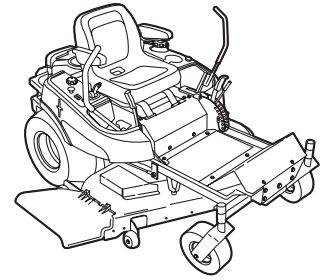


Dealer Setup & Adjustment Instructions

Simplicity ZT3000 / Snapper 355Z
Zero-Turn Riders & Mowers



This Dealer Setup Instruction covers the following products:

Mfg. No. Description

Simplicity Models:

5900660	ZT3000B2444, Simplicity 24HP Briggs & Stratton ZT3000 Zero-Turn Rider with 44" Mower
5900662	ZT3000B2450, Simplicity 24HP Briggs & Stratton ZT3000 Zero-Turn Rider with 50" Mower
5900684	ZT3000B2450CE, Simplicity 24HP Briggs & Stratton ZT3000 Zero-Turn Rider with 50" Mower (CE/Export)

Snapper Models:

5900681	Snapper 355ZB2444
5900682	Snapper 355ZB2450
5900685	Snapper 355ZB2450CE

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.

Adjust




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

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SAFETY RULES



Read these safety rules and follow them closely. Failure to obey these rules could result in loss of control of equipment, severe personal injury or death to you, yourself or bystanders, or damage to property or equipment. This mowing deck is capable of amputating hands and feet and throwing objects. The triangle  in text signifies important cautions or warnings which must be followed.

IMPORTANT – Safe operation practices for riding mowers.

I. General operation

1. Read, understand, and follow all instructions in the manual and on the unit before starting.
2. Only allow responsible adults, who are familiar with the instructions, to operate the unit.
3. Clear the area of objects such as rocks, toys, wire, etc., which could be picked up and thrown by the blade(s).
4. Be sure the area is clear of other people before mowing. Stop the unit if anyone enters the area.
5. Never carry passengers.
6. Do not mow in reverse unless absolutely necessary. Always look down and behind before and while backing.
7. Be aware of the mower discharge direction and do not point it at anyone. Do not operate the mower without either the entire grass catcher or the guard in place.
8. Slow down before turning.
9. Never leave a running unit unattended. Always turn off blades, set parking brake, stop engine, and remove keys before dismounting.
10. Turn off blades when not mowing.
11. Stop engine before removing grass catcher or unclogging chute.
12. Mow only in daylight or good artificial light.
13. Do not operate the unit while under the influence of alcohol or drugs.
14. Watch for traffic when operating near or crossing roadways.
15. Use extra care when loading or unloading the unit into a trailer or truck.

II. Slope operation

Slopes are a major factor related to loss-of-control and tip-over accidents, which can result in severe injury or death. All slopes require extra caution. If you cannot back up the slope or if you feel uneasy on it, do not mow it.



WARNING – SLOPE OPERATION

Never operate on slopes greater than 15° which is a rise of 5.4 feet (1,6 m) vertically in 20 feet (6 m) horizontally. Select slow ground speed before driving onto slope. In addition to front and rear weights, use extra caution when operating on slopes with rear-mounted grass catcher. Mow UP and DOWN the slope, never across the face, use caution when changing directions and **DO NOT START OR STOP ON SLOPE.**

DO

- See your authorized dealer for recommendations of wheel weights or counterweights to improve stability.
- Mow across slopes, not up and down.
- Remove obstacles such as rocks, tree limbs, etc.
- Watch for holes, ruts, or bumps. Uneven terrain could overturn the unit. Tall grass can hide obstacles.
- Use slow ground speed so that you will not have to stop or change speeds while on the slope.
- Use extra care with grass catchers or other attachments. These can change the stability of the unit.

- Keep all movement on the slopes slow and gradual. Do not make sudden changes in speed or direction.
- Avoid starting or stopping on a slope. If tires lose traction, disengage the blade(s) and proceed slowly straight down the slope.

DO NOT

- Do not turn on slopes unless necessary, and then, turn slowly and gradually downhill, if possible.
- Do not mow near drop-offs, ditches, or embankments. The unit could suddenly turn over if a wheel is over the edge of a cliff or ditch, or if an edge caves in.
- Do not mow on wet grass. Reduced traction could cause sliding.
- Do not try to stabilize the unit by putting your foot on the ground.
- Do not use grass catcher on steep slopes.

III. Children

Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the unit and the mowing activity. Never assume that children will remain where you last saw them.

1. Keep children out of the mowing area and under the watchful care of another responsible adult.
2. Be alert and turn unit off if children enter the area.
3. Before and when backing, look behind and down for small children.
4. Never carry children. They may fall off and be seriously injured or interfere with safe unit operation.
5. Never allow children to operate the unit.
6. Use extra care when approaching blind corners, shrubs, trees, or other objects that may obscure vision.

IV. Service

1. Use extra care in 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 with the engine running. Allow engine to cool before refueling. Do not smoke.
 - c) Never refuel the unit indoors.
 - d) Never store the unit or fuel container inside where there is an open flame, such as a water heater.
 - d) Clean up oil and fuel spills immediately.
2. Never run a unit inside a closed area.
3. Keep nuts and bolts, especially blade attachment bolts, tight and keep equipment in good condition.
4. Never tamper with safety devices. Check their proper operation regularly.
5. Keep equipment free of grass, leaves, or other debris build-up.
6. Stop and inspect the equipment if you strike an object. Repair, if necessary, before restarting.
7. Never make adjustments or repairs with the engine running.
8. Grass catcher components are subject to wear, damage, and deterioration, which could expose moving parts or allow objects to be thrown. Frequently check components and replace, when necessary, with manufacturer's recommended parts.
9. Mower blades are sharp and can cut. Wrap the blade(s) or wear gloves, and use extra caution when servicing them.
10. Check brake operation frequently. Adjust and service as required.
11. Allow the unit to cool before storing.



Quick Setup List -

Page	Setup Procedure	Steps to Perform
4	Uncrating	<input type="checkbox"/> Remove crate & banding. <input type="checkbox"/> Place transmissions in PUSH position & roll off skid.
4	Battery Activation & Installation	<input type="checkbox"/> Charge the battery <input type="checkbox"/> Test battery with hydrometer or load-tester. <input type="checkbox"/> Install & secure battery.
5	Rider Assembly	<input type="checkbox"/> Install the seat and connect the seat switch <input type="checkbox"/> Install ground speed control levers.
6	Check Fluid Levels	<input type="checkbox"/> Fill & check Engine oil level. <input type="checkbox"/> Check transmission fluid level. <input type="checkbox"/> Reduce & check tire pressures <i>(Front tires 40 psi, rear tires 15 psi).</i>
7	Mower Assembly	<input type="checkbox"/> Torque mower blade bolts.
7	Lubrication	<input type="checkbox"/> Lubricate all grease & oil points.
8	SAFETY CHECKS	<input type="checkbox"/> Check for <u>LOOSE HARDWARE</u> . <input type="checkbox"/> Check all <u>OPERATOR CONTROLS</u> . <input type="checkbox"/> Test <u>PARKING BRAKE</u> . <input type="checkbox"/> Perform <u>MOWER BLADE STOPPING CHECK</u> . <i>(Blade must stop within 5 seconds!)</i> <input type="checkbox"/> Perform <u>SAFETY INTERLOCK SYSTEM CHECK</u> .
8	Burnish Electric Clutch	<input type="checkbox"/> Burnish electric clutch <i>(run for 15 seconds, repeat 10 times)</i> . <input type="checkbox"/> Repeat <u>MOWER BLADE STOPPING CHECK</u> . <i>(Blade must stop within 5 seconds!)</i>

Setup



Uncrating

1. Using a reciprocating utility saw or equivalent, cut crate away from bottom skid. Remove crate. Remove shrink-wrap plastic.
2. Cut any banding securing the unit.
3. Release parking brake.



IMPORTANT NOTE

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

4. Pull both transmission release levers (A, Figure 1) back and out so that they lock in the disengaged (free-wheel) position (C).
5. Be sure there are no nails or sharp objects on the bottom of the skid to puncture the tires. Roll the rider forward off the skid.
6. Engage the transmissions by pulling the hydraulic release levers rearward and inward to release them from the disengaged position and allow them to move forward to the engaged (drive) position (B).

Setup



Battery Activation & 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 battery, especially while charging.
- When installing 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.

Charge Battery

1. Tip the seat forward to access the battery.
2. To charge the battery, follow the instructions provided by the battery charger manufacturer as well as all warnings included in the safety rules section of this document. Charge the battery until fully charged (until the specific gravity of the electrolyte is 1.250 or higher and the electrolyte temperature is at least 60° F). Do not charge at a rate higher than 10 amps.

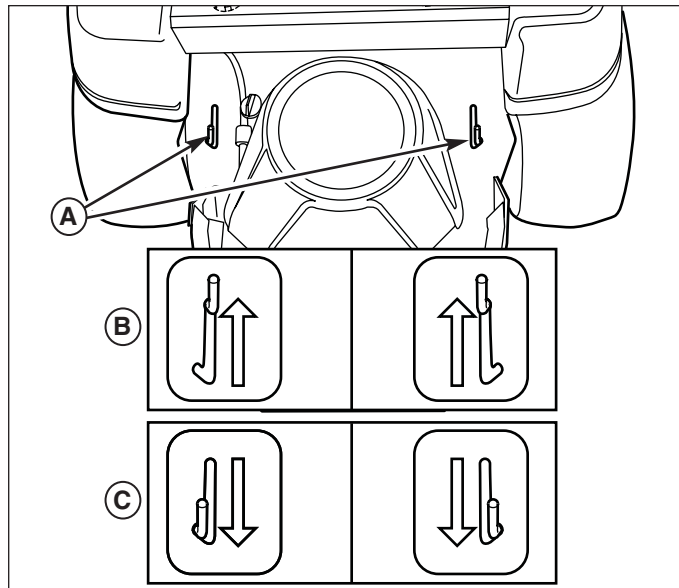


Figure 1. Transmission Release Levers

- A. Transmission Release Levers
 B. Engaged Position (Drive Position)
 C. Disengaged Position (Free-wheel Position)

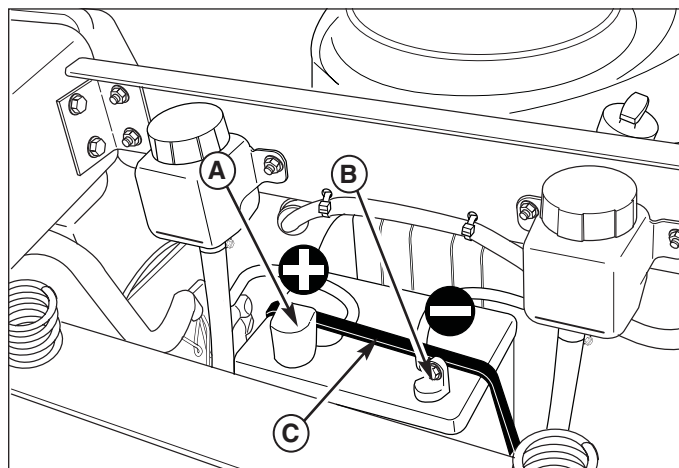


Figure 2. Battery

- A. Positive Cable & Cover
 B. Negative Cable
 C. Rubber Hold-Down Strap

Install Battery

1. Install the battery in the battery compartment
2. Connect the red positive battery cable (A) to the positive battery post.
3. Connect the black negative battery cable (B) to the negative battery post using a capscrew, washer, lockwasher and nut.
4. Secure the battery into the battery compartment using the rubber hold down strap (C). The battery cables should be underneath the rubber hold-down strap.

Setup



Rider Assembly

Seat & Safety Switch Assembly

1. Mount the seat (A, Figure 3) to the seat plate (B) using four 5/16-18 nylock flange nuts (C) and tighten securely.
2. Connect the seat switch wire harness (D) to the seat switch.

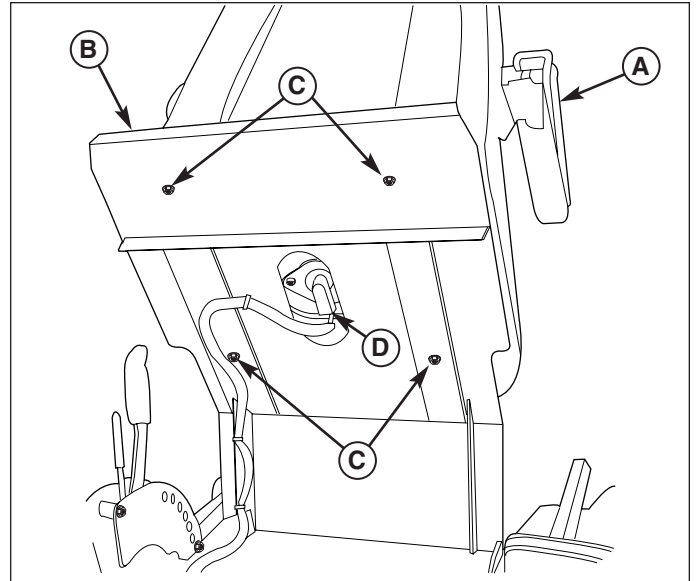


Figure 3. Seat Installation

- A. Seat
- B. Seat Plate
- C. 5/16-18 Nylock Flange Nut (4)
- D. Seat Switch Wire Harness

Install Ground Speed Control Levers

1. Mount the ground speed control levers (D, Figure 4) to the control lever base (E) using four 5/16-18 x 1" bolts, lockwashers, and washers (A, B & C).

NOTE: Before operating the unit the ground speed control levers and seat must be adjusted to fit the operator. See SEAT ADJUSTMENTS and GROUND SPEED CONTROL LEVER ADJUSTMENTS in the Adjustments section.

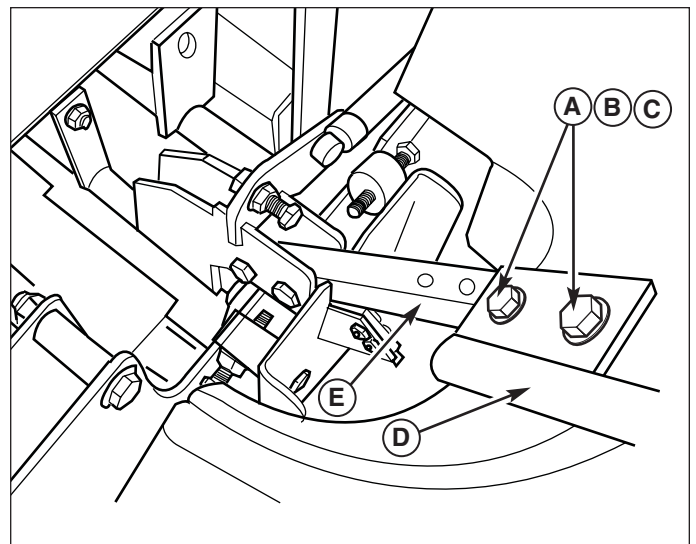


Figure 4. Install Control Levers

- A. 5/16-18 x 1" Bolts
- B. 5/16 Lockwashers
- C. 5/16 Washers
- D. Control Lever
- E. Control Lever Base

Setup



Check Fluid Levels

Fill & Check Engine Oil

1. Use the dipstick (C, Figure 5) to check the engine oil level. If necessary add engine oil. Check engine manufacturer's owner's manual for 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 (A, Figure 6). The oil should be up to the "FULL COLD" mark. 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, or other debris. Remove the transmission oil caps (B, Figure 5).
3. Add oil up to the "FULL COLD" mark (B, Figure 6).
4. Reinstall the reservoir cap.

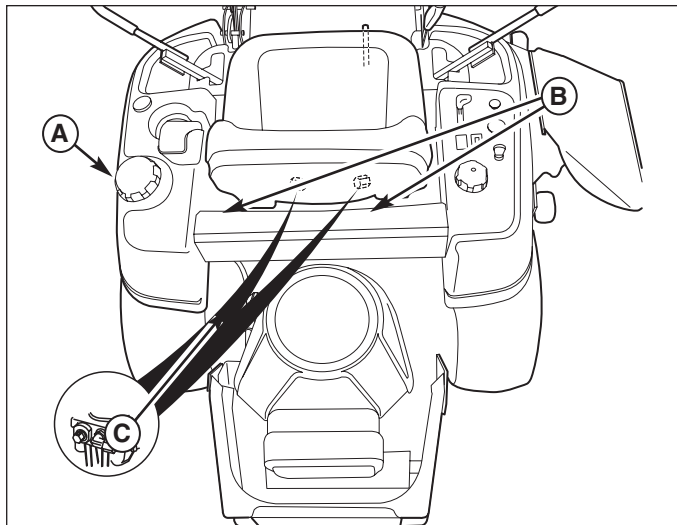


Figure 5. Check Fluid Levels

- A. Fuel Tank Cap
- B. Transmission Oil Caps
- C. Engine Oil Dip Stick

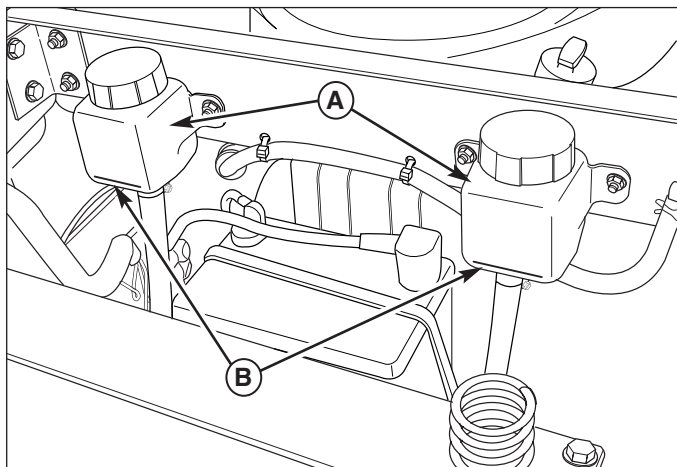


Figure 6. Transmission Oil Fill Level

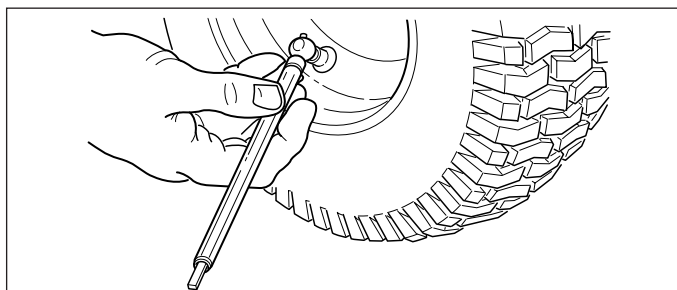
- A. Transmission Oil Reservoirs
- B. "FULL COLD" Mark

Setup



Reduce & Check Tire Pressures

The tires are over-inflated for shipping purposes. Inflate to the pressures shown. 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 cut quality, and extend tire life.



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

Figure 7. Tire Pressures

Setup



Torque Mower Blades

! WARNING

For your personal safety, blade mounting capscrews must each be installed with a hex washer and spring washer, then securely tightened. Torque blade mounting capscrew to 45 - 55 ft. lbs. (61 - 75 N.m.)

1. Check that blades are installed with the tabs pointing up toward deck as shown in Figure 8. Secure with a capscrew, spring washer and spline/hex washer (be certain the spline/hex washer is aligned with the shaft). Use a wooden block to prevent blade rotation and torque capscrews to 45-55 ft.lbs. (61-75 N.m.).

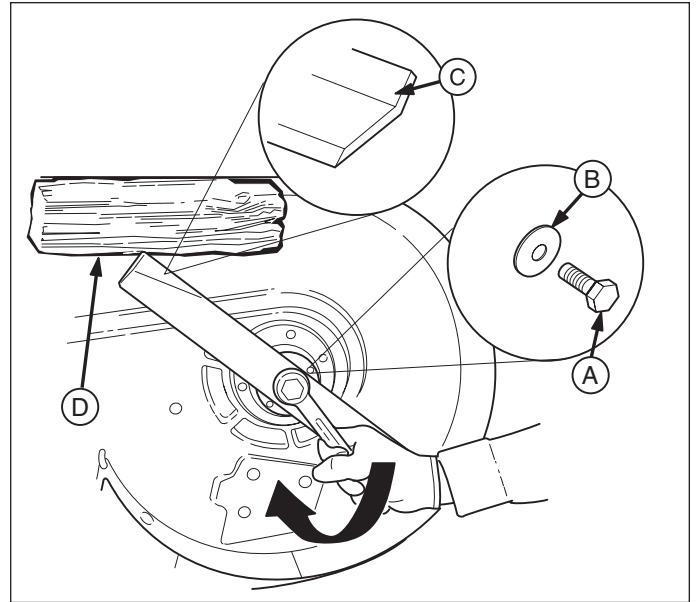


Figure 8. Mower Blade Installation
A. Mower Blade Mounting Bolt
B. Hex Washer
C. Mower Blade Air Lift (Install With Points Up)
D. 4 X 4 Wooden Block
E. Spring Washer

Setup



Lubrication

Lubricate the unit at the following lubrication points shown in Figure 9.

Grease:

- front caster wheel axles
- front caster yokes
- mower deck idler arm
- mower deck arbors

Oil:

- control handle 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.

Use grease fittings when present. Disassemble parts to apply grease to moving parts when grease fittings are not installed. Not all greases are compatible. Use automotive-type lithium grease.

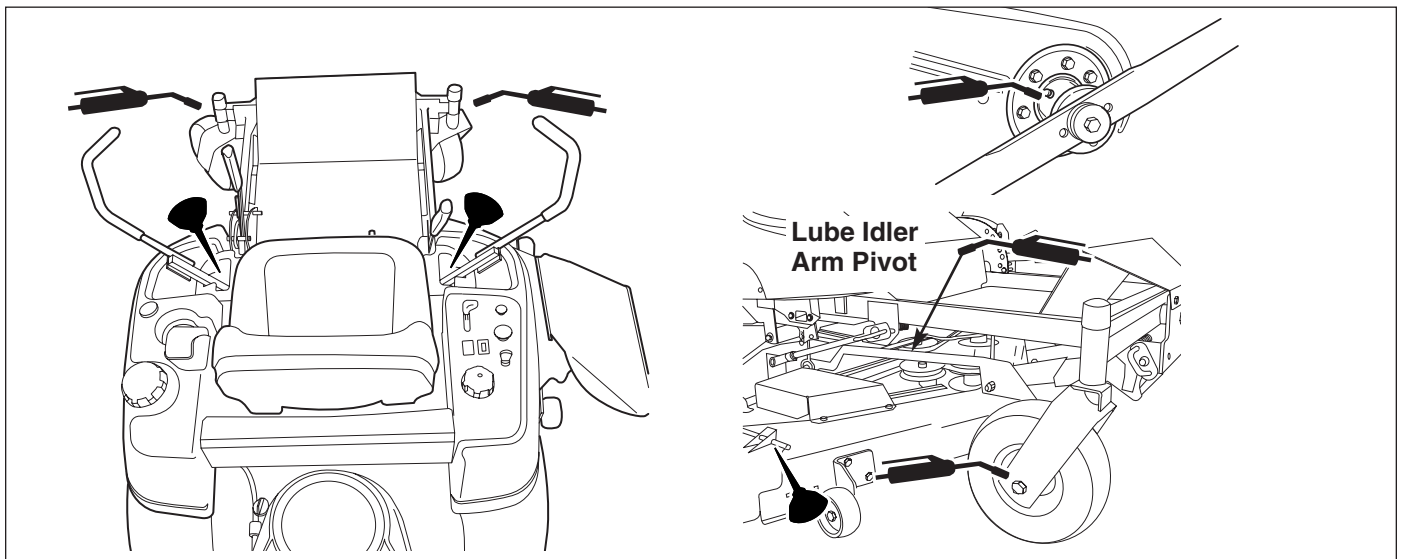


Figure 9. Lubrication

Setup



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

Functional Tests

1. Check for loose bolts, screws, nuts, etc.
2. Start the engine and check all controls for proper operation: ground speed control levers, parking brake lever, throttle and choke cables, electric PTO clutch, attachment lift, etc.
3. Stop the engine and check for fluid leaks: oil, gasoline, or transmission 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.
4. Turn the key to OFF to end testing.

Mower Blade Stopping Check

Mower blades and mower drive belt should come to a complete stop within five seconds after the electric clutch switch is turned off.

With the ground speed control levers in the neutral position, the parking brake engaged, the PTO clutch switch disengaged, and an operator in the seat, start the tractor engine. Run the engine at full throttle. Engage the PTO clutch switch and wait several seconds. Disengage the PTO clutch switch and check the time it takes for the mower drive belt to stop. If the mower drive belt does not stop within five seconds, adjust the PTO clutch according to the instructions in the PTO Clutch Adjustment section.

Seat Switch Connection

Check that the seat switch wire harness (D, Figure 2) is connected to the seat switch.

Burnish PTO Clutch

1. Select a safe area to operate the mower deck. With the ground speed control levers in the neutral position, the parking brake engaged, the PTO switch disengaged, and an operator in the seat, start the tractor engine. Run the engine at full throttle.
2. Engage the PTO switch and run the deck for fifteen seconds. Disengage the PTO switch and wait for the mower drive belt to stop.
3. Repeat step 2 above ten times, and then re-check the mower blade stopping time. (Stopping time must be five seconds or less.)



NORTH AMERICAN MODELS: 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, OR
- Ground speed control levers are not in their NEUTRAL positions.

Test 2 — Engine SHOULD crank if:

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

Test 3 — Engine should SHUT OFF if:

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

Test 4 — Blade Brake Check

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

NOTE: Once the engine has stopped, the PTO switch must be turned off, parking brake must be engaged, and the ground speed control handles must be locked in their NEUTRAL positions 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. Under no circumstance should you attempt to defeat the purpose of the safety interlock system.



EXPORT MODELS ONLY: 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, OR
- Ground speed control levers are not in the NEUTRAL position.

Test 2 — Engine SHOULD crank and start if:

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

Test 3 — Engine should SHUT OFF if:

- Operator rises off seat under any condition.
- Operator moves the ground speed control levers out of their neutral positions before disengaging parking brake.

Test 4 — Blade Brake Check

The mower blades and the mower drive belt should come to a complete stop within five (5) seconds after the PTO switch is turned off (or operator rises off seat). If the mower drive belt does not stop within five (5) 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 handles 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 Adjustments

The seat and ground speed control levers should be adjusted so that operator's elbows are supported by the arm rests when his/her hands are on the controls, and the ground speed control levers can be moved through their full range of motion without contacting the operator's legs.

Seat Position Adjustment

The seat can be adjusted forward and back. Move the adjustment lever (A, Figure 10) towards the left hand side of the machine, slide the seat to the desired position, and release the adjustment lever.

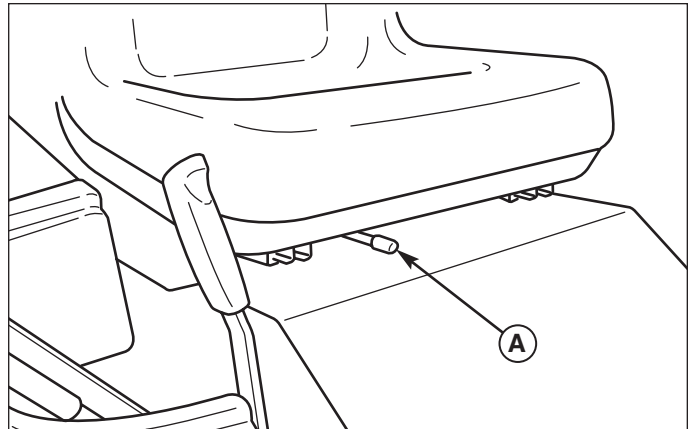


Figure 10. Seat Adjustment
A. Adjustment Lever



Ground Speed Control Lever Adjustment

Operator 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 mounting bolts (A, Figure 11) and pivot the ground speed control lever(s) (C) to align with each other. When desired position is achieved tighten the mounting bolts.

To Adjust the Handle Placement: Loosen the jam nuts and adjust the placement bolt (B, Figure 11) in or out to properly adjust the lever end spacing. When desired position is achieved tighten the jam nuts.

To Adjust the Handle Height: Remove the mounting hardware (A, Figure 11) and reposition the handle either up or down from its original position. You will need to readjust the handle alignment as described above.

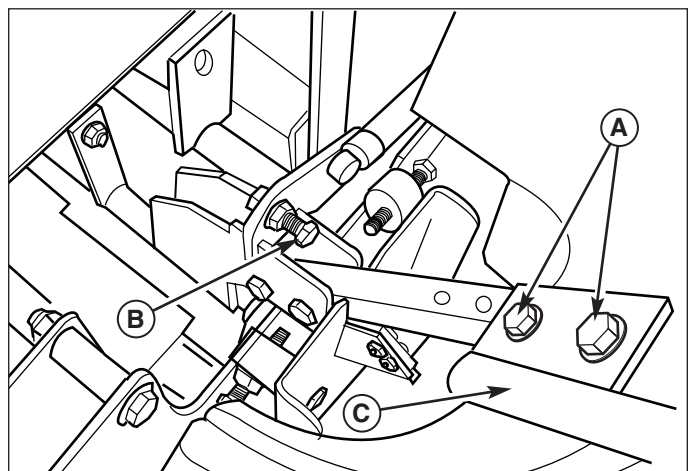


Figure 11. Control Lever Adjustment
A. Alignment Hardware
B. Placement Hardware
C. Ground Speed Control Lever

Speed Balancing Adjustment

If the rider veers to the right or left when both the ground speed control levers are in the maximum forward or reverse position, the top speed of each of these levers can be balanced by turning the adjustment bolt(s) (A & C, Figure 12). Only adjust the speed of the wheel that is traveling faster.

TO REDUCE THE SPEED OF THE FASTER WHEEL

1. Loosen the securing nut.
2. Turn the top speed adjustment bolt (A & C, Figure 12) COUNTER-CLOCKWISE to reduce the speed.
3. Retighten the securing nut when adjustment is complete.

WARNING

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

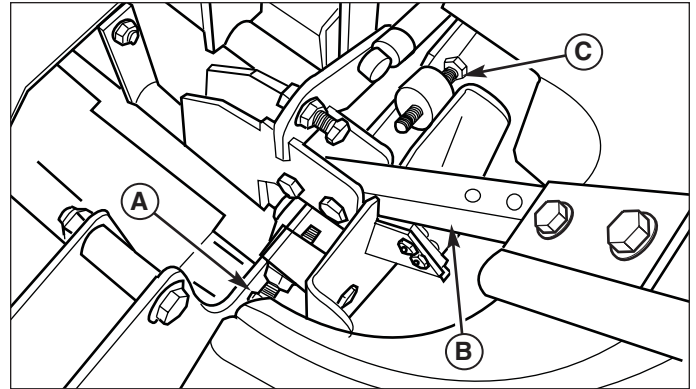


Figure 12. Top Speed Adjustment
A. Forward Top Speed Adjustment Bolt
B. Control Lever Base
C. Reverse Top Speed Adjustment Bolt

Return-To-Neutral & Neutral Adjustment

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 (C, Figure 13).

TO ADJUST:

1. Loosen the jam nut (B) locked against the clevis (A).
2. Turn the neutral return rod (C) to adjust handle position.
4. Pull lever rearward and release to check position again. Adjust as necessary to align levers with notches.

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.

5. Once the lever alignment has been adjusted, lock jam nut against the clevis.

NEUTRAL ADJUSTMENT

The neutral adjustment for this unit is preset at the factory.

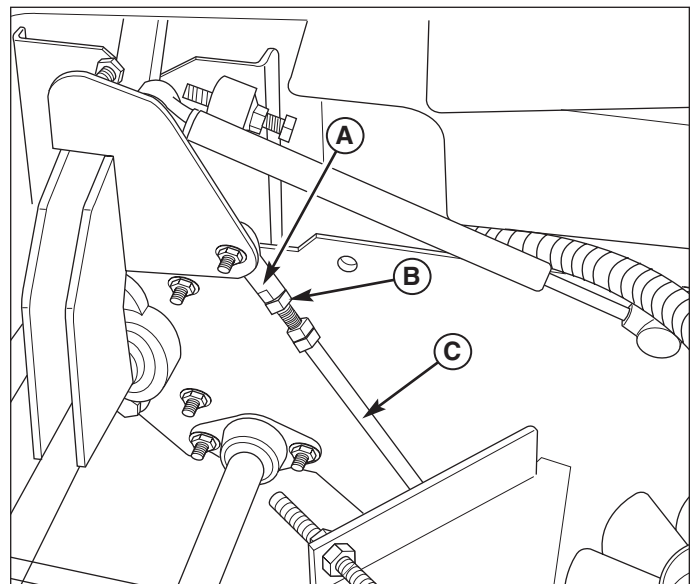


Figure 13. Return-To-Neutral Adjustment
A. Clevis
B. Jam Nut
C. Neutral Return Rod



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 14) 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).

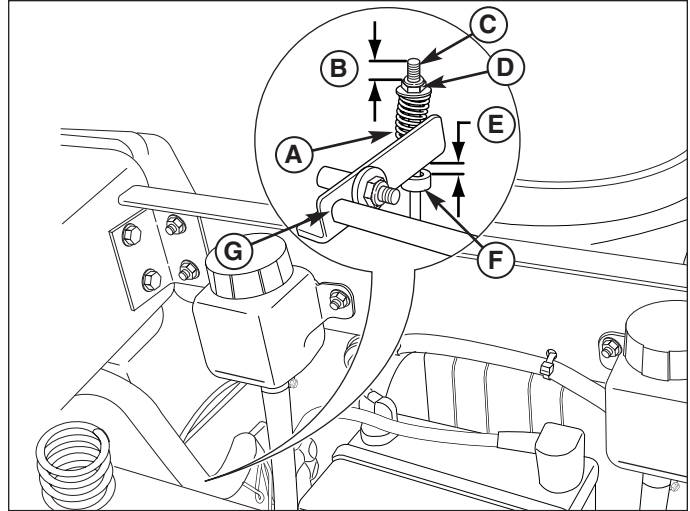


Figure 14. Parking Brake Adjustment

- 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**



Suspension Adjustment (select models)

The shock assembly can be adjusted to vary the amount of pre-load applied to the springs. This allows the operator to customize the ride according to operator's weight and operating conditions.

LESS PRE-LOAD:

- Light operator weight
- Softer, more cushioned ride
- Best for relatively flat terrain

MORE PRE-LOAD:

- Heavy operator weight
- Stiffer, more rigid ride
- Better handling and greater stability on hilly terrain

TO ADJUST THE SPRING PRE-LOAD:

1. Park machine on a flat, level surface. Disengage the PTO, stop the engine and engage the parking brake.
2. See Figure 15. Turn the pre-load adjustment collar (A) CLOCKWISE to increase the pre-load, turn COUNTER-CLOCKWISE to decrease the pre-load. Make sure both front shocks are set to the same amount of pre-load. Make sure both rear shocks are set to the same amount of pre-load.

NOTE: After adjusting the front shock assembly, move the ring against the adjustment collar to prevent the collar from loosening during operation.

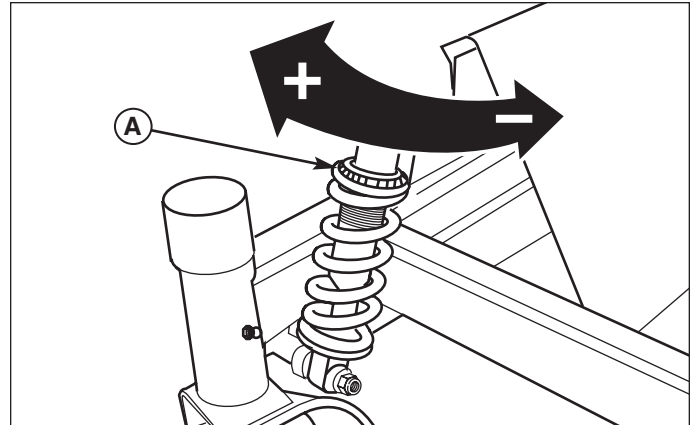


Figure 15. Suspension Adjustment
A. Front Shock Adjustment Collar

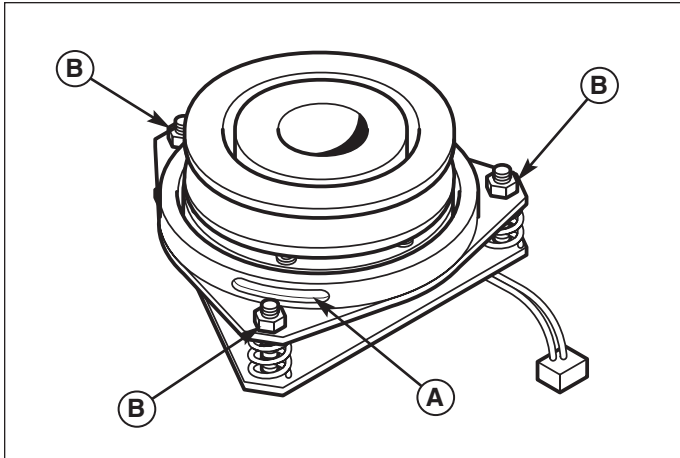


Figure 16. PTO Clutch Adjustment

- A. Adjustment Window (Qty. 3, one shown)
- B. Adjustment Nut

PTO Clutch Adjustment

Check the PTO clutch adjustment after every 100 hours of operation. Also perform the following procedure if the clutch is slipping or will not engage, or if a new clutch has been installed.

1. Remove key from ignition switch and disconnect spark plug wires to prevent the possibility of accidental starting while the PTO is being adjusted.
2. See Figure 16. Note the position of the 3 adjustment windows (A) in the side of the brake plate and the nylock adjustment nuts (B).
3. Insert a .016"-.018" (0,40-0,45mm) feeler gauge (C) through each window, positioning the gauge between the rotor face and the armature face as shown in Figure 17.
4. Alternately tighten the adjustment nuts (B, Figure 16) until the rotor face and armature face just contacts the gauge.
5. Check the windows for an equal amount of tension when the gauge is inserted and removed, and make any necessary adjustments by tightening or loosening the adjustment nuts.

NOTE: The actual air gap between the rotor and armature may vary even after performing the adjustment procedure. This is due to dimensional variations on component parts, and is an acceptable condition.

6. Check the mower blade stopping time. The mower blades and mower drive belt should come to a complete stop within five seconds after the electric PTO switch is turned off.

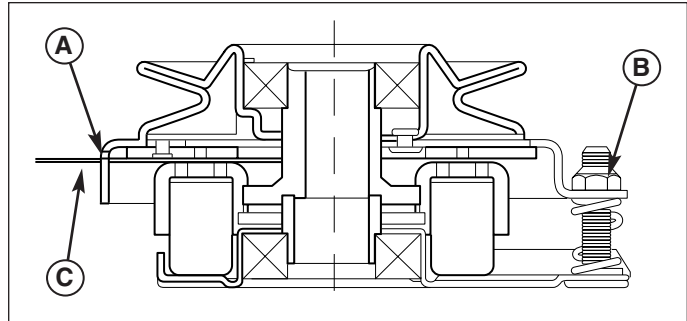


Figure 17. Adjust PTO Clutch

- A. Window
- B. Adjustment Nut
- C. .016"-.018" (0,40-0,45mm) Feeler Gauge

WARNING

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

Blade Brake Check

Mower blades and mower drive belt should come to a complete stop within five seconds after electric PTO switch is turned off.

1. With parking brake engaged, PTO disengaged and an operator in the seat, start the engine.
2. Have an assistant observe the mower drive belt through the opening between the frame and top of mower deck. Engage the PTO and wait several seconds. Disengage the PTO and check the amount of time it takes for the mower drive belt to stop.
3. If the mower drive belt does not stop within five seconds, perform the PTO Clutch Adjustment. If the belt still does not stop within 5 seconds, replace the clutch.



Mower Deck Leveling

Perform these adjustments on a flat level surface.

SIDE-TO-SIDE LEVELING

1. With the mower installed, park the machine on a flat, level surface such as a concrete floor. Engage the parking brake, disengage the PTO, turn off the engine, and remove the key from the ignition. Turn the front wheels so they are straight.
2. Check for bent blades and replace if necessary.
3. Place the mower cutting height pin in the 4th hole from the bottom (see insert, Figure 20). Arrange the outside mower blades so that they are pointing from side-to-side (Figure 18).
4. Measure the distance between the outside tips of each blade and the ground (Figures 18 & 19). If there is more than 1/8" (3mm) difference between the measurements on each side, proceed to step 5. If the difference is 1/8" (3mm) or less, proceed to step 6.
5. Use the rear leveling links (B, Figure 20) to adjust the side-to-side leveling of the deck. Repeat step 4 if necessary.

FRONT-TO-BACK LEVELING

6. Arrange the blades so they face front-to-back (Figure 21).
7. Measure the distance from the ground to the front tip of the center blade, and from the ground to rear tips of left-hand and right-hand blades (Figures 19 & 21). The front tip of the center blade should be 1/4" (6mm) higher than rear tips of left-hand and right-hand blades. If not, proceed with steps 8 - 11.
8. Check the length of the hanger rods. The rear hanger rods (D, Figure 20) should be 15" (38,1 cm) and is not adjusted. To adjust the pitch of the mower deck, adjust the front leveling nuts only.
9. Loosen the front lock nuts (E, Figure 20).
10. Turn the leveling nuts (A, Figure 20) counter-clockwise to lower the front of mower deck. Turn the nuts clockwise to raise the front of the mower. Make adjustments in small increments, trying to keep tension on both leveling nuts.
11. Tighten the front lock nuts (E).
12. Re-check the blade measurement then repeat steps 7-11 as necessary.

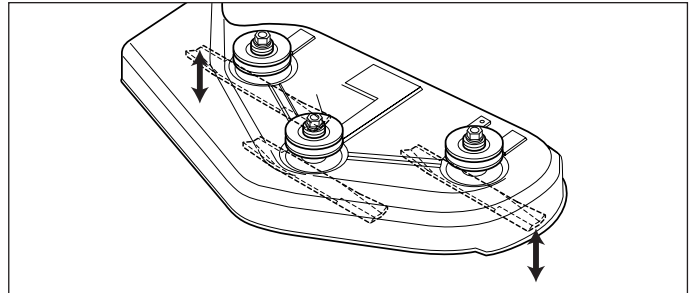


Figure 18. Orient Blades Side-to-Side

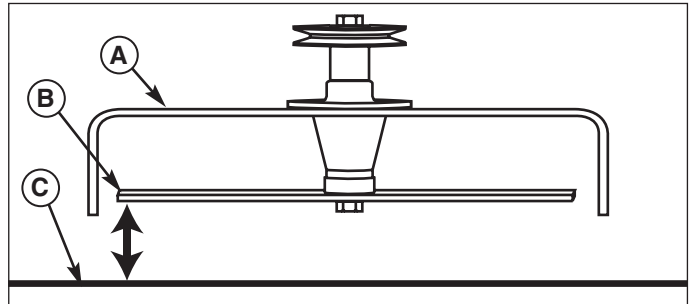


Figure 19. Measure Blade Tips to Ground
A. Mower Deck C. Level Ground
B. Blade Tip

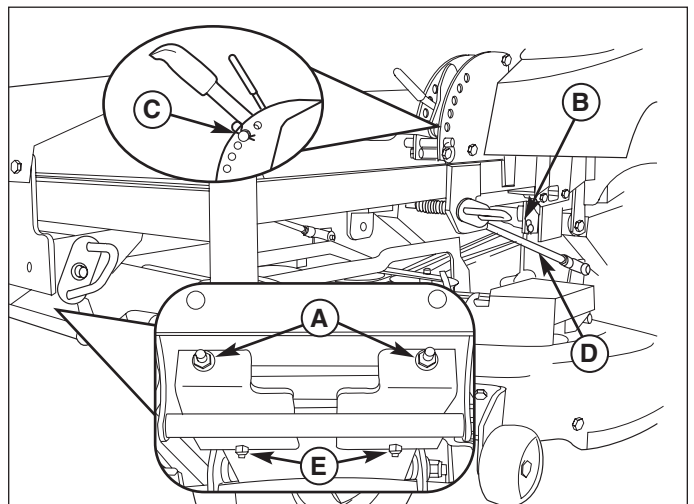


Figure 20. Mower Leveling
A. Front Leveling Nuts
B. Rear Leveling Rods
C. 4th Cutting Height Hole
D. Rear Hanger Rods
E. Front Lock Nuts

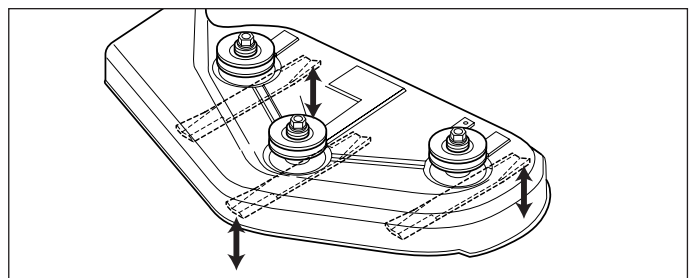


Figure 21. Orient Blades Front-to-Back



Roller Bar Leveling (select models)

The rollers on this Zero Turn unit are not intended to ride on the ground. DO NOT adjust rollers to ride on the ground. Rollers riding on the ground will damage turf and or unit.

1. First level the mower deck using the procedure found in MOWER DECK LEVELING.
2. With the mower installed, place the rider on a smooth, level surface such as a concrete floor. Turn the front wheels so they are straight.
3. Place the mower cutting height pin in the 4th hole from the bottom (C, Figure 20).
4. Measure the distance between the outside ends of the roller bar and the ground. If there is more than 1/8" (3mm) difference between the measurements on each side, proceed to step 5.
5. Locate the roller bar leveling eccentric and locknuts (A, Figure 22). Loosen the locknut and turn the eccentric to raise or lower a side. When the correct level is achieved, hold the eccentric with a wrench and tighten the locknut. Repeat step 4 if necessary.

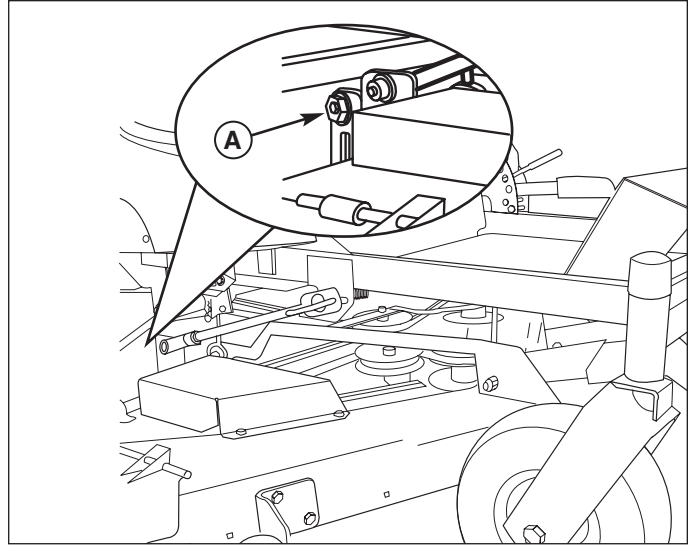


Figure 22. Roller Bar Leveling
A. Eccentric and Locknut

Service Procedures

Transmission Oil Filter Change



Do not allow dirt, water, or other debris to enter the expansion chamber or transmission. Even a small amount of dirt can damage the transmission.

Change Interval: Every 200 Hours

Filter Part Number: 5101026X1

Oil Type: 20W-50 conventional detergent motor oil.

1. Locate the transmission oil filters (A, Figure 23) underneath the rear of the machine on the transmissions.
2. Remove the three 1/4" filter guard screws (C) and the filter guard (B).
3. Clean the area around the filter base and remove the filter.
4. Apply a film of new oil to the gasket of the new replacement filter. After the oil has drained, thread the new filter onto the filter base until the gasket makes contact, then tighten 3/4 of a turn more.
5. Reinstall the filter guard with the three 1/4" filter guard screws
6. Using a hex bit swivel socket or a modified allen wrench remove the top port plug from the transmissions.
7. Remove the transmission reservoir cap and fill with oil until oil appears at the bottom of the transmission's top port (approximately 2 qts (1,89L).
8. Reinstall the top port plug and tighten to 15 ft lbs (20,38 Nm).
9. Continue to add oil to the transmission oil reservoirs until the oil lever reaches the "FULL COLD" mark (B, Figure 24). Reinstall the oil reservoir cap.
10. Repeat this process for the other side of the machine.
11. Run the unit for several minutes and check the transmission oil level.

IMPORTANT NOTE: Use caution after changing the filter; air in the hydraulic system may affect the responsiveness of the control levers. Repeat step 11 until the air is out of the system.

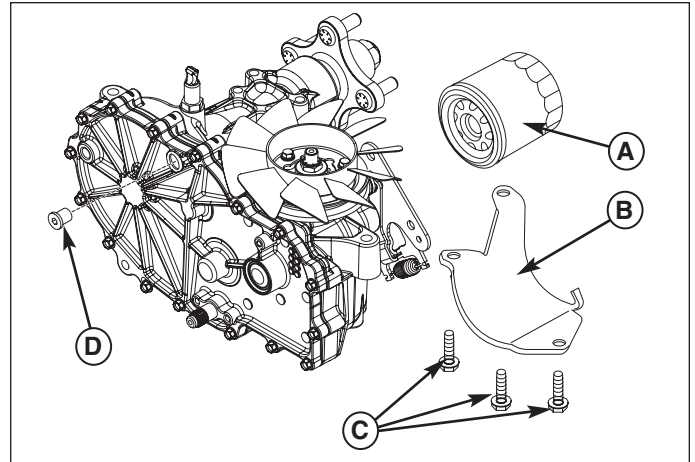


Figure 23. Transmission (Left Side Shown.)

- A. Transmission Oil Filter**
- B. Filter Guard**
- C. 1/4" Filter Guard Screws**
- D. Top Port Plug**

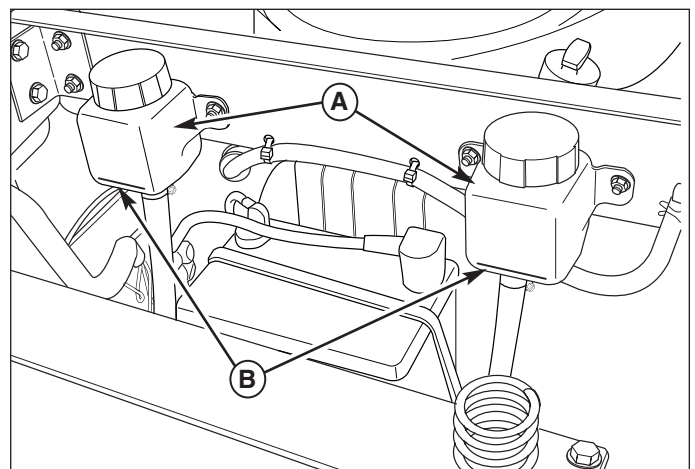


Figure 24. Transmission Oil Reservoirs

- A. Transmission Oil Reservoirs**
- B. "FULL COLD" Mark**

Hydraulic Pump Drive Belt Replacement



To avoid damaging belts, DO NOT PRY BELTS OVER PULLEYS.

1. Park the rider on a smooth, level surface such as a concrete floor. Disengage the PTO, engage the parking brake, turn off the engine, and remove the ignition key.
2. Remove the PTO drive belt (see MOWER BELT REPLACEMENT for removal instructions).
3. Loosen the nut towards the front of the machine on the spring anchor hook (H, Figure 25) to release the majority of the belt tension. Use caution and remove the nut to completely release the tension.
4. Remove the old belt and replace it with the new one. Make sure the V-side of the belt runs in the grooves of the crankshaft pulley and pump pulleys (B & C).
5. Reinstall the anchor hook (H) into the anchor tab and loosely fasten the nut. Adjust the spring until a measurement of 9" (22,86 cm) is achieved from the outside of the spring hooks. Tighten nut.
6. Reinstall the PTO drive belt.

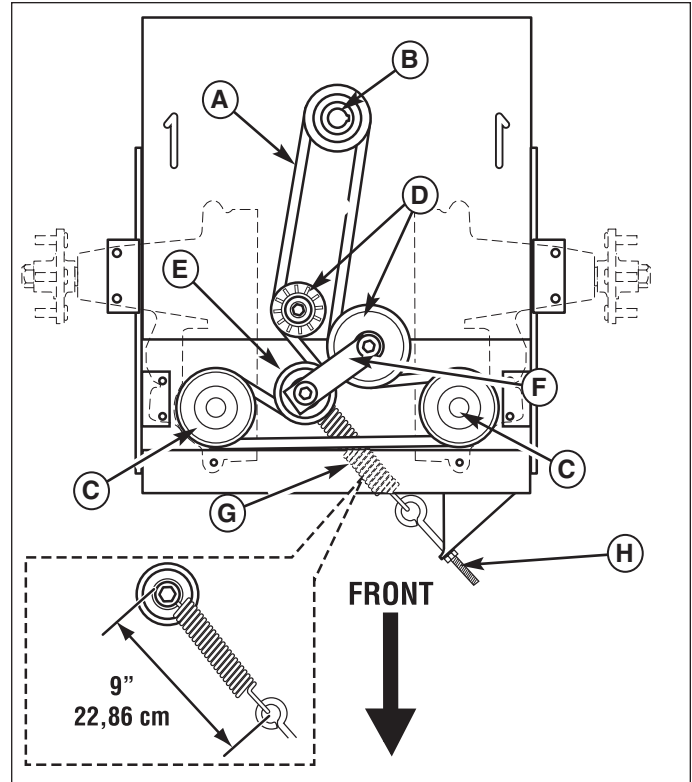


Figure 25. Hydraulic Pump Drive Belt Replacement (Shown from Below)

- A. Pump Drive Belt**
- B. Crankshaft Pulley**
- C. Transmission Pulley**
- D. Idler Pulleys (stationary)**
- E. Idler Pulley**
- F. Idler Arm**
- G. Spring**
- H. Spring Anchor Hook**

Mower Belt Replacement



To avoid damaging belts, **DO NOT PRY BELTS OVER PULLEYS.**

1. Park the rider on a smooth, level surface such as a concrete floor. Disengage the PTO, engage the parking brake, turn off the engine, and remove the ignition key.
2. Raise the mower deck to transport position. Pull the belt tension lever (A, Figure 27) towards the rear of the machine to release tension on the mower belt. Secure the lever in the guard notch (B).
3. Remove the old drive belt and install the new one as shown in Figure 26. Note that the back of the drive belt must ride against the back-side idler pulleys (B). Use the belt tension lever (A, Figure 26) to release tension on the idler pulley for installation.

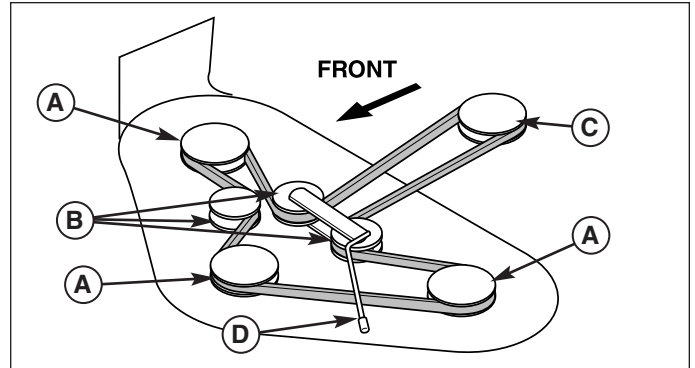


Figure 26. Mower Belt Routing

A. Arbor Pulleys

B. Back-Side Idler Pulleys

C. PTO Pulley

D. Belt Tension Release Lever

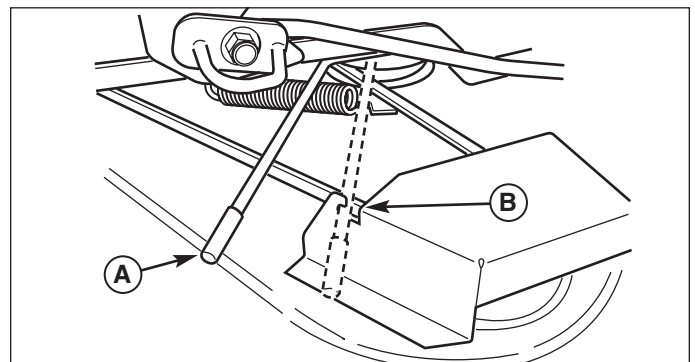


Figure 27. Release Belt Tension

A. Belt Tension Lever

B. Guard Notch



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