



Granular Bin



JOHN DEERE



OPERATOR'S MANUAL

Granular Bin for AB485 Air Boom Application System

OMKK59978 ISSUE E1 (ENGLISH)

CALIFORNIA

Proposition 65 Warning

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

If this product contains a gasoline engine:

WARNING

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

The State of California requires the above two warnings.

Additional Proposition 65 Warnings can be found in this manual.

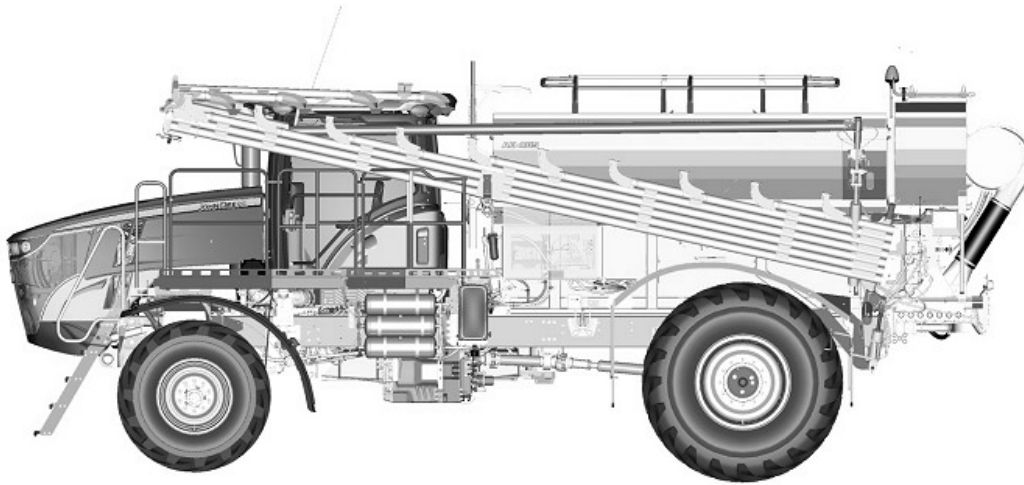
John Deere Des Moines Works

North America
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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 attachment and should remain with the attachment 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.

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 granular bin allows for the spreading of a low rate fertilizer or dry chemical. 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.

BN55050,0000329-19-27MAR19

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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-19-29SEP98

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-19-16JUN09

Spanish Safety Signs and Operator's Manual

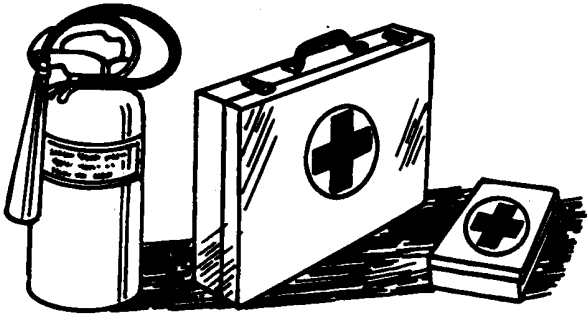


TS201—UN—15APR13

Spanish versions of the operator's manual and safety signs are available for this machine through authorized John Deere dealers. See your John Deere dealer.

OOU6075,0000145-19-22MAY08

Prepare for Emergencies



TS291—UN—15APR13

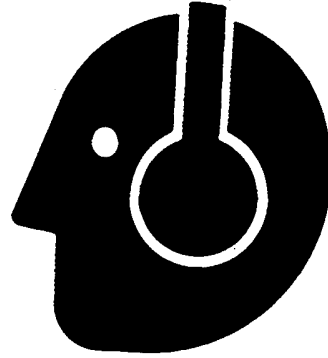
Be prepared if a fire starts.

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

Protect Against Noise



TS207—UN—23AUG88

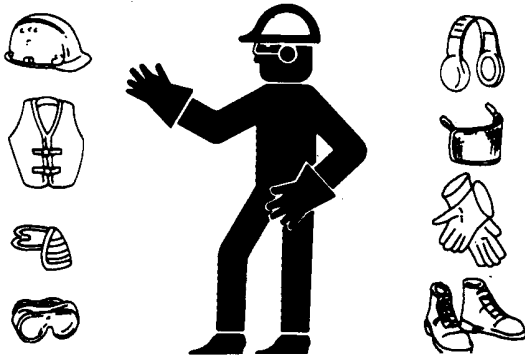
There are many variables that affect the sound level range, including machine configuration, condition and maintenance level of the machine, ground surface, operating environmental, duty cycles, ambient noise, and attachments.

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

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

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

Handle Electronic Components and Brackets Safely



TS249—UN—23AUG88

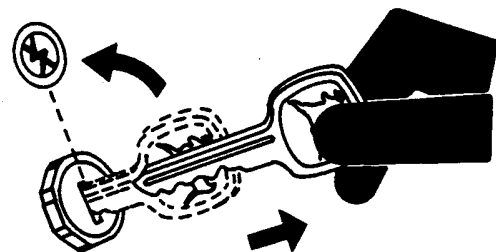
Falling while installing or removing electronic components mounted on equipment can cause serious injury. Use a ladder or platform to easily reach each mounting location. Use sturdy and secure footholds and handholds. Do not install or remove components in wet or icy conditions.

If installing or servicing a RTK base station on a tower or other tall structure, use a certified climber.

If installing or servicing a global positioning receiver mast used on an implement, use proper lifting techniques and wear proper protective equipment. The mast is heavy and can be awkward to handle. Two people are required when mounting locations are not accessible from the ground or from a service platform.

DX,WW,RECEIVER-19-24AUG10

Park Machine Safely



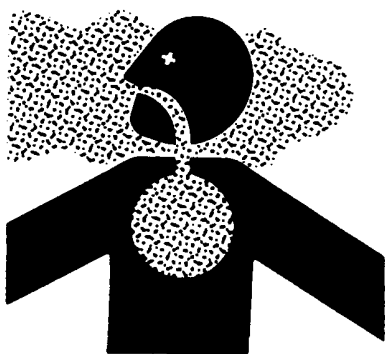
TS230—UN—24MAY89

Before working on the machine:

- Lower all equipment to the ground.
- Stop the engine and remove the key.
- Disconnect the battery ground strap.
- Hang a "DO NOT OPERATE" tag in operator station.

DX,PARK-19-04JUN90

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



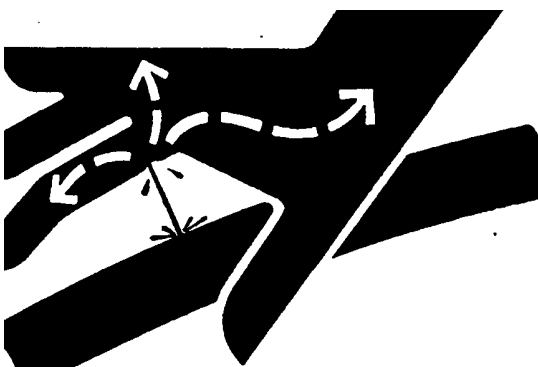
TS953—UN—15MAY90

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.

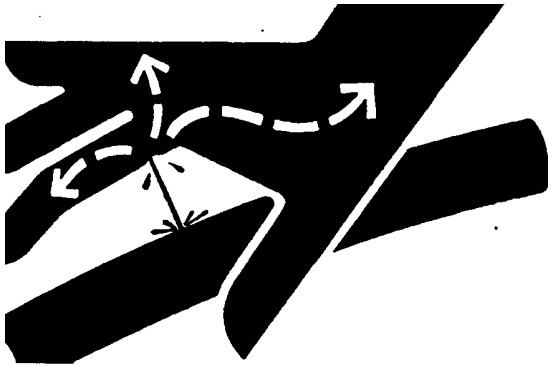
Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.

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

Check Hydraulic Hoses



X9811—UN—23AUG88

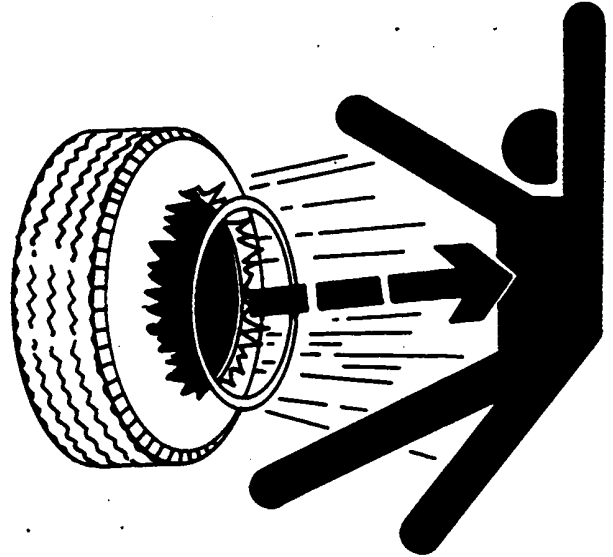
Hydraulic hoses can fail due to physical damage, kinks, age, and exposure. Check hoses regularly. Replace damaged hoses.

Escaping fluid under pressure can penetrate skin causing serious injury. 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 skin must be surgically removed within a few hours or gangrene can result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source. Such information is available from Deere and Company Medical Department in Moline, Illinois, U.S.A.

NXN,9930,HYD-19-29NOV16

Service Tires Safely



TS211—UN—15APR13

CAUTION: Explosive separation of a tire and rim parts can cause serious injury or death.
Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job.

Always maintain the correct tire pressure. Do not inflate the tires above the recommended pressure.

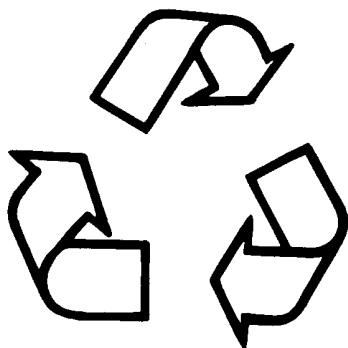
Never weld or heat a wheel and tire assembly. The heat can cause an increase in air pressure resulting in a tire explosion. Welding can structurally weaken or deform the wheel.

When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly. Use a safety cage if available.

Check wheels for low pressure, cuts, bubbles, damaged rims or missing lug bolts and nuts.

DX,RIM1-19-27OCT08

Decommissioning — Proper Recycling and Disposal of Fluids and Components



TS1133—UN—15APR13

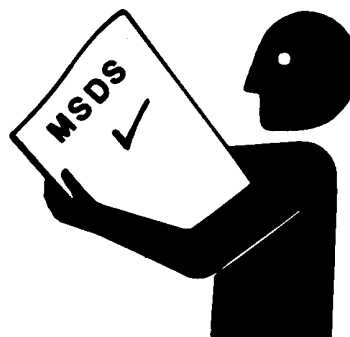
Safety and environmental stewardship measures must be taken into account when decommissioning a machine and/or component. These measures include the following:

- 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 Spray Equipment Safely

CAUTION: Spray solutions or vapors may be extremely dangerous. Treat all spray chemicals, solutions, or solution residues 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)
- Drain Solution Tank (see Draining Solution Tank in the machine operator's manual)
- Rinse wet system (see Operate Rinse System

(Rinsing Solution Tank and Boom) or Using Load Station Rinse in the machine operator's manual)

- Drain Direct Inject Chemical Tanks (see Drain Chemical Tanks in the Filling and Draining section)
- Rinse Direct Injection System (see System Rinse section)
- Relieve Boom Pressure (see Relieving Boom Pressure in the Operating section)

OUO6435,00005F3-19-13OCT11

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.

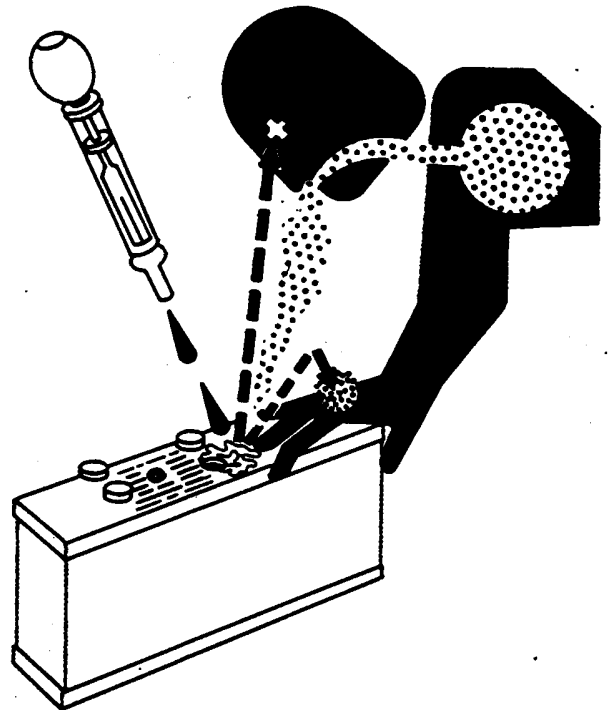
If you do not have an exhaust pipe extension, open the doors and get outside air into the area.

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.

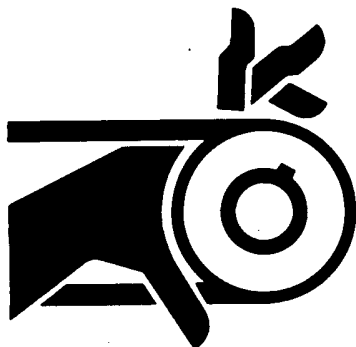
If acid is swallowed:

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

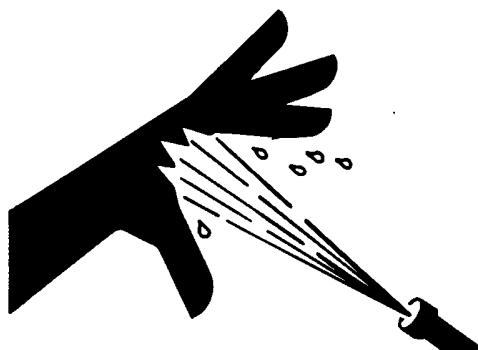
When servicing drive belts always observe these precautions:

- 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.

OUO6043,00015E3-19-24MAY04

Do Not Open High-Pressure Fuel System



TS1343—UN—18MAR92

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

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

DX,WW,HPCR1-19-07JAN03

Service Cooling System Safely



TS281—UN—15APR13

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

Shut off engine, set park brake, and remove key. NEVER add coolant when engine is overheated. Wait for it to cool.

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

SLOWLY loosen cap to relieve pressure before removing completely.

Add coolant only when engine is shut off.

OUO6092,000026F-19-11FEB14

Service Accumulator Systems Safely



TS281—UN—15APR13

Escaping fluid or gas from pressurized hydraulic accumulator systems can cause serious injury. Extreme heat can cause the accumulator to burst, and pressurized lines can be accidentally cut. Do not weld or use a torch near a pressurized accumulator or pressurized line.

Relieve pressure from the hydraulic system before removing accumulator. Never attempt to relieve hydraulic system or accumulator pressure by loosening a fitting.

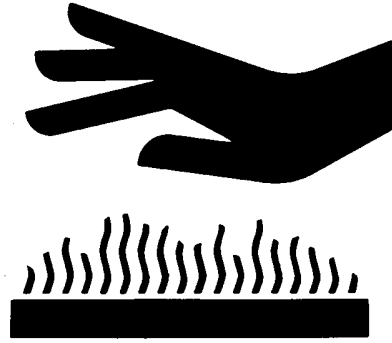
Accumulators cannot be repaired.

DX,VW,ACCLA-19-15APR03

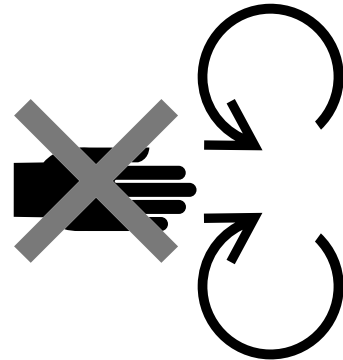
Clean Exhaust Filter Safely



TS227—UN—15APR13



TS271—UN—23AUG88



TS1693—UN—09DEC09



TS1695—UN—07DEC09

During exhaust filter cleaning operations, the engine may run at elevated idle and hot temperatures for an extended period of time. Exhaust gases and exhaust filter components reach temperatures hot enough to burn people, or ignite or melt common materials.

Keep machine away from people, animals, or structures which may be susceptible to harm or damage from hot exhaust gases or components. Avoid potential fire or explosion hazards from flammable materials and vapors near the exhaust. Keep exhaust outlet away from people and anything that can melt, burn, or explode.

Closely monitor machine and surrounding area for smoldering debris during and after exhaust filter cleaning.

Adding fuel while an engine is running can create a fire or explosion hazard. Always stop engine before refueling machine and clean up any spilled fuel.

Always make sure that engine is stopped while hauling machine on a truck or trailer.

Contact with exhaust components while still hot can result in serious personal injury.

Avoid contact with these components until cooled to safe temperatures.

If service procedure requires engine to be running:

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

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

Always disable movement (neutral), set the parking brake or mechanism and disconnect power to attachments or tools before leaving the operator's station.

Shut off engine and remove key (if equipped) before leaving the machine unattended.

DX,EXHAUST,FILTER-19-12JAN11

Avoid Hot Exhaust



RG17488—UN—21AUG09

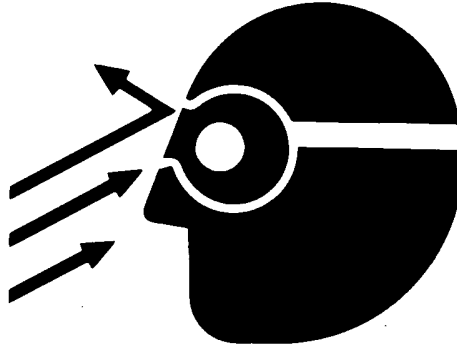
Servicing machine or attachments with engine running can result in serious personal injury. Avoid exposure and skin contact with hot exhaust gases and components.

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

DX,EXHAUST-19-20AUG09

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,OOU6043,83-19-28JUL99

Working Area

The working area is defined and required as follows:

- an area of 1 meter around the machine for preparation of the spraying liquid (filling work) and cleaning of the spraying apparatus
- 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 preparation of the spraying liquid and cleaning of the sprayer takes place
- the “manoeuvring zone” of the components of the sprayer, and in particular a 1 meter zone around the machine as a whole and the area required to fold out the spray booms

OOU6092,0000362-19-03MAY10

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 multifunction control handle engaged.

DO NOT operate close to a ditch or creek.

DO NOT fold or unfold boom near overhead wires.

Always come to a complete stop before reversing directions.

Drive slowly over rough ground.

Slow down when turning.

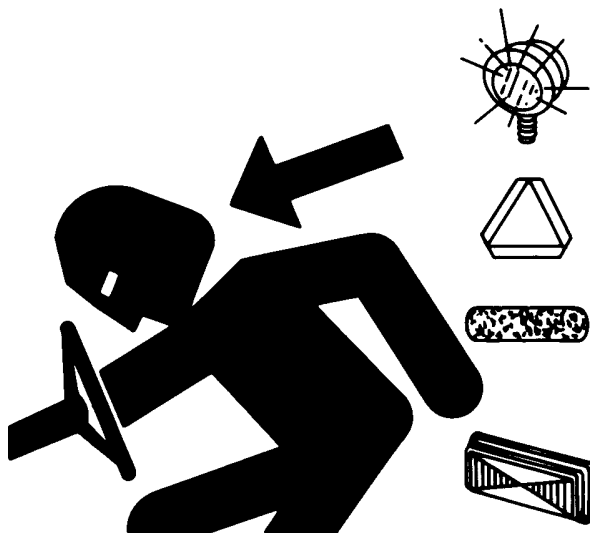
Always shut off engine when leaving machine. Remove key when leaving machine unattended. Park brake will engage when engine is turned off regardless of multifunction control handle position.

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.

OUC6092,0000360-19-30APR10

Use Safety Lights and Devices



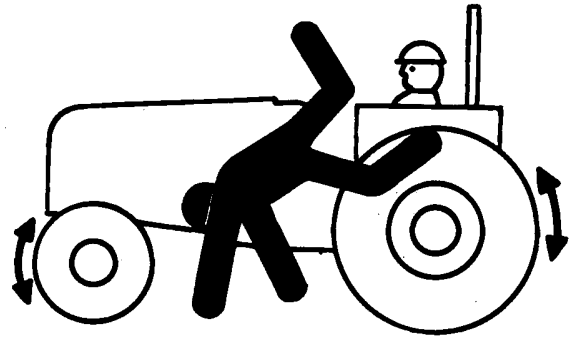
TS951—UN—12APR90

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

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

DX,FLASH-19-07JUL99

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.

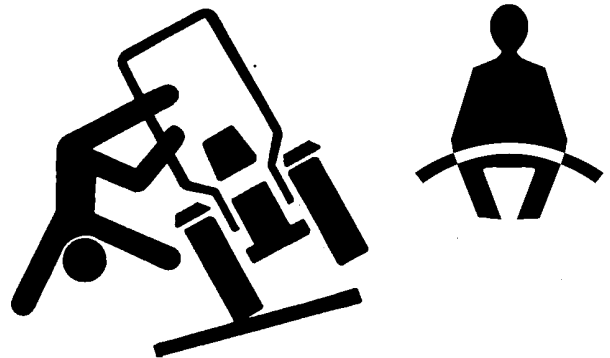
DX,RIDER-19-03MAR93

Machine fitted with Instructional Seat

On machines equipped with an instructional seat, one rider is permitted for providing instructions to the operator. Refer to Use Seat Belt Properly in this section.

WZ00232,00001DD-19-03AUG09

Use Seat Belt Properly



TS1729—UN—24MAY13

Avoid crushing injury or death during rollover.

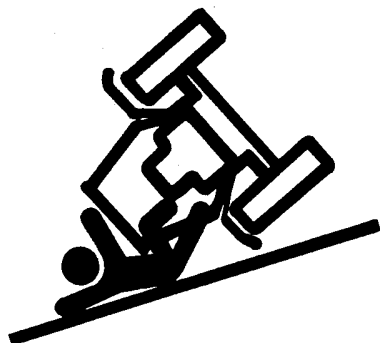
- Hold the latch and pull the seat belt across the body.
- Insert the latch into the buckle. Listen for a click.
- Tug on the seat belt latch to make sure that the belt is securely fastened.
- Snug the seat belt across the hips.

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.

OUO6092,00009E7-19-26OCT15

Use Caution On Hillsides



RW13093—UN—07DEC88

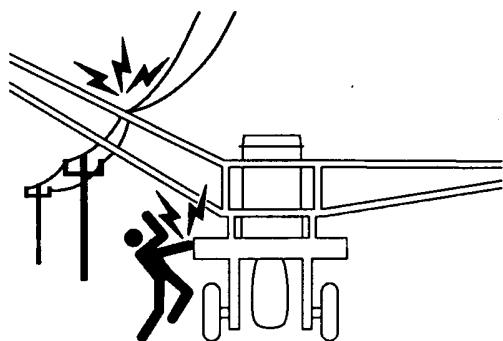
Avoid holes, ditches, and obstructions which may cause sprayer roll-over, especially on hillsides. Avoid sharp turns on hills.

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

Stay off slopes that are too steep for operation.

OUO6092,0000F99-19-28JUN07

Transport and Operate Safely



N44191—UN—27APR92

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, boom operating height and boom folding height of your machine.

Perform a complete assessment of the field before performing any spraying operations to decide the best working method and boom folding/unfolding operations.

Stop slowly to avoid “nose diving”.

Keep SMV emblem and reflectors clean and in place.

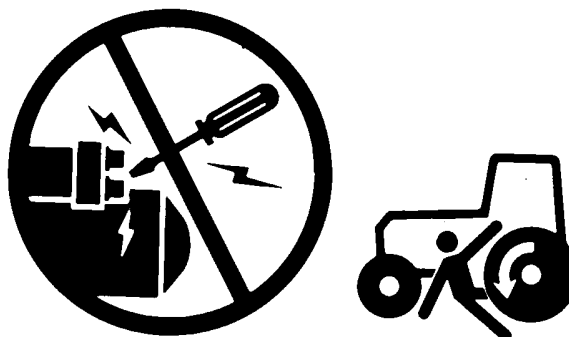
Do not exceed maximum transport speed specified in the operator manual.

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.

OUO6092,0000377-19-14MAY10

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.

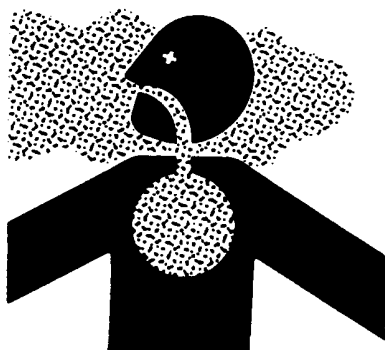
Use only an approved fuel container for transporting flammable liquids.

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:

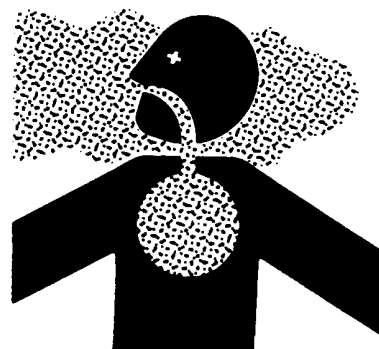
- Wear appropriate personal protective equipment as recommended by the manufacturer. In the absence of manufacturer's instructions, follow these general guidelines:
 - Chemicals labeled '**Danger**': Most toxic.

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

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.

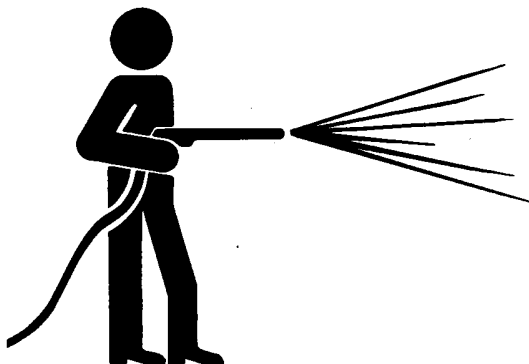
To reduce risk of chemical exposure:

- 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 spraying
- 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)
- 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

OUC6092.00004DE-19-07FEB11

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:

Spraying or atomization of substances other than crop protection chemicals and/or liquid fertilizers.

Use of the tank 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.

WZ00232,0000066-19-28AUG07

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.

CS12167,00004D7-19-12NOV13

Installation Instructions

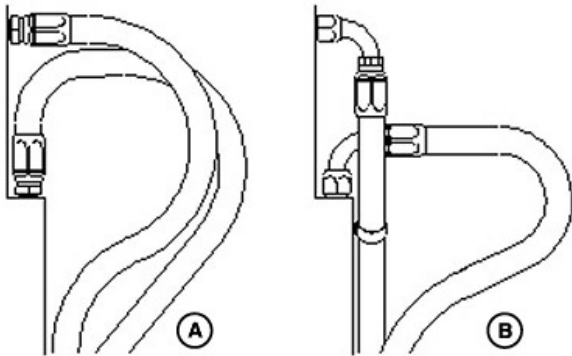
Introduction

The installation procedure for the granular bin differs depending on the serial number of the AB485 air boom application system. Verify that the correct procedure is being followed before starting the installation.

NOTE: For machines with a serial number below 190000, the air boom system wiring harness needs to be replaced.

BN55050,0000327-19-01APR19

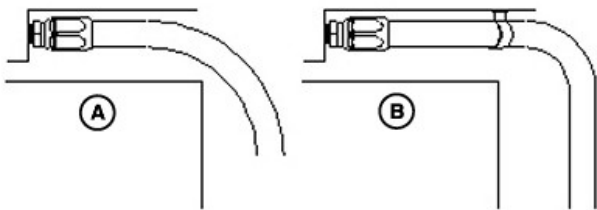
Hose Installation Guide



A—Wrong
B—Right

N97036—UN—27FEB12

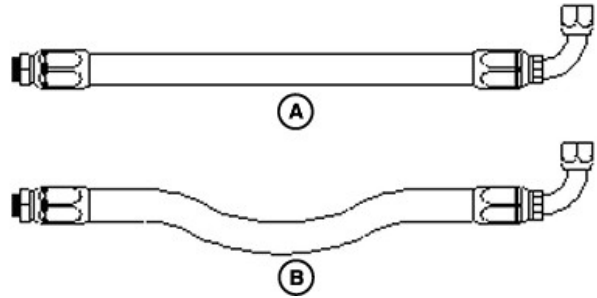
Use elbows and adapters in the installation to relieve strain on the assembly, and to provide easier and neater installations that are accessible for inspection and maintenance. Remember that metal end fittings cannot be considered as part of the flexible portion of the assembly.



A—Wrong
B—Right

N97037—UN—27FEB12

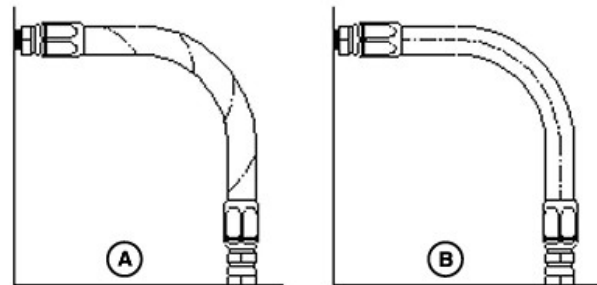
Install hose runs to avoid rubbing or abrasion. Clamps are often needed to support long runs of hose or to keep hose away from moving parts. It is important that the clamps be of the correct size. A clamp that is too large will allow the hose to move in the clamp causing abrasion at this point.



A—Wrong
B—Right

N97038—UN—27FEB12

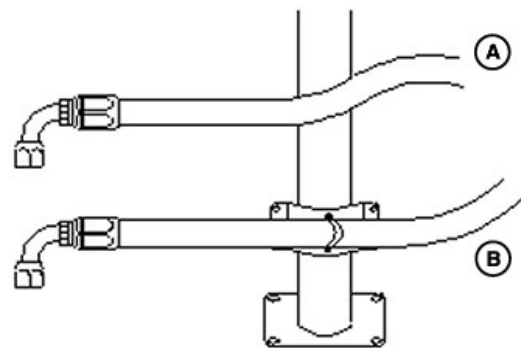
In straight hose installations allow enough slack in the hose line to provide for changes in length that will occur when pressure is applied. This change in length can be from +2% to -4%.



A—Wrong
B—Right

N97039—UN—27FEB12

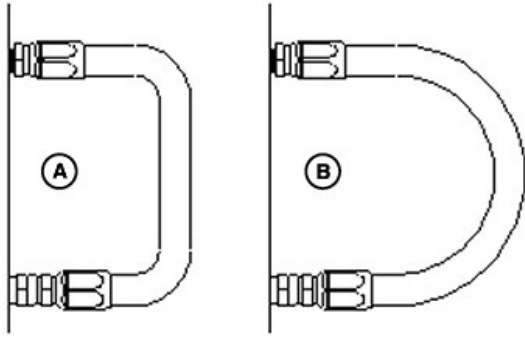
Do not twist hose during installation. This can be determined by the printed layline on the hose. Pressure applied to a twisted hose can cause hose failure or loosening of the connections.



A—Wrong
B—Right

N97040—UN—27FEB12

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.



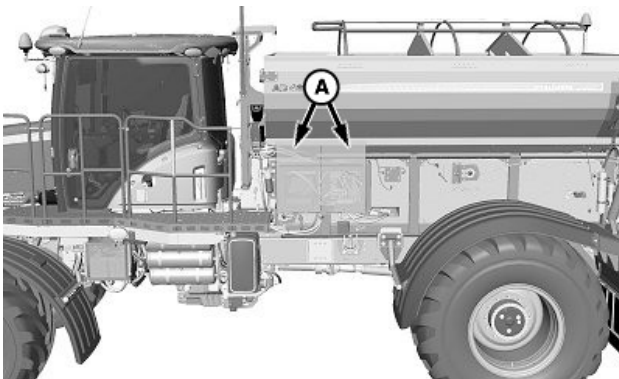
N97041—UN—27FEB12

A—Wrong
B—Right

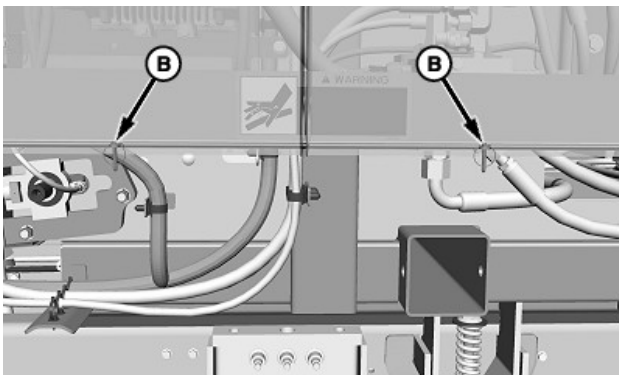
Keep the bend radius of the hose as large as possible to avoid hose collapsing and restriction of flow. Follow catalog specs on minimum bend radius.

OOU6092,0000B7C-19-12SEP16

Replace Air Boom System Wiring Harness —Machines with Serial Number Below 190000



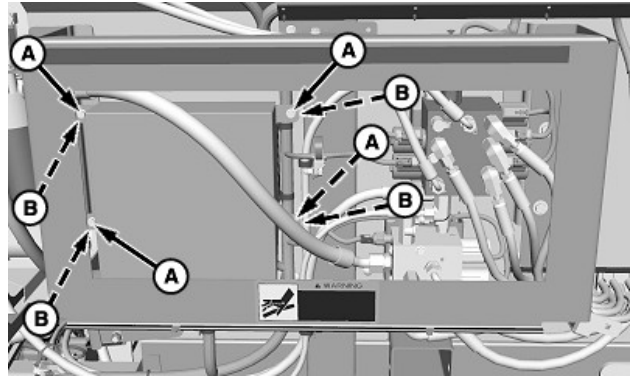
N140899—UN—21DEC18



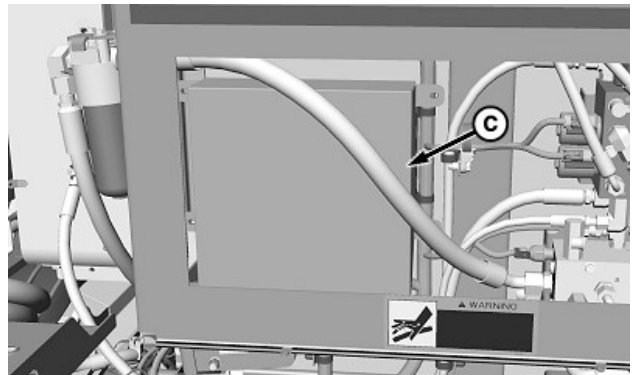
N140900—UN—21DEC18

A—Material Chute (2 used)
B—Pin (2 used)

1. Locate the material chutes (A) on the left-hand side of the machine as shown.
2. Remove and retain the pins (B) and the material chutes.



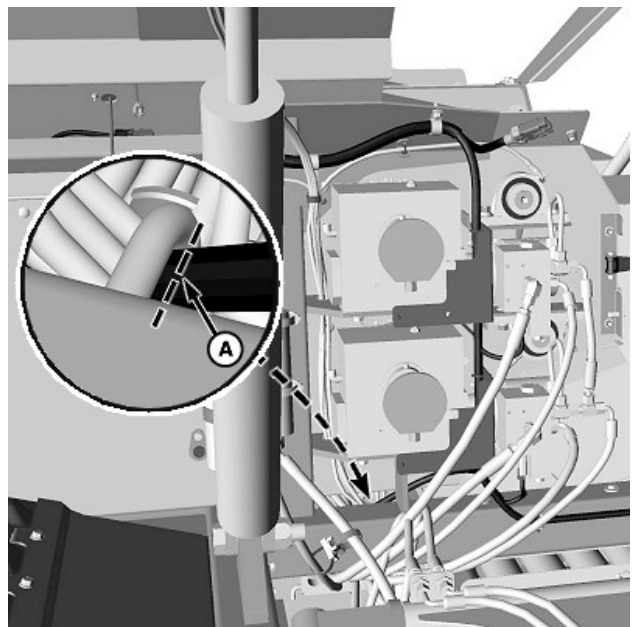
N140901—UN—21DEC18



N140902—UN—21DEC18

A—Flange Cap Screw, M8 x 20 (4 used)
B—Flange Lock Nut, M8 (4 used)
C—Controller Cover

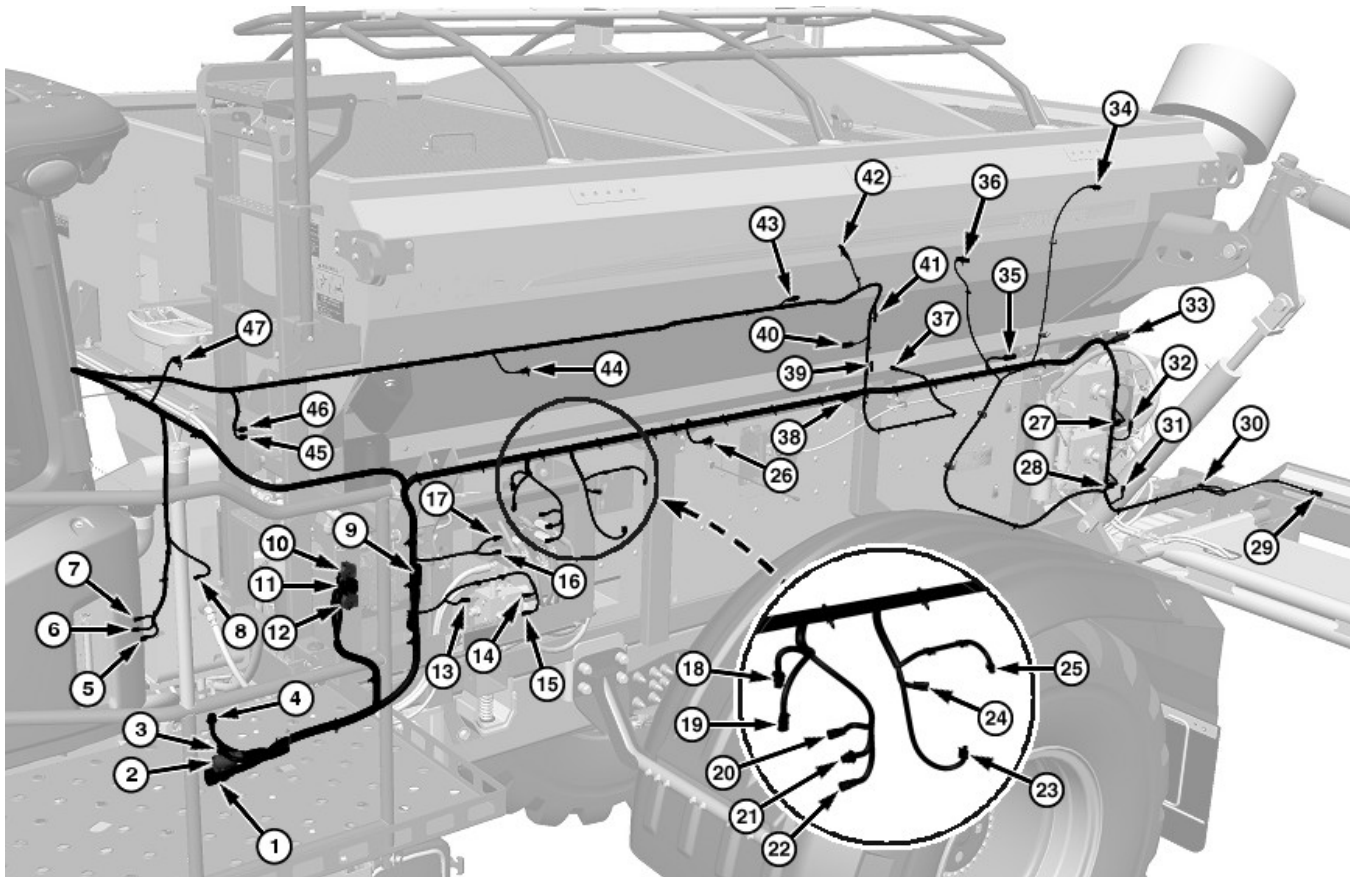
3. Remove and retain the flange cap screws (A), flange lock nuts (B), and controller cover (C).



N140904—UN—21DEC18

A—Location

4. Cut the wiring harness in the location (A) as shown to aid in wiring harness removal.

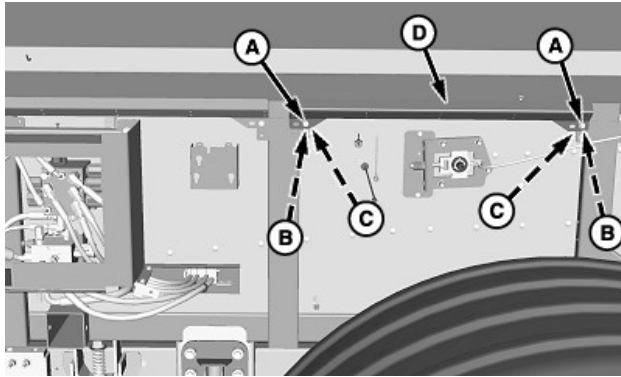


N140903—UN—21DEC18

Remove Air Boom System Harness

- | | |
|--|--|
| 1—Chassis System 1 Inline Harness Connector | 24—Metering Roller Left-Hand Proportional Valve Connector |
| 2—Chassis System 2 Inline Harness Connector | 25—Metering Roller Right-Hand Proportional Valve Connector |
| 3—Controller Area Network (CAN) Implement Chassis Interconnect Connector | 26—Bin 1 Left-Hand Low-Level Sensor Connector |
| 4—Controller Area Network (CAN) Implement Active Terminator Connector | 27—Bin 2 Left-Hand Conveyor Speed Connector |
| 5—Hydraulic Fan Pressure Sensor Connector | 28—Bin 1 Left-Hand Conveyor Speed Connector |
| 6—Blower Fan Proportional Valve Connector | 29—Left-Hand Rear Light Interconnect Connector |
| 7—Blower Fan On-Off Valve Connector | 30—License Plate Light Connector |
| 8—Hydraulic Oil Temperature Sensor Connector | 31—Bin 1 Left-Hand Conveyor Enable Connector |
| 9—Boom Air Control (BAC) Connector | 32—Bin 2 Left-Hand Conveyor Enable Connector |
| 10—Boom Air Control (BAC) Connector | 33—Granular Bin Interconnect Connector |
| 11—Boom Air Control (BAC) Connector | 34—Blower Fan Speed Sensor Connector |
| 12—Boom Air Control (BAC) Connector | 35—Bin 2 Left-Hand Low-Level Sensor Connector |
| 13—Conveyor Hydraulic Pressure Sensor | 36—Bin 2 High-Level Sensor Connector |
| 14—Bin 2 Conveyor Proportional Valve Connector | 37—Right-Hand Rear Light Interconnect Connector |
| 15—Bin 1 Conveyor Proportional Valve Connector | 38—Bin 1 Right-Hand Conveyor Speed Connector |
| 16—Boom Latch Connector | 39—Bin 1 Right-Hand Conveyor Enable Connector |
| 17—Boom Fold Connector | 40—Bin 2 Right-Hand Conveyor Speed Connector |
| 18—Boom Unfold, Latch, Raise Connector | 41—Bin 2 Right-Hand Conveyor Enable Connector |
| 19—Boom Fold, Unlatch, Lower Connector | 42—Rear Beacon Light Interconnect Connector |
| 20—Double Blocker Actuator Connector | 43—Bin 2 Right-Hand Low-Level Sensor Connector |
| 21—Right-Hand Boom Raise and Lower Connector | 44—Bin 1 Right-Hand Low-Level Sensor Connector |
| 22—Left-Hand Boom Raise and Lower Connector | 45—Hydraulic Cooler Lower Fan Connector |
| 23—Granular Bin Pressure Sensor Connector | 46—Hydraulic Cooler Upper Fan Connector |
| | 47—Bin 1 High-Level Sensor Connector |

5. Locate and remove the air boom system wiring harness by disconnecting all necessary harness components (1—47).

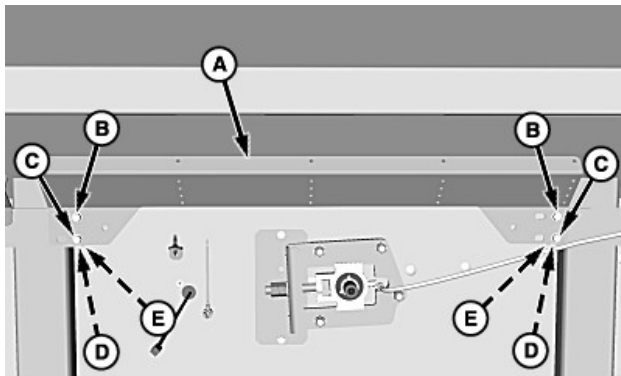


N140905—UN—21DEC18

- A—Flange Cap Screw, M8 x 25 (2 used)
- B—Lock Nut, Stainless Steel, M8 (2 used)
- C—Washer, Stainless Steel, 8.74 mm (0.34 in) ID x 19.05 mm (0.75 in) OD (2 used)
- D—Electrical Harness Bracket

6. Remove and retain the flange cap screws (A), lock nuts (B), and washers (C). Discard the electrical harness bracket (D).

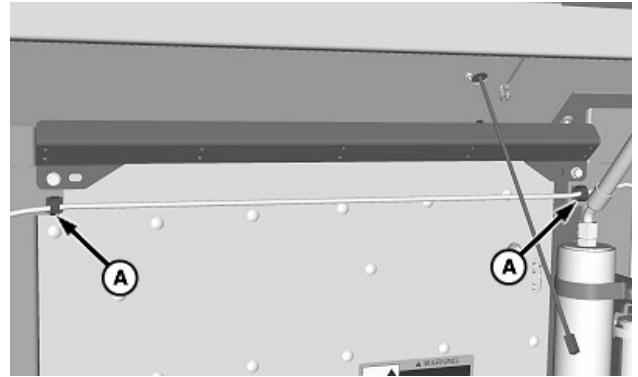
NOTE: Apply anti-seize compound to all stainless steel hardware before assembly.



N141448—UN—21DEC18

- A—Front Hose Retention Bracket
- B—Hardware
- C—Flange Cap Screw, M8 x 25 (2 used)
- D—Lock Nut, Stainless Steel, M8 (2 used)
- E—Washer, Stainless Steel, 8.74 mm (0.34 in) ID x 19.05 mm (0.75 in) OD (2 used)

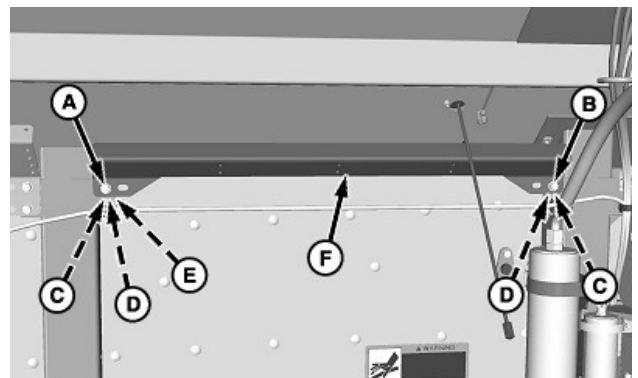
7. Install the provided front hose retention bracket (A) as shown, using the previously retained hardware (B) and the provided flange cap screws (C), lock nuts (D), and washers (E). DO NOT fully tighten the hardware.



N141450—UN—21DEC18

- A—Tie Band with Push-In Retainer (2 used)

8. Remove and discard the tie bands with push-in retainers (A).

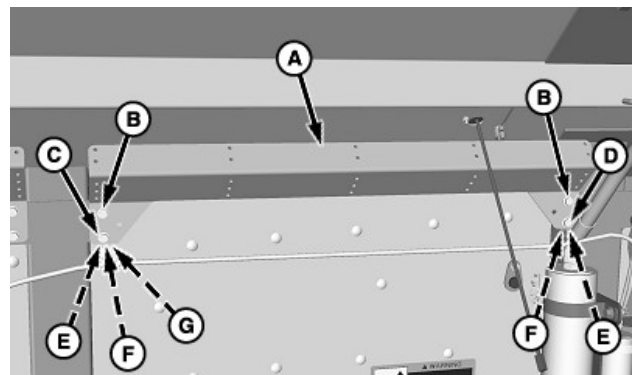


N140906—UN—21DEC18

- A—Flange Cap Screw, M8 x 60
- B—Flange Cap Screw, M8 x 25
- C—Lock Nut, Stainless Steel, M8 (2 used)
- D—Washer, Stainless Steel, 8.74 mm (0.34 in) ID x 19.05 mm (0.75 in) OD (2 used)
- E—Bushing, 10 mm (0.4 in) ID x 40 mm (1.6 in)
- F—Electrical Harness Bracket

9. Remove and retain the flange cap screw (A), flange cap screw (B), lock nuts (C), washers (D), and bushing (E). Discard the electrical harness bracket (F).

NOTE: Apply anti-seize compound to all stainless steel hardware before assembly.

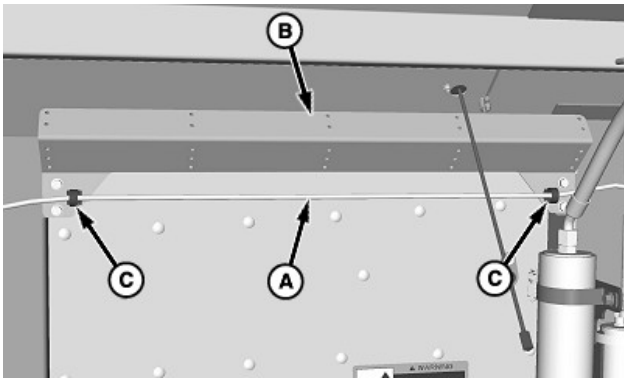


N141449—UN—21DEC18

- A—Rear Hose Retention Bracket
- B—Hardware

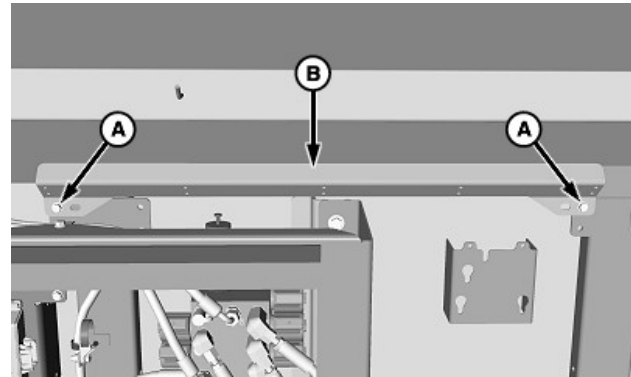
- C—Flange Cap Screw, M8 x 60
- D—Flange Cap Screw, M8 x 25
- E—Lock Nut, Stainless Steel, M8 (2 used)
- F—Washer, Stainless Steel, 8.74 mm (0.34 in) ID x 19.05 mm (0.75 in) OD (2 used)
- G—Bushing, 10 mm (0.4 in) ID x 40 mm (1.6 in)

10. Install the provided rear hose retention bracket (A) as shown, using the previously retained hardware (B) provided flange cap screw (C), flange cap screw (D), lock nuts (E), washers (F), and bushing (G). DO NOT fully tighten the hardware.



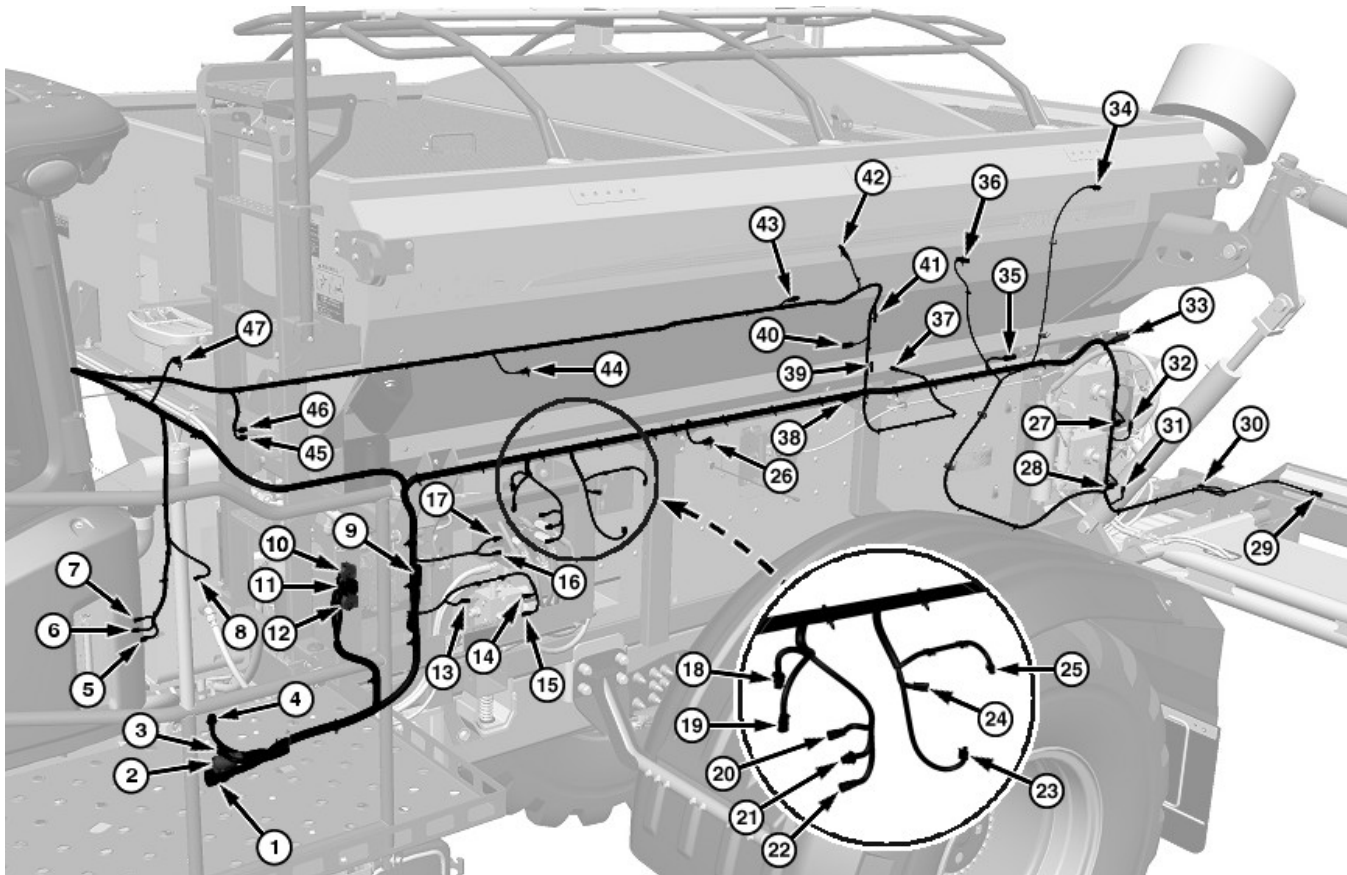
- A—Grease Hose
- B—Rear Hose Retention Bracket
- C—Tie Band with Push-In Retainer, 21.6 mm (0.85 in) (2 used)

11. Retain the grease hose (A) to the previously installed rear hose retention bracket (B) using the provided tie bands with push-in retainers (C).



- A—Hardware
- B—Electrical Harness Bracket

12. Loosen the hardware (A) from the electrical harness bracket (B).



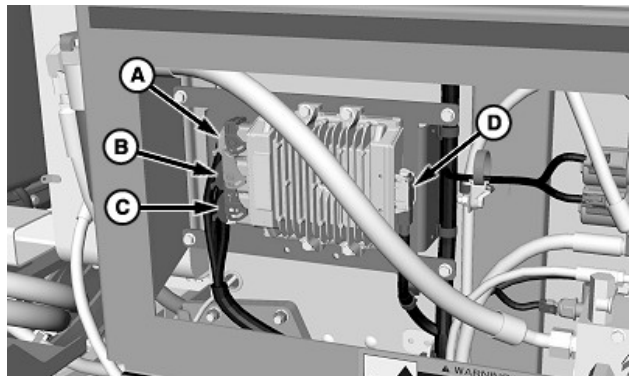
Harness Routing

- 1—Chassis System 1 Inline Harness Connector
- 2—Chassis System 2 Inline Harness Connector

- 3—Controller Area Network (CAN) Implement Chassis Interconnect Connector

- 4—Controller Area Network (CAN) Implement Active Terminator Connector
- 5—Hydraulic Fan Pressure Sensor Connector
- 6—Blower Fan Proportional Valve Connector
- 7—Blower Fan On-Off Valve Connector
- 8—Hydraulic Oil Temperature Sensor Connector
- 9—Boom Air Control (BAC) Connector
- 10—Boom Air Control (BAC) Connector
- 11—Boom Air Control (BAC) Connector
- 12—Boom Air Control (BAC) Connector
- 13—Conveyor Hydraulic Pressure Sensor
- 14—Bin 2 Conveyor Proportional Valve Connector
- 15—Bin 1 Conveyor Proportional Valve Connector
- 16—Boom Latch Connector
- 17—Boom Fold Connector
- 18—Boom Unfold, Latch, Raise Connector
- 19—Boom Fold, Unlatch, Lower Connector
- 20—Double Blocker Actuator Connector
- 21—Right-Hand Boom Raise and Lower Connector
- 22—Left-Hand Boom Raise and Lower Connector
- 23—Granular Bin Pressure Sensor Connector
- 24—Metering Roller Left-Hand Proportional Valve Connector
- 25—Metering Roller Right-Hand Proportional Valve Connector

13. Route the provided air boom system wiring harness as shown.

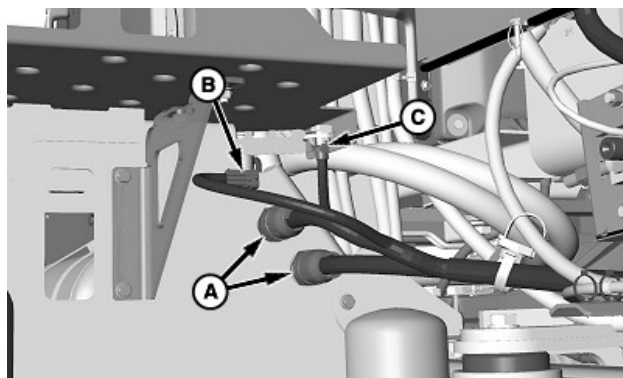


N141451—UN—21DEC18

- A—Boom Air Control (BAC) Connector
- B—Boom Air Control (BAC) Connector
- C—Boom Air Control (BAC) Connector
- D—Boom Air Control (BAC) Connector

NOTE: While routing and connecting the air boom system wiring harness, retain with tie bands and push-in retainers as needed.

14. Connect the Boom Air Control (BAC) connectors (A—D).

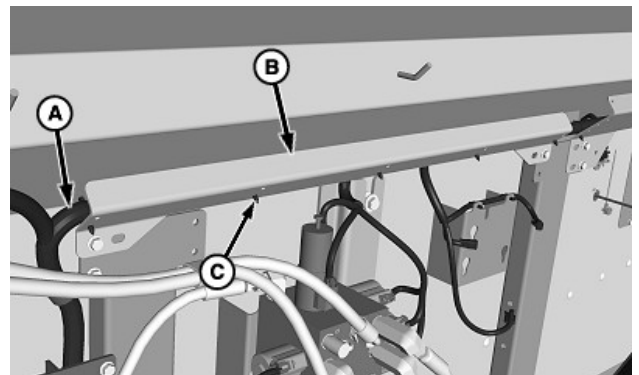


N141452—UN—21DEC18

- 26—Bin 1 Left-Hand Low-Level Sensor Connector
- 27—Bin 2 Left-Hand Conveyor Speed Connector
- 28—Bin 1 Left-Hand Conveyor Speed Connector
- 29—Left-Hand Rear Light Interconnect Connector
- 30—License Plate Light Connector
- 31—Bin 1 Left-Hand Conveyor Enable Connector
- 32—Bin 2 Left-Hand Conveyor Enable Connector
- 33—Granular Bin Interconnect Connector
- 34—Blower Fan Speed Sensor Connector
- 35—Bin 2 Left-Hand Low-Level Sensor Connector
- 36—Bin 2 High-Level Sensor Connector
- 37—Right-Hand Rear Light Interconnect Connector
- 38—Bin 1 Right-Hand Conveyor Speed Connector
- 39—Bin 1 Right-Hand Conveyor Enable Connector
- 40—Bin 2 Right-Hand Conveyor Speed Connector
- 41—Bin 2 Right-Hand Conveyor Enable Connector
- 42—Rear Beacon Light Interconnect Connector
- 43—Bin 2 Right-Hand Low-Level Sensor Connector
- 44—Bin 1 Right-Hand Low-Level Sensor Connector
- 45—Hydraulic Cooler Lower Fan Connector
- 46—Hydraulic Cooler Upper Fan Connector
- 47—Bin 1 High-Level Sensor Connector

- A—Bulkhead Connector
- B—Interconnect Connector
- C—Terminator Connector

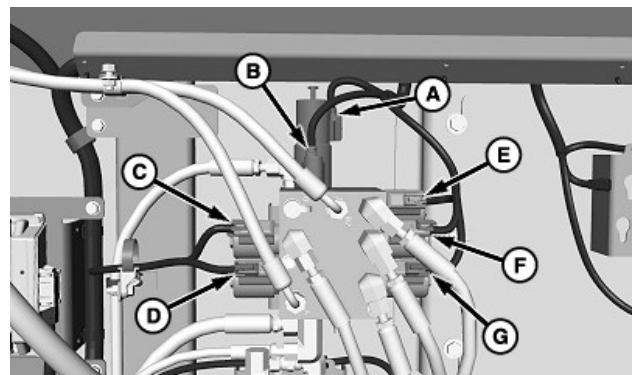
15. Connect the bulkhead connectors (A), interconnect connector (B), and terminator connector (C).



N141453—UN—21DEC18

- A—Wiring Harness
- B—Harness Bracket
- C—Push-In Retainer

16. Retain the wiring harness (A) to the harness bracket (B) as shown using the push-in retainers (C).

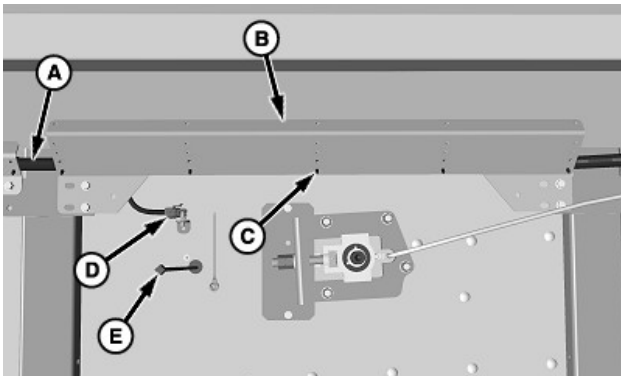


N141454—UN—21DEC18

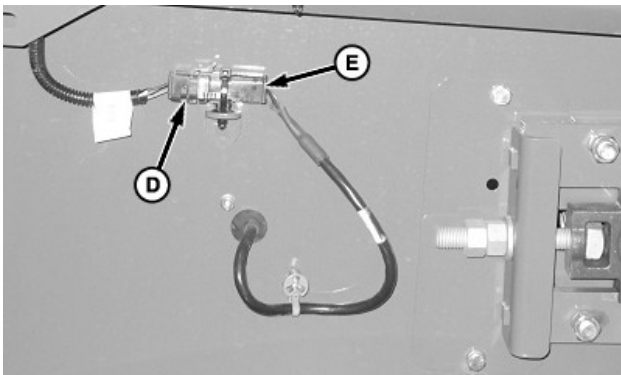
- A—Boom Unfold, Latch, Raise Connector
- B—Boom Fold, Unlatch, Lower Connector
- C—Boom Fold Connector
- D—Boom Latch Connector

E—Double Blocker Actuator Connector
F—Right-Hand Boom Raise and Lower Connector
G—Left-Hand Boom Raise and Lower Connector

17. Connect the harness connectors (A—G) as shown.



N141513—UN—21DEC18

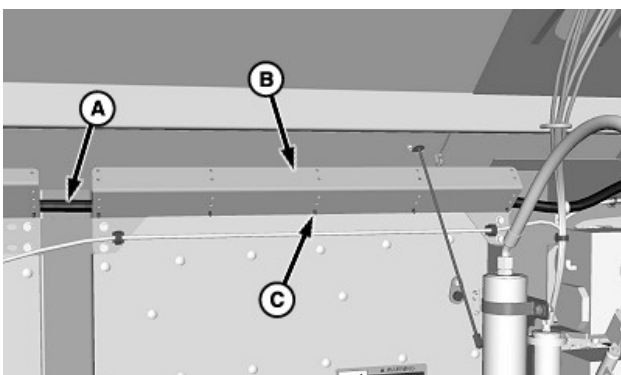


N141519—UN—21DEC18

A—Wiring Harness
B—Front Hose Retention Bracket
C—Push-In Retainer
D—Harness Connector
E—Bin 1 Left-Hand Low-Level Sensor

18. Retain the wiring harness (A) to the previously installed front hose retention bracket (B) using the push-in retainers (C).

19. Connect the harness connector (D) to the Bin 1 left-hand low-level sensor (E).

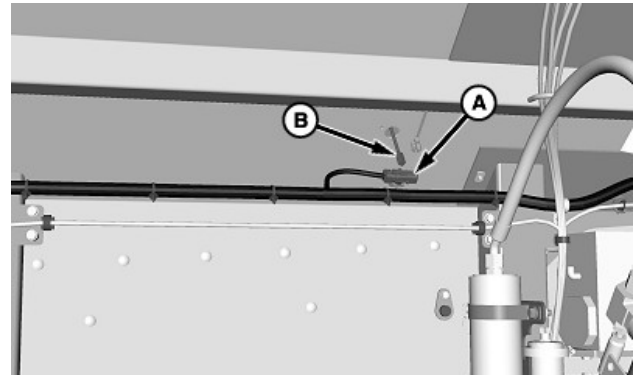


N141515—UN—21DEC18

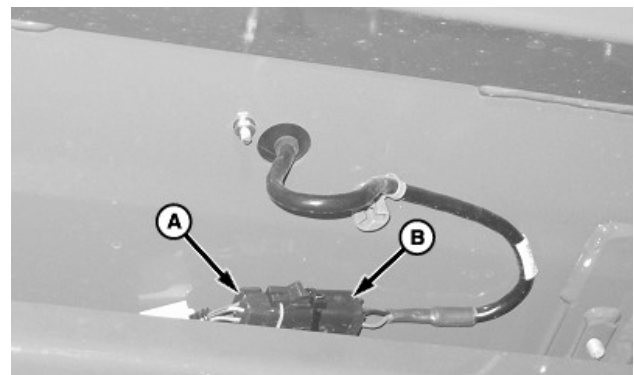
A—Wiring Harness
B—Rear Hose Retention Bracket
C—Push-In Retainer

20. Retain the wiring harness (A) to the previously

installed rear hose retention bracket (B) as shown using the push-in retainers (C).



N141516—UN—21DEC18

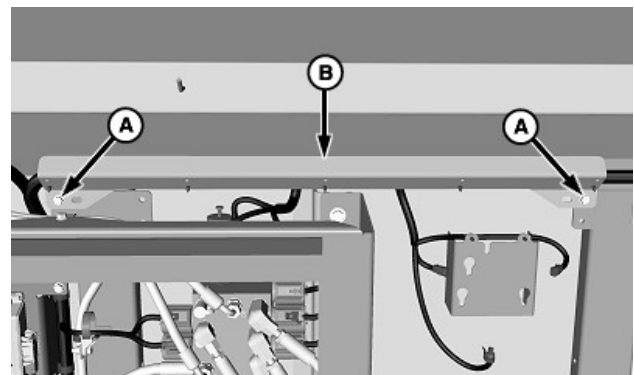


N141520—UN—21DEC18

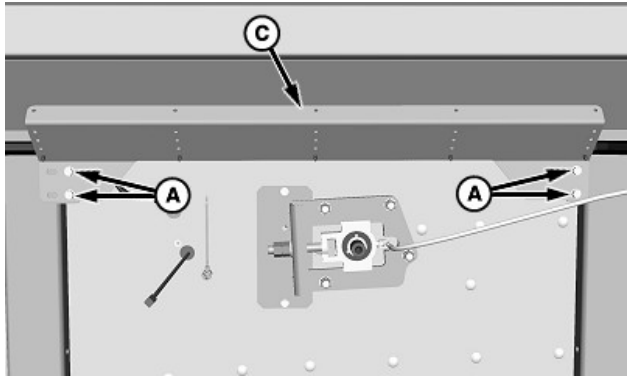
A—Harness Connector
B—Bin 2 Left-Hand Low-Level Sensor

NOTE: The rear hose retention bracket has been removed from this image for clarity.

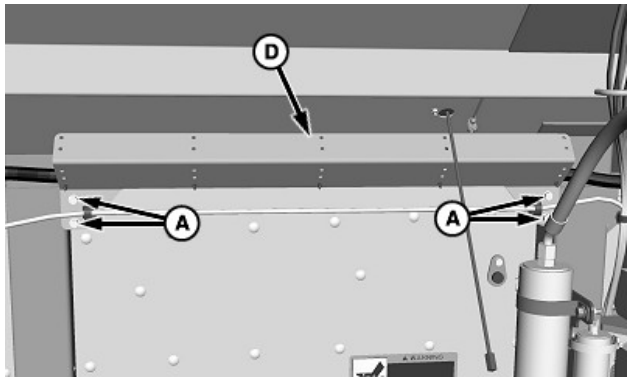
21. Connect the harness connector (A) to the Bin 2 left-hand low-level sensor (B).



N141537—UN—21DEC18



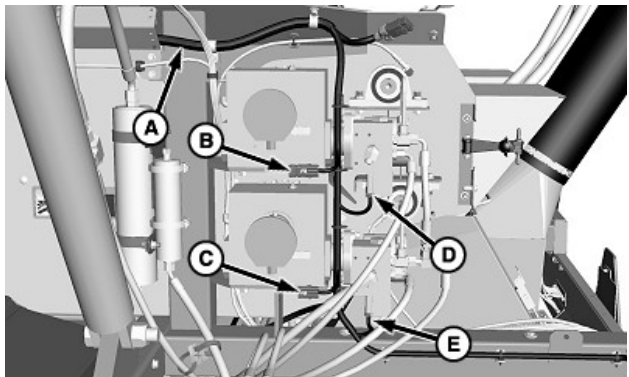
N141524—UN—21DEC18



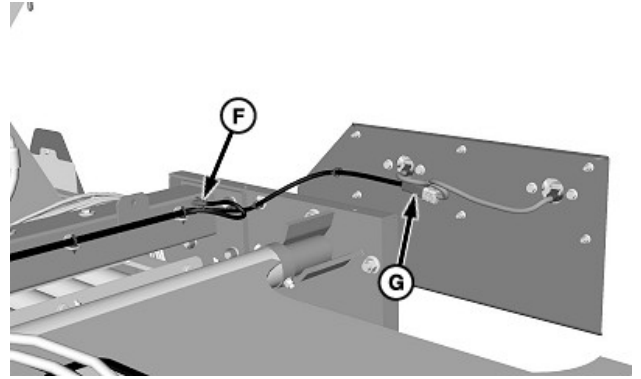
N141525—UN—21DEC18

- A—Hardware
- B—Electrical Harness Bracket
- C—Front Hose Retention Bracket
- D—Rear Hose Retention Bracket

22. Tighten the hardware (A) on the electrical harness bracket (B), front hose retention bracket (C), and rear hose retention bracket (D).



N141517—UN—21DEC18

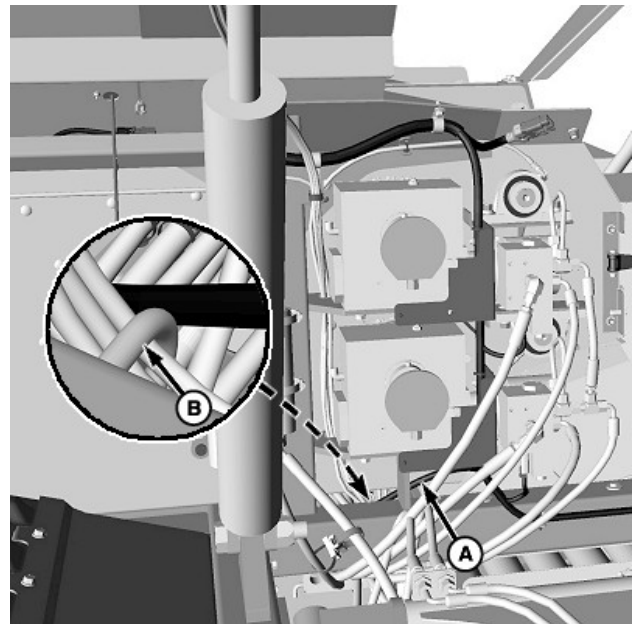


N141518—UN—21DEC18

- A—Wiring Harness
- B—Bin 2 Left-Hand Conveyor Speed Connector
- C—Bin 1 Left-Hand Conveyor Speed Connector
- D—Bin 2 Left-Hand Conveyor Enable Connector
- E—Bin 1 Left-Hand Conveyor Enable Connector
- F—License Plate Light Connector
- G—Left-Hand Rear Light Interconnect Connector

NOTE: Some parts have been removed from these images for clarity.

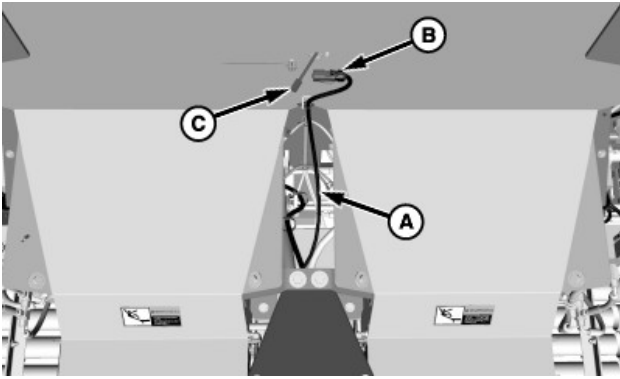
23. Continue routing the wiring harness (A) as shown. Connect the harness connectors (B—G).



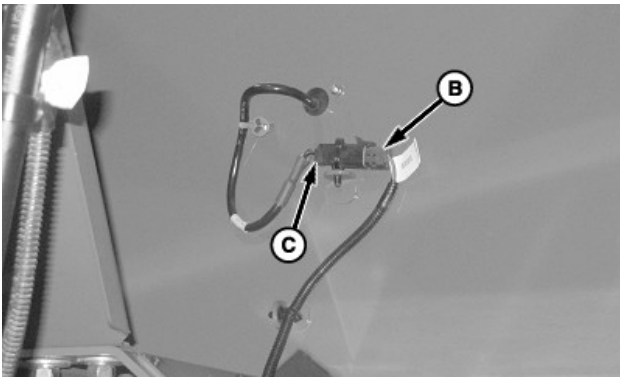
N141540—UN—21DEC18

- A—Wiring Harness
- B—Retaining Ring

24. Route the wiring harness (A) around the retaining ring (B) as shown.



N141541—UN—21DEC18

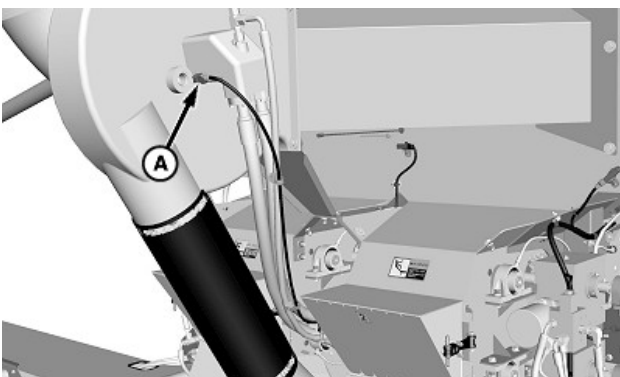


N141584—UN—21DEC18

A—Wiring Harness
B—Harness Connector
C—Bin 2 High-Level Sensor

NOTE: Some parts have been removed from this image for clarity.

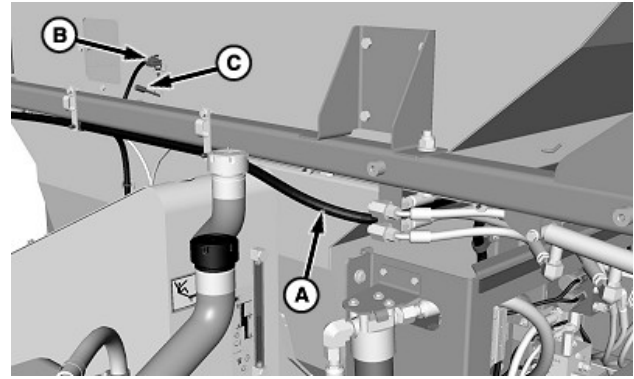
25. Continue routing the wiring harness (A) as shown.
26. Connect the harness connector (B) to the Bin 2 high-level sensor (C).



N141585—UN—21DEC18

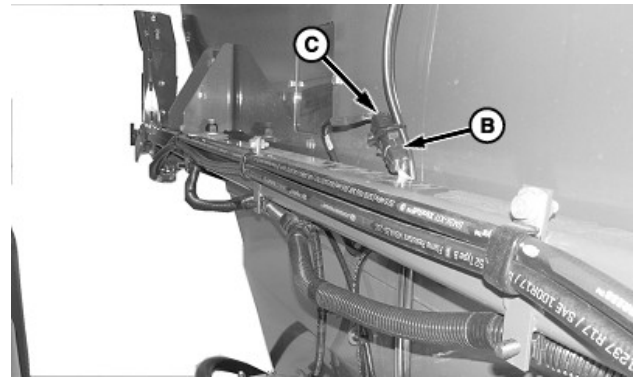
A—Blower Fan Speed Sensor Connector

27. Connect the blower fan speed sensor connector (A).



N141521—UN—21DEC18

Left-Hand Front Corner

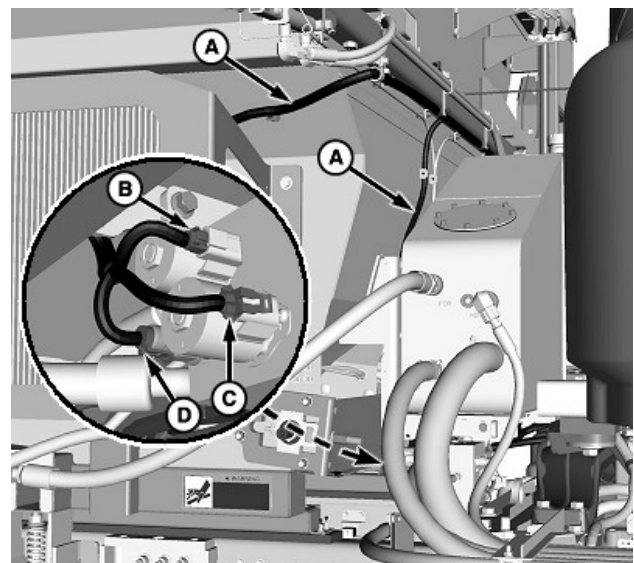


N141522—UN—21DEC18

A—Wiring Harness
B—Harness Connector
C—Bin 1 High-Level Sensor

NOTE: Some parts have been removed from this image for clarity.

28. Route the wiring harness (A) as shown.
29. Connect the harness connector (B) to the Bin 1 high-level sensor (C).



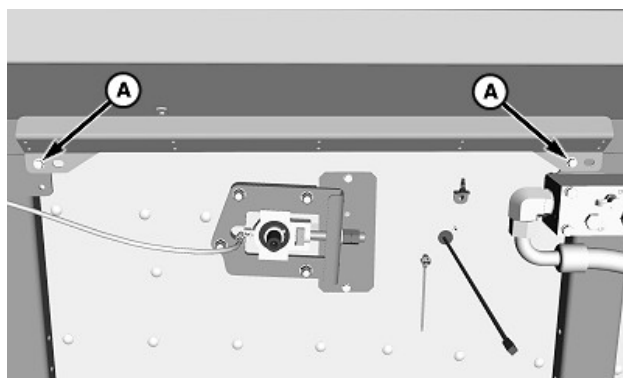
N141523—UN—21DEC18

A—Wiring Harness
B—Blower Fan On-Off Valve Connector

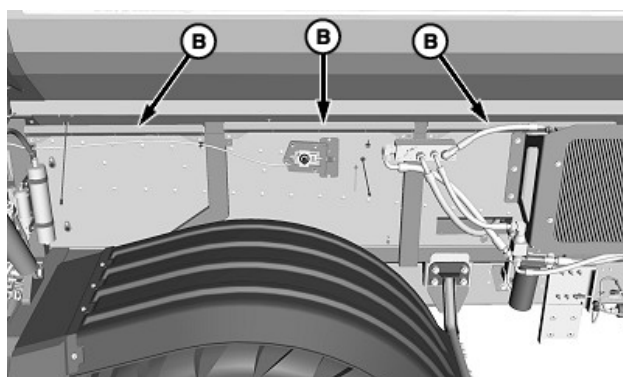
C—Blower Fan Proportional Valve Connector
D—Hydraulic Fan Pressure Sensor Connector

30. Continue routing the wiring harness (A) as shown.

31. Connect the harness connectors (B—D).



N141527—UN—21DEC18

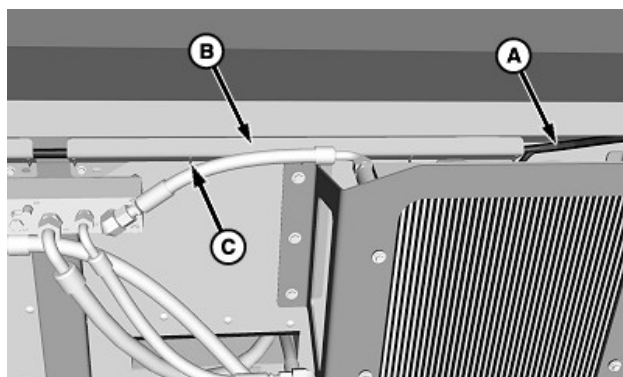


N141528—UN—21DEC18

Right-Hand Side

A—Hardware
B—Electrical Harness Bracket

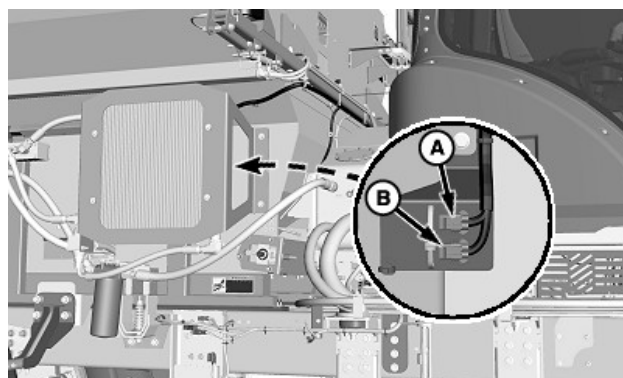
32. Loosen the hardware (A) from the electrical harness brackets (B).



N141529—UN—21DEC18

A—Wiring Harness
B—Electrical Harness Bracket
C—Push-In Retainer

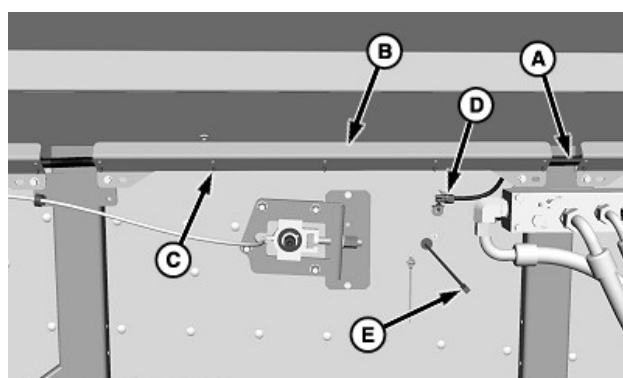
33. Retain the wiring harness (A) to the electrical harness bracket (B) using the push-in retainers (C).



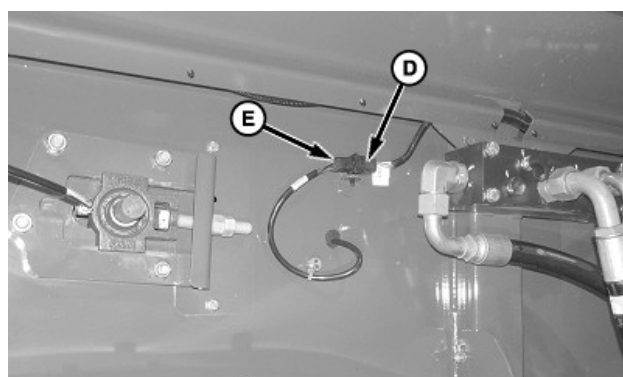
N141526—UN—21DEC18

A—Hydraulic Cooler Upper Fan Connector
B—Hydraulic Cooler Lower Fan Connector

34. Connect the harness connectors (A and B).



N141530—UN—21DEC18

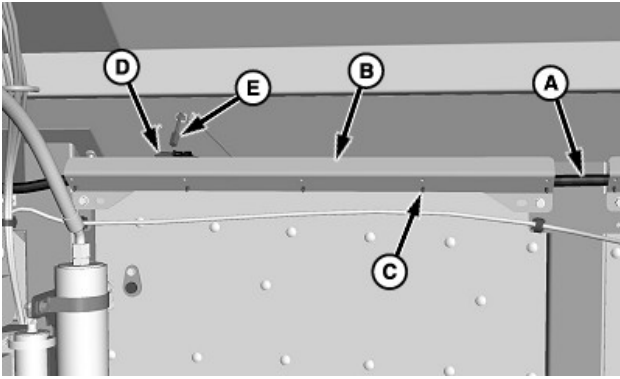


N141531—UN—21DEC18

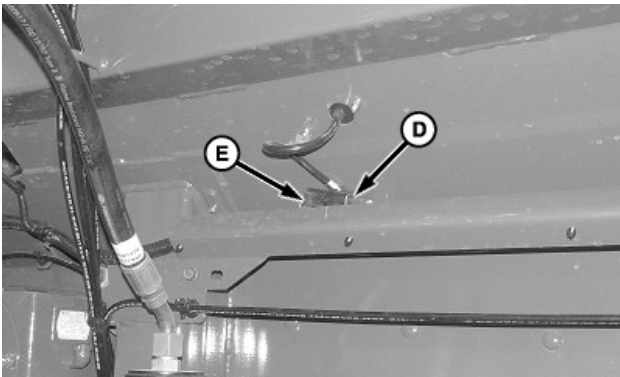
A—Wiring Harness
B—Electrical Harness Bracket
C—Push-In Retainer
D—Harness Connector
E—Bin 1 Right-Hand Low-Level Sensor

35. Retain the wiring harness (A) to the electrical harness bracket (B) using the push-in retainers (C).

36. Connect the harness connector (D) to the Bin 1 right-hand low-level sensor (E).



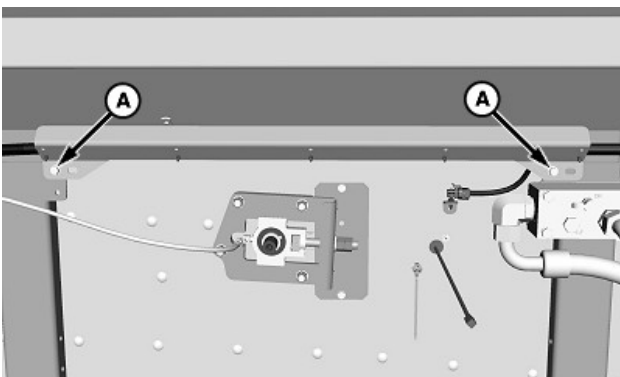
N141532—UN—21DEC18



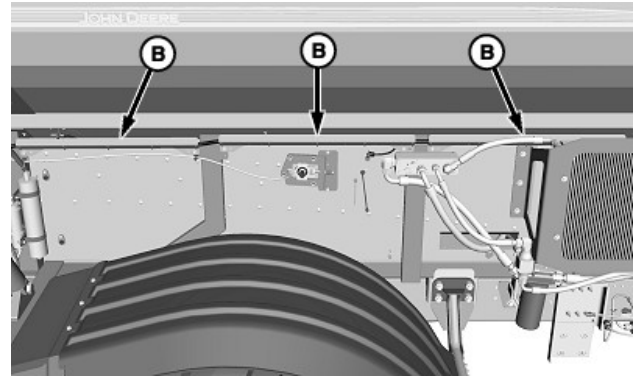
N141533—UN—21DEC18

- A—Wiring Harness
- B—Electrical Harness Bracket
- C—Push-In Retainer
- D—Harness Connector
- E—Bin 2 Right-Hand Low-Level Sensor

37. Retain the wiring harness (A) to the electrical harness bracket (B) using the push-in retainers (C).
38. Connect the harness connector (D) to the Bin 2 right-hand low-level sensor (E).



N141534—UN—21DEC18

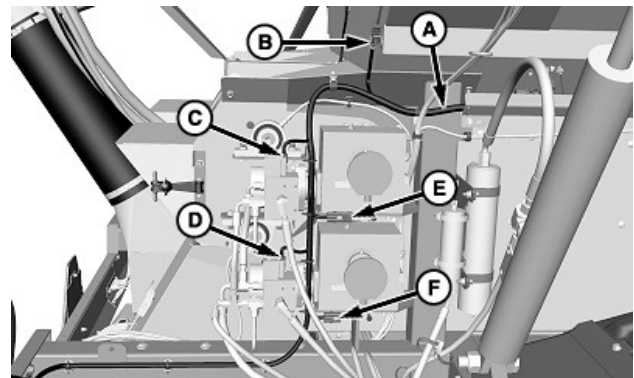


N141535—UN—21DEC18

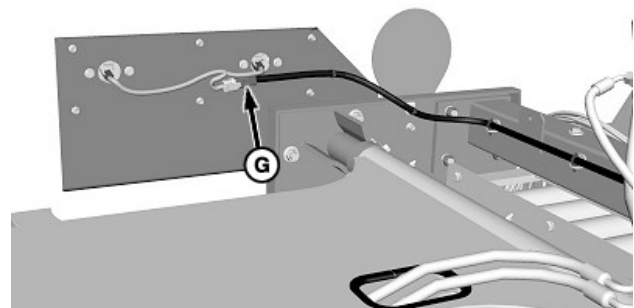
Right-Hand Side

- A—Hardware
- B—Electrical Harness Bracket

39. Tighten the hardware (A) on the electrical harness brackets (B).



N141538—UN—21DEC18

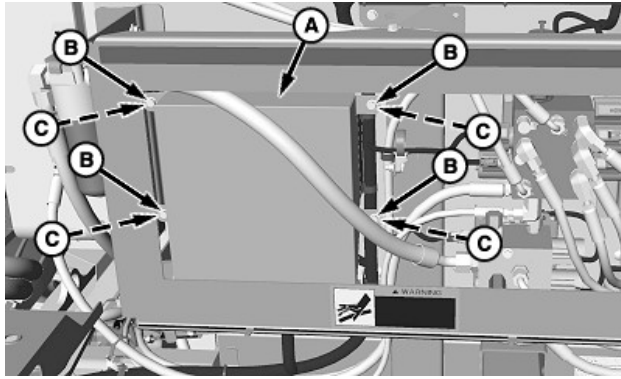


N141539—UN—21DEC18

- A—Wiring Harness
- B—Rear Beacon Light Interconnect Connector
- C—Bin 2 Right-Hand Conveyor Enable Connector
- D—Bin 1 Right-Hand Conveyor Enable Connector
- E—Bin 2 Right-Hand Conveyor Speed Connector
- F—Bin 1 Right-Hand Conveyor Speed Connector
- G—Right-Hand Rear Light Interconnect Connector

NOTE: Some parts have been removed from these images for clarity.

40. Continue routing the wiring harness (A) as shown. Connect the harness connectors (B—G).



N141591—UN—21DEC18

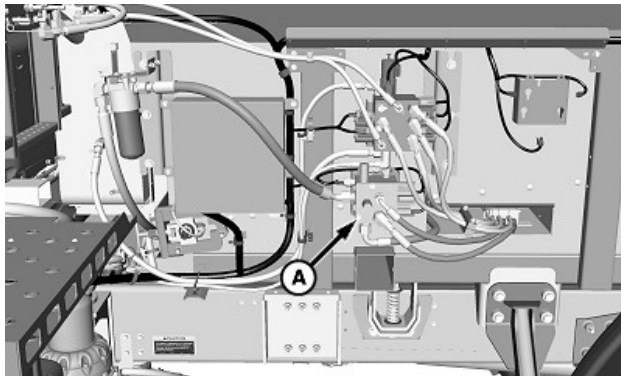
- A—Controller Cover
B—Flange Cap Screw, M8 x 20 (4 used)
C—Flange Lock Nut, M8 (4 used)

41. Install the previously retained controller cover (A) using the previously retained flange cap screws (B) and flange lock nuts (C).

BN55050,00002F1-19-22JAN19

Install Granular Bin—Machines with Serial Number Below 190000

NOTE: Some parts have been removed from these images for clarity.

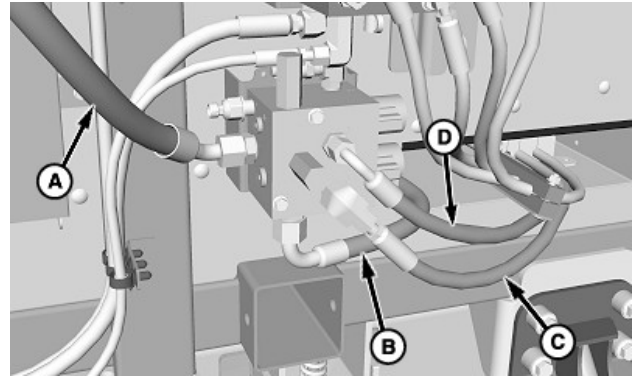


N141586—UN—21DEC18

Control Valve Location

- A—Conveyor Control Valve

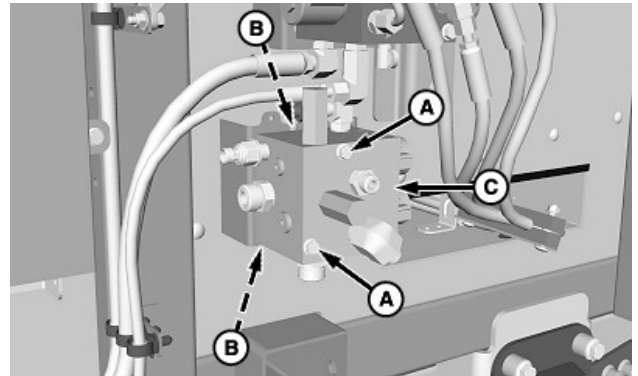
1. Locate the conveyor control valve (A) as shown.



N141587—UN—21DEC18

- A—Hydraulic Hose, 800 mm (31.5 in)
B—Hydraulic Hose, 825 mm (32.5 in)
C—Hydraulic Hose, 4440 mm (175 in)
D—Hydraulic Hose, 4595 mm (181 in)

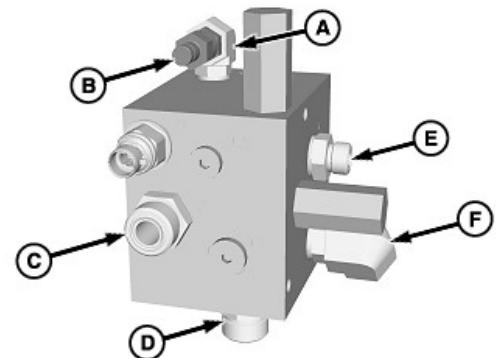
2. Tag and disconnect the hydraulic hoses (A—D) from the conveyor control valve. Plug the hydraulic hoses.



N141588—UN—21DEC18

- A—Flange Cap Screw, M8 x 120 (2 used)
B—Flange Nut, M8 (2 used)
C—Control Valve

3. Remove and retain the flange cap screws (A), flange nuts (B), and conveyor control valve (C).

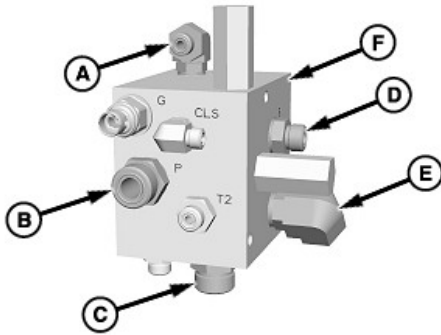


N141589—UN—21DEC18

- A—Fitting, 90° Adjustable Elbow, O-Ring Face Seal (ORFS)
B—Diagnostic Receptacle
C—Fitting, Stud Straight, O-Ring Face Seal (ORFS)
D—Fitting, Stud Straight, O-Ring Face Seal (ORFS)
E—Fitting, Stud Straight, O-Ring Face Seal (ORFS)
F—Fitting, 90° Adjustable Elbow, O-Ring Face Seal (ORFS)

4. Remove and retain the components (A—F) from the conveyor control valve.
5. Discard the conveyor control valve.

IMPORTANT: Always use new O-rings when installing fittings. Damaged or used O-rings can cause leakage.



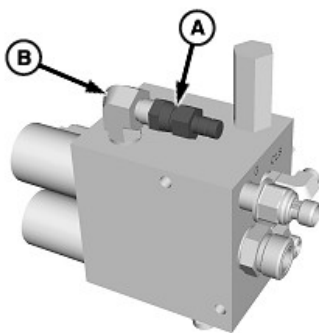
N141592—UN—21DEC18

- A—Fitting, 90° Adjustable Elbow, O-Ring Face Seal (ORFS)
- B—Fitting, Stud Straight, O-Ring Face Seal (ORFS)
- C—Fitting, Stud Straight, O-Ring Face Seal (ORFS)
- D—Fitting, Stud Straight, O-Ring Face Seal (ORFS)
- E—Fitting, 90° Adjustable Elbow, O-Ring Face Seal (ORFS)
- F—Conveyor Control Valve

6. Install the previously retained components (A—E) to the provided conveyor control valve (F) as shown. Tighten to specifications.

Specification

Elbow Fitting (A) to Control Valve (F)—Torque (dry)	30 N·m (22 lb·ft)
Straight Fittings (B and C) to Control Valve (F)—Torque	67 N·m (49.5 lb·ft)
Straight Fitting (D) and Elbow Fitting (E) to Control Valve (F)—Torque	45 N·m (33 lb·ft)



N141593—UN—21DEC18

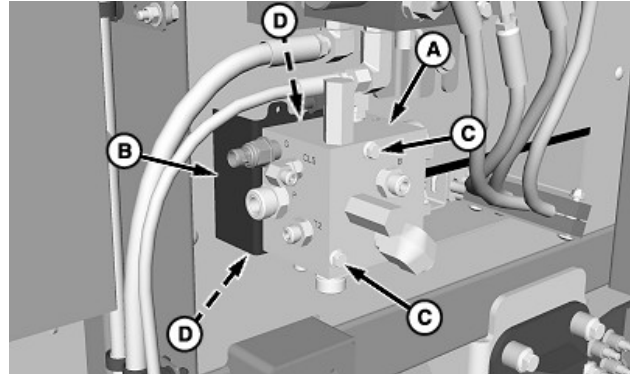
- A—Diagnostic Receptacle
- B—Fitting, 90° Adjustable Elbow, O-Ring Face Seal (ORFS)

7. Install the previously retained diagnostic receptacle

(A) to the previously installed elbow fitting (B) as shown. Tighten to specification.

Specification

Diagnostic Receptacle (A) to Elbow Fitting (B)—Torque (dry)	30 N·m (22 lb·ft)
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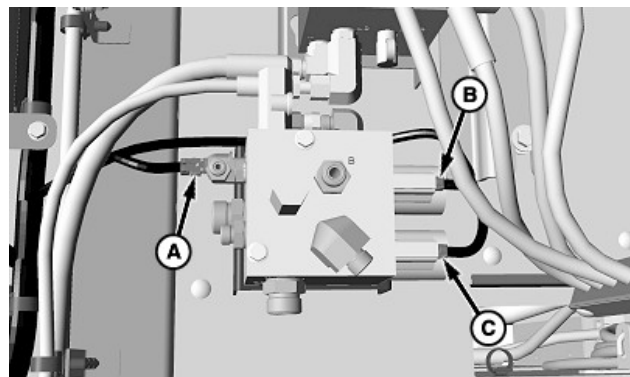
N141590—UN—21DEC18

- A—Control Valve
- B—Valve Mount Bracket
- C—Flange Cap Screw, M8 x 120 (2 used)
- D—Flange Nut, M8 (2 used)

8. Install the conveyor control valve (A) to the valve mount bracket (B) using the previously retained flange cap screws (C) and flange nuts (D). Tighten to specification.

Specification

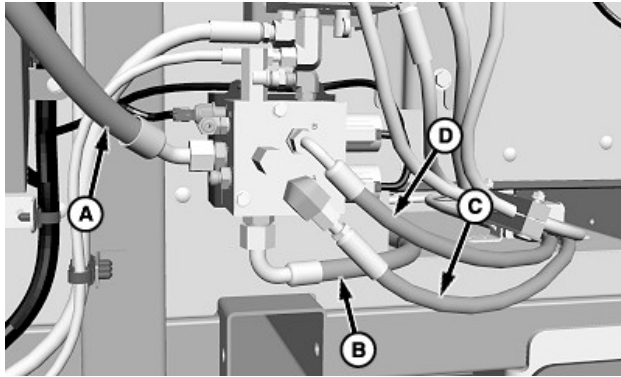
Control Valve Mounting Hardware—Torque (dry)	37 N·m (27 lb·ft)
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N141597—UN—21DEC18

- A—Conveyor Hydraulic Pressure Sensor Connector
- B—Bin 2 Conveyor Proportional Valve Connector
- C—Bin 1 Conveyor Proportional Valve Connector

9. Connect the wiring harness connectors (A—C).



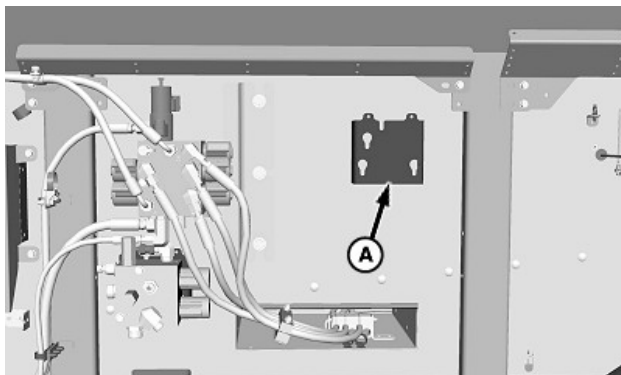
N141596—UN—21DEC18

- A—Hydraulic Hose, 800 mm (31.5 in)
- B—Hydraulic Hose, 825 mm (32.5 in)
- C—Hydraulic Hose, 4440 mm (175 in)
- D—Hydraulic Hose, 4595 mm (181 in)

10. Remove the plugs and install the previously removed hydraulic hoses (A—D). Tighten to specifications.

Specification

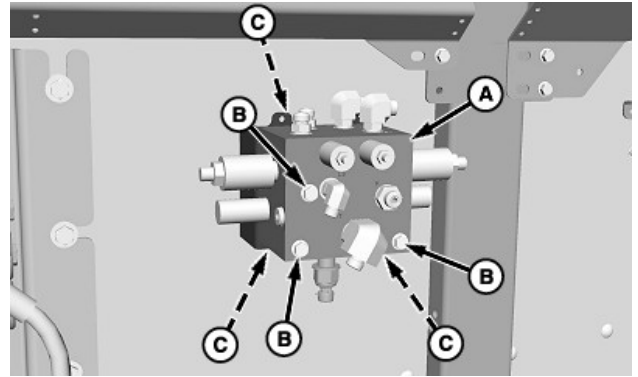
Hydraulic Hose (A) to O-Ring	
Fitting—Torque (dry).	102 N·m (75 lb·ft)
Hydraulic Hose (B) to O-Ring	
Fitting—Torque (dry).	152 N·m (112 lb·ft)
Hydraulic Hoses (C and D) to O-	
Ring Fittings—Torque.	63 N·m (46.5 lb·ft)



N141594—UN—21DEC18

A—Valve Mount Bracket

11. Locate the valve mount bracket (A) as shown.



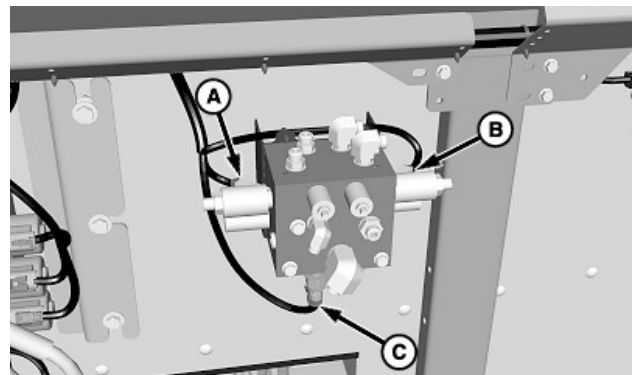
N141595—UN—21DEC18

- A—Granular Bin Control Valve
- B—Flange Cap Screw, M8 x 120 (3 used)
- C—Flange Nut, M8 (3 used)

12. Install the provided granular bin control valve (A) to the valve mount bracket using the provided flange cap screws (B) and flange nuts (C). Tighten to specification.

Specification

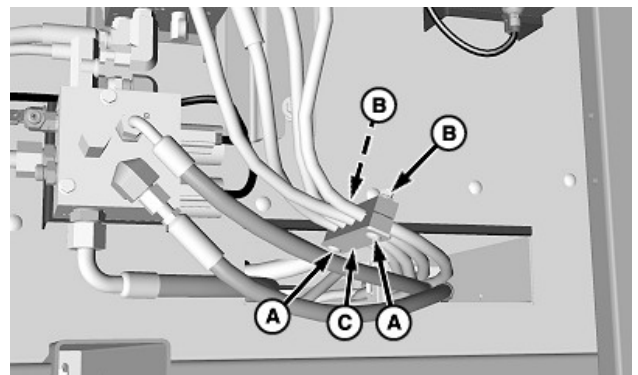
Control Valve Mounting	
Hardware—Torque (dry).	37 N·m (27 lb·ft)



N141598—UN—21DEC18

- A—Metering Roller Left-Hand Proportional Valve Connector
- B—Metering Roller Right-Hand Proportional Valve Connector
- C—Granular Bin Pressure Sensor Connector

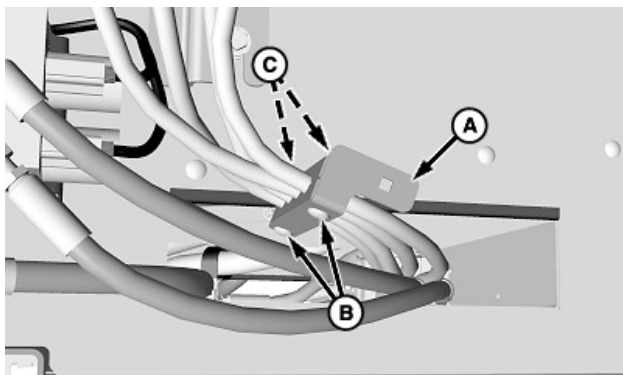
13. Connect the wiring harness connectors (A—C).



N141599—UN—21DEC18

- A—Round-Head Bolt, M8 x 55 (2 used)
- B—Flange Nut, M8 (2 used)
- C—Clamp Plate

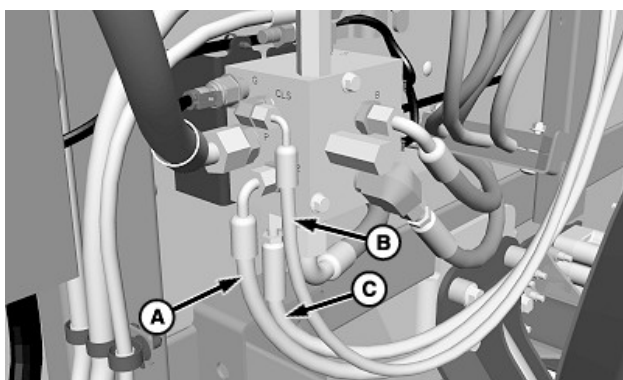
14. Remove and retain the round-head bolts (A) and flange nuts (B). Discard the clamp plate (C).



N141600—UN—21DEC18

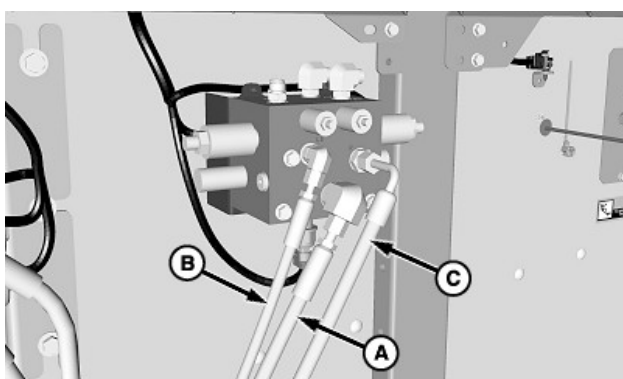
A—Hose Clamp Bracket
B—Round-Head Bolt, M8 x 55 (2 used)
C—Flange Nut, M8 (2 used)

15. Install the provided hose clamp bracket (A) using the previously retained round-head bolts (B) and flange nuts (C).



N141601—UN—21DEC18

Conveyor Control Valve



N141602—UN—21DEC18

Granular Bin Control Valve

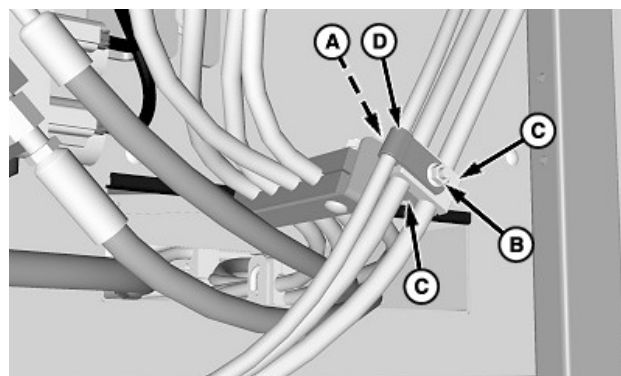
A—Hydraulic Hose, Granular Bin Return, 1010 mm (39.8 in)
B—Hydraulic Hose, Pilot Signal, 1065 mm (42 in)
C—Hydraulic Hose, Granular Bin Supply, 1030 mm (40.6 in)

16. Install the provided hydraulic hoses (A—C) to the conveyor control valve and granular bin control valve as shown. Tighten to specifications.

Specification

Hydraulic Hoses (A and C) to O-Ring
Ring Fittings—Torque (dry) 37 N·m
(27 lb·ft)

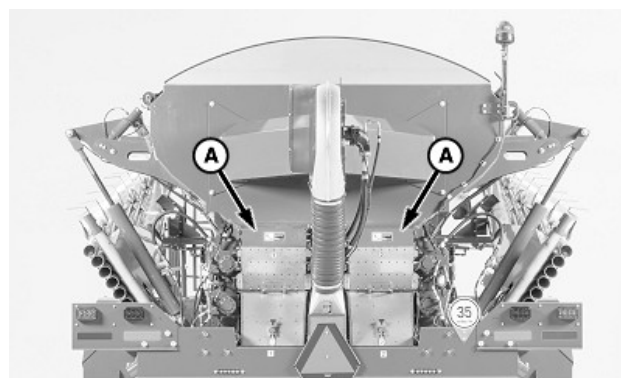
Hydraulic Hose (B) to O-Ring
Fittings—Torque 24 N·m
(18 lb·ft)



N141603—UN—21DEC18

A—Round-Head Bolt, M8 x 45
B—Flange Nut, M8
C—Block Clamp (2 used)
D—P-Clamp, 11 mm (0.43 in)

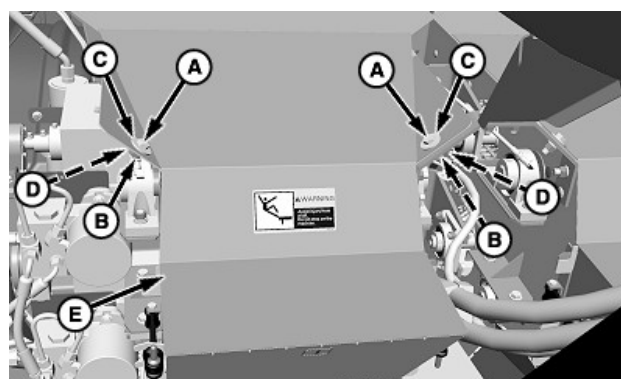
17. Retain the hydraulic hoses to the previously installed hose clamp bracket as shown, using the provided round-head bolt (A), flange nut (B), block clamps (C), and P-clamp (D).



N141604—UN—21DEC18

A—Conveyor Cover

18. Locate the conveyor covers (A) as shown.

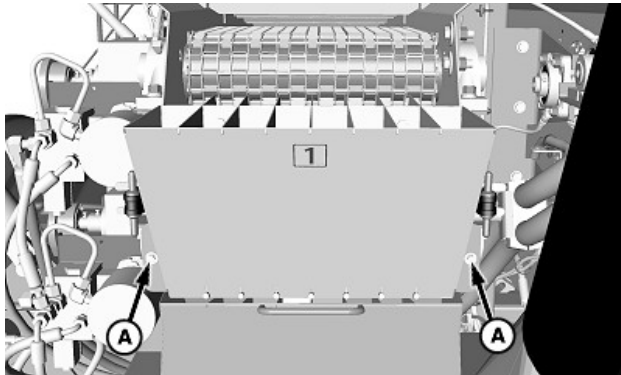


N141605—UN—21DEC18

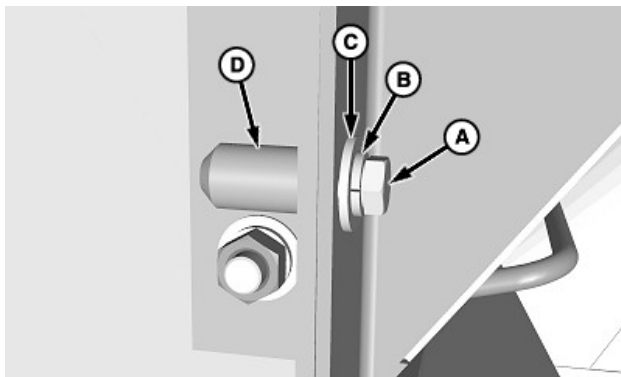
Left-Hand Conveyor Cover

- A—Cap Screw (2 used)
- B—Nut (2 used)
- C—Washer (2 used)
- D—Lock Washer (2 used)
- E—Conveyor Cover

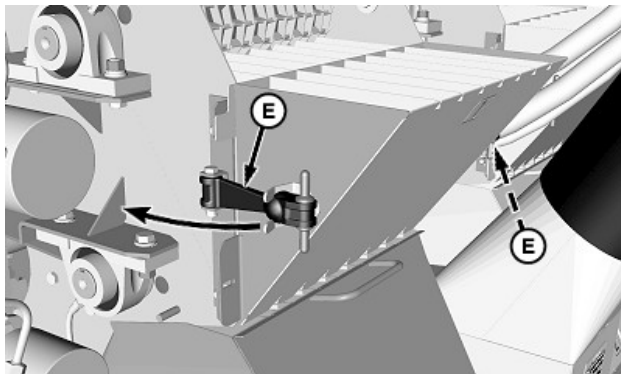
19. Remove the cap screws (A), nuts (B), washers (C), lock washers (D), and the conveyor cover (E).
20. Repeat the procedure for the remaining conveyor cover.



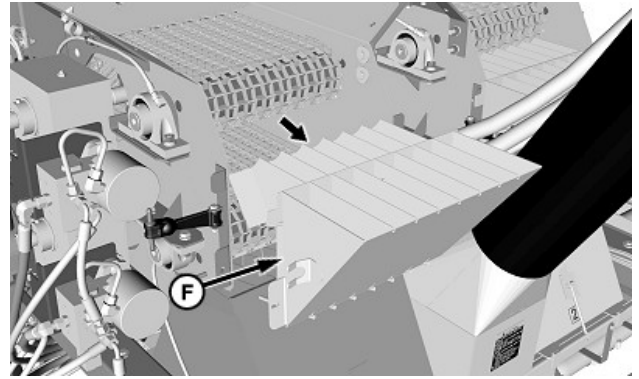
Left-Hand Material Divider



N141608—UN—21DEC18



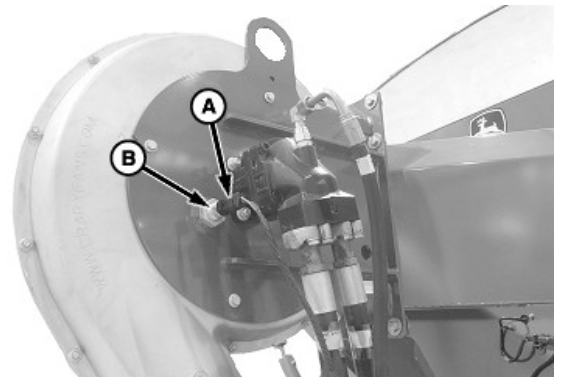
N141609—UN—21DEC18



N141610—UN—21DEC18

- A—Cap Screw, Stainless Steel, M6 x 20 (2 used)
- B—Lock Washer, Stainless Steel, 6.4 mm (0.25 in) (2 used)
- C—Washer, Stainless Steel, 6.4 mm (0.25 in) ID x 18 mm (0.71 in) OD (2 used)
- D—Guide Pin (2 used)
- E—Latch (2 used)
- F—Material Divider

21. Remove and retain the cap screws (A), lock washers (B), washers (C), and guide pins (D).
22. Release the latches (E) as shown.
23. Remove and retain the material divider (F).
24. Repeat the procedure for the remaining material divider.



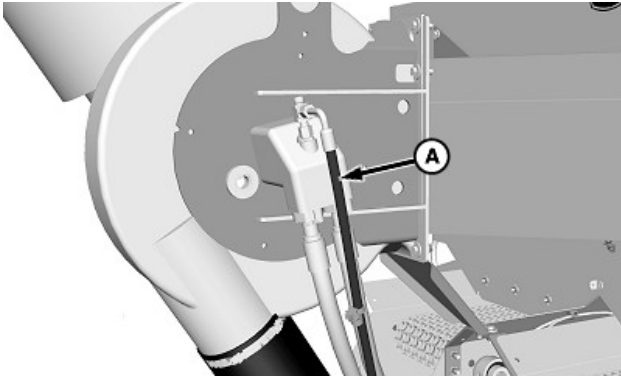
N141612—UN—21DEC18

- A—Air Boom System Harness Connector
- B—Blower Fan Speed Sensor

25. Disconnect the air boom system harness connector (A) from the blower fan speed sensor (B).

NOTE: The following steps detailing hydraulic hose removal can be skipped if a second suitable lifting device is available to secure the fan assembly and hoses away from the work area once they are removed.

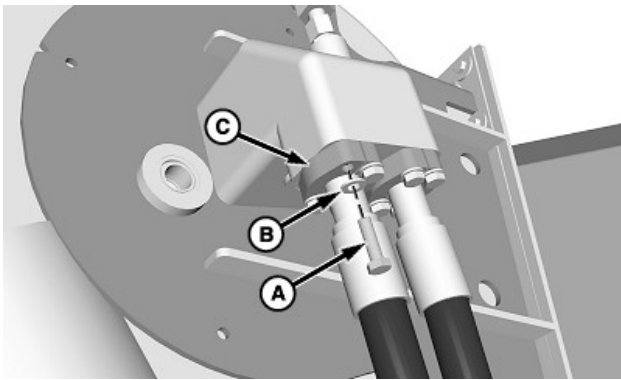
Use a suitable container to catch any leaked fluid during the removal of hydraulic hoses.



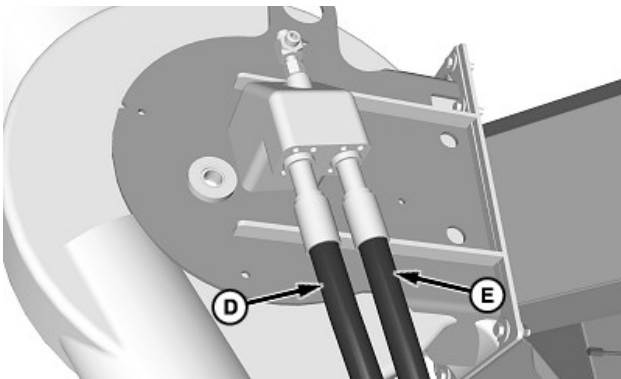
N141613—UN—21DEC18

A—Hydraulic Hose, Fan Motor Case, 5590 mm (220 in)

26. Tag and disconnect the hydraulic hose (A). Plug the hydraulic hose.



N141614—UN—21DEC18



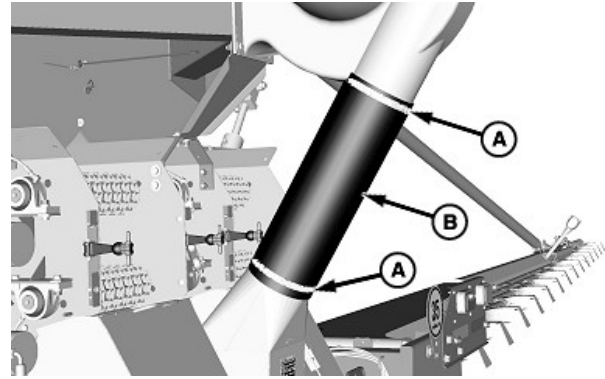
N141857—UN—21DEC18

A—Cap Screw, M10 x 35 (8 used)
B—Washer, 10.5 mm (0.4 in) ID x 20 mm (0.8 in) OD (8 used)
C—Half Clamp (4 used)
D—Hydraulic Hose, Fan Motor Port, 5700 mm (224.5 in)
E—Hydraulic Hose, Fan Motor Port, 5560 mm (219 in)

27. Remove and retain the cap screws (A), washers (B), and half clamps (C).

28. Tag and disconnect the hydraulic hoses (D and E). Plug the hydraulic hoses.

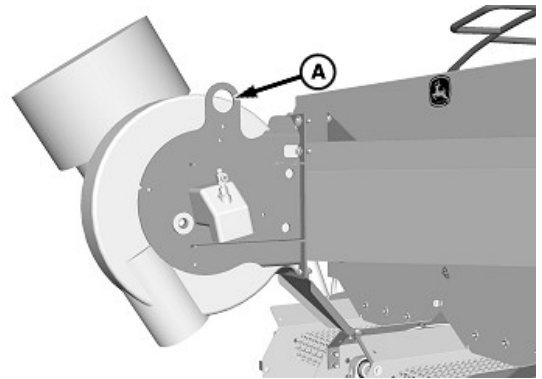
29. Secure the hydraulic hoses away from the work area to avoid damage.



N141611—UN—21DEC18

A—Clamp (2 used)
B—Air Supply Tube

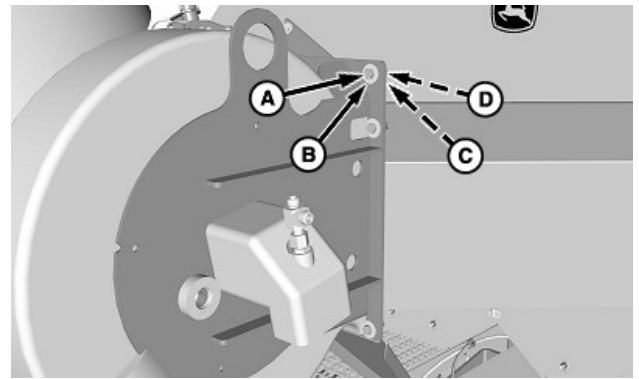
30. Remove and retain the clamps (A) and air supply tube (B).



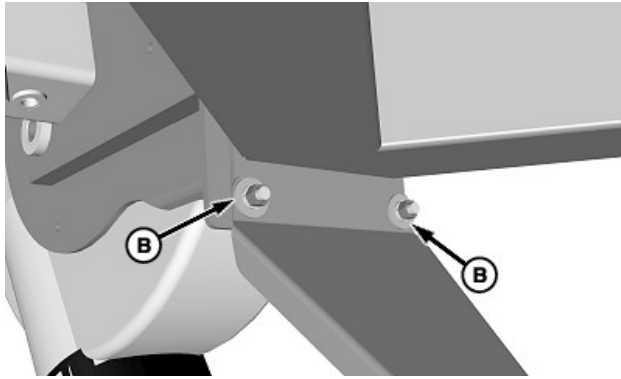
N141859—UN—21DEC18

A—Lift Point

31. Attach a suitable lifting device to the fan assembly at the lift point (A) as shown.



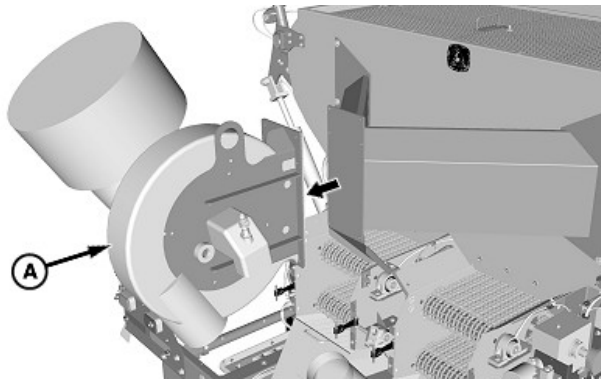
N141860—UN—21DEC18



N141861—UN—21DEC18

- A—Cap Screw (6 used)
- B—Washer (8 used)
- C—Lock Washer (6 used)
- D—Nut (6 used)

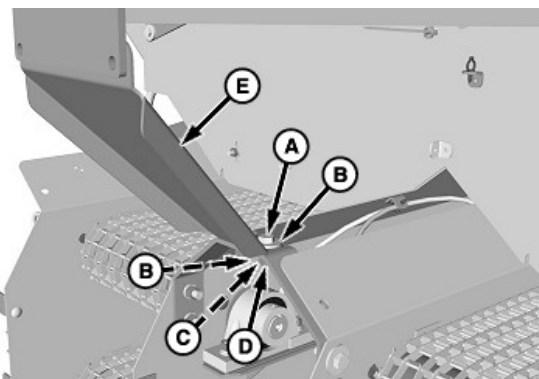
32. Remove and discard the cap screws (A), washers (B), lock washers (C), and nuts (D) from the fan support brackets.



N141862—UN—21DEC18

A—Fan Assembly

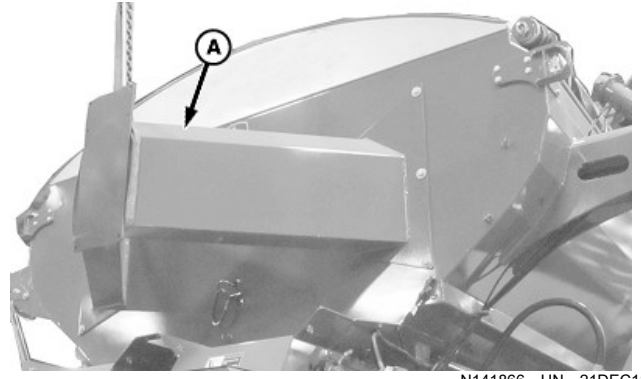
33. Remove the fan assembly (A) from the machine and place it away from the work area to avoid damage.



N141863—UN—21DEC18

- A—Cap Screw (2 used)
- B—Washer (4 used)
- C—Lock Washer (2 used)
- D—Nut (2 used)
- E—Support Bracket

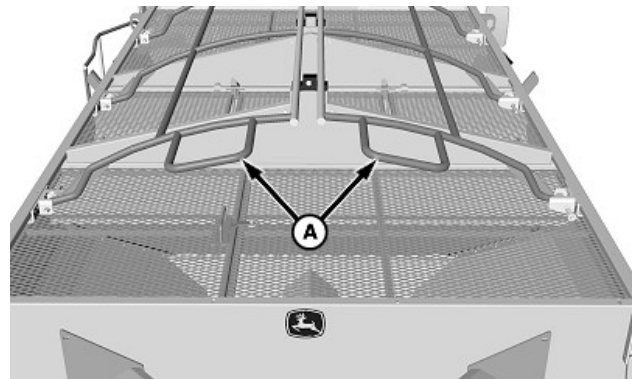
34. Remove the cap screws (A), washers (B), lock washers (C), nuts (D), and support bracket (E).



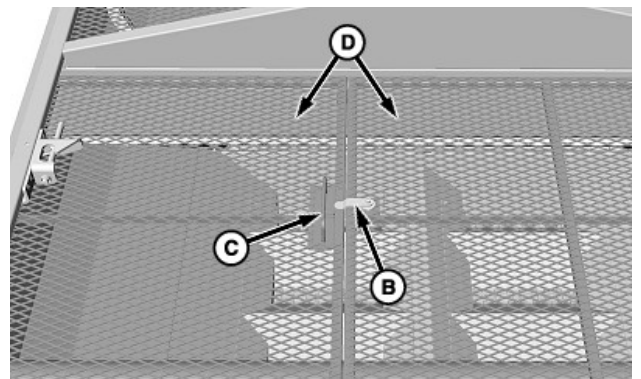
N141866—UN—21DEC18

A—Fan Support

35. Attach a suitable lifting device to the fan support (A) as shown.



N141864—UN—21DEC18

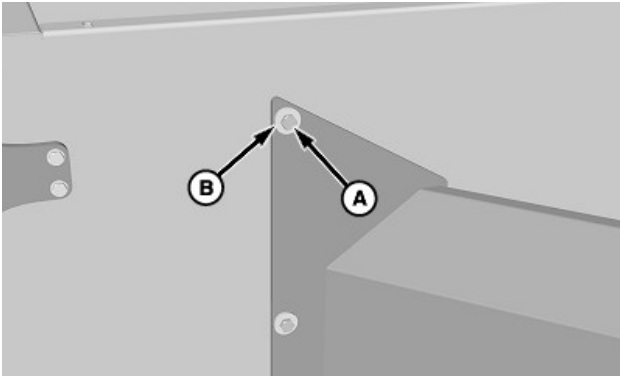


N141865—UN—21DEC18

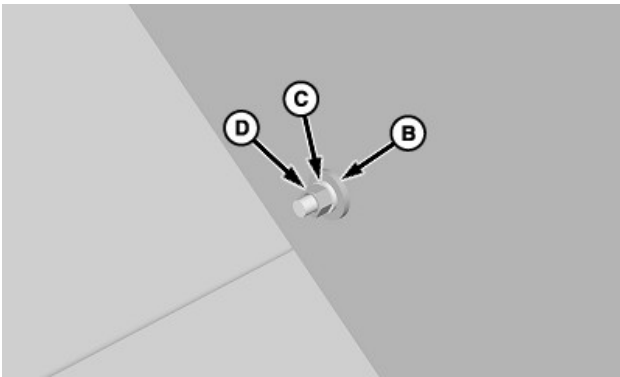
Rear Bin

- A—Handrail
- B—Latch
- C—Handle
- D—Grate

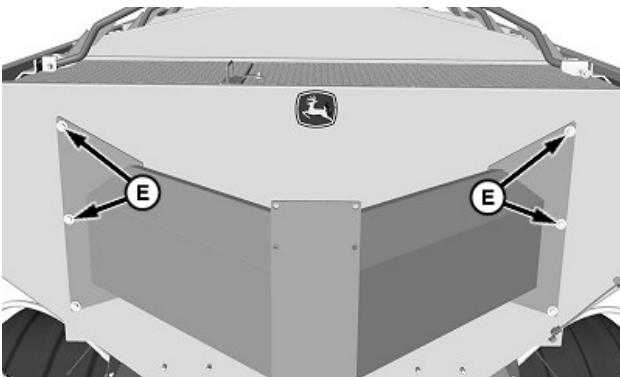
36. Raise the handrails (A) at the top of the bin.
37. Turn the latch (B).
38. Use the handle (C) to raise the grates (D).



N141867—UN—21DEC18

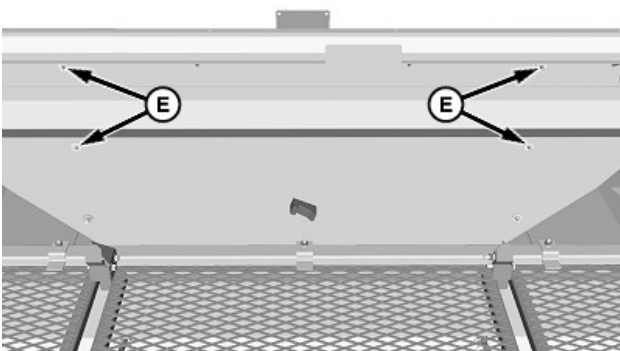


N141868—UN—21DEC18



N141869—UN—21DEC18

Rear Side of Spreader Box

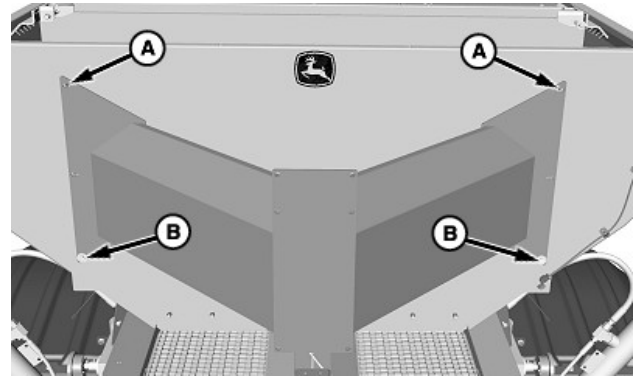


N141870—UN—21DEC18

Inside of Rear Bin

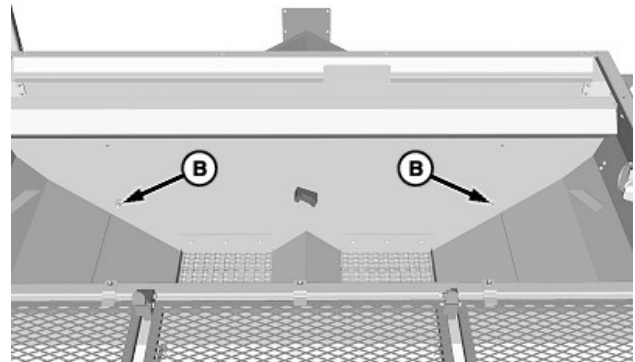
D—Nut (4 used)
E—Location

39. Remove and discard the cap screws (A), washers (B), lock washers (C), and nuts (D) from the locations (E) as shown.



N141871—UN—21DEC18

Rear Side of Spreader Box



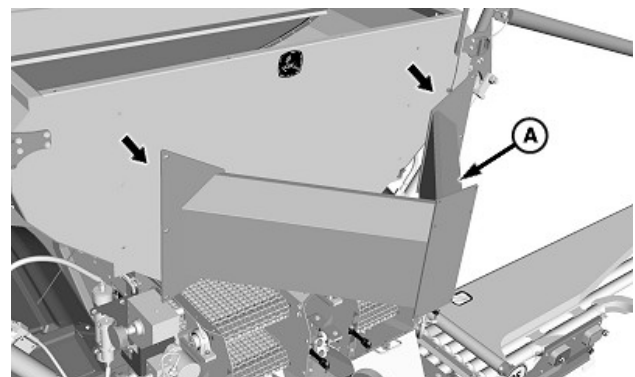
N141872—UN—21DEC18

Inside of Rear Bin

A—Lifting Point
B—Location

40. Attach the lifting device to the additional lifting points (A).

41. Remove and discard the remaining hardware at the locations (B) as shown.

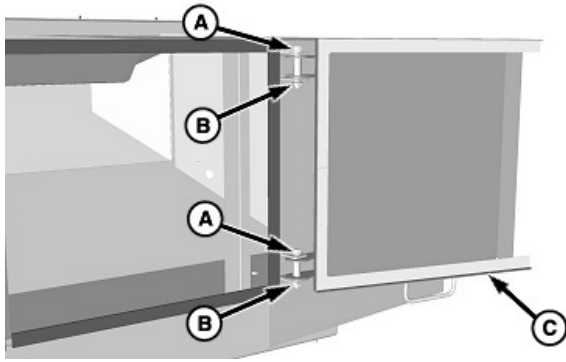


N141873—UN—21DEC18

A—Fan Support

42. Remove the fan support (A) from the machine.

A—Cap Screw (4 used)
B—Washer (8 used)
C—Lock Washer (4 used)

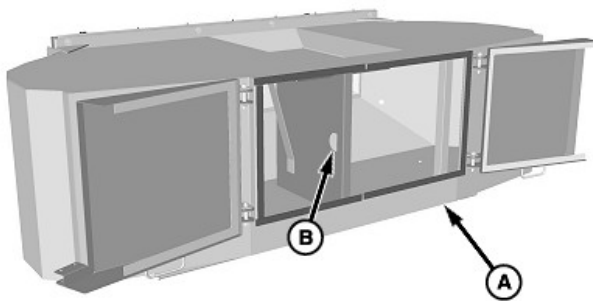


N141945—UN—07JAN19

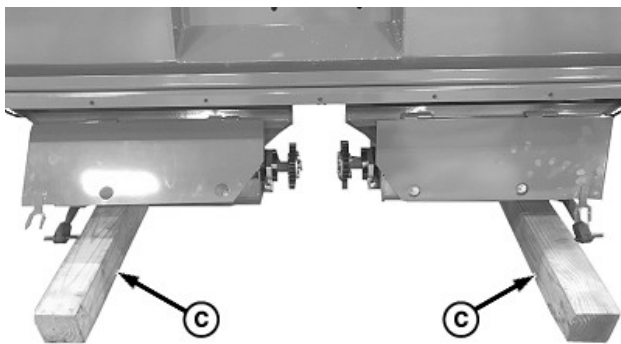
A—Cap Screw (4 used)
B—Nut (4 used)
C—Cover (2 used)

43. Install the provided granular bin using the following steps:

- a. Verify that all cap screws (A) and nuts (B) holding the covers (C) in place are tightened before lifting the bin to avoid damage to the covers.



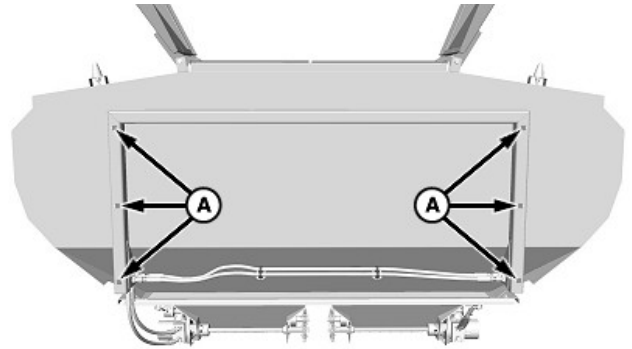
N141946—UN—07JAN19



N141947—UN—07JAN19

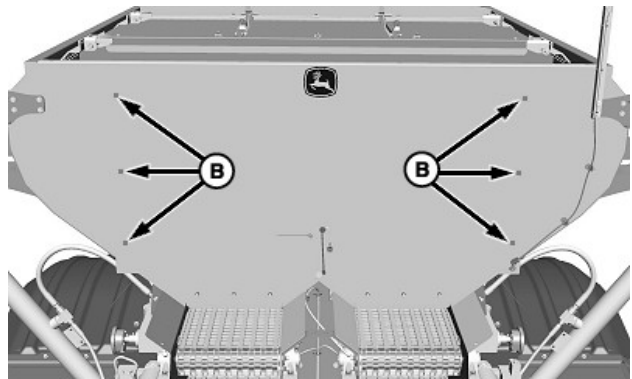
A—Granular Bin
B—Lifting Point
C—Wooden Block (2 used)

- b. Attach a suitable lifting device to the provided granular bin (A) at the lifting point (B).
- c. Slowly raise the granular bin and place wooden blocks (C) under the bin in the locations shown to avoid damage to the bin components.



N141875—UN—21DEC18

Front Side of Granular Bin

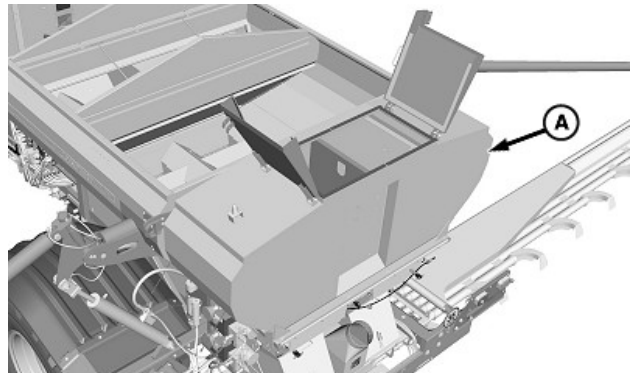


N141876—UN—21DEC18

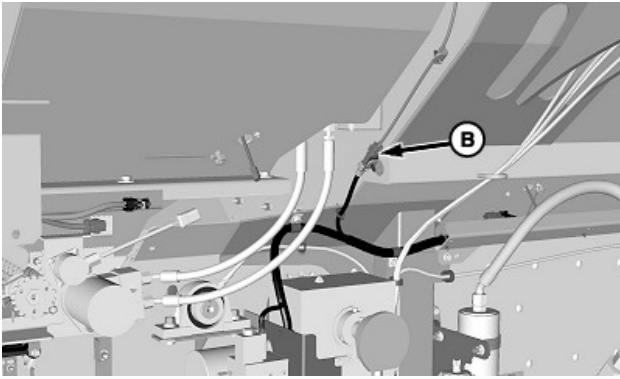
Rear Side of Spreader Box

A—Bolt (6 used)
B—Hole (6 used)

- d. Align the bolts (A) on the front side of the granular bin with the holes (B) on the rear side of the spreader box.



N141877—UN—21DEC18

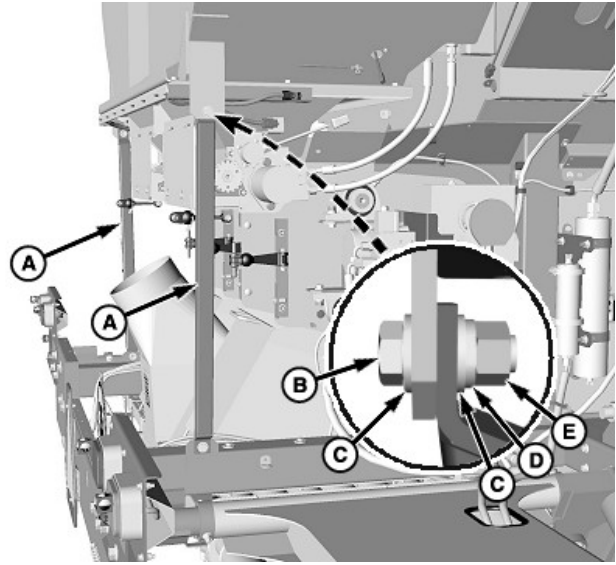


N141878—UN—21DEC18

A—Granular Bin
B—Beacon Light Connector

- e. Install the granular bin (A) to the spreader box as shown.

NOTE: Use caution while installing the granular bin to avoid damaging the beacon light connector (B).

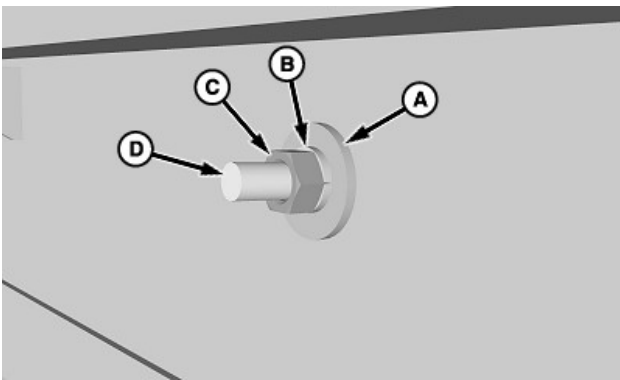


N141881—UN—21DEC18

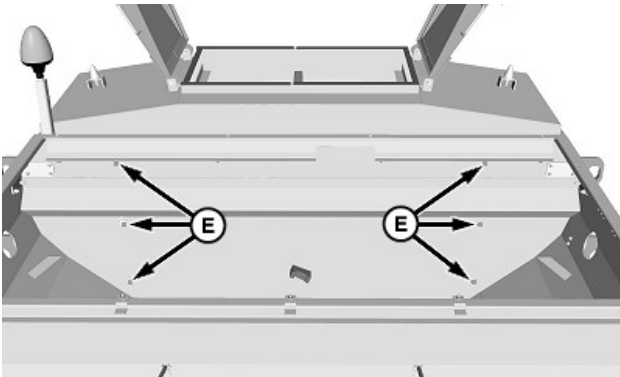
A—Granular Bin Support (2 used)
B—Cap Screw, M12 x 35 (4 used)
C—Washer, 12.7 mm (0.5 in) ID x 25 mm (1 in) OD (8 used)
D—Lock Washer, 13 mm (0.5 in) (4 used)
E—Nut, M12 (4 used)

45. Install the provided granular bin supports (A) as shown, using the provided cap screws (B), washers (C), lock washers (D), and nuts (E).

NOTE: The granular bin may need to be raised to achieve the desired height for proper support installation.



N141879—UN—21DEC18

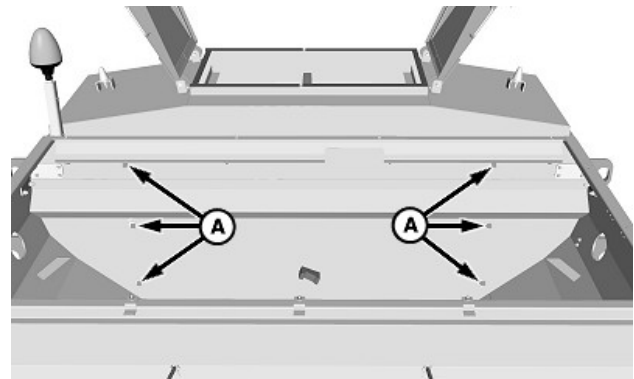


N141880—UN—21DEC18

Inside of Rear Bin

A—Washer, 10.3 mm (0.41 in) ID x 31.75 mm (1.25 in) OD (6 used)
B—Lock Washer, 10.4 mm (0.41 in) (6 used)
C—Nut, M10 (6 used)
D—Bolt
E—Location

44. Install the provided washers (A), lock washers (B), and nuts (C) to the bolts (D) at the locations (E) as shown. DO NOT tighten the hardware.



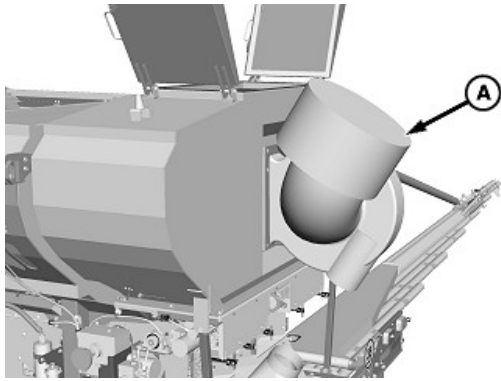
N141882—UN—07JAN19

Inside of Rear Bin

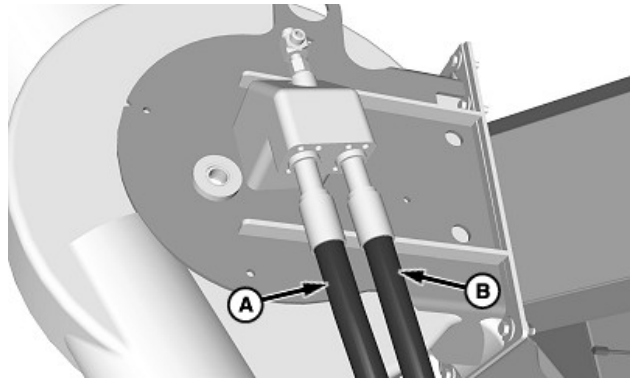
A—Location

46. Tighten the hardware in the locations (A) as shown.

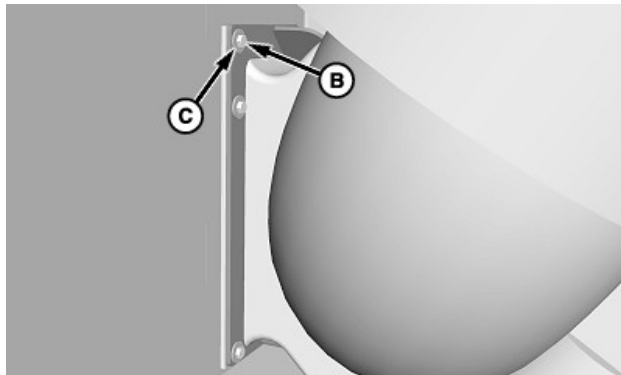
NOTE: Apply anti-seize compound to all stainless steel hardware before assembly.



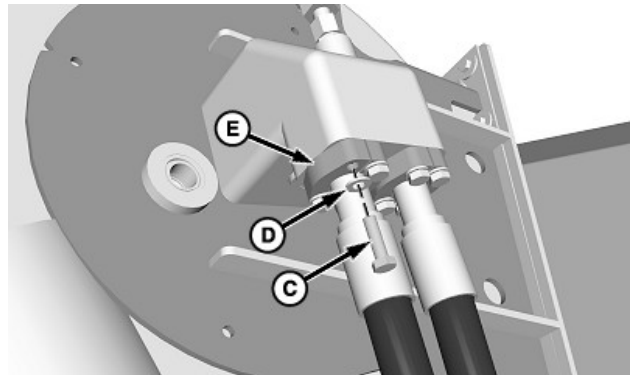
N141883—UN—07JAN19



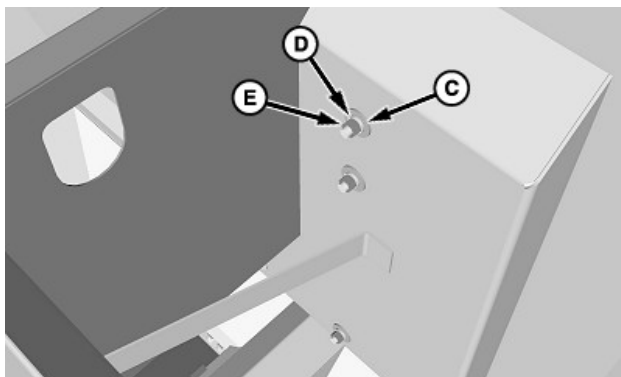
N141887—UN—07JAN19



N141884—UN—07JAN19



N141888—UN—07JAN19



N141885—UN—07JAN19

Inside of Granular Bin

- A—Fan Assembly
- B—Cap Screw, Stainless Steel, M12 x 45 (6 used)
- C—Washer, Stainless Steel, 13 mm (0.5 in) ID x 37 mm (1.5 in) OD (12 used)
- D—Lock Washer, Stainless Steel, 12.7 mm (0.5 in) (6 used)
- E—Nut, Stainless Steel, M12 (6 used)

47. Install the previously removed fan assembly (A) to the granular bin as shown, using the provided cap screws (B), washers (C), lock washers (D), and nuts (E).

IMPORTANT: Always use new O-rings when installing hydraulic hoses. Damaged or used O-rings can cause leakage.

- A—Hydraulic Hose, Fan Motor Port, 5700 mm (224.5 in)
- B—Hydraulic Hose, Fan Motor Port, 5560 mm (219 in)
- C—Cap Screw, M10 x 35 (8 used)
- D—Washer, 10.5 mm (0.4 in) ID x 20 mm (0.8 in) OD (8 used)
- E—Half Clamp (4 used)

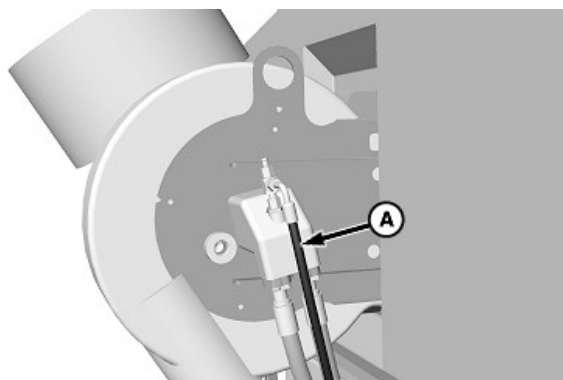
48. Remove the plugs and install the previously removed hydraulic hoses (A and B) using the previously retained cap screws (C), washers (D), and half clamps (E). Tighten to specification.

Specification

Hydraulic Hose	
Hardware—Torque	73 N·m (54 lb·ft)

IMPORTANT: Fill the hydraulic hose (A) full of oil before installation to prevent the fan from running dry and causing premature failure of the motor.

Always use new O-rings when installing hydraulic hoses. Damaged or used O-rings can cause leakage.



N141886—UN—07JAN19

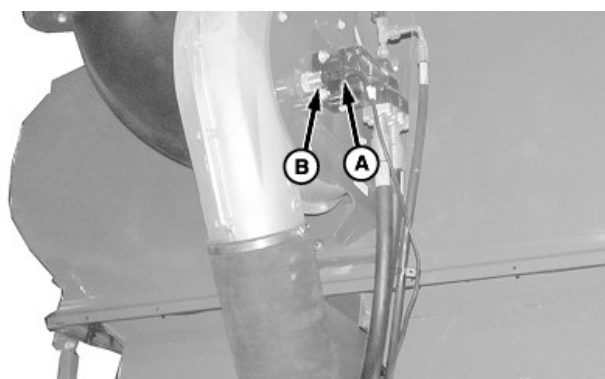
A—Hydraulic Hose, Fan Motor Case, 5590 mm (220 in)

49. Remove the plug and install the previously removed hydraulic hose (A). Tighten to specification.

Specification

Hydraulic Hose (A) to O-Ring

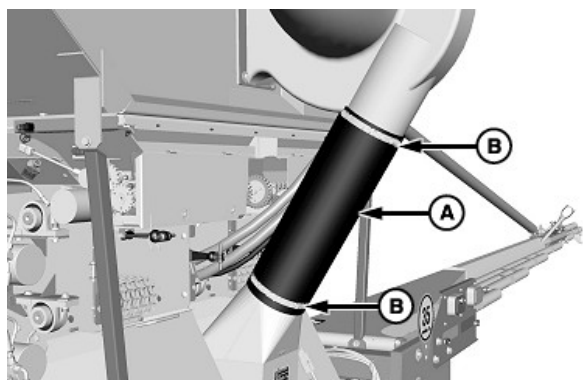
Fitting—Torque 63 N·m
(46.5 lb·ft)



N141917—UN—07JAN19

A—Air Boom System Harness Connector
B—Blower Fan Speed Sensor

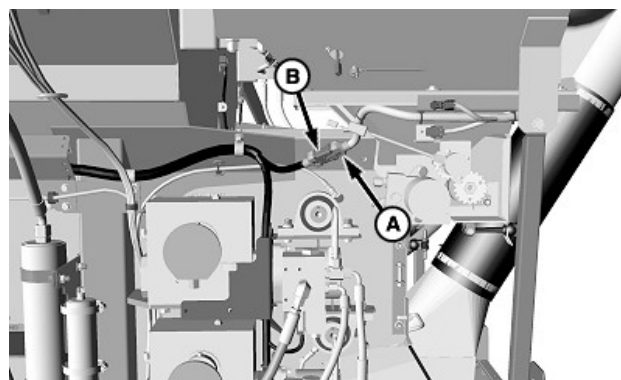
50. Connect the air boom system harness connector (A) to the blower fan speed sensor (B).



N141889—UN—07JAN19

A—Air Supply Tube
B—Clamp (2 used)

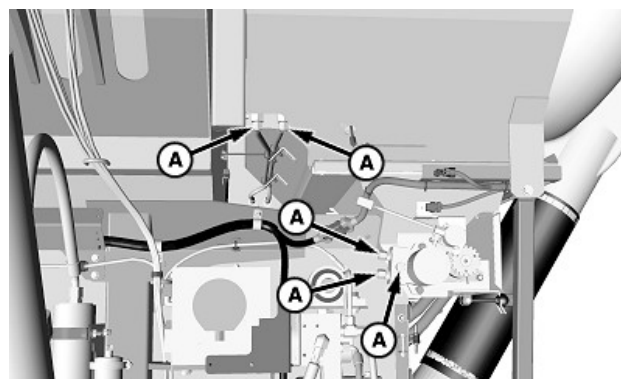
51. Install the previously retained air supply tube (A) using the previously retained clamps (B).



N141890—UN—07JAN19

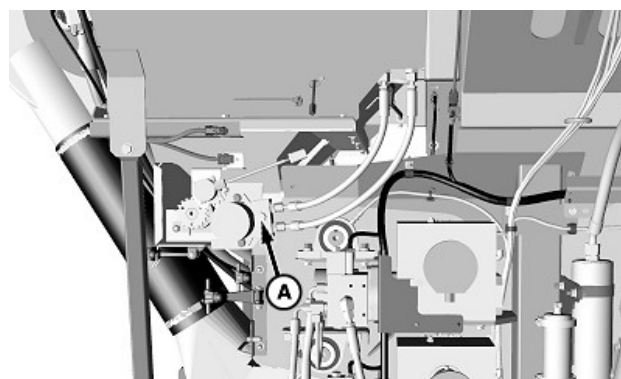
A—Granular Bin Harness Connector
B—Air Boom System Harness Connector

52. Connect the granular bin harness connector (A) to the air boom system harness connector (B).



N141918—UN—07JAN19

Left-Hand Rear Side

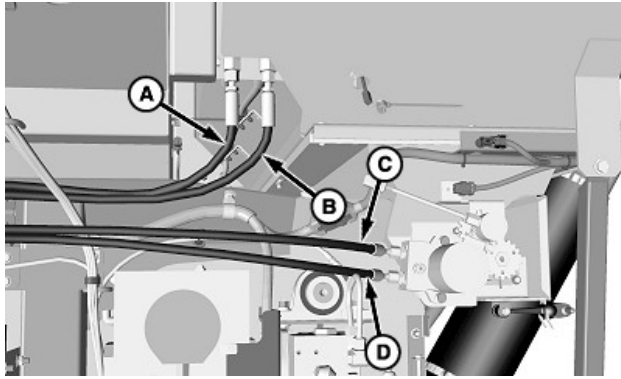


N141919—UN—07JAN19

Right-Hand Rear Side

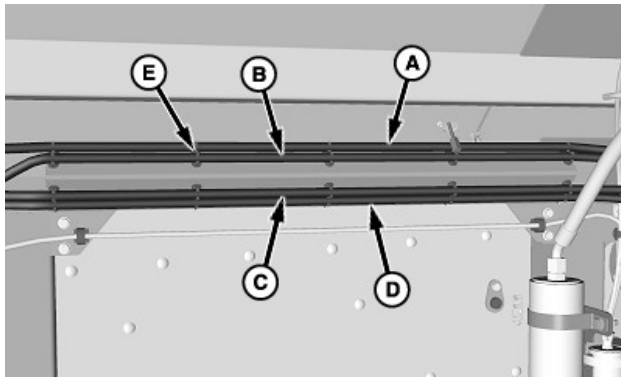
A—Cap (6 used)

53. Remove and discard the caps (A) from the fittings as shown.



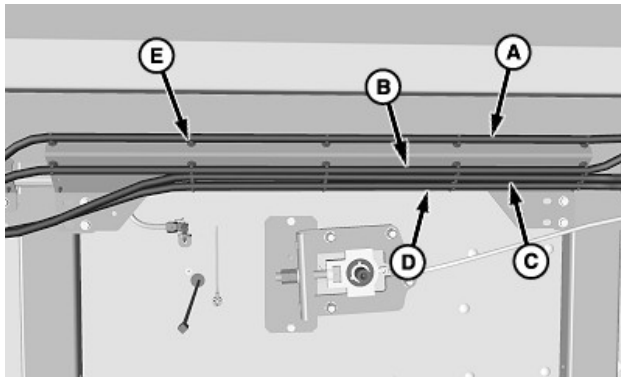
Left-Hand Rear Side

N141920—UN—07JAN19



Rear Hose Retention Bracket

N141921—UN—07JAN19



Front Hose Retention Bracket

N141922—UN—07JAN19

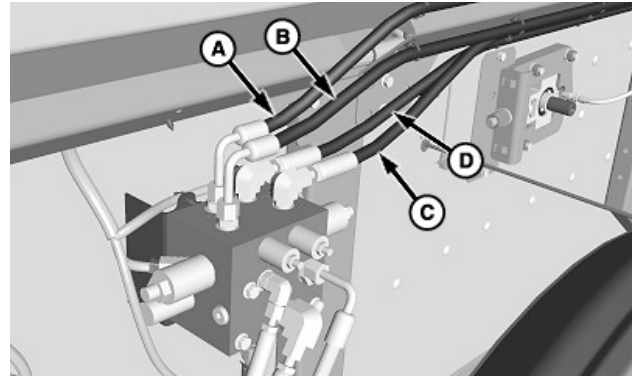
- A—Hydraulic Hose, Conveyor, 2750 mm (108.3 in)
- B—Hydraulic Hose, Roller Pressure, 2800 mm (110.2 in)
- C—Hydraulic Hose, Motor Pressure, 2840 mm (111.8 in)
- D—Hydraulic Hose, Motor Return, 2850 mm (112.2 in)
- E—Tie Band with Push-In Retainer, 50 mm (2 in) (38 used)

54. Install the provided hydraulic hoses (A—D) as shown. Tighten to specification.

Specification

Hydraulic Hoses (A—D) to O-
Ring Fittings—Torque (dry). 37 N·m
(27.3 lb·ft)

55. Retain the hydraulic hoses to the hose retention brackets as shown, using the tie bands with push-in retainers (E).



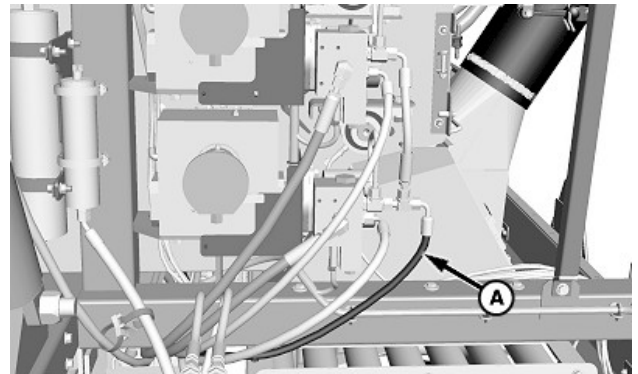
N141923—UN—07JAN19

- A—Hydraulic Hose, Conveyor, 2750 mm (108.3 in)
- B—Hydraulic Hose, Roller Pressure, 2800 mm (110.2 in)
- C—Hydraulic Hose, Motor Pressure, 2840 mm (111.8 in)
- D—Hydraulic Hose, Motor Return, 2850 mm (112.2 in)

56. Install the hydraulic hoses (A—D) to the granular bin control valve as shown. Tighten to specification.

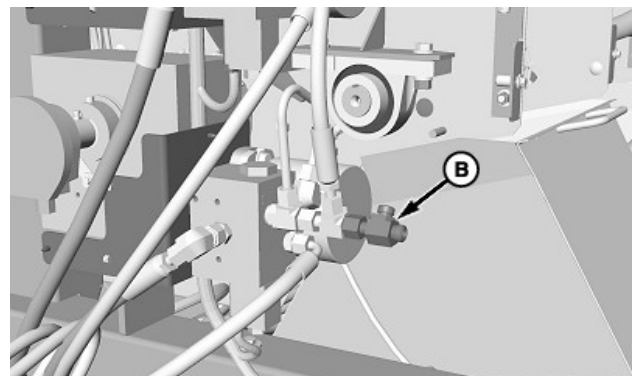
Specification

Hydraulic Hoses (A—D) to O-
Ring Fittings—Torque (dry). 37 N·m
(27.3 lb·ft)



Left-Hand Rear Side

N141924—UN—07JAN19



N141925—UN—07JAN19



N141926—UN—07JAN19

- A—Hydraulic Hose, 1480 mm (58.3 in)
B—T-Fitting, Swivel Run, O-Ring Face Seal (ORFS)
C—Hydraulic Hose, Conveyor, 460 mm (18 in)

57. Tag and disconnect the hydraulic hose (A). Plug the hydraulic hose.

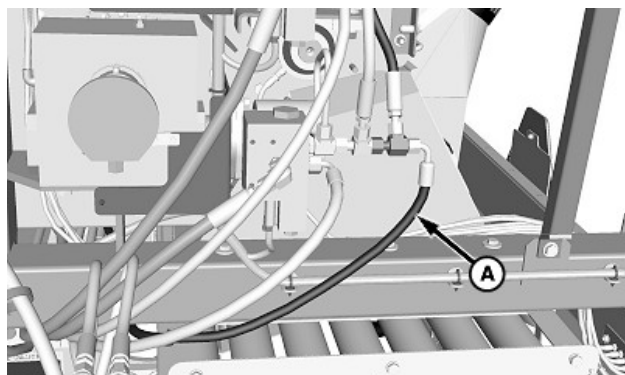
IMPORTANT: Always use new O-rings when installing fittings. Damaged or used O-rings can cause leakage.

58. Install the provided T-fitting (B) as shown.

59. Install the provided hydraulic hose (C) to the previously installed fitting and the hydraulic motor. Tighten to specification.

Specification

Hydraulic Hose (C) to O-Ring
Fittings—Torque (dry). 37 N·m
(27.3 lb·ft)



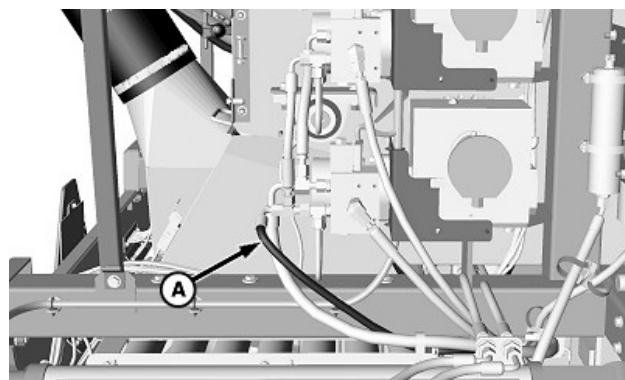
N141927—UN—07JAN19

- A—Hydraulic Hose, 1480 mm (58.3 in)

60. Remove the plug and install the previously removed hydraulic hose (A) to the previously installed T-fitting. Tighten to specification.

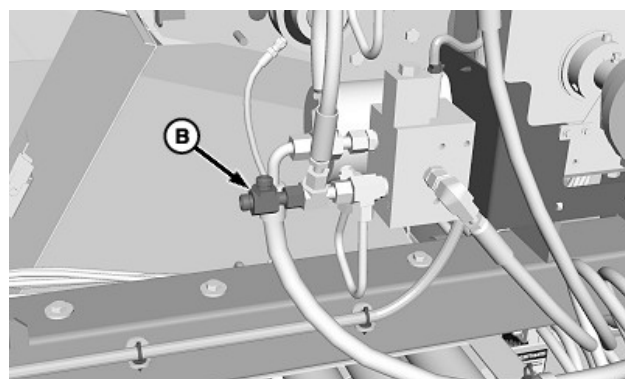
Specification

Hydraulic Hose (A) to O-Ring
Fitting—Torque (dry). 37 N·m
(27.3 lb·ft)

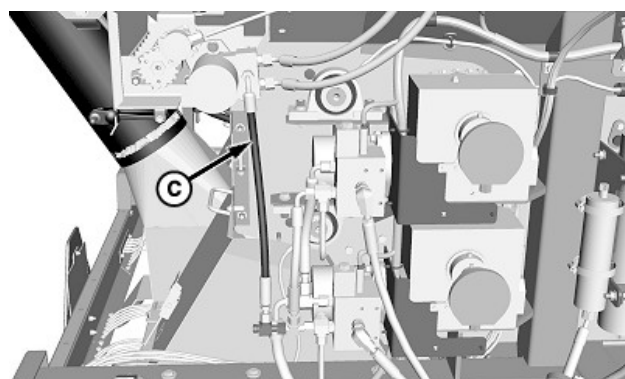


N141928—UN—07JAN19

Right-Hand Rear Side



N141929—UN—07JAN19



N141930—UN—07JAN19

- A—Hydraulic Hose, 1260 mm (49.6 in)
B—T-Fitting, Swivel Run, O-Ring Face Seal (ORFS)
C—Hydraulic Hose, Conveyor, 460 mm (18 in)

61. Tag and disconnect the hydraulic hose (A). Plug the hydraulic hose.

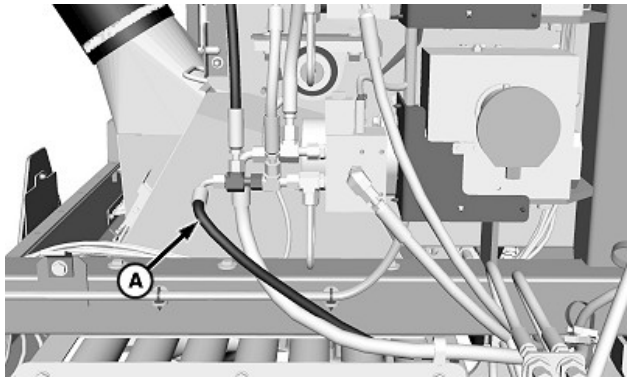
IMPORTANT: Always use new O-rings when installing fittings. Damaged or used O-rings can cause leakage.

62. Install the provided T-fitting (B) as shown.

63. Install the provided hydraulic hose (C) to the previously installed fitting and the hydraulic motor. Tighten to specification.

Specification

Hydraulic Hose (C) to O-Ring
Fittings—Torque (dry). 37 N·m
(27.3 lb·ft)



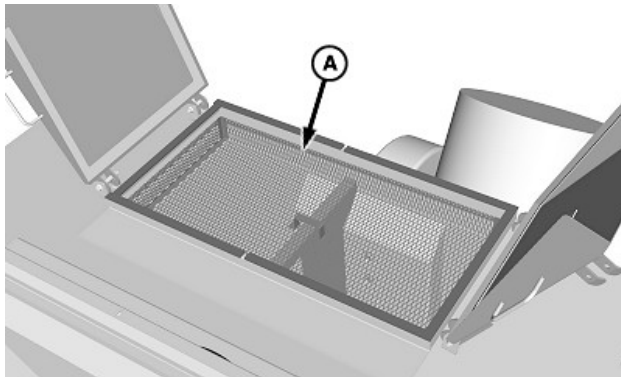
N141931—UN—07JAN19

A—Hydraulic Hose, 1260 mm (49.6 in)

64. Remove the plug and install the previously removed hydraulic hose (A) to the previously installed T-fitting. Tighten to specification.

Specification

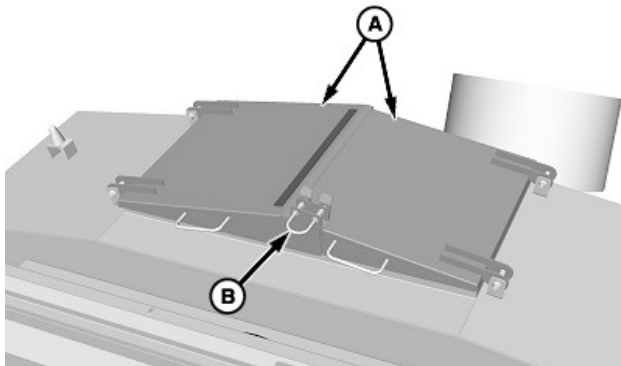
Hydraulic Hose (A) to O-Ring
Fitting—Torque (dry). 37 N·m
(27.3 lb·ft)



N141932—UN—07JAN19

A—Grating

65. Install the grating (A) to the granular bin as shown.

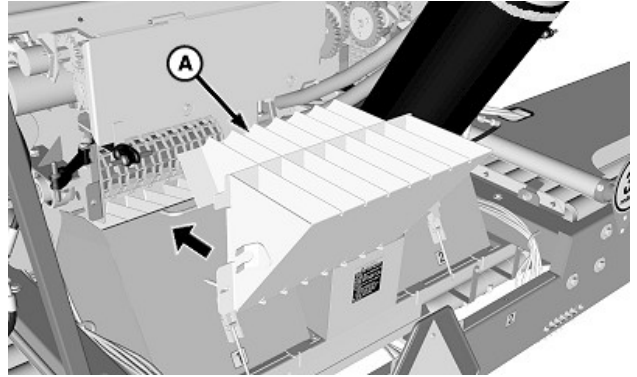


N141933—UN—07JAN19

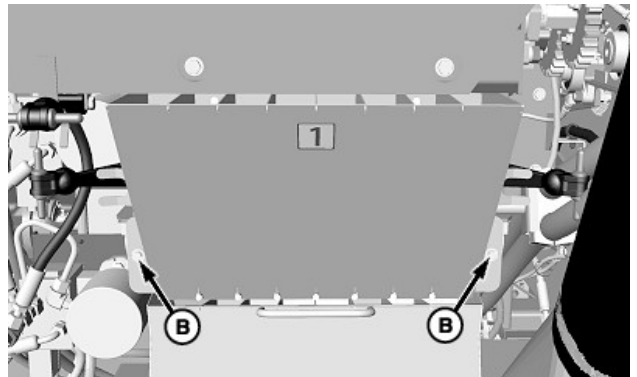
**A—Cover
B—Latch**

66. Close the granular bin covers (A) and secure using the latch (B).

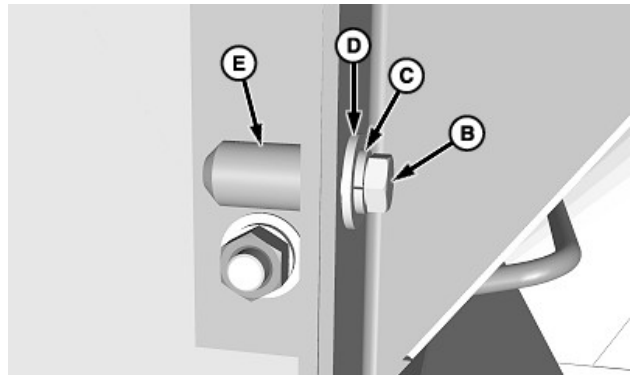
NOTE: Apply anti-seize compound to all stainless steel hardware before assembly.



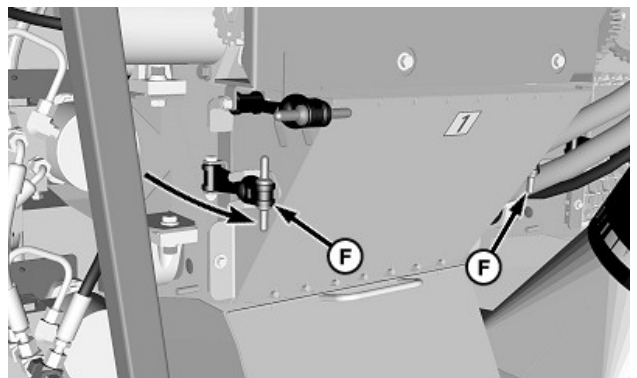
N141934—UN—07JAN19



N141935—UN—07JAN19



N141942—UN—07JAN19



N141943—UN—07JAN19

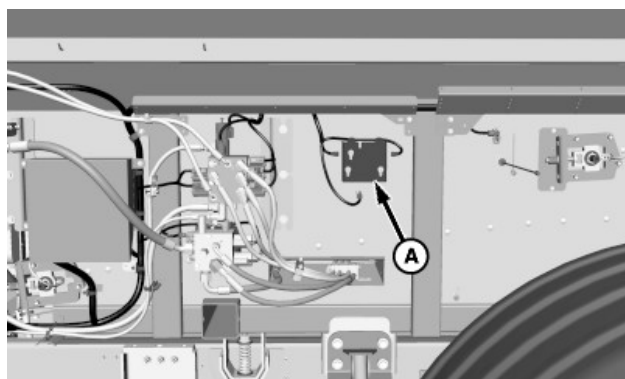
- A—Material Divider
- B—Cap Screw, Stainless Steel, M6 x 20 (2 used)
- C—Lock Washer, Stainless Steel, 6.4 mm (0.25 in) (2 used)
- D—Washer, Stainless Steel, 6.4 mm (0.25 in) ID x 18 mm (0.71 in) OD (2 used)
- E—Guide Pin (2 used)
- F—Latch (2 used)

67. Install the previously removed material divider (A) as shown using the previously retained cap screws (B), lock washers (C), washers (D), and guide pins (E).
68. Secure the material divider by closing the latches (F).
69. Repeat the procedure for the remaining material divider.

BN55050,00002F2-19-22JAN19

Install Granular Bin—Machines with Serial Number 190001 and Above

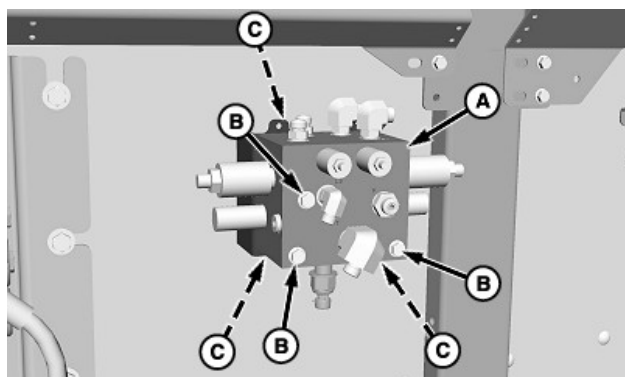
NOTE: Some parts have been removed from these images for clarity.



N141944—UN—07JAN19

A—Valve Mount Bracket

1. Locate the valve mount bracket (A) as shown.



N141595—UN—21DEC18

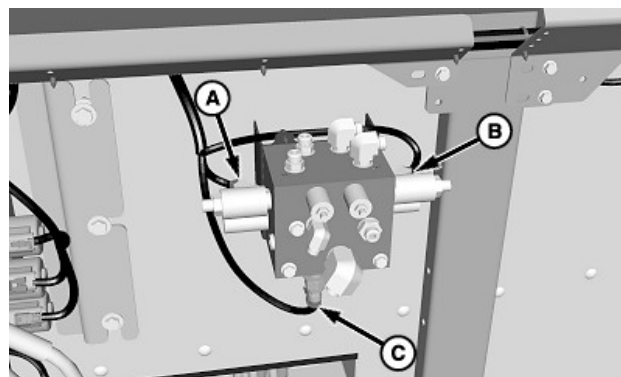
- A—Granular Bin Control Valve
- B—Flange Cap Screw, M8 x 120 (3 used)
- C—Flange Nut, M8 (3 used)

2. Install the provided granular bin control valve (A) to

the valve mount bracket using the provided flange cap screws (B) and flange nuts (C). Tighten to specification.

Specification

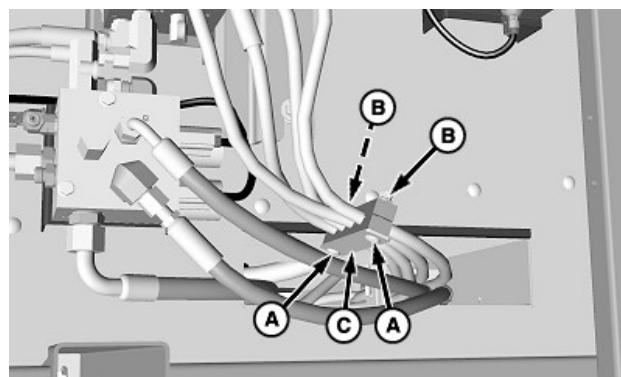
Control Valve Mounting	
Hardware—Torque (dry)	37 N·m (27 lb·ft)



N141598—UN—21DEC18

- A—Metering Roller Left-Hand Proportional Valve Connector
- B—Metering Roller Right-Hand Proportional Valve Connector
- C—Granular Bin Pressure Sensor Connector

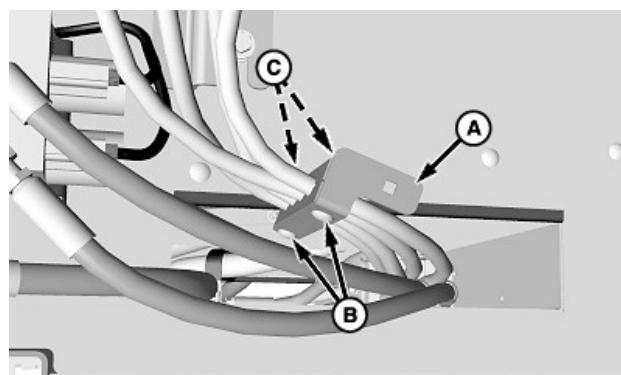
3. Connect the wiring harness connectors (A—C).



N141599—UN—21DEC18

- A—Round-Head Bolt, M8 x 55 (2 used)
- B—Flange Nut, M8 (2 used)
- C—Clamp Plate

4. Remove and retain the round-head bolts (A) and flange nuts (B). Discard the clamp plate (C).

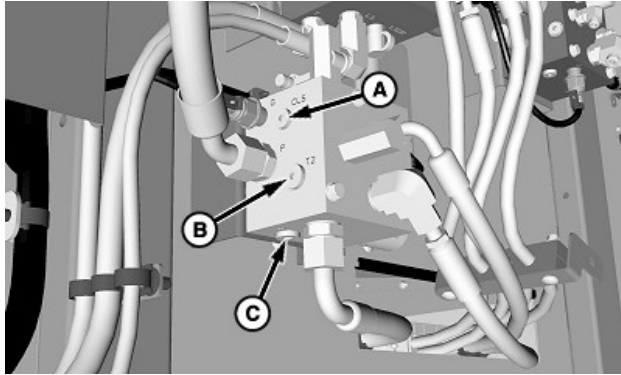


N141600—UN—21DEC18

A—Hose Clamp Bracket

- B—Round-Head Bolt, M8 x 55 (2 used)**
C—Flange Nut, M8 (2 used)

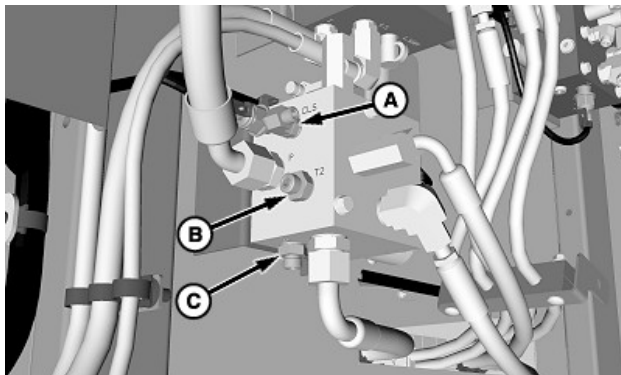
5. Install the provided hose clamp bracket (A) using the previously retained round-head bolts (B) and flange nuts (C).



N142180—UN—14JAN19

- A—Port Plug**
B—Port Plug
C—Port Plug

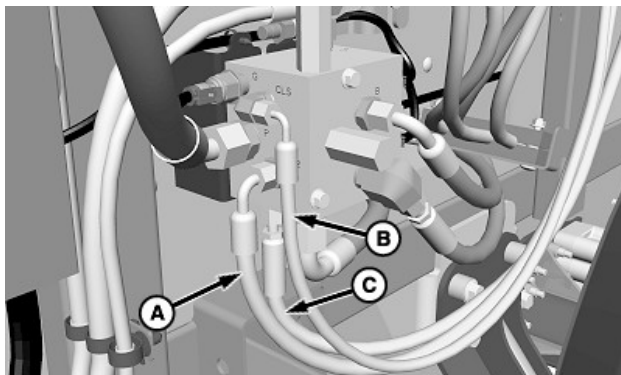
6. Remove and discard the port plugs (A—C) from the conveyor control valve.



N142181—UN—14JAN19

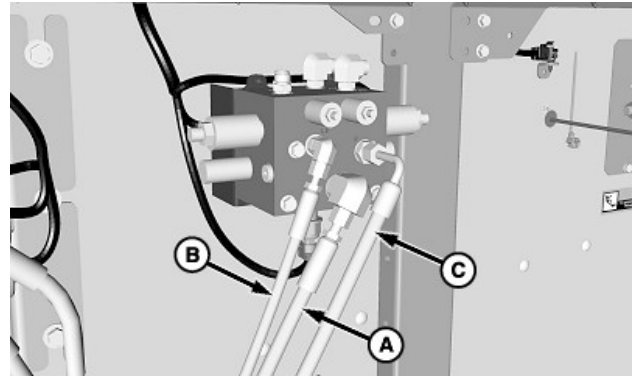
- A—Fitting, 90° Adjustable Elbow, O-Ring Face Seal (ORFS)**
B—Fitting, Stud Straight, O-Ring Face Seal (ORFS)
C—Fitting, Stud Straight, O-Ring Face Seal (ORFS)

7. Install the provided fittings (A—C) to the conveyor control valve as shown.



N141601—UN—21DEC18

Conveyor Control Valve



N141602—UN—21DEC18

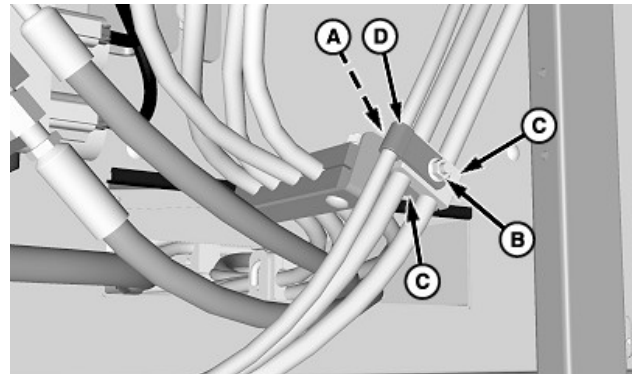
Granular Bin Control Valve

- A—Hydraulic Hose, Granular Bin Return, 1010 mm (39.8 in)**
B—Hydraulic Hose, Pilot Signal, 1065 mm (42 in)
C—Hydraulic Hose, Granular Bin Supply, 1030 mm (40.6 in)

8. Install the provided hydraulic hoses (A—C) to the conveyor control valve and granular bin control valve as shown. Tighten to specifications.

Specification

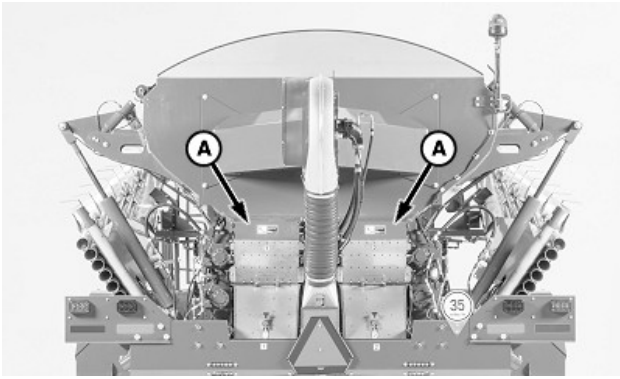
Hydraulic Hoses (A and C) to O-Ring Fittings—Torque (dry)	37 N·m (27 lb·ft)
Hydraulic Hose (B) to O-Ring Fittings—Torque	24 N·m (18 lb·ft)



N141603—UN—21DEC18

- A—Round-Head Bolt, M8 x 45**
B—Flange Nut, M8
C—Block Clamp (2 used)
D—P-Clamp, 11 mm (0.43 in)

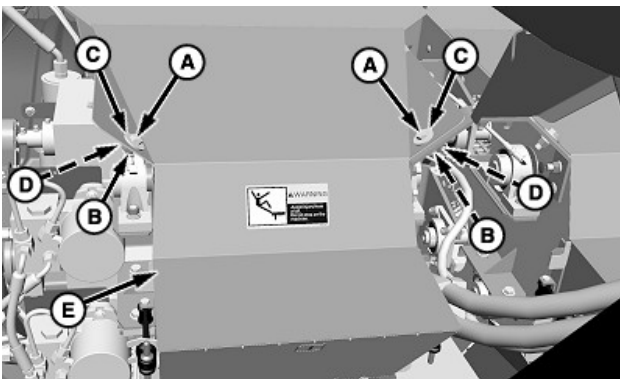
9. Retain the hydraulic hoses to the previously installed hose clamp bracket as shown, using the provided round-head bolt (A), flange nut (B), block clamps (C), and P-clamp (D).



N141604—UN—21DEC18

A—Conveyor Cover

10. Locate the conveyor covers (A) as shown.

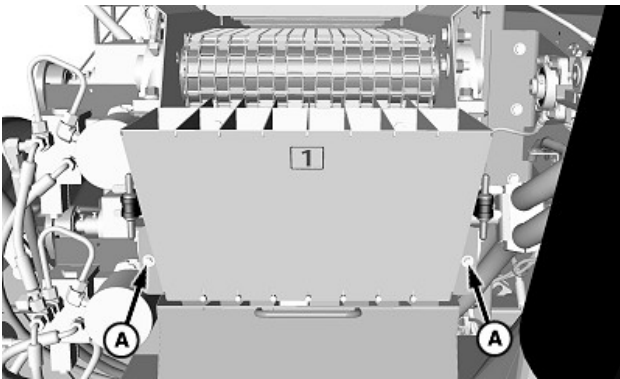


N141605—UN—21DEC18

Left-Hand Conveyor Cover

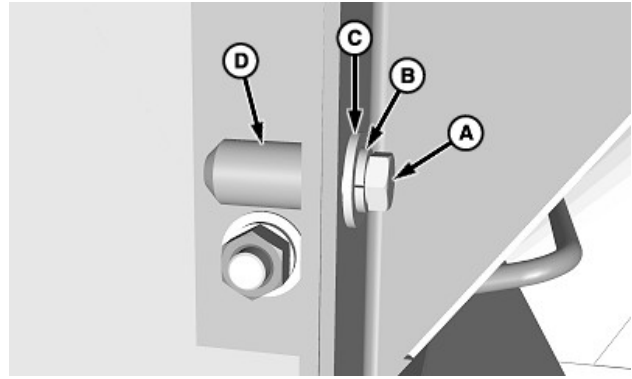
- A—Cap Screw (2 used)
- B—Nut (2 used)
- C—Washer (2 used)
- D—Lock Washer (2 used)
- E—Conveyor Cover

11. Remove the cap screws (A), nuts (B), washers (C), lock washers (D), and the conveyor cover (E).
12. Repeat the procedure for the remaining conveyor cover.

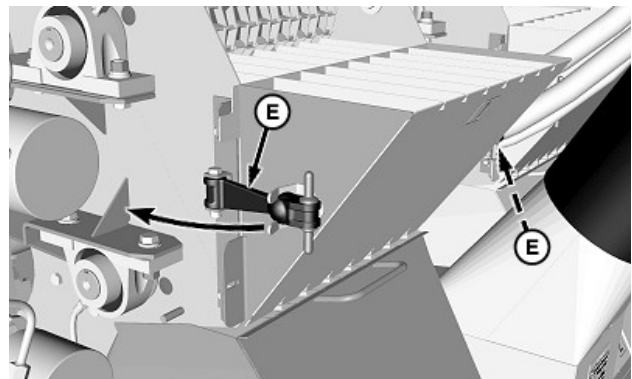


N141607—UN—21DEC18

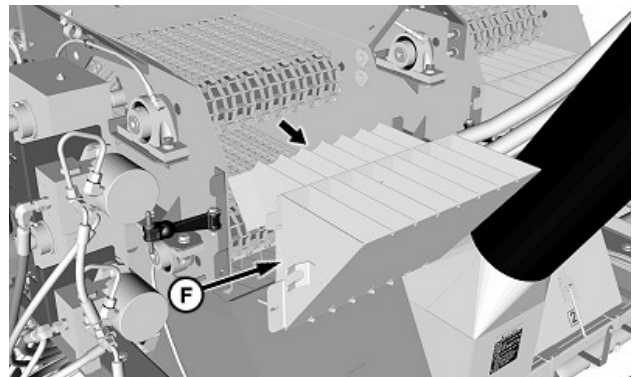
Left-Hand Material Divider



N141608—UN—21DEC18



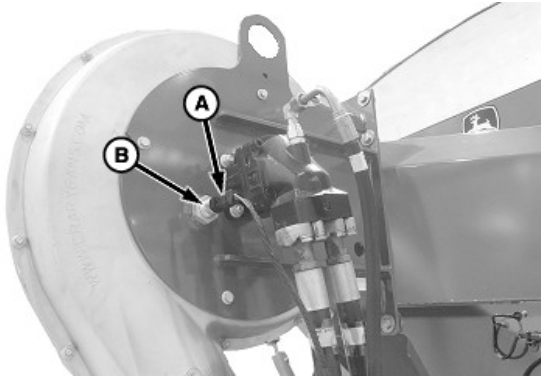
N141609—UN—21DEC18



N141610—UN—21DEC18

- A—Cap Screw, Stainless Steel, M6 x 20 (2 used)
- B—Lock Washer, Stainless Steel, 6.4 mm (0.25 in) (2 used)
- C—Washer, Stainless Steel, 6.4 mm (0.25 in) ID x 18 mm (0.71 in) OD (2 used)
- D—Guide Pin (2 used)
- E—Latch (2 used)
- F—Material Divider

13. Remove and retain the cap screws (A), lock washers (B), washers (C), and guide pins (D).
14. Release the latches (E) as shown.
15. Remove and retain the material divider (F).
16. Repeat the procedure for the remaining material divider.



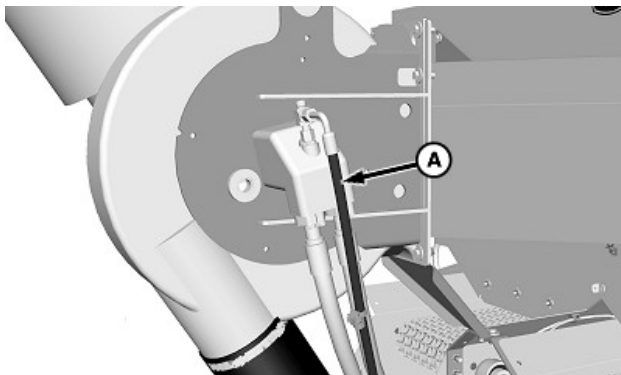
N141612—UN—21DEC18

A—Air Boom System Harness Connector
B—Blower Fan Speed Sensor

17. Disconnect the air boom system harness connector (A) from the blower fan speed sensor (B).

NOTE: The following steps detailing hydraulic hose removal can be skipped if a second suitable lifting device is available to secure the fan assembly and hoses away from the work area once they are removed.

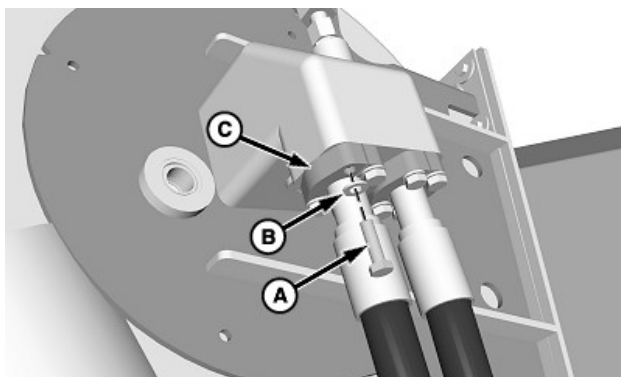
Use a suitable container to catch any leaked fluid during the removal of hydraulic hoses.



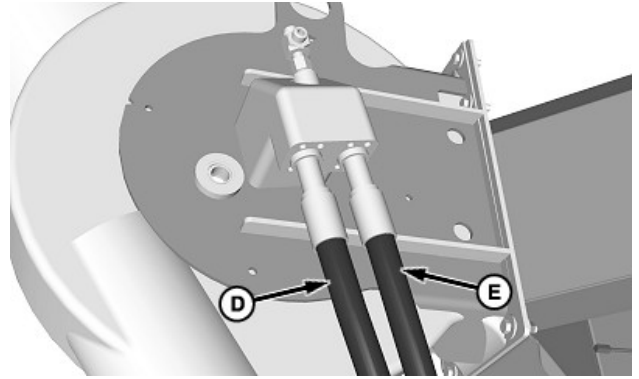
N141613—UN—21DEC18

A—Hydraulic Hose, Fan Motor Case, 5590 mm (220 in)

18. Tag and disconnect the hydraulic hose (A). Plug the hydraulic hose.



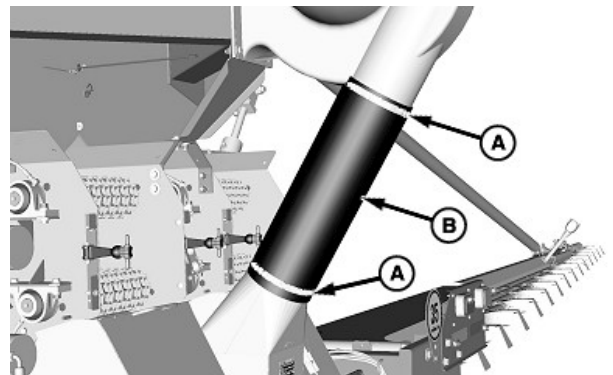
N141614—UN—21DEC18



N141857—UN—21DEC18

A—Cap Screw, M10 x 35 (8 used)
B—Washer, 10.5 mm (0.4 in) ID x 20 mm (0.8 in) OD (8 used)
C—Half Clamp (4 used)
D—Hydraulic Hose, Fan Motor Port, 5700 mm (224.5 in)
E—Hydraulic Hose, Fan Motor Port, 5560 mm (219 in)

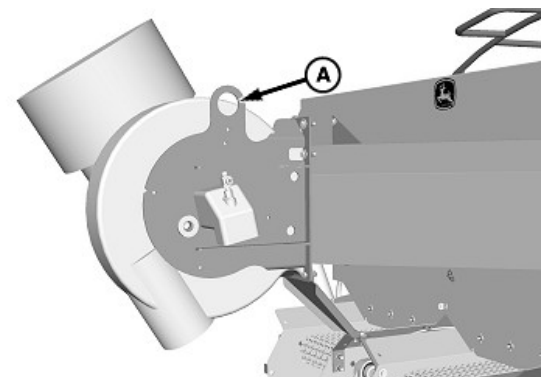
19. Remove and retain the cap screws (A), washers (B), and half clamps (C).
20. Tag and disconnect the hydraulic hoses (D and E). Plug the hydraulic hoses.
21. Secure the hydraulic hoses away from the work area to avoid damage.



N141611—UN—21DEC18

A—Clamp (2 used)
B—Air Supply Tube

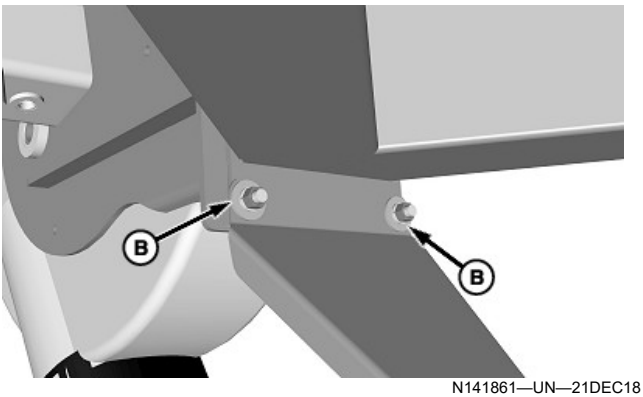
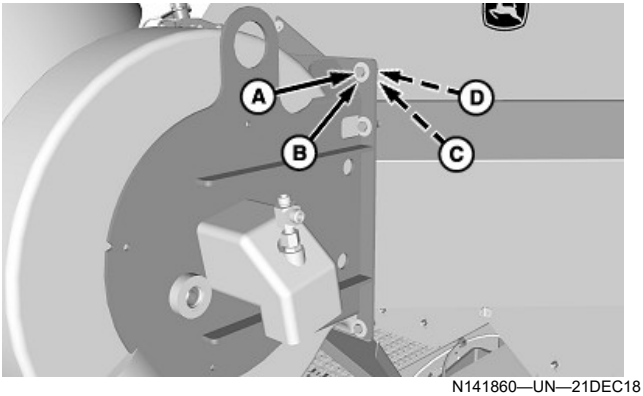
22. Remove and retain the clamps (A) and air supply tube (B).



N141859—UN—21DEC18

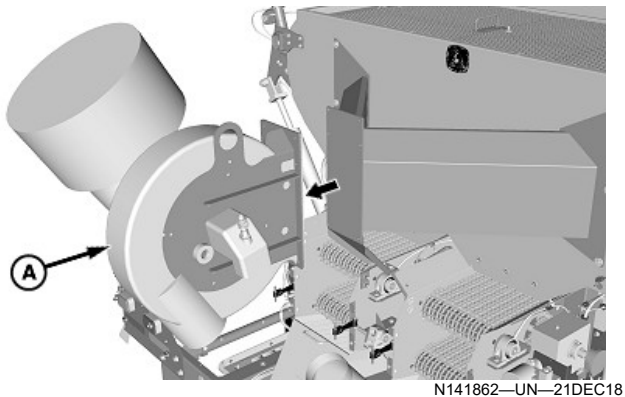
A—Lift Point

23. Attach a suitable lifting device to the fan assembly at the lift point (A) as shown.



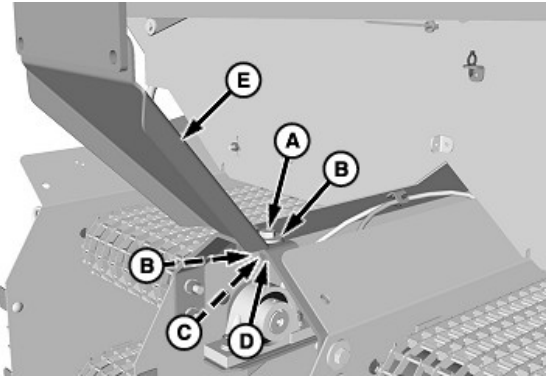
- A—Cap Screw (6 used)
B—Washer (8 used)
C—Lock Washer (6 used)
D—Nut (6 used)

24. Remove and discard the cap screws (A), washers (B), lock washers (C), and nuts (D) from the fan support brackets.



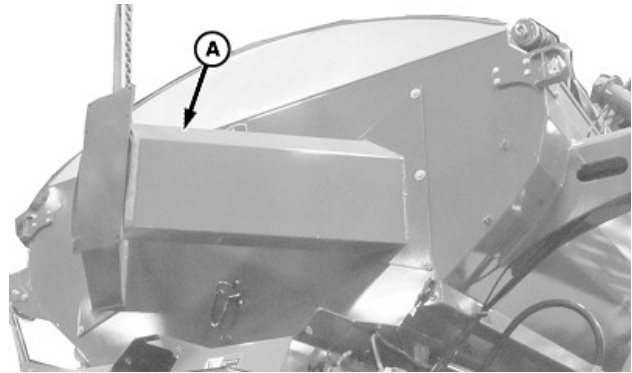
- A—Fan Assembly

25. Remove the fan assembly (A) from the machine and place it away from the work area to avoid damage.



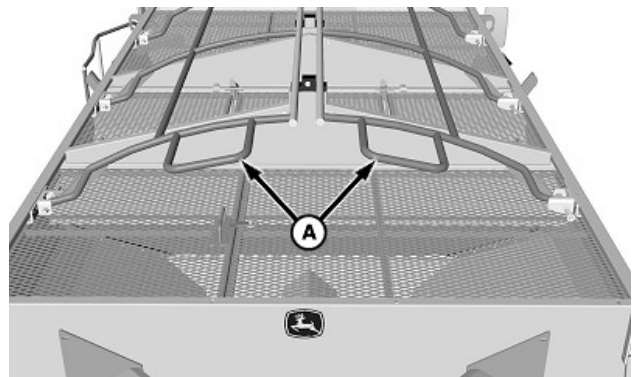
- A—Cap Screw (2 used)
B—Washer (4 used)
C—Lock Washer (2 used)
D—Nut (2 used)
E—Support Bracket

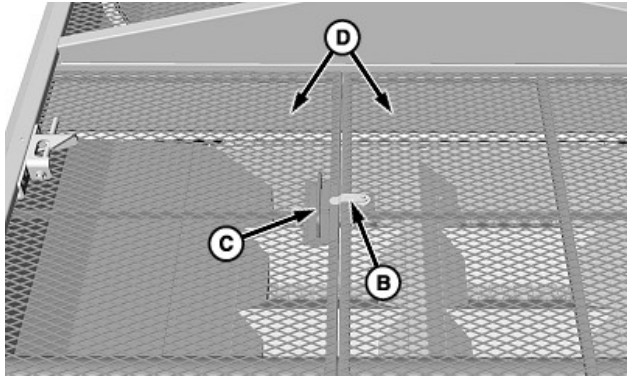
26. Remove the cap screws (A), washers (B), lock washers (C), nuts (D), and support bracket (E).



- A—Fan Support

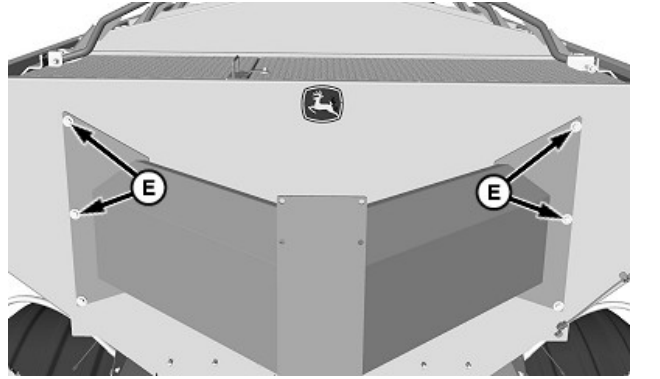
27. Attach a suitable lifting device to the fan support (A) as shown.





Rear Bin

N141865—UN—21DEC18



Rear Side of Spreader Box

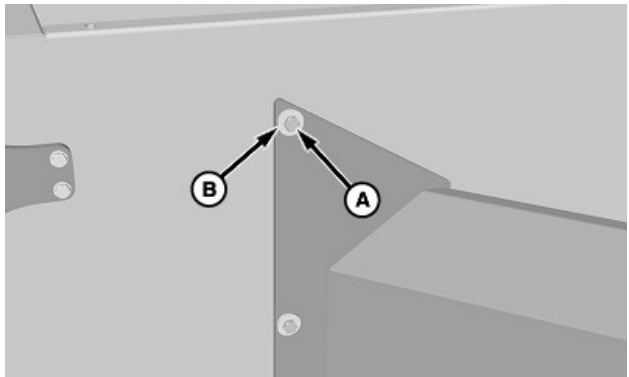
N141869—UN—21DEC18

- A—Handrail
- B—Latch
- C—Handle
- D—Grate

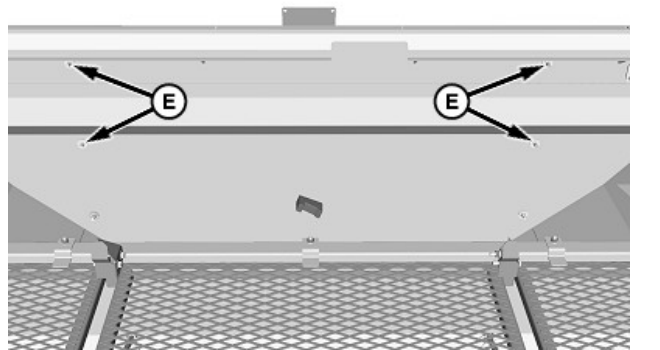
28. Raise the handrails (A) at the top of the bin.

29. Turn the latch (B).

30. Use the handle (C) to raise the grates (D).



N141867—UN—21DEC18

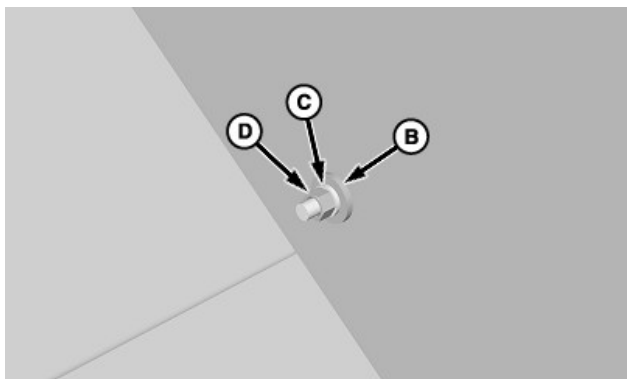


Inside of Rear Bin

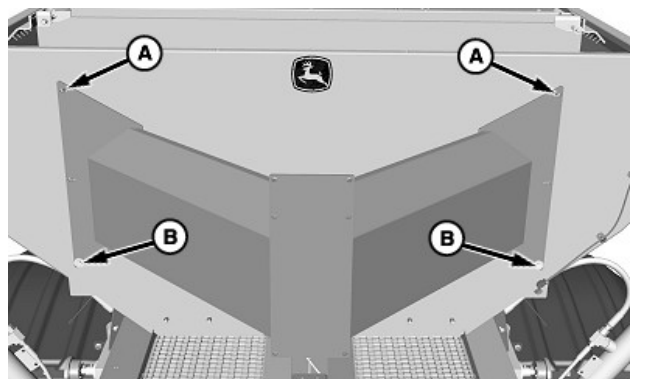
N141870—UN—21DEC18

- A—Cap Screw (4 used)
- B—Washer (8 used)
- C—Lock Washer (4 used)
- D—Nut (4 used)
- E—Location

31. Remove and discard the cap screws (A), washers (B), lock washers (C), and nuts (D) from the locations (E) as shown.

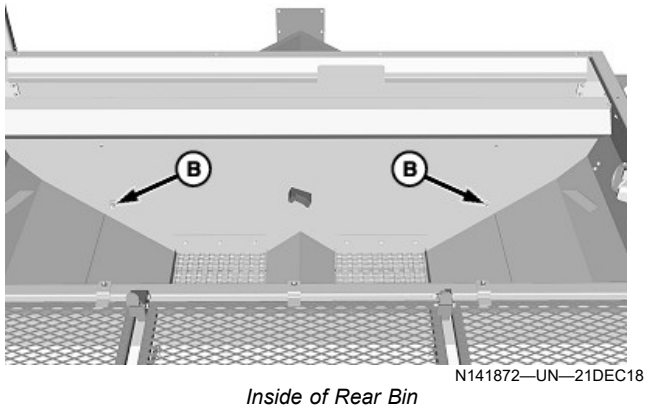


N141868—UN—21DEC18



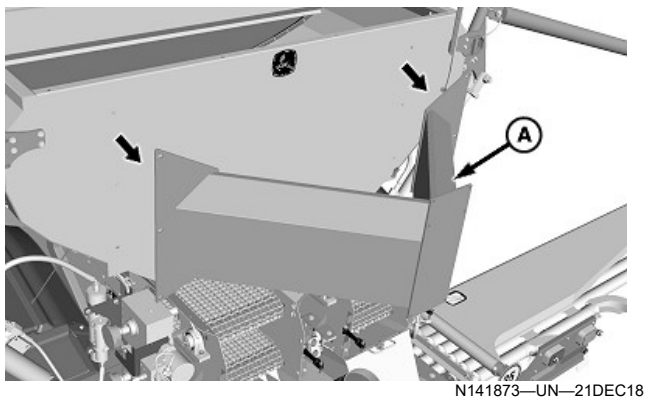
Rear Side of Spreader Box

N141871—UN—21DEC18

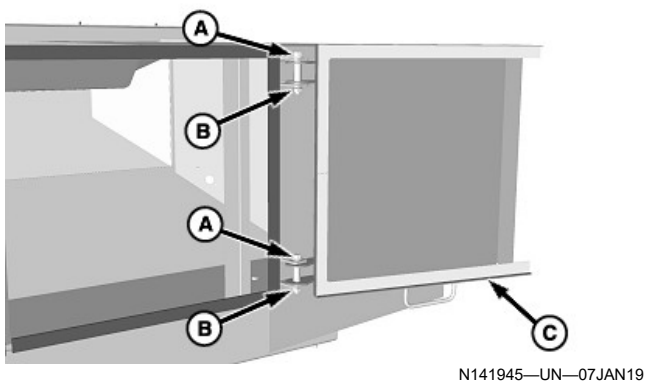


A—Lifting Point
B—Location

32. Attach the lifting device to the additional lifting points (A).
33. Remove and discard the remaining hardware at the locations (B) as shown.

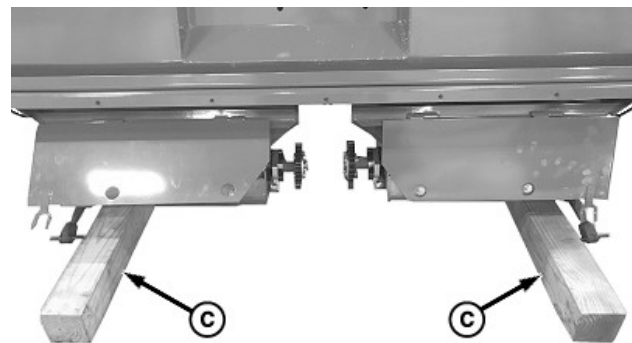
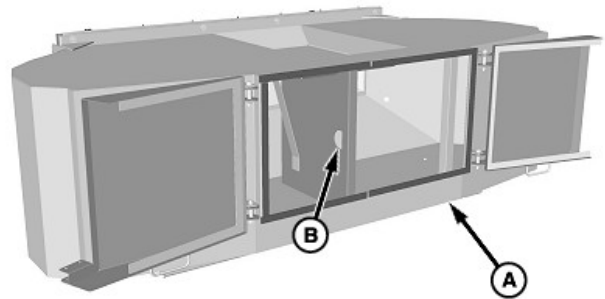


34. Remove the fan support (A) from the machine.

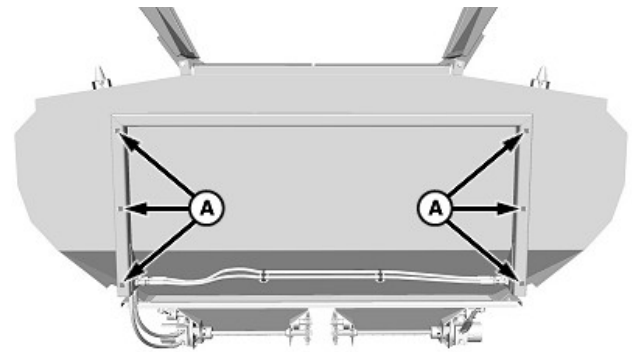


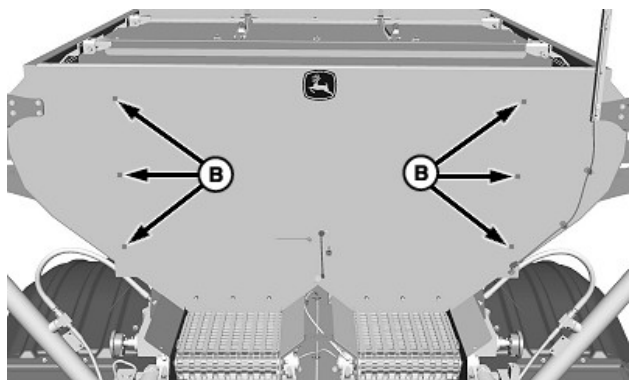
35. Install the provided granular bin using the following steps:
 - a. Verify that all cap screws (A) and nuts (B) holding the covers (C) in place are tightened

before lifting the bin to avoid damage to the covers.



- b. Attach a suitable lifting device to the provided granular bin (A) at the lifting point (B).
- c. Slowly raise the granular bin and place wooden blocks (C) under the bin in the locations shown to avoid damage to the bin components.



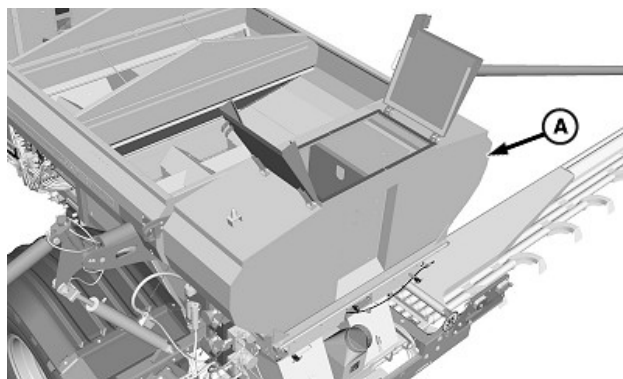


N141876—UN—21DEC18

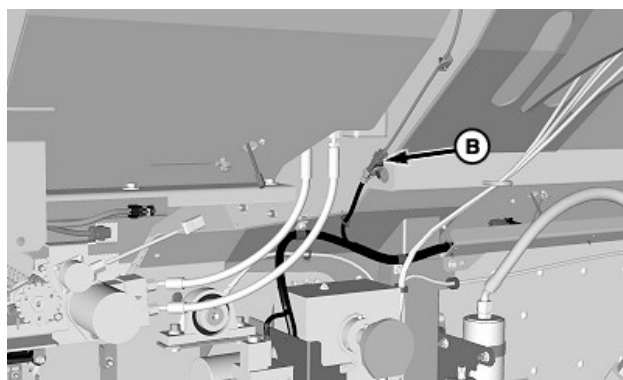
Rear Side of Spreader Box

A—Bolt (6 used)
B—Hole (6 used)

- d. Align the bolts (A) on the front side of the granular bin with the holes (B) on the rear side of the spreader box.



N141877—UN—21DEC18

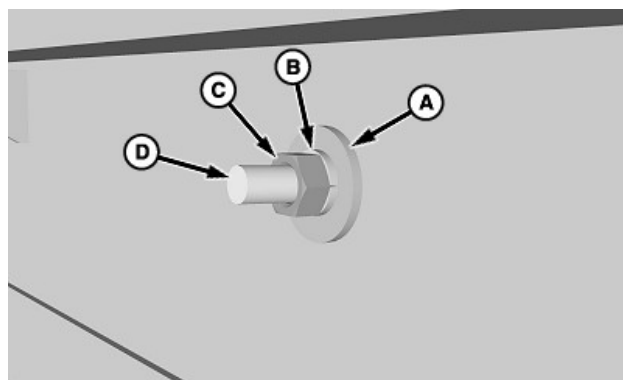


N141878—UN—21DEC18

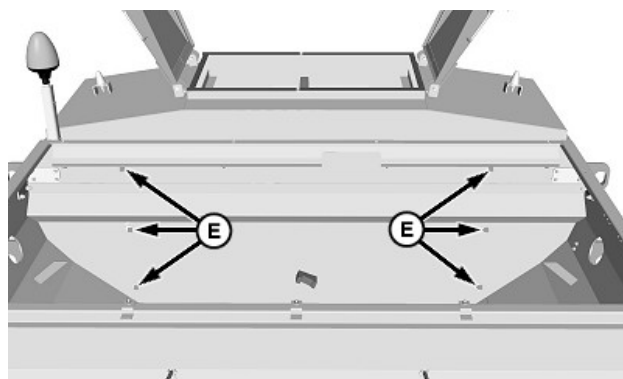
A—Granular Bin
B—Beacon Light Connector

- e. Install the granular bin (A) to the spreader box as shown.

NOTE: Use caution while installing the granular bin to avoid damaging the beacon light connector (B).



N141879—UN—21DEC18

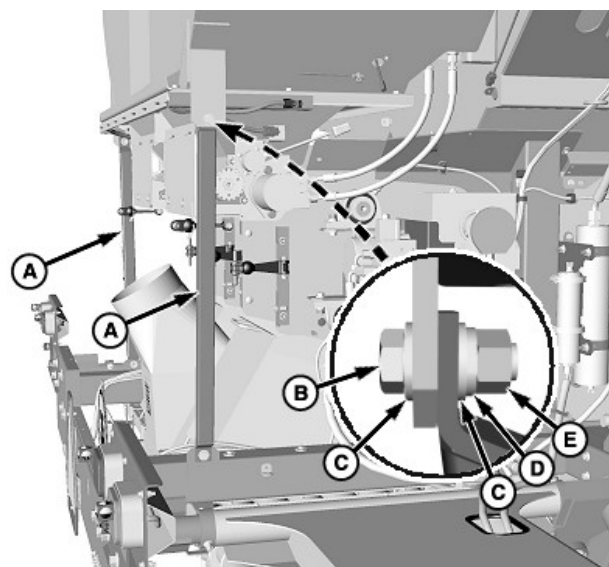


N141880—UN—21DEC18

Inside of Rear Bin

A—Washer, 10.3 mm (0.41 in) ID x 31.75 mm (1.25 in) OD (6 used)
B—Lock Washer, 10.4 mm (0.41 in) (6 used)
C—Nut, M10 (6 used)
D—Bolt
E—Location

36. Install the provided washers (A), lock washers (B), and nuts (C) to the bolts (D) at the locations (E) as shown. DO NOT tighten the hardware.



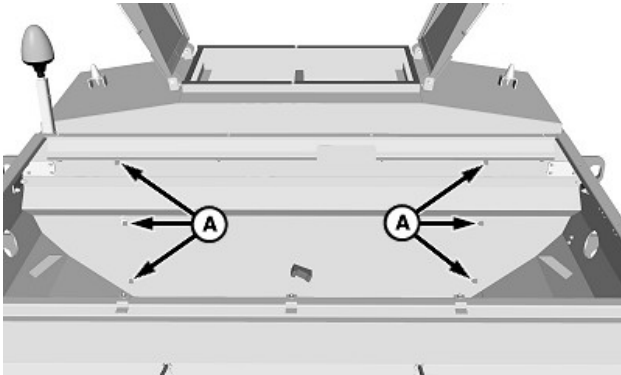
N141881—UN—21DEC18

A—Granular Bin Support (2 used)
B—Cap Screw, M12 x 35 (4 used)
C—Washer, 12.7 mm (0.5 in) ID x 25 mm (1 in) OD (8 used)
D—Lock Washer, 13 mm (0.5 in) (4 used)

E—Nut, M12 (4 used)

37. Install the provided granular bin supports (A) as shown using the provided cap screws (B), washers (C), lock washers (D), and nuts (E).

NOTE: The granular bin may need to be raised to achieve the desired height for proper support installation.



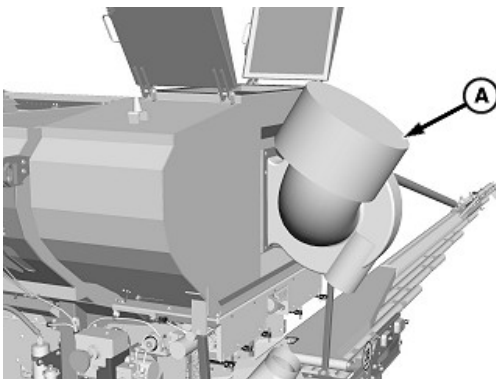
Inside of Rear Bin

N141882—UN—07JAN19

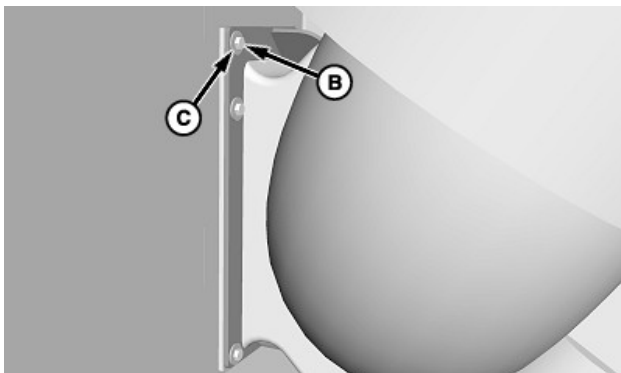
A—Location

38. Tighten the hardware in the locations (A) as shown.

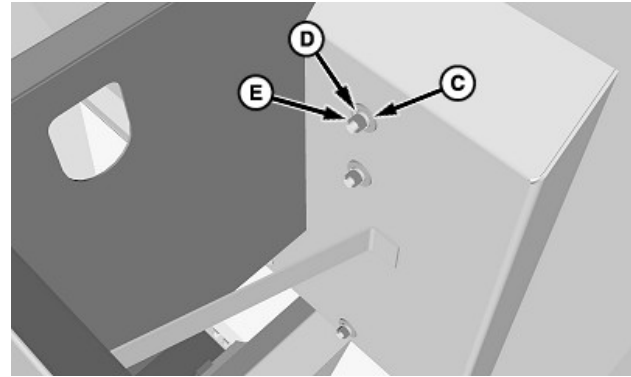
NOTE: Apply anti-seize compound to all stainless steel hardware before assembly.



N141883—UN—07JAN19



N141884—UN—07JAN19



N141885—UN—07JAN19

Inside of Granular Bin

A—Fan Assembly

B—Cap Screw, Stainless Steel, M12 x 45 (6 used)

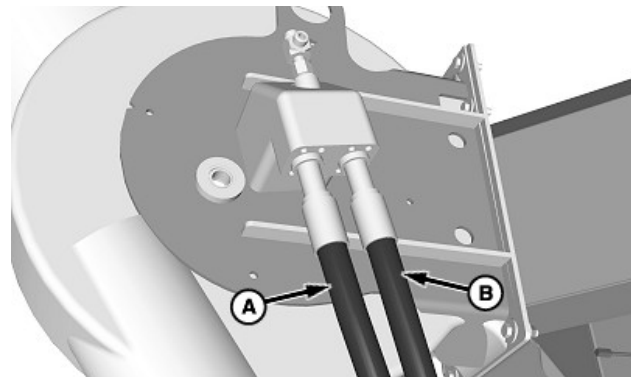
C—Washer, Stainless Steel, 13 mm (0.5 in) ID x 37 mm (1.5 in) OD (12 used)

D—Lock Washer, Stainless Steel, 12.7 mm (0.5 in) (6 used)

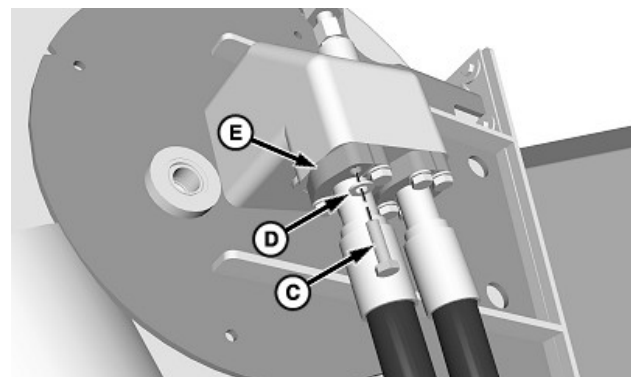
E—Nut, Stainless Steel, M12 (6 used)

39. Install the previously removed fan assembly (A) to the granular bin as shown, using the provided cap screws (B), washers (C), lock washers (D), and nuts (E).

IMPORTANT: Always use new O-rings when installing hydraulic hoses. Damaged or used O-rings can cause leakage.



N141887—UN—07JAN19



N141888—UN—07JAN19

A—Hydraulic Hose, Fan Motor Port, 5700 mm (224.5 in)

B—Hydraulic Hose, Fan Motor Port, 5560 mm (219 in)

C—Cap Screw, M10 x 35 (8 used)

D—Washer, 10.5 mm (0.4 in) ID x 20 mm (0.8 in) OD (8 used)

E—Half Clamp (4 used)

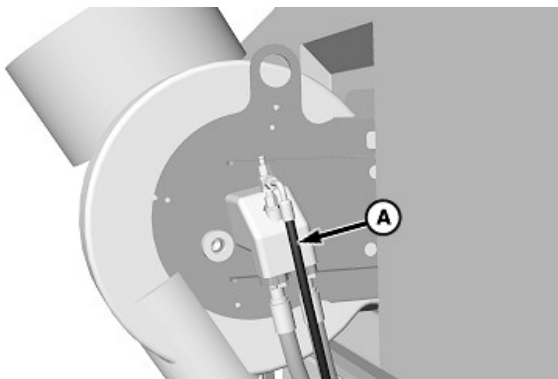
40. Remove the plugs and install the previously removed hydraulic hoses (A and B) using the previously retained cap screws (C), washers (D), and half clamps (E). Tighten to specification.

Specification

Hydraulic Hose	
Hardware—Torque.	73 N·m (54 lb·ft)

IMPORTANT: Fill the hydraulic hose (A) full of oil before installation to prevent the fan from running dry and causing premature failure of the motor.

Always use new O-rings when installing hydraulic hoses. Damaged or used O-rings can cause leakage.



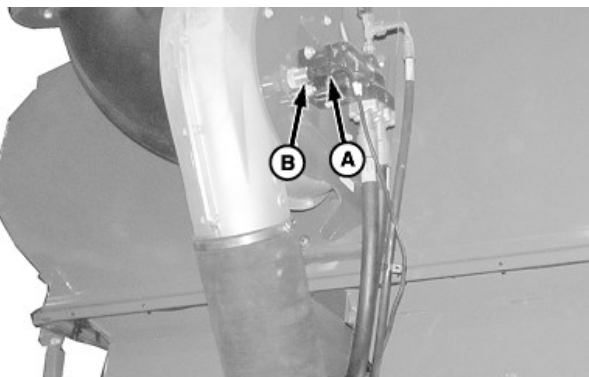
N141886—UN—07JAN19

A—Hydraulic Hose, Fan Motor Case, 5590 mm (220 in)

41. Remove the plug and install the previously removed hydraulic hose (A). Tighten to specification.

Specification

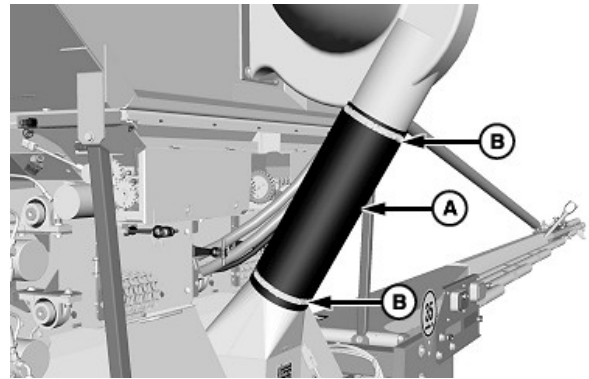
Hydraulic Hose (A) to O-Ring	
Fitting—Torque.	63 N·m (46.5 lb·ft)



N141917—UN—07JAN19

**A—Air Boom System Harness Connector
B—Blower Fan Speed Sensor**

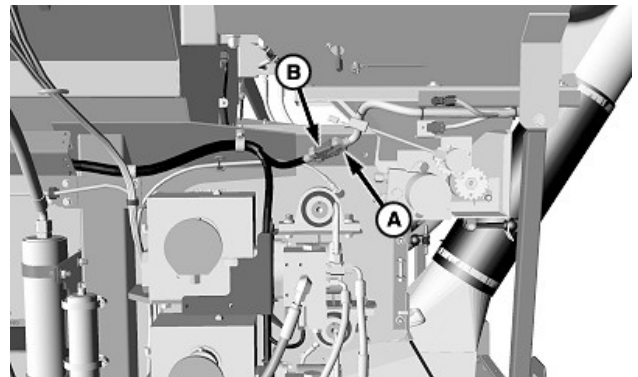
42. Connect the air boom system harness connector (A) to the blower fan speed sensor (B).



N141889—UN—07JAN19

**A—Air Supply Tube
B—Clamp (2 used)**

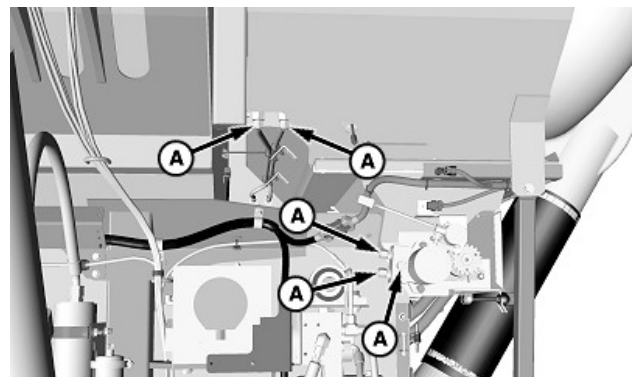
43. Install the previously retained air supply tube (A) using the previously retained clamps (B).



N141890—UN—07JAN19

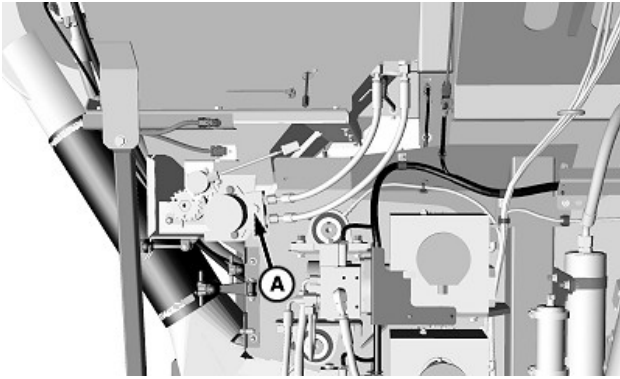
**A—Granular Bin Harness Connector
B—Air Boom System Harness Connector**

44. Connect the granular bin harness connector (A) to the air boom system harness connector (B).



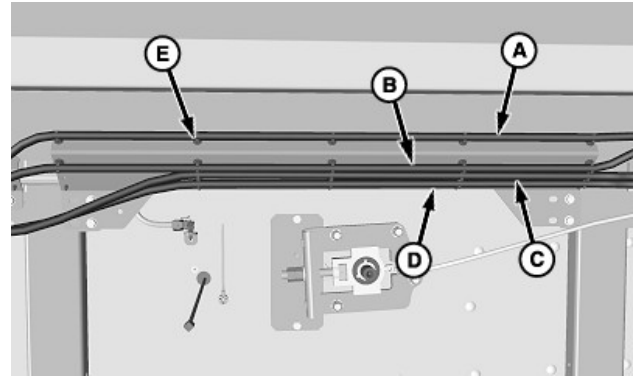
N141918—UN—07JAN19

Left-Hand Rear Side



N141919—UN—07JAN19

Right-Hand Rear Side

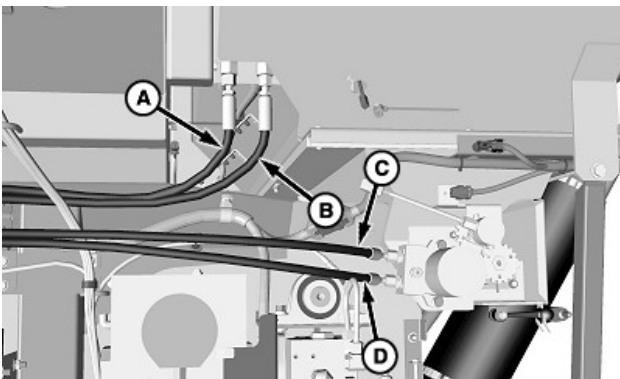


N141922—UN—07JAN19

Front Hose Retention Bracket

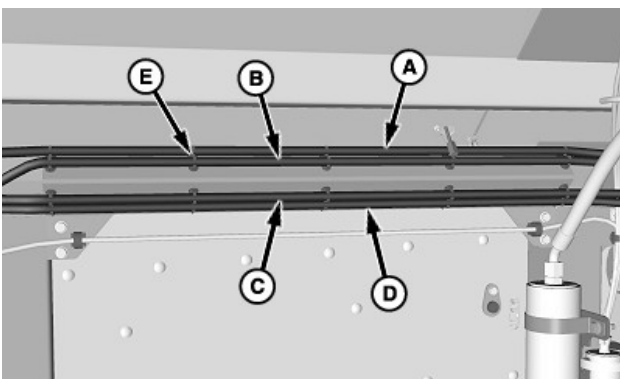
A—Cap (6 used)

45. Remove and discard the caps (A) from the fittings as shown.



N141920—UN—07JAN19

Left-Hand Rear Side



N141921—UN—07JAN19

Rear Hose Retention Bracket

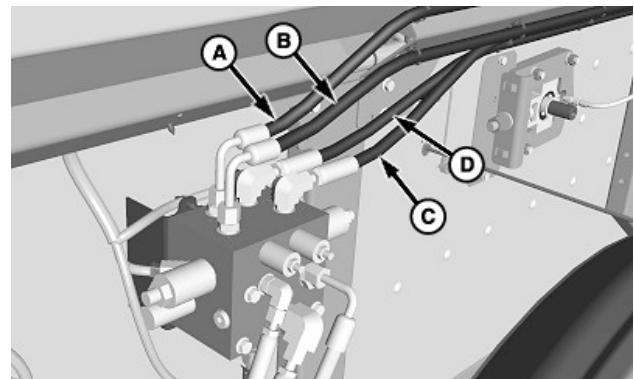
- A—Hydraulic Hose, Conveyor, 2750 mm (108.3 in)
 B—Hydraulic Hose, Roller Pressure, 2800 mm (110.2 in)
 C—Hydraulic Hose, Motor Pressure, 2840 mm (111.8 in)
 D—Hydraulic Hose, Motor Return, 2850 mm (112.2 in)
 E—Tie Band with Push-In Retainer, 50 mm (2 in) (38 used)

46. Install the provided hydraulic hoses (A—D) as shown. Tighten to specification.

Specification

Hydraulic Hoses (A—D) to O-
 Ring Fittings—Torque (dry) 37 N·m
 (27.3 lb·ft)

47. Retain the hydraulic hoses to the hose retention brackets as shown using the tie bands with push-in retainers (E).



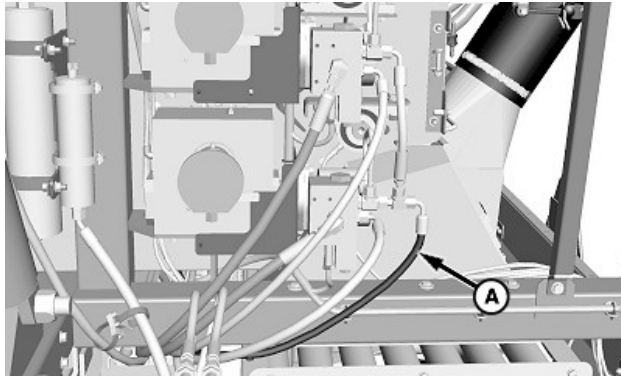
N141923—UN—07JAN19

- A—Hydraulic Hose, Conveyor, 2750 mm (108.3 in)
 B—Hydraulic Hose, Roller Pressure, 2800 mm (110.2 in)
 C—Hydraulic Hose, Motor Pressure, 2840 mm (111.8 in)
 D—Hydraulic Hose, Motor Return, 2850 mm (112.2 in)

48. Install the hydraulic hoses (A—D) to the granular bin control valve as shown. Tighten to specification.

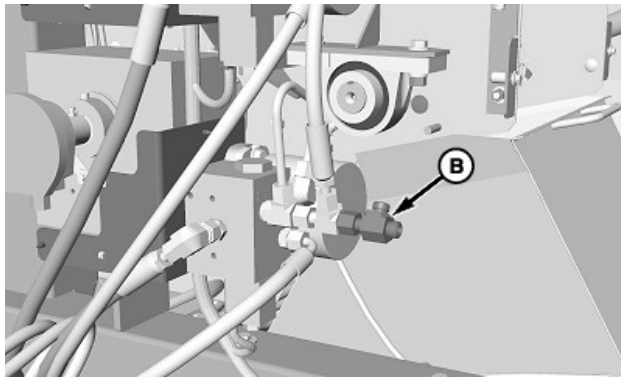
Specification

Hydraulic Hoses (A—D) to O-
 Ring Fittings—Torque (dry) 37 N·m
 (27.3 lb·ft)



N141924—UN—07JAN19

Left-Hand Rear Side



N141925—UN—07JAN19



N141926—UN—07JAN19

- A—Hydraulic Hose, 1480 mm (58.3 in)
- B—T-Fitting, Swivel Run, O-Ring Face Seal (ORFS)
- C—Hydraulic Hose, Conveyor, 460 mm (18 in)

49. Tag and disconnect the hydraulic hose (A). Plug the hydraulic hose.

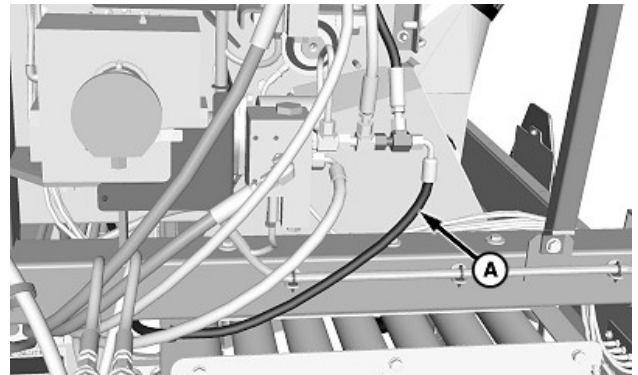
IMPORTANT: Always use new O-rings when installing fittings. Damaged or used O-rings can cause leakage.

50. Install the provided T-fitting (B) as shown.

51. Install the provided hydraulic hose (C) to the previously installed fitting and the hydraulic motor. Tighten to specification.

Specification

Hydraulic Hose (C) to O-Ring
Fittings—Torque (dry). 37 N·m
(27.3 lb·ft)



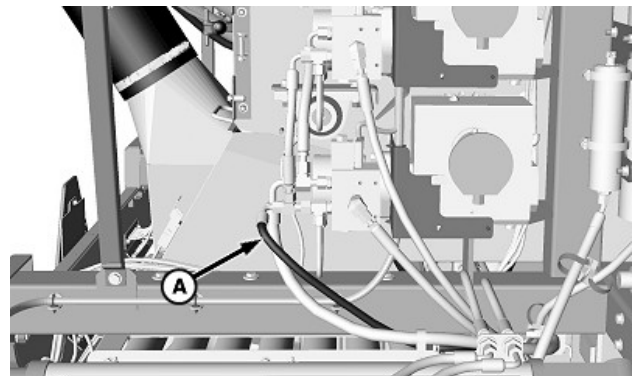
N141927—UN—07JAN19

A—Hydraulic Hose, 1480 mm (58.3 in)

52. Remove the plug and install the previously removed hydraulic hose (A) to the previously installed T-fitting. Tighten to specification.

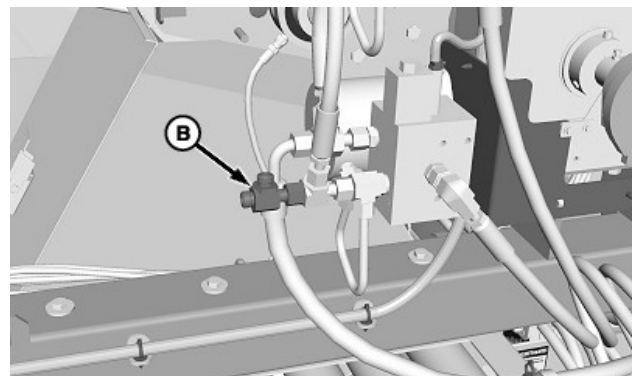
Specification

Hydraulic Hose (A) to O-Ring
Fitting—Torque (dry). 37 N·m
(27.3 lb·ft)

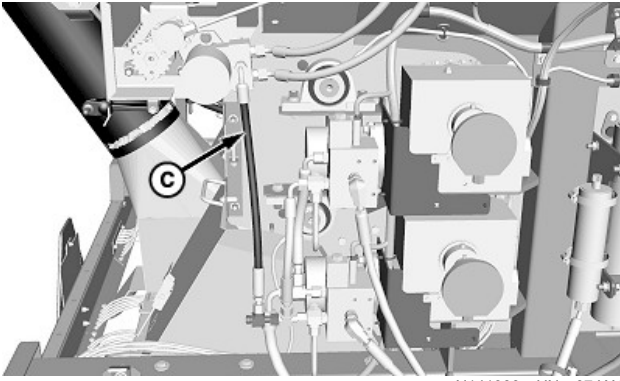


N141928—UN—07JAN19

Right-Hand Rear Side



N141929—UN—07JAN19



N141930—UN—07JAN19

- A—Hydraulic Hose, 1260 mm (49.6 in)**
B—T-Fitting, Swivel Run, O-Ring Face Seal (ORFS)
C—Hydraulic Hose, Conveyor, 460 mm (18 in)

53. Tag and disconnect the hydraulic hose (A). Plug the hydraulic hose.

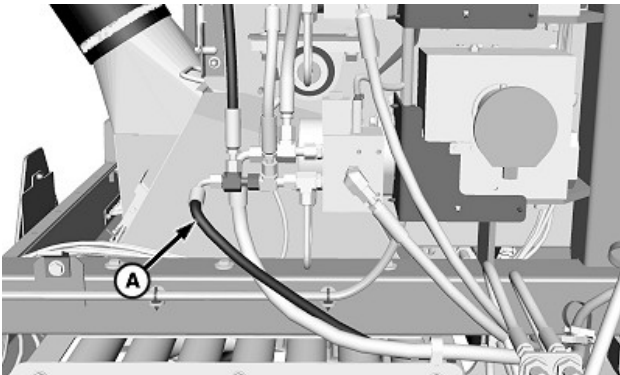
IMPORTANT: Always use new O-rings when installing fittings. Damaged or used O-rings can cause leakage.

54. Install the provided T-fitting (B) as shown.

55. Install the provided hydraulic hose (C) to the previously installed fitting and the hydraulic motor. Tighten to specification.

Specification

Hydraulic Hose (C) to O-Ring
 Fittings—Torque (dry). 37 N·m
 (27.3 lb·ft)



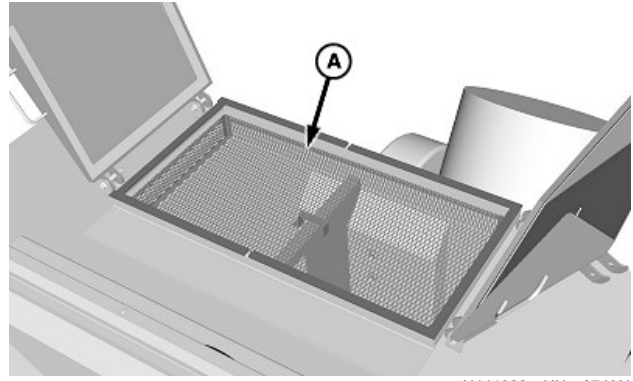
N141931—UN—07JAN19

- A—Hydraulic Hose, 1260 mm (49.6 in)**

56. Remove the plug and install the previously removed hydraulic hose (A) to the previously installed T-fitting. Tighten to specification.

Specification

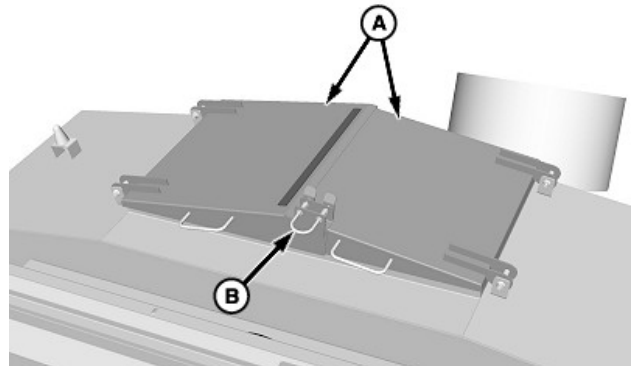
Hydraulic Hose (A) to O-Ring
 Fitting—Torque (dry). 37 N·m
 (27.3 lb·ft)



N141932—UN—07JAN19

- A—Grating**

57. Install the grating (A) to the granular bin as shown.

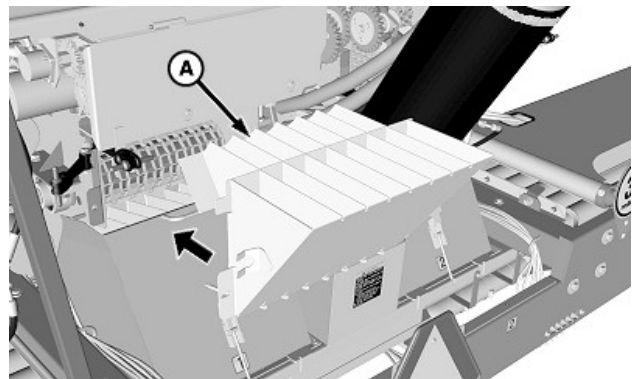


N141933—UN—07JAN19

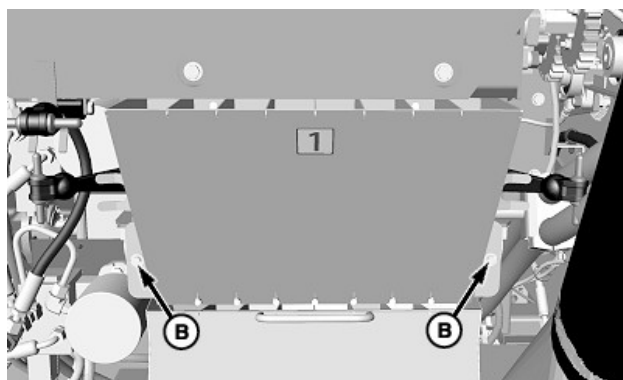
- A—Cover**
B—Latch

58. Close the granular bin covers (A) and secure using the latch (B).

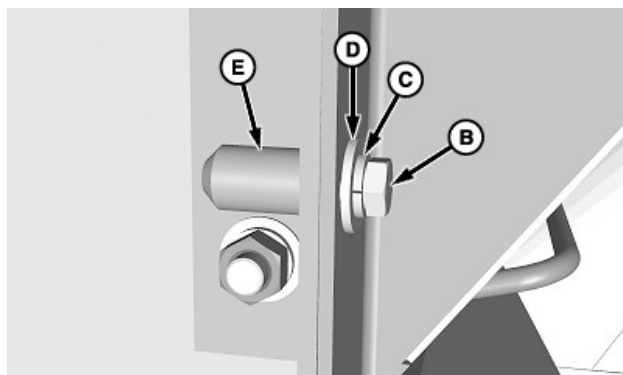
NOTE: Apply anti-seize compound to all stainless steel hardware before assembly.



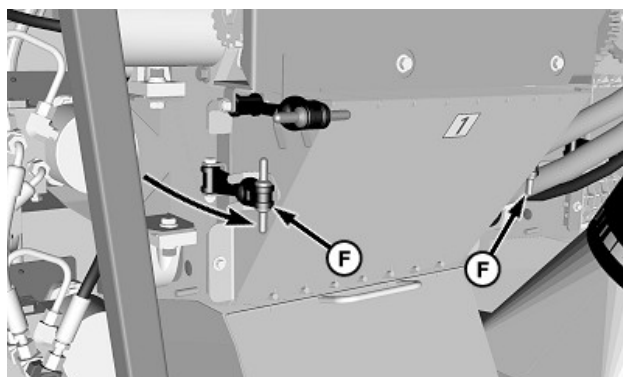
N141934—UN—07JAN19



N141935—UN—07JAN19



N141942—UN—07JAN19



N141943—UN—07JAN19

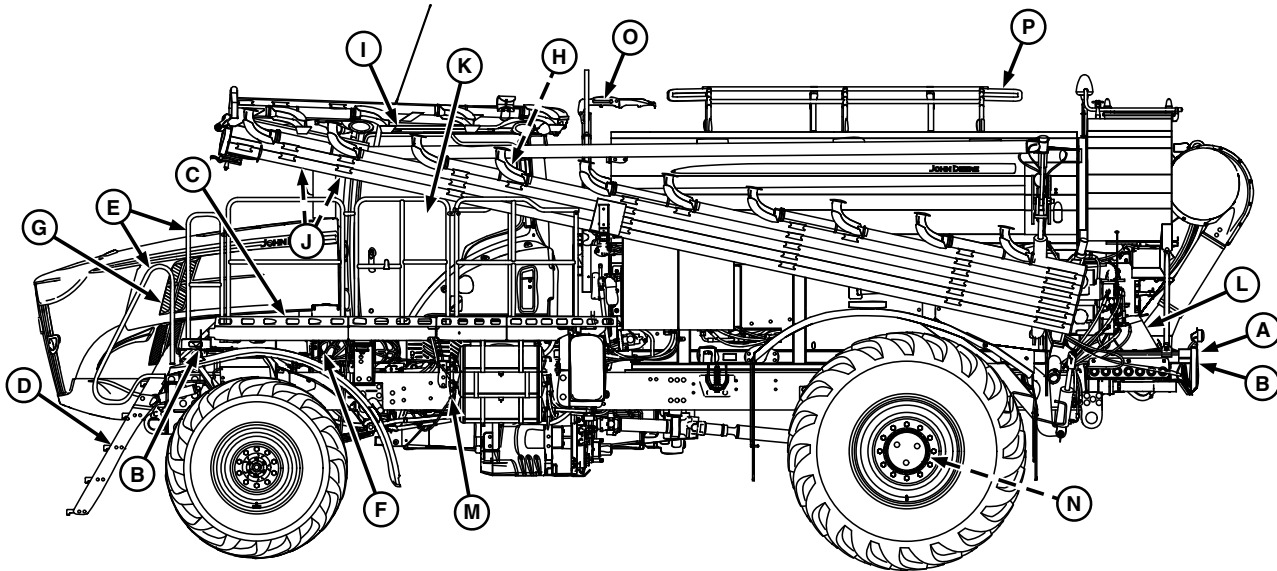
- A—Material Divider
- B—Cap Screw, Stainless Steel, M6 x 20 (2 used)
- C—Lock Washer, Stainless Steel, 6.4 mm (0.25 in) (2 used)
- D—Washer, Stainless Steel, 6.4 mm (0.25 in) ID x 18 mm (0.71 in) OD (2 used)
- E—Guide Pin (2 used)
- F—Latch (2 used)

59. Install the previously removed material divider (A) as shown, using the previously retained cap screws (B), lock washers (C), washers (D), and guide pins (E).
60. Secure the material divider by closing the latches (F).
61. Repeat the procedure for the remaining material divider.

BN55050.00002F3-19-22JAN19

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 Application

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.
- Changing the fan settings.
- Operating the roll tarp and conveyor priming.
- Performing the Conveyor Feed Rate (CFR) calibration.



Product Bin

N119607—UN—16FEB16

Items Accessible on Dry Application System Main Page:

Product Management— displays the product bin number and product selected.



Target Rate

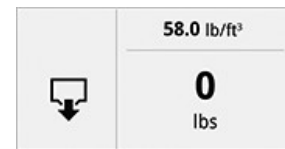
N119608—UN—16FEB16



Manual Mode

N120900—UN—16FEB16

Target Rate— displays the current application rate, or the conveyor speed when in manual mode.

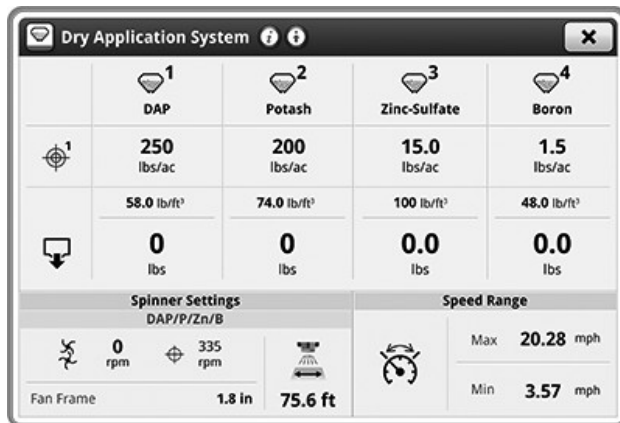


Bin Details

N119609—UN—16FEB16

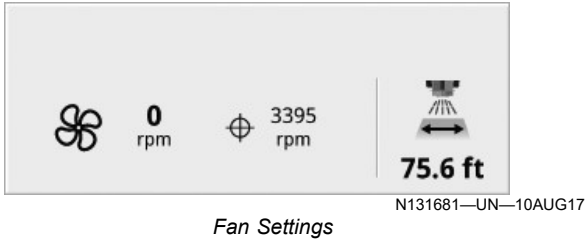
Bin Details— displays the product density and amount of product that has been applied. Allows access to bin setup and the operation of chain oiler and conveyor priming.

Dry Application System Main Page



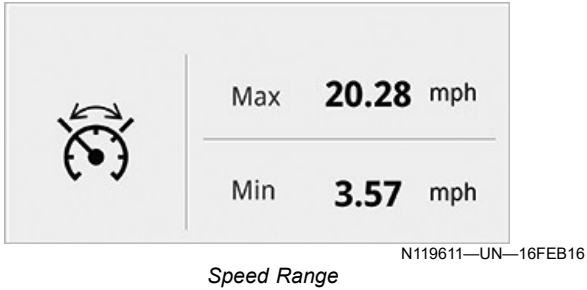
N121528—UN—16FEB16

Dry Application System



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

N118004—UN—22OCT15

Advanced Settings— access further adjustments and less common settings.

Run Page Modules



Bin Rates

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:

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

NOTE: Different modules can be available for your application.

Shortcut Keys

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

N119659—UN—16FEB16

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

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

PR79369,000013F-19-09FEB21

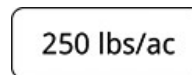
Edit Rate Presets

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:

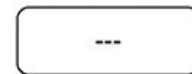


Rate

N119612—UN—16FEB16

Rate— displays the application rate.

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



Prescription

N120899—UN—16FEB16

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



Advanced Settings

N118004—UN—22OCT15

Advanced Settings— access further adjustments and less common settings.

Procedure to Modify:



Product Bin

N119613—UN—16FEB16

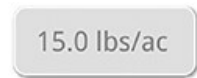
NOTE: Product bins not selected for application are displayed in gray.



Conveyor Disabled

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

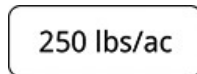
NOTE: When prescriptions are loaded in Work Setup for a given product, the rate mode input fields are disabled. This shows that the prescription is handling all of the rate adjustments for that bin and product.



Target Rate

N119608—UN—16FEB16

1. Select Target Rate.



Input Box

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.

PR79369,0000140-19-09FEB21

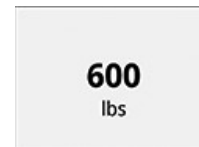
Bin Details

Bin Details allow you to set up bin controls, operate the roll tarp, oil a 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.
- Oiling chains.
- Operating bin covers.

Items Accessible on Bin Details Page:



Bin Counter

N119615—UN—17FEB16

Bin Counter— displays the 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 meter rollers.



Active Bin

N119117—UN—17FEB16

Active Bin— edit settings for the selected bin only.



Active Bin

N131682—UN—10AUG17

Active Bin (Fan)— edit settings for the 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— displays the current bin selected.



Product Bin

N120258—UN—16FEB16

Product— displays the current application product.

24 rpm

Conveyor Speed

N120902—UN—16FEB16

Conveyor Speed— displays the current conveyor speed.



ON/OFF

N118056—UN—17FEB16

Toggle Button— enable or disable selected bin.



Bin Chaining

N119620—UN—16FEB16

Bin Chaining— displays the bin chaining configuration.



Product Density

N119621—UN—16FEB16

Product Density— displays the bin chaining density of the product being applied.



Conveyor Feed Rate

N119623—UN—16FEB16

Conveyor Feed Rate (CFR) Value— displays the bin chaining CFR value determined through calibration.



CFR Calibration

N119624—UN—16FEB16

CFR Calibration— begins calibration procedure.



Feed Gate Opening

N119626—UN—16FEB16

Feed Gate Opening— displays the current feed gate opening.



Bin Alarms

N119628—UN—12MAY16

Bin Alarms— displays the alarm settings and levels.



Advanced Settings

N118004—UN—22OCT15

Advanced Settings— access further adjustments and less common settings.

PR79369,0000141-19-09FEB21

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— displays the current fan speed.



Hydraulics Enabled

N120903—UN—16FEB16

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



Bin Information

N120905—UN—16FEB16

Bin Information— displays the bin number and the current product selected.



Prime

N119631—UN—16FEB16

Prime— begins the priming procedure.



Conveyor Speed

N120907—UN—16FEB16

Conveyor Speed— displays the current conveyor speed.

Procedure to Perform:



Bin Details

N119609—UN—16FEB16

1. Select Bin Details.



Prime Controls

N119619—UN—16FEB16

2. Select Prime Controls.

CAUTION: Belts begins movement on press of the button. Product discharge can occur if the spinners are still enabled. Spinners cannot be shielded due to their function. Keep away from the spinners while they are engaged.



Solution Pump Switch

N120497—UN—02NOV16

3. Enable the spreader hydraulic system. Press the Solution Pump switch on the 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.

CommandARM is a trademark of Deere & Company



Close

N118396—UN—17FEB16

5. Select to return to the previous page.

PR79369,0000142-19-10FEB21

Bin Chaining

Bin Chaining allows you to switch manually or automatically from one bin to another during application. Operating bin chaining properly minimizes skips in application when switching between bins.

Modify When:

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

Select Automatic Bin Chaining:

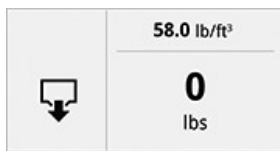
- For most spreading operations.

Select Manual Bin Chaining:

NOTE: You must ensure that proper coverage is achieved when operating in manual mode. Higher conveyor speeds can be achieved when a single bin is enabled. Higher conveyor speeds result in a higher application rate.

- When 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

N1153663—UN—06JAN21

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 is not active.



Automatic Bin 1 to Bin 2

N119633—UN—16FEB16

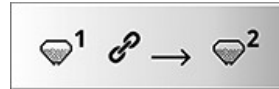
- **Automatic Bin 1 to Bin 2**— bin 1 empties first, and then application automatically switches to bin 2.



Automatic Bin 2 to Bin 1

N119634—UN—17FEB16

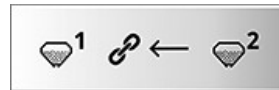
- **Automatic Bin 2 to Bin 1**— bin 2 empties first, and then application automatically switches to bin 1.



Manual Bin 1 to Bin 2

N119635—UN—17FEB16

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

Procedure to Operate:

Automatic Mode

1. Spread 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. Apply spread product from the next bin.



Solution Pump

N120497—UN—02NOV16

If the Solution Pump switch is cycled OFF/ON, or the key is cycled OFF/ON with bin chaining enabled, the following will occur:

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

NOTE: Solution Pump switch functions as the Hydraulic Enable switch when a dry spreader is installed.

Manual Mode

1. Apply 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.



Solution Pump

N120497—UN—02NOV16

If the Solution Pump 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.

PR79369,0000143-19-10FEB21

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.

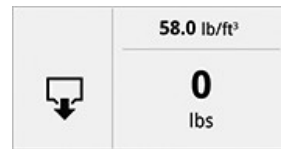


Advanced Settings

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

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:



N119117—UN—17FEB16

Bin Selector

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.)



N118056—UN—17FEB16

Bin Low-Level Alarm

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



N119643—UN—02NOV16

Target Rate Alarm

Target Rate Alarm— allows you to adjust the deviation allowed from target rate.



N119643—UN—02NOV16

Product Density Alarm

Product Density Alarm— allows you to adjust the deviation allowed from target product density.



N118004—UN—22OCT15

Advanced Settings

Advanced Settings— access further adjustments and less common settings.

PR79369,0000144-19-10FEB21

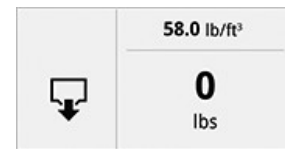
Target Rate Alarm

Target Rate Alarm informs you when the applied rate is at or above the set deviation from the target application rate for 6 seconds continuously. Machine or display settings may require adjustment if the target rate cannot be maintained.

Target Rate Alarm Characteristics:

- Default level is 15%.
- If deviation percentage is too small, alarm sounds 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:



N119609—UN—16FEB16

Bin Details

1. Select Bin Details.



N119628—UN—12MAY16

Bin Alarms

2. Select Bin Alarms.



N119643—UN—02NOV16

Target Rate Alarm

3. Select Target Rate Alarm to edit the value.

4. Enter desired value using keypad.



OK

N118151—UN—16FEB16

5. Select OK to confirm.

PR79369,0000145-19-10FEB21

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%.
- 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 Product Density Alarm to edit the value.

4. Enter desired value using keypad.



OK

N118151—UN—16FEB16

5. Select OK to confirm.

PR79369,0000146-19-10FEB21

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.

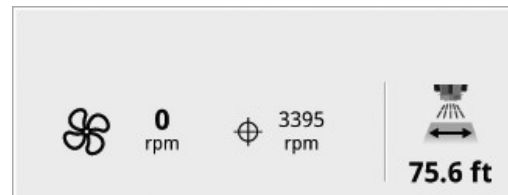


OK

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

Edit Fan Preset

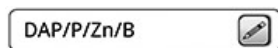
Edit Fan Preset configures the fan target speed and spread width for the selected product blend. Fan settings must be correct to ensure proper application pattern and coverage.

The fan speed can be adjusted during the operation and set anywhere between 3500 and 4500 rpm, depending on the product type and rate. For products that are higher density, impregnated, and/or applied at high rates, the fan should be set to the maximum rpm. For lower rates and lower density products, the fan speed can be reduced to extend the fan life.

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.



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:

1. Enter preset name.



Name N119646—UN—17FEB16

2. Select to confirm.

OK N118151—UN—16FEB16

3. Enter the Fan Target Speed.



Fan Target Speed N119647—UN—17FEB16

4. Select to confirm.

OK N118151—UN—16FEB16

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



Spread Width N119648—UN—16FEB16

6. Select to confirm.

OK N118151—UN—16FEB16

7. Enter Fan Frame Setting.

Fan Frame Setting N119649—UN—16FEB16

8. Select to confirm.

OK N118151—UN—16FEB16

9. Select to save changes.

Save N118093—UN—16FEB16

Cancel

N118394—UN—17FEB16

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

PR79369,0000147-19-26APR21

Information and Settings | Dry Application System

Information and Settings | Dry Application System accesses further adjustments and less common settings.

Items Accessible on Information and Settings | Dry Application System Page:



Rate Control/Display Speed

N119651—UN—16FEB16

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

PR79369,0000148-19-13MAR20

Rate Control/Display Speed

Rate Control/Display Speed displays available speed sources for the rate control unit. Speed source must be adjusted based on ground conditions, availability of Global Positioning System (GPS) signal, and options installed.

Select Global Positioning System (GPS) When:

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

Select Wheel Speed When:

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

Procedure to Modify:

Rate Control/Display Speed

N153664—UN—06JAN21

1. Press Rate Control/Display Speed.

2. Select speed source.

AZ06166,00007AD-19-11FEB21

Calibrations Application

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 6.35 mm (0.25 in) or more.
- There is a significant change in product density.
- There is a significant change in product size.
- The CFR is unknown.
- Conveyor control valve has been changed.
- Applied rate does not match target rate.
- Left side or right side belt is emptying sooner than the opposite side.

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 when the product bin is selected.

Details Displayed on Page:

Last Calibration	Date and time
Recommended Interval	As needed
Estimated Time Required	Varies



Bin

N120157—UN—23FEB16

Readings Displayed on Page:

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

Bin— displays the previously selected bin and the product entered for that bin.



Density

N120158—UN—23FEB16

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



Conveyor Feed Rate

N120159—UN—23FEB16

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

PR79369,0000120-19-23APR21

Conveyor Feed Rate Calibration Procedure Procedure Requirements:

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

NOTE: Calibration procedure requires the ability to capture the product dispensed from the spreader conveyor with the fan off. Increasing the CFR increases the amount of product dispensed. Decreasing the CFR decreases the amount of product dispensed.

It is important to measure the actual product depth dispensed on the conveyor. Enter measured value at 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
3075	0.2758	Chain Conveyor	1
3075	0.2758	Chain Conveyor	2
492	0.0442	Yellow Meter Roller	3

NOTE: Metric CFR value is based on a 1.0 centimeter feed gate opening. English CFR value is based on a 1 inch feed gate opening.

Before performing CFR calibration, ensure that product is dispensing all the way to the product funnels. This check is critical for the front bin (Bin 1) if a second product bin is installed. If product is not dispensing all the way, the belt runs for a period without any product on it. This situation 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 the accuracy of the calibrated value, repeat the 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 that all requirements listed on-screen have been met.
3. If calibration fails twice, see your John Deere dealer or other qualified service provider.

PR79369,00000FA-19-26APR21

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 spinner speed response to the engine speed.

Items Accessible on the Spreader Check Page:

Begin Procedure

Begin Procedure

N119102—UN—23FEB16

Begin Procedure—begin test procedure.

Requirements—the machine state required for the procedure.

PR79369,000060A-19-23APR21

Spreader Check Procedure

Procedure Requirements:

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

Icons Displayed during Spreader Check Procedure:

Spreader Fan Procedure:

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

Begin Procedure

Begin Procedure

N119102—UN—23FEB16

1. Select Begin Procedure.



Rate Selection buttons

N120898—UN—12MAY16

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

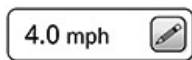
CommandARM is a trademark of Deere & Company



Checkbox

N118434—UN—22JAN20

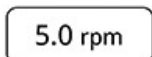
3. Select bin(s) to check. Product, target rate, and conveyor speed are displayed.



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 manual rate mode is selected, then select input box to enter the desired conveyor speed.



Solution Pump

N120497—UN—02NOV16

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



High Idle

N120670—UN—06DEC16

7. Set the engine speed to high idle.

CAUTION: Belt(s) begin movement on button press. Product discharge can occur if product remains in bin(s).



Spray System Master

N120251—UN—04JAN17

8. Press the Spray System Master switch on the

CommandARM™ to begin the test. Conveyor speed and the actual rate applied are displayed.



Progress Indicator

N118091—UN—16FEB16

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

CAUTION: Spinners cannot be shielded due to their function. Keep away from spinners while they are turning.



Spray System Master

N120251—UN—04JAN17

9. Press the Spray System Master switch on the CommandARM™ again to pause the test at any time.
10. Pause the test and disengage the spreader hydraulic system before ending the procedure.



Close

N118396—UN—17FEB16

11. Select the close button to end 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 qualified service provider.

If the actual rate is higher than the target rate, decrease the gate opening.

If the actual rate does not get to 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.

PR79369,00000FB-19-23APR21

Icons Displayed during Spreader Check Procedure

Air System Icons Displayed:



Product Bin

N120910—UN—23FEB16

Product— product selected for the bin shown.



Target Rate

N118449—UN—23FEB16

Target Rate— desired application rate.



Actual Applied Rate

N118450—UN—16FEB16

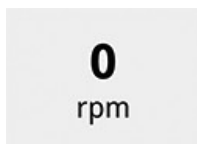
Actual Applied Rate— calculated rate of product applied.



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.

PR79369,00000FC-19-10MAR20

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 spinner 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.

PR79369,0000113-19-03MAR20

Reset Calibrations | Spreader Calibrations

This procedure resets all spreader calibration values to the factory defaults.

Perform When:

- Accurate calibration values cannot be established.
- Major spreader system components are replaced.
- Conveyor control valve is replaced.
- Fan assembly is replaced.

Items Accessible on Reset Calibrations | Spreader Calibrations Page:



Reset

N119598—UN—02MAY16

Reset— begin reset procedure.

Procedure to Reset Calibrations:

NOTE: This process cannot be undone. Once calibrations have been reset, you will have to perform each calibration again.



Reset

N119598—UN—02MAY16

1. Select Reset button.
2. The following calibrations are reset:
 - Spreader Calibration (if equipped)
 - Fan Calibration (if equipped)
 - Conveyor Control Valve Calibration (if equipped)



OK

N118151—UN—16FEB16

3. Select OK button to reset calibrations.



Cancel

N118394—UN—17FEB16

4. Select Cancel button to return to previous page.

PR79369,00000FF-19-23APR21

Conveyor Control Valve Calibration

Adjusts the valves to ensure that the speed reported is accurate.

Perform Calibration When:

- Components are replaced.

Items Accessible on the Conveyor Control Valve Calibration Page:

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



Select Bin

N120156—UN—23FEB16

NOTE: Bins are grayed out when disabled.

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

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

Readings Displayed on Page:

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



Belt Speed

N131717—UN—12FEB21

Belt Speed— current speed.



Fan Speed

N131713—UN—10AUG17

Fan Speed— current speed.



Engine Speed

N131714—UN—10AUG17

Engine Speed— current speed.

Micronutrient Bin Item:



Meter Roller

N132485—UN—12FEB21

Meter Roller— current speed.

MM95366,00005D2-19-11FEB21

Conveyor Control Valve Calibration Procedure

Procedure Requirements:

Fan State	Stopped
Machine State	Parked
Engine State	Running at High Idle
Booms	Both Sides Enabled

Belt Speed	Stopped
Bin State	Empty

Procedure Overview:

CAUTION: Conveyor reaches maximum speed. Be sure to calibrate in an open, safe area.

NOTE: If the conveyor is enabled, the system automatically stops the conveyor to proceed with calibration.

You must remain seated during calibration.



Next

N118095—UN—23FEB16

Next button is not available if all conditions listed on-screen are not met.



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.

If Calibration Fails:

OK

N120245—UN—23FEB16

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

MM95366,00005D3-19-11FEB21

Items Accessible on Fan Maintenance Mode Page:

Begin Procedure

N119102—UN—23FEB16

Begin Procedure— begins procedure.

PR79369,0000102-19-09MAR20

Fan Maintenance Mode Procedure

NOTE: Exiting this screen, turning off the engine, or taking the machine out of park will cancel the procedure.

Step 1: Meet the Procedure Requirements

- Operator must be in seat.
- Vehicle must be in park.
- Fan must be OFF.
- Conveyors must be OFF.



Next

N118095—UN—23FEB16

If operator meets all prerequisites, press the Next button.

Step 2: Procedure Enabled

When enabled, the fan will run without an operator in the cab seat. The fan can be cycled on and off as needed while the procedure is active.



Procedure Ended

N139450—UN—10MAR20

NOTE: Window shade appears if operator hits Cancel, turns off engine, or takes machine out of park.

PR79369,000060B-19-23APR21

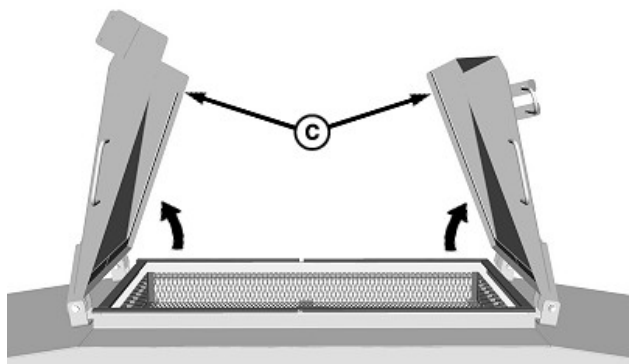
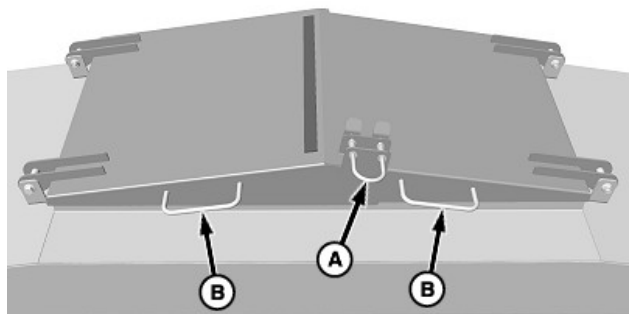
Fan Maintenance Mode

Fan Maintenance Mode can be used to permit the fan to run while the operator is out of the seat.

CAUTION: Product can still be in the manifold and air tubes. Product can be discharged when the fan is running. Conveyors are not commanded ON at any time.

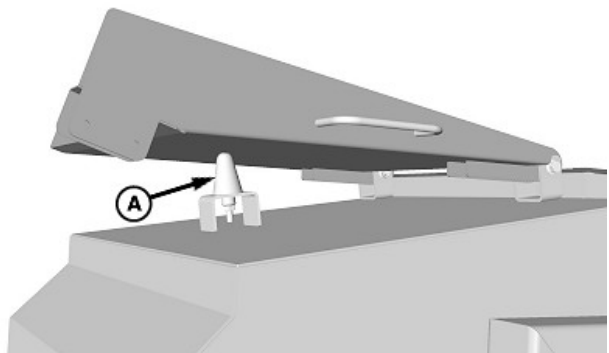
Operate System

Open Granular Bin Covers



A—Latch
B—Handle
C—Bin Cover

1. Release the latch (A).
2. Using the handles (B), raise the bin covers (C) as shown.



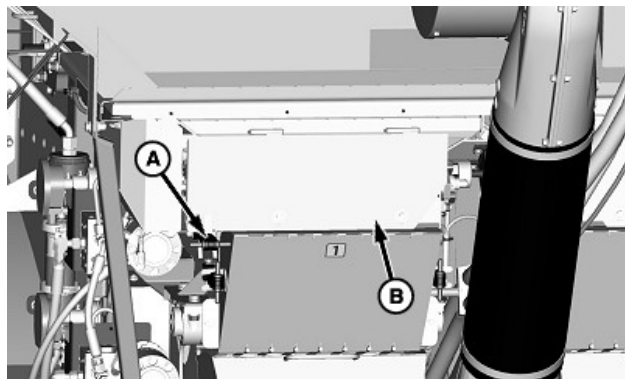
A—Bumper

3. Lower the bin covers on to the bumpers (A).

BN55050,0000394-19-28MAR19

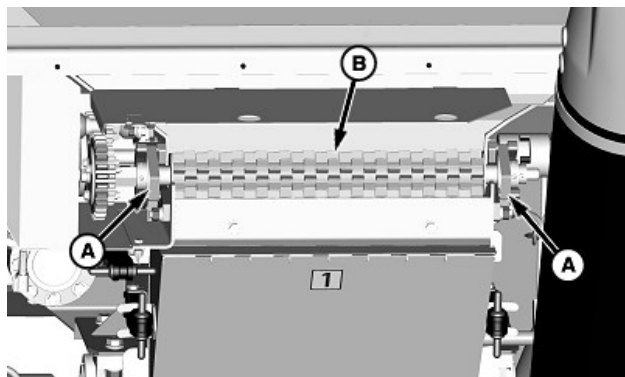
Remove and Install Meter Rollers

1. Verify that the granular bin is empty. If product is still in the bin, perform a bin purge procedure. (See Bin Purge in the Dry Application System section.)



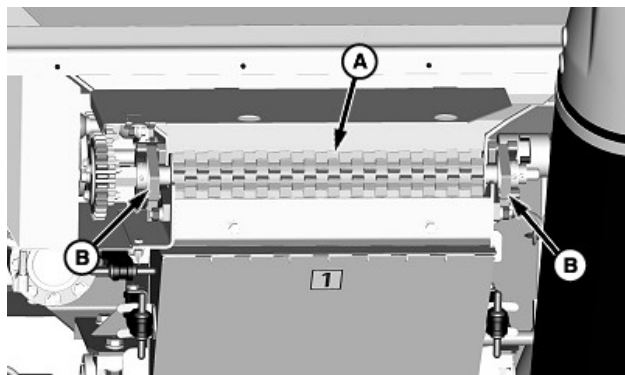
A—Latch
B—Meter Roller Cover

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



A—Bearing Clip
B—Meter Roller Assembly

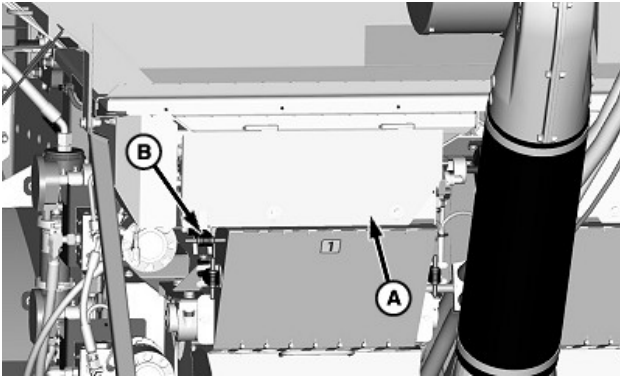
3. Release the bearing clips (A) and remove the meter roller assembly (B).
4. Check the meter roller for damage or wear. Replace the meter roller if necessary.



A—Meter Roller
B—Bearing Clip

NOTE: When installing the meter roller, verify that the washers are on the inside of the mounting bracket.

5. Install the meter roller (A) as shown using the bearing clips (B).



N143656—UN—28MAR19

A—Meter Roller Cover
B—Latch

6. Close the meter roller cover (A) and secure using the latch (B).

BN55050,0000395-19-28MAR19

Approved Methods for Loading Granular Bin

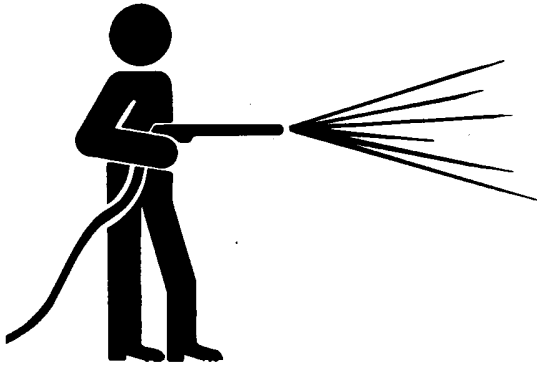
The granular bin should only be loaded using an auger or a conveyor.

Do not load the granular bin by carrying bags up the ladder.

BN55050,0000396-19-28MAR19

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

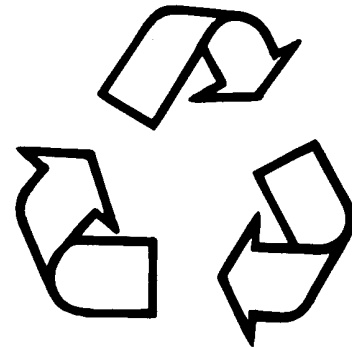
Prevent Hydraulic System Contamination

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.

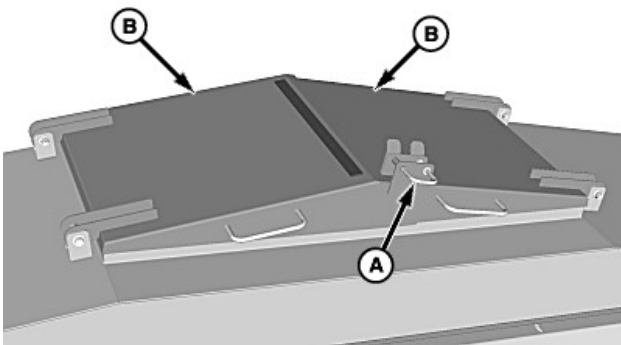
OUC6092,0000B9A-19-09APR18

Service Intervals

SERVICE	INTERVAL						
	Every Load	10 Hours/ Daily	As Required	50 Hours	Every 2 Weeks	200 Hours	1000 Hours
• Required service interval			•				
Clean bin sensors			•				
Remove and clean meter rollers			•				

BN55050,0000393-19-01APR19

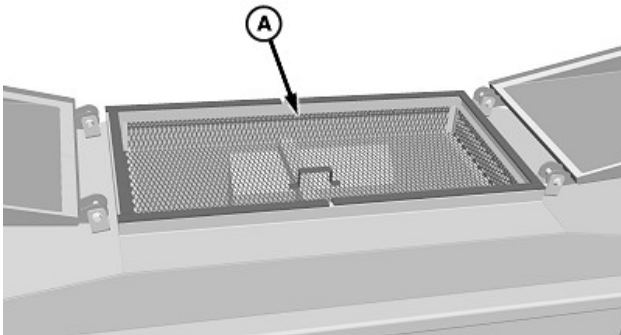
Clean Bin Sensors—As Required



N137280—UN—03MAY18

A—Latch
B—Cover

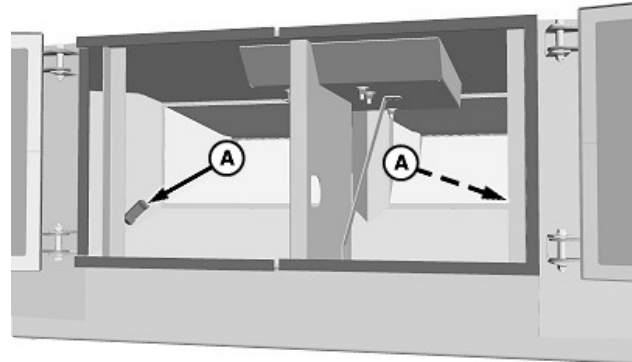
1. Release the latch (A) and open the covers (B).



N143650—UN—28MAR19

A—Grate

2. Remove the grate (A).



N143651—UN—28MAR19

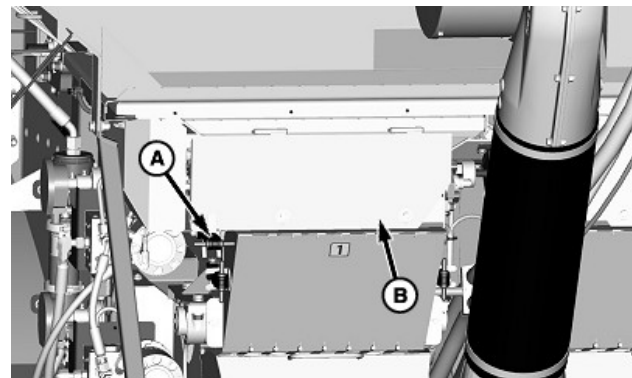
A—Sensors

3. Clean the sensors (A) with a brush or hose.
4. Install the grate, close the cover, and fasten the latch.

BN55050,0000351-19-27MAR19

Remove and Clean Meter Rollers—As Required

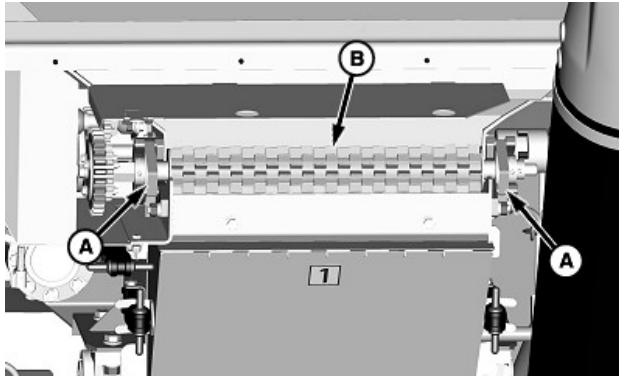
1. Verify that the granular bin is empty. If product is still in the bin, perform a bin purge procedure for the granular bin. (See Bin Purge in the Dry Application System section.)



N131537—UN—28JUL17

A—Latch
B—Meter Roller Cover

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



N131538—UN—28JUL17

A—Bearing Clip
B—Meter Roller Assembly

3. Release the bearing clips (A) and remove the meter roller assembly (B).
4. Clean all product from the meter roller grooves that will result in unsatisfactory performance.
5. Inspect the meter roller for damage and replace if necessary.

IMPORTANT: Verify that the meter roller is completely dry before reinstalling to prevent material buildup that can impact performance.

NOTE: If operating in humid conditions, it is recommended to coat the meter rollers in Talcum Powder to help prevent material buildup.

6. Install the previously removed components in reverse order.
7. Perform the procedure for the remaining meter roller.

BN55050,0000392-19-28MAR19

Troubleshooting

Granular Bin Troubleshooting

Symptom	Problem	Solution
No low bin warning when the bin empties.	Bin sensor covered with material.	Clean bin sensor. (See Clean Bin Sensors—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.
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 switch.	Replace switch.
	Electrical wiring faulty.	Repair or replace wiring.
Meter rollers jam.	Obstruction in the meter rollers.	Clear the obstruction.
	Insufficient clearance under meter roller.	Adjust bearing holders to increase clearance.

BN55050,0000328-19-01APR19

Specifications

Specifications

CAPACITIES	
Struck Capacity	Measurement m ³ (yd ³) (ft ³)
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)
Granular 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 Granular 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 Adjustable Height	25.4—54 mm (1—2.1 in) ^a
Controllable Conveyor rpm (Bin 1 or Bin 2 running separately)	2—70 rpm
Controllable Conveyor rpm (Bin 1 and Bin 2 running at the same time)	2—40 rpm
Controllable Metering Roller rpm	3—61 rpm
Conveyor Application Rates	50—1200 lb/acre
Metering Application Rates	6—124 lb/acre
Volumetric Flow Rate	less than 26.1 ft ³ /min ^b

^aFeed gate height is physically adjustable from 25.4—54 mm (1—2.1 in). Factory set feed gate height is 38.1 mm (1.5 in). It is not recommended to adjust the feed gate height below 38.1 mm (1.5 in). Doing so can result in conveyor performance issues, such as belt stalling, and rate accuracy can be affected, especially in lower rates.

^bPlugging of the booms can occur if the sum of the flow rate of all bins is greater than specification.

NOTE: Conveyor Application Rates determined assuming 16 km/h (10 mph) vehicle speed, 65 lb/ft³ of material, a gate height of 38.1 mm (1.5 in), and a CFR of 0.2758. 1200 lb/acre is the **maximum** rate between all bins with the previously listed assumptions. 50 lb/acre is the **minimum** rate for a single bin (1 or 2) with the previously listed assumptions.

Metering Application Rates determined assuming the use of a yellow metering roller, 16 km/h (10 mph) vehicle speed, 65 lb/ft³ of material, and a CFR of 0.0442.

$$A = \frac{B \times C \times .1414}{D}$$

N155451—UN—28APR21

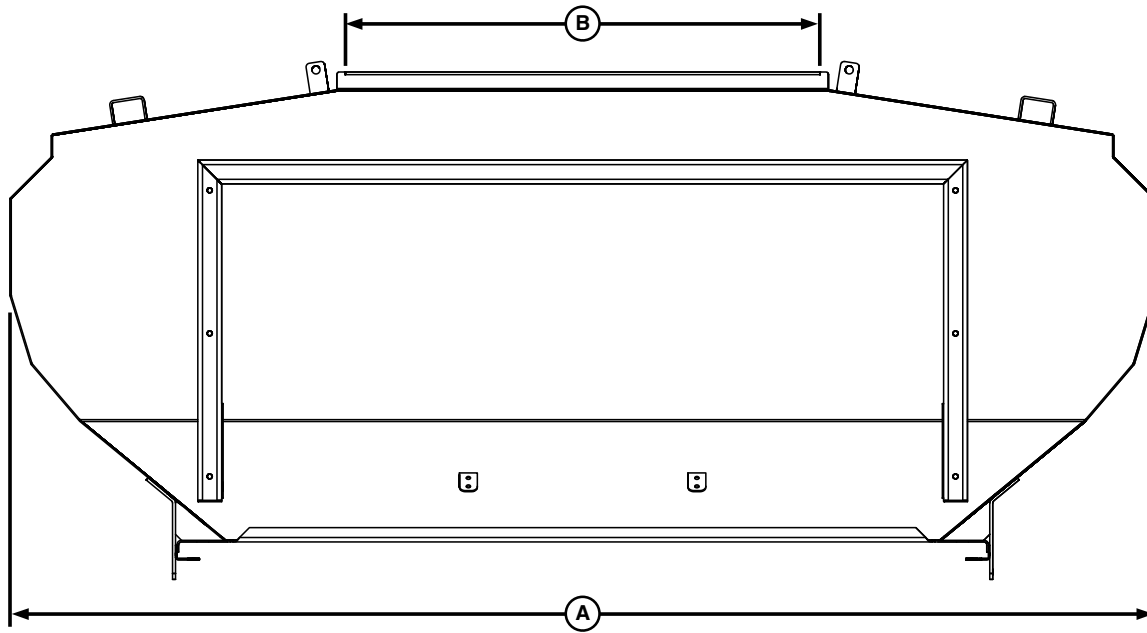
Equation for Volumetric Flow Rate

A—Volumetric Flow Rate (ft³/min)
B—Rate (lb/acre)
C—Speed (mph)
D—Density (ft³)

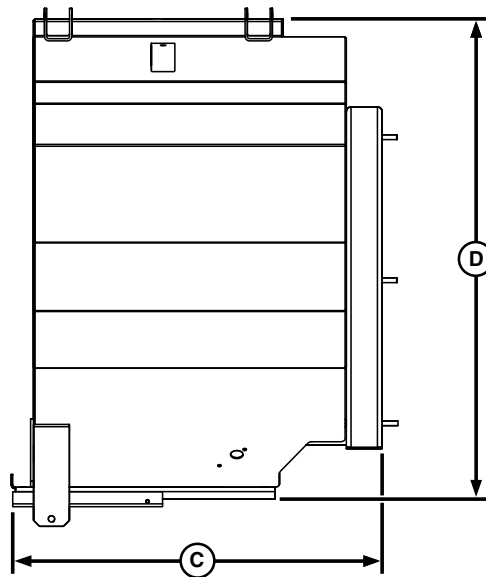
To calculate volumetric flow rate per bin, use the equation shown. The constant of .1414 assumes a spreading width of 21 m (70 ft).

BN55050,0000586-19-29APR21

Dimensions



N142792—UN—27FEB19



N142791—UN—27FEB19

Dimensions		
Item	Description	Measurement mm (in)
A	Width of Granular Bin	2438 (96)
B	Width of Granular Bin Opening	998 (39)
C	Length of Granular Bin	790 (31)
D	Height of Granular Bin	1000 (39)

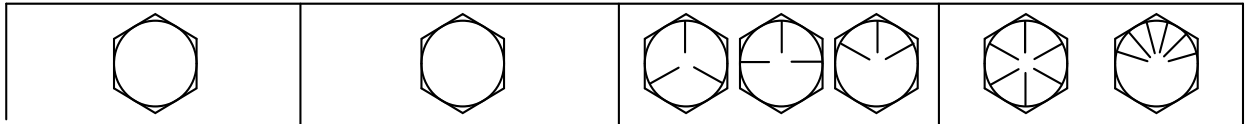
BN55050,0000324-19-28MAR19

Recommendations for Stainless Steel Hardware

Apply an anti-seize compound to all stainless steel hardware before installation to reduce galling.

BN55050,000058C-19-29APR21

Unified Inch Bolt and Screw Torque Values



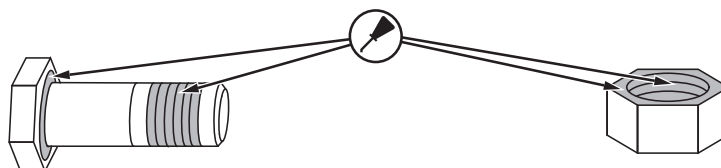
TS1671—UN—01MAY03

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
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
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
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
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

Specifications

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

^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.

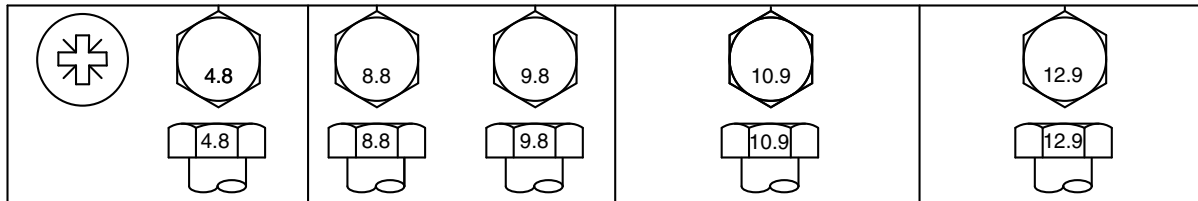
^bGrade 2 applies for hex cap screws (not hex bolts) up to 6 in (152 mm) long.

^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,TORQ1-19-30MAY18

Metric Bolt and Screw Torque Values



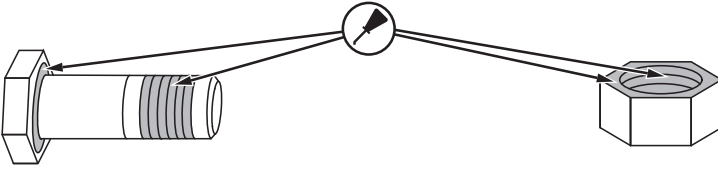
TS1742—UN—31MAY18

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.

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
								

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,TORQ2-19-30MAY18

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 (jam 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

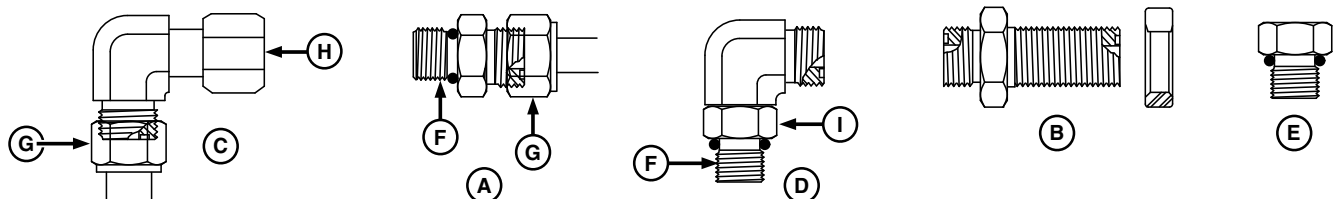
1. Install fitting by hand until snug.
2. Position adjustable fittings by unscrewing the fitting no more than one turn.
3. Apply assembly torque per table.

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-19-07APR15

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

N79757—UN—13FEB08

Specifications

G—Tube Nut
H—Swivel Nut

I—Lock Nut

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						
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- um or Brass Tor- que ^C	
mm	Da- sh Siz- e	in.	mm	in.	mm	Nm	lb-ft	mm	Nm	lb-ft	mm	mm	mm	N- m	lb-ft	N- m	lb- ft
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

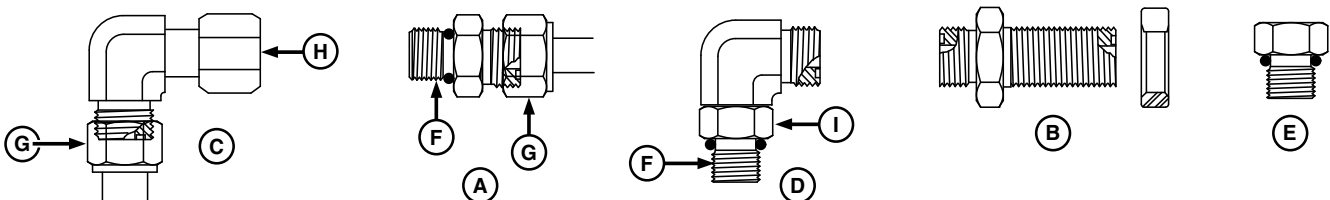
^A Tolerance is +15%, minus 20% of mean tightening torque unless otherwise specified.

^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.

OUC6092,0000770-19-07MAR12

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



N79757—UN—13FEB08

Specifications

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

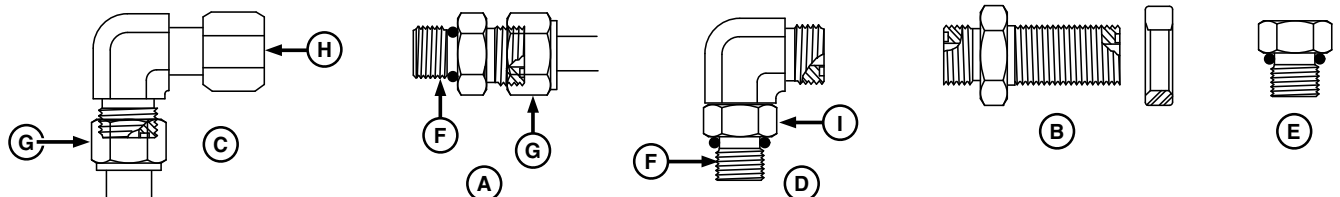
Metric Face Seal and O-Ring Stud End Fitting Torque Chart—High Pressure-Above 27.6 MPA (4,000 PSI), Working Pressure-41.3 MPA (6,000 PSI)															
Nominal Tube OD Hose ID				O-Ring Face Seal/ Tube Swivel Nut				Bulkhead Jam Nut Torque ^A			O-Ring Straight, Adjustable, and External Port Plug Stud 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	
	mm	Dash Size	in.			mm	Nm		lb-ft	mm				Nm	lb-ft
4	-2	0.12-5	3.18	—	—	—	—	—	—	—	M8 X 1	12	12	8	6
5	-3	0.18-8	4.76	—	—	—	—	—	—	—	M10 X 1	14	14	15	11
6	-4	0.25-0	6.35	9/16-18	17	24	18	22	32	24	M12 X 1.5	17	17	35	26
8	-5	0.31-2	7.92	—	—	—	—	—	—	—	M14 X 1.5	19	19	45	33
10	-6	0.37-5	9.53	11/16-16	22	37	27	27	42	31	M16 X 1.5	22	22	55	41
12	-8	0.50-0	12.70	13/16-16	24	63	46	30	93	69	M18 X 1.5	24	24	70	52
16	-10	0.62-5	15.88	1-14	30	103	76	36	118	87	M22 X 1.5	27	27	100	74
20	-12	0.75-0	19.05	1-3/16-12	36	152	112	41	175	129	M27 X 2	32	32	170	125
22	-14	0.87-5	22.23	1-3/16-12	36	152	112	41	175	129	M30 X 2	36	36	215	159
25	-16	1.00-0	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	1.25-0	31.75	1-11/16-12	—	286	211	50	328	242	M42 X 2	50	50	360	266
38	-24	1.50-0	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

N79757—UN—13FEB08

Specifications

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

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 Tor- que		Thread Size	Straight Hex Size ^B	Adj Lock Nut Hex Size	Steel or Gray Iron Torque	Alumi- num or Brass Tor- que ^C		
mm	Das- h Size	in.	mm	in.	in.	N- m	lb- ft		N- m	lb- ft	in.	in.	in.	N- m	l- b- ft	N- m	l- b- 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

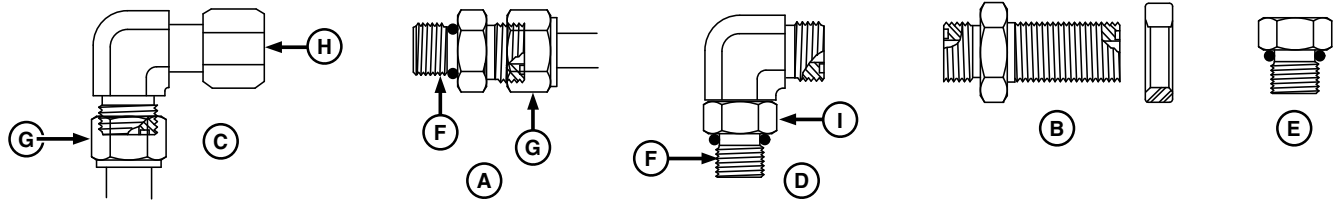
^A Tolerance is +15%, minus 20% of mean tightening torque unless otherwise specified.

^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				
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	
mm	Da- sh Siz- e	in.	mm	in.	in.	Nm	lb-ft		Nm	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.

Specifications

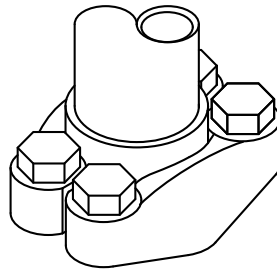
3. For split flange; loosely assemble split flange halves, being sure that the split is centrally located and perpendicular to the port. Hand tighten cap screws to hold parts in place. Do not pinch O-ring.
4. For single piece flange; put hydraulic line in the center of the flange and install four cap 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



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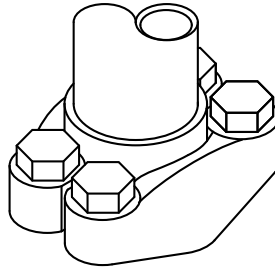
SAE Four Bolt Flange Cap Screw Torque Values—27,600 KPA (4,000 PSI) Pressure Applications					
		Torque			
		Newton Meters		Foot Pounds	
Nominal Flange Size	Screw Size ^{ab}	Min	Max	Min	Max
1/2	5/16-18 UNC	20	31	15	23
3/4	3/8-16 UNC	28	54	21	40
1	3/8-16 UNC	37	54	27	40
1-1/4	7/16-14 UNC	47	85	35	63
1-1/2	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.

OUO6092,0000775-19-16FEB12

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



H70423—UN—30NOV01

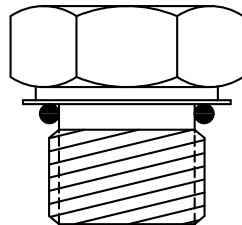
SAE Four Bolt Flange Cap Screw Torque Values—41,400 KPA (6,000 PSI) Pressure Applications					
Nominal Flange Size	Screw Size ^{ab}	Torque			
		Newton Meters		Foot Pounds	
		Min	Max	Min	Max
1/2	5/16-18 UNC	20	31	15	23
3/4	3/8-16 UNC	34	54	25	40
1	7/16-14 UNC	57	85	42	63
1-1/4	1/2-13 UNC	85	131	63	63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



M33 x 2	235 Nm (173.3 lb-ft)
M38 x 2	245 Nm (180.7 lb-ft)
M42 x 2	260 Nm (191.8 lb-ft)
M48 x 2	290 Nm (213.9 lb-ft)
M60 x 2	330 Nm (243.4 lb-ft)

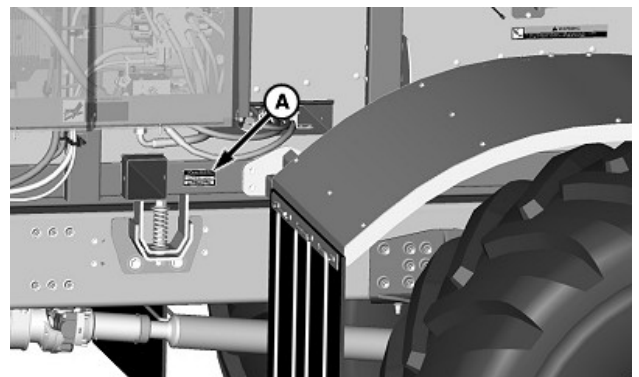
^aPort to JDS-G173.1; stud end to JDS-G173.3.

OUO6092,0000777-19-16FEB12

H70356—UN—30NOV01

Port or Stud End Thread Size ^a	Torque +15%/-20%
M8 x 1	10 Nm (89 lb-in.)
M10 x 1	17 Nm (150 lb-in.)
M12 x 1,5	28 Nm (20.6 lb-ft)
M14 x 1,5	39 Nm (28.7 lb-ft)
M16 x 1,5	48 Nm (35.4 lb-ft)
M18 x 1,5	60 Nm (44.2 lb-ft)
M20 x 1,5	60 Nm (44.2 lb-ft)
M22 x 1,5	85 Nm (62.7 lb-ft)
M27 x 2	135 Nm (99.6 lb-ft)
M30 x 2	165 Nm (121.7 lb-ft)

Identification Numbers



N132116—UN—16AUG17

A—Product Identification Number

Copy this section to record component serial numbers.

Specifications

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
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

6. Notify your John Deere dealer of any losses.

OUO6092,0000781-19-16FEB12

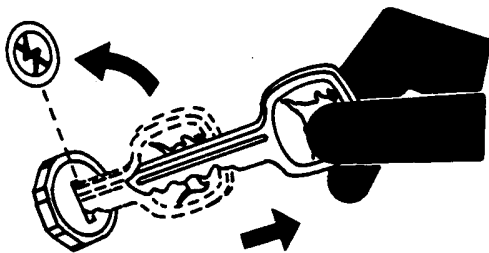


TS1680—UN—09DEC03

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.

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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:



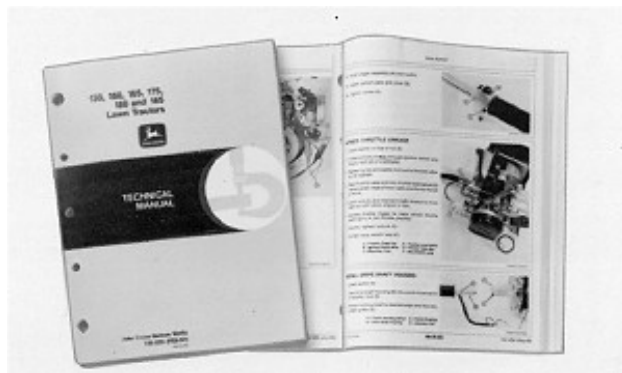
TS189—UN—17JAN89

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

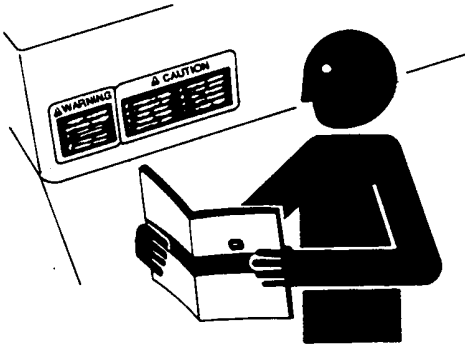
EDUCATIONAL CURRICULUM including five comprehensive series of books detailing basic information regardless of manufacturer:

- 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

