

# ASSEMBLY

**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.

## Preparation

### Manually Move the Tractor

1. To engage the transmission bypass rods, pull the rod back (a) and into lower section of "J" slot. Repeat on opposite side. See Figure 1.
2. After moving tractor, reverse Step 1 to disengage the bypass rods.

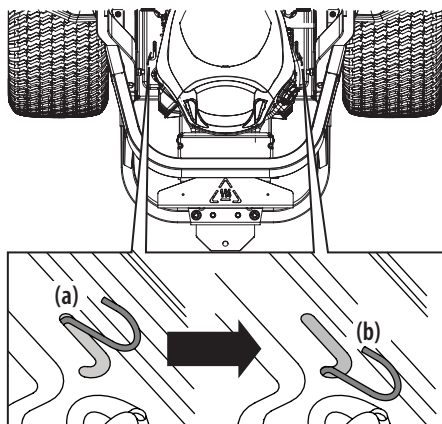


Figure 1

### Install Hitch (If necessary)

1. Locate hitch (a) and install on the rear of the frame using the two hex washer screws (b) provided. See Figure 2.
- NOTE:** Hitch and hex washer screws will be in the hardware pack.

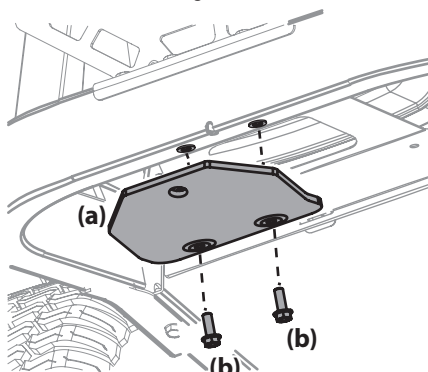


Figure 2

### Roll Over Protective System (ROPS)

Refer to Figure 3 and the following descriptions and uses for the three (3) positions for the Upper ROPS.

- **TRANSPORT:** Only to be used when transporting the tractor or when they need to be momentarily folded-down to avoid contact with items such as tree limbs, clothes lines, guy wires, utility poles, buildings, etc.
- **TRANSPORT WITH BAGGER:** Allows for the ROPS to be lowered for situations outlined for the TRANSPORT position when the tractor is equipped with a bagger.
- **OPERATION:** The ROPS should always be in this position when operating unless the situations involved outlined in the TRANSPORT and TRANSPORT WITH BAGGER descriptions arise.

### Upper ROPS Positions

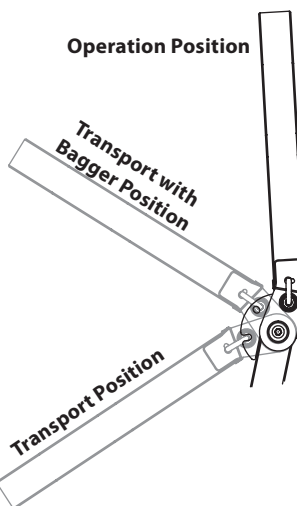


Figure 3

To change the position of the ROPS:

1. Pull slightly up on the ROPS to relieve any tension on the locking pin (a) and rotate the locking pin (a) from the LOCKED (b) position into the ADJUSTMENT (c) position. Repeat the procedure for the locking pin on the opposite side. See Figure 4.
2. Move the ROPS into the desired position. See Figure 5.
3. Rotate both locking pins into the LOCKED position. Move the upper ROPS slightly until the locking pins settle, engaged in the LOCKED position.

**NOTE:** See properly seated (fully engaged) ROPS pin in Figure 6.

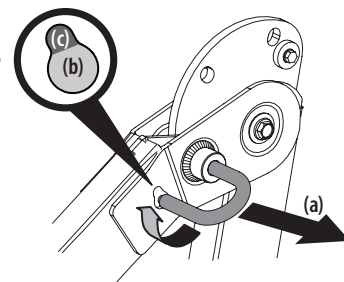


Figure 4

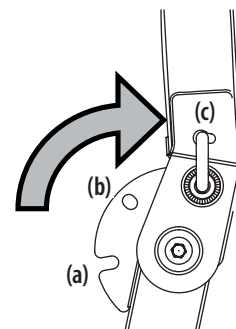


Figure 5

### ⚠ DANGER

Always verify that both right and left locking pins of the ROPS are settled and fully engaged all the way through the hinge assembly so that each locking pin is visible on the inside face. Failure to fully lock each locking pin may result in serious injury or death.

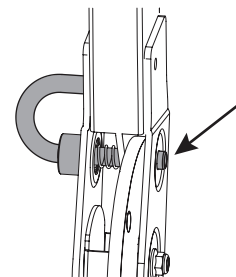


Figure 6

### Operator's Seat

#### Seat Installation (If necessary)

1. Cut any straps securing the seat assembly to the tractor. Remove all packing material.
2. Install the seat onto the seat pan (b) using flange lock nuts (a). See Figure 7.
3. If necessary, securely connect the seat switch wiring harness (a) to the seat switch (b). See Figure 8. Secure excess wire away from pinch points before continuing.

**NOTE:** Tractor will not operate without the seat switch wiring harness connected.

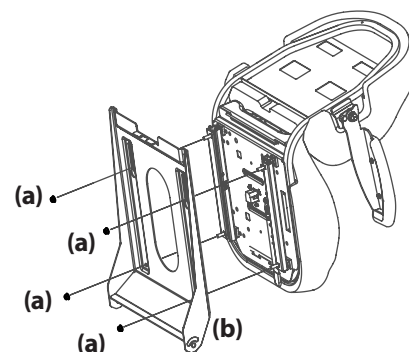


Figure 7

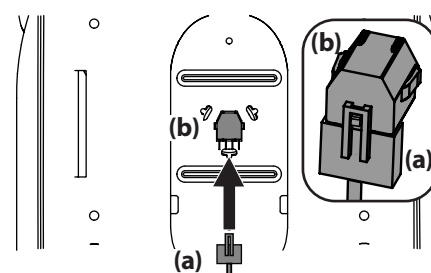


Figure 8

# ASSEMBLY

## Adjusting Seat from Shipping Position (If necessary)

1. Remove and discard packing material, as applicable.
2. Remove the two screws (one right side, one left side) securing seat in shipping position. See Figure 9.
3. Pivot seat forward into operating position. See Figure 10.
4. Secure with two screws (one right side, one left side) removed in Step 2. See Figure 11.

**NOTE:** Torque screws to 68-102 in.-lbs (8-12 N-m).

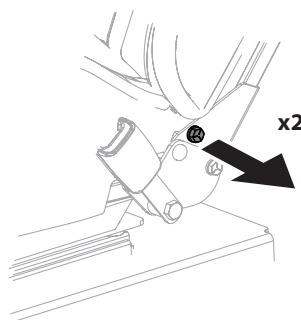


Figure 9



Figure 10

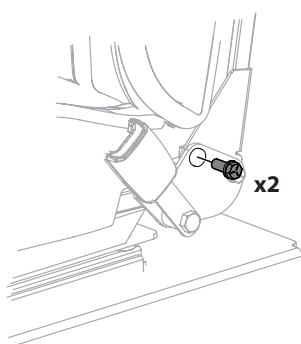


Figure 11

## Position Lapbar Drive Control Levers

The lapbar drive control levers can be adjusted up/down and forward/backward for the operator's comfort. Three height positions are available and/or levers can be rotated forward or rearward using the knob.

To adjust the lapbar drive control lever height, proceed as follows:

1. Remove the two carriage screws (a) and two flange lock nuts (b) that secure the lapbar drive control lever (c) to the upper handle adjuster (d). See Figure 12.

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

2. Move the lapbar drive control lever into one of the three available heights and secure in place with the carriage screws and flange lock nuts. See Figure 12.

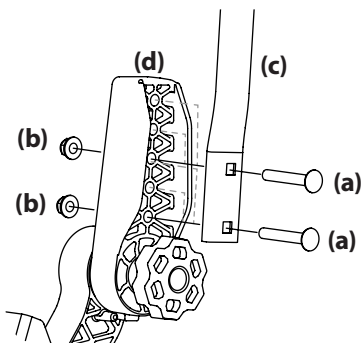


Figure 12

To adjust the lapbar drive control levers forward/rearward, proceed as follows:

1. Rotate the knob (a) counter-clockwise to loosen the knob (a). See Figure 13.

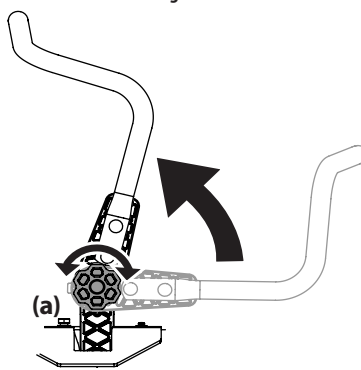


Figure 13

2. Lift and rotate the lapbar drive control lever into the desired position.
3. Rotate the knob clockwise to secure the lapbar drive control lever into position. See Figure 13.
4. If the lapbars do not line up after making the knob adjustment, loosen nuts (b), align lapbars and retighten nuts. Once this fine adjustment is made, the lapbars will align when using the knob adjustment. See Figure 12.

## Lower Deck Discharge Chute Deflector

### ⚠ WARNING

**Never operate the mower deck without the chute deflector installed and in the down position.**

1. The chute is shipped attached and with a stop bracket holding the chute upright. The stop bracket must be removed prior to operating the tractor. See Figure 14.
2. Holding the chute deflector fully upward, remove the stop bracket (see Figure 14):
  - a. Grasp the bracket (a) from behind the chute on top of the deck.
  - b. Lift up slightly to free the bracket from the notch (b).
  - c. Pull back to fully remove the bracket.

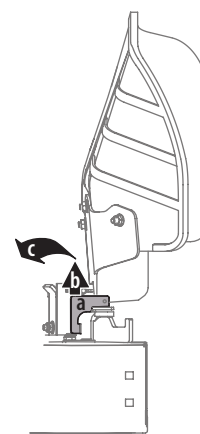


Figure 14

## Setting Deck Wheels

**NOTE:** The deck wheels are an anti-scalp feature of the deck and are not designed to support the weight of the cutting deck.

1. Move the tractor to a level surface, preferably pavement.
2. Check tire pressure, adjust, if necessary. See tire side wall for proper tire pressure.
3. Make sure the deck is level side-to-side and properly pitched. See the Service and Maintenance section for deck leveling information and instructions.
4. Place knob in the desired mowing height position and lower the deck.
5. Check the deck wheels for contact or excessive clearance with the surface below.

**NOTE:** The deck wheels should have between 1/4" (6.35 mm) and 1/2" (12.7 mm) clearance above the ground.

6. Remove the lock nut (a) securing one of the front gauge wheels to the deck. Remove the shoulder screw (b), tube spacer (c) and shoulder spacer (e) to remove the wheel (d). See Figure 15.

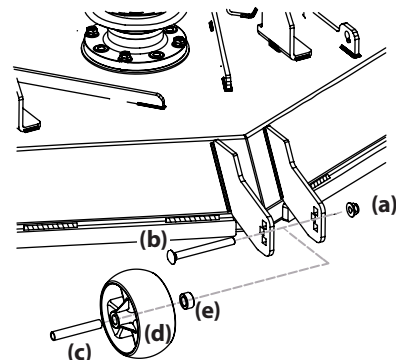


Figure 15

7. Line up the gauge wheel with the tube spacer through the center, the shoulder spacer on the shorter side hub of the gauge wheel and position the assembly inside the brackets at the desired height.

**NOTE:** Allow a 1/4-1/2" (6.35-12.7 mm) clearance between the ground and gauge wheel.

# ASSEMBLY

- Insert the shoulder screw into the chosen index hole on the front gauge wheel bracket.

**NOTE:** On the left side and right side deck gauge wheels, the shoulder screw must be installed from the outside of the tractor inward, through the square hole on the bracket. On center deck gauge wheels (if equipped) the shoulder screw side of the assembly can be installed from either direction. See Figure 16.

- Secure with the lock nut previously removed.

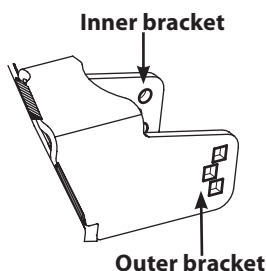


Figure 16

## Battery Information

### ⚠ WARNING

**CALIFORNIA PROPOSITION 65 WARNING:** Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.

### ⚠ WARNING

Should battery acid accidentally splatter into the eyes or onto the skin, rinse the affected area immediately with clean cold water. Seek prompt medical attention.

If acid spills on clothing, first dilute it with clean water, then neutralize with a solution of ammonia/water or baking soda/water.

NEVER connect (or disconnect) battery charger clips to the battery while the charger is turned on, as it can cause sparks.

Keep all sources of ignition (cigarettes, matches, lighters) away from the battery. The gas generated during charging can be combustible.

As a further precaution, only charge the battery in a well ventilated area.

Always shield eyes and protect skin and clothing when working near batteries.

Batteries contain sulfuric acid and may emit explosive gases. Use extreme caution when handling batteries. Keep batteries out of the reach of children.

The battery may present a risk of fire or chemical burn if misused. Do NOT open, disassemble, overheat, or incinerate the battery.

### ⚠ CAUTION

When attaching battery cables, always connect the POSITIVE (Red) wire to the terminal first, followed by the NEGATIVE (Black) wire.

**NOTE:** The positive battery terminal is marked Pos. (+). The negative battery terminal is marked Neg. (-).

## Connecting Battery Cables

### ⚠ WARNING

Always connect the positive lead to the battery before connecting the negative lead. This will prevent sparking or possible injury from an electrical short caused by contacting the tractor body with tools being used to connect the cables.

For shipping reasons the factory may leave both battery cables disconnected from the terminals. To connect the battery cables, proceed as follows:

**NOTE:** Wiring harness should lay on top of battery hold down rod, otherwise damage to the wiring harness may result. See Figure 20 on page 10.

### Models with Lead-Acid Battery

- If present, remove the plastic cover from the positive battery terminal. Attach the red connector to the positive battery terminal (+) using the bolt (a) and hex nut (b). See Figure 17.

- If present, remove the plastic cover from the negative battery terminal and attach the black cable to the negative battery terminal (-) with the bolt (a) and hex nut (b). See Figure 17.

- Position the red rubber boot (c) over the positive battery terminal (+) to help protect it from corrosion. See Figure 17.

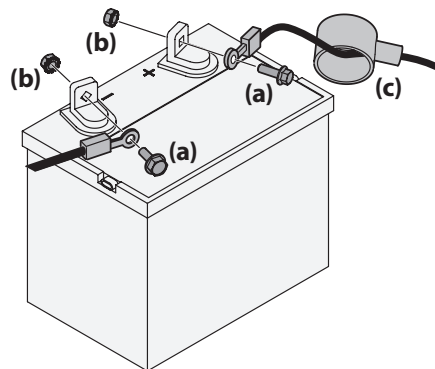


Figure 17

**NOTE:** If the battery is put into service after date shown on top/side of battery, charge the battery as instructed in the Service and Maintenance section prior to operating.

### Models with AGM Battery

- Remove the hex screws (a) and square nuts (b) located either on the end of the wiring harness or in the bag with this manual. Retain the hardware for later instructions. See Figure 18.

- Remove the plastic cover (c), if present, from the positive battery terminal (d) and attach the red cable (e) to the positive battery terminal (d) with one of the hex screws (a) and square nuts (b), from Step 1. Use a Philips screw driver. See Figure 18.

- Remove the plastic cover (c), if present, from the negative battery terminal (f) and attach the black cable (g) to the negative battery terminal (f) with the remaining hex screw (a) and square nut (b). See Figure 18.
- Position the red rubber boot over the positive battery terminal to help protect it from corrosion. See inset in Figure 18.

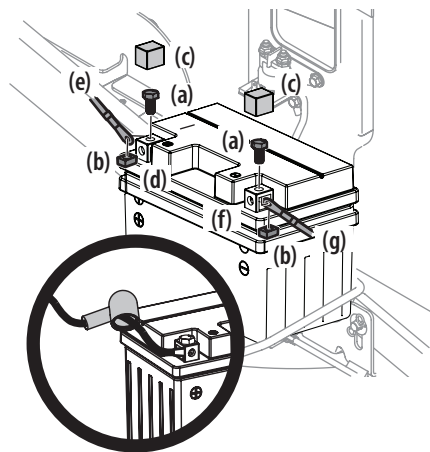


Figure 18

**NOTE:** If the battery is put into service after the date shown on top/side of battery, charge the battery as instructed in the Service and Maintenance section prior to operating the tractor.

### Battery Maintenance

- Some batteries are filled with battery acid and then sealed at the factory. However, even a "maintenance free" battery requires some maintenance to ensure its proper life cycle.
- Spray the terminals and exposed wire with a battery terminal sealer, or coat the terminals with a thin coat of grease or petroleum jelly, to protect against corrosion.
- Always keep the battery cables and terminals clean and free of corrosion.
- Some models are equipped with a battery containing a liquid electrolyte. Handle the battery with care and avoid tipping to prevent leakage.

# ASSEMBLY

## Battery Storage

- When storing the tractor for extended periods, disconnect the negative battery cable. It is not necessary to remove the battery.
- All batteries discharge during storage. Keep the exterior of the battery clean, especially the top. A dirty battery will discharge more rapidly.
- The battery must be stored with a full charge. A discharged battery can freeze sooner than a charged battery. A fully charged battery will store longer in cold temperatures than hot.
- Recharge the battery before returning to service. Although the tractor may start, the engine charging system may not fully recharge the battery.

## Battery Removal

### ⚠ WARNING

Battery posts, terminals, and related accessories contain lead and lead compounds. Wash hands after handling.

The battery is located beneath the seat frame. To remove the battery:

### Models with Lead-Acid Battery

1. Remove the hex cap screw and sems nut securing the black negative battery lead to the negative battery post (marked NEG (-)). Move the cable away from the negative battery post.
2. Remove the hex cap screw and sems nut securing the red positive battery lead to the positive battery post (marked POS (+)).
3. Remove the hex washer screw (a) securing the battery hold-down bracket (b) to the frame. Then flip the battery hold-down bracket (b) up to free the battery. See Figure 20.
4. Carefully lift the battery out of the tractor.
5. Install the battery by repeating the above steps in the reverse order.

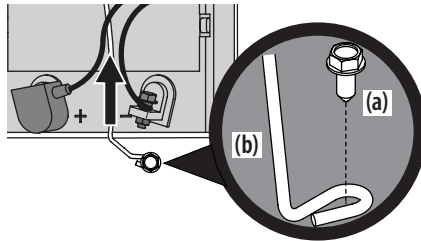


Figure 19

### Models with AGM Battery

1. Remove the hex screw and square nut securing the black negative battery lead to the negative battery post (marked NEG (-)). Move the cable away from the negative battery post.
2. Remove the hex screw and square nut securing the red positive battery lead to the positive battery post (marked POS (+)).
3. Remove the hex washer screw (a) securing the battery hold down rod (b) to the frame. Then flip the battery hold down rod (b) up to free the battery. See Figure 21.
4. Carefully lift the battery out of the tractor.
5. Install the battery by repeating the above steps in the reverse order.

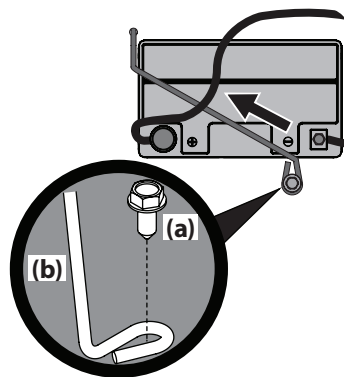


Figure 20

## Charging the Battery

Test and, if necessary, recharge the battery after the tractor has been stored for a period of time.

### Models with Lead-Acid Battery

- A voltmeter or load tester reading of 12.4 volts (DC) or lower across the battery terminals indicates that the battery needs to be charged.
- A lead-acid battery charger should be used. Recommended charge rate is 4A/14.7V.
- If your battery charger is automatic, charge the battery until the charger indicates that charging is complete. If the charger is not automatic, charge for no fewer than eight (8) hours.

### Models with AGM Battery

- An AGM battery charger should be used. Recommended charge rate is 1.1A/14.8V.

**IMPORTANT!** Do NOT use an automotive charger.

- If your battery charger is automatic, charge the battery until the charger indicates that charging is complete. If the charger is not automatic, charge for no fewer than eight (8) hours.

## Operating the Seat Latch

1. Place the lapbar drive control levers fully out in the parking brake position.
2. Locate the seat latch at the rear base of the seat.
3. Press downward on the front tabs to disengage the seat latch.
4. Rotate the entire seat pan upward. See Figure 21.

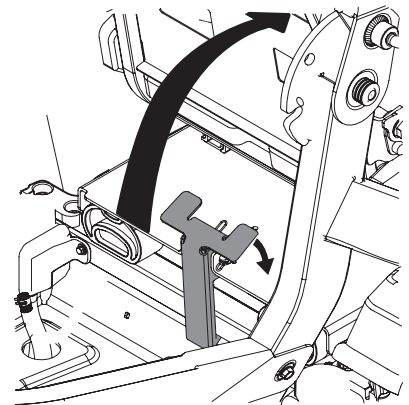


Figure 21

## 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 22.

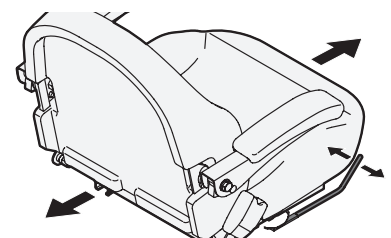


Figure 22

## Adjusting the Mechanical Suspension Mechanism (ZT6 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 23.

**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 23