Form No. 3351–344 Rev. A

Backlap/Reel Speed Kit

Greensmaster® 3150/3200/3250-D

Model No. 04498

Installation Instructions

⚠ Caution ⚠

Accidental starting of the engine could seriously injure you or other bystanders.

Remove the key from the ignition switch before you do any maintenance.

1. Remove the cartridge valve and seals from the right side of the manifold assembly (Fig. 1).
2. Remove the cavity plug w/seals and the plug w/o-ring from the top of the manifold assembly (Fig. 1).

Note: To ease removal of plugs, tap top surface of plugs with a hammer.

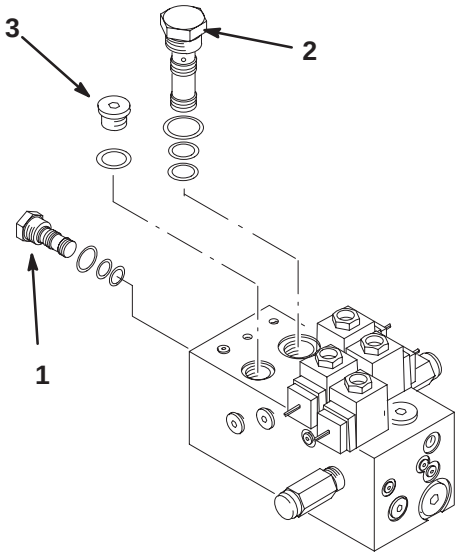


Figure 1

1. Cartridge valve
2. Cavity plug
3. Plug

3. Install the logic cartridge to the right side of the manifold assembly (Fig. 2). Torque to 35 ft.-lb. (47 N·m).
4. Install the directional valve to the top of the manifold assembly at the location shown in Figure 2. Torque to 35 ft.-lb. (47 N·m).
5. Install the flow control valve to the top of the manifold assembly at the location shown in Figure 2. Torque to 35 ft.-lb. (47 N·m).

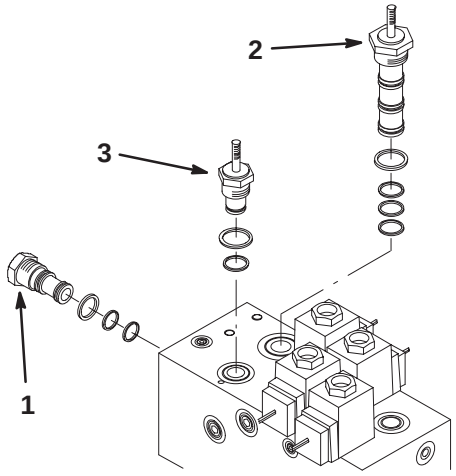


Figure 2

1. Logic cartridge
2. Directional valve
3. Flow control valve

6. Install the detent kit components (Fig. 3) onto the flow control valve using the instructions supplied with the kit.

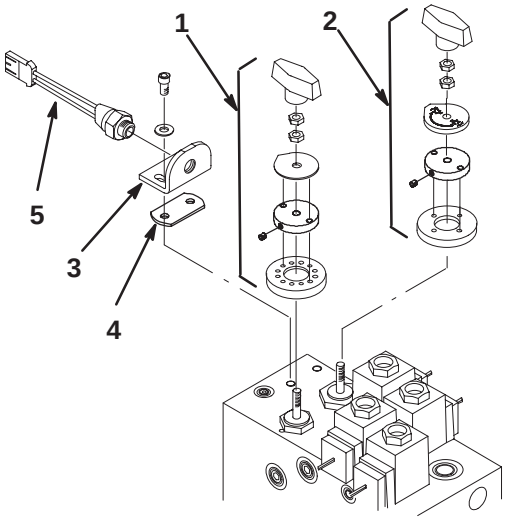


Figure 3

1. Detent kit—Flow control valve
2. Detent kit—Directional valve
3. Backlap bracket
4. Spacer plate
5. Switch

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7. Install the detent kit components (Fig. 3) onto the directional valve using the instructions supplied with the kit.

8. Loosely secure the backlap bracket and the spacer plate to the manifold assembly with 2 screws and washers (Fig. 3).

9. Thread the switch into the bracket (Fig. 3).

10. Rotate the directional valve knob clockwise until the point on the indicator plate is aligned with the switch ball.

11. Slide the bracket and switch against the indicator plate until the switch is depressed. Tighten the bracket screws securing the adjustment.

12. Use one the following steps appropriate for your model and serial number:

Model 04380 with serial numbers 50001 through 60246

- Plug the switch connector into the main traction unit harness (Fig. 4). Also, Toro software, Part No. 94-7342 must be at least revision A. The revision level can be found on Toro PC.

Note: The backlap harness, relay, and jumper wire are not used for this model.

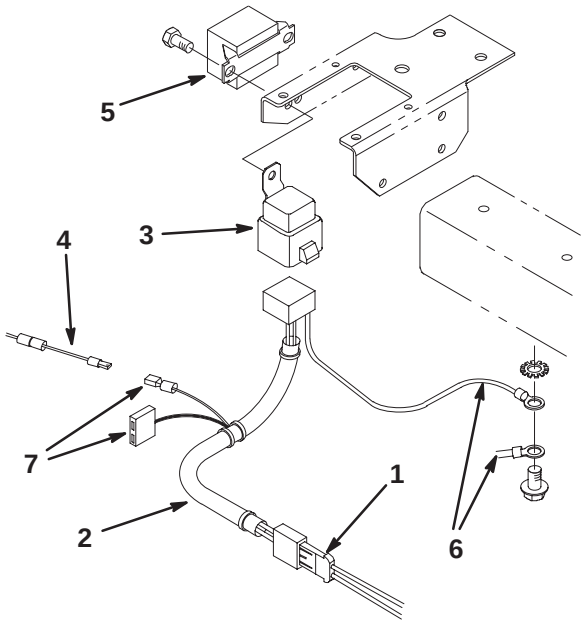


Figure 4

1. Switch connector
2. Backlap harness
3. Relay
4. Jumper wire
5. Glow relay
6. Ground wire
7. To main harness

Model 04380 with serial numbers 60247 and Up

- Plug the switch connector into main traction unit harness (Fig. 4).

Note: The backlap harness, relay, and jumper wire are not used for this model.

Model 04381 with serial numbers 50001 through 60634

- Remove the capscrews securing the console shroud to the frame and remove the shroud.
- Remove the cable ties on the main harness and pull back the conduit to expose the wires going to the relays.
- Locate the Violet/Red wire in the main harness.
- Cut the Violet/Red wire and strip off 1/4 in. (6 mm) of insulation from both wire ends.
- Insert the ends of the Violet/Red wires into the splice terminal on the jumper wire (included in the kit) (Fig. 4) and crimp the terminal.
- Locate and remove the self tapping screw securing the ground wire to the underside of the frame below the relays (Fig. 4).
- Secure the ground wire and backlap harness ground wire to the frame with the screw removed (Fig. 4).
- Remove the fasteners securing the front of the glow relay to the bracket (Fig. 4). Secure the backlap relay to the inside of the bracket with the fasteners removed.
- Connect the backlap harness to the relay, switch connector, and main harness (Fig. 4).

Model 04381 with serial numbers 60635 through 99999 (Fig. 4) and Model 04383 with serial numbers 200000001 and Up (Fig. 5)

- Locate and remove the self tapping screw securing the ground wire to the underside of the frame below the relays.
- Secure the ground wire and backlap harness ground wire to the frame with the screw removed.
- Remove the fasteners securing the front of the glow relay to the bracket. Secure the backlap relay to the inside of the bracket with the fasteners removed.
- Connect the backlap harness to the relay, switch connector, and main harness.

Note: The jumper wire is not used for this model.

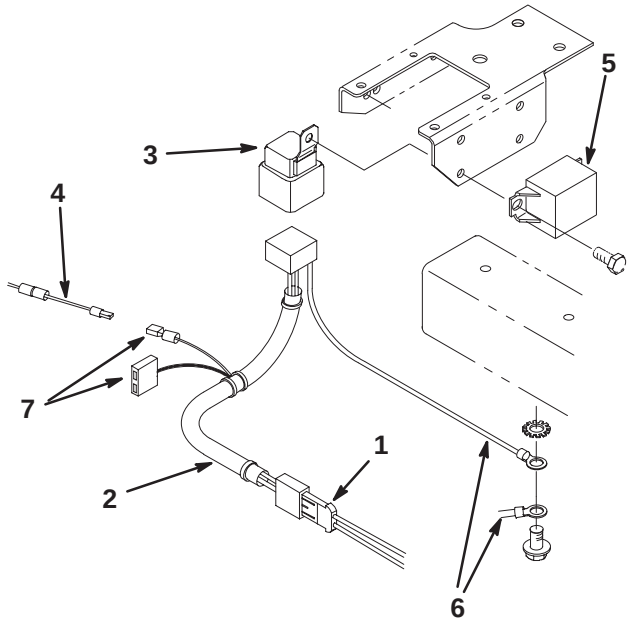


Figure 5

1. Switch connector
2. Backlap harness
3. Relay
4. Jumper wire
5. Glow relay
6. Ground wire
7. To main harness

Model 04357 with serial numbers 220000001 and Up

- Secure the relay and ground wire to the shifter bracket on the main frame with the star washer and thread forming screw as shown in Figure 6.
- Locate the main wire harness connectors located near the front of the hydraulic manifold block. Remove the cable tie securing the connectors to the main harness.
- Remove and discard the protective plug and remove the protective plastic from the small connector.
- Connect the backlap harness to the relay, switch connector, and main harness (Fig. 6).

Note: The jumper wire is not used for this model.

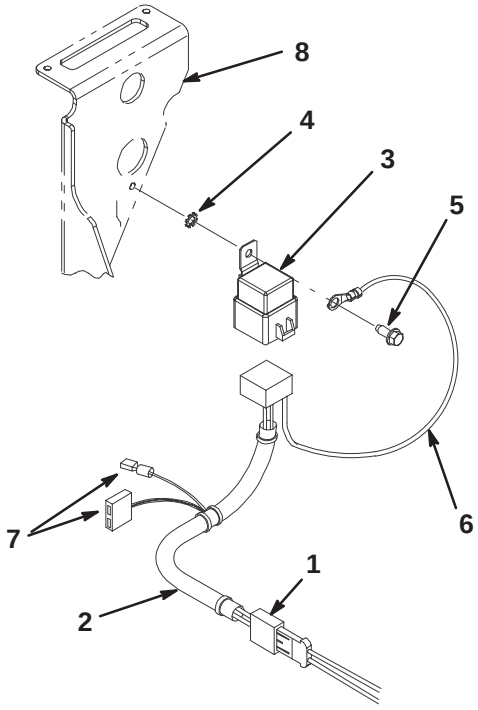


Figure 6

1. Switch connector
2. Backlap harness
3. Relay
4. Star washer
5. Thread forming screw
6. Ground wire
7. To main harness
8. Shifter bracket (main frame)

13. On all models except 04357, affix the instruction decal to the underside of the seat support near the bottom right-hand side (Fig. 7). On model 04357, affix the instruction decal to the inside of the tool box cover as shown in Figure 8.

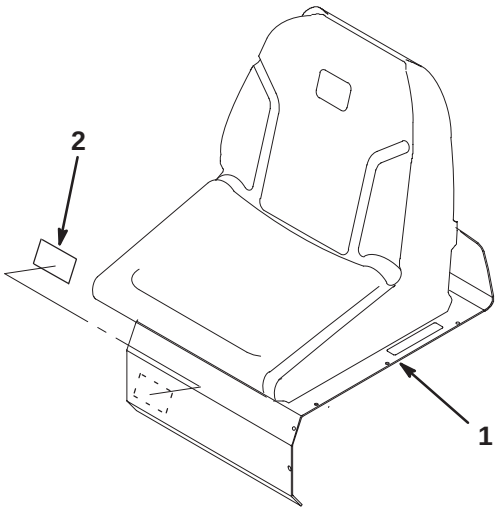


Figure 7

1. Seat support
2. Decal

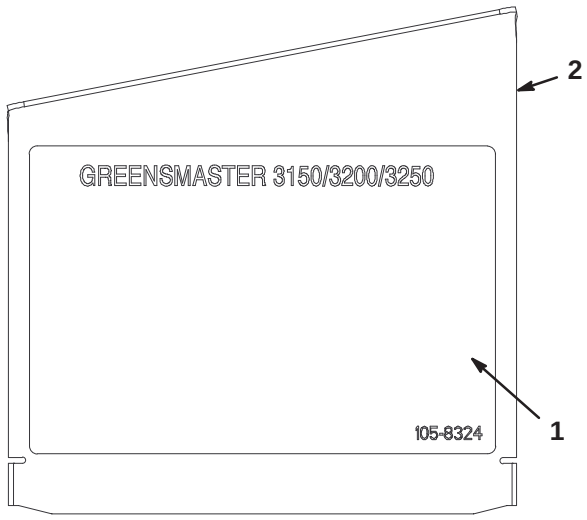


Figure 8

1. Decal
2. Inside of tool box cover

Backlapping Operation

Danger

While backlapping, the reels may stall and then restart. Contact with the reels or other moving parts can result in personal injury.

- **Never place hands or feet in the reel area while the engine is running.**
- **Do not attempt to restart the reels by hand or foot.**
- **Do not adjust the reels while the engine is running.**
- **If a reel stalls, stop the engine before attempting to clear the reel.**

1. Position the machine on a clean, level surface, lower the cutting units, stop the engine, engage parking brake, and remove the key from the ignition switch.

2. Move the functional control lever to the Neutral/Backlap position.

3. Raise the seat and rotate the directional valve knob clockwise until the ball switch is depressed.

4. Rotate the flow control valve knob to position 6.

5. Make initial reel to bedknife adjustments appropriate for backlapping on all cutting units.

6. Start the engine and move the Raise/Lower Mow control forward to start the reels.

7. Rotate the flow control valve knob to position 1.

8. Apply lapping compound with the long handled brush supplied with kit.

Caution

Contact with the reels or other moving parts can result in personal injury.

Keep fingers, hands, and clothing away from the reels or other moving parts.

9. To make an adjustment to the cutting units while backlapping, turn the reels off by moving the functional control to the Raise position. Stop the engine. After adjustments have been completed, repeat steps 4–6.

10. When the backlap operation is completed, rotate the directional valve knob counterclockwise fully (90° from backlap position) and the flow control valve knob to position 13 for height-of-cut settings of 1/4 in. (6 mm) or below.

Important Make sure the directional valve is either fully rotated clockwise for backlapping or fully rotated counter–clockwise for mowing. If the directional valve is positioned between the two settings, the reel motors will not function and the engine will be over loaded when the Raise/Lower Mow Control is moved forward.

Note: Refer to the instruction decal for additional settings.

11. Wash all lapping compound off of the cutting units.

Note: Additional instructions and procedures on Backlapping are available in the Toro Sharpening Reel & Rotary Mowers Manual, Form No. 80-300SL.

Note: For a better cutting edge, run a file across the front face of the bedknife when the lapping operation is completed. This will remove any burrs or rough edges that may have built up on the cutting edge.