

ASSEMBLY, cont'd

Adjusting the Seat

1. Push left and hold the seat adjustment lever to adjust the seat position.
2. Slide seat forward or rearward to desired position.
3. Release the adjustment lever. Ensure seat is locked into position before operation. See Figure 21.

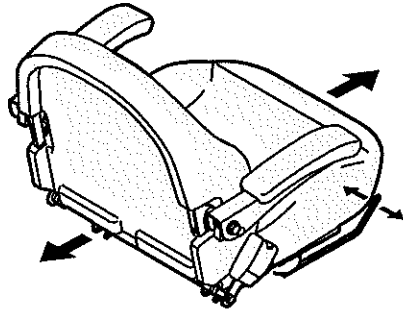


Figure 21

Adjusting the Mechanical Suspension Mechanism (Z360 models only)

The mechanical suspension mechanism (if equipped) incorporates weight/ride adjustment controls for operators in the 125 to 275 lb (57-124 kg) weight range. Turn the knob on the front of the seat clockwise to increase the weight capacity and counter-clockwise to decrease. See Figure 22.

NOTE: The seat base must be secured by the latch, otherwise, the seat assembly could tilt forward. The Operator Presence Sensor must be connected to the electrical wiring harness.

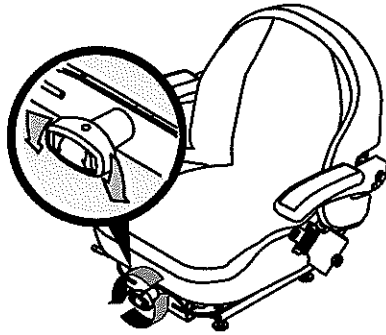


Figure 22

OPERATION

NOTE: This Operator's Manual covers several models. Tractor features may vary by model. Not all features in this manual are applicable to all tractor models and the tractor depicted may differ from yours.

NOTE: All references in this manual to the left or right side and front or back of the tractor are from the operating position only. Exceptions, if any, will be specified.

1) Lapbar Drive Control Levers

The RH (Right Hand) and LH (Left Hand) lapbar drive control levers are located on each side of the operator's seat. The hinged levers pivot outward to permit the operator to sit in the seat, or dismount. To start the tractor's engine, the lapbar drive control levers must be fully out and in park position. When the lapbar drive control levers are fully outward, the parking brake is engaged.

Each drive control lever controls the respective transmission. Consequently, these levers control all of the tractor's movement. Driving and steering using these control levers is quite different from a conventional tractor and will take practice to master. Refer to Practice Operation section for further instructions.

2) Deck Height Index

Each rotation represents a 1/4" (6.35 mm) change in deck height. Positions range from 1" (2.5 cm) to 4-3/4" (12 cm) at the highest point. See 4a and 4b in Figure 23.

3) Deck Transport Lock Control

The deck transport lock control is used to lock the deck above its highest cut setting into transport mode. To engage the deck transport lock control depress the deck lift pedal (4a) and move the deck transport lock control into its rear position. To disengage the transport lock and set the deck to its designated cut height, depress the deck lift pedal and move the deck transport lock control into its front position.

4a) Deck Lift Pedal

The deck lift pedal is located on the front, right corner of the platform. The pedal is used in conjunction with the deck lift knob to raise and lower the mowing deck. Push forward on the deck lift pedal, rotate the deck lift knob to the desired height and release the deck lift pedal.

4b) Deck Lift Knob

The deck lift knob is used in conjunction with the deck lift pedal to raise and lower the mowing deck. Push forward on the deck lift pedal, rotate the deck lift knob to the desired height and release the deck lift pedal.

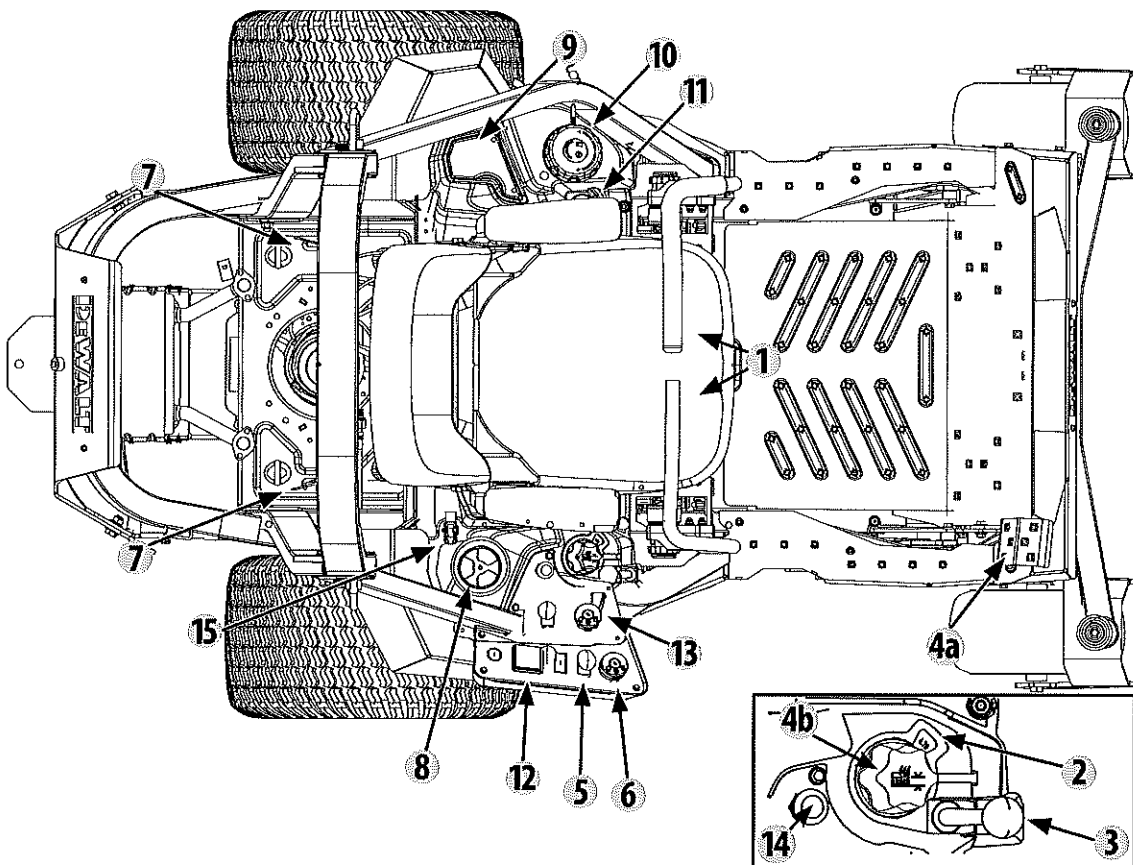


Figure 23

OPERATION, cont'd

5) Power Take-Off (PTO)

Electric PTO

The PTO switch operates the electric PTO clutch mounted on the bottom of the engine crankshaft. Pull the switch knob upward to engage the PTO clutch, or push the knob downward to disengage the clutch.

The PTO switch must be in the "OFF" position when starting the engine.



6) Ignition Switch

⚠ WARNING: Never leave a running machine unattended. Always disengage PTO, set parking brake, stop engine, and remove key to prevent unintended starting.

The ignition switch has three positions:

STOP — The engine and electrical system is turned off.

RUN — The tractor electrical system is energized.

START — The starter motor will turn over the engine. Release the key immediately when the engine starts.

NOTE: To prevent accidental starting and/or battery discharge, remove key from the ignition switch when tractor is not in use.

7) Transmission Bypass Rods

The transmission bypass rods (one for each RH and LH transmission) are located on the rear of the tractor, next to the engine. When engaged, the two rods open a bypass within the hydrostatic transmissions, which allows the tractor to be pushed short distances by hand. Refer to the Assembly section for additional instructions.

⚠ CAUTION: Never tow tractor. Towing the tractor with the rear wheels on the ground may cause severe damage to the transmissions.

8) Cup Holder

The cup holder is located on the top of the console.

9) Storage Tray

The storage tray is located to the rear of the console.

10) Fuel Tank Cap

Turn the fill cap counter-clockwise and pull upward to remove. The fuel cap is tethered to the tractor to prevent its loss. Do not attempt to remove the cap from the tractor. Fill tank to 1/2" (12.7 mm) below the bottom of the filler neck, allowing some space in the tank for fuel expansion. Do not overfill the tank.

Push the cap downward on the fuel tank fill neck and turn at least two clicks clockwise to tighten. Always re-install the fuel cap tightly onto the fuel tank after removing.

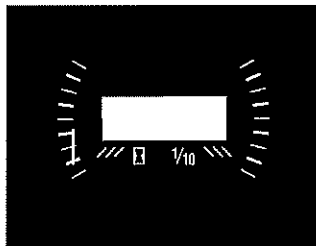
⚠ WARNING: Never fill the fuel tank when the engine is running. If the engine is hot from recently running, allow to cool for at least 5 minutes before refueling. Highly flammable gasoline could splash onto the engine and cause a fire.

11) Fuel Gauge

The fuel gauge is located to the left of the seat and provides an indicator of the current fuel level in the tank.

12) Hour Meter & LCD Service Minder (If equipped)

The LCD service minder will remind the operator of maintenance intervals for changing the engine oil, air filter service, low engine and low battery warnings. When the key is rotated out of the STOP position but is not in the START position, the LCD service minder & hour meter will briefly display the battery voltage, followed by the tractor's accumulated hours.



NOTE: When the ignition key is out of the STOP position the hourglass symbol is illuminated/blinks to indicate it is recording the hours of tractor operation, regardless of whether the engine has been started.

Change Oil

The LCD screen will alternate the letters "CHG", followed by "OIL", followed by "SOON", followed by the meter's accumulated time. "CHG/OIL/SOON/TIME" will alternate on the display for 7 minutes after the meter reaches 50 hours. This oil service minder interval will occur every 50 hours. Before the interval expires, change the engine oil as instructed in the Engine Operator's Manual.

Low Oil

NOTE: The low oil pressure function only works if the engine is equipped with an oil pressure switch.

The LCD screen will alternate the letters "LO" followed by "OIL", followed by the meter's accumulated time, which indicates the engine has low oil pressure. This is common when starting an engine. The indicator will remain active until the engine sufficiently builds pressure after starting. If it remains on with the engine at full speed and after a few minutes of operation, stop the tractor immediately, check the engine oil level and add as instructed in the Engine Operator's Manual. If the oil level is correct and the indicator persists, contact an authorized service dealer.

Low Battery

At startup, the battery voltage will briefly display, then changes to accumulated hours. The letters "LO" followed by the letters "BATT" will display, followed by the meter's accumulated time. "LO/BATT/TIME" is displayed on the LCD when the voltage drops below 11.5 volts. When this occurs, the battery is in need of a charge or the engine's charging system is not generating sufficient amperage. Charge the battery as instructed in the Service and Maintenance section of this manual or have the charging system checked by a local service dealer.

Air Filter Service

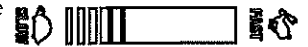
The LCD screen will display the letters "CLN" followed by the letters "AIR", followed by "FILT", followed by the meter's accumulated time. "CLN/AIR/FILT/TIME" will alternate on the display for 7 minutes after the meter reaches 25 hours. This air filter service minder time interval will be displayed every 25 hours. On intervals that are common with oil service, the oil message will be displayed first followed by the air filter message.

13) Throttle/Choke Control Lever or Throttle Control Lever

NOTE: When set in a given position, a uniform engine speed will be maintained.

Throttle Control Lever (If equipped)

Push the throttle control lever forward to increase the engine speed. The tractor is designed to operate with the throttle control lever at full throttle (FAST) when the tractor is being driven and the tractor deck is engaged. Pull the throttle control lever rearward to decrease the engine speed.



Throttle/Choke Control Lever (If equipped)

Push the throttle/choke control lever forward to increase the engine speed. The tractor is designed to operate with the throttle/choke control lever at full throttle (FAST) when the tractor is being driven and the tractor deck is engaged. Pull the throttle/choke control lever rearward to decrease the engine speed. When starting the engine, push the control lever fully forward into the "CHOKE" position. After starting and warming the engine, move the control handle rearward until you feel it move past the choke detent. Throttle is not meant to control unit speed, throttle should remain in high speed while operating blades.



14) Choke Control (If equipped)

The choke control determines the position of the engine choke. Pull the knob out to choke the engine; push the knob in to open the choke.



15) Multi-Tool

The multi-tool is located on the back of the right console. The multi-tool can be used as a deck lift lockout, adjust the height of the lapbar drive control levers, drive control lever stop adjustment and can be used as a removal tool with the 1/2" socket end. See the Service and Maintenance section for more information on multi-tool usage. See Figure 24.

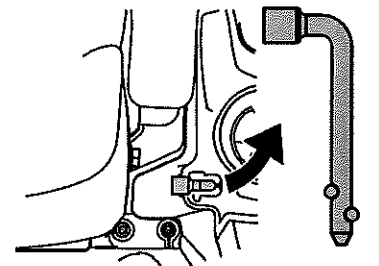


Figure 24

Seat Adjustment Lever (Not shown)

The seat adjustment lever is located under the seat. The seat adjustment lever allows for adjustment forward or backward of the operator's seat. Refer to the Assembly section for instructions on adjusting the seat position.

NOTE: If tractor is not equipped with a seat adjustment lever, it can be adjusted using the knobs on the underside of the seat. Refer to the Assembly section for instruction on adjusting the seat.

OPERATION, cont'd

Before Operating Tractor

- Before operation, refer to Maintenance Schedule chart located in this manual for regularly scheduled service items.
- This engine is certified to operate only on clean, fresh, unleaded gasoline. Fill only with clean, fresh, unleaded gasoline with a pump sticker octane rating of 87 or higher.
- Do not use gasoline left over from the previous season, to minimize gum deposits in the fuel system.
- Gasohol (up to 10% ethyl alcohol, 90% unleaded gasoline by volume) is an approved fuel. Other gasoline/alcohol blends are not approved.
- Methyl Tertiary Butyl Ether (MTBE) and unleaded gasoline blends (up to a maximum of 15% MTBE by volume) are approved fuels. Other gasoline/ether blends are not approved.

Safety Interlock System

⚠ WARNING: Do NOT operate the tractor if the safety interlock system is malfunctioning. This system was designed for your safety and protection.

This tractor is equipped with a safety interlock system for the protection of the operator. If the interlock system should ever malfunction, do not operate the tractor. Contact an authorized service dealer.

- The safety interlock system prevents the engine from cranking or starting unless the parking brake is engaged, and the PTO switch is in the DISENGAGED (OFF) position.
- The engine will automatically shut OFF if the operator leaves the seat before engaging the parking brake.
- The engine will automatically shut OFF if the operator leaves the tractor's seat with the PTO switch in the ENGAGED (ON) position, regardless of whether the parking brake is engaged.

Checking the Safety Interlock Circuits

Periodically check the safety interlock circuits to ensure they are working properly. If a safety circuit is not working as designed, contact a service dealer to have the tractor inspected. Do NOT operate the tractor if any safety circuit is not functioning properly. To check the safety circuits, proceed as follows:

1. Pull the PTO upward to the ENGAGED (ON) position. Momentarily turn the ignition switch to the START position; the engine should not crank.
2. With the tractor running move both lapbar drive control levers fully inward in the neutral position; then lift upward from the operator's seat. The engine should stop.
3. With both lapbar drive control levers fully outward in the parking brake engaged position, engage the PTO. Lift upward from the operator's seat; the engine should stop.

Starting the Engine

⚠ CAUTION: The operator should be sitting in the tractor seat when starting the engine.

1. Operator should be sitting in the tractor seat with the lapbar drive control levers fully out and in the park position. See Figure 25. Refer to Practice Operation for further instructions.
2. Make certain the PTO is in the "OFF" position. Move the choke control or throttle/choke control into the full choke position. Move the throttle control to midway between its slow and fast positions on models with a separate choke control.

NOTE: If the engine is warmed up, it may not be necessary to choke the engine.

3. Turn the key clockwise to the START position. After the engine starts, release the key. It will return to the RUN position.

⚠ CAUTION: Do not hold the key in the START position for longer than ten seconds at a time. Doing so may cause damage to engine's electric starter.

4. As the engine warms up, gradually pull the throttle/choke control lever rearward past the choke detent position or slowly disengage the choke on models with a separate choke. Do not use the choke position to enrich the fuel mixture, except as necessary to start the engine.
5. Allow the engine to run for a few minutes at mid-throttle before putting the engine under load.

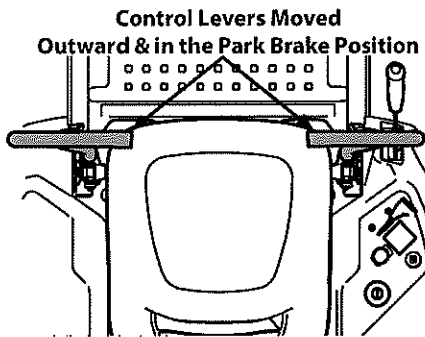


Figure 25

6. Observe the hour meter/indicator panel. If the battery indicator light or oil pressure light come on, immediately stop the engine. Have the tractor inspected by an authorized service dealer.

Cold Weather Starting

When starting the engine at temperatures near or below freezing, ensure the correct viscosity motor oil is used in the engine and the battery is fully charged. Start the engine as follows:

1. Be sure the battery is in good condition. A warm battery has much more starting capacity than a cold battery.
2. Use fresh winter grade fuel. Winter grade gasoline has higher volatility to improve starting. Do not use gasoline left over from summer.
3. Follow the previous instruction for Starting the Engine.

Using Jumper Cables to Start Engine

⚠ WARNING: Batteries contain sulfuric acid and produce explosive gases. Make certain the area is well ventilated, wear gloves and eye protection, and avoid sparks or flames near the battery.

If the battery charge is not sufficient to crank the engine, recharge the battery. If a battery charger is unavailable and the tractor must be started, the aid of a booster battery will be necessary. Connect the booster battery as follows:

1. Connect the end of one cable to the disabled tractor battery's positive terminal; then connect the other end of that cable to the booster battery's positive terminal.
2. Connect one end of the other cable to the booster battery's negative terminal; then connect the other end of that cable to the frame of the disabled tractor, as far from the battery as possible.
3. Start the disabled tractor following the normal starting instructions previously provided; then disconnect the jumper cables in the exact reverse order of their connection.
4. Have the tractor's electrical system checked and repaired as soon as possible to eliminate the need for jump starting.

Stopping the Engine

1. Disengage the PTO.
2. Move the RH and LH lapbar drive control levers fully outward into the Park Brake engaged position.
3. Move the throttle control to the FAST position.
4. Turn the key to the STOP position and remove the key from the ignition module.

NOTE: Always remove the key from the ignition module to prevent accidental starting or battery discharge if the equipment is left unattended.

Practice Operation (Initial use)

Operating a zero-turn tractor is not like operating a conventional type riding tractor. Although and because a zero-turn tractor is more maneuverable, getting used to operating the lapbar drive control levers takes some practice.

It is strongly recommended that you locate a reasonably large, level and open "practice area" where there are no obstructions, pedestrians or animals. You should practice operating the tractor for a minimum of 30 minutes.

Carefully move (or have moved) the tractor to the practice area. When performing the practice session, the PTO should not be engaged. While practicing, operate the tractor at approximately 1/2-3/4 throttle and at less than full speed in both forward and reverse. Carefully practice maneuvering the tractor using the instructions in the following section Driving the Tractor. Practice until you are confident that you can safely operate the tractor.

Driving the Tractor

⚠ WARNING: Keep all movement of the lapbar drive control levers slow and smooth. Abrupt movement of the control levers can affect the stability of the tractor and could cause the tractor to flip over, which may result in serious injury or death to the operator.

1. Adjust the operator's seat to the most comfortable position that allows you to operate the controls. See seat adjustment in the Assembly section.
2. Move the RH and LH lapbar drive control levers inward in the neutral position which also disengages the parking brake. Refer to Figure 26.

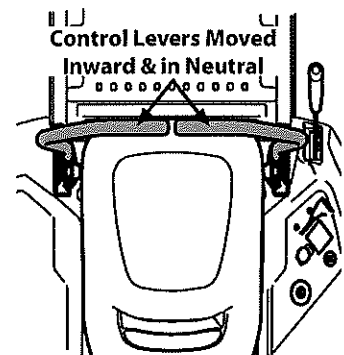


Figure 26

OPERATION, cont'd

NOTE: Lapbar drive control levers must be moved fully inward before pushing forward or backward to ensure brakes are fully disengaged. Parking the tractor on uneven terrain or a hill may cause the brakes to bind and not release fully. In this case the tractor will not drive when the lapbar drive control levers are moved. If this happens, move the lapbar drive control lever in the opposite direction slightly to take the load off the brakes and allow them to release fully.

NOTE: If the lapbar drive control levers are not even in the neutral position, refer to Service and Maintenance for instructions to adjust the lapbar drive control levers so that they are even.

3. Move the throttle to the full throttle position.

⚠ WARNING: Always maintain a firm grip on the control levers. Do not release the control levers to slow or stop the tractor; move levers to neutral position using hands.

4. To drive the tractor, firmly grasp the respective lapbar drive control levers with right and left hands and continue with Driving the Tractor Forward in the next section.

Driving the Tractor Forward

1. Slowly and evenly move both lapbar drive control levers forward. The tractor will start to move forward. See Figure 27.
2. As the lapbar drive control levers are pushed farther forward the speed of the tractor will increase.
3. To slow the tractor move the drive controls lever rearward to attain the desired speed, or move the lapbar drive control levers to the neutral position to stop the tractor.

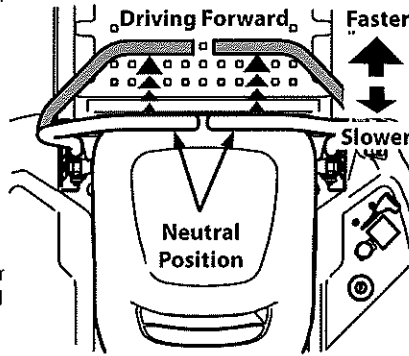


Figure 27

Turning the Tractor While Driving Forward

⚠ WARNING: Sharp turns can affect control of the tractor. ALWAYS slow the tractor before making sharp turns.

To turn the tractor while driving forward, move the lapbar drive control levers as necessary so that one drive control lever is rearward of the other. The tractor will turn in the direction of the rearward drive control lever.

1. To turn to the left, move the left drive control lever rearward of the right drive control lever. See Figure 28.
2. To turn to the right, move the right drive control lever rearward of the left lever. See Figure 29.
3. The greater the distance between the two levers, the sharper the tractor will turn.
4. To execute a "pivot turn," move the turn side drive control lever to the neutral position, while moving the other control lever forward.

NOTE: Making a "pivot turn" on grass will greatly increase the potential for defacement of the turf.

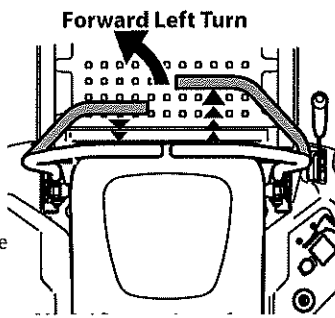


Figure 28

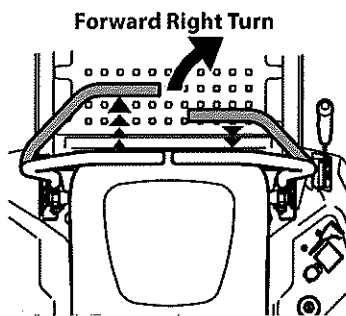


Figure 29

Driving the Tractor In Reverse

⚠ WARNING: Always look behind and down on both sides of the tractor before backing up. Always look behind while traveling in the reverse direction. Mowing in reverse is not recommended.

1. Slowly and evenly move both lapbar drive control levers rearward. The tractor will start to move in the reverse direction. See Figure 30.
2. As the lapbar drive control levers are pushed farther rearward the speed of the tractor will increase.
3. To slow the tractor move the lapbar drive control levers forward to attain the desired speed, or move the lapbar drive control levers to the neutral position to stop the tractor.

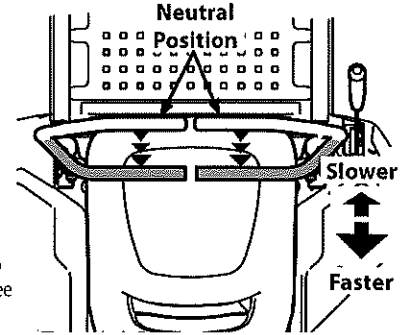


Figure 30

Turning While Driving Rearward

To turn the tractor while driving rearward, move the lapbar drive control levers as necessary so that one drive control lever is forward of the other. The tractor will turn in the direction of the forward lapbar drive control lever.

1. To turn to the left while traveling in reverse, move the left drive control lever forward of the right drive control lever. See Figure 31.
2. To turn to the right while traveling in reverse, move the right drive control lever forward of the left drive control lever. See Figure 32.

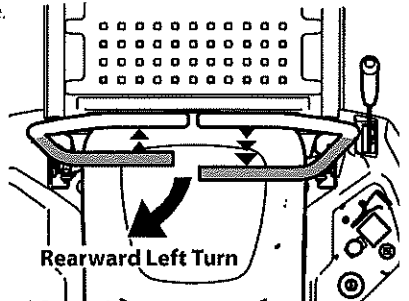


Figure 31

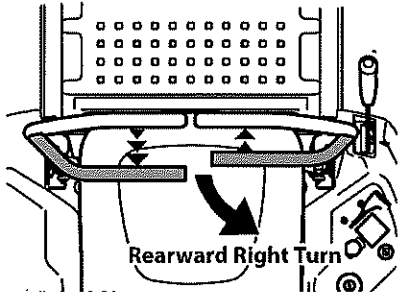


Figure 32

NOTE: The greater the distance between the two lapbar drive control levers, the sharper the tractor will turn.

3. To execute a "pivot turn", move the turn side drive control lever to the neutral position, while moving the other drive control lever rearward.

NOTE: Making a "pivot turn" on grass will greatly increase the potential for defacement of the turf.

Executing a Zero Turn

1. Stop the forward or reverse motion of the tractor by moving the two lapbar drive control levers to neutral.
2. To turn clockwise, move the left lapbar drive control lever forward while simultaneously moving the right lapbar drive control lever rearward. See Figure 33.
3. To turn counter-clockwise, move the lapbar right drive control lever forward while simultaneously moving the left lapbar drive control lever rearward. See Figure 34.

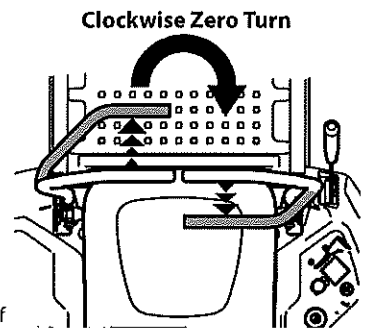


Figure 33

Counter-clockwise Zero Turn

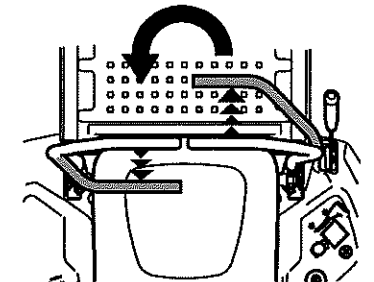



Figure 34

OPERATION, cont'd

Stopping the Tractor


1. Move both lapbar drive control levers to the neutral position to stop the motion of the tractor.
2. Push the PTO downward to the OFF position.
3. Use the deck lift knob/handle to raise the deck to its highest position.
4. If dismounting the tractor, move the lapbar drive control levers fully outward in the neutral position which also engages the parking brake, move the throttle to the FAST position, turn the key to STOP  and remove the key from the ignition module.

⚠ WARNING: Do not leave the seat of the tractor without disengaging the PTO and moving lapbar drive control levers fully outward into the Park Brake engaged position. If leaving the tractor unattended, turn the ignition key to the STOP position and remove key.

Engaging the PTO

Engaging the PTO transfers power to the cutting deck or other (separately available) attachments. To engage the PTO:

1. Move the throttle to the FAST  position.
2. Pull the PTO switch up/out into the ENGAGED (ON) position.

NOTE: When operating the tractor be certain that the throttle is always in the FAST  position. Operating with the throttle at less than full throttle may lead to premature battery wear and a poor quality cut.

3. To disengage the PTO, push the PTO switch down/in to the DISENGAGED (OFF) position.

Mowing

⚠ WARNING: To help avoid blade contact or a thrown object injury, keep bystanders, helpers, children and pets at least 75 feet (23 meters) from the machine while it is in operation. Stop machine if anyone enters the area.

⚠ WARNING: Make certain the area to be mowed is free of debris, sticks, stones, wire, or other objects that can be thrown by the rotating blades.

NOTE: Do not engage the mower deck when lowered in grass. Premature wear and possible failure of the "V" belt and PTO clutch will result. Fully raise the deck or move to a non-grassy area before engaging the mower deck.

- Mow across slopes, not up and down. If mowing a slope, start at bottom and work upward to ensure turns are made uphill.
- Do not mow at high ground speed, especially if a mulch kit or grass collector is installed.
- Do not cut the grass too short. Short grass is prone to weed growth and yellows quickly in dry weather.
- Always operate the tractor with the throttle in the FAST position while mowing.
- On the first pass pick a point on the opposite side of the area to be mowed. Follow the point to maintain a straight line.
- Engage the PTO and move the throttle control or throttle/choke control to the FAST position.

- Lower the mower deck to the desired height setting.
- For best results it is recommended that the first two laps be cut with the discharge thrown towards the center. After the first two laps, reverse the direction to throw the discharge to the outside for the balance of cutting. This will give a better appearance to the lawn.
- Slowly and evenly push the RH and LH lapbar drive control levers forward to move the tractor forward, and keep the tractor headed directly toward the alignment point.

NOTE: The speed of the tractor will affect the quality of the mower cut. Mowing at full speed will adversely affect the cut quality. Control the ground speed with the lapbar drive control levers.

- The tractor is designed to cut normal residential grass of a height no more than 10" (25 cm). Do not attempt to mow through unusually tall, dry grass (e.g., pasture) or piles of dry leaves. Dry grass or leaves may contact the engine exhaust and/or build up on the tractor.
- Do NOT attempt to mow heavy brush and weeds or extremely tall grass. The tractor is designed to mow lawns, NOT clear brush.
- Keep the blades sharp and replace the blades when worn.
- When approaching the other end of the strip, slow down or stop before turning. A U-turn is recommended unless a pivot or zero turn is required.
- Align the mower with an edge of the mowed strip and overlap approximately 3" (7.6 cm).
- Direct the tractor on each subsequent strip to align with a previously cut strip.
- To prevent rutting or grooving of the turf, if possible, change the direction that the strips are mowed by approximately 45° for the next and each subsequent mowing.

When stopping the tractor for any reason while on a grass surface, always:

- Move the RH and LH lapbar drive control levers fully outward into the Park Brake engaged position.
- Shut engine off and remove the key.
- Doing so will minimize the possibility of having the lawn "browned" by hot exhaust from the tractor's running engine.

SERVICE AND MAINTENANCE

Maintenance Schedule

⚠ WARNING: Before performing any type of maintenance/service, disengage all controls and stop the engine. Wait until all moving parts have come to a complete stop. Disconnect spark plug wire and ground it against the engine to prevent unintended starting. Always wear safety glasses during operation or while performing any adjustments or repairs.

Follow the maintenance schedule given below. This chart describes service guidelines only. Refer to the Engine Operator's Manual for engine maintenance items listed in the table below.

	Before Each use	After First 5 Hours	Every 10 Hours	Every 25 Hours	Every 50 Hours	Every 100 Hours	Every 200 Hours	Prior to Storing	See Engine Manual
Check/Clean Engine Intake Screens & Cooling Fans #	✓							✓	
Check/Clean Exhaust Manifold, Muffler Pipe & Muffler Shields #	✓							✓	
Check/Clean Top & Underside of Deck, Under & Around Spindle Covers & Belt Area #	✓							✓	
Check/Clean Around Fuses, Wiring & Wiring Harnesses #	✓							✓	
Check/Clean Around Transmission, Axle & Fans #	✓							✓	
Check/Add/Change Transmission Fluid as needed							✓		
Check Air Filter for Dirty, Loose or Damaged Parts	✓								
Check Engine Oil Level	✓								
Clean Battery Terminals			✓					✓	
Grease All Lubrication Points			✓					✓	
Check Engine Intake Screen/Clean as Needed			✓					✓	
Check Blades/Sharpen or Replace as Needed			✓					✓	
Check Tire Pressure			✓					✓	
Check/Clean Underside of Deck			✓						
Check Safety Interlock System			✓					✓	

SERVICE AND MAINTENANCE, cont'd

	Before Each use	After First 5 Hours	Every 10 Hours	Every 25 Hours	Every 50 Hours	Every 100 Hours	Every 200 Hours	Prior to Storing	See Engine Manual
Check ROPS Hardware & Seat Belt Assembly			✓					✓	
Check Mower Blade Stop Time			✓					✓	
Inspect & Lube Deck Wheels				✓				✓	
Check Deck Level/Pitch				✓				✓	
Check Belts & Pulleys for Damage/Wear					✓				
Check That All Hardware is in Place & Secure						✓			
Check Engine Mounting Bolt Torque (Tighten to 325-450 in-lbs (37-50 N-m))		✓			✓			✓	✓
Check Blade Mount Nut Torque (Tighten to 70-90 ft-lbs (95-122 N-m))		✓			✓			✓	
Check Spark Plug Condition & Gap						✓		✓	✓
Engine Break-in Oil Change		✓							✓
Change Engine Oil					✓			✓	✓
Check Fuel System (Lines, Tank, Cap, Fittings)		✓			✓			✓	✓
Check Spark Arrestor		✓			✓			✓	✓
Replace Oil Filter					✓			✓	✓
Clean or Change Air Filter					✓				✓
Replace Fuel Filter					✓				✓
Have Valve Lash Checked & Adjusted *									✓

* -- Have this item performed by an authorized service dealer.
 # -- Perform more often in dry conditions and/or when mulching.

NOTE: This Operator's Manual covers several models. Tractor features may vary by model. Not all features in this manual are applicable to all tractor models and the tractor depicted may differ from yours.

Post-Operation Tractor Care

After each operation of the tractor, to ensure safe operating conditions, refer to Maintenance Schedule chart in this manual for proper tractor care.

⚠ WARNING: Failure to follow these recommendations may result in serious injury to yourself or others and may cause damage to the tractor.

Cleaning the Tractor

⚠ WARNING: If the tractor has been recently run, the engine, muffler, and surrounding metal surfaces will be very hot and can cause burns to the skin. Let the engine cool for at least five minutes. Exercise caution to avoid burns.

The tractor should be cleaned after each use and under certain conditions, i.e. dry conditions and/or mulching situations, additional cleaning may be necessary.

One of the best ways to keep the tractor running efficiently and to reduce fire risk is to regularly remove debris buildup from the tractor. Follow the recommendations below and contact an authorized dealer with any questions.

- Allow the machine to cool for at least five minutes in an open area before cleaning.

NOTE: Using a pressure washer or garden hose is not recommended for cleaning the tractor other than to clean the underside of the deck. It may cause damage to electrical components, spindles, pulleys, bearings or the engine. The use of water will result in shortened life and reduce serviceability.

- Keep both sides of transmission cooling slots, exhaust manifold, around fuses, all wiring and harnesses, muffler pipe, muffler shield, engine intake screens and cooling fins, etc. clear of grass clippings and leaves. See Figure 35.

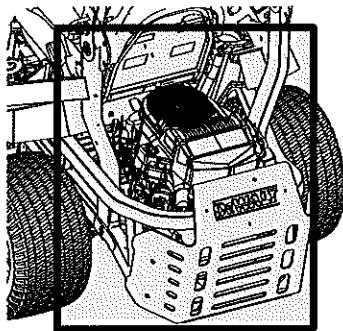


Figure 35

- Clean the top of the mower deck, under the spindle covers and belt area. See Figure 36.

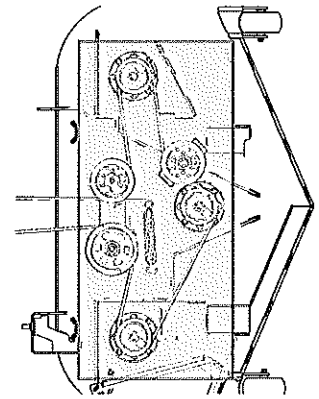


Figure 36

- Clean around and near the transmission, axle and the fan area. See Figure 37.

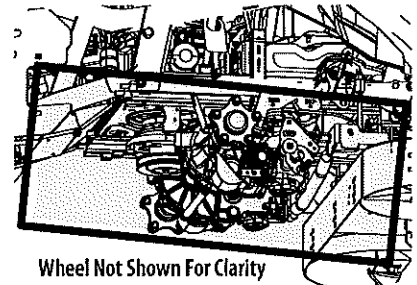


Figure 37

- Debris can accumulate anywhere on the tractor, especially on horizontal surfaces. Additional cleaning may be necessary when mowing in dry conditions or when mulching.
- Fuel leaks/spills, oil leaks/spills and excess lubrication can also become collection sites for debris. Immediate repair and cleaning up oil or fuel spills can help reduce fire hazards.

SERVICE AND MAINTENANCE, cont'd

- In addition to cleaning the tractor before operating and storing, do not attempt to mow unusually tall grass (10" (25.4 cm) or higher), dry grass (e.g., pasture) or piles of dry leaves. Dry grass or leaves may contact the engine exhaust and/or build up on the mower deck presenting a potential fire hazard.

Storing the Tractor

- Allow the machine to cool in an open area for at least five minutes before storing.
- Do not park the tractor near any flammable materials (wood, cloth or chemicals) or any open flames or other potential source of ignition (furnace, water heater or any other type of heater).
- Remove all combustible materials from the tractor before storing. Empty cargo boxes, grass catchers or containers.
- Always shut off fuel flow when storing or transporting if tractor is equipped with a fuel shutoff.
- Check the fuel system (lines, tank, cap and fittings) per the Maintenance Schedule for cracks or leaks. Repair and clean as necessary.

Maintenance

Removing the Floor Panel

⚠ WARNING: Do not operate tractor with floor panel removed.

The floor panel can be removed for maintenance, service and cleaning. To remove the floor panel:

- Carefully lift the rear of the floor panel. See 1 in Figure 38.
- Slide the floor panel rearward to free the front of the floor panel. See 2 in Figure 38.
- Lift it off the tractor. See 3 in Figure 38.
- To place the floor panel back on the tractor, carefully fit the front tabs at the front of the floor panel into place and lower the rear of the panel down into place.

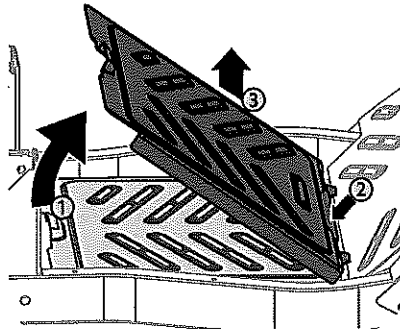


Figure 38

Engine

⚠ WARNING: Allow machine to cool in an open area for at least five minutes before storing or refueling.

Refer to the Engine Operator's Manual for all engine maintenance procedures and instructions.

NOTE: Maintenance, repair or replacement of the emission control devices and systems which are being done at owner's expense may be performed by any engine repair establishment or individual. Warranty repairs must be performed by an authorized dealer.

Changing the Engine Oil

⚠ WARNING: If the tractor has been recently run, the engine, muffler and surrounding metal surfaces will be very hot and can cause burns to the skin. Let the engine cool for at least five minutes. Exercise caution to avoid burns.

NOTE: The oil filter should be changed at every oil change interval.

To complete an oil change, proceed as follows:

- Locate the oil drain hose (a) on the side of the engine.
- Place an appropriate oil collection container with at least a 2.5 quart (2.37 liter) capacity below the opening of the oil drain hose, to collect the used oil. Remove the oil fill cap/dipstick (b) from the oil fill tube.
- While holding the free end of the oil drain hose over the oil collection container, unscrew the square head hose plug (c) from the end of the oil drain hose. See Figure 39. Drain the engine oil into the collection container.
- After draining the oil, wipe any residual oil from the oil drain hose. Thread the square head plug into the oil drain hose fitting and tighten the square head hose plug to 16 ft-lbs (22 N-m).

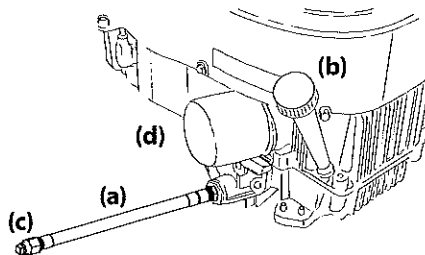


Figure 39

- Remove the oil filter (d) and drain into the collection container.
- Replace the oil filter (d), and refill the engine with new oil as instructed in the Engine Operator's Manual.

NOTE: Place an absorbent towel beneath the oil filter to keep oil off the clutch.

NOTE: Observe proper disposal laws and regulations for gas, oil, etc. to protect the environment.

NOTE: Maintenance, repair or replacement of the emission control devices and systems which are being done at owner's expense may be performed by any engine repair establishment or individual. Warranty repairs must be performed by an authorized dealer.

Lubrication

⚠ WARNING: Before lubricating, repairing, or inspecting, always disengage PTO, set parking brake, stop engine, and remove key to prevent unintended starting.

- Using a quality lubricating oil, lubricate all lubrication points. Refer to Maintenance Schedule chart located in this manual for proper service intervals.

Spark Arrestor Maintenance (If equipped)

Spark arrestor assemblies must be inspected and cleaned periodically (see the Maintenance Schedule chart in this manual). Visually inspect the screen for tears, broken wires or loose welds. Replace the spark arrestor assembly if any of these conditions exist. If the screen is in good condition, clean the screen by brushing away loose dirt or carbon particles.

Tires

Keep the tires inflated to the recommended pressures. Improper inflation will shorten the tire service life. See the tire side wall for proper inflation pressures. Refer to Maintenance Schedule chart located in this manual for proper service intervals.

Observe the following guidelines:

- Do not inflate a tire above the maximum pressure shown on the sidewall of the tire.
- Do not reinflate a tire that has been run flat or seriously under-inflated. Have it inspected and serviced by a qualified tire mechanic.

Hydrostatic Transmission

The zero turn tractor is equipped with two hydrostatic pumps/transaxles. Some models are equipped with a transmission oil expansion reservoir. Under normal operating conditions, the oil level in the expansion reservoirs does not need to be checked and no additional oil is needed.

Changing the Transmission Oil

Please see an authorized service dealer for transmission oil changes.

Off-Season Storage

If the tractor is not going to be operated for an extended period of time (thirty days or more), the tractor should be prepared for storage. Store the tractor in a dry and protected location. If stored outside, cover the tractor (including the tires) to protect it from the elements. The procedures outlined below should be performed whenever the tractor is placed in storage.

- Change the engine oil and filter following the instructions provided in this manual as well as the Engine Operator's Manual packed with this tractor.

⚠ WARNING: Never store the tractor with fuel in the tank indoors or in poorly ventilated enclosures, where fuel fumes may reach an open flame, spark, or pilot light as on a furnace, water heater, clothes dryer, etc.

- If storing the tractor for 30 days or more:
 - To prevent gum deposits from forming inside the engine's carburetor and causing possible malfunction of the engine, the fuel system must be either completely emptied, or the gasoline must be treated with a stabilizer to prevent deterioration.
 - Using a fuel stabilizer for storage between 30 and 90 days:
 - Read the product manufacturer's instructions and recommendations.
 - Add to clean, fresh gasoline the correct amount of stabilizer for the capacity (approximately 5 gallons) of the fuel system.
 - Fill the fuel tank with treated fuel and run the engine for 2-3 minutes to get stabilized fuel into the carburetor.
 - Fuel left in the fuel tank deteriorates and will cause serious starting problems.
 - Emptying the fuel system for storage of more than 90 days:
 - Prior to putting the tractor in storage, monitor fuel consumption with the goal of running the fuel tank empty.
 - Run the engine until it begins to stall. Use the choke to keep the engine running until all fuel in the carburetor has been exhausted.
 - Referring to the Engine Operator's Manual, drain the fuel from the carburetor bowl.
- Clean the engine and the entire tractor thoroughly.

SERVICE AND MAINTENANCE, cont'd

NOTE: Using a pressure washer or garden hose is not recommended for cleaning the tractor other than to clean the underside of the deck. It may cause damage to electrical components, spindles, pulleys, bearings or the engine. The use of water will result in shortened life and reduce serviceability.

4. Fully charge the battery, then disconnect the negative cable at the battery to prevent possible discharge. Recharge the battery periodically when in storage.

NOTE: Remove the battery if exposed to prolonged periods of sub-freezing temperatures. Store in a cool, dry location where temperatures are above freezing.

5. Lubricate all lubrication points.

Removing the Tractor From Storage

1. Check the engine oil.
2. Fully charge the battery and inflate the tires to the recommended pressure. See tire side wall for proper tire inflation pressure.
3. Fill the fuel tank with clean, fresh gasoline.
4. Start the engine and allow to idle for a few minutes to ensure engine is operating properly.
5. Drive the tractor without a load to make certain all the tractor systems are functioning properly.

Adjustments

Adjusting Deck Lift Pedal

The deck lift pedal can be adjusted to operator preference.

1. Set the deck to the transport position.
2. Remove the hex bolt, washer and hex nut near the center of the pedal assembly. See Figure 40.
3. Position the pedal to the optimal position based on operator preference. See Figure 41.
4. Reinstall the hardware previously removed and torque the nut to 28-35 ft-lbs (38-47 N-m). See Figure 40.

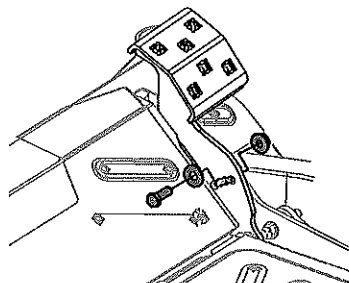


Figure 40

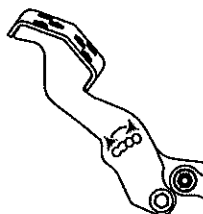


Figure 41

Deck Leveling

If the cutting deck appears to be mowing unevenly, leveling adjustments can be performed.

WARNING: If the tractor has been recently run, the engine, muffler, and surrounding metal surfaces will be very hot and can cause burns to the skin. Let the engine cool for at least five minutes. Exercise caution to avoid burns.

Leveling the Deck (Side-to-Side)

1. Park the tractor on a firm, level surface.
2. Ensure that all tires are properly inflated.
3. Place the deck lift knob in a middle mowing position and rotate both outside blades so that they are perpendicular with the tractor.
4. Measure the distance from the outside of the left blade tip to the ground and the distance from the outside of the right blade tip to the ground. Both measurements taken should be equal. If they are not, proceed to the next step.
5. Locate the adjustment nuts on top of the deck lift rods on the left and right side of the tractor. There is one on each side at the front of the deck between the platform and lower frame tube, and one at each side of the rear of the deck near the front of the rear wheel. See Figure 42.
6. Remove the end cap from front deck lift rods and save for later re-installation.
7. Rotate either the left side (front and rear) or right side (front and rear) nuts clockwise to raise the deck height or counter-clockwise to lower the deck, depending on the needed adjustment. Adjust each nut equally.

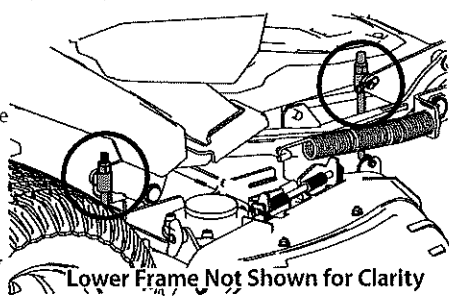


Figure 42

NOTE: Make adjustments in quarter-turn increments and re-measure blade distance on both sides frequently.

Leveling the Deck (Pitch/Front-to-Rear)

The front of the deck should be between 1/8-3/8" (3-9 mm) lower than the rear of the deck. Adjust if necessary as follows:

1. Park the tractor on a firm, level surface and place the deck lift knob in a middle position.
2. Ensure that all tires are properly inflated.
3. Ensure side-to-side level.
4. Rotate the blade nearest the discharge chute so that it is parallel with the tractor.
5. Measure the distance from the front of the blade tip to the ground and the rear of the blade tip to the ground. The first measurement taken should be between 1/8-3/8" (3-9 mm) less than the second measurement.
6. Determine the approximate distance necessary for proper adjustment and proceed, if necessary.
 - a. Remove the end cap on both front deck height adjust rods and save for later re-installation. See Figure 43.
 - b. Rotate both front nuts clockwise to raise the front deck pitch or counter-clockwise to lower the front deck pitch, depending on the needed adjustment. Adjust each nut equally. See Figure 43.

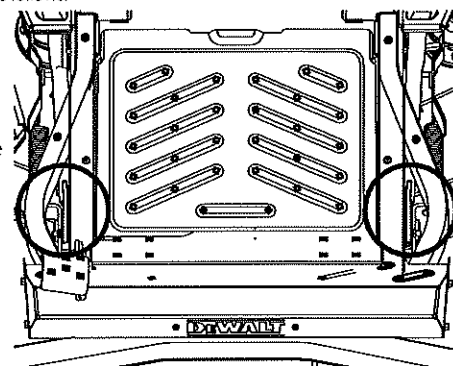


Figure 43

NOTE: Make adjustments in quarter-turn increments, and re-measure front-to-rear deck pitch blade distance frequently until proper pitch is achieved.

- c. Reinstall the end caps onto the deck rods.

Adjusting the Deck Wheels

WARNING: Keep hands and feet away from the discharge opening of the cutting deck.

NOTE: The deck wheels are an anti-scalp feature of the deck and are not designed to support the weight of the cutting deck. The deck wheels should be approximately 1/4-1/2" (6.35-12.7 mm) above the ground when the deck is set in the desired height setting. To adjust the deck wheels see the Assembly section for instructions.

Lapbar Drive Control Lever Stop Adjustment

When the lapbar drive control levers are both fully extended forward to the full-speed position and the tractor drifts left or right, the lapbar drive control lever stop adjustment can be adjusted to sync the wheel speeds. To perform the adjustment, proceed as follows:

1. Identify the side that the tractor is drifting to and adjust the opposite lapbar drive control lever. If the tractor drifts right, adjust the left lapbar drive control lever down (decrease speed) and vice versa.
2. Locate the lapbar drive control lever stop adjustment bolts (a) on the front of the seat frame. See Figure 44.

NOTE: The multi-tool (if equipped) can be used to make this adjustment.

3. To decrease the forward speed, turn the lapbar drive control lever stop adjustment bolts (a) clockwise. To increase the forward speed, turn the lapbar drive control lever stop adjustment bolts (a) counter-clockwise. Turn the lapbar drive control lever stop adjustment bolts (a) in the necessary direction 1/4-turn at a time. After turning the lapbar drive control lever stop adjustment bolts (a), check the adjustment by driving the tractor.
4. Continue the adjustment until the wheel speeds are in sync and the tractor drives straight with the drive control levers fully extended forward in the full-speed position.

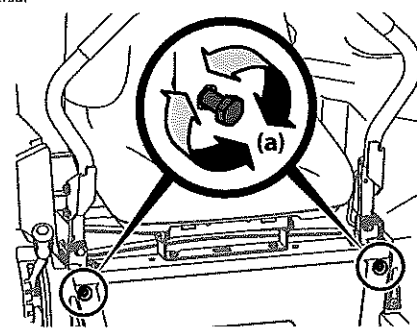


Figure 44

NOTE: Make sure the bolts extend through the nuts on the frame to engage the locking feature.

SERVICE AND MAINTENANCE, cont'd

Service

Electrical System

A fuse is installed to protect the tractor's electrical system from damage caused by excessive amperage. Always use the same capacity fuse for replacement. If the electrical system does not function, check for a blown fuse.

If you have a recurring problem with blown fuses, have the tractor's electrical system checked by an authorized service dealer.

Relays and Switches

There are several safety switches in the electrical system. If a function of the safety interlock system described earlier is not functioning properly, have the electrical system checked by an authorized service dealer.

Parking Brake Adjustment

If the tractor does not come to a complete stop when the control levers are moved fully outward engaging the parking brake, or if the tractor's rear wheels can roll with the parking brake engaged (and the hydrostatic relief valve open), the brake is in need of adjustment. See an authorized service dealer to have the brake adjusted.

Deck Removal

Remove the tractor deck from the tractor as follows:

1. Move the tractor to a level surface, disengage the PTO, stop the engine, place the RH and LH drive control levers fully outward into the Park Brake engaged position.
2. There are two methods for removing the belt, to remove the belt by releasing belt tension go on to Step 3, to remove the belt by rolling the belt off the PTO pulley skip ahead to Step 4.

⚠ WARNING: Use caution to avoid pinching fingers when rolling the belt off the PTO pulley.

3. Release belt tension:
 - a. Using the deck lift pedal and knob, raise the deck to the position that provides the most horizontal run of the belt between the deck idler pulleys and the PTO pulley on the bottom of the engine.
 - b. Remove the idler spring from the wireframe spring hook on the right side of the center of the deck. See Figure 45.
4. Roll the belt off the PTO pulley:
 - a. Raise the deck to the position that provides the most horizontal run of the belt between the deck idler pulleys and the PTO pulley on the bottom of the engine.
 - b. Sitting behind the tractor facing forward, reach beneath the tractor to grasp the belt at the front of the PTO pulley.
 - c. Pull the left side of the belt rearward and downward while manually turning the PTO pulley to the right until the belt rides out onto the edge of the lower sheave of the pulley.

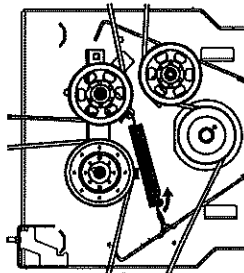


Figure 45

NOTE: If pulling the right side of the belt, turn the pulley left.

- d. While still holding the PTO belt (a) downward, continue turning the PTO pulley (b) until the PTO belt (a) is rolled off the PTO pulley (b). Refer to Figure 46.
- e. Lower the deck into the lowest mowing position.

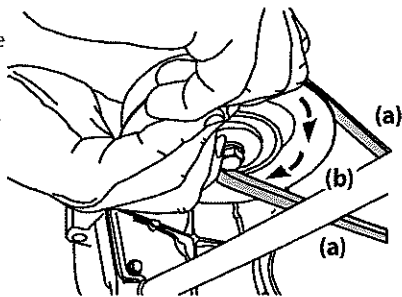


Figure 46

⚠ WARNING: The deck lift is spring-assisted and under tension. Injury can occur if spring-assisted deck lift is released suddenly. Always use the multi-tool to secure the deck lift in place. Do not attempt to use the deck lift pedal while the deck is locked with the multi-tool in this way.

5. Use the deck lift pedal and deck lift knob to place the deck in the lowest position and use the multi-tool to lock the deck lift components in place. There are a pair of alignment holes by the rear wheel on the left side of the tractor (one on the frame and one on the deck lift arm) as shown in Figure 47. Ensure tool is fully inserted properly, locking the deck lift arm in place to the frame.

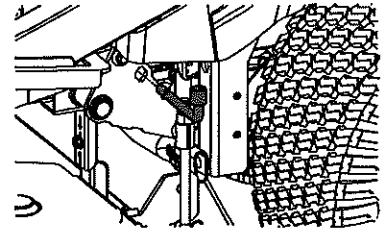


Figure 47

6. Remove the two bow-tie pins from the deck rods that secure the front center lift link brackets on the frame to the front-center lift brackets on the deck and pull the front end of the rods out of place. See Figure 48.

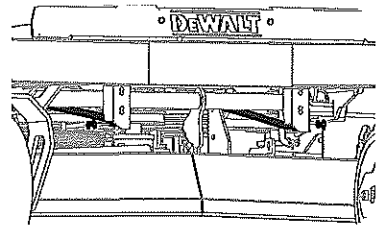


Figure 48

7. Remove the deck stabilizer bar at the rear of the deck:
 - a. Remove the bow-tie cotter pin on the right side of the

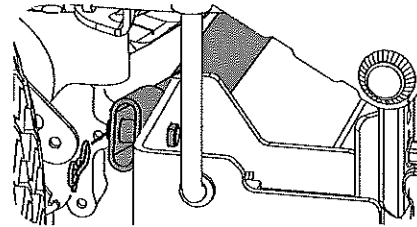


Figure 49

bar connecting the bar with the bracket on the deck. See Figure 49.

- b. Remove the bow-tie cotter pin on the left side of the bar, connecting the bar with the bracket on the frame. See Figure 50.
8. Remove the bow-tie pin from the bottom clevis end of each deck height adjust rod. There is one at the front and one at the rear on each side of the deck. See Figure 51 (left side shown).

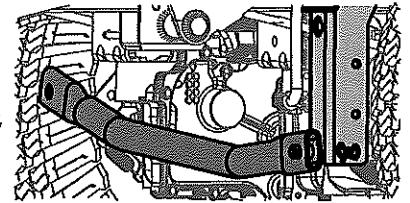


Figure 50

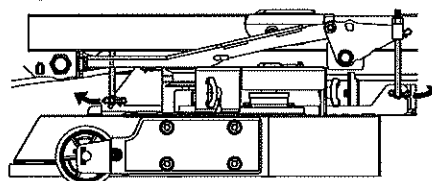


Figure 51

9. Carefully maneuver the deck out from beneath the tractor.

Deck Installation

Install the deck on the tractor as follows:

1. Carefully maneuver the deck under the tractor from the right side, lining up the deck hanger rods and the deck lift rods on the tractor removed in the previous section with appropriate bracket connections on the top of the deck.
2. Once the deck is under the tractor, move the deck to the lowest mowing position.

NOTE: To line the brackets up properly, it may be necessary to place a small block of wood under each side of the deck.

SERVICE AND MAINTENANCE, cont'd

3. Re-install the applicable hardware for the tractor, in reverse order of the removal process:
 - a. Install the hanger rod clevis ends of the deck height adjust rods removed in Step 8 of Deck Removal and secure with the bow-tie pins previously removed.
 - b. Reinstall the deck stabilizer rod, at the rear of the deck, onto the frame at the left side, and onto the deck on the right side, with the bow-tie pins previously removed.
 - c. Reinstall the front hanger rods into the front center brackets on the deck and secure with the bow-tie pins previously removed.
4. Make certain the "V" belt is in the spindle pulleys on the deck.
5. Make certain that the backside of the belt is against both the fixed and movable idler pulleys. Reinstall or tighten any idler pulley hardware previously removed or loosened for deck removal.
6. Route the belt rearward beneath the tractor frame, above the rear deck stabilizer bar, above the transmission tube(s), to the PTO pulley on the bottom of the engine.
7. Raise the deck to the position that provides the most horizontal run of the belt between the deck idler pulleys and the PTO pulley on the bottom of the engine.
8. Sitting behind the tractor, facing forward, make certain the belt is not twisted; then reach beneath the tractor to grasp the belt and pull it toward the PTO pulley.

⚠ WARNING: Use caution to avoid pinching fingers when rolling the belt onto the PTO pulley.

9. Pull the right side of the PTO belt rearward and place the narrow V-side of the PTO belt into the PTO pulley. See Figure 52.
10. While holding the PTO belt and PTO pulley together, rotate the PTO pulley to the left (see Figure 46). Continue holding and rotating the PTO pulley and PTO belt until the PTO belt is fully rolled into the PTO pulley.

NOTE: Before using the tractor double-check the belt routing to make sure that the belt has been routed properly.

11. Check deck level and pitch. Adjust if necessary.

Replacing the Belt

1. Remove the deck from beneath the tractor (refer to Deck Removal).
2. Remove the hex thumb screws securing the belt covers to the deck. See Figure 53.
3. Remove the belt covers from the deck. See Figure 54.
4. Remove the two idler pulley assemblies by removing the flange lock nuts (a) at the top of the assemblies, then removing the assemblies from the idler arm. See Figure 55.

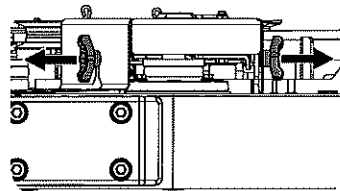


Figure 53

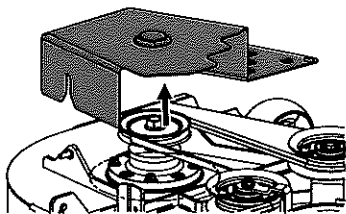


Figure 54

NOTE: Take note of all hardware, including the positions of the belt keepers for proper reinstallation later.

5. Remove the belt from the spindle pulleys.
6. Install the new belt around the spindle pulleys as shown and reinstall the belt covers removed in Step 3 of this section.

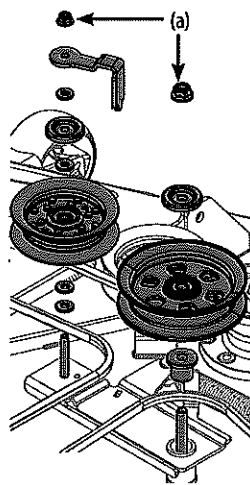


Figure 55

7. Place the belt around the idler pulleys removed in Step 4 with the "V" side facing in, and no kinks or twists along the run of the belt. Once in place, loosely reinstall the idler arm hardware.
8. Route the belt as shown in Figure 56. Tighten and secure the idler arm hardware.

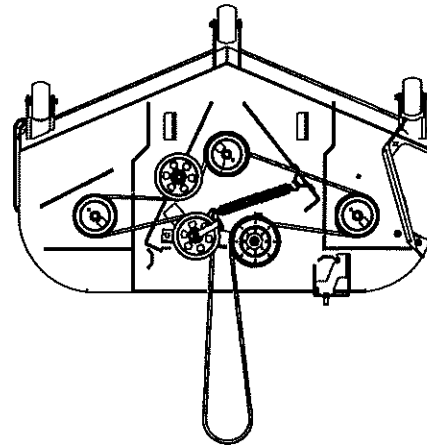


Figure 56

Tractor Blade Care

⚠ WARNING: Before performing any maintenance, disengage the PTO and move the lapbar drive control levers fully outward into the Park Brake engaged position. If leaving the tractor unattended, turn the ignition key to the STOP position and remove key. Protect hands by using heavy gloves when handling the blades. When servicing the tractor deck, be careful not to cut yourself on the sharpened blades.

The cutting blades must be kept sharp at all times. Sharpen the cutting edges of the blades evenly so that the blades remain balanced and the same angle of sharpness is maintained.

If the cutting edge of a blade has already been sharpened many times, or if any metal separation is present, it is recommended that new blades be installed. New blades are available at an authorized dealer.

The blades may be removed as follows.

1. Remove the deck from beneath the tractor, (refer to Deck Removal) then gently flip the deck over to expose its underside.
2. Use a 15/16" wrench to hold the hex nut on top of the spindle assembly when loosening the hex nut (a) securing the blade (b). A block of wood (c) may be placed between the deck housing and the cutting edge of the blade (b) to help in breaking loose the hex nut (a) securing the blade. See Figure 57.
3. When reinstalling the blades, be sure they are installed so that the wings are pointing upward toward the top of the deck.
4. Tighten the hex nuts (a) to 70-90 ft-lbs (95-122 N-m).
5. Reinstall the deck (refer to Deck Installation).

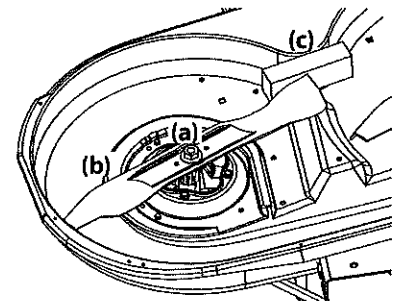


Figure 57

Changing the Transmission Drive Belt

Several components must be removed and special tools used in order to change the tractor's transmission drive belt. See an authorized service dealer to have the transmission drive belt replaced.

Tractor Creeping

Creeping is the slight forward or backward movement of the tractor when the throttle is on and the speed control levers are in the neutral position. If tractor creeps, see an authorized service dealer.

SERVICE AND MAINTENANCE, cont'd

Troubleshooting

⚠ WARNING: Before performing any type of maintenance/service, disengage all controls and stop the engine. Wait until all moving parts have come to a complete stop. Disconnect spark plug wire and ground it against the engine to prevent unintended starting. Always wear safety glasses during operation or while performing any adjustments or repairs.

This section addresses minor service issues. To locate the nearest authorized service center consult the separate supplement sheet for contact information.

Problem	Cause	Remedy
Engine fails to start	<ol style="list-style-type: none"> 1. PTO/Blade Engage knob engaged. 2. Parking brake not engaged. 3. Spark plug wire disconnected. 4. Throttle control lever not in correct starting position. 5. Fuel tank empty, or stale fuel. 6. Blocked fuel line or fuel filter. 7. Faulty spark plug. 8. Engine flooded. 9. Fuse(s) blown. 	<ol style="list-style-type: none"> 1. Place knob in disengaged (OFF) position. 2. Engage parking brake. 3. Connect wire to spark plug. 4. Place Throttle lever to FAST position. 5. Fill tank with clean, fresh (less than 30 days old) gas. 6. Replace fuel line. See a qualified service dealer. Replace fuel filter. 7. Clean, adjust gap or replace plug. 8. Crank engine with throttle in FAST position. 9. Replace fuse.
Engine runs erratically	<ol style="list-style-type: none"> 1. Riding mower running with Choke activated. 2. Spark plug wire loose. 3. Blocked fuel line or stale fuel. 4. Vent in gas cap plugged. 5. Water or dirt in fuel system. 6. Dirty air cleaner. 	<ol style="list-style-type: none"> 1. Check that the electric Choke is working. See a qualified service dealer. 2. Connect and tighten spark plug wire. 3. Replace fuel line. See a qualified service dealer. Fill tank with clean, fresh gasoline and replace fuel filter. 4. Clear vent or replace cap if damaged. 5. Drain fuel tank. Refill with clean, fresh gasoline. 6. Clean or replace air cleaner paper element or clean foam pre-cleaner.
Engine overheats	<ol style="list-style-type: none"> 1. Engine oil level low. 2. Air flow restricted. 	<ol style="list-style-type: none"> 1. Fill engine with proper amount and type of oil. 2. Clean grass clippings and debris from around the engine's cooling fins and blower housing.
Engine hesitates at high RPMs	<ol style="list-style-type: none"> 1. Spark plug gap set too close. 	<ol style="list-style-type: none"> 1. Remove spark plug and adjust gap.
Engine Idles poorly	<ol style="list-style-type: none"> 1. Fouled spark plug. 2. Dirty air cleaner. 	<ol style="list-style-type: none"> 1. Replace spark plug and adjust gap. 2. Clean or replace air cleaner element and/or clean pre-cleaner.
Excessive vibration	<ol style="list-style-type: none"> 1. Cutting blades loose or unbalanced. 2. Damaged, dull or bent cutting blade. 	<ol style="list-style-type: none"> 1. Tighten blade and spindle. Balance blade. 2. Replace blade.
Uneven cut	<ol style="list-style-type: none"> 1. Deck not leveled properly. 2. Dull blade. 3. Uneven tire pressure. 	<ol style="list-style-type: none"> 1. Perform side-to-side deck adjustment. 2. Sharpen or replace blade. 3. Check tire pressure in all four tires.

Replacements Parts

Part Number	Description	Part Number	Description	Part Number	Description
754-06674	Deck Belt, 48" Deck	618-07416	Deck Spindle, 54"	625-05002A	Key
754-04329A	Deck Belt, 54" Deck	618-07386	Deck Spindle, 60"	631-07159A	Discharge Chute Assembly
754-06094	Deck Belt, 60" Deck	734-04155	ZTX Deck Wheel	634-05479	Rim Assembly
954-04317A	Drive Belt	925-1707D	Battery	934-0255	Tire Valve
742-05534	Blades, 48"	751-20408	Gas Cap	734-05323	Tire, 23 x 12 - 12, 54" & 60" (47AK)
742-05533	Blades, 54"	746-05131A	Throttle Control Cable (Kawasaki FR & FX Twin Engines)	734-05324	Tire, 22 x 12 - 12, 48" & 60" (47AH)
742-05516	Blades, 60"	746-04847A	Choke Control Cable (Kawasaki FR & FX Twin Engines)	634-07284	Front Wheel Assembly
618-09635	Deck Spindle, 48"				

Attachments/Accessories

Part Number	Description	Part Number	Description
49A70003038	48" Triple Bagger	19B70065000	54" Mulch Kit
49A70004038	54"/60" Triple Bagger	19B70066000	60" Mulch Kit
19B70064000	48" Mulch Kit	59C30052000	Heavy Duty Striping Kit