

1550, 1570, 1575, 1580, 1585 Series TerrainCut™ Front Mowers



JOHN DEERE

OPERATOR'S MANUAL

1500 Series TerrainCut™ Front Mowers

OMTCU39307 ISSUE D5 (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 Turf Care

North American Edition
Printed in U.S.A.



Introduction

Thank You for Purchasing a John Deere Product

We appreciate having you as a customer and wish you many years of safe and satisfied use of your machine.

Using Your Operator's Manual

This manual is an important part of your machine and should remain with the machine when you sell it.

Reading your operator's manual will help you and others avoid personal injury or damage to the machine. Information given in this manual will provide the operator with the safest and most effective use of the machine. Knowing how to operate this machine safely and correctly will allow you to train others who may operate this machine.

If you have an attachment, use the safety and operating information in the attachment operator's manual along with the machine operator's manual to operate the attachment safely and correctly.

This manual and safety signs on your machine may also be available in other languages (see your authorized dealer to order).

Sections in your operator's manual are placed in a specific order to help you understand all the safety messages and learn the controls so you can operate this machine safely. You can also use this manual to answer any specific operating or servicing questions. A convenient index located at the end of this book will help you to find needed information quickly.

The machine shown in this manual may differ slightly from your machine, but will be similar enough to help you understand our instructions.

RIGHT-HAND and LEFT-HAND sides are determined by facing in the direction the machine will travel when going forward. When you see a broken line (-----), the item referred to is hidden from view.

Before delivering this machine, your dealer performed a predelivery inspection to ensure best performance.

Special Messages

Your manual contains special messages to bring attention to potential safety concerns, machine damage as well as helpful operating and servicing information. Please read all the information carefully to avoid injury and machine damage.



CAUTION: Avoid injury! This symbol and text highlight potential hazards or death to the operator or bystanders that may occur if the hazards or procedures are ignored.

IMPORTANT: Avoid damage! This text is used to tell the operator of actions or conditions that might result in damage to the machine.

NOTE: General information is given throughout the manual that may help the operator in the operation or service of the machine.

Attachments for Your Machine

There's a John Deere attachment or kit to make your new machine perform more tasks or be more versatile, whether your machine is a lawn tractor or compact utility tractor or a utility machine.

You can check out the entire line of attachments for your machine at JohnDeere.com or ask your John Deere dealer. From aerators to electric lift kits to tillers, there's a John Deere attachment or kit to fill every need.

Contents

Introduction	2
Product Identification	4
Safety Labels—Text	5
Safety Labels—No Text	11
Safety	16
Operating Controls	23
Operating Machine	28
Replacement Parts	54
Service Intervals	55
Service Lubrication	57
Service Engine	60
Service Transmission	76
Service Steering & Brakes	80
Service Electrical	82
Service Miscellaneous	87
Troubleshooting	94
Storage	96
Specifications	98
Warranty	100
John Deere Quality Statement	104
Service Record	105

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.

COPYRIGHT © 2015
DEERE & COMPANY
Moline, Illinois
All rights reserved
A John Deere ILLUSTRATION © Manual
Previous Editions
Copyright © 2014

Product Identification

Record Identification Numbers

Front Mower

1550 PIN (010001-)

1570 PIN (010001-)

1575 PIN (010001-)

1580 PIN (010001-)

1585 PIN (010001-)

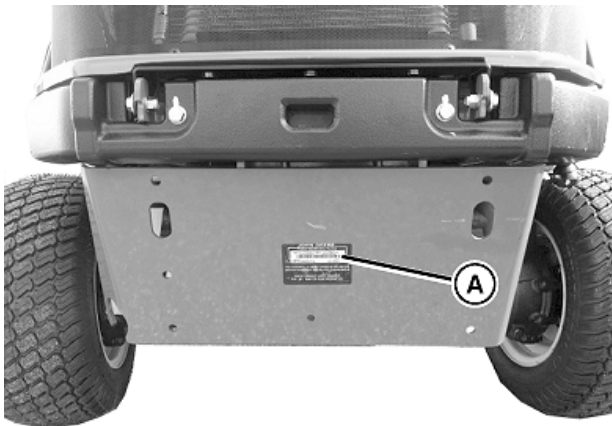
If you need to contact an Authorized Service Center for information on servicing, always provide the product model and identification numbers.

You will need to locate the identification numbers for the product. Record the information in the spaces provided below.

DATE OF PURCHASE:

DEALER NAME:

DEALER PHONE:

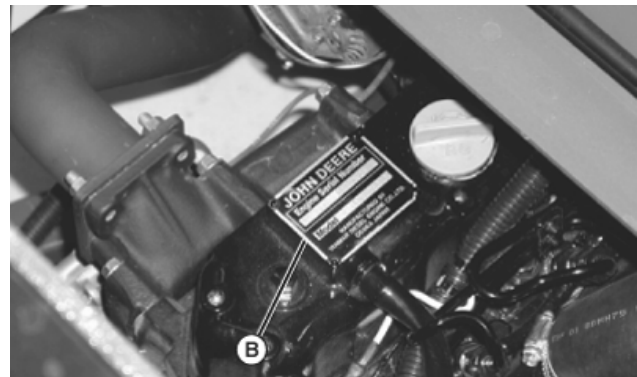


TCT007876—UN—11JUL13

PRODUCT IDENTIFICATION NUMBER (A):



TCT007877—UN—11JUL13

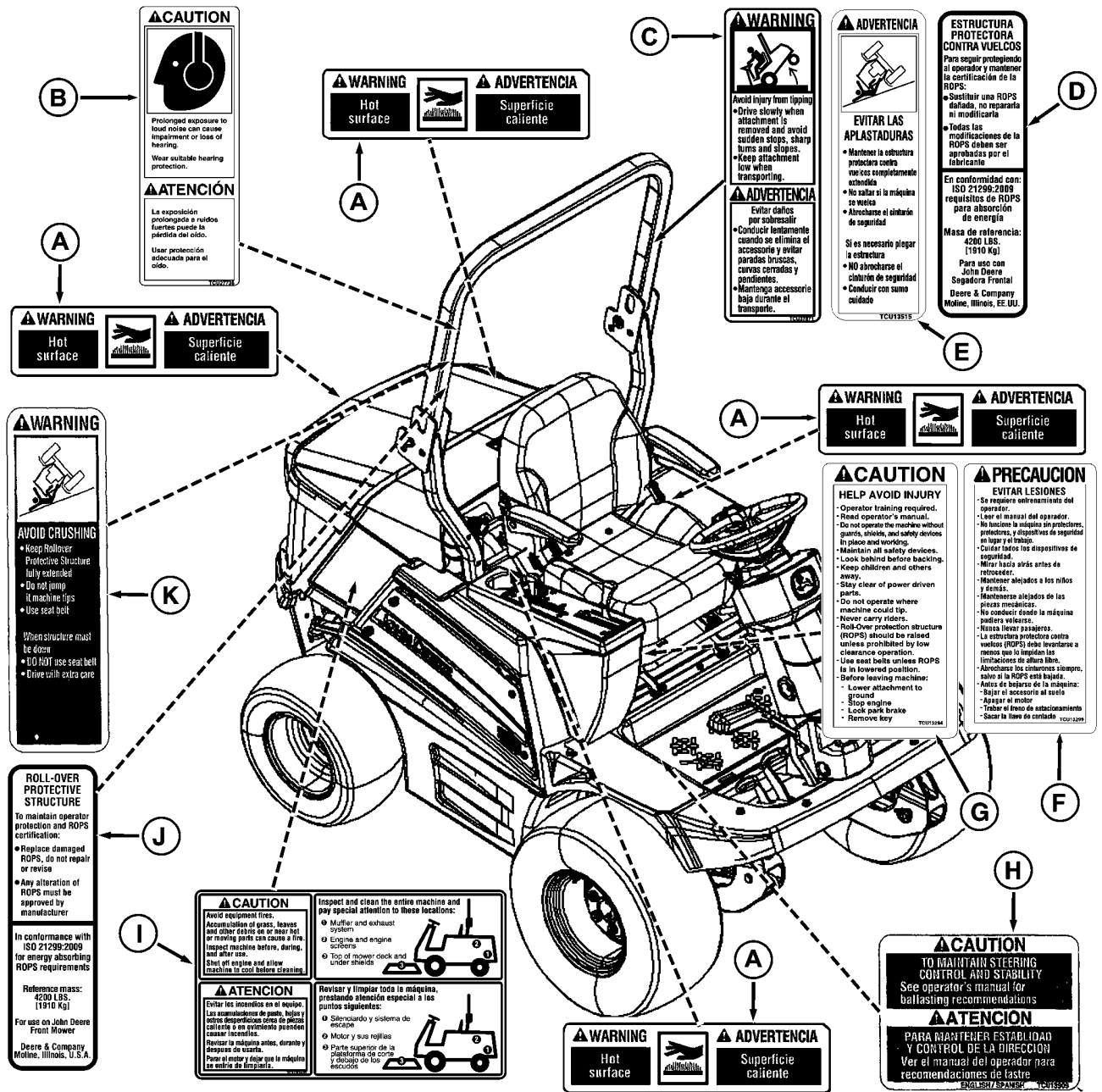


TCAL43291—UN—14MAR13

ENGINE SERIAL NUMBER (B):

Safety Labels—Text

Safety Label Location (No Cab)



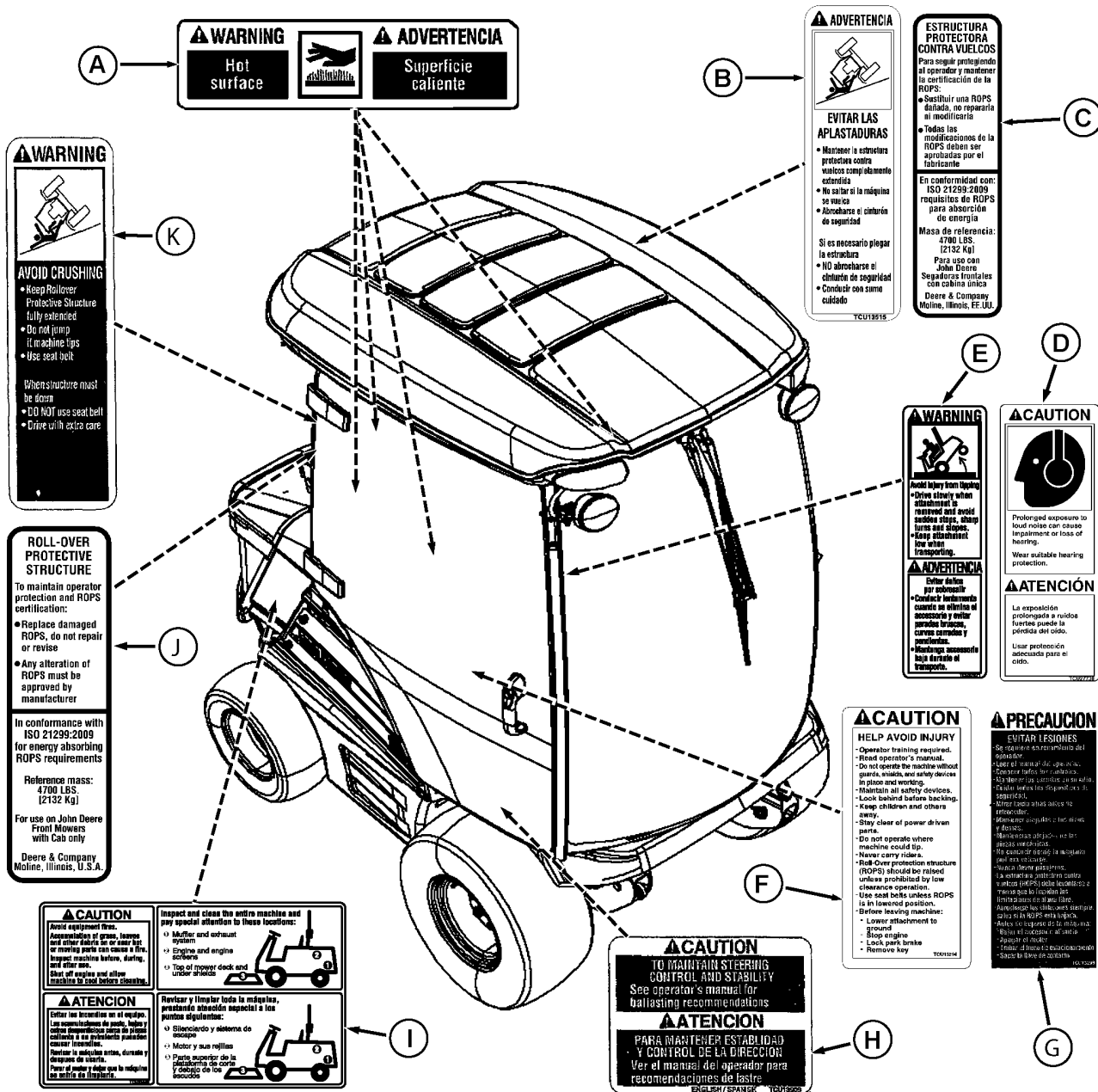
TCT008016—UN—18MAR14

- A —WARNING TCU13554 (2 on rear, and 2 behind seat)
B —CAUTION TCU27738
C —WARNING TCU37871
D —ROLL-OVER PROTECTIVE STRUCTURE TCU34015 (Spanish)
E —WARNING TCU13515 (Spanish)
F —CAUTION TCU13299 (Spanish)

- G —CAUTION TCU13294
H —CAUTION TCU13909
I —CAUTION TCU33405
J —ROLL-OVER PROTECTIVE STRUCTURE TCU34014
K —WARNING TCU13514

Safety Labels—Text

Safety Label Location (Cab)



A — WARNING TCU13554 (2 on rear, 2 behind seat)

B — WARNING TCU13515 (Spanish)

C — ROLL-OVER PROTECTIVE STRUCTURE TCU36521 (Spanish)

D — CAUTION TCU27738

E — WARNING TCU37871

F — CAUTION TCU13294

G — CAUTION TCU13299 (Spanish)

H — CAUTION TCU13909

I — CAUTION TCU33405

J — ROLL-OVER PROTECTIVE STRUCTURE TCU36520

K — WARNING TCU13514

Safety Labels—Text

Understanding The Machine Safety Labels



MXAL42363—UN—22MAY13

The machine safety labels shown in this section are placed in important areas on your machine to draw attention to potential safety hazards.

On your machine safety labels, the words DANGER, WARNING, and CAUTION are used with this safety-alert symbol. DANGER identifies the most serious hazards.

The operator's manual also explains any potential safety hazards whenever necessary in special safety messages that are identified with the word, CAUTION, and the safety-alert symbol.

Replace missing or damaged safety labels. Use this operator's manual for correct safety label placement.

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

French or Spanish Safety Labels and Operator's Manual

Operator's manuals and safety labels with content in French or Spanish are available for this machine through authorized John Deere dealers. See your John Deere dealer.

NOTE: Both text and no-text labels are shown. Your machine is only equipped with one of these types of labels.

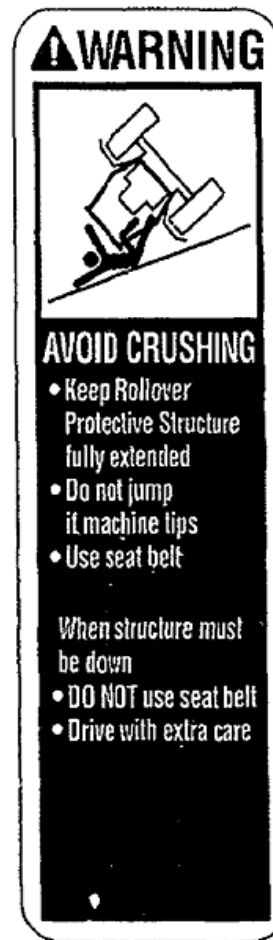
WARNING



TCAL43293—UN—14MAR13

Hot surface.

WARNING



TCU13515

TCT009080—UN—07MAR14

AVOID CRUSHING

- Keep Rollover Protective Structure fully extended
- Do not jump if machine tips
- Use seat belt

When structure must be down

- DO NOT use seat belt
- Drive with extra care

Safety Labels—Text

CAUTION

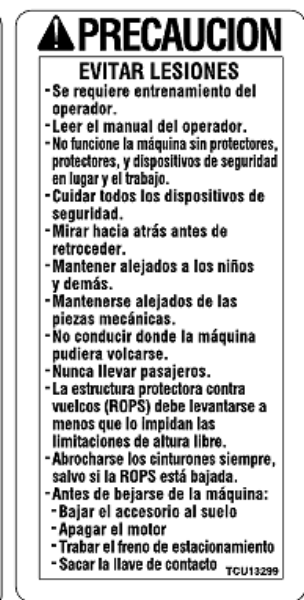
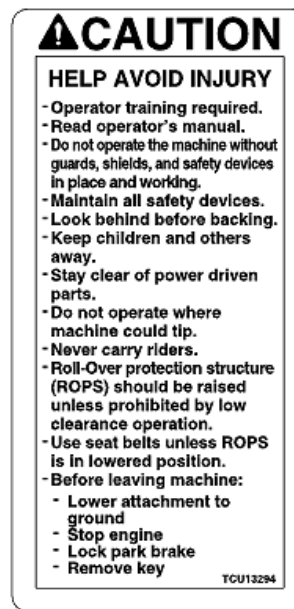
TO MAINTAIN STEERING CONTROL AND STABILITY



TCAL43298—UN—14MAR13

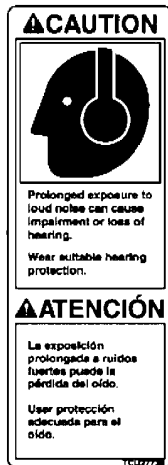
- See operator's manual for ballasting recommendations.

CAUTION



TCT010621—UN—18MAR14

CAUTION



TCAL43292—UN—14MAR13

- Prolonged exposure to loud noise can cause impairment or loss of hearing.
- Wear suitable hearing protection.

HELP AVOID INJURY

- Operator training required.
- Read operator's manual.
- Know all controls.
- Keep shields in place.
- Maintain all safety devices.
- Look behind before backing.
- Keep children and others away.
- Stay clear of power driven parts.
- Do not operate where machine could tip.
- Never carry riders.
- Roll-over protection structure (ROPS) should be raised unless prohibited by low clearance operation.
- Use seat belts unless ROPS is in lowered position.
- Before leaving machine:
 - Lower attachment to ground.
 - Stop engine.
 - Lock the park brake.
 - Remove key.

Safety Labels—Text

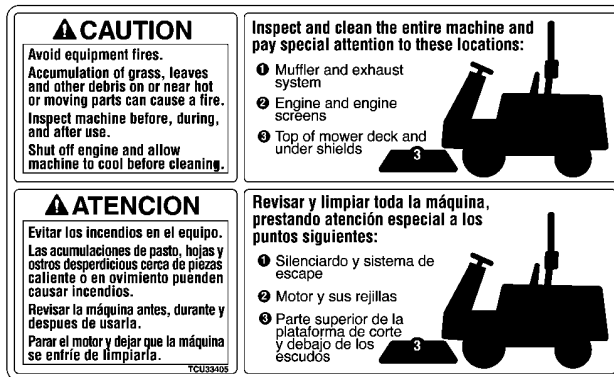
WARNING



Avoid injury from tipping:

- Drive slowly when attachment is removed and avoid sudden stops, sharp turns and slopes.
- Keep attachment low when transporting.

CAUTION



Avoid equipment fires.

Accumulation of grass, leaves and other debris on or near hot or moving parts can cause a fire.

Inspect machine before, during, and after use.

Shut off engine and allow machine to cool before cleaning.

Inspect and clean the entire machine and pay special attention to these locations:

1. Muffler and exhaust system
2. Engine and engine screens
3. Top of mower deck and under shields

Roll-Over Protective Structure (Non-Cab Units)



ROLL-OVER PROTECTIVE STRUCTURE

To maintain operator protection and ROPS certification:

- Replace damaged ROPS, do not repair or revise.
- Any alteration of ROPS must be approved by manufacturer.

In conformance with ISO 21299:2009 for energy absorbing ROPS requirements

Reference mass:

4200 LBS.

[1910 Kg]

For use on John Deere Front Mower

Deere & Company Moline, Illinois, U.S.A.

Safety Labels—Text

Roll-Over Protective Structure (Cab Units)



TCT011302—UN—27DEC14

ROLL-OVER PROTECTIVE STRUCTURE

To maintain operator protection and ROPS certification:

- Replace damaged ROPS, do not repair or revise.
- Any alteration of ROPS must be approved by manufacturer.

In conformance with ISO 21299:2009 for energy absorbing ROPS requirements

Reference mass:

4700 LBS.

[2132 Kg]

For use on John Deere Front Mowers with Cab only

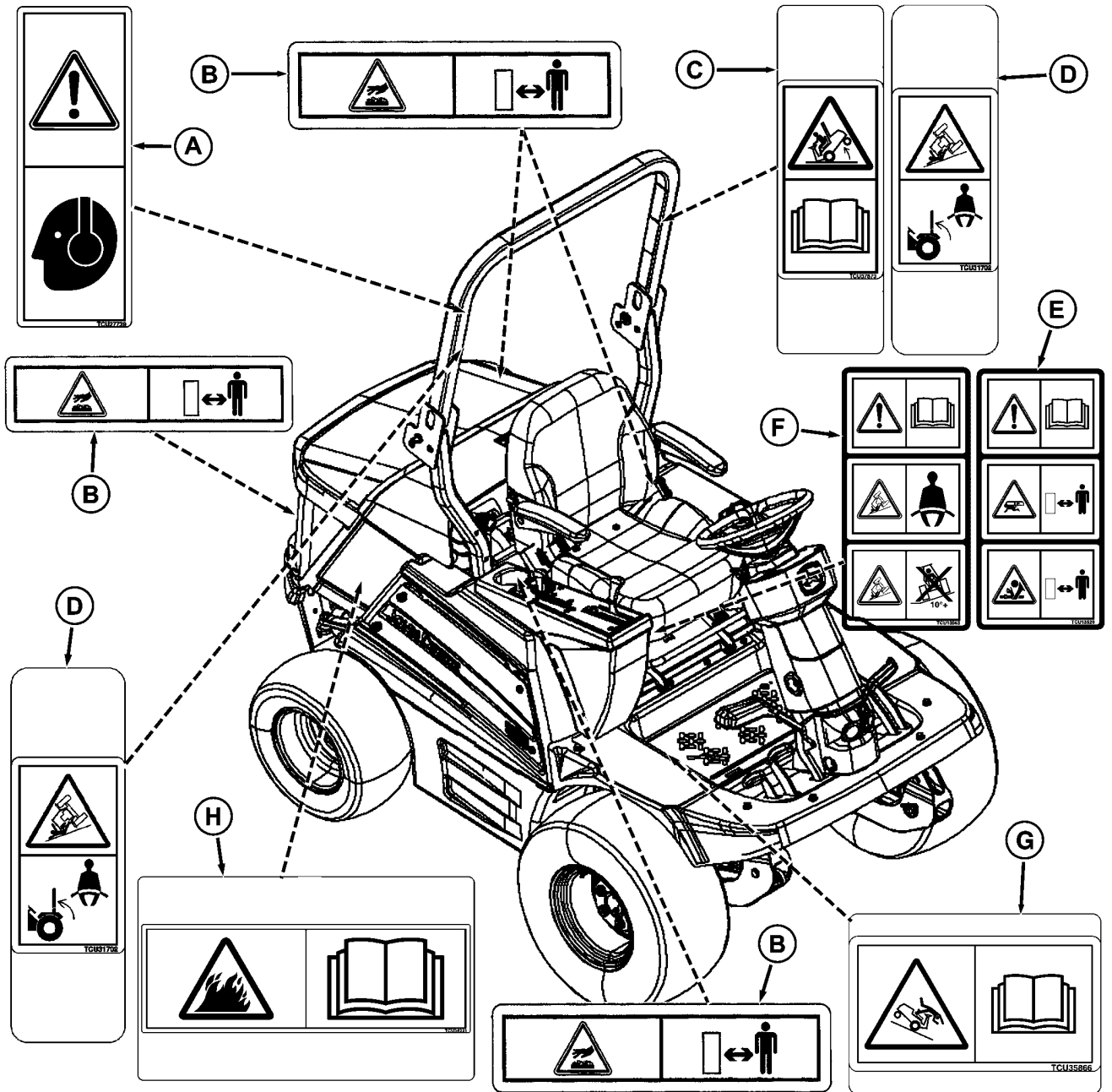
Deere & Company Moline, Illinois, U.S.A.

Certification

Your product has been certified for compliance with American National Standards Institute B-71.4, Safety Specifications for Commercial Turf care Equipment.

Safety Labels—No Text

Safety Label Location (No Cab)



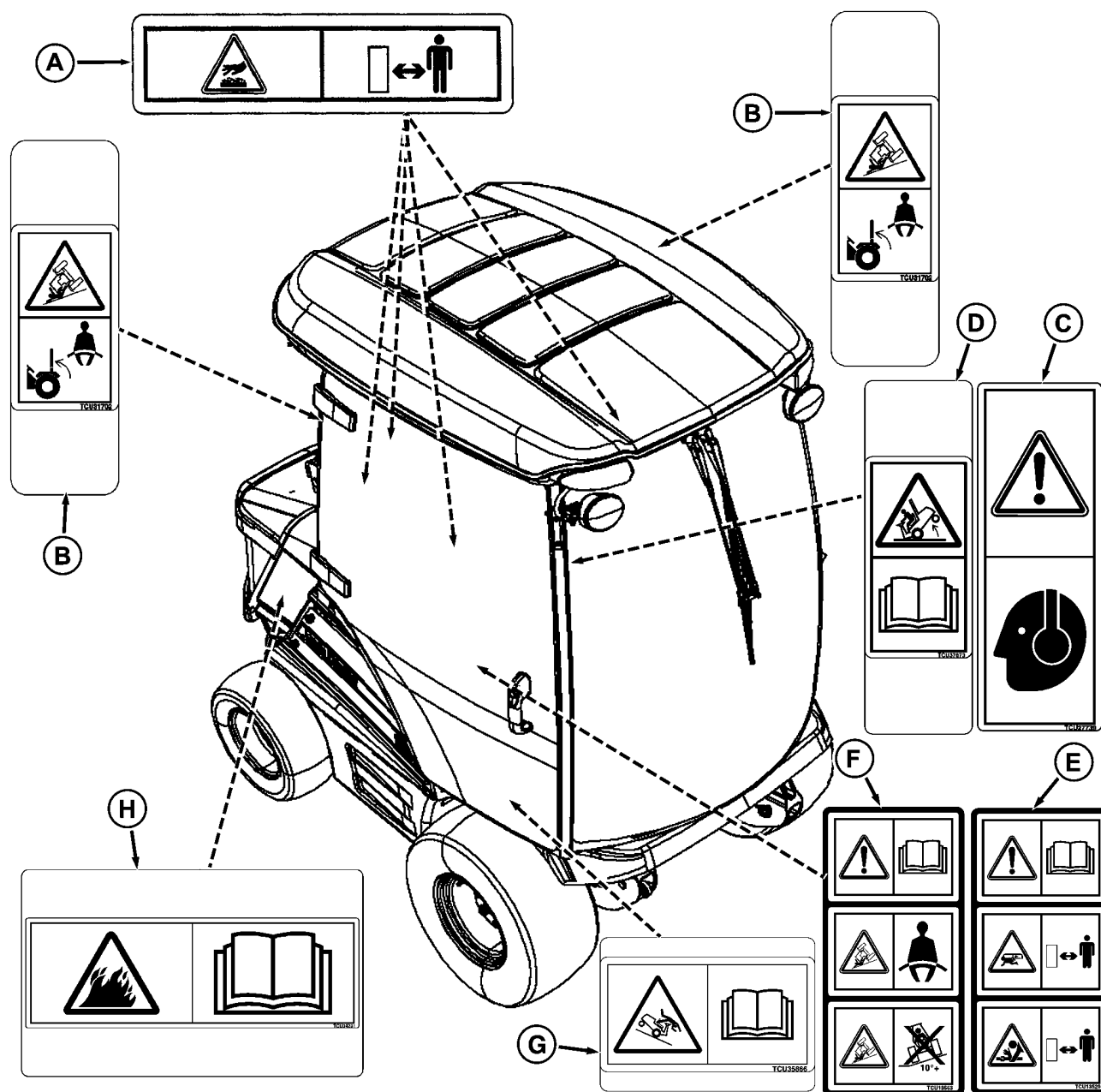
TCT008017—UN—19MAR14

- A — AVOID INJURY FROM EXPOSURE TO LOUD NOISE
TCU27739
- B — HOT SURFACES TCU13555 (2 on rear, 2 behind seat)
- C — AVOID INJURY FROM TIPPING TCU37873
- D — AVOID CRUSHING TCU31702

- E — HELP AVOID INJURY TCU13520
- F — HELP AVOID INJURY TCU13563 (Region 2 Only)
- G — MAINTAIN STEERING CONTROL AND STABILITY TCU35866
- H — AVOID EQUIPMENT FIRES TCU34231

Safety Labels—No Text

Safety Label Location (Cab)



TCT009078—UN—19MAR14

A —HOT SURFACES TCU13555 (2 on rear, 2 behind seat)

B —AVOID CRUSHING TCU31702

C —AVOID INJURY FROM EXPOSURE TO LOUD NOISE
TCU27739

D —AVOID INJURY FROM TIPPING TCU37873

E —HELP AVOID INJURY TCU13520

F —HELP AVOID INJURY TCU13563 (Region 2 Only)

G —MAINTAIN STEERING CONTROL AND STABILITY TCU35866

H —AVOID EQUIPMENT FIRES TCU34231

Safety Labels—No Text

Pictorial Safety Signs



TCT005498—UN—11SEP12

At several important places on this machine safety signs are affixed intended to signify potential danger. The hazard is identified by a pictorial in a warning triangle. An adjacent pictorial provides information how to avoid personal injury. These safety signs, their placement on the machine and a brief explanatory text are shown in this Safety section.

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

Avoid Crushing



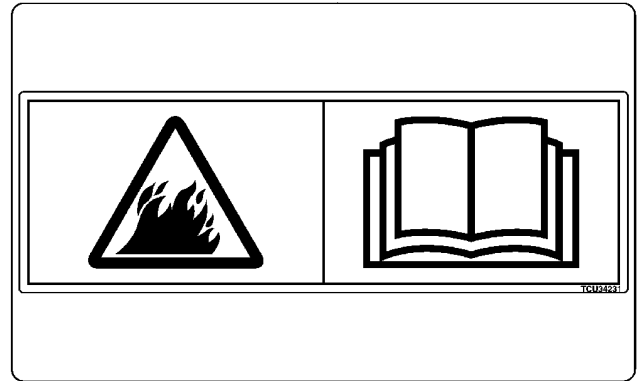
TCAL25049—UN—24MAY12

- Keep Rollover Protective Structure fully extended
- Do not jump if machine tips
- Use seat belt

When structure must be down

- DO NOT use seat belt
- Drive with extra care

Avoid Equipment Fires



TCT010624—UN—19MAR14

Avoid equipment fires.

Accumulation of grass, leaves and other debris on or near hot or moving parts can cause a fire.

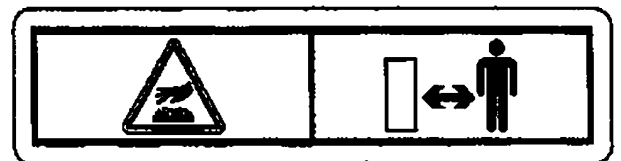
Inspect machine before, during, and after use.

Shut off engine and allow machine to cool before cleaning.

Inspect and clean the entire machine and pay special attention to these locations:

1. Muffler and exhaust system
2. Engine and engine screens
3. Top of mower deck and under shields

Hot Surfaces



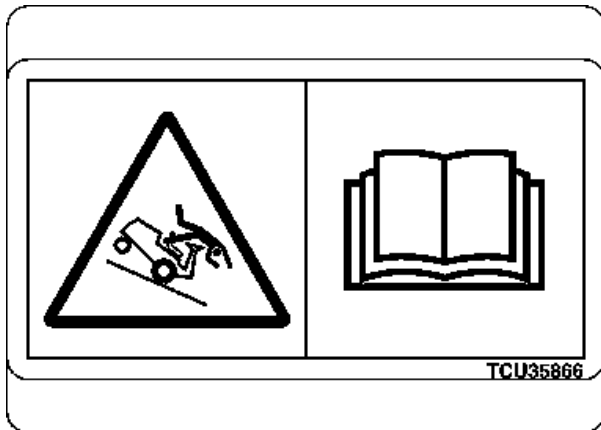
TCAL45198—UN—10APR13

Stay clear of hot surfaces.

Safety Labels—No Text

Maintain Steering Control and Stability

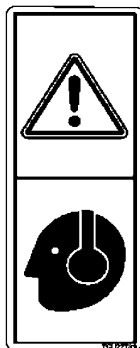
TO MAINTAIN STEERING CONTROL AND STABILITY



TCT008321—UN—14AUG13

- See operator's manual for ballasting recommendations.

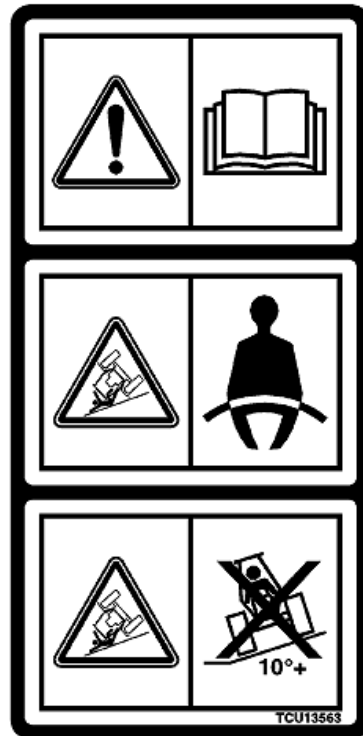
Avoid Injury from Exposure to Loud Noise



TCAL45197—UN—10APR13

- Prolonged exposure to loud noises can cause impairment or loss of hearing.
- Wear suitable hearing protection.

Help Avoid Injury



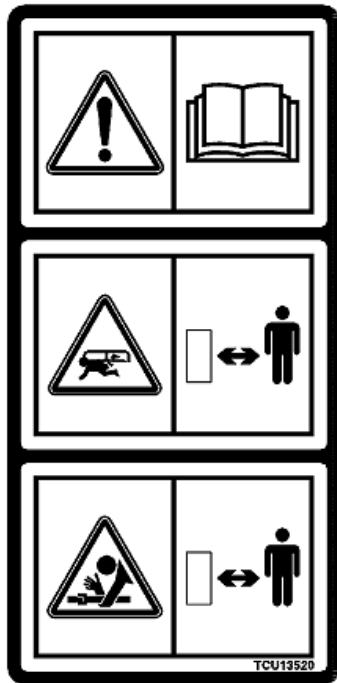
TCT008322—UN—14AUG13

HELP AVOID INJURY

- Operator training required.
- Do not operate where machine could tip.
- Never carry riders.
- Roll-over protection structure (ROPS) should be raised unless prohibited by low clearance operation.
- Use seat belts unless ROPS is in lowered position.
- Before leaving machine:
 - Lower attachment to ground.
 - Stop engine.
 - Lock the park brake.
 - Remove key.
- Do not use this machine on slopes greater than 10°.

Safety Labels—No Text

Help Avoid Injury

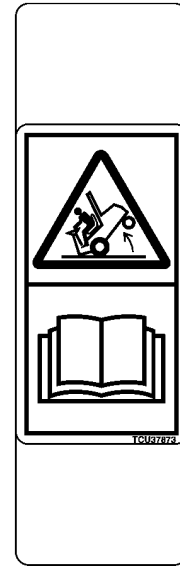


TCT008323—UN—14AUG13

HELP AVOID INJURY

- Operator training required.
- Read operator's manual.
- Know all controls.
- Keep shields in place.
- Maintain all safety devices.
- Look behind before backing.
- Keep children and others away.
- Stay clear of power driven parts.

Avoid Injury from Tipping



TCT010623—UN—19MAR14

Avoid injury from tipping:

- Drive slowly when attachment is removed and avoid sudden stops, sharp turns and slopes.
- Keep attachment low when transporting.

Safety

Operator Training Required

- Read the operator's manual, attachment manuals, and other training material carefully. If the operator or mechanic cannot read English, it is the owner's responsibility to explain this material to them. This publication is available in other languages.
- Become familiar with the safe operation of the equipment, operator controls, and safety signs.
- All operators and mechanics should be trained. The owner of the machine is responsible for training the users.
- Never let children or untrained people operate or service the equipment. Local regulations may restrict the age of the operator.
- The owner/user can prevent and is responsible for accidents or injuries occurring to themselves, other people, or property.
- Operate the machine in an open, unobstructed area under the direction of an experienced operator.
- Test drive area with attachment lowered but not running. Slow down when you travel over rough ground.

Preparation

- Evaluate the terrain to determine what accessories and attachments are needed to properly and safely perform the job. Only use accessories and attachments approved by the manufacturer.
- Wear appropriate clothing including hard hat, safety glasses and hearing protection. Long hair, loose clothing or jewelry may get tangled in moving parts.
- Inspect the area where the equipment is to be used and remove all objects such as rocks, toys and wire which can be thrown by the machine.
- Use extra care when handling gasoline and other fuels. They are flammable and vapors are explosive.
 - a. Use only an approved container.
 - b. Never remove gas cap or add fuel when engine is running. Do not smoke.
 - c. Never refuel or drain the machine indoors.
- Check that the operator's presence controls, safety switches and shields are attached and functioning properly. Do not operate unless they are functioning properly.

Operating Safely

- Never run an engine in an enclosed area where dangerous carbon monoxide fumes can collect.
- Only operate in good light, keeping away from holes and hidden hazards.

- Be sure all drives are in neutral and parking brake is engaged before starting engine. Only start engine from the operator's position. Use seat belts if provided.
- Slow down and use extra care on hillsides. Be sure to travel in the recommended direction on hillsides. For this machine, drive up and down hillsides, not across. Turf conditions can affect the machine's stability. Use caution while operating near drop-offs.
- Slow down and use caution when making turns and when changing directions on slopes.
- Never raise deck with the blades running.
- Never operate with the PTO shield, or other guards, not securely in place. Be sure all interlocks are attached, adjusted properly, and functioning properly.
- Never operate with the discharge deflector raised, removed or altered, unless using a grasscatcher. Do not operate mower without discharge chute or entire grasscatcher in place.
- Do not change the engine governor setting or overspeed the engine. Operating the engine at excessive speed can increase the hazard of personal injury.
- Stop on level ground, lower implements, disengage drives, engage parking brake, and shut off engine before leaving the operator's position for any reason including emptying the grasscatchers or unclogging the chute.
- Stop equipment and inspect blades after striking objects or if an abnormal vibration occurs. Make necessary repairs before resuming operations.
- Keep hands and feet away from the cutting units.
- Look behind and down before backing up to be sure of a clear path.
- Never carry passengers and keep pets and bystanders away.
- Slow down and use caution when making turns and crossing roads and sidewalks. Stop blades if not mowing. Watch for traffic when operating near or crossing roadways.
- Be aware of the mower discharge direction and do not point it at anyone.
- Do not operate the machine while under the influence of alcohol or drugs.
- Use care when loading or unloading the machine into or off of a trailer or truck.
- Use care when approaching blind corners, shrubs, trees, or other objects that may obscure vision.
- Inspect machine before you operate. Be sure hardware is tight. Repair or replace damaged, badly worn, or missing parts. Be sure guards and shields are in good condition and fastened in place. Make any necessary adjustments before you operate.
- Before using, always visually inspect to see that the blades, blade bolts and the mower assembly are not

Safety

- worn and damaged. Replace worn and damaged blades and bolts in sets to preserve balance.
- Keep safety labels visible when installing accessories and attachments.
- Do not wear radio or music headphones. Safe service and operation require your full attention.
- When machine is left unattended, stored, or parked, lower the mower deck unless a positive mechanical lock is used.

Using a Spark Arrestor

The California Public Resources Code, section 4442.5 provides as follows:

No person shall sell, offer for sale, lease, or rent to any person any internal combustion engine subject to Section 4442 or 4443, and not subject to Section 13005 of the Health and Safety Code, unless the person provides a written notice to the purchaser or bailee, at the time of sale or at the time of entering into the lease or rental contract, stating that it is a violation of Section 4442 or 4443 to use or operate the engine on any forest-covered, brush-covered, or grass-covered land unless the engine is equipped with a spark arrestor, as defined in Section 4442, maintained in effective working order or the engine is constructed, equipped, and maintained for the prevention of fire pursuant to Section 4443. Cal. Pub. Res. Code 4442.5.

Other states or jurisdictions may have similar laws. A spark arrestor for your machine may be available from your authorized dealer. An installed spark arrestor must be maintained in good working order by the operator.

Checking Mowing Area



MXAL41932—UN—22MAY13

- Clear mowing area of objects that might be thrown. Keep people and pets out of mowing area.
- Low-hanging branches and similar obstacles can injure the operator or interfere with mowing operation. Before mowing, identify potential obstacles such as low-hanging branches, and trim or remove those obstacles.
- Study mowing area. Set up a safe mowing pattern. Do not mow where traction or stability is doubtful.

- Test drive area with mower lowered (if equipped) but not running. Slow down when you travel over rough ground.
- Survey all mowing sites to determine which slopes are safe for machine operation and which slopes should be maintained through other maintenance techniques.

Parking Safely

1. Stop machine on a level surface, not on a slope.
2. Disengage mower blades or any other attachments.
3. Lower attachments to the ground.
4. Lock the park brake.
5. Stop the engine.
6. Remove the key.
7. Wait for engine and all moving parts to stop before you leave the operator's seat.
8. Close fuel shut-off valve, if your machine is equipped.
9. Disconnect the negative battery cable or remove the spark plug wire(s) (for gasoline engines) before servicing the machine.

Rotating Blades are Dangerous



MXAL41928—UN—18FEB13

- Rotating blades can cut off arms and legs, and throw objects. Failure to observe safety instructions could result in serious injury or death.
- Keep hands, feet and clothing away from mower deck when engine is running.
- Be alert at all times, drive forward and in reverse carefully. People, especially children can move quickly into the mowing area before you know it.
- Before backing up, stop mower blades or attachments and look down and behind the machine carefully, especially for children.
- Do not mow in reverse.
- Shut off blades when you are not mowing.
- Park machine safely before leaving the operator's station for any reason including emptying the grasscatchers or unplugging the chute.

Safety

Protect Children

- Death or serious injury can occur when young children associate having fun with a lawn mowing machine simply because someone has given them a ride on a machine.
- Children are attracted to lawn mowing machines and mowing activities. They don't understand the dangers of rotating blades or the fact that the operator is unaware of their presence.
- Children who have been given rides in the past may suddenly appear in the mowing area for another ride and be run over or backed over by the machine.
- Tragic accidents with children can occur if the operator is not alert to the presence of children, especially when a child approaches a machine from behind. Before and while backing up, stop mower blades and look down and behind the machine carefully, especially for children.
- Never carry children on a machine or attachment, even with the blades off. Do not tow children in a cart or trailer. They can fall off and be seriously injured or interfere with safe machine operation.
- Never use the machine as a recreational vehicle or to entertain children.
- Never allow children or an untrained person to operate the machine. Instruct all operators not to give children a ride on the machine or in an attachment.
- Keep children indoors, out of the mowing area, and in the watchful eye of a responsible adult, other than the operator, when a mower is being operated.
- Stay alert to the presence of children. Never assume that children will remain where you last saw them. Turn the machine off if a child enters the work area.

Operating on Slopes

Identify Slopes for Safe Operation

- Establish your own special procedures and rules for operating on slopes. These procedures must include a survey of all mowing sites to determine which slopes are safe for machine operation. Always use common sense and good judgement when performing this survey.
- Lay a straight piece of sturdy lumber 1.2 m (4 ft) long on the slope and measure the angle of the slope with an angle indicator or protractor level.
- Never mow or operate machine on slope angles greater than 25°.
- Exceeding the maximum recommended slope angle of 25° increases the risk of rollover accidents that can result in serious injury or death.
- Always consider potential turf conditions and slope angles when determining the risk of loss-of-control and tip-over accidents.

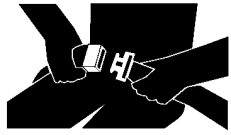
- On slope angles of 15° or less the risk of rollover is low, but as the slope angle increases to the John Deere recommended maximum of 25° the risk increases to a moderate level.
- The recommended slope angles are for a machine in its basic configuration. The basic configuration is mower deck only, no cab, MCS or other attachments. The addition of a cab, MCS or other attachments will increase the risk of a rollover and decrease the recommended operating slope.

Operate Safely on Slopes

- Slopes are a major factor related to loss-of-control and tip-over accidents, which can result in severe injury or death. Operation on all slopes requires extra caution.
- If you feel uneasy on a hillside, do not mow it.
- Mow up and down slopes, not across.
- Watch for holes, ruts, bumps, rocks, or other hidden objects. Uneven terrain could overturn the machine. Tall grass can hide obstacles.
- Choose a low ground speed so you will not have to stop or shift while on a slope.
- Rollover can occur before the tires lose traction.
- Use caution if moving when grass is wet or slippery. Tires may lose traction. Tires may lose traction or slip on slopes even though the brakes are functioning properly.
- Avoid starting, stopping or turning on a slope. If the tires lose traction, disengage the PTO and proceed slowly, straight down the slope.
- Keep all movement on slopes slow and gradual. Do not make sudden changes in speed or direction, which could cause the machine to roll over.
- Use extra care while operating machine with grass catchers or other attachments, they can affect stability of the machine. Do not use on steep slopes.
- Do not mow or operate machine in areas adjacent to hazards that may cause the machine to roll over. The machine could suddenly lose traction, slide, and/or roll over if a wheel goes over the edge or if the edge breaks away. Leave a buffer area of at least as wide as the machine between the hazard and the mowing area.
- Follow the manufacturer's recommendations for wheel weights or counterweights for added stability when operating on slopes or using front or rear mounted attachments. Remove weights when not required.
- Drive machine very slowly and avoid quick stops or sharp turns when attachment is removed.
- Keep attachments lowered to the ground while operating on slopes. Raising attachments while operating on slopes can cause machine to become unstable.
- Transport machine with attachments lowered to improve stability.

Safety

Use Seat Belt Properly



TCAL42361—UN—08MAR13

- Use a seat belt when you operate with a Roll-Over Protective Structure (ROPS) to minimize chance of injury from an accident, such as an overturn.
- Do not use a seat belt if operating with a folding ROPS in the folded position. Return the folding ROPS to the upright position as soon as possible.
- Never modify, disassemble or attempt to repair the seat belt.
- 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 John Deere-approved replacement parts.
- Layers of heavy clothing can interfere with proper positioning of the seat belt and can reduce the effectiveness of the seat belt.

Use Rollover Protection System (ROPS) Properly

- Never operate the machine without the ROPS installed.
- DO NOT remove the ROPS.
- Keep the ROPS in safe operating condition by periodically thoroughly inspecting for damage and keeping all mounting hardware tight. Make certain all parts of the ROPS are installed correctly if the ROPS structure is loosened or removed for any reason. All ROPS hardware should be tightened to the proper torque per manufacturer's recommendations.
- Replace a damaged ROPS. Do not repair or revise. The protection provided by the ROPS will be impaired if the ROPS is subjected to structural damage, is involved in an overturn incident, or is in any way altered by welding, bending, drilling, or cutting. It must be replaced to maintain the manufacturer's certification of the structure.
- The seat is part of the ROPS safety zone. Replace only with a John Deere approved seat.
- Be certain that the seat belt can be released quickly in the event of an emergency.
- Never attempt to repair a damaged or altered ROPS. It must be replaced to maintain the manufacturer's certification of the structure.

- Check carefully for overhead clearances (i.e. branches, doorways, electrical wires) before driving under any objects and do not contact them.
- The ROPS is an integral and effective safety device. Keep a folding ROPS in the raised and locked position and use the seat belt when operating the machine.
- Lower a folding ROPS temporarily only when absolutely necessary. Do not wear the seat belt when folded down.
- Be aware there is no rollover protection when a folded ROPS is in the down position.
- Check the area to be mowed and never fold down a folding ROPS in areas where there are slopes, drop offs, ditches or embankments or bodies of water.

Keep Riders Off

- Only allow the operator on the machine. Keep riders off.
- Riders on the machine or attachment may be struck by foreign objects or thrown off the machine causing serious injury.
- Riders obstruct the operator's view resulting in the machine being operated in an unsafe manner.

Driving Safely on Public Roads

Avoid personal injury or death resulting from a collision with another vehicle on public roads:

- Use safety lights and devices. Slow moving machines when driven on public roads are hard to see, especially at night.
- Whenever driving on public roads, use flashing warning lights and turn signals according to local regulations. Extra flashing warning lights may need to be installed.

Checking Wheel Hardware

- A serious accident could occur causing serious injury if wheel hardware is not tight.
- Check wheel hardware tightness often during the first 100 hours of operation.
- Wheel hardware must be tightened to specified torque using the proper procedure anytime it is loosened.

Safety

Wear Appropriate Clothing



TCAL41682—UN—08MAR13

- Always wear safety goggles, or safety glasses with side shields, and a hard hat when operating the machine.
- Wear close fitting clothing and safety equipment appropriate for the job.
- While operating this machine, always wear substantial footwear and long trousers. Do not operate the equipment when barefoot or wearing open sandals.
- Wear a suitable protective device such as earplugs. Loud noise can cause impairment or loss of hearing.

Towing Loads Safely

- Stopping distance increases with speed and weight of towed load. Travel slowly and allow extra time and distance to stop.
- Total towed weight must not exceed combined weight of pulling machine, ballast and operator. Use counterweights or wheel weights as described in the attachment or pulling machine operator's manual.
- Excessive towed load can cause loss of traction and loss of control on slopes. Reduce towed weight when operating on slopes.
- Never allow children or others in or on towed equipment.
- Use only approved hitches. Tow only with a machine that has a hitch designed for towing. Do not attach towed equipment except at the approved hitch point.
- Follow the manufacturer's recommendations for weight limits for towed equipment and towing on slopes.
- If you cannot back up a slope with a towed load, the slope is too steep to operate on with the towed load. Reduce the towed load or do not operate.
- Do not turn sharply. Use additional caution when turning or operating under adverse surface conditions. Use care when reversing.
- Do not shift to neutral and coast downhill.

Maintenance and Storage



TCAL43414—UN—15MAR13

- Never operate machine in a closed area where dangerous carbon monoxide fumes can collect.
- Disengage drives, lower implement, lock parking brake, stop engine and remove key or disconnect spark plug (for gas engines). Wait for all movement to stop before adjusting, cleaning or repairing.
- Clean grass and debris from cutting units, drives, mufflers, and engine to help prevent fires. Clean up oil or fuel spillage.
- Let engine cool before storing and do not store near flame.
- Shut off fuel while storing or transporting. Do not store fuel near flames or drain indoors.
- Park machine on level ground. Never allow untrained personnel to service machine. Understand service procedure before doing work.
- Use jack stands or lock service latches to support components when required. Securely support any machine elements that must be raised for service work.
- Before servicing machine or attachment, carefully release pressure from any components with stored energy, such as hydraulic components or springs.
- Release hydraulic pressure by lowering attachment or cutting units to the ground or to a mechanical stop and move hydraulic control levers back and forth.
- Disconnect battery or remove spark plug (for gas engines) before making any repairs. Disconnect the negative terminal first and the positive last. Reconnect positive first and negative last.
- Use care when checking tines or blades. Wrap the tines or blades, or wear gloves, and use caution when servicing them. Only replace tines or blades. Never straighten or weld them.
- Keep hands, feet, clothing, jewelry and long hair away from moving parts. If possible, do not make adjustments with the engine running.
- Charge batteries in an open well ventilated area, away from spark and flames. Unplug charger before connecting or disconnecting from battery. Wear protective clothing and use insulated tools.
- Keep all parts in good working condition and all hardware tightened. Replace all worn or damaged decals.
- Check grass catcher components and the discharge guard frequently and replace with manufacturer's recommended parts, when necessary. Grass catcher components are subject to wear, damage, and

Safety

deterioration which could expose moving parts or allow objects to be thrown.

- Keep all nuts and bolts tight, especially tines or blades attachment bolts, to be sure the equipment is in safe working condition.
- Check brake operation frequently. Adjust and service as required.
- On multi-bladed machines, take care as rotating one tine or blade can cause others to rotate.

Avoid High Pressure Fluids



TCAL25960—UN—24MAY12

- Hydraulic hoses and lines can fail due to physical damage, kinks, age, and exposure. Check hoses and lines regularly. Replace damaged hoses and lines.
- Hydraulic fluid connections can loosen due to physical damage and vibration. Check connections regularly. Tighten loose connections.
- 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 from Deere & Company Medical Department in Moline, Illinois, U.S.A. Information may be obtained in the United States and Canada only by calling 1-800-822-8262.

Prevent Fires

- Please review these recommendations with all operators. See your John Deere dealer with questions.
- Always follow all safety procedures posted on the machine and in this operator manual. Before carrying out any inspection or cleaning always shut off engine, set parking brake and remove ignition key.
- Besides routine maintenance, one of the best ways to keep your John Deere equipment running efficiently and to reduce fire risk is to regularly remove debris buildup from the machine.
- After operating, allow machine to cool in an open area before cleaning or storing. Do not park machine near

flammable materials such as wood, cloth or chemicals, or near an open flame or other sources of ignition, such as a water heater or furnace.

- Completely remove any combustible materials from equipment before storing, by emptying any grass catcher bags, containers and cargo boxes.
- Debris can accumulate anywhere on the machine, especially on horizontal surfaces. Remove grass and debris completely from engine compartment, muffler area, and from on top of the mower deck both before and after operating machine. Additional cleaning may be necessary when mowing or mulching in dry conditions.
- In addition to cleaning machine before using and storing, keeping engine area clean provides the greatest impact on fire prevention. Other areas requiring regular inspection and cleaning include behind wheel rims, wire harness, hose or line routing, mowing attachments, etc. Compressed air, leaf blowers, or high pressured water assists in keeping these areas clean.
- Frequency of these inspections and cleaning will vary depending on a number of factors including operating conditions, machine configuration, operating speeds and weather conditions particularly dry, hot and windy conditions. When you are operating in these conditions, inspect and clean these areas frequently throughout the day.
- Excess lubrication or fuel/oil leaks or spills on the machine can also serve as collection sites for debris. Prompt machine repair and oil and fuel clean-up reduces the potential for debris collection.
- Bearing failures or overheating can result in a fire. To reduce this risk, always follow the instructions in the machine operator's manual regarding lubrication intervals and locations. Contact your local dealer if you have any questions about the lubrication intervals or location and if any unusual noises are coming from areas where bearings might be located. Washing the machine while warm may also reduce bearing life and increase potential for premature bearing failure.
- Always shut off fuel when storing or transporting machine, if the machine has a fuel shutoff.
- Check fuel lines, tank, cap, and fittings frequently for cracks or leaks. Replace if necessary.

Transport Safely

- Use care when loading or unloading the machine into a trailer or truck.
- Use full width ramps for loading machine into trailer or truck.
- Tie the machine down securely using appropriate straps, chains, cable, or ropes. Both front and rear straps should be directed down and outward from the machine.

Safety

- Refer to “Transporting Machine” in the Operating section for more information.

Tire Safety

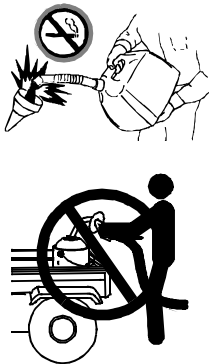


TCAL25965—UN—24MAY12

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

- Do not attempt to mount a tire without 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.
- Check tires for low pressure, cuts, bubbles, damaged rims or missing lug bolts and nuts.

Handling Fuel Safely



TCAL25966—UN—24MAY12

To avoid personal injury or property damage, use extreme care in handling fuel. Fuel is extremely flammable and fuel vapors are explosive:

- Extinguish all cigarettes, cigars, pipes, and other sources of ignition.
- Use only an approved fuel container. Use only non-metal, portable fuel containers approved by the Underwriter's Laboratory (U.L.) or the American Society for Testing & Materials (ASTM). If using a funnel, make sure it is plastic and has no screen or filter.
- Never remove the fuel tank cap or add fuel with the engine running. Allow engine to cool before refueling.

- Never add fuel to or drain fuel from the machine indoors. Move machine outdoors and provide adequate ventilation.
- Clean up spilled fuel immediately. If fuel is spilled on clothing, change clothing immediately. If fuel is spilled near machine, do not attempt to start the engine but move the machine away from the area of spillage. Avoid creating any source of ignition until fuel vapors have dissipated.
- Never store the machine or fuel container where there is an open flame, spark, or pilot light such as on a water heater or other appliance.
- Prevent fire and explosion caused by static electric discharge. Static electric discharge can ignite fuel vapors in an ungrounded fuel container.
- Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground away from your vehicle before fueling.
- Remove fuel-powered equipment from the truck or trailer and refuel it on the ground. If this is not possible, then refuel such equipment with a portable container, rather than from a fuel dispenser nozzle.
- Keep the nozzle in contact with the rim of the fuel tank or container opening at all times until the fueling is complete. Do not use a nozzle lock-open device.
- Never overfill fuel tank. Replace fuel tank cap and tighten securely.
- Replace all fuel container caps securely after use.
- For gasoline engines, do not use gas with methanol. Methanol is harmful to your health and to the environment.

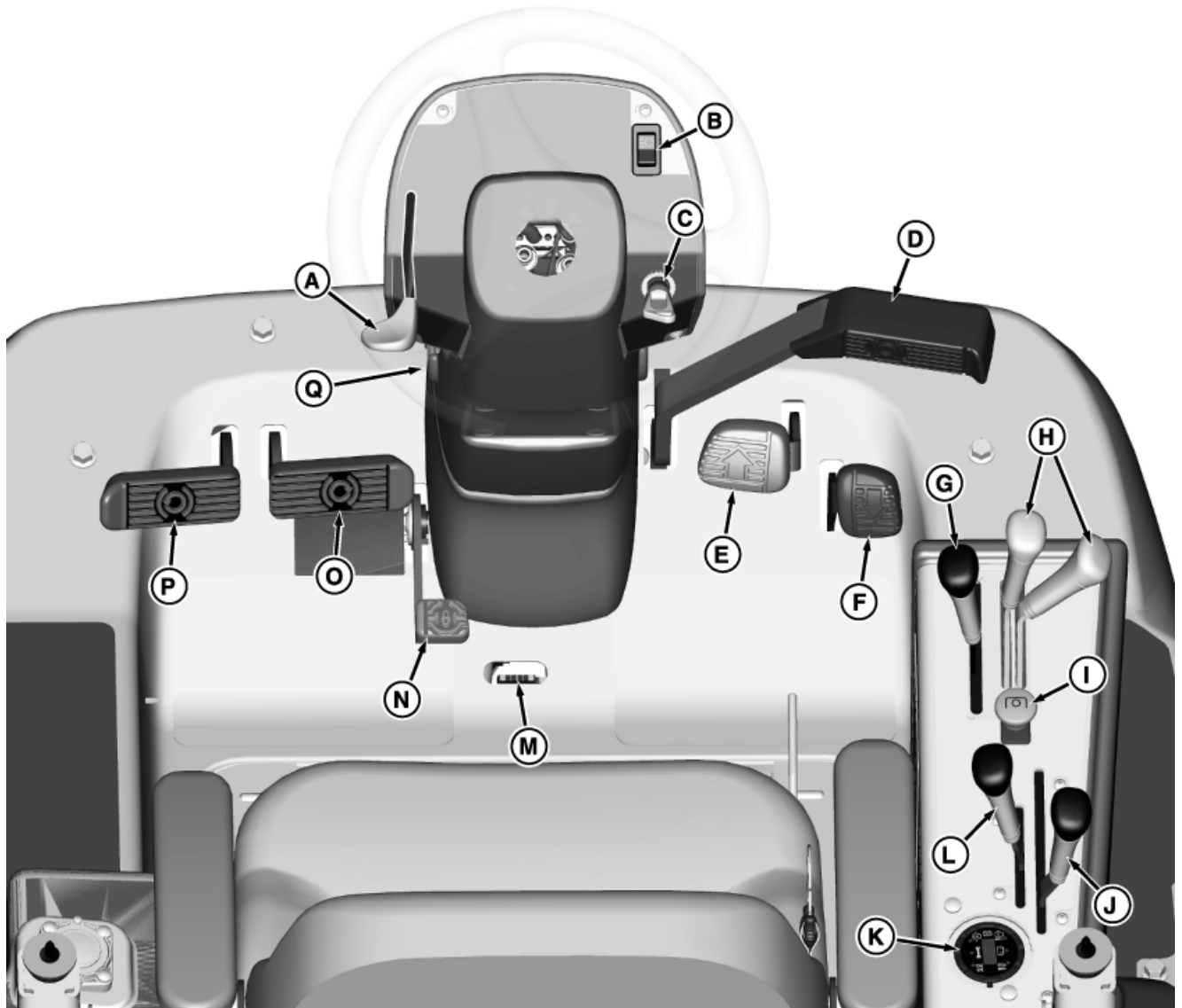
Handling Waste Product and Chemicals

Waste products, such as, used oil, fuel, coolant, brake fluid, and batteries, can harm the environment and people:

- Do not use beverage containers for waste fluids - someone may drink from them.
- See your local Recycling Center or authorized dealer to learn how to recycle or get rid of waste products.
- A Material Safety Data Sheet (MSDS) provides specific details on chemical products: physical and health hazards, safety procedures, and emergency response techniques. The seller of the chemical products used with your machine is responsible for providing the MSDS for that product.

Operating Controls

Operator Station Controls—1550



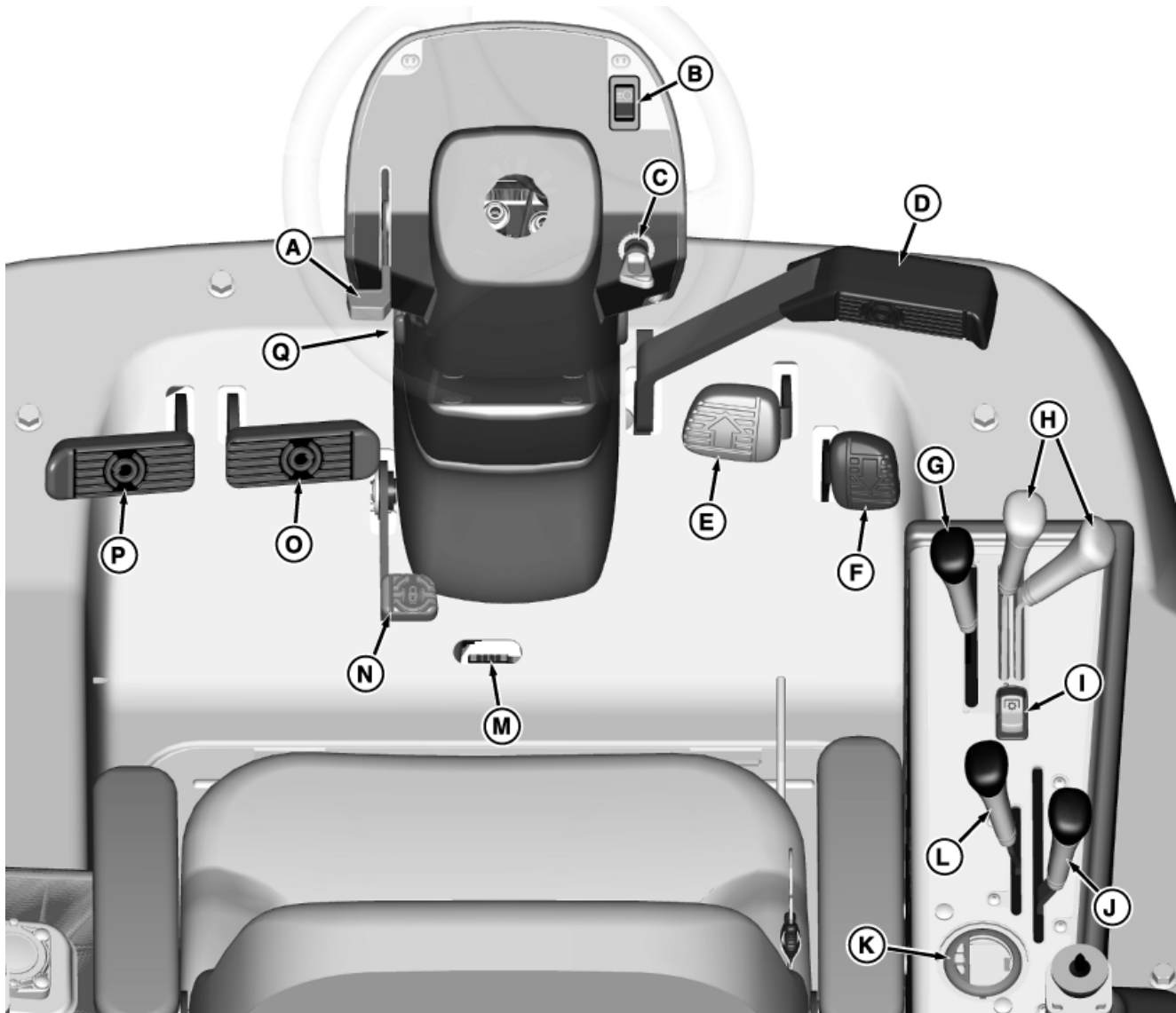
TCT010627—UN—20MAR14

Picture Note: Four wheel drive model shown.

- | | |
|---|-------------------------------------|
| A — Throttle Lever | J — 4WD Control Lever |
| B — Work Lamp Switch | K — Operator Display |
| C — Key Switch | L — Axle Speed Lever |
| D — Park Brake Pedal | M — Park Brake Lock Lever |
| E — Forward Pedal | N — Traction Assist Pedal |
| F — Reverse Pedal | O — Right Turn Brake Pedal |
| G — Attachment Lift Lever | P — Left Turn Brake Pedal |
| H — Auxiliary Hydraulics Control Lever (Optional) | Q — Steering Column Tilt Lever Lock |
| I — PTO Switch | |

Operating Controls

Operator Station Controls—1570 and 1580



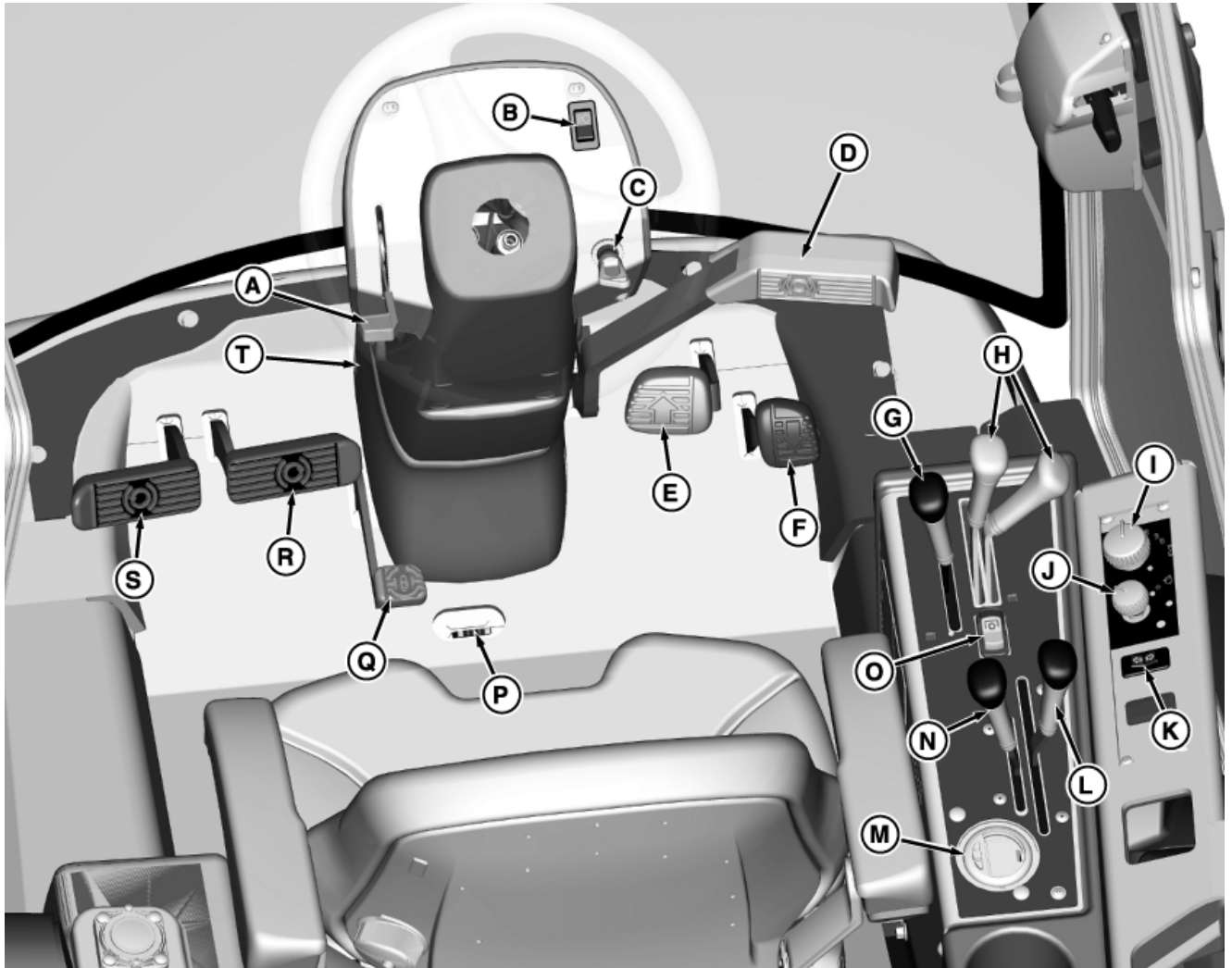
TCT010628—UN—20MAR14

Picture Note: Four wheel drive model shown.

- | | |
|---|-------------------------------------|
| A — Throttle Lever | J — 4WD Control Lever |
| B — Work Lamp Switch | K — Operator Display |
| C — Key Switch | L — Axle Speed Lever |
| D — Park Brake Pedal | M — Park Brake Lock Lever |
| E — Forward Pedal | N — Traction Assist Pedal |
| F — Reverse Pedal | O — Right Turn Brake Pedal |
| G — Attachment Lift Lever | P — Left Turn Brake Pedal |
| H — Auxiliary Hydraulics Control Lever (Optional) | Q — Steering Column Tilt Lever Lock |
| I — PTO Switch | |

Operating Controls

Operator Station Controls—1575 and 1585 (Cab Models)



TCT010626—UN—20MAR14

Picture Note: 1585 model is shown.

- A — Throttle Lever
- B — Work Lamp Switch
- C — Key Switch
- D — Park Brake Pedal
- E — Forward Pedal
- F — Reverse Pedal
- G — Attachment Lift Lever
- H — Auxiliary Hydraulics Control Lever
- I — Light Switch
- J — Windshield Wiper Switch

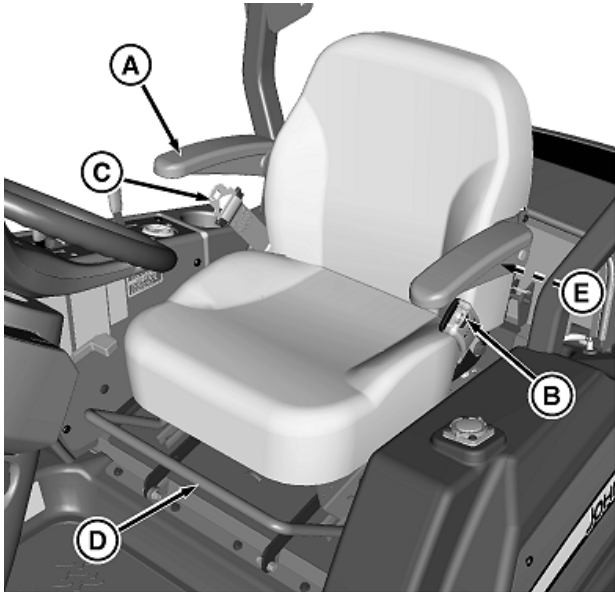
- K — Turn Signal Switch
- L — 4WD Control Lever
- M — Operator Display
- N — Axle Speed Lever
- O — PTO Switch
- P — Park Brake Lock Lever
- Q — Traction Assist Pedal
- R — Right Turn Brake Pedal
- S — Left Turn Brake Pedal
- T — Steering Column Tilt Lever Lock

Operating Controls

Seat Controls

IMPORTANT: Avoid Injury! Fasten Safety belts when operating machine with Roll-Over Protective Structure (ROPS) in upright position and pinned in place. If ROPS must be folded to operate in a low clearance area, do not use the seat belt. Raise ROPS and use seat belt as soon as conditions permit.

Seat Controls – Deluxe Comfort Seat with Armrests

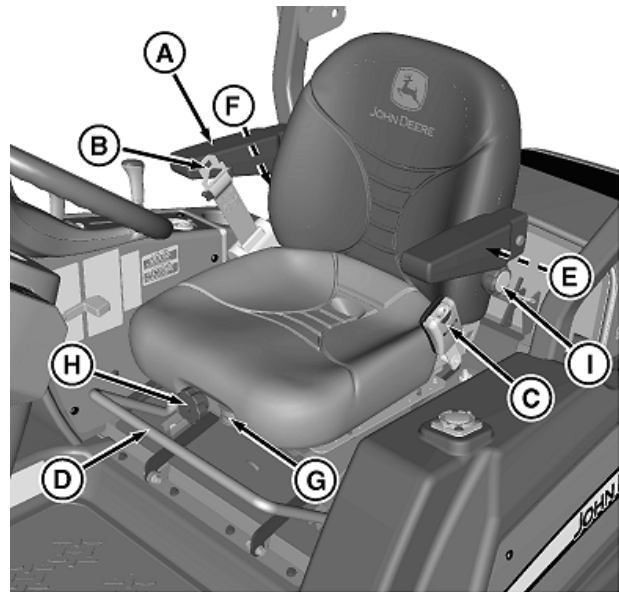


TCT008505—UN—20SEP13

- A —Folding Armrests
- B —Seat Belt Latch
- C —Seat Belt Buckle
- D —Seat Fore/Aft Adjustment Lever
- E —Armrest height adjusting knob

- Adjust fore/aft position to maximize comfort but to maintain control of machine as well.
- Make certain that steering wheel and foot pedals can be easily used when operating.
- The armrests can be lowered or raised by adjusting the knobs under each armrest.

Seat Controls – Comfort Adjust Suspension Seat with Armrests



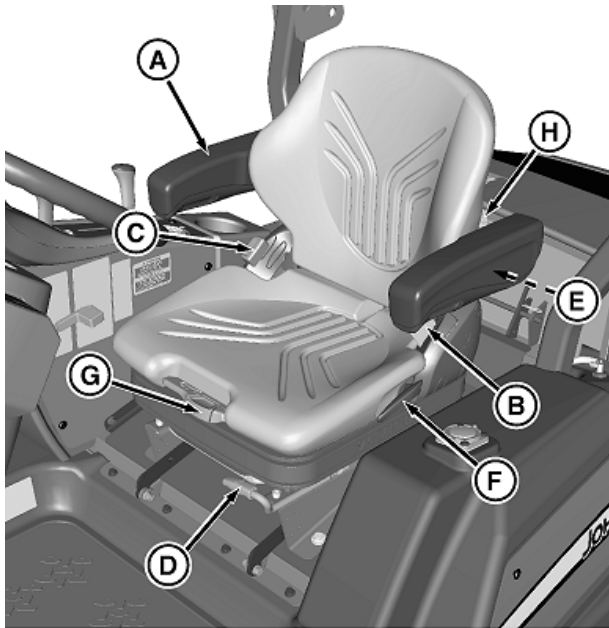
TCT008506—UN—20SEP13

- A —Folding Armrests
- B —Seat Belt Latch
- C —Seat Belt Buckle
- D —Seat Fore/Aft Adjustment Lever
- E —Armrest height adjusting knob
- F —Seat Back Adjustment Knob
- G —Scale Weight Indicator
- H —Seat Suspension Adjustment Crank
- I —Lumbar Support Knob

- Adjust fore/aft position to maximize comfort but to maintain control of machine as well.
- Make certain that steering wheel and foot pedals can be easily used when operating.
- The armrests can be lowered or raised by adjusting the knobs under each armrest.
- Use hand crank to adjust suspension.
- Monitor scale indicator to maintain setting at operator's weight.
- Adjust seat rake to desired angle using seat back adjustment knob.
- Support for lower back can be adjusted using lumbar support knob on right side of seat back.

Operating Controls

Seat Controls –Air Ride Suspension Seat

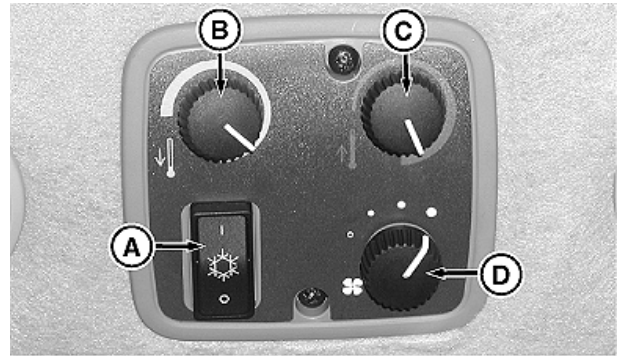


TCT008507—UN—20SEP13

- A —Folding Armrests
- B —Seat Belt Latch
- C —Seat Belt Buckle
- D —Seat Fore/Aft Adjustment Lever
- E —Armrest height adjusting knob
- F —Seat Back Adjustment Lever
- G —Air Pressure Switch
- H —Lumbar Support Knob

- Adjust fore/aft position to maximize comfort but to maintain control of machine as well.
- Make certain that steering wheel and foot pedals can be easily used when operating.
- The armrests can be lowered or raised by adjusting the knobs under each armrest.
- Use air pressure switch to adjust suspension.
- Adjust seat rake to desired angle using seat back adjustment lever.
- Support for lower back can be adjusted using lumbar support knob on left side of seat back.

Air Temperature Controls (Cab)



TCT008311—UN—13AUG13

- A —Air Conditioning and Deicing Switch
- B —Air Conditioning Temperature Control Knob
- C —Heater Temperature Control Knob
- D —Blower Speed Control Knob

Operating Machine

Daily Operating Checklist

Before Each Use

- ☐ Check engine oil
- ☐ Check hydraulic oil
- ☐ Check coolant
- ☐ Check for leaks
- ☐ Inspect tires and check air pressure
- ☐ Check safety interlock system, lights
- ☐ Check brake system
- ☐ Check air filtration system
- ☐ Check for loose, missing, or damaged parts
- ☐ Check all safety guards and shields
- ☐ Check fuel / water separator
- ☐ Check belts
- ☐ Check pedals and / or steering control
- ☐ Check seat belt
- ☐ Check and clean hood sealing surfaces

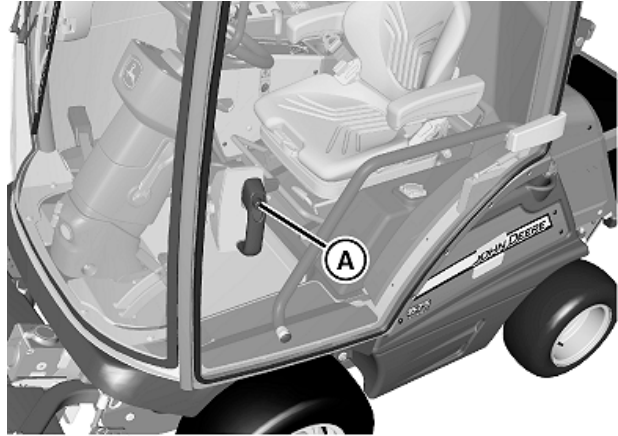
After Each Use

- ☐ Check / fill fuel
- ☐ Clean debris from machine
- ☐ Clean debris from cooling system
- ☐ Clean debris from mower and / or attachment drive systems
- ☐ Clean debris from cutting units and attachments
- ☐ Clean debris from underside of mower deck
- ☐ Check mower deck drive belts
- ☐ Check mower blades
- ☐ Lubricate machine after washing

Avoid Damage to Plastic and Painted Surfaces

- Do not wipe plastic parts unless rinsed first. Using a dry cloth may cause scratches.
- Insect repellent spray may damage plastic and painted surfaces. Do not spray insect repellent near machine.
- Be careful not to spill fuel on machine. Fuel may damage surface. Wipe up spilled fuel immediately.
- Prolonged exposure to sunlight will damage hood surfaces.

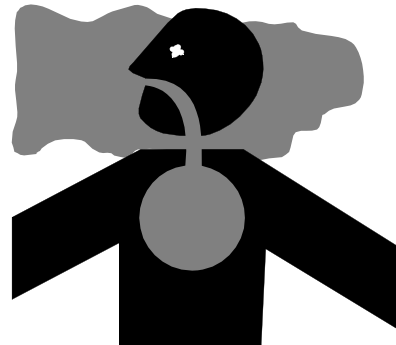
Entering and Exiting Machine (Cab)



TCT008319—UN—14AUG13

1. To enter cab on either right or left side, press button (A) on handle and open door. Close door until door locks into closed position.
2. To exit cab, twist handle on inside of door handle and open door.

Testing Safety Systems



TCAL41599—UN—22JAN13



CAUTION: Engine exhaust fumes contain carbon monoxide and can cause serious illness or death.

- Move the machine to an outside area before running the engine.
- Do not run an engine in an enclosed area without adequate ventilation.
- Connect a pipe extension to the engine exhaust pipe to direct the exhaust fumes out of the area.
- Allow fresh outside air into the work area to clear the exhaust fumes out.

The safety systems installed on your machine should be checked before each machine use. Be sure you have read the machine operator manual and are completely

Operating Machine

familiar with the operation of the machine before performing these safety system checks.

Use the following checkout procedures to check for normal operation of machine.

If there is a malfunction during one of these procedures, do not operate machine. **See your authorized dealer for service.**

Perform these tests in a clear open area. Keep bystanders away.

Testing PTO Switch (1550)

1. Sit on the seat and verify seat is properly adjusted for operator's weight. (Seat should spring down slightly so seat switch is actuated.)
2. Lock the park brake.
3. Turn on the PTO switch: Pull PTO knob on switch up to the "ON" position.
4. Try to start engine.
Result: The starting motor must not engage. If it does, there is a problem with the safety interlock circuit.
5. Unlock the park brake (keep the PTO switch on). Try to start engine.
Result: The starting motor must not engage. If it does, there is a problem with the safety interlock circuit.

Testing PTO Switch (1570, 1575, 1580, and 1585)

1. Sit on the seat and verify seat is properly adjusted for operator's weight. (Seat should spring down slightly so seat switch is actuated.)
2. Lock the park brake.
3. Turn on the PTO switch.
4. Try to start engine.
Result: The engine can start but the PTO must not engage.
5. Unlock the park brake keeping the PTO switch on.
Result: The PTO must not engage. If it does, there is a problem with the safety interlock circuit.
6. Cycle the PTO switch.
Result: The PTO engages.

Testing Seat and Park Brake Switch

1. Sit on the seat and verify seat is properly adjusted for operator's weight. (Seat should spring down slightly so seat switch is actuated.)

2. Turn off the PTO switch: Push PTO knob on switch down to the "OFF" position.
3. Push down master brake pedal.
4. Start engine.
5. Release master brake pedal.
6. Rise up off of seat, but do not get off machine.

Result: Engine should stop after a few seconds. If engine does not stop, there is a problem with the safety interlock circuit.

Testing the Park Brake

Stop machine on a 17° slope (30% grade). Stop the engine and lock the park brake.

Result: Park brake must hold the machine stationary. (ANSI standards permit movement of no more than 61cm (24 in.) in one hour.) If machine moves more than that, brakes need to be adjusted. See your John Deere Dealer.

Using Proper Ballast



TCT007879—UN—11JUL13

- Attachments used with this machine may require ballast to prevent tipping and loss of control when the attachment is raised.
- Ballast may vary depending on the model and year of the machine or attachment.
- Check the attachment operator's manual and see your John Deere dealer for ballasting information.

Operating Machine

Adjusting Seat (Deluxe Suspension)

Adjusting Seat Position

1. Sit on seat.
2. Pull seat adjustment lever up, out of locked position.
3. Slide seat forward or rearward to desired position. Operator's right heel should be able to rest firmly on the floor in front of the forward and reverse pedals.
4. Release lever.

Adjusting Seat Spring Tension

1. Turn seat spring adjustment knob to adjust seat spring tension while watching weight indicator.
2. Match weight of operator to value shown in weight indicator. Seat must spring slightly so that operator's presence switch will be actuated, allowing engine to start.

Adjusting Seat Height

1. Pull up on the front of the base of the seat, and the seat height adjustment lever, until the seat height lock disengages.
2. Raise or lower the operator's seat to desired height. (There are four positions available.)
3. Release the seat height lock lever and continue to move the seat slightly until it latches in place.

Adjusting Seat (Comfort Adjust Suspension)

Adjusting Seat Position

1. Sit on Seat.
2. Pull seat adjustment lever up, out of locked position
3. Slide seat forward or rearward to desired position. Operator's right heel should be able to rest firmly on the floor in front of the forward and reverse pedals.
4. Release lever.

Adjusting Seat Suspension

Turn knob to desired position per operator weight on gauge.

Adjusting Seat Back

- Bring the seat back to a vertical position by turning the knob to the right (clockwise).
- Turn the knob to the left (counterclockwise) to recline the seat back slightly.

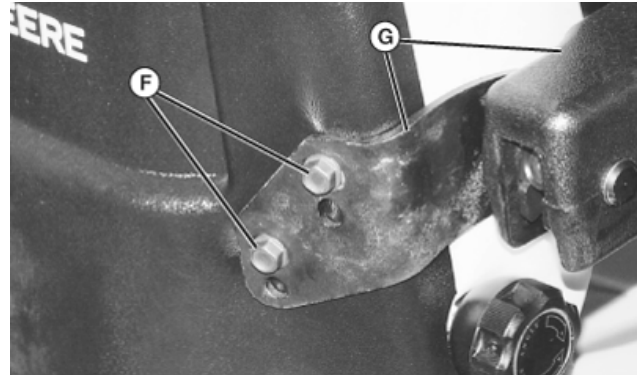
Adjusting Lumbar Support

- Turn the lumbar support knob to the left (counterclockwise) to decrease lumbar support.

- Turn the lumbar support knob to the right (clockwise) to increase lumbar support.

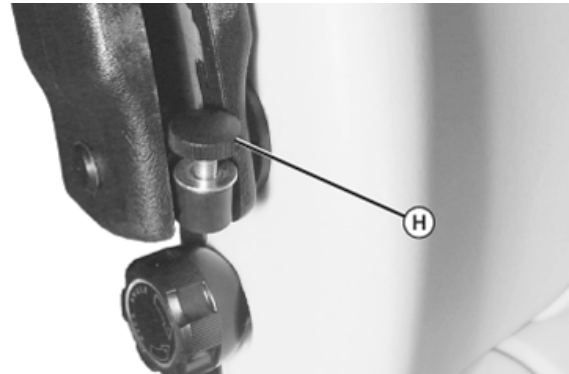
Adjusting Armrest

- To raise or lower armrest both sides:



TCAL43313—UN—14MAR13

- a. Remove two bolts (F) and raise armrest and bracket (G) to the other set of holes.
 - b. Install bolts and tighten.
- To change the angle of the armrest both sides:



TCAL43314—UN—14MAR13

- a. Lift armrest to reveal knob (H).
- b. Turn knob (H) to raise or lower knob height and change the angle of the armrest.

Using Seat Belt

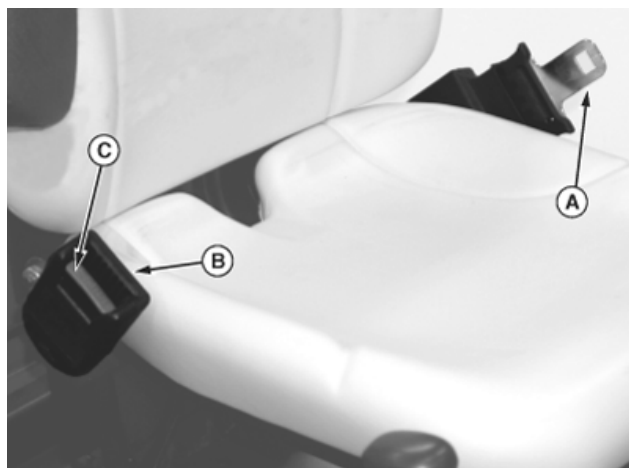


CAUTION: Always wear seat belt when operating machine with folding Roll-Over Protective Structure (ROPS) in upright position. Do not jump from machine if machine tips.

If ROPS must be folded to operate in a low clearance area, do not use seat belt. Raise ROPS and use seat belt as soon as conditions permit.

1. Sit in seat.

Operating Machine



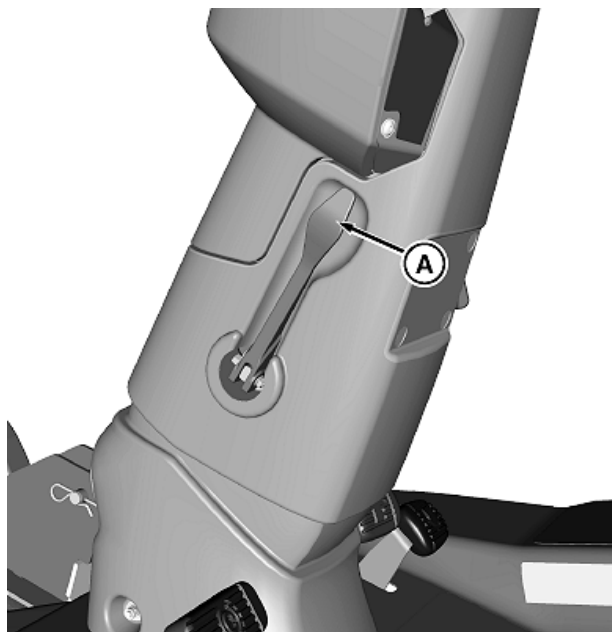
TCAL43315—UN—14MAR13

2. Pull out seat belt buckle (A) and stretch across your lap in one non-stop motion.
3. Insert seat belt buckle into latch (B) until it locks.
4. To release seat belt, press red button (C) until buckle comes out of latch.

Adjusting Steering Column

CAUTION: Avoid Injury! Do not attempt to adjust the steering wheel while the machine is moving. The operator can lose control of the machine.

- Stop the machine before adjusting the steering wheel.
 - Lock the steering wheel in position before driving the machine.
1. Stop machine travel.



TCT009086—UN—04NOV13

2. Pull steering column tilt lever (A) outward to release steering column.
3. Move steering column forward or rearward to desired position.
4. Push lever back in to lock steering column in place.

Using PTO Switch (1550)

The starter does not engage if the PTO switch is ON. The PTO disengages if any of the following conditions exist:

- High engine coolant temperature.
- Low engine oil pressure.
- High hydraulic oil temperature.
- Master brake pedal is depressed.
- To turn PTO off: Push PTO knob on switch down to the "OFF" position.
- To turn PTO on: Pull PTO knob on switch up to the "ON" position.

Using PTO Switch (1570, 1575, 1580, and 1585)

The starter engages if the PTO switch is ON, however the PTO does not engage until the switch is cycled. Turn PTO switch OFF, then ON. The PTO disengages if any of the following conditions exist:

- High engine coolant temperature.
- Low engine oil pressure.
- High hydraulic oil temperature.
- Master brake pedal is depressed.

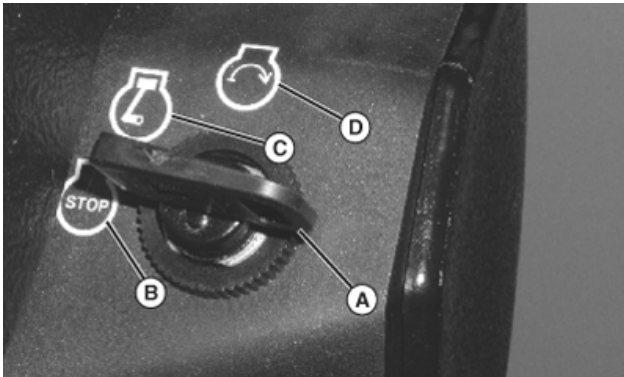
Operating Machine

- To turn PTO off: Push switch to the OFF position.
- To turn PTO on: Push switch to the ON position.

Using Key Switch (1550)

NOTE: Starting motor engages only if the following conditions exist:

- PTO is off.
- Master brake pedal is depressed.



TCAL43316—UN—14MAR13

1. To turn off ignition, turn the key (A) to the STOP position (B).
2. To turn on ignition, turn the key to the RUN position (C). The beeper sounds, and the following indicator lights on the operator display illuminate:
 - Engine Oil Pressure Light
 - Battery Discharge Light
 - Engine Coolant Temperature Light
 - Engine Glow Plug Light
3. To start engine, turn key to the START position (D). Once the engine begins to run, release the key switch back to the RUN position (C).

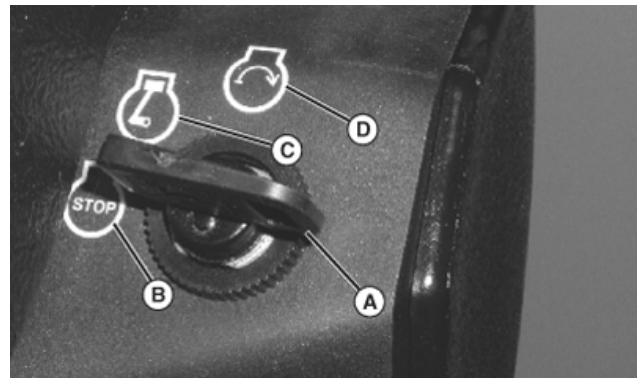
NOTE: With the key switch in the START position, the following indicator lights on the operator display illuminate:

- Engine Oil Pressure Light
- Engine Coolant Temperature Light
- Hydraulic Oil Temperature Light

Using Key Switch (1570, 1575, 1580, and 1585)

NOTE: Starting motor engages only if the following conditions exist:

- Master brake pedal is depressed.
- Traction pedals are in neutral.



TCAL43316—UN—14MAR13

- To turn ignition off, turn the key (A) to the STOP position (B).
- To turn ignition on, turn the key to the RUN position (C). The beeper sounds, and the machine runs through a 2 second startup sequence. The display screen flashes the JD Logo, and then rests at the hour meter screen.
- To start engine, turn the key to the START position (D). Once engine begins to run, release key switch back to the RUN position (C).

NOTE: With the key switch in the START position, the display may reset during engine cranking.

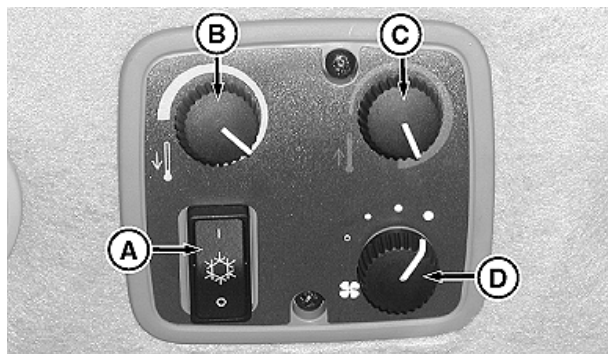
Using Throttle Lever

- Pull the throttle lever to the rear for slow idle. Use this position to start engine and maneuver the mower in confined spaces.
- Push throttle lever fully forward to the fast idle position for transporting and mowing.

Operating Machine

Using Cab Controls

Using Temperature Controls



TCT008311—UN—13AUG13

- A — Air Conditioning and Deicing Switch
- B — Air Conditioning Temperature Control Knob
- C — Heater Temperature Control Knob
- D — Blower Speed Control Knob

Air Conditioner and Deicing System

- Push top half of air conditioning and deicing switch to turn system ON. Push bottom half of switch to turn system OFF.

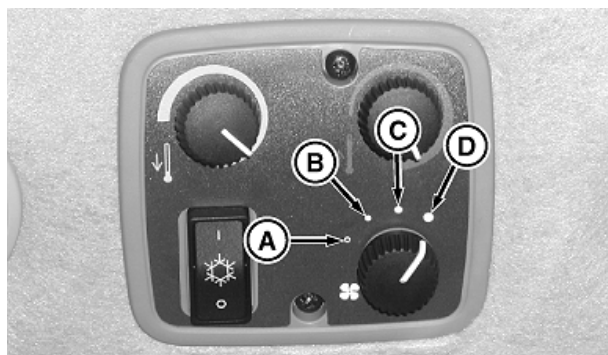
Adjusting Air Conditioning Temperature

- Turn air conditioning temperature control knob clockwise to circulate warmer air through vents. Turn knob counterclockwise to circulate cooler air through vents. The thicker the blue bar is on knob label indicates a cooler temperature setting and a thin bar indicates a less cool setting.

Adjusting Heater Temperature

- Turn heater temperature control knob clockwise to circulate warmer air through vents. Turn knob counterclockwise to circulate cooler air through vents. The thicker the red bar is on knob label indicates a warmer temperature setting and a thin bar indicates a less warm setting.

Adjusting Blower Speed



TCT008312—UN—13AUG13

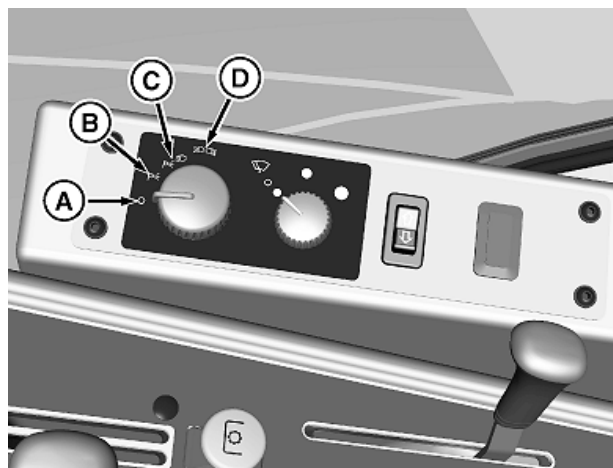
- A — Off

- B — Low
- C — Medium
- D — High

Turn blower speed control knob to desired setting

Using Light Switch

! CAUTION: Avoid injury! Do not operate on roads with light switch in the field position. Rear work lights may blind or confuse operators of oncoming vehicles.



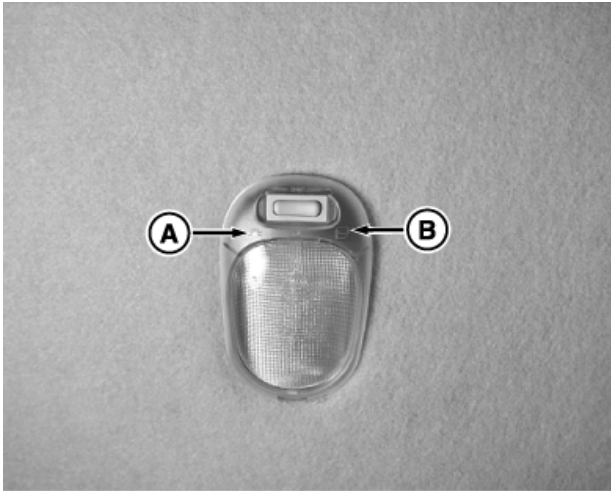
TCT008314—UN—13AUG13

- A — All lights off.
- B — Warning flasher lights and taillights on.
- C — Road Position: headlights, taillights, and warning flasher lights on.
- D — Field Position: headlights and optional working lights on.

Using Dome Light

IMPORTANT: Avoid damage! Before exiting cab, make sure dome light is in OFF position. Failure to do so will cause the battery to lose its charge.

Operating Machine



TCT008313—UN—31MAR14

Dome light has two positions:

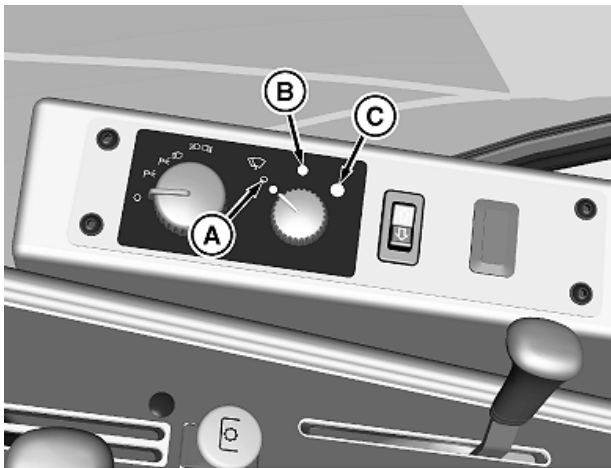
- ON (A) - Dome light comes on.
- OFF (B) - Dome light does not light.

Using Turn Signal Switch

- Push the left side of the turn signal switch down to signal a left turn.
- Push the right side of the turn signal switch down to signal a right turn.

Using Windshield Wiper

NOTE: The front wiper will return to the park position whenever it is switched off.



TCT008315—UN—13AUG13

The front wiper switch has three positions:

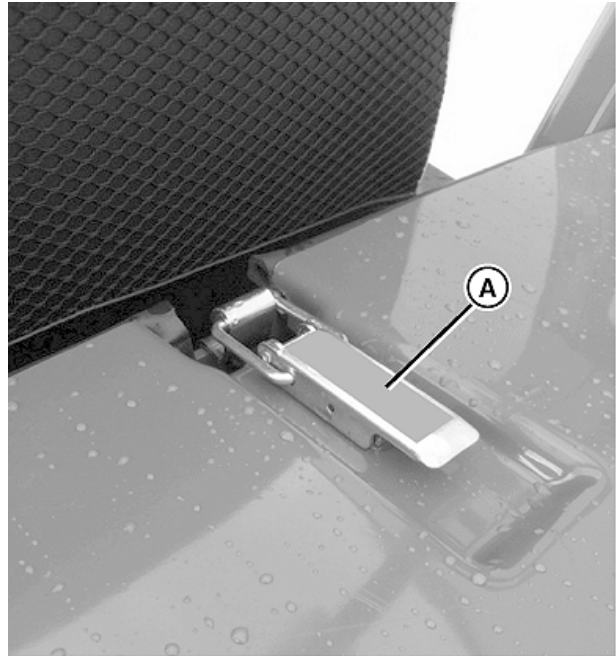
- OFF (A)
- SLOW (B)
- FAST (C)

Opening Engine Cover

IMPORTANT: Do not operate machine with engine cover open. Engine cover must be closed for proper engine cooling and exhaust.

1. Park machine safely. (See Parking Safely in the SAFETY section).

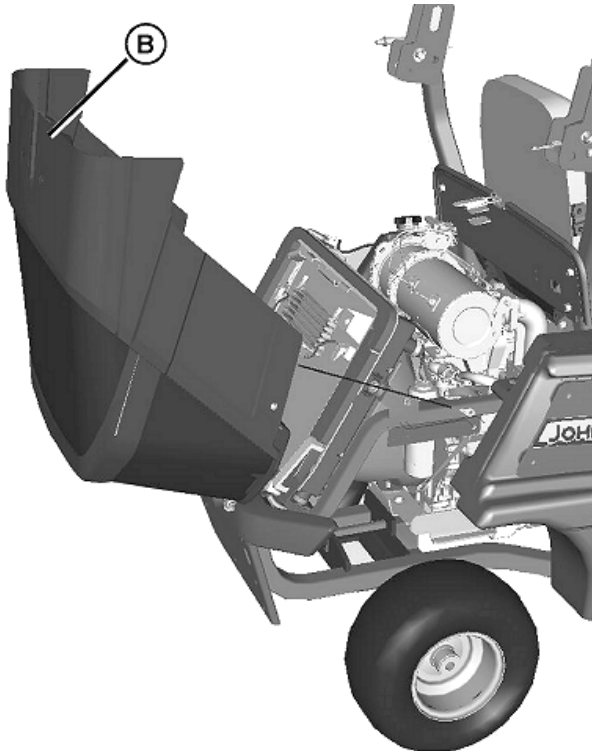
NOTE: Some models are equipped with a locking latch. This must be unlocked first.



TCT007880—UN—11JUL13

2. Lift latch mechanism (A) and unlatch hood.

Operating Machine



TCT007881—UN—11JUL13

3. Lift hood (B) and place in open position.
4. To close the engine cover, lower it back over the engine compartment.
5. Engage latch hasp with hook and pivot back to secure.
6. To lock the engine cover latch, insert key in slot and turn clockwise (If equipped with optional lock).

Using Four Wheel Drive (4WD) (1550, 1570, 1575)

⚠ CAUTION: To avoid loss of control or damage to turf, do not turn suddenly or at high speeds while machine is in four wheel drive. Do not use four wheel drive any longer than required.

- Pull 4WD control lever rearward to use on-demand four wheel drive. Rear wheels will engage whenever front wheel slip is detected, and will disengage automatically. Rear wheels are not driven in reverse.
- Push 4WD lever forward to engage full time four wheel drive. Four wheel drive is locked in for forward and reverse travel.
- Traveling forward (slowly) while pulling the 4WD lever rearward helps to engage the 4WD lock.
- Traveling rearward (slowly) while pushing the 4WD lever forward helps to disengage the 4WD lock.

Using Four Wheel Drive (4WD) (1580 and 1585)

⚠ CAUTION: To avoid loss of control or damage to turf, do not turn suddenly or at high speeds while machine is in four wheel drive. Do not use four wheel drive any longer than required.

- Move the 4WD control lever to the center position to use on-demand (automatic) four wheel drive. Rear wheels will engage whenever front wheel slip is detected, and will disengage automatically or when machine is reversed.
- Pull the 4WD control lever rearward to disengage 4WD
- Push 4WD control lever forward to engage full time 4WD. Four wheel drive is locked in for forward and reverse travel.
- Traveling forward (slowly) while pushing the 4WD lever down helps to engage the 4WD lock.
- Traveling rearward (slowly) while pulling the 4WD lever up helps to disengage the 4WD lock.

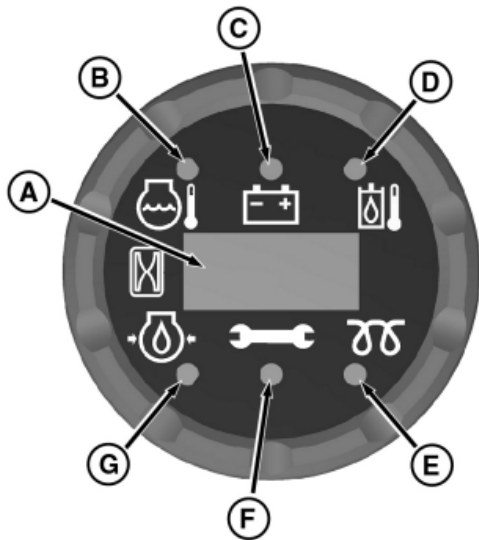
Using Two-Speed Transaxle (1580 and 1585)

- Push the two-speed transaxle shift lever up to the highest position to shift the transaxle into the high gear range. This is used to transport machine or move quickly in light duty applications.
- Place the two-speed transaxle shift lever in the centered position to shift transaxle into neutral. This position is used to push or tow the machine.
- Pull the two-speed transaxle shift lever down to the lowest position to shift the transaxle into the low gear range. This is used for climbing hills and powering through deep grass or materials.
- Slowly moving the machine with no load while changing gear range helps to engage the gears.

Using Display (1550)

NOTE: For any codes displayed, see Troubleshooting Guide for Common DTC's in the Troubleshooting section.

Operating Machine



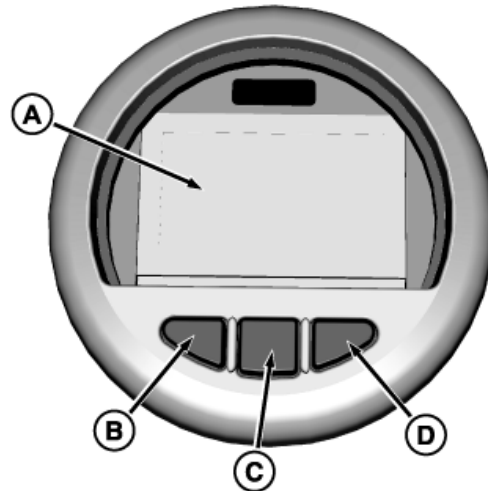
TCT007012—UN—18MAR13

- A—Hour meter** will display number of hours engine has run. Electronic hour meters can be read with key switch in ON position. Use the hour meter and the service interval chart to determine when service procedures need to be performed on the machine and mower deck.
- B—Engine Coolant Temperature Indicator** will glow if engine temperature becomes excessive. Stop engine and determine cause.
- C—Battery Discharge Indicator** will glow when alternator is not producing adequate current. Stop engine and determine cause. Indicator light will also flash a diagnostic code to help the operator identify operational and electrical problems.
- D—Hydraulic Oil Temperature Indicator** will glow when hydraulic oil temperature is high. Stop all hydraulic functions immediately. Let hydraulic oil temperature cool by allowing engine to idle under a no-load situation. This keeps the oil flowing through the oil cooler and cools the oil. Check oil level and make sure oil cooler coils are clean. Continued operation may cause higher temperatures, resulting in damage.
- E—Engine Air Preheat Indicator** (Diesel models) will glow when key switch is turned to the run position. The light will no longer glow after approximately three to fifteen seconds.
- F—Service Indicator** is not applicable on this machine.
- G—Engine Oil Pressure Indicator** will glow when engine oil pressure is low. If lamp glows when engine is running, stop engine immediately. See your John Deere distributor.

Using Display (1570, 1575, 1580, 1585)

NOTE: For any codes displayed, see *Troubleshooting Guide for Common DTC's in the Troubleshooting section*.

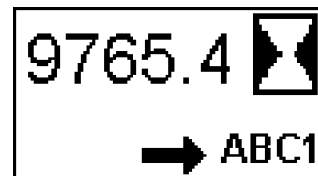
For further information regarding the operator display, see your machine technical manual.



TCT008007—UN—25MAR14

The operator of the TerrainCut™ should become familiar with the basic capabilities of the Operator Display. The Operator Display is located in the control console on the right side of the seat. This display consists of the LCD Screen (A) and three buttons (B, C, D).

The Operator Display has four (4) main screens. The operator can display each of the four main screens by pressing the center key (C). Each of these four screens has some functionality:



TCT010640—UN—26MAR14

Hour Meter Top Level Screen

- **Hour-meter Screen:** Displays quantity of hours machine has been used. Right key (D) can select language with “ABC1” selecting English and “ABC2” selecting Spanish.

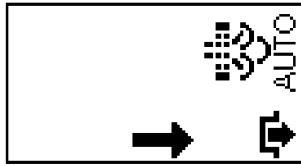


TCT010642—UN—26MAR14

Engine RPM

Operating Machine

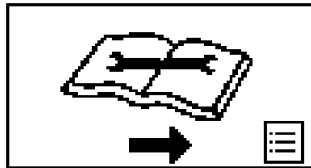
- **Engine Tachometer Screen:** Displays engine speed. Right key (D) can select language with “ABC1” selecting English and “ABC2” selecting Spanish.



TCT010643—UN—26MAR14

Diesel Particulate Filter Status Screen

- **Exhaust Filter (DPF) Screen:** Displays status of Exhaust Filter (DPF). Right key (D) allows the operator to enable or disable the automatic mode of the DPF regeneration function. Operator should ensure that this remains in the automatic mode when machine is being operated in typical conditions. Note that the default mode is “Auto”. When the machine is shut down and restarted, it always returns to the auto mode.



TCT010644—UN—26MAR14

Service Menu Screen

- **Service Screen:** This screen introduces a number of functions and is pass code protected. The default numerical pass code is 0 0 0. When a new pass code is entered into the display, it will remain there even if the machine's battery is discharged or replaced.

The Operator Display can also communicate to the operator with a number of pop-up screens that could indicate with icons and a Diagnostic Trouble Code (DTC) when a machine's critical function is impaired. (See the Troubleshooting Guide for Common DTC's in the Troubleshooting section for further information.)

Example: When debris clogs the radiator the machine could overheat. The Operator Display would indicate this by showing a screen with these icons and DTC:



TCT011134—UN—24APR14

DTC Example

This screen would indicate by the Stop sign icon to stop the machine. The icon on the right indicates that the engine coolant temperature is high. The numerical code in the lower right of the screen is the DTC and this can be referenced in the Troubleshooting Guide. The Guide

indicates what actions an operator would take to resolve the DTC 110.0.

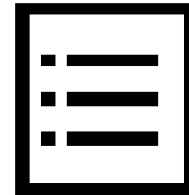
Machine Status Pop-Up Notifications (1570, 1575, 1580, 1585)

Generic DTC Information

NOTE: Notifications and Diagnostic Trouble Codes (DTCs) are listed with their associated Suspect Parameter Number (SPN) and Failure Mode Indicator (FMI) in the format SPN.FMI.

Common DTCs have icons to direct the user to the source of the DTC. For DTCs which do not have icons, the SPN, FMI, and Source Address (SA) information is given. This information can be used to help diagnose the issue.

DTC Details Button



TCT010994—UN—04APR14

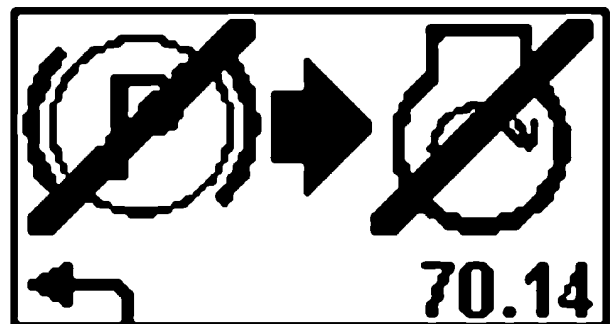
Details Icon

When a DTC occurs, a pop-up screen appears. For some DTCs, the Details Icon appears in Button D. This button opens further details related to the fault. For some DPF related faults, text descriptions can be available.

Start Interlock Diagnostics

These DTC's alert the operator to conditions that prevent the starter from engaging. These screens display only while the key is in start position and the interlock violation exists. They will automatically disappear when the condition is no longer present.

DTC 70.14 - Park Brake Not Engaged



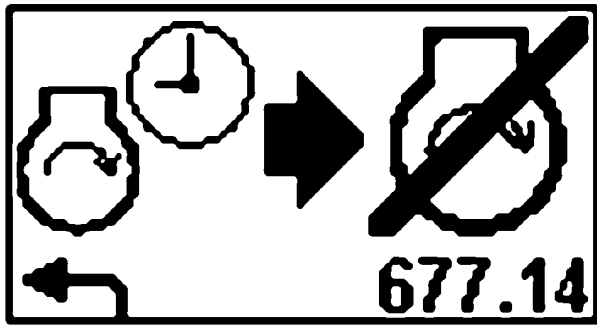
TCT008517—UN—01OCT13

DTC 70.14

Park brake must be engaged for engine to crank.

Operating Machine

DTC 677.14 – Crank Time Exceeded

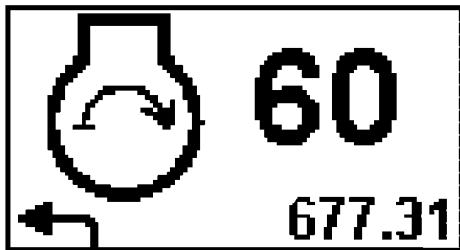


TCT008520—UN—01OCT13

DTC 677.14

Excessive engine cranking requires a cool down period before allowing the engine to crank again.

DTC677.31 – Crank Time Exceeded



TCT010646—UN—26MAR14

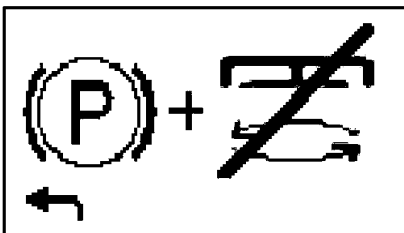
DTC677.31

Operator must wait for 60 seconds before the engine is allowed to crank again.

PTO Interlock Diagnostics

These DTC's alert the operator to conditions that prevent the PTO from engaging.

DTC 3941.31 – Park Brake ON, Not Mowing

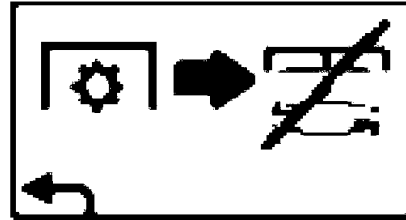


TCT010744—UN—26MAR14

DTC 3941.31

PTO can not engage until park brake is released. Release park brake and cycle PTO switch to engage.

DTC 3941.14 – PTO Switch ON, But Not Mowing



TCT010745—UN—26MAR14

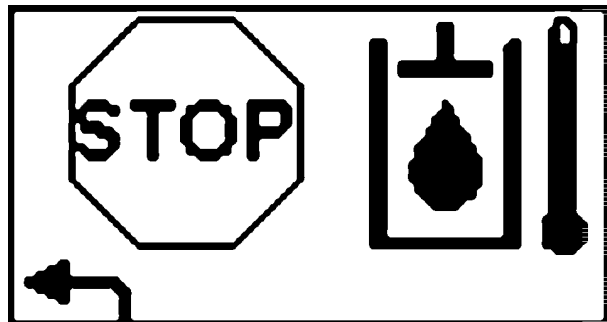
DTC 3941.14

PTO switch is in the ON position but the PTO is not engaged. This shows up if an interlock is broken. Cycle the switch. If it still does not engage, then see the Troubleshooting Guide for Common DTC's in the Troubleshooting section for further information.

Machine Diagnostics

These DTC's alert the operator to machine conditions that require immediate attention

DTC 1638.0 – Hydraulic Oil Temperature High



TCT008521—UN—01OCT13

DTC 1638.0

Stop and shut down the machine. Contact a qualified John Deere service technician.

DTC 100.1 - Engine Oil Pressure Low



TCT008522—UN—01OCT13

DTC 100.1

Stop and shut down the machine. Check oil level and verify that the correct oil type is in the crank case. (Refer to Service Engine section.)

DTC 110.0 - Engine Coolant Temperature High

Operating Machine

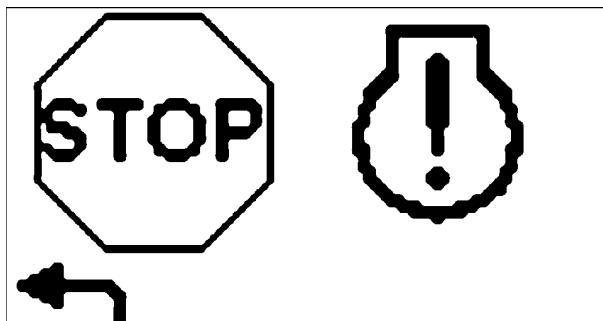


TCT008523—UN—01OCT13

DTC 110.0

Stop and shut down the machine. Check coolant level and clean radiator fins of debris. (Refer to Service Engine section.)

Generic Engine Fault – Stop Lamp Status

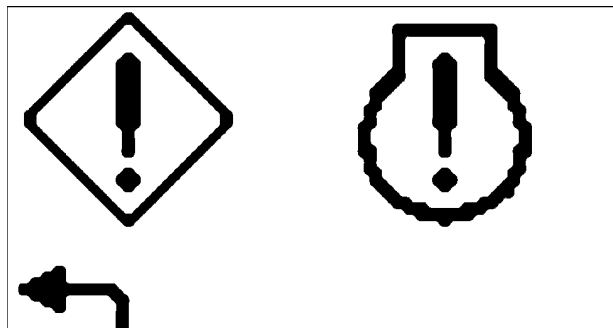


TCT009064—UN—01OCT13

Generic Engine Fault - Stop Lamp Status

Stop and shut down the machine. (See the Troubleshooting Guide for Common DTC's in the Troubleshooting section for further information.)

Generic Engine Fault – Warn Lamp Status

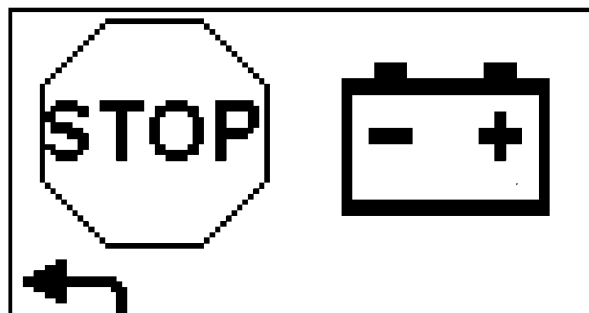


TCT009065—UN—01OCT13

Generic Engine Fault - Warn Lamp Status

Stop and shut down the machine. Contact a qualified John Deere service technician.

DTC 168.0 / DTC 168.1 - Battery Voltage Fault



TCT009066—UN—01OCT13

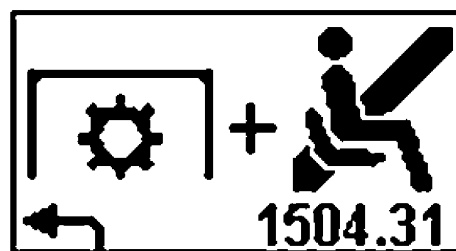
DTC 168.0 / DTC 168.1

Stop and shut down the machine. Contact a qualified John Deere service technician.

DTC 168.0: Battery Voltage (VBAT), Critical High Voltage (above normal operating range (>18V))

DTC 168.1: Battery Voltage (VBAT), Critical Low Voltage (below normal operating range (<8V))

DTC1504.31 – PTO ON and Out of Seat



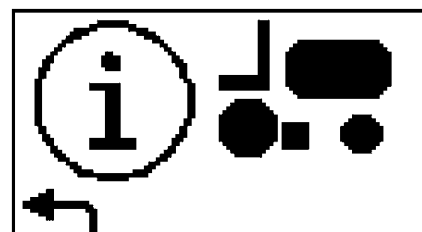
TCT010647—UN—26MAR14

DTC 1504.31

This DTC appears if the PTO is engaged and the operator leaves the seat. The PTO switch must be cycled with all interlocks met before PTO will re-engage.

Generic Machine Fault – Information

NOTE: DTC code appears in the bottom right hand corner depending on the fault.



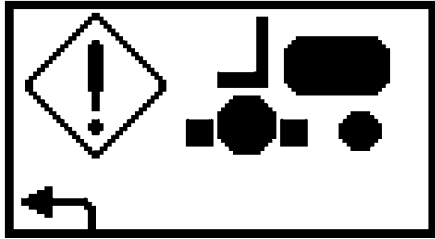
TCT010746—UN—26MAR14

Generic Machine Fault – Information

Stop and shut down the machine. Contact a qualified John Deere service technician.

Generic Machine Fault – Warn Lamp Status

Operating Machine

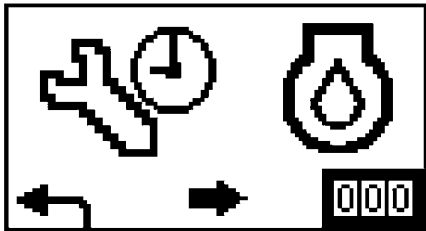


TCT010747—UN—26MAR14

Generic Machine Fault – Warn Lamp Status

Stop and shut down the machine. Contact a qualified John Deere service technician.

Service Timer Alert – Engine Oil

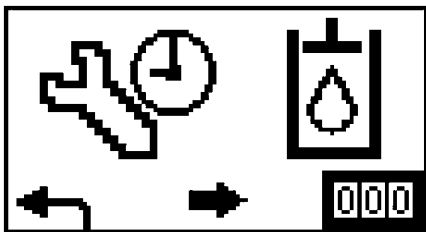


TCT010750—UN—26MAR14

Service Timer Alert – Engine Oil

The machine factory default timer for engine oil is set for 50 hours.

Service Timer Alert – Hydraulic Oil



TCT010751—UN—26MAR14

Service Timer Alert – Hydraulic Oil

The machine factory default timer for hydraulic oil is set for 50 hours.

Pass Codes

There are two levels of password protection to enhance machine security and restrict access to certain features.

There is also a text enable and disable pass code. This code is “702” and cannot be changed.

- Owner level
- Operator level

Owner Level

The owner pass code is capable of performing the following:

- Owner pass code change
- Operator pass code enable or disable

- Reset operator pass code without knowing operator pass code
- Machine start pass code feature enable or disable
- Change owner pass code
- Access Service screens
- Access all sub service screens
- Enter machine start pass code whether operator pass code is enabled or not.
- Machine start and operate

The owner pass code can access the following screens:

- PDU setup
- Service menus
- Machine start pass code enable or disable

The default owner pass code is “000”.

In the event of a lost pass code, a manual procedure is required to reset.

Operator Level

The operator level pass code is capable of setting the following:

- Start and operate the machine only. The operator cannot change any internal settings.
- Set cruise control speed

NOTE: The operator pass code is disabled by default.

The operator pass code is set at the owner level.

Owner Pass Code Reset:

At start-up the display turns on, displaying the John Deere logo for 2 seconds. During these 2 seconds, the Pass-code can be reset to factory default (000) with a specific button sequence.

1. Turn key switch to run position.
2. Within 2 seconds, hold center and right buttons for 3 seconds.
3. Press center button.
4. Press right button.
5. Hold left and right buttons for 3 seconds.
6. If the wrong key combinations are pressed or the procedure times out, the screen revert to the main operational screen.
7. If the procedure was successful, the default factory pass code of “000” is set. The display shows text “Reset Password to Factory Default”.

NOTE: This procedure automatically disables the operator pass code if it was set.

Operating Machine

Understanding Diesel Particulate Filter (DPF) Regeneration (1570, 1575, 1580, 1585)

Your machine is equipped with an emission-compliant engine, which cleans and filters the engine exhaust.

Regeneration

Regeneration is the process of increased exhaust temperatures to oxidize the accumulated particulate matter, or soot, from the walls of the DPF. There are five types of regeneration that can occur. Passive Regeneration, Enhanced Passive Regeneration, Active Regeneration, Parked Regeneration, and DPF Recovery.

Passive Regeneration

Passive regeneration occurs naturally in the DPF when the operating conditions produce sufficient exhaust gas temperatures for the oxidation of soot to occur. The engine ECU takes no action during passive regeneration. There is no fuel dosing or closing of the air throttle to increase exhaust gas temperatures. No indicators are present on the operators interface during the passive regeneration.

Enhanced Passive Regeneration

When the soot level in the DPF reaches a predetermined level and the vehicle operating conditions are not resulting in sufficient exhaust gas temperatures to promote sufficient passive regeneration, the engine ECU activates the enhanced passive regeneration strategy. During enhanced passive regeneration, the engine ECU closes the air throttle and changes injection timing to increase the exhaust gas temperature to a level that promotes passive regeneration. The engine is allowed to be operated normally and no fuel is dosed during the enhanced passive regeneration. No indicators are present on the operators interface during the enhanced passive regeneration.

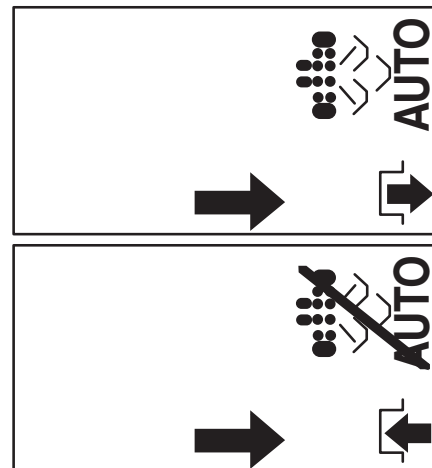
Active Regeneration

When the soot level in the DPF reaches a predetermined level or soot is accumulating at a rate greater than can be managed by the enhanced passive regeneration, an active regeneration will be initiated. During an active regeneration, the ECU initiates the in-cylinder fuel dosing strategy, modifies fuel injection timing, and closes the air throttle to increase exhaust gas temperatures to promote rapid oxidation and removal of the soot in the DPF. The exhaust gas temperatures during the active regeneration are higher than the temperatures in the enhanced passive regeneration. During this regeneration, the engine is allowed to be operated normally.

Inhibiting Active Regeneration

IMPORTANT: Avoid damage! Under normal machine operation, the system is in auto regeneration mode and requires minimal operator interaction.

If your vehicle must be used in a situation not suited for higher temperatures created during active regeneration, temporarily disable the system.



TCT012431—UN—19MAR15

To disable the auto regeneration function temporarily, depress button 3 on the top menu Active Regeneration status screen. The auto regeneration symbol appears with a line through the symbol indicating auto regeneration is disabled. To avoid soot buildup in the exhaust filter, be sure to return to auto regeneration mode as soon as possible. See Accessing Diesel Particulate Filter Displays.

NOTE: Auto regeneration is enabled whenever the key switch is cycled off.



TCT012084—UN—26NOV14

While active regeneration is inhibited, if the system determines that soot buildup in the exhaust filter requires cleaning, the AUTO Disabled Regen Rqd DTC 003695.14 appears on the PDU. To enable the automatic Active Regeneration cycle through the PDU screens to the active regeneration enable-disable screen. See Accessing Diesel Particulate Filter Displays.

Do not disable active regeneration unless it is necessary. If active regeneration is disabled frequently, the system eventually activates a parked regeneration. This means that the engine performance is reduced, machine function is limited, and does not return to normal until a parked regeneration is performed.

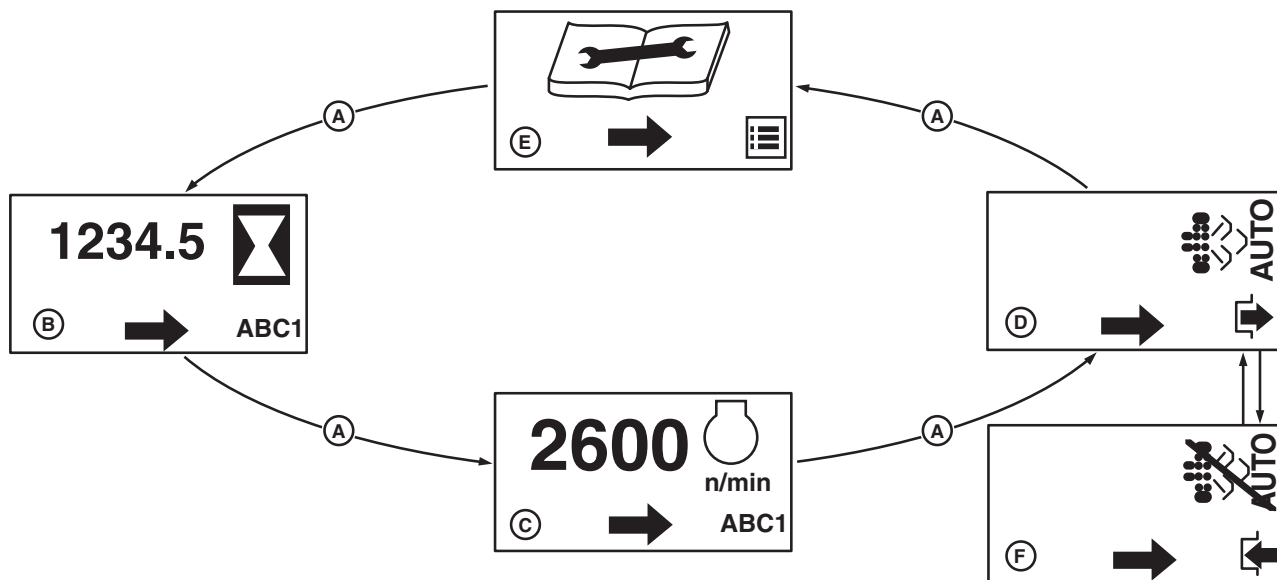
Parked Regeneration

When the soot level reaches a predetermined level, the ECU mandates a parked regeneration be performed. When a parked regeneration is needed, the ECU derates the engine to encourage the parked regeneration be performed. During a parked regeneration, the ECU increased the engine speed to 2200 rpm, initiates the in-cylinder fuel dosing strategy, modifies fuel injection timing, and closes the air throttle to increase exhaust gas temperatures to promote rapid oxidation and removal of the soot in the DPF. The vehicle must remain parked until the parked regeneration has ended.

Recovery Regeneration

If the soot in the DPF reaches a severe level, a recovery regeneration is required to reduce the soot level. Running the vehicle with the regenerations inhibited or not performing a parked regeneration when needed can cause the recovery regeneration to be needed. During a recovery regeneration, the vehicle must be parked, the ECU closes the air throttle, and changes injection timing to increase the exhaust gas temperature to a level that promotes passive regeneration. No fuel is dosed during the portion of the recovery. After sufficient time has passed and the soot level is at a low level, a parked regeneration is performed before the recovery regeneration is complete. The vehicle must remain parked until the recovery regeneration has ended.

Accessing Diesel Particulate Filter Displays



TCT012437—UN—23MAR15

- A — Center Button
- B — Top-Level Screen
- C — Engine Status Screen

- D — Active Regeneration Screen (ON)
- E — Service Mode Screen
- F — Active Regeneration Screen (OFF)

Primary Display

The Primary Display Unit (PDU) top-level screen (B) shows an hour meter icon.

Pressing the center button cycles through the top-level menu screens (B, C, D, and E).

Pressing the right button changes the language. The language options are set under the display menu.

Pressing the center button (A) displays the Engine Status screen (C) (rpm and engine on or off).

Engine Status

Pressing the center button (A) on the engine status screen (C) displays the Active Regeneration status screen (D).

Pressing the right button changes the language.

Active Regeneration Status

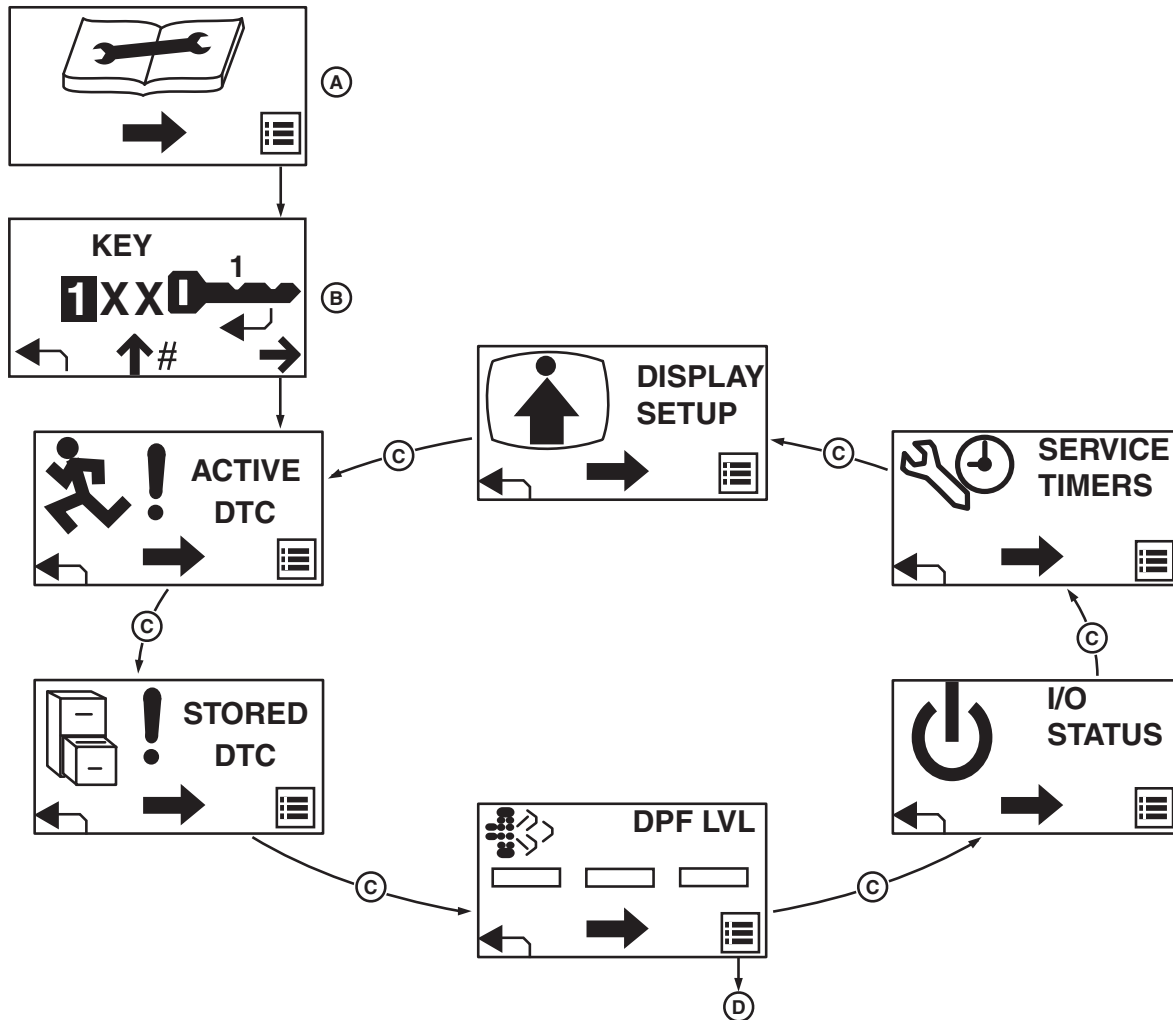
Pressing the right button toggles the active regeneration status from on (D) to off (F). When toggled, the On-Off arrow changes direction and the AUTO filter icon changes from active to off. See Inhibiting Active Regeneration.

Pressing the center button (A) on the Active Regeneration screen (D) displays the Service Mode screen (E).

Service Mode

Pressing the right button displays the Pass Code Entry screen. See Pass Codes, and Machine Start Pass Code Entry for more information on entering pass codes.

Pressing the center button (A) of the service mode screen (E) displays the first top menu screen (B).



TCT012438—UN—23MAR15

A — Service Mode Screen
B — Pass Code Entry Screen

Pressing the Service Mode screen (A) right button displays the Pass Code Entry screen (B).

Entering the pass code at the Pass Code Entry screen, and then pressing the right button, displays the service menu screens.

Service Menu Screens

The screens are cycled through (C) by pressing the center button. The left return arrow button on each screen returns to the Service Mode screen (A).

- Active DTC
- Stored DTC
- DPF Level
- Input-Output Status
- Service Timers

C — Center Button
D — Right Button to DPF Menus

- Display Setup

Pressing the right button at any of the service sublevel screens menus for that service function.

DPF Level Screen

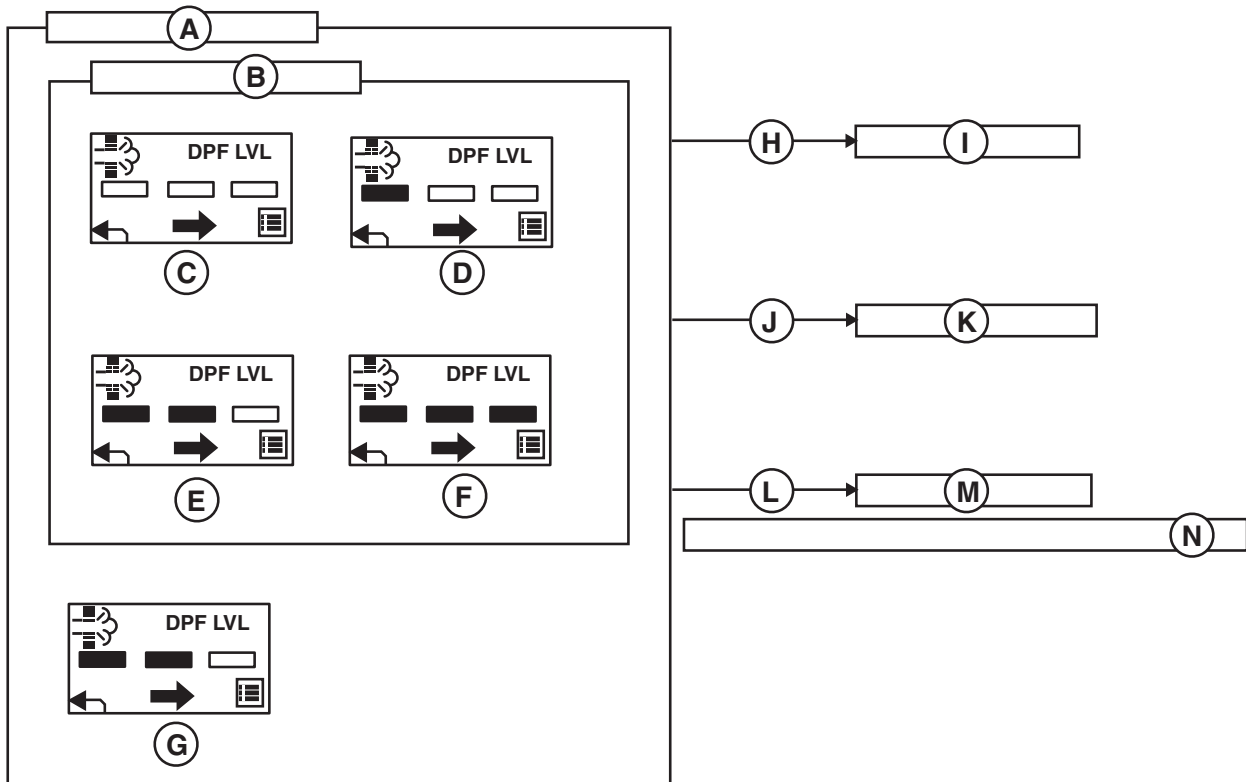
Pressing the right button (D) of the DPF Level screen displays DPF Load Level screens and menus. See DPF Load Level.

DPF Load Level and Value

The DPF load level screen informs the operator of the state of the diesel particulate filter status. There are four states that this status can be in, but the progress bars are not linearly related to the actual soot loading value. If the

Operating Machine

notepad button is selected, the actual soot loading value is displayed.



TCT009954—UN—22JAN14

- A —DPF Load Level Screen
- B —DPF Bar Graph States
- C —Regen not needed
- D —DPF state low
- E —DPF state moderate
- F —DPF state high
- G —DTC 004175 active

- H —Left press
- I —DPF timer screens
- J —Center press
- K —DPF status screen
- L —Right hold
- M —DPF level screen
- N —DPF Regen force enable/disable states (right button)

Specific DPF load value can be obtained by pressing the right hand button.

- Button D: Enable/Disable Auto Regeneration

Diesel Particulate Filter (DPF) Regeneration Functionality (1570, 1575, 1580, 1585)

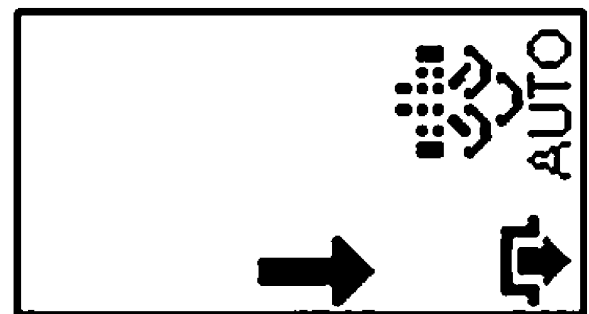
Status Detection

The screen icons are determined by the state of the Diesel Particulate Filter and whether the machine is parked.

No Regeneration Required

NOTE: Button C and D have the same functions for all DPF Status screens in the DPF section.

- Button C: Proceed to Main Screen



TCT008495—UN—30SEP13

Auto Regeneration Enabled

- DPF Auto Icon: when Auto Regeneration is enabled, above image is shown. When disabled, a line crosses through the icon.

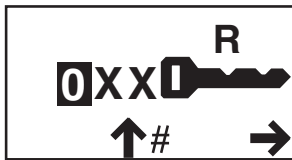
Operating Machine

Parked Regeneration Available

NOTE: Button B has the same function for all DPF Status Screens in section.

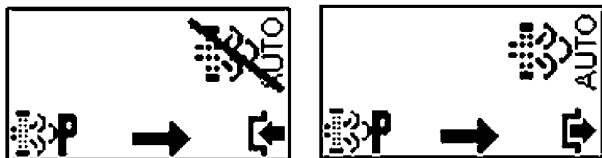
- Before starting a Parked Regeneration Cleaning, the operator should:
 - Park the vehicle on a paved surface.
 - Ensure that the vehicle is in neutral.
 - Engage the park brake (ON).
 - Disengage the cutting units (PTO Switch OFF).
 - Move the throttle lever to the low idle position.

NOTE: If the engine is not at low idle, a parked regeneration will not start.



TCT012578—UN—27MAR15

- Enter Regeneration Pass Code:
 - Pass-code entry screens follow the same format as the Owner/Operator pass-codes, but with an 'R' icon instead of the '1' or '2'.
 - The code required is hard-coded as "463".

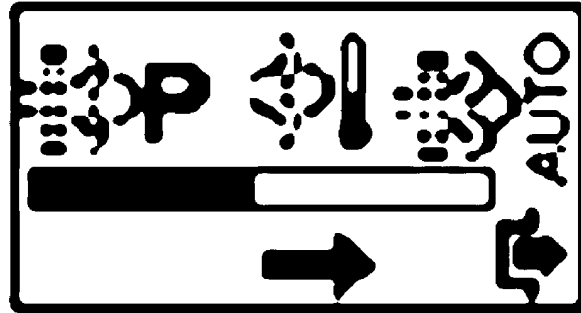


TCT008496—UN—30SEP13

Parked Regeneration (Left) Auto Regeneration Disabled (Right) Auto Regeneration Enabled

- When button B (Filter with "P") icon shown above is flashing, user may press and hold the button for two seconds to initiate a Parked Regeneration operation.

NOTE: A delay occurs before the engine rpm increases and the parked regeneration begins.



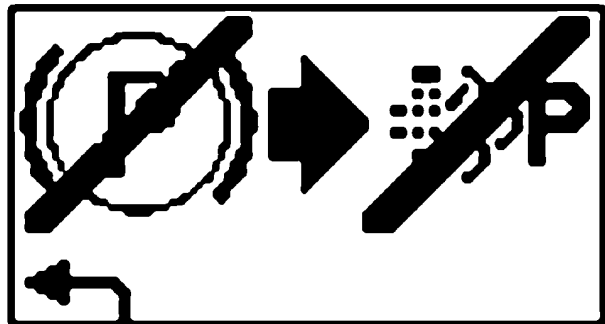
TCT009082—UN—04NOV13

The above graphic shows the DPF top-level screen during a Parked Regeneration. The progress bar reflects the percentage complete of the Parked Regeneration process.

Parked Regeneration Interlock Notification Pop-Ups

If user presses the Parked Regeneration button when it is not flashing (when regeneration is required, but interlocks are not met), then one of the following machine status notifications will appear:

Park Brake Off

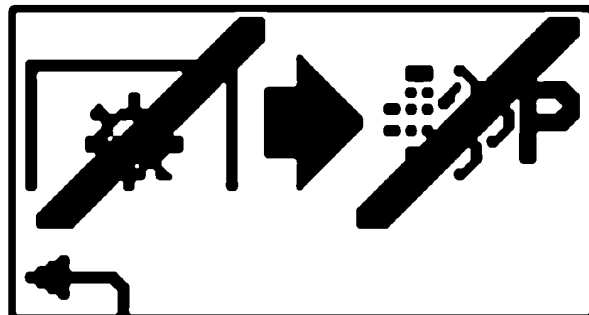


TCT008515—UN—30SEP13

Park Brake Off, Parked Regeneration Interlock

Park brake must be set to start a Parked Regeneration.

PTO Engaged



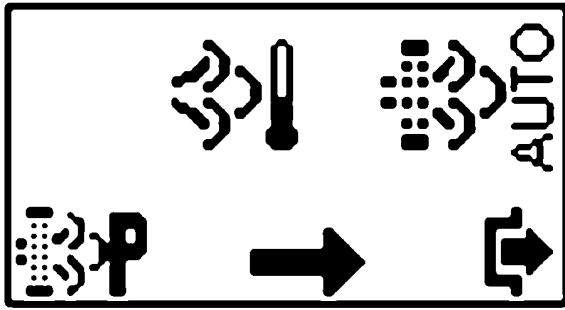
TCT008516—UN—30SEP13

PTO Engaged, Parked Regeneration Interlock

PTO must not be on to start a Parked Regeneration.

Operating Machine

Warning Indicator



TCT008497—UN—30SEP13

Exhaust Gas Temp Elevated

When regeneration is occurring and exhaust temperatures are above normal, the above icon (cloud with thermometer in center-left area) displays.

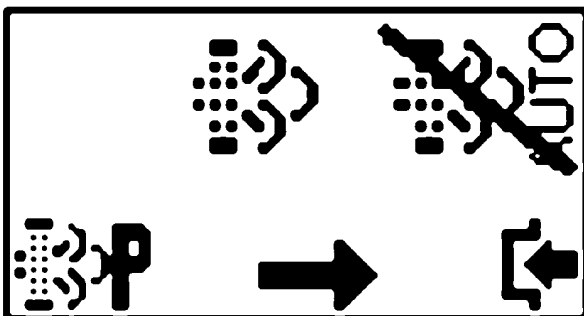
Cleaning Required



TCT008498—UN—12APR14

DTC 3695.14

The above pop-up screen will display when the 'Auto' Regeneration button is disabled and the filter needs cleaning. This can be remedied by setting the 'Auto' Regeneration button to 'Enabled'.



TCT008499—UN—30SEP13

Cleaning Required - Auto Regeneration Disabled

The above icon (filter in center-left area) indicates that an active cleaning is required, but the Auto Regeneration feature is disabled. The user should enable Auto Regeneration via button D ('Enable' icon).

Cleaning Required Engine Power Limited

The following DTC's are displayed when the DPF soot has reached an elevated level and cleaning is required. Engine power is limited until a cleaning is performed.

Parked Cleaning Required (Amber Warning Lamp)



TCT010645—UN—12APR14

DTC 3719.16

The above pop-up screen displays when the filter particulate level is too high. A parked cleaning operation is required. See Parked Regeneration Available section.

Ash Cleaning Required (Amber Warning Lamp)

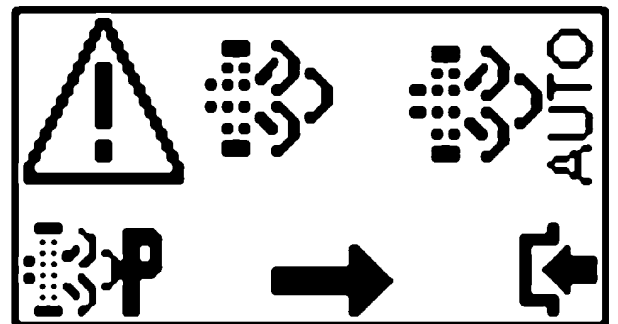


TCT008503—UN—12APR14

DTC 3720.16

The above pop-up screen will display when the filter particulate level is too high. A parked cleaning operation is required. Additional service may be required. See Parked Regeneration Available section.

DPF Status Screen When DTC 3719.16 or 3720.16 is Active



TCT008501—UN—30SEP13

Parked Cleaning Required (Amber Warning Lamp)

Operating Machine

The above icon on the left-hand side indicates that a warning lamp DTC exists. Parked cleaning is required.

Cleaning Required Engine Power and PTO Power Limited

The following DTC's are displayed when the DPF has reached its maximum soot levels and requires immediate service. Engine power is extremely limited and PTO power is disabled.

Service Regeneration Required (Red Stop Lamp)

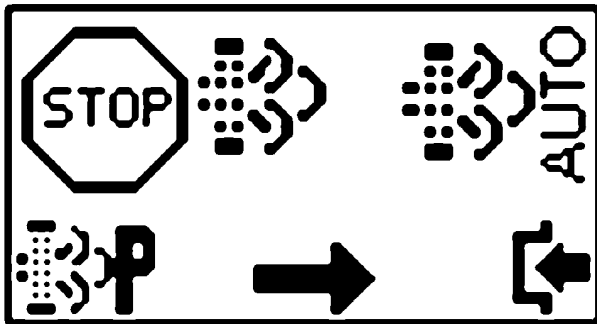


TCT008502—UN—12APR14

DTC 3719.00, 3720.00

The above pop-up screen will display when the filter particulate level is too high. A forced regeneration by a qualified John Deere service technician is required.

DPF Status Screen When DTC 3719.00 or 3720.00 is Active



TCT008504—UN—30SEP13

Parked Cleaning Required (Red Stop Lamp)

The above icon on the left-hand side indicates that a stop lamp DTC exists. Parked cleaning is required. DPF may require additional service.

Using Hydrostatic Pedals

Using the Forward Pedal

1. Push the forward pedal down slightly to begin forward motion. Push the pedal down farther to travel faster.
2. Release the pedal to return to neutral and stop the mower.

Using the Reverse Pedal

CAUTION: Rotating blades are dangerous. Children or bystanders may be injured by runover and rotating blades.

Before backing up, carefully check the area around the machine.

1. Push the reverse pedal down slightly to begin reverse travel. Push the pedal down farther to travel faster.
2. Release pedal to return to neutral and stop the machine.

Using Brakes

Using Master Brake Pedal

NOTE: When the master brake is engaged, the PTO is disengaged.

Push the master brake pedal down to hold the machine stationary on a slope, or for an emergency stop. PTO will disengage when master brake pedal is depressed, and PTO switch will have to be recycled once brake is released to restart PTO.

Using Park Brake

1. Lock the park brake by pulling the park brake lock lever (B) upwards and fully depressing the master brake pedal (A). The pedal should stay locked down.
2. Unlock the park brake by depressing the master brake pedal and pushing the park brake lock lever down. Release the master brake pedal.

Using Turn-Brakes

The turn-brakes are used to change direction quickly within the width of the machine. Avoid locking the tire with turn-brake in areas where turf damage is not acceptable. Turn-brakes will not turn machine if traction assist is engaged.

1. Depress the right turn-brake pedal to slow or stop the right front wheel, while power is applied to the left wheel. The machine will turn to the right. Release the turn-brake pedal to resume driving in a straight line.
2. Depress the left turn-brake pedal to turn to the left.

Using Traction Assist Pedal

The traction assist lock is used to help improve traction on slopes and on slippery surfaces. The front drive axle will lock so that the front wheels turn together.

Operating Machine

IMPORTANT: Using the traction assist function improperly can damage the transaxle:

- Reduce speed and allow drive wheels to rotate at same speed before engaging or disengaging traction assist.
- Disengage traction assist when driving on dry asphalt or concrete.
- Use traction assist only when necessary for improved ground engagement.

To Lock the Traction Assist

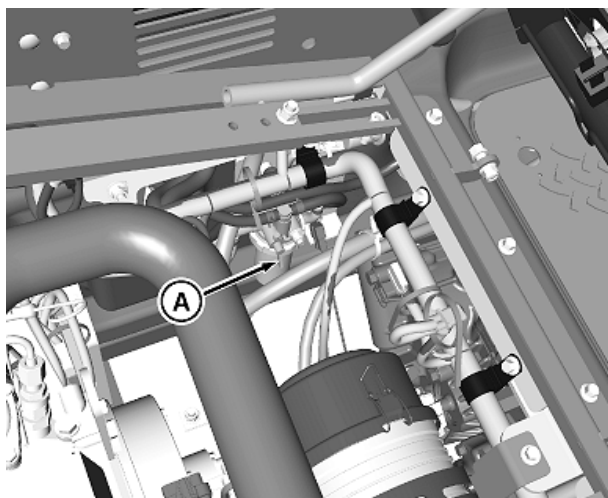
Push the traction assist lock pedal down with the left foot and hold it.

To Unlock the Traction Assist

1. Release the pedal.
2. The traction assist will stay locked as long as wheel rotation is unequal. Once the load on the transmission is equalized and reduced, the traction assist lock will disengage automatically.

Using Fuel Shutoff Valve (1550)

NOTE: Close fuel shutoff valve when storing machine or when transporting on a trailer.



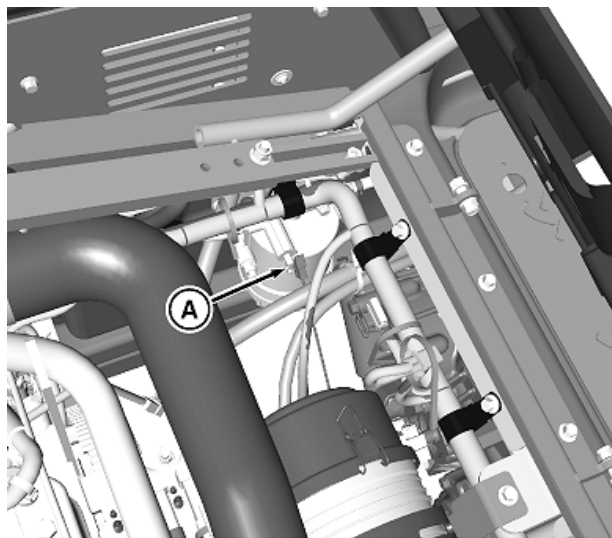
TCT008008—UN—29JUL13

Open the engine cover. Locate the fuel shutoff valve (A) on the left side of the engine.

- To open the fuel shutoff valve:
 - Turn the handle so the pointer is facing down.
- To close the fuel shutoff valve:
 - Turn the handle so the pointer is facing rearward.

Using Fuel Shutoff Valve (1570, 1575, 1580, 1585)

NOTE: Close fuel shutoff valve when storing machine or when transporting on a trailer.



TCT008009—UN—29JUL13

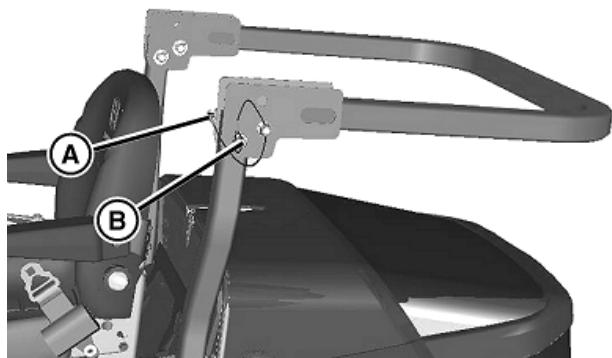
Open the engine cover. Locate the fuel shutoff valve (A) on the left side of the engine.

- To open the fuel shutoff valve:
 - Turn the handle so the pointer is facing down, as shown.
- To close the fuel shutoff valve:
 - Turn the handle so it is pointing rearward.

Raising and Lowering ROPS

Raising ROPS

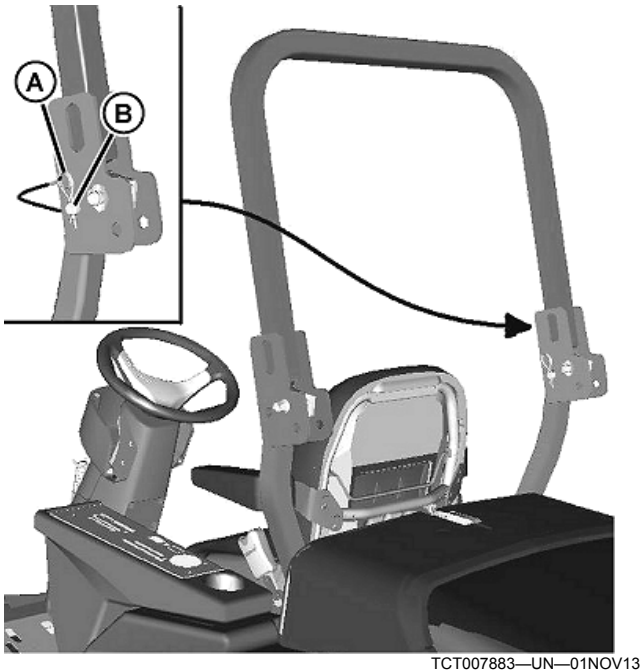
1. Park machine safely. (See Parking Safely in the SAFETY section.)



TCT007882—UN—11JUL13

Operating Machine

2. Remove spring pin (A) from drilled pin (B) on left and right side of ROPS.
3. Remove drilled pin from left and right side of ROPS.



4. Push ROPS into upright position.
5. Install drilled pin (B) into holes on left and right side of ROPS, and secure in place with spring pins (A).

Lowering ROPS

CAUTION: Always wear seat belt when operating machine with folding Roll-Over Protective Structure (ROPS) in upright position. Do not jump from machine if machine tips.

If ROPS must be folded to operate in a low clearance area, do not use seat belt. Raise ROPS and use seat belt as soon as conditions permit.

1. Park machine safely. (See Parking Safely in the SAFETY section).
2. Remove spring pin (A) from drilled pin (B) on left and right side of ROPS.
3. Remove drilled pin from left and right side of ROPS.
4. Pull ROPS rearward to lower.
5. Install drilled pins and spring pins back into hole in ROPS to secure in place.

Raising and Lowering the Attachment

CAUTION: Do not raise the attachment on slopes or when traveling at high speeds, as the machine could become unstable. Avoid hard braking with attachment raised.

The PTO will continue to run after the attachment is raised. Turn off PTO before raising attachment.

The attachment will lower when the lift lever is pushed forward, even when the engine is off and operator is not on the seat. Never operate controls while not on seat. Check that the area under the attachment is clear before lowering.

Turn off PTO. Raising an attachment will not stop the PTO; the attachment continues to run in the raised position.

To Raise Attachment

- Pull lift lever rearward. Attachment will rise up until lever is released, or attachment reaches top of travel, whichever occurs first.

To Lower Attachment

- Push lift lever forward. Attachment will lower until lever is released, or attachment reaches the ground, whichever occurs first.

To Float Attachment

- Push lift lever forward until it latches into float position. Attachment will rise and lower, as needed, to follow contour of ground.

Using Auxiliary Hydraulic Control Levers

1. Move hydraulic control levers back and forth several times to relieve pressure in hydraulic system.
2. Remove dust caps from couplers.
3. Follow instructions in attachment Operator's Manual to connect attachment hydraulic hoses and operate attachment.

Hydraulic control lever functions are determined by attachment:

- Pull levers rearward to pressurize the male coupler line and perform an attachment function.
- Pull or push levers to middle position to neutralize pressure in both coupler lines.
- Push levers forward to pressurize the female coupler line and perform an attachment function.

Operating Machine

Starting Engine

⚠ CAUTION: Engine exhaust fumes contain carbon monoxide and can cause serious illness or death.

- Move the machine to an outside area before running the engine.
- Do not run an engine in an enclosed area without adequate ventilation.
- Connect a pipe extension to the engine exhaust pipe to direct the exhaust fumes out of the area.
- Allow fresh outside air into the work area to clear the exhaust fumes out.

NOTE: The engine will not start unless the PTO is off, and the master brake pedal is depressed.

1. Open the fuel shutoff valve.
2. Sit on the operator's seat. (Seat should spring down slightly so seat switch is actuated.)
3. Put on seat belt (if ROPS is not in folded position).
4. Depress master brake pedal if park brake is not locked.
5. Push down the PTO knob to the off position.
6. Pull the throttle lever back to the slow idle position.
7. Turn the key to the on position.
8. 1550 Only: Wait for the engine preheat light to turn off.

IMPORTANT: Do not overheat starter. Do not operate starter more than ten seconds at a time. Wait two minutes before trying again if engine does not start.

9. Turn the key to the start position for no longer than ten seconds. Release key to run position after engine starts.
 - If starter engages, but engine does not start, wait two minutes and try again for no longer than ten seconds.

IMPORTANT: Do not idle engine for long periods of time. Excessive idling can cause engine overheating, carbon build-up, and poor performance.

10. Let engine run at half-speed position for two minutes to allow it to warm up before operating machine.

Stopping Engine

1. Push PTO switch down to the OFF position.
2. Move throttle lever back to the SLOW IDLE position. Let engine run at slow idle a few seconds.

3. Lock the park brake.
4. Lower attachment to the ground.
5. Turn the key switch to STOP position.
6. Remove key.

Moving Machine with Engine Off

⚠ CAUTION: When the bypass valve is open, the machine will have unrestricted motion.

- Do not open the bypass valve when the machine is stopped on an incline to prevent it from going downhill out of control.

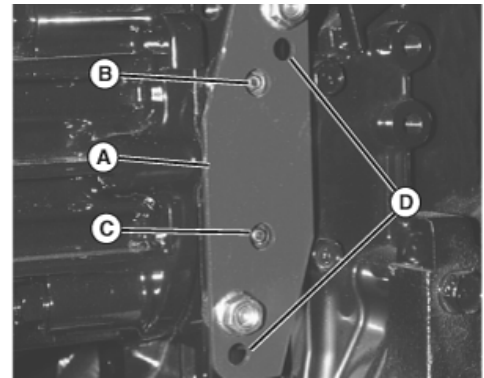
IMPORTANT: Transmission damage may occur if the machine is towed or moved incorrectly:

- Move machine by hand only.
- Do not use another vehicle to move machine.
- Do not tow machine.

Turn key switch to OFF position.

1550, 1570, 1575

1. Push 4WD lever into FORWARD position.



TCAL43326—UN—14MAR13

2. Open service hatch and locate the red plate (A) on the right side of the transaxle housing.
3. Lock the park brake.
 - For pushing machine short distances in the forward direction, push in and release the top relief valve (B) with a small tool.
 - For pushing machine short distances in the reverse direction, push in and release the bottom relief valve (C) with a small tool.
 - For pushing machine longer distances in forward and reverse, remove the two M8 flange head nuts and install plate to lower set of drilled holes (D). Install nuts.
4. Unlock the park brake.

Operating Machine

5. Push machine slowly by hand, or using winch, using brakes when necessary.
6. Do not use another vehicle to push or tow mower at high speed.
7. If red plate was moved to the lower set of holes, move it back to original position.

1580, 1585

1. Push 4WD lever down into 2WD position.
2. Place two-speed transaxle shift lever to centered neutral position.
3. Unlock the park brake.
4. Push machine slowly by hand or using winch, using brakes when necessary.

Transporting Machine on Trailer

CAUTION: Use extra care when loading or unloading the machine onto a trailer or truck.

- Park trailer on a level surface.
- Use of a trailer with sides is recommended.
- Keep wheels away from drop-offs and edges.
- Back slowly and in a straight line.
- Close fuel shut-off valve, if your machine is equipped.

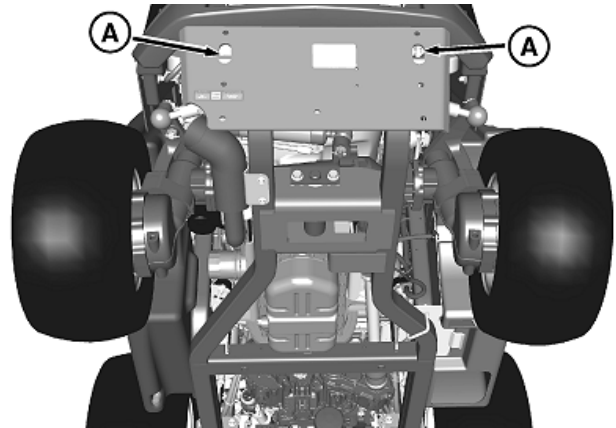
IMPORTANT: Transporting a machine on a trailer or on a truck bed at high speeds can result in hood or engine cover raising and possibly coming off machine if not secured.

- Position machine on trailer so hood or engine cover opens from rear of trailer to prevent wind from blowing hood or cover open.
- Secure hood or engine cover with existing machine locks or latches.
- Secure hood or engine cover with tie down straps if no locks or latches exist.

Be sure trailer has all the necessary lights and signs required by law.

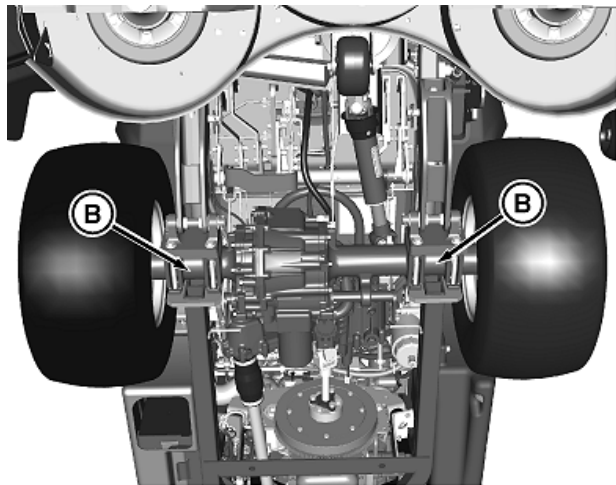
1. Stop PTO.
2. Drive onto heavy-duty trailer with attachment raised.
3. Lower attachment down to platform of trailer.
4. Stop engine, remove key, lock park brake.
5. Close the fuel shutoff valve (diesel model only).
6. Fasten machine to trailer with heavy-duty straps, chains, or cables.

NOTE: Both front and rear straps must be directed down and outward from machine.



TCT008010—UN—11DEC13

7. Fasten rear straps:
 - No Weight Kit Installed: Fasten rear straps to vertical slots (A) in rear panel.
 - Weight Kit Installed (Not Shown): Fasten rear straps to weight kit bracket.



TCT008011—UN—11DEC13

8. Fasten front straps around front transaxle (B).
9. Check that engine cover is closed and latched. Fold ROPS to avoid overhead clearance problems while on trailer.

Operating Machine

Using Power Outlet

⚠ CAUTION: Do not use personal electronics or wear headphones while operating machine. Keep electrical cords from hanging into operator's station and sides of machine.



TCAL43327—UN—14MAR13

The power outlet provides 12 volts direct current (VDC) to power accessories. It is fused at 10 amps and powered regardless of ignition switch position. The outlet has a weather resistant spring-loaded cover. Always unplug devices and close cover before storing machine.

Replacement Parts

Service Literature

If you would like a copy of the Parts Catalog or Technical Manual for this machine call:

- **U.S. & Canada:** 1-800-522-7448.
- **All Other Regions:** Your John Deere dealer.

Parts

We recommend John Deere quality parts and lubricants, available at your John Deere dealer.

Part numbers may change, use part numbers listed below when you order. If a number changes, your dealer will have the latest number.

When you order parts, your John Deere dealer needs the serial number or product identification number (PIN) for your machine or attachment. These are the numbers that you recorded in the Product Identification section of this manual.

Order Service Parts Online

Visit <http://JDParts.deere.com> for your Internet connection to parts ordering and information.

Service Intervals

Servicing Your Machine

IMPORTANT: Operating in extreme conditions may require more frequent service intervals:

- Engine components may become dirty or plugged when operating in extreme heat, dust or other severe conditions.
- Engine oil can degrade if machine is operated constantly at slow or low engine speeds or for frequent short periods of time.
- High-pressure washer can cause damage to machine components.

Please use the following timetables to perform routine maintenance on your machine.

Park the vehicle safely. See Park Safely in the SAFETY Section.

Break-In

After First 10 Hours of Operation

- Check and tighten wheel hardware.

After First 50 Hours of Operation

- Change engine oil and filter.
- Change transaxle oil and filter.

Every 50 Hours or Yearly

- Lubricate deck components.
- Lubricate cutting unit or mower lift components.
- Lubricate drive shafts.
- Clean battery terminals and check battery fluid level (if applicable).
- Lubricate rear axle components.
- Lubricate steering cylinder.
- Check mower deck belts.
- 4WD Model: Check rear axle oil level.
- Check and tighten wheel hardware.

Every 100 Hours

- Lubricate rear axle pivot.
- Lubricate hydrostatic linkage.
- Lubricate turn brake pedals.

Every 250 Hours

- Change engine oil and filter.
- Change transaxle oil and filter.

Every 500 Hours

- Check torque on ROPS hardware.
- Replace fuel filter.
- 4WD Model: Change rear axle oil.
- Check toe-in adjustment on rear axle.
- Inspect rear axle pivot pin for wear or damage.

Every 1000 Hours

- Check valve clearance.

Every 1500 Hours

- Check coolant freeze point and clarity.
- Check fuel injectors.

Every 2000 Hours or Two Years

- Change engine coolant and thermostat.

Service Intervals After Converting to BioDiesel Fuel

IMPORTANT: Only use biodiesel fuel that complies with EN14214 (European Standards) or ASTM D-7467 (USA Standards) in B6 through B20 blends.

Biodiesel fuel must be used within three months of the date of production by the fuel supplier.

NOTE: The use of John Deere Biodiesel Fuel Conditioner is recommended whenever a biodiesel blended fuel is used.

Use the service procedures below at the intervals listed for machines converted to use biodiesel B6-B20 fuel blends:

Daily

- Check and drain water separator as required.
- Check engine oil. If oil level rises, change engine oil immediately.

Engine Oil and Filter Change Interval

- Change at 50% of Service Interval listed in Operator Manuals for regular diesel fuel usage.

Fuel Filter Change Interval

- Change at 50% of Service Interval listed in Operator Manuals for regular diesel fuel usage.

Service Intervals

Every 1000 Hours

- Clean, inspect and adjust fuel injectors.

Service Lubrication

Grease

IMPORTANT: Use recommended John Deere greases to avoid component failure and premature wear.

The recommended John Deere greases are effective within an average air temperature range of -29 to 135 degrees C (-20 to 275 degrees F).

If operating outside that temperature range, contact your Servicing dealer for a special-use grease.

The following greases are preferred:

High Speed Applications

Use John Deere Multi-Purpose SD Polyurea Grease or John Deere Multi-Purpose HD Lithium Complex Grease for the following high speed applications:

- Engine drive shaft (1 place).
- PTO shaft (3 places).

Other Applications

Use John Deere Multi-Purpose HD Lithium Complex Grease or John Deere Moly High Temperature EP Grease for all other applications.

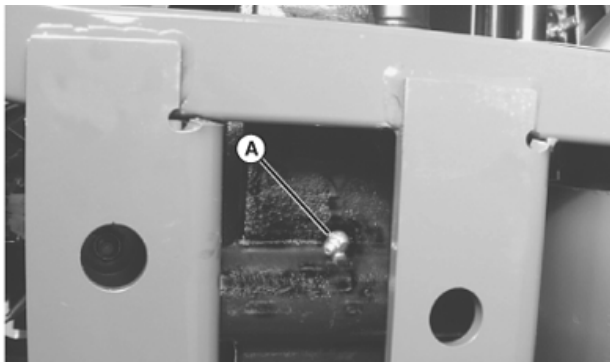
If not using any of the preferred greases, be sure to use a general purpose grease with a NLGI grade No. 2 rating. Avoid use of John Deere Moly High Temperature EP Grease on high speed applications such as mower spindles and the rear axle.

Operating in extremely wet conditions may require use of special purpose greases. See your John Deere dealer.

Wipe off all grease fittings before and after lubrication to prevent contamination.

Lubricating Rear Axle Pivot Pin

1. Park machine safely. (See Parking Safely in the SAFETY Section.)

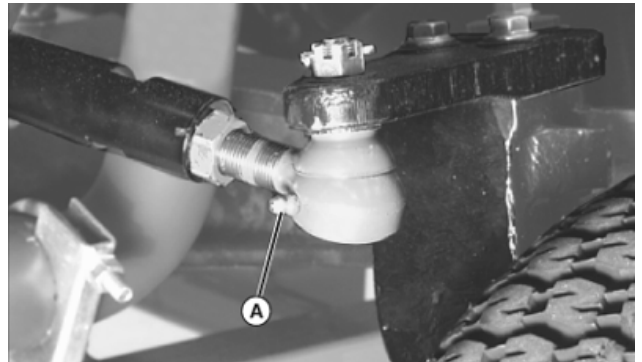


TCAL43328—UN—14MAR13

2. Locate rear axle pivot pin grease fitting (A) under rear of machine between frame members on bottom of rear axle.
3. Lubricate grease fitting with John Deere Multi-Purpose HD Lithium Complex Grease or John Deere Moly High Temperature EP Grease until grease can be seen seeping out at front and rear of axle casting.

Lubricating Rear Tie Rod

1. Park machine safely. (See Parking Safely in the SAFETY Section.)



TCAL43329—UN—14MAR13

2. Lubricate left and right side of the rear tie rod (A) with John Deere Multi-Purpose HD Lithium Complex Grease or John Deere Moly High Temperature EP Grease.

Lubricating Hydraulic Steering Cylinder

1. Park machine safely. (See Parking Safely in the SAFETY Section.)



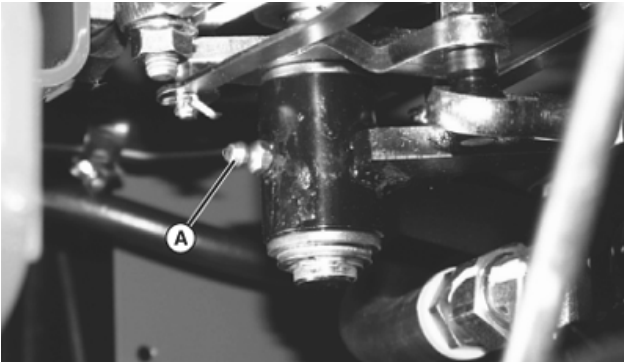
TCAL43330—UN—14MAR13

2. Lubricate hydraulic steering cylinder ends (A) at rear of machine with John Deere Multi-Purpose HD Lithium Complex Grease or John Deere Moly High Temperature EP Grease.

Service Lubrication

Lubricating Hydrostatic Linkage

1. Park machine safely. (See Parking Safely in the SAFETY Section.)

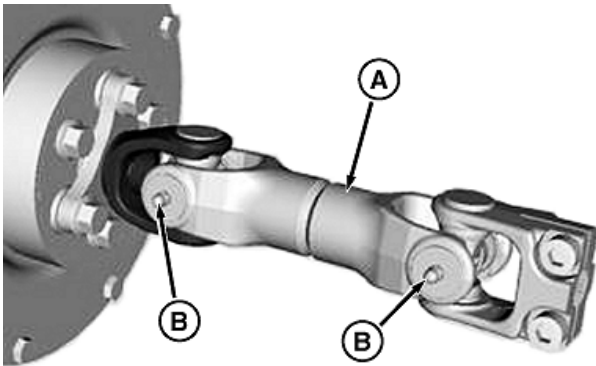


TCAL43331—UN—14MAR13

2. Locate hydrostatic linkage grease fitting (A) under service hatch in operator's platform, or to the rear of the right front tire.
3. Lubricate linkage with John Deere Multi-Purpose HD Lithium Complex Grease or John Deere Moly High Temperature EP Grease.

Lubricating Engine Drive Shaft

1. Park machine safely. (See Parking Safely in the SAFETY Section.)

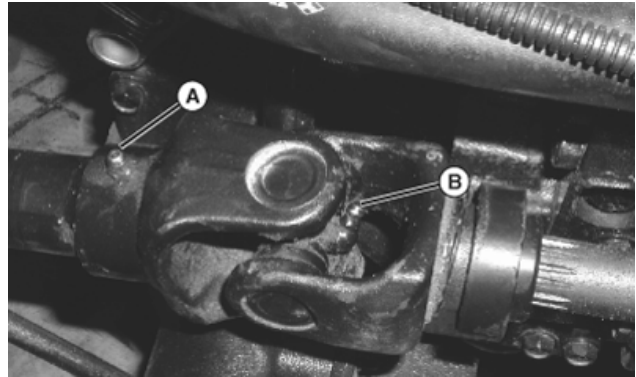


TCT010615—UN—06MAR14

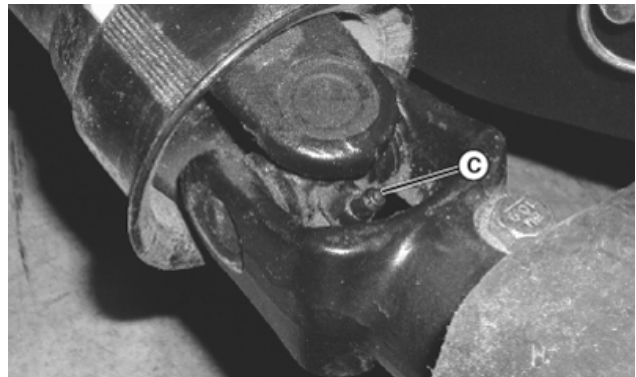
2. Lubricate front universal joint of engine drive shaft (A) with John Deere Multi-Purpose SD Polyurea Grease or John Deere Multi-Purpose HD Lithium Complex Grease.
3. Pump grease into two grease fittings (B) until it can be seen seeping from all four bearing caps on the inside of each universal joint.

Lubricating PTO Shaft

1. Park machine safely. (See Parking Safely in the SAFETY Section.)



TCAL43333—UN—14MAR13



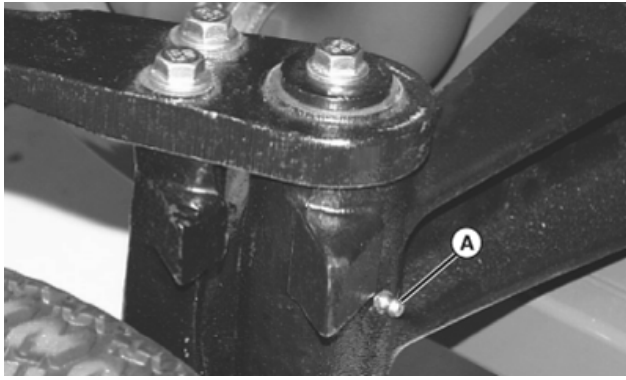
TCAL43334—UN—14MAR13

2. Lubricate grease fittings (A-C) with John Deere Multi-Purpose SD Polyurea Grease or John Deere Multi-Purpose HD Lithium Complex Grease.
3. Pump grease into grease fittings (B and C) until it can be seen seeping from all four bearing caps on the inside of each universal joint.

Lubricating Steering Spindles (2WD Only)

1. Park machine safely. (See Parking Safely in the SAFETY Section.)

Service Lubrication

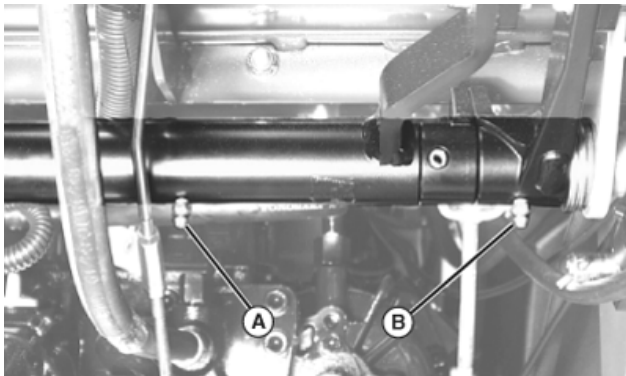


TCAL43335—UN—14MAR13

2. Locate steering spindle grease fitting (A) on front side of rear axle steering spindles (two wheel drive models only).
3. Lubricate linkage with John Deere Multi-Purpose HD Lithium Complex Grease or John Deere Moly High Temperature EP Grease.
4. Repeat for steering spindle grease fitting on other side of machine.

Lubricating Brake Pedal Linkage

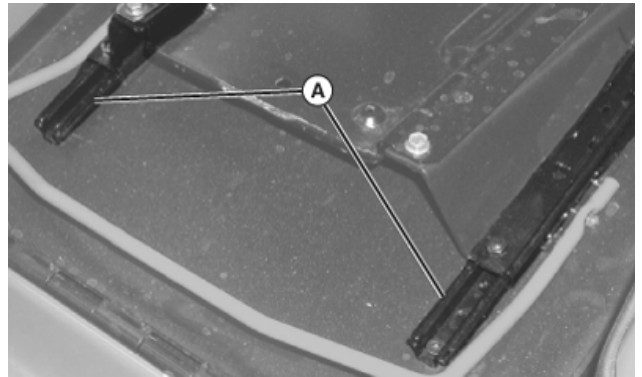
1. Park machine safely. (See Parking Safely in the SAFETY section.)



TCAL43336—UN—14MAR13

2. Locate brake pedal linkage grease fittings (A and B) under the front left of the operator's platform.
3. Lubricate linkage with John Deere Multi-Purpose HD Lithium Complex Grease or John Deere Moly High Temperature EP Grease.

Lubricating Operator Seat Slides

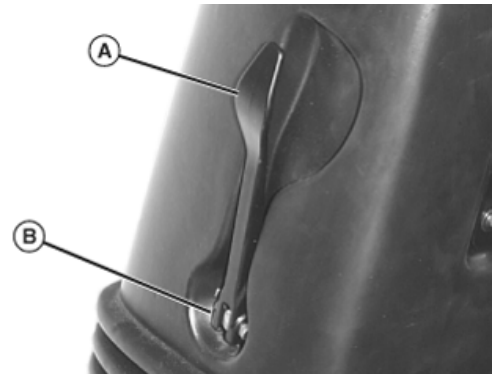


TCAL43337—UN—14MAR13

1. Lubricate operator seat slides (A) using a dry, teflon lubricant, such as John Deere Super Lube.
2. Spray seat slides while moving seat forward and back.

Lubricating Steering Column Tilt-Lock

1. Park machine safely. (See Parking Machine Safely in the SAFETY section.)



TCAL43338—UN—14MAR13

2. Pull lever (A) outward to release steering column.
3. Lubricate cam mechanism (B) using a dry lubricant such as John Deere Super Lube™.

Service Engine

Engine Warranty Maintenance Statement

Maintenance, repair, or replacement of the emission control devices and systems on this engine, which are being done at the customer's expense, may be performed by any non-road engine repair establishment or individual. Warranty repairs must be performed by an authorized John Deere dealer.

Emission Control System Certification Label

NOTE: Tampering with emission controls and components by unauthorized personnel may result in severe fines or penalties. Emission controls and components can only be adjusted by EPA and/or CARB authorized service centers. Contact your John Deere Retailer concerning emission controls and component questions.

The presence of an emissions label signifies that the engine has been certified with the United States Environmental Protection Agency (EPA) and/or California Air Resources Board (CARB).

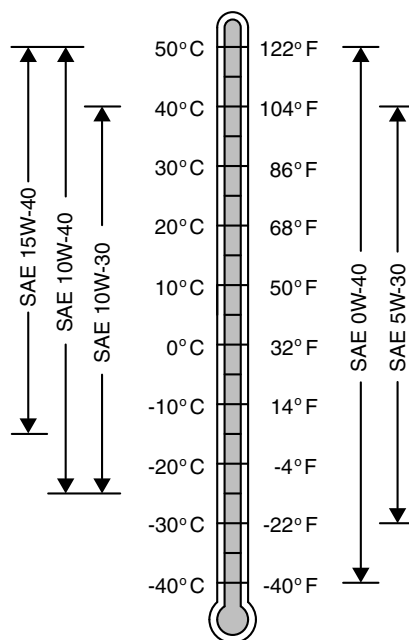
The emissions warranty applies only to those engines marketed by John Deere that have been certified by the EPA and/or CARB; and used in the United States and Canada in off-road mobile equipment.

Avoid Fumes

CAUTION: Engine exhaust fumes contain carbon monoxide and can cause serious illness or death.

- Move the machine to an outside area before running the engine.
- Do not run an engine in an enclosed area without adequate ventilation.
- Connect a pipe extension to the engine exhaust pipe to direct the exhaust fumes out of the area.
- Allow fresh outside air into the work area to clear the exhaust fumes out.

Engine Oil



TS1691—UN—18JUL07

Oil Viscosities for Air Temperature Ranges

Use oil viscosity based on the expected air temperature range during the period between oil changes.

The following John Deere oils are preferred:

- John DeerePlus-50™ II
- John DeereTorq-Gard™ Supreme

Other oils may be used if above John Deere oils are not available, provided they meet the following specification:

- API Service Classification CJ-4
- ACEA Specification E6 or E9
- JASO Specification DH-2

™Plus-50 is a trademark of Deere & Company
™Torq-Gard is a trademark of Deere & Company

Service Engine

Diesel fuel quality and fuel sulfur content must comply with all existing emissions regulations for the area in which the engine operates.

Raising and Lowering the Seat Platform

Raising the Seat Platform

1. Park machine safely. (See Parking Safely in the SAFETY section.)

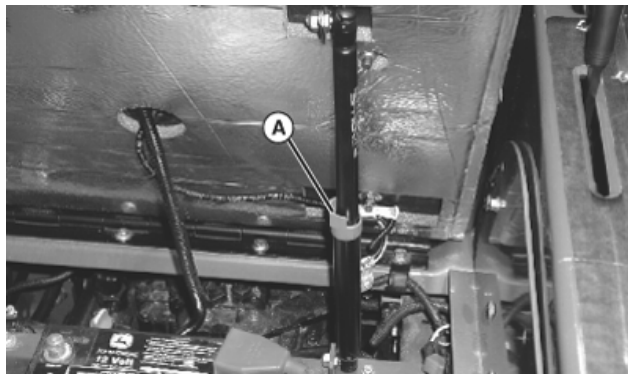
CAUTION: Fingers and hands can be pinched or crushed. Be aware of potential pinch points and keep hands away.



TCAL43342—UN—14MAR13

2. Pull forward on the release lever (A), while pulling forward on the backrest of the operator's seat.
 - The seat platform will rise until the gas strut extends and latches in the open position.

Lowering the Seat Platform



TCAL43343—UN—14MAR13

1. Push in the lock lever (A) on the gas strut.
2. Pull rearward on the seat backrest until the seat platform lowers and latches.

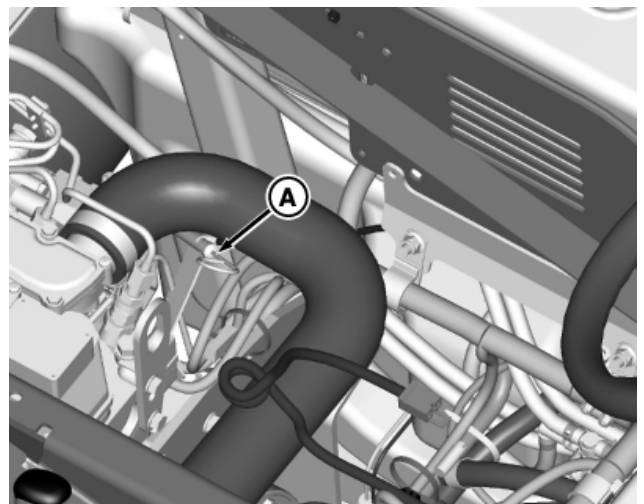
Checking Engine Oil Level (1550)

IMPORTANT: Avoid damage! Avoid dirt and other contaminants from entering the oil dipstick tube location. Clean area around dipstick before removing.

Failure to check the oil level regularly could lead to serious engine problems if oil level is low:

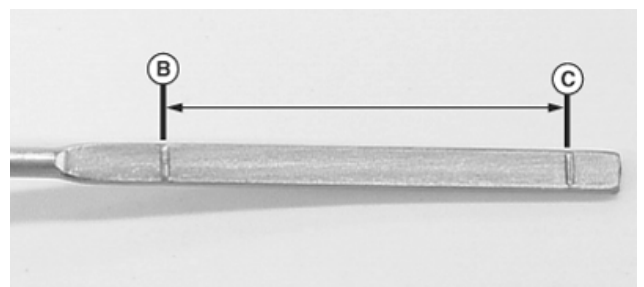
- Check oil level before operating.
- Check oil level when the engine is cold and not running.
- Keep level between the full and the add marks.
- Shut off engine before adding oil.
- Check oil level twice a day if you run engine over 4 hours a day.

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Tilt operator's seat platform forward.



TCT010630—UN—21MAR14

3. Remove dipstick (A) located on the left side of the engine under the seat. Wipe dipstick with a clean cloth.



TCAL43345—UN—14MAR13

Service Engine

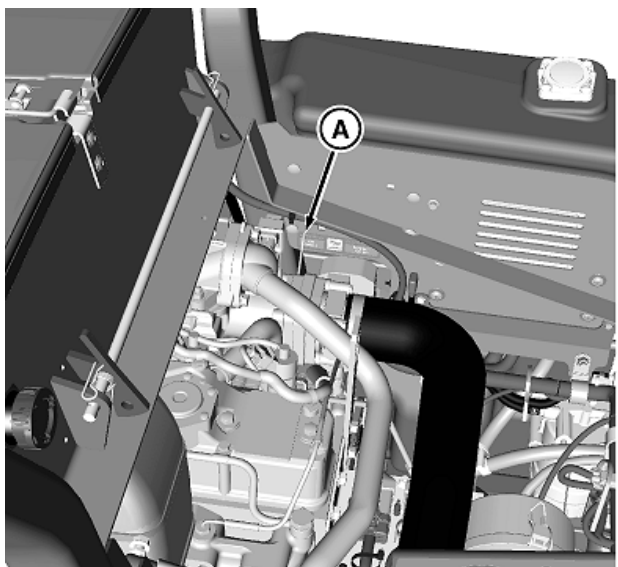
4. Install dipstick, then remove again. Check oil level. Oil should be between levels (B) and (C) on the dipstick.
 - If oil is low, add oil to bring oil level no higher than level (B) on the dipstick.
 - If oil is above level (B) on the dipstick, drain to proper level.
5. Install dipstick.
6. Lower operator's seat platform.

Checking Engine Oil Level (1570, 1575, 1580, 1585)

IMPORTANT: Avoid damage! Avoid dirt and other contaminants from entering the oil dipstick tube location. Clean area around dipstick before removing.

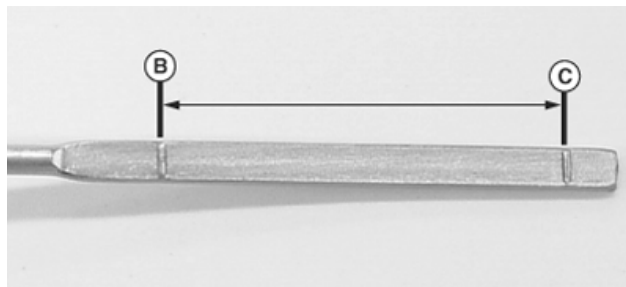
Failure to check the oil level regularly could lead to serious engine problems if oil level is low:

- Check oil level before operating.
 - Check oil level when the engine is cold and not running.
 - Keep level between the full and the add marks.
 - Shut off engine before adding oil.
 - Check oil level twice a day if you run engine over 4 hours a day.
1. Park machine safely. (See Parking Safely in the SAFETY section.)
 2. Tilt operator's seat platform forward.



TCT008509—UN—20SEP13

3. Remove dipstick (A) located on the left side of the engine under the seat. Wipe dipstick with a clean cloth.

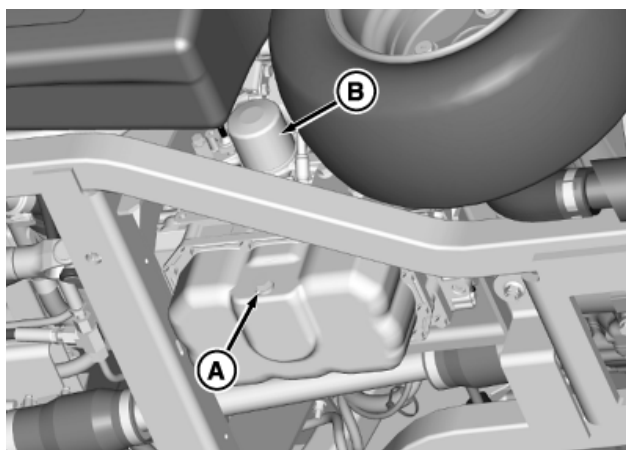


TCAL43345—UN—14MAR13

4. Install dipstick, then remove again. Check oil level. Oil should be between levels (B) and (C) on the dipstick.
 - If oil is low, add oil to bring oil level no higher than level (B) on the dipstick.
 - If oil is above level (B) on the dipstick, drain to proper level.
5. Install dipstick.
6. Lower operator's seat platform.

Changing Engine Oil and Filter (1550)

1. Run engine to warm oil.
2. Park machine safely. (See Parking Safely in the SAFETY section.)
3. Open engine cover and seat platform.
4. Place a drain pan under the oil drain location.

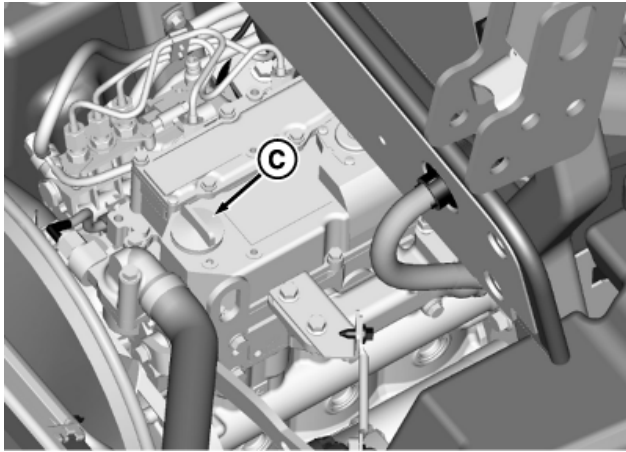


TCT010631—UN—21MAR14

5. Remove drain plug (A) located under the engine.
6. Remove oil filter (B) located on the lower left side of the engine. Turn filter counterclockwise to remove.

Service Engine

7. Clean filter mounting surface on engine with a clean cloth.
8. Apply a film of clean engine oil on gasket of new filter.
9. Install new filter.
 - Turn filter clockwise until filter makes contact with the mounting surface. Tighten 1/2-3/4 turn after gasket contact.
10. Install oil drain plug. Do not overtighten.



TCT010632—UN—21MAR14

11. Remove oil fill cap (C) on top of engine.
12. Add oil to engine as follows:

Engine Oil Specification	
1550 — Capacity.	3.1 L (3.3 qt.)
13. Install oil fill cap.
14. Start engine.
 - Run engine at slow idle speed for approximately 2 minutes.
 - Check area under engine for oil leaks.
15. Stop engine.
16. After approximately 2 minutes check engine oil level.

IMPORTANT: Avoid damage! Avoid dirt and other contaminants from entering the oil dipstick tube location. Clean area around dipstick before removing.

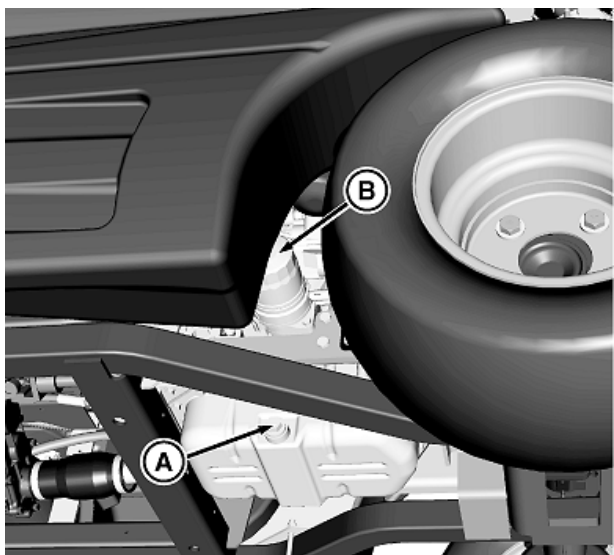
Failure to check the oil level regularly could lead to serious engine problems if oil level is low:

- Check oil level before operating.
 - Check oil level when the engine is cold and not running.
 - Keep level between the full and the add marks.
 - Shut off engine before adding oil.
 - Check oil level twice a day if you run engine over 4 hours a day.
17. Remove dipstick. Wipe with a clean cloth.
 18. Install dipstick.
 19. Check oil level.
 - If oil is low, add oil to bring oil level to fill mark on the dipstick.
 - If oil is above fill mark on the dipstick, drain to proper level.
 20. Install dipstick.
 21. Close engine cover and lower seat platform.

Changing Engine Oil and Filter (1570, 1575, 1580, 1585)

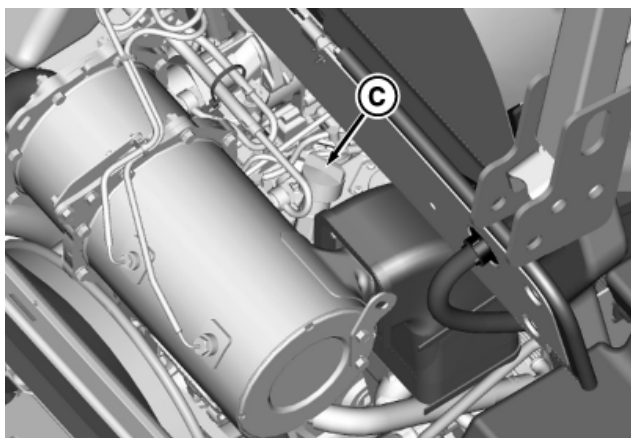
1. Run engine to warm oil.
2. Park machine safely. (See Parking Safely in the SAFETY section.)
3. Open engine cover and seat platform.
4. Place a drain pan under the oil drain location.

Service Engine



TCT008012—UN—29JUL13

5. Remove drain plug (A) located under the engine.
6. Remove oil filter (B) located on the lower left side of the engine. Turn filter counterclockwise to remove.
7. Clean filter mounting surface on engine with a clean cloth.
8. Apply a film of clean engine oil on gasket of new filter.
9. Install new filter.
 - Turn filter clockwise until filter makes contact with the mounting surface. Tighten 1/2-3/4 turn after gasket contact.
10. Install oil drain plug. Do not overtighten.



TCT010633—UN—21MAR14

11. Remove oil fill cap (C) on top of engine.

12. Add oil to engine as follows:

Engine Oil Specification

1570, 1575 — Capacity	4.1 L (4.3 qt.)
1580, 1585 — Capacity	4.8 L (5.1 qt.)

13. Install oil fill cap.

14. Start engine.
 - Run engine at slow idle speed for approximately 2 minutes.
 - Check area under engine for oil leaks.
15. Stop engine.
16. After approximately 2 minutes check engine oil level.

IMPORTANT: Avoid damage! Avoid dirt and other contaminants from entering the oil dipstick tube location. Clean area around dipstick before removing.

Failure to check the oil level regularly could lead to serious engine problems if oil level is low:

- Check oil level before operating.
 - Check oil level when the engine is cold and not running.
 - Keep level between the full and the add marks.
 - Shut off engine before adding oil.
 - Check oil level twice a day if you run engine over 4 hours a day.
17. Remove dipstick. Wipe with a clean cloth.
 18. Install dipstick.
 19. Check oil level.
 - If oil is low, add oil to bring oil level to fill mark on the dipstick.
 - If oil is above fill mark on the dipstick, drain to proper level.
 20. Install dipstick.
 21. Close engine cover and lower seat platform.

Cleaning Air Intake Screen

⚠ CAUTION: Compressed air can cause debris to fly a long distance.

- Clear work area of bystanders.
- Wear eye protection when using compressed air for cleaning purposes.
- Reduce compressed air pressure to 210 kPa (30 psi).

IMPORTANT: An obstructed air intake screen can cause engine damage due to overheating. Keep air intake screen and other external surfaces of the engine, including cooling fins, clean at all times to allow adequate air intake.

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Open engine cover.

Service Engine



TCT007884—UN—11JUL13

3. Clean screens (A) with a brush, compressed air or water.
4. Close engine cover.

Cleaning Oil Cooler and Radiator

⚠ CAUTION: Compressed air can cause debris to fly a long distance.

- Clear work area of bystanders.
- Wear eye protection when using compressed air for cleaning purposes.
- Reduce compressed air pressure to 210 kPa (30 psi).

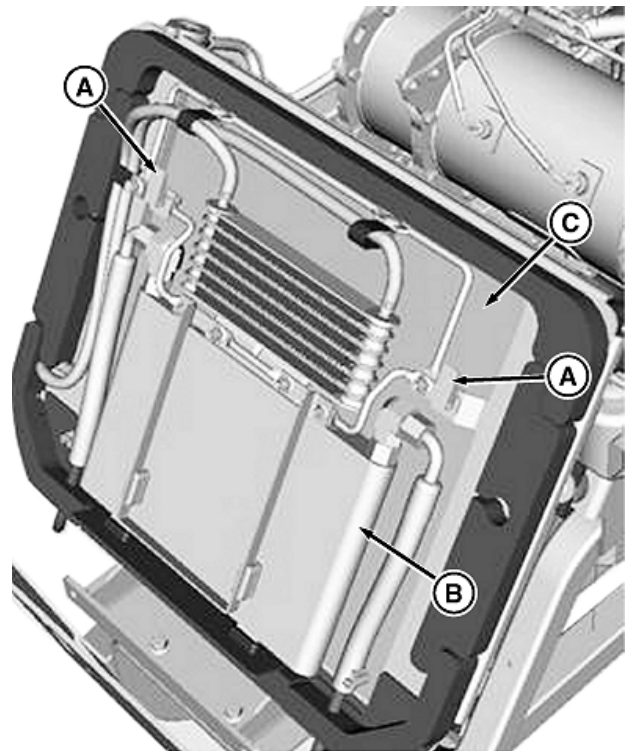
IMPORTANT: Oil cooler coils and radiator cooling fins must be clean to prevent the engine from overheating and to allow adequate air intake.

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Allow engine to cool.
3. Open engine cover.

IMPORTANT: When cleaning the oil cooler and radiator, keep the compressed air or power washer nozzle at least 15 cm (6 in.) away from fins while cleaning. Spray radiator from front side (fan side) only.

4. Swing oil cooler away from radiator:

Machines without AC

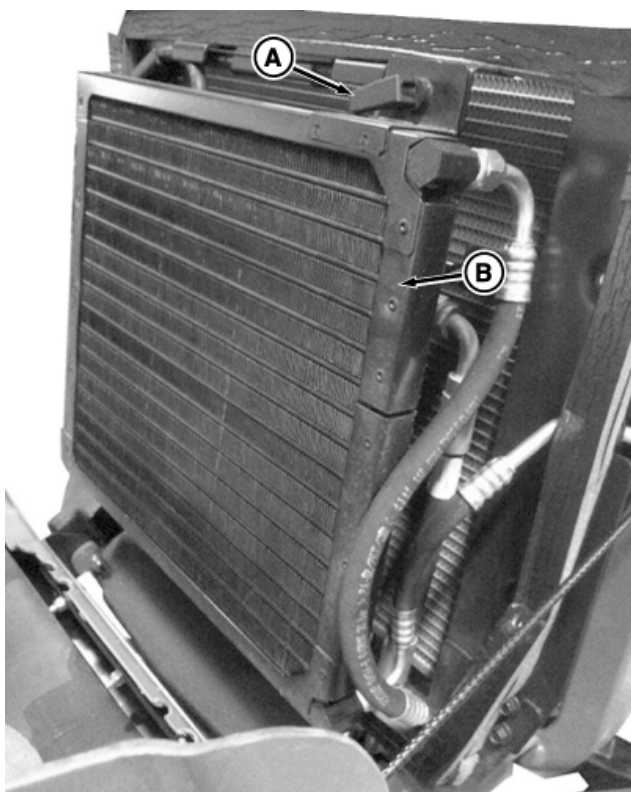


TCT010616—UN—07MAR14

- Rotate two handles (A) forward to release oil cooler (B) from radiator frame.
- Move engine oil cooler (B) open slightly to access radiator cooling fins (C).

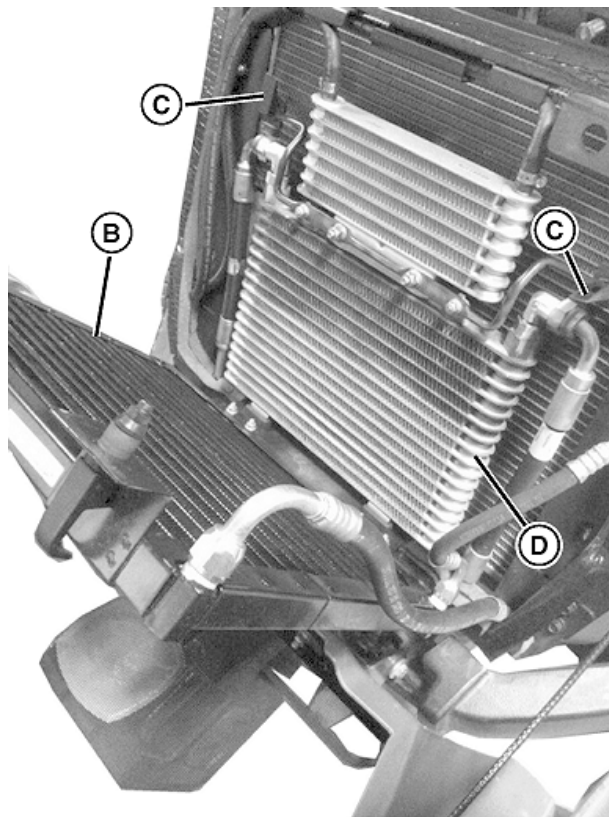
Service Engine

Machines with AC



TCT007885—UN—21MAR14

- Rotate handle (A) up and towards front of machine to release latch on air conditioner condenser (B).



TCT007886—UN—13AUG13

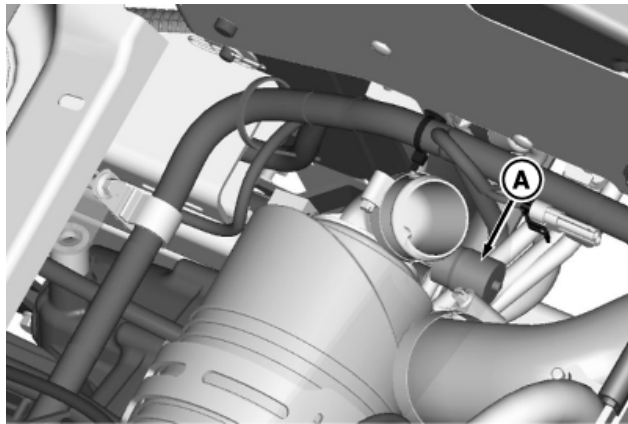
- Swing air conditioner condenser (B) forward, as shown.
 - Rotate two handles (C) forward and swing oil cooler (D) forward.
5. Remove dirt and debris from radiator and oil cooler using compressed air or water sprayed from the front to the rear.
 6. Check oil cooler coils and radiator fins for damage.
- NOTE: Before rotating oil cooler back into position, be certain to route and install all hoses into brackets.*
7. Swing oil cooler against radiator and secure with two handles.
 8. Machines with AC: Install air conditioner condenser back onto frame and secure with release latch handle.
 9. Close engine cover.

Checking Air Filter Restriction Indicator

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Raise seat platform or remove battery cover.

NOTE: Indicator will not function correctly if plastic indicator housing is damaged.

Service Engine



TCT010634—UN—21MAR14

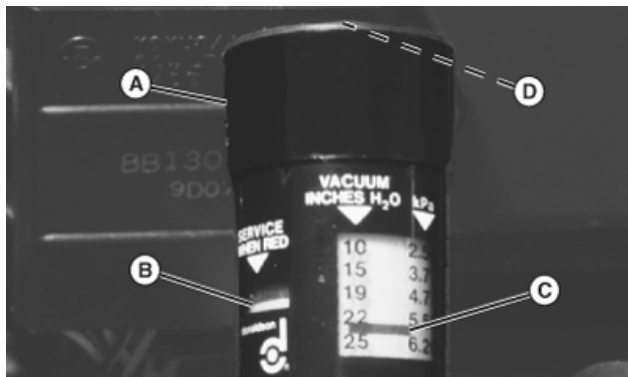
Servicing Air Cleaner Elements

IMPORTANT: When operating the machine in extreme heat, dust or other severe conditions, check the air restriction indicator daily.

- Never run the engine without the air cleaner elements installed.
- Do not wash the paper elements.
- Do not attempt to clean paper element by tapping against another object.
- Do not use pressurized air to clean element.

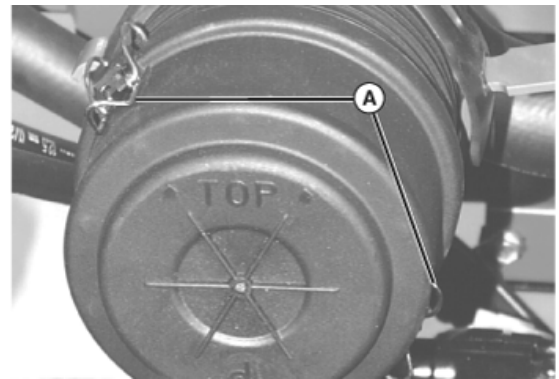
Primary Air Cleaner Element

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Allow engine to cool.
3. Raise seat platform.



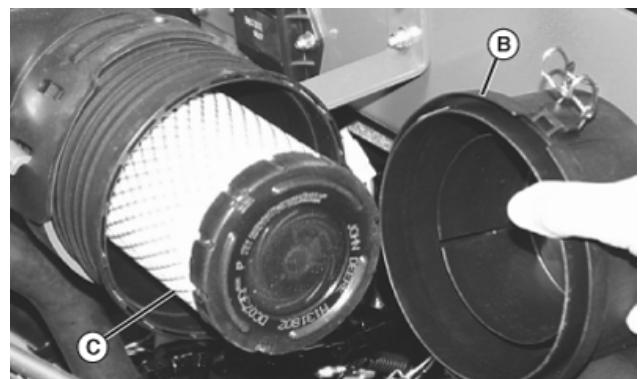
TCAL43352—UN—14MAR13

3. Check air restriction indicator (A).
 - When the indicator window (B) is yellow, no air cleaner service is required.
 - When the indicator window is red, air cleaner element needs replacement.
 - Vacuum scale (C) on indicator shows how restricted the air cleaner elements are becoming.
4. Depress the rubber button (D) on top of the housing to reset indicator.
5. Lower seat platform or install battery cover.



TCAL43353—UN—14MAR13

4. Release spring latches (A), and unhook latches from air cleaner housing.



TCAL43354—UN—14MAR13

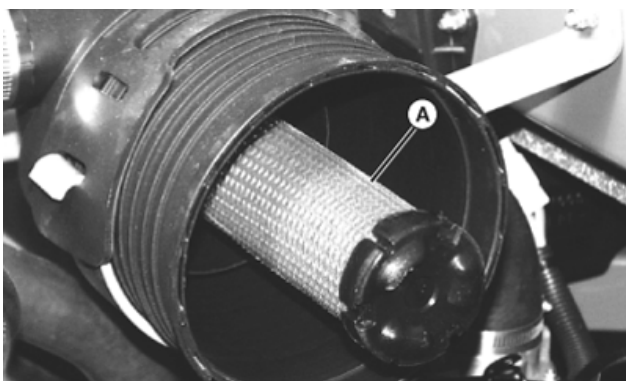
5. Remove air cleaner cover (B).
6. Remove and discard primary element (C).
7. Install new primary element.
8. Install air cleaner cover, making sure the word "TOP" is facing upwards.

Service Engine

9. Reset air restriction indicator.
10. Start engine and run at high idle for 1 minute.
11. Stop engine. Check air restriction indicator:
 - If indicator window remains yellow, air cleaner is ready for operation.
 - If indicator window has turned red, change secondary air filter element.

Secondary Air Filter Element

1. Remove air cleaner cover.
2. Remove primary air cleaner element.



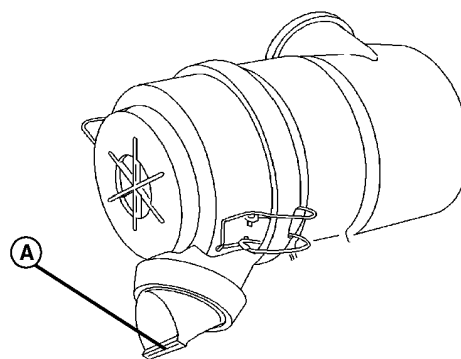
TCAL43355—UN—14MAR13

3. Remove and discard secondary element (A).
4. Install a new secondary element.
5. Install primary air cleaner element.
6. Install air cleaner cover, making sure the word "TOP" is facing upwards.
7. Lower seat platform.

Cleaning Dust Unloading Valve

IMPORTANT: Do not operate engine without air cleaner element and rubber dust unloading valve installed.

1. Park the vehicle safely. (See Parking Safely in the SAFETY section.)
2. Allow engine to cool.
3. Access the engine compartment.

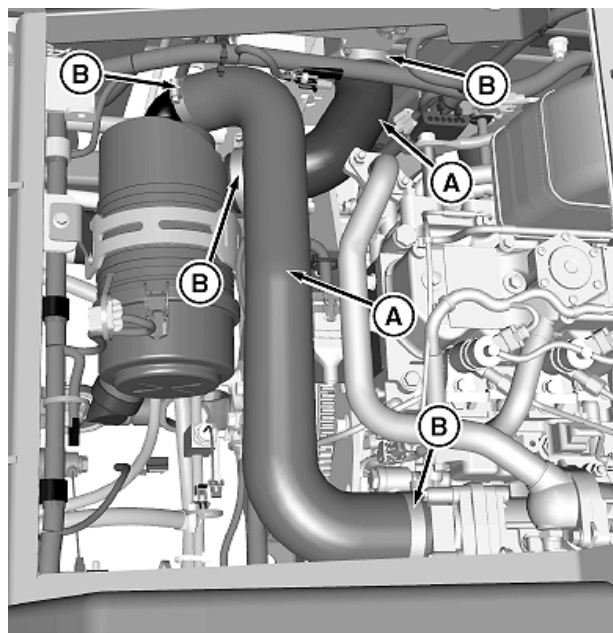


TCAL43356—UN—14MAR13

4. Squeeze dust unloading valve (A) to clean. Remove and replace if damaged.

Checking Air Intake Hoses and Clamps

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Allow engine to cool.
3. Open engine cover.



TCT009083—UN—04NOV13

4. Check air intake hoses (A) for cracks or damage. Replace if necessary.
5. Tighten hose clamps (B).

Checking Radiator Hoses and Clamps

1. Park machine safely. (See Parking Safely in the SAFETY section.)

Service Engine

2. Allow engine to cool.
3. Open engine cover.
4. Check both radiator hoses and overflow hose for cracks or damage. Replace if necessary.
5. Tighten radiator hose clamps and overflow hose clamps, if needed.
6. Close engine cover.

Diesel Engine Coolant

Preferred coolants:

The following pre-mix engine coolants are preferred:

- **John Deere Cool-Gard™ II**
- **John Deere Cool-Gard™ II PG**

Not all Cool-Gard™ II pre-mix products are available in all countries.

Use COOL-GARD™ II PG when a non-toxic coolant formulation is required.

Additional Recommended Coolants

The following engine coolant is also recommended:

- John Deere COOL-GARD™ II Concentrate in a 40—60% mixture of concentrate with quality water.

IMPORTANT: When mixing coolant concentrate with water, do not use less than 40% or greater than 60% concentration of coolant. Less than 40% gives inadequate additives for corrosion protection. Greater than 60% can result in coolant gelation and cooling system problems.

Other Coolants

Other ethylene glycol or propylene glycol base coolants may be used if they meet one of the following specifications:

- Pre-mix coolant meeting ASTM D6210 requirements
- Coolant concentrates meeting ASTM D6210 requirements in a 40% to 60% mixture of concentrate with quality water
- Pre-mix coolant meeting ASTM D3306 requirements
- Coolant concentrates meeting ASTM D3306 requirements in a 40% to 60% mixture of concentrate with quality water

If coolant meeting one of these specifications is unavailable, use a coolant concentrate or pre-mix coolant that has a minimum of the following chemical and physical properties:

- Is formulated with a quality nitrite-free additive package.

- Protects the cooling system metals (cast iron, aluminum alloys, and copper alloys such as brass) from corrosion.

Water Quality

Water quality is important to the performance of the cooling system. Distilled, deionized, or demineralized water is recommended for mixing with ethylene glycol base engine coolant concentrate.

Coolant Drain Intervals

Drain and flush the cooling system and refill with fresh coolant at the indicated interval, which varies with the coolant used.

When COOL-GARD™ II or COOL-GARD™ II PG is used, the drain interval is 6 yr. or 6000 operating hours.

If a coolant other than COOL-GARD™ II or COOL-GARD™ II PG is used, reduce the drain interval to 2 yr. or 2000 operating hours.

IMPORTANT: Do not use cooling system sealing additives or antifreeze that contains sealing additives.

IMPORTANT: Do not mix ethylene glycol and propylene glycol base coolants.

IMPORTANT: Do not use coolants that contain nitrites.

Service Cooling System Safely



TCAL42226—UN—08MAR13

Service Engine

CAUTION: The radiator will be hot and can burn skin. Built-up pressure may cause explosive release of coolant when the radiator cap is removed:

- Shut off the engine and allow to cool.
- Do not remove the cap unless the radiator and the engine are cool enough to touch with bare hands.
- Slowly loosen the cap to the first stop to release all pressure. Then remove the cap.

Checking Coolant Level

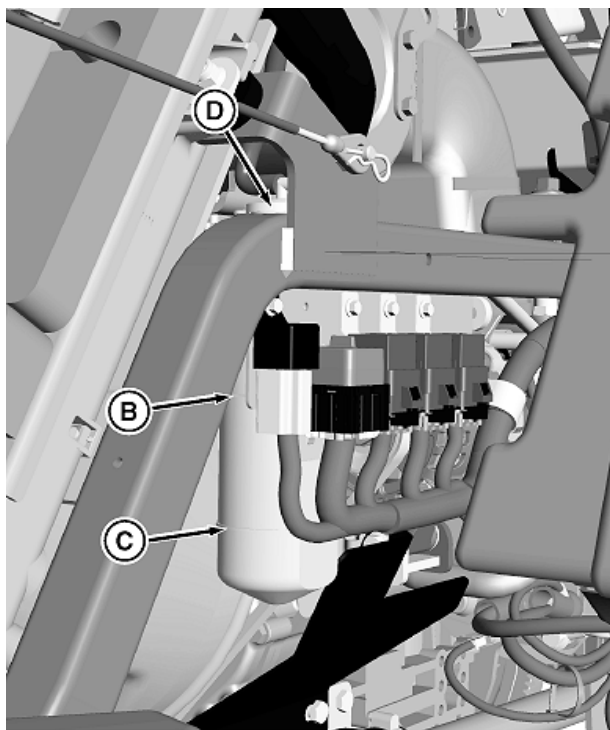
IMPORTANT: Using incorrect coolant mixture can damage the radiator:

- Do not operate engine with plain water.
 - Do not exceed a 50% mixture of coolant and water.
 - Aluminum engine blocks and radiators require approved ethylene-glycol based antifreeze.
1. Park machine safely. (See Parking Safely in the SAFETY section.)
 2. Allow engine to cool. Open engine cover.



TCAL43359—UN—14MAR13

3. Slowly open and remove radiator cap (A), and check that coolant level is up to filler neck.
4. If coolant level is low, open air bleed vent on right side of radiator, add coolant, and close air bleed.
5. Install radiator cap.
6. Check coolant recovery tank. Make sure the overflow hose is not touching the bottom of the recovery tank.



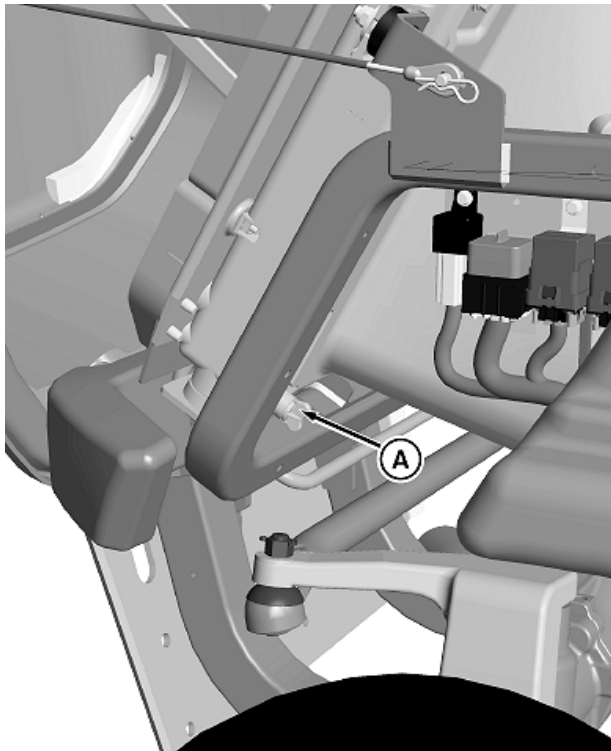
TCT009084—UN—04NOV13

7. Coolant recovery tank should be approximately between FULL (B) and LOW (C) lines at engine operating temperature.
8. Remove cap (D) and add coolant if level is low.
9. Check condition of hoses and clamps. Check for leaks or loose connections.

Servicing Cooling System

Draining Cooling System

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Allow engine to cool.
3. Open engine cover.
4. Slowly open radiator cap to the first stop to release all pressure.



TCT009085—UN—04NOV13

5. Open the radiator drain (A) located on the bottom of the radiator, under the rear bumper. Drain coolant into a pan.
6. Close radiator drain after all coolant has drained from the radiator.
7. Flush the cooling system.

Flushing Cooling System

1. Drain cooling system and add John Deere Cooling System Cleaner, or John Deere Cooling System Quick Flush or equivalent. Fill system with clean water. Follow directions on can.
2. Install and tighten radiator cap.
3. Start and run engine until it reaches operating temperature.
4. Stop engine.
5. Open radiator drain valve. Drain cooling system immediately before rust and dirt settle.
6. Close radiator drain valve.
7. Fill cooling system with clean water and repeat flushing until system is clean.
8. Drain system and fill with coolant.

Filling Cooling System

IMPORTANT: Using incorrect coolant mixture can damage the radiator:

- Do not operate engine with plain water.
- Do not exceed a 50% mixture of coolant and water.
- Aluminum engine blocks and radiators require approved ethylene-glycol based antifreeze.

1. With engine and cooling system cool, open radiator cap to the first stop to release all pressure. Press down on cap slightly and turn counterclockwise to remove.
2. Fill cooling system.
 - Cooling system capacity is as follows:

Cooling System Specification	
1550 — Capacity	7.1 L (7.5 qt)
1570, 1575, 1580 and 1585 — Capacity	7.6 L (8.0 qt)
 - Certain geographical areas may require lower temperature protection. See the label on your antifreeze container or consult your John Deere dealer to obtain the latest information and recommendations.
 - John Deere Cooling System Sealer or its equivalent may be added to the radiator to seal leaks. Do not use any other additives in the cooling system.
3. Start engine and watch coolant level in radiator. Add coolant if necessary to bring coolant level up to filler neck.
4. Install and tighten radiator cap. Run engine until at operating temperature.
5. Stop engine and allow to cool down.
6. Add coolant, if necessary, to coolant recovery tank.
7. Check condition of hoses and clamps. Check for leaks or loose connections.

NOTE: Coolant recovery tank is used to catch overflow from radiator, and will remain about half full during operation. Coolant will flow back into radiator as needed after system cools.

Service Engine

Servicing Fuel Filter (1550)

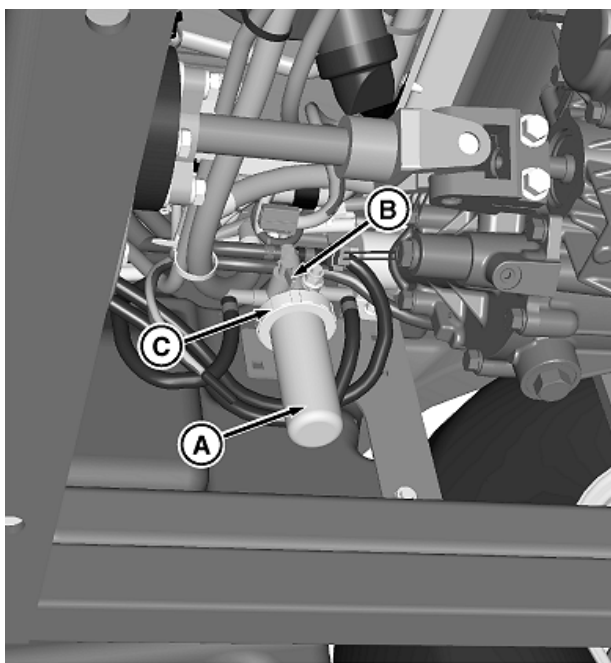
CAUTION: Fuel vapors are explosive and flammable:

- Do not smoke while handling fuel.
- Keep fuel away from flames or sparks.
- Shut off engine before servicing.
- Cool engine before servicing.
- Work in a well-ventilated area.
- Clean up spilled fuel immediately.

NOTE: Change filter when fuel level is low.

Checking

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Allow engine to cool.
3. Open engine cover.



TCT008013—UN—29JUL13

4. Locate the fuel filter sediment bowl (A) on the left side of the engine.
5. Look for water in the sediment bowl indicated by the red float ring being lifted up off the bottom.

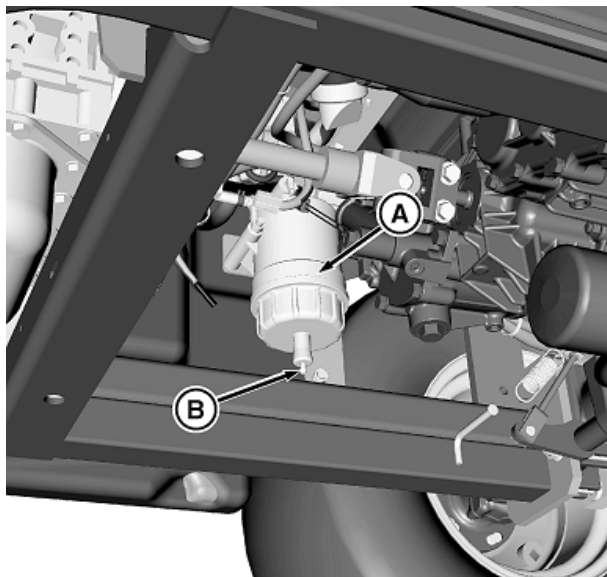
Cleaning and Replacing

1. Close fuel shut-off valve (B) by turning to the horizontal position.
2. Unscrew collar (C) to remove bowl and filter. Discard filter.
3. Clean bowl and install new filter.

4. Install bowl and collar. Tighten collar hand tight.
5. Open fuel shut-off valve by turning lever to vertical position (shown).
6. Prime fuel system using primer lever on fuel pump.
7. Start engine and check for leaks.

Draining Water Separator (1570, 1575, 1580, 1585)

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Allow engine to cool.



TCT008014—UN—29JUL13

3. Locate the fuel filter sediment bowl (A) on the left side of the engine.
4. Look for water in the sediment bowl indicated by the red float ring being lifted up off the bottom.
5. If water is present, loosen drain (B) at the bottom of the sediment bowl and drain water.
6. Close drain (B).

Service Engine

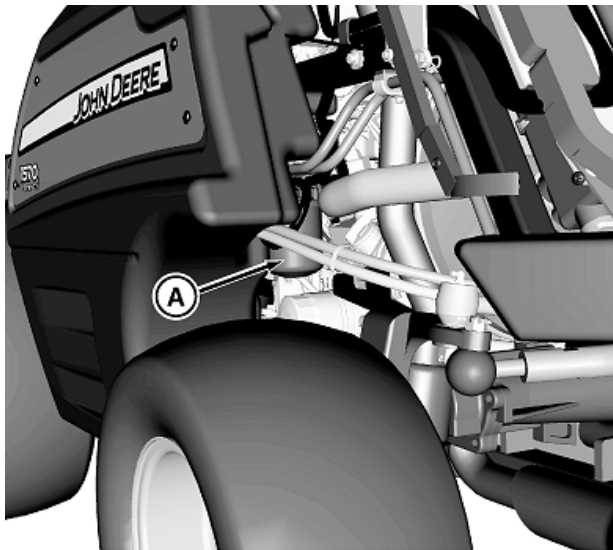
Changing Fuel Filter (1570, 1575, 1580, 1585)

CAUTION: Fuel vapors are explosive and flammable:

- Do not smoke while handling fuel.
- Keep fuel away from flames or sparks.
- Shut off engine before servicing.
- Cool engine before servicing.
- Work in a well-ventilated area.
- Clean up spilled fuel immediately.

NOTE: Change filter when fuel level is low.

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Allow engine to cool.
3. Open engine cover.
4. Turn fuel shutoff, located on water separator, to the OFF position.



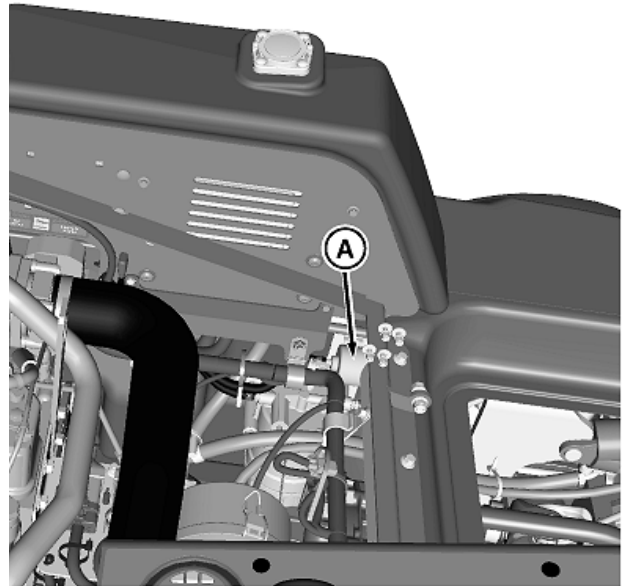
TCT008015—UN—29JUL13

5. Turn fuel filter (A) counterclockwise to remove.
6. Apply a film of clean fuel on gasket of new filter.
7. Install new fuel filter.
8. Turn fuel shutoff to ON position.
9. Start engine and check for leaks.

Priming Fuel System

NOTE: It may be necessary to prime the fuel system after running out of fuel or changing the fuel filter.

1. Make sure the machine is on a level surface, not a slope.
2. Turn off PTO switch.
3. Lower attachments to the ground.
4. Lock the park brake.
5. Remove the key.



TCT009484—UN—11DEC13

Electric boost pump is located under the seat on the left side of machine.

6. Turn key switch to RUN position for 2 minutes prior to starting engine. The fuel pump (A) will pressurize the fuel and remove any air in the system.
7. Start engine. If engine will not start, repeat previous step.

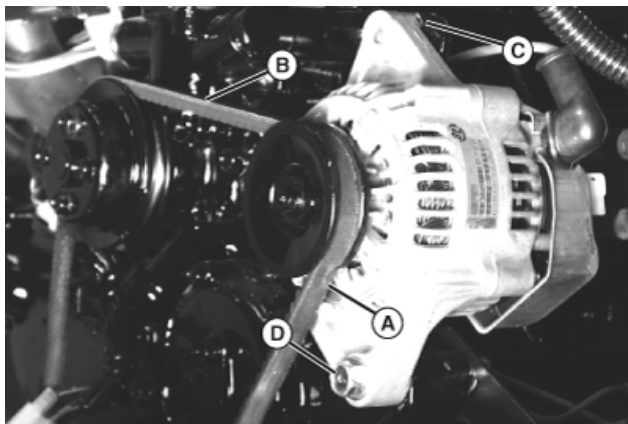
Checking and Adjusting Alternator Belt

CAUTION: Rotating parts can catch fingers, loose clothing, or long hair. Wait for engine and all moving parts to stop before leaving operator's station to adjust or service machine.

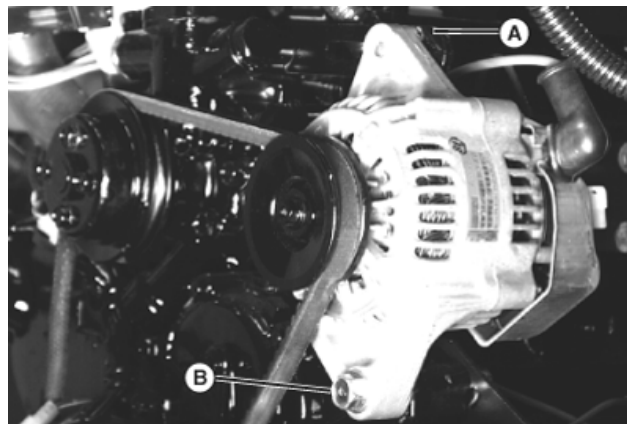
Checking Belt Tension

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Allow engine to cool.
3. Open engine cover.

Service Engine



TCAL43368—UN—14MAR13



TCAL43369—UN—14MAR13

4. Check alternator belt (A).
 - Inspect belt for excessive wear, damage or stretching while mounted on engine.
 - Apply finger pressure to the belt approximately halfway between the alternator and water pump pulleys at (B). Belt should deflect the specified distance. Adjust if too tight or too loose.

Specification

Alternator Belt — Deflection 10-15 mm (3/8-1/2 in.)

Adjusting Belt Tension

1. Loosen adjustment bolt (C).
2. Loosen alternator mounting bolt (D).
3. Apply outward pressure to the alternator housing.
4. Tighten adjustment bolt (C) and mounting bolt (D).
5. Check belt tension.
6. Close engine cover.

Replacing Alternator Belt

⚠ CAUTION: Touching hot surfaces can burn skin. The engine, components, and fluids will be hot if the engine has been running. Allow the engine to cool before servicing or working near the engine and components.

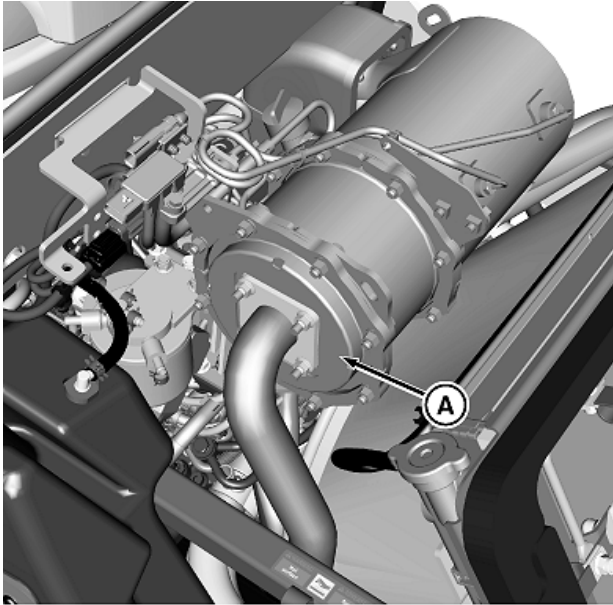
1. Park machine safely. (See Parking Safely in the Safety section.)
2. Allow engine to cool.
3. Open engine cover.

4. Loosen adjustment bolt (A).
 5. Loosen alternator mounting bolt (B).
 6. Push alternator in towards engine to loosen alternator belt tension.
 7. Remove the worn alternator belt from the machine.
- NOTE: It may be necessary to remove alternator adjustment bolt to loosen belt enough for it to come off of pulleys.*

8. Install new belt over fan blades and install onto engine and alternator pulleys.
9. Adjust alternator belt tension.
10. Close engine cover.

Service Exhaust Filter

⚠ CAUTION: Under federal, state, and/or local laws or regulations, exhaust filter ash may be classified as a hazardous waste. Hazardous waste must be disposed of in accordance with all applicable federal, state, and local laws or regulations governing hazardous waste disposal. Only a qualified service provider should remove ash from the exhaust filter. See your authorized dealer for exhaust filter ash handling and disposal.



TCT010611—UN—28FEB14

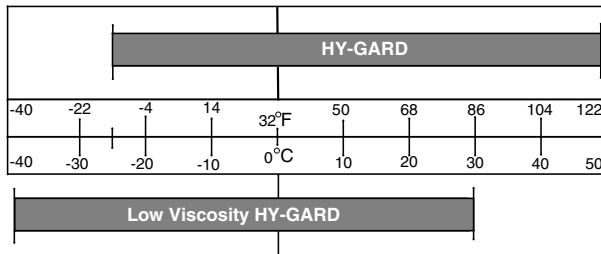
The exhaust filter (A) is designed to retain residual ash, which is a noncombustible result of additives used in crankcase lubrication oils and the fuel. As ash levels rise, the capacity for soot storage is reduced. Engine performance can be reduced due to increased exhaust system back pressure. The residual ash must be removed from the filter. Ash removal is performed by removing the exhaust filter from machine and having it cleaned by specialized equipment or replacing the exhaust filter.

IMPORTANT: Avoid Damage! Do not attempt to remove exhaust filter from machine. Contact your authorized dealer to remove exhaust filter for ash removal or replacement.

Failure to follow the approved ash removal methods may violate U.S. federal, state, and local hazardous waste laws, along with damage to the exhaust filter, resulting in potential denial of the emissions warranty.

Service Transmission

Transaxle Oil



TCAL43372—UN—14MAR13

NOTE: Transaxle is filled with John Deere HY-GARD® (J20C) transmission oil at the factory. DO NOT mix oils.

Use only HY-GARD® (J20C) transmission oil.

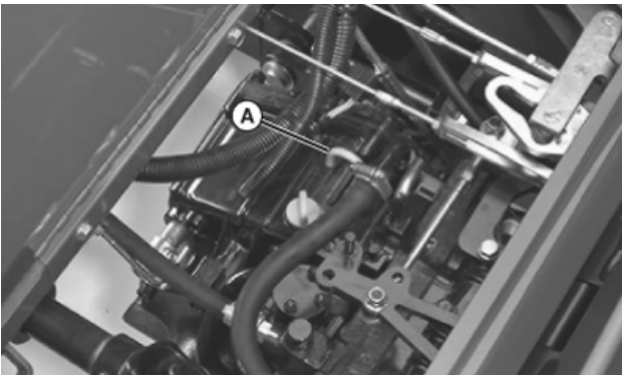
Do not use type "F" automatic transmission fluid.

John Deere HY-GARD® (J20C) transmission oil is specially formulated to provide maximum protection against mechanical wear, corrosion, and foaming.

IMPORTANT: If operating temperatures are below – 18°C (0°F), you must use Low Viscosity HY-GARD® (J20D) or transmission damage will occur.

Checking the Transaxle Oil Level

1. Run engine for 30 seconds before checking transaxle oil level.
2. Park machine safely. (See Parking Safely in the SAFETY section.)
3. Open service hatch on operator's platform.



TCAL43373—UN—14MAR13

4. Locate the dipstick (A) on the top of the transaxle.
5. Remove the dipstick and wipe off with a clean shop towel.

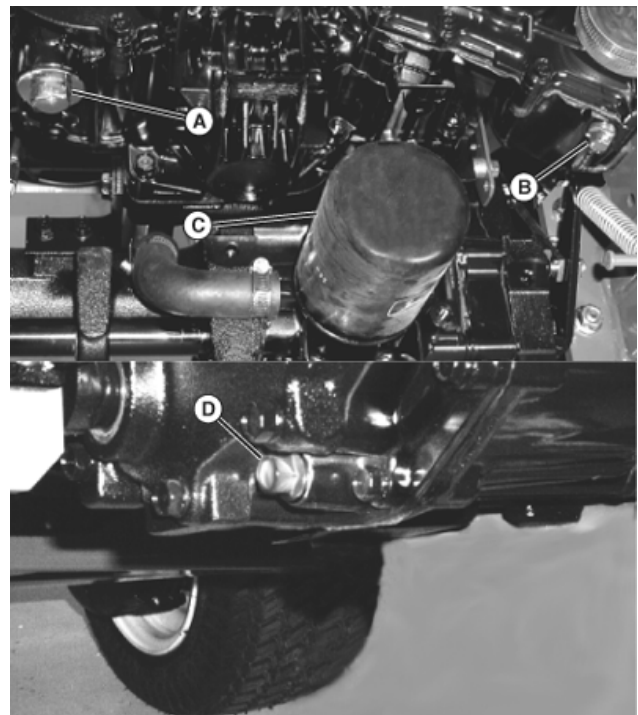
6. Insert the dipstick fully into the transaxle housing and remove again.
7. Oil level should be in XXX range on dipstick. Add oil to transaxle if level does not show on dipstick. Remove oil if level is too high.
8. Install dipstick and close service hatch. If oil was added, check oil level after driving machine.

Changing the Transaxle Oil and Filter

CAUTION: Escaping fluid under pressure can penetrate skin and cause serious injury, including gangrene.

- Relieve pressure before disconnecting hydraulic or other pressurized lines.
- Use a piece of cardboard to search for leaks. Do not expose hands or body to high pressure fluids.
- Tighten all connections before applying pressure.

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Lower all attachments to the ground.
3. Place a drain pan under the transaxle.

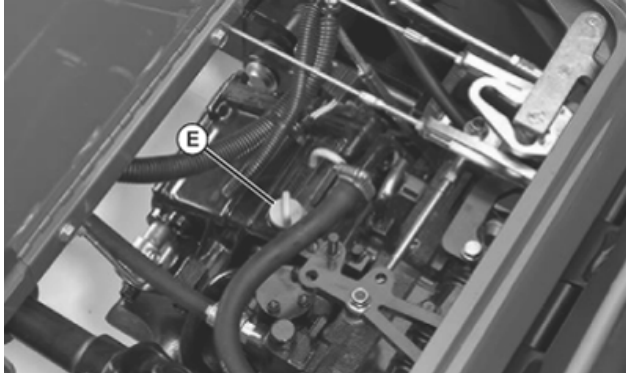


TCAL43374—UN—14MAR13

4. Clean away debris and remove drain plugs (A, B, and D) from locations shown above. Allow transaxle to drain.

Service Transmission

5. Remove transaxle oil filter (C) and allow transaxle to drain. Clean oil filter mounting flange with a clean shop towel.
6. Lubricate the gasket of a new oil filter with a few drops of transaxle oil, and install the filter onto the mounting flange. Tighten filter 1/2 to 3/4 turn after it contacts the flange.
7. Install drain plugs.



TCAL43375—UN—14MAR13

8. Raise service hatch and remove transaxle oil filler cap (E).
9. Fill transaxle with recommended oil until level is up to top of XXX marks on dipstick. Dry transaxle capacity is listed below, but it may take less when performing an oil change. Do not overfill.

Specification

Transaxle (2WD) — Capacity 8.5 L (9 qt)
Transaxle (4WD - 1550, 1570) — Capacity 8.7 L (9.2 qt)
Transaxle (4WD - 1575, 1580, 1585)
— Capacity 10.0 L (10.5 qt)

10. Run machine, cycling forward and reverse pedals to purge air from transaxle. Stop machine and recheck oil level.

Adjusting Forward and Reverse Pedals

Adjust forward and reverse pedals to make sure hydrostatic transmission will operate within full range of speed.

Checking Forward and Reverse Pedal Travel

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Fully depress forward pedal.
3. Measure distance between bottom of pedal and floor plate. Bottom of pedal should be specified distance from floor plate. If not, adjust pedal travel.

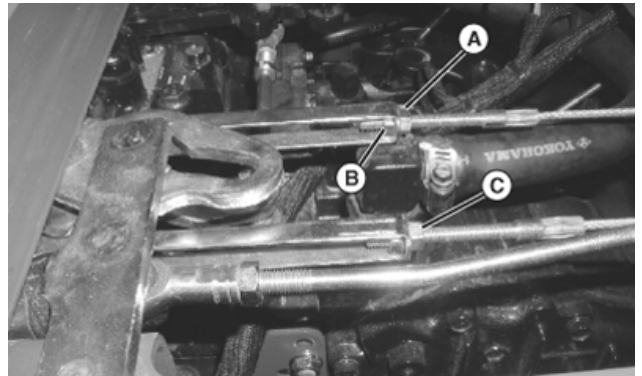
Specification

Forward/Reverse Pedal to Floor Plate
— Distance 12.5 mm (0.5 in.)

4. Repeat steps 2 and 3 for reverse pedal.

Adjusting Forward and Reverse Pedal Travel

1. Open service hatch.



TCAL43376—UN—14MAR13

2. Loosen nuts (A and B) from forward pedal linkage.
3. Rotate nuts along cable end until the distance between floor plate and bottom of forward pedal is within specifications with forward pedal fully depressed.

Specification

Forward/Reverse Pedal to Floor Plate
— Distance 12.5 mm (0.5 in.)

4. Tighten nuts (A and B).
5. Repeat procedure for reverse pedal linkage (C).

Adjusting Transaxle Neutral

CAUTION: Do not attempt this adjustment unless you are a qualified and properly trained technician. Improper adjustment can result in an unsafe machine.

Adjust transmission neutral to assure that machine does not creep forward or rearward when pedals are in the neutral position.

1. Park machine on a firm, level surface. Place controls in following position:
 - PTO disengaged.
 - 4WD disengaged (if equipped).
 - Differential lock disengaged.
 - Attachment removed or service latch locked.
 - Park brake locked.
 - Engine off.
 - Service hatch on operator's platform unlocked.
2. Chock rear tires and raise front of machine so front tires are off of ground. Place jack stands under left and right side of front axle and lower machine onto jack stands.

Service Transmission

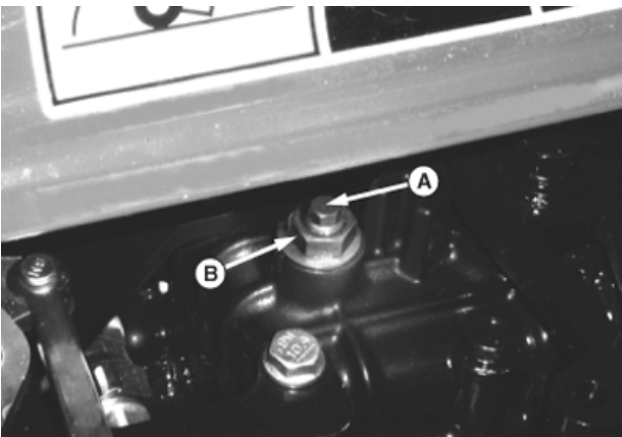
3. If 4WD option is installed, jack up rear of machine so tires are off of ground. Place jack stands under left and right side of rear axle and lower machine onto jack stands.

CAUTION: Do not raise or lower attachment, engage 4WD, differential lock, or PTO during adjustment. Keep people clear of machine while running.

Always raise all four wheels off ground if 4WD option is installed. 4WD is always engaged and will push the machine off jack stands if any of the tires are able to get traction.

Stay away from tires while making adjustments.

4. Start engine. Unlock the park brake.
5. Watch tires for forward or rearward rotation.
6. Cycle forward and reverse hydrostatic pedals and allow them to return to the centered, neutral position. Check again for tire rotation while in neutral, indicating a neutral adjustment is necessary.



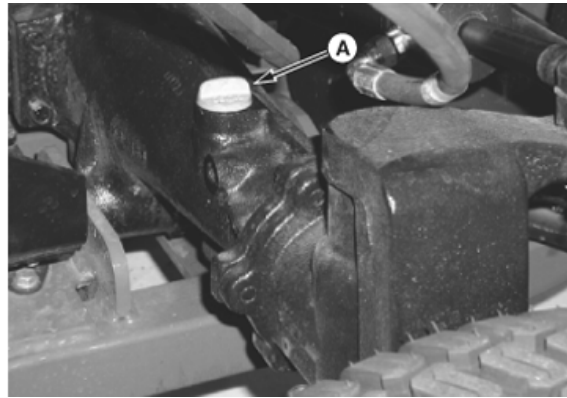
TCAL43377—UN—14MAR13

7. Open service hatch in operator's platform. Locate neutral adjuster screw (A) on top of transaxle.
8. Loosen lock nut (B).
9. Rotate screw until tires stop rotating.
10. Tighten lock nut. Cycle hydrostatic drive pedals and allow to return to neutral. Adjust screw again if necessary.

4WD Oil

- John Deere GL-5 Gear Lubricant is recommended.
- Other oils may be used provided they meet the following specifications:
 - API Class GL-5.

Checking the 4WD Oil Level

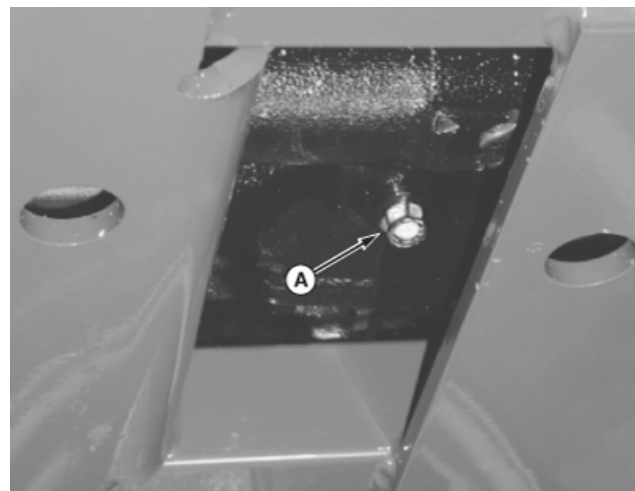


TCAL43378—UN—14MAR13

1. Open the engine cover and locate the rear axle filler cap and dipstick (A) on the right rear side of the rear axle.
2. Unscrew filler cap and wipe dipstick clean.
3. Install filler cap back into axle housing but do not turn threads back in.
4. Remove dipstick and check oil level on it. Oil should be in XXX area on dipstick but not above top mark.
5. Add oil if needed. Do not overfill.

Changing the 4WD Oil

1. Park machine safely. (See Parking Safely in the Safety section.)
2. Raise rear of machine so tires are off of ground, and support rear axle with jack stands.
3. Remove rear wheels from axle.

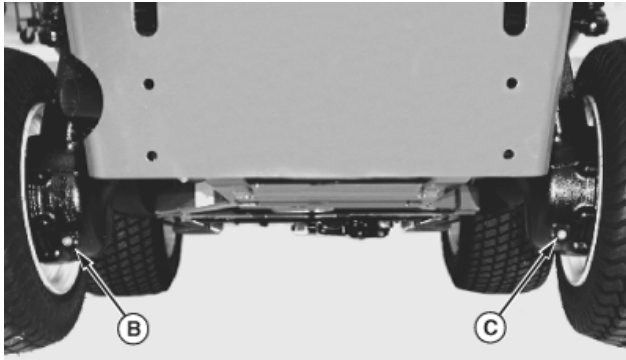


TCAL43379—UN—14MAR13

4. Place drain pan under center of rear axle housing and remove center drain plug (A).

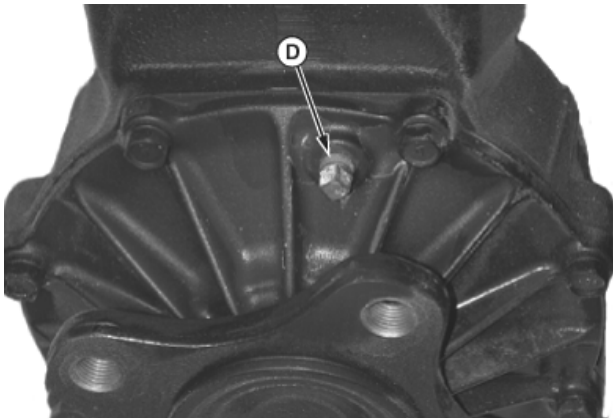
Service Transmission

5. Install center drain plug.



TCAL43380—UN—14MAR13

6. Remove left side final drive housing drain plug (B), and allow to drain.
7. Install drain plug.
8. Repeat steps six and seven for right side housing (C).



TCAL43381—UN—14MAR13

9. Remove air bleed screw (D) from top of left and right side final drive gear case.
10. Fill rear axle housing with recommended oil until oil begins to run out of air bleed screws. Install air bleed screws and continue filling rear axle until specified amount of oil has been put in. Do not overfill. Check oil level with dipstick. Run machine in 4WD, and check oil level.

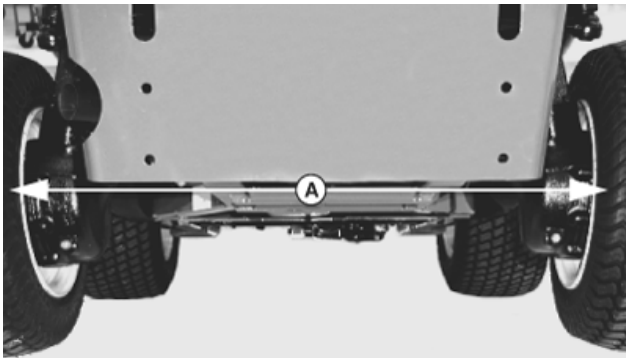
Specification

Rear Axle Housing Oil — Capacity 2.1 L (2-1/4 qt)

Service Steering & Brakes

Adjusting Toe-In

1. Park the machine safely. (See Parking Safely in the Safety section.)



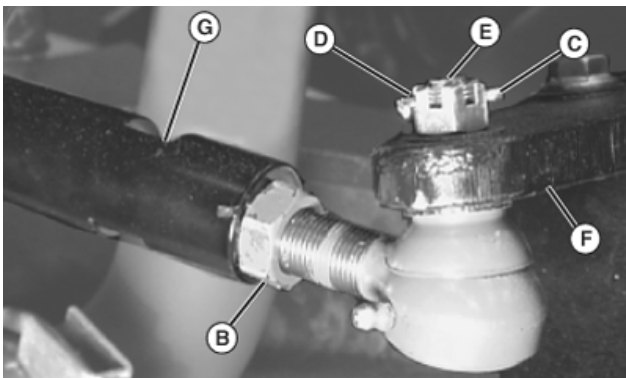
TCAL43382—UN—14MAR13

2. Measure the distance (A) between the rear tires at the rear of tires.
3. Measure the distance between rear tires at front of tires.
4. Distance between tires (toe-in) should be less within specifications in front than in rear.

Specification

Distance Between Tire (Toe-In)

— Distance 3-9 mm (0.12-0.35 in.)



TCAL43383—UN—14MAR13

5. If toe-in requires adjustment, proceed as follows:
 - a. Loosen lock nuts (B) on left and right side of tie-rod ends. (Left side lock nut has left-hand threads.)
 - b. Remove the cotter key (C) from tie-rod castle nut (D) and remove nut.
 - c. Remove tie-rod mounting stud (E) from the steering arm (F).
 - d. Turn body of tie-rod (G) to adjust toe-in, keeping tie-rod mounting stud upright while turning tie-rod.
 - e. Install tie-rod stud into steering arm and loosely install castle nut onto stud.

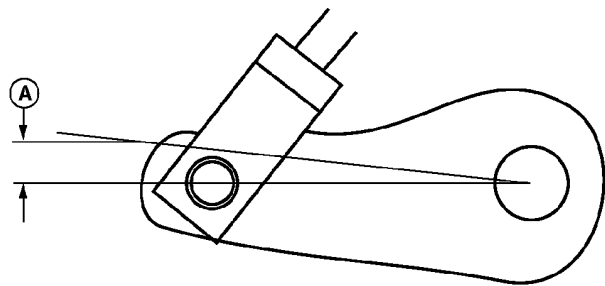
- f. Measure toe-in again. If correct, tighten castle nut and install cotter key. Tighten lock nuts on left and right side of machine.

Adjusting Brakes

CAUTION: Do not attempt this adjustment unless you are a qualified and properly trained technician. Improper adjustment can result in an unsafe machine.

Checking Brake Pedal Free Play

1. Park machine safely on level ground. (See Parking Safely in the Safety section.)
2. Unlock the parking brake.
3. Remove the brake return springs from brake linkage.
4. Block the turn brake and master brake pedals up to their highest position.



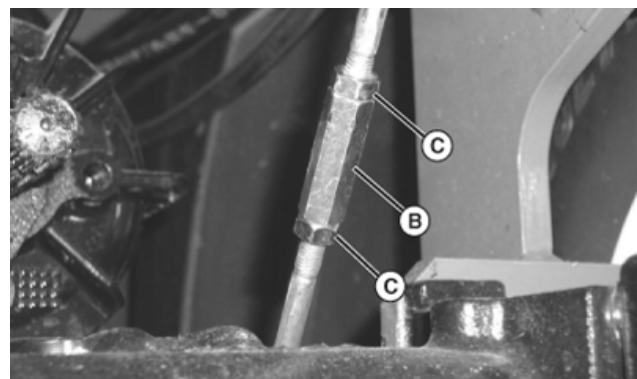
TCAL43384—UN—14MAR13

5. Check the left and right brake cam arm freeplay (A). The freeplay should be within specifications as measured from the end of the cam arm. If freeplay is greater than 5 mm, adjust brakes.

Specification

Brake Pedal — Play 3-5 mm

Adjusting Brakes



TCAL43385—UN—14MAR13

Service Steering & Brakes

1. Locate the adjustment turnbuckles (B) on the brake rods under the operator's platform.
2. Loosen the lock nuts (C), and adjust the turnbuckles until the brake cam freeplay is within specifications.

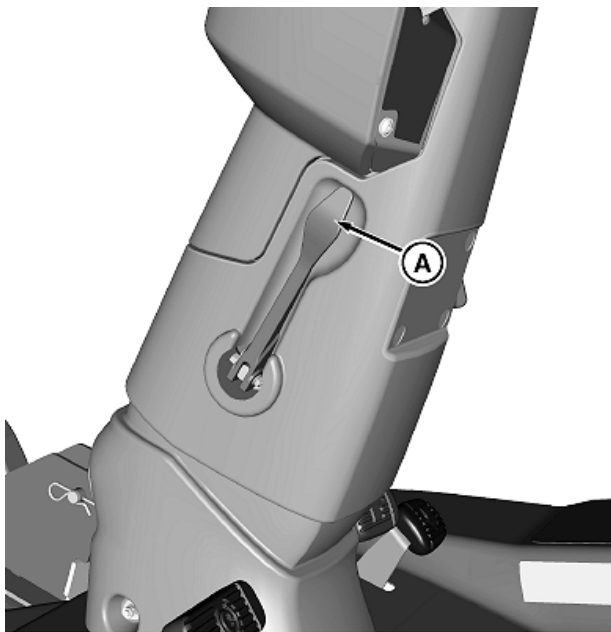
Specification

Brake Pedal — Play 3-5 mm

3. Repeat for brake rod on other side of machine, keeping left and right side pedals adjusted evenly.
4. Tighten all turnbuckle lock nuts.
5. If brakes cannot be adjusted within the range of the turnbuckles, see your John Deere Dealer.

Adjusting Steering Column Tilt-Lock

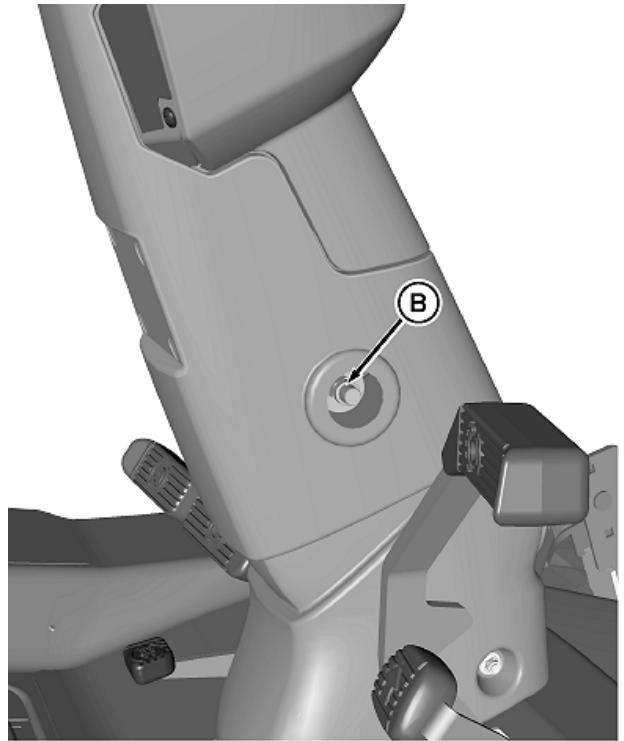
1. Park machine safely. (See Parking Machine Safely in the SAFETY section.)



TCT009086—UN—04NOV13

2. Pull lever (A) outward to release steering column.
3. Move steering column forward or rearward to center steering column in its travel range.

NOTE: A small amount of dry lubricant on the tilt-lock lever will ease amount of force required to move lever.



TCT009087—UN—04NOV13

4. Tighten nylock nut (B) on steering column to operator's preference, but do not exceed specifications.

Specification

Steering Column Nylock Nut — Torque 48 N·m (35 ft-lb)

Service Electrical

Service Electrical

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

Service the Battery Safely



TCAL42287—UN—08MAR13

CAUTION: Battery electrolyte contains sulfuric acid. It is poisonous and can cause serious burns:

- Wear eye protection and gloves.
- Keep skin protected.
- If electrolyte is swallowed, get medical attention immediately.
- If electrolyte is splashed into eyes, flush immediately with water for 15-30 minutes and get medical attention.
- If electrolyte is splashed onto skin, flush immediately with water and get medical attention if necessary.

The battery produces a flammable and explosive gas. The battery may explode:

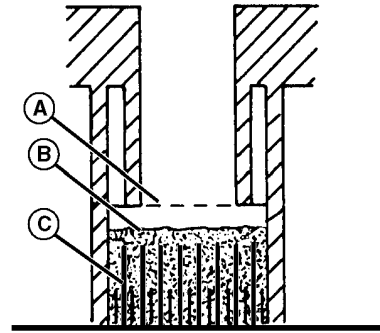
- Do not smoke near battery.
- Wear eye protection and gloves.
- Do not allow direct metal contact across battery posts.
- Remove negative cable first when disconnecting.
- Install negative cable last when connecting.

Checking Battery Electrolyte Level

NOTE: Add only distilled water to replace battery electrolyte.

1. Park the machine safely. (See Parking Safely in the SAFETY section.)

2. Remove battery cell caps. Make sure cap vents are not plugged.



TCAL41096—UN—18JAN13

3. Check electrolyte level. Electrolyte (B) should be approximately halfway between bottom of filler neck (A) and top of plates (C).

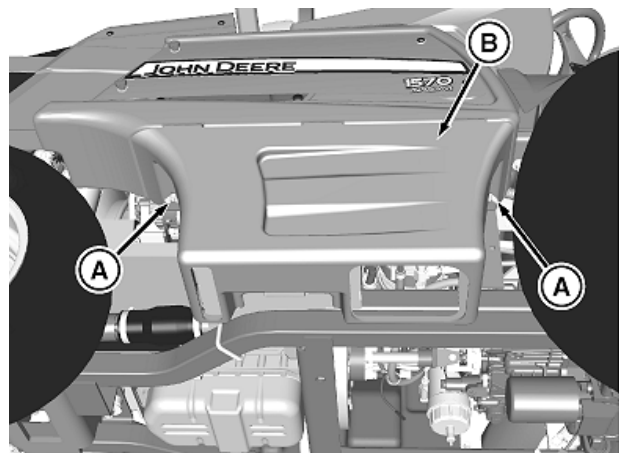
IMPORTANT: Do not overfill battery. Electrolyte can overflow when battery is charged and cause damage.

4. Add only distilled water if necessary.
5. Install battery cell caps.

Removing and Installing the Battery

Removing

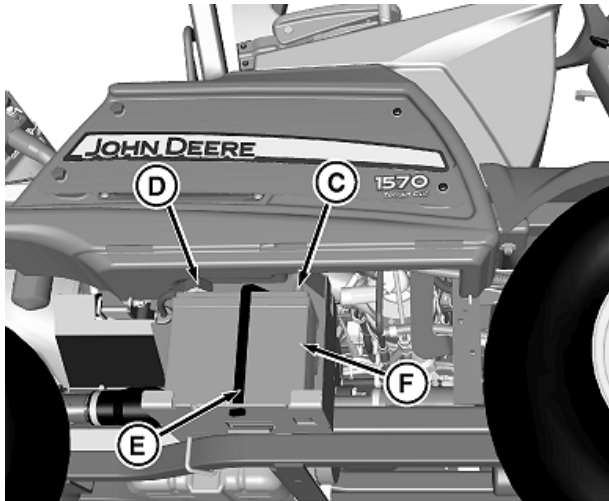
1. Park machine safely. (See Parking Safely in the SAFETY section.)



TCT008205—UN—02AUG13

2. Remove two wing nuts (A) and battery cover panel (B).

Service Electrical



TCT008508—UN—20SEP13

3. Disconnect negative (–) battery cable (C).
4. Pull up red plastic cover (D) from positive (+) battery clamp and disconnect positive (+) cable clamp from battery terminal.
5. Remove rubber strap (E) from bottom of battery hold-down bracket.
6. Remove battery (F) from machine. Do not use battery terminals to lift battery.

Installing

1. Install battery with positive terminal (+) toward rear side of machine.
2. Install rubber strap on bottom of battery hold-down bracket.
3. Install positive cable clamp (red cable) onto positive (+) battery terminal. Pull red plastic cover over positive cable clamp.
4. Install negative cable clamp (black cable) onto negative (–) battery terminal.
5. Apply spray lubricant on battery terminals to help prevent corrosion.
6. Install battery cover panel with two wing nuts.

Cleaning Battery and Terminals

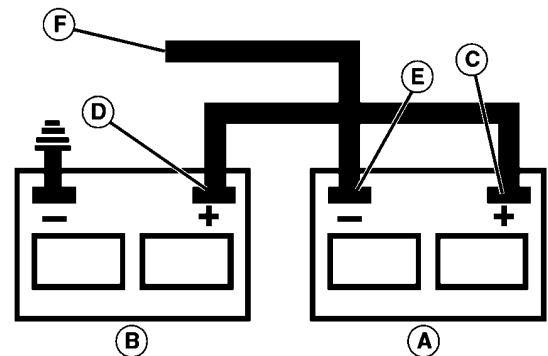
1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Disconnect and remove battery.
3. Wash battery with solution of four tablespoons of baking soda to one gallon of water. Be careful not to get the soda solution into the cells.
4. Rinse the battery with plain water and dry.
5. Clean terminals and battery cable ends with wire brush until bright.

6. Install battery.
7. Attach cables to battery terminals, beginning with the positive cable, using washers and nuts.
8. Apply spray lubricant to terminal to prevent corrosion.

Using Booster Battery

⚠ CAUTION: The battery produces a flammable and explosive gas. The battery may explode:

- Do not smoke or have open flame near battery.
- Wear eye protection and gloves.
- Do not jump start or charge a frozen battery. Warm battery to 16°C (60°F).
- Do not connect the negative (–) booster cable to the negative (–) terminal of the discharged battery. Connect at a good ground location away from the discharged battery.



TCAL42290—UN—08MAR13

A — Booster Battery

B — Disabled Vehicle Battery

1. Connect positive (+) booster cable to booster battery (A) positive (+) post (C).
2. Connect the other end of positive (+) booster cable to the disabled vehicle battery (B) positive (+) post (D).
3. Connect negative (–) booster cable to booster battery negative (–) post (E).

IMPORTANT: Electric charge from booster battery can damage machine components. Do not install negative booster cable to machine frame. Install only to the engine block.

Install negative booster cable away from moving parts in the engine compartment, such as belts and fan blades.

4. Connect the other end (F) of negative (–) booster cable to a metal part of the disabled machine engine block away from battery.

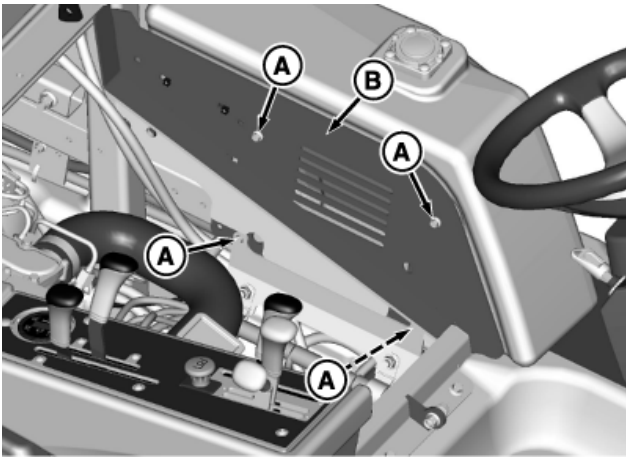
Service Electrical

5. Start the engine of the disabled machine and run machine for several minutes.
6. Carefully disconnect the booster cables in the exact reverse order: negative cable first and then the positive cable.

Checking and Replacing Fuses (1550)

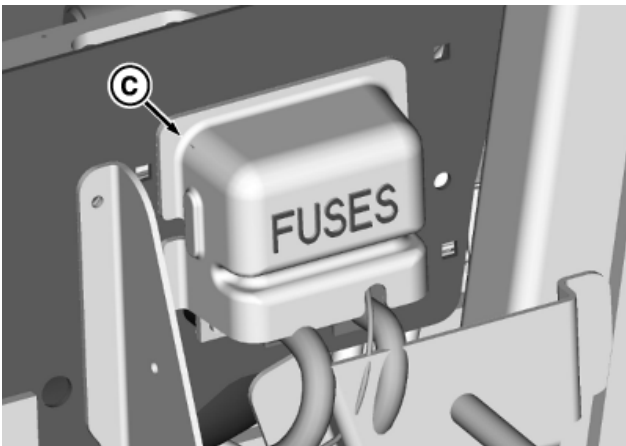
Replacing Main Fuse

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Raise or remove the seat platform.



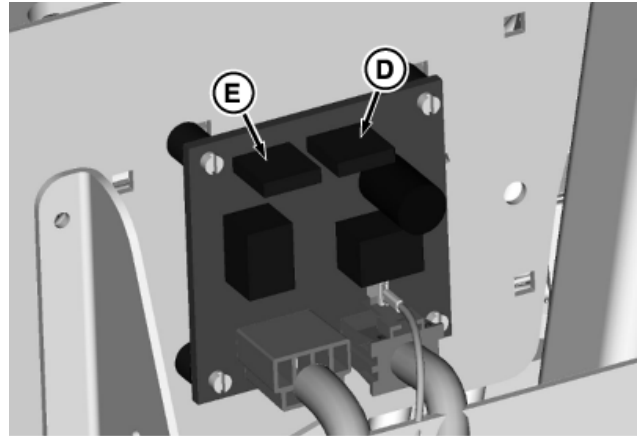
TCT010635—UN—31MAR14

3. Remove four screws (A) securing panel (B) to the left side of the machine.
4. Carefully remove the panel to locate the electrical control box.



TCT010636—UN—24MAR14

5. Remove the cover (C) from the electrical control box.

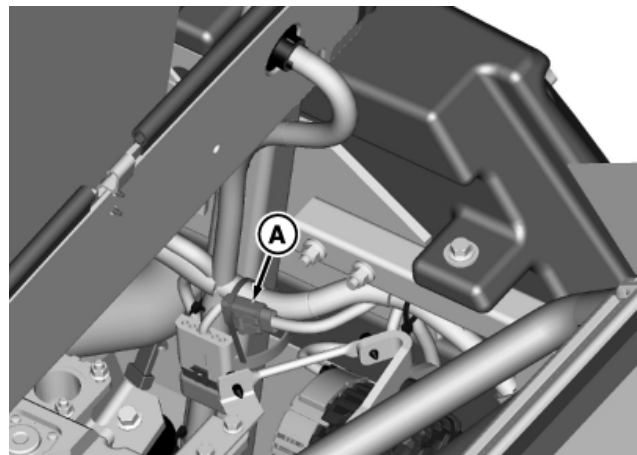


TCT010637—UN—24MAR14

6. Fuse (D) is a 15 amp fuse and controls the work lamps on the steering column.
7. Fuse (E) is a 15 amp fuse that controls all other electrical functions.
8. Test fuses with a voltmeter or test lamp and replace if burned out.
9. Install cover onto electrical control box.
10. Install cover to the left side of the machine with the screws removed earlier.
11. Install or lower seat platform.
12. Close engine cover.

Replacing 12-Volt Power Outlet Fuse

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Open engine cover.



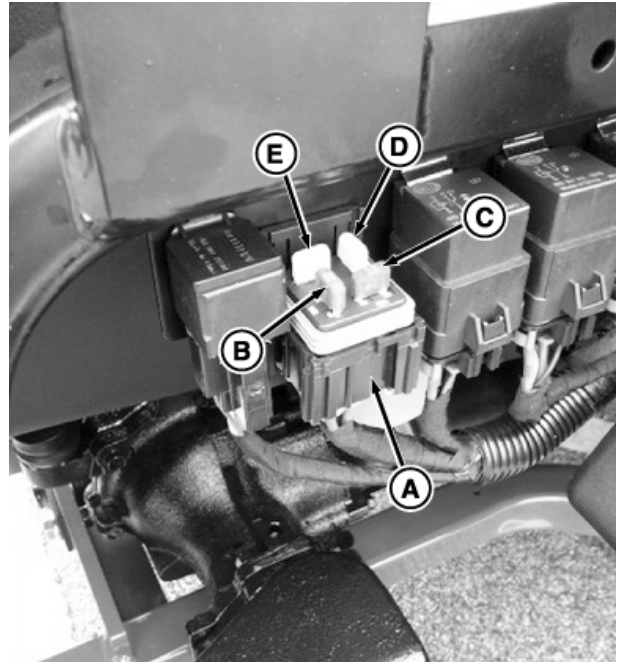
TCT010617—UN—24MAR14

3. Locate the 12 volt power outlet fuse (A) tied back to the harness on the right hand side.

Service Electrical



TCT010638—UN—24MAR14



TCT009088—UN—24MAR14

4. Pull out lock tab (B) and pull base of fuse holder down from cap.
5. Test fuse using a voltmeter or test lamp. Both sides of fuse should be hot with key switch in RUN position.
6. Replace fuse if burned out (10 amp).
7. Install fuse holder in cap.
8. Close engine cover.

Checking and Replacing Fuses (1570, 1575, 1580, 1585)

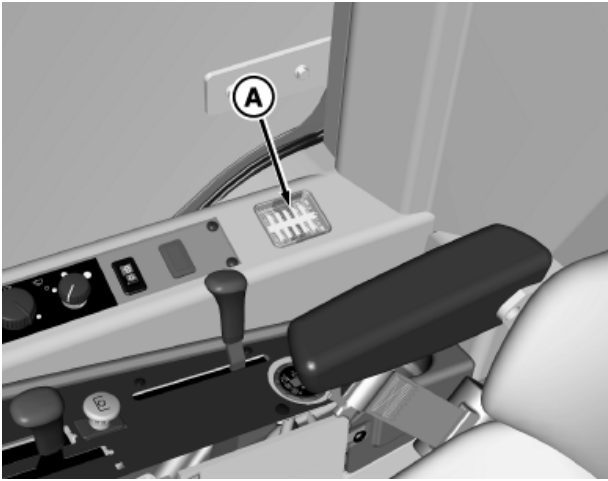
1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Open engine cover.

3. Locate the electrical control box (A) on the right side of the engine compartment.
4. Remove cover from electrical control box.
5. Fuse (B) is a 10 amp fuse and is for the Auxiliary Power Outlet.
6. Fuse (C) is a 15 amp fuse and is for the Vehicle Controller (VCU).
7. Fuse (D) is a 20 amp fuse and is for the Key Switch Power.
8. Fuse (E) is a 25 amp fuse and is for the Engine Controller (ECU).
9. Test fuses with a voltmeter or test lamp and replace if burned out.
10. Install cover onto electrical control box.
11. Close engine cover.

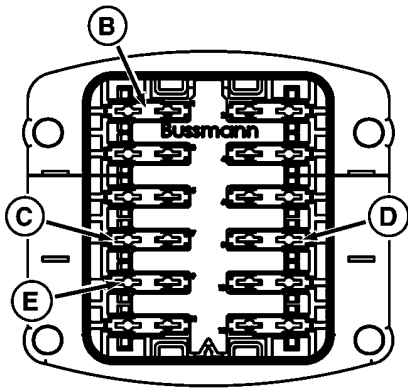
Checking and Replacing Cab Fuses (1575, 1585)

1. Park machine safely. (See Parking Safely in the SAFETY section.)

Service Electrical



TCT009089—UN—24MAR14



TCT010639—UN—24MAR14

- A — Fuse Panel
- B — Position 1 (20 Amp)
- C — Position 7 (30 Amp)
- D — Position 8 (20 Amp)
- E — Position 9 (20 Amp)

2. Locate the fuse panel (A) just to the right of seat.
3. Fuse (B) is a 20 amp fuse and controls the Windshield Wiper and Radio.
4. Fuse (C) is a 30 amp fuse and controls the Worklights, Turn Signals/Flashers, and Beacon Light (if equipped).
5. Fuse (D) is a 20 amp fuse and controls the Dome Light and Right Blower.
6. Fuse (E) is a 20 amp fuse and controls the Left Blower.
7. Test fuses with a voltmeter or test lamp and replace if burned out.
8. Replace fuses, as needed.

Service Miscellaneous

Diesel Fuel

Use the proper diesel fuel to help prevent decreased engine performance and increased exhaust emissions. Failure to follow the fuel requirements listed can void your engine warranty.

Consult your local fuel distributor for properties of the diesel fuel in your area.

In general, diesel fuels are blended to satisfy the low temperature requirements of the geographical area in which they are marketed.

Diesel fuels specified to ISO EN 590 or ASTM D975 are recommended.

Required fuel properties

In all cases, the fuel shall meet the following properties:

Cetane number of 45 minimum. Cetane number greater than 50 is preferred, especially when temperatures are below -20°C (-4°F) or elevations above 1500 m (5000 ft).

Cold Filter Plugging Point (CFPP) should be at least 5° C (9°F) below the expected lowest temperature or **Cloud Point** below the lowest ambient temperature.

Fuel lubricity should comply with ISO EN 590 or ASTM D975.

IMPORTANT: Avoid damage! Improper fuel additive usage may cause damage on fuel injection equipment of diesel engines.

If a fuel of low or unknown lubricity is used, addition of John Deere PREMIUM DIESEL FUEL CONDITIONER at the specified concentration is recommended.

Sulfur content

- Diesel fuel quality and fuel sulfur content must comply with all existing emissions regulations for the area in which the engine operates.
- Use only ultra low sulfur diesel (ULSD) fuel with a maximum of 0.0015% (15mg/kg) sulfur content.

IMPORTANT: Avoid damage! Do not mix diesel engine oil or any other type of lubricating oil with diesel fuel.

Using BioDiesel Fuel

BioDiesel fuels may be used only if the BioDiesel fuel properties meet the latest edition of ASTM D6751, ASTM D7467, EN14214, or equivalent specification.

The current maximum allowable BioDiesel concentration is a 7% blend (also known as B7) in petroleum diesel fuel.

To learn of any changes to the recommendations for BioDiesel usage with your diesel engine, ask your John Deere dealer.

Handling and Storing Diesel Fuel

 **CAUTION: Avoid injury! Handle fuel carefully. Do not fill the fuel tank when engine is running.**

Do not smoke while you fill the fuel tank or service the fuel system.

IMPORTANT: Avoid damage! Do not use galvanized containers—diesel fuel stored in galvanized containers reacts with zinc coating in the container to form zinc flakes. If fuel contains water, a zinc gel also forms. The gel and flakes quickly plug fuel filters and damage fuel injectors and fuel pumps.

- Fill the fuel tank at the end of each day's operation to prevent water condensation and freezing during cold weather.
- When fuel is stored for an extended period, or if there is a slow turnover of fuel, add a fuel conditioner to stabilize the fuel and to prevent water condensation. Contact your fuel supplier for recommendations.

Filling Fuel Tank

 **CAUTION: Fuel vapors are explosive and flammable:**

- Shut engine off before filling fuel tank.
- Allow engine to cool before refueling.
- Do not smoke while handling fuel.
- Keep fuel away from flames or sparks.
- Fill fuel tank outdoors or in well ventilated area.
- Clean up spilled fuel immediately.
- Use clean approved non-metal container to prevent static electric discharge.

IMPORTANT: Dirt and water in fuel can cause engine damage:

- Clean dirt and debris from the fuel tank opening.
- Use clean, fresh, stabilized fuel.
- Fill the fuel tank at the end of each day's operation to keep condensation out of the fuel tank.
- Use a non-metallic funnel with a plastic mesh strainer when filling the fuel tank or container.

Fill fuel tank at the end of each day's operation to prevent condensation and freezing during cold weather.

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Allow engine to cool.

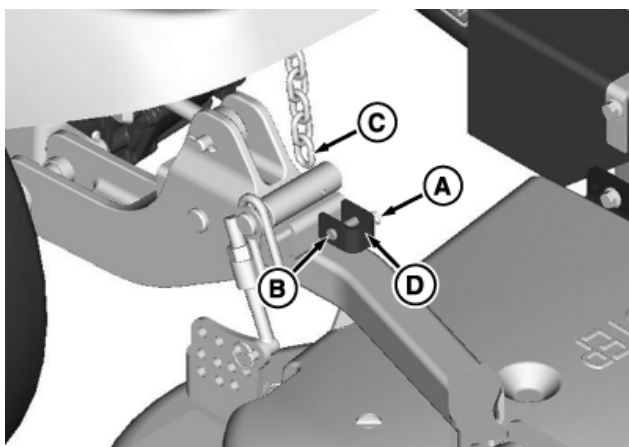
Service Miscellaneous

3. Remove any trash from area around fuel tank cap.
4. Remove fuel tank cap slowly to allow any pressure built up in tank to escape.
5. Fill fuel tank only to bottom of filler neck. Do not overfill.
6. Install fuel tank cap.
 - Gas models: Turn cap until clicks.

Using Service Latches

CAUTION: Avoid Injury! Unlatch service chain before moving the machine to avoid possible injury. The machine can become unstable when driving on slopes or at high speeds with front attachment raised or removed. Travel at slow speeds and avoid sudden braking with attachment raised or removed. The PTO continues to run after the attachment is raised. Turn off PTO when not in use.

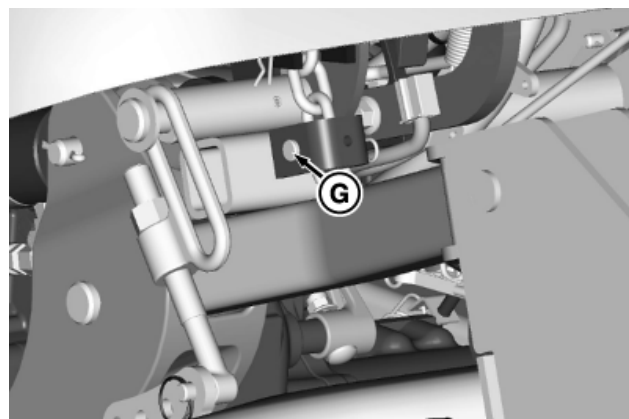
1. Stop machine on a level surface, not a slope.
2. Turn off PTO switch.
3. Raise mower deck to highest level.
4. Lock the park brake.
5. Stop the engine and remove the key.
6. Wait for engine and all moving parts to stop before you leave the operator's seat.



TCT010375—UN—20FEB14

7. Remove spring pin (A) and clevis pin (B) from mower deck lift arm.
8. Insert bottom link of service latch chain (C) into welded bracket (D) on mower deck lift arm.

NOTE: Service latch chain has 7 links to accommodate all configurations. Select chain link that provides the tightest fit.



TCT010376—UN—20FEB14

9. Install clevis pin (G) through bracket and chain, and secure with spring pin.

Servicing Cab Air Conditioner

NOTE: Compressor is filled with oil at the factory, you do not need to add oil.

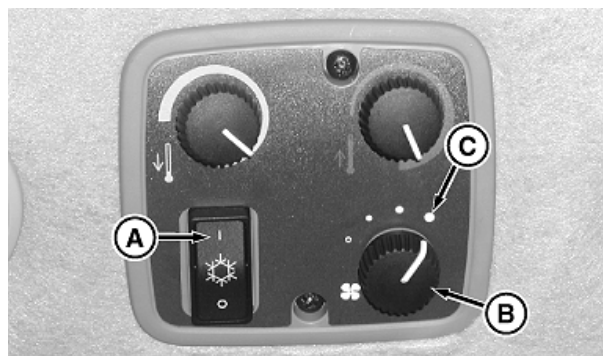
Air Conditioner Checks

Check the following if air conditioner will not cool, or if cooling is intermittent:

IMPORTANT: Avoid damage! R134a refrigerant must be used. This requires special equipment and procedures. See your John Deere dealer.

NOTE: Some oil seepage from compressor shaft seal, on the lower front, is normal.

1. If air conditioner clutch slips after machine has been in storage, compressor may be stuck.
 - Stop engine and turn ignition switch to stop (off) position.
 - Raise hood and rotate clutch hub back and forth to free compressor.



TCT008316—UN—13AUG13

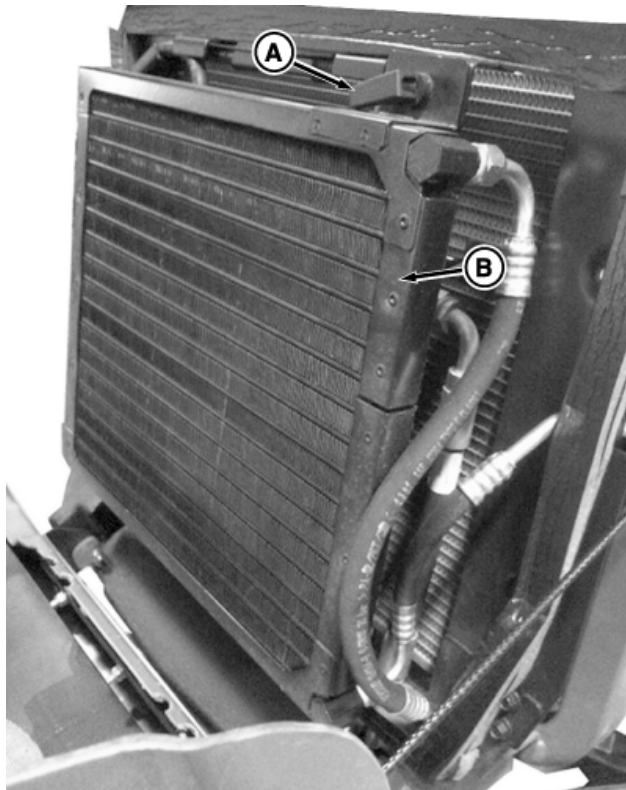
Service Miscellaneous

2. Run engine at 2000 rpm. Push top half of A/C and defrost switch (A) and set blower control knob (B) to high position (C). If cooling is intermittent, clean hood grille, radiator and condenser. If problem is not solved, see your John Deere dealer.
3. Inspect operator enclosure (cab) filter for restriction. If problem persists, see your John Deere dealer to have evaporator core cleaned.

Cleaning Air Conditioner Condenser

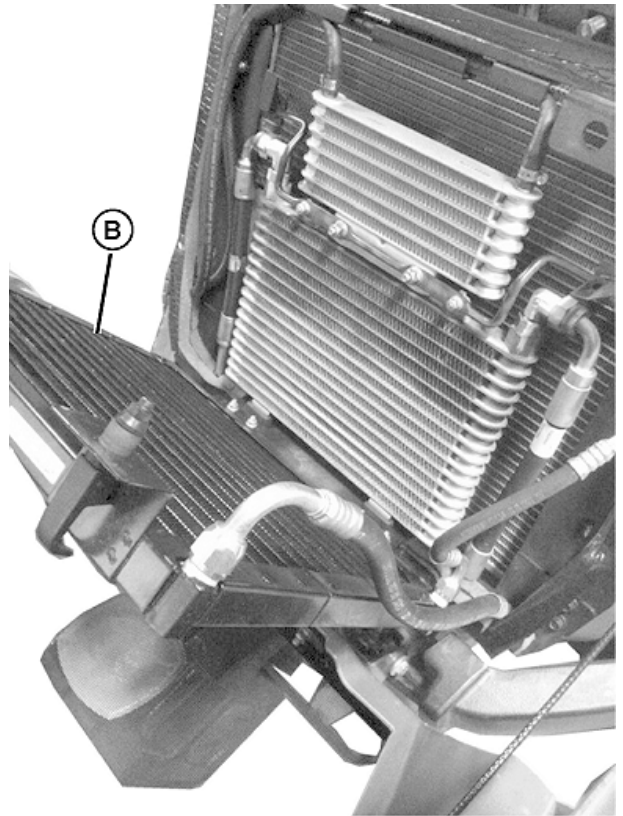
CAUTION: Avoid injury! Compressed air can cause debris to fly a long distance.

- Clear work area of bystanders.
- Wear eye protection when using compressed air for cleaning purposes.
- Reduce compressed air pressure to 210 kPa (30 psi).



TCT007885—UN—21MAR14

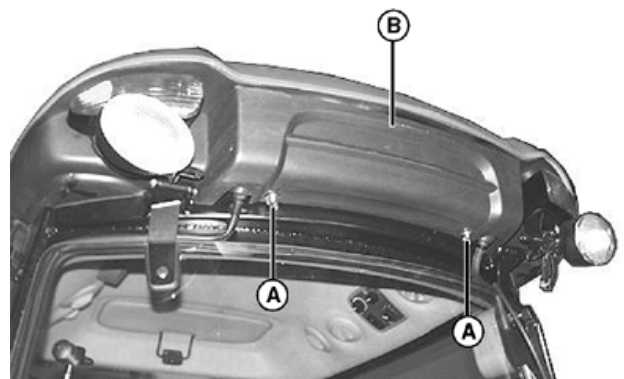
1. Rotate handle (A) up and towards front of machine to release latch on air conditioner condenser (B).



TCT008317—UN—13AUG13

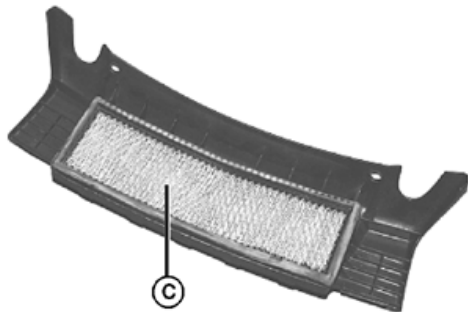
2. Swing air conditioner condenser (B) forward, as shown.
3. Check air conditioner condenser (B) for dirt and debris. Clean condenser using a brush or compressed air.
4. If a more thorough cleaning is necessary, clean both sides of condenser with compressed air or water. Straighten any bent fins.

Cleaning Cab Air Filter



LVAL13682—UN—08NOV10

Service Miscellaneous

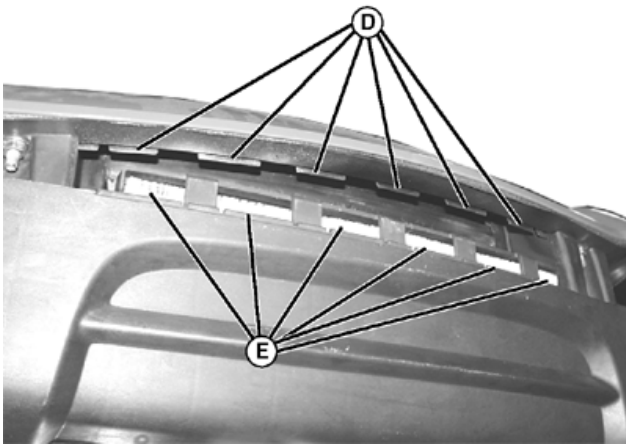


LVAL13683—UN—08NOV10

- A —Wing Bolt (2 used)
B —Filter Base
C —Filter

1. Remove two wing bolts (A), washers, and filter base (B).
2. Remove filter (C) from filter base, and clean with compressed air. Inspect filter for damage. Replace if necessary.
3. Install filter back into filter base.

IMPORTANT: Avoid Damage! Be sure the six tabs (D) on the roof panel fit into the slots (E) on filter base.



LVAL13684—UN—08NOV10

- D —Tabs
E —Slots

4. Install filter base, making sure six tabs (D) on roof panel are installed into slots (E) in filter base. Secure base assembly back into roof panel with two washers and wing bolts.

Cleaning and Repairing Metal Surfaces

Cleaning:

Follow automotive practices to care for your vehicle painted metal surfaces. Use a high-quality automotive wax regularly to maintain the factory look of your vehicle's painted surfaces.

Repairing Minor Scratches (surface scratch):

1. Clean area to be repaired thoroughly.

IMPORTANT: Do not use rubbing compound on painted surfaces.

2. Use automotive polishing compound to remove surface scratches.
3. Apply wax to entire surface.

Repairing Deep Scratches (bare metal or primer showing):

1. Clean area to be repaired with rubbing alcohol or mineral spirits.
2. Use paint stick with factory-matched colors available from your authorized dealer to fill scratches. Follow directions included on paint stick for use and for drying.
3. Smooth out surface using an automotive polishing compound. Do not use power buffer.
4. Apply wax to surface.

Cleaning Plastic Surfaces

IMPORTANT: Improper care of machine plastic surfaces can damage that surface:

- Do not wipe plastic surfaces when they are dry. Dry wiping will result in minor surface scratches.
- Use a soft, clean cloth (bath towel, diaper, automotive mitt).
- Do not use abrasive materials, such as polishing compounds, on plastic surfaces.

1. Rinse hood and entire machine with clean water to remove dirt and dust that may scratch the surface.
2. Wash surface with clean water and a mild liquid automotive washing soap.
3. Dry thoroughly to avoid water spots.
4. Wax the surface with a liquid automotive wax. Use products that specifically say "contains no abrasives."

IMPORTANT: Do not use a power buffer to remove wax.

5. Buff applied wax by hand using a clean, soft cloth.

Service Miscellaneous

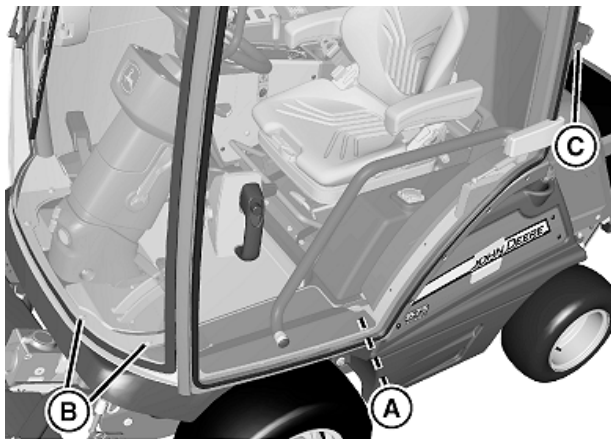
Checking Cab Rollover Protection System Installation

- ⚠ CAUTION:** Avoid injury! To maintain operator protection and ROPS certification:
- Do not repair or revise the ROPS.
 - Any alteration of the ROPS must be approved by the manufacturer.

IMPORTANT: Avoid damage! Make certain all parts are installed correctly. If cab protection system is loosened or removed for any reason, tighten mounting capscrews to specification.

The protection offered by cab protection system will be impaired if cab protection system is subjected to structural damage, as in an overturn incident, or is in any way altered by welding, bending, drilling, or cutting. A damaged cab protection system should be replaced, not reused. Any alteration to the cab protection system must be approved by the manufacturer.

1. When installation of equipment on a machine necessitates loosening or removing cab protection system, mounting capscrews should be tightened to specification.
2. Inspect cab protection system mounting hardware every 500 hours for proper torque or replacement.



TCT008318—UN—13AUG13

3. Lift up rubber floor mat (A) to access front mounting hardware.
4. Check two front mounting hardware locations (B).
5. Check mounting pivot hardware (C).
6. Tighten the mounting hardware to 260 N·m (192 lb.-ft.).
7. Repeat on opposite side of cab.

Removing and Installing Front Wheels

- ⚠ CAUTION:** Remove wheels safely.
- Use a safe lifting device and support machine securely on jack stands.
 - Block front and rear of wheel not raised to prevent machine movement.
 - Wheel can be heavy or difficult to handle when removing.

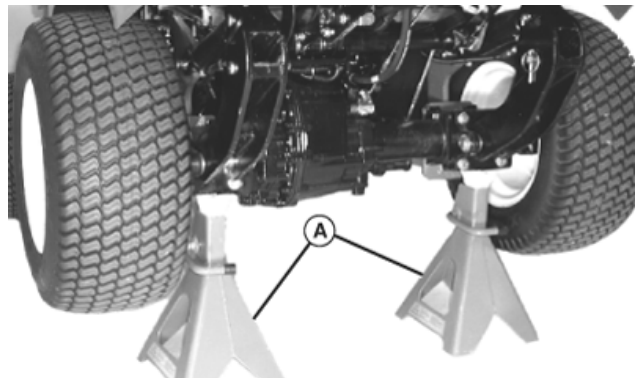
Raising Front of Machine

1. Park machine safely. (See Parking Safely in the Safety section.)
2. Remove attachment from machine.
3. Block rear tires.



TCAL43399—UN—14MAR13

4. Using a floor jack on frame behind front wheel, lift machine until front tire is off the ground. Do not use jack on transaxle or oil filter may be damaged.

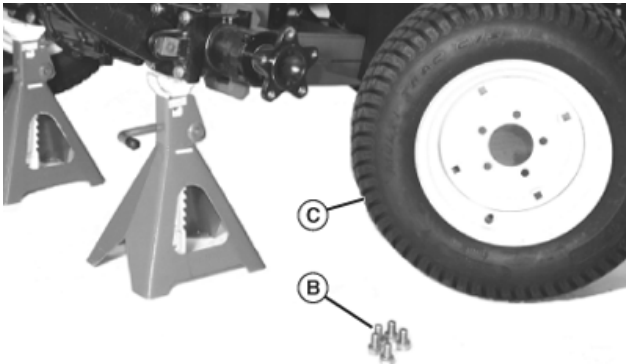


TCAL43400—UN—14MAR13

5. Install jack stands (A) under left and right side of front axle.

Service Miscellaneous

Removing Front Wheels



TCAL43401—UN—14MAR13

1. Remove front wheel bolts (B), washers, and reinforcement plate.
2. Remove front wheel (C) from front axle.

Installing Front Wheels

- CAUTION:** Remove wheels safely.
- Use a safe lifting device and support machine securely on jack stands.
 - Block front and rear of wheel not raised to prevent machine movement.
 - Wheel can be heavy or difficult to handle when removing.



TCAL43402—UN—14MAR13

1. Install wheels onto axle hubs with valve stems (A) facing outward. Make sure there is a washer installed on each wheel bolt (B), and install bolts into reinforcement plate, wheel, and hub.
2. Tighten front wheel bolts to specifications using a torque wrench.

Specification

Front Wheel Bolts — Torque 225 N·m (165 lb-ft)

3. Lower machine to ground and remove floor jack.
4. Remove wheel blocks from rear tires.
5. Check wheel bolt torque:
 - After traveling 30 m (100 ft) while changing direction.

- After 3 to 10 hours of use.
- Often during the next 100 hours of operation.

Removing and Installing Rear Wheels

- CAUTION:** Remove wheels safely.
- Use a safe lifting device and support machine securely on jack stands.
 - Block front and rear of wheel not raised to prevent machine movement.
 - Wheel can be heavy or difficult to handle when removing.

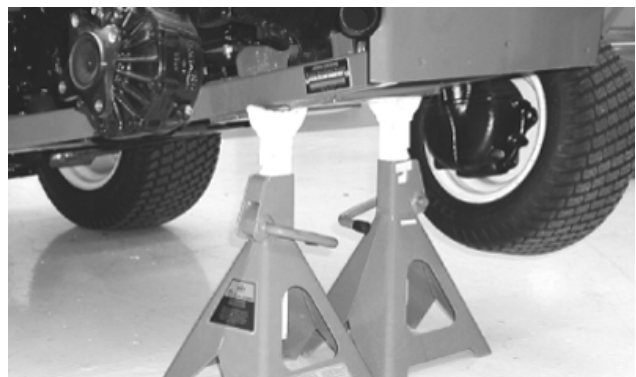
Raising Rear of Machine

1. Park machine safely. (See Parking Safely in the SAFETY section.)



TCAL43403—UN—14MAR13

2. Using a floor jack at center of rear frame, lift machine until rear tires are off of ground. Alternatively, the rear frame plate (A) can be used as a jacking or lifting point, but care must be taken not to damage the muffler (B).



TCAL43404—UN—14MAR13

3. Install jack stands under left and right side of rear frame.
4. Lower machine onto jack stands.

Service Miscellaneous

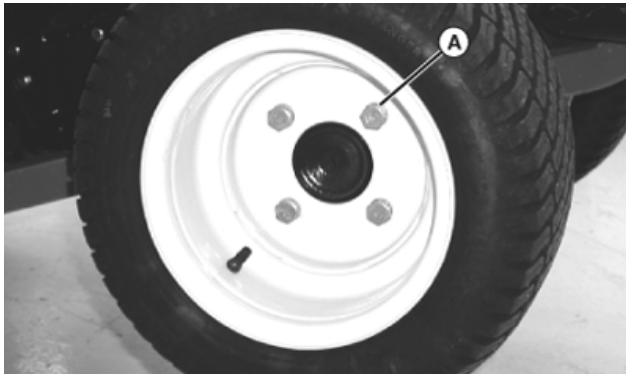
Removing Rear Wheels – 2WD



TCAL43405—UN—14MAR13

1. Remove rear wheel bolt and washer (A) from center of rear wheel.
2. Pull wheel and tire assembly straight off of rear axle.

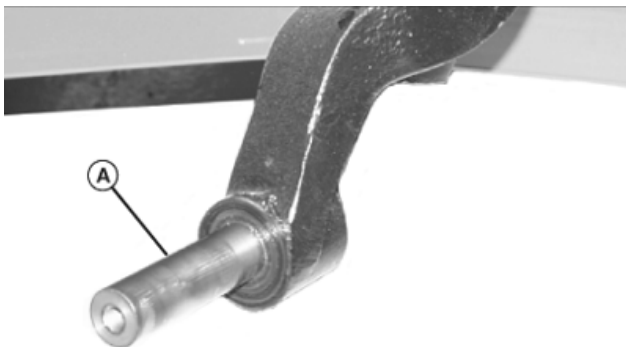
Removing Rear Wheels – 4WD



TCAL43406—UN—14MAR13

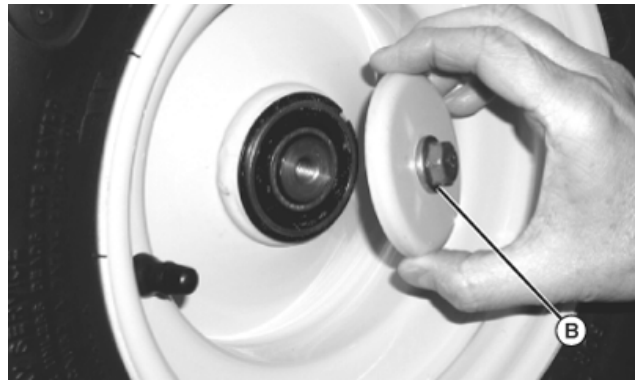
Remove wheel bolts and washers (A). Remove wheel from rear axle.

Installing Rear Wheels – 2WD



TCAL43407—UN—14MAR13

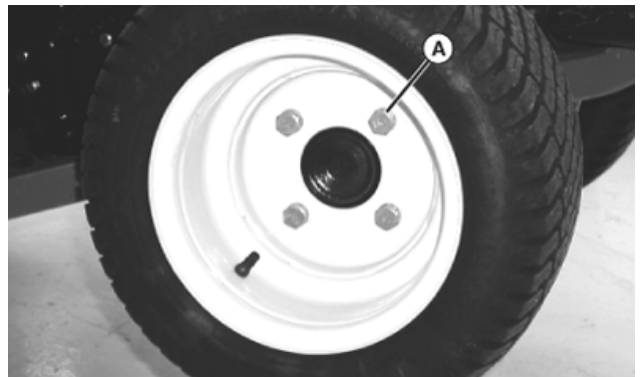
1. Apply recommended grease to rear axle shaft (A) before installing rear wheel.
2. Install rear wheel onto axle hub with valve stem facing outward.



TCAL43408—UN—14MAR13

3. Install washer and wheel bolt (B). Tighten rear wheel mounting bolt to specifications using torque wrench.
Specification
Rear Wheel Bolts — Torque 82 N·m (60 lb-ft)
4. Raise machine up at center of rear frame. Remove jack stands, and lower machine to the ground.

Installing Rear Wheels – 4WD



TCAL43409—UN—14MAR13

1. Install rear wheel onto axle hub with valve stem facing outward.
2. Install washers and wheel bolts. Tighten rear wheel mounting bolts (A) to specifications using torque wrench.
Specification
Rear Wheel Bolt — Torque 225 N·m (165 lb-ft)
3. Jack machine up at center of rear frame. Remove jack stands, and lower machine to the ground.

Troubleshooting

Using Troubleshooting Chart

If you are experiencing a problem that is not listed in this chart, see your authorized dealer for service.

When you have checked all the possible causes listed and you are still experiencing the problem, see your authorized dealer

Engine

IF	CHECK
Poor Engine Performance	Dirt in fuel system or fuel is old. Replace fuel with fresh stabilized fuel. Obtain fuel from another supplier before suspecting machine problems. Suppliers blend fuels differently and changing suppliers will generally solve any performance problems Fuel blended for cold or warm climate may contribute to performance problems if used in the wrong season, especially if fuel is stored for several months or more. Obtain fresh fuel.
Engine Will Not Start (Starter Does Not Engage)	Seat switch not being actuated due to seat spring adjustment being too stiff. PTO switch is on. Master brake pedal is not depressed. Electrical problem - See Electrical Troubleshooting section.
Engine Will Not Start (Starter Engages and Turns Engine)	Fuel shutoff valve is in OFF position. Out of fuel or improper fuel. Plugged fuel filter. Electrical problem - See Electrical Troubleshooting section.
Engine Is Hard To Start	Improper use of choke or engine preheater. Plugged fuel filter. Stale or improper fuel.
Engine Runs Unevenly	Choke not fully off. Fuel line or fuel filter plugged. Stale or dirty fuel. Fuel injector clogged. Air cleaner element plugged.
Engine Misses Under Load	Choke not fully off. Stale or dirty fuel. Plugged fuel filter.
Engine Overheats	Engine air intake screen plugged. Engine coolant level is low. Engine oil level is low or too high. Engine operated too long at slow idle speed.
Engine Will Not Idle	Choke not used properly. Fuel level too low. Air cleaner element dirty. Operator rising off the seat without park brake locked.
Engine Knocks	Stale fuel. Engine overloaded. Low engine speed.
Engine Stops or Misses when Operating on Hillsides	Fuel level too low. Operator rising off the seat.
Engine Backfires	Operator rising off the seat.
Engine Loses Power	Engine overheating. Too much oil in engine. Dirty air cleaner. Travel speed is too fast for conditions. Improper fuel.
Black Exhaust Smoke	Choke not fully off. Air filter element is dirty.

Troubleshooting

Electrical

IF	CHECK
Starter Does Not Engage	Brake pedal is not depressed. PTO switch is in ON position. Battery not charged. Fuse is blown.
Battery Will Not Charge	Dead cell in the battery. Battery cables and terminals are dirty. Low engine speed or excessive idling.
Indicator Lamps Not Working	Light plug disconnected. Loose or burned-out bulb.

Machine

IF	CHECK
Machine Will Not Move with Engine Running	Transaxle bypass valve plate is in engaged position.

Troubleshooting Guide for Common DTC's

Below is a list of most common Diagnostic Trouble Codes (DTC) with a possible solution. If the listed solution does not solve the code, or you experience a code not listed here, consult appropriate technical manual or contact your local John Deere dealer.

DTC Code	DTC Description	Possible Solution
70.14	Park Brake Off, Start On	Depress parking brake to start machine.
100.1	Engine Oil Pressure Low	Verify oil level and type in engine crankcase is correct.
110.0	Engine Coolant Temperature High	Verify engine coolant level is correct in radiator and overflow bottle.
168.16	Battery Voltage High	Check voltage, test alternator.
168.18	Battery Voltage Low	Check voltage, test battery and alternator.
677.4	Starter Relay-Short to Ground	Check electrical connectors in start circuit for moisture. Verify no exposed wires are shorting out.
677.14	Crank Time Exceeded	Crank time of engine should not exceed 30 seconds.
677.31	Starter Cool Down	Allow starter to cool down for several minutes.
920.3	Buzzer-Short to High Side	Check electrical system.
920.4	Buzzer-Short to Ground	Check electrical system.
931.3	Fuel Pump-Short to High	Check electrical system.
931.4	Fuel Pump-Short to Ground	Check electrical system.
1504.31	PTO On-Operator Not In Seat	Operator must remain in seat. Turn off PTO, restart machine with operator remaining in seat.
1638.0	Hydraulic Oil Temperature High	Investigate for debris on radiator oil cooler. Allow engine to run so hydraulic oil is being circulated through cooling system.
3695.14	Filter Cleaning Required	Verify machine Filter status is in Auto Mode. Check DPF level and clean filter using parked regeneration if required.
3702.01	Parked Regeneration Stopped	Verify regeneration should be stopped. If needed restart regeneration.
3720.16	Ash Clean Required	Carry out parked regeneration. Contact dealer if DTC persists after regeneration.
3719.00	Service Required	Contact John Deere dealer service organization.
3719.16	Parked Cleaning Required	Carry out parked regeneration. Contact dealer if DTC persists after regeneration.
3941.14	PTO On-Seat On	This is a Pop Up ... not a REAL DTC.
3941.31	PTO On-Parking Brake On	Release parking brake if intent is to use machine to mow, etc.
516124.3	Engine Run Request-Short to High	Check electrical system.
516124.4	Engine Run Request-Short to Ground	Check electrical system.

Storage

Storing Safety

⚠ CAUTION: Fuel vapors are explosive and flammable. Engine exhaust fumes contain carbon monoxide and can cause serious illness or death:

- Run the engine only long enough to move the machine to or from storage.
- Machine fires and structure fires can occur if a machine is stored before allowing it to cool, or if debris is not removed from around the engine and muffler, or if stored near combustible materials.
- Do not store vehicle with fuel in the tank inside a building where fumes may reach an open flame or spark.
- Allow the engine to cool before storing the machine in any enclosure.

Preparing Machine for Storage

1. Repair any worn or damaged parts. Replace parts if necessary. Tighten loose hardware.
2. Repair scratched or chipped metal surfaces to prevent rust.
3. Remove grass and debris from machine.
4. Clean under the deck and remove grass and debris from inside chute and bagger.
5. Wash the machine and apply wax to metal and plastic surfaces.
6. Run machine for five minutes to dry belts and pulleys.
7. Apply light coat of engine oil to pivot and wear points to prevent rust.
8. Lubricate grease points and check tire pressure.

Preparing Fuel and Engine For Storage

Fuel:

If you have been using “Stabilized Fuel,” add stabilized fuel to tank until the tank is full.

NOTE: Filling the fuel tank reduces the amount of air in the fuel tank and helps reduce deterioration of fuel.

If you are not using “Stabilized Fuel:”

1. Park machine safely in a well-ventilated area. (See Parking Safely in the SAFETY section.)

NOTE: Try to anticipate the last time the machine will be used for the season so very little fuel is left in the fuel tank.

2. Turn on engine and allow to run until it runs out of fuel.
3. For machines equipped with key switch, turn key to off position.

IMPORTANT: Stale fuel can produce varnish and plug carburetor or injector components and affect engine performance.

- Add fuel conditioner or stabilizer to fresh fuel before filling tank.
4. Mix fresh fuel and fuel stabilizer in separate container. Follow stabilizer instructions for mixing.
 5. Fill fuel tank with stabilized fuel.
 6. Run engine for a few minutes to allow fuel mixture to circulate through carburetor on gas engine or fuel injectors on diesel engine.

Engine:

Engine storage procedure should be used when vehicle is not to be used for longer than 60 days.

1. Change engine oil and filter while engine is warm.
2. Service air filter if necessary.
3. Clean debris from engine air intake screen.
4. On gas engines:
 - Remove spark plugs. Put 30 mL (1 oz) of clean engine oil in cylinder(s).
 - Install spark plugs, but do not connect spark plug wires.
 - Crank the engine five or six times to allow oil to be distributed.
5. Clean the engine and engine compartment.
6. Remove battery.
7. Clean the battery and battery posts. Check the electrolyte level, if your battery is not maintenance free.
8. Close fuel shut-off valve, if your machine is equipped.
9. Store the battery in a cool, dry place where it will not freeze.

NOTE: The stored battery should be recharged every 90 days.

10. Charge the battery.

IMPORTANT: Prolonged exposure to sunlight could damage the hood surface. Store machine inside or use a cover if stored outside.

11. Store the vehicle in a dry, protected place. If vehicle is stored outside, put a waterproof cover over it.

Storage

Storage for BioDiesel Fuel

IMPORTANT: Biodiesel fuel must be used within three months of the date of production by the fuel supplier.

Before placing a biodiesel fueled machine in long term storage (without operating the engine):

- Drain all biodiesel fuel from the fuel tank.
- Fill the tank with conventional petroleum fuel as indicated in the Operator's Manual.
- Start the engine and run for a minimum of five hours.

Removing Machine From Storage

1. Check tire pressure.
2. Check engine oil level.
3. Check battery electrolyte level, if your battery is not maintenance free. Charge battery if necessary.
4. Install battery.
5. On gas engines: Check spark plug gap. Install and tighten plugs to specified torque.
6. Lubricate all grease points.
7. Open fuel shut-off valve, if your machine is equipped.
8. Run the engine 5 minutes without the mower or any attachments running to allow oil to be distributed throughout engine.
9. Be sure all shields and guards or deflectors are in place.

Specifications

Engine

1550 Engine

Engine Model Number	Yanmar 3TNV80F
Engine Type	4-Cycle, 3-Cylinder, In-Line Diesel
Displacement	1.267 L (77.3 cu in.)
Bore	80 mm (3.15 in.)
Stroke	84 mm (3.31 in.)
Valve Clearance	0.2 mm (0.008 in.)
Cooling	Liquid Cooled
Injection Type	Indirect
Air Cleaner	Dry, Replaceable Dual Element
Starting Aid	Glow Plugs

1570, 1575, 1580, 1585 Engine

Engine Model Number	Yanmar 3TNV88C
Engine Type	4-Cycle, 3-Cylinder, In-Line Diesel
Displacement	1.642 L (100.2 cu in.)
Bore	88 mm (3.46 in.)
Stroke	90 mm (3.54 in.)
Valve Clearance	0.2 mm (0.008 in.)
Cooling	Liquid Cooled
Injection Type	Direct
Air Cleaner	Dry, Replaceable Dual Element
Starting Aid	Glow Plugs

Capacities

Fuel Tank	60.5 L (16.0 gal)
Coolant (1550)	7.1 L (7.5 qt)
Coolant (1570, 1575, 1580, 1585)	7.6 L (8.0 qt)
Hydrostatic Transmission (2WD)	8.5 L (9 qt)
Hydrostatic Transmission (1550, 1570; 4WD)	8.7 L (9.2 qt)
Hydrostatic Transmission (1575, 1580, 1585)	10.0 L (10.5 qt)
Rear Axle (4WD)	4.7 L (5 qt)
Engine Oil Capacity 1550 (with Filter)	3.1 L (3.3 qt)
Engine Oil Capacity 1570, 1575 (with Filter)	4.1 L (4.3 qt)
Engine Oil Capacity 1580, 1585 (with Filter)	4.8 L (5.1 qt)

Tightening Torques

All Wheels (Except Below)	122 N•m (90 lb-ft)
Rear Wheels - 2WD	82 N•m (60 lb-ft)

Travel Speeds

1550, 1570, 1575

Forward	0-12 km/h (0-7.5 mph)
Reverse	0-5 km/h (0-3.1 mph)

1580, 1585

Forward (Low Range)	0-13.7 km/h (0-8.5 mph)
Forward (High Range)	0-24.1 km/h (0-15.0 mph)

Specifications

Reverse (Low Range)	0-6.8 km/h (0-4.2 mph)
Reverse (High Range)	0-12.9 km/h (0-8.0 mph)

Tire Dimensions

1550, 1570

Front Drive Tires - Standard	23x10.50-12
Front Drive Tires - Optional	23x8.50-12
Front Drive Tires - Dual	23x8.50-12
Rear Tires - 2WD	18x8.50-8
Rear Tires - 4WD	18x8.50-10

1575

Front Drive Tires - Standard	23x10.5-12
Rear Tires	18x8.5-10

1580, 1585

Front Drive Tires - Standard	26x12-12
Rear Tires	20x10-10

Tire Inflation Pressures

1550

Front and Rear Tires	140 kPa (20 psi)
----------------------------	------------------

1570, 1575

Front	140 kPa (20 psi)
Rear Tires - 2 wheel drive	140 kPa (20 psi)
Rear Tires - 4 wheel drive	220 kPa (32 psi)

1580, 1585

Front	210 kPa (30 psi)
Rear Tires	220 kPa (32 psi)

Dimensions

Height (With Cab)	2.2 m (86.6 in.)
Width (With Standard Tires)	1.3 m (51.7 in.)
Length (Without Mower Deck)	2.2 m (86.6 in.)
Wheelbase	1.3 m (49.2 in.)
Weight (Without Mower Decks or Fuel)	844 kg (1860 lb.)
Ground Clearance (1550, 1570, 1575)	16.5 cm (6.5 in.)
Ground Clearance (1580, 1585)	17.8 cm (7 in.)

Warranty

Product Warranty

Product warranty is provided as part of John Deere's support program for customers who operate and maintain their equipment as described in this manual.

Engine related warranties stated in this manual refer only to emissions-related parts and components of your engine. The complete engine warranty, less emission-related parts and components, is provided separately as the "Limited Warranty for New John Deere Equipment".

John Deere, California and U.S. EPA Emission Control System Warranty (Non-Road Diesel)

Your Warranty Rights and Obligations:

The California Air Resources Board (CARB), the United States Environmental Protection Agency (EPA) and John Deere are pleased to explain the **emission control system warranty** on your 2013, 2014, or 2015 model year industrial compression-ignition engine. California-certified, new off-road compression-ignition engines must be designed, built and equipped to meet the State's stringent anti-smog standards. In the remaining forty nine (49) states, new non-road compression-ignition engines must be designed, built and equipped to meet the United States EPA emissions standards. John Deere must warrant the emission control system on your engine for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your engine.

Your emission control system may include parts such as the fuel injection system, the air induction system, the electronic control system, EGR (exhaust gas recirculation) system and the diesel particulate filter system. Also included may be hoses, belts, connectors and other emission-related assemblies.

Where a warrantable condition exists, John Deere will repair your off-road compression-ignition engine at no charge to you including diagnosis, parts and labor.

Manufacturer's Warranty Period:

2013, 2014, or 2015 model year off-road compression-ignition engines are warranted for the periods listed below. If any emission-related part on your engine is found to be defective during the applicable warranty period, the part will be repaired or replaced by John Deere.

If your engine is certified as	And its maximum power is	And its rated speed is	Then its warranty period is
Variable speed or constant speed	kW <19	Any speed	1,500 hours or two (2) years whichever comes first. In the absence of a device to measure the hours of use, the engine has a warranty period of two (2) years.

Warranty

Constant speed	19 ≤ kW <37	3000 rpm or higher	1,500 hours or two (2) years whichever comes first. In the absence of a device to measure the hours of use, the engine has a warranty period of two (2) years.
Constant speed	19 ≤ kW <37	Less than 3,000 rpm	3,000 hours or five (5) years whichever comes first. In the absence of a device to measure the hours of use, the engine has a warranty period of five (5) years.
Variable speed	19 ≤ kW <37	Any speed	3,000 hours or five (5) years whichever comes first. In the absence of a device to measure the hours of use, the engine has a warranty period of five (5) years.
Variable speed or constant speed	kW ≥ 37	Any speed	3,000 hours or five (5) years whichever comes first. In the absence of a device to measure the hours of use, the engine has a warranty period of five (5) years.

Warranty Coverage:

This warranty is transferable to each subsequent purchaser for the duration of the warranty period. Repair or replacement of any warranted part will be performed at an authorized John Deere service provider.

Warranted parts not scheduled for replacement as required maintenance in the owner's manual shall be warranted for the warranty period. Warranted parts scheduled for replacement as required maintenance in the owner's manual are warranted for the period of time prior to the first scheduled replacement. Any warranted parts scheduled for replacement as required maintenance that are repaired or replaced under warranty shall be warranted for the remaining period of time prior to the first scheduled replacement. Any part not scheduled for replacement that is repaired or replaced under warranty shall be warranted for the remaining warranty period.

During the warranty period, John Deere is liable for damages to other engine components caused by the failure of any warranted part during the warranty period.

Any replacement part which is functionally identical to the original equipment part in all respects may be used in the maintenance or repair of your engine, and shall not reduce John Deere's warranty obligations. Add-on or modified parts that are not exempted may not be used. The use of any non-exempted add-on or modified parts shall be grounds for disallowing a warranty.

Warranted Parts:

This warranty covers engine components that are a part of the emission control system of the engine as delivered by John Deere to the original retail purchaser. Such components may include the following:

- (A) Fuel injection system (including Altitude compensation system)
- (B) Cold start enrichment system
- (C) Intake manifold and Air intake throttle valve
- (D) Turbocharger systems
- (E) Exhaust manifold
- (F) Positive crankcase ventilation system
- (G) Charge Air Cooling systems

(H) Exhaust Gas Recirculation (EGR) systems

(I) Exhaust gas after treatment (diesel particulate filter system)

(J) Electronic Control units, sensors, solenoids and wiring harnesses used in above systems

(K) Hoses, belts, connectors and assemblies used in above systems

(L) Emission Control Information Labels

Since emissions related parts may vary slightly between models, certain models may not contain all of these parts and other models may contain the functional equivalents.

Exclusions:

Failures other than those arising from defects in material or workmanship are not covered by this warranty. The warranty does not extend to the following: malfunctions caused by abuse, misuse, improper adjustment, modification, alteration, tampering, disconnection, improper or inadequate maintenance, or use of non-recommended fuels and lubricating oils, accident-caused damage and replacement of expendable items made in connection with scheduled maintenance. John Deere disclaims any responsibility for incidental or consequential such as loss of time, inconvenience, loss of use of equipment/engine or commercial loss.

Owner's Warranty Responsibilities:

As the off-road compression-ignition engine owner, you are responsible for the performance of the required maintenance listed in your owner's manual. John Deere recommends that you retain all documentation, including receipts, covering maintenance on your off-road compression-ignition engine, but John Deere cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

John Deere may deny your warranty coverage if your off-road compression-ignition engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

Your engine is designed to operate on diesel fuel only. Use of any other fuel may result in your engine no longer operating in compliance with CARB and EPA emissions requirements.

Warranty

You are responsible for initiating the warranty process. You must present your engine to a John Deere service provider as soon as a problem exists. The warranty repairs should be completed by the dealer as expeditiously as possible. If you have any questions regarding your warranty rights and responsibilities, you should contact your John Deere service provider, or the John Deere Customer Contact Center, 1-800-537-8233, or e-mail John Deere from www.Deere.com.

Tire Warranty

John Deere warranty applies for tires available through the John Deere parts system. For tires not available through the John Deere parts system, the tire manufacturer's warranty applicable to your machine may not apply outside the U.S. (See your John Deere dealer for specific information.)

Limited Battery Warranty For Factory Installed Batteries

NOTE: Applicable in North America only. For complete machine warranty, reference a copy of the John Deere warranty statement. Contact your John Deere dealer to obtain a copy.

TO SECURE WARRANTY SERVICE

The purchaser must request warranty service from a John Deere dealer authorized to sell John Deere batteries, and present the battery to the dealer with the top cover plate codes intact.

FREE REPLACEMENT PERIOD

Any new battery which becomes unserviceable (not merely discharged) due to defects in material or workmanship within the FREE REPLACEMENT PERIOD will be replaced free of charge. Installation costs will be covered by warranty if the unserviceable battery was installed by a John Deere factory or dealer and the replacement battery is installed by a John Deere dealer.

PRO RATA ADJUSTMENT (batteries with letter code identification only)

Any new battery which becomes unserviceable (not merely discharged) due to defects in material or workmanship within the Pro Rata Warranty Period will be replaced upon payment of the battery's current list price less a pro rata credit for unused months of service. The applicable adjustment period is determined from the Warranty Code printed at the top of the battery and table below. Installation costs are not covered after the battery warranty period has ended.

THIS WARRANTY DOES NOT COVER

- A. Breakage of the container, cover, or terminals.
- B. Depreciation or damage caused by lack of reasonable and necessary maintenance or by improper maintenance.
- C. Transportation, mailing, or service call charges for warranty service.
- D. Batteries that are merely discharged.

LIMITATION OF IMPLIED WARRANTIES AND PURCHASER'S REMEDIES

To the extent permitted by law, neither John Deere nor any company affiliated with it makes any warranties, representations, or promises as to the quality, performance or freedom from defect of the products covered by this warranty. IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, TO THE EXTENT APPLICABLE, SHALL BE LIMITED IN DURATION TO THE APPLICABLE ADJUSTMENT PERIOD SET FORTH HERE. THE PURCHASER'S ONLY REMEDIES IN CONNECTION WITH THE BREACH OR PERFORMANCE OF ANY WARRANTY ON JOHN DEERE BATTERIES ARE THOSE SET FORTH HERE. IN NO EVENT WILL THE DEALER, JOHN DEERE OR ANY COMPANY AFFILIATED WITH JOHN DEERE BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. (Note: Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages. So these limitations and exclusions may not apply to you.) This warranty gives you specific legal rights, and you may also have some rights which vary from state to state.

NO DEALER WARRANTY

The selling dealer makes no warranty of its own and the dealer has no authority to make any representation or promise on behalf of John Deere, or to modify the terms or limitations of this warranty in any way.

WARRANTY TERMS TABLE

NOTE: If your battery is not labeled with a warranty code, it is a warranty code 6.

Warranty Code	Free Replacement Period	Pro Rata Warranty Period
A	90 Days	40 Months
B	90 Days	36 Months
C	90 Days	24 Months
D	12 Months	48 Months
E	90 Days	12 Months
F	90 Days	60 Months
G	12 Months	60 Months
H	12 Months	60 Months
6	6 Months	0 Months
12	12 Months	0 Months

Warranty

Warranty Code	Free Replacement Period	Pro Rata Warranty Period
18	18 Months	0 Months

The RSX850i original equipment battery will carry a 100% Full Replacement for the duration of the complete machine warranty.

John Deere Quality Statement

John Deere Quality



TCAL41258—UN—18JAN13

John Deere equipment is more than just a purchase, it's an investment in quality. That quality goes beyond our equipment to your John Deere dealer's parts and service support. This support is needed to keep you a satisfied customer.

That's why John Deere has initiated a process to handle your questions or problems, should they arise. The following three steps will help guide you through the process.

Step 1

Refer to your operator's manual

- | | |
|---|---|
| A. It has many illustrations and detailed information on the safe and proper operation of your equipment. | C. It gives ordering information for parts catalogs, service and technical manuals. |
| B. It gives troubleshooting procedures, and specification information. | D. If your questions are not answered in the operator's manual, then go to Step 2. |

Step 2

Contact your dealer

- | | |
|---|---|
| A. Your John Deere dealer has the responsibility, authority, and ability to answer questions, resolve problems, and fulfill your parts and service needs. | C. If the parts and service people are unable to resolve your problem, see the dealership manager or owner. |
| B. First, discuss your questions or problems with your dealer's trained parts and service staff. | D. If your questions or problems are not resolved by the dealer, then go to Step 3. |

Step 3

Contact John Deere

- A. Your John Deere dealer is the most efficient source in addressing any concern, but if you are not able to resolve your problem after checking your operator's manual and contacting your dealer, contact John Deere for assistance
- B. For prompt, effective service, please have the following ready before you call:
- | | |
|---|---|
| The name of the dealer with whom you've been working. | Your serial number which you recorded on the inside front cover of this manual. |
| Your equipment model number. | If the problem is with an attachment, your attachment identification number. |
| Number of hours on machine (if applicable). | |
- C. Then call 1-800-537-8233 (United States and Canada) and our advisor will work with your dealer to investigate your concern. If you are outside the United States and Canada, contact us at the following website: www.deere.com/wps/dcom/en_US/regional_home.page.

Service Record

Record Service Dates

[illegible]

Index

A	
Air Cleaner Elements, Servicing	67
Alternator Belt, Adjusting	73
Attachment, Raising and Lowering	50
Axle Pivot Pin, Lubricating	57

B	
Battery and Terminals, Cleaning	83
Battery, Removing and Installing	82
Battery, Service Safely	82
Battery, Using Booster	83
Belt, Replacing Alternator	74
Brake Pedal Linkage, Lubricating	59
Brake, Testing Park	29
Brakes, Using	48
Break-In Service Intervals	55

C	
Cab air filter, cleaning	89
Cab, Checking ROPS Installation	
ROPS Installation, Checking Cab	91
Cab controls	33
Cab, Entering and Exiting	28
Cab, Servicing Air Conditioner	
Air Conditioner, Servicing Cab	88
Certification	10
Cleaning Oil Cooler and Radiator	65
Controllers	
Setup	
PDU	
Pass codes	40
Coolant	
Diesel engine	
Light duty	69
Coolant Level, Checking	70
Cooling System, Service Safely	69
Cooling System, Servicing	70
Creep Adjust	77

D	
Diagnostic Trouble Codes (DTC) List	95
Diesel Fuel, Using	87
Diesel particulate filter (DPF) regeneration	
functionality (1570, 1575, 1580, 1585).	45
Display, using	
1550	35
1570, 1575, 1580, 1585	36
DPF Load Level.	44
Dust Unloading Valve, Cleaning	68

E	
Electrical Troubleshooting.	95
Electrolyte Level, Checking Battery	82
Engine Cover, Opening	34
Engine oil	
Checking	
1550	61
1570, 1575, 1580, 1585	62

Filter, changing	
1550	62
1570, 1575, 1580, 1585	63
Engine, Starting	51
Engine, Stopping	51
Engine Troubleshooting	94
Exhaust Filter, Service	
Filter, Service Exhaust	75

F	
Filter Restriction Indicator, Checking	66
Four Wheel Drive (1550, 1570 and 1575)	35
Four Wheel Drive (1580 and 1585).	35
Fuel filter	
1550, servicing	72
Fuel filter	
1570, 1575, 1580 and 1585, changing	73
Fuel safety	22
Fuel Shutoff Valve, Using	49
Fuel Storage	96
Fuel system	
Priming	73
Fuel Tank, Filling	87
Fuses	
Checking and replacing	
1550	84
1570, 1575, 1580, 1585	85
Cab, 1575 and 1585	85

G	
Grease	57

H	
Hose and Clamp Check, Air Intake	68
Hose Check, Radiator	68
Hydrostatic Linkage, Lubricating	58

K	
Key switch, using	
1550	32
1570, 1575, 1580, 1585	32

L	
Labels, safety (text)	7

M	
Machine Display, Pop-Up Notifications	
(1570, 1575, 1580, 1585).	37
Metal Surfaces, Repairing and Cleaning	90
Moving Machine	51

O	
Oil, Changing Transaxle	76
Oil, Engine	60
Oil Level, Transaxle	76
Operator controls	
1550	23
1570, 1580	24
1575 and 1585 (Cab Models).	25
Operator Training Required	16

Index

P		Tow loads safely	20
Parts, Replacement	54	Trailing the Machine	52
PDU		Transaxle Drive Shaft, Lubricating.	58
Setup		Transaxle Oil	76
Pass Codes.	40	Troubleshooting Chart	94
Pedal, Using Traction Assist.	48	Troubleshooting guide, common DTC's	95
Pedals, Using Hydrostatic	48	W	
Plastic and Painted Surfaces, Avoid		Warranty Maintenance Statement, Engine	60
Damage To	28	Warranty, product.	100
Plastic Surfaces, Cleaning	90	Warranty, tire.	102
Preparation	16	Water Separator, Draining (1570, 1575,	
PTO Shaft, Lubricating.	58	1580 and 1585).	72
PTO switch, testing		Wheel Removal and Installation, Front	91
1550	29	Wheel Removal and Installation, Rear.	92
1570, 1575, 1580, 1585	29		
PTO switch, using			
1550	31		
1570, 1575, 1580, 1585	31		
R			
Rear Axle Oil.	78		
Rear Axle Oil, Changing.	78		
Rear Axle Oil Level	78		
Regeneration			
Inhibiting Active	41		
Reverse and Forward Pedal Adjusting	77		
ROPS, Raising and Lowering	49		
S			
Safety Labels, Warning - Avoid Crushing -			
TCU31702.	13		
Safety labels, text	7		
Safety Systems, Testing.	28		
Safety, tire	22		
Screen, Cleaning Engine Cover	64		
Seat, Adjusting	30		
Seat, Adjusting (Deluxe Suspension)	30		
Seat Platform, Raising and Lowering	61		
Seat Slides, Lubricating	59		
Service latches, using	88		
Shutoff Valve, Fuel, Using	49		
Spark arrestor, using	17		
Steering column, adjusting	31		
Steering Column Tilt- Lock, Lubricating	59		
Steering Cylinder, Lubricating	57		
Steering Spindle, Lubricating	58		
Storage, Preparing Machine for	96		
Storage, Removing Machine from	97		
Storing Safety	96		
Switch, Testing Seat and Park Brake	29		
T			
Technical Manual.	54		
Throttle Lever, Using	32		
Tie Rod, Lubricating.	57		
Tie Rod Toe- In Adjustment	80		
Tilt- Lock Adjustment, Steering Column.	81		

Notes
