

AB485 Air Boom Application System (North American Edition)



JOHN DEERE

OPERATOR'S MANUAL

AB485 Air Boom Application System (North American Edition)

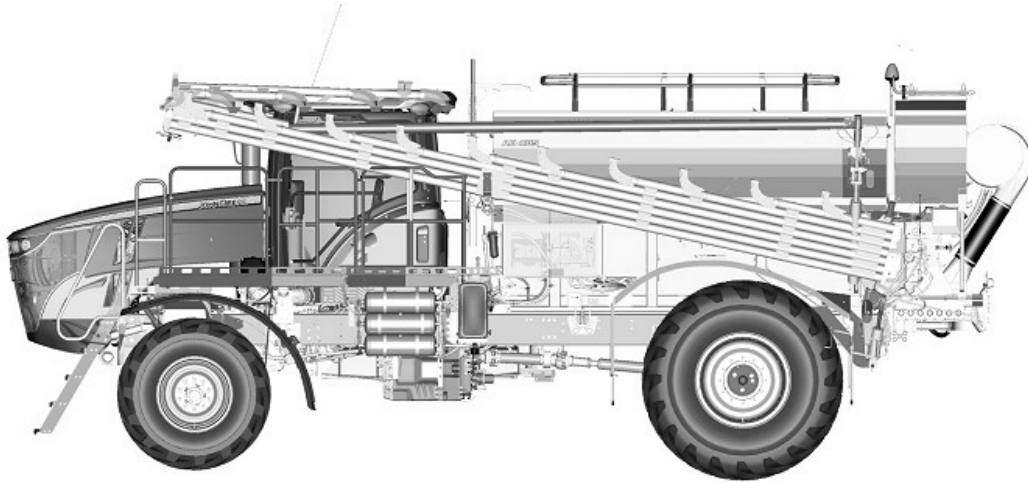
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John Deere Des Moines Works

**North American
PRINTED IN U.S.A.**

Introduction

Foreword



N131527—UN—28JUL17

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 in the direction of forward travel.

WRITE PRODUCT IDENTIFICATION NUMBERS (PIN) in the Specification or Identification Numbers section of this manual. 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 backs 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 becomes void and field improvements can be denied. Installing an unauthorized application system, or modifying the John Deere authorized box to exceed design weight limitations, will also void warranty.

The installed are hopper type spreaders, which are intended for spreading free flowing granular agricultural materials, chemical fertilizers, and crop seed ("Intended Use"). A second product bin is also available. It allows you to spread two different types of fertilizer individually or combined. A micronutrient bin is also available to allow for the spreading of a low rate fertilizer or dry chemical. The main bin and second product bin are not intended to spread agricultural limestone. The spreaders are designed for use on the F4365 High Capacity Nutrient Applicator. The application of free flowing granular agricultural materials must be done according to the manufacturers' instruction and legal user regulations. Intended Use also implies the observance of all user and maintenance instructions prescribed by the manufacturer. Any other use is regarded as noncompliant with its purpose including:

- Improper use of agrochemicals (herbicides, fungicides, insecticides, growth regulators) and liquid fertilizers
- Noncompliance with instructions issued by the manufacturers of fertilizers and crop protection chemicals
- Noncompliance with legal requirements applicable to the use of fertilizers and crop protection chemicals including their combination with other chemicals

THIS application system **MUST ONLY** be used and serviced by authorized persons who are informed about the hazards and correct operation of the machine. The

relevant safety regulations and all other generally accepted safety, technical, medical, and traffic instructions must be observed.

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 helps John Deere notify you of any issues or product improvements.

OUC6092,0000B74-19-01MAY18

Predelivery

After the machine has been assembled, inspect to verify that it is in good running order before delivering to the customer. The following checklist is a reminder of points to inspect. Check off each item as it is found satisfactory or after proper adjustment is made.

- ☐ SMV emblem and reflectors installed.
- ☐ Verify all safety decals are in place. (See Safety Signs Location section in this manual for decal locations.)
- ☐ Verify correct speed limit decal is installed for your location.
- ☐ All fluid levels have been checked. All grease fittings have been lubricated.
- ☐ Tires are properly inflated. Tighten wheel bolts to specified torque.
- ☐ Perform spreader check with box empty. Manipulate settings to verify that high and low belt speed (manual) and high and low fan speed are within specifications. (See Spreader Check in Calibrations section.)
- ☐ Verify proper conveyor chain tracking and tension. (See Check Conveyor Chain Tension—50 Hours in Lubrication and Maintenance section.)
- ☐ Hydraulic systems operate properly and do not leak.
- ☐ Any parts scratched in shipment have been touched up with paint.
- ☐ Factory made entries in the display have been confirmed and/or reset to agree with calibration values.
- ☐ All mandatory open Product Improvement Programs (PIP) should be completed before delivering the machine to the customer.
- ☐ This machine has been thoroughly checked and to the best of my knowledge is ready for delivery to the customer.

Signed: _____

Date: _____

OUC6092,0000B75-19-09APR18

Delivery

At the time the machine is delivered, the following checklist is a reminder of information which should be conveyed directly to the customer. Check off each item as it is fully explained to the customer.

- ☐ Tell the customer to use the proper tools.
- ☐ Explain to the customer that the life expectancy of this or any other machine depends on regular lubrication as directed in the Operator's Manual.
- ☐ Give the Operator's Manual to the customer and explain all operating adjustments.
- ☐ Instruct operator to verify proper conveyor chain tracking and tension every 50 hours. (See Check Conveyor Chain Tension—50 Hours in Lubrication and Maintenance section of this manual.)
- ☐ Refer the customer to the Spread Pattern section of the Operator's Manual. Instruct them to perform the tests shown before spreading a new product.
- ☐ Make the customer aware of all the safety precautions that must be exercised while using this machine.
- ☐ When the machine is transported on a road or highway, lights or devices must be used for an adequate warning to operators of other vehicles. In this regard, tell the customer to check local governmental regulations.
- ☐ To the best of my knowledge, this machine has been delivered ready for field use. The customer has been fully informed as to proper care and operation.

Signed: _____

Date: _____

OUC6092,0000B76-19-16MAR18

After-Sale

The following is a suggested list of items to be checked at a dealer-customer meeting during the first operating season, usually after 50 to 100 hours of operation.

- ☐ Check with the customer as to the performance of the machine. Make certain the proper operating adjustments are understood.
- ☐ If possible, operate the machine to see that it is functioning properly.
- ☐ Verify proper conveyor chain tracking and tension. (See Check Conveyor Chain Tension—50 Hours in Lubrication and Maintenance section of this manual.)
- ☐ Go over the entire machine for loose or missing hardware.
- ☐ Check for broken or damaged parts.
- ☐ Ask the customer if the recommended periodic lubrication has been performed.

Introduction

☐ Review the Operator's Manual with the customer and stress the importance of proper lubrication and safety precautions.

Signed: _____

Date: _____

OUO6092,0000B77-19-16MAR18

Owner Register

Name _____

Model Number _____

Address _____

Serial Number _____

City _____

Date Purchased _____

State _____

OUO6092,0000B78-19-12SEP16

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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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Safety

Recognize Safety Information



T81389—UN—28JUN13

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-19-03OCT22

Understand Signal Words



▲ WARNING

▲ CAUTION

TS187—19—30SEP88

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

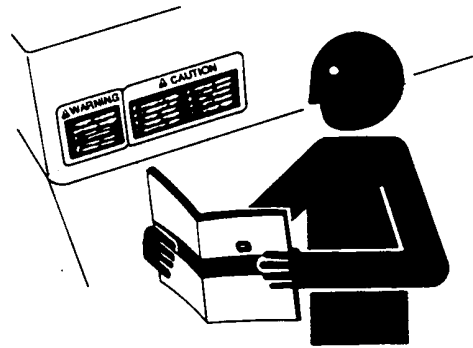
WARNING; The signal word WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

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.

DX,SIGNAL-19-05OCT16

Follow Safety Instructions



TS201—UN—15APR13

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.

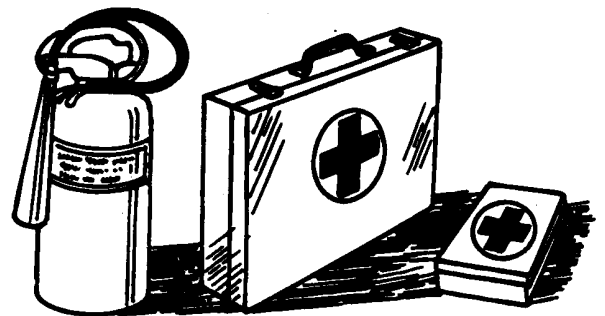
Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.

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-19-01AUG22

Prepare for Emergencies



TS291—UN—15APR13

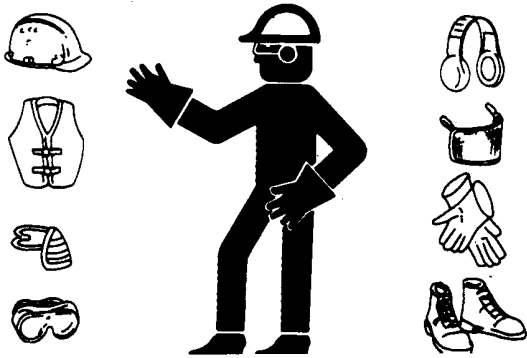
Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher handy.

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

DX,FIRE2-19-03MAR93

Wear Protective Clothing



TS206—UN—15APR13

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

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

DX,WEAR2-19-03MAR93

Protect Against Noise



TS207—UN—23AUG88

There are many variables that affect the sound level range, including machine configuration, condition and maintenance level of the machine, ground surface, operating environmental, duty cycles, ambient noise, and attachments.

Exposure to loud noise can cause impairment or loss of hearing.

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

DX,NOISE-19-03OCT17

Practice Safe Maintenance



TS218—UN—23AUG88

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

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

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

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

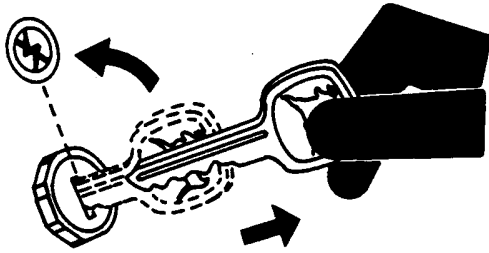
On self-propelled equipment, disconnect battery ground cable (-) before making adjustments on electrical systems or welding on machine.

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

Falling while cleaning or working at height can cause serious injury. Use a ladder or platform to easily reach each location. Use sturdy and secure footholds and handholds.

DX,SERV-19-28FEB17

Park Machine Safely



TS230—UN—24MAY89

Before working on the machine:

- Park machine on level surface
- Shut off conveyor and spinner drives
- Stop the engine and remove the key
- Hang a "DO NOT OPERATE" tag in operator station.
- Disconnect the battery ground strap
- Wait until all moving parts have stopped

OUC6092,000079F-19-29FEB12

Remove Paint Before Welding or Heating



TS220—UN—15APR13

Avoid potentially toxic fumes and dust.

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

Remove paint before heating:

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

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

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

Dispose of paint and solvent properly.

DX,PAINT-19-24JUL02

Avoid Heating Near Pressurized Fluid Lines

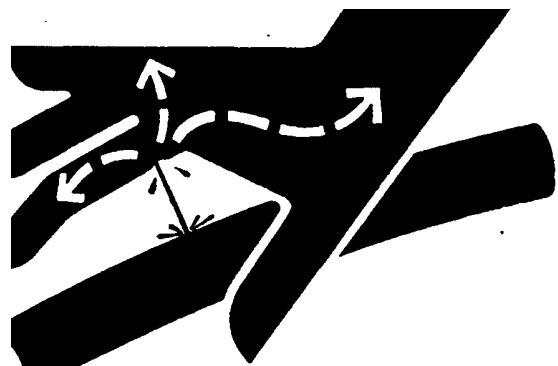


TS953—UN—15MAY90

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

Avoid High-Pressure Fluids



X9811—UN—23AUG88

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.

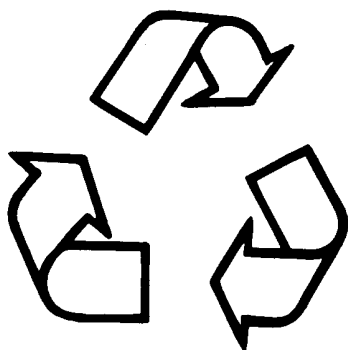
Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.

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.

DX,FLUID-19-12OCT11

Decommissioning — Proper Recycling and Disposal of Fluids and Components



TS1133—UN—15APR13

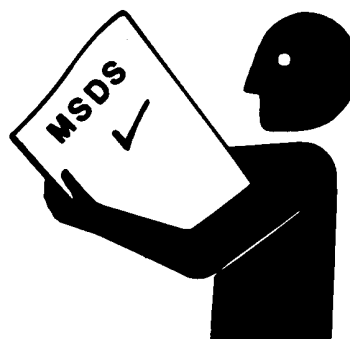
Safety and environmental stewardship measures must be taken into account when decommissioning a machine and/or component. These measures include the following:

- 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

Handle Chemical Products Safely



TS1132—UN—15APR13

Direct exposure to hazardous chemicals can cause serious injury. Potentially hazardous chemicals used with John Deere equipment include such items as lubricants, coolants, paints, and adhesives.

A Material Safety Data Sheet (MSDS) provides specific details on chemical products: physical and health hazards, safety procedures, and emergency response techniques.

Check the MSDS before you start any job using a hazardous chemical. That way you will know exactly what the risks are and how to do the job safely. Then follow procedures and recommended equipment.

(See your John Deere dealer for MSDS's on chemical products used with John Deere equipment.)

DX,MSDS,NA-19-03MAR93

Service Application Equipment Safely

⚠ CAUTION: Treat all chemicals with great caution. DO NOT take chances. When in doubt, proceed as though contamination is present.

Before performing any service activity:

- Wear appropriate personal protective equipment (see Handle Agricultural Chemicals Safely in this section).
- Clean vehicle (see Clean Vehicle of Hazardous Chemicals, Including Pesticide in this section).

BN55050,000010D-19-09APR18

Use Proper Tools



TS779—UN—08NOV89

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

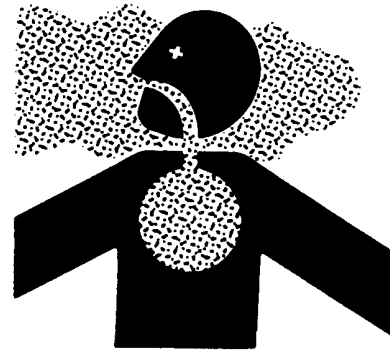
Use power tools only to loosen threaded parts and fasteners.

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.

DX,REPAIR-19-17FEB99

Work In Ventilated Area



TS220—UN—15APR13

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.

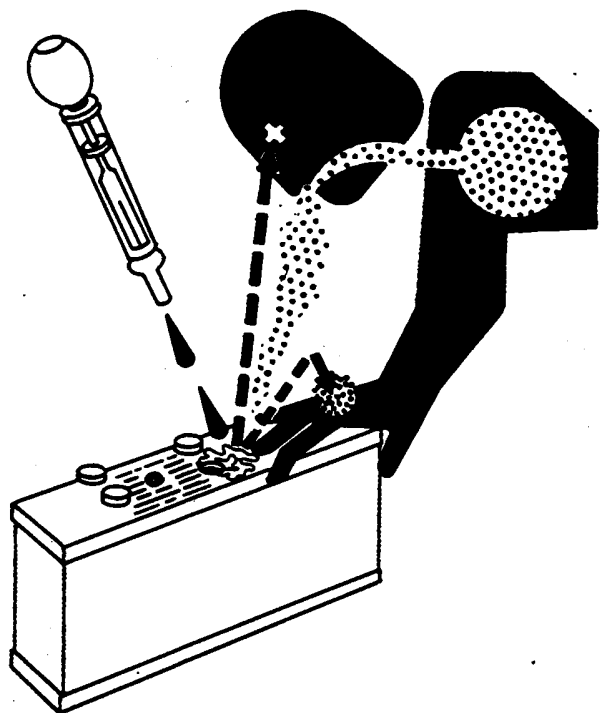
If you do not have an exhaust pipe extension, open the doors and get outside air into the area.

DX,AIR-19-17FEB99

Handling Batteries Safely



TS204—UN—15APR13



TS203—UN—23AUG88

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.

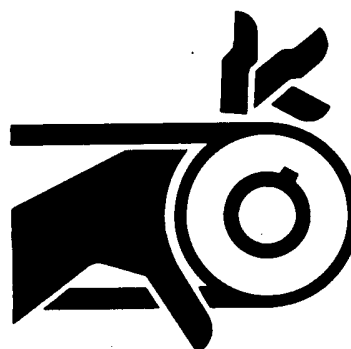
If acid is swallowed:

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.**

DX,WW,BATTERIES-19-02DEC10

Service Drive Belts Safely



TS285—UN—23AUG88

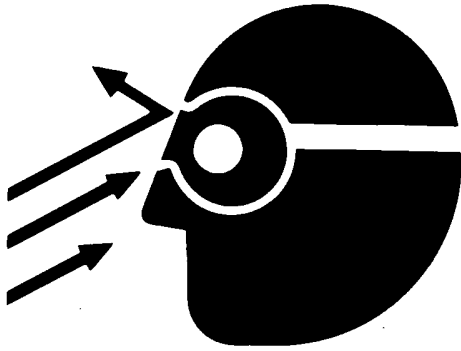
When servicing drive belts always observe these precautions:

- 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.

OOU6043,00015E3-19-24MAY04

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,OUO6043,83-19-28JUL99

Maintain a Safety Area Around the Machine

Machine movements and parts in motion can cause serious injury. Product cannot be completely shielded due to application. Keep away from the application system while it is engaged.

BN55050,000012C-19-26MAR18

Working Area

The working area is defined and required as follows:

- An area of 1 m (3.3 ft) around the machine for servicing the machine, filling product, and cleaning the application system.
- The seat on the machine from where the crop protection work is carried out.

Danger zones are taken to mean:

- The working area of the operator in which servicing the machine, filling product, and cleaning the machine takes place.
- The maneuvering zone of the machine, in particular a 1 m (3.3 ft) zone around the machine as a whole and the application pattern area.

BN55050,000010E-19-09APR18

Avoid Backover Accidents



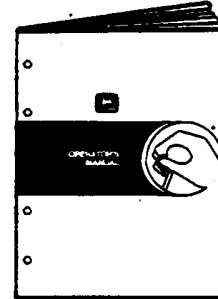
PC10857XW—UN—15APR13

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.

OUO6092,00007A3-19-28FEB12

Before Operating



E23482—UN—08MAY89

Become familiar with operator's manual, machine decals, and Safety section of this manual.

Remove foreign objects from machine.

Become familiar with all controls effecting machine functions.

Make sure everyone is clear of the machine. Never allow riders on the machine or near machine while it is running.

Inspect machine for loose, missing or damaged hardware and parts. Replace any missing or damaged parts with proper specification items.

Verify shields and guards are in place and in good condition before starting.

OUO6092,00007A0-19-28FEB12

Operate Safely

Always check general operating safety of the machine before using.

Before operating machine always check immediate vicinity of machine for people and obstructions. Ensure adequate visibility.

Operate vehicle only when all guards are fitted and in their correct position.

DO NOT start engine with speed control lever engaged.

DO NOT operate close to a ditch or creek.

Avoid distractions such as reading, eating, or operating personal electronics that take your attention away while operating the unit.

Always come to a complete stop before reversing directions.

Drive slowly over rough ground.

Slow down when turning.

Always shut off engine when leaving machine. Remove key when leaving machine unattended. Park brake will engage when engine is turned off regardless of speed control lever position.

Keep hands, feet and clothing away from moving parts.

Wear relatively tight and belted clothing to prevent from being caught on some part of the machine.

OUO6092,0000B57-19-13JUL16

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.

DX,FLASH-19-07JUL99

Avoid Injury from Dispensed Objects

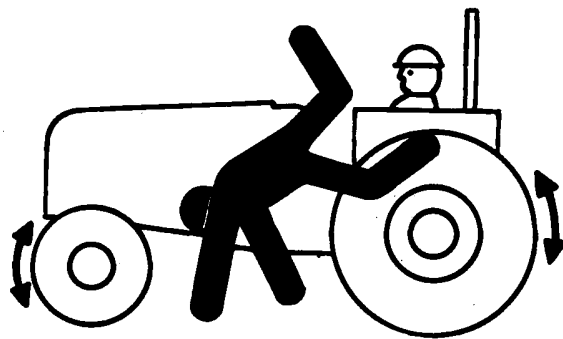


TS265—UN—23AUG88

Extreme care must be exercised to avoid injury from dispensed objects. Do not, under any circumstances, operate the application hydraulics when other people are in the vicinity. Stay out of discharge area.

BN55050,000010F-19-09MAR18

Keep Riders Off Machine



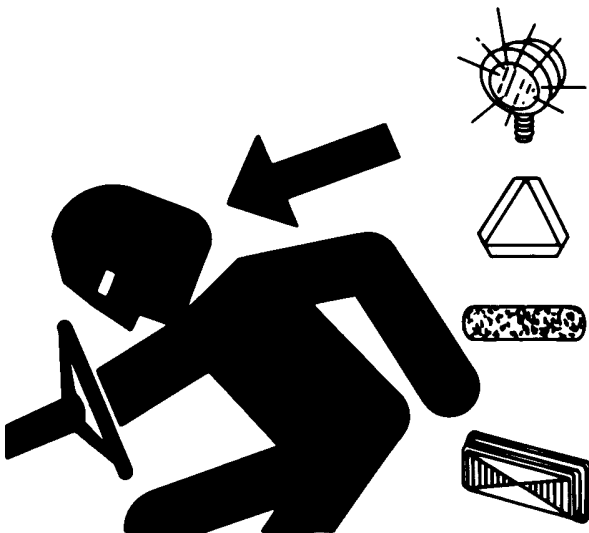
TS290—UN—23AUG88

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.

DX,RIDER-19-03MAR93

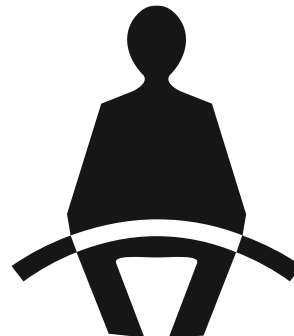
Use Safety Lights and Devices



TS951—UN—12APR90

Prevent collisions between other road users, slow moving tractors with attachments or towed equipment,

Instructional Seat

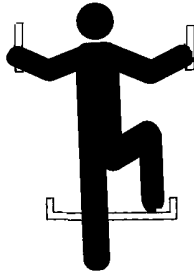


TS1730—UN—24MAY13

The instructional seat, if so equipped, has been provided only for training operators or diagnosing machine problems.

DX,SEAT,NA-19-22AUG13

Use Steps and Handholds Correctly



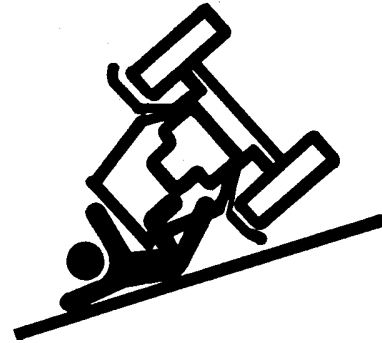
T133468—UN—15APR13

Prevent falls by facing the machine when getting on and off. Maintain 3-point contact with steps, handholds, and handrails.

Use extra care when mud, snow, or moisture present slippery conditions. Keep steps clean and free of grease or oil. Never jump when exiting machine. Never mount or dismount a moving machine.

DX,WW,MOUNT-19-12OCT11

Use Caution On Hillsides



RW13093—UN—07DEC88

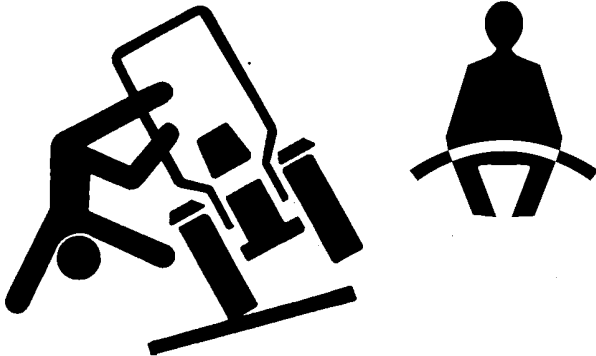
Avoid holes, ditches, and obstructions which may cause machine roll-over, especially on hillsides. Avoid sharp turns on hills.

Never drive near the edge of a gully or steep embankment.

Stay off slopes that are too steep for operation.

OUC6092,000079C-19-28FEB12

Use Seat Belt Properly



TS1729—UN—24MAY13

Avoid crushing injury or death during rollover.

- Hold the latch and pull the seat belt across the body.
- Insert the latch into the buckle. Listen for a click.
- Tug on the seat belt latch to make sure that the belt is securely fastened.
- Snug the seat belt across the hips.

Replace entire seat belt if mounting hardware, buckle, belt, or retractor show signs of damage.

Inspect seat belt and mounting hardware at least once a year. Look for signs of loose hardware or belt damage, such as cuts, fraying, extreme or unusual wear, discoloration, or abrasion. Replace only with replacement parts approved for your machine. See your John Deere dealer.

OUC6092,00009E7-19-26OCT15

Transport and Operate Safely

Keep away from overhead power lines. Serious injury or death to you or others can result should machine contact electrical wires. Know the transport height of your machine.

Perform a complete assessment of the field before performing any spreading operations to decide the best working method.

Stop slowly to avoid “nose diving”.

Keep SMV emblem and reflectors clean and in place.

Do not exceed maximum transport speed specified in the operator manual.

Reduce speeds for icy, wet, graveled or soft roadway surfaces.

Check and follow local regulations for equipment size, lighting and marking before driving on public roadways.

OUC6092,000079D-19-29FEB12

Prevent Machine Runaway



TS177—UN—11JAN89

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

Handle Fuel Safely—Avoid Fires



TS202—UN—23AUG88

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.

Do not store fuel container where there is an open

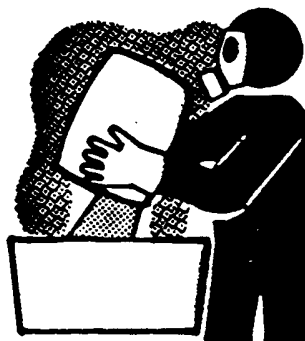
flame, spark, or pilot light such as within a water heater or other appliance.

DX,FIRE1-19-12OCT11

Handle Agricultural Chemicals Safely



TS220—UN—15APR13



A34471

A34471—UN—11OCT88

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 spray or dusts.
- 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 way from human or livestock food. Keep children away.
- Always dispose of containers properly. Triple rinse empty containers and puncture or crush containers and dispose of properly.

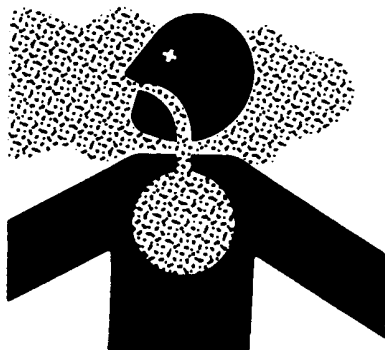
DX,WW,CHEM01-19-05APR04

Spreading Dusty Materials (Based on Machine Configuration)

Cover all loads that can spill or blow away. Do not spread dusty materials where dust can create pollution or a traffic visibility problem.

BN55050,0000110-19-09MAR18

Avoid Exposure To Chemicals



TS220—UN—15APR13



TS272—UN—23AUG88

CAUTION: Exposure to chemicals, including pesticides, can cause injury or death.

DO NOT RELY ON THIS CAB, CAB PRESSURE INDICATOR, OR CAB AIR FILTERS TO PROTECT AGAINST CHEMICAL EXPOSURE.

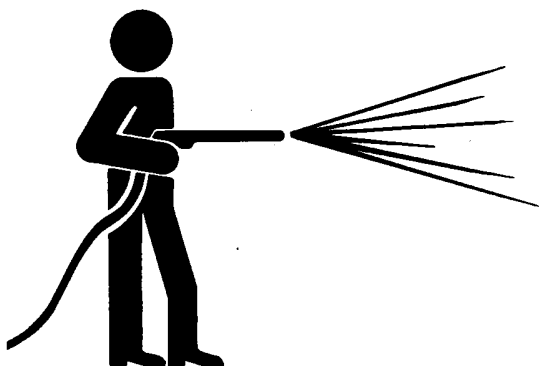
To reduce the risk of chemical exposure:

- Wear PERSONAL PROTECTIVE EQUIPMENT in accordance with the chemical manufacturer's label
- Allow only trained, certified applicators to apply chemicals
- Always close the windows and doors during spreading
- Verify that John Deere activated carbon filters, or appropriate substitutes, are installed at all times (see Check and Replace Cab Air Filters in the Cab and Air Conditioning section of machine Operator's Manual)
- Keep chemicals out of the cab
- Clean or remove contaminated shoes or clothing before entering the cab
- Keep cab interior clean
- Read and follow all instructions in:
 - Manufacturer's label for each chemical applied
 - U.S. Environmental Protection Agency (EPA) Worker Protection Standard for Agricultural Pesticides
 - State or regional guidelines for worker safety and health
 - Operator's Manual for this machine
- Numerous requirements must be met, including but not limited to EPA regulations
- Even while inside the cab, always wear long sleeves, long pants, shoes, and socks when applying chemicals, including pesticides
- If necessary to leave cab when chemicals, including pesticides, are present, always use personal protective equipment recommended by chemical manufacturer
- Before reentering cab, remove personal protective equipment used to handle chemicals, including

pesticides, and store equipment in accordance with EPA guidelines to prevent contaminating cab

OUC6092,0000B58-19-13JUL16

Clean Vehicle of Hazardous Chemicals, Including Pesticides



T6642EJ—UN—18OCT88

CAUTION: During application of hazardous chemicals, including pesticides, residue can build up on the inside or outside of the vehicle. Clean vehicle according to use instructions of hazardous chemical.

When exposed to hazardous chemicals, clean exterior and interior of vehicle daily to keep free of the accumulation of visible dirt and contamination.

1. Sweep or vacuum the floor of cab.
2. Clean headliners and inside cowlings of cab.

IMPORTANT: Directing pressurized water at electronic/electrical components or connectors, bearings and hydraulic seals, fuel injection pumps or other sensitive parts and components may cause product malfunctions. Reduce pressure, and spray at a 45 to 90 degree angle.

3. Wash entire exterior of vehicle.
4. Dispose of any wash water with hazardous concentrations of active or non-active ingredients according to published regulations or directives.

OUC6092,000081B-19-18JAN21

Non-Permissible Use

Pay attention to the following applications for which the machine is NOT SUITABLE:

Spreading of substances other than crop protection chemicals, dry fertilizers, and agriculture products.

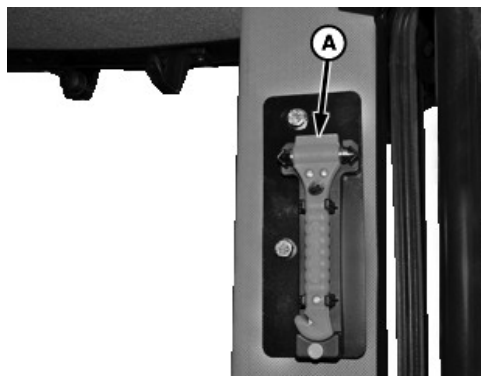
Use of the spreader box as a storage medium for

substances not intended for crop protection or fertilization purposes.

CAUTION: Working on an uncleaned machine poses unnecessary danger and is therefore forbidden.

OUC6092,0000B59-19-13JUL16

Emergency Exit



N93801—UN—15AUG11

A—Hammer

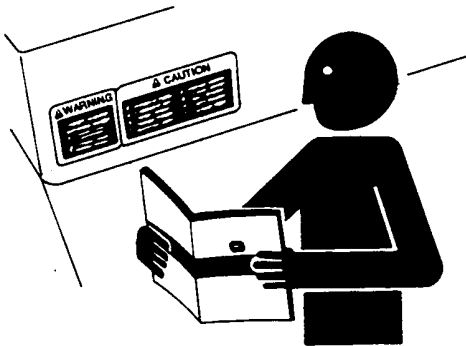
CAUTION: Cover eyes, face and uncovered skin from jagged or broken glass when using break glass hammer.

In an emergency, exit the cab through the entrance door when possible. In the event an exit cannot be achieved via the entrance door, a hammer (A) is fitted in the cab that can be used to break a window to use as an exit.

OUC6092,00007E8-19-30OCT12

Safety Signs Location

Replace Safety Signs



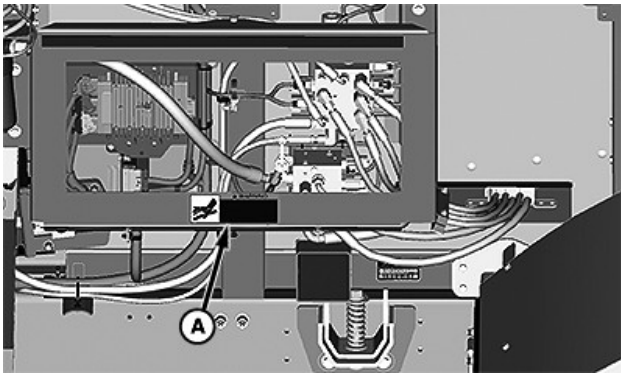
TS201—UN—15APR13

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

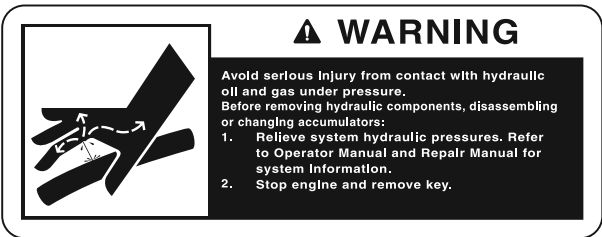
There can be additional safety information contained on parts and components sourced from suppliers that is not reproduced in this operator's manual.

OOU6092,0000B7A-19-12SEP16

Left-Hand Front Side Decal



N131415—UN—30JUN17

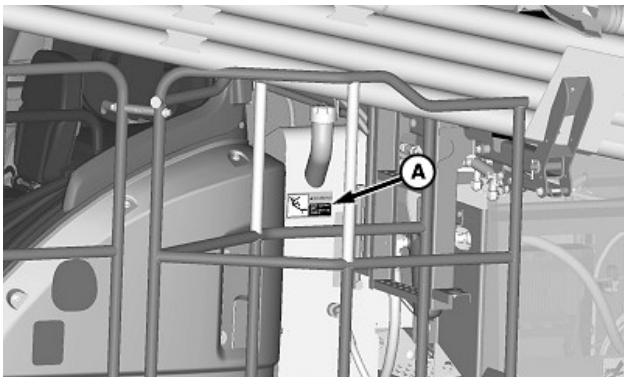


SSKK39389—19—13JUN17

Decal A

CS12167,0000A75-19-10JUL17

Reservoir Decal



N137061—UN—03MAY18

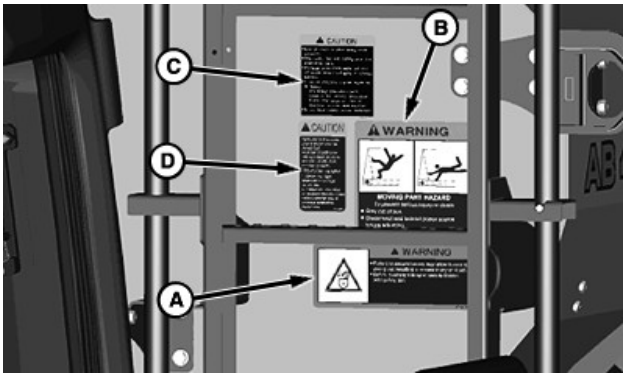


SSCC132151—19—05JUN14

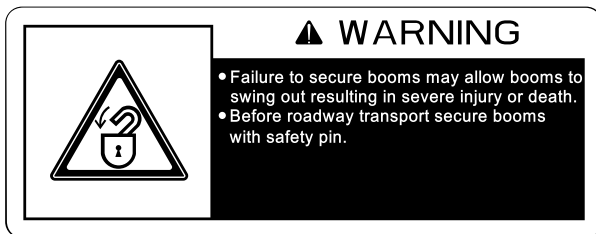
Decal A

BN55050,000020D-19-03MAY18

Left-Hand Front Corner Decals



N136482—UN—16MAR18



Decal A

SSKK44090—19—30JUN17



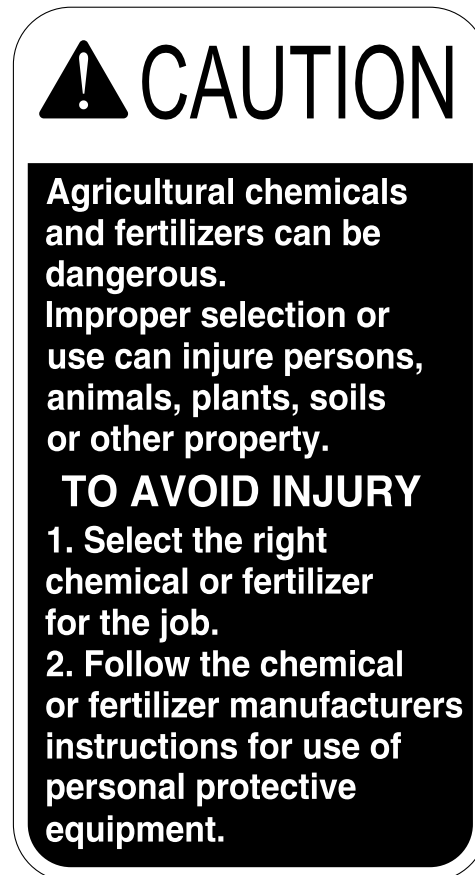
Decal B

SSKK43870—19—13JUL17



Decal C

SSHXE19558—19—08JUN10

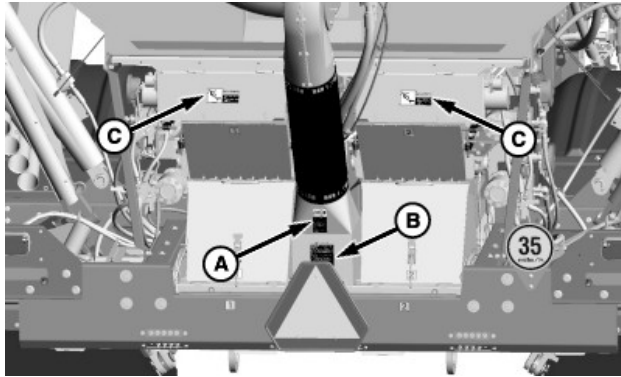


Decal D

SSKK44093—19—30JUN17

CS12167,0000A74-19-16MAR18

Rear Decals



N137283—UN—03MAY18

CAUTION

Agricultural chemicals and fertilizers can be dangerous. Improper selection or use can injure persons, animals, plants, soils or other property.

TO AVOID INJURY

- 1. Select the right chemical or fertilizer for the job.**
- 2. Follow the chemical or fertilizer manufacturers instructions for use of personal protective equipment.**

Decal A

SSKK44093—19—30JUN17

CAUTION

- Keep all shield in place during normal operations.
- 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.

Decal B

SSHXE19558—19—08JUN10

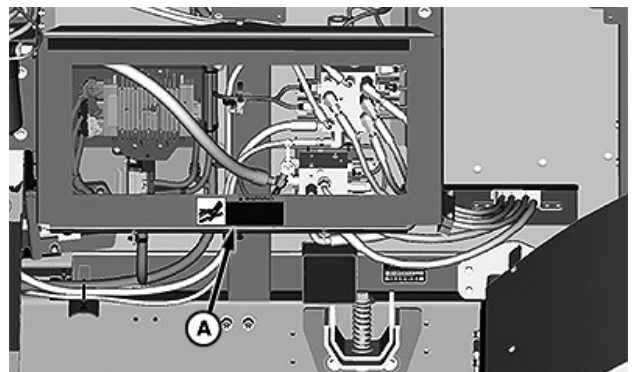


Decal C

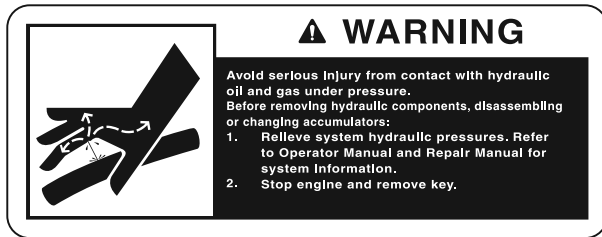
SSCC132151—19—05JUN14

CS12167,0000A78-19-03MAY18

Left-Hand Front Side Decal

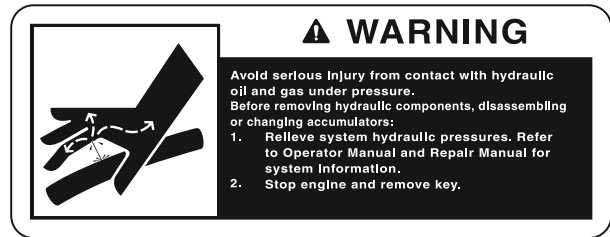


N131415—UN—30JUN17



Decal A SSKK39389—19—13JUN17

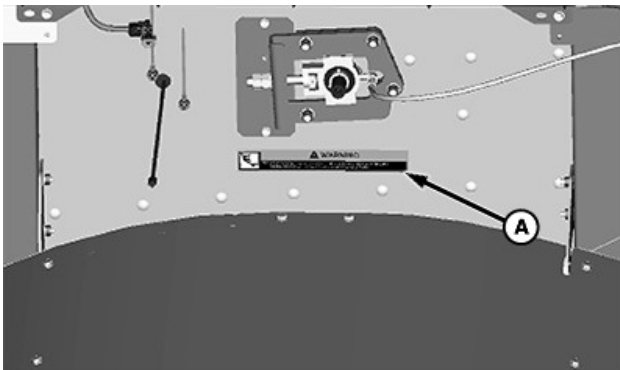
CS12167,0000A75-19-10JUL17



Decal A SSKK39389—19—13JUN17

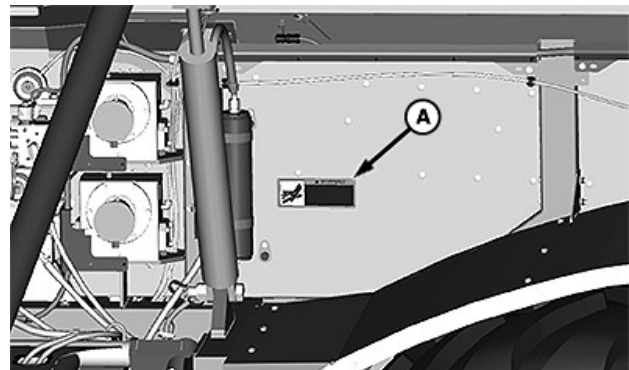
CS12167,0000A77-19-10JUL17

Left-Hand Side Decal



N131416—UN—30JUN17

Right-Hand Rear Decal

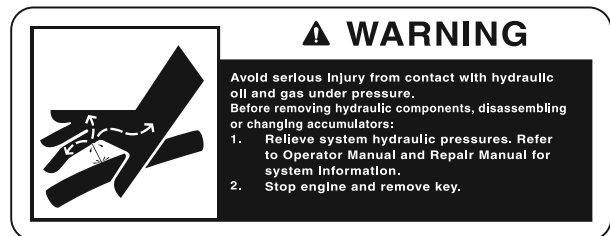


N131419—UN—30JUN17



Decal A SSKK43879—19—30JUN17

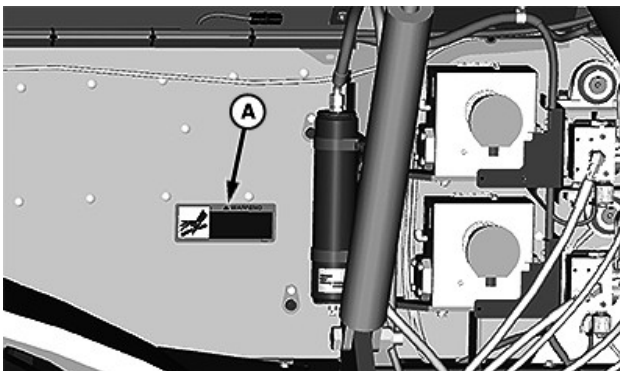
CS12167,0000A76-19-10JUL17



Decal A SSKK39389—19—13JUN17

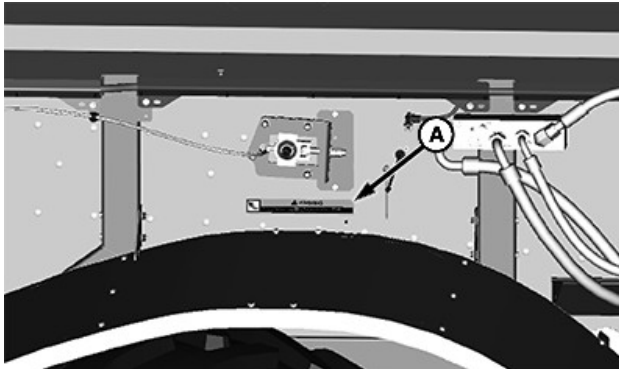
CS12167,0000A79-19-10JUL17

Left-Hand Rear Decal

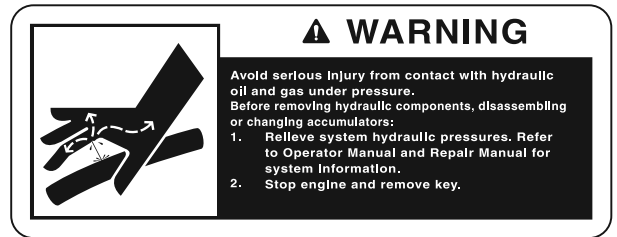


N131417—UN—30JUN17

Right-Hand Side Decal



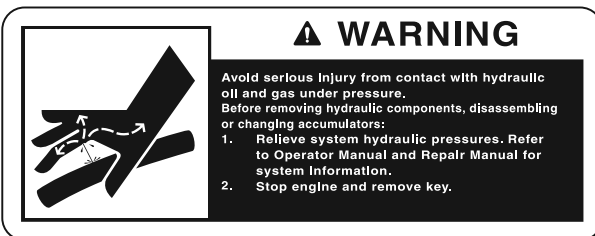
N131523—UN—30JUN17



SSKK39389—19—13JUN17

Decal A

CS12167,0000A7B-19-10JUL17

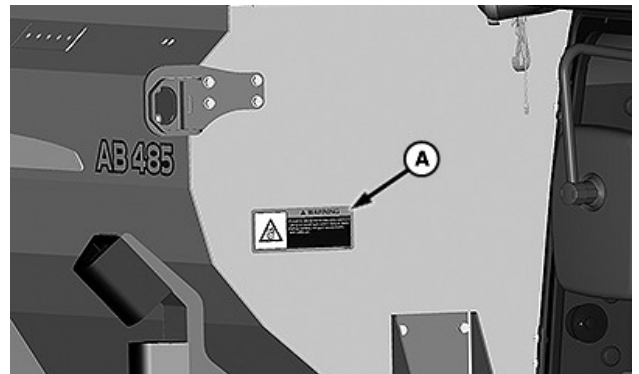


SSKK39389—19—13JUN17

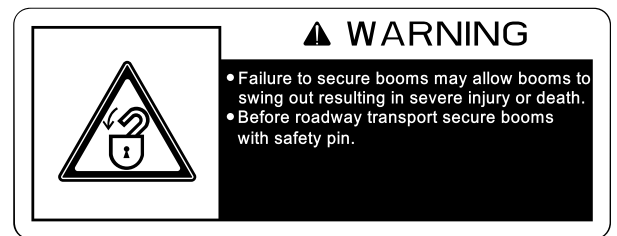
Decal A

CS12167,0000A7A-19-10JUL17

Right-Hand Front Corner Decal



N131421—UN—13JUL17

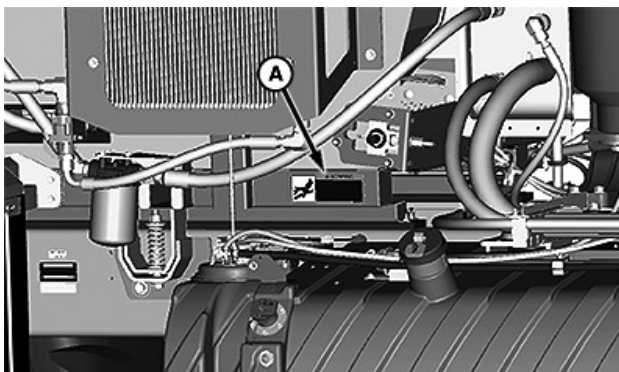


SSKK44090—19—30JUN17

Decal A

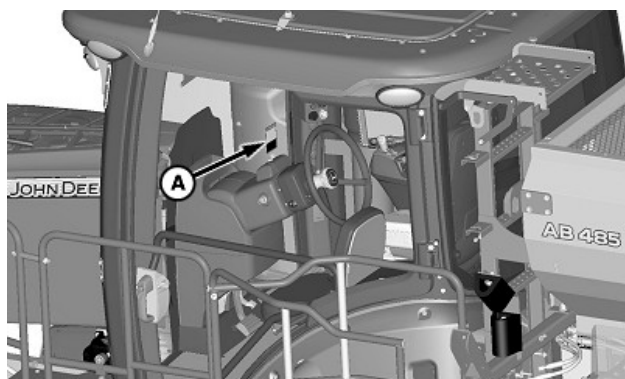
CS12167,0000A7C-19-10JUL17

Right-Hand Front Side Decal



N131420—UN—30JUN17

Cab Right-Hand Front Window Decal



N137284—UN—03MAY18



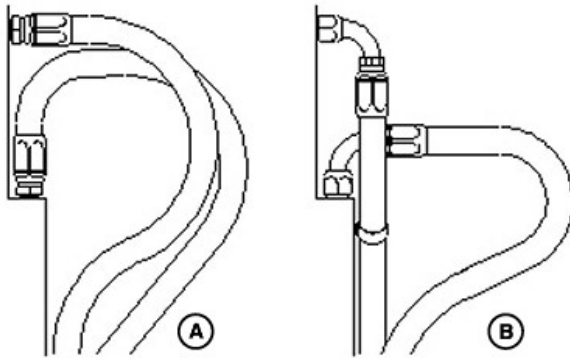
SSN204628—19—08JUL05

Decal A

BN55050,0000212-19-03MAY18

Installation Instructions

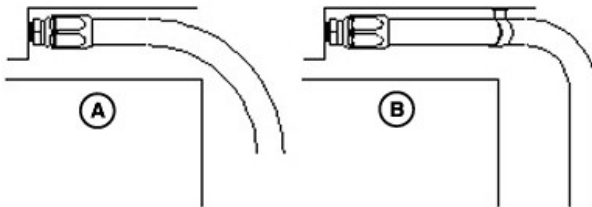
Hose Installation Guide



N97036—UN—27FEB12

A—Wrong
B—Right

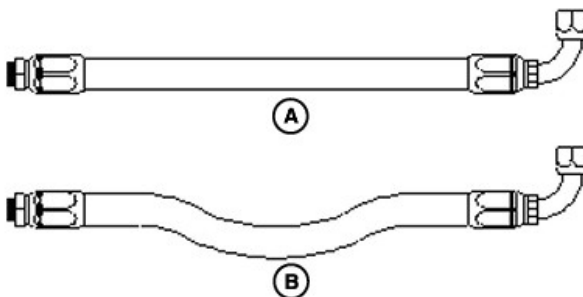
Use elbows and adapters in the installation to relieve strain on the assembly, and to provide easier and neater installations that are accessible for inspection and maintenance. Remember that metal end fittings cannot be considered as part of the flexible portion of the assembly.



N97037—UN—27FEB12

A—Wrong
B—Right

Install hose runs to avoid rubbing or abrasion. Clamps are often needed to support long runs of hose or to keep hose away from moving parts. It is important that the clamps be of the correct size. A clamp that is too large will allow the hose to move in the clamp causing abrasion at this point.

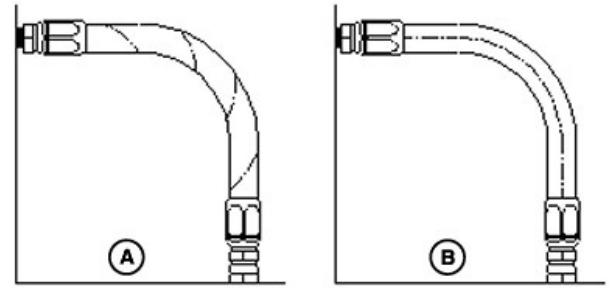


N97038—UN—27FEB12

A—Wrong
B—Right

In straight hose installations allow enough slack in the

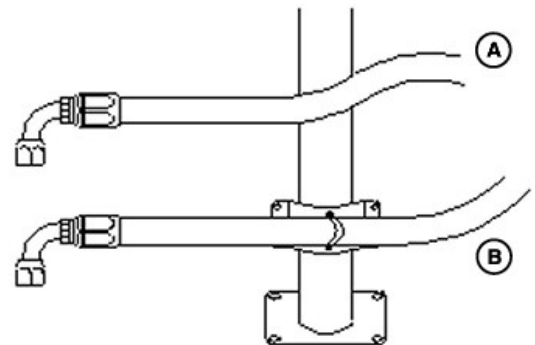
hose line to provide for changes in length that will occur when pressure is applied. This change in length can be from +2% to -4%.



N97039—UN—27FEB12

A—Wrong
B—Right

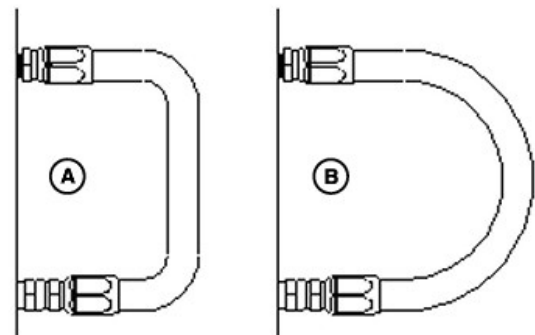
Do not twist hose during installation. This can be determined by the printed layline on the hose. Pressure applied to a twisted hose can cause hose failure or loosening of the connections.



N97040—UN—27FEB12

A—Wrong
B—Right

Keep hose away from hot parts. High ambient temperature will shorten hose life. If you cannot route it away from the heat source, insulate it.



N97041—UN—27FEB12

A—Wrong
B—Right

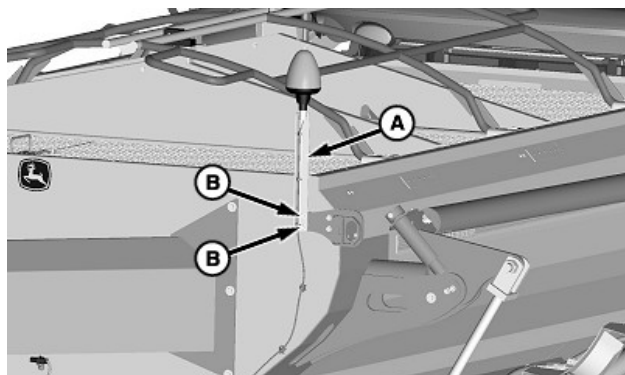
Keep the bend radius of the hose as large as possible to

avoid hose collapsing and restriction of flow. Follow catalog specs on minimum bend radius.

OUC6092,0000B7C-19-12SEP16

Install Beacon Light Kit—If Equipped

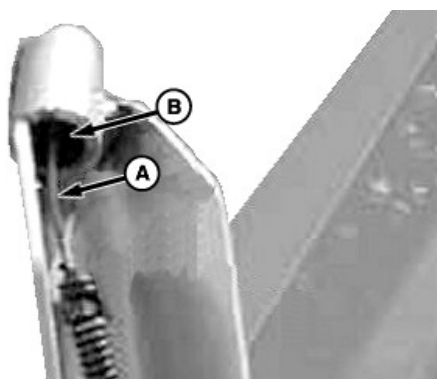
NOTE: Cabs not factory equipped with beacon light option do not have a beacon light switch. Contact your local John Deere dealer for the necessary parts.



N137062—UN—03MAY18

A—Beacon Light Bracket
B—Hardware

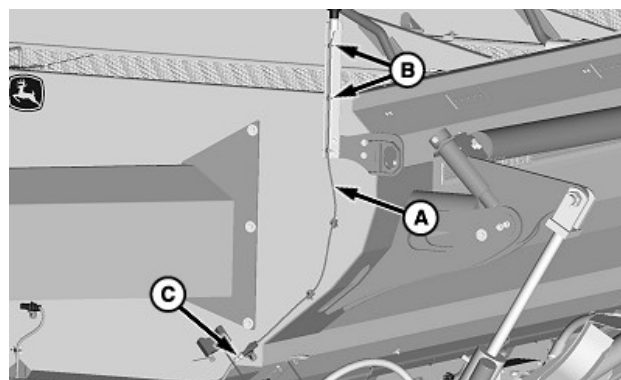
1. Install beacon light bracket (A) as shown with supplied hardware (B).



N103529—UN—26APR13

A—Electrical Wire
B—Connector

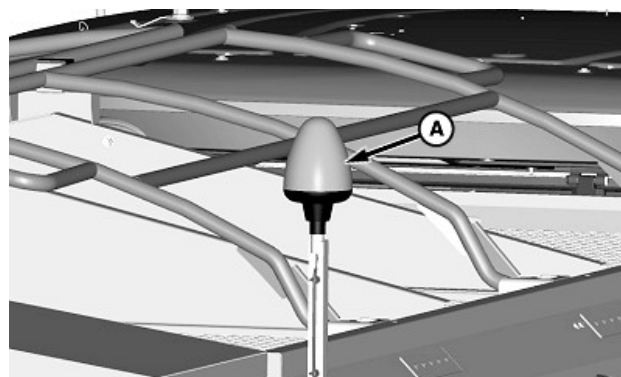
2. Thread electrical wire (A) through bottom of the hole on the bracket top.
3. Connect electrical wire to connector (B).



N137063—UN—03MAY18

A—Beacon Light Harness
B—Tie Bands
C—Machine Connector

4. Route beacon light harness (A) down the bracket and retain with tie bands (B).
5. Connect the beacon light harness to the machine connector (C).



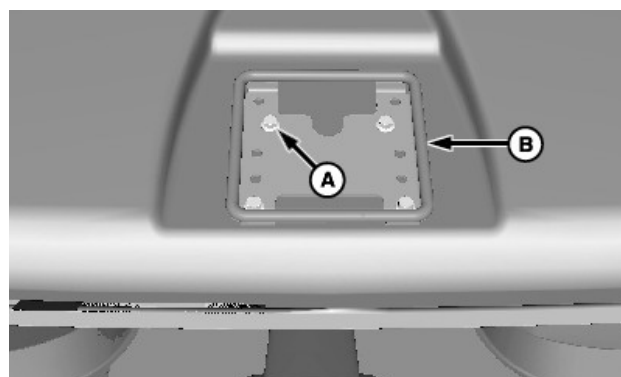
N131530—UN—28JUL17

A—Beacon Light

6. Attach beacon light (A) to connector at the bracket top and tighten wing screw.

OUC6092,0000B7D-19-02MAY18

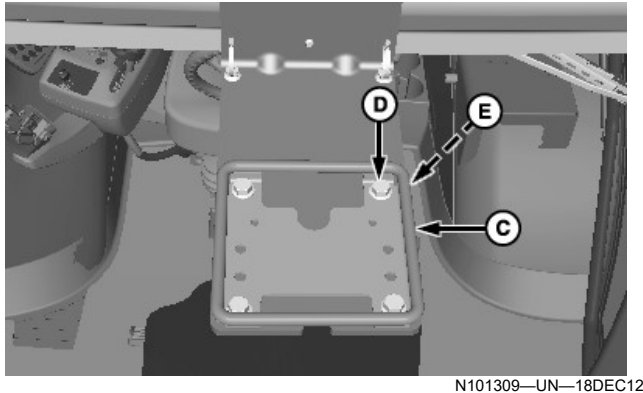
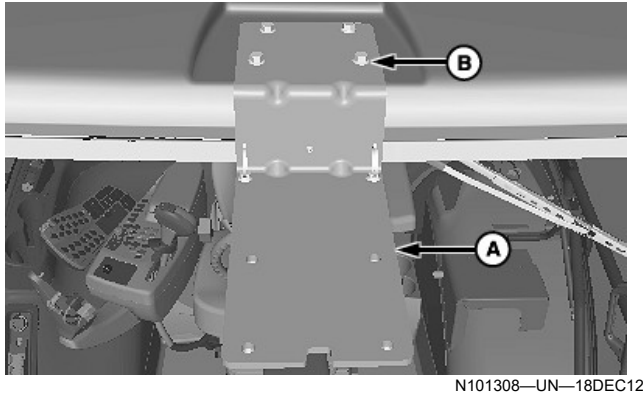
Install StarFire™ Receiver Bracket (EU Exports Only)



N101307—UN—18DEC12

A—Cap Screw (4 used)
B—StarFire™ Receiver Mounting Bracket

1. Remove and retain screws (A) from the StarFire™ Receiver bracket.
2. Remove and retain StarFire™ Receiver mounting bracket (B).

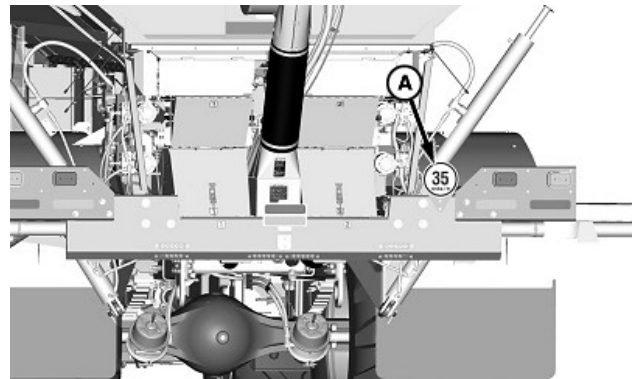


- A—EU Cab Mount Bracket**
B—Cap Screw (4 used)
C—Starfire™ Receiver Mounting Bracket
D—Cap Screw (4 used)
E—Nuts (4 used)

3. Install EU cab mount bracket (A) using previously removed cap screws (B).
4. Install previously removed StarFire™ Receiver mounting bracket (C) using supplied cap screws (D) and nuts (E).

OUC6092,0000B84-19-09APR18

Install Speed Limit Decal



A—Speed Limit Decal

Verify correct speed limit decal (A) is installed on machine.

- If your location is listed in the table provided, then the speed limit decal must be replaced with the correct decal.
- If your location is not shown, the correct decal is already installed.

Consult with local authorities to ensure that the correct decal is installed.

Country	F4365
Belarus	40 km/h
Czech Republic	40 km/h
Hungary	40 km/h
Kazakhstan	40 km/h
Romania	40 km/h
Russia	20 km/h
Ukraine	40 km/h

If the correct decal is not installed on machine, use the following procedure to install the correct decal.

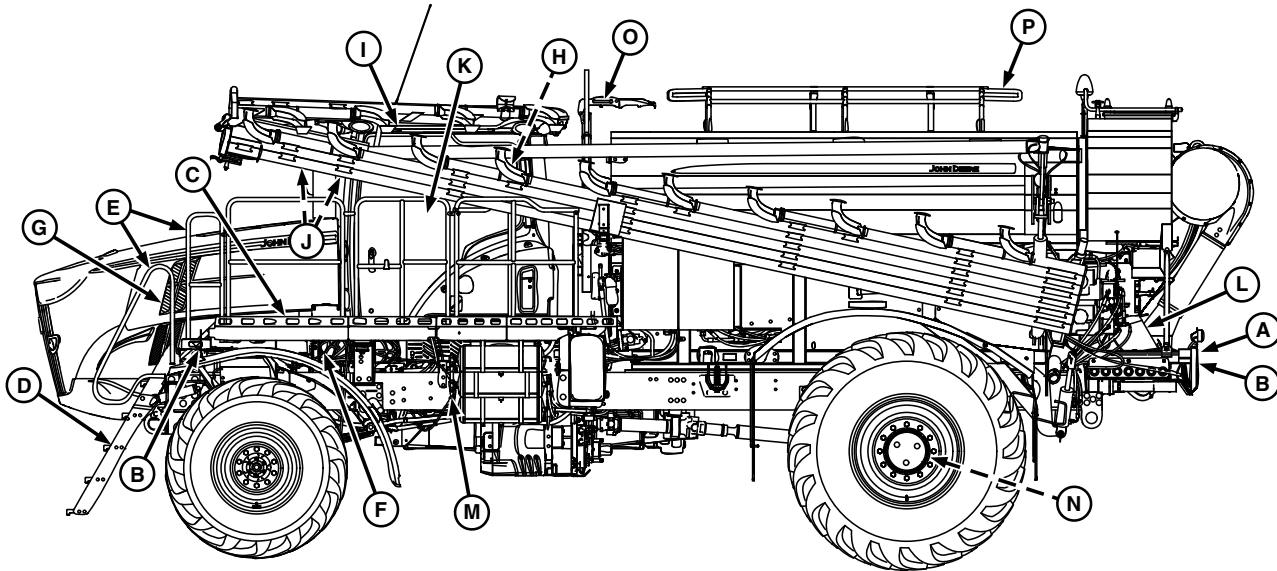
IMPORTANT: Ensure decal adhesion. Before applying decals, clean all dirt, grease, oil, and moisture from application area. Surface temperature greater than 15°C (60°F) provides for the best adhesion.

1. Use image and table in this section to identify and locate correct decal placement.
2. Remove paper backing from decal.
3. Press one edge of decal on application area.
4. Smooth out air pockets while slowly pressing across the decal to the opposite edge. Verify complete decal adhesion.

OUC6092,0000B85-19-11JUL17

Safety Features

Safety Features



N137277—UN—07MAY18

- A—SMV EMBLEM**—Alerts following traffic of your presence on roads.
- B—FRONT AND REAR HAZARD LIGHTS**—Alert oncoming and following traffic of your presence on roads.
- C—SLIP RESISTANT SURFACES**—Help prevent slippage when walking on platform.
- D—INDENTED STEPS AND PLATFORMS**—Help prevent slipping when on platform or ladders, also diminishes dirt and mud buildup.
- E—HAND RAILS**—Give support when climbing onto machine or walking on platforms.
- F—STARTER SOLENOID SHIELDING**—For bypass start prevention.
- G—FAN GUARDING**—Provides protection from the engine fan.
- H—EMERGENCY EXIT**—Allows exit from the right-hand side of cab, if necessary.

- I—SPRAYER STYLE CAB WITH SEAT BELT**—For operator comfort and safety.
- J—WINDSHIELD WIPERS AND LARGE REARVIEW MIRRORS**—For clear view of surroundings.
- K—AUTOMATIC PARK BRAKE**—Prevents unintended machine movement. Automatically engages when machine stops and the speed control lever is moved to neutral.
- L—CONVEYOR SHIELD**—Provides protection from the conveyor chain and MultApplier motor.
- M—BATTERY DISCONNECT**—Ability to shut off all electrical power to machine.
- N—AIR BRAKES**—Engaged when power zero is maintained for 5 seconds.
- O—LADDER**—Allows access to the top of the product bins for maintenance.
- P—MAINTENANCE HANDRAILS**—Helps prevent slipping and falling off the product bins during maintenance.

NOTE: Right-hand side emergency exit (H) is available using the glass hammer on left-hand rear cab post.

In addition to the safety features described here, other components and systems, safety signs on the machine, safety messages in the Operator's Manual and elsewhere, as well as the care and concern of a capable operator, contribute to the safety of operators and others nearby.

OUC6092,0000B87-19-14MAY18

Dry Application System

Access Dry Application System

Access Application Through Display:



Menu

H113668—UN—22OCT15

1. Menu



Machine Settings

N119118—UN—23SEP16

2. Machine Settings tab



Dry Application System

N119606—UN—16FEB16

3. Dry Application System

Access Application Through Navigation Bar:



Dry Application System

N119604—UN—03NOV16

Press Dry Application System button on navigation bar below display.

BN55050,0000211-19-09FEB21

NOTE: Underscored text identifies that additional information is available within this section or another section of this publication.

Main page shown is for example only. Your main page may differ depending on options or connected equipment.

Number of bins available is determined by machine type and your input using the Machine Profile application. (See Machine Profile in the display Operator's Manual for more information.)

Dry Application System application is used to configure the dry spreader to ensure the proper application of fertilizer or chemicals.

Use When:

- Changing application rates.
- Changing the product being applied.
- Operating the roll tarp and conveyor priming.
- Performing the Conveyor Feed Rate (CFR) calibration.

Items Accessible on Dry Application System Main Page:



Product Management

N119607—UN—16FEB16

Product Management—product bin number and product selected.



Target Rate

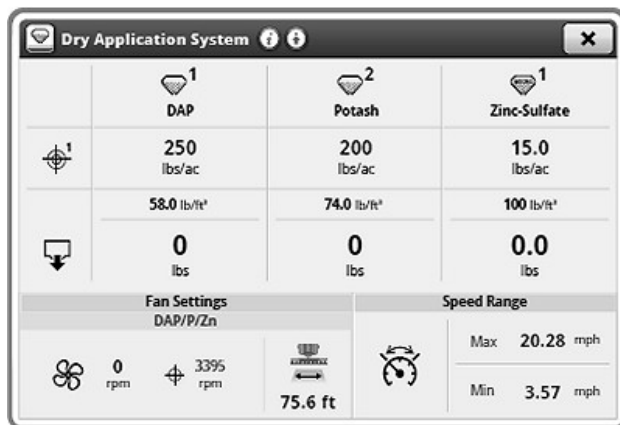
N119608—UN—16FEB16



Manual Mode

N120900—UN—16FEB16

Dry Application Main Page



N136486—UN—21MAR18

Dry Application System

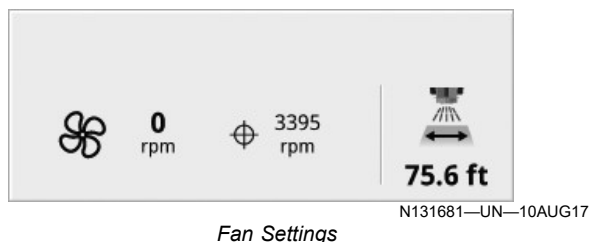
Target Rate—current application rate, conveyor speed when in manual mode, or metering roller speed for the micronutrient bin.



Bin Details

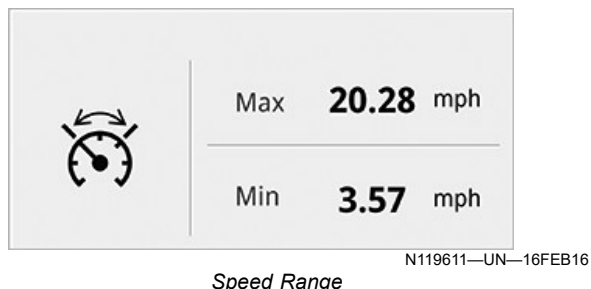
N119609—UN—16FEB16

Bin Details—product density and amount of product that has been applied. Allows access to bin setup and the operation of conveyor priming.



Fan Settings

Fan Settings—fan target, actual speed, and spread width.



Speed Range

Speed Range—minimum and maximum speeds at which the desired rate can be achieved.



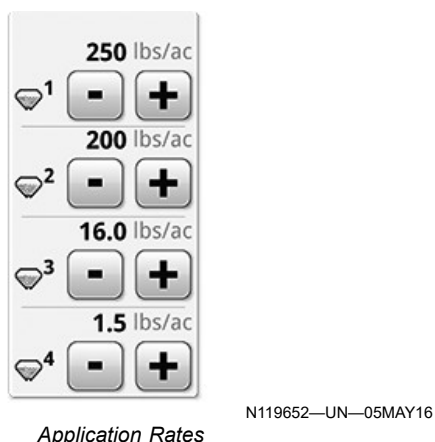
Advanced Settings

Advanced Settings—access further adjustments and less common settings.

Run Page Modules

Modules for this application can be added to run pages using [Layout Manager](#). (See Layout Manager in the display Operator's Manual for more information.)

Example:



Application Rates

Application Rates—view target rate and adjust rate as desired.

NOTE: Different modules can be available for your application.

Shortcut Keys



Spreader

N119659—UN—16FEB16

Shortcut keys for this application can be added to the shortcut bar using [Layout Manager](#). (See Layout Manager in the display Operator's Manual for more information.)

Example:

Spreader Status—status of spreader and quick access to the Dry Application System application.

NOTE: Different shortcut keys can be available for your application.

CS12167,0000A8D-19-08MAY18

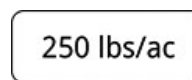
Edit Rate Presets

Edit the desired application rate for each product bin for each rate preset. Rate presets must be adjusted to apply the correct amount of product.

Modify When:

- Changing application rates.
- Changing products being applied.

Items Accessible on Edit Rate Presets Page:



Rate

N119612—UN—16FEB16

Rate—application rate.



Prescription

N120899—UN—16FEB16

NOTE: Prescriptions must be created externally and then loaded to the machine before they can be accessed for rate control.

Prescription—opens Work Setup application. Allows for selection of prescription if one is loaded to the machine.

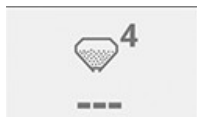


Advanced Settings

N118004—UN—22OCT15

Advanced Settings—access further adjustments and less common settings.

Procedure to Modify:



Product Bin

N119613—UN—16FEB16

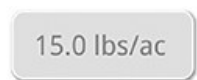
NOTE: Product bins not selected for application are displayed in gray.



Manganese

N119614—UN—16FEB16

NOTE: Product bins selected, but disabled, are displayed with conveyor disabled. Application rates can be edited for a disabled product bin.



Edit Rate Presets

N121510—UN—16FEB16

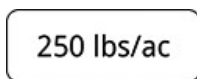
NOTE: When prescriptions are loaded in Work Setup for a given product, the rate mode input fields are disabled. This shows that the prescription is handling all of the rate adjustments for that bin and product.



Target Rate

N119608—UN—16FEB16

1. Select Target Rate.



Edit Rate Presets

N119612—UN—16FEB16

2. Select input box.

3. Enter desired application rate using keypad.



OK

N118151—UN—16FEB16

4. Select OK to save value.

5. Repeat as necessary for remaining product bins.

BN55050,0000210-19-02MAY18

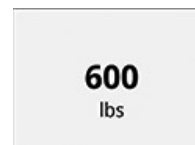
Bin Details

Bin Details allow you to set up bin controls, operate the roll tarp, oil chain, purge the bin, and prime the conveyor. Bins must be set up properly to achieve the selected target rate.

Modify When:

- Changing product.
- Changing the feed gate opening.
- Enabling or disabling a bin.
- Priming the conveyor.
- Purging a bin.
- Operating bin covers.

Items Accessible on Bin Details Page:



Bin Counter

N119615—UN—17FEB16

Bin Counter—amount of product applied from bin since last reset.



Bin Counter Reset

N119116—UN—17FEB16

Bin Counter Reset—sets the bin counter to zero.



Prime Controls

N119619—UN—16FEB16

Prime Controls—loads the conveyor with product.



Roll Tarp

N119622—UN—16FEB16

Roll Tarp—operates the roll tarp on bins 1 and 2.



Bin Purge

N119625—UN—16FEB16

Bin Purge—empties product from bin using the conveyor or feed meters.



Active Bin

N119117—UN—17FEB16

Active Bin—edit settings for selected bin only.



Active Bin

N131682—UN—10AUG17

Active Bin (Fan)—edit settings for selected bin only.

NOTE: Number of bins available is determined by machine type and your input using the *Machine Profile* application. (See *Machine Profile* in the display *Operator's Manual* for more information.)



Bin Indicator

N120257—UN—16FEB16

Bin Indicator—current bin selected.



Product Bin

N120258—UN—16FEB16

Product Bin—current application product.

24 rpm

Conveyor Speed

N120902—UN—16FEB16

Conveyor Speed—current conveyor speed.



ON/OFF

N118056—UN—17FEB16

Toggle Button—enable or disable selected bin.



Operation Type

N119618—UN—16FEB16

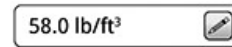
Operation Type—operation being performed. Operations include product application and seeding.



Bin Chaining

N119620—UN—16FEB16

Bin Chaining—bin chaining configuration.



Product Density

N119621—UN—16FEB16

Product Density—density of the product being applied.



Conveyor Feed Rate

N119623—UN—16FEB16

Conveyor Feed Rate (CFR) Value—CFR value determined through calibration.



CFR Calibration

N119624—UN—16FEB16

CFR Calibration—begins calibration procedure.



Feed Gate Opening

N119626—UN—16FEB16

Feed Gate Opening—current feed gate opening.



Bin Alarms

N119628—UN—12MAY16

Bin Alarms—alarm settings and levels.



Advanced Settings

N118004—UN—22OCT15

Advanced Settings—access further adjustments and less common settings.

CS12167,0000A8E-19-02MAY18

Bin Counter Reset

This process resets the bin counter(s) to zero.

Reset Only the Selected Bin When:

- Only the selected bin has been refilled with product.

Reset All Bins When:

- All bins have been refilled with product at the same time.

VM03385,0000036-19-27JAN17

Prime Controls

Prime Controls allow you to load the conveyor with the product while stationary. Loading the conveyor before application reduces the time necessary to achieve the desired target rate.

Perform When:

- Product bin has been emptied.

Items Accessible on Prime Controls Page:



Fan Speed

N131683—UN—10AUG17

Fan Speed (If Equipped)—current fan speed.



Hydraulics Enabled

N120903—UN—16FEB16

Hydraulic System State—current state of the spreader hydraulic system.



Bin Information

N120905—UN—16FEB16

Bin Information—bin number and the current product selected.



Prime

N119631—UN—16FEB16

Prime—begins the priming procedure.

0 rpm

Conveyor Speed

N120907—UN—16FEB16

Conveyor Speed—current conveyor speed.



Advanced Settings

N118004—UN—22OCT15

Advanced Settings—access further adjustments and less common settings.

Procedure to Perform:



Bin Details

N119609—UN—16FEB16

1. Select Bin Details.



Prime Controls

N119619—UN—16FEB16

2. Select Prime Controls.

CAUTION: Conveyor begins movement on press of the button. Product discharge can occur if the hydraulics are still enabled. Product cannot be completely shielded due to application. Keep away from the application system while it is engaged.



Hydraulic Enable

N122773—UN—12MAY16

3. Enable the spreader hydraulic system. Press the Hydraulic Enable switch on CommandARM™.



Conveyor Prime

N119631—UN—16FEB16

4. Select for the desired product bin.



Progress Indicator

N118091—UN—16FEB16

NOTE: Progress indicator and the conveyor speed are displayed when priming is in process.



Conveyor Prime

N119631—UN—16FEB16

NOTE: Conveyor prime button is displayed when the procedure is complete.



Close

N118396—UN—17FEB16

5. Select to return to the previous page.

CS12167,0000A90-19-26MAR18

Bin Chaining

Bin Chaining allows you to switch manually or automatically from one bin to another during application. The same product must be selected for each bin before bin chaining can be enabled. Operating bin chaining properly minimizes skips in application when switching between bins.

Modify When:

- Applying a single product with a dual bin applicator.
- Switching between manual and automatic chaining.

Select Automatic Bin Chaining:

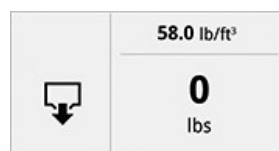
- For most application operations.

Select Manual Bin Chaining:

NOTE: You must ensure that proper coverage is achieved when operating in manual mode.

- Product levels are below the low-level sensor in bin.

Procedure to Modify:



Bin Details

N119609—UN—16FEB16

1. Select Bin Details.



Bin Chaining Mode

N119620—UN—16FEB16

2. Select to choose bin chaining mode.

NOTE: Bin 1 is the front bin and bin 2 is the rear bin. Bin chaining is not available for micronutrient bins.

3. Select desired bin chaining mode:



OFF

N119632—UN—16FEB16

- OFF—bin chaining not active.



Automatic Bin 1 to Bin 2

N119633—UN—16FEB16

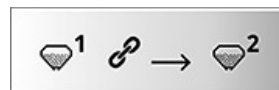
- Automatic Bin 1 to Bin 2—bin 1 empties first, then automatically switches to bin 2.



Automatic Bin 2 to Bin 1

N119634—UN—17FEB16

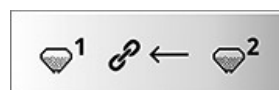
- Automatic Bin 2 to Bin 1—bin 2 empties first, then automatically switches to bin 1.



Manual Bin 1 to Bin 2

N119635—UN—17FEB16

- Manual Bin 1 to Bin 2—bin 1 empties first, then select bin 2 to continue application.



Manual Bin 2 to Bin 1

N119636—UN—16FEB16

- Manual Bin 2 to Bin 1—bin 2 empties first, then select bin 1 to continue application.

Procedure to Operate:

Automatic Mode

1. Apply product from the first bin in sequence.

NOTE: Spreading automatically switches to the next bin in the sequence when the first bin sensor shows that the bin is empty. Product can remain in the first bin below the bin empty sensor. Disable bin chaining or select manual mode to empty the bin.

2. Spread product from the next bin.



Hydraulic Enable

N122773—UN—12MAY16

If the Hydraulic Enable switch is cycled OFF/ON, or the key is cycled OFF/ON with bin chaining enabled, the following occurs:

- First bin in chaining sequence is selected for spreading.
- Bin chaining will switch to the next bin if the first bin sensor reads empty.

Manual Mode

1. Spread product from the first bin in sequence.



Bin Chain

N119637—UN—16FEB16

NOTE: You can change between bins at any time when in manual mode.

2. Select to change the bin in use.



Hydraulic Enable

N122773—UN—12MAY16

If the Hydraulic Enable switch is cycled OFF/ON, or the key is cycled OFF/ON with bin chaining enabled, the following occurs:

- First bin in chaining sequence is selected for spreading.



Bin Chain

N119637—UN—16FEB16

- Bin chaining will switch to the next bin when Bin Chain button is selected.

BN55050,000010A-19-09APR18

Bin Covers

Bin Covers application opens and closes the roll tarp on bins 1 and 2 and the lids on micronutrient bins (if equipped). Covering the product bins prevents product from getting wet or blowing out during transport or field operation.

Operate Bin Covers When:

- Loading product bins.
- Transporting.
- Operating in the field.
- Precipitation is falling.

Items Accessible on Bin Covers Page:



Roll Tarp Open

N119638—UN—18FEB16

Roll Tarp Open—retracts the roll tarp, allows access to bin.



Roll Tarp Closed

N119653—UN—16FEB16

Roll Tarp Closed—closes the roll tarp, covers the bin.



Advanced Settings

N118004—UN—22OCT15

Advanced Settings—access further adjustments and less common settings.

Operating Procedure:



Bin Details

N119609—UN—16FEB16

1. Select Bin Details.



Roll Tarp

N119622—UN—16FEB16

2. Select Roll Tarp.



Bin Covers

N119629—UN—16FEB16

3. Select Bin Covers (if equipped).



Timer Indicator

N120908—UN—16FEB16

NOTE: A timer indicator is displayed on the selected button when function is in process.

4. Select and hold desired bin cover function button.
5. Visually verify that the desired bin cover function is completed.
6. Release button.



Close

N118396—UN—17FEB16

7. Select to return to the previous screen.

BN55050,000020E-19-14MAY18

Bin Purge

Bin Purge allows material to be emptied from bin while the machine is stationary.

Perform When:

- Cleaning out at the end of the season.
- Cleaning out before a new job.
- Emptying bin for service.

Items Accessible on Bin Purge Page:



Bin Purge

N119640—UN—17FEB16

Bin Purge— empties the selected bin using conveyor belt.



Fan ON/OFF

N118056—UN—17FEB16

Fan (If Equipped) ON/OFF— engage or disengage fan during bin purging.

Micronutrient Bin Items—If Equipped



Purge Meter Roller

N119641—UN—17FEB16

Purge Meter Roller— empties the micronutrient bin through feed rolls.

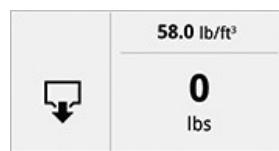


Advanced Settings

N118004—UN—22OCT15

Advanced Settings— access further adjustments and less common settings.

Bin Purge Fan Procedure:



Bin Details

N119609—UN—16FEB16

1. Select Bin Details.

CAUTION: The conveyor begins movement on button press. Product discharge may occur if the fan is still enabled.



Bin Purge

N119625—UN—16FEB16

2. Select Bin Purge.



ON/OFF

N118056—UN—17FEB16

3. Engage fan if desired.
4. Select desired purge function.



Progress Indicator

N118091—UN—16FEB16

NOTE: Progress indicator is displayed while function is in progress.



Bin Purge

N119640—UN—17FEB16

5. Select purge function to end the procedure.



Close

N118396—UN—17FEB16

6. Select to return to the previous screen.

CS12167,0000A8F-19-10FEB21



ON/OFF

N118056—UN—17FEB16

Bin Low-Level Alarm—alerts you of low product level in the bin. Each installed bin has a low-level sensor.



Target Rate Alarm

N119643—UN—02NOV16

Target Rate Alarm—deviation allowed from target rate.



Product Density Alarm

N119643—UN—02NOV16

Product Density Alarm—deviation allowed.



Advanced Settings

N118004—UN—22OCT15

Advanced Settings—access further adjustments and less common settings.

VM03385,000003C-19-27JAN17

Bin and Product Alarms

Bin and Product Alarms adjust and enable all alarms for each product bin. Alarms inform the operator of deviations that negatively affect application accuracy.

Modify When:

- Enabling or disabling bin low-level alarm.
- Adjusting deviation allowed for target rate and product density.

Items Accessible on Bin and Product Alarms Page:



Bin Selector

N119117—UN—17FEB16

Bin Selector—select bin to adjust on toggle bar.

NOTE: Number of bins available is determined by machine type and your input using the Machine Profile application. (See Machine Profile in the display Operator's Manual for more information.)

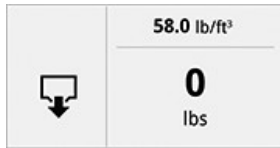
Target Rate Alarm

Target Rate Alarm informs you when the applied rate is at or above the set deviation from the target application rate for six continuous seconds. Machine or display settings may require adjustment if the target rate cannot be maintained.

Target Rate Alarm Characteristics:

- Default level is 15 percent.
- If deviation percentage is too small, alarm will sound frequently. In this case, the machine may not be able to maintain rate within deviation due to field conditions and product characteristics.
- If deviation percentage is too large, alarm will not sound often enough. In this case, application may not be even and desired results are not achieved.

Procedure to Modify:



Bin Details

N119609—UN—16FEB16

1. Select Bin Details.



Bin Alarms

N119628—UN—12MAY16

2. Select Bin Alarms.



Target Rate Alarm

N119643—UN—02NOV16

3. Select to edit.

4. Enter desired value using keypad.



OK

N118151—UN—16FEB16

5. Select to confirm.

VM03385,000003D-19-27JAN17

Product Density Alarm

Product Density Alarm informs you when the difference between the density of the selected product and the density of the product used during the Conveyor Feed Rate (CFR) calibration is at, or above, the set deviation.

Product Density Alarm Characteristics:

- Default percentage is 15 percent.
- If deviation percentage is too small, alarm indicates that the calibration is needed too often. Excessive calibration reduces application time.
- If deviation percentage is too large, alarm does not indicate that the calibration is necessary soon enough. Application rates will not be accurate.

Procedure to Modify:



Bin Details

N119609—UN—16FEB16

1. Select Bin Details.



Bin Alarms

N119628—UN—12MAY16

2. Select Bin Alarms.



Product Density Alarm

N119643—UN—02NOV16

3. Select to edit.

4. Enter desired value using keypad.



OK

N118151—UN—16FEB16

5. Select to confirm.

VM03385,000003E-19-27JAN17

Select Fan Preset

Select Fan Preset allows selection of the fan settings used for the application. You can also create a preset or edit an existing preset.

Modify When:

- Changing application products.
- Adding a product or mix.

Items Accessible on Select Fan Preset Page:



Edit

N119644—UN—17FEB16

Edit—modify existing settings for a preset.



Add Preset

N119645—UN—17FEB16

Add Preset—create a preset.



Cancel

N118394—UN—17FEB16

Cancel—return to previous page. No changes are saved.

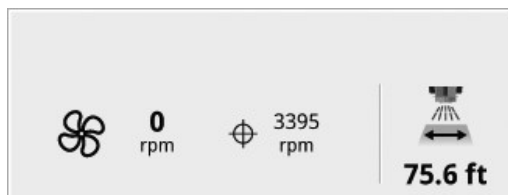


OK

N118151—UN—16FEB16

OK—saves selection change.

Procedure to Select Fan Preset:



Fan Settings

N131681—UN—10AUG17

1. Select Fan Settings.



Fan Preset

N121511—UN—18FEB16

2. Select desired Fan Preset.



Add Preset

N119645—UN—17FEB16

3. Select to add a new preset.



Edit

N119644—UN—17FEB16

4. Select to edit selected preset if desired.



OK

N118151—UN—16FEB16

5. Select to confirm selected preset.



Cancel

N118394—UN—17FEB16

6. Select to return to previous screen and use previous preset.

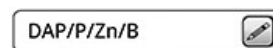
CS12167,0000A91-19-02MAY18

blend. Fan settings must be correct to ensure proper application pattern and coverage.

Modify When:

- Changing application product or mix.
- Desired spread width is not achieved.
- Adding a new preset.

Items Accessible on Edit Fan Preset Page:



Product Name

N119646—UN—17FEB16

Name—product or product mix name.



Fan Target Speed

N119647—UN—17FEB16

Fan Target Speed—desired fan speed.



Spread Width

N119648—UN—16FEB16

Spread Width—spread width achieved during the spread pattern test.

NOTE: See the spreader Operator's Manual for instructions to perform spread pattern test.



Fan Frame Settings

N119649—UN—16FEB16

Fan Frame Settings—fan frame setting used for the application.

NOTE: Fan Frame Setting must be changed outside the cab. Entering the value here only informs the control unit of the setting in use.



Delete

N119650—UN—16FEB16

Delete—remove preset from control unit memory.



Cancel

N118394—UN—17FEB16

Cancel—return to previous page, all changes are discarded.

Edit Fan Preset

Edit Fan Preset configures the fan target speed, spread width, and fan frame setting for the selected product



Save

N118093—UN—16FEB16

Save—saves all changes and returns to the previous page.

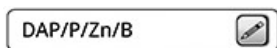


Advanced Settings

N118004—UN—22OCT15

Advanced Settings—access further adjustments and less common settings.

Procedure to Modify or Add New:



Name

N119646—UN—17FEB16

1. Enter preset name.



OK

N118151—UN—16FEB16

2. Select to confirm.



Fan Target Speed

N119647—UN—17FEB16

3. Enter the Fan Target Speed.



OK

N118151—UN—16FEB16

4. Select to confirm.



Spread Width

N119648—UN—16FEB16

5. Enter the Spread Width achieved during the spread pattern test.



OK

N118151—UN—16FEB16

6. Select to confirm.



Fan Frame Setting

N119649—UN—16FEB16

7. Enter Fan Frame Setting.



OK

N118151—UN—16FEB16

8. Select to confirm.



Save

N118093—UN—16FEB16

9. Select to save changes.



Cancel

N118394—UN—17FEB16

10. Select to return to the previous page; all changes are discarded.

CS12167,0000A92-19-02MAY18

Advanced Settings

Advanced Settings accesses further adjustments and less common settings.

Select Global Positioning System (GPS) When:

- Wheel slip is likely to occur.
- Performing normal operations.

Select Wheel Speed When:

- GPS signal is degraded.
- GPS not installed.
- Wheel slip is not likely to occur.

Items Accessible on Advanced Settings Page:



Rate Control/Display Speed

N119651—UN—16FEB16

Rate Control/Display Speed—select to choose the appropriate speed source for the rate control unit.

VM03385,0000041-19-27JAN17

Calibrations

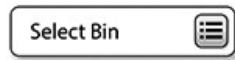
Conveyor Feed Rate Calibration

Adjusts the Conveyor Feed Rate (CFR) by dispensing product into a container without moving the machine and entering the amount collected.

Perform Calibration When:

- The feed gate opening has changed.
- There is a significant change in product density.
- The CFR is unknown.
- Conveyor control valve type has been changed.
- Conveyor has been replaced.
- Conveyor Hydraulic Circuit has been opened.
- Applied rate does not match target rate.

Items Accessible on the Conveyor Feed Rate Calibration Page:



Select Bin

N120156—UN—23FEB16

Select Bin—select the desired bin for use during calibration.

NOTE: Bins are grayed out when disabled.



Begin Calibration

N120226—UN—23FEB16

Begin Calibration—begins the calibration procedure. Not available until the product bin is selected.

Details Displayed on Page:

Last Calibration	Date and Time
Recommended Interval	As Needed
Estimated Time Required	Varies



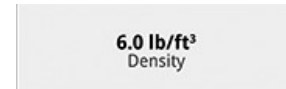
Product In Use

N120157—UN—23FEB16

Readings Displayed on Page:

NOTE: Readings are only displayed after the desired bin is selected.

Bin Selected—current bin selected and the product entered for that bin.



Density

N120158—UN—23FEB16

Density—previously entered value for the selected bin and product.



Conveyor Feed Rate

N120159—UN—23FEB16

Conveyor Feed Rate—previously entered value for the selected bin and product.

BN55050,000020F-19-03MAY18

Conveyor Feed Rate Calibration Procedure Procedure Requirements:

Engine State	Running at 1800 rpm minimum
Wheel Speed	Parked
Product Quantity Used per Test	Bins 1 and 2—362.8 kg (800 lb) Bins 3 and 4—11.34 kg (25 lb)
Select Product Bin	Loaded with product to be applied
Catch Container	Large enough to catch the amount of product to be dispensed

NOTE: Calibration procedure requires the ability to capture the product dispensed from the spreader conveyor with the fan off.

It is important to measure the actual product depth dispensed on the conveyor. Enter measured value as the Feed Gate Opening for accurate calibration and application.

Use the following table when prompted to input expected Conveyor Feed Rate (CFR) value.

Expected CFR Values			
CFR (metric)	CFR (English)	Conveyor Type	Bin Number
3344	0.30	Chain Conveyor	1
3344	0.30	Chain Conveyor	2
493	0.0442	Yellow Meter Roller	3
221	0.0198	Red Meter Roller	3
67	0.006	Black Meter Roller	3

IMPORTANT: Prior to performing CFR Calibration, ensure that product is dispensing all the way to the product funnels. This is critical for the front bin (Bin 1) if a second product bin is installed, because if it is not dispensing all the way, the belt runs for a period of time with no product on it. This results in a false calibration value.

Procedure Overview



Begin Calibration

N120226—UN—23FEB16

1. Select Begin Calibration to begin procedure.
2. Follow messages on-screen to complete procedure.



Save

N118093—UN—16FEB16

3. Confirm Calibration by selecting Save.

NOTE: To check accuracy of calibrated value, repeat procedure again using the calculated CFR value as the expected value.



Repeat Calibration

N120225—UN—23FEB16

If Calibration Fails:

1. Select Repeat Calibration button.
2. Verify all requirements listed on-screen have been met.
3. If calibration fails twice, see your John Deere dealer or other qualified service provider.

BN55050,0000128-19-09MAY18

Spreader Check

This procedure can be used to check the dry spreader application-rate capability and troubleshoot component function.

Perform Spreader Check When:

- Beginning the season.
- Hydraulic pump is replaced.
- Hydraulic motors and valves are replaced on spreader.
- Actual rate and target rate are not equal.
- Verifying the conveyor speed response to the desired rate or ground speed.

- Verifying the fan speed response to the engine speed.

Items Accessible on the Spreader Check Page:



Begin Procedure

N119102—UN—23FEB16

Begin Procedure—begin test procedure.

Requirements—the machine state required for the procedure.

CS12167,0000A8A-19-19MAR18

Spreader Check Procedure

Procedure Requirements:

Master Switch State	OFF
Conveyor State	OFF
Fan State	ON
Transport Lock Switch	OFF
Engine State	Running
Machine State	Parked, not applying product

Icons Displayed during Spreader Check Procedure:

NOTE: If fan is running, it disengages when *Begin Procedure* is selected.



Begin Procedure

N119102—UN—23FEB16

1. Select Begin Procedure.



Rate Selection Switches

N120898—UN—12MAY16

2. Select the desired Rate Preset or Manual Rate Control using the rate select switches on the CommandARM™.

CommandARM is a trademark of Deere & Company



Checkbox

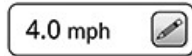
N118434—UN—22JAN20



Progress Indicator

N118091—UN—16FEB16

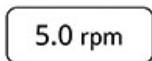
3. Select bins to check. Product, target rate, and conveyor speed are displayed.



Test Speed

N120244—UN—23FEB16

4. Select to enter the test speed. Use the desired application speed for test.



Conveyor Speed

N120673—UN—23FEB16

5. If the manual rate mode is selected, choose input box to enter the desired conveyor speed.



Hydraulic Enable

N122773—UN—12MAY16

6. Enable spreader hydraulic system. Press the Hydraulic Enable switch on the CommandARM™.



Throttle

N120674—UN—28APR16

7. Set the engine speed to the anticipated level using the hand throttle.

CAUTION: Conveyor begins movement on press of the button. Product discharge can occur if product remains in bins.



Spread System Master

N120675—UN—28APR16

8. Press the Spread System Master switch on the CommandARM™ to begin the test. Conveyor speed and the actual rate applied are displayed.

NOTE: Progress indicator displays when a check is in progress for each selected bin.



ON-OFF

N118056—UN—17FEB16

9. Engage the hydraulics using the toggle button to test the speed response if desired. Target speed and actual speed are displayed.



Spread System Master

N120675—UN—28APR16

10. Press the Spread System Master switch on the CommandARM™ again to pause the test at any time.

11. Pause the test and disengage the spreader hydraulic system before ending the procedure.



Close

N118396—UN—17FEB16

12. Select the Close button to end the procedure and return to the previous page.

Interpret Check Results:

If the target rate and actual rate are equal, the spreader can achieve the desired application for that product at the entered test speed.

If actual rate is not constant, see the troubleshooting section of your Operator's Manual, or call your John Deere dealer or other qualified service provider.

If the actual rate is higher than the target rate, decrease the gate opening. If the actual rate does not reach the target rate, increase the gate opening.

Compare the target conveyor speed and the actual conveyor speed. These speeds are displayed for the product bin selected and show if the system can reach the target conveyor speed. Adjust machine settings as necessary to achieve desired application.

Compare the target fan speed and the actual fan speed to see if the system can reach the target spinner speed.

Adjust machine settings as necessary to achieve desired application.

CS12167,0000A8B-19-14MAY18

Icons Displayed during Spreader Check Procedure



Product Bin

N120910—UN—23FEB16

Product Bin—product selected for the bin shown.



Target Rate

N118449—UN—23FEB16

Target Rate—desired application rate.



Actual Applied Rate

N118450—UN—16FEB16

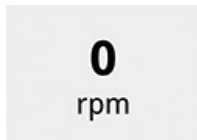
Actual Applied Rate—calculated rate of product applied.



Conveyor Speed

N118399—UN—16FEB16

Conveyor Speed—current conveyor speed.



Actual Fan Speed

N121508—UN—16FEB16

Actual Fan Speed—current fan speed.



Target Fan Speed

N121509—UN—16FEB16

Target Fan Speed—desired fan speed.



Rate

N131712—UN—10AUG17

Rate—target rate preset selected.



Belt

N131711—UN—10AUG17

Belt—indicates enabled belt status.

CS12167,0000A8C-19-09APR18

Rate Control Selection

Rate Control Selection

In order to obtain the desired results from the spreader check, you must select the appropriate rate control mode.

Select Rate Preset When:

- Verifying that the desired rates are achievable at the desired ground speed while stationary.
- Checking conveyor speed requirements for the desired rate with the machine empty.
- Verifying that the target fan speed is achievable.

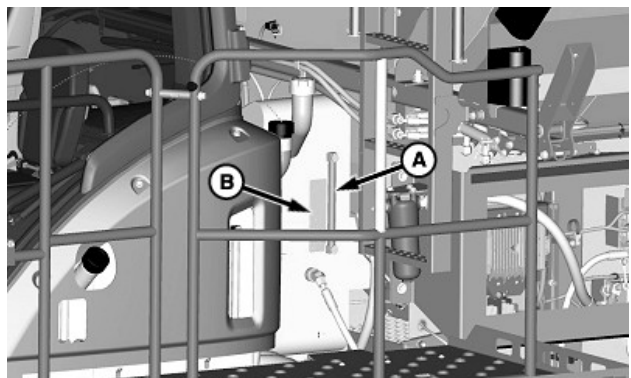
Select Manual Rate Control When:

- Only desiring to check conveyor speed.
- Checking conveyor drive motor function at various conveyor speeds.
- Checking conveyor drive valve function at various conveyor speeds.
- Checking conveyor drive sensors function at various conveyor speeds.
- Assessing conveyor tracking.

BN55050,0000138-19-16MAR18

Pre-Starting Checks

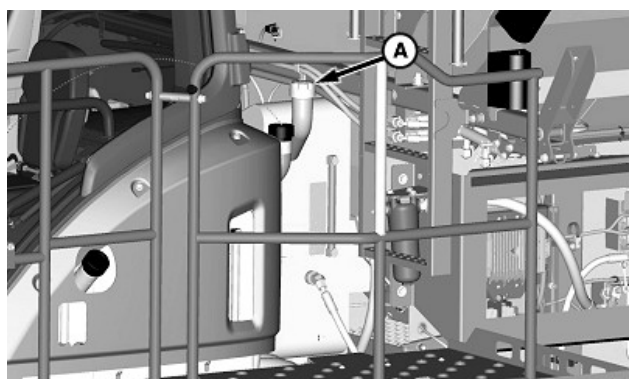
Check Hydraulic Oil—Daily



N131532—UN—28JUL17

A—Sight Gauge
B—Decal

Observe oil level in sight gauge (A) with the machine on a level surface and engine off. Decal (B) shows the proper oil level based on current oil temperature. Verify that oil level is within the proper range.



N131534—UN—28JUL17

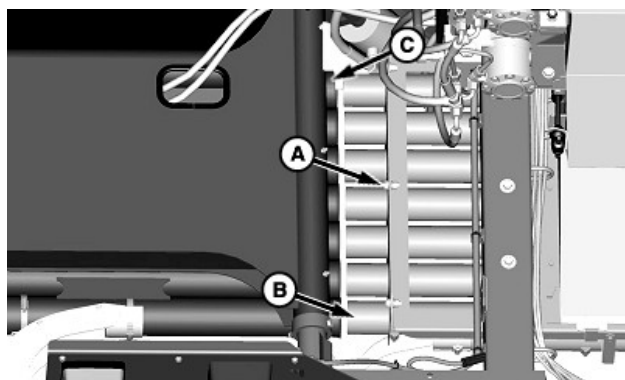
A—Filler Cap

If oil level is below the lower mark for the current temperature range, remove filler cap (A) and add hydraulic oil. (See Transmission and Hydraulic Oil in the Lubricant Specifications section.)

CS12167,0000A7D-19-09APR18

Align Distribution Tubes to Manifold

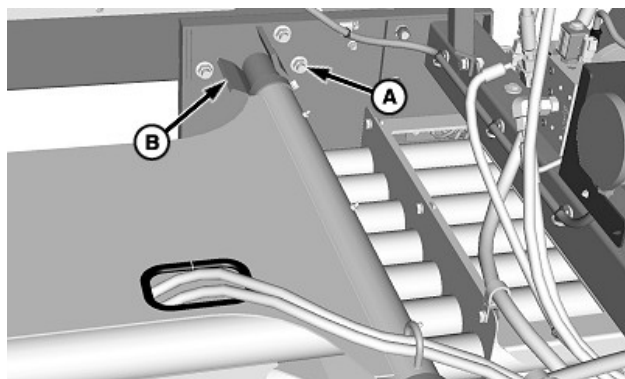
Ensure that manifold tubes are centered in the distribution tubes. Tube alignment is critical because of the short distance between the manifold tube and distribution tube divider for deflectors 13, 14, 19, and 20.



N126313—UN—05JUL17

A—Cap Screw (3 used)
B—Manifold Tubes
C—Distribution Tubes

1. Unfold the booms.
2. Loosen cap screws (A).
3. Center manifold tubes (B) in distribution tubes (C).
4. If the manifold tubes and distribution tubes will not align, perform the following procedure:



N137319—UN—04MAY18

A—Flange Nuts (3 used)
B—Pivot Cradle

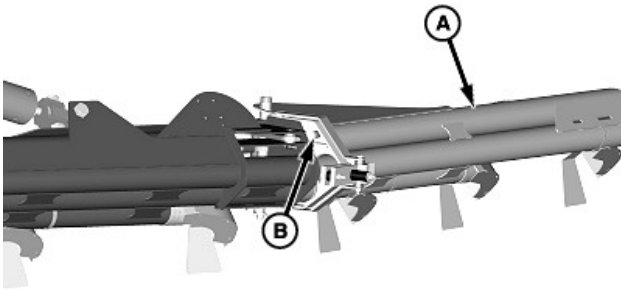
- a. Loosen flange nuts (A).
 - b. Adjust pivot cradle (B) until the tubes align properly.
 - c. Tighten flange nuts.
5. Repeat procedure for remaining side.

CS12167,000091B-19-11MAY18

Align Outer Boom to Inner Boom

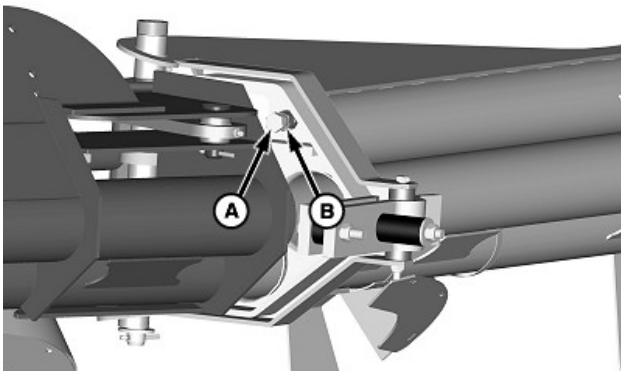
Ensure that outer distribution tubes align with the inner distribution tubes. Improperly aligned tubes allow product to slide against the tube wall, resulting in improper application. Align outer distribution tubes parallel to the inner distribution tubes.

1. Unfold boom.



A—Outer Boom
B—Cap Screw

2. Partially fold outer boom (A), allowing access to the adjustment cap screw (B).



A—Nut
B—Cap Screw

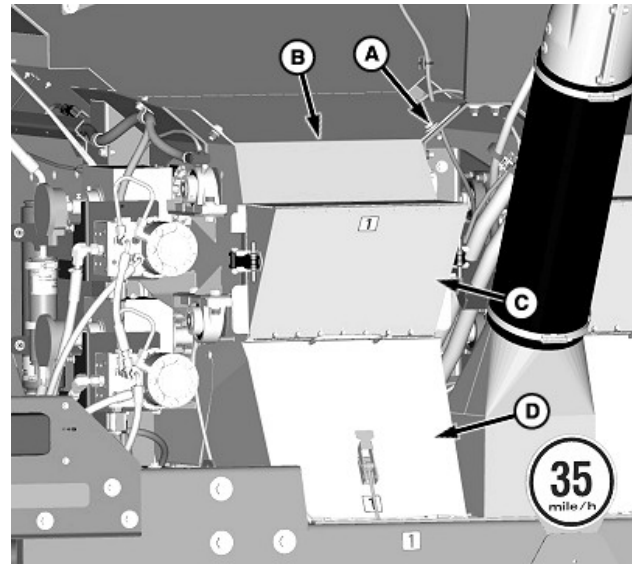
3. Loosen nut (A) and adjust cap screw (B).
 - Tighten the cap screw to tilt the outer boom forward.
 - Loosen the cap screw to tilt the outer boom rearward.
4. Tighten nut.
5. Unfold outer boom.
6. Inspect tube alignment.
7. Repeat as necessary to obtain proper adjustment.
8. Repeat procedure for the remaining side.

CS12167,000091C-19-11MAY18

Verify Feedgate Opening

Verify that feedgate opening is set to 38.1 mm (1-1/2 in). Feedgate opening is adjustable between 25.4—54.0 mm (1—2-1/8 in). Maximum recommended opening is 44.5 mm (1-3/4 in). Changing the feedgate height requires machine calibration be performed. Both feedgates per bin must have the same opening to achieve uniform product application.

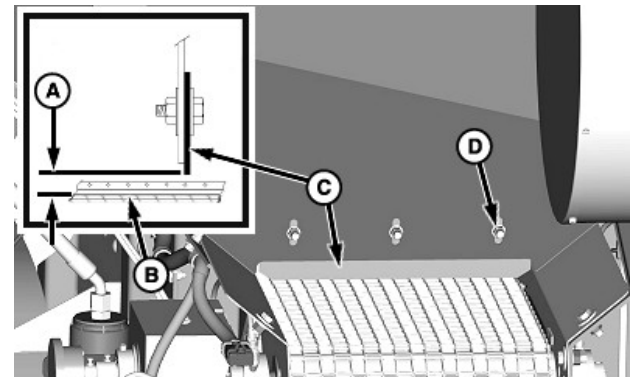
Rear Bin



N126327—UN—05JUL17

A—Cap Screw (2 used)
B—Conveyor Cover
C—Upper Conveyor Funnel
D—Lower Conveyor Funnel

1. Remove cap screws (A) and conveyor cover (B).
2. Remove upper conveyor funnel (C) if equipped.
3. Remove lower conveyor funnel (D).



N126328—UN—05JUL17

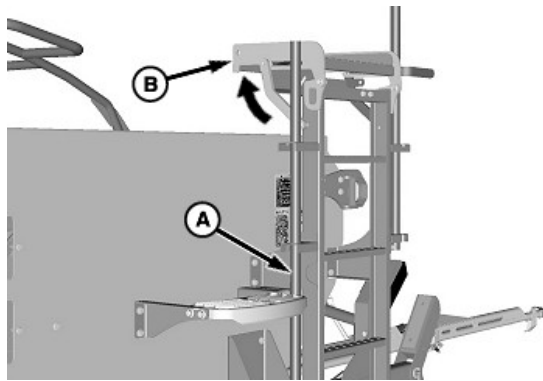
A—Feedgate Opening
B—Conveyor Floor
C—Feedgate
D—Nut (3 used)

4. Measure feedgate opening (A) between the conveyor floor (B) and the feedgate (C).
5. Loosen nuts (D).

NOTE: Verify that feedgate opening is equal across the entire width of the opening.

6. Adjust feedgate to desired height, and tighten nuts.
7. Repeat for the remaining feedgates.

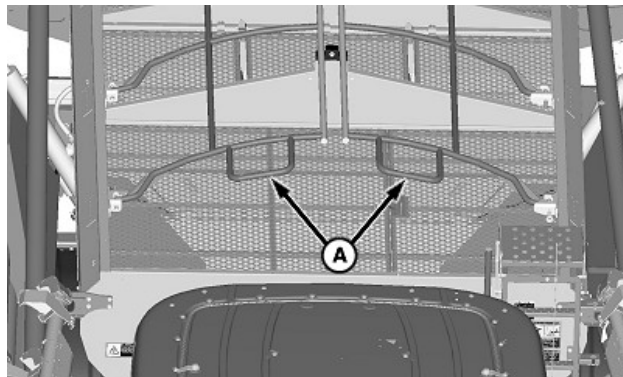
Front Bin



N137290—UN—03MAY18

A—Handrail
B—Step

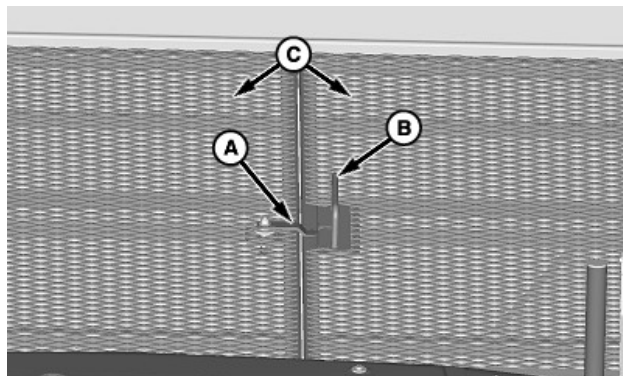
1. Raise the handrail (A) and raise the step (B) at the top of the ladder as shown.



N137288—UN—03MAY18

A—Handrail

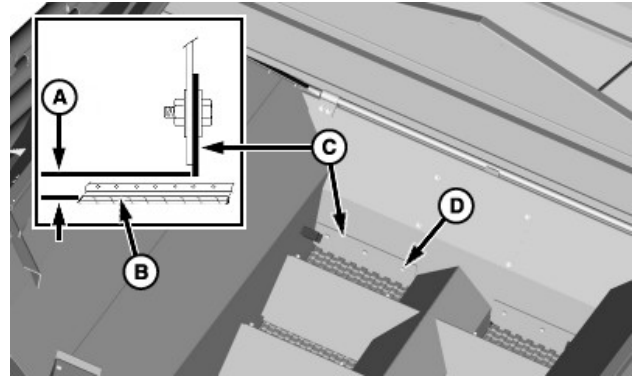
2. Raise the handrails (A) at the top of the bin.



N137289—UN—03MAY18

A—Latch
B—Handle
C—Grate

3. Turn the latch (A).
4. Using the handle (B), raise the grates (C).



N137287—UN—03MAY18

A—Feedgate Opening
B—Conveyor Floor
C—Feedgate
D—Cap Screw (3 used)

5. Measure the feedgate opening (A) between the conveyor floor (B) and the feedgate (C).
6. Loosen cap screws (D).

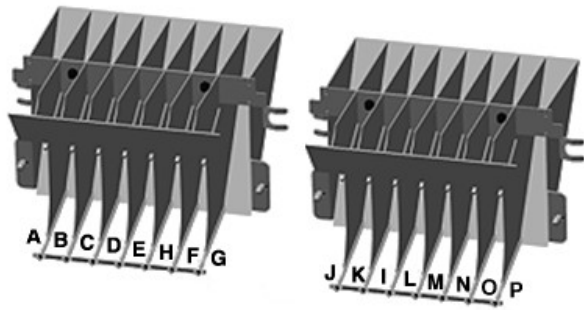
NOTE: Verify that the feedgate opening is equal across the entire width of the opening.

7. Adjust feedgate to desired height and tighten cap screws.
8. Lower the grates and turn the latch back to the closed position.
9. Lower the safety railings.

CS12167,000091D-19-14MAY18

Operate System

Component Identification

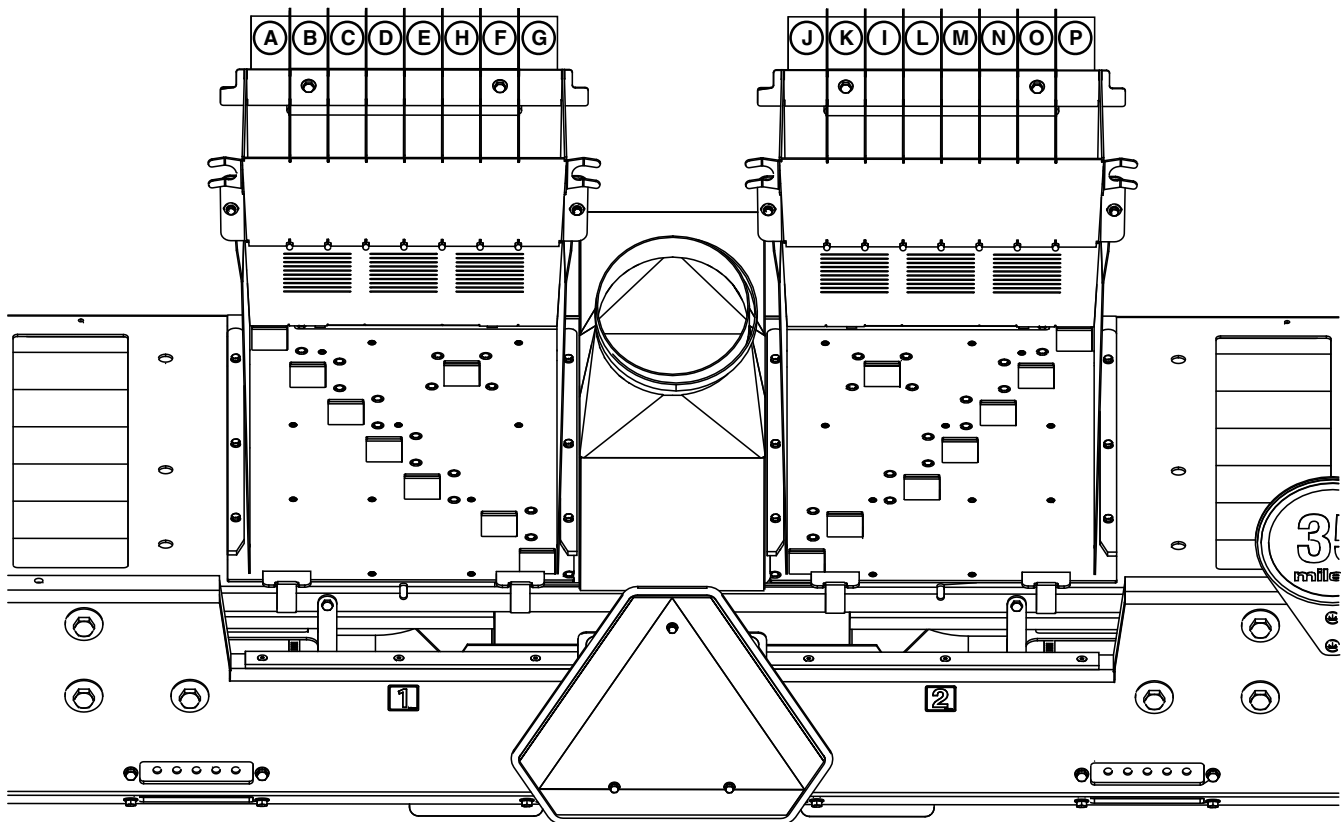


N137574—UN—18MAY18

Material Dividers

The material dividers are located at the rear of the conveyors. They distribute product to the distribution tubes. Product is then distributed to the deflectors in the order shown.

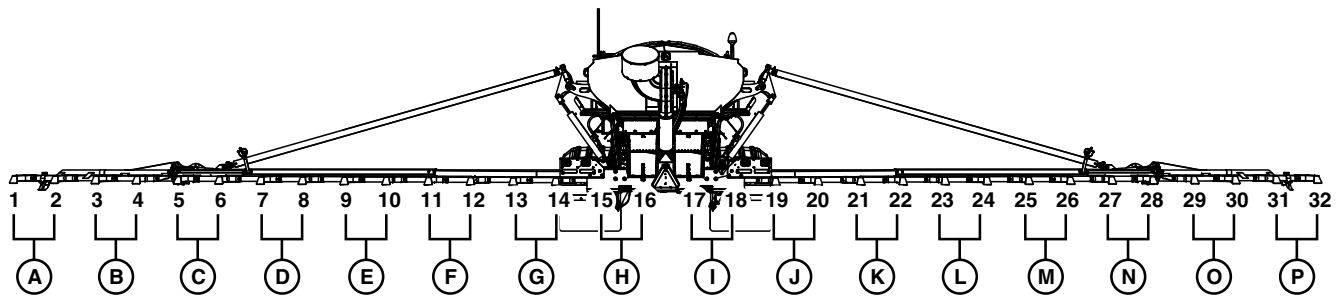
Divider Space	Deflectors
A	1—2
B	3—4
C	5—6
D	7—8
E	9—10
F	11—12
G	13—14
H	15—16
I	17—18
J	19—20
K	21—22
L	23—24
M	25—26
N	27—28
O	29—30
P	31—32



N137572—UN—18MAY18

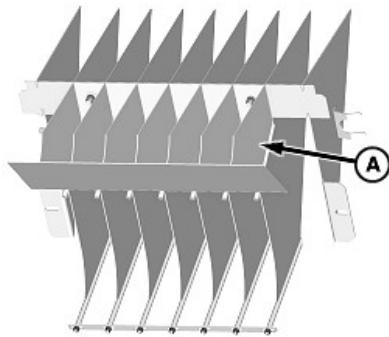
Material Divider Sections

NOTE: Divider sections H and I are under the center of the machine and not in order across the box.



Material Dividers to Deflectors—Full Boom View

N137573—UN—18MAY18

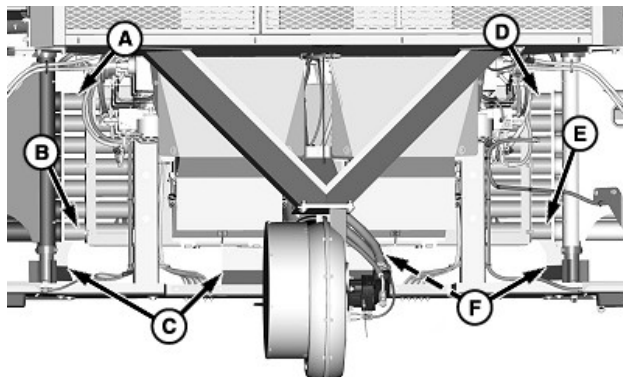


Second Product Bin Divider

N131401—UN—05JUL17

A—Second Product Bin Divider

The second product bin divider (A) is attached to the material divider when a second product bin is installed on the machine.



Manifold Tubes

N131410—UN—05JUL17

- A—Left-Hand Tube One
- B—Left-Hand Tube Two
- C—Left-Hand Center Tube
- D—Right-Hand Tube One

- E—Right-Hand Tube Two
- F—Right-Hand Center Tube

The manifold tubes distribute product from the material divider to the booms.

CS12167,0000A71-19-18MAY18

Catch Pan Kit—If Equipped

The catch pan kit is designed to catch material that adheres to the conveyor chains and is carried forward. This material may later break loose and fall on the ground. If the material being spread is sensitive to an even application, a catch pan kit is recommended. Typically sensitive materials are applied at low rates. Even small amounts of carryover result in proportionally higher application rates.

When all sections of the catch pan kit are installed, carryover material is caught and retained in the pans. The catch pans are removable for emptying trapped material.

The rear pan can be removed when applying products that are not sensitive to carry over. Removing the rear pan allows carryover material to fall to the ground instead of being retained in the pans. Leaving the front and middle pan sections installed at all times aids in protecting the chassis from corrosive products.

CS12167,0000A7E-19-09APR18

Conveyor Flap Kit—If Equipped

The conveyor flap kit is installed at the front of the conveyor, covering the gap where the conveyor enters the bin.

CS12167,0000A7F-19-09APR18

Initial Start-Up

1. Ensure that there is enough area around the machine to operate the booms safely.

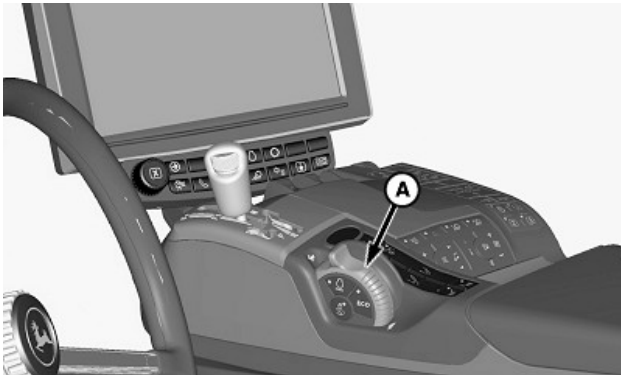
CAUTION: Stand clear of moving machinery.

NOTE: DO NOT load spreader with material.

2. Check over the entire unit; verify that all fasteners are installed and properly tightened. (See torque value charts in Specifications section of this manual.)
3. Make sure that no other persons are in the vicinity of the vehicle or spreader.

IMPORTANT: Make sure that all shipping contents in the spreader box have been removed before starting to operate.

4. Verify that all shipping parts are removed from box.
5. Check hydraulic oil level. Add as necessary.
6. Verify that all hydraulic valves are open.
7. Verify that hydraulic enable control is OFF.
8. Verify that the park brakes are engaged.



N132104—UN—16AUG17

A—Throttle

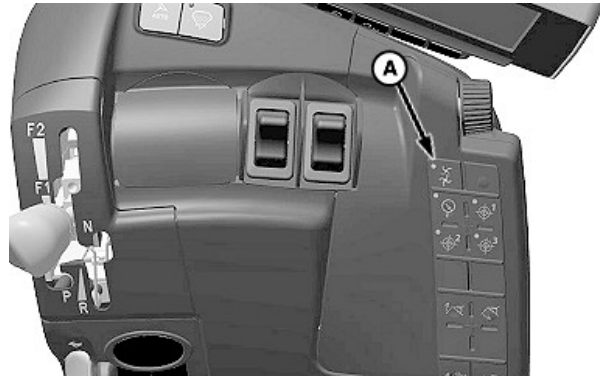
9. Start engine. Use the throttle (A) to set engine speed to 1000 rpm.



N137281—UN—03MAY18

A—Transport Lock Switch

10. Verify that the transport lock switch (A) is turned off.

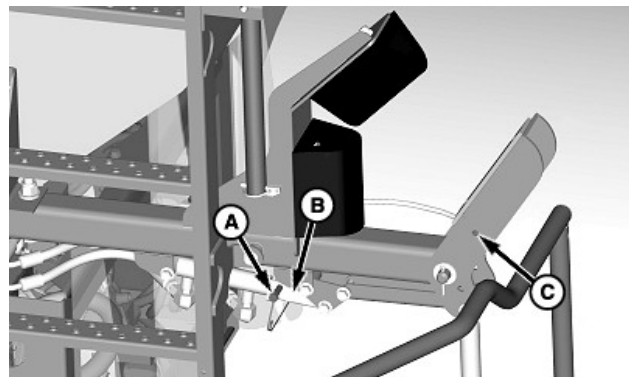


N132105—UN—16AUG17

A—Hydraulic Enable Switch

11. Engage the fan using the hydraulic enable switch (A). Allow fan to run until hydraulic oil reaches operating temperature.
12. Increase engine speed by 600 rpm per minute until high idle speed is achieved. Verify that hydraulic pressure reaches specification.
13. Set throttle to low idle position.

NOTE: Left-hand side shown, right-hand side is similar.



N134937—UN—15MAR18

**A—Pin
B—Lock
C—Storage Position**

14. Remove the pins (A) and locks (B) from boom latches.
15. Place locks and pins in the storage position (C).
16. Release boom latches.



N136650—UN—09APR18

A—Boom Fold/Unfold Switch

17. Unfold booms using boom fold/unfold switches (A).
18. Verify that the display is set up.
19. Verify that all deflector plates, deflector angles, and trim tabs are properly adjusted.

OUO6092,0000BBD-19-14MAY18

Prepare for Field Operation



N132108—UN—16AUG17

**A—Indicator Light
B—Hydraulic Enable Switch**

NOTE: Indicator light (A) is off when the switch is disabled.

The hydraulic enable switch (B) functions as the fan switch when the application system is installed.

1. Verify that fan switch is disabled.

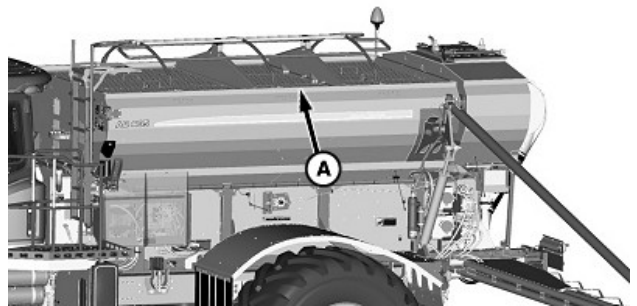


N132107—UN—16AUG17

**A—Indicator Light
B—Spread System Master Switch**

NOTE: Indicator light (A) is off when the switch is disabled.

2. Verify that spread system master switch (B) is disabled.
3. Verify that material dividers are properly installed and calibration chutes are installed in the storage position.
4. Drive to the field where application is to be done.
5. Set transmission in the park position.
6. Open roll tarp if equipped. (See Bin Covers in the Dry Application System section.)
7. Set feedgate opening to obtain desired rate.



N131533—UN—28JUL17

A—Top Edge of Bin

IMPORTANT: DO NOT fill bins with products not recommended for the spreader and chassis combination.

DO NOT fill above the top edge of bins (A). Overfilling bins causes chain drive failure.

NOTE: If machine is equipped with a second product bin, verify that feedgate height is at desired setting before filling Bin 1. (See Calculate Feedgate Opening in Spread Pattern section.)

8. Load bins with the desired product.

9. Verify that the desired product is set up in the display.
10. Unfold boom.
11. Proceed to Field Operation in this section.

OUC6092,0000BBE-19-14MAY18

Field Operation

1. Verify that machine has been properly serviced and is in good operating condition.

NOTE: Fan speed must be changed when changing materials.

The hydraulic enable switch functions as the fan switch when the application system is installed.



N132109—UN—16AUG17

A—Hydraulic Enable Switch

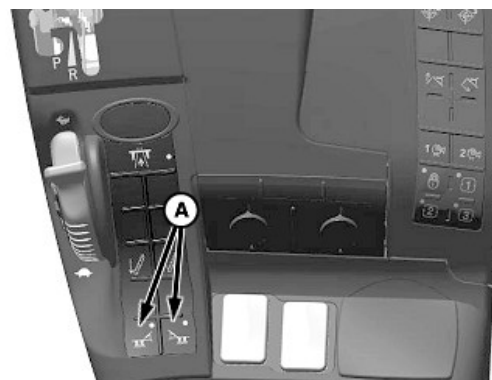
2. Engage fan by pressing the hydraulic enable switch (A).



N122431—UN—21APR16

A—Manual Rate Selection Switch
B—Preset Rate 1 Selection Switch
C—Preset Rate 2 Selection Switch
D—Preset Rate 3 Selection Switch

3. Select desired rate using rate selection switches on CommandARM™.



N132110—UN—16AUG17

A—Section Switch

4. Enable boom sections using the boom section switches (A).
5. Disengage the park brakes by moving the speed control lever to the neutral position.



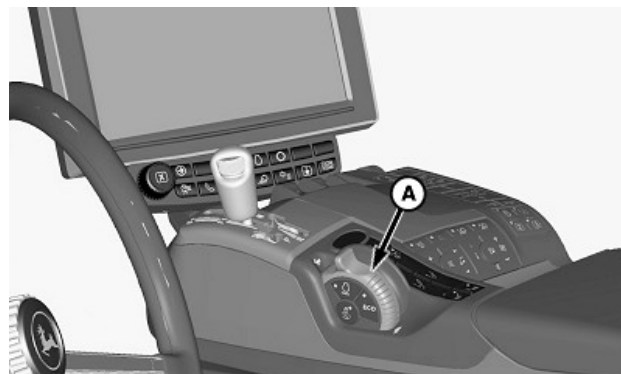
N132107—UN—16AUG17

A—Indicator Light
B—Spread System Master Switch

NOTE: Indicator light (A) is illuminated when the spread system master switch (B) is activated.

Application begins upon machine movement.

6. Press spread system master switch.



N132104—UN—16AUG17

A—Throttle

7. Set throttle (A) in high idle position.

CAUTION: Drive only at speeds that permit good control of the vehicle.

NOTE: Maximum spreading speed is 40 km/h (25 mph).

8. Push speed control lever forward to the desired application speed.

OUC6092,0000BC1-19-14MAY18

Prepare Machine for Road Transportation

Before transporting the machine, verify that the following items have been completed.

1. Set engine speed to 1000 rpm.



N132107—UN—16AUG17

A—Indicator Light
B—Spread System Master Switch

NOTE: Indicator light (A) is off when the switch is disabled.

2. Verify spread system master switch (B) is disabled.



N132108—UN—16AUG17

A—Indicator Light
B—Hydraulic Enable Switch

NOTE: Indicator light (A) is off when the switch is disabled.

The hydraulic enable switch (B) enables the fan when the application system is installed.

3. Verify that hydraulic enable switch is disabled.

4. Park machine on level ground.



N132114—UN—16AUG17

A—Boom Fold Switch

5. Press and hold boom fold switch (A) until the booms are folded.

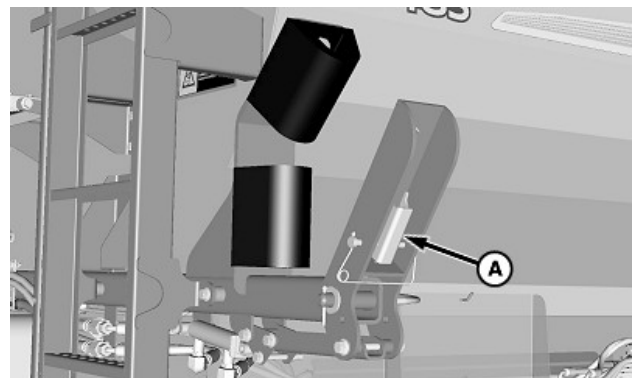


N134940—UN—15MAR18

A—Boom Lock Switch

6. Engage boom locks using the boom lock switch (A).
7. Set throttle to low idle position.

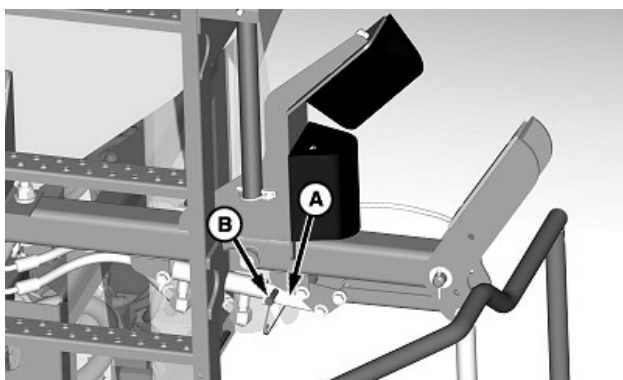
NOTE: Left-hand side is shown and the right-hand side is similar.



N136496—UN—27MAR18

A—Storage Position

8. Remove the manual boom lock from the storage position (A).



N134941—UN—15MAR18

A—Boom Lock
B—Pin

9. Install manual boom lock (A) and pins (B).



N137281—UN—03MAY18

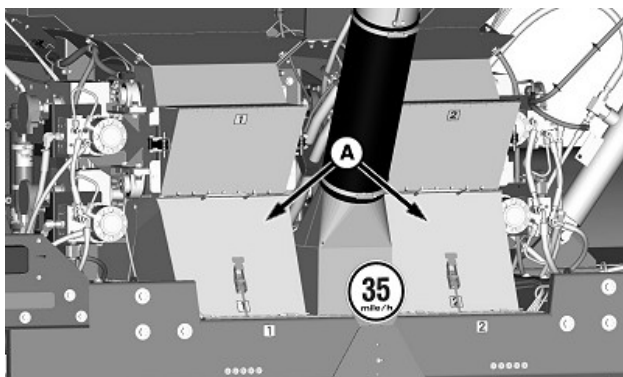
A—Transport Lock Switch

10. Engage transport lock by pressing the transport lock switch (A).
11. The spreader is now ready for road transportation.

CS12167,0000924-19-02MAY18

Bin Purge Procedure

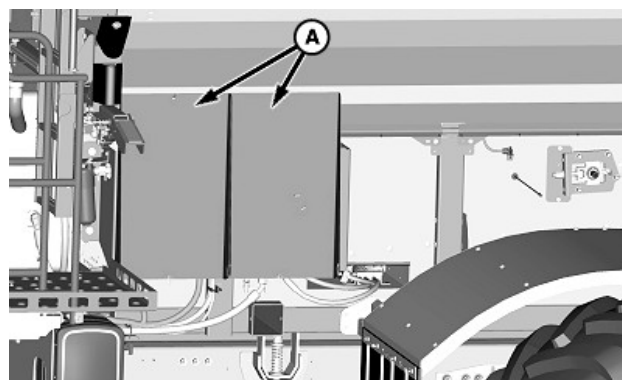
1. Place speed control lever in the park position.



N126329—UN—05JUL17

A—Funnel Assembly

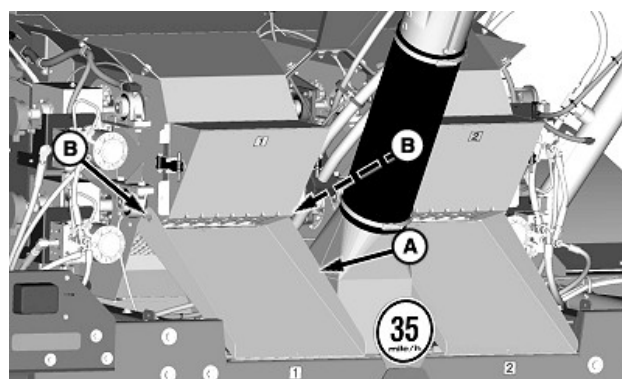
2. Remove funnel assemblies (A).



N132111—UN—16AUG17

A—Calibration Chute

3. Remove calibration chutes (A) from storage position.



N132112—UN—16AUG17

A—Calibration Chute
B—Retaining Pin

4. Install calibration chutes (A) to retaining pins (B).
5. Position a container large enough to hold the remaining product under each calibration chute.
6. Perform a bin purge procedure. (See Bin Purge in Dry Application System section.)
7. After all product is removed from the bins, return the calibration chutes to the storage position.

IMPORTANT: Critical areas during cleaning are the funnel assemblies, venturi cones, and deflectors.

8. Pressure wash the inside of the bins, air distribution components, metering components, and air system.
9. Unfold boom.

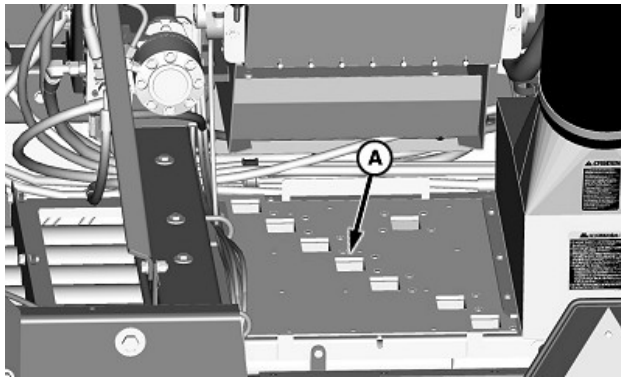


N132109—UN—16AUG17

A—Hydraulic Enable Switch

NOTE: The hydraulic enable switch (A) functions as the fan switch when the application system is installed.

10. Engage fan. Press the hydraulic enable switch.



N132113—UN—16AUG17

A—Venturi Cone

11. Pressure wash venturi cones (A) with fan running. This also washes the distribution tubes and deflectors.
12. Run the fan for a minimum of 5 min after washing until the system is dry.
13. Disengage the fan.
14. Fold the boom.
15. Remove calibration chutes and install them in the storage position.
16. Install funnel assemblies.

CS12167,0000925-19-14MAY18

- Perform a bag test. Bag testing ensures that seed is evenly distributed through the boom. (See Spreader Bag Test Procedure in the Spread Pattern section.)
- Perform a trim tab test. Trim tab testing ensures that seeds are evenly distributed to the ground. (See Trim Tab Test Procedure in the Spread Pattern section.)
- Use a feedgate opening of 38 mm (1.5 in) or less. Larger openings allow seed to feed from the rear first, causing the feedgate not to be full at all times. Feedgate must be full to achieve the desired application rate.
- Set up the display for seeding.
- Use a minimum seeding rate of 56 kg/ha (50 lb/acre).
- Spread a test area. Visually check the distribution of seed on the ground. Ensure that results are satisfactory before proceeding with seeding.

CS12167,0000926-19-02MAY18

Seeding Guidelines

Perform all tests and follow all guidelines listed to achieve desired results when seeding with the spreader.

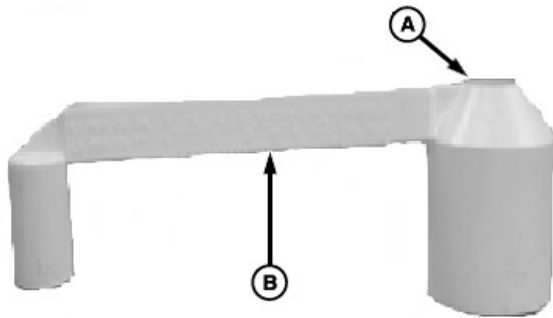
- Install a catch pan kit and a conveyor flap kit. It is important to prevent extra seed from falling to the ground. Preventing additional seed from falling to the ground helps ensure that the desired application rate is achieved.

Spread Pattern

Determine Material Bulk Density

NOTE: A small variance in density can drastically affect spread rate. Use density scale for every load to ensure that the proper amount is applied.

In order to maintain consistency, load the cup the same way every time.



N98675—UN—23MAY12

A—Cup
B—Density Scale

1. Fill cup (A) with material to be spread.
2. Position scale (B) on finger so it is balanced.
3. Enter reading from the balance point into the Dry Application System Application. (See Bin Details in the Dry Application System section of this manual.)

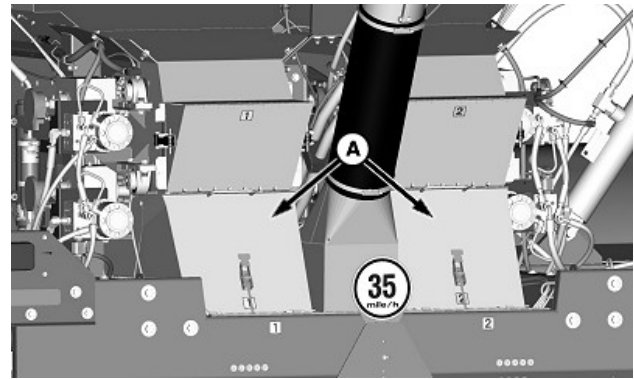
OUC06092,0000BB8-19-09APR18

Determine Material Conveyor Feed Rate (CFR)

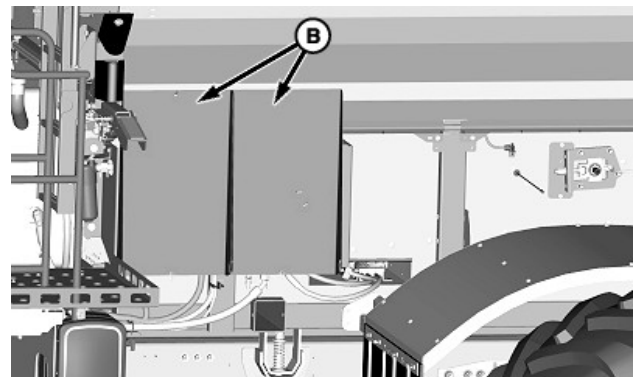
Conveyor Feed Rate (CFR) is the volume of material in cm^3 spread per revolution of the belt drive roller at a 1.0 cm feed gate opening (ft^3 per revolution at a 1.0 in feed gate opening). The calibration procedure requires the ability to capture the product that is dispensed from the spreader belt with the fan off.

NOTE: For best results, use at least 43.3 kg (100 lb) of a product per calibration test performed on the main bin and the second product bin. Test using at least 11.3 kg (25 lb) for the micronutrient bins.

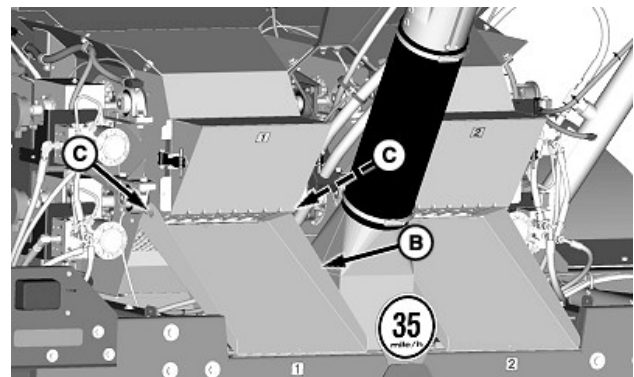
1. Load bin with twice the amount of product being used for calibration.
2. Position the machine, allowing rear access so that product dispensed during a calibration can be collected.



N126329—UN—05JUL17



N126331—UN—05JUL17



N126330—UN—05JUL17

A—Funnel Assembly
B—Calibration Chute
C—Retaining Pin

3. Remove funnel assemblies (A).
4. Remove calibration chutes (B) from storage position.
5. Install calibration chutes to retaining pins (C).

NOTE: Before beginning calibration, ensure that product is dispensing all the way to the funnels. This is critical for the front bin (Bin 1) if a second product bin is installed. If product is not dispensing all the way, the conveyor runs for a period without product on it. An empty conveyor results in a false calibration value.

6. Measure actual depth of material on conveyor.

7. Perform CFR calibration procedure. (See Conveyor Feed Rate Calibration in Calibrations section.)

OUO6092,0000BB9-19-14MAY18

Calculate Feedgate Opening

$$A = \frac{B \times C \times D}{495 \times E \times F \times G}$$

N79290—UN—07DEC07
Equation for English Measurement

$$H = \frac{I \times J \times K}{0.0006 \times L \times M \times N}$$

N82406—UN—18NOV08
Equation for Metric Measurement

A—Feedgate Opening (in)
B—Yield (lb/acre)
C—Spread Width (ft)
D—Average Speed (mph)
E—Conveyor Shaft Revolutions per Minute (CRPM)
F—Material Weight (lb/ft³)
G—Theoretical CFR (Conveyor Rate) (ft³ per revolution)
H—Feedgate Opening (cm)
I—Yield (kg/ha)
J—Spread Width (m)
K—Average Speed (km/h)
L—Conveyor Shaft Revolutions per Minute (CRPM)
M—Material Weight (kg/m³)
N—Theoretical CFR (Conveyor Rate) (cm³ per revolution)

If the feedgate opening is not supplied with the fertilizer ticket, use the appropriate equation (English or metric) to calculate correct opening.

Equations can also be used to calculate conveyor speed required for a desired application rate and feed gate opening.

NOTE: To verify conveyor rpm, mark conveyor shaft and run the spreader in manual mode with current settings.

Theoretical CFR Values			
CFR (metric) ^a	CFR (English) ^b	Conveyor Type	Bin Number
3344	0.30	Chain Conveyor	1
3344	0.30	Chain Conveyor	2
493	0.0442	Yellow Meter Roller	3
221	0.0198	Red Meter Roller	3
67	0.006	Black Meter Roller	3

^aBased on 1.0 cm feed gate opening

^bBased on 1.0 in feed gate opening

OUO6092,0000BBA-19-14MAY18

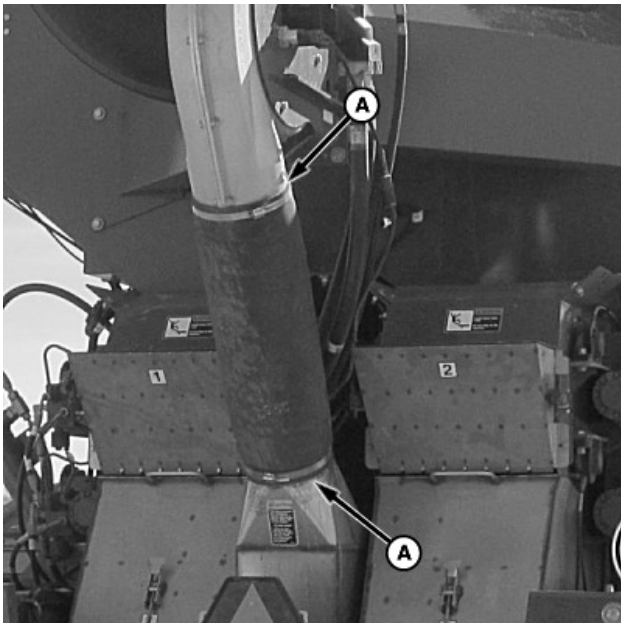
Spreader Bag Test Procedure

Needed Equipment:

- Scale that measures in pounds and ounces, fractions of pounds, or grams
- Thirty-two bags.
- Tie bands.
- Three 5 gallon buckets.
- Bending tool.
- 8 mm socket and ratchet or wrench.

NOTE: Bag testing ensures that the product is evenly being applied from deflector to deflector over the length of the boom and documents the coefficient of variation (COV).

1. Unfold boom and ensure that hydraulic oil is at operating temperature.
2. Verify that outer boom is properly aligned with the inner boom.
3. Verify that manifold is properly aligned with distribution tubes.

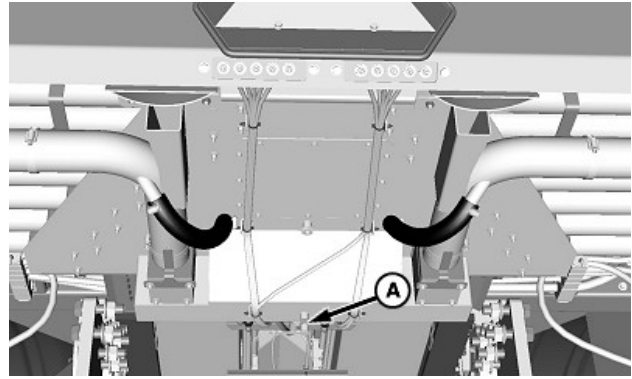


N134558—UN—18APR18

A—Connection Location

4. Turn on the fan and check for air leaks at connection locations (A). Tighten hose clamps if leaks are found.

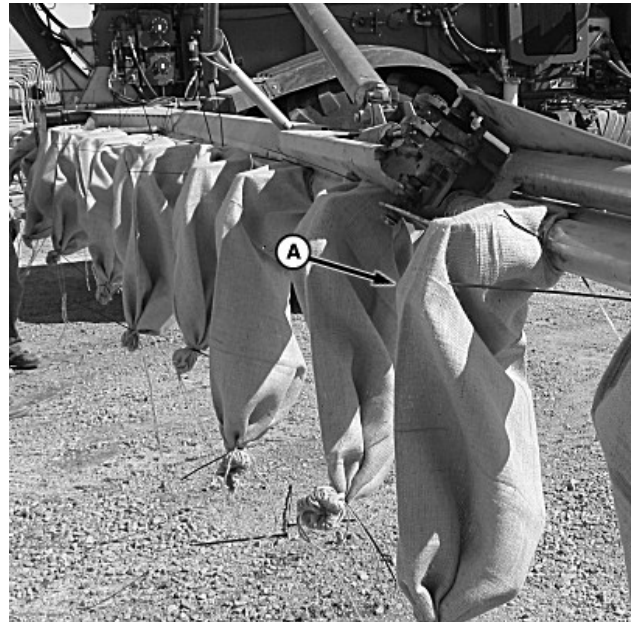
NOTE: Max fan speed equals 1143 mm Hg (45 in Hg) at the air manifold test port.



N137346—UN—09MAY18

A—Manifold Test Port

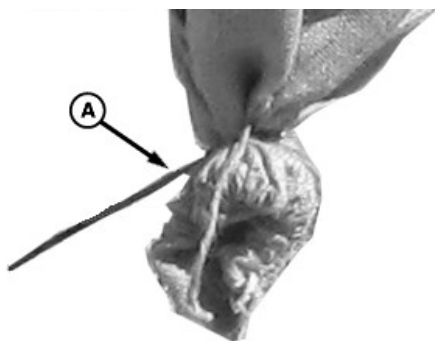
5. Set fan to maximum speed. By checking at the manifold test port (A), verify that manifold pressure is between 1016 mm WC at 4° C and 1143 mm WC at 4° C (40 in H₂O and 45 in H₂O).
6. Turn off the fan.



N137293—UN—07MAY18

A—Test Bag

7. Install test bags (A) over deflectors, as shown. Tie band as necessary to ensure that no product can escape.



N134557—UN—18APR18

A—Tie Band

8. Close bottom of bag using tie band (A).
9. Verify that feedgate opening is 38.1 mm (1.5 in). Ensure that feedgate is level by measuring the opening on each side of the feedgate.

NOTE: If the machine is equipped with multiple bins, begin testing with the front bin.

10. Load 227 kg (500 lb) of a product to the front bin.
11. Start machine.

NOTE: Max fan speed equals 1143 mm Hg (45 in Hg) at the air manifold test port.

12. Set fan to maximum speed.
13. Enter the product density.
14. Set application rate to 448.3 kg/ha (400 lb/ac).
15. Set test speed to 16 km/h (10 mph).



N125853—UN—15SEP16

A—Hydraulic Enable Switch

NOTE: The hydraulic enable switch (A) functions as the fan switch when the application system is installed.

16. Enable fan using the hydraulic enable switch.

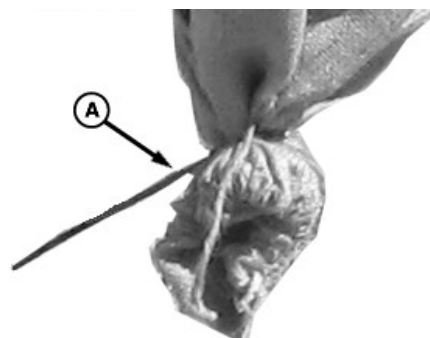


N125852—UN—15SEP16

A—Spread System Master Switch

17. Press spread system master switch (A).
18. Run out 145 kg (320 lb) of the product into the bags according to the CommandCenter™ display.
19. Tare a scale to zero with a bucket attached.

NOTE: It is critical to empty one bag at a time and weigh the buckets in order.



N134557—UN—18APR18

A—Tie Band

20. Starting from the left side of boom, cut tie band (A) on bottom of bag and empty bag into a bucket, leaving it attached to the deflector.
21. Weigh content from each bag and record the amount of the product in each bag on the test sheet. (See Bag Test Sheet in this section.)

NOTE: 10 pounds per deflector would be optimum. Only perform one set of adjustments (either divider tab adjustments or material divider adjustments) based on the weights recorded,

22. Adjust divider tab if the weights of material from each divider on a single tube differ by more than 10 percent. (See Adjust Divider Tab—As Required in the Lubrication and Maintenance Section.)
23. Load 227 kg (500 lb) of a product to the bin being tested.

- | | |
|---|--|
| 24. Run out 145 kg (320 lb) of the product into the bags according to the CommandCenter™ display. | 27. Repeat procedure until the coefficient of variation is five or less for the front bin. |
| 25. Add weights for deflectors on the same pipe together. | 28. Repeat procedure for the second product bin (if equipped). |
| 26. Adjust material divider if the weights of material from tubes differ more than 0.9 kg (2 lb). (See Material Divider Adjustment—As Required in the Lubrication and Maintenance Section.) | 29. Repeat procedure for the micronutrient bins (if equipped). |
-

OUO6092,0000BBB-19-14MAY18

Bag Test Sheet

JOHN DEERE		F4365 w/AB485 Bag Test Calibration						
CUSTOMER: Customer Name ORDER #: Order # SERIAL #: 1N04365F*** DATE: 9/25/2017 COMPLETED BY: Initials		Notes:		Cal#				
AB485 Bin 1								
Coefficient of Variation Calculator								
Instructions: Fill in only the green values below								
Deflector #	Pounds	Ounces	Total Oz.	oz triple overlap	Total Oz. Sqrd	Adjust divider tab	funnel error (outside-inside)	Deflector numbers
1			0	0	0	#DIV/0!		
2			0	0	0			
3			0	0	0	#DIV/0!	#DIV/0!	1-2
4			0	0	0		#DIV/0!	3-4
5			0	0	0	#DIV/0!	#DIV/0!	5-6
6			0	0	0		#DIV/0!	7-8
7			0	0	0	#DIV/0!	#DIV/0!	9-10
8			0	0	0		#DIV/0!	15-16
9			0	0	0	#DIV/0!	#DIV/0!	11-12
10			0	0	0		#DIV/0!	13-14
11			0	0	0	#DIV/0!	#DIV/0!	
12			0	0	0		#DIV/0!	
13			0	0	0	#DIV/0!		
14			0	0	0			
15			0	0	0	#DIV/0!		
16			0	0	0			
Left Side	16	Average	0		0			
17			0	0	0	#DIV/0!	funnel error (inside-outside)	
18			0	0	0			
19			0	0	0	#DIV/0!	#DIV/0!	19-20
20			0	0	0		#DIV/0!	21-22
21			0	0	0	#DIV/0!	#DIV/0!	17-18
22			0	0	0		#DIV/0!	23-24
23			0	0	0	#DIV/0!	#DIV/0!	25-26
24			0	0	0		#DIV/0!	27-28
25			0	0	0	#DIV/0!	#DIV/0!	29-30
26			0	0	0		#DIV/0!	31-32
27			0	0	0	#DIV/0!	#DIV/0!	
28			0	0	0		#DIV/0!	
29			0	0	0	#DIV/0!		
30			0	0	0			
31			0	0	0	#DIV/0!		
32			0	0	0			
Right Side	16	Average	0		0			
Both Sides	32	Average	0		0			
						Gate Height left ##### right ##### 1.5" nominal Raise lowest gate b		
						Coefficient of Variation goal is +/- 5 >: #DIV/0! Total for Bin 1		

Verify Product density is set correctly.				Collected Amount Error	
Enter total amount delivered by controller				goal is +/- 5% : #DIV/0!	
Pounds	Ounces	Total Oz.	CFR	Actual	Corrected CFR
	0	0		####	#DIV/0!
				Total for Bin 1	

Trim Tab Test Procedure

NOTE: Perform this test after satisfactory results are obtained from a spreader bag test, adjusting deflector angles and adjusting deflector plates

1. Position a tarp on the ground large enough to catch the product applied.
2. Position the machine boom over the tarp.
3. Engage application system and dispense product onto the tarp.

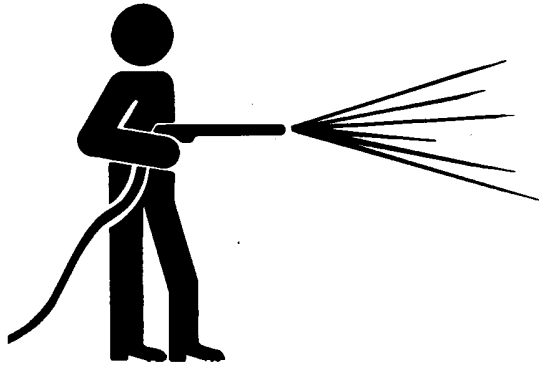
NOTE: Do not move product side to side, this distorts the actual spread pattern.

4. Sweep product into a line under the boom.
5. Inspect product distribution. An equal amount of product is desired along the entire width of the boom.
6. Adjust trim tabs as needed based on test results.

CS12167,0000923-19-11MAY18

Lubrication and Maintenance

Clean Vehicle of Hazardous Chemicals, Including Pesticides



T6642EJ—UN—18OCT88

CAUTION: During application of hazardous chemicals, including pesticides, residue can build up on the inside or outside of the vehicle. Clean vehicle according to use instructions of hazardous chemical.

When exposed to hazardous chemicals, clean exterior and interior of vehicle daily to keep free of the accumulation of visible dirt and contamination.

1. Sweep or vacuum the floor of cab.
2. Clean headliners and inside cowlings of cab.

IMPORTANT: Directing pressurized water at electronic/electrical components or connectors, bearings and hydraulic seals, fuel injection pumps or other sensitive parts and components may cause product malfunctions. Reduce pressure and spray at a 45 to 90 degree angle.

3. Wash entire exterior of vehicle.
4. Dispose of any wash water with hazardous concentrations of active or non-active ingredients according to published regulations or directives.

OUC6092,0000B98-19-09APR18

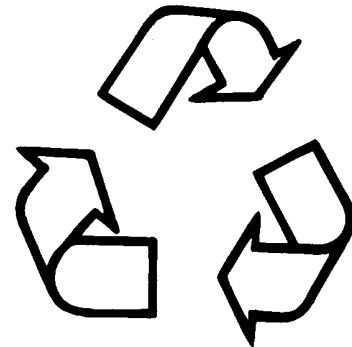
Prevent Hydraulic System Contamination

IMPORTANT: Cleanliness is very important when working on the hydraulic system. Prevent contamination by assembling the cylinders, hoses, couplers, and valves in a clean area of the shop.

Leave protective caps on the fluid openings until ready to make the connection. When charging the system, use a tractor or other source that contains clean oil, free of abrasive materials. Keep couplers clean. Abrasive particles, like sand or metal fragments, can damage seals, barrels, and pistons, causing internal leakage.

OUC6092,0000B99-19-09APR18

Dispose of Waste Properly



TS1133—UN—15APR13

Improperly disposing of waste can threaten the environment and ecology. Potentially harmful waste used with John Deere equipment includes such items as oil, fuel, coolant, brake fluid, filters, and batteries.

Use leakproof containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them.

Do not pour waste onto the ground, down a drain, or into any water source.

Air conditioning refrigerants escaping into the air can damage the Earth's atmosphere. Government regulations may require a certified air conditioning service center to recover and recycle used air conditioning refrigerants.

Inquire on the proper way to recycle or dispose of waste from your local environmental or recycling center, or from your John Deere dealer.

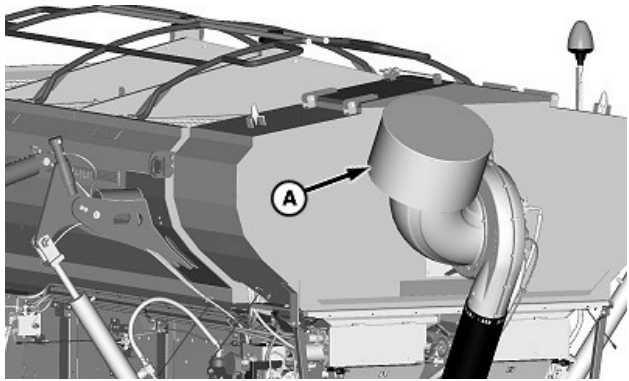
OUC6092,0000B9A-19-09APR18

Service Intervals

SERVICE ** Perform at initial break-in • Required service interval *** Perform after initial interval	INTERVAL						
	Every Load	10 Hours/ Daily	As Required	50 Hours	Every 2 Weeks	200 Hours	1000 Hours
Check fan screen	•						
Check hydraulic oil level		•					
Clean oil coolers		•					
Clean funnel assemblies		•					
Check deflector plate adjustment and angle		•					
Remove and clean meter rollers		•					
Lubricate boom pivot pins		•					
Lubricate boom pivots		•					
Lubricate boom cradle latch		•					
Lubricate outer boom fold linkage		•					
Lubricate boom strut pivot		•					
Lubricate boom strut yoke		•					
Conveyor chain maintenance and adjustment			•				
Clean bin sensor			•				
Adjust material divider			•				
Adjust divider tab			•				
Adjust deflector angle			•				
Adjust deflector plate			•				
Adjust trim tab			•				
Remove and install deflectors			•				
Lubricate conveyor front shaft bearings				•			
Lubricate conveyor idler shaft bearings				•			
Lubricate conveyor driveshaft bearings				•			
Check conveyor chain tension				•			
Tighten fan assembly mounting hardware				•			
Inspect hydraulic hoses				•			
Inspect tarp					•		
Inspect tarp assembly hardware					•		
Check tarp assembly cable tension					•		
Inspect spreader body						•	
Inspect boom structure						•	
Adjust boom fold cylinders						•	
Adjust boom tilt cylinders						•	
Inspect conveyor chains							•
Change conveyor drive gear box oil							•
Change hydraulic oil and filters							•
Inspect hydraulic relief valves							•
Clean fan motor case drain strainer							•

OUO6092,0000B9B-19-16MAY18

Check Fan Screen—Every Load



N134942—UN—15MAR18

A—Fan Screen

Check the fan screen (A) for debris build-up every time the machine is loaded.

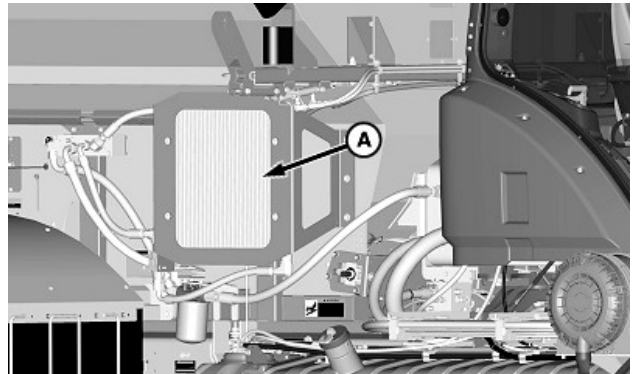
Clean debris from the screen as necessary.

CS12167,0000B2F-19-15MAR18

If oil level is below the lower mark for the current temperature range, remove filler cap (A) and add hydraulic oil. (See Transmission and Hydraulic Oil in the Lubricant Specifications section.)

CS12167,0000A7D-19-09APR18

Clean Oil Coolers—Daily



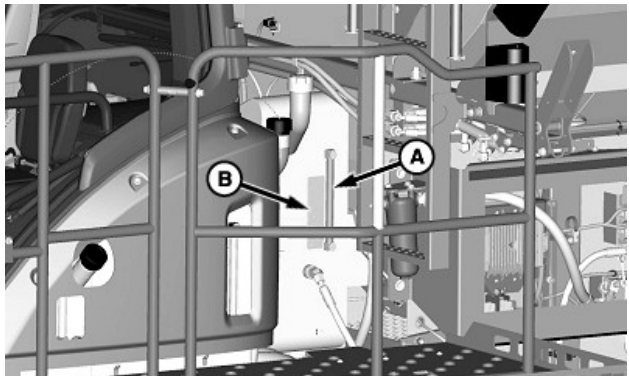
N131535—UN—28JUL17

A—Oil Cooler

Clean dirt and debris from oil cooler (A) daily.

CS12167,0000A95-19-25JUL17

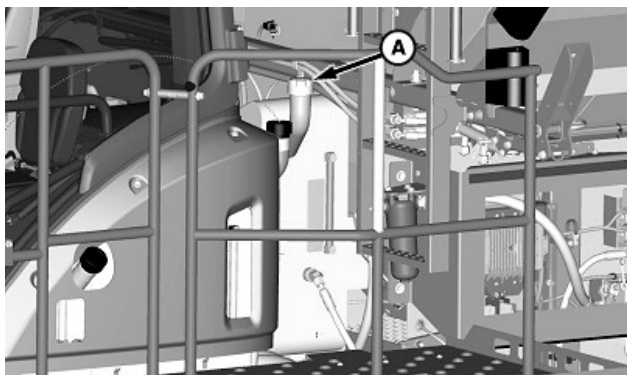
Check Hydraulic Oil—Daily



N131532—UN—28JUL17

**A—Sight Gauge
B—Decal**

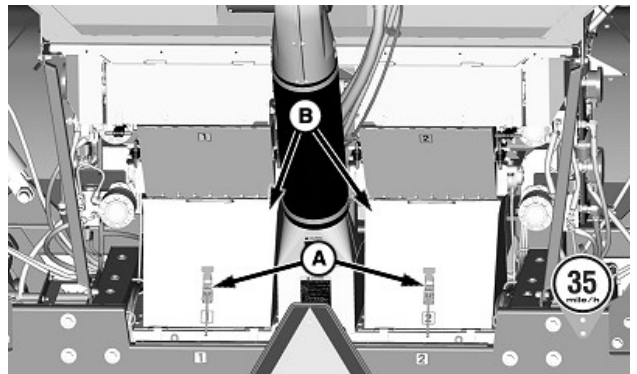
Observe oil level in sight gauge (A) with the machine on a level surface and engine off. Decal (B) shows the proper oil level based on current oil temperature. Verify that oil level is within the proper range.



N131534—UN—28JUL17

A—Filler Cap

Clean Funnel Assemblies—Daily



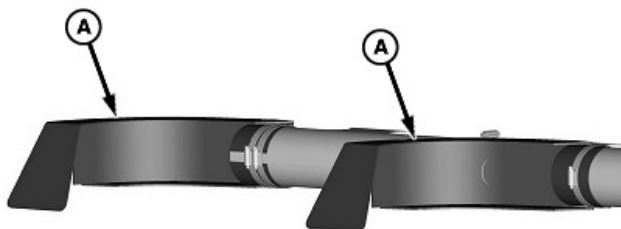
N131536—UN—28JUL17

**A—Latch
B—Funnel Assembly**

1. Release latches (A) and remove funnel assemblies (B).
2. Verify that funnel assemblies are clear of any accumulated product.
3. Clean funnel assemblies using a pressure washer if any accumulated product is present.
4. Ensure that funnel assemblies are dry before reinstallation.

BN55050,000012E-19-14MAY18

Check Deflector Plate Adjustment and Angle—Daily



A—Angle Finder Location

N131411—UN—05JUL17

1. Place an angle finder on the deflector at location (A).
2. Verify that deflector angle is set to specification.

Specification

Deflector Angle—Angle. 0°



A—Deflector Plate

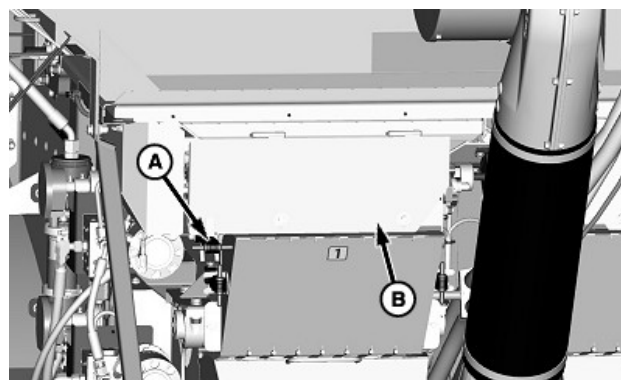
N131413—UN—05JUL17

3. Place an angle finder on deflector plate (A).
4. Verify that deflector plate angle is set to specification.

Specification

Center Four Deflector
Plates—Angle. 55° from horizontal
Remaining Deflector
Plates—Angle. 65° from horizontal

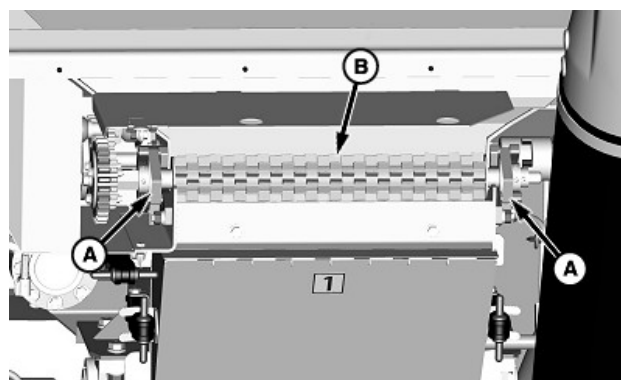
CS12167,0000A97-19-11MAY18



N131537—UN—28JUL17

A—Latch
B—Meter Roller Cover

2. Release latch (A) and open meter roller cover (B).



N131538—UN—28JUL17

A—Bearing Clip
B—Meter Roller Assembly

3. Release bearing clips (A) and remove meter roller assembly (B).
4. Clean all product from meter roller grooves.
5. Install previously removed components in reverse order.
6. Perform procedure for the remaining meter roller.

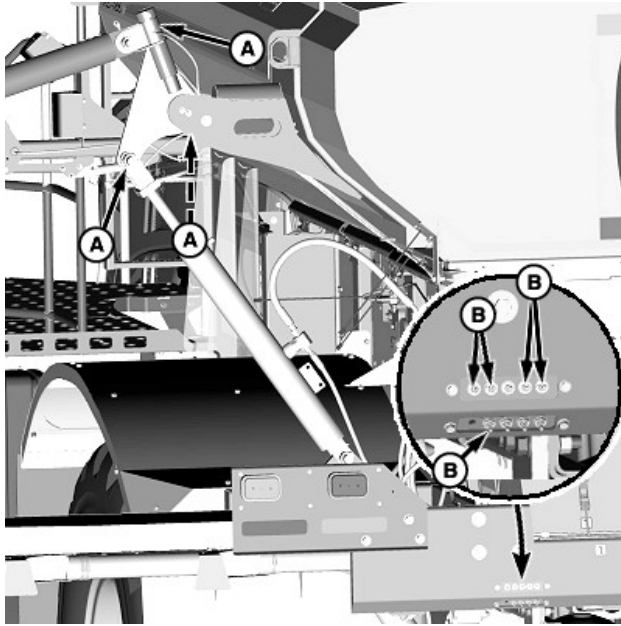
CS12167,0000A93-19-14MAY18

Remove and Clean Meter Rollers—Daily (If Equipped)

1. Verify that the micronutrient bin is empty. If product is still in the bin, perform a bin purge procedure for the micronutrient bin. (See Bin Purge Procedure in the Operate System section.)

Lubricate Boom Pivots—Daily

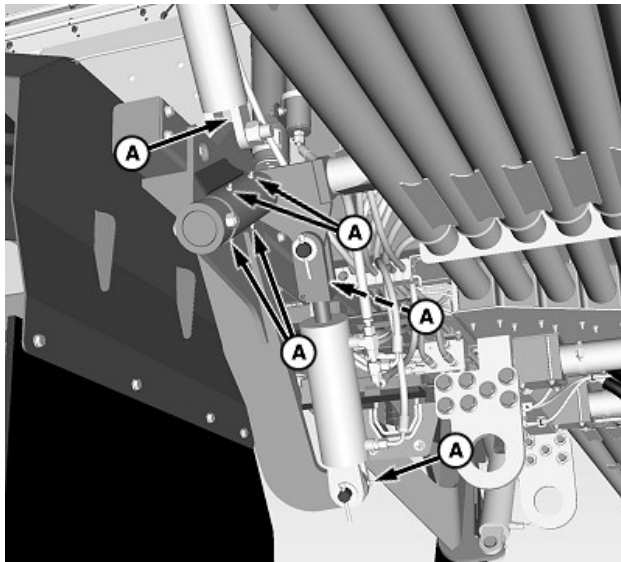
NOTE: Left-hand side shown, right-hand side is similar.



N131543—UN—28JUL17

A—Upper Boom Pivot
B—Grease Fitting

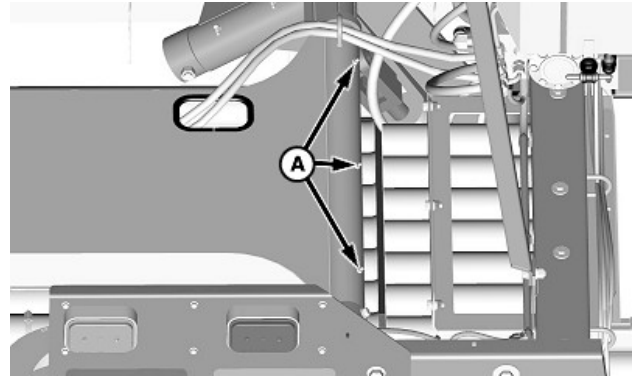
Lubricate upper boom pivots (A) with John Deere SD Polyurea grease at grease fittings (B) daily.



N137278—UN—03MAY18

A—Grease Fitting

Lubricate lower boom pivots with John Deere SD Polyurea grease at grease fittings (A) daily.



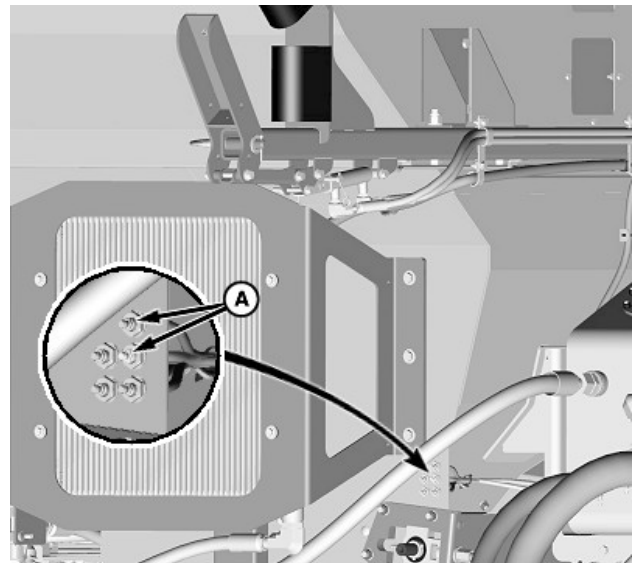
N131545—UN—28JUL17

A—Grease Fitting

Lubricate boom pivot pins with John Deere SD Polyurea grease at grease fittings (A) daily.

BN55050,000012F-19-14MAY18

Lubricate Boom Cradle Latches—Daily



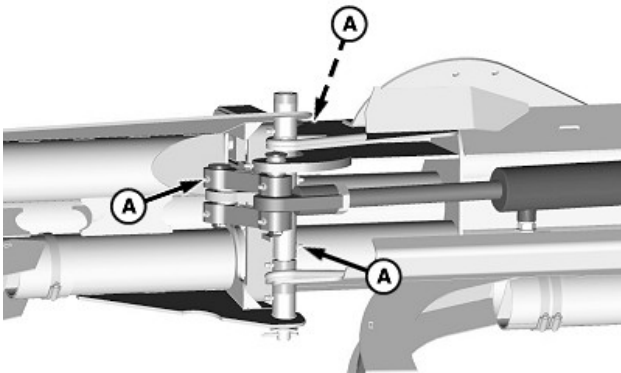
N131542—UN—28JUL17

A—Grease Fitting

Lubricate boom cradle latches with John Deere SD Polyurea grease at grease fittings (A) daily.

BN55050,0000130-19-14MAY18

Lubricate Outer Boom Fold Joint—Daily



N131541—UN—28JUL17

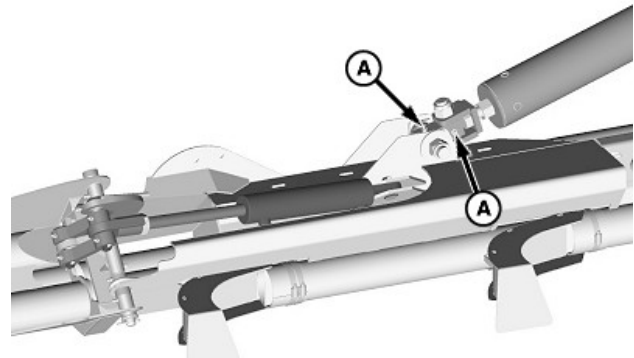
A—Grease Fitting (12 used)

Lubricate grease fittings (A) on the outer boom fold joint with John Deere SD Polyurea grease daily.

NOTE: Left-hand side shown, right-hand side is similar.

CS12167,0000A9C-19-09APR18

Lubricate Boom Strut Yoke—Daily



N131539—UN—28JUL17

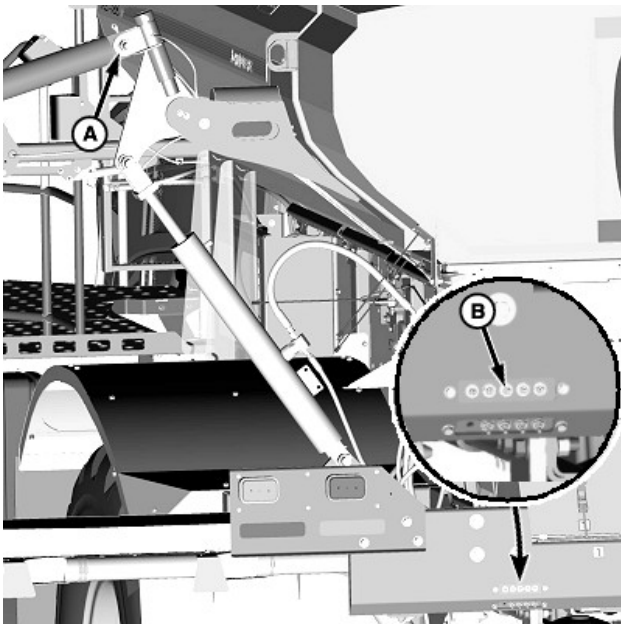
A—Grease Fitting

Lubricate grease fittings (A) on the boom strut yoke with John Deere SD Polyurea grease daily.

NOTE: Left-hand side shown, right-hand side is similar.

BN55050,0000132-19-09APR18

Lubricate Boom Strut Pivot—Daily



N131540—UN—28JUL17

A—Boom Strut Pivot B—Grease Fitting

Lubricate the boom strut pivot (A) with John Deere SD Polyurea grease at the grease fitting (B) daily.

NOTE: Left-hand side shown, right-hand side is similar.

BN55050,0000131-19-09APR18

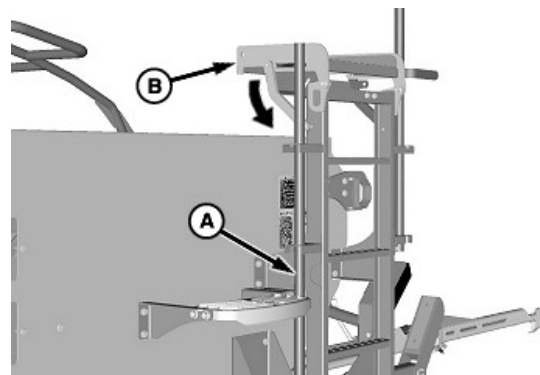
Clean Bin Sensor—As Required

CAUTION: Avoid injury from falling. Stay out of spreader body. Do not climb on spreader body.

IMPORTANT: Avoid spreading wet material; it may stick to sensor, preventing the sensor from warning the operator when bin is low.

DO NOT aim a high-pressure washer directly at sensor. Damage to sensor may occur.

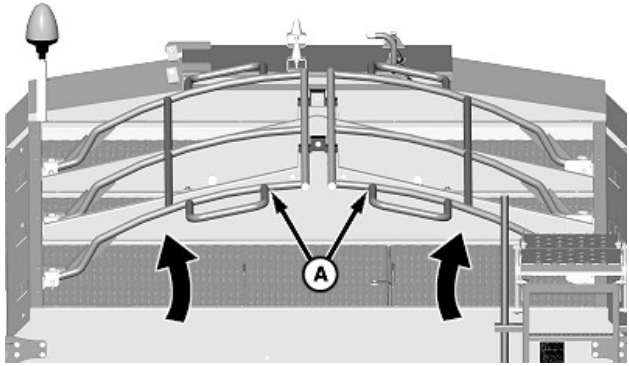
NOTE: Clean sensor periodically to prevent accumulation of material.



N137279—UN—03MAY18

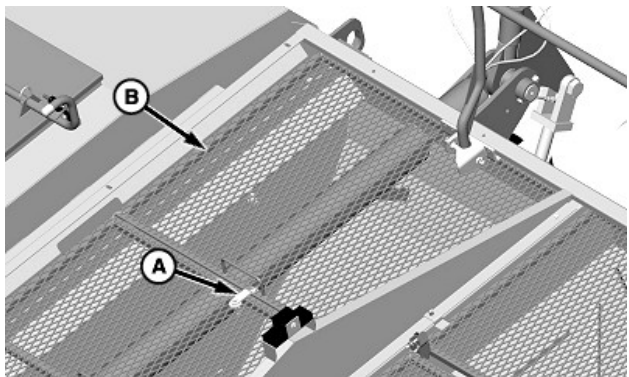
A—Handrail B—Step

1. Raise the handrail (A) and fold down the step (B) as shown.



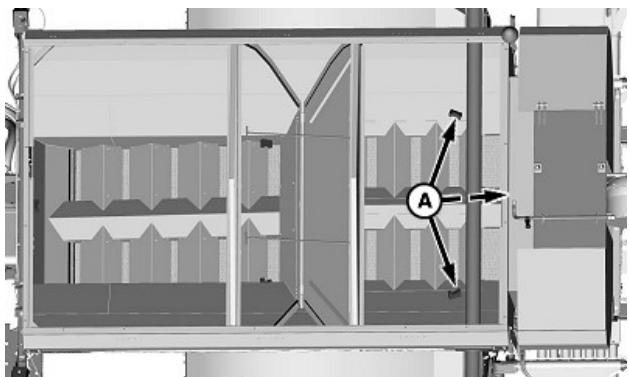
A—Safety Railing

2. Raise safety railings (A).



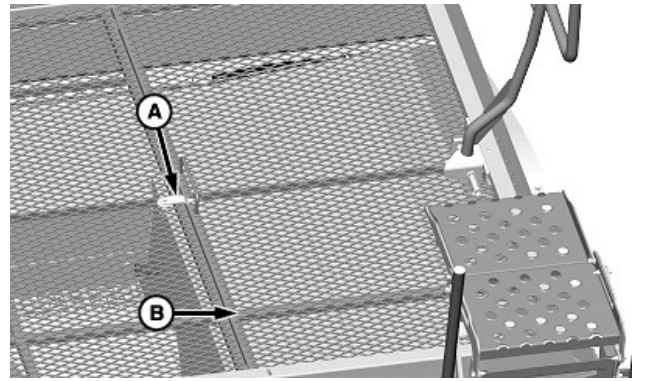
A—Latch
B—Rear Grate

3. Rotate latch (A) and remove the rear grate (B).



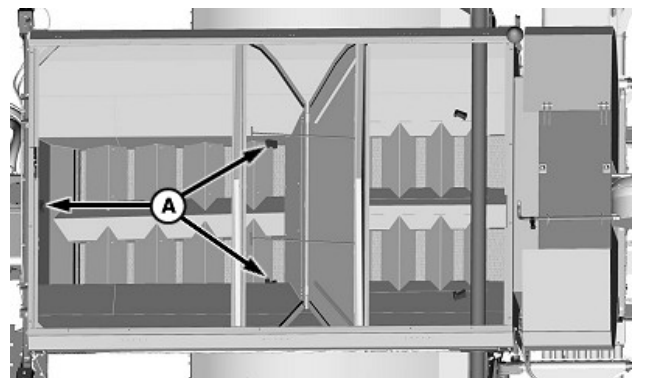
A—Bin Sensor (3 used)

4. Clean sensors (A) with brush or hose.
5. Install previously removed rear grate and retain with latch.



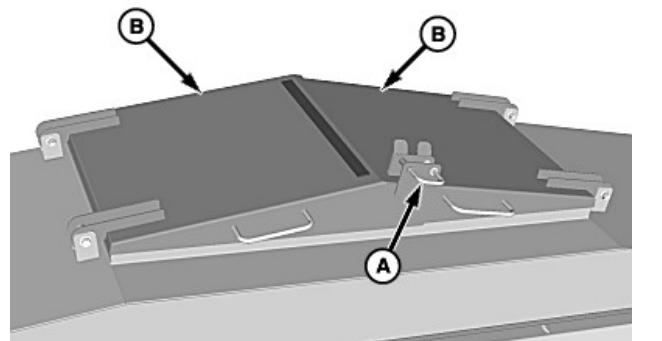
A—Latch
B—Front Grate

6. Rotate latch (A) and remove front grate (B).



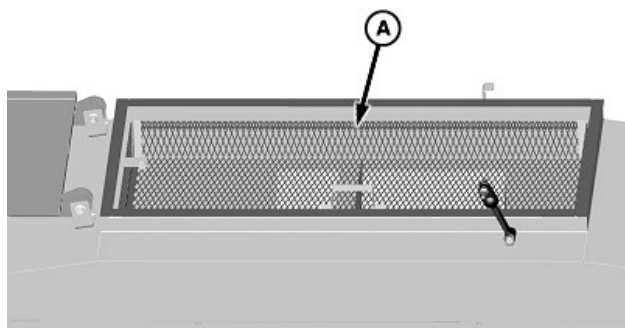
A—Bin Sensor (3 used)

7. Clean sensors (A) with brush or hose.
8. Install previously removed front grate and retain with latch.
9. For machines equipped with micronutrient bins, perform the following:



A—Latch
B—Cover

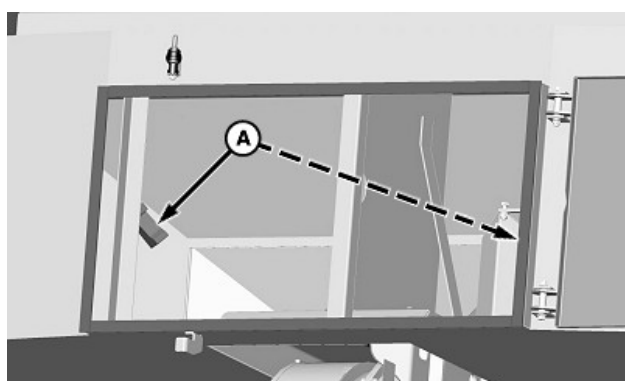
- a. Release latch (A) and open covers (B).



N131974—UN—28JUL17

A—Grate

- b. Remove grate (A).



N131975—UN—28JUL17

A—Sensors

- c. Clean sensors (A) with brush or hose.
- d. Install grate, close the cover and fasten latch.

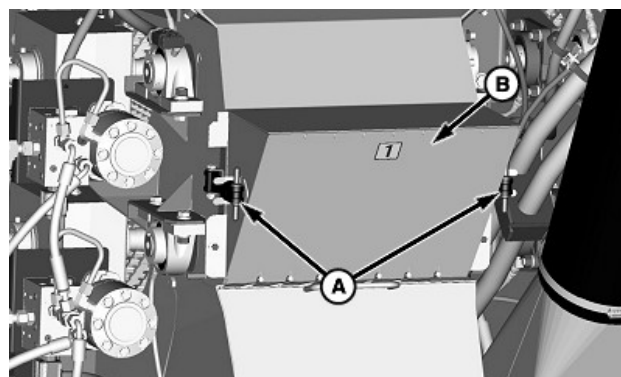
10. Lower safety railings.

OOU6092,0000B9F-19-14MAY18

F	11—12
G	13—14
H	15—16
I	17—18
J	19—20
K	21—22
L	23—24
M	25—26
N	27—28
O	29—30
P	31—32

Adjust the material divider after performing a spreader bag test using the following procedures:

NOTE: Perform only one adjustment at a time.

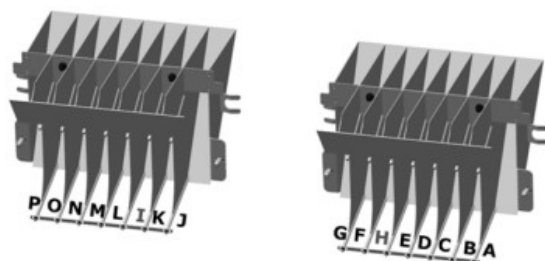


N131020—UN—05JUL17

A—Latch
B—Material Divider

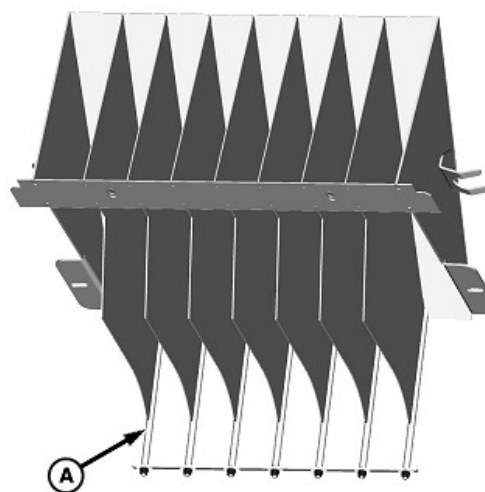
1. Release latches (A) and remove the material divider (B).

Adjust Material Divider—As Required



N134560—UN—23APR18

Divider Space	Deflectors
A	1—2
B	3—4
C	5—6
D	7—8
E	9—10



N131021—UN—05JUL17

A—Divider Plate

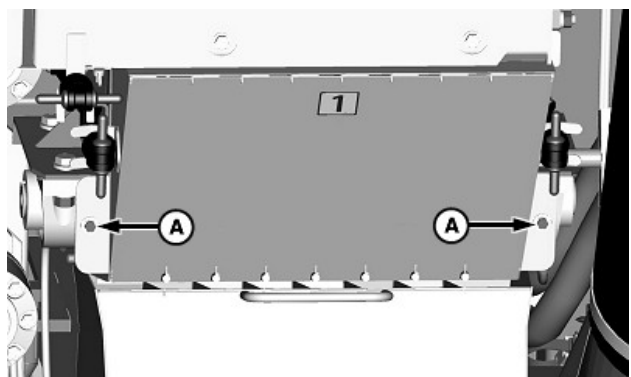
2. Verify that divider plates (A) are adjusted to specification.

Specification

Divider Plate

Spacing—Distance. 50.8 mm
(2 in)

3. Install material divider to the machine and fasten latches.
4. If more product is applied on one end of the boom half than on the opposite end, perform the following adjustment:

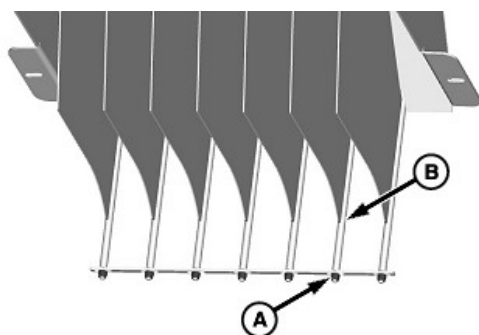


N131022—UN—05JUL17

A—Cap Screw

- a. Loosen cap screws (A).
 - b. Move divider toward the end of the boom with more product applied.
 - c. Tighten cap screws.
 - d. Perform spreader bag test and make adjustments as necessary.
5. If difference in the applied product occurs between adjacent tubes, perform the following adjustment:
 - a. Release latches and remove the material divider.

NOTE: Increase the opening to apply more product from that tube. Decrease opening to apply less product.



N131023—UN—05JUL17

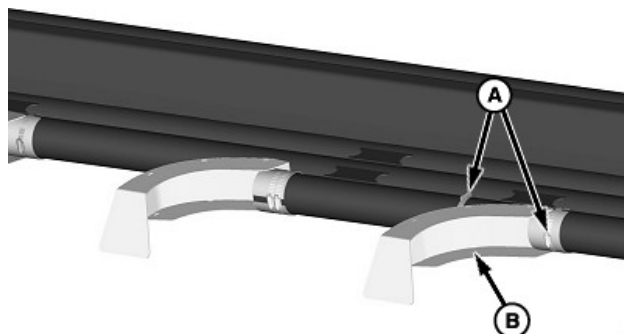
A—Nut
B—Divider Plate

- b. Loosen nut (A) and adjust the divider plate (B) for the desired tubes.
- c. Tighten previously loosened nut.
- d. Install material divider to the machine and perform a spreader bag test.

CS12167,0000A60-19-14MAY18

Adjust Divider Tab—As Required

Adjust the divider tab after performing a spreader bag test using the following procedure:



N131404—UN—05JUL17

A—Clamp (2 used)
B—Inner Deflector

NOTE: Left-hand tube number three shown (deflectors 5 and 6), all other tubes similar.

Make only one adjustment at a time.

1. Loosen clamps (A) and remove the inner deflector (B) from the tube.

NOTE: It may take more than one adjustment to correctly set the deflector divider tab. Marking the original position of the divider tab will aid in the event that further adjustments are needed after the initial adjustment.

2. Mark the original position of the divider tab.



A—Divider Tab

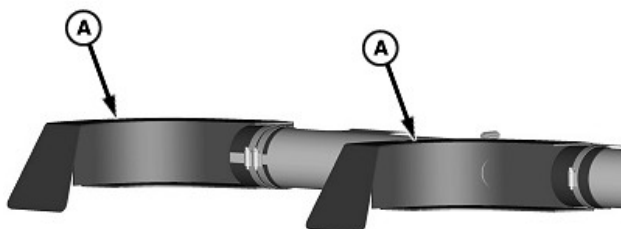
N131405—UN—05JUL17

3. Adjust product flow by bending the divider tab (A).
 - a. Bend divider tab toward the deflector for decreased flow through the deflector.
 - b. Bend divider tab away from the deflector for increased flow through the deflector.

CS12167,0000A62-19-14MAY18

Adjust Deflector Angle—As Required

Adjust the deflector angle using the following procedure for the best spread pattern.



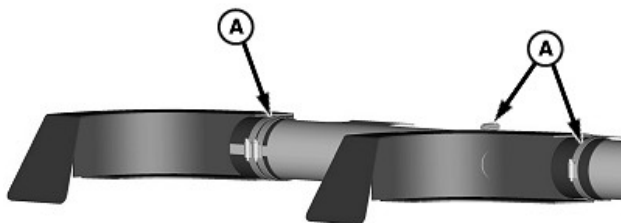
N131411—UN—05JUL17

A—Angle Finder Location

1. Place an angle finder on the deflector at location (A).
2. Verify deflector angle is set to specification.

Specification

Deflector Angle—Angle. 0°



N131412—UN—05JUL17

A—Clamp

3. Loosen deflector clamps (A).
4. Adjust deflectors to specification.
5. Tighten the clamps.

CS12167,0000A61-19-14MAY18

Adjust Deflector Plate—As Required

Adjust the deflector plate using the following procedure for the best spread pattern.



N131413—UN—05JUL17

A—Deflector Plate

1. Place an angle finder on deflector plate (A).
2. Verify deflector plate angle is set to specification.

Specification

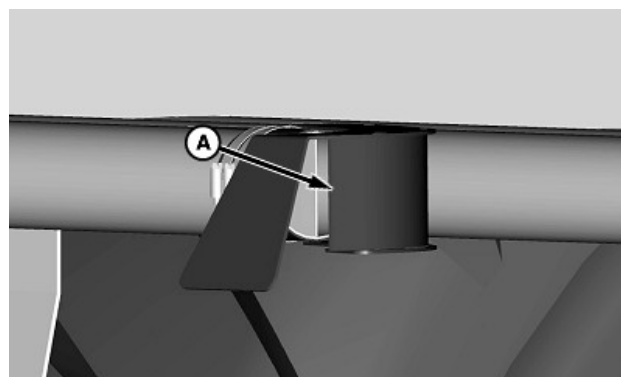
Center Four Deflector
Plates—Angle. 55° from horizontal
Remaining Deflector
Plates—Angle. 65° from horizontal

3. Bend deflector plate to meet the specification.

CS12167,0000A72-19-11MAY18

Adjust Trim Tab—As Required

Adjust trim tabs after performing a trim tab test using the following procedure:



N131524—UN—05JUL17

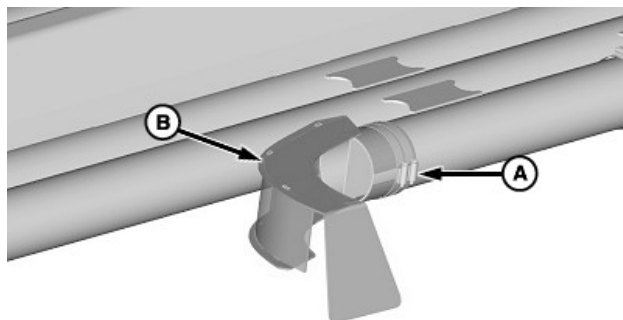
A—Trim Tab

1. Bend trim tab (A) toward an area of low product application.
2. Verify adjustments by performing a trim tab test.

CS12167,0000A73-19-09APR18

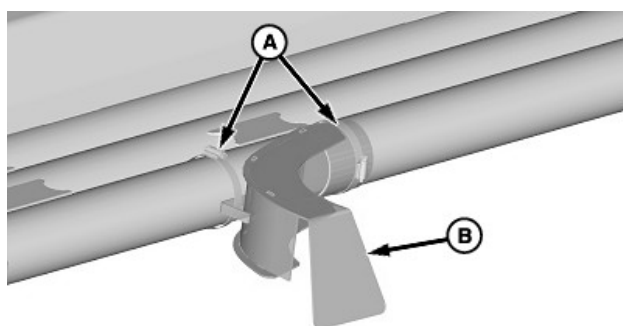
Remove and Install Deflectors—As Required

Remove Deflectors



N137473—UN—11MAY18

Deflector on End of Tube

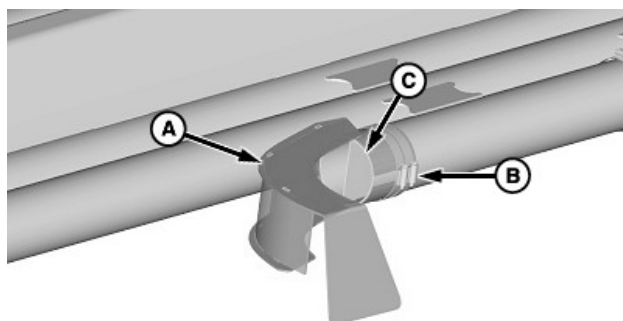


N137474—UN—11MAY18

Deflector on Intermediate Port

1. Loosen the clamps (A).
2. Remove and retain the clamps and deflectors (B).

Install Deflectors

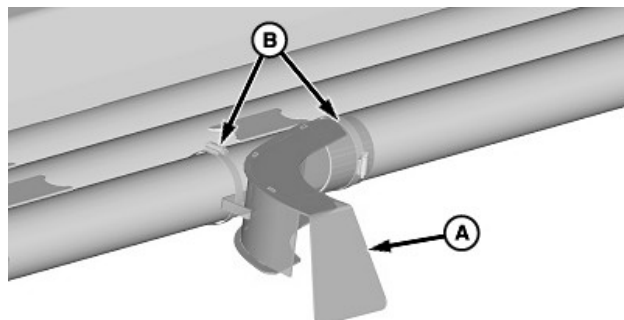


N134932—UN—14MAR18

A—Deflector
B—Clamp (2 used)
C—Tube Location

1. Install previously retained deflectors (A) to the end of each distribution tube.
2. Secure the deflectors using previously retained clamps (B) as shown.

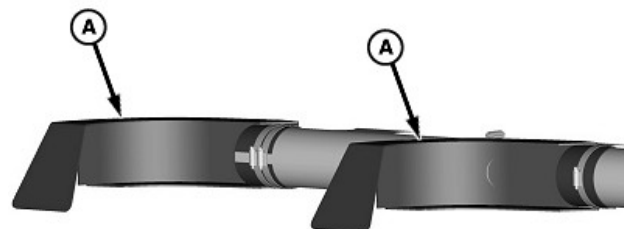
3. Verify that the deflector is installed flush with the end of the tube at location (C).



N134933—UN—14MAR18

A—Deflector
B—Clamp (2 used)

4. Install previously retained deflectors (A) to the intermediate ports on the distribution tubes.
5. Secure the deflectors using previously retained clamps (B) as shown.



N131411—UN—05JUL17

A—Angle Finder Location

6. Place an angle finder on the deflector at location (A).
7. Verify that deflector angle is set to specification.

Specification

Deflector Angle—Angle. 0°



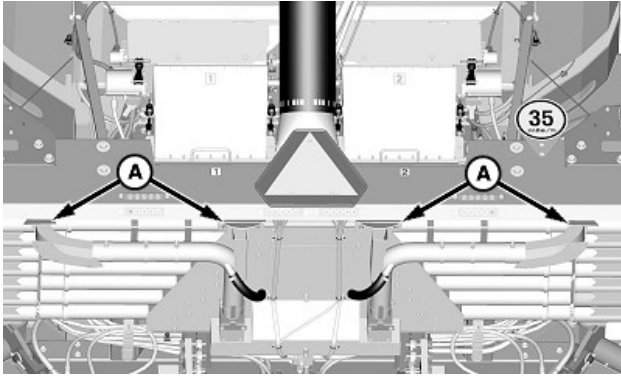
A—Deflector Plate

N131413—UN—05JUL17

8. Place an angle finder on the deflector plate (A).
9. Verify that deflector plate is set to specification.

Specification

Deflector Plate—Angle. 65°



A—Deflector Plate (4 used)

10. Adjust the center deflector plates (A) to specification.

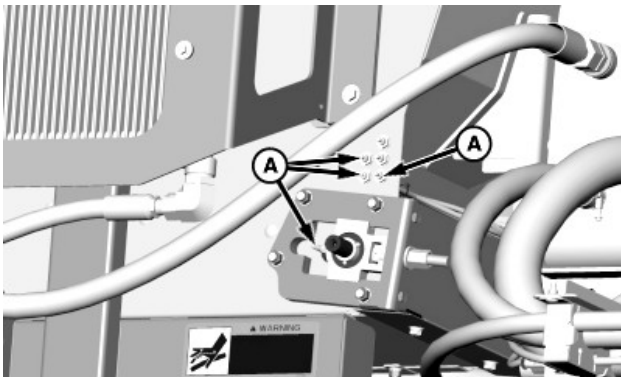
Specification

Center Deflector Plate—Angle. 55°

11. Perform a spreader bag test. (See Spreader Bag Test Procedure in the Spread Pattern section of this manual.)

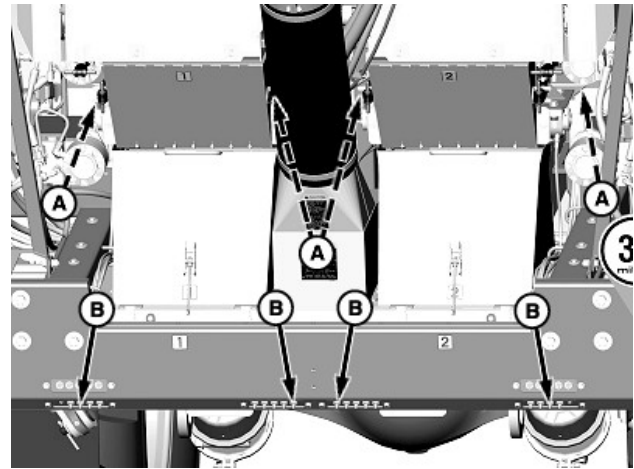
BN55050,0000242-19-11MAY18

Lubricate Front Shaft Bearings—50 Hours



A—Grease Fitting (4 used)

Lubricate conveyor front shaft bearings using John Deere SD Polyurea grease at each grease fitting (A).

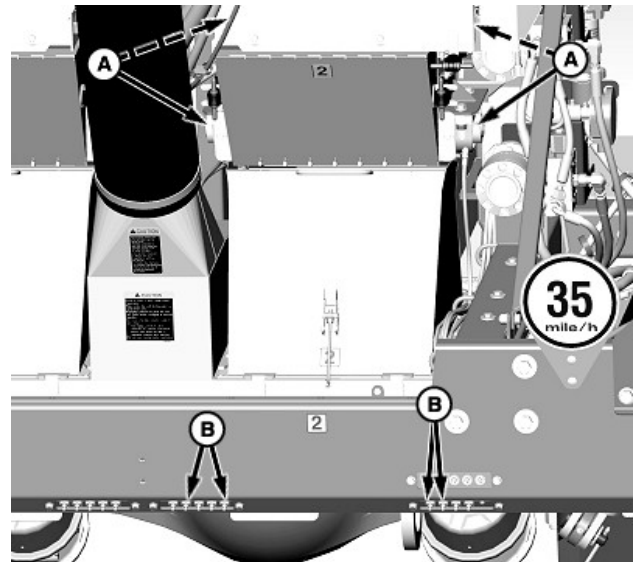


**A—Front Shaft Bearing
B—Grease Fitting (4 used)**

Lubricate second product bin front shaft bearings (A) using John Deere SD Polyurea grease at each grease fitting (B).

BN55050,0000133-19-14MAY18

Lubricate Driveshaft Bearings—50 Hours

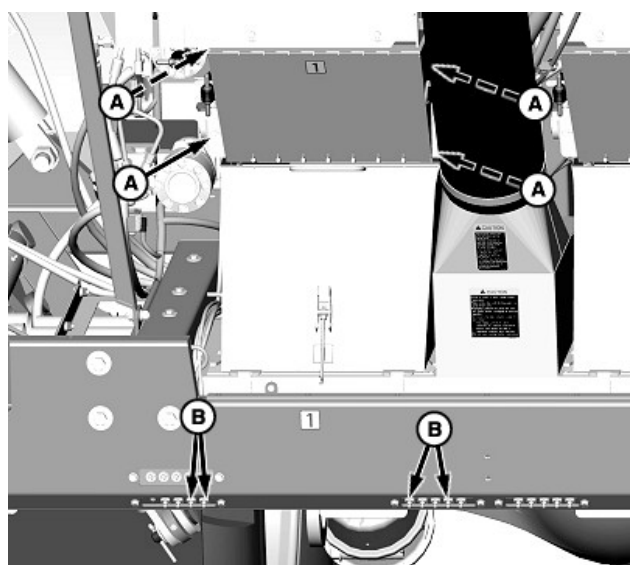


**A—Driveshaft Bearing
B—Grease Fitting (4 used)**

Lubricate driveshaft bearings (A) using John Deere SD Polyurea grease at grease fittings (B).

BN55050,0000134-19-14MAY18

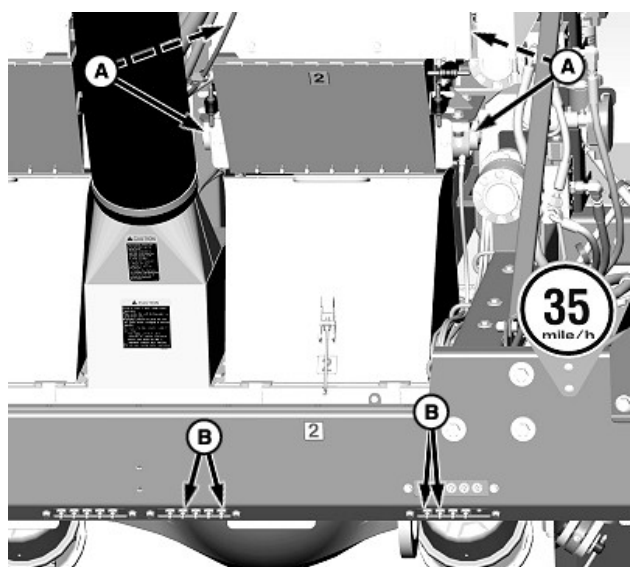
Lubricate Rear Shaft Bearings—50 Hours



Left-Hand Bearings

A—Rear Shaft Bearing
B—Grease Fitting (4 used)

Lubricate left-hand rear shaft bearings (A) using John Deere SD Polyurea grease at grease fittings (B).



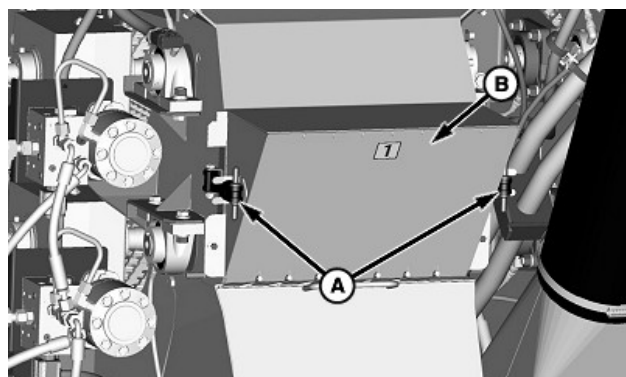
Right-Hand Bearings

A—Rear Shaft Bearing
B—Grease Fitting (4 used)

Lubricate right-hand rear shaft bearings (A) using John Deere SD Polyurea grease at grease fittings (B).

BN55050,0000135-19-14MAY18

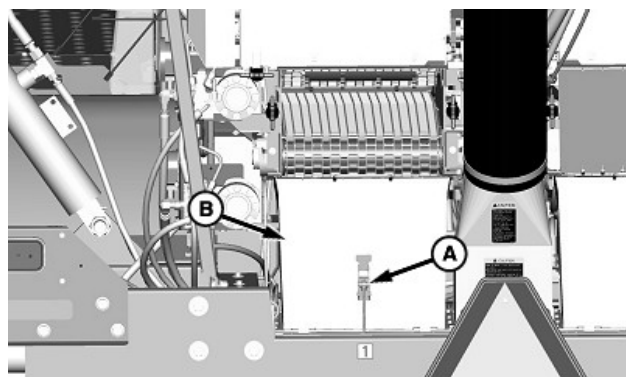
NOTE: Left-hand side shown, right-hand side is similar.



N131020—UN—05JUL17

A—Latches
B—Material Divider

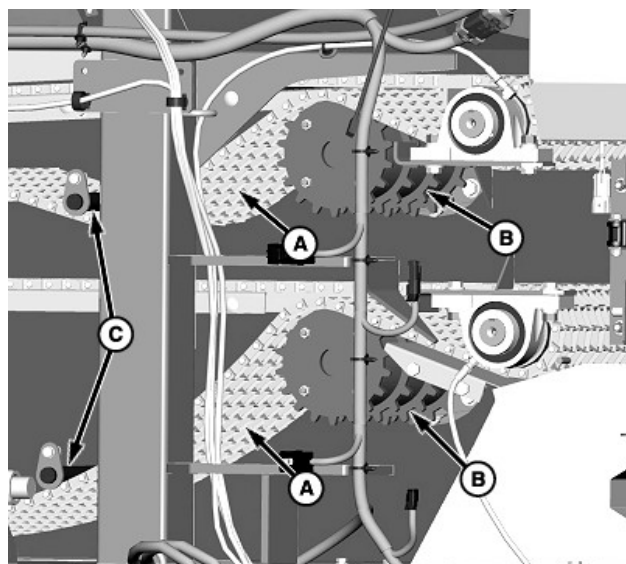
2. Release latches (A) and remove the material divider (B).



N131981—UN—10AUG17

A—Latch
B—Funnel Assembly

3. Release latch (A) and funnel assembly (B).



N131982—UN—10AUG17

A—Measurement Location
B—Driveshaft
C—Idler

Check Conveyor Chain Tension—50 Hours

1. Park machine on a level surface and remove the key.

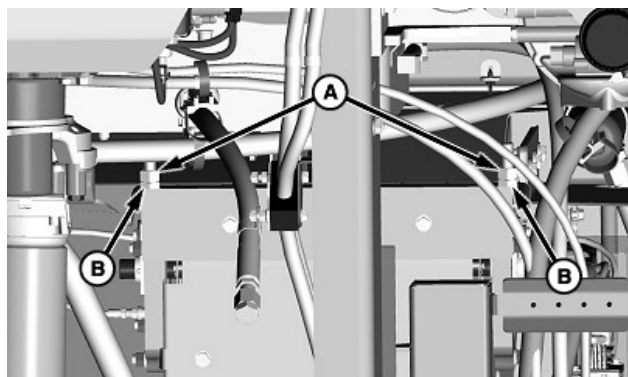
4. Verify that chain deflection is within specification.
Push the chain forward at location (A) between the driveshaft (B) and the idler (C).

Specification

Main Bin Conveyor—Deflection. 38.1—50.8 mm
(1.5—2 in)

Second Product Bin
Conveyor—Deflection. 25.4—38.1 mm
(1—1.5 in)

5. If main bin chain tension is not within specification, adjust tension using the following procedure:

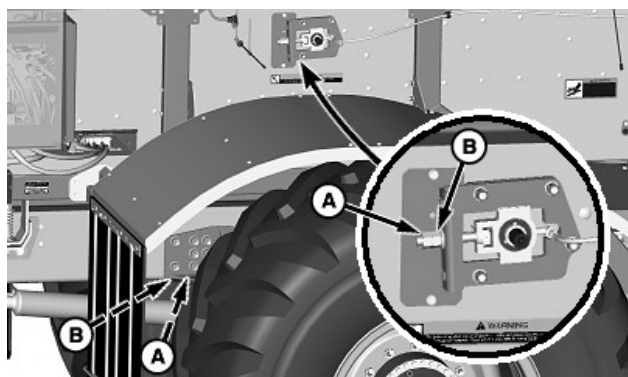


N131983—UN—10AUG17

Bottom View, Front of Main Bin

A—Lock Nut
B—Adjustment Nut

- a. Loosen lock nuts (A).
 - b. Adjust chain tension to specification using adjustment nuts (B).
 - c. Ensure that chain tension is equal on both sides of the conveyor.
 - d. Tighten lock nuts.
6. If second product bin chain tension is not within specification, adjust tension using the following procedure:



N131984—UN—10AUG17

A—Lock Nut
B—Adjustment Nut

- a. Loosen lock nuts (A).

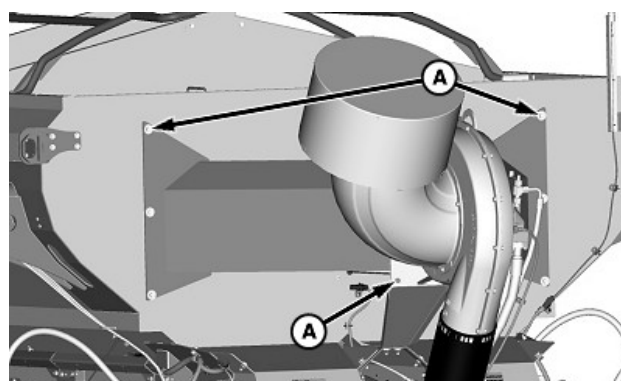
- b. Adjust chain tension to specification using nuts (B).
- c. Ensure that chain tension is equal on both sides of the conveyor.
- d. Tighten lock nuts.

7. Install all previously removed components.

8. Repeat for the right-hand side.

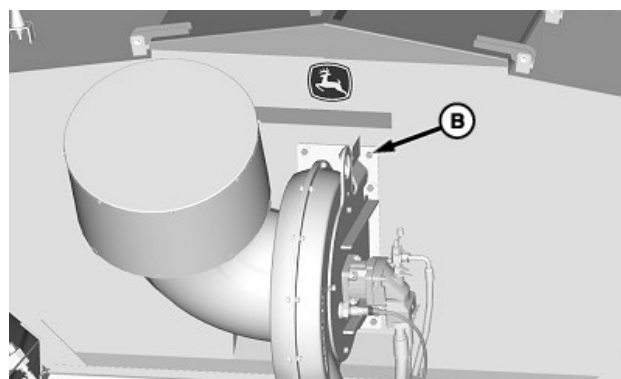
CS12167,0000AAC-19-09APR18

Tighten Fan Assembly Mounting Hardware—50 Hours



N134943—UN—15MAR18

Spreader Without Micronutrient Bins



N136651—UN—09APR18

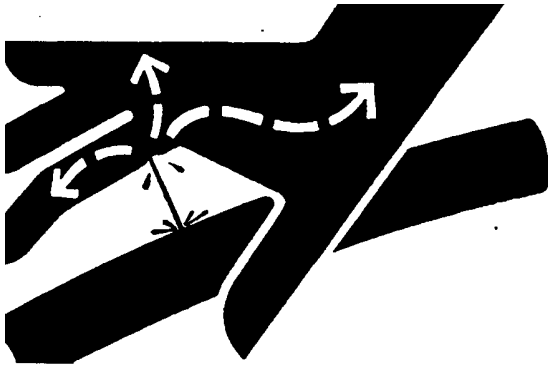
Spreader With Micronutrient Bins

A—Fan Assembly Mounting Hardware (12 used)
B—Fan Assembly Mounting Hardware (6 used)

Check fan assembly mounting hardware (A and B) for tightness and missing hardware every 50 hours. Tighten any loose hardware and replace any missing hardware.

CS12167,0000AAD-19-09APR18

Inspect Hydraulic Hoses—50 Hours



X9811—UN—23AUG88

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

Inspect hydraulic hoses every 50 hours 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.

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.

CS12167,0000AAF-19-09APR18

Inspect Tarp—Every 2 Weeks (If Equipped)

1. Inspect tarp for any tears, cuts or worn areas.
2. Repair or replace as required.

OUC6092,0000BA1-19-09APR18

Inspect Tarp Assembly Hardware—Every 2 Weeks (If Equipped)

1. Inspect tarp assembly for loose or missing hardware.

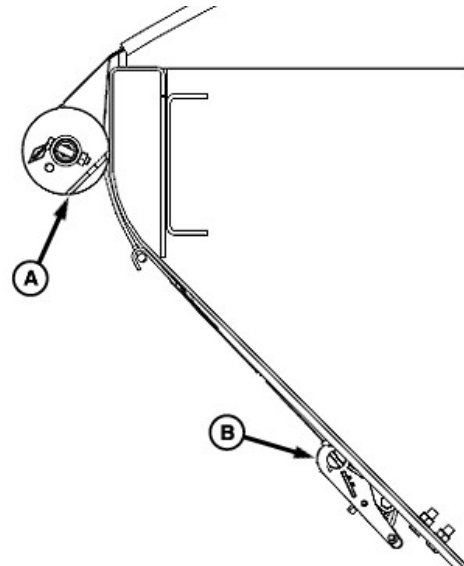
NOTE: All hardware supplied with tarp assembly is stainless steel. Ensure that replacement parts are made of stainless steel.

2. Replace missing or damaged hardware.

OUC6092,0000BA2-19-09APR18

Check Tarp Assembly Cable Tension—Every 2 Weeks (If Equipped)

1. Check cable tension.
2. Adjust as necessary using the following procedure:



N117488—UN—15APR15

A—Channel (2 used)
B—Ratchet (2 used)

- a. Tighten ratchets (B) to remove the slack from the cable and apply tension on the roll tarp. Note position of channels (A) on front and rear spools as initial tension is reached.
- b. Tighten ratchets so channels rotate 90 degrees from original position.

NOTE: Ratchets must be in locked position to hold tension. Do not release ratchets to operate system.

- c. Open and close tarp five or six times to allow cables to seat in spool grooves and tarp to pull tight.
- d. Check position of channels and retighten ratchet to rotate channels 90 degrees from their initial position.

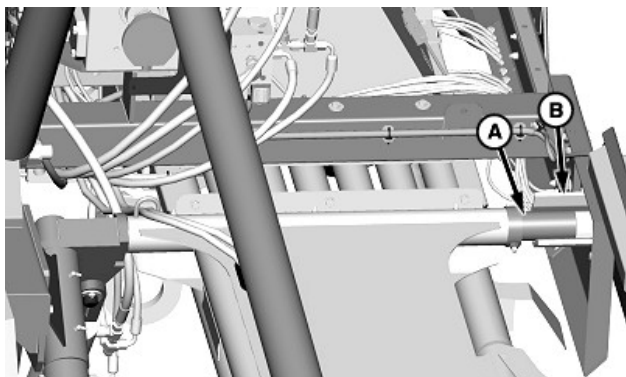
OUC6092,0000BA3-19-09APR18

Inspect Spreader Body and Boom Structure—200 Hours

Inspect the spreader body and boom structure for straightness, cracked welds, loose hardware, and other defects every 200 hours. Repair spreader body as necessary.

CS12167,0000AA2-19-03AUG17

Adjust Boom Fold Cylinders—200 Hours

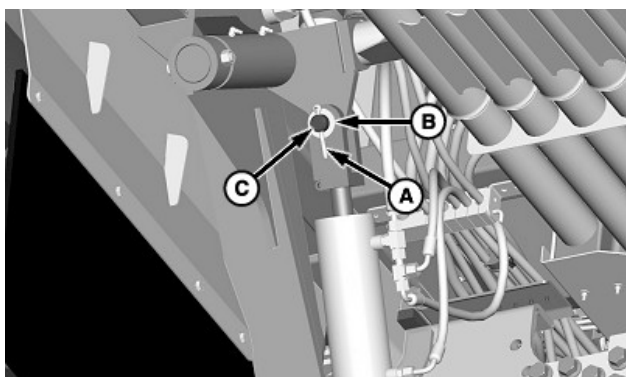


N131987—UN—10AUG17

A—Inner Boom Pivot
B—Pivot Rest

The inner boom pivot (A) must remain seated in the pivot rest (B) when the boom is in operating position. If necessary, adjust the fold cylinders using the following procedure:

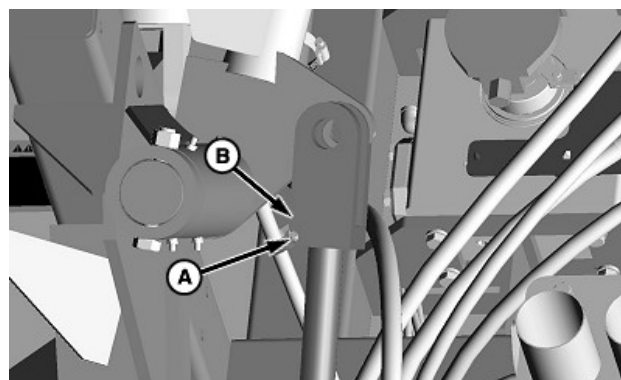
1. Unfold the boom.
2. Support the boom structure with a suitable lifting device.



N131988—UN—10AUG17

A—Cotter Pin
B—Washer
C—Pin

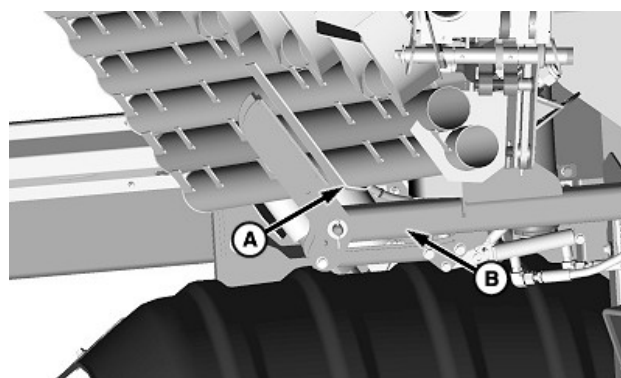
3. Remove and retain cotter pin (A), washer (B), and pin (C).



N136652—UN—09APR18

A—Cap Screw
B—Clevis

4. Loosen cap screw (A) and adjust clevis (B) until the correct position is achieved.
5. Install pin, washer, and cotter pin.
6. Remove lifting device.
7. Fold the boom.



N137286—UN—03MAY18

A—Boom
B—Cradle

8. Verify that the boom (A) rests properly in the cradle (B).

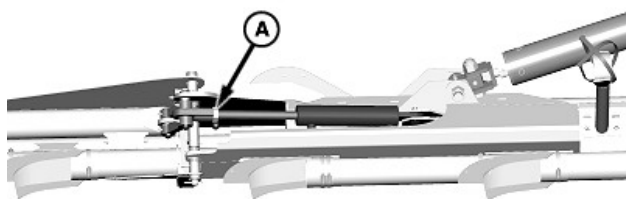
CS12167,0000AA4-19-08MAY18

Adjust Outer Boom Fold Cylinder—200 Hours

The outer boom fold cylinder must apply pressure to the outer boom when unfolded. Applying pressure to the outer boom prevents boom tip bouncing when operating on rough terrain. Adjust the outer boom fold cylinder using the following procedure.

NOTE: Left-hand side shown, right-hand side is similar.

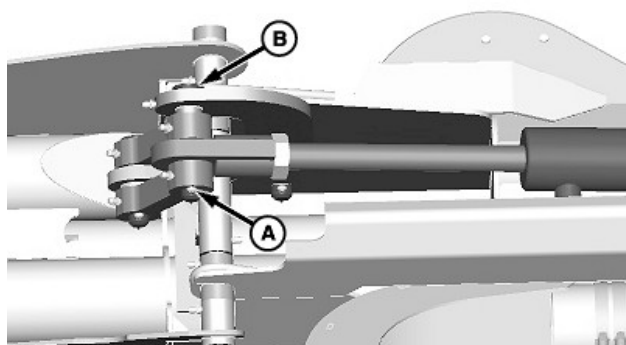
1. Unfold the boom.



A—Lock Nut

N131989—UN—10AUG17

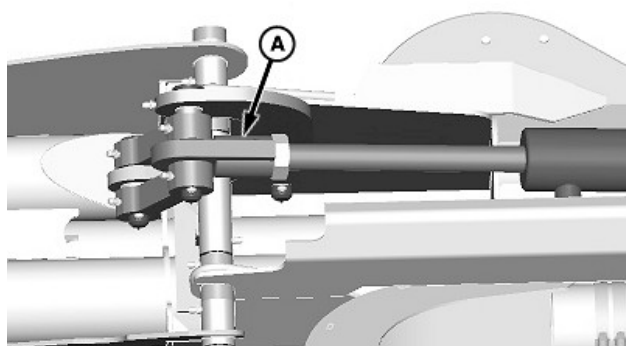
2. Loosen lock nut (A).



A—Cotter Pin
B—Pin

N131990—UN—10AUG17

3. Remove and retain cotter pin (A) and pin (B).



A—Clevis

N131991—UN—10AUG17

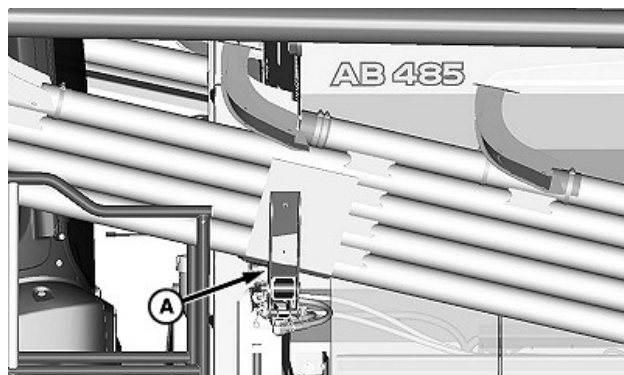
4. Adjust clevis (A) to apply more or less pressure to the outer boom when it is unfolded.
5. Install previously removed pin and cotter pin.
6. Tighten lock nut.
7. Fold the boom.

CS12167,0000AB0-19-07AUG17

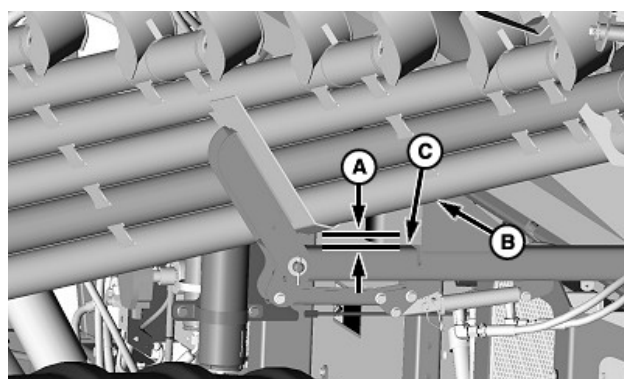
Adjust Boom Strut Length—200 Hours

Adjust boom strut length so that the required clearance is maintained between the boom and the cradle when folding the boom.

1. Fold the boom.



N136483—UN—20MAR18



N137059—UN—01MAY18

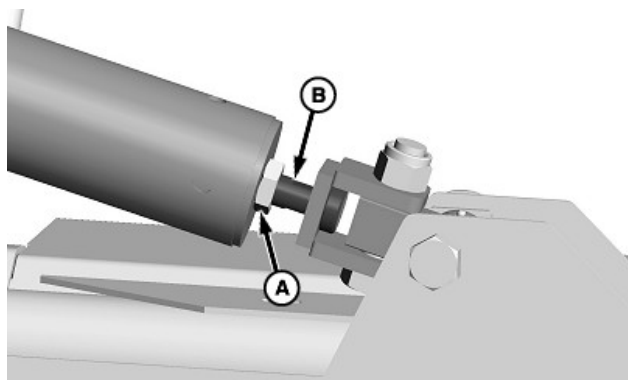
A—Distance
B—Boom
C—Cradle

2. Measure distance (A) between the boom (B) and the cradle (C).
3. If the distance is within specification, no adjustment is necessary. If distance is out of specification, adjust the boom strut.

Specification

Boom to Cradle—Distance. 25.4—38.1 mm
(1—1.5 in)

4. Unfold the boom.



N137060—UN—01MAY18

A—Nut
B—Boom Tilt Pin

5. Loosen the nut (A).
6. Turn the boom tilt pin (B) to adjust the strut length.
7. Tighten the nut to specification.

Specification

Nut—Torque. 250 N·m
(184.4 lb·ft)

8. Fold the boom and verify distance between the boom and cradle is now within the specification. If distance is still out of specification, repeat adjustment procedure.

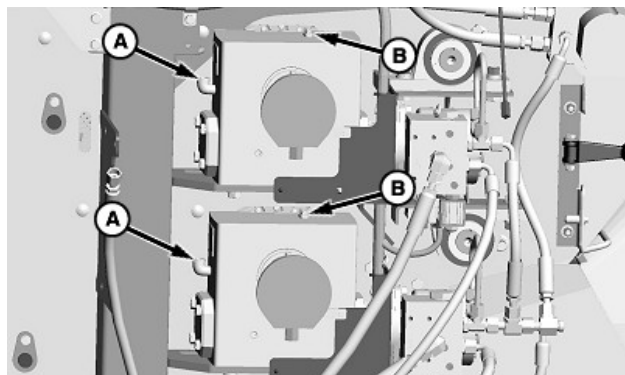
CS12167,0000AA5-19-08MAY18

Check Gear Case Oil—200 Hours

NOTE: Left-hand side shown, right-hand side is similar.

Machine shown is equipped with a second product bin.

1. Park machine on a flat level surface.



N137285—UN—03MAY18

A—Main Bin and Second Product Bin Fill/Level Port
B—Vent

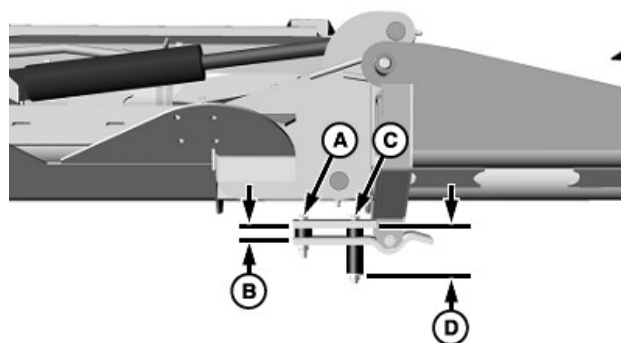
2. Remove the plugs from the fill/level ports (A).
3. If necessary, clean the vents (B).
4. Verify that oil level is even with the bottom of the fill level hole.

5. If necessary, add recommended oil until the correct level is reached. (See Gear Case Oil in the Lubricant Specifications section.)

6. Install the plugs.

OUC6092,0000BAA-19-03MAY18

Adjust Breakaway Tension—200 Hours



N136653—UN—09APR18

A—Cap Screw
B—Distance
C—Cap Screw
D—Distance

1. Adjust cap screw (A) until distance (B) is within specification.

Specification

Breakaway
Adjustment—Distance. 14.75 mm
(0.58 in)

2. Adjust cap screw (C) until distance (D) is within specification.

Specification

Breakaway
Adjustment—Distance. 89 mm
(3.5 in)

CS12167,0000B2C-19-09APR18

Inspect Conveyor Chains—1000 Hours

Inspect the conveyor chains every 1000 hours for worn or broken links and rollers. Inspect also for stiff sections of chain. Repair or replace the conveyor chain as necessary.

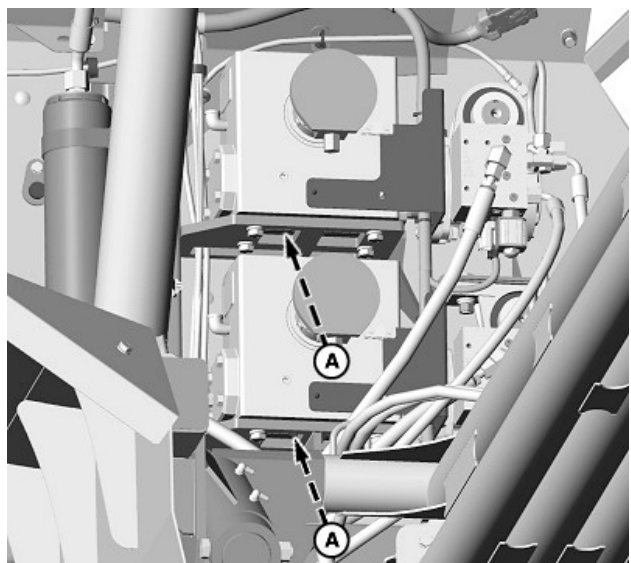
CS12167,0000AA6-19-08AUG17

Change Gear Case Oil—1000 Hours

NOTE: Left-hand side shown, right-hand side is similar.

Machine shown is equipped with a second product bin.

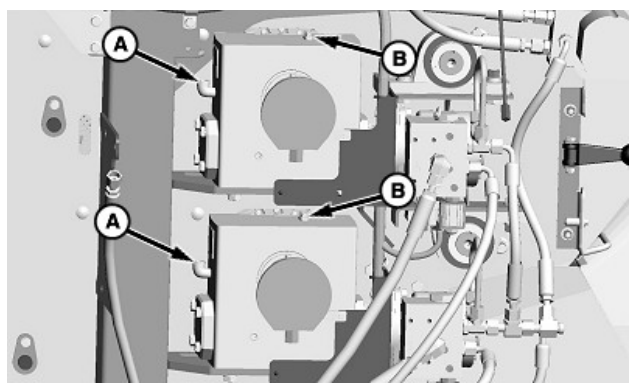
1. Park machine on a flat level surface.



N132102—UN—10AUG17

A—Drain Plug

2. Remove drain plugs (A) and drain oil into a suitable container. Reinstall plugs.



N137285—UN—03MAY18

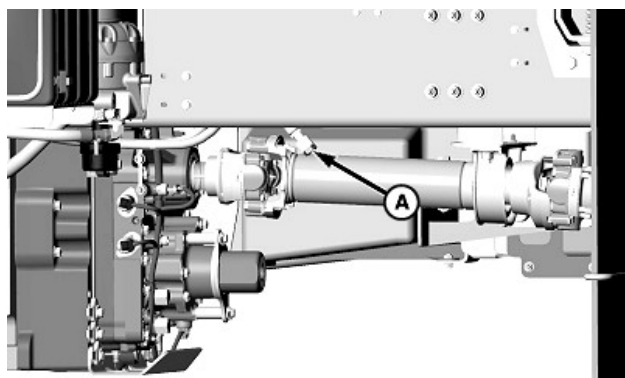
**A—Fill/Level Port
B—Vent**

3. Remove the plugs from the fill/level ports (A).
4. If necessary, clean the vents (B).
5. Fill the gear case through the fill/level port with recommended oil until fill level is reached. (See Gear Case Oil in Lubricant Specifications section.)
6. Reinstall the plugs.

OOU6092,0000BAC-19-03MAY18

Change Hydraulic Oil—1000 Hours

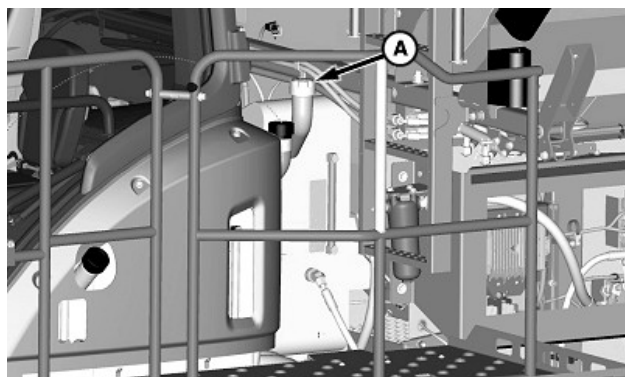
1. Park machine on a flat level surface.



N132103—UN—10AUG17

A—Drain Plug

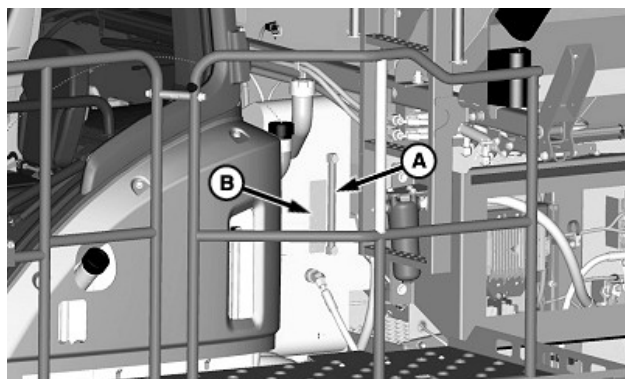
2. Remove drain plug (A) and drain oil into a suitable container.
3. Install drain plug.



N131534—UN—28JUL17

A—Filler Cap

4. Remove filler cap (A).



N131532—UN—28JUL17

**A—Sight Gauge
B—Decal**

5. Fill reservoir with the recommended oil until the oil level in the sight gauge (A) is at the correct level on the decal (B).
6. Install the filler cap.

CS12167,0000AA7-19-09AUG17

Inspect Hydraulic Relief Valves—1000 Hours

Inspect hydraulic relief valves and relief pressures every 1000 hours. See your John Deere dealer or other qualified service provider for this service.

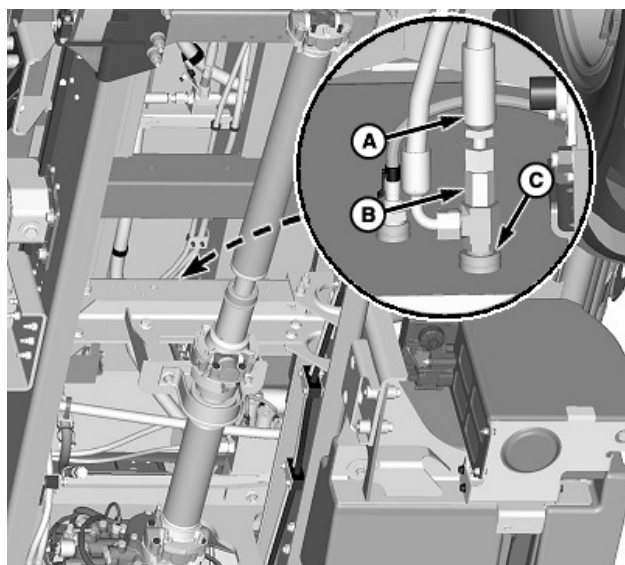
CS12167,0000AA8-19-09APR18

6. Verify proper hydraulic oil level in the reservoir. Add oil as necessary.

BN55050,0000246-19-16MAY18

Clean Fan Motor Case Drain Strainer—1000 Hours

IMPORTANT: Failure to clean the strainer within the specified service interval may result in fan motor shaft seal leakage or premature seal wear due to excessive back pressure.



N137571—UN—16MAY18

A—Hose Fitting
B—Strainer Fitting
C—FD Port

1. Disconnect the hose fitting (A).
2. Remove the strainer fitting (B) from the FD port (C) of the reservoir.
3. Clean contaminates from the strainer.
4. Install the strainer fitting in the FD port. Tighten to specification.

Specification

Strainer Fitting—Torque. 37 N·m
(27.3 lb·ft)

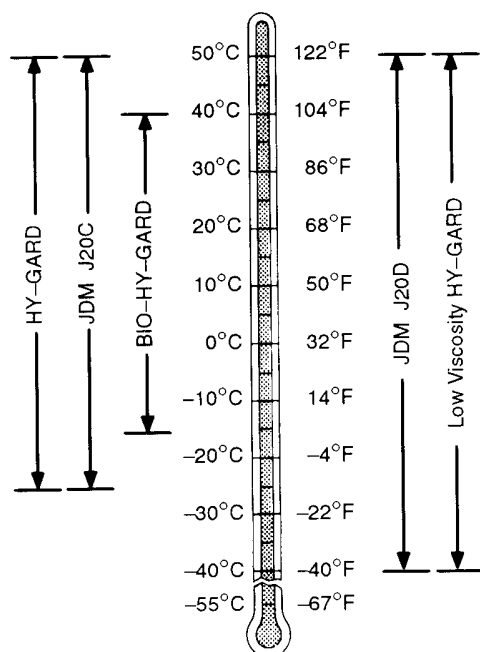
5. Install the hose fitting to the strainer fitting. Tighten to specification.

Specification

Hose Fitting—Torque. 37 N·m
(27.3 lb·ft)

Lubricant Specifications

Transmission and Hydraulic Oil



TS1625—UN—12DEC94

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™

John Deere BIO-HY-GARD™ oil is also recommended.

Other oils may be used if they meet one of the following:

- John Deere Standard JDM J20C
- John Deere Standard JDM J20D

Arctic oils (such as Military Specification MIL-L-46167B) may be used at temperatures below -30°C (-22°F).

DX, HYOIL2-19-01DEC94

Gear Case Oil

Lubricate these assemblies with non-corrosive type SAE 90 E.P. (extreme pressure) gear oil conforming to MIL-L2105B multi-purpose gear lubricating oil requirements (API Service GL 4) with ambient temperatures from 40 to 100°F (4.4 to 37.8°C). Ambient temperatures below 40°F (4.4°C) require an SAE 80 E.

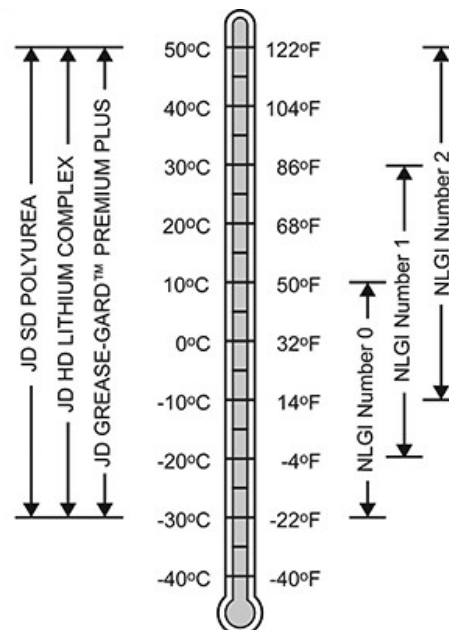
*HY-GARD is a registered trademark of Deere & Company.
BIO-HY-GARD is a trademark of Deere & Company.*

P. lubricant; above 100°F (37.8°C) use an SAE 140 E.P. grade oil.

CS12167,000003F-19-16APR12

Multipurpose Extreme Pressure (EP) Grease

IMPORTANT: For automated lubrication systems different ambient air temperatures need to be considered.



RG30199—UN—08MAR18

Greases for Air Temperature Ranges

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 Grease-Gard™ Premium Plus

Other greases may be used if they meet the following:

- NLGI Performance Classification GC-LB
- ISO-L-X-BDHB 2 or DIN KP 2 N-10 Lithium Complex, Non-Synthetic Base Oil (100 to 220 mm²/s @ 40°C)

Grease-Gard is a trademark of Deere & Company

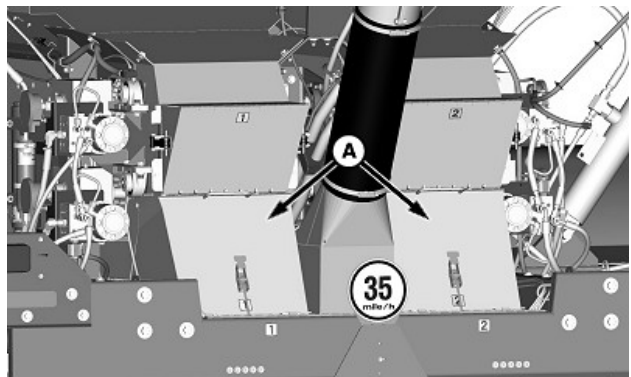
IMPORTANT: Some types of thickeners, base oils, and additives used in greases are not compatible with others. Mixing greases should be avoided. Consult your grease supplier before mixing different types of grease.

DX, GRE A1-19-13JAN18

Transport

Prepare Machine for Transport on Semi-Tractor Trailer

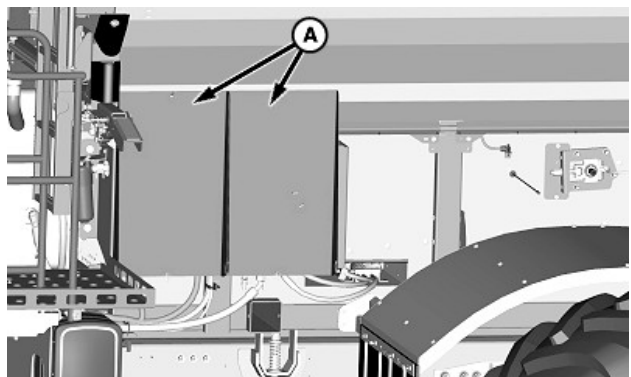
1. Place speed control lever in the park position.



N126329—UN—05JUL17

A—Funnel Assembly

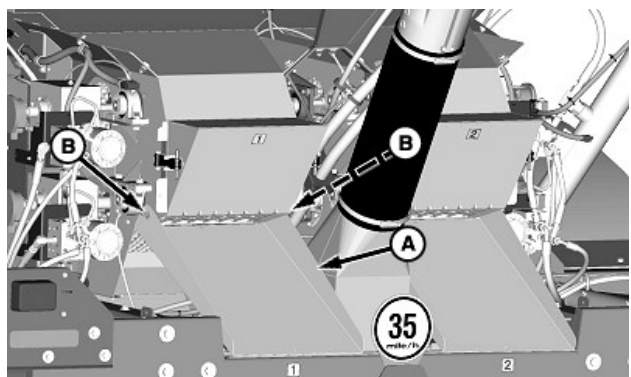
2. Remove funnel assemblies (A).



N132111—UN—16AUG17

A—Calibration Chute

3. Remove calibration chutes (A) from storage position.



N132112—UN—16AUG17

**A—Calibration Chute
B—Retaining Pin**

4. Install calibration chutes (A) to retaining pins (B).
5. Position a container large enough to hold the remaining product under each calibration chute.
6. Perform a bin purge procedure. (See Bin Purge in Dry Application System section.)

7. Set engine speed to 1000 rpm.



N132107—UN—16AUG17

**A—Indicator Light
B—Spread System Master Switch**

NOTE: Indicator light (A) is off when the switch is disabled.

8. Verify spread system master switch (B) is disabled.



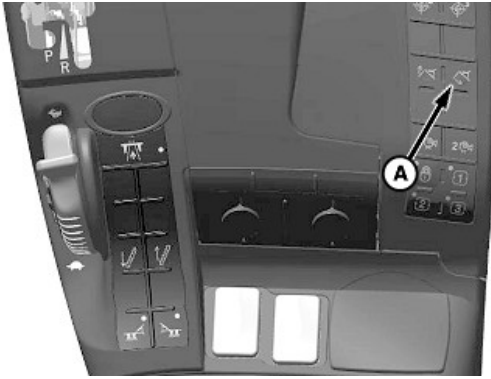
N132108—UN—16AUG17

**A—Indicator Light
B—Hydraulic Enable Switch**

NOTE: Indicator light (A) is off when the switch is disabled.

The hydraulic enable switch (B) enables the fan when the application system is installed.

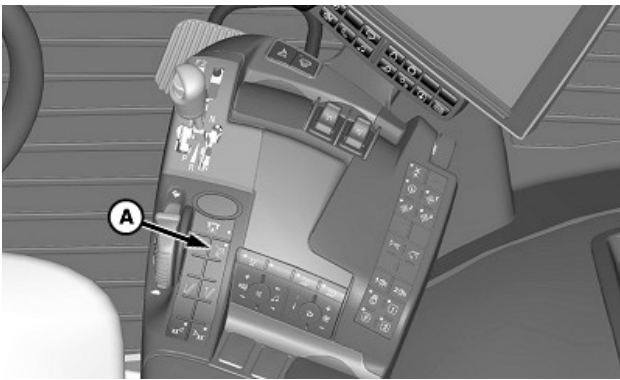
9. Verify that hydraulic enable switch is disabled.
10. Park machine on level ground.
11. Remove deflectors from the air boom.



N132114—UN—16AUG17

A—Boom Fold Switch

12. Press and hold boom fold switch (A) until the booms are folded.

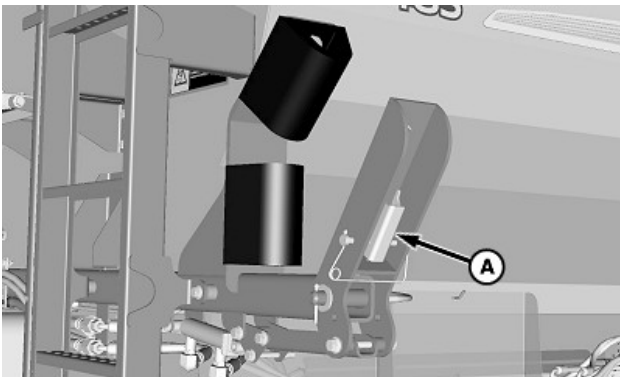


N134940—UN—15MAR18

A—Boom Lock Switch

13. Engage boom locks using the boom lock switch (A).
14. Set throttle to low idle position.

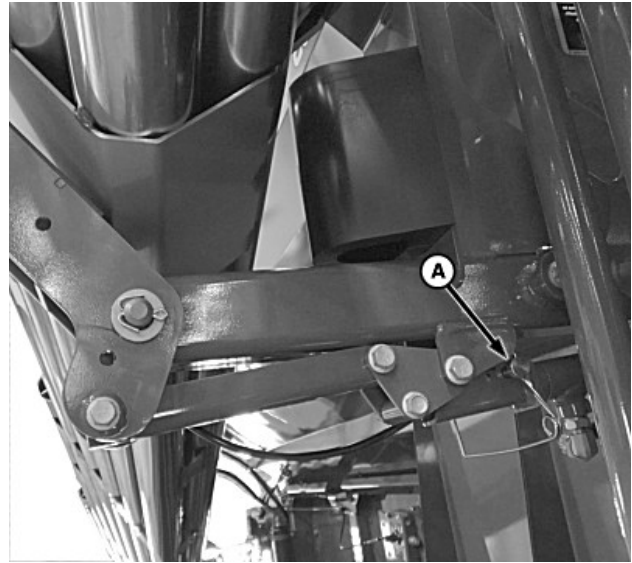
NOTE: Left-hand side is shown and the right-hand side is similar.



N136496—UN—27MAR18

A—Storage Position

15. Remove the manual boom lock from the storage position (A).



N137301—UN—27JUN18

A—Boom Lock

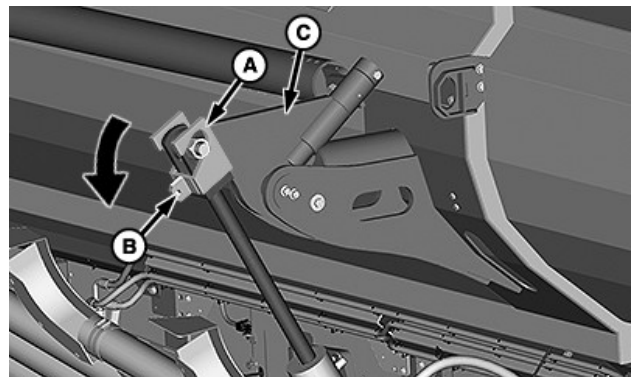
16. Install manual boom lock (A).



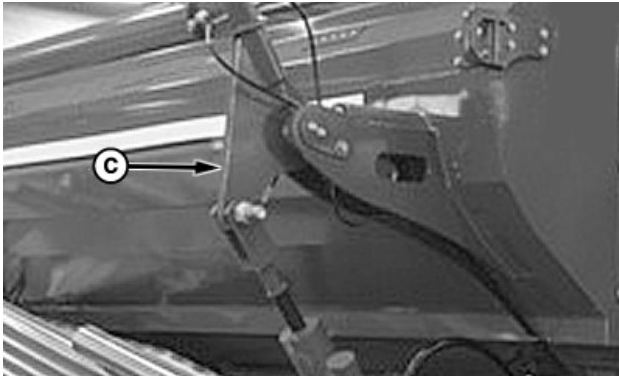
N134940—UN—15MAR18

A—Boom Lock Switch

17. Disengage boom locks using booms using boom lock switch (A).



N134565—UN—07MAY18



N137292—UN—07MAY18

Pivot Plate in Shipping Position

A—Tool
B—Square Hole
C—Pivot Plate

18. Position dealer fabricated tool (A) around cylinder, and hook over bolt.
19. Insert breaker bar into the square hole (B) in the tool.
20. Have someone press and hold boom tilt down switch in the cab, while applying force to rotate the pivot plate (C) downward to shipping position.



N134940—UN—15MAR18

A—Boom Lock Switch

21. Engage boom locks using boom lock switch (A).



N137281—UN—03MAY18

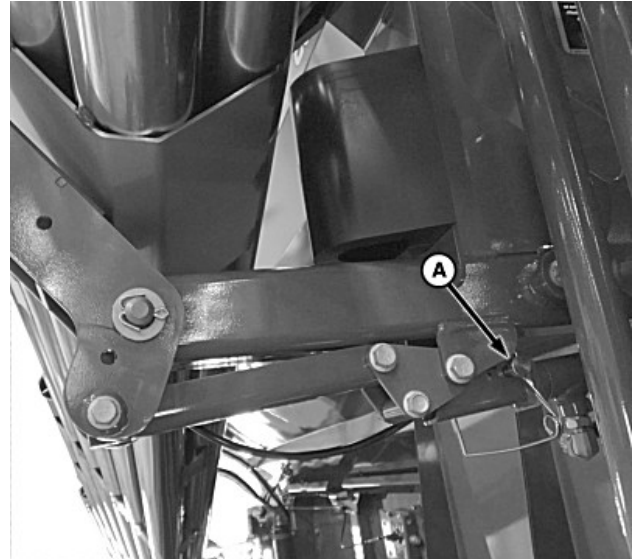
A—Transport Lock Switch

22. Engage transport lock by pressing transport lock switch (A).

OUC6092,0000DBA-19-29JUN18

Remove Boom from Shipping Position

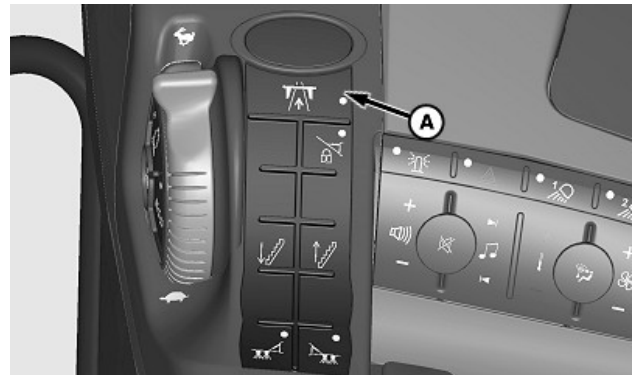
1. Start the engine. Run engine speed at or above 1800 rpm.



N137301—UN—27JUN18

A—Manual Boom Lock

2. Verify manual boom locks (A) are installed.



N137281—UN—03MAY18

A—Transport Lock Switch

3. Verify that the transport lock switch (A) is turned off.

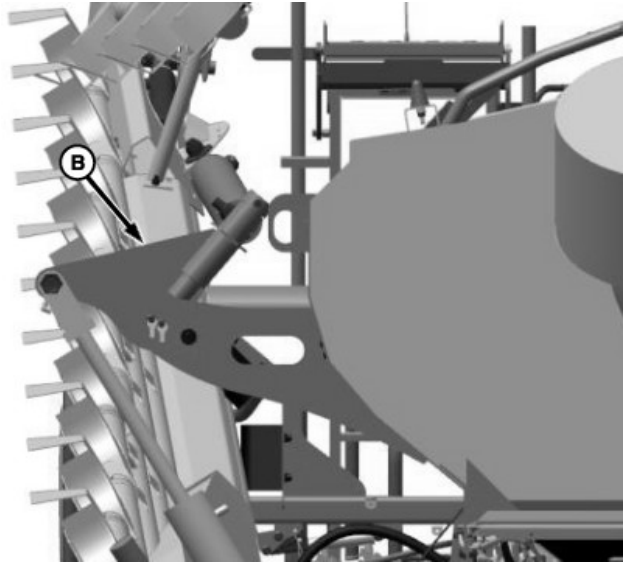
NOTE: Do not remove manual boom locks before performing procedure.



N134940—UN—15MAR18

A—Boom Lock Switch

4. Check the working area around the machine.
Disengage boom locks using boom lock switch (A).



N137300—UN—27JUN18

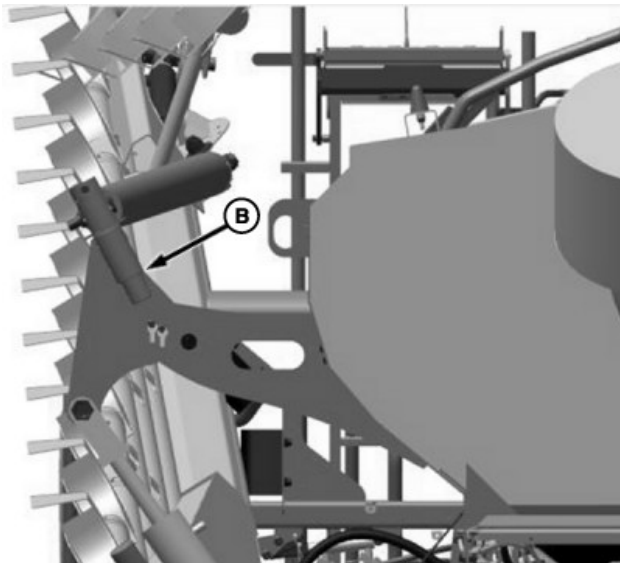
Tilt Bracket in Operating Position

**A—Tilt Switch
B—Tilt Bracket**

5. Press and hold both left and right boom tilt up switches (A) until the triangular tilt bracket (B) moves from shipping position to operating position.



N132115—UN—16AUG17



N137299—UN—27JUN18

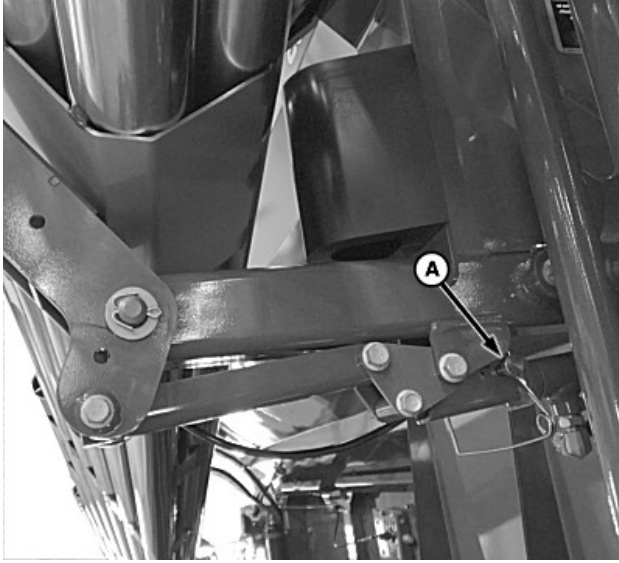
Tilt Bracket in Shipping Position



N134940—UN—15MAR18

A—Boom Lock Switch

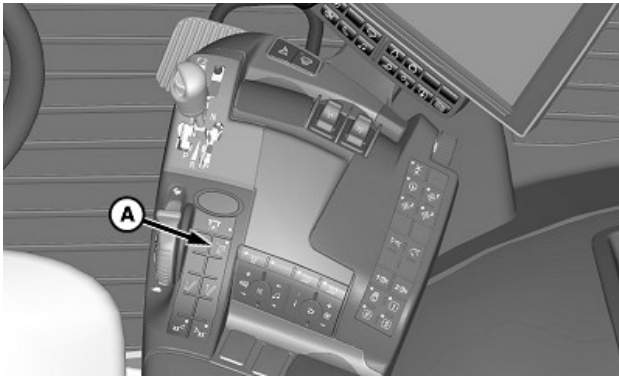
6. Press the boom lock switch (A) to engage boom locks in order to take the pressure off the manual boom locks.



N137301—UN—27JUN18

A—Manual Boom Lock

7. Remove the manual boom lock (A) from both booms.



N134940—UN—15MAR18

A—Boom Lock Switch

8. Check the working area around the machine. Disengage boom locks with the boom lock switch (A).



N137302—UN—27JUN18

A—Unfold Switch

9. Unfold boom by pressing the unfold switch (A).

NOTE: Tilt switches may have to be held for a few seconds before the boom visually moves.



N132804—UN—19SEP17

10. Adjust booms up and down three times using tilt switches (A), ending with boom tilted up.

OUC6092,0000DB8-19-02JUL18

Troubleshooting

Spreader Troubleshooting

Symptom	Problem	Solution
Fan motor does not turn when fan control valve is in running position, or conveyor does not run when control unit is in manual mode.	Hydraulic oil level is low.	Add hydraulic oil as necessary to maintain level around the mid-point of sight gauge.
	Hydraulic pump is not rotating.	Refer to the F4365 Nutrient Applicator Operator's Manual.
	Relief valve set too low.	Refer to the F4365 Nutrient Applicator Operator's Manual.
	Hydraulic pump is worn.	Refer to the F4365 Nutrient Applicator Operator's Manual.
	Fan motor is jammed or frozen.	Free up fan motor. If not possible, replace as required.
	Conveyor is jammed or frozen.	Remove any obstructions from the conveyor. Check for high pressure on hydraulic high-pressure gauge. Verify correct V-hood and feedgate position.
	Conveyor hydraulic motor is jammed or frozen.	Replace motor.
	Hoses going to the fan motor are hooked up backwards.	Swap the hoses.
	Relief valve open to return line.	Use a relief valve testing adapter and flowmeter to test valve for opening pressure. If pressure is not 10 340 kPa (103 bar) (1500 psi), replace relief valve.
	Conveyor is jammed or frozen.	Remove any obstructions from the conveyor. Check for high pressure on hydraulic high-pressure gauge. Verify correct V-hood and feedgate position.
Fan runs but conveyor does not run in manual mode.	Conveyor hydraulic motor is jammed or frozen.	Replace motor.
	Pulse Width Modulated (PWM) valve is damaged.	Repair or replace the PWM valve.

Troubleshooting

Symptom	Problem	Solution
	Left and right sections are turned off.	Turn on left and/or right section control.
Console in operation mode, but the conveyor does not move when the machine moves.	Relief valve open to return line.	Use a relief valve testing adapter and flowmeter to test valve for opening pressure. If pressure is not 13 800 kPa (138 bar) (2000 psi), replace relief valve.
	Conveyor is jammed or frozen.	Free up conveyor.
	Conveyor hydraulic motor is jammed or frozen.	Replace motor.
	Conveyor hydraulic motor shaft key is sheared.	Replace key.
Fan speed does not stay constant.	Relief valve set too low.	Refer to the F4365 Nutrient Applicator Operator's Manual.
	Hydraulic pump is worn.	Refer to the F4365 Nutrient Applicator Operator's Manual.
	Fan control valve defective.	Replace valve metering spool spring. If no improvement, replace fan control valve.
	Fan sensor is not adjusted correctly.	Adjust the sensor per specifications.
	Contamination is located in the load sense bleed-down orifice.	Clear orifice.
	Fan rotor blades are worn.	Replace the rotor and inspect the housing.
Hydraulic oil overheats (93.4°C [200°F] or hotter).	Hydraulic oil level is low.	Add hydraulic oil as necessary to maintain the appropriate level.
	Relief valve set too low.	Refer to the F4365 Nutrient Applicator Operator's Manual.
	Conveyor relief valve open to return line.	Use a relief valve testing adapter and flowmeter to test valve for opening pressure. If pressure is not 13 800 kPa (138 bar) (2000 psi), replace relief valve.
	Fan or conveyor hydraulic motor is worn.	Motor heats up at an excessive rate (check for this heating when system is cold). Replace motor.
	Improper or deteriorated hydraulic oil in the machine.	Replace hydraulic oil with proper specification oil and replace filter.

Troubleshooting

Symptom	Problem	Solution
Hydraulic system pulsates.	Pinched or obstructed hose, hydraulic line, or fitting on the machine.	Clear obstruction or replace part. Straighten kinked hoses.
	Oil cooler fins are plugged.	Clean oil cooler fins.
	Hydraulic pump requires adjustment.	Refer to the F4365 Nutrient Applicator Operator's Manual.
Spreader is not functioning properly.	Inspect the control unit application or programming.	Refer to the control manual Troubleshooting section.
No low bin warning when the bin empties.	Bin sensor covered with material.	Clean bin sensor. (See Clean Bin Sensor—As Required in Lubrication and Maintenance section.)
	Bin sensor is faulty.	Verify voltage on readings page. Replace bin sensor if faulty.
	Control unit alarm not enabled.	Program control unit to count down product for a low bin warning.
Machine will not reach transport speed.	Bin level sensor is covered with material.	Clean bin sensor. (See Clean Bin Sensor—As Required in the Lubrication and Maintenance section of this manual.)
	Faulty bin sensor.	Verify voltage on readings page. Replace bin sensor if faulty.
Fan operates at reduced maximum pressure and speed when fan control is adjusted to the full open position.	Hydraulic oil is not at operating temperature.	Run the fan at high speed with the engine at 1000 rpm until the oil reaches operating temperature.
	Hydraulic filter is restricted.	Replace hydraulic filter.
	Hydraulic pump is worn or damaged.	See your John Deere dealer or other qualified service provider.
Fan does not operate when hydraulic pressure is at specification.	Fan is lodged in the housing.	Free up fan so it rotates freely.
	Fan motor is damaged or seized.	Repair or replace the motor.
Fan does not stop or reach full speed.	Control valve is not adjusted correctly.	Adjust control valve.
Application rate varies from selected rate when using the provided standard CFR value.	Conveyor feedgate height not set correctly.	Set feedgate to the correct height.
	Product properties do not match standard CFR value.	Perform a CFR calibration.
Application rate reading is erratic.	Hydraulic hose is contacting the rate sensor.	Change hydraulic hose routing.

Troubleshooting

Symptom	Problem	Solution
Spread pattern is not even.	Deflectors are not adjusted properly.	Adjust deflectors and trim tabs.
	Divider tabs are not adjusted properly.	Perform a bag test and adjust divider tabs.
	Material carried back on conveyor chains.	Install a catch pan kit.

OUO6092,0000BB5-19-14MAY18

Micronutrient Bin Troubleshooting

Symptom	Problem	Solution
Application rate is consistently different from the programmed rate using the standard spreader constant.	Product properties not matched with standard spreader constant value.	Perform conveyor feed rate (CFR) calibration.
Inaccurate or inconsistent product application.	Meter roller grooves plugged, worn, or damaged.	Clean or replace meter rollers.
	Incorrect or mismatched meter rollers installed.	Install correct meter rollers.
Right-hand meter rollers do not operate but left-hand meter rollers do or vice versa.	Faulty fuse.	Replace fuse.
	Faulty switch.	Replace switch.
	Electrical wiring faulty.	Repair or replace wiring.
	Electric clutch faulty.	Repair or replace electric clutch.
Meter rollers jam.	Obstruction in the meter rollers.	Clear the obstruction.
	Insufficient clearance under meter roller.	Adjust bearing holders to increase clearance.
Micronutrient bin cover does not function properly.	Low air inlet pressure.	Check air supply.
	Low voltage, blown fuse, or poor ground.	Check the battery connection, fuse, and wiring.

CS12167,0000AA9-19-09APR18

Tarp Troubleshooting

Symptom	Problem	Solution
Cables do not wind properly in the spool grooves.	Spools are binding on the roll tube.	Remove, clean, and grease spools.

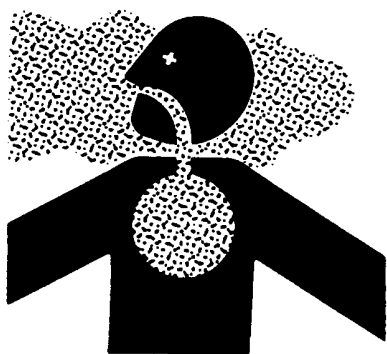
Troubleshooting

Symptom	Problem	Solution
Tarp does not roll evenly (binds on one or both ends).	Tarp is not centered.	Measure, center tarp, and verify that plastic washers are installed on fixed tube.
	Ratchets are not installed correctly.	Adjust from side to side.
	Cable tension is incorrect.	Adjust tension.
	Spools are binding on the roll tube.	Remove, clean, and grease spools.
	Cable tension is too loose.	Adjust tension as necessary.
Tarp is not taut in the middle when closed.	Tarp size has changed.	Verify that tarp has not been altered or improperly repaired and that tarp is square.
	Tension too loose.	Adjust tension as necessary.
	Ridge straps are not in correct location.	Move or install ridge straps as needed.
Tarp is worn or has holes.	Bow height and spacing are incorrect.	Move, adjust, repair, or replace bows as necessary.
	Spreader box has sharp edges.	Remove sharp edges, repair, or replace tarp parts and/or tarp.

CS12167,0000AAA-19-09APR18

Storage

Avoid Exposure To Chemicals



TS220—UN—15APR13



TS272—UN—23AUG88

CAUTION: Exposure to chemicals, including pesticides, can cause injury or death.
DO NOT RELY ON THIS CAB, CAB PRESSURE INDICATOR, OR CAB AIR FILTERS TO PROTECT AGAINST CHEMICAL EXPOSURE.

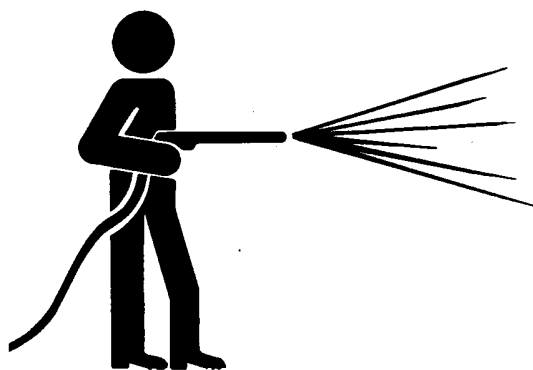
To reduce risk of chemical exposure:

- Wear PERSONAL PROTECTIVE EQUIPMENT in accordance with chemical manufacturer's label
- Allow only trained, certified applicators to apply chemicals
- Always close the windows and doors during spreading
- Verify that John Deere activated carbon filters, or appropriate substitutes, are installed at all times (see Checking and Replacing Cab Air Filters in the Cab and Air Conditioning section of machine Operator's Manual)
- Keep chemicals out of the cab
- Clean or remove contaminated shoes or clothing before entering the cab
- Keep cab interior clean
- Read and follow all instructions in:
 - Manufacturer's label for each chemical applied
 - U.S. Environmental Protection Agency (EPA) Worker Protection Standard for Agricultural Pesticides

- State or regional guidelines for worker safety and health
- Operator's Manual for this machine
- Numerous requirements must be met, including but not limited to EPA regulations
- Even while inside cab, always wear long sleeves, long pants, shoes, and socks when applying chemicals, including pesticides
- If necessary to leave cab when chemicals, including pesticides, are present, always use personal protective equipment recommended by chemical manufacturer
- Before reentering cab, remove personal protective equipment used to handle chemicals, including pesticides, and store equipment in accordance with EPA guidelines to prevent contaminating cab

OUC6092,000079E-19-04JUN12

Clean Vehicle of Hazardous Chemicals, Including Pesticides



T6642EJ—UN—18OCT88

CAUTION: During application of hazardous chemicals, including pesticides, residue can build up on the inside or outside of the vehicle. Clean vehicle according to use instructions of hazardous chemical.

When exposed to hazardous chemicals, clean exterior and interior of vehicle daily to keep free of the accumulation of visible dirt and contamination.

IMPORTANT: Directing pressurized water at electronic/electrical components or connectors, bearings and hydraulic seals, fuel injection pumps or other sensitive parts and components may cause product malfunctions. Reduce pressure, and spray at a 45 to 90 degree angle.

1. Wash entire exterior of vehicle.
2. Dispose of any wash water with hazardous

concentrations of active or non-active ingredients according to published regulations or directives.

OUO6092,0000784-19-07MAR12

Prepare Machine for Storage

1. Clean machine thoroughly, inside and out. (See Clean Vehicle Of Hazardous Chemicals, Including Pesticides in this section.)
2. Lubricate spreader box. (See Lubrication and Maintenance section in this manual.)
3. Paint as necessary to prevent rust.
4. Refer to the F4365 Nutrient Applicator Operator's Manual for proper procedure to prepare the machine for storage.
5. Leave a note in the cab detailing what was done for winter protection. With this, the next person to use the machine will know what kind of preparation is needed for field operation.

OUO6092,0000BB3-19-12SEP16

Remove Machine from Storage

1. Clean machine thoroughly, inside and out.
2. Check oil level in hydrostatic/hydraulic reservoir. If low, check for leaks. Add oil as required.
3. Make sure all hardware is tight.
4. Lubricate all grease fittings. (See Lubrication and Maintenance section in this manual.)
5. Review Operator's Manual for operating adjustments and safety information.
6. Calibrate spreader.

OUO6092,0000BB4-19-12SEP16

Specifications

Specifications

CAPACITIES	
Struck Capacity	Measurement m ³ (yd ³) (ft ³)
AB485	8.5 (11.1) (300)
AB485 with a Second Product Bin (50/50)	Front Bin—4.25 (5.55) (150) Second Product Bin—4.25 (5.55) (150)
AB485 with a Second Product Bin (60/40)	Front Bin—5.1 (6.7) (180) Second Product Bin—3.4 (4.4) (120)
Micronutrient Bin	1.1 (1.4) (40)

WEIGHT (EMPTY)	
Item	Measurement kg (lb)
Base Machine (Chassis Only)—F4365	11,391 (25,113)
Application System with a Second Product Bin	4630 (10,209)
Application System with a Second Product Bin and Micronutrient Bin	4900 (10,804)

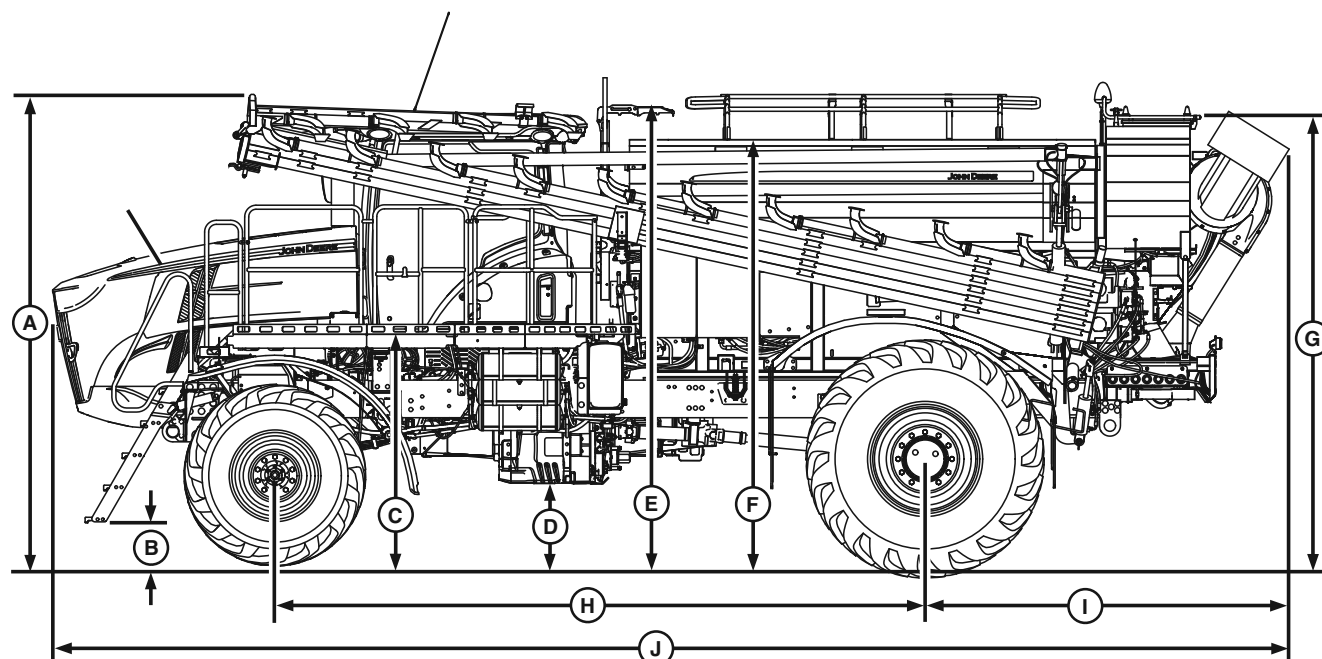
⚠ CAUTION: Do not exceed the load capacity for the tires used and the maximum allowed homologated mass of the machine configuration as follows.

- 12 750 kg (28 110 lb) for F4365

Spreader Items	Specification
Manifold Pressure	1016 mm WC at 4°C—1143 mm WC at 4°C (40 in H ₂ O—45 in H ₂ O)
Feed Gate Height	25.4—54 mm (1—2.1 in)
Minimum Controllable Conveyor rpm	5 rpm

OUC6092,0000BAF-19-02MAY18

Dimensions

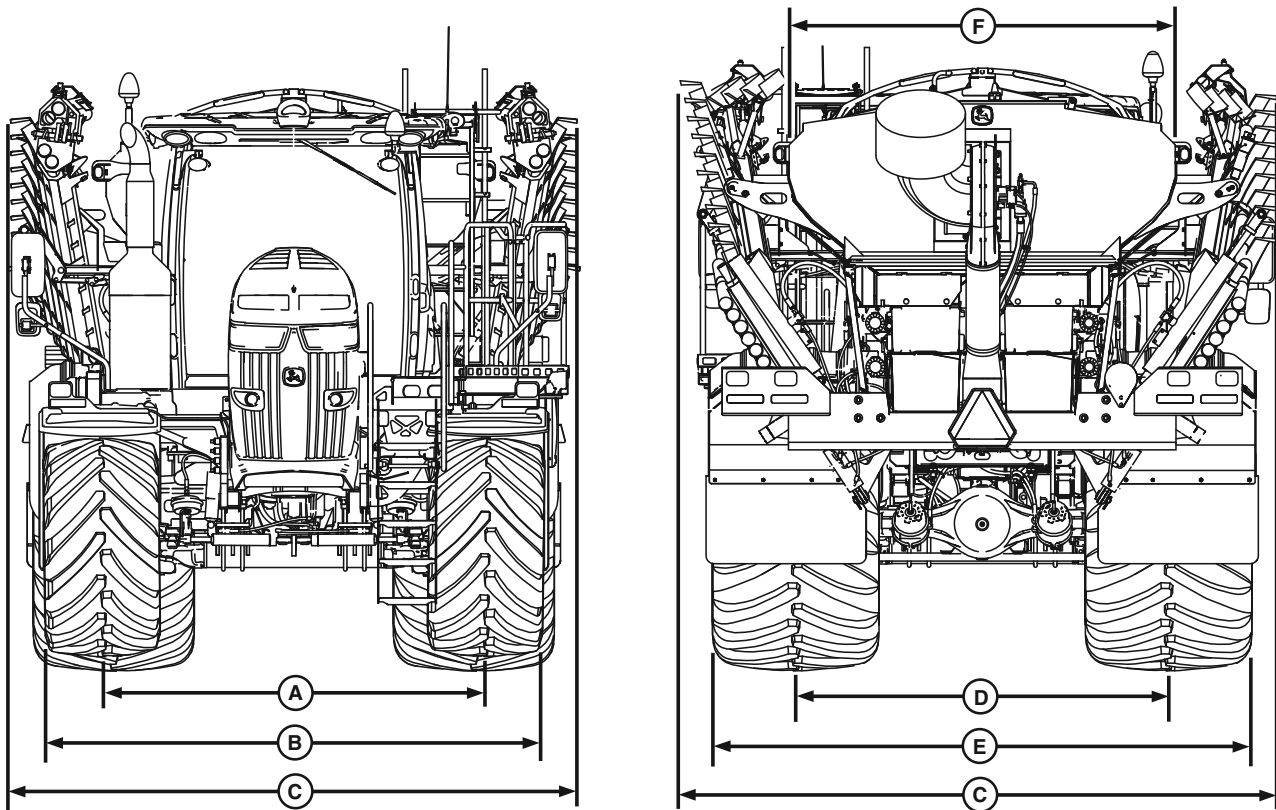


N136484—UN—23MAR18

Specifications

Dimensions ^a		
Item	Description	Measurement mm (in)
A	Height to Top of Folded Boom	3849 (152)
B	Height to Top of First Step	305 (12)
C	Platform Height	1802 (71)
D	Underframe Clearance	603 (24)
E	Box Ladder Height	3607 (142)
F	Loading Height	3346 (132)
G	Height to Top of Drybox	3747 (148)
H	Wheelbase	5105 (201)
I	Center of Rear Tire to Rear Fan Shroud	2870 (113)
J	Front of Machine to Rear Fan Shroud	9468 (373)

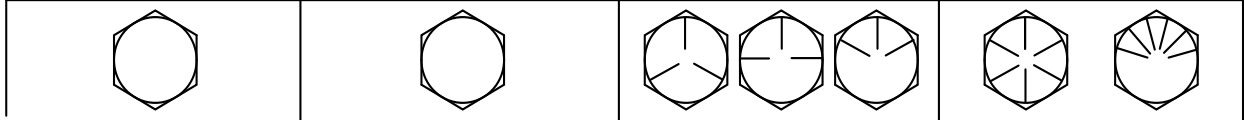
^aNumbers shown are with air springs inflated unless otherwise noted.



N136485—UN—23MAR18

Dimensions		
Item	Description	Measurement mm (in)
A	Center of Left-Hand Front Tire to Center of Right-Hand Front Tire	2518 (99)
B	Sidewall of Left-Hand Front Tire to Sidewall of Right-Hand Front Tire	3270 (129)
C	Maximum Transport Width	3766 (148)
D	Center of Left-Hand Rear Tire to Center of Right-Hand Rear Tire	2340 (92)
E	Sidewall of Left-Hand Rear Tire to Sidewall of Right-Hand Rear Tire	3375 (133)
F	Width of Box	2445 (96)

Unified Inch Bolt and Screw Torque Values



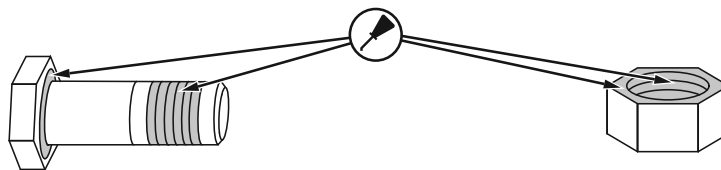
TS1671—UN—01MAY03

Bolt or Screw Size	SAE Grade 1 ^a				SAE Grade 2 ^b				SAE Grade 5, 5.1 or 5.2				SAE Grade 8 or 8.2			
	Hex Head ^c		Flange Head ^d		Hex Head ^c		Flange Head ^d		Hex Head ^c		Flange Head ^d		Hex Head ^c		Flange Head ^d	
	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	3.1	27.3	3.2	28.4	5.1	45.5	5.3	47.3	7.9	70.2	8.3	73.1	11.2	99.2	11.6	103
													N·m	lb·ft	N·m	lb·ft
5/16	6.1	54.1	6.5	57.7	10.2	90.2	10.9	96.2	15.7	139	16.8	149	22.2	16.4	23.7	17.5
									N·m	lb·ft	N·m	lb·ft				
3/8	10.5	93.6	11.5	102	17.6	156	19.2	170	27.3	20.1	29.7	21.9	38.5	28.4	41.9	30.9
					N·m	lb·ft	N·m	lb·ft								
7/16	16.7	148	18.4	163	27.8	20.5	30.6	22.6	43	31.7	47.3	34.9	60.6	44.7	66.8	49.3
	N·m	lb·ft	N·m	lb·ft												
1/2	25.9	19.1	28.2	20.8	43.1	31.8	47	34.7	66.6	49.1	72.8	53.7	94	69.3	103	75.8
9/16	36.7	27.1	40.5	29.9	61.1	45.1	67.5	49.8	94.6	69.8	104	77	134	98.5	148	109
5/8	51	37.6	55.9	41.2	85	62.7	93.1	68.7	131	96.9	144	106	186	137	203	150
3/4	89.5	66	98	72.3	149	110	164	121	230	170	252	186	325	240	357	263
7/8	144	106	157	116	144	106	157	116	370	273	405	299	522	385	572	422
1	216	159	236	174	216	159	236	174	556	410	609	449	785	579	860	634
1-1/8	305	225	335	247	305	225	335	247	685	505	751	554	1110	819	1218	898
1-1/4	427	315	469	346	427	315	469	346	957	706	1051	775	1552	1145	1703	1256
1-3/8	564	416	618	456	564	416	618	456	1264	932	1386	1022	2050	1512	2248	1658
1-1/2	743	548	815	601	743	548	815	601	1665	1228	1826	1347	2699	1991	2962	2185

The nominal torque values listed are for general use only with the assumed wrenching accuracy of 20%, such as a manual torque wrench. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application.

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 that fastener threads are clean.
- Apply a thin coat of Hy-Gard™ or equivalent oil under the head and on the threads of the fastener, as shown in the following image.
- Be conservative with the amount of oil to reduce the potential for hydraulic lockup in blind holes due to excessive oil.
- Properly start thread engagement.



TS1741—UN—22MAY18

^aGrade 1 applies for hex cap screws over 6 in (152 mm) long, and for all other types of bolts and screws of any length.

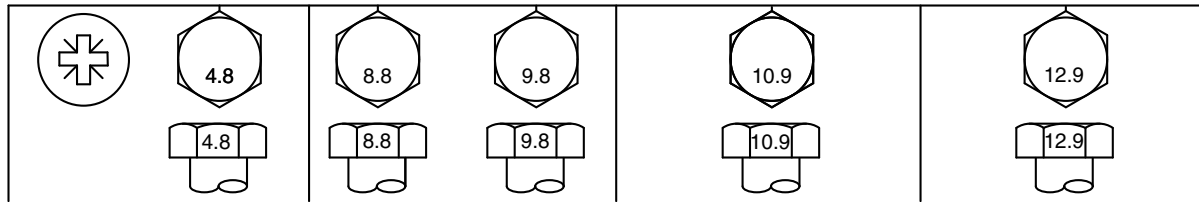
^bGrade 2 applies for hex cap screws (not hex bolts) up to 6 in (152 mm) long.

^cHex head column values are valid for ISO 4014 and ISO 4017 hex head, ISO 4162 hex socket head, and ISO 4032 hex nuts.

^dHex flange column values are valid for ASME B18.2.3.9M, ISO 4161, or EN 1665 hex flange products.

DX,TORQ1-19-09MAY22

Metric Bolt and Screw Torque Values



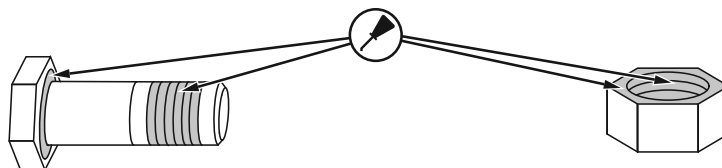
TS1742—UN—31MAY18

Bolt or Screw Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Hex Head ^a		Flange Head ^b		Hex Head ^a		Flange Head ^b		Hex Head ^a		Flange Head ^b		Hex Head ^a		Flange Head ^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	3.6	31.9	3.9	34.5	6.7	59.3	7.3	64.6	9.8	86.7	10.8	95.6	11.5	102	12.6	112
									N·m	lb·ft	N·m	lb·ft	N·m	lb·ft	N·m	lb·ft
M8	8.6	76.1	9.4	83.2	16.2	143	17.6	156	23.8	17.6	25.9	19.1	27.8	20.5	30.3	22.3
			N·m	lb·ft	N·m	lb·ft	N·m	lb·ft								
M10	16.9	150	18.4	13.6	31.9	23.5	34.7	25.6	46.8	34.5	51	37.6	55	40.6	60	44.3
	N·m	lb·ft														
M12	—	—	—	—	55	40.6	61	45	81	59.7	89	65.6	95	70.1	105	77.4
M14	—	—	—	—	87	64.2	96	70.8	128	94.4	141	104	150	111	165	122
M16	—	—	—	—	135	99.6	149	110	198	146	219	162	232	171	257	190
M18	—	—	—	—	193	142	214	158	275	203	304	224	322	245	356	263
M20	—	—	—	—	272	201	301	222	387	285	428	316	453	334	501	370
M22	—	—	—	—	365	263	405	299	520	384	576	425	608	448	674	497
M24	—	—	—	—	468	345	518	382	666	491	738	544	780	575	864	637
M27	—	—	—	—	683	504	758	559	973	718	1080	797	1139	840	1263	932
M30	—	—	—	—	932	687	1029	759	1327	979	1466	1081	1553	1145	1715	1265
M33	—	—	—	—	1258	928	1398	1031	1788	1319	1986	1465	2092	1543	2324	1714
M36	—	—	—	—	1617	1193	1789	1319	2303	1699	2548	1879	2695	1988	2982	2199

The nominal torque values listed are for general use only with the assumed wrenching accuracy of 20%, such as a manual torque wrench. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application.

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 that fastener threads are clean.
- Apply a thin coat of Hy-Gard™ or equivalent oil under the head and on the threads of the fastener, as shown in the following image.
- Be conservative with the amount of oil to reduce the potential for hydraulic lockup in blind holes due to excessive oil.
- Properly start thread engagement.



TS1741—UN—22MAY18

^aHex head column values are valid for ISO 4014 and ISO 4017 hex head, ISO 4162 hex socket head, and ISO 4032 hex nuts.

^bHex flange column values are valid for ASME B18.2.3.9M, ISO 4161, or EN 1665 hex flange products.

DX,TORQ2-19-09MAY22

Face Seal Fittings Assembly and Installation—All Pressure Applications

Face Seal O-Ring to Stud End Installation

1. Inspect the fitting surfaces. They must be free of dirt and/or defects.
2. Inspect the O-ring. It must be free of damage and/or defects.
3. Lubricate O-rings using system oil, and install into groove.
4. Push O-ring into groove so O-ring is not displaced during assembly.
5. Index angle fittings and tighten by hand pressing joint together to insure O-ring remains in place.
6. Tighten fitting or nut to torque value shown on the chart per dash size stamped on the fitting. DO NOT allow hoses to twist when tightening fittings.

Face Seal Adjustable Stud End O-Ring Installation

1. Back off lock nut and washer to full exposed turned down section of the fitting.
2. Install a thimble over the fitting threads to protect the O-ring from nicks.
3. Slide the O-ring over the thimble into the turned down section of the fitting.

4. Remove thimble.

Face Seal Straight Stud End O-Ring Installation

1. Install a thimble over the fitting threads to protect the O-ring from nicks.
2. Slide the O-ring over the thimble into the turned down section of the fitting.
3. Remove thimble.

Fitting Installation

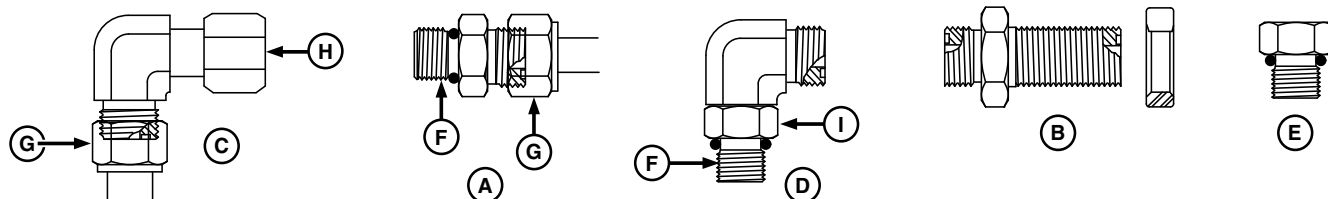
1. Install fitting by hand until snug.
2. Position adjustable fittings by unscrewing the fitting no more than one turn.
3. Apply assembly torque per table.

Assembly Torque

1. Use one wrench to hold the connector body and one wrench to tighten nut.
2. For a hydraulic hose, it may be necessary to use three wrenches to prevent twist; one on the connector body, one on the nut, and one on the body of the hose fitting.

OUC6092,000098D-19-24MAY22

Metric Face Seal and O-Ring Stud End Fitting Torque Chart—Standard Pressures



A—Stud Straight and Tube Nut
B—Bulkhead Union and Bulkhead Lock Nut
C—90° Swivel Elbow and Tube Nut
D—90° Adjustable Stud Elbow
E—Port Plug

F—Stud End
G—Tube Nut
H—Swivel Nut
I—Lock Nut

N79757—UN—13FEB08

Metric Face Seal and O-Ring Stud End Fitting Torque Chart—Standard Pressure-Below 27.6 MPA (4,000 PSI)																
Nominal Tube OD Hose ID				O-Ring Face Seal/ Tube Swivel Nut				Bulkhead Jam Nut Torque ^A			O-Ring Straight, Adjustable, and External Port Plug Stud Ends ^A					
Met- ric Tube OD	Inch Tube OD			Thread Size	Swivel Nut Hex Size	Tube Nut/ Swivel Nut Torque		Jam Nut Hex Size	Jam Nut Torque		Thread Size	Straight Hex Size ^B	Adj Lock Nut Hex Size	Steel or Gray Iron Torque	Alumi- num or Brass Tor- que ^C	
mm	Da- sh Siz- e	in.	mm	in.	mm	N·m	lb-ft	mm	N·m	lb-ft	mm	mm	mm	N·m	lb-ft	
N·m	lb-ft															

Specifications

4	-2	0.1-25	3.18	—	—	—	—	—	—	—	M8 X 1	12	12	8	6	5	4
5	-3	0.1-88	4.76	—	—	—	—	—	—	—	M10 X 1	14	14	15	11	10	7
6	-4	0.2-50	6.35	9/16-18	17	24	18	22	32	24	M12 X 1.5	17	17	25	18	17	12
8	-5	0.3-12	7.92	—	—	—	—	—	—	—	M14 X 1.5	19	19	40	30	27	20
10	-6	0.3-75	9.53	11/16-16	22	37	27	27	42	31	M16 X 1.5	22	22	45	33	30	22
12	-8	0.5-00	12.7-0	13/16-16	24	50	37	30	93	69	M18 X 1.5	24	24	50	37	33	25
16	-10	0.6-25	15.8-8	1-14	30	69	51	36	118	87	M22 X 1.5	27	27	69	51	46	34
20	-12	0.7-50	19.0-5	1-3/16-12	36	102	75	41	175	129	M27 X 2	32	32	10-0	74	67	49
22	-14	0.8-75	22.2-3	1-3/16-12	36	102	75	41	175	129	M30 X 2	36	36	13-0	96	87	64
25	-16	1.0-00	25.4-0	1-7/16-12	41	142	105	46	247	182	M33 X 2	41	41	16-0	118	1-07	79
28	—	—	—	—	—	—	—	—	—	—	M38 x 2	46	46	17-6	130	1-17	87
32	-20	1.2-50	31.7-5	1-11/16-12	50	190	140	50	328	242	M42 X 2	50	50	21-0	155	1-40	1-03
38	-24	1.5-00	38.1-0	2-12	60	217	160	60	374	276	M48 X 2	55	55	26-0	192	1-73	1-28
50	-32	2.0-00	50.8-0	—	—	—	—	—	—	—	M60 X 2	65	65	31-5	232	2-10	1-55

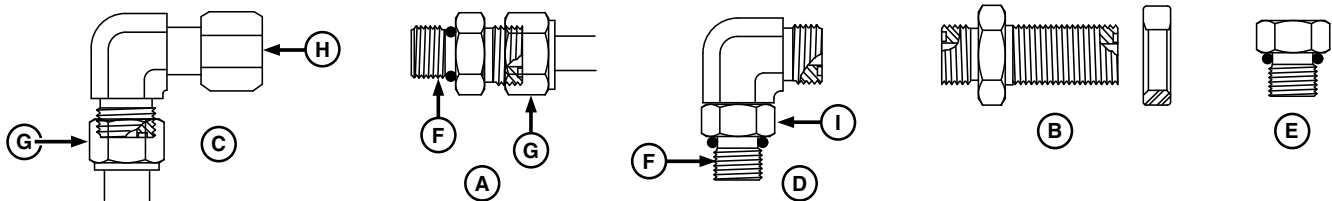
^A Tolerance is +15%, minus 20% of mean tightening torque unless otherwise specified.

^B The straight hex wrench sizes listed apply to connectors only and may not be the same as the corresponding plug of the same thread size.

^C These torques were established using steel plated connectors in aluminum and brass.

OUO6092,0000770-19-07MAR12

Metric Face Seal and O-Ring Stud End Fitting Torque Chart—High Pressure Applications



N79757—UN—13FEB08

A—Stud Straight and Tube Nut
B—Bulkhead Union and Bulkhead Lock Nut
C—90° Swivel Elbow and Tube Nut
D—90° Adjustable Stud Elbow
E—Port Plug

F—Stud End
G—Tube Nut
H—Swivel Nut
I—Lock Nut

Metric Face Seal and O-Ring Stud End Fitting Torque Chart—High Pressure—Above 27.6 MPA (4,000 PSI), Working Pressure—41.3 MPA (6,000 PSI)										
Nominal Tube OD Hose ID		O-Ring Face Seal/ Tube Swivel Nut			Bulkhead Jam Nut Torque ^A		O-Ring Straight, Adjustable, and External Port Plug Stud Ends ^A			
Metric Tube OD	Inch Tube OD	Thread Size	Swivel Nut Hex Size	Tube Nut/ Swivel Nut Torque	Jam Nut Hex Size	Jam Nut Torque	Thread Size	Straight Hex Size ^B	Adj Lock Nut Hex Size	Steel or Gray Iron Torque

Specifications

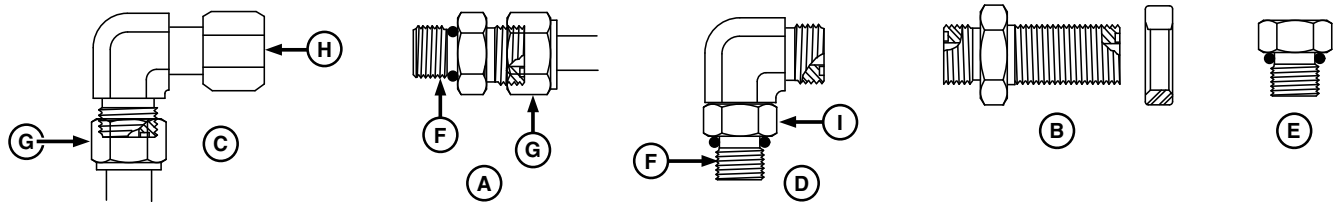
mm	Dash Size	in.	mm	in.	mm	N·m	lb·ft	mm	N·m	lb·ft	mm.	mm	mm	N·m	lb·ft
4	-2	0.125	3.18	—	—	—	—	—	—	—	M8 X 1	12	12	8	6
5	-3	0.188	4.76	—	—	—	—	—	—	—	M10 X 1	14	14	15	11
6	-4	0.250	6.35	9/16-18	17	24	18	22	32	24	M12 X 1.5	17	17	35	26
8	-5	0.312	7.92	—	—	—	—	—	—	—	M14 X 1.5	19	19	45	33
10	-6	0.375	9.53	11/16-16	22	37	27	27	42	31	M16 X 1.5	22	22	55	41
12	-8	0.500	12.70	13/16-16	24	63	46	30	93	69	M18 X 1.5	24	24	70	52
16	-10	0.625	15.88	1-14	30	103	76	36	118	87	M22 X 1.5	27	27	100	74
20	-12	0.750	19.05	1-3/16-12	36	152	112	41	175	129	M27 X 2	32	32	170	125
22	-14	0.875	22.23	1-3/16-12	36	152	112	41	175	129	M30 X 2	36	36	215	159
25	-16	1.000	25.40	1-7/16-12	41	214	158	46	247	182	M33 X 2	41	41	260	192
28	—	—	—	—	—	—	—	—	—	—	M38 x 2	46	46	320	236
32	-20	1.250	31.75	1-11/16-12	—	286	211	50	328	242	M42 X 2	50	50	360	266
38	-24	1.500	38.10	2-12	—	326	240	60	374	276	M48 X 2	55	55	420	310

^A Tolerance is +15%, minus 20% of mean tightening torque unless otherwise specified.

^B The straight hex wrench sizes listed apply to connectors only and may not be the same as the corresponding plug of the same thread size.

OUO6092,0000771-19-07MAR12

SAE Face Seal and O-Ring Stud End Fitting Torque Chart—Standard Pressures



A—Stud Straight and Tube Nut
B—Bulkhead Union and Bulkhead Lock Nut
C—90° Swivel Elbow and Tube Nut
D—90° Adjustable Stud Elbow
E—Port Plug

F—Stud End
G—Tube Nut
H—Swivel Nut
I—Lock Nut

N79757—UN—13FEB08

SAE Face Seal and O-Ring Stud End Fitting Torque Chart—Standard Pressure-Below 27.6 MPA (4,000 PSI)											
Nominal Tube OD Hose ID		O-Ring Face Seal/ Tube Swivel Nut			Bulkhead Jam Nut Torque ^A		O-Ring Straight, Adjustable, and External Port Plug Stud Ends ^A				
Metric Tube OD	Inch Tube OD	Thread Size	Swivel Nut Hex Size	Tube Nut/ Swivel Nut Torque	Jam Nut Hex Size	Jam Nut Torque	Thread Size	Straight Hex Size ^B	Adj Lock Nut Hex Size	Steel or Gray Iron Torque	Alumi- num or Brass Torque ^C

Specifications

mm	Das- h Size	in.	mm	in.	in.		N·m	lb-ft			N·m	lb-ft	in.	in.	in.		
N·m	lb-ft	N·m	lb-ft														
5	-3	0.188	4.78	—	—	—	—	—	—	—	3/8-24	5/8	9/16	12	9	8	6
6	-4	0.250	6.35	9/16-18	11/16	2-4	18	13/16	3-2	2-4	7/16-20	5/8	5/8	16	1-2	11	8
8	-5	0.312	7.92	—	—	—	—	—	—	—	1/2-20	3/4	11/16	24	1-8	16	1-2
10	-6	0.375	9.53	11/16-16	13/16	3-7	27	1	4-2	3-1	9/16-18	3/4	3/4	37	2-7	25	1-8
12	-8	0.500	12.70	13/16-16	15/16	5-0	37	1-1/8	9-3	6-9	3/4-16	7/8	15/16	50	3-7	33	2-5
16	-10	0.625	15.88	1-14	1-1/8	6-9	51	1-5/16	1-1-8	8-7	7/8-14	1-1/16	1-1/16	69	5-1	46	3-4
20	-12	0.750	19.05	1-3/16-12	1-3/8	1-0-2	75	1-1/2	1-7-5	1-2-9	1-1/16-12	1-1/4	1-3/8	1-02	7-5	68	5-0
22	-14	0.875	22.23	1-3/16-12	—	1-0-2	75	—	1-7-5	1-2-9	1-3/16-12	1-3/8	1-1/2	1-22	9-0	81	6-0
25	-16	1.000	25.40	1-7/16-12	1-5/8	1-4-2	10-5	1-3/4	2-4-7	1-8-2	1-5/16-12	1-1/2	1-5/8	1-42	1-0-5	95	7-0
32	-20	1.25	31.75	1-11/16-12	1-7/8	1-9-0	14-0	2	3-2-8	2-4-2	1-5/8-12	1-3/4	1-7/8	1-90	1-4-0	1-27	9-3
38	-24	1.50	38.10	2-12	2-1/4	2-1-7	16-0	2-3/8	3-7-4	2-7-6	1-7/8-12	2-1/8	2-1/8	2-17	1-6-0	1-45	1-0-7
50.8	-32	2.000	50.80	—	—	—	—	—	—	—	2-1/2-12	2-3/4	2-3/4	3-11	2-2-9	2-07	1-5-3

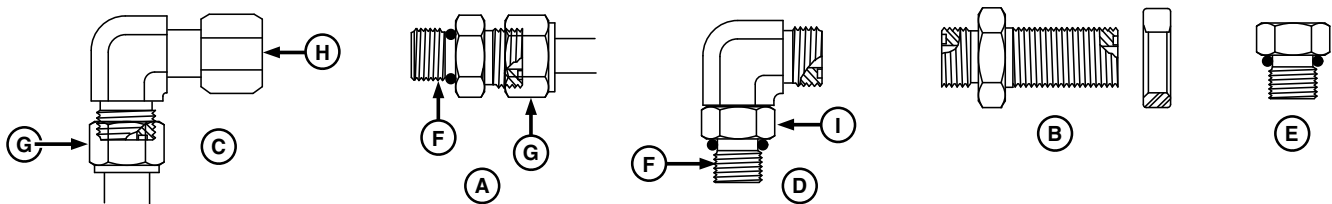
^A Tolerance is +15%, minus 20% of mean tightening torque unless otherwise specified.

^B The straight hex wrench sizes listed apply to connectors only and may not be the same as the corresponding plug of the same thread size.

^C These torques were established using steel plated connectors in aluminum and brass.

OUO6092,0000772-19-07MAR12

SAE Face Seal and O-Ring Stud End Fitting Torque Chart—High Pressure Applications



A—Stud Straight and Tube Nut
B—Bulkhead Union and Bulkhead Lock Nut
C—90° Swivel Elbow and Tube Nut
D—90° Adjustable Stud Elbow
E—Port Plug

F—Stud End
G—Tube Nut
H—Swivel Nut
I—Lock Nut

N79757—UN—13FEB08

SAE Face Seal and O-Ring Stud End Fitting Torque Chart—High Pressure - Above 27.6 MPA (4,000 PSI), Working Pressure-41.3 MPA (6,000 PSI)

Nominal Tube OD Hose ID	O-Ring Face Seal/ Tube Swivel Nut	Bulkhead Jam Nut Torque ^A	O-Ring Straight, Adjustable, and External Port Plug Stud Ends ^A
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Specifications

Metric Tube OD	Inch Tube OD			Thread Size	Swivel Nut Hex Size	Tube Nut/ Swivel Nut Torque		Jam Nut Hex Size	Jam Nut Torque		Thread Size	Straight Hex Size ^B	Adj Lock Nut Hex Size	Steel or Gray Iron Torque	
	mm	Da- sh Siz- e	in.	mm	in.	N·m	lb-ft		N·m	lb-ft	in.	in.	in.	N·m	lb-ft
5	-3	0.18- 8	4.78	—	—	—	—	—	—	—	3/8-24	5/8	9/16	18	13
6	-4	0.25- 0	6.35	9/16-18	11/16	24	18	13/16	32	24	7/16-20	5/8	5/8	24	18
8	-5	0.31- 2	7.92	—	—	—	—	—	—	—	1/2-20	3/4	11/16	30	22
10	-6	0.37- 5	9.53	11/16-16	13/16	37	27	1	42	31	9/16-18	3/4	3/4	37	27
12	-8	0.50- 0	12.70	13/16-16	15/16	63	46	1-1/8	93	69	3/4-16	7/8	15/16	75	55
16	-10	0.62- 5	15.88	1-14	1-1/8	103	76	1-5/16	118	87	7/8-14	1-1/16	1-1/16	103	76
20	-12	0.75- 0	19.05	1-3/16-12	1-3/8	152	112	1-1/2	175	129	1-1/16-12	1-1/4	1-3/8	177	131
22	-14	0.87- 5	22.23	1-3/16-12	—	152	112	—	175	129	1-3/16-12	1-3/8	1-1/2	231	170
25	-16	1.00- 0	25.40	1-7/16-12	1-5/8	214	158	1-3/4	247	182	1-5/16-12	1-1/2	1-5/8	270	199
32	-20	1.25	31.75	1-11/16-12	1-7/8	286	211	2	328	242	1-5/8-12	1-3/4	1-7/8	286	211
38	-24	1.50	38.10	2-12	2-1/4	326	240	2-3/8	374	276	1-7/8-12	2-1/8	2-1/8	326	240

^A Tolerance is +15%, minus 20% of mean tightening torque unless otherwise specified.

^B The straight hex wrench sizes listed apply to connectors only and may not be the same as the corresponding plug of the same thread size.

OUO6092,0000773-19-07MAR12

Four Bolt Flange Fittings Assembly and Installation—All Pressure Applications

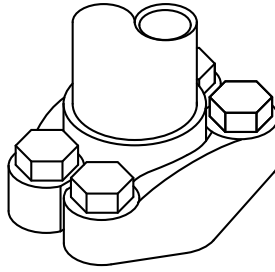
1. Inspect the sealing surfaces for nicks or scratches, roughness or out-of-flat condition. Scratches cause leaks. Roughness causes seal wear. Out-of-flat causes seal extrusion. If these defects cannot be polished out, replace the component.
2. Install the correct O-ring (and back-up washer if required) into the groove using petroleum jelly to hold it in place.
3. For split flange; loosely assemble split flange halves, being sure that the split is centrally located and perpendicular to the port. Hand tighten cap screws to hold parts in place. Do not pinch O-ring.

4. For single piece flange; put hydraulic line in the center of the flange and install four cap screws. With the flange centrally located on the port, hand tighten cap screws to hold it in place. Do not pinch O-ring.
5. For both single piece flange and split flange, be sure the components are properly positioned and cap screws are hand tight. Tighten one cap screw, then tighten the diagonally opposite cap screw. Tighten the two remaining cap screws. Tighten all cap screws within the specified limits shown in the chart.

DO NOT use air wrenches. DO NOT tighten one cap screw fully before tightening the others. DO NOT overtighten.

OUO6092,0000774-19-16FEB12

SAE Four Bolt Flange Cap Screw Torque Values—Standard Pressure Applications



H70423—UN—30NOV01

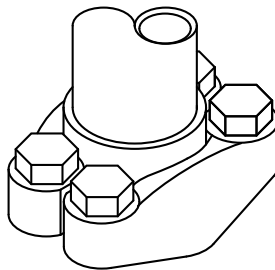
SAE Four Bolt Flange Cap Screw Torque Values—27,600 KPA (4,000 PSI) Pressure Applications					
Nominal Flange Size	Screw Size ^{ab}	Torque			
		Newton Meters		Foot Pounds	
		Min	Max	Min	Max
1/2	5/16-18 UNC	20	31	15	23
3/4	3/8-16 UNC	28	54	21	40
1	3/8-16 UNC	37	54	27	40
1-1/4	7/16-14 UNC	47	85	35	63
1-1/2	1/2-13 UNC	62	131	46	97
2	1/2-13 UNC	73	131	54	97
2-1/2	1/2-13 UNC	107	131	79	97
3	5/8-11 UNC	187	264	138	195
3-1/2	5/8-11 UNC	158	264	117	195
4	5/8-11 UNC	158	264	117	195
5	5/8-11 UNC	158	264	117	195

^aJDM A17D, SAE Grade 5 or better cap screws with plated hardware.

^b1.5.1.2 Lock washers are permissible but not recommended.

OUC6092.0000775-19-16FEB12

SAE Four Bolt Flange Cap Screw Torque Values—High Pressure Applications



H70423—UN—30NOV01

SAE Four Bolt Flange Cap Screw Torque Values—41,400 KPA (6,000 PSI) Pressure Applications					
Nominal Flange Size	Screw Size ^{ab}	Torque			
		Newton Meters		Foot Pounds	
		Min	Max	Min	Max
1/2	5/16-18 UNC	20	31	15	23
3/4	3/8-16 UNC	34	54	25	40
1	7/16-14 UNC	57	85	42	63
1-1/4	1/2-13 UNC	85	131	63	63

Specifications

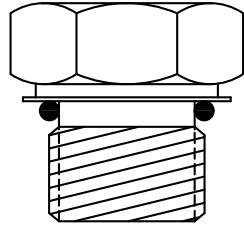
1-1/2	5/8-11 UNC	159	264	117	195
2	3/4-10 UNC	271	468	200	345

^aJDM A17D, SAE Grade 5 or better cap screws with plated hardware.

^b1.5.1.2 Lock washers are permissible but not recommended.

OUO6092,0000776-19-07MAR12

External Hexagon Port Plug Torque Chart



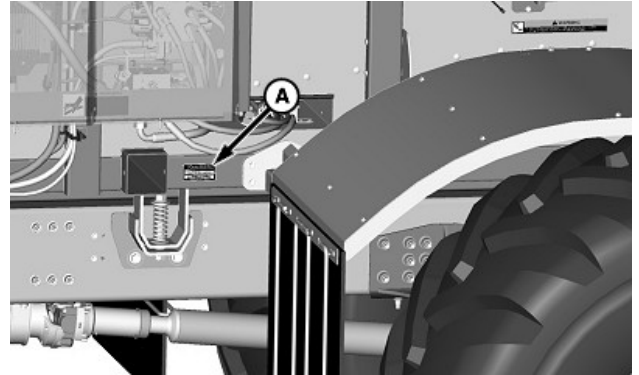
H70356—UN—30NOV01

Port or Stud End Thread Size ^a	Torque +15%/-20%
M8 x 1	10 N·m (89 lb-in.)
M10 x 1	17 N·m (150 lb-in.)
M12 x 1,5	28 N·m (20.6 lb-ft)
M14 x 1,5	39 N·m (28.7 lb-ft)
M16 x 1,5	48 N·m (35.4 lb-ft)
M18 x 1,5	60 N·m (44.2 lb-ft)
M20 x 1,5	60 N·m (44.2 lb-ft)
M22 x 1,5	85 N·m (62.7 lb-ft)
M27 x 2	135 N·m (99.6 lb-ft)
M30 x 2	165 N·m (121.7 lb-ft)
M33 x 2	235 N·m (173.3 lb-ft)
M38 x 2	245 N·m (180.7 lb-ft)
M42 x 2	260 N·m (191.8 lb-ft)
M48 x 2	290 N·m (213.9 lb-ft)
M60 x 2	330 N·m (243.4 lb-ft)

^aPort to JDS-G173.1; stud end to JDS-G173.3.

OUO6092,0000777-19-16FEB12

Identification Numbers



N132116—UN—16AUG17

A—Product Identification Number

Copy this section to record component serial numbers. Recording component serial numbers helps when acquiring service parts.

The product identification number (A) is on the front left-hand side of the dry spreader.

Product Identification Number (A)

OUO6092,0000BB2-19-10APR18

Interpret the Serial Number of Your Machine - 17 digits PIN

1XFDN45XAE0123456

1
2
3
4
5
6
7

N103539—UN—30APR13

Interpreting the Serial Number of Your Machine		
1	World Manufacturer Code	XF— Manufactured for John Deere Portfolio Extensions
2	Machine model	
3	Model Identifier Suffix	Calculated using the other 16 digits

Specifications

Interpreting the Serial Number of Your Machine		
4	Check Letter	A, B, C, D... (According to JDS G139)
5	Year of manufacture	According to the Year of manufacture table
6	Additional Information	
7	Sequential Manufacturing Serial Number	000001, 000127....

Each model has its own "sequential number". The sequential number restarts at 000001 with the first machine produced each year.

Each model has its "Serial code of Machine". This code will change whenever there is a significant change of the machine's configuration.

CS12167,00002B1-19-15MAY13

Year of Production Table (Digit 5)

Year of Manufacture Code							
Year	Code	Year	Code	Year	Code	Year	Code
2008	8	2018	J	2028	W	2038	8
2009	9	2019	K	2029	X	2039	9
2010	A	2020	L	2030	Y	2040	A
2011	B	2021	M	2031	1	2041	B
2012	C	2022	N	2032	2	2042	C
2013	D	2023	P	2033	3	2043	D
2014	E	2024	R	2034	4	2044	E
2015	F	2025	S	2035	5	2045	F
2016	G	2026	T	2036	6	2046	G
2017	H	2027	V	2037	7	2047	H

OUO6092,000077F-19-16FEB12

Keep Proof of Ownership

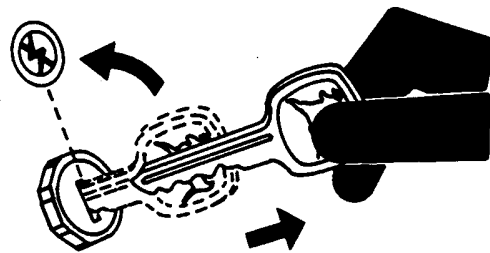


TS1680—UN—09DEC03

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

OUO6092,0000780-19-16FEB12

Keep Machines Secure



TS230—UN—24MAY89

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.

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John Deere Service Literature Available

Technical Information

Technical information can be purchased from John Deere. Publications are available in print or CD-ROM format.

Orders can be made using one of the following:

- John Deere Technical Information Store: **www.JohnDeere.com/TechInfoStore**
- Call 1-800-522-7448
- Contact your John Deere dealer

Available information includes:



TS189—UN—17JAN89

PARTS CATALOGS list service parts available for your machine with exploded view illustrations to help you identify the correct parts. It is also useful in assembling and disassembling.



TS191—UN—02DEC88

OPERATOR'S MANUALS providing safety, operating, maintenance, and service information.



TS224—UN—17JAN89

TECHNICAL MANUALS outlining service information for your machine. Included are specifications, illustrated assembly and disassembly procedures, hydraulic oil flow diagrams, and wiring diagrams. Some products have separate manuals for repair and diagnostic information. Some components, such as engines, are available in a separate component technical manual.



TS1663—UN—10OCT97

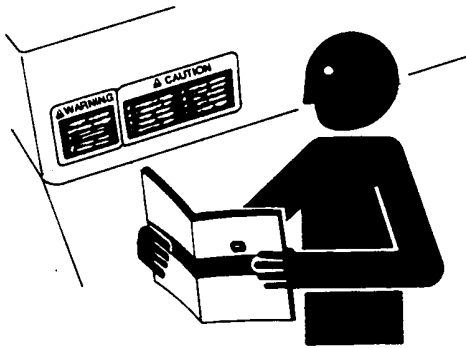
EDUCATIONAL CURRICULUM including five comprehensive series of books detailing basic information regardless of manufacturer:

- Agricultural Primer series covers technology in farming and ranching.
- Farm Business Management series examines “real-world” problems and offers practical solutions in the areas of marketing, financing, equipment selection, and compliance.
- Fundamentals of Services manuals show you how to repair and maintain off-road equipment.
- Fundamentals of Machine Operation manuals explain machine capacities and adjustments, how to improve machine performance, and how to eliminate unnecessary field operations.
- Fundamentals of Compact Equipment manuals provide instruction in servicing and maintaining equipment up to 40 PTO horsepower.

DX,SERV LIT-19-07DEC16

John Deere Service Keeps You On The Job

John Deere Is At Your Service



TS201—UN—15APR13

CUSTOMER SATISFACTION is important to John Deere.

Our dealers strive to provide you with prompt, efficient parts and service:

- Maintenance and service parts to support your equipment.
- Trained service technicians and the necessary diagnostic and repair tools to service your equipment.

CUSTOMER SATISFACTION PROBLEM RESOLUTION PROCESS

Your John Deere dealer is dedicated to supporting your equipment and resolving any problem you may experience.

1. When contacting your dealer, be prepared with the following information:

- Machine model and product identification number
- Date of purchase
- Nature of problem

2. Discuss problem with dealer service manager.

3. If unable to resolve, explain problem to dealership manager and request assistance.

4. If you have a persistent problem your dealership is unable to resolve, ask your dealer to contact John Deere for assistance. Or contact the Ag Customer Assistance Center at 1-866-99DEERE (866-993-3373) or e-mail us at www.deere.com/en_US/ag/contactus/.

DX,IBC,2-19-02APR02

