

Dealer Setup & Adjustment Instructions

500Z - 26 HP Briggs & Stratton

48" Mower Deck



This Dealer Setup Instruction covers the following products:

Model No.	Description
5900731	500ZB2648, 26HP Kawasaki w/ 48" Mower

ATTENTION SETUP PERSONNEL:



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



Sections and items denoted by the **Setup** symbol provide the information necessary to fully assemble, test, and prepare the units described above for delivery to your customers.

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

Adjust



Additional information concerning functional tests, general adjustment procedures, and the location of normal lubrication points are included in these instructions.

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.

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Quick Setup List -

Page	Setup Procedure	Steps to Perform
3	Uncrating	<ul style="list-style-type: none"> <input type="checkbox"/> Remove Crate & Banding. <input type="checkbox"/> Disengage Transmission Release Levers. <input type="checkbox"/> Release Parking Brake and Roll Tractor forward off skid. <input type="checkbox"/> Engage Transmission Release Levers.
3	Battery Installation	<ul style="list-style-type: none"> <input type="checkbox"/> Install Battery.
4	Tractor Assembly	<ul style="list-style-type: none"> <input type="checkbox"/> Assemble the Ground Speed Control Levers. <input type="checkbox"/> Assemble the Seat.
5	Check Fluid Levels	<ul style="list-style-type: none"> <input type="checkbox"/> Check Engine Oil level. <input type="checkbox"/> Check Hydraulic Oil level. <input type="checkbox"/> Check Tire Pressure
6	Check Mower Assembly	<ul style="list-style-type: none"> <input type="checkbox"/> Check Blade Bolt Torque. <input type="checkbox"/> Check & Adjust Deck Lift Rod Timing. <input type="checkbox"/> Check & Level Mower Deck. <input type="checkbox"/> Check Deck Drive Belt.
10	Lubrication & Fuel Preparation	<ul style="list-style-type: none"> <input type="checkbox"/> Lubricate all grease & oil points. <input type="checkbox"/> Add fuel. <input type="checkbox"/> Start the Engine.
12	SAFETY CHECKS	<ul style="list-style-type: none"> <input type="checkbox"/> Check for <u>LOOSE HARDWARE</u>. <input type="checkbox"/> Check all <u>OPERATOR CONTROLS</u>. <input type="checkbox"/> Perform <u>SAFETY INTERLOCK SYSTEM CHECK</u>.

Setup



Uncrating

1. Using a reciprocating utility saw or equivalent, cut the crate away from the bottom skid. Remove the crate. Remove the shrink-wrap plastic.
2. Cut the nylon banding from the front of the frame and the rear of the bumper.



IMPORTANT NOTE

When cutting the crate from the bottom skid, use caution around tractor tires and mower rollers.

3. Pull both transmission release levers (A, Figure 1) back and then down to lock the transmission release levers in the disengaged (free-wheel) position (C).
4. Push down on the parking brake lever to release the parking brake.
5. Be sure there are no nails or sharp objects on the bottom skid to puncture the tractor's tires. Roll the tractor forward off the bottom skid.
6. After moving the tractor, re-engage the transmissions by pulling the transmission release levers up and forward to the engaged (drive) position (B).

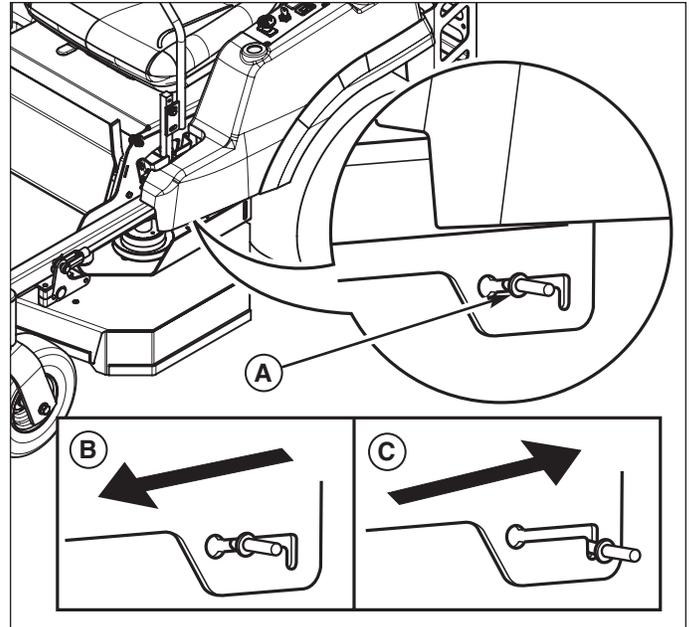


Figure 1. Transmission Release Levers (LH shown)
A. Transmission Release Lever
B. Engaged Position (Drive Position)
C. Disengaged Position (Free-wheel Position)

Setup



Battery Installation

⚠ WARNING

BATTERY SAFETY RULES

- Battery acid causes severe burns. Avoid contact with skin.
- Wear eye protection while 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 the negative (-) cable last. If not done in this order, the positive terminal can be shorted to the frame by a tool.

Connect Battery

1. Connect the red positive battery cable (A, Figure 2) to the positive battery post. Make sure that the cable boot completely covers the positive terminal, so the terminal cannot touch the insulator pad (C).
2. Connect the black negative battery cable (B) to the negative battery post.

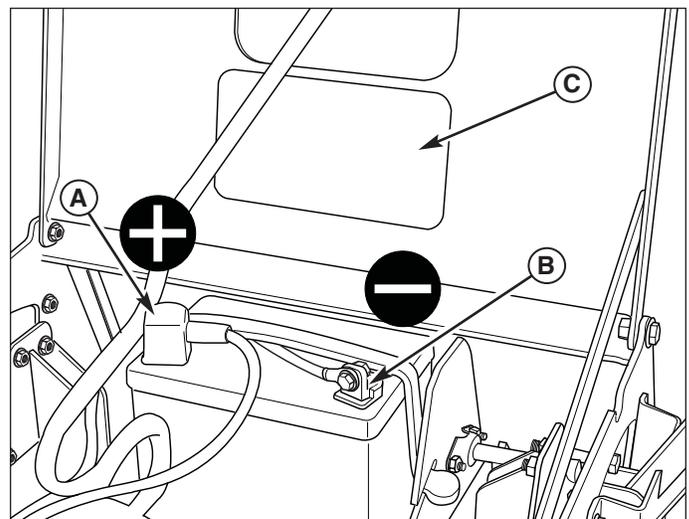


Figure 2. Connect the Battery
A. Positive (+) Cable, Terminal & Boot
B. Negative (-) Cable & Terminal
C. Insulator Pad

Setup



Tractor Assembly

Install Ground Speed Control Levers

1. Install the ground speed control levers (A, Figure 3) onto the control lever base (B) using the 5/16-18 x 3/4" bolts, 5/16" lock washers and 5/16" flat washers (C, D & E). Prior to tightening the bolts, align the handles with each other.

NOTE: There is a LEFT-HAND and a RIGHT-HAND control lever. When assembled to the base, the lever base should be pointing towards the rear as shown in Figure 3.

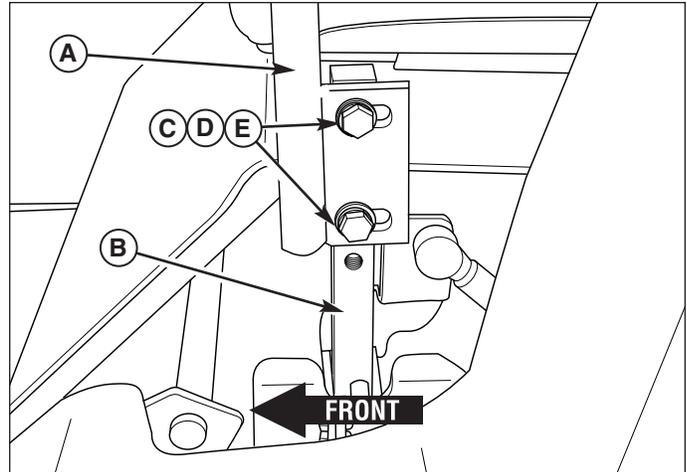


Figure 3. Install the Control Levers

- A. Ground Speed Control Levers**
- B. Control Base**
- C. 5/16-18 x 3/4" Bolt(s)**
- D. 5/16" Lock Washer(s)**
- E. 5/16" Flat Washer(s)**

Seat Assembly

1. Unpack the seat.
2. Install the seat onto the seat mount plate (C, Figure 4) and secure with the 5/16-18 nylock flange nuts (A).
3. Connect the wire harness (B) to the seat switch (D) that is located in the bottom of the seat.

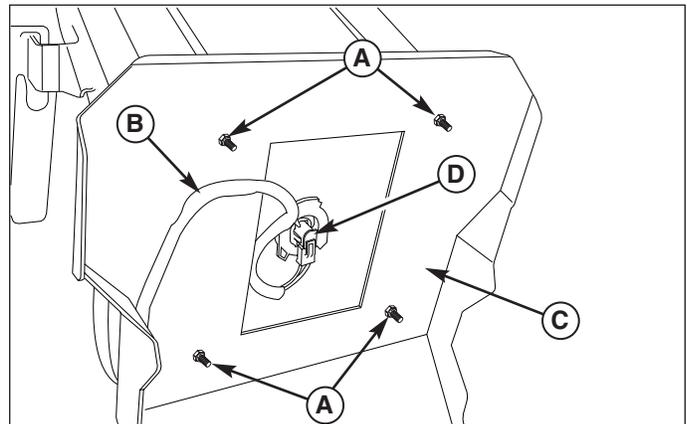


Figure 4. Remove The Existing Seat

- A. 5/16-18 Nylock Flange Nuts**
- B. Wire Harness**
- C. Seat Mount Plate**
- D. Seat Switch**



Check Fluid Levels

Check the Engine Oil Level

1. Use the engine oil dipstick (A, Figure 5) to check the engine oil level. If necessary add engine oil. Check the engine manufacturer's owner's manual for the oil recommendations.

Check / Fill Transmission Oil

Oil Type: 20W-50 conventional detergent motor oil

1. Check the oil level when the unit is cold. Raise the seat plate to gain access to the transmission oil reservoirs (B, Figure 5). The oil should be up to the "FULL COLD" mark (C). If the oil is below this level, proceed to step 2.
2. Before removing the reservoir cap, make sure the area around the reservoir cap and fill neck of the reservoir is free of dust, dirt and other debris. Remove the transmission oil caps.
3. Add oil up to the "FULL COLD" mark (C).
4. Reinstall the reservoir cap.

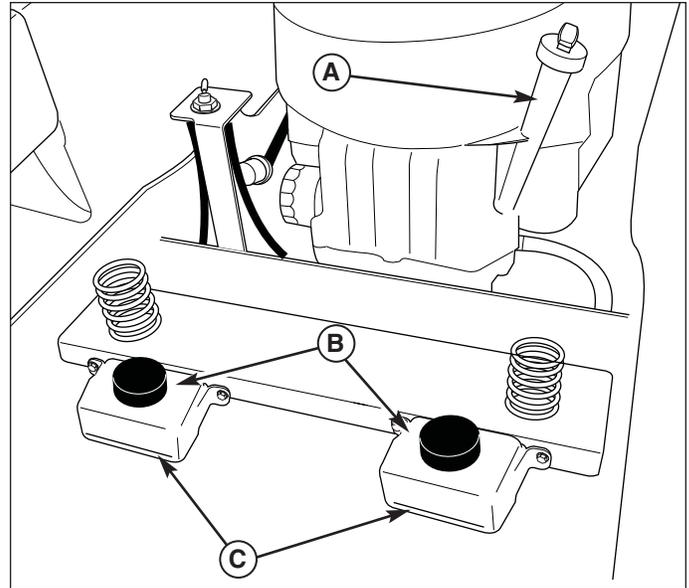


Figure 5. Checking the Fluid Levels

- A. Engine Oil Dipstick
- B. Hydraulic Oil Reservoir
- C. "FULL COLD" Mark



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 provide proper traction, improve the cut quality, and extend the tire life.

Tire	Pressure
Front	40 psi (2,76 bar)
Rear	15 psi (1,03 bar)

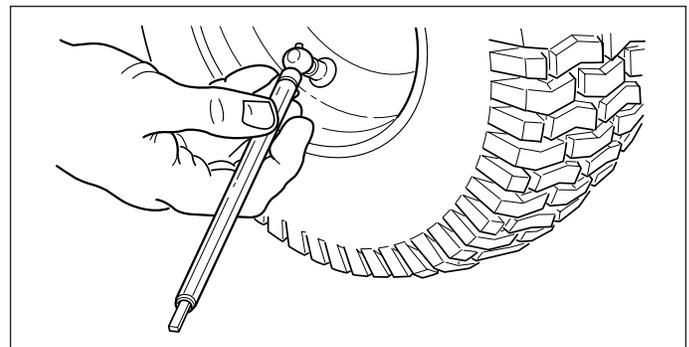


Figure 6. Checking Tire Pressure

Setup



Check the Mower Assembly

Check Torque - Mower Blades

! WARNING

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 then securely tightened. Torque blade mounting bolts to 70 ft.lbs. (94 N.m.)

1. Park the machine on a flat, level surface and engage the parking brake.
2. Lock the deck lift pedal in the 4-1/2" (11,47 cm) position.
3. Check that blades are installed with the tabs pointing up toward the deck as shown in Figure 7. Torque the bolts to 70 ft.lbs. (94 N.m.).

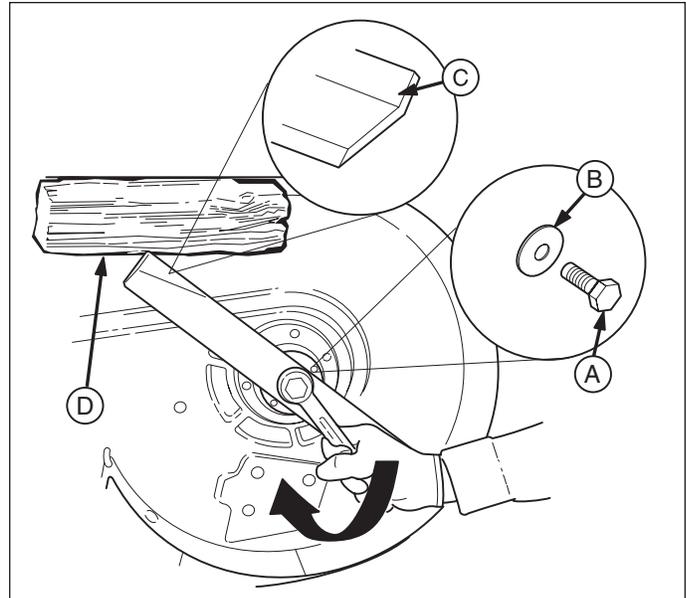


Figure 7. Tightening the Mower Blade for Installation

A. Mower Blade Mounting Bolt

B. Flat Washer

C. Mower Blade Air Lift (Points Up For Installation)

D. 4 X 4 Wooden Block

Setup



Check Deck Rod Timing

1. Park machine on a flat, level surface. Disengage the PTO, stop the engine and engage the parking brake. Rear tires must be inflated to 15 psi (1,03 bar); front tires to 40 psi (2,76 bar).
2. To check the lift rod timing, measure and record the distance between the lift pivots and the rod pivots. Repeat for the other side of the machine. See Figure 8.
3. If the measurements for the rods are equal, no further adjustment is required. If the measurements are NOT equal (greater than 1/8" (3,17mm) difference), adjustment is required, continue with Step 5.
4. Lock the deck lift pedal in the 4-1/2" (11,47cm) position. Remove the cutting height adjustment pin and lower the mower deck.
5. To ensure that the deck is in the lowest position, push the pedal by hand towards the rear of the machine and install the height adjustment pin in the 3" (7.6cm) position to hold in place.
6. Block up the mower deck until all hanger chains are slack.
7. See Figure 9. To adjust the lift rod, loosen the jam nut on the clevis then remove the 1/2" clevis pin fastening the clevis to the lift pivot arm. Turn the clevis clockwise to shorten the distance between the rod pivots or counterclockwise to lengthen the distance between the rod pivots. Reinstall the clevis on the lift pivot arm and secure with the 1/2" clevis pin previously removed. Tighten the jam nut against the clevis.
8. Remove the blocks from under the mower deck.
9. Remove the the cutting height adjustment pin from in front of the deck lift pedal arm. Lift the mower deck and reinstall the adjustment pin in the desired mowing height.

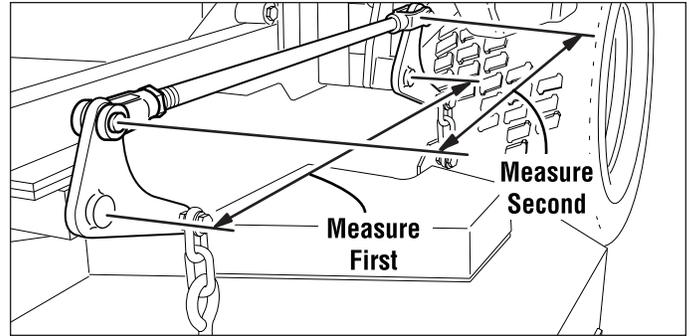


Figure 8. Check Lift Rod Timing

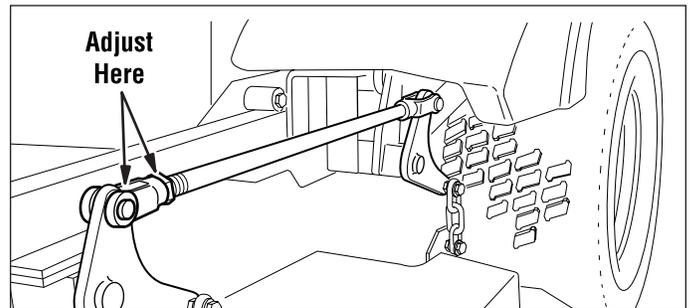


Figure 9. Adjust Lift Rod Timing

Setup



Deck Leveling Adjustment

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

1. Park machine on a flat, level surface. Disengage the PTO, stop the engine and engage the parking brake. Rear tires must be inflated to 15 psi (1,03 bar); front tires to 40 psi (2,76 bar).
2. Lock the deck lift pedal in the 4-1/2" (11,47 cm) position. Place the deck height adjustment pin in the 4" position and lower the deck lift pedal until the arm contacts the pin.
3. Place the 2 x 4 blocks under each corner of the mower deck with the 3-1/2" sides being vertical. Place a 1/4" (0,64cm) thick spacer on top of the rear 2 x 4's. See Figure 10.
6. Adjust the front eyebolts until the chains are tight and the deck is still resting on the 2 x 4's. Tighten the jam nuts. See Figure 11.
7. Loosen the nuts and allow the rear of the deck to rest on the 2 x 4's and 1/4" spacers. Slide the chains down in the slots until the chains are tight and tighten the nuts. See Figure 11.
8. Remove all the 2 x 4's and spacers from under the mower deck.
9. **For your safety, DO NOT handle mower blades with bare hands.** Position the outside mower blades so that they face front-to-back (Figure 12).
10. Measure from the front tip of the blade from the cutting edge to the ground. Measure from the rear tip of the blade from the cutting edge to the ground. Repeat this process for the other side of the machine. The front measurements should be 4" (10,2 cm), the back measurements should be 4-1/4" (10,8 cm). If the measurements are greater than 1/8" (3,17 mm) of what they should be adjust the deck height until they are correct.

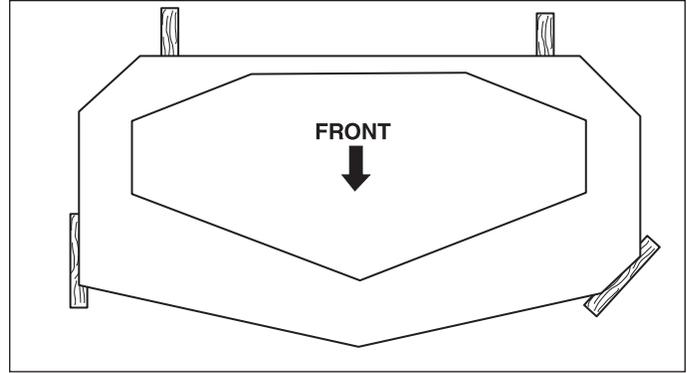


Figure 10. 2 x 4 Locations

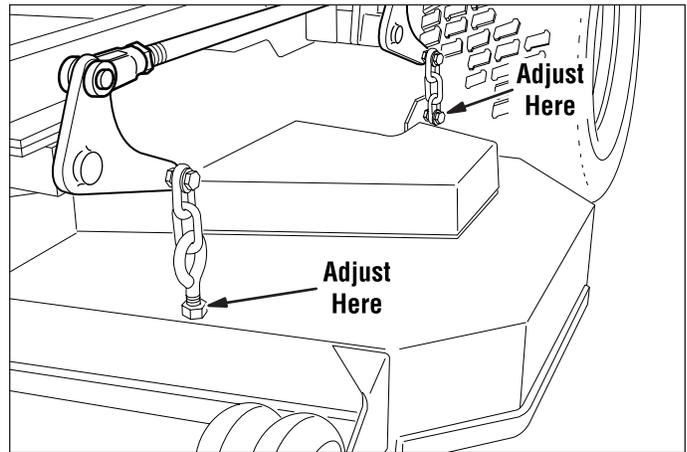


Figure 11. Hanger Chain Adjustment

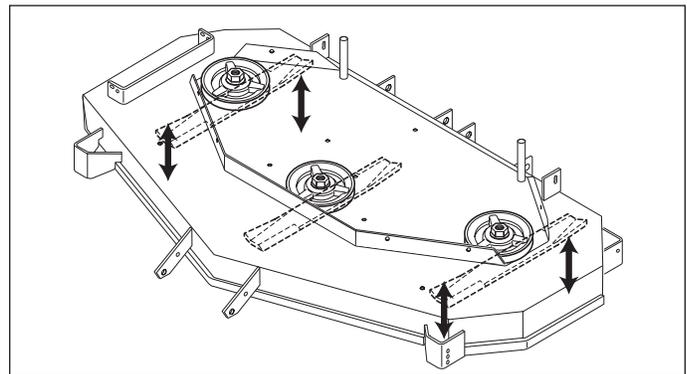


Figure 12. Checking The Blade Height Measurement

Setup



Check Deck Drive Belt

1. Lower the mower deck to its lowest cutting position.
2. Remove the mower deck guards.
3. Make sure the V-side of the belt runs in the pulley grooves (Figures 14).

! 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 square hole located in the end of the idler arm (A, Figure 13). 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. Reinstall the mower deck guards.

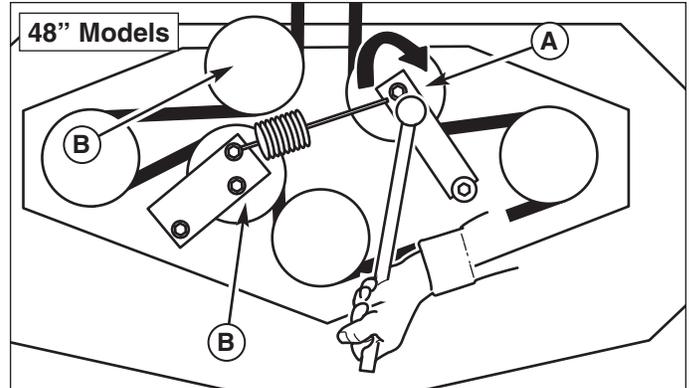


Figure 13. Mower PTO Belt

- A. Idler Arm
- B. Stationary Idler Pulley

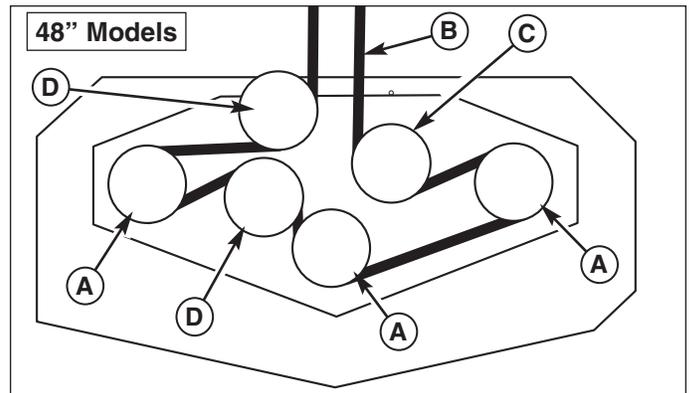


Figure 14. Mower PTO Belt Routing

- A. Spindle Pulley
- B. Deck Drive Belt
- C. Spring-loaded Idler Pulley
- D. Stationary Idler Pulley

Setup

Lubrication

Lubricate the unit at the locations shown in Figure 15 through 18 as well as the following lubrication points.

Grease:



- front caster wheel axles and yokes
- deck lift pivot blocks
- mower deck spindles
- mower deck idler arm

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

Not all greases are compatible. Red Grease (p/n 5022285) is recommended, automotive-type high-temperature, lithium grease may be used when this is not available.

Oil:



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

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

Lubricating the Front Casters:

NOTE: Front casters should be lubricated annually.

1. Remove the 1/4-28 bolt (A, Figure 18) screwed into the front caster and install a 1/4-28 grease fitting.
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 machine.

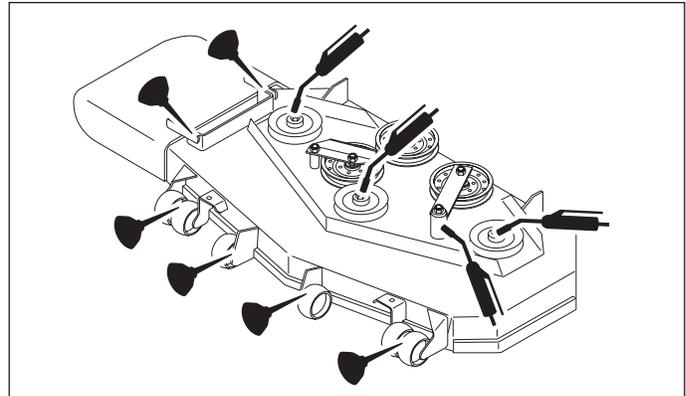


Figure 15. Deck Lubrication

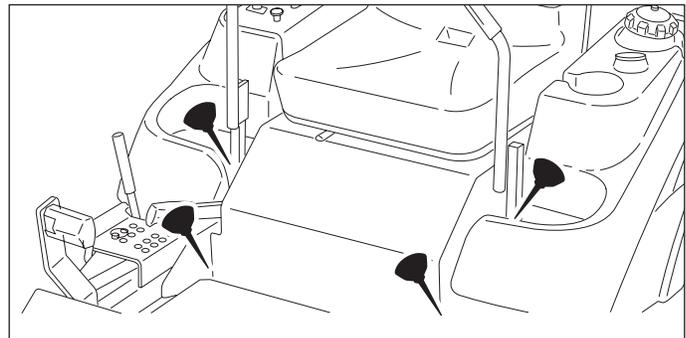


Figure 16. Control Handle Pivots & Seat Plate Pivots

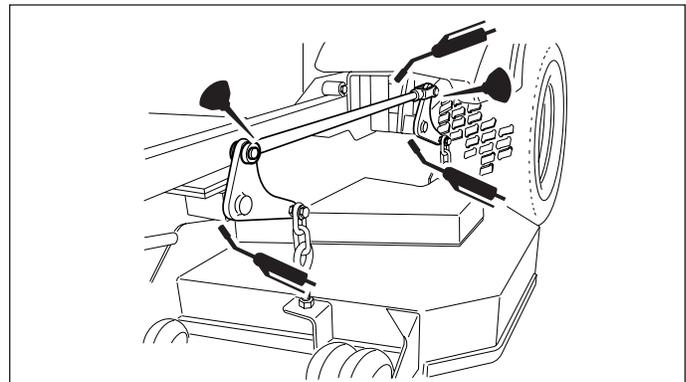


Figure 17. Deck Lift Linkage Pivots

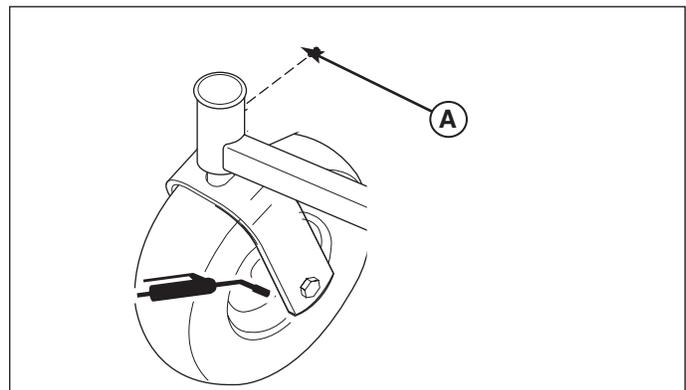


Figure 18. Front Caster & Wheel
A. 1/4-28 Bolt

Setup

Adding Fuel

To add fuel:

1. Remove the fuel cap (A, Figure 19).
2. Fill the tank to about 1-1/2" (3,81 cm) of the bottom of the filler neck. This will allow for fuel expansion.

NOTE: Do not overfill. Refer to your engine manual for specific fuel recommendations.

3. Install and hand tighten the fuel cap.

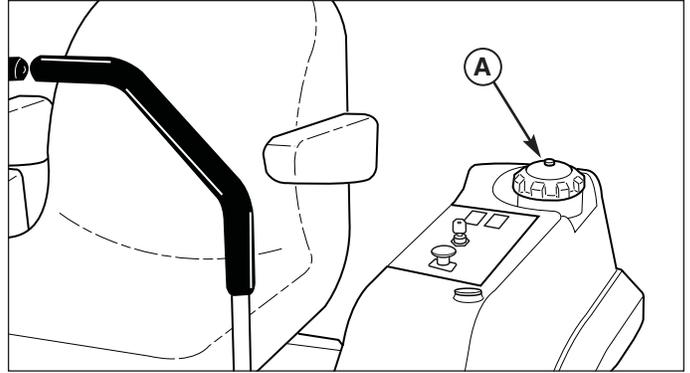


Figure 19. Adding Fuel

A. Fuel Cap

Setup

Starting The Engine

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 engine throttle control to FULL throttle position. Then fully close the choke by pulling the knob OUT fully.
3. Insert the key into the ignition switch and turn it to START.
4. After the engine starts, gradually open the choke (push knob down fully). Reduce to half throttle speed and allow to warm up.

Warm up the engine by running it for at least a minute before engaging the PTO switch or driving the rider.

5. After warming the engine, ALWAYS operate the unit at FULL THROTTLE when mowing.

Setup



Perform the Safety Checks

WARNING

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

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

Functional Tests

1. Check the tractor 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 readjust it according to the following Adjustments 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 the safety switches, and never tamper with the 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, OR
- Ground speed control levers are not in the NEUTRAL position.

Test 2 — Engine SHOULD crank if:

- PTO switch is NOT engaged, AND
- Parking brake is engaged, AND
- Ground speed control levers are locked in the NEUTRAL position.

Test 3 — Engine should SHUT OFF if:

- Operator rises off seat with PTO engaged, OR
- Operator rises off seat with parking brake disengaged.
- Operator moves ground speed control levers out of their neutral positions before disengaging parking brake.

Test 4 — Blade Brake Check

Mower blades and the mower drive belt should come to a complete stop within seven (7) seconds after the electric PTO switch is turned off (or the operator rises off seat). If the 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 the safety interlock system.

Adjustment Procedures



Seat Adjustment

See Figure 20. The seat can be adjusted forward and backward. Move the seat adjustment lever towards the left, position the seat as desired, and release the seat adjustment lever to lock the seat into position.

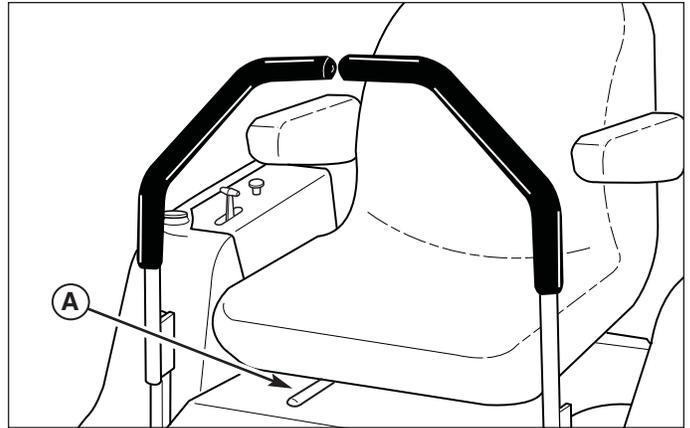


Figure 20. Seat Adjustment
A. Seat Adjustment Lever



Ground Speed Control Adjustment

The ground speed 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 21) and pivot the ground speed control lever(s) (B) to align with each other.

TO ADJUST THE HANDLE PLACEMENT

Loosen the jam nuts and adjust the placement bolt (C) in or out to properly adjust the ground speed control lever end spacing.

TO ADJUST THE HANDLE HEIGHT

Remove the mounting hardware and reposition the ground speed control lever either up or down from its original position. You will need to readjust the ground speed control lever alignment as described above.

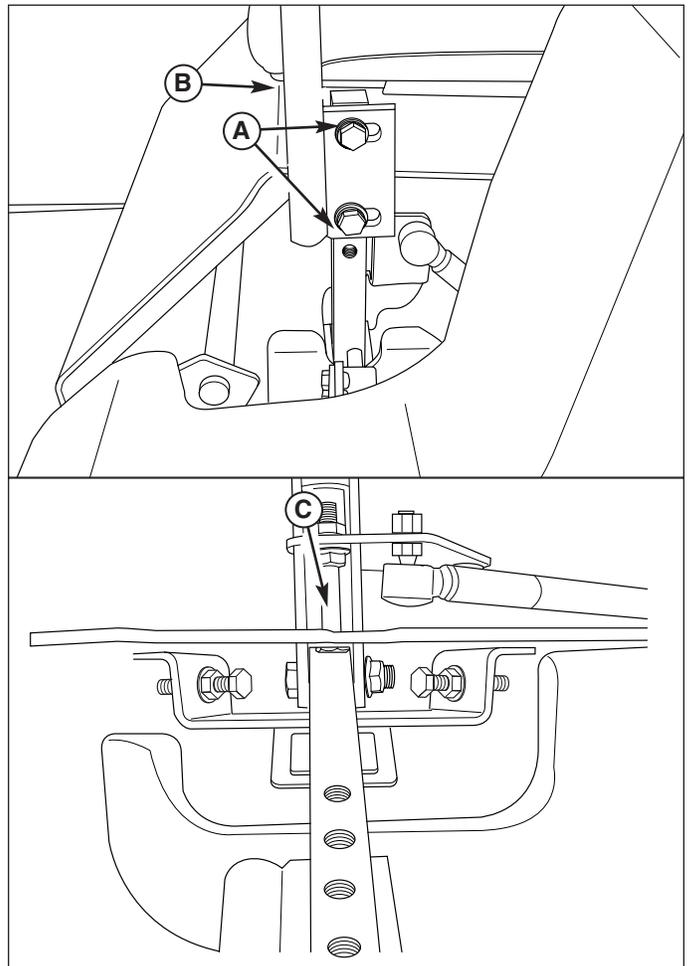


Figure 21. Control Lever Adjustment
A. Placement Hardware
B. Ground Speed Control Lever
C. Alignment Hardware



Return-To-Neutral Adjustment

To determine if it is necessary to adjust the neutral return, perform the following steps.

1. Disengage the PTO, engage the parking brake and turn off the engine.
2. Move the ground speed control levers into the operating position, pull levers rearward and release.
3. Move the ground speed control levers out towards the neutral position. If the levers do not align with the notches in the neutral lock plate, it is necessary to adjust the neutral return rod (B, Figure 22).

It is important to note that after every adjustment of the neutral return rod, the lever must be pulled rearward and released to properly check the neutral position.

WARNING

To avoid serious injury, perform adjustments only with the engine stopped, the key removed and the tractor on level ground.

ADJUSTMENT

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 three nuts (B, Figure 22) on the neutral return rod. The first two are to be used together to turn the neutral return rod and the third (towards the front of the machine) is used to lock the neutral return rod in place. Loosen the jam nut that locks against the ball joint (B) and turn the neutral return rod (A) to adjust. If the machine creeps forward, turn the neutral return rod **CLOCKWISE** (while standing at the rear of the machine, facing forward), if the machine creeps backward, turn the neutral return rod **COUNTER-CLOCKWISE**.
3. Lock the jam nut (B) against the ball joint when neutral is achieved.

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

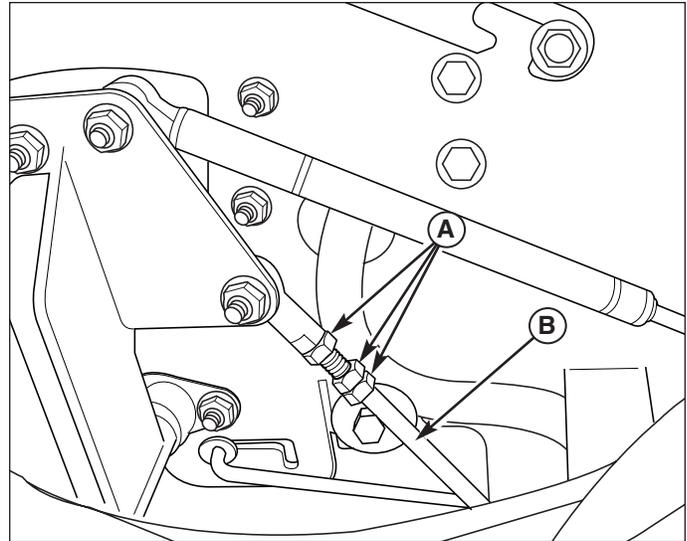


Figure 22. Return-to-Neutral Adjustment

A. Jam Nuts

B. Neutral Return Rod



Parking Brake Adjustment

1. Disengage the PTO, stop the engine, engage the parking brake, and remove the key from the ignition.
2. Raise the seat plate to gain access to the parking brake components.
3. Measure the distance from the top of the brake spring rod (C, Figure 23) to the top of the lock nut (D) on both sides of the unit. The measurement should be $.50''$ (1,27 cm). If not, adjust the locknut to achieve the measurement of $.50''$ (1,27 cm)
4. Measure the distance between the bottom of the brake shaft weldment (G) and the top of the set collar (F). The measurement should be $.375''$ (0,95 cm). If not, position the set collar until the measurement equals $.375''$ (0,95 cm).

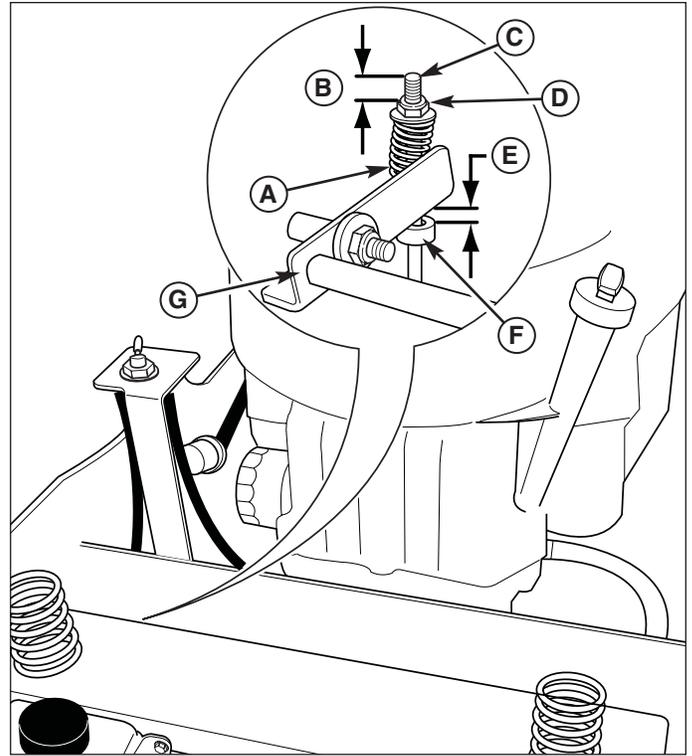


Figure 23. Parking Brake Adjustment

- A. Brake Spring**
- B. First Measurement - $.50''$ (1,27 cm)**
- C. Brake Spring Rod**
- D. Lock Nut**
- E. Second Measurement - $.375''$ (0,95 cm)**
- F. Set Collar**
- G. Brake Shaft Weldment**

SNAPPER®

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