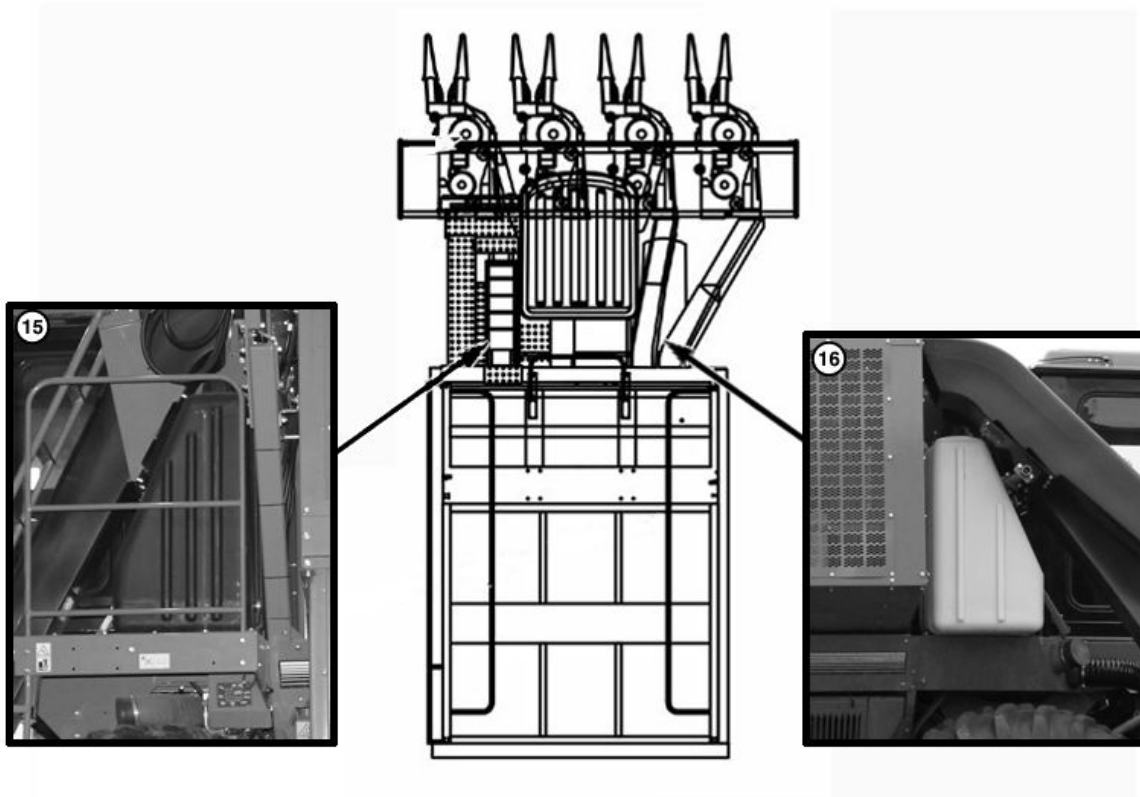
A— Fitting (4 used)

14. Lubricate telescoping shaft fittings (4 places) on unit driveshafts.

Continued on next page

CP00718,0002D82 -19-03MAR17-7/16

YC9599 —UN—28DEC15



15. Check lubricant level in onboard lubrication system grease tank.

16. Check solution level in moistener system tank.

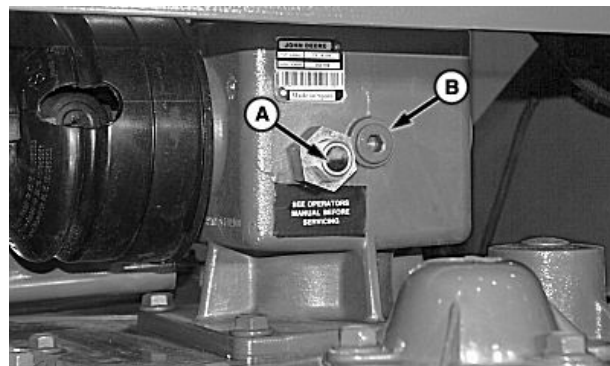
CP00718,0002D82 -19-03MAR17-8/16

YC9603 —UN—24DEC15

17. Check row unit oil level. With row units level, oil should be to center of sight glass (A). Remove plug (B) and add proper oil as needed. See ROW UNIT GEAR CASE LUBRICANT—OIL TYPE in this section. Install plug.

A—Sight glass

B—Fill Plug



Oil Type Gear Case

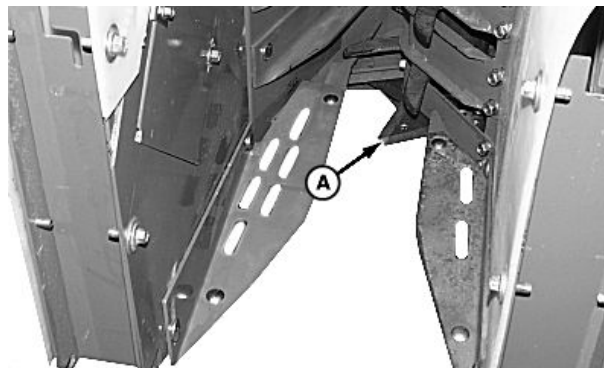
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CP00718,0002D82 -19-03MAR17-9/16

N58591 —UN—12OCT01

18. Check cutter knives (A) for missing or damaged knives. (VRS-Row Unit)

A—Cutter Knife

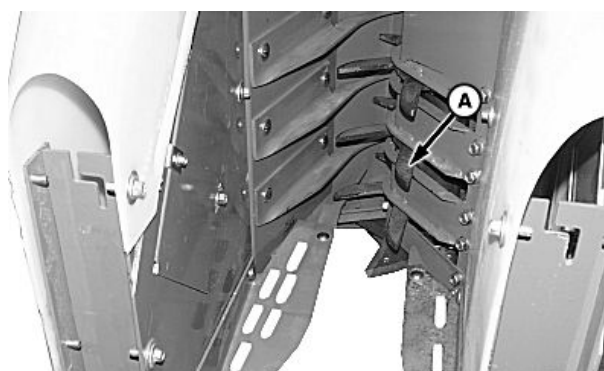


N64594 —UN—21NOV03

CP00718,0002D82 -19-03MAR17-10/16

19. Check front feeder fingers (A) for missing or damaged fingers. (VRS-Row Unit)

A—Front Feeder Finger

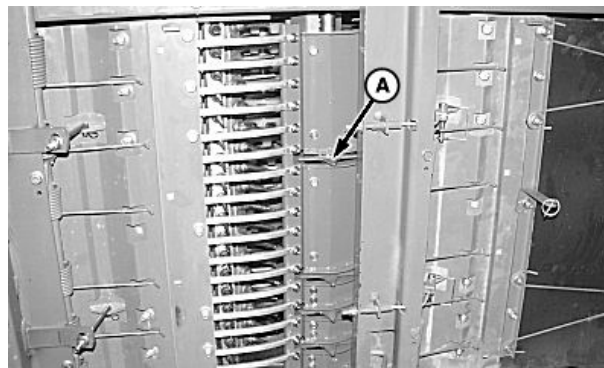


N64595 —UN—21NOV03

CP00718,0002D82 -19-03MAR17-11/16

20. Check rear feeder fingers (A) for missing or damaged fingers. (VRS-Row Unit)

A—Rear Feeder Finger



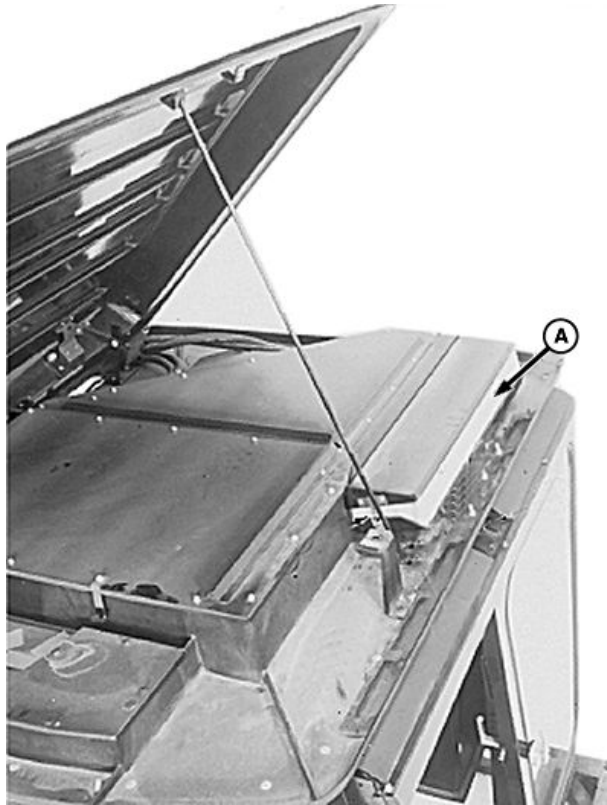
N64596 —UN—21NOV03

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CP00718,0002D82 -19-03MAR17-12/16

21. Clean primary cab fresh air filter (A)—If operating in dusty conditions. See REPLACING PRIMARY FILTER ELEMENT in CAB AND AIR CONDITIONING section.

A—Primary Cab Air Filter



N58596 —UN—11OCT01

CP00718,0002D82 -19-03MAR17-13/16

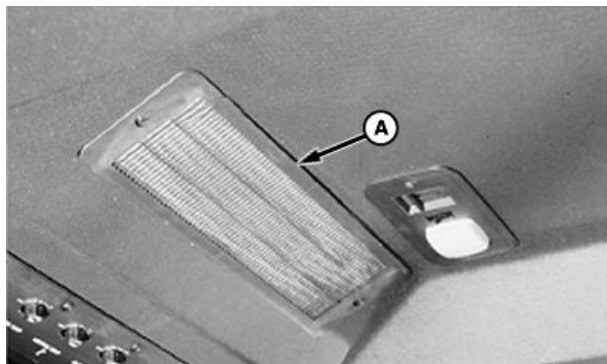
22. Clean secondary cab recirculating filter (A)—if operating in dusty conditions.. See REMOVING SECONDARY (RECIRCULATING) CAB AIR FILTER in CAB AND AIR CONDITIONING section.

23. Clean rotary screen and cooling cores.

24. Check basket, brush bar, door sensors, lower basket, extension, base of rear basket cylinder and auger gear train.

25. Inspect tires and check pressures.

**A—Secondary (Recirculating)
Cab Air Filter**



N58597 —UN—11OCT01

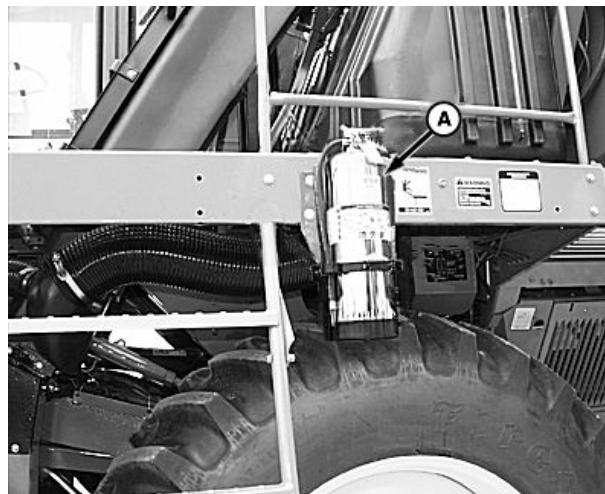
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CP00718,0002D82 -19-03MAR17-14/16

26. Inspect water type fire extinguisher (A) and ABC chemical type fire extinguisher (B) for charge at least every 200 hours or once a month. Record inspections on tag attached to fire extinguisher.

A—Water Type Fire Extinguisher

B—ABC Chemical Type Fire Extinguisher



Water Type Fire Extinguisher



Continued on next page

CP00718,0002D82 -19-03MAR17-15/16

N58636 —UN—11OCT01

YC9483 —UN—20NOV15

27. For machine with non-powered axle without heavy duty extensions, tighten steering knee bolt (4 on each side) to specification.

For machine with powered axle, tighten steering knee bolt (4 on each side) to specification.

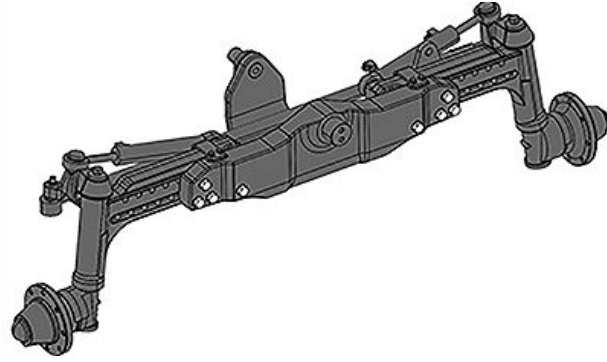
For machine with non-powered axle with heavy duty extensions, tighten steering knee bolt (8 on each side) to specification.

Specification

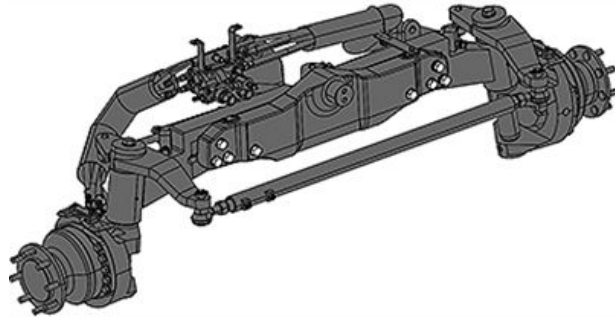
Steering Knee Bolt—Torque.....	610 N·m (450 lb-ft)

If torque fails to stabilize after first ten hours, tighten to above values every ten hours. After torque stabilizes, tighten every 100 hours.

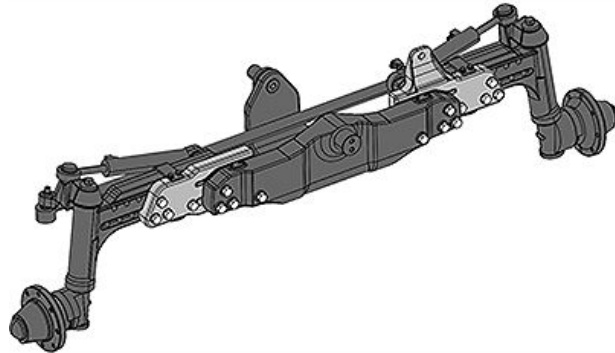
NOTE: After any service requiring loosening of guide axle hardware, the one hour torque check must be completed after operation of machine followed by the above torque requirements.



Non-powered Axle without Heavy Duty Extension



Powered Axle



Non-powered Axle with Heavy Duty Extension

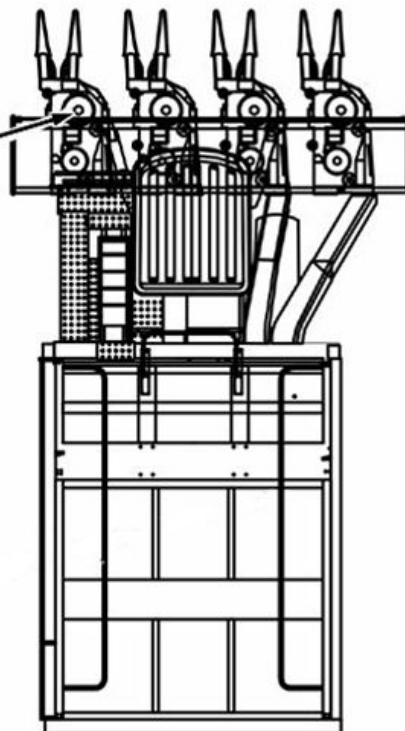
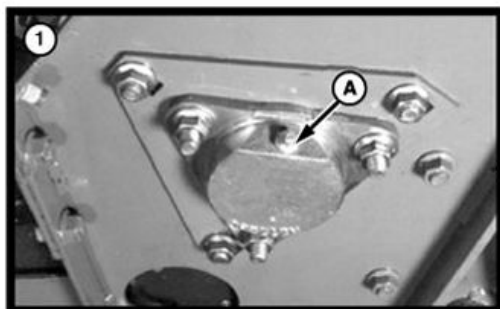
YC10992—UN—07DEC16

YC10993—UN—07DEC16

YC10994—UN—07DEC16

CP00718,0002D82 -19-03MAR17-16/16

Every 50 Hours of Operation



A—Grease Fitting

B—Starter

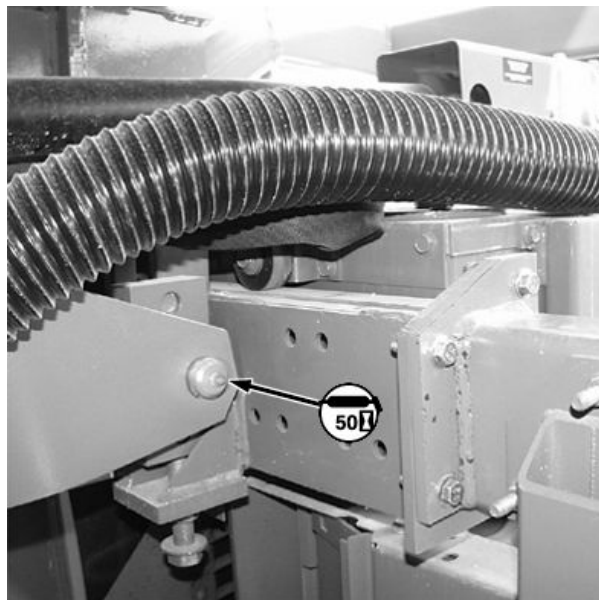
1. Lubricate doffer column bearings through grease fitting (A) until grease comes out of lower doffer housing.

Continued on next page

CP00718,0001D54 -19-24DEC15-1/3

YC9597 —UN—23DEC15

2. Lubricate unit lift pivots.

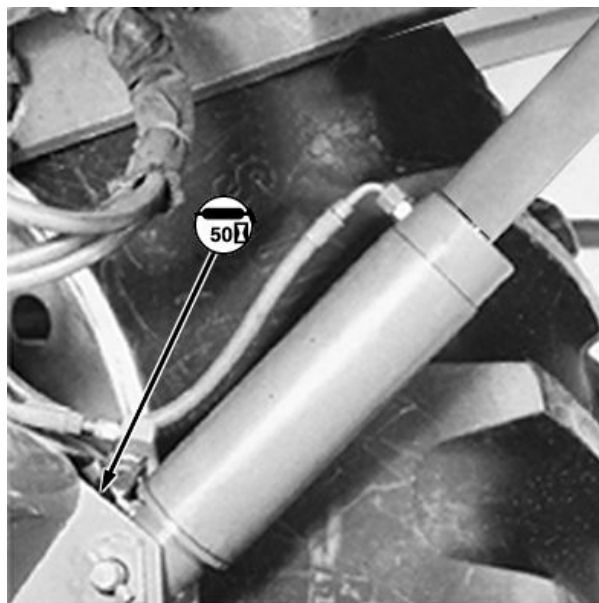


N51094—UN—07SEP99

Unit Lift Inner Pivot Pin

CP00718,0001D54 -19-24DEC15-2/3

3. Lubricate rod end of unit lift cylinders.
4. Change row unit gear case oil. (First 50 hours of operation ONLY.)(SEE DRAIN and REFILL ROW Unit GEAR CASES in LUBRICATION AND MAINTENANCE)
5. Reset digital tachometer.
6. Check all belts tension.

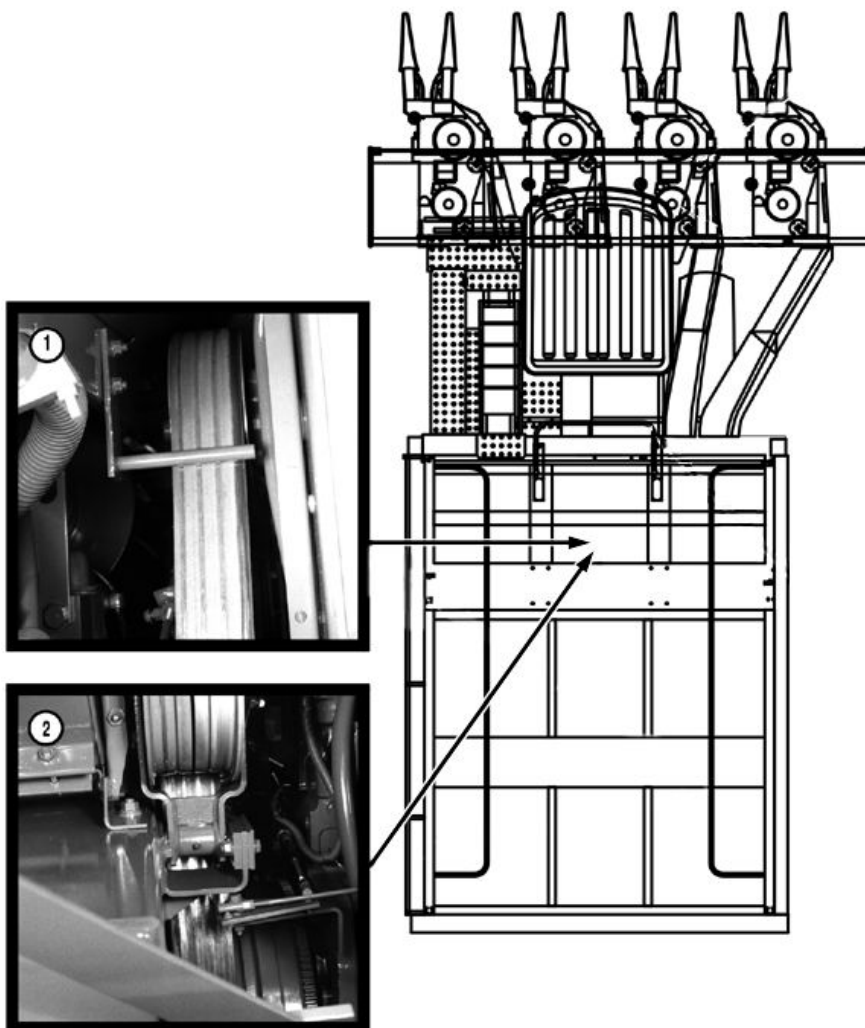


N51067—UN—02SEP99

Unit Lift Cylinder

CP00718,0001D54 -19-24DEC15-3/3

Every 100 Hours of Operation



IMPORTANT: Use only one stroke of hand grease gun to prevent seal damage.

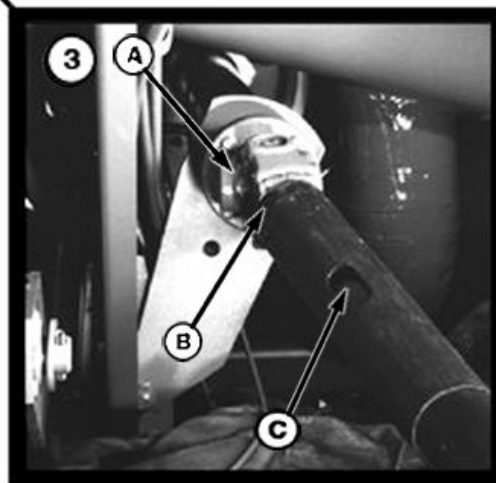
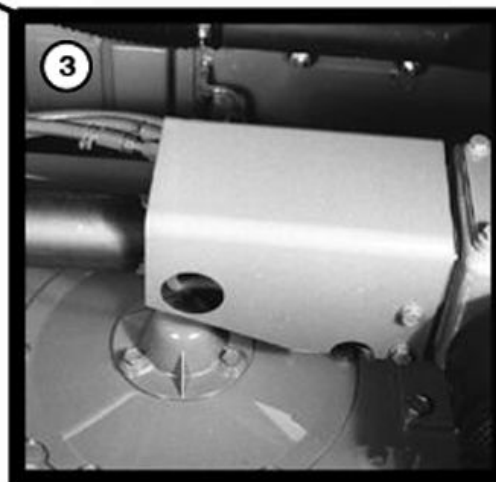
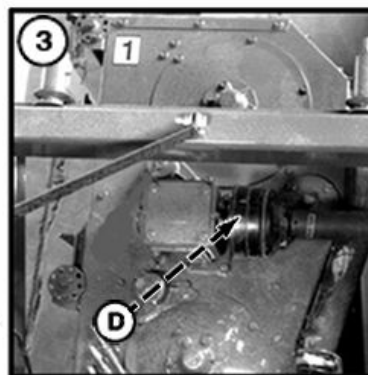
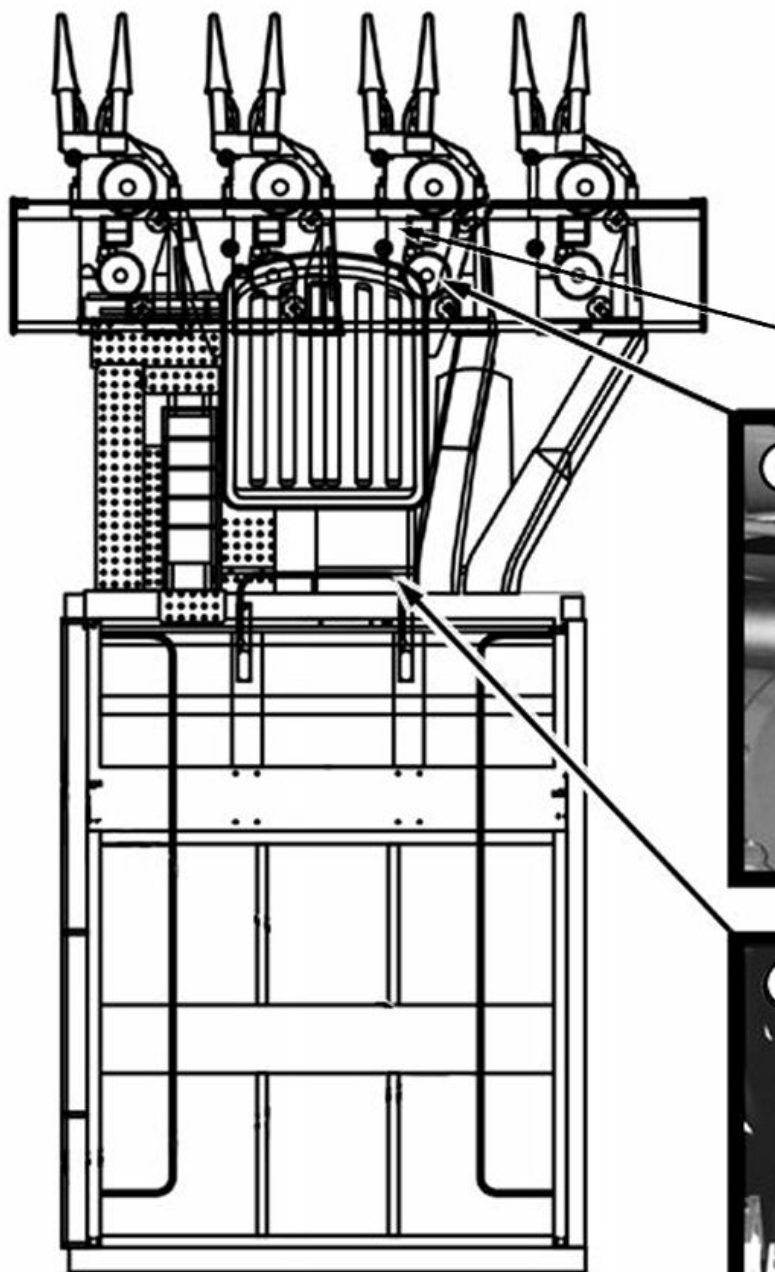
1. Lubricate front and rear fan bearings.

2. Lubricate fan linkage, bell crank and idler pivot.

Continued on next page

CP00718,0002D83 -19-12APR17-1/9

N51068—UN—02SEP99



A—Fitting (6 used)
B—Fitting (6 used)

C—Fitting (3 used)
D—Fitting (4 used)

3. Lubricate crosses, universal joints on unit drive shafts.

(1):Lubricate front and rear crosses of unit drive universal joints on unit drive shaft through fittings (A).

(2):Lubricate universal joints on unit drive shaft through fittings (B).

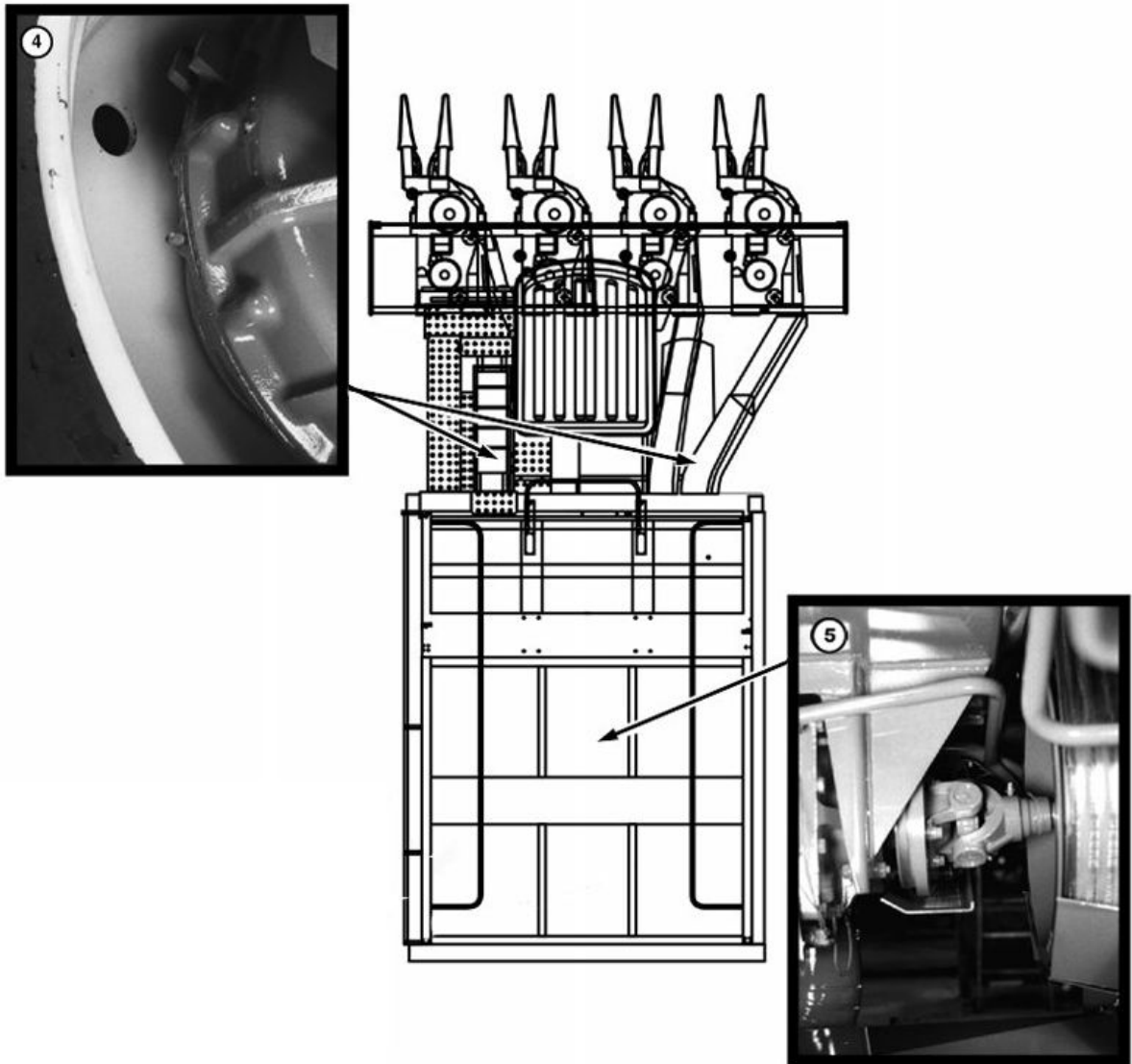
(3):Lubricate unit drive shaft through fittings (C).

(4):Lubricate the crosses of universal joint on picking unit cross-shaft through fittings (D).

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CP00718,0002D83 -19-12APR17-2/9

YC9601 —UN—24DEC15



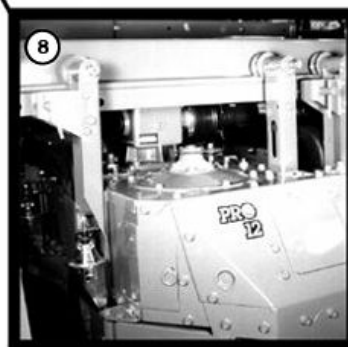
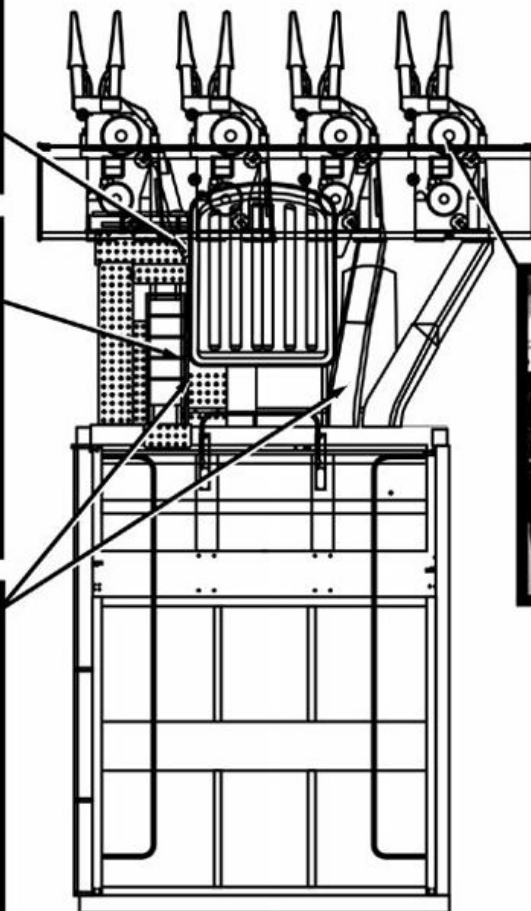
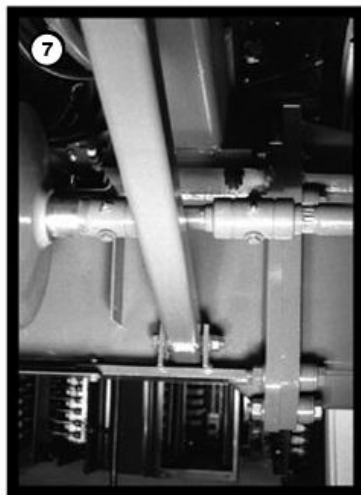
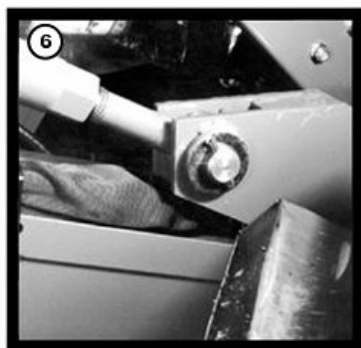
4. Lubricate final drive axle outer bearings (two places).

5. Lubricate hydrostatic universal joint.

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CP00718,0002D83 -19-12APR17-3/9

YC9496 —UN—23DEC15



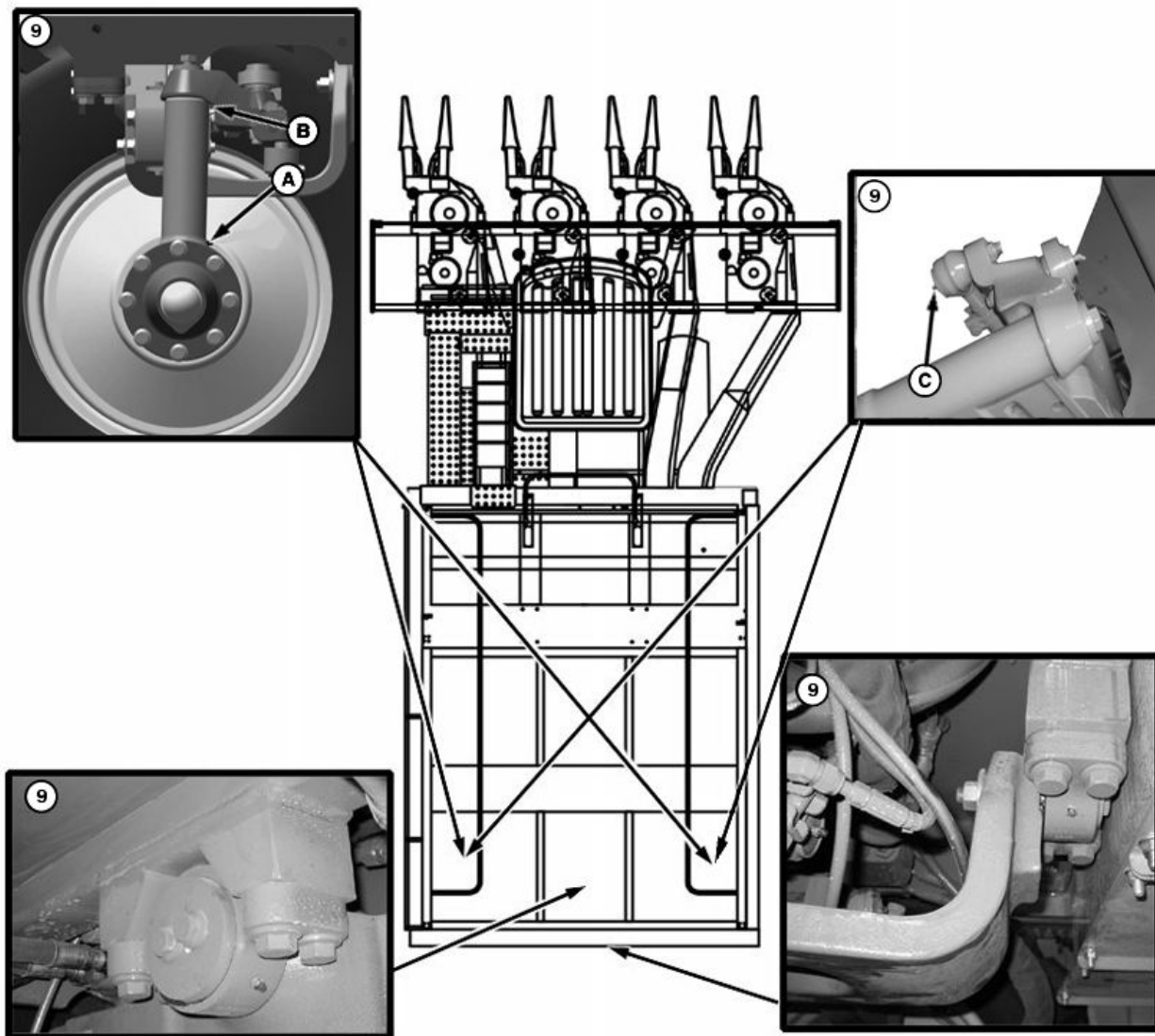
6. Lower row units to the ground to remove weight from turnbuckle. Lubricate unit lift turnbuckle (four places).
7. Lubricate final drive axle couplers (four places). (Six places on skip row.)

8. Lubricate unit support frame rollers, two per unit.

Continued on next page

CP00718,0002D83 -19-12APR17-4/9

YC9499 —JUN—23DEC15



A— Lubrication Fitting (2 used, 1 per side) B— Lubrication Fitting (2 used, 1 per side) C— Lubrication Fitting (2 used, 1 per side)

9. Lubricate guide axle and pivot (eight places).

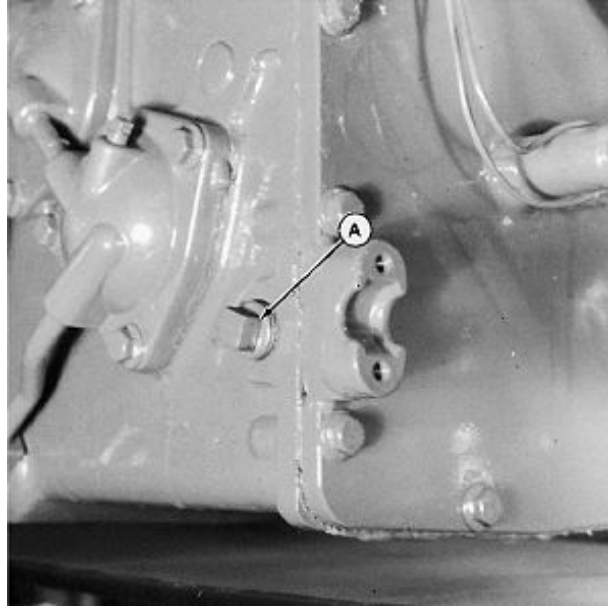
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CP00718,0002D83 -19-12APR17-5/9

YC11028 —UN—15MAR17

10. Remove plug (A) to check transmission fluid level.
Fluid should be level with the bottom of plug hole. Add lubricant if needed. See TRANSMISSION AND FINAL DRIVE LUBRICANT in this section.

A—Plug



N42132DC—JUN—15JAN93

Continued on next page

CP00718,0002D83 -19-12APR17-6/9

11. For machine with non-powered axle without heavy duty extensions, tighten steering knee bolt (4 on each side) to specification.

For machine with powered axle, tighten steering knee bolt (4 on each side) to specification.

For machine with non-powered axle with heavy duty extensions, tighten steering knee bolt (8 on each side) to specification.

Specification

Steering Knee	
Bolt—Torque.....	610 N·m (450 lb-ft)

If torque fails to stabilize after first ten hours, tighten to above values every ten hours. After torque stabilizes, tighten every 100 hours.

NOTE: After any service requiring loosening of guide axle hardware, the one hour torque check must be completed after operation of machine followed by the above torque requirements.

12. Tighten drive wheel bolts to specification.

Specification

Drive Wheel	
Bolts (Lubricated	
M20)—Torque.....	(Serial No. 020001—025134) 490 N·m (360 lb-ft)

Drive Wheel	
Bolts (Lubricated	
M22)—Torque.....	(Serial No. 025135—) 610 N·m (450 lb-ft)

13. Tighten guide wheel bolts to specifications.

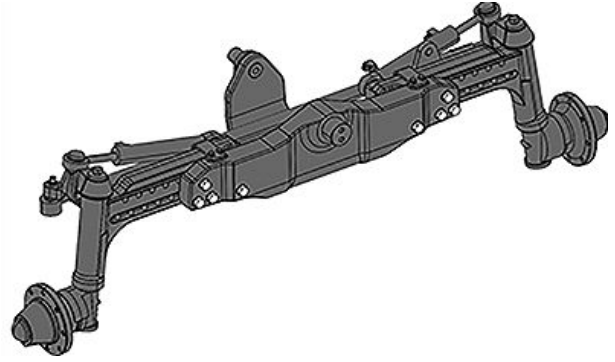
Specification

Non-Powered	
Guide Wheel Bolts	
(Dry)—Torque.....	312 N·m (230 lb-ft)

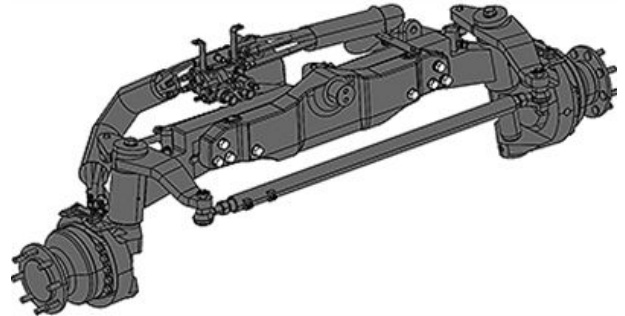
14. Tighten power rear wheel bolts to specification.

Specification

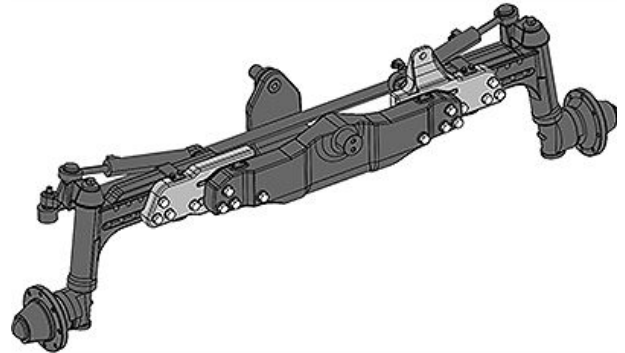
Power Rear Wheel Bolts	
(Dry)—Torque.....	610 N·m (450 lb-ft)



Non-powered Axle without Heavy Duty Extension



Powered Axle



Non-powered Axle with Heavy Duty Extension

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CP00718,0002D83 -19-12APR17-7/9

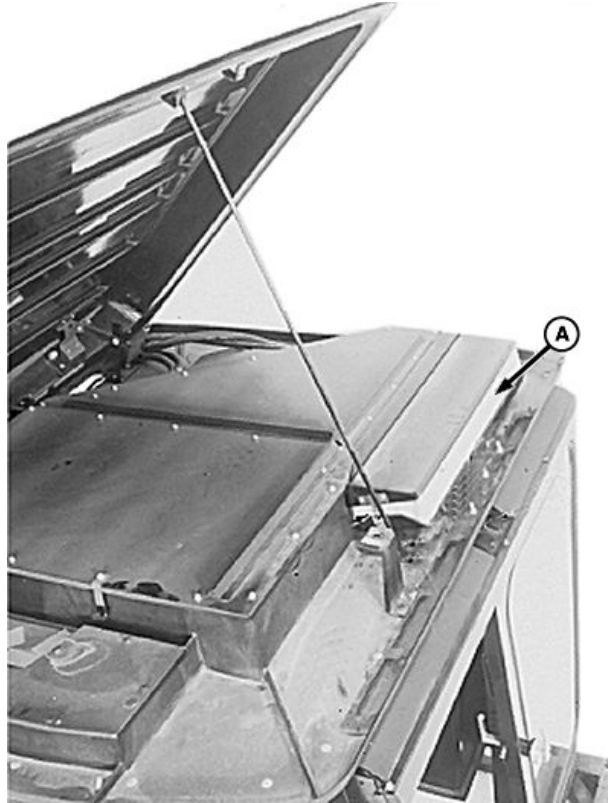
YC10992—UN—07DEC16

YC10993—UN—07DEC16

YC10994—UN—07DEC16

15. Clean or replace primary cab air filter element. See REPLACING PRIMARY FILTER ELEMENT in CAB AND AIR CONDITIONING section.

A—Primary Cab Air Filter Element



N58596 —UN—11OCT01

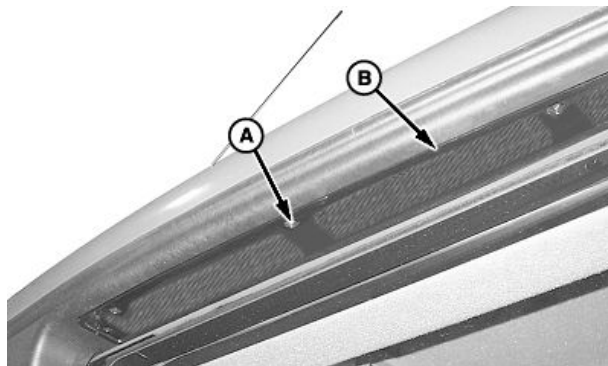
CP00718,0002D83 -19-12APR17-8/9

CAUTION: Compressed air can cause dust and debris to become airborne which can cause serious injury to you or others by striking eyes or unprotected areas. Reduce compressed air to less than 210 kPa (2.1 bar) (30 psi) when using for cleaning purposes. Clear area of bystanders. Guard against flying chips and wear personal protection equipment including eye protection.

NOTE: Air is brought in through panel on left-hand side of cab only.

16. Remove and clean cab air inlet panel.

- (1): Remove four screws (A).
- (2): Remove air inlet panel (B).
- (3): Clean panel with compressed air or water. Install panel and retain with screws previously removed.



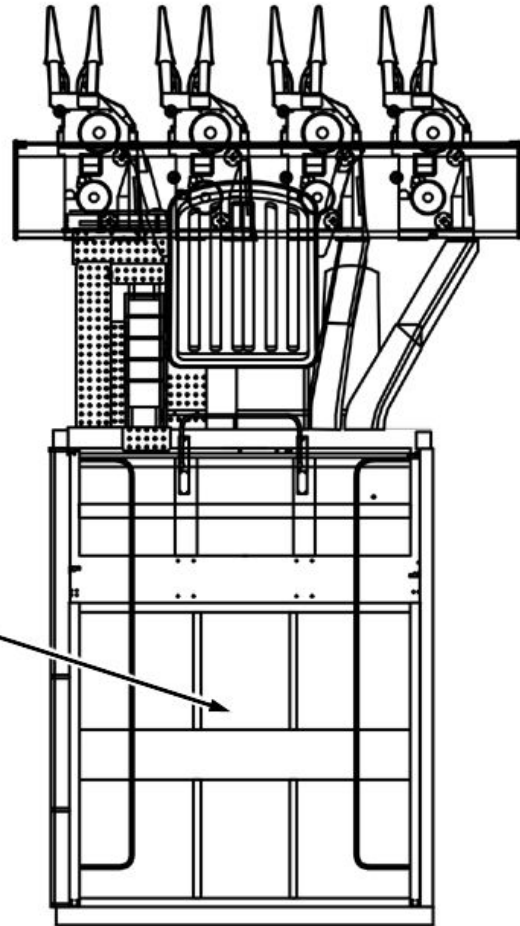
A—Screw (4 used)

B—Air Inlet Panel

N71921 —UN—17MAR06

CP00718,0002D83 -19-12APR17-9/9

Every 250 Hours of Operation



NOTE: If using PLUS-50™ oil, service interval can be extended by 50 %.

1. Remove plug to drain crankcase oil. Replace crankcase drain plug. Replace engine oil filter while changing oil. Clean filter mounting pad, apply oil to gasket, and install new element. Hand tighten only.

PLUS-50 is a trademark of Deere & Company.

Install proper amount of engine oil. See DIESEL ENGINE OIL in this section. See SPECIFICATIONS section for oil capacity.

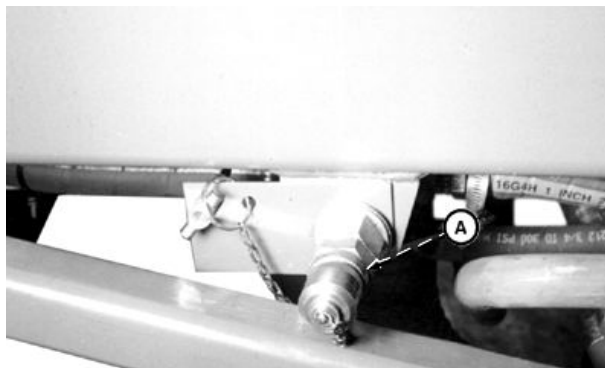
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CP00718,0001D66 -19-28DEC15-1/4

N73238 —UN—31JUL06

2. Clean and/or replace lubrication system filters (A). See ONBOARD LUBE SYSTEM section.

A—Filters

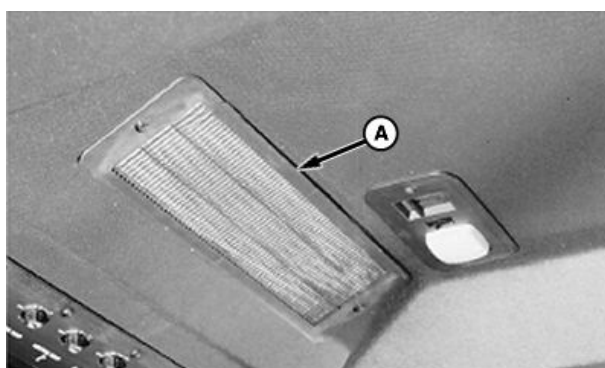


N42189SA —UN—23NOV98

CP00718,0001D66 -19-28DEC15-2/4

3. Clean or replace secondary (recirculating) cab air filter (A). See REMOVING SECONDARY (RECIRCULATING) CAB AIR FILTER in CAB AND AIR CONDITIONING section.

**A—Secondary (Recirculating)
Cab Air Filter**



N58597 —UN—11OCT01

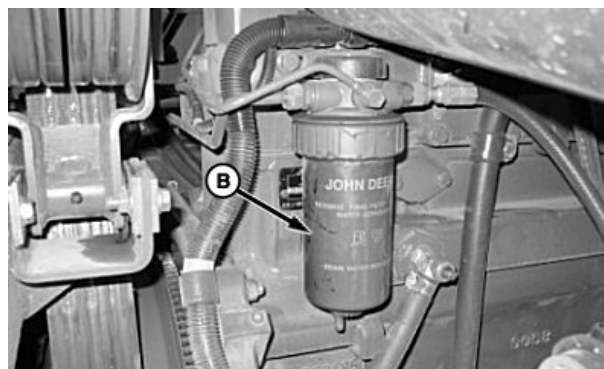
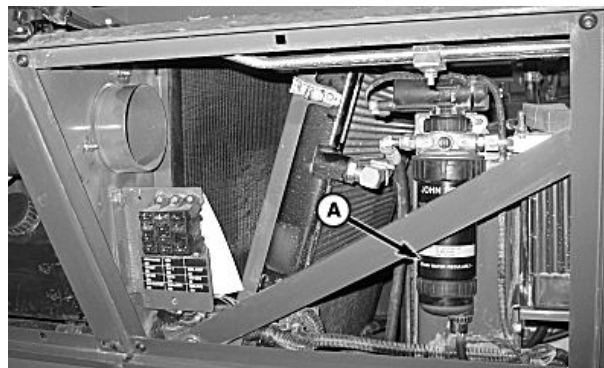
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CP00718,0001D66 -19-28DEC15-3/4

4. Replace element in primary fuel filter (A). See REPLACING PRIMARY FUEL FILTER/WATER SEPARATOR in Engine and Drive Train section.
5. Replace element in final fuel filter (B). See DRAIN AND REPLACE FINAL FUEL FILTER/WATER SEPARATOR in Engine and Drive Train section.

A—Primary Fuel Filter

B—Final Fuel Filter



N89597 —UN—24SEP10

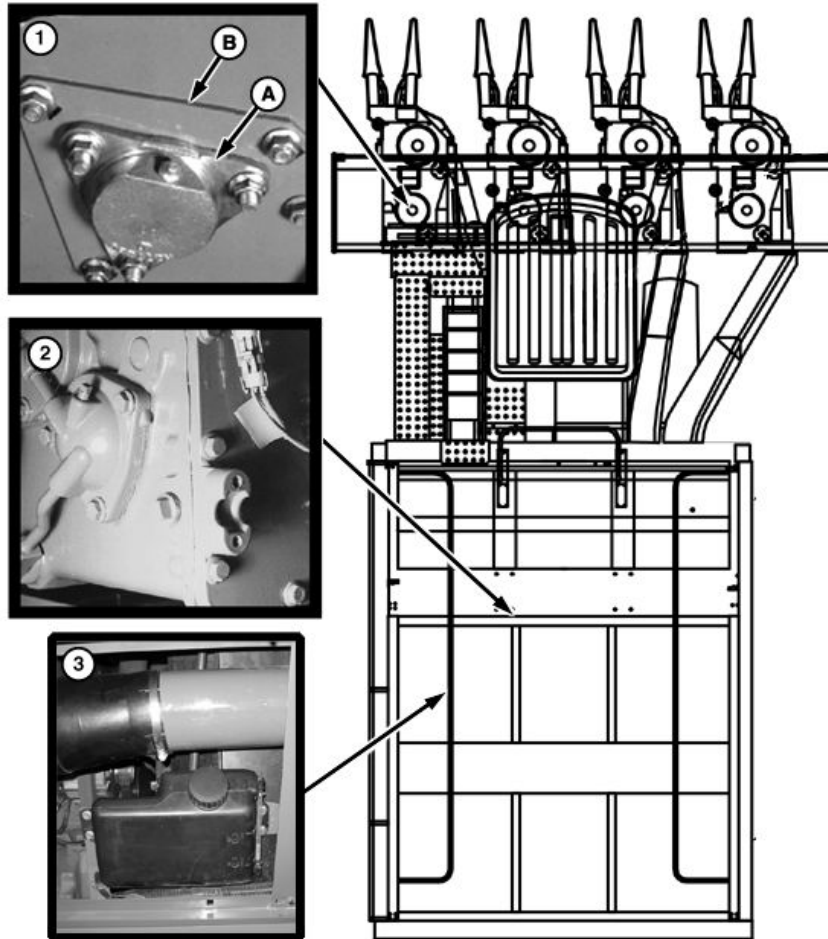
N89598 —UN—24SEP10

CP00718,0001D66 -19-28DEC15-4/4

Every Year

CAUTION: The units are heavy and, if they fall, serious injury or death to you or others can

result. Place safety stops over unit lift cylinder rods when working under units.



1. Mark doffer bearing housing flange (A) and adjusting plate (B) so bearing housing can be installed in the same position. Remove three cap screws from bearing housing flange. DO NOT loosen adjusting plate (outer) bolts, or doffer will have to be realigned.

Remove bearing housing. Remove grease fitting from bearing housing. Clean out grease and refill using John Deere Moly High Temperature (EP) Grease or

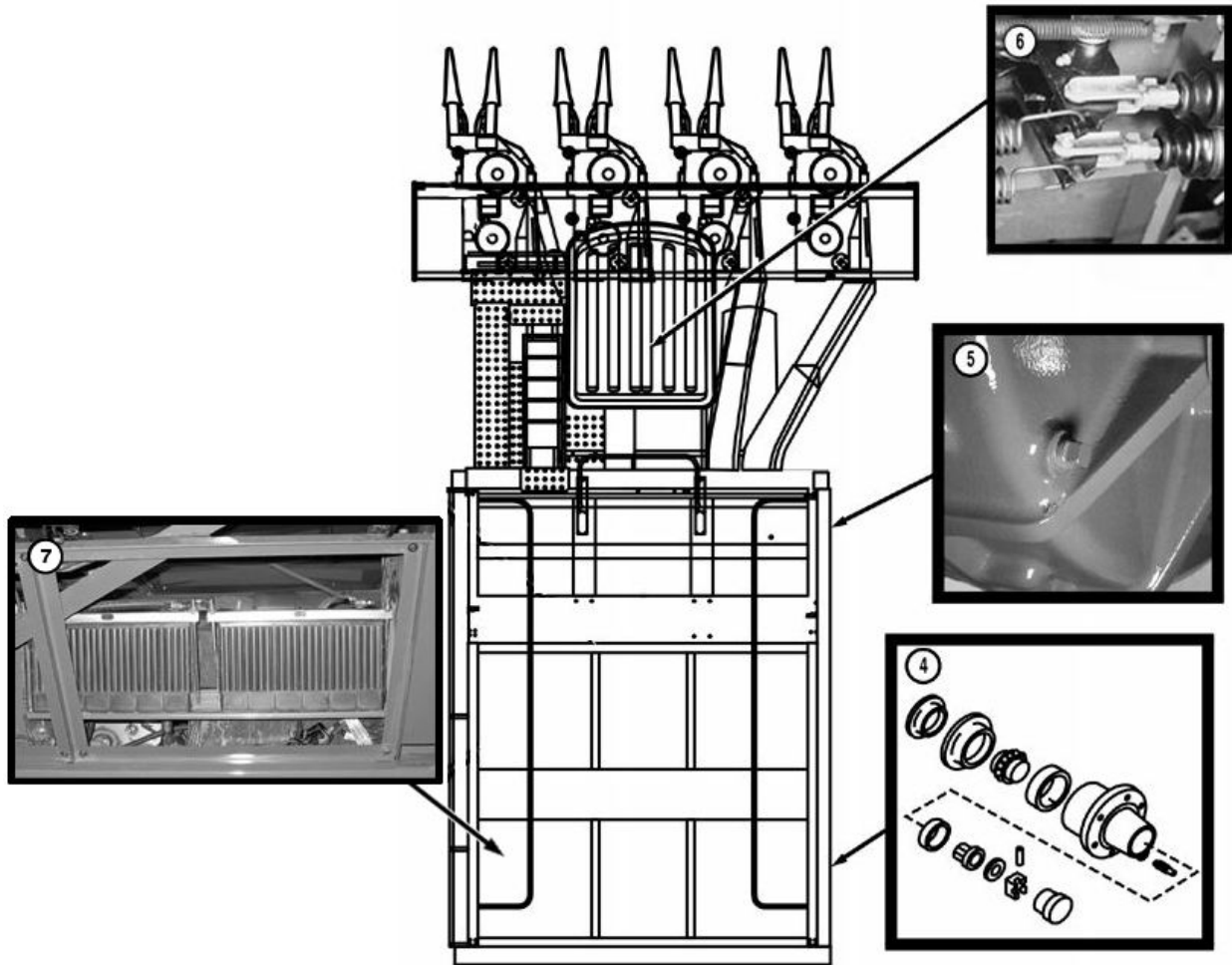
equivalent. Replace bearing housing in same position as before, with grease fitting hole toward rear of machine. Install grease fitting.

2. Check transmission oil level.
3. Check coolant condition with hydrometer, add coolant conditioner as necessary.

Continued on next page

CP00718,0001D67 -19-28DEC15-1/7

N73249 —UN—31JUL06



4. Disassemble guide wheel bearings and clean parts in solvent. Pack bearings in wheel bearing grease. Reassemble and tighten nut until a slight drag is felt when wheel is turned. Back nut off to insert cotter pin in first hole.

5. Check final drive oil level.

Remove plug to check final drive oil level. Oil level must come within 6 mm (1/4 in.) of bottom of fill hole.

NOTE: Final drive plug as seen from under machine.

Fill as necessary with proper lubricant. See TRANSMISSION AND FINAL DRIVE LUBRICANTS in this section. See SPECIFICATIONS section for oil capacity.

6. Lubricate brake pedal pivots.

7. Clean battery connections.

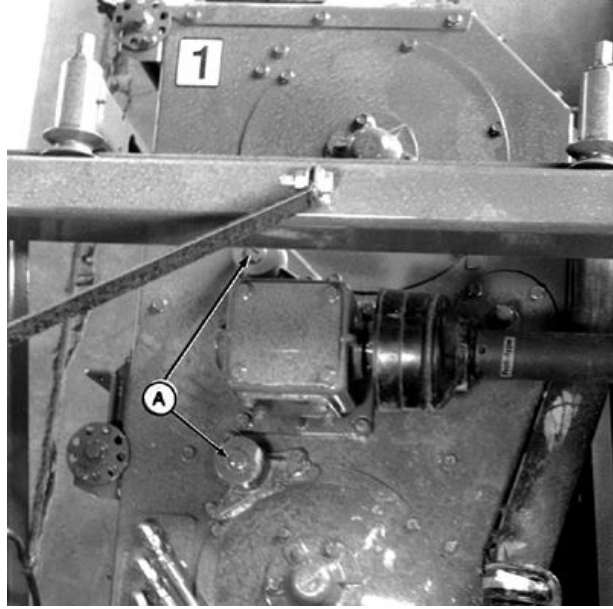
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CP00718,0001D67 -19-28DEC15-2/7

YC9608 —UN—27DEC15

8. Remove plastic plug (A) on top of bearing housing.
Lubricate unit idler bearing fittings (2 each unit) with
2—3 shots from grease gun.

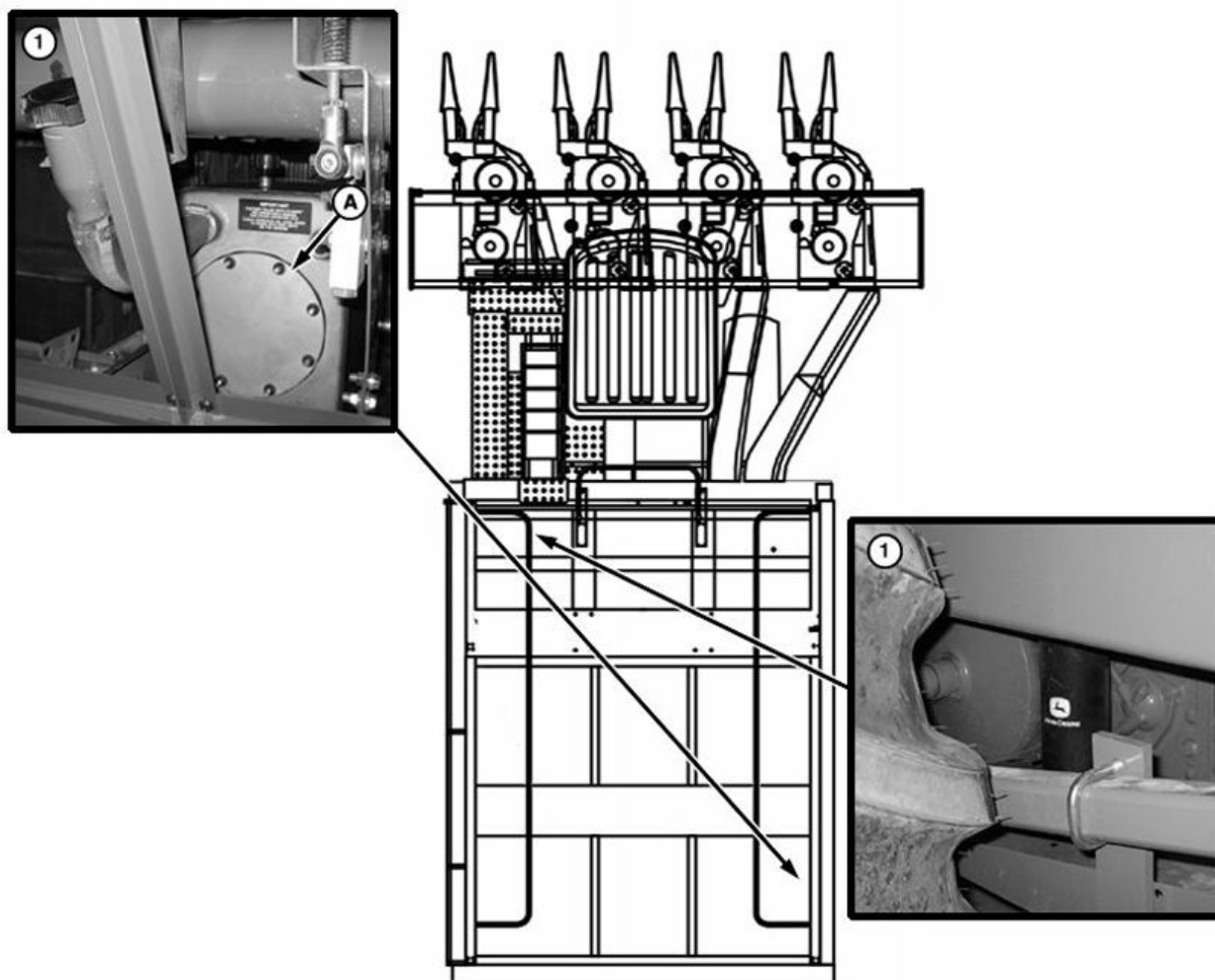
A—Plastic Plug



N42176DZ—UN—23MAY97

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CP00718,0001D67 -19-28DEC15-3/7



A— Cover Plate

9. Drain hydrostatic/hydraulic oil. Replace hydraulic/hydrostatic oil filters (both in-line and in-tank filter located behind reservoir cover plate (A)).

See SPECIFICATIONS section for system refill capacity.

Install proper amount of hydraulic/hydrostatic oil. See HYDRAULIC/HYDROSTATIC OILS in this section.

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CP00718,0001D67 -19-28DEC15-4/7

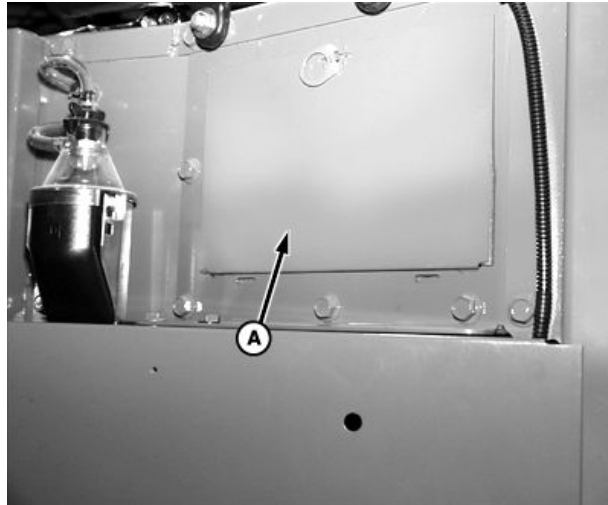
YC9497 —UN—23DEC15

Drain and Refill Row Unit Gear Cases

CAUTION: Row units are heavy and if they fall, serious injury or death to you or others can result. Lower units completely to the ground or place safety stops over unit lift cylinder rods before working near units.

1. Remove shield (A) from right side of row unit.

A—Shield



N60792—UN—09OCT02

CP00718,0001D67 -19-28DEC15-5/7

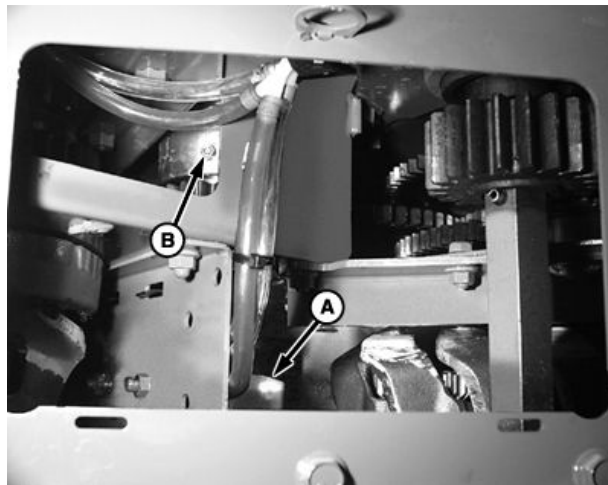
2. Insert oil drain cup (A) that will hold 591 ml (20 oz.) of oil underneath gear case output shaft.

NOTE: Plug (B) will either be 5 mm hex socket head screw or 8 mm square head screw.

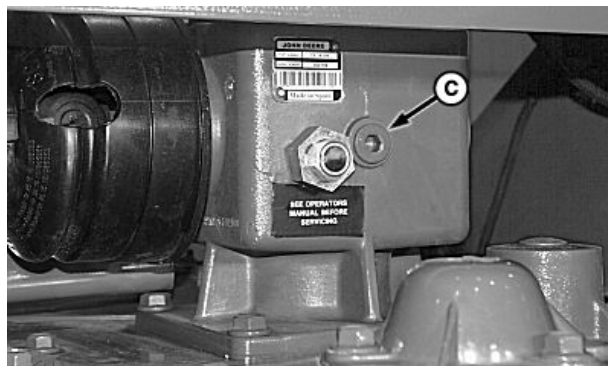
3. Remove plugs (B and C). Drain oil.
4. After oil is drained, reinstall plug (B) and remove oil drain cup. Wipe up any spilled oil.
5. Install shield on right side of row-unit.

A—Oil Drain Cup
B—Plug

C—Plug



N60793—UN—09OCT02



N60795—UN—09OCT02

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CP00718,0001D67 -19-28DEC15-6/7

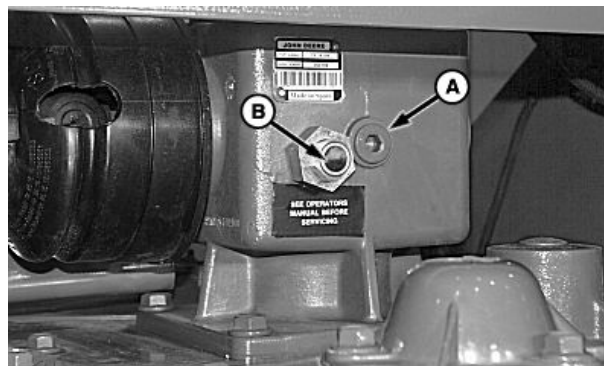
6. Verify sight glass (B) is level and fill gear case with John Deere HY-GARD™ JDM J2OC oil until level with middle of sight glass.

NOTE: Allow lubricant to flow into lower cavity of gear case, then add lubricant as necessary to obtain proper level.

7. Install plug (A).

A—Plug

B—Sight Glass



HY-GARD is a trademark of Deere & Company

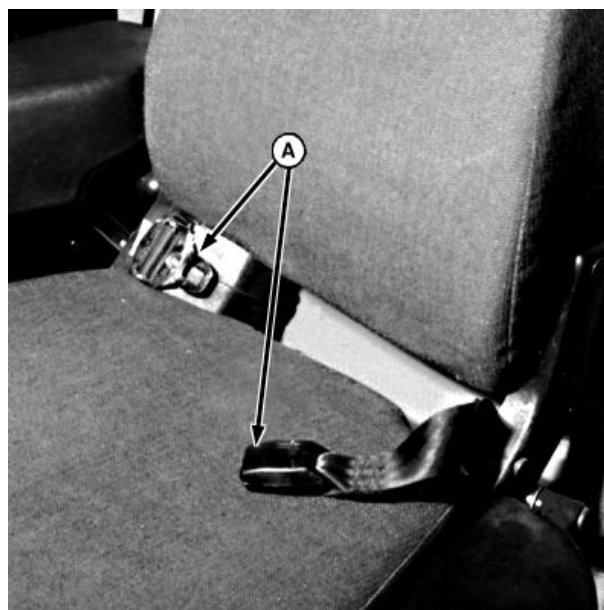
CP00718,0001D67 -19-28DEC15-7/7

N58933 —UN—21NOV01

Inspect Seat Belt—Every Year

Inspect seat belt (A) and mounting hardware on your machine at least once a year. If seat belt system shows signs of cuts, fraying, extreme or unusual wear, discoloration, abrasion, or damage to the buckle or retractor, entire seat belt should be replaced immediately. For your safety, replace the belt system with only replacement parts approved for your machine. See your John Deere dealer.

A—Seat Belt



AG,OUO1011,1113 -19-08SEP99-1/1

N50239 —UN—20APR99

Check Drive Belt Alignment And Tension (All Belts)—Every Year

Check all belts for stretch and alignment. Adjust tension as necessary.

- Picking Unit Drive Belt—See PICKING UNITS section
- Cotton Fan Belt—See AIR SYSTEM section
- Engine Accessory Drive Belt (Alternator and Air Conditioning Compressor)—See ENGINE AND DRIVE TRAIN section

- Moistener Solution Pump Belt—See MOISTENER SYSTEM section.

NOTE: Engine accessory drive belt is automatically tensioned and cannot be manually adjusted. Check this belt for proper alignment only.

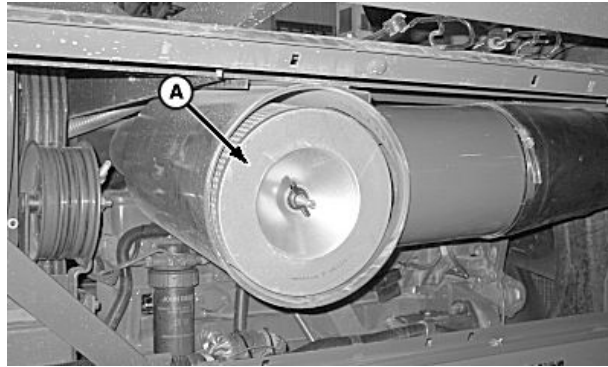
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Change Engine Air Filter Elements—Every Year

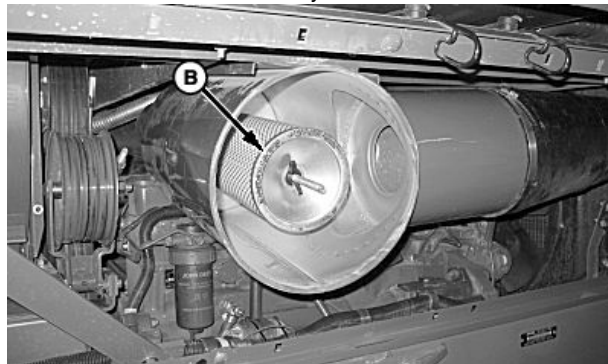
Change primary (A) and secondary (B) engine air filters every year. See REMOVING AND REPLACING AIR CLEANER ELEMENTS in ENGINE AND DRIVE TRAIN section.

A—Primary

B—Secondary



Primary Air Filter



Secondary Air Filter

N73256—UN—16AUG06

N73257—UN—16AUG06

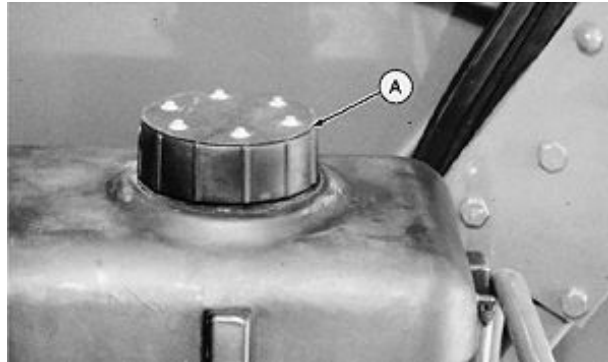
OUO6043,00014EA -19-25JUL06-1/1

Check Moistener System Tank Vent—Non Remote Fill Equipped

NOTE: Daily service not required on machines equipped with remote fill attachment.

Check tank fill lid (A) daily to see that air vent is not plugged with dirt or trash.

A—Tank Fill Lid



N42132DR—UN—19JAN93

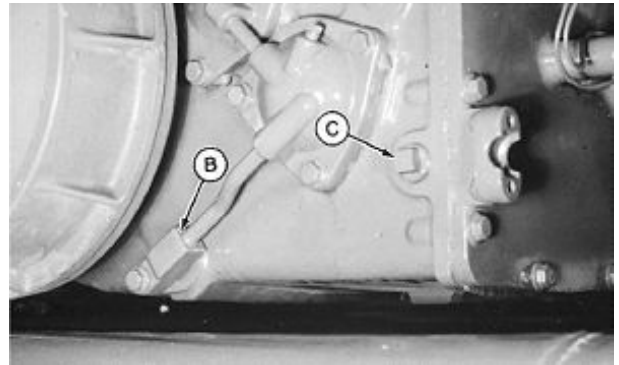
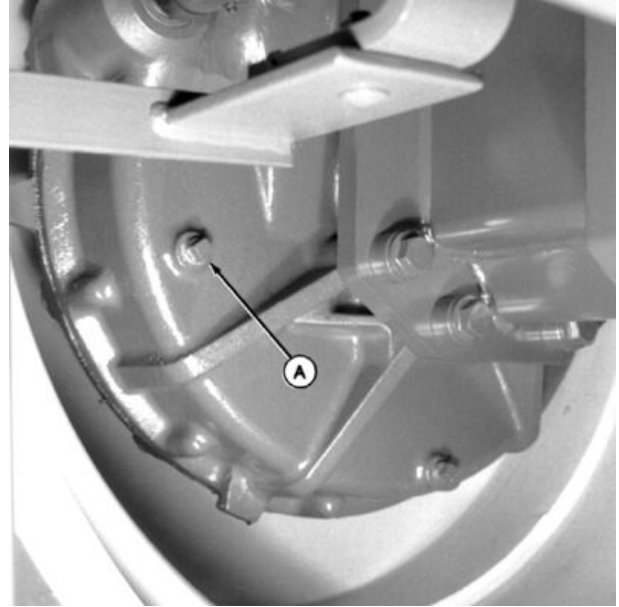
OUO6043,00014EE -19-11OCT01-1/1

Every 2000 Hours

1. Drain oil from final drive and refill with proper lubricant. Oil level should come within 6 mm (1/4 in.) of final drive plug (A).
2. Drain and refill transmission with proper lubricant. Remove block (B) to drain. Clean or replace strainer. Fill so fluid is level with the bottom of plug hole (C).
See TRANSMISSION AND FINAL DRIVE LUBRICANT in this section. Refer to SPECIFICATIONS section for refill capacities.
3. Check engine valve tappet clearance. See your John Deere dealer.

A—Final Drive Plug
B—Block

C—Plug Hole



N42166QH —UN—04SEP96

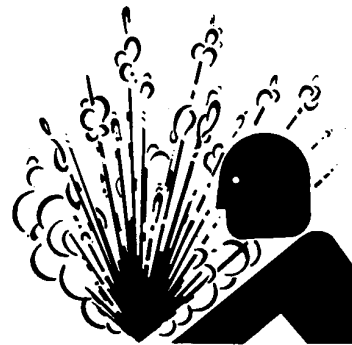
N42132DG —UN—19JAN93

OUO6043,0001560 -19-25OCT01-1/1

Every 4500 Hours or Five Years

⚠ CAUTION: Explosive release of fluids from pressurized cooling system can cause serious burns to you or others. **NEVER** remove radiator pressure cap when coolant or engine is hot. Wait until engine coolant is cool to remove radiator pressure cap.

1. Drain and flush cooling system.
2. Replace thermostats and check remaining system components for serviceability. Replace, if necessary.
3. Close drain plug and fill cooling system with proper type and amount of coolant mixture.



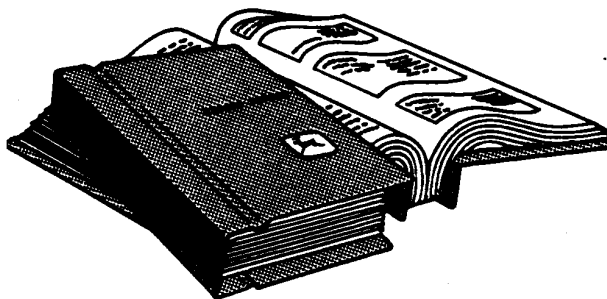
TS281 —UN—15APR13

CP00718,0001D4C -19-23DEC15-1/1

Troubleshooting

Additional Service Information

This is not a detailed service manual. It contains only information needed for operation and routine maintenance. If you want more detailed service information, use the form in the back of this manual to order a Repair and/or Operation and Tests technical manual.



RW408 —UN—13DEC88

AG,OUO1011,1224 -19-01MAR06-1/1

Picking Unit

Symptom	Problem	Solution
Stalks not entering picking unit.	Stalklifters not adjusted properly.	Adjust stalklifters.
	Stalklifters bent or binding.	Inspect parts for damage and lubricant hinges.
	Bent grid bars.	Replace grid bars.
Open cotton bolls left on plants.	Pressure plates not adjusted properly or bent and hinges worn.	Adjust, replace or repair pressure plates.
	Water system not adjusted, operated or cleaned properly.	Clean and adjust water system.
	Spindles not doffing.	Check and adjust doffers and picker bars. Check moistener system.
	Moistener system malfunction.	Check for correct amount of water being dispersed for operating conditions.
	Dull spindles.	Replace spindles.
	Knotty cotton.	Adjust pressure plates.
	Picking units running too slow.	Adjust unit drive belts.
	Unit input clutch slipping.	Adjust unit input clutch torque. Replace worn input clutch jaws.
	Spindles not rotating.	Check/replace snap ring on spindle drive shaft. Replace spindle drive gear roll pin. See your John Deere Dealer.
Picker drops cotton.	Picking in second gear.	Pick in first gear.
	Pressure plates too loose or bent and hinges worn.	Adjust, replace or repair pressure plate.
	Plugging in air ducts and in discharge pipes and suction doors. Doors may be too wet.	Clean and check for leaks. Check water system for proper adjustment and leaks. Adjust air system.
	Grid bars bent, missing or out of adjustment.	Replace or adjust bars.
	Door does not align with unit door supports.	Adjust doors for proper alignment.
	Stalklifters too high.	Lower stalklifters.
	Spindles not doffing.	Check and adjust doffers, picker bars, and moistener system.

Continued on next page

MM95366,00002FE -19-15JAN13-1/5

Symptom	Problem	Solution
Not picking low bolls.	Moistener system malfunction.	Check moistener column adjustments, solution ratio and pressure setting.
	Dull spindles.	Replace spindles
	Stalklifters too high.	Lower stalklifters.
	Dull spindles.	Replace spindles.
	Units running too high or too level.	Adjust unit height and tilt.
	Plant guides adjusted too high.	Adjust plant guides.
Picker knocks off green bolls.	Height sensing not set properly.	Adjust height sensing.
	Pressure plates too tight.	Loosen pressure plates.
	Idler drum clutch may be slipping.	Check idler clutch and replace worn parts.
	Picking in second gear.	Pick in first gear.
	Row unit clutch slipping.	Check for worn jaws and/or proper torque. Check for correct number of shims.
	Missing grid bars.	Replace bars.
Dirty cotton.	Gap between stalklifter extension and front of unit.	Reposition stalklifter extension.
	Dirty unit doors.	Clean.
	Bent or missing grid bars.	Replace bars.
	Picking units too low or too level.	Adjust height or tilt picking unit.
Plugging in suction doors or air pipes.	Dirt build-up in suction doors.	Clean doors.
	Doors not aligned with ducts.	Align doors with ducts.
	Wet suction doors.	Clean and service water system. Increase spindle cleaner ratio and decrease pressure setting.
	Jet post plugged.	Remove lint or dirt from jet post.
	Air leakage.	Find air leak and repair.
	Fan air pressure low.	Adjust fan belt. Operate engine at rated rpm.
	Fan rotor vanes plugged.	Clean.

Continued on next page

MM95366,00002FE -19-15JAN13-2/5

Symptom	Problem	Solution
Spindles not doffing.	Doffers height is incorrect.	Adjust doffer height
	Doffer pads missing or badly worn.	Replace doffer assemblies.
	Doffer assemblies not ground to specification.	See your John Deere dealer.
	Water system not adjusted, cleaned, or operated properly.	Clean and adjust water system. Operate flush system.
	Moistener system malfunction.	Check for correct amount of solution being dispersed for operating conditions. Check solution ratio.
	Worn bushing in spindle nut.	Replace bushing. Be sure moistener pad fins are perpendicular to spindle.
	Spindles not operating at same level under doffer.	Shim picker bars. See your John Deere dealer.
	Loose or worn picker bar stud.	Replace stud.
	Moistener column not adjusted.	Adjust column. Moistener pad must wipe spindle surface.
	Doffers tilt incorrect.	Adjust doffers tilt with radius and leaf gauges.
Spindles coated with green stain.	Moistener system not cleaned, adjusted, or operated properly.	Clean and adjust complete moistener system. See REACTING TO SPINDLE BUILDUP in MOISTENER SYSTEM section.
	Cotton not defoliated.	Defoliate properly.
	Using no additive or a wetting agent instead of spindle cleaner.	Use John Deere wetting agent, or spindle cleaner at proper ratio. Use John Deere Spindle Cleaner in tough conditions.
	Not using flush system correctly.	Operate flush system. See USING MOISTENER SYSTEM FLUSH SYSTEM in MOISTENER SYSTEM section.
	Moistener column not adjusted.	Adjust column. See ADJUSTING MOISTENER COLUMN POSITION in MOISTENER SYSTEM section.
Noisy picking unit.	Bent cam follower on picker bar (scraping sound).	Replace or repair. See your John Deere dealer.
	Dry picker bars (high pitched squealing sound).	Lubricate picker bars.

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MM95366,00002FE -19-15JAN13-3/5

Troubleshooting

Symptom	Problem	Solution
	Doffer column bent.	Replace column.
	Worn out spindle bushing.	Replace bushing.
	Spindles or spindle nuts striking grid bars (tapping sound).	Replace or adjust grid bars.
	Doffer bearing worn.	Replace bearing.
	Loose picker bar stud.	Tighten stud.
	Doffer adjusted too low.	Adjust doffer.
	Spindles hitting pressure plates.	Adjust pressure plates.
	Doffer idler gear installed at angle.	Be sure idler gear spacer sits inside hole in picking unit sheet metal.
Drum clutch slipping.	Worn clutch jaws.	Replace clutch jaws.
	Cotton build-up in moistener column.	Clean moistener column.
	Bent picker bars.	Replace or straighten picker bars.
	Drum jammed at bottom frame.	Remove obstruction.
	Doffers too low.	Raise doffers. See ADJUSTING DOFFER COLUMN HEIGHT in PICKING UNITS section.
Unit input clutch slipping.	Bent picker bars.	Replace or straighten picker bars.
	Stiff grease.	Run in picking units. Use John Deere spindle lube or equivalent.
	Wrapped spindles.	Clean spindles. Adjust Moistener System.
	Worn clutch jaws.	Replace jaws.
	Clutch springs not adjusted properly.	Adjust shim pack.
	Spindle or picker bar bearings or bushings seized.	Replace bearings or bushings. See your John Deere dealer.
	Doffers too low.	Raise doffers. See Adjusting Doffer COLUMN HEIGHT in PICKING UNITS section.
Excessive wear on doffer pads.	Moistener system malfunction.	See MOISTENER SYSTEM ADJUSTMENTS in MOISTENER section.

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MM95366,00002FE -19-15JAN13-4/5

Troubleshooting

Symptom	Problem	Solution
	Doffers set too tight.	See DOFFER ADJUSTMENT in N PICKING UNIT section.
	Bent doffer shaft.	Replace shaft. See your John Deere dealer.
	Worn spindle bushings.	Replace bushings.
	Doffers too high or too low.	Adjust doffers to proper height.
	Doffers out of adjustment.	Adjust doffers, height and tilt to eliminate "wrapped" spindles.
Excessive wear or loss of moistener pads.	Moisture column out of adjustment.	Adjust moisture column height, rotation, and position.
	Worn spindle bushing.	If spindle wobbles, replace bushing.
	Dirty moistener column.	Clean columns.
	Doffers out of adjustment.	Adjust doffers, height and tilt to eliminate "wrapped" spindles.
Loss of pressure in moistener system.	Belt broken or slipping.	Replace or tighten.
	Moistener system plugged.	Clean and adjust system.
	Broken hose.	Replace hose.
	Air lock.	Use drain plug on pump to prime system.

MM95366,00002FE -19-15JAN13-5/5

Vari-Row System (VRS) Row Units

Symptom	Problem	Solution
Rotary knives plug.	Cotton bolls entering knife.	Adjust height sensing so knife is just below low bolls.
	Dirt entering knife.	Adjust height sensing and picking unit tilt. (See Operator's Manual.)
	Knife clearance too large.	Set knife clearance. (See Operator's Manual.)
	Leaning stalks.	Adjust machine travel opposite direction of leaning plants.
	Excessive material under rotary knife.	⚠ CAUTION: A falling picking unit and becoming entangled in moving parts of a unit can cause serious injury or death to you or others. When working on units, units should be fully lowered or unit safety stops engaged. DO NOT attempt to remove an obstruction unless units are disengaged, engine is stopped, transmission and hydro levers are in NEUTRAL, park brake is engaged, and key is removed. To avoid serious injury, ALWAYS wear gloves when handling knives. Remove stalks and foreign matter from rotary knife area.
Front feeder plugs.	Lift frame not level.	Level lift frame.
	Stalks and dirt deposited on stationary knife floor.	Remove dirt and stalks from floor. If excessive amount of dirt present, adjust height sensing.
	Leaning stalks.	Adjust machine travel opposite direction of leaning plants. If excessive amount of dirt present, adjust height sensing.
	Damaged gridbars.	Inspect gridbars and replace bent and worn parts.
Rear feeder plugs.	Cut plants not feeding laterally in rear drum.	Set picking unit tilt. (See Operator's Manual.)

Continued on next page

OUC1078,000050F -19-22SEP06-1/2

Troubleshooting

Symptom	Problem	Solution
Spindle wrap on lower spindles.	Foreign material wrapped around shaft.	Remove guards, then inspect and clean.
	Spindles not being cleaned.	Add recommended amount of John Deere Spindle Cleaner to solution tank. (See Operator's Manual.)

OUO1078,000050F -19-22SEP06-2/2

Automatic Height Control

Symptom	Problem	Solution
Unit will not lower.	Shoes hanging up in raised position.	Adjust linkage so that shoes and linkage move freely.
	Unit valve stuck closed.	Adjust or replace unit valve.
	Break in power to valve solenoid.	Check for short and repair.
	Lift frame cylinder safety stops lowered onto rods.	Raise safety stops.
Units will not raise.	Valve solenoid failure.	Check for proper function of solenoid.
	Linkage on unit not closing valve.	Adjust linkage or unit valve location.
	Break in power to valve solenoid.	Check for short and repair.
	Oil level low.	Fill to correct level.
	Valve solenoid failure.	Check for proper function of solenoid.

AG,OUO1011,1226 -19-09SEP99-1/1

Basket Extension

Symptom	Problem	Solution
Basket extension does not lower completely or binds when lowering.	Screen bolts catching.	Adjust guides on conveyor to center.
	Cylinder out of phase and basket crooked.	Use hoist or other mechanical lift to raise basket extension completely and rephase cylinders. See BLEEDING TELESCOPING CYLINDERS in OPERATING THE MACHINE section.
	Basket extension crooked.	Raise basket extension and rephase basket cylinders. See BLEEDING TELESCOPING CYLINDERS in OPERATING THE MACHINE section.
	Over center latches do not disengage.	Remove quick-lock pin and move corner support over center. Reinstall quick-lock pins to keep latch from re-engaging. Raise or lower extension to free up.
	Friction in sliding area (where conveyor slides in basket). Front lid linkage binding during lowering of basket extension.	Grease conveyor sliding guides. Remove front lid linkage during lowering of basket extension.
Basket extension raises or lowers very slowly.	Orifice in control valve plugged.	Remove orifice and clean.
Left-hand front extension locking pin does not engage.	Basket extension raising unevenly.	Use bar and pry holes in front extension by pin.
	Cylinder out of phase and basket crooked.	Use hoist or other mechanical lift to raise basket extension completely and rephase cylinders. See BLEEDING TELESCOPING CYLINDER in OPERATING THE MACHINE section.
Basket extension raises during transporting.	Internal leakage of control valve.	Pin left-hand front corner when in transport position or replace valve section.
Ducts do not lower properly when lowering the basket extension.	Debris behind duct and cab area.	Clean area behind water tank and cab.
	Debris between inner and outer ducts.	Clean.
	Duct hangs up on hinged panel on platform.	Pivot panel up before lowering basket extension.
	Duct lock-up pins engaged.	Position pins out of holes.

NXH,OM9970110,5 -19-26SEP97-1/1

Basket Control

Symptom	Problem	Solution
Basket will not lower.	Basket linkage not adjusted properly.	Adjust linkage.
	Break in power to valve solenoid.	Check for short and repair.
	Oil level low.	Fill to correct level.
	Valve solenoid failure.	Check for proper function of solenoid.
Basket will not raise.	Basket cylinder lock valve closed.	Open valve.
	Break in power to valve solenoid.	Check for short and repair.
	Faulty basket interlock switch.	Adjust or replace interlock switch.
	Valve solenoid failure.	Check for proper function of solenoid.
	Oil level low.	Fill to correct level.
Basket will not raise or lower evenly.	Cylinder not adjusted properly.	Adjust cylinder.
	Cylinder and pivot not greased properly.	Lubricate cylinder and pivot area.
Basket lid does not open evenly.	Lid linkage is not attached in correct attaching holes.	Set in proper holes.

NXH,OM9970110,6 -19-26SEP97-1/1

Monitors

See MONITOR CHECKOUT PROCEDURE in UNIT MONITOR SYSTEM section.

NXH,OM9970110,7 -19-26SEP97-1/1

Hydrostatic Drive

Symptom	Problem	Solution
Linkages binding.	Frozen or worn ball joints on linkage.	Lubricate or replace.
	Linkage rods bent or interfering.	Adjust at ball joints or straighten.
	Control shafts binding.	Lubricate or replace bearings.
	Control shaft on pump binding.	See your John Deere dealer.
System overheating. (Warning light comes on.)	Air passages in cooler core plugged.	Clean cooler core.
	Fan belt slipping or broken.	Tighten or replace fan belt.
	Exceeding relief valve pressure.	Shift to lower gear.
	Side screens plugged.	Clean screens.
Picker will not propel forward or reverse¹.	No voltage to destroker valve on hydro.	Sit squarely on seat. Move hydro lever to Neutral and reset. If still no voltage, see your John Deere dealer.
	Transmission inoperative.	Check transmission and linkages or see your dealer.
	Low on oil.	Check for leak and correct. Fill reservoir with oil.
	Broken coupling from motor to transmission.	Repair as needed.
	Air leak in system.	Tighten connections.
	Defective U-joint from engine to pump.	Repair as needed.
	Plugged oil filter.	Change filter element.
	Exceeding relief valve pressure.	Shift to lower gear.
	Hydro lever not in neutral.	Move hydro lever to neutral or adjust hydro linkage.
	Low on oil.	Check for leaks and correct. Fill reservoir.
Transmission hard to shift or will not shift.	Hydro lever not in neutral.	Move hydro lever to neutral or adjust hydro linkage.
Ground travel speed erratic.	Plugged oil filter.	Change filter element.
	Exceeding relief valve pressure.	Shift to lower gear.
	Hydro lever creeps toward neutral.	Replace friction washers and/or springs as necessary.
	Drive systems unable to maintain charge pressure.	See your John Deere dealer.

Continued on next page

NX,9965,09A -19-20SEP06-1/2

Symptom	Problem	Solution
Picker not responding to hydro lever¹.	Operator presence system activated.	Bring hydro lever to neutral and try again.
	Linkage loose or broken.	Check and repair as needed.
	Plugged oil filter.	Change filter element.
	Air in system.	Tighten connections, hose clamps, and check for broken hydraulic lines.
	Low on oil.	Check for oil leaks and correct. Refill reservoir.
Lack of power or loss of power¹.	Low on oil.	Check for leaks and correct.
	Plugged oil filter.	Change filter element.
	Leaking or broken oil line or connection.	Check and repair as necessary.
	Engine is derating.	See your John Deere dealer.
	Drive system unable to maintain or build up pressure.	See your John Deere dealer.
Picker will not start in neutral or will start when hydro lever is in any operational position.	Safety switches out of adjustment, faulty wiring or inoperative switch.	Check wiring connections or see your John Deere dealer.
Transmission leaking oil from breather.	Overfilled transmission.	Drain excess oil.

¹When operating in temperatures below -12°C (10°F), run-in picker 10—15 minutes to warm up hydrostatic drive oil.

NX,9965,O9A -19-20SEP06-2/2

Operator Presence System and Inspection Bypass System

Symptom	Problem	Solution
Operator Presence System does not operate as expected.	Operator Presence System failure.	Check in Operator Presence System section. If operator presence system fails to operate as outlined, see your John Deere dealer.
Inspection Bypass System (tether button) does not operate as expected.	Inspection Bypass System failure.	See OPERATING INSPECTION BYPASS SYSTEM in OPERATOR PRESENCE SYSTEM section. If Inspection Bypass System fails to operate as outlined, see your John Deere dealer.

NXH,OM9970110,8 -19-30SEP97-1/1

Engine

Symptom	Problem	Solution
Engine hard to start, will not start.	Safety switches not activated.	See your John Deere dealer.
	Fuel tank empty.	Add fuel.
	Low compression.	See your John Deere dealer.
	Low battery output.	Check electrolyte level and specific gravity of conventional battery. Recharge if necessary.
	Excessive resistance in starting circuit.	Clean and tighten all connections on battery and starter.
	Crankcase oil of too heavy viscosity.	Drain and fill crankcase with oil of proper viscosity and quality.
	Use of gasoline instead of diesel fuel or improper type, or old fuel.	Drain and fill with proper type of fuel for operating conditions.
	Sticking valves.	See your John Deere dealer.
	Water, dirt, or air in fuel system.	Drain, flush, fill and bleed fuel system.
	Dirty or faulty injectors.	See your John Deere dealer.
	Plugged fuel filters.	Replace filters.
	Blown fuse(s).	Check ECU fuse in cab and near batteries.
Engine knocks.	Low coolant temperature.	Incorrect or defective thermostats.
	Loose or failed main bearing or connecting rod bearing, worn pistons and cylinders.	See your John Deere dealer.
	Insufficient oil.	Add oil of proper viscosity and quality.
	Clogged air intake.	Clean air intake.
	Injection pump out of time.	See your John Deere dealer.
	Injection nozzle valve sticking.	See your John Deere dealer.
	Air in fuel system.	Bleed fuel system.
Engine runs irregularly or stalls frequently.	Low coolant temperature.	Operate engine until sufficiently warm. Also check thermostats.
	Clogged fuel filters or strainers.	Replace filters elements and bleed system. Clean strainers.

Continued on next page

NXH,OM9970110,9 -19-26SEP97-1/4

Symptom	Problem	Solution
Lack of power.	Bent push rods or sticky valves.	See your John Deere dealer.
	Water, dirt, or air in fuel system.	Drain, flush, fill, and bleed system. Clean strainers.
	Injection pump out of time.	See your John Deere dealer.
	Dirty or faulty injectors.	See your John Deere dealer.
	Engine overloaded.	Reduce ground speed.
	Intake air restrictions.	Clean air cleaner.
	Improper thermostat.	Change to proper thermostat.
	Improper valve clearance.	See your John Deere dealer.
	Fuel filters plugged.	Replace fuel filters.
	Unsatisfactory fuel.	Use fresh fuel of proper type.
	Overheated engine.	See "Engine Overheats" in this section.
	Lost rotation in hydro lever linkage.	Tighten pivots and check for binding.
	Plugged or restricted fuel vent.	Check and clean fuel tank cap vent.
	Dirty or faulty injectors.	See your John Deere dealer.
	Injection pump out of time.	See your John Deere dealer.
Engine overheats.	Turbocharger not functioning.	See your John Deere dealer.
	Engine overloaded.	Reduce ground speed.
	Low coolant level.	Fill radiator with coolant to the proper level. Check hoses and radiator for leaks or loose connections.
	Faulty radiator cap.	Have service technician check.
	Leaking head gasket.	See your John Deere dealer.
	Engine timed too late.	See your John Deere dealer.
	Dirty side screens.	Clean screens.
	Dirty cooling system core(s) (radiator, hydrostatic oil, air conditioner condenser) or screens.	Remove all foreign matter from exterior of core(s) and screens. Steam clean periodically. Check screen seals.

Continued on next page

NXH,OM9970110,9 -19-26SEP97-2/4

Symptom	Problem	Solution
	Defective thermostats.	Remove and check.
	Defective fan belt.	Replace worn belt.
	Wrong oil viscosity.	Change to proper oil viscosity.
	Cooling system limed up.	Flush and fill radiator.
	Operating with water only.	Fill with proper coolant.
Engine temperature below normal.	Defective thermostats, gauge or sender unit.	Remove and check.
Low oil pressure.	Low oil level.	Check crankcase oil level on dipstick and add oil if necessary.
	Improper type of oil.	Drain and fill crankcase with oil of proper viscosity and quality.
Engine uses too much oil.	Oil leaks or engine overheating.	Check for leaks in lines around gaskets and drain plugs.
	Too low viscosity crankcase oil.	Drain and fill crankcase with oil of proper viscosity and quality.
	Excessive engine speed.	See your John Deere dealer.
	High oil pressure.	See your John Deere dealer.
	Restricted air intake system.	Check air cleaner and clean out air intake.
	Crankcase vent hose plugged.	Find and remove obstruction.
Engine uses too much fuel.	Improper type of fuel.	Use proper type fuel for operating conditions.
	Engine out of time.	See your John Deere dealer.
	Clogged or dirty air cleaner.	Clean air cleaner.
	Engine overloaded.	Reduce load or reduce ground speed.
	Dirty or faulty injectors.	See your John Deere dealer.
Engine emits black or gray exhaust smoke.	Improper type fuel.	Use proper type of fuel for operating conditions.
	Engine out of time.	See your John Deere dealer.
	Clogged or dirty air cleaner.	Check air cleaner for restrictions. Be sure filter element is clean.

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NXH,OM9970110,9 -19-26SEP97-3/4

Symptom	Problem	Solution
	Engine overloaded.	Reduce ground speed.
	Defective muffler.	Check the muffler for possible damage which might create backpressure.
	Dirty or faulty injectors.	See your John Deere dealer.
	Air in fuel system.	Bleed fuel system. Check all connections and fuel tank level.
Engine emits white exhaust smoke.	Cold engine.	Warm engine to normal operating temperatures.
	Engine out of time.	See your John Deere dealer.
	Improper type of fuel.	Use fuel which has recommended cetane number.
	Thermostats defective or too cold or wrong temperature rating.	Remove and check thermostat.
Battery will not accept charge.	Defective battery.	Replace battery.
	Loose alternator belts.	Adjust or replace.
	Loose or corroded connections.	Clean and tighten battery connections.
	Alternator or voltage regulator not functioning properly.	See your John Deere dealer.
Starter cranks slowly or will not crank.	Low battery output.	See your John Deere dealer.
	Safety switch not activated.	Position hydro lever in neutral.
	Loose or corroded harness or battery connections.	Clean and tighten loose connections.
	Starter solenoid defective.	Repair or replace.
	Cold weather.	See COLD WEATHER OPERATION in OPERATING THE MACHINE section.

NXH,OM9970110,9 -19-26SEP97-4/4

Electrical System

Symptom	Problem	Solution
Fan actuator does not shut off.	Fan actuator nuts loose on strap that retains rod.	Tighten nuts on strap that retains rod.
Voltmeter indicates low battery voltage (key on and engine stopped).	Excessive start-stop operation.	Leave engine running longer.
	Low charging voltage.	Have your John Deere dealer check charging circuit.
	High resistance in circuit.	Have your John Deere dealer check charging circuit.
	Defective battery.	Recharge or replace.
Voltmeter indicates low charging voltage (engine running).	Low engine speed.	Increase speed.
	Defective battery.	Recharge or replace.
	Defective alternator.	Have your John Deere dealer check alternator.
	Slipping belts.	Tighten belts.
Voltmeter indicates excessive charging voltage.	Faulty connection to alternator.	Check wiring connections.
	Defective regulator.	Have your John Deere dealer check alternator.

NXH,O9970110,12 -19-26SEP97-1/1

Brakes

Symptom	Problem	Solution
No solid pedal feel (engine running or stopped).	Air in system.	Bleed brakes.
Excessive effort required to operate brakes.	Shoe linings contaminated with oil or foreign material.	Replace shoes.

NXH,O9970110,13 -19-26SEP97-1/1

Operator's Cab

Symptom	Problem	Solution
Drafts.	Poor air distribution.	Adjust directional air louvers. Adjust heater control to a warmer position. Set pressurizer blower switch to a lower position.
	Improper door track adjustment.	Adjust door track.
Inadequate air flow.	Clogged air filters.	Clean filters.
	Clogged air inlet screen.	Clean screen.
	Heater core air flow restricted.	Clean evaporator and housing with compressed air.
	Faulty blower fan motor.	See your John Deere dealer.
	Defective blower fan switch.	See your John Deere dealer.
	Loose wire connection.	Tighten wire.
Water leaking or dripping from heater core compartment.	Loose hose clamp.	Tighten clamp.
	Ruptured heater hose.	Replace hose.
	Broken heater core tubes.	Repair.
	Drip pan dirty (AC).	Clean evaporator pan and outlet.
	Drain tube plugged (AC).	Clean drain tube.
	Defective motor.	See your John Deere dealer.
Pressurizer fan, windshield wiper and/or compressor will not operate.	Defective switch.	See your John Deere dealer.
	Faulty wiring or loose connections.	Repair or replace wiring.
	Dirty air filter.	Clean filter.
Strange odors inside operator's cab.	Evaporator condenser pan dirty.	Clean pan and outlet.
	Drain tube is plugged.	Clean drain tube.
	Tobacco smoke and tar on evaporator exterior.	Clean filter.
Partial frosting and sweating of lines combined with poor cooling.	Compressor belt slipping.	Replace belt and/or pulleys (if worn).

Continued on next page

NX,9965,O18 -19-01DEC92-1/3

Troubleshooting

Symptom	Problem	Solution
	Loss of refrigerant.	Check sight glass for bubbles and system for leaks. See your John Deere dealer.
	Restricted or clogged liquid line.	See your John Deere dealer.
	Expansion malfunctioning.	See your John Deere dealer.
	Heater lines crossed.	See your John Deere dealer.
Ice flecks blowing from evaporator.	Control dial set too low.	Adjust the temperature control to a warmer position.
Failure to cool.	Insufficient blower speed.	Increase blower speed.
	Dirty air screen.	Clean screen.
	Dirty air filters.	Clean filters.
	Debris on radiator core or side screens.	Clean core screens.
	Lint or dirt on condenser fins.	Blow out condenser fins with compressed air.
	Refrigerant insufficient or extremely low.	See your John Deere dealer.
	Loose compressor drive belt.	Tighten belt.
	Heater on.	Turn heater off.
	Heater lines crossed.	See your John Deere dealer.
	Compressor clutch not engaging.	Check wiring or see your John Deere dealer.
	Expansion valve not functioning.	See your John Deere dealer.
	Restriction in refrigerant system.	See your John Deere dealer.
	Loose wiring connector.	Tighten wire.
	Defective temperature control switch.	See your John Deere dealer.
	Outside temperature too low. (Below 70°F) (21°C).	Wait until day gets warmer. If there is a malfunction in system, see your John Deere dealer.
	Condenser is overheating.	Clean condenser screens, cores and fins of condenser, oil cooler, and radiator
	Severe restriction in high side.	See your John Deere dealer.

Continued on next page

NX,9965,018 -19-01DEC92-2/3

Troubleshooting

Symptom	Problem	Solution
	Burned out clutch field or faulty field.	See your John Deere dealer.
	Short circuit in control circuit or failure of a switch in circuit.	See your John Deere dealer
Hissing noise at expansion valve.	Loss of refrigerant.	Check sight glass for bubbles and system for leaks. See your John Deere dealer.
	Restriction in refrigerant system.	Check for kinks in hoses.
Voltmeter needle in lower red band.	Plugged alternator.	Remove trash from exterior and interior of alternator screen.
	Alternator not energized.	Check for voltage to alternator with key ON, engine OFF.
	Excess electrical loads.	Turn off lights. Reduce blower speed to medium or low. Clean air conditioner screens, cores, and filter.
Voltmeter needle in upper red band.	Alternator output too high.	See your John Deere dealer.
Heater will not shut off.	Heater hoses connected improperly. Defective heater control valve.	See your John Deere dealer.
Heater will not heat.	Air trapped in heater core.	Bleed the heater.
	Defective thermostats in engine.	Replace the thermostats.
	Air conditioner turned on.	Shut off air conditioner.
	Defective heater control valve.	See your John Deere dealer.
	Shut-off valves closed at engine.	Open valves.
Radio does not function.	Blown fuse.	Replace fuse.

NX,9965,O18 -19-01DEC92-3/3

Lubrication System

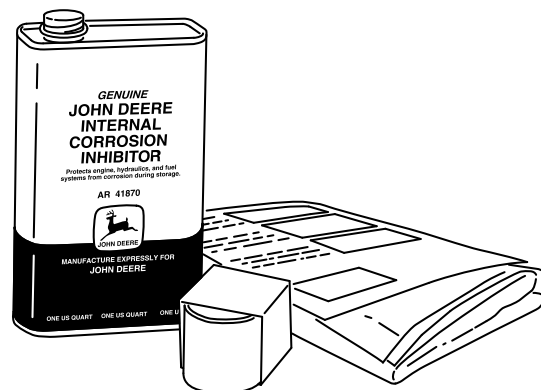
Symptom	Problem	Solution
Lights or chimes do not function properly.	Empty lubrication reservoir.	Fill reservoir.
	Vent cap plugged on reservoir tank.	Clean.
	Bulbs burned out.	Replace.
	Improper electrical connections.	Check and repair.
	Pump not rotating.	See your John Deere dealer.
	Leak on suction lines.	Tighten fittings.
	Remote fill connector stuck open.	Repair and/or replace.
	Manually operated and pressure switches malfunction.	Replace.
	Filter plugged.	Replace.
	Improper grease viscosity and/or cold weather.	Use recommended lubricant.
Chime working. Improper lubricant distribution.	Relief valve stuck open or broken.	See your John Deere dealer.
	Crimped, damaged or broken hoses.	Check and/or replace.
	Improper hose routing.	See your John Deere dealer.
	Foreign material in grease manifolds.	Clean.
Chime and/or pump will not shut off.	Improper grease viscosity and/or cold weather.	Use recommended lubricant.
	Damaged or broken switches.	Replace.
	Wires worn and shorted out against unit.	Repair wires.
	Pressure switch defective.	Replace.
Lubrication transfer pump not operating.	Lines reversed.	Reverse lines.
	Improper grease viscosity and/or cold weather.	Use recommended lubricant.
	Bad connection between the pumps.	Repair or replace connections.
	Internal pump or motor damage.	See your John Deere dealer.
	Crimped or damaged hoses.	Repair or replace hoses.

MM95366,00002FF -19-21NOV16-1/1

Storage

Recommended Storage Kit and Corrosion Inhibitor

To prepare picker and engine for storage, John Deere Part No. AR41785 Storage Kit is recommended.



N55601 —UN—01 DEC00

OUC6043,0001561 -19-25OCT01-1/1

Preparing Machine for Storage

If machine will not be operated for 30 days or more:

1. Clean machine thoroughly inside and out to prevent rust.
2. Clean spindles.

NOTE: If using pressurized water to clean units, do not direct water at outer seals or vent of picking unit gear case.

IMPORTANT: Picking units must be thoroughly lubricated after washing, prior to storage to protect against corrosion.

3. Wash picking units thoroughly, inside and outside. Make sure they are thoroughly dry. Spray entire picking mechanism with a rust-preventive oil.
4. Lubricate machine completely. Grease threads on bolts used for adjustments. Operate picking units until all parts are thoroughly lubricated.



N42167NW —UN—17JUN97

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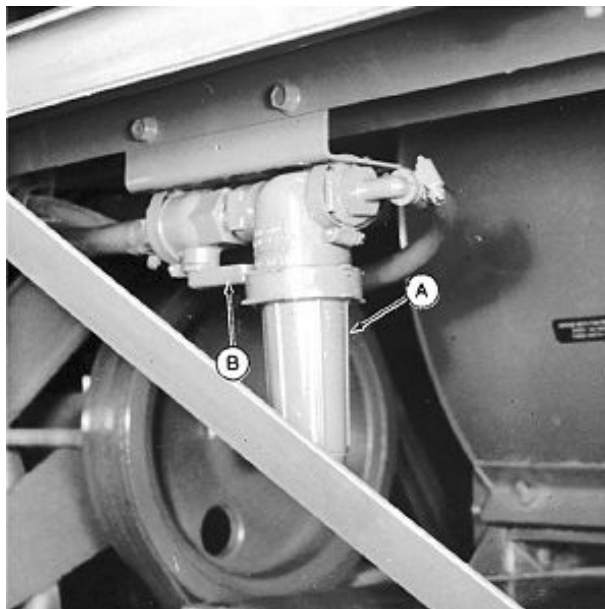
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IMPORTANT: Water pump damage can occur. DO NOT operate pump without moistening solution.

5. Drain water tank by removing strainer (A), opening valve (B) and opening three pump bleed valves (C) under left-hand side of machine. Replace strainers, close valve.
6. Following manufacturer's directions, mix RV antifreeze (environmentally safe antifreeze) at the correct ratio to protect moistener system down to lowest expected temperature.
7. Pour appropriate mixture of RV antifreeze into moistener system tank. Operate system to circulate antifreeze through lines and nozzles.
8. Remove solution pump belt.

A—Strainer
B—Valve

C—Valves (3 Used)



N42132GG —UN—21JAN93

N74395 —UN—01DEC06

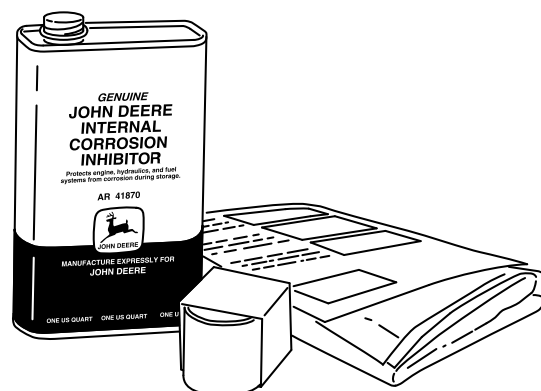
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MM95366,0000300 -19-17NOV16-2/3

9. Drain and refill hydraulic and hydrostatic reservoir and transmission. Add 180 mL (10 oz) of corrosion inhibitor to reservoir and transmission.

Cycle all functions to distribute inhibitor. Seal all filler caps and breathers with tape and/or plastic bags to seal in corrosion inhibiting vapors.

10. Repaint where necessary.
11. Support picking units with blocks.
12. Block picker to take load off tires. DO NOT store tires in contact with blacktop or other oil stabilized surfaces. DO NOT deflate tires. If picker is stored outside, remove wheels and tires and store them in a cool, dark place.
13. Loosen all belts.
14. Clean oil cooler.
15. Order repair parts for next season.



N55601—UN—01DEC00

MM95366,0000300 -19-17NOV16-3/3

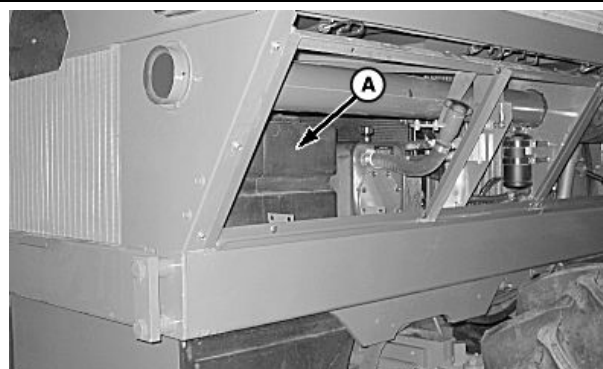
Preparing Engine for Storage

CAUTION: Gasoline is highly flammable and can cause serious injury or death to you or others if ignited. Do not use gasoline as a cleaning agent when preparing engine for storage.

1. Wash outside of engine thoroughly with a safe solvent.
2. Clean or replace the air cleaner. (See REMOVING AND REPLACING AIR CLEANER ELEMENTS in Engine and Drive Train section.)
3. Drain crankcase with engine warm. Replace filter and fill crankcase. (See EVERY 250 HOURS OF OPERATION in Lubrication and Maintenance section.)

IMPORTANT: DO NOT drain cooling system to protect against freezing. Cab heater does not drain completely, so damage would result.

4. Drain, flush, and refill cooling system with proper coolant. (See DIESEL ENGINE COOLANT in Fuels, Lubricants and Coolants section.) Turn heater on and run engine until it reaches operating temperature.
5. Drain fuel tank (A) and add 38 L (10 gal) of diesel fuel with 414 mL (14 oz) of corrosion inhibitor. Start engine



A—Fuel Tank

and run at fast throttle for 15—20 minutes. Allow engine to cool for 15—20 minutes.

6. Add 296 mL (10 oz) of corrosion inhibitor to crankcase.
7. Remove batteries (negative cable first) and store them at room temperature (27°C [80°F] is optimum). Charge batteries every 30 days if necessary.

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OUC1078,00004EF -19-20SEP06-1/2

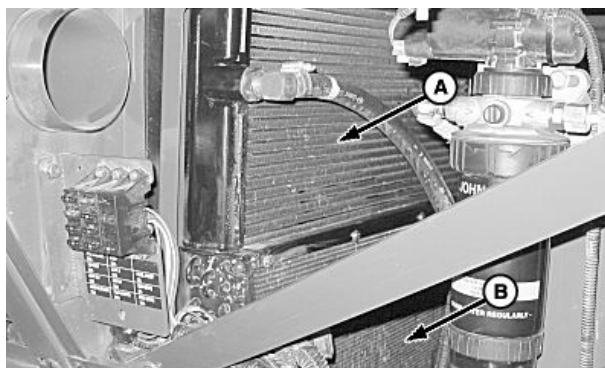
N73413—UN—16AUG06

8. Clean cooling cores (A and B).
9. Release latch (C) and clean radiator (D).
10. Seal the following openings with tape and/or plastic bags to prevent loss of corrosion inhibiting vapors.

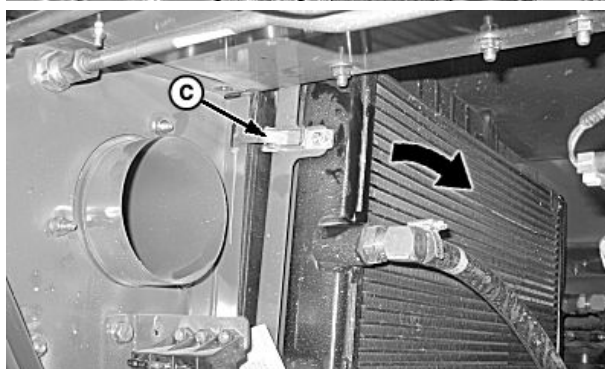
- Exhaust pipe
- Air cleaner pre-cleaner
- Engine dipstick and tube
- Crankcase breather tube

A—Oil Cooler
B—Air Conditioning
Condenser

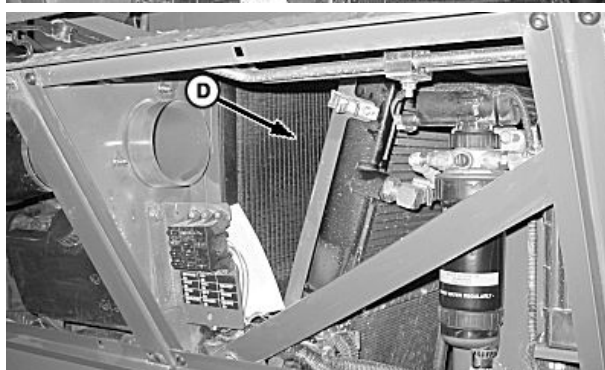
C—Latch
D—Radiator



N73019—UN—16AUG06



N73012—UN—17JUL06



N73013—UN—17JUL06

OUO1078,00004EF -19-20SEP06-2/2

Removing Machine from Storage

1. Clean the machine thoroughly, inside and out.
2. Remove sealing tape and plastic bags.
3. Charge and install batteries. See CHARGING BATTERY in BATTERIES section for proper charging procedures.
4. Check all oil levels. Check for leaks if low and add oil as required.
5. Check coolant level. Check for leaks if low.
6. Adjust belt tension.
7. Reinstall and check tire inflation.
8. Fill the fuel tank with proper fuel.
9. Lubricate picker completely.
10. Crank engine until oil pressure gauge rises and start engine. Do not operate starter more than 30 seconds at a time. Wait at least 2 minutes for starter to cool before trying again.
11. Operate machine at half speed for about 1 hour. Check bearings for overheating or excessive looseness.
12. (Air Conditioning) Check sight glass on receiver-dryer. Add refrigerant if needed.
13. Review Operator's Manual.

NXH,OM9970120,4 -19-26SEP97-1/1

Transporting the Machine

Loading Machine onto Trailer

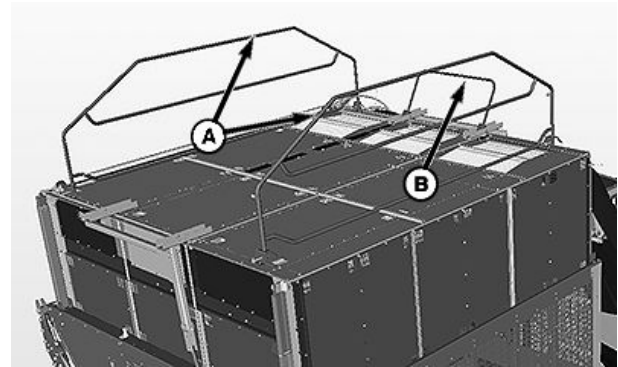
1. Rotate handrail (A and B) to horizontal position.
2. Lower accumulator.
3. Put machine in transport mode.

NOTE: Cab of machine must be facing direction of travel when loaded onto the trailer.

4. Loading machine onto trailer.
5. Chock wheels with blocks.

A—Handrail (2 Used)

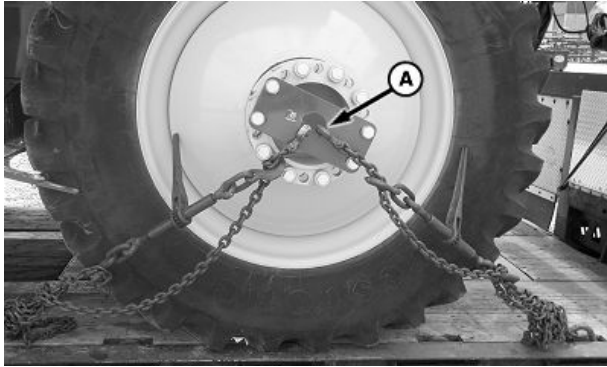
B—Handrail



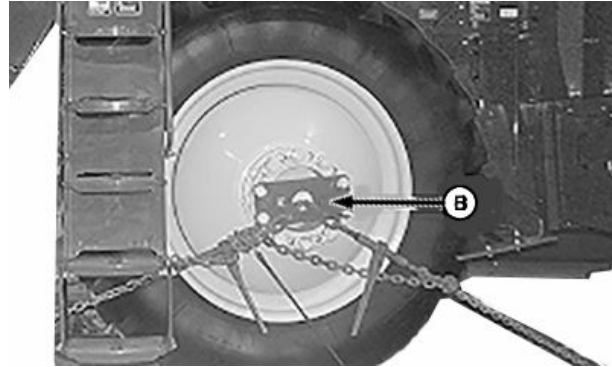
YC10999 —UN—07DEC16

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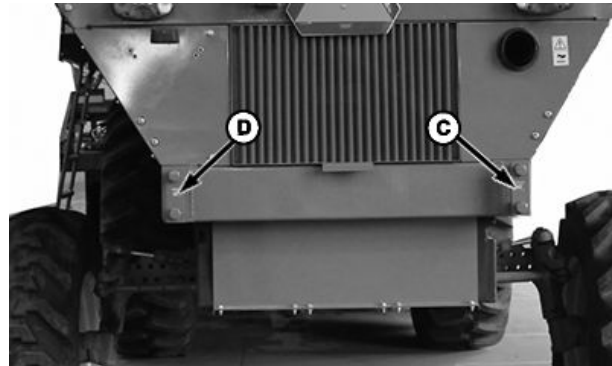
CP00718,0002D96 -19-10JAN17-1/3



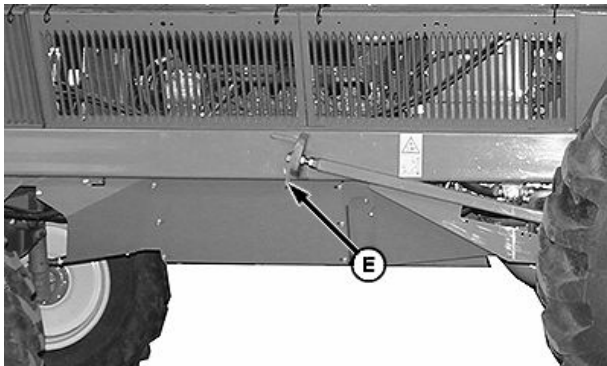
N107587 —UN—09OCT13



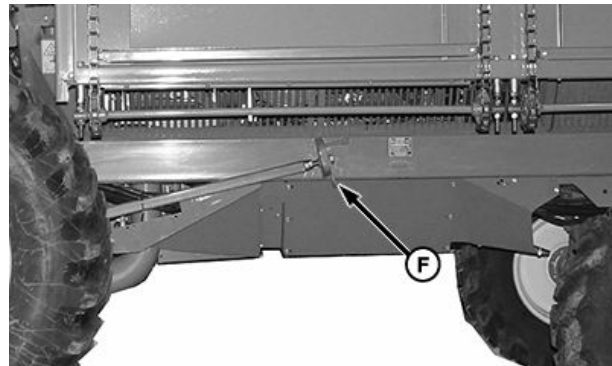
YC11000 —UN—07DEC16



YC11001 —UN—07DEC16



YC11002 —UN—07DEC16



YC11003 —UN—07DEC16

A—Right Front Tie-Down Location	C—Right Rear Axle Tie-Down Location	E—Right Middle Tie-Down Location
B—Left Front Tie-Down Location	D—Left Rear Axle Tie-Down Location	F—Left Middle Tie-Down Location

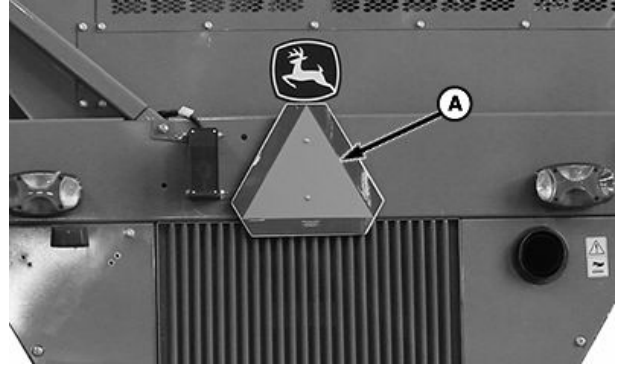
6. Loosely install chains to tie-down locations (A-F).
7. Chain the right-hand side of the machine (A, C and E) to the trailer.
8. Chain the left-hand side of the machine (B, D and F) to the trailer.

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CP00718,0002D96 -19-10JAN17-2/3

9. Cover or remove SMV sign (A) on back of machine.

A—SMV Sign



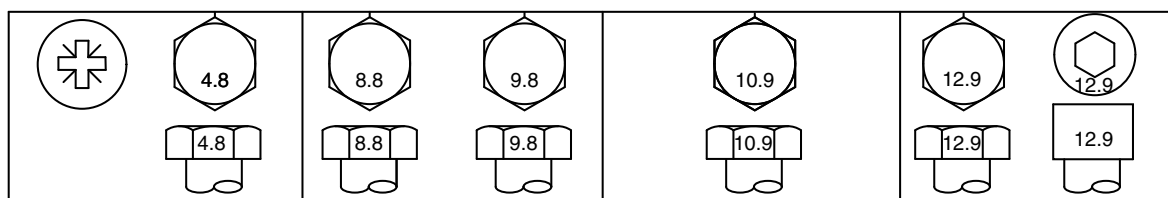
YC11004 —UN—07DEC16

CP00718,0002D96 -19-10JAN17-3/3

Torque Charts

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.

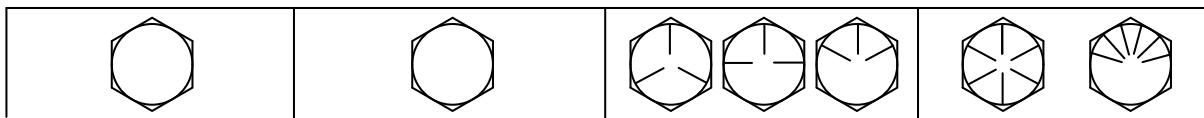
^a“Lubricated” means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or M20 and larger fasteners with JDM F13C, F13F or F13J zinc flake coating.

^b“Dry” means plain or zinc plated without any lubrication, or M6 to M18 fasteners with JDM F13B, F13E or F13H zinc flake coating.

OUYC278,0000245 -19-08DEC16-1/1

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.

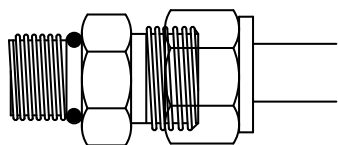
^aGrade 2 applies for hex cap screws (not hex bolts) up to 6 in. (152 mm) long. Grade 1 applies for hex cap screws over 6 in. (152 mm) long, and for all other types of bolts and screws of any length.

^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.

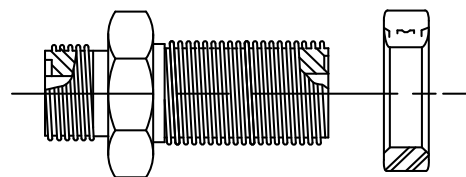
OUYC278,0000246 -19-08DEC16-1/1

High Pressure Face Seal Torque Chart



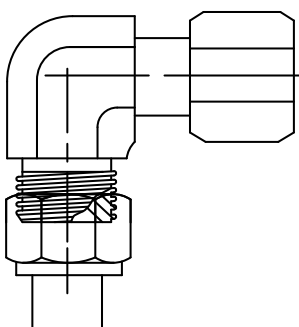
Stud Straight and Tube Nut

N55267 —UN—05OCT00



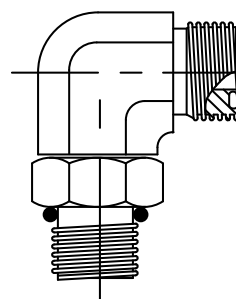
Bulkhead Union and Bulkhead Locknut

N55209 —UN—02OCT00



Swivel Elbow and Tube Nut

N55268 —UN—05OCT00



Adjustable Stud Elbow

N55269 —UN—05OCT00

NOTE: Do not allow hoses to twist when tightening fittings.

applications **above** 27.6 MPa (4,000 psi). Working pressure is 41.3 MPa (6,000 psi).

Assembly torques are for face seal tube hose connections and for J1926 in. O-Ring stud ends for high pressure

Nominal Tube O.D./Hose I.D.				Face Seal Tube/Hose End					O-Ring Stud Ends		
Metric Tube O.D.	Inch Tube O.D.			Thread Size	Tube Nut/Swivel Nut Torque		Bulkhead Locknut Torque		Thread Size	Straight Fitting or Locknut Torque	
mm	Dash Size	(in.)	mm	(in.)	N-m	(lb-ft)	N-m	(lb-ft)	(in.)	N-m	(lb-ft)
5	-3	0.188	3.76	—	—	—	—	—	3/8-24	—	—
6	-4	0.250	6.35	9/16-18	16	12	12	9	7/16-20	21	15
8	-5	0.312	7.94	—	—	—	—	—	1/2-20	—	—
10	-6	0.375	9.52	11/16-16	24	18	24	18	9/16-18	34	24
12	-8	0.500	12.70	13/16-16	50	37	46	34	3/4-16	73	55
16	-10	0.625	15.88	1-14	69	51	62	46	7/8-14	104	76
20	-12	0.750	19.05	1-3/16-12	102	75	102	75	1-1/6-12	176	130
22	-14	0.875	22.22	1-3/16-12	102	75	102	75	1-3/16-12	230	170
25	-16	1.000	25.40	1-7/16-12	142	105	142	105	1-5/16-12	285	210

NOTE: Torque tolerance is +15% or -20 % unless otherwise specified.

OUYC278,0000247 -19-08DEC16-1/1

Service Recommendations For Flat Face O-Ring Seal Fittings

1. Inspect the fitting sealing surfaces and O-ring. They must be free of dirt or defects.
2. Lubricate O-rings and install into groove using petroleum jelly to hold in place.
3. Index angle fittings and tighten by hand pressing joint together to insure O-ring remains in place.

4. Tighten fitting or nut to torque value shown on the chart. Do not allow hoses to twist when tightening fittings, use backup wrench on straight hose couplings.

IMPORTANT: Tighten fittings to 150% of listed torque value if indexing is necessary or if fitting is attached to an actuating device.

Tighten fittings to 50% of listed torque value if used in aluminum housing.

FLAT FACE O-RING SEAL FITTING TORQUE*						
Nomial Tube O.D.		Thread Size	Swivel Nut		Bulkhead Nut	
mm	in.	in.	N·m	lb·ft	N·m	lb·ft
6.35	0.250	9/16-18	16	12	12	9
9.52	0.375	11/16-16	24	18	24	18
12.70	0.500	13/16-16	50	37	46	34
15.88	0.625	1-14	69	51	62	46
19.05	0.750	1 3/16-12	102	75	102	75
22.22	0.875	1 3/16-12	102	75	102	75
25.40	1.000	1 7/16-12	142	105	142	105
31.75	1.250	1 11/16-12	190	140	190	140
38.10	1.500	2-12	217	160	217	160

*Torque tolerance is +15 -20% unless otherwise specified.

Stud End O-ring Seal Torque for Straight and Adjustable Fittings*				
Thread Size	Straight Hex Size	Locknut Hex Size	Straight Fitting or Locknut Toque	
Inch	Inch	Inch	N·m	lb·ft
3/8-24	5/8	9/16	12	9
7/16-20	5/8	5/8	21	15
1/2-20	3/4	11/16	26	19
9/16-18	3/4	3/4	34	25
3/4-16	7/8	15/16	73	55
7/8-14	1 1/16	1 1/16	104	76
1 1/16-12	1 1/4	1 3/8	176	130
1 3/16-12	1 3/8	1 1/2	230	170
1 5/16-12	1 1/2	1 5/8	285	210

*Torque tolerance is +15 -20% unless otherwise specified.

OUYC278,0000248 -19-08DEC16-1/1

Specifications

Machine Specifications

Axle Setting	Row Spacing
206 cm (81 in.)	4 row 70 cm, 4 row 2 meter, 4 row 38 in., and 4 row 40 in.
226 cm (89 in.)	4 row 76 cm, 4 row 30 in., and 5 row 30 in.
276 cm (108.6 in.)	4 row 60 cm, and 4 row 36 in.
Picking Units	
Number of Units	4 or 5 (762 and 813 mm [30 and 32 in.] only)
Number of Picking Drums	8 or 10 (2 per unit)
Number of Picking Bars (Per Drum)	12
Number of Spindles	
Per Bar	18
Per Unit	432
Per Machine	1728 (4-Row), 2160 (5-Row)
Standard Equipment—Picking Units	
	Stalklifter extensions and tunnel grates
	Automatic row-unit height control
Picking Unit Speeds^a	
Picking Unit Drive Shaft	1473 rpm
Picking Drum	0—170 rpm
Doffer Shaft	0—1832 rpm
Spindle	0—4236 rpm
Cotton Fan	
Speed (When Engine is at 2350 rpm)	4000 rpm

^aPicking unit speeds listed are theoretical maximums at 2350 engine rpm. Actual speeds may be approximately five percent less due to hydrostatic and belt slippage.

Ground Speeds (Full Throttle) 2-Wheel Drive (520/85D38 Tires)	
Picking Speeds 1st Gear	0—6.1 km/h (0—3.8 mph)
Picking Speeds 2nd Gear	0—7.2 km/h (0—4.5 mph)
Transport Speeds 3rd Gear	0—25.1 km/h (0—15.6mph)
Reverse 1st Gear	4.3 km/h (2.7 mph)
Reverse 2nd Gear	5.0 km/h (3.1 mph)
Reverse 3rd Gear	17.2 km/h (10.7 mph)
Ground Speeds (Full Throttle) 4-Wheel Drive	
Picking Speeds 1st Gear	0—4.7 km/h (0—2.9 mph)
Picking Speeds 2nd Gear	0—5.6 km/h (0—3.5 mph)
Transport Speeds 3rd Gear	0—14.5 km/h (0—9 mph)
Reverse	0—8.0 km/h (0—5 mph)
Capacities	
Cotton Basket, Intermediate Height	30.2 m ³ (1065 cu. ft)
Cotton Basket, Full Height	32.2 m ³ (1173 cu. ft)
Fuel Tank	454L (120 U.S. gal)
Water Solution Tank	1040.8L (275 U.S. gal)
Lubrication System	254L (67 U.S. gal)
Cooling System	30L (32 U.S. qt)
Engine Crankcase (Includes Filter)	31.5L (33.3 U.S. qt)
Hydraulic/Hydrostatic System	62.5L (16.5 U.S. gal)
Hydraulic/Hydrostatic Reservoir	34L (9 U.S. gal)
Transmission	7.6L (8 U.S. qt)
Final Drive	7.8L (8.2 U.S. qt)
Fuel Consumption per Hectare	24-34 kg/hm ²
Specific Productivity per Hour	0.7-1.2 hm ² /h

Continued on next page

OUYC278,0000254 -19-08DEC16-1/3

Specifications

Tires

Front Drive Wheels	520/85D38 (R1) Standard, (R2 Optional)
Rear Guide Wheels	14.9-24 8PR (R4) (Standard)
Rear Guide Wheels	14.9-24 12PR (R4) (Optional)
Rear Guide Wheels	9.00-24 8PR (I1) (Optional)
Power Rear Guide Wheels	14.9-24 12PR (R2)

Brakes

Type	12 x 3 in. Hydraulically-Actuated Shoe-Type w/Cast Iron Drum

Hydraulic System

Type	Closed-Center, Constant Pressure
Stand-By Pressure	17,170—17,860 kPa (2490—2590 psi)
Oil Filter	Full Flow Suction
Oil Cooler	Air-Cooled

Machine Weights

4-Unit (30 or 40 In.)	13,177 kg (29,050 lb)
5-Unit (30 or 40 In.)	14,515 kg (32,000 lb)
Basket and Lid (Complete)	2268 kg (5,000 lb)

Final Drive

Type	Ring and pinion

Electrical System

System Type	12Volt, Negative Ground
Battery	GRP31, 925CCA
Alternator	120 amp
Indicator and Unit Monitor Light Bulbs	AL65575
Sealed Lights (Headlights, Field Lights, Basket/Rockshaft Lights, and Platform Light)	AN272464
Tail Light Bulb	Type 3057 (H133384)
Warning Light Bulb (Front and Rear)	Type 1156 (AD2062R)
Turn Light Indicator Bulb	Type 1895G (R56409)
Gauge Panel Light Bulb	Type 161 (AA27536)
Dome Light Bulb	Type 105 (AR86969)
Console Light Bulb	Type 168 (AR48015)

Engine

Manufacturer	John Deere
Model	6068HN052 Turbocharged, Charge Air Cooled
No. of Cylinders	6
Bore	106 mm (4.19 in.)
Stroke	127 mm (5.00 in.)
Displacement	6.8L (414 cu in.)
Rated Power	187 kW (250 hp)
Engine Speeds Fast Idle (No Load)	2350 rpm
Rated (Under Field Load)	2200 rpm
Low Idle	800—900 rpm
Muffler	Aspirated

Fuel System

Type	Direct Injection
Injection Pump Type	In-Line
Fuel Filters	Standard 60 micron washable, 10 micron, 2 micron. Optional 30 micron washable

Engine Air System

Air Cleaner	Dry-Type with Safety Element and Aspirated Pre-Cleaner

Cooling System

Type	Single-Pressure with Gear Driven Water Pump

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OUYC278,0000254 -19-08DEC16-2/3

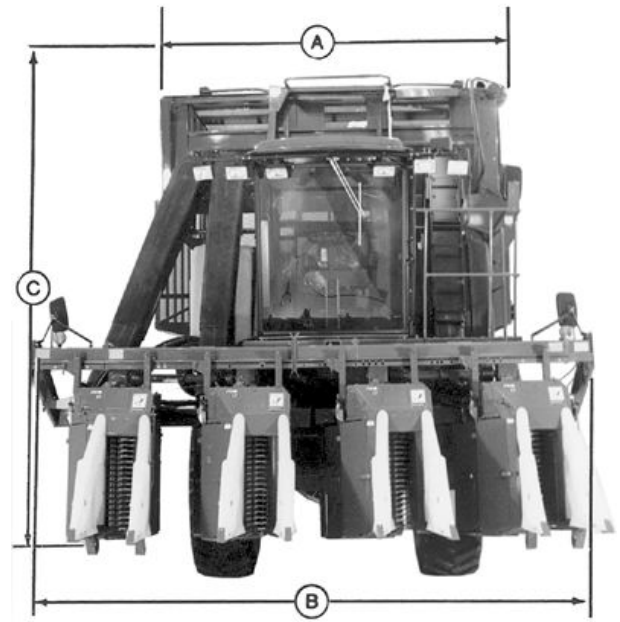
Specifications

Temperature Control	Dual, Heavy-Duty, 82° C (180° F) Thermostats
Fuses—See FUSES AND RELAYS or FUSES—RADIATOR COMPARTMENT in CHASSIS Section	
Operator's Cab	
Type	Cab (No ROPS) with heater and air conditioner, windshield wiper, rear view mirror, deluxe seat suspension PERSONAL-POSTURE™ Seat and Seat Belt.
Filter	
Primary	AR61903
Secondary	AH92463
Windshield Wiper	
Blade Length	508 mm (20 in.)
Arm Length	508 mm (20 in.)
Mirror, Rear View	
Outside (3)	200 x 297 mm (7.88 x 11.68 in.)
Inside (Standard)	152 x 216 mm (6 x 8-1/2 in.)
Heater	
Capacity	5274 W/hr (18,000 Btu)
Air Conditioner	
Make (Compressor)	Nippondenso
Capacity	64.46 kW/h (22,000 Btu)
Refrigerant	R-134A
Refrigerant Charge	Approx. 1.7 kg (3-3/4 lb)
Optional Equipment	
Pressure Plate Scrapping Plates	
Mud Scrapers	
Stalklifter Rods	
Lubricator Transfer Pump	
Water Tank Remote Fill	

OUYC278,0000254 -19-08DEC16-3/3

Dimensions

A—3651 mm (143-3/4 in.)	C—3759 mm (148 in.)
B—3861 mm (152 in.),	(Transport)
3886 mm (153 in.),	4521 mm (178 in.) (Lower
3200 mm (126 in.), 4 units	Field Height)
on 762 mm (30 in.)	4826 mm (190 in.) (Upper
4420 mm (174 in.), 4 units	Field Height)
on 1016 mm (40 in.)	
3962 mm (156 in.), 5 units	
on 762 mm (30 in.)	
4572 mm (180 in.), Skip-row	



N42182CC —UN—30MAY97

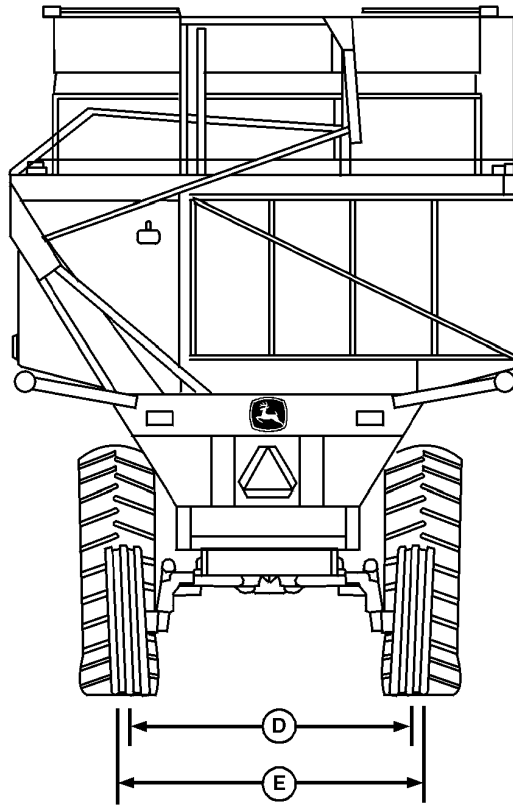
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OUYC278,0000255 -19-08DEC16-1/5

Specifications

D—Guide wheel width from factory, center-to-center of tires; 2019 or 2223 mm (79.5 or 87.5 in.)

E—Drive wheel width, center-to-center of tires; 2261 mm (89 in.) 2616 mm (103 in.) skip-row

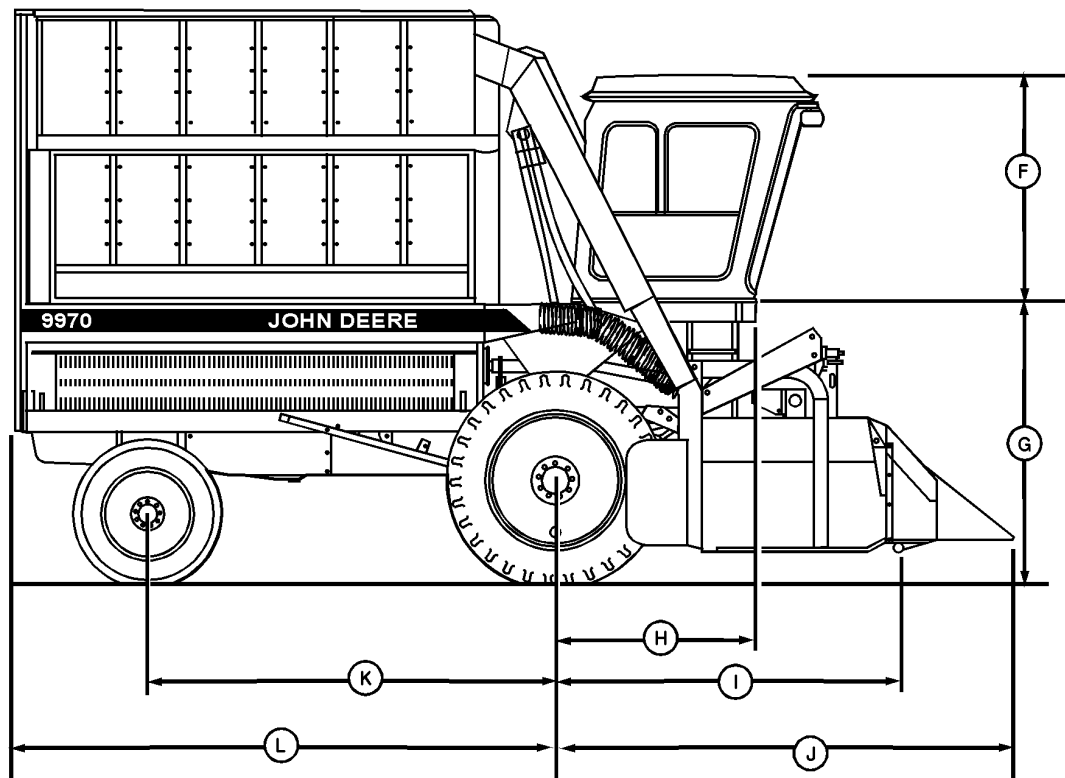


N58680 —UN—24OCT01

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OUYC278,0000255 -19-08DEC16-2/5

Specifications



F—1638 mm (64-1/2 in.)
G—2096 mm (82-1/2 in.)

H—1454 mm (57-1/4 in.)
I—2962 mm (116-5/8 in.)

J—3546 mm (139-5/8 in.)
K—3321 mm (130-3/4 in.)

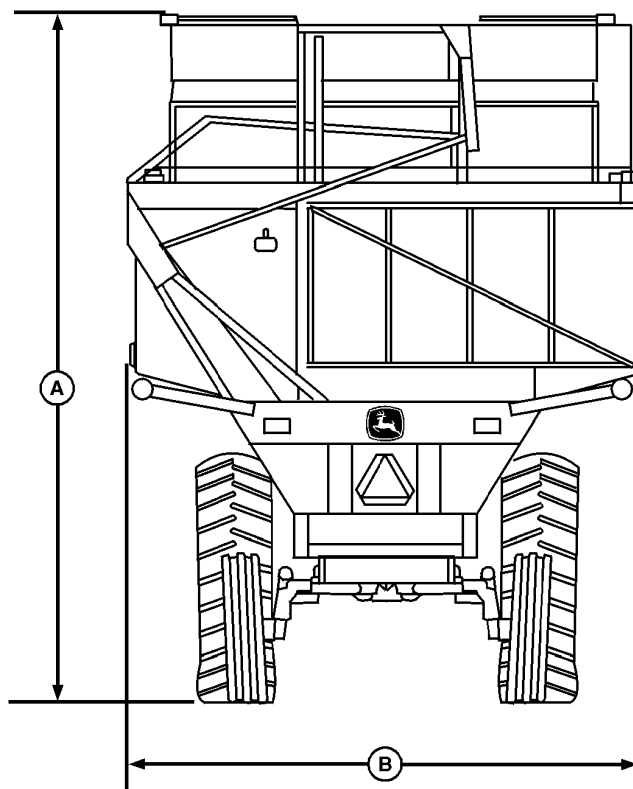
L—4318 mm (170 in.)

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OUYC278,0000255 -19-08DEC16-3/5

N42182CD —UN—30MAY97

Specifications



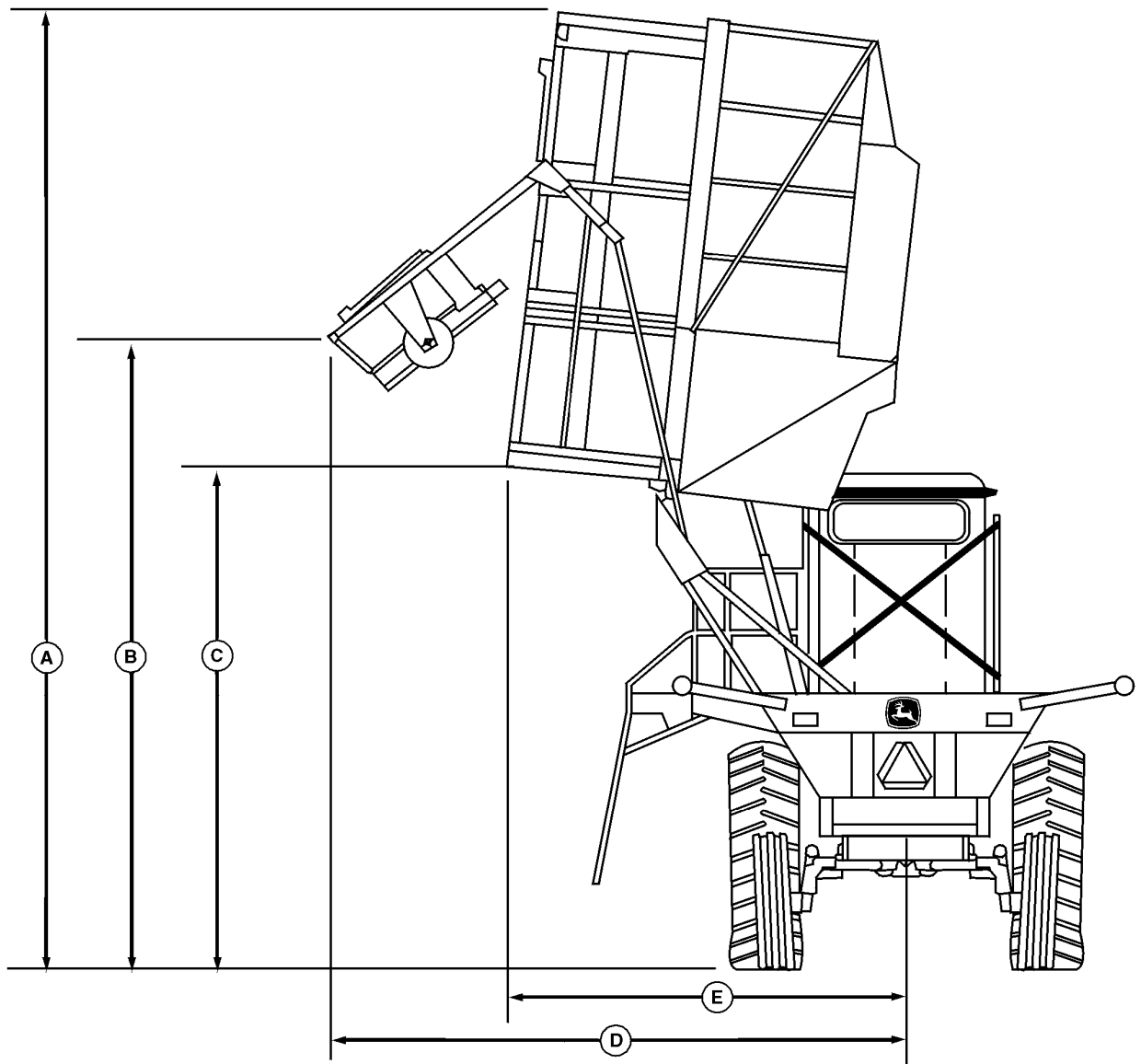
A—4.8 m (190 in.) Full Up
Position,
4.5 m (178 in.) Intermediate
Position,
3.8 m (148 in.) Transport
Position

B—3627 mm (142.79 in.)

Continued on next page

OUYC278,0000255 -19-08DEC16-4/5

N56881 — UN—24OCT01



A—7354 mm (289.5 in.)
B—4749.6 mm (186.99 in.)

C—3802.7 mm (149.7 in.)
D—4254.7 mm (167.51 in.)

E—2943.7 mm (115.89 in.) or
3460.9 mm (136.26 in.) with
dump extension (Not Shown)

OUYC278,0000255 -19-08DEC16-5/5

N58682 —UN—24OCT01

Sound Level

The A-weighted sound pressure level inside the operator's station ranges from 80.9 to 82.7 dB(A) as measured in accordance with ISO 5131. These sound pressure

levels depend on the speed at which the cotton picker is operated, the maintenance of the machine, and the operator's experience and driving habits.

OUYC278,0000256 -19-08DEC16-1/1

Specifications

Whole Body Vibration

The composite whole body vibration level ranges from 0.52 m/s² to 1.22 m/s². These vibration levels depend

on the speed at which the cotton picker is operated, the maintenance of the machine, and the operator's experience and driving habits.

OUYC278,0000257 -19-08DEC16-1/1

Hand and Arm Vibration

The hand and arm vibration level is less than 2.5 m/s². These vibration levels depend on the speed at which the

cotton picker is operated, the maintenance of the machine, and the operator's experience and driving habits.

OUYC278,0000258 -19-08DEC16-1/1

Declaration of Conformity

Deere & Company
Moline, Illinois U.S.A.

The person named below declares that
Machine type: Self-Propelled Cotton Picker
Model: 9970 Serial number: 1YC9970X*G0020001 - 1YC9970X*G0020060

Fulfills all relevant provisions and essential requirements of the following directives:

DIRECTIVE	NUMBER	Certification Method
Machinery Directive	2006/42/EC	Self-certified, per Article 5 of the Directive
Electromagnetic Compatibility Directive	2004/108/EC	Self-certified, per Annex II of the Directive

Name and address of the person in the European Community authorized to compile the technical construction file:

Brigitte Birk
John Deere GmbH & Co. KG
Mannheim Regional Center
John Deere Strasse 70
68163 Mannheim, Germany
EUConformity@johndeere.com

Place of declaration: Ankeny, Iowa U.S.A.

Date of declaration: August 6, 2014

Manufacturing Unit: John Deere Jiamusi Works

N123369 —UN—17MAY16

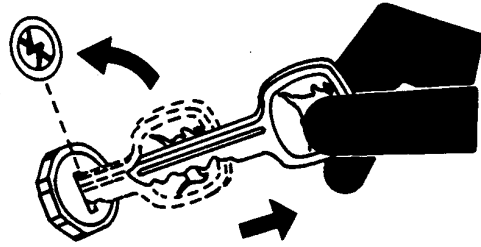


N84331 —UN—15APR09

OUYC278,0000259 -19-08DEC16-1/1

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.

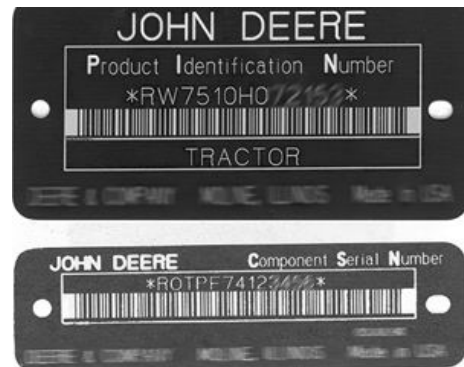


OUYC278,000025A -19-08DEC16-1/1

TS230 —UN—24MAY89

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



OUYC278,000025B -19-08DEC16-1/1

TS1680 —UN—09DEC03

Machine Identification Numbers and Wear Parts List

Identification Numbers

Your machine has these various identification plates. The letters and numbers stamped on these plates identify a component or assembly. ALL of these characters are needed when ordering parts or identifying a machine or

component for any John Deere product support program. Also, they are needed for law enforcement to trace your machine if it is ever stolen. ACCURATELY record these characters in the spaces provided in each of the following photographs.

OUYC278,000025C -19-08DEC16-1/1

Machine Identification Plate

NOTE: Locate identification plate on machine and compare with information shown here.

JOHN DEERE			
MODEL	产品型号	PRODUCT NAME	产品名称
4MZ-5(9970)		自走式棉花收获机	
PRODUCT IDENTIFICATION NUMBER		制造编号	
PRODUCT STANDARD 标准		PRODUCTION DATE 制造日期	
		年 月 日	
MATCHED POWER 功率		ROWS 行数	WEIGHT 重量
Kw			Kg
JOHN DEERE (JIAMUSI) AGRICULTURAL MACHINERY CO., LTD			
约翰·迪尔(佳木斯)农业机械有限公司			
NO.1LIANMENG STREET, JIAMUSI 佳木斯联盟街1号			
MADE IN CHINA 中国制造			

NY02067—UN—30JAN13

OUYC278,000025D -19-08DEC16-1/1

Wear Parts List

Part Number	Part Name
AA27536	Bulb Assembly - Lamp
AE43494	Element Assembly - Filter
AF3892R	Bulb Unit Sealed w/Screws 12V/Trac
AH128449	Filter Assembly - Element
AH80490	Lubricant Sp. Purp. Corn Head Grease
AH92463	Panel Assembly - Filter
AM31284	Light Bulb for Clearance Lamp
AN272152	Doffer Assembly White Ure. Small Disc
AN274216	RH Spindle Assembly - Pro Series
AN274672	Belts Matched Set - 2
AN274673	Belts Matched Set - 2
AR48015	Bulb Lamp
AR48041	Bulb
AR70106	Element Dry Air Cleaner
AR70107	Element Dry Air Cleaner
AR86745	Element Fuel Filter
AT101565	Filter Air
DD15664	Recharge Joint Liquide (Loctite 515)
N190332	Spindle RH Picking Mini
N193822	Belt 4HBPB - 94.50 (K)
N275607	Pad - Spindle Moist
N277078	Spindle RH Pro-Series
N378886	Fuel Filter Element Filter 60 Mic
N378887	Gasket Filter Housing
PM37421	Thread Locker 271 6 ml Tube
PM37532	Adhesive Black Weather Strip 5 oz.
RE12793	Filter Air
RE41942	Belts Two Matched Vee
RE504836	Oil Filter
RE508633	Element Fuel Filter
RE509032	Filter Element (Fuel Filter)
RE522966	Element Fuel Filter w/Drain U
RE57394	Filter Engine Oil w/Packing (Parts)
R116307	Belt Freon Compressor
R500380	Belt Poly-V 2355 MM
R515127	Belt Poly Vee
R518368	Belt Poly Vee
R56409	Bulb Lamp
TY25879	Dry BCI31 12V 925CCA 75RC Mainfree
T10552	Belt Pump Drive

OUYC278,000025E -19-08DEC16-1/1

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John Deere Service Keeps You on the Job

John Deere Parts

We help minimize downtime by putting genuine John Deere parts in your hands in a hurry.

That's why we maintain a large and varied inventory—to stay a jump ahead of your needs.



DX,IBC,A -19-04JUN90-1/1

TS100 —UN—23AUG88

The Right Tools

Precision tools and testing equipment enable our Service Department to locate and correct troubles quickly . . . to save you time and money.



DX,IBC,B -19-04JUN90-1/1

TS101 —UN—23AUG88

Well-Trained Technicians

School is never out for John Deere service technicians.

Training schools are held regularly to be sure our personnel know your equipment and how to maintain it.

Result?

Experience you can count on!



DX,IBC,C -19-04JUN90-1/1

TS102 —UN—23AUG88

Prompt Service

Our goal is to provide prompt, efficient care when you want it and where you want it.

We can make repairs at your place or at ours, depending on the circumstances: see us, depend on us.

JOHN DEERE SERVICE SUPERIORITY: We'll be around when you need us.



DX,IBC,D -19-04JUN90-1/1

TS103 —UN—23AUG88

