

Dealer Setup & Adjustment Instructions

IS2600Z Series Zero-Turn Rider - 52" / 61" Mower Deck



The safety warnings provided in this guide and in the operator's manual included with the unit contain important information that must be obeyed when assembling, setting-up, operating, servicing, transporting, or storing the unit.

These warnings are highlighted by the safety alert triangle symbol shown above, which signifies that an important safety message is being provided.

You must read, understand, and follow these warnings and instructions, and use safe shop and work practices at all times while working on or around this unit and all other outdoor power equipment.

SETUP PROCEDURES

Instructions in the Setup Procedures section provide the information necessary to fully assemble, test, and prepare the units described above for delivery to your customers. The location of normal lubrication points are also included in this section.

The QUICK SETUP LIST is provided in this booklet to help you identify and check that the items have been performed.

ADJUSTMENT PROCEDURES

Additional information concerning general adjustment procedures are included in this section.

Although all required lubrication and normal adjustments on factory-assembled components are done at the factory, this additional information is provided to assist you in ensuring that each unit is delivered to the customer in proper working order.

These Dealer Setup Instructions cover the following products:

Model:	Description:
5901930	IS2600ZY24D52SRDCE
5901931	IS2600ZY24D61SRDCE

Quick Setup List

Setup Procedures	
☐	Uncrate the unit.
☐	Connect the battery cables.
☐	Install the ground speed control levers.
☐	Install the seat.
☐	Assemble the roll bar retainer pins.
☐	Install the roll bar on the unit.
☐	Install the roll bar safety decals (export models only)
☐	Check engine oil level.
☐	Check the engine coolant level.
☐	Check / Fill transmission oil level.
☐	Check tire pressures.
☐	Configure the mower deck.
☐	Check mower blade bolt torque.
☐	Check the deck lift rod timing.
☐	Check and level the mower deck.
☐	Check the mower deck drive belt.
☐	Lubricate all grease and oil points.
☐	Check / Add fuel.
☐	Priming the fuel system.
☐	Start the engine
PERFORM THE SAFETY CHECKS	
☐	Check for <u>LOOSE HARDWARE</u> .
☐	Check all <u>OPERATOR CONTROLS</u> .
☐	Perform <u>SAFETY INTERLOCK SYSTEM CHECK</u> .
Register Product	
☐	To register the product: log onto www.thepowerportal.com , select the appropriate brand, click "Sales & Marketing", select the "Product Registration" link, and then select "New Product Registration". Fill out and submit the online product registration form.

Ferris is a registered trademark of Briggs & Stratton.

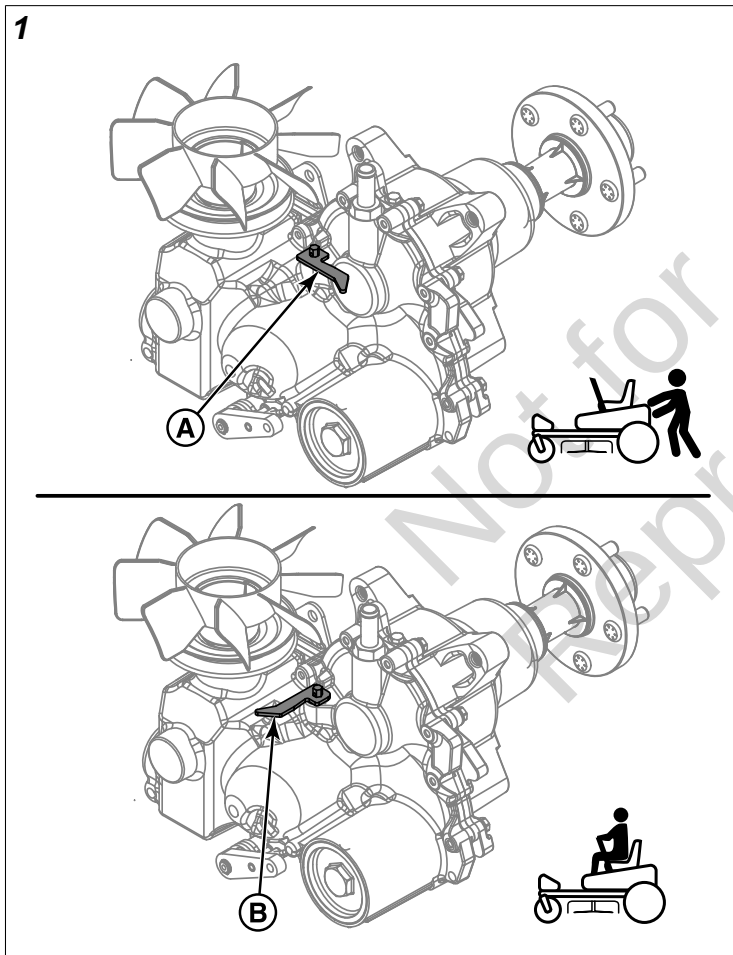
Setup Procedures

The items in this section provide the information necessary to fully assemble, test, and prepare the unit, that these instructions were included with, for delivery to your customer.

The Quick Setup List provided on page 2 of this booklet to help you identify and check that the items have been performed.

Uncrating

1. Locate the transmission release lever on top of the transmission of the unit. There is one transmission release lever on each transmission.
2. Rotate the transmission release levers to the “bypass” position (A, Figure 1). The transmission release levers will contact the bodies of the transmissions. The transmission release levers will be oriented so that they are perpendicular to the axles of the transmissions.



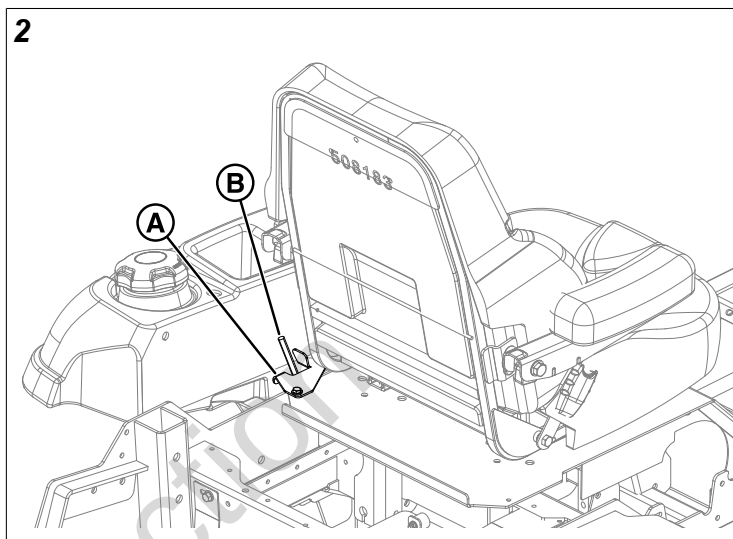
3. Push down on the parking brake lever to release the parking brake.
4. Be sure there are no nails or sharp objects on the bottom skid to puncture the zero-turn rider's tires. Roll the zero-turn rider forward off the bottom skid.
5. After moving the zero-turn rider, re-engage the transmissions by rotating the transmission release levers to the “closed” position (B). The transmission release levers will contact the bodies of the transmissions. The

transmission release levers will be oriented so that they are parallel to the axles of the transmissions.

Operating the Seat Latch

This model is equipped with a seat latch that is located by the left rear corner of the seat plate. Some models also feature a lockout plate.

1. To raise the seat plate, remove the lockout plate (A, Figure 2), if equipped, from the seat plate, move the seat latch (B) towards the front of the unit and then raise the seat plate.



2. The seat latch is spring loaded. When the seat plate is lowered back into place the seat latch will latch the seat plate in the down position. If equipped, install the lockout plate to the seat plate.

Connect the Battery Cables



WARNING



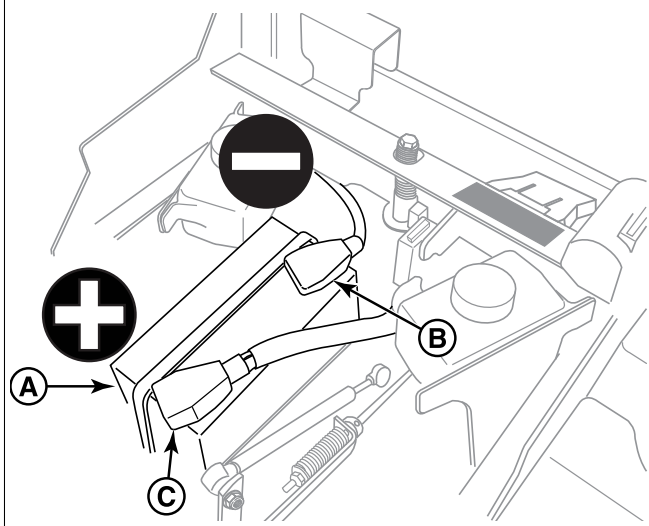
Battery acid can cause severe burns. Wear protective gear when handling the battery.

Open flames and sparks can cause battery to explode.

BATTERY SAFETY RULES:

- Battery acid causes severe burns. Avoid contact with skin.
 - Wear eye protection when handling the battery.
 - To avoid an explosion, keep flames and sparks away from the battery, especially while charging.
 - When installing the battery cables, connect the positive (+) cable first and negative (-) cable last. If not done in this order, the positive terminal can be shorted to the frame by a tool.
1. Connect the red positive battery cable (C, Figure 3) to the positive battery post of the battery (A).

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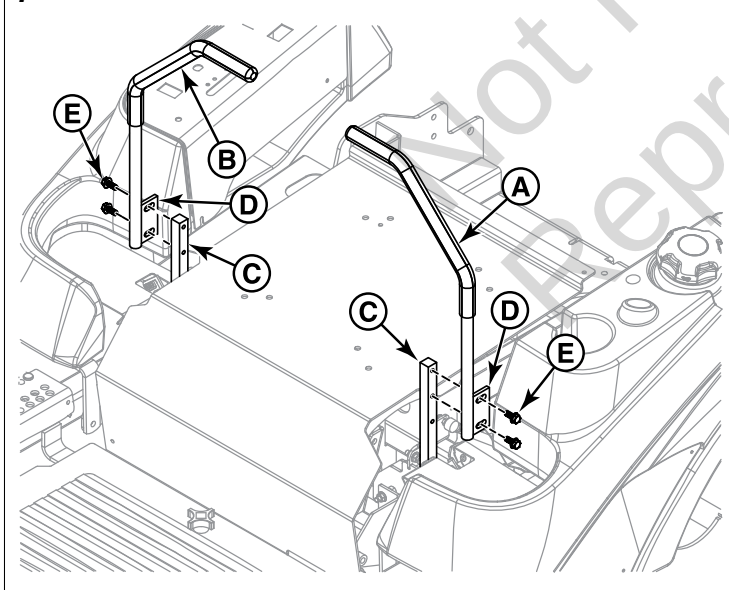
2. Connect the black negative battery cable (B) to the negative battery post.

Install the Ground Speed Control Levers

This procedure is only necessary if the ground speed control levers are not factory-installed on your unit.

There is a LEFT-HAND (A, Figure 4) and a RIGHT-HAND (B) control lever. When assembled to the base (C), the lever base (D) should be pointing toward the rear of the machine as shown in Figure 4.

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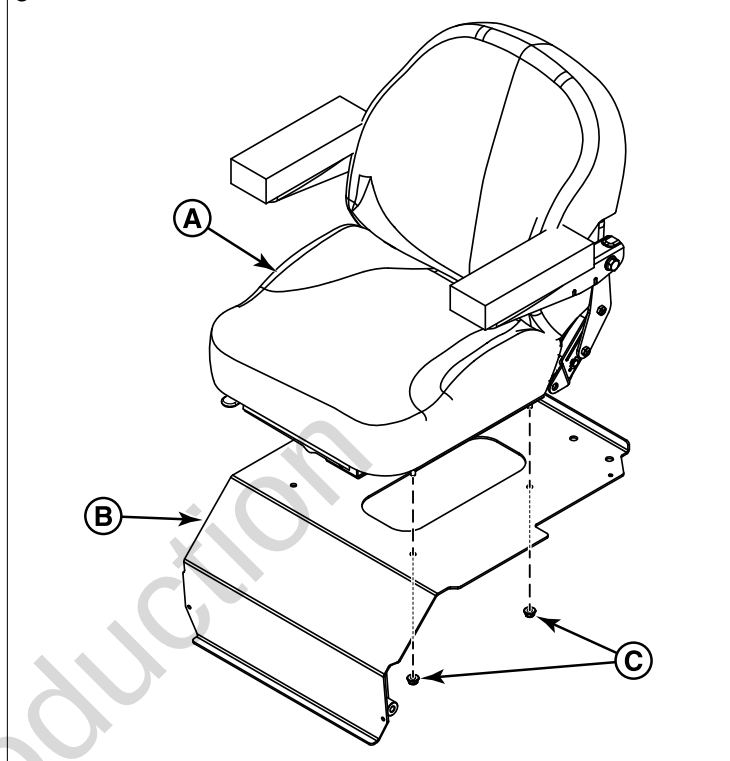
1. Remove the ground speed control levers and mounting hardware from the handle bar box.
2. Install the ground speed control levers (A & B) onto the control lever base using the hardware (E) supplied in the box. Prior to tightening the bolts, align the handles with each other.

Install the Seat

This procedure is only necessary if the seat is not factory-installed on your unit.

1. Unpack the seat.
2. Install the seat (A, Figure 5) onto the seat mount plate (B) and secure with the four (4) 5/16-18 nylock flange nuts (C).

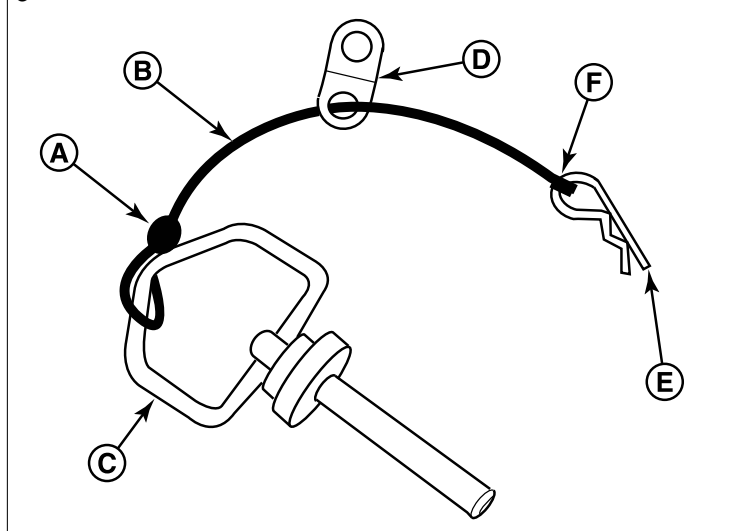
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Assemble the Roll Bar Retainer Pins

1. Unpack the roll bar and hardware from the box.
2. Lock the snap end (A, Figure 6) of the lanyard (B) through the retainer pin handle (C) and snap together.

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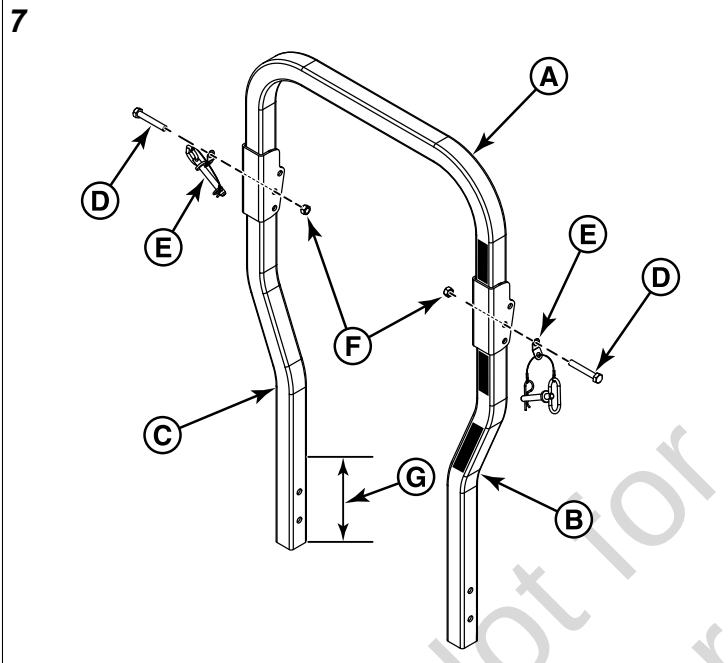
3. Install the lanyard anchor (D) onto the lanyard.

4. Install the hair pin (E) onto the loop end (F) of the lanyard as shown in Figure 6.

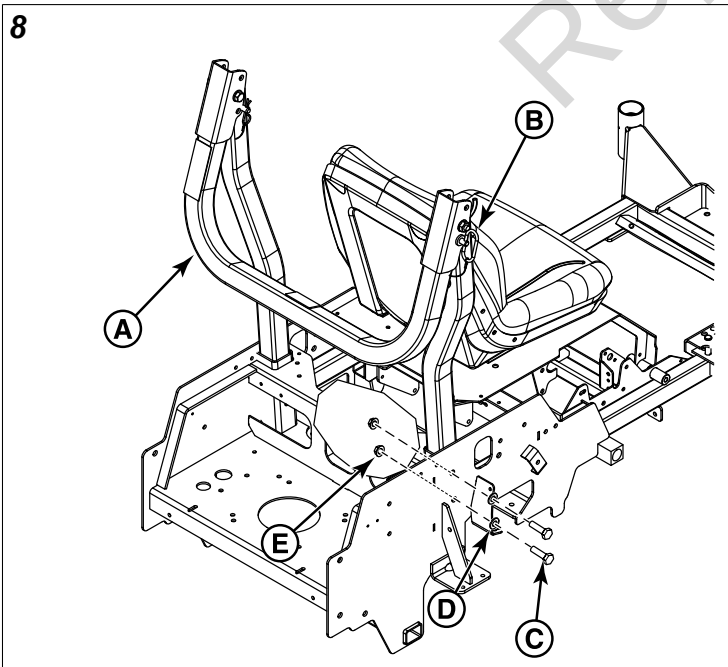
Install the Roll Bar to the Unit

The roll bar assembly is installed in the roll bar pockets which are part of the main frame of the unit and are located behind the seat and in front of the engine on both sides of the unit.

1. Assemble the top loop (A, Figure 7) to the left upright tube (B) and the right upright tube (C) by loosely installing the 1/2 bolt (D), through the retainer pin assembly (E), then through the hole in the top loop that is closest to the rear of the machine, the upright tube, and then loosely install the 1/2 side lock nut (F).



2. Fold the roll bar to the down position (A, Figure 8) and lock in place using the retainer pins and hair pin clips (B).

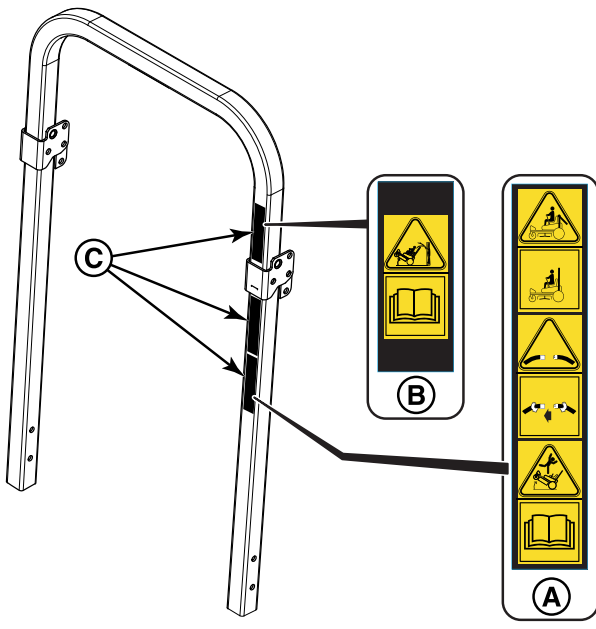


3. Make sure that no fuel lines, cables, or parts of the wire harness are in the way of the roll bar pockets.
4. From the bottom of the roll bar upright tube measure up 8" (G, Figure 7) and mark the distance with a marking tool or a piece of tape. Repeat for other upright tube.
5. Install the roll bar into the roll bar pockets. The roll bar is installed so that the safety decals are on the left side of the machine (as determined from the operator's position) facing towards the front of the machine. When the mark you made is even with the top of the roll bar pocket, the holes are close to being lined up. If necessary, use a dead blow hammer and drift pin to assist in lining up the holes in the roll bar with the holes in the roll bar pocket.
6. It may be necessary to remove the rear tires of the zero-turn rider to install the roll bar mounting bolts. To remove the rear tires jack up the rear end of the zero-turn rider, secure with jack stands, and then remove the rear tires from the unit.
7. Loosely install the (4) 1/2" bolts (C, Figure 8), and 1/2" washers (D), through the frame of the unit, the roll bar, the outer frame of the unit, and loosely install the 1/2" lock nuts (E).
8. Tighten the 1/2" hardware that secures the upright tubes to the frame of the unit to 82 ft. lbs (108 Nm) of torque.
9. Tighten the 1/2" bolt and side lock nuts that secure the top loop to the upright tubes. Do not over-tighten. The top loop should pivot snugly with the retainer pins removed.
10. If the rear tires were removed from the unit re-install them now. The lug nuts should be torqued to 90 ft. lbs. (122 Nm). Remove the jack stands from underneath the zero-turn rider.
11. Raise the top loop to the upright position and install the retainer pins and hair pin clips to secure the roll bar in the raised position.

Install the Roll Bar Safety Decals (Export Models Only)

1. Remove the black and yellow CE safety decals (A, & B, Figure 9) from the publications packet.

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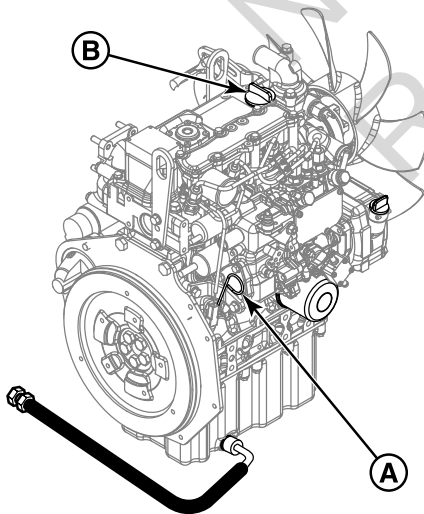


2. Remove the three (3) existing English language decals (C) from the roll bar.
3. Refer to Figure 9 for decal installation locations. The long decal, part number 5100536 (A) is installed below the roll bar pivot of the roll bar. The short decal, part number 5100537 (B), is installed above the roll bar pivot.

Check the Engine Oil Level

1. Clean the area around the engine oil dipstick (A, Figure 10) to remove any debris.

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2. Use the engine oil dipstick to check the engine oil level. If necessary, add engine oil through the engine oil fill (B). Check the engine manufacturer's owner's manual for oil recommendations.
3. Wipe the engine oil dipstick with a clean cloth and then re-install it.

Check / Add Coolant Level



If engine is warm, DO NOT remove radiator cap.

Escaping steam can cause burns.

Never remove the radiator cap or radiator reservoir cap while the engine is hot or running. Severe thermal burns or injury can occur by escaping steam or hot coolant.

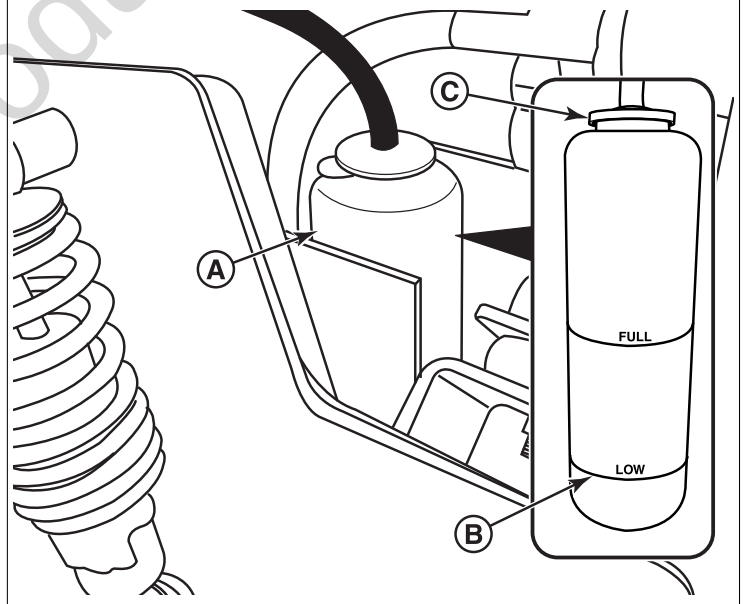
- Do NOT touch hot radiator or open reservoir when engine is running.
- Stop and allow engine to cool before removing the radiator cap or the reservoir cap and before changing or adding coolant.

The engine coolant level and quality should be checked before each use, when the engine is cool and off.

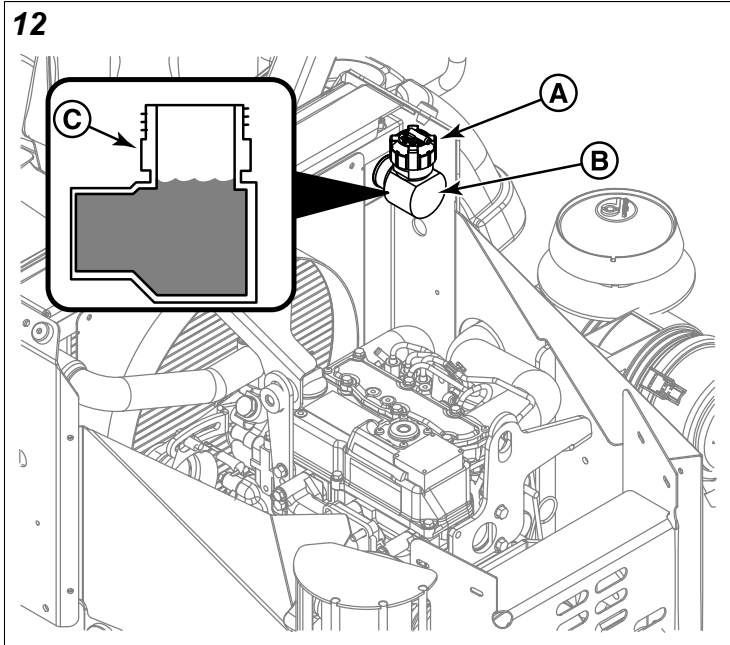
The cooling system is a closed type. Never open the radiator cap unless you are flushing the system. Opening the radiator cap may induce air into the cooling system and may cause overheating.

1. Open the hood to gain access to the overflow reservoir (A, Figure 11) and the radiator fill cap (A, Figure 12). The overflow reservoir is located on the left hand side of the engine compartment towards the rear of the engine. The radiator fill cap is located on the upper right hand corner of the radiator.

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2. First, check the coolant level and the radiator fill port (B, Figure 12). The coolant level should be to the bottom of the radiator fill port's fill neck (C).
3. If the coolant level is insufficient, remove the cap (A) and add coolant to bottom of the radiator fill port's fill neck.
4. Reinstall the cap to the radiator fill port.
5. Then, check the coolant level at the overflow reservoir (A, Figure 11). The coolant level should be at the LOW (COLD) mark (B).
6. If the coolant level is insufficient, remove the cap (C) from the reservoir and add coolant to the LOW (COLD) mark.
7. Reinstall the cap to the overflow bottle.

Note: Proper coolant mix is a 50/50 mixture of ethylene glycol and distilled water. See engine owners manual for specific engine coolant specifications.

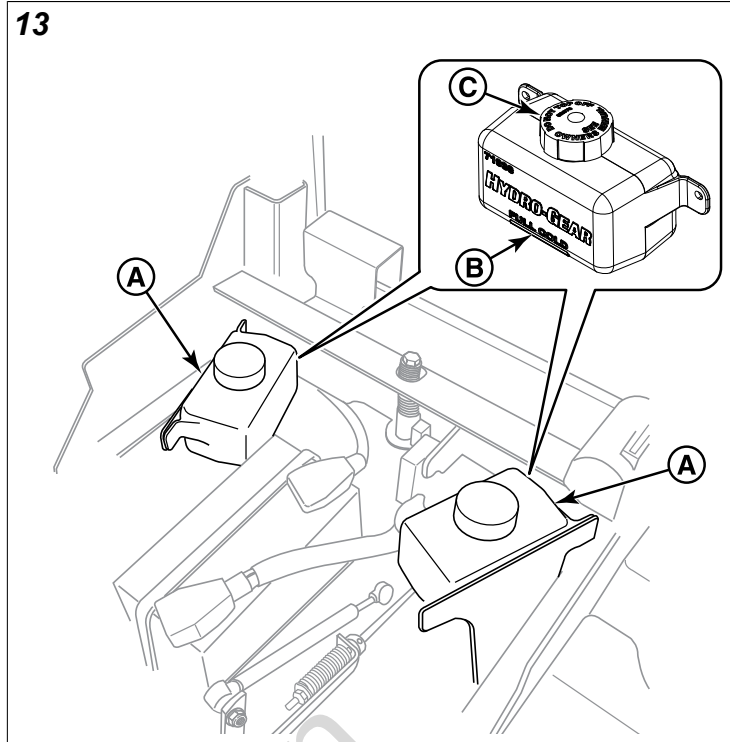
Check / Fill Transmission Oil Level

This unit is equipped with two transmission oil tanks. One transmission oil tank only supplies oil to one transmission. The level of oil in both transmission tanks must be checked, and if necessary, filled.

Oil Type: SAE 20W-50 motor oil

1. Raise the seat plate to gain access to the transmission oil tanks (A, Figure 13).

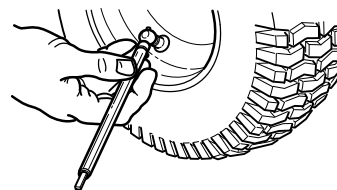
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2. Check the oil level when the unit is cold. The oil should be up to the "FULL COLD" mark (B) on the transmission oil tanks. If the oil is below this level, proceed to step #3.
3. Before removing the tank cap (C), make sure that the area around the tank cap and fill neck of the tank is free of dust, dirt, and other debris. Remove the tank caps.
4. Add oil up to the "FULL COLD" mark.
5. Re-install the tank cap.
6. After adding oil to the tanks, it may be necessary to purge air from the hydraulic system. If the unit is not driving properly perform the *Purging the Air from the Hydraulic System* procedure.

Check Tire Pressures

Tire pressure should be checked periodically, and maintained at the levels shown in the chart. Note that these pressures may differ slightly from the "Max Inflation" stamped on the side-wall of the tires. The pressures shown in the chart provide proper traction and extend tire life.



Tire	Pressure
Front	
Rear	

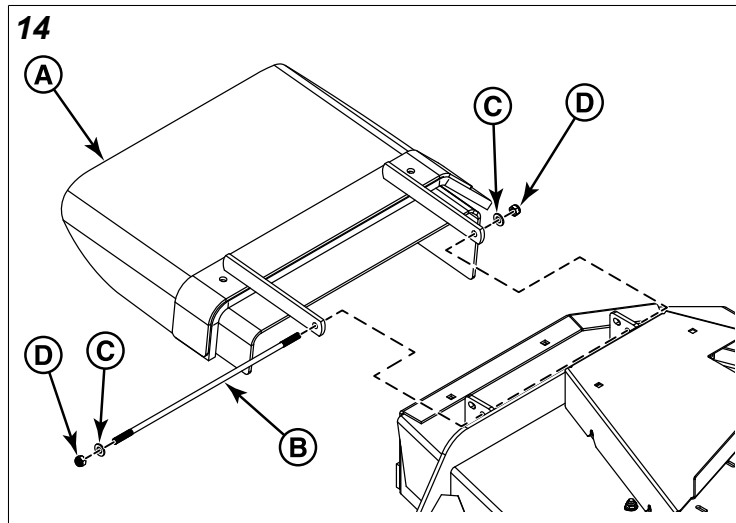
Configuring the Mower Deck

This machine features a mower deck that can be configured to perform three functions: rear discharge, mulching, and side

discharge. Prior to operating the machine it must be set up to operate in one of these configurations.

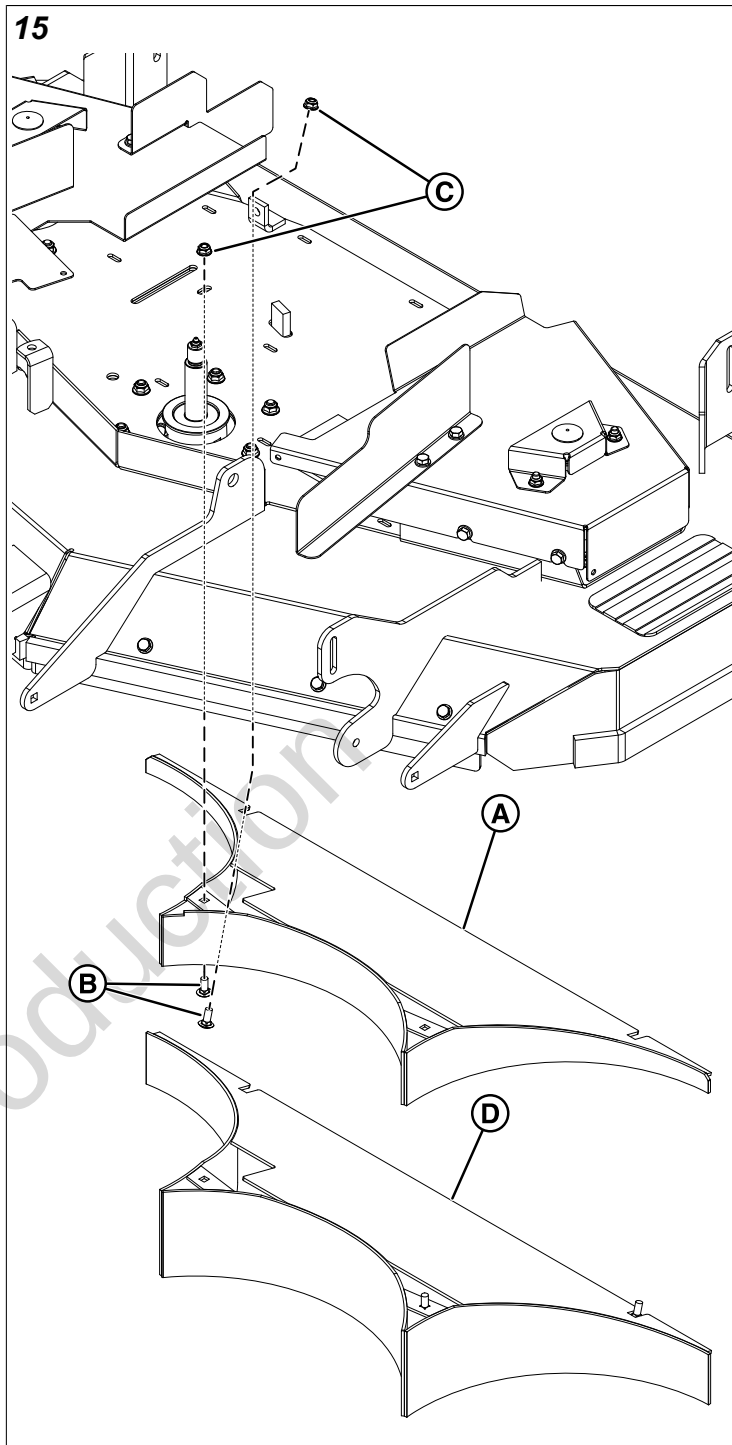
Configuring the Mower Deck for Rear Discharge from Factory Setup

1. Remove the discharge chute (A, Figure 14), chute rod (B), the two (2) washers (C) and nuts (D) from the mower deck.



Configuring the Mower Deck for Mulching from Factory Setup

1. Remove the discharge chute (A, Figure 14), chute rod (B), the two (2) washers (C) and nuts (D) from the mower deck.
2. Remove the short rear baffle (A, Figure 15), the four (4) 5/16 carriage bolts (B) and nuts (C) from the mower deck.

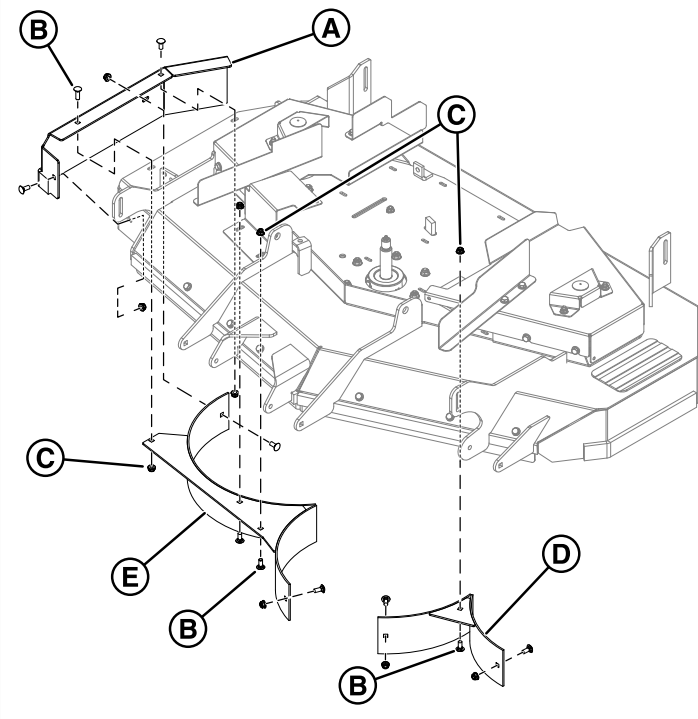


3. Install the tall rear baffle (D) to the mower deck using the four (4) 5/16 carriage bolts and nuts previously removed.

Configuring the Mower Deck for Side Discharge from Factory Setup

1. Remove the short rear baffle (A, Figure 15), the four (4) 5/16 carriage bolts (B) and nuts (C) from the mower deck.
2. Install the tall rear baffle (D) to the mower deck using the four (4) 5/16 carriage bolts and nuts previously removed.
3. Remove the block off plate (A, Figure 16), the four (4) 5/16 carriage bolts (B), and nuts (C) from the mower deck.

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4. Remove the left front baffle (D), the three (3) 5/16 carriage bolts, and nuts from the mower deck.
5. Remove the right front baffle (E), the four (4) 5/16 carriage bolts, and nuts from the mower deck.

Check the Mower Blade Bolt Torque



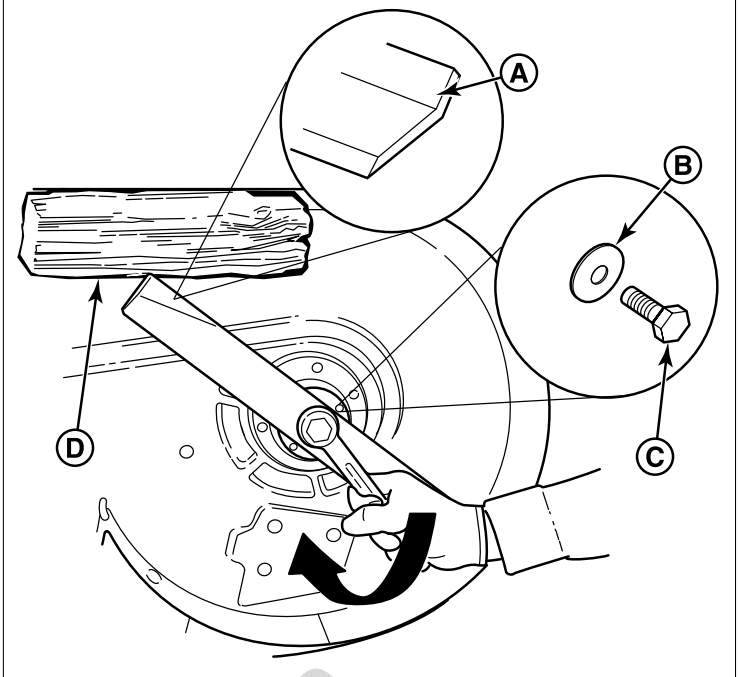
WARNING

Avoid injury! Mower blades are sharp.

- Mower blades are sharp. For your personal safety, do NOT handle mower blades with bare hands.
- Careless or improper handling of blades may result in serious injury.
- Blade mounting bolts must each be installed with a flat washer and then securely tightened. Torque blade mounting bolts to 120 ft. lbs. (163 Nm).

1. Lock the mower deck in it's highest cutting position.
2. Check that the blades are installed with the tabs pointing up (A, Figure 17) towards the deck as showing in Figure 17.

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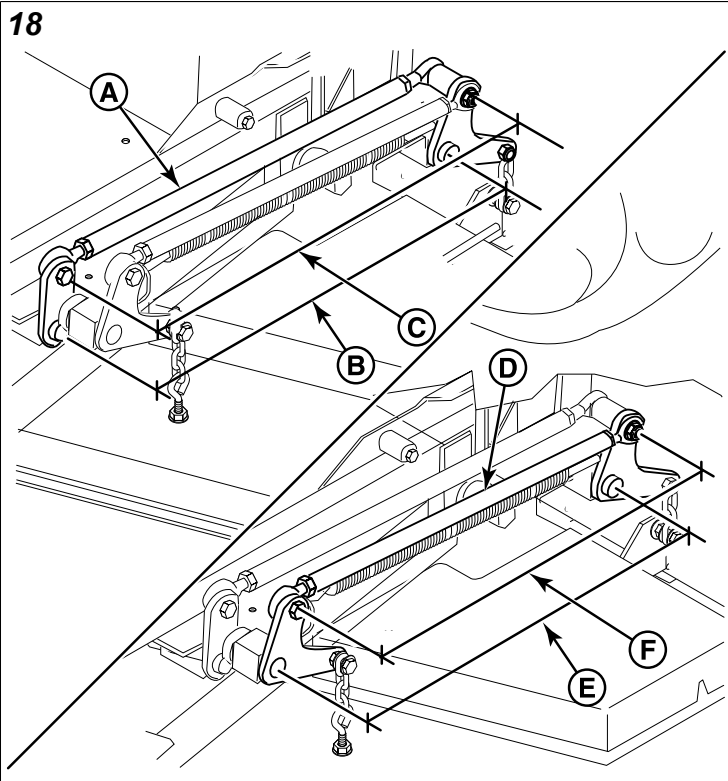


3. Check that a flat washer (B) is installed between each blade and the head of it's mounting bolt (C).
4. Wedge a wooden block (D) between the mower blade and the mower deck housing to keep the mower blade from turning. Torque each mower blade mounting bolt to 120 ft. lbs. (163 Nm).

Deck Lift Rod Timing Adjustment

Checking the Deck Lift Rod Timing

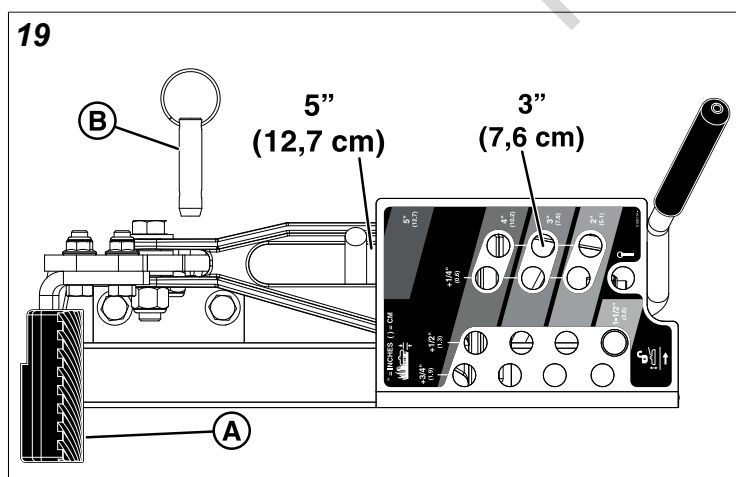
1. Park machine on a flat, level surface. Disengage the PTO, stop the engine, and engage the parking brake. Verify the tires are inflated to the correct pressure.
2. To check the inner lift rod (A, Figure 18) timing, measure and record the distance between the inner lift pivots (B) and the inner rod pivots (C). Repeat for other side of unit.



3. To check the outer lift rod (D) timing, measure and record the distance between the outer lift pivots (E) and the outer rod pivots (F). Repeat for other side of unit.
4. If the measurements for the inner rods are equal, and the measurements for the outer rods are equal, no further adjustment is required. If the measurements are NOT equal (greater than 1/8" (3,17 mm) difference), adjustment is required, continue with Adjusting the Deck Lift Rod Timing.

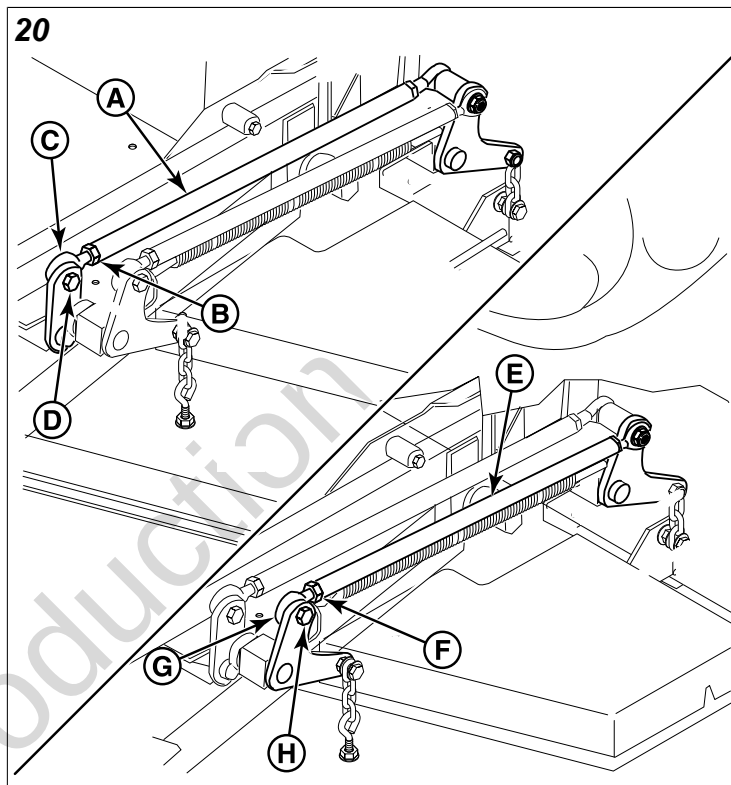
Adjusting the Deck Lift Rod Timing

1. Fully depress the deck lift pedal (A, Figure 19) to lock the cut height in the 5" (12,7 cm) position. Remove the height adjustment pin (B) and lower the mower deck.



2. To ensure that the deck is in the lowest position, push the pedal by hand towards the rear of the unit and install the height adjustment pin in the 3" (7.6 cm) position to hold in place.

3. Block up the mower deck until all hanger chains are slack.
4. To adjust the inner lift rod (A, Figure 20): Loosen the jam nut (B) on the front ball joint (C) then remove the 1/2" hardware (D) fastening the ball joint to the lift pivot arm. Turn the ball joint **clockwise** to shorten the distance between the rod pivots or **counter-clockwise** to lengthen the distance between the rod pivots. Reinstall the ball joint on the lift pivot arm and secure with the 1/2" hardware previously removed. Tighten the jam nut against the lift rod.



5. To adjust the outer lift rod (E): Loosen the jam nut (F) on the front ball joint (G) then remove the 1/2" hardware (H) fastening the ball joint to the lift pivot arm. Turn the ball joint **clockwise** to shorten the distance between the rod pivots or **counter-clockwise** to lengthen the distance between the rod pivots. Reinstall the ball joint on the lift pivot arm and secure with the 1/2" hardware previously removed. Tighten the jam nut against the lift rod.
6. Remove blocks from under the mower deck.
7. Remove the cutting height adjustment pin from in front of the deck lift pedal arm. Lift mower deck and reinstall adjustment pin in desired mowing height.

Deck Leveling Adjustment

Before adjusting the deck level, the deck lift rod timing must be checked and/or adjusted.

Determining if the Deck Leveling Needs to be Adjusted

1. Park the unit on a flat, level surface. Disengage the PTO, engage the parking brake, turn the ignition switch to OFF, and remove the ignition key.

2. Lock the deck lift pedal in the TRANSPORT position. Place the cutting height adjustment pin in the 4" position and lower the deck lift pedal until the deck lift arm contacts the cutting height adjustment pin.
3. Verify that the tires are inflated to the correct pressure.
4. Verify that the mower blades are flat, and not bent or broken. A bent or broken blade must be replaced.

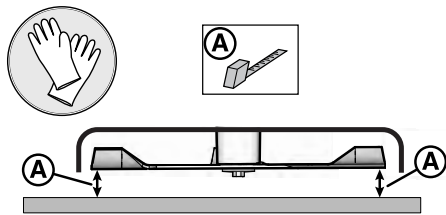
WARNING

Avoid Injury! Mower blades are sharp.

Always wear gloves when handling blades or working near blades.

5. See Figure 21. Position the outside mower blades so they face front-to-back.

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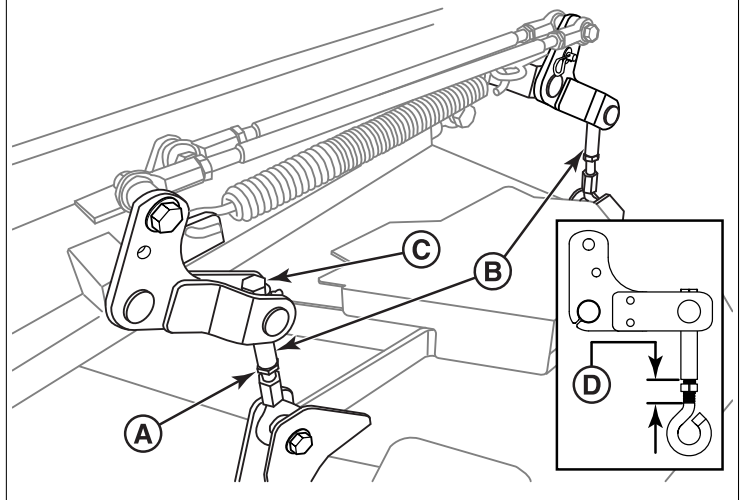
6. Measure the front tip (A, Figure 21) of the blade from the cutting edge to the ground.
7. Measure the rear tip (A) of the blade from the cutting edge to the ground.
8. Repeat the process on the other side of the machine.
 - the front measurements should equal 4" (10,2 cm).
 - the rear measurements should equal 4-1/4" (10,8 cm)

If the measurements do not equal the measurements as listed above, adjust the deck leveling.

Deck Leveling Procedure

1. Place the deck height adjustment pin in the 4" (10,2 cm) position.
2. Loosen the jam nut (A, Figure 22) on the deck linkages (B).

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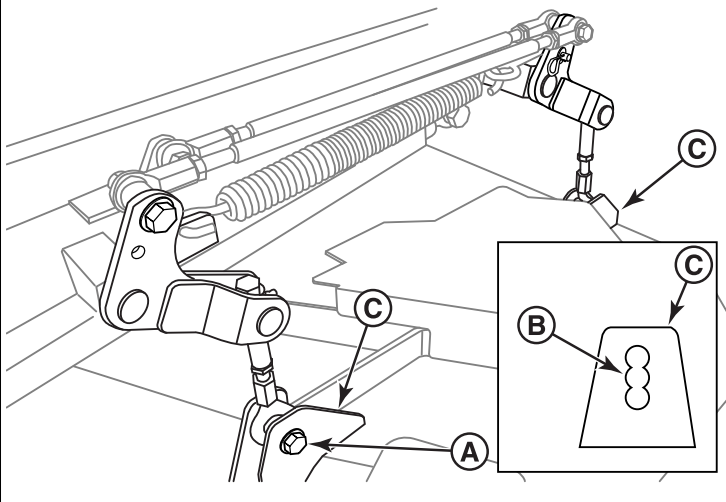


3. Turn the hex adjusters on the deck linkages (C) **clockwise** to raise the mower deck or **counter-clockwise** to lower the mower deck.

Note: If you are lowering the mower deck measure the amount of visible threads (D) on the deck linkages. If the amount of visible threads shown reaches 2" (5,1 cm) for the front linkages or 1-1/2" (3,8 cm) for the rear linkages, do not lower the mower deck by adjusting the deck linkage any further.

4. Re-check the measurements from the tips of the mower blades to the ground. The front measurements should equal 4" (10,2 cm) and the rear measurements should equal 4-1/4" (10,8 cm).
 - if the measurements are correct, tighten the jam nuts on the deck linkages. The adjustment procedure is complete.
 - If the measurements are not correct, the hole that the deck linkage is mounted in on the mower deck will have to be changed.
5. Place blocking underneath all four corners of the mower deck.
6. Re-position the hardware (A, Figure 23) that secures the deck linkage to the mower deck.
 - If the mower deck was being raised when it was unable to achieve the correct measurements, position the hardware in the next lower hole (B) in the mower deck mount (C).
 - If the mower deck was being lowered when it was unable to achieve the correct measurements, position the hardware in the next higher hole in the mower deck mount.

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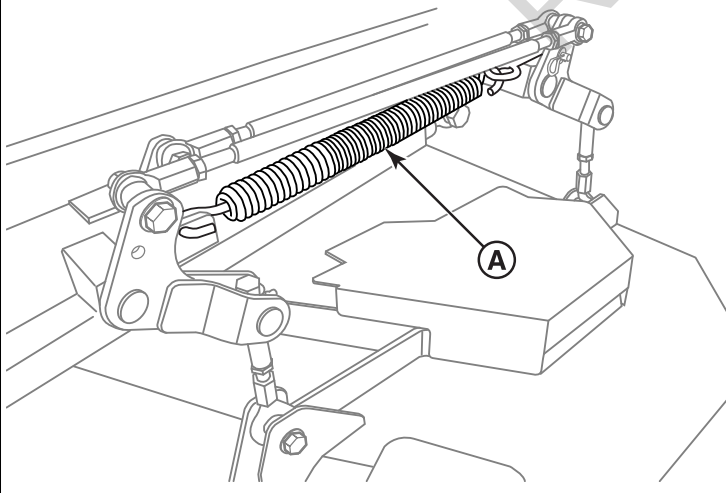


7. Remove the blocking from under the mower deck.
8. Re-check the measurements from the tips of the mower blades to the ground. The front measurements should equal 4" (10,2 cm) and the rear measurements should equal 4-1/4" (10,8 cm).
 - if the measurements are correct, tighten the jam nuts on the deck linkages. The adjustment procedure is complete.
 - If the measurements are not correct, turn the hex adjusters on the deck linkages until the measurements are correct.
9. Tighten the jam nuts on the deck linkages.

Deck Lift Assist Springs

Some models are equipped with deck lift assist springs (A, Figure 24) that assist the operator in raising the mower deck with the deck lift pedal. The deck lift assist springs are factory set to provide optimal lifting performance.

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Although it is fastened with a multi-position anchor, this is **not** an adjustment point.

Do NOT attempt to adjust the spring length or lifting performance will be compromised.

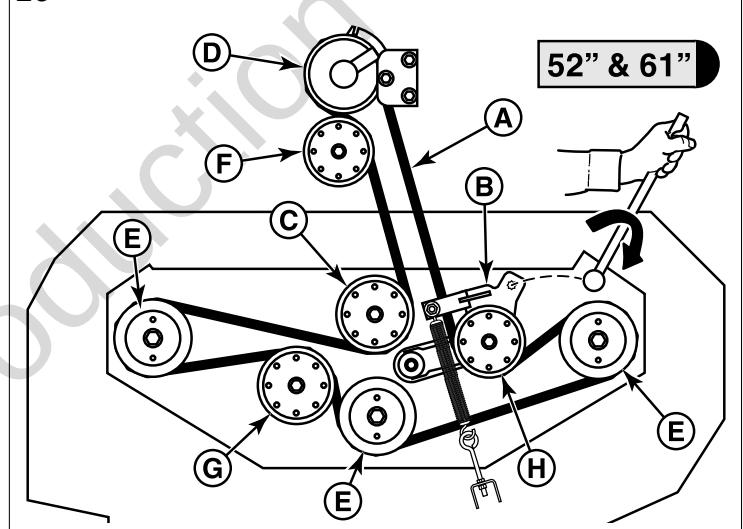
Check the Mower Deck Drive Belt

Belt Tensioning Spring Length	
Deck Size	Measurement
	11-1/4" (28,6 cm)

NOTICE To avoid damaging belt, **do not pry over pulleys.**

1. Lower the mower deck to its lowest cutting position.
2. Remove the mower deck guards and floor pan to gain access to the mower deck belt.
3. Make sure that the V-side of the belt (A, Figure 25) runs in the pulley grooves of the spindle pulleys (E), and the PTO clutch pulley (D). Make sure that the flat side of the belt contacts the face of the rear guide pulley (F), the front stationary pulley (G), and the adjustable idler pulley (H), and the rear stationary pulley (C).

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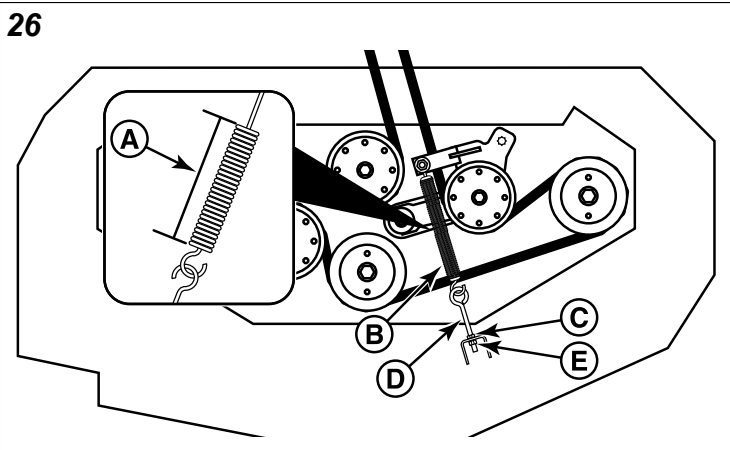


WARNING

Use extreme caution when rotating the idler arm with the breaker bar, due to the increased tension in the spring as the idler arm is being rotated. Injury may result if the breaker bar is prematurely released while the spring is under tension.

4. If the belt is not properly seated, use a 1/2" breaker bar, and place the square end in the opening located in the end of the idler arm (B). Carefully rotate the breaker bar **clockwise**, which will relieve the tension on the belt exerted from the idler arm.
5. Re-seat belt and carefully release the tension on the breaker bar.
6. Set the mower deck to the 3-1/2" (8,9 cm) position.
7. Use the Belt Tensioning Spring Length chart to determine the correct spring length for your unit.

8. Measure the coil length (A, Figure 26) of the mower belt tensioning spring (B). The measurement should equal the measurement as indicated in the chart. If not, the spring length will need to be adjusted.



9. Loosen the jam nut (C) on the eye bolt (D).
10. Turn the adjustment nut (E) until the measurement as indicated in the chart is achieved.
11. Re-tighten the jam nut.
12. Re-install the mower deck guards and the floor pan.

Lubrication

Lubricate the unit at the location shown in the following figures as well as the lubrication points listed below.

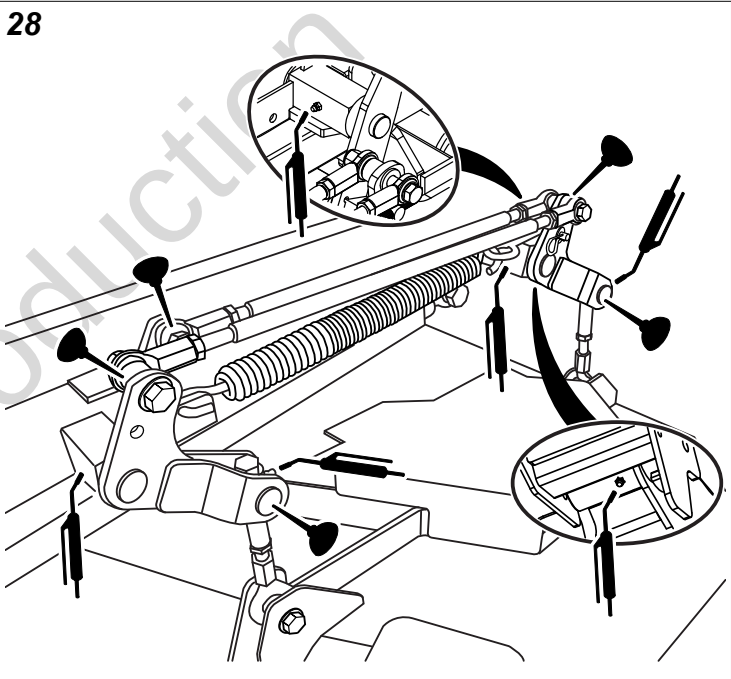
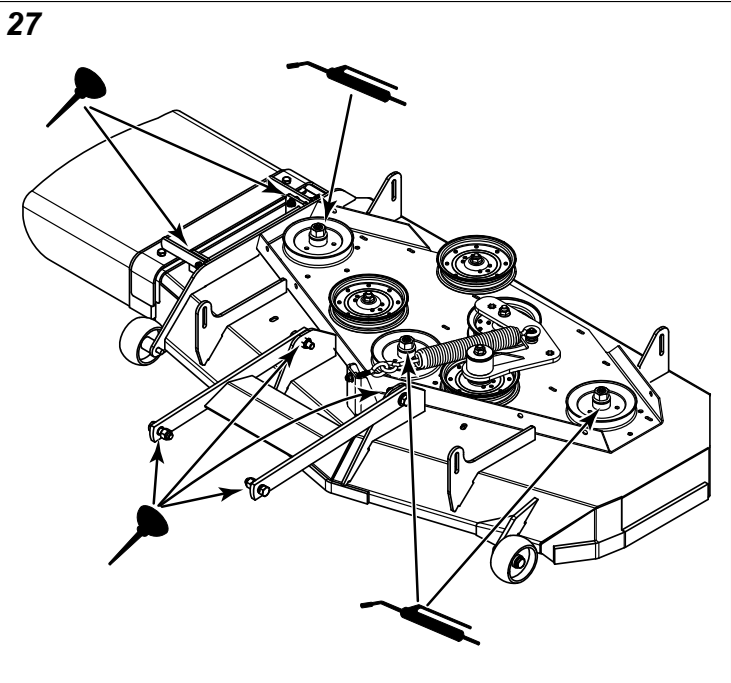
Grease	
front caster wheel axles & yokes	
deck lift pivot blocks	
mower deck spindles	
mower deck idler arm	
transmission cradle pivot points	

Use grease fittings when present. Disassemble parts to apply grease to moving parts when grease fittings are not installed.

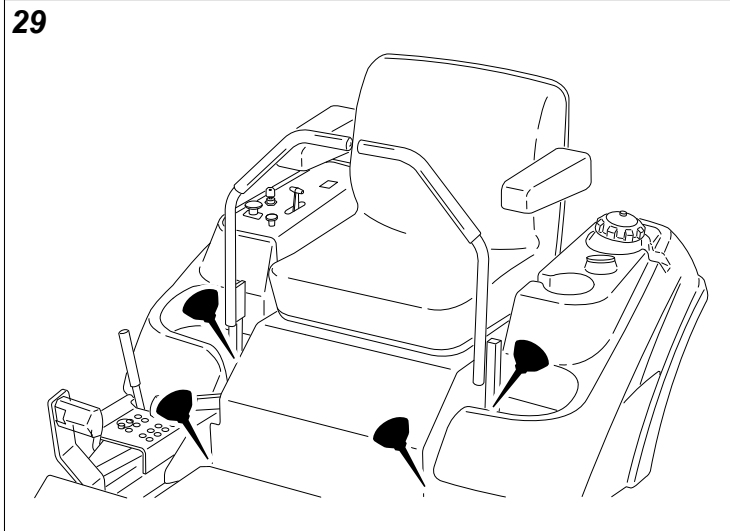
Not all greases are compatible. Grease (p/n 5022285) is a Calcium Sulfonate EP NLGI #2 grease that is recommended and available through your normal parts source. Lithium Complex EP-2 NLGI #2 grease may be used if 5022285 is not available. Using a non-compatible grease could damage or cause premature parts failures.

Oil	
control handle pivots	
seat plate pivots	
deck lift pivots	
discharge chute hinge	

Generally, all moving metal parts should be oiled where contact is made with other parts. Keep oil and grease off belts and pulleys. Remember to wipe fittings and surfaces clean both before and after lubrication.



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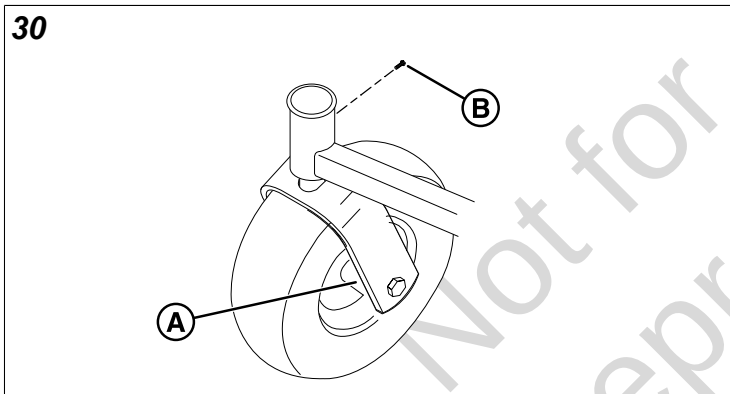
Lubricating the Front Casters

Interval: Front caster wheel axles (A, Figure 30) - Every 25 hours.

Interval: Front caster yoke axles - Yearly.

1. Remove the 1/4-28 bolt (B, Figure 30) screwed into the caster and install a 1/4-28 grease fitting.

30



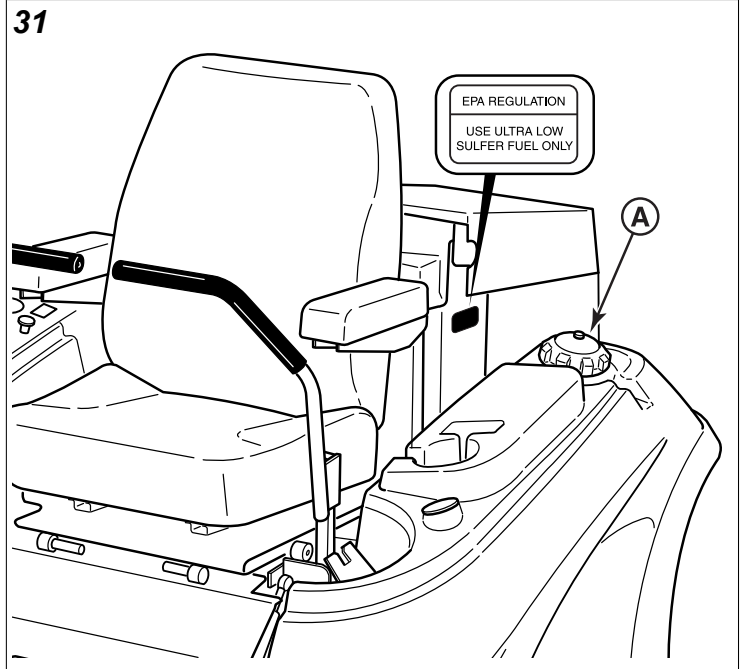
2. Grease the front caster.
3. Remove the 1/4-28 grease fitting and reinstall the 1/4-28 bolt.
4. Repeat the process for the other side of the unit.

Checking/Adding Fuel

To add fuel:

1. Using a clean rag or cloth wipe any dirt or debris from around the fuel caps (A, Figure 31) and the fuel filler necks.

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Note: Do not overfill the fuel tank. Refer to your engine manual for specific fuel recommendations.

2. Fill the fuel tank to the bottom of the fill tube. This will leave room in the tank for fuel expansion.
3. Install and hand tighten the fuel cap.
4. Repeat the same process for the opposite tank.

NOTICE Use ultra low sulfur fuel only. Consult the engine manufacturer's manual for specific fuel recommendations.

NOTICE Do not use Kerosene in place of diesel fuel or mix with diesel fuel. Kerosene will damage the engine. Consult the engine manufacturer's manual for specific fuel recommendations.



Diesel fuel is highly flammable and must be handled with care. Never fill the tank when the engine is still hot from recent operation. Do not allow open flame, smoking or matches in the area. Avoid over-filling and wipe up any spills.

Do not drain or replace fuel filter when engine is hot, as spilled fuel may ignite. Make sure the filter drain valve is fully closed before returning the unit to service.



Fuel leaked or spilled onto hot surfaces or electrical components can cause a fire. To help prevent possible injury, turn the ignition switch off when changing fuel filters or water separator elements. Clean up fuel spills immediately.

Priming the Fuel System

Priming the fuel system removes any air bubbles from the fuel system.



WARNING

Fuel leaked or spilled onto hot surfaces or electrical components can cause a fire. To help prevent possible injury, turn the ignition switch off when changing fuel filter or water separator element. Clean up fuel spills immediately.

The fuel system would only need to be primed under the following conditions:

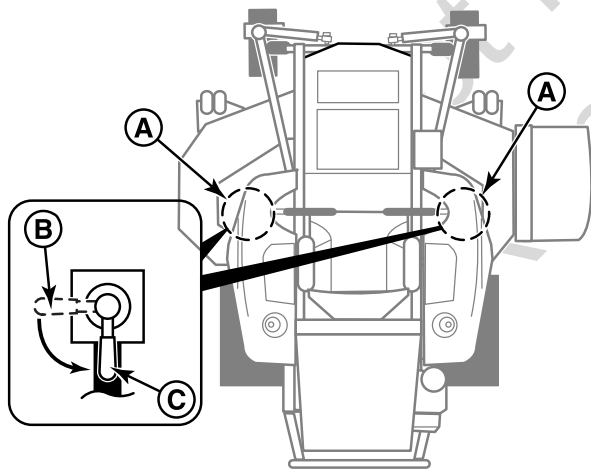
- Before starting the engine for the first time.
- After running the machine out of fuel and fresh fuel has been added to the fuel tanks.
- After performing maintenance on the fuel system, such as changing the fuel filter or replacing a fuel system component.

To prime the fuel system:

Each fuel tank is equipped with a fuel shut off valve (A, Figure 32). The fuel shut off valve is located on the underside of the fuel tank towards the front of the tank. Positioning the fuel shut off valve's lever so that it faces towards the rear of the machine allows fuel to flow (C), turning the valve 90 degrees from that position shuts off the flow of fuel (B).

1. Make sure that there is fuel in the fuel tanks and that both fuel tank shut off valves are open (C).

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2. Turn the key to the RUN position (not the start position) for 10 to 15 seconds. The electric fuel pump feeds fuel to the system.

Starting the Engine



WARNING

- If you do not understand how a specific control functions, or have not yet thoroughly read the *Features & Controls* section, do so now.
- Do NOT attempt to operate the tractor without first becoming familiar with the location and function of all controls.

1. While sitting in the operator's seat, engage the parking brake and make sure the PTO switch is disengaged and the ground speed control levers are locked in the neutral position.
2. Set the throttle to middle position (set throttle to FULL when starting in cold weather).
3. Turn the key to the HEAT/RUN position. Hold the key to turn the glow plug indicator light on and activate the glow plugs.
4. Wait until the glow plug indicator light turns off, then turn the key to START. If the engine does not start immediately, move the throttle control to FULL.
NOTE: Do not crank the engine continuously for more than 30 seconds. Allow the starter motor to cool for two minutes before cranking the engine again.
5. After the engine starts, move the engine throttle control to SLOW. Warm up the engine by running it for at least a minute.
6. Move the throttle to FULL before engaging the PTO switch or driving the machine.

In the event of an emergency the engine can be stopped by simply turning the ignition switch to STOP. Use this method only in emergency situations. For normal engine shut down follow the procedure given in *Stopping the Rider*.

Perform the Safety Checks



WARNING

Disengage the PTO, stop the engine, set the parking brake, and wait for moving parts to stop before leaving the operator's position for any reason.

If the unit does not pass a test, do not operate the unit. Under no circumstance should you attempt to defeat the purpose of the safety system.

Functional Tests

1. Check the unit for loose bolts, screws, nuts, etc.
2. Start the engine and check all the controls for proper operation: ground speed control levers, parking brake, throttle cable, electric PTO clutch, etc.
3. Stop the engine and check for fluid leaks: oil, fuel, and hydraulic oil.
4. If any control fails to operate properly during testing or seems to be out of adjustment, check and re-adjust it

according to the following **Adjustment Procedures** section.

Safety Interlock System

This unit is equipped with safety interlock switches. These safety systems are present for your safety, do not attempt to bypass safety switches, and never tamper with safety devices. Check their operation regularly.

Operational SAFETY Checks

Test 1 - Engine SHOULD NOT crank if:

- PTO switch is engaged, OR
- Parking brake is not engaged.

Test 2 - Engine SHOULD crank if:

- PTO switch is not engaged, AND
- Parking brake is engaged.

Test 3 - Engine should SHUT OFF if:

- Operator rises off seat with PTO engaged, OR
- Operator rises off seat with parking brake disengaged.

Test 4 - Blade Brake Check

Mower blades and mower drive belt should come to a complete stop within seven (7) seconds after electric PTO switch is turned off (or operator rises off seat). If mower drive belt does not stop within seven (7) seconds, see your dealer.

NOTE: Once the engine has stopped, PTO switch must be turned off, parking brake must be engaged, and the ground speed control levers must be locked in the NEUTRAL position after the operator returns to the seat in order to start the engine.



WARNING

If the unit does not pass a safety test, do not operate it. See your authorized dealer. Under no circumstance should you attempt to defeat the purpose of safety interlock system.

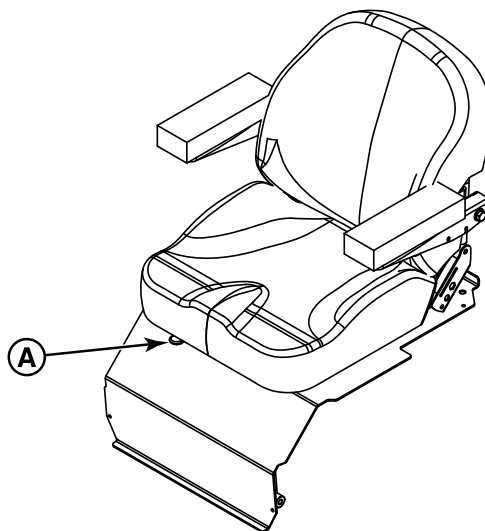
Adjustment Procedures

If any control fails to operate properly during testing or seems to be out of adjustment, check and re-adjust it according to the following instructions.

Seat Adjustment

The seat can be adjusted forward and back. Move the lever (A, Figure 33) towards the left, position the seat as desired, and then release the lever to lock the seat into position.

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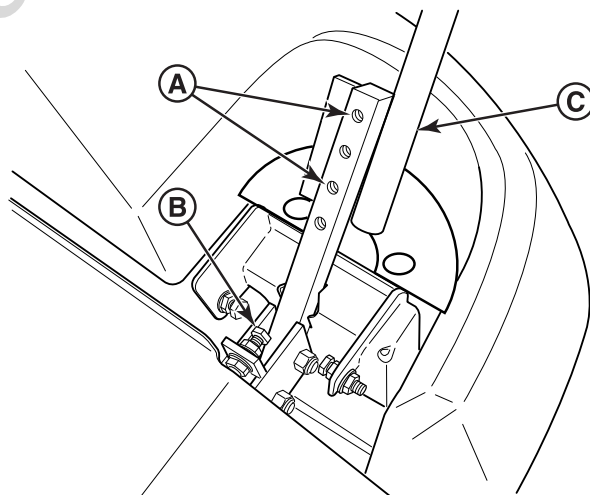
Ground Speed Control Lever Adjustment

The control levers can be adjusted in three ways. The alignment of the control levers, the placement of the levers (how close the ends are to one another) and the height of the levers can be adjusted.

To Adjust the Handle Alignment

Loosen the mount bolts (A, Figure 34) and pivot the lever(s) (C) to align with each other.

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To Adjust the Handle Placement

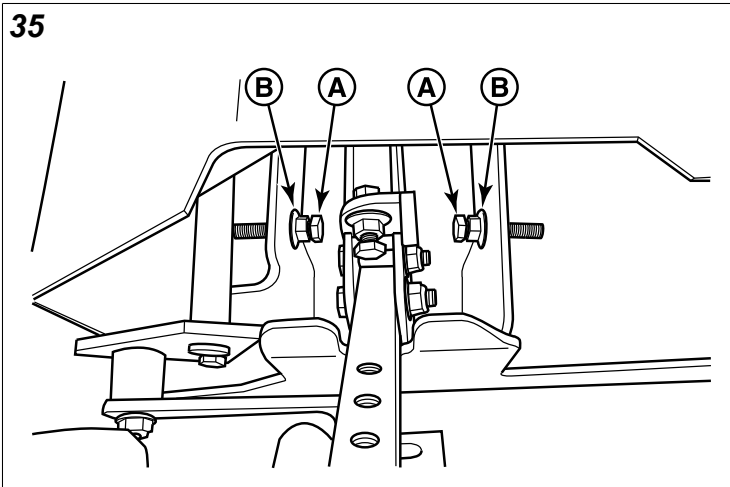
Loosen the jam nuts and adjust the placement bolt (B) in or out to properly adjust the lever end spacing.

To Adjust the Handle Height

Remove the mounting hardware and reposition the handle either up or down from its original position. You will need to adjust the handle alignment again as described above.

Speed Balancing Adjustment

If the rider veers to the right or left when the ground speed control levers are in the maximum forward position, the top speed of each of these levers can be balanced by turning the adjustment bolt(s) (A, Figure 35). Only adjust the speed of the wheel that is traveling faster.



To Reduce the Speed of the Faster Wheel

1. Loosen the securing nut (B).
2. Turn the top speed adjustment bolt **counter-clockwise** to reduce the speed.
3. Retighten the securing nut when adjustment is complete.



WARNING

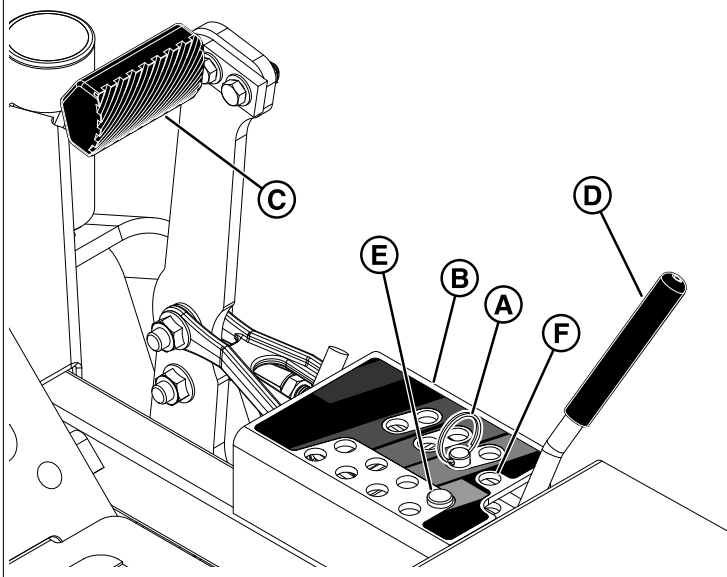
DO NOT adjust the tractor for a faster overall speed forward or reverse than it was designed for.

Cutting Height Adjustment

The cutting height adjustment pin (A, Figure 36) controls the mower's cutting height. The cutting height is adjustable between 1-1/2" (3,8 cm) and 5" (12,7 cm) in 1/4" (0,64 cm) increments.

Note: Make sure that the pin is inserted into the holes in both upper and lower plates of the pin box (B).

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To set the cutting height at 1-1/2" (3,37 cm):

1. While sitting in the operator's seat, press the deck lift foot pedal (C) forward until it locks into the 5" (12,7 cm) position.
2. Remove the cutting height adjustment pin from the hole that it is installed in.
3. Press the deck lift foot pedal forward and then push the lock lever (D) towards the right to release the lock.
4. Slowly release the deck lift foot pedal until it comes to rest against the stationary pin (E) in the 1-1/2" (3,37 cm) cutting height hole.
5. Place the cutting height adjustment pin in the storage hole (F).

To set the cutting height in the range of 1-3/4" (4,40 cm) and 4-3/4" (12,06 cm):

1. While sitting in the operator's seat, press the deck lift foot pedal forward until it locks into the 5" (12,7 cm) position.
2. Place the cutting height adjustment pin in the desired cutting height.
3. Press the deck lift pedal forward and then push the lock lever towards the right to release the lock.
4. Slowly release the deck lift foot pedal until it comes to rest against the cutting height adjustment pin.

To set the cutting height at 5" (12,7 cm):

1. While sitting in the operator's seat, press the deck lift foot pedal forward until it locks into the 5" (12,7 cm) position.
2. Place the cutting height adjustment pin in any open cutting height hole. The lift lock lever holds the mower deck at 5" (12,7 cm) while cutting.

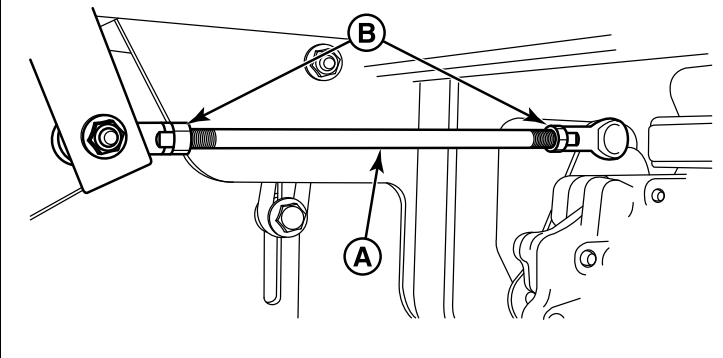
Neutral Adjustment

If the zero-turn rider “creeps” while the ground speed control levers are locked in the NEUTRAL LOCKOUT position, then it may be necessary to adjust the linkage rod.

Note: Perform this adjustment on a hard, level surface such as a concrete floor.

1. Disengage the PTO, engage the parking brake and turn off the engine.
2. There are two nuts (B, Figure 37) on the linkage rod. Loosen the nuts from the ball joints and turn the linkage rod (A) to adjust.

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- If the machine creeps forward, turn the rod **clockwise** (while standing at the rear of the machine, facing forward);
- If the machine creeps backward, turn the rod **counter-clockwise**.

3. Lock the nuts (B) against the ball joints when neutral is achieved.

Note: This adjustment **should not** be performed while the machine is running. It may take several attempts to achieved neutral, depending upon how much the machine creeps.

Return-to-Neutral Adjustment

The return-to-neutral function is a feature of the transmissions on this unit. Prior to checking the return-to-neutral function the neutral must be adjusted correctly as detailed in *Neutral Adjustment*.

1. Drive the machine to a flat, level surface. Engage the parking brake, disengage the PTO, turn the ignition switch to OFF, and remove the ignition key.
2. Move both ground speed control levers into the operating position, pull rearward, and then release.
3. After the ground speed control levers have stopped their travel move the levers out towards the NEUTRAL LOCKOUT position.

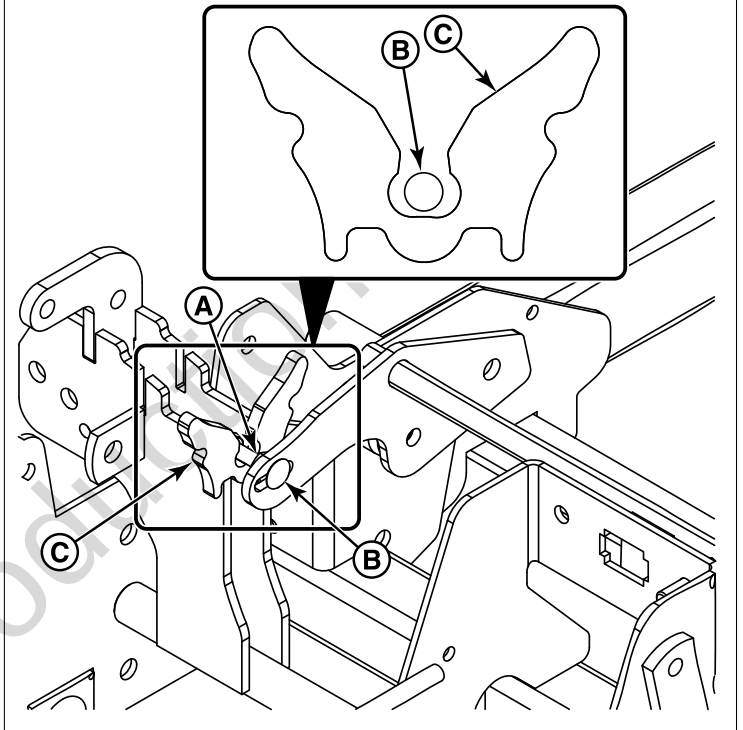
- If the levers **align** with the notches in the neutral lock plate, no adjustment is necessary.
- If the levers **do not align** with the notches in the neutral lock plate, adjustment is necessary. **See your dealer.**

Neutral Lockout Adjustment

Prior to adjusting the neutral lockout, the neutral and return-to-neutral must be properly adjusted.

1. Park the unit on a flat, level surface such as a concrete floor. Disengage the PTO, engage the parking brake, turn the ignition switch to OFF, and remove the ignition key.
2. Chock the wheels of the unit to prevent movement.
3. Raise the seat to gain access to the neutral lockout components.
4. Loosen the jam nuts (A, Figure 38) on the neutral lockout bolts (B).

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5. Engage the parking brake. The neutral lockout bolts will enter the notches of the neutral lockout plates (C).
6. Position the neutral lockout bolts to the center of the notches of the neutral lockout plates.
7. Re-tighten the jam nuts.

Purging the Air from the Hydraulic System

Due to the effects air has on efficiency in hydraulic drive systems, it is critical that it be purged from the system. These purge procedures should be implemented any time a hydraulic system has been opened to facilitate maintenance or any additional oil has been added to the system.

The resulting symptoms of air in the hydraulic system may be:

- Noisy operation.
- Lack of power or drive after short term operation.
- High operation temperature and excessive expansion of oil.

Before starting, make sure the transaxles/transmissions are at the proper oil levels. If it is not, fill to the specifications outlined in the *Check / Fill Transmission Oil Level* procedure.

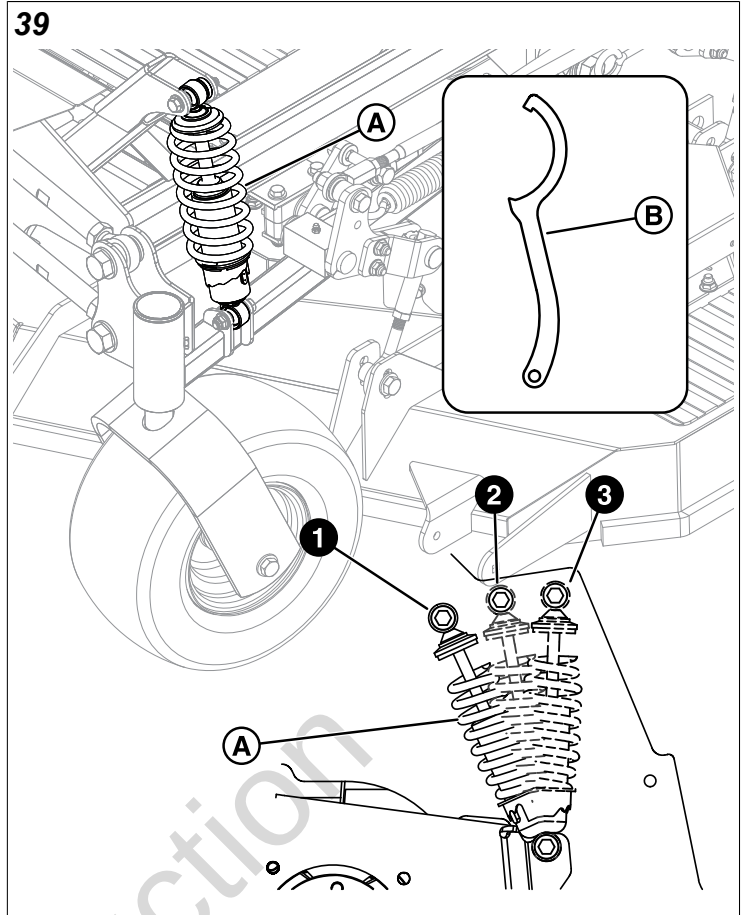
Purging Air from the Hydraulic System:

1. Chock the front wheels to prevent the machine from rolling. Raise the rear of the machine so that the vehicle's rear tires do not contact the ground. Position jack stands under the rear bumper of the machine to secure it.
2. Open the transaxle's bypass valves (see *Uncrating* for the location and function of the bypass valves), start the engine, release the parking brake, and slowly move the zero-turn rider's ground speed control levers in both forward and reverse directions (5 to 6 times), as air is purged from the unit, the oil level will drop.
3. Stop the engine and engage the parking brake.
4. Close the transaxle's bypass valves, start the engine, release the parking brake, and slowly move the zero-turn rider's ground speed control levers in both forward and reverse directions (5 to 6 times), as air is purged from the unit, the oil level will drop.
5. Stop the engine. Remove the jack stands from underneath the machine.
6. Repeat the process detailed above but with the unit's drive wheels on the ground. The procedure should be performed in an area free of any objects or bystanders.

It may be necessary to repeat the process detailed above until all the air is completely purged from the system. When the transaxles/transmissions operate at normal noise levels and move smoothly forward and reverse at normal speeds, then the transaxles/transmissions are considered purged.

Suspension Adjustment

The shock assemblies (A, Figure 39) can be adjusted to allow the operator to customize the ride according to the operator's weight and/or operating conditions.



The front shock assemblies can be adjusted by changing the spring's pre-load.

The rear shock assemblies can be adjusted by changing the spring's pre-load and/or upper mounting position.

A spanner wrench (B) was included with the literature packet that came with this unit. The spanner wrench is used to adjust the spring's pre-load.

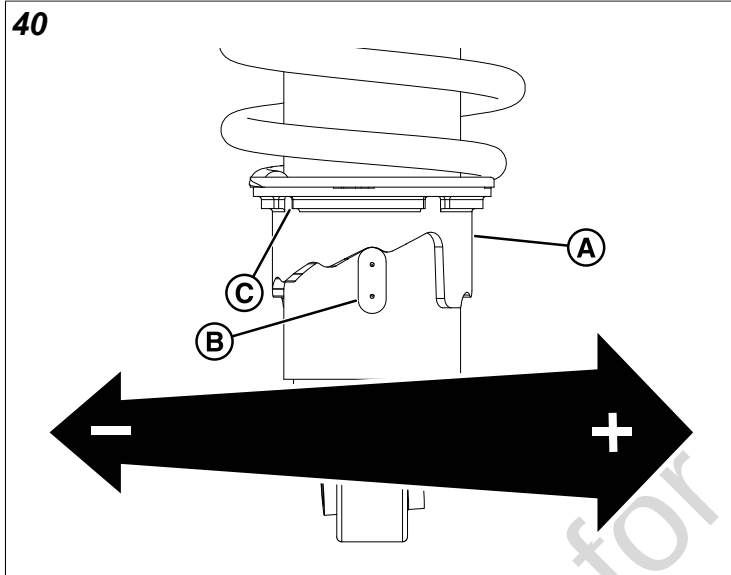
Items to consider before adjusting the suspension:

- Less spring pre-load should be used with light weight operators, which will provide a softer, more cushioned ride.
- More spring pre-load should be used with heavy weight operator's, which will provide a stiffer, more rigid ride.
- There are three positions in which the upper shock mount can be positioned to. If adjusting the spring's pre-load does not achieve the ride requirement, the shock should be moved to the next higher numbered upper shock mounting position to achieve the desired ride requirement.
- Before adjusting the upper shock mount to a higher numbered position you should attempt to achieve the ride height through the spring's pre-load adjustment.
- Shock mounting position #3 should always be used when a rear mounted grass collection system is installed on the unit.

To Adjust the Spring Pre-load:

This procedure details the process for adjusting the spring's pre-load for the rear shocks. **To adjust the spring's pre-load for the front shocks only steps #1 and #5 are required.**

The shock's pre-load adjustment consists of rotating the pre-load adjuster (A, Figure 40) with a spanner wrench so that the adjuster rides either up or down on the shock's fixed point (B) into one of the adjuster's five notch positions. As the adjuster moves up towards the spring, the spring is more compressed which creates more spring load. As the adjuster moves down away from the spring, the spring is less compressed creating less spring pre-load.



1. Park the unit on a flat, level surface such as a concrete floor. Disengage the PTO, engage the parking brake, and turn the ignition switch to OFF to stop the engine.
2. Chock the front wheels to prevent the unit from rolling.
3. Raise the rear of the unit and secure with jack stands.
4. Remove the rear drive tires.



WARNING

Spring loaded components can kick back causing injury. Use two hands when adjusting the shock springs with the spanner wrench. This will prevent the wrench from slipping while pressure is being applied.

5. Using the supplied spanner wrench (B, Figure 39), insert the tip of the wrench into the adjustment notch (C, Figure 40) in the pre-load adjuster (A). While holding the wrench in place with one hand:
 - Turn the pre-load adjuster so that it moves up towards the spring, compressing it, to increase the spring's pre-load;
 - Turn the pre-load adjuster so that it moves down away from the spring, decompressing it, to decrease the spring's pre-load.

Note: If necessary, a replacement spanner wrench can be ordered through your normal parts source.

6. Re-install the rear drive tires. Torque the lug bolts to 85-95 ft.lbs. (115-129 Nm). Remove the jack stands from under the machine.

Note: If a collection system is installed on the unit it is recommended that the rear suspension be adjusted stiffer due to the added weight of the collection system.

To Adjust the Upper Mounting Position (Rear Shocks):

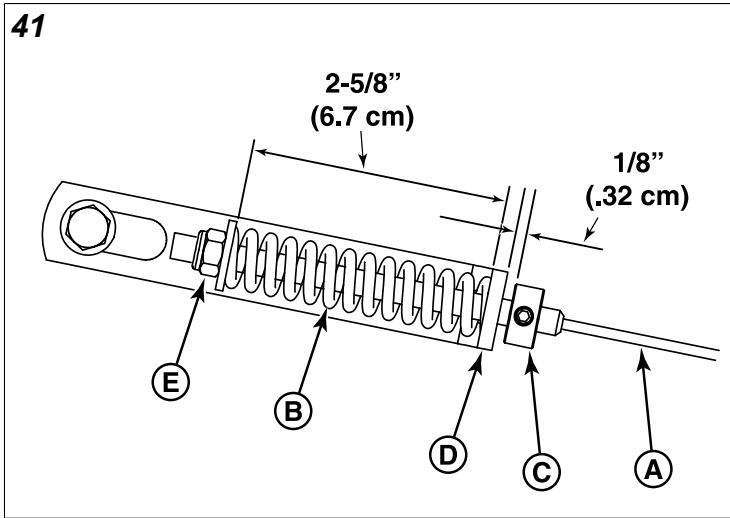
1. Park the unit on a flat, level surface such as a concrete floor. Disengage the PTO, engage the parking brake, and turn the ignition switch to OFF to stop the engine.
2. Chock the front wheels to prevent the machine from rolling. Raise the rear of the machine and secure with jack stands. The jack stands must be under the bumper of the machine.
3. Position the jack underneath the rear cross member of the transmission cradle and slowly raise the rear suspension to relieve the pressure on the upper shock mounting bolts.

Note: This will require small adjustments to the jack's position. The shock should move freely on the mounting bolt when the pressure is relieved.

4. Remove the upper shock mounting hardware and pivot the shock to the next higher numbered position (see Figure 39). Adjust the jack to align the shock mounts to shocks.
5. Remove the jack from under the transmission cradle.
6. Remove the jack stands from underneath the machine.

Parking Brake Adjustment

The parking brake mechanism consists of two parking brake cables (A, Figure 41) that connect the parking brake cable shaft to the parking brake control arms on the transmissions. There is a parking brake spring (B) on each park brake cable located underneath the seat plate and connected to the parking brake shaft. The position of the of the parking brake cables in the transmission cradle and the frame of the unit is factory preset and should not be changed for parking brake adjustment procedures. The adjustment is achieved by changing the compressed spring length of the parking brake springs.



1. Disengage the PTO, engage the parking brake, stop the engine, and chock the tires.
2. Locate the parking brake springs located underneath the seat plate of the machine.
3. With the parking brake engaged measure the compressed spring lengths. Both springs should measure 2-5/8" (6.7 cm) when compressed.
4. If the length of the springs does not equal 2-5/8" (6.7 cm), the length of the springs will need to be adjusted.
5. Disengage the parking brake.
6. Loosen the set collars (C) and slide them away from the backs of the parking brake spring brackets (D).



CAUTION

Do not adjust the springs to be shorter than 2-3/8" (6.03 cm) when compressed. This may damage the spring mechanism.

7. Turn the adjustment nuts (E) to compress or release the spring.
8. Engage the parking brake and re-measure the springs. Continue this process until the compressed length of the each spring measures 2-5/8" (6.7 cm).
9. Position the set collars 1/8" (.32 cm) away from the parking brake spring brackets and tighten.

If this does not correct the braking problem, see your dealer.

Notes

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Notes

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