8100—8600 and 9600 Self-Propelled Forage Harvesters Repair

(Serial No. 621000 -)

TECHNICAL MANUAL
8100—8600 and 9600 Self-Propelled Forage Harvesters (From SN 621000) Repair

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Introduction

Foreword

This repair manual is valid for the following self-propelled forage harvester models:

8100-8600 and 9600

This manual is written for an experienced technician. Essential tools required in performing certain service work are identified in this manual and are recommended for use.

Live with safety! Read the safety messages in the introduction of this manual and the cautions presented throughout the text of the manual.

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

Technical Manuals are service guidelines for specific machines. They are on-the-job guides containing only the vital information needed for diagnosis, analysis, testing and repair.

"Right-hand" and "left-hand" sides are determined by facing the direction of forward travel.

Fundamental service information is available from other sources covering basic theory of operation, fundamentals of troubleshooting, general maintenance, and basic type of failures and their causes.

OUCC019,0007060 -19-24JUL18-1/1

Version Date

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OUCC002,0006A35 -19-12FEB21-1/1

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OUCC019,00070E8 -19-11SEP19-1/1

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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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General

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Recognize Safety Information

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

Follow recommended precautions and safe operating practices.

T81389 —UN—28JUN13

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

Understand Signal Words

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

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

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

TS187 —19—30SEP88

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 -19-05OCT16-1/1

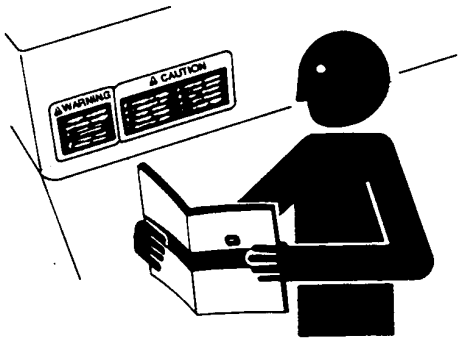
Follow Safety Instructions

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

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

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

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



TS201 —UN—15APR13

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

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

Prevent Machine Runaway

Avoid possible injury or death from machinery runaway.

Do not start engine by shorting across starter terminals. With normal circuitry bypassed, machine will start even if hydrostatic ground speed control lever is not in neutral position.

Start engine only from operator's seat, with transmission in neutral or park.

ZX08798,0000003 -19-12NOV01-1/1

Handle Fluids Safely—Avoid Fires

When you work around fuel, do not smoke or work near heaters or other fire hazards.

Store flammable fluids away from fire hazards. Do not incinerate or puncture pressurized containers.

Make sure machine is clean of trash, grease, and debris.

Do not store oily rags; they can ignite and burn spontaneously.

TS227 —UN—15APR13

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

Handling Batteries Safely

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

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

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

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

Avoid hazards by:

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

If acid is spilled on skin or in eyes:

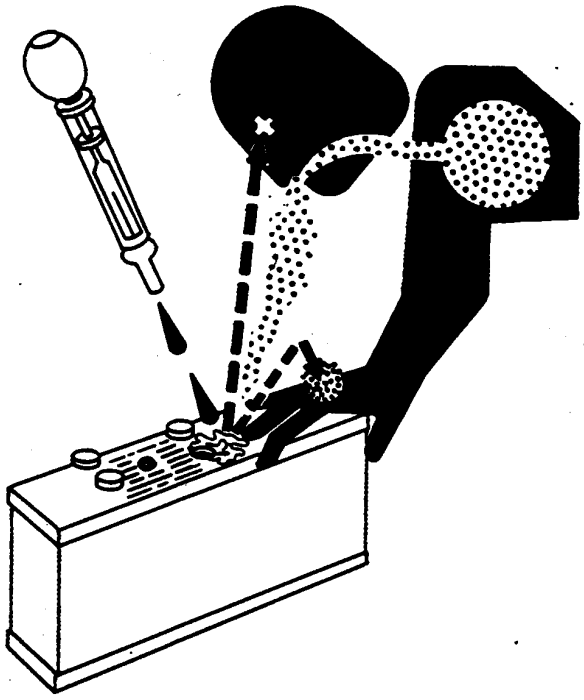
1. Flush skin with water.
2. Apply baking soda or lime to help neutralize the acid.
3. Flush eyes with water for 15—30 minutes. Get medical attention immediately.

If acid is swallowed:

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

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

TS204 —UN—15APR13



TS203 —UN—23AUG88

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

Prevent Battery Explosions

Keep sparks, lighted matches, and open flame away from the top of battery. Battery gas can explode.

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

Do not charge a frozen battery; it may explode. Warm battery to 16°C (60°F).

TS204 —UN—15APR13

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

Prevent Acid Burns

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

Avoid the hazard by:

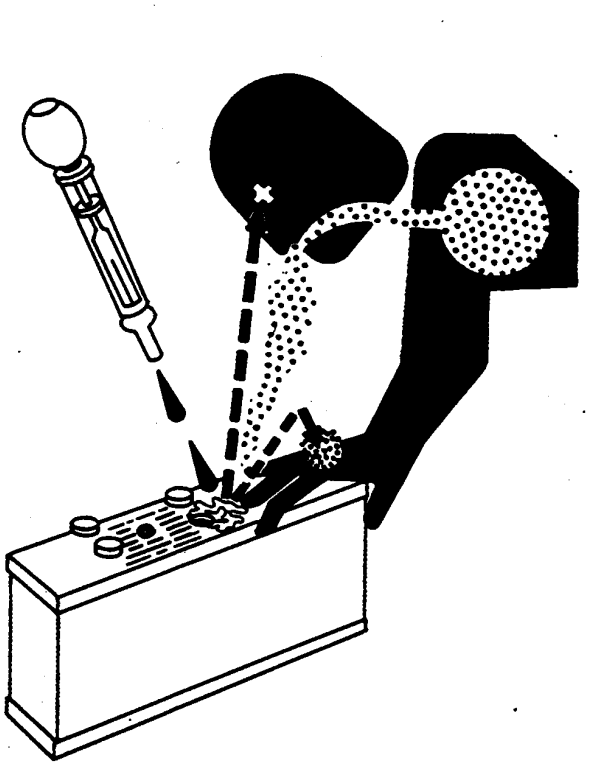
1. Filling batteries in a well-ventilated area.
2. Wearing eye protection and rubber gloves.
3. Avoiding breathing fumes when electrolyte is added.
4. Avoiding spilling or dripping electrolyte.
5. Use proper jump start procedure.

If you spill acid on yourself:

1. Flush your skin with water.
2. Apply baking soda or lime to help neutralize the acid.
3. Flush your eyes with water for 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 quarts).
3. Get medical attention immediately.



TS203 —UN—23AUG88

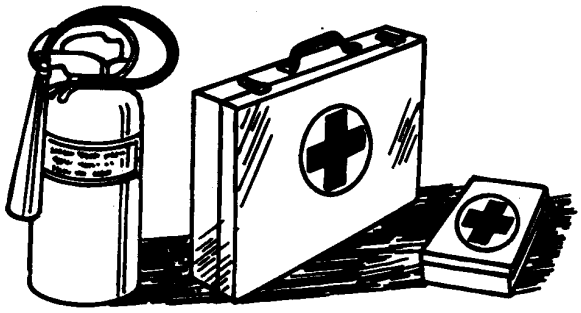
DX,POISON -19-21APR93-1/1

Prepare for Emergencies

Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher handy.

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



TS291 —UN—15APR13

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

Handle Starting Fluid Safely

Starting fluid is highly flammable.

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

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

Do not incinerate or puncture a starting fluid container.

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

TS1356 —UN—18MAR92

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

In Case of Fire

CAUTION: Avoid personal injury.

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

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

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

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

TS227 —UN—15APR13

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

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

Avoid High-Pressure Fluids

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

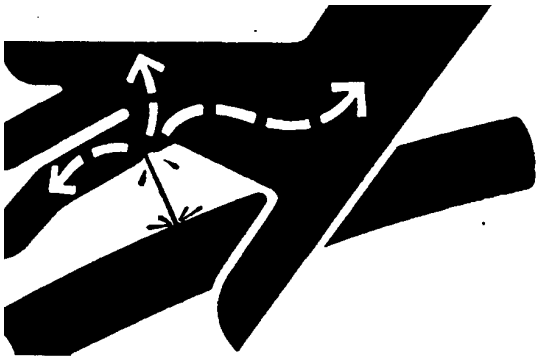
Replace worn or damaged hose assemblies immediately with John Deere approved replacement parts.

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

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

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

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source. Such information is available in English from Deere & Company Medical Department in Moline, Illinois, U.S.A., by calling 1-800-822-8262 or +1 309-748-5636.



X9811 —UN—23AUG88

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

Service Cooling System Safely

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

Shut off engine. Only remove filler cap when cool enough to touch with bare hands. Slowly loosen cap to first stop to relieve pressure before removing completely.

TS281 —UN—15APR13

DX,WW,COOLING -19-19AUG09-1/1

Remove Paint Before Welding or Heating

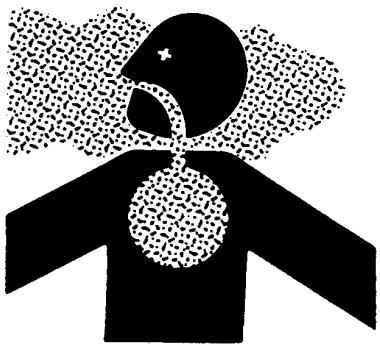
Avoid potentially toxic fumes and dust.

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

Remove paint before heating:

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

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



TS220 —UN—15APR13

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

Dispose of paint and solvent properly.

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

Avoid Heating Near Pressurized Fluid Lines

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

TS953 —UN—15MAY90

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

Precautions for Welding

Remove paint before welding or heating (see Safety Section in this manual for more information on paint removal and high-pressure lines).

CAUTION: Avoid potentially toxic fumes and dust. Hazardous fumes can be generated when paint is heated by welding, soldering, or using a torch. Do all work outside or in a well ventilated area. Dispose of paint and solvent properly. If you sand or grind paint, avoid breathing the dust by wearing an approved respirator. If you use solvent or paint stripper, remove with soap and water before welding. Remove solvent or paint stripper containers and other flammable material from area before welding. Allow fumes to disperse at least 15 minutes before welding or heating.

IMPORTANT: Welding on the engine is NOT ALLOWED. If welding must be performed on the machine, follow these precautions.

IMPORTANT: High currents or electrostatic discharge into electronic components from welding may cause permanent damage.

1. Remove paint from the area to be welded and ground cable clamp location.
2. Disconnect the negative (-) battery cable(s) or open battery (-) switch if equipped.

TS953 —UN—15MAY90

3. Disconnect the positive (+) battery cable(s) or open battery (+) switch if equipped.
4. Clear or move any wiring harness sections away from the welding area.
5. Welding on engine components is not allowed.
6. Never connect the welder ground to any engine component or engine driven components that may be connected to the engine.
7. After welding, reverse steps 2—3.

DX,WELDING,PRECAUTIONS -19-06DEC10-1/1

Make Welding Repairs Safely

IMPORTANT: Disable electrical power before welding. Turn off main battery switch or disconnect positive battery cable. Separate harness connectors to engine and vehicle microprocessors.

Do not weld or apply heat on any part of a reservoir or tank that has contained oil or fuel. Heat from welding and cutting can cause oil, fuel, or cleaning solution to create gases which are explosive, flammable, or toxic.

Avoid welding or heating near pressurized fluid lines. If pressurized lines fail as a result of heating, flammable spray could result and cause severe burns. Do not let heat go beyond work area to nearby pressurized lines.

T133547 —UN—15APR13

Remove paint properly. Do not inhale paint dust or fumes. Use a qualified welding technician for structural repairs. Make sure that there is good ventilation. Wear eye protection and protective equipment when welding.

TX,WELD -19-09FEB11-1/1

Welding On Machine

IMPORTANT: Disconnect battery ground strap or turn battery disconnect switch to OFF (if applicable).

Disconnect both negative and positive battery cables and microprocessor unit (if applicable).

IMPORTANT: Have only a qualified welder do this job. Connect welder ground clamp close to each weld area so electrical current does not pass through any bearings.

Remove or protect all parts that can be damaged by heat or weld splatter.

WELD METAL SPECIFICATIONS	
Item	**Specification**
Tensile Strength	482.6 MPa (70 000 psi)
Yield Strength	413.7 MPa (60 000 psi)
Elongation	22%

Use one of the following weld processes:

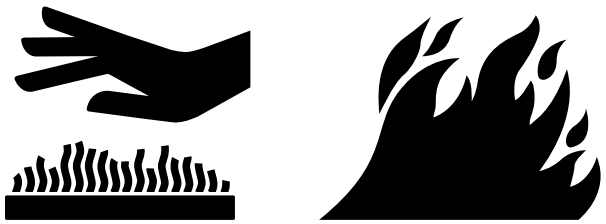
- AWS-E-7018 covered electrode with shielded metal arc welding (SMAW) process.
- AWS-ER-70S-3f wire electrode with gas metal arc welding (GMAW) process.
- AWS-E70T-1 or E71T-1 wire electrode with flux core arc welding (FCAW) process.

TX,WELD,II -19-07OCT14-1/1

Avoid Hot Exhaust

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

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



RG17488 —UN—21AUG09

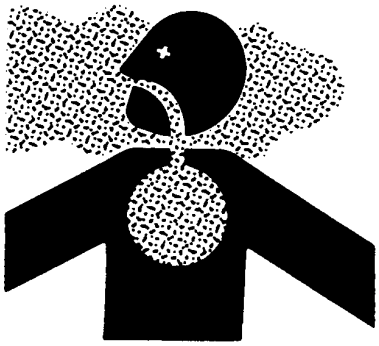
DX,EXHAUST -19-20AUG09-1/1

Avoid Harmful Asbestos Dust

Avoid breathing dust that may be generated when handling components containing asbestos fibers. Inhaled asbestos fibers may cause lung cancer.

Components in products that may contain asbestos fibers are brake pads, brake band and lining assemblies, clutch plates, and some gaskets. The asbestos used in these components is usually found in a resin or sealed in some way. Normal handling is not hazardous as long as airborne dust containing asbestos is not generated.

Avoid creating dust. Never use compressed air for cleaning. Avoid brushing or grinding material containing asbestos. When servicing, wear an approved respirator. A special vacuum cleaner is recommended to clean asbestos. If not available, apply a mist of oil or water on the material containing asbestos.



TS220 —UN—15APR13

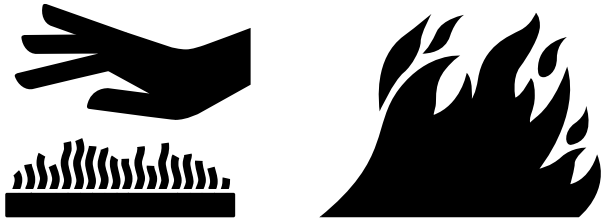
Keep bystanders away from the area.

DX,DUST -19-15MAR91-1/1

Exhaust Filter Cleaning

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

During auto or manual/stationary exhaust filter cleaning operations, the engine will 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.



RG17488 —UN—21AUG09

DX,FILTER -19-20JAN10-1/1

Clean Exhaust Filter Safely

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:

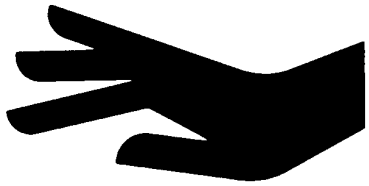
- Only engage power-driven parts required by service procedure
- Ensure that other people are clear of operator station and machine

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

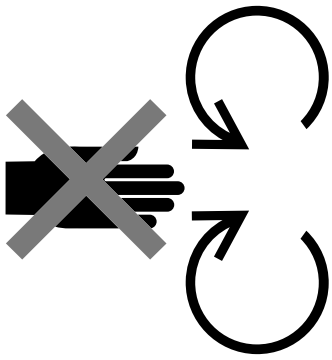
Always disable movement (neutral), set the parking brake or mechanism and disconnect power to attachments or tools before leaving the operator's station.

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

TS227 —UN—15APR13



TS271 —UN—23AUG88



TS1693 —UN—09DEC09

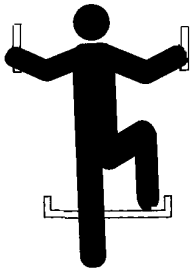
TS1695 —UN—07DEC09

DX,EXHAUST,FILTER -19-12JAN11-1/1

Use Steps and Handholds Correctly

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

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



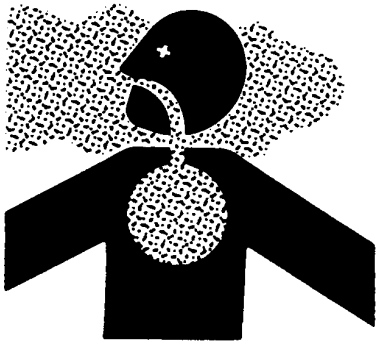
T133468 —UN—15APR13

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

Work In Ventilated Area

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

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



TS220 —UN—15APR13

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

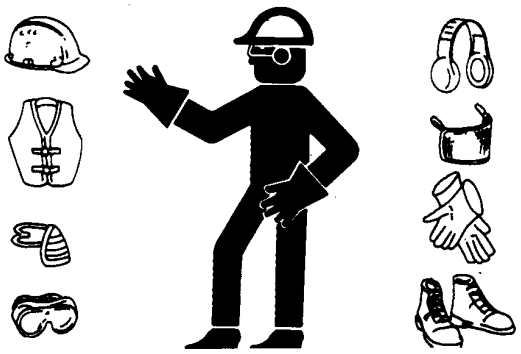
Wear Protective Clothing

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

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

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

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



TS206 —UN—15APR13

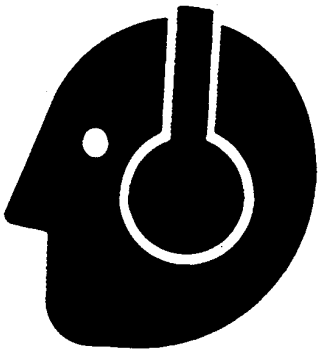
DX,WEAR -19-10SEP90-1/1

Protect Against Noise

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.



TS207 —UN—23AUG88

DX,NOISE -19-03OCT17-1/1

Practice Safe Maintenance

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

Never lubricate, service, or adjust machine while it is moving. Keep hands, feet, and clothing 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.

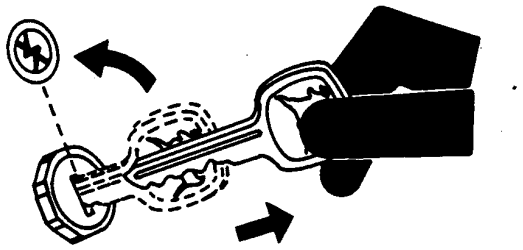
TS218 —UN—23AUG88

DX,SERV -19-28FEB17-1/1

Park Machine Safely

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.



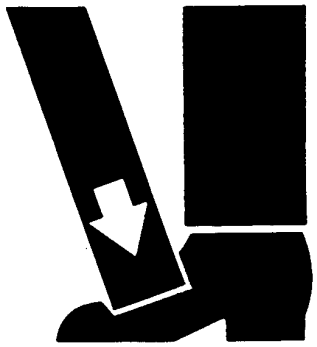
TS230 —UN—24MAY89

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

Use Proper Lifting Equipment

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

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



TS226 —UN—23AUG88

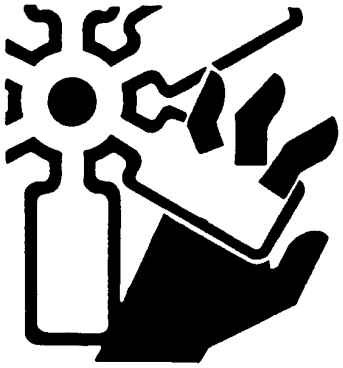
DX,LIFT -19-04JUN90-1/1

Install All Guards

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

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

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



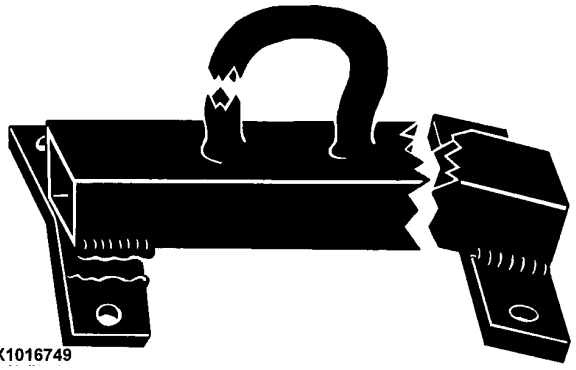
TS677 —UN—21SEP89

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

Construct Dealer-Made Tools Safely

Faulty or broken tools can result in serious injury. When constructing tools, use proper, quality materials, and good workmanship.

Do not weld tools unless you have the proper equipment and experience to perform the job.



LX1016749

LX1016749 —UN—01JUL97

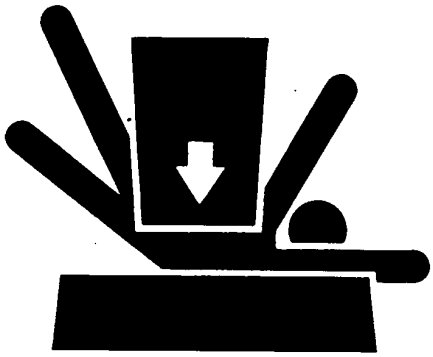
DX,SAFE,TOOLS -19-10OCT97-1/1

Support Machine Properly

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

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

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



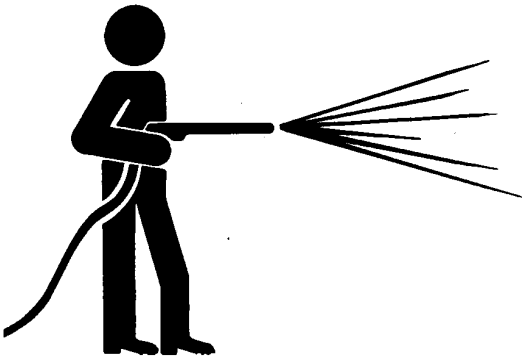
TS229 —UN—23AUG88

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

Work in Clean Area

Before starting a job:

- Clean work area and machine.
- Make sure you have all necessary tools to do your job.
- Have the right parts on hand.
- Read all instructions thoroughly; do not attempt shortcuts.

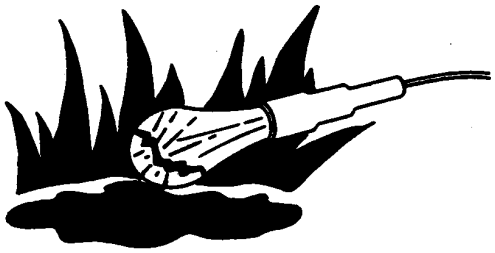


T6642EJ —UN—18OCT88

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

Illuminate Work Area Safely

Illuminate your work area adequately but safely. Use a portable safety light for working inside or under the machine. Make sure the bulb is enclosed by a wire cage. The hot filament of an accidentally broken bulb can ignite spilled fuel or oil.



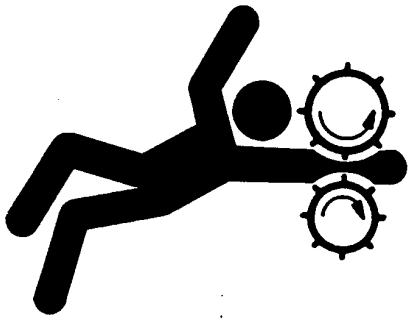
TS223 —UN—23AUG88

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

Service Machines Safely

Tie long hair behind your head. Do not wear a necktie, scarf, loose clothing, or necklace when you work near machine tools or moving parts. If these items were to get caught, severe injury could result.

Remove rings and other jewelry to prevent electrical shorts and entanglement in moving parts.



TS228 —UN—23AUG88

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

Handle Electronic Components and Brackets Safely

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.

TS249 —UN—23AUG88

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

Use Electronic Display Properly

Electronic Displays are secondary devices intended to aid the operator in performing field operations, increase comfort and provide entertainment. Displays can offer a wide range of functionality, are used in many different machine system applications and can be used with other secondary devices such as handheld electronic devices.

A secondary device is any device that is not required to operate your machine for its primary use. The operator is always responsible for safe operation and control of the machine.

To prevent injury while operating the machine:

- Position the display according to the installation instructions. Ensure the device is secured and does not obstruct the driver's view or interfere with the machine operating controls.
- Do not become distracted by the display. Stay alert. Pay attention to the machine and surrounding environment.
- Do not change settings or access any functions that require prolonged use of the display controls while machine is moving. Stop the machine in a safe location and place in park position before attempting such operations.
- Never set the volume so high that you cannot hear outside traffic and emergency vehicles.

To promote safe operation, certain functions of displays may be disabled unless the machine movement is restricted and/or has been placed in the park position. Overriding this safety feature may violate applicable law and can result in damage, serious injury or death.

Only use available display functionality when conditions permit you to do so safely and in accordance with instructions provided. Always observe safe driving rules, state or local laws and traffic regulations when using any secondary device.

RR94114,0001FFA -19-18DEC14-1/1

Operate Guidance Systems Safely

Do not use AutoTrac system on roadways.

- Always turn off (Deactivate and Disable) AutoTrac™ system before entering a roadway.
- Do not attempt to turn on (Activate) AutoTrac™ system while transporting on a roadway.

The AutoTrac™ system is intended to aid operator in performing field operations more efficiently. Operator is always responsible for machine path. To prevent injury to operator and bystanders:

- Remain alert and pay attention to surrounding environment.
- Take control of steering wheel when necessary to avoid field hazards, bystanders, equipment, or other obstacles.
- Stop operation if poor visibility conditions impair your ability to operate the machine or identify people or obstacles in machine path.

OUCC002,0004252 -19-07JAN15-1/1

Read The Guidance Manual

Before attempting to operate AutoTrac™, fully read the Guidance manual to understand components and procedures required for safe and proper operation.

The Guidance manual is for AutoTrac™ guidance systems applications.

OUCC002,0004251 -19-07JAN15-1/1

Use Proper Tools

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

Use power tools only to loosen threaded parts and fasteners.

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

Use only service parts meeting John Deere specifications.

TS779 —UN—08NOV89

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

Service Tires Safely

CAUTION: Explosive separation of a tire and rim parts can cause serious injury or death.

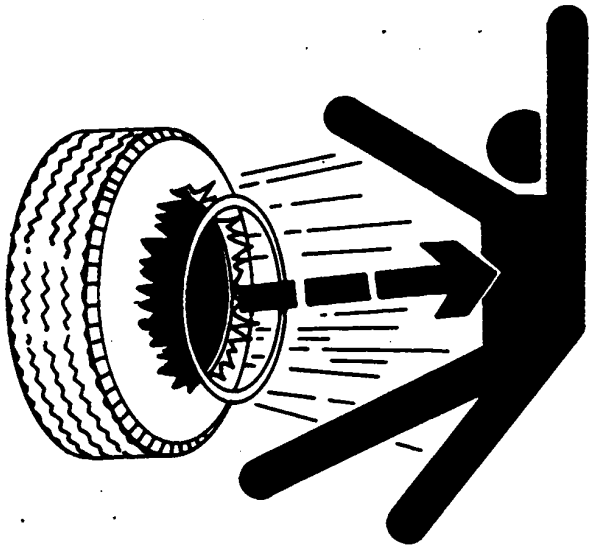
Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job.

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

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

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

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



TS211 —UN—15APR13

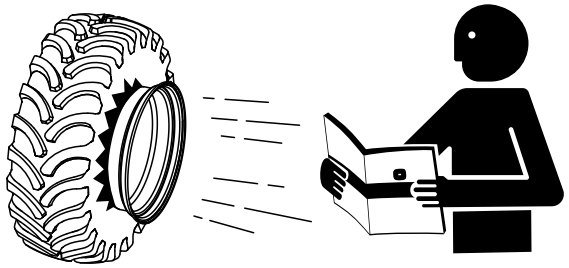
DX,RIM1 -19-27OCT08-1/1

Follow Tire Recommendations

Keep your machine in proper working order.

Use only prescribed tire sizes with correct ratings and inflate to the pressure specified in this manual.

Use of other than prescribed tires may decrease stability, affect steering, result in premature tire failure, or cause other durability or safety issues.

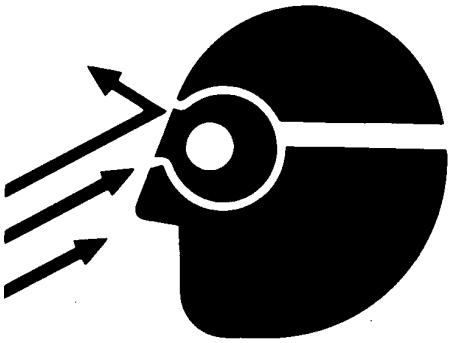


H111235 —UN—13MAY14

DX,TIRE,INFO -19-19MAY14-1/1

Avoid Eye Contact with Radar

Radar ground speed sensor emits a very low intensity microwave signal. It will not cause any ill effects during normal use. Although intensity is low, DO NOT look directly into face of sensor while in operation, to avoid any possible eye damage.



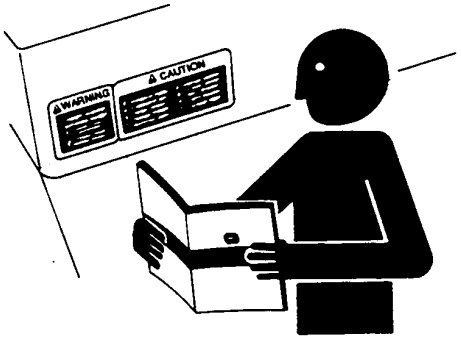
TS266 —UN—23AUG88

RX,SAFTY,RADAR1 -19-21SEP92-1/1

Replace Safety Signs

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

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



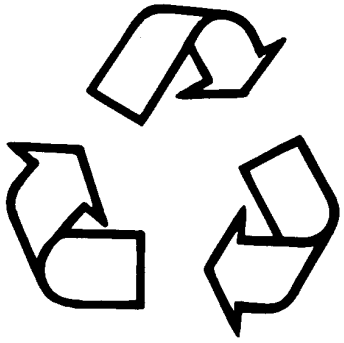
TS201 —UN—15APR13

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

Decommissioning — Proper Recycling and Disposal of Fluids and Components

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

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



TS1133 —UN—15APR13

filters; batteries; and, other substances or parts. Burning of flammable fluids or components in other than specially designed incinerators may be prohibited by law and could result in exposure to harmful fumes or ashes.
- Service and dispose of air conditioning systems appropriately. Government regulations may require a certified service center to recover and recycle air conditioning refrigerants which could damage the atmosphere if allowed to escape.
- Evaluate recycling options for tires, metal, plastic, glass, rubber, and electronic components which may be recyclable, in part or completely.
- Contact your local environmental or recycling center, or your John Deere dealer for information on the proper way to recycle or dispose of waste.

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

Live With Safety

Before returning machine to customer, make sure machine is functioning properly, especially the safety systems. Install all guards and shields.

TS231 —19—07OCT88

DX,LIVE -19-25SEP92-1/1

Service Accumulator Systems Safely

Escaping fluid or gas from systems with pressurized accumulators that are used in air conditioning, hydraulic, and air brake 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 pressurized system before removing accumulator.

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.

TS281 —UN—15APR13

DX,WW,ACCLA2 -19-22AUG03-1/1

Safety Measures on Electronic Control Units

CAUTION: Always shut off the engine and set the key switch to "OFF" before connecting test equipment on forage harvester.

CAUTION: Always engage the park brake when performing tests with the engine running.

CAUTION: When testing is performed with the engine running, there is a risk of injury from rotating parts.

IMPORTANT: Do not use test lamps on any control unit. Only use a multimeter.

IMPORTANT: To protect electronic circuits, disconnect the battery and alternator before performing any welding on the forage harvester.

OUCC002,0003A7A -19-13AUG20-1/1

Servicing Electronic Control Units

IMPORTANT: Do not open control unit and do not clean with a high-pressure spray. Moisture, dirt, and other contaminants can cause permanent damage.

1. Control units are not repairable; replace only if indicated in the diagnostic procedure.
2. Since control units are the components LEAST likely to fail, isolate failure before replacing by completing the diagnostic procedure.
3. The wiring harness terminals and connectors for electronic control units are repairable.

IMPORTANT: If an electronic control unit is not programmed identical to the original control unit, misleading diagnostic messages and poor performance will occur.

4. Before putting back into service, verify that the control unit is programmed identical to the original control unit.

DX,WW,ECU01 -19-02OCT15-1/1

Welding Near Electronic Control Units

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

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

TS953 —UN—15MAY90

6. After welding, reverse Steps 1—5.

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

Keep Electronic Control Unit Connectors Clean

IMPORTANT: Keep terminals clean and free of foreign debris. Moisture, dirt and other contaminants may cause the terminals to erode over time and not make a good electrical connection.

1. If a connector is not in use, put on the proper dust cap or an appropriate seal to protect it from foreign debris and moisture.

IMPORTANT: Do not probe through the wire insulation or through the back of the connector. Do not insert items such as paper clips or wires into connector terminals.

2. Make measurements on a connector terminal using JDG10466 Flex Probe Kit in SERVICEGARD.
3. Observe the locking mechanism of the connector when disconnecting and reconnecting.
4. Do not pull on wires to disconnect.
5. Before reconnecting:
   - Look for bent terminals; do not force connectors into each other.
   - Replace any terminal where corrosion exists.
   - Clean the connector of any foreign debris.
   - Dry the connector of any moisture.
6. When reconnecting, make sure seals around the connector pairs are functional.

DX,WW,ECU03 -19-11JUN09-1/1

Installation of Repair Wire Assembly (RWA)

NOTE: There are two types of installation procedures:

- *Method 1—RWA is the same gauge as the wire being repaired.*
- *Method 2—RWA is a different gauge than the wire being repaired.*

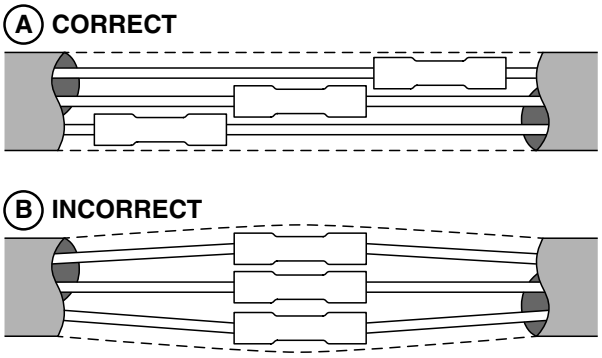
Install Repair Wire Assembly (RWA)—Method 1

1. See your machine parts catalog for the correct RWA for the connector to be repaired.

IMPORTANT: Ensure that there is adequate room for the splice in the area of the harness where the repair will be installed.

2. Ensure the area of the harness where the splice will be installed is clean. Cut the wire on the harness and the RWA to the desired length.

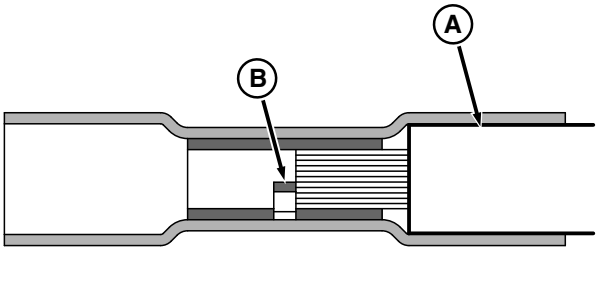
IMPORTANT: If multiple RWAs are being used, make sure to stagger the splices (A) so that they do not overlap each other (B).



A—Correct **B—Incorrect**

DX,RWA -19-22MAR18-1/8

3. Using JDG11072[1] tool, remove 9.5 mm (3/8 in) of insulation from the wire. Twist the strands to prevent fraying.
4. Insert the wire (A) into the splice sleeve until it hits the stop (B).



A—Wire **B—Stop**

[1]See the SERVICEGARD™ online tool catalog or your John Deere dealer for additional information.

Continued on next page

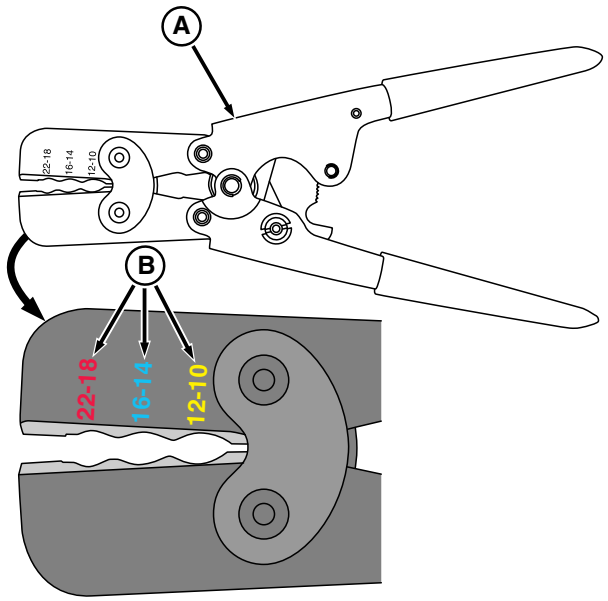
DX,RWA -19-22MAR18-2/8

5. Using JDG11409[1] tool (A), crimp the splice sleeve to the wire until the ratchet automatically releases.

IMPORTANT: Make sure that the color of the splice sleeve matches the colored die (B) on the crimping tool jaw.

6. Repeat Steps 2—5 on the other end of the splice.
7. Tightly grasp the wires coming out of each end of the splice. Firmly pull on the wires to ensure that they are properly crimped and do not pull out. If either wire pulls out, repeat Steps 2—5 to attain an adequate crimp.
8. Apply heat evenly around the diameter of the splice from the center out to the ends until the tubing shrinks tightly around the wire and adhesive flows from both ends of the splice.
9. Tightly grasp the wires coming out of each end of the splice. Firmly pull on the wires to ensure that they are properly crimped and do not pull out. If either wire pulls out, repeat Steps 2—8 to attain an adequate crimp.
10. Apply tape along the length of the repair.

[1]See the SERVICEGARD™ online tool catalog or your John Deere dealer for additional information.



RG20520 —UN—26MAY11

A—Crimp Tool **B—Colored Dies**

DX,RWA -19-22MAR18-3/8

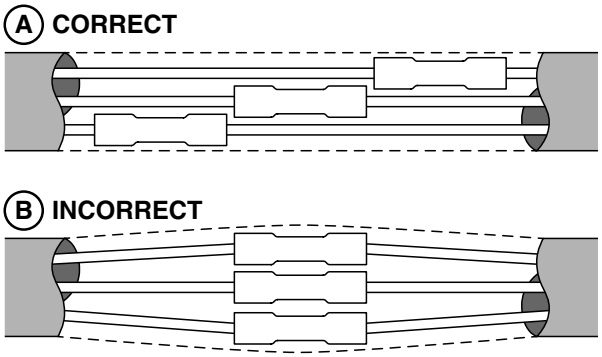
Install Repair Wire Assembly (RWA)—Method 2

1. See your machine parts catalog for the correct RWA for the connector to be repaired.

IMPORTANT: Ensure that there is adequate room for the splice in the area of the harness where the repair will be installed.

2. Ensure the area of the harness where the splice will be installed is clean. Cut the wire on the harness and the RWA to the desired length.

IMPORTANT: If multiple RWAs are being used, make sure to stagger the splices (A) so that they do not overlap each other (B).



RG20576 —UN—17JUN11

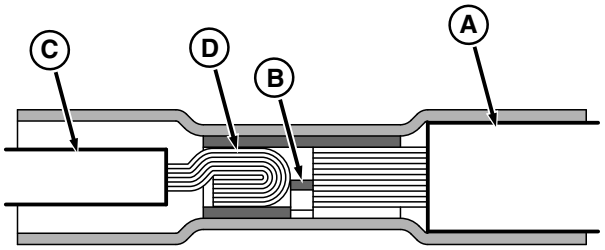
A—Correct **B—Incorrect**

Continued on next page

DX,RWA -19-22MAR18-4/8

3. Using JDG11072[1] tool, remove 9.5 mm (3/8 in) of insulation from the larger wire (A). Twist the strands to prevent fraying.
4. Insert the larger wire (A) into the splice sleeve until it hits the stop (B).

A—Larger Wire
B—Stop
C—Smaller Wire
D—Folded Wire



RG20522 —UN—26MAY11

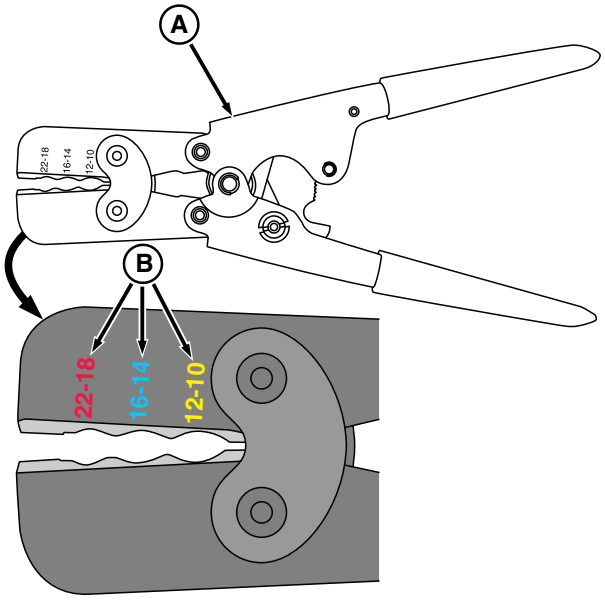
[1]See the SERVICEGARD™ online tool catalog or your John Deere dealer for additional information.

DX,RWA -19-22MAR18-5/8

5. Using JDG11409[1] tool (A), crimp the splice sleeve to the wire until the ratchet automatically releases.

IMPORTANT: Make sure that the color of the splice sleeve matches the colored die (B) on the crimping tool jaw.

A—Crimp Tool
B—Colored Dies



RG20520 —UN—26MAY11

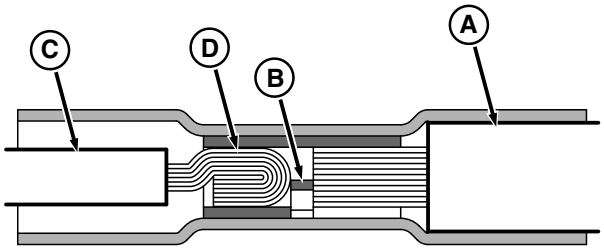
[1]See the SERVICEGARD™ online tool catalog or your John Deere dealer for additional information.

Continued on next page

DX,RWA -19-22MAR18-6/8

6. Using JDG11072[1] tool, remove 19 mm (3/4 in) of insulation from the smaller wire (C). Twist the strands to prevent fraying.
7. Fold the wire strands in half (D) so that the stripped length is equal to the larger wires' stripped length, 9.5 mm (3/8 in).
8. Insert the folded wire (D) into the splice sleeve until it hits the stop (B).

A—Larger Wire
B—Stop
C—Smaller Wire
D—Folded Wire



RG20522 —UN—26MAY11

[1]See the SERVICEGARD™ online tool catalog or your John Deere dealer for additional information.

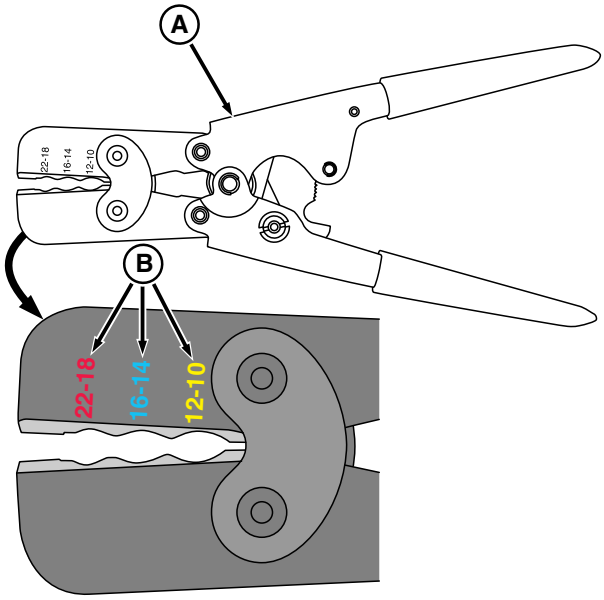
DX,RWA -19-22MAR18-7/8

9. Using JDG11409[1] tool (A), crimp the splice sleeve to the wire until the ratchet automatically releases.

IMPORTANT: Make sure that the color of the splice sleeve matches the colored die (B) on the crimping tool jaw.

10. Tightly grasp the wires coming out of each end of the splice. Firmly pull on the wires to ensure that they are properly crimped and do not pull out. If either wire pulls out, repeat Steps 2—9 to attain an adequate crimp.
11. Apply heat evenly around the diameter of the splice from the center out to the ends until the tubing shrinks tightly around the wire and adhesive flows from both ends of the splice.
12. Tightly grasp the wires coming out of each end of the splice. Firmly pull on the wires to ensure that they are properly crimped and do not pull out. If either wire pulls out, repeat Steps 2—11 to attain an adequate crimp.
13. Apply tape along the length of the repair.

A—Crimp Tool
B—Colored Dies



RG20520 —UN—26MAY11

[1]See the SERVICEGARD™ online tool catalog or your John Deere dealer for additional information.

DX,RWA -19-22MAR18-8/8

General Information-Summary of References

OUCC002,00061E4 -19-12AUG19-1/1

General Cleaning and Repair Instructions

IMPORTANT: Regular and thorough cleaning of machine combined with other routine maintenance procedures listed in the Operator's Manual greatly reduce the risk of fire, chance of costly downtime, and improve machine performance.

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

IMPORTANT: Do not direct the pressurized water inside the Selective Catalytic Reduction (SCR) module.

IMPORTANT: If high-pressure water is used to clean the area around the main clutch, always engage the main clutch for a short period right after the cleaning to avoid water accumulation inside the main clutch assembly.

Cleaning Bearing Area Using High-Pressure Device

IMPORTANT: It is prohibited to clean bearing areas with radial shaft sealing devices such as blower bearings, cutterhead bearings, feed roll bearings, and kernel processor bearings, e.g. using high-pressure wash devices. High-pressure wash devices may apply pressure way higher than 1500 kPa (15 bar; 217 psi) which sealing devices such as radial shaft seals, in place to keep out dirt and water, may not resist the high pressure and may not keep water and dirt out of the bearing. Once water and dirt entered the bearing, the contaminated grease has a negative impact to the greasing function and it may reduce the bearing life time.

Radial or Axial Play of Roller Bearing Types

IMPORTANT: Do not measure radial or axial play. Neither the bearing supplier nor Deere sees a proofed correlation between radial play or axial play and the lifetime of bearings (unless heavy play over few mm). Do not use a pry bar e.g. applying force to come to an indirect measured play value. With a pry bar the risk is high to first elastically deform all involved components such as the bearing housing and welded structure e. g., measuring a high play value which is driven by elastic deformation of the structure and not by the actual bearing play itself. Second, there is a high risk to damage the undamaged bearing in the contact zone between the rollers and the rolling surface at the inner and outer ring with the high force applied using a pry bar e.g. which may cause a bearing failure after a while depending on the amount of damage created during this process.

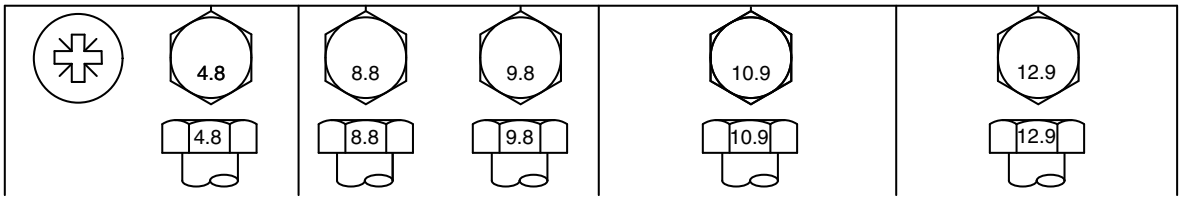
Grease Appearance at Roller Bearing Types

IMPORTANT: Visual grease appearance, such as color or the smell of the grease, cannot be used as a valid indicator to detect a bearing failure without professional grease checks on an atomically base. It is normal that grease changes its appearance over time, it may turn darker, it may smell differently, and it may change its consistency which the parameters mentioned cannot provide a valid indicator to make a statement to bearing life time without professional grease checks on an atomically base. Different grease brands show different color, different consistency, different structure and they smell differently. The overall appearance of different grease types may differ which is caused by various grease content concentrations based on base oil (75%-90%), additives (5%-10%) and thickener (10%-20%). Due to the large amount of various grease concentrations the greasing characteristics of different grease types vary which may have a negative impact to the greasing function why it is prohibited to used other grease types besides the types recommended by Deere and it is prohibited to mix grease types other than recommended by Deere with each other. Mixed grease can be detected and may have a negative impact to greasing function and bearing life time.

OUCC002,00061E1 -19-28AUG19-1/1

Metric Bolt and Screw Torque Values

TS1742 —UN—31MAY18



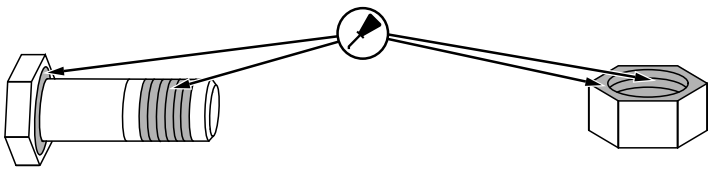
Bolt or Screw Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Hex Head[a]		Flange Head[b]		Hex Head[a]		Flange Head[b]		Hex Head[a]		Flange Head[b]		Hex Head[a]		Flange Head[b]	
	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in
M6	3.6	31.9	3.9	34.5	6.7	59.3	7.3	64.6	9.8	86.7	10.8	95.6	11.5	102	12.6	112
									N·m	lb·ft	N·m	lb·ft	N·m	lb·ft	N·m	lb·ft
M8	8.6	76.1	9.4	83.2	16.2	143	17.6	156	23.8	17.6	25.9	19.1	27.8	20.5	30.3	22.3
			N·m	lb·ft	N·m	lb·ft	N·m	lb·ft								
M10	16.9	150	18.4	13.6	31.9	23.5	34.7	25.6	46.8	34.5	51	37.6	55	40.6	60	44.3
	N·m	lb·ft														
M12	—	—	—	—	55	40.6	61	45	81	59.7	89	65.6	95	70.1	105	77.4
M14	—	—	—	—	87	64.2	96	70.8	128	94.4	141	104	150	111	165	122
M16	—	—	—	—	135	99.6	149	110	198	146	219	162	232	171	257	190
M18	—	—	—	—	193	142	214	158	275	203	304	224	322	245	356	263
M20	—	—	—	—	272	201	301	222	387	285	428	316	453	334	501	370
M22	—	—	—	—	365	263	405	299	520	384	576	425	608	448	674	497
M24	—	—	—	—	468	345	518	382	666	491	738	544	780	575	864	637
M27	—	—	—	—	683	504	758	559	973	718	1080	797	1139	840	1263	932
M30	—	—	—	—	932	687	1029	759	1327	979	1466	1081	1553	1145	1715	1265
M33	—	—	—	—	1258	928	1398	1031	1788	1319	1986	1465	2092	1543	2324	1714
M36	—	—	—	—	1617	1193	1789	1319	2303	1699	2548	1879	2695	1988	2982	2199

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

Replace fasteners with the same or higher property class. If higher property class fasteners are used, tighten these to the strength of the original.

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

TS1741 —UN—22MAY18

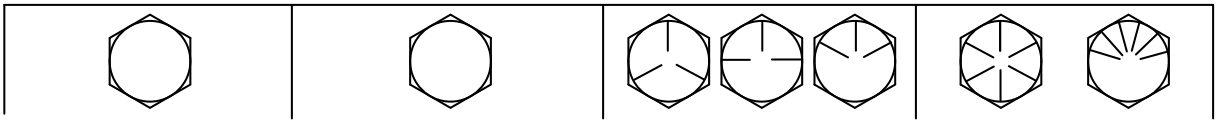


[a]Hex head column values are valid for ISO 4014 and ISO 4017 hex head, ISO 4162 hex socket head, and ISO 4032 hex nuts.
[b]Hex flange column values are valid for ASME B18.2.3.9M, ISO 4161, or EN 1665 hex flange products.

DX,TORQ2 -19-30MAY18-1/1

Unified Inch Bolt and Screw Torque Values

TS1671 —UN—01MAY03



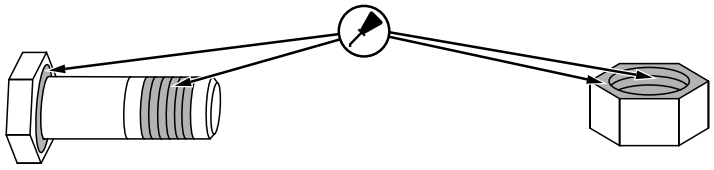
Bolt or Screw Size	SAE Grade 1[a]				SAE Grade 2[b]				SAE Grade 5, 5.1 or 5.2				SAE Grade 8 or 8.2			
	Hex Head[c]		Flange Head[d]		Hex Head[c]		Flange Head[d]		Hex Head[c]		Flange Head[d]		Hex Head[c]		Flange Head[d]	
	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in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

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

Replace fasteners with the same or higher property class. If higher property class fasteners are used, tighten these to the strength of the original.

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

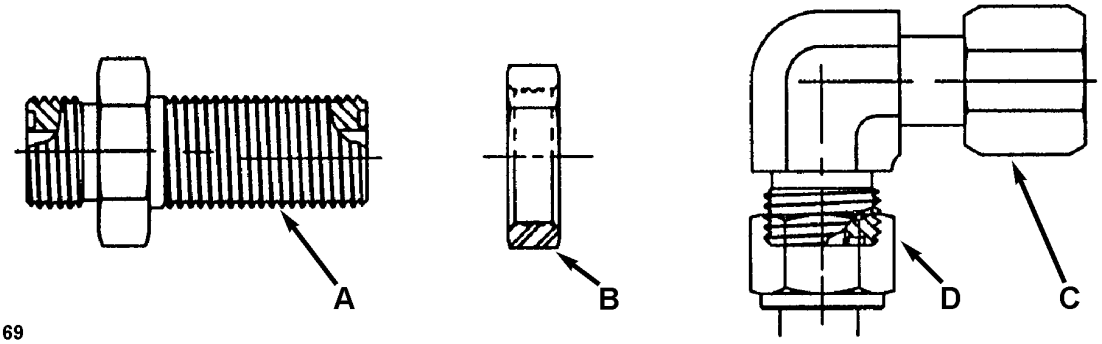
TS1741 —UN—22MAY18



[a] Grade 1 applies for hex cap screws over 6 in (152 mm) long, and for all other types of bolts and screws of any length.
[b] Grade 2 applies for hex cap screws (not hex bolts) up to 6 in (152 mm) long.
[c] Hex head column values are valid for ISO 4014 and ISO 4017 hex head, ISO 4162 hex socket head, and ISO 4032 hex nuts.
[d] Hex flange column values are valid for ASME B18.2.3.9M, ISO 4161, or EN 1665 hex flange products.

DX,TORQ1 -19-30MAY18-1/1

Hydraulic System Inch Fitting Torque Values



LX1020169

LX1020169 —UN—24MAR98

A—Bulkhead Fitting
B—Lock Nut
C—Union Nut
D—Union Nut

	Fittings with Flat-Faced Ring Seal			
	Union Nut		Lock Nut for Bulkhead Fitting	
Thread Size	**N·m**	**lb·ft**	**N·m**	**lb·ft**
9/16—18	16	12	5	3.5
11/16—16	24	18	9	6.5
13/16—16	50	37	17	12.5
1—14	69	51	17	12.5
1-3/16—12	102	75	17	12.5
1-7/16—12	142	105	17	12.5
1-11/16—12	190	140	17	12.5
2—12	217	160	17	12.5

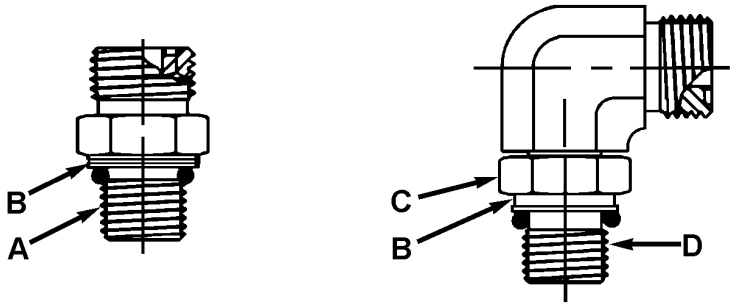
The torques in the table are intended only as approximate values and do NOT apply if a different torque value is listed for specific fittings at other points in this manual. Check fittings regularly to make sure that they are seated properly.

When replacing fittings, be sure to use parts with an equal or higher grade to the parts you are replacing. Items of hardware (for example, union nuts) that are of a higher grade must be tightened to the same torque value as the parts they replace.

It is vitally important to make sure that the sealing faces are clean and that the O-rings have been inserted properly.

OUZXMAG,00019D1 -19-01SEP17-1/1

Hydraulic System Metric Fitting Torque Values



LX1020170

LX1020170 —UN—21APR98

A—Stud-End Fitting
B—Groove for Metric Thread
C—Lock Nut
D—Adjustable Fitting

	Stud-End Fitting and Lock Nut for Adjustable Fitting			
	Steel or Grey-Cast Iron		Aluminum	
Thread Size	N·m	lb·ft	N·m	lb·ft
M12x1.5	21	15.5	9	6.6
M14x1.5	33	24	15	11
M16x1.5	41	30	18	13
M18x1.5	50	37	21	15
M22x1.5	69	51	28	21
M27x2	102	75	46	34
M33x2	158	116	71	52
M38x2	176	130	79	58
M42x2	190	140	85	63
M48x2	217	160	98	72

The torques in the table are intended only as approximate values and do NOT apply if a different torque value is listed for specific fittings at other points in this manual. Check fittings regularly to make sure that they are seated properly.

When replacing fittings, be sure to use parts with an equal or higher grade to the parts you are replacing. Items of hardware (for example, union nuts) that are of a higher grade must be tightened to the same torque value as the parts they replace.

It is vitally important to make sure that the sealing faces are clean and that the O-rings have been inserted properly.

OUCC002,0003FF3 -19-01SEP17-1/1

Specifications—Summary of References

Continued on next page

OUCC019,00075D5 -19-29JUL20-2/2

Serial Numbers

Serial Number Plate

Serial numbers identifying harvester components or assemblies are stamped on components or factory serial number plates.

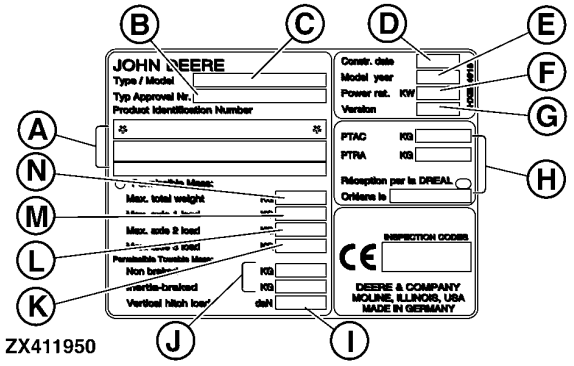
These numbers and letters are required when ordering forage harvester or component replacement parts.

To ensure that you always have these numbers at hand, enter the appropriate serial numbers in the spaces provided in each illustration.

VA45017,0000386 -19-19OCT12-1/1

Forage Harvester (Product Identification) Type Plate

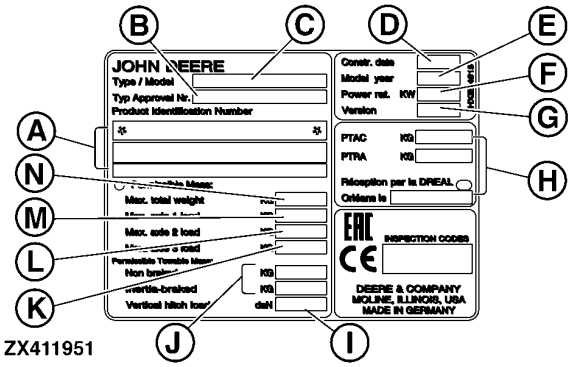
A—Product Identification Number
B—Type Approval Number (in Certain Countries Only)
C—Model
D—Year of Production
E—Model Year
F—Engine Power
G—Version (in Certain Countries Only)
H—French Homologation Purpose Only
I— Permissible Drawbar Load
J— Permissible Trailer Load
K—Permissible Axle Load 3
L— Permissible Axle Load 2
M—Permissible Axle Load 1
N—Permissible Total Weight



ZX411950

Plate—Other than EAC

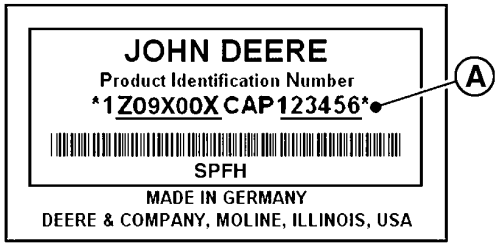
ZX411950 —UN—08JUN20



ZX411951

Plate—EAC Only

ZX411951 —UN—08JUN20



ZX369185

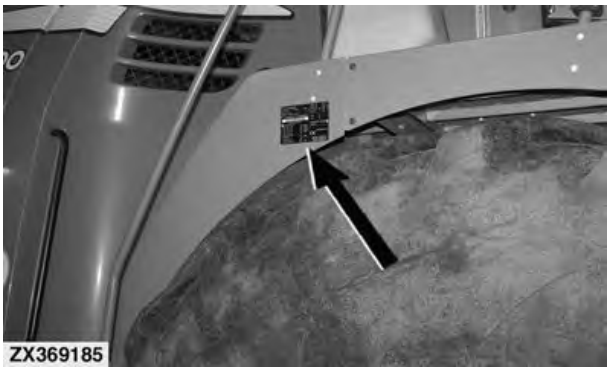
Plate—North America

ZX369185 —UN—02JAN19

OUCC019,00075D3 -19-29JUL20-1/1

Product Identification Number

The product identification number is on the right side of the Operator's platform.



ZX369187 —UN—02JAN19

Product Identification Number (Europe)

ZX369186 —UN—02JAN19

Product Identification Number (North America)

OUCC019,0006B1C -19-02JAN19-1/1

Operator's Cab Serial Number

The operator's cab serial number is on the inside of the right-hand side panel.

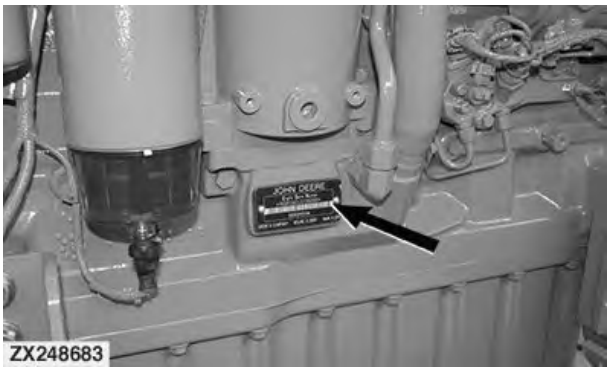
NOTE: The operator's cab serial number is the same as for the air conditioner system.

ZX248685 —UN—29JUN15

OUCC019,0006DDD -19-26SEP17-1/1

Engine Serial Number—Engine Type 6090

The engine serial number is located near the oil filter (Final Tier 4/Stage V Engine) or near the starter motor (Tier 2/Stage II Engine and Tier 3/Stage III A Engine).

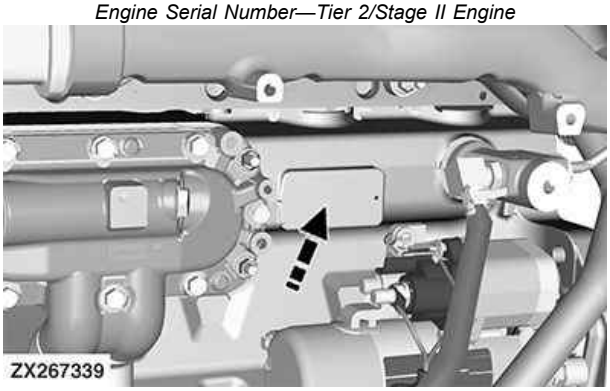


ZX248683 —UN—29JUN15

Engine Serial Number—Final Tier 4/Stage V Engine

ZX248680 —UN—29JUN15

Engine Serial Number—Tier 2/Stage II Engine



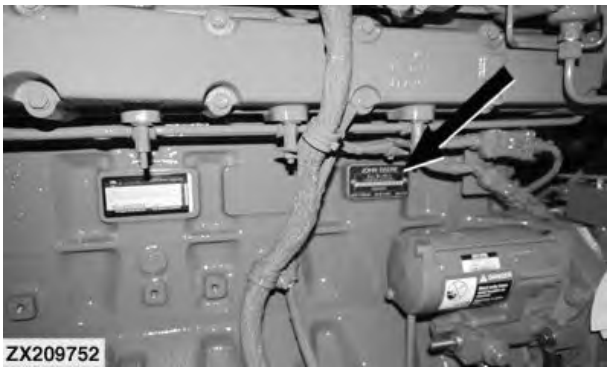
ZX267339 —UN—11MAY16

Engine Serial Number—Tier 3/Stage III A Engine

OUCC019,0007110 -19-26NOV18-1/1

Engine Serial Number—Engine Type 6135

The engine serial number is located near the starter motor.

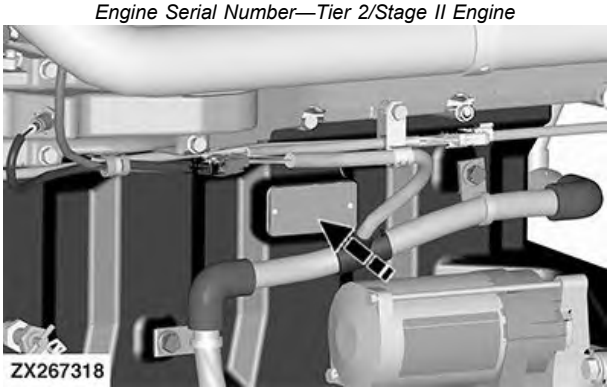


ZX209752 —UN—25MAR14

Engine Serial Number—Final Tier 4/Stage V Engine

ZX248681 —UN—29JUN15

Engine Serial Number—Tier 2/Stage II Engine



ZX267318 —UN—09FEB16

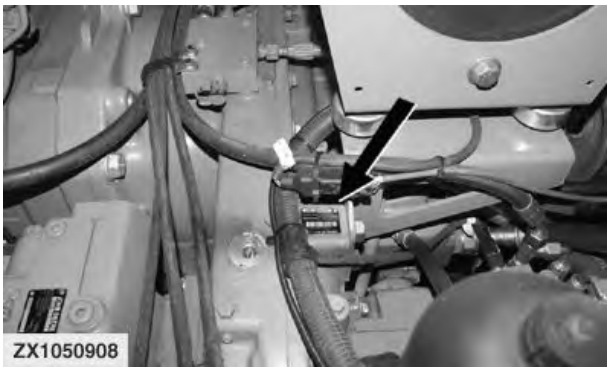
Engine Serial Number—Tier 3/Stage III A Engine

OUCC019,0007111 -19-26NOV18-1/1

Power Distribution Gear Serial Number

The power distribution gear serial number plate is located on top of housing (right-hand side).

.



ZX1050908 —UN—09OCT12

OUCC002,0003FD5 -19-15MAR14-1/1

Load Sensing Pump Serial Number

The load sensing pump serial number plate is located on the top of the housing.

ZX1051256 —UN—14NOV12

OUCC019,0006B1D -19-01SEP17-1/1

Exhaust Filter System Serial Number (Final Tier 4/Stage V Engine Only)

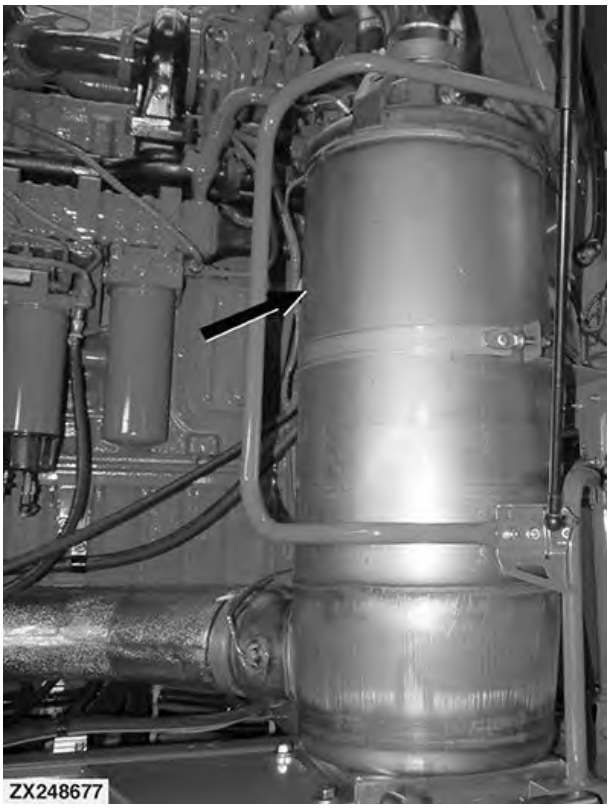
The exhaust filter system serial number is located on top.

ZX248689 —UN—29JUN15

OUCC019,0007112 -19-10AUG18-1/1

SCR (Selective Catalytic Reduction) Module Serial Number (Final Tier 4/Stage V Engine Only)

The SCR module serial number is located on front side.

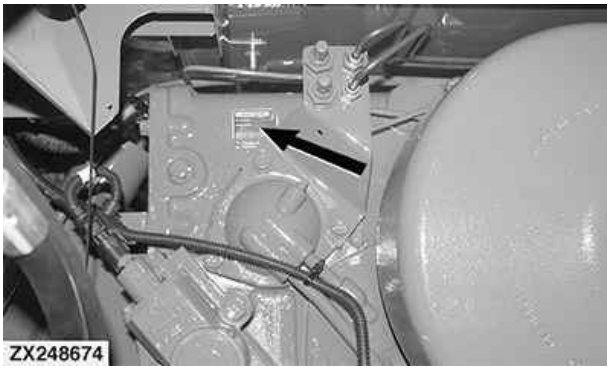


ZX248677 —UN—29JUN15

OUCC019,0007113 -19-10AUG18-1/1

Push-Button Shift Transmission Serial Number

The Push-Button Shift Transmission serial number is located on the transmission housing.



ZX248674 —UN—29JUN15

OUCC019,000719E -19-27NOV18-1/1