Form No. 3450-784 Rev A

Manual Flow Divider Kit

Groundsmaster® 5900 Rotary Mower

Model No. 140-5800

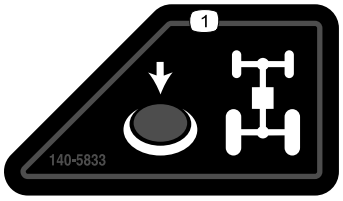
Installation Instructions

Note: Determine the left and right sides of the machine from the normal operating position.

Safety

Safety and Instructional Decals

Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or missing.



decal140-5833

140-5833

1. Press for 4-wheel drive

Installation

Loose Parts

Use the chart below to verify that all parts have been shipped.

Procedure	Description	Qty.	Use
1	No parts required	–	Prepare the machine.
2	Momentary switch Washer (5/8 inch) Jam nut (5/8 inch) Decal Wire Harness	1 1 1 1 1	Install the momentary switch.
3	No parts required	–	Remove the control console cover and electrical panel cover.
4	No parts required	–	Install the kit wire harness at the electrical panel.

© 2021—The Toro® Company
8111 Lyndale Avenue South
Bloomington, MN 55420

Register at www.Toro.com.

Original Instructions (EN)
Printed in the USA
All Rights Reserved

3450-784

Procedure	Description	Qty.	Use
5	Traction-control valve Coil Coil nut MOC-LOC fastener Cable tie	1 1 1 1 1	Install the kit wire harness to the traction manifold.
6	No parts required	–	Install the electrical-panel and control-console covers.
7	No parts required	–	Finish the kit installation.

1

Preparing the Machine

No Parts Required

Procedure

1. Park the machine on a level surface.
2. Lower the mower decks.
3. Engage the parking brake, shut off the engine, remove the key, and wait for all moving parts to stop.

⚠ CAUTION

If you leave the key in the switch, someone could accidently start the engine and seriously injure you or bystanders.

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

4. Open the hood.
5. Rotate the battery-disconnect switch to the OFF position (Figure 1).

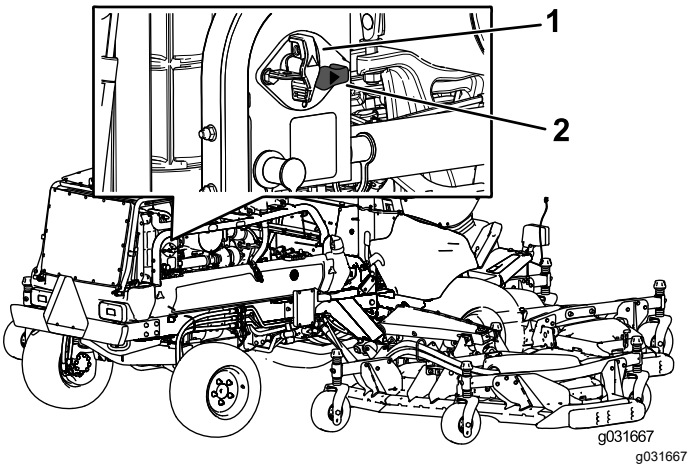


Figure 1

1. Battery-disconnect switch (OFF position)
2. Battery-disconnect switch (ON position)

6. Allow the engine to cool down.

2

Installing the Momentary Switch

Parts needed for this procedure:

1	Momentary switch
1	Washer (5/8 inch)
1	Jam nut (5/8 inch)
1	Decal
1	Wire Harness

Preparing the Control Console

1. At the outboard side of the control console, remove the 5 flange-head capscrews that secure the right control-console cover (Figure 2).

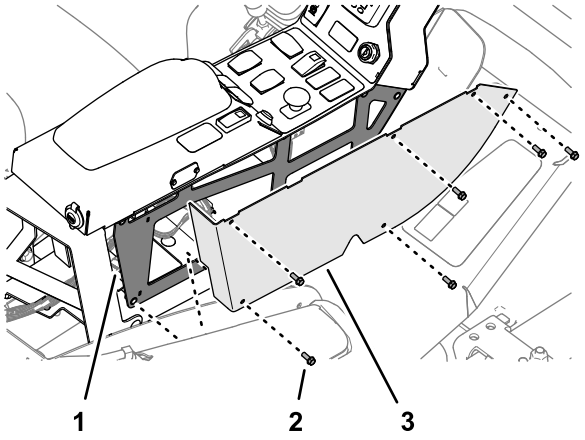


Figure 2

1. Control console panel
2. Flange-head capscrew
3. Control-console cover (right)

2. Move the operator's seat rearward.
3. Measure 289 mm (11-3/8 inches) from the back of the of the console arm, and mark the surface of the left console panel (Figure 3).

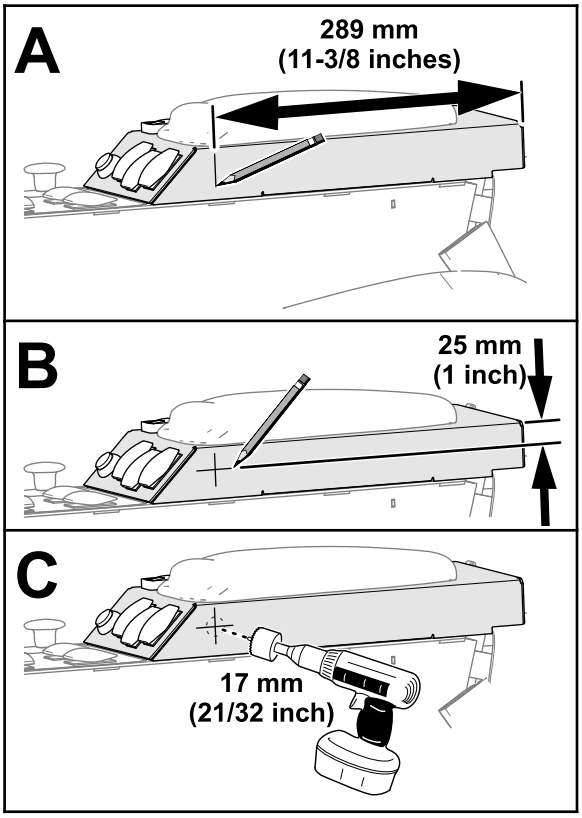


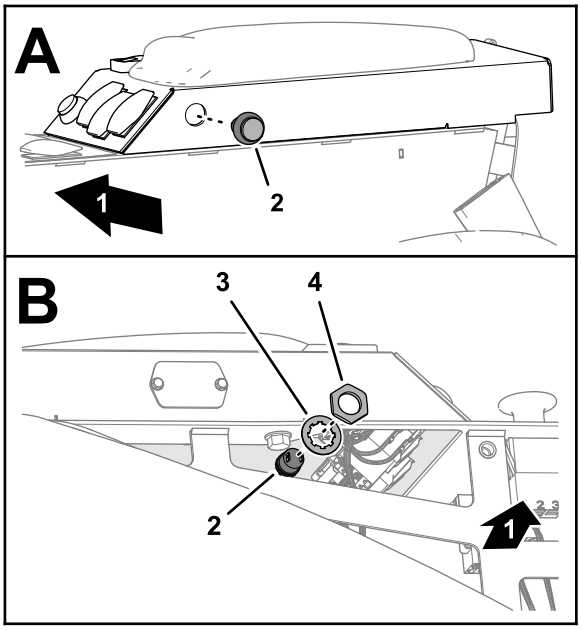
Figure 3

4. Measure 25 mm (1 inch) from the top of the of the console arm, and mark the surface of the left console panel (Figure 3).
5. At the intersection of the marks, center-punch the left console panel.
6. Drill a hole—17 mm (21/32 inch) at the center-punch mark (Figure 3).

   Important: **Use caution when drilling the console panel.**

Assembling the Momentary Switch to the Control Console

1. Assemble the momentary switch into the hole left console panel (Figure 4).

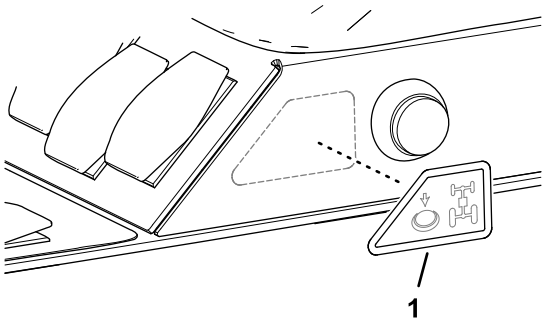


g320615

Figure 4

1. Right side of the machine
2. Momentary switch
3. Washer (5/8 inch)
4. Jam nut (5/8 inch)

2. Inside the control console, secure the switch to the panel (Figure 4) with the washer (5/8 inch) and jam nut (5/8 inch).
3. At the outboard side of the control console, adhere the decal to the left console panel as shown in Figure 5.



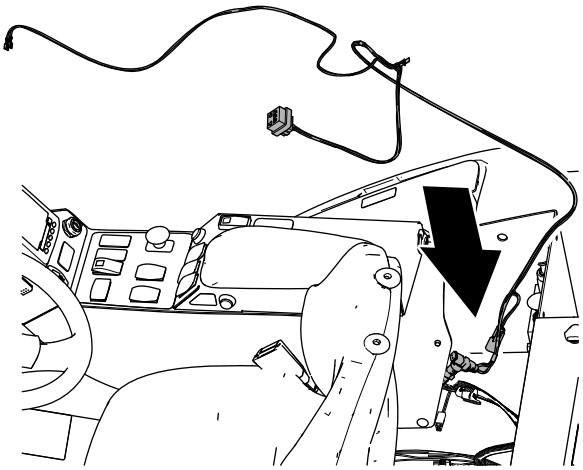
g320703

Figure 5

1. Decal

Connecting the Kit Wire Harness to the Momentary Switch

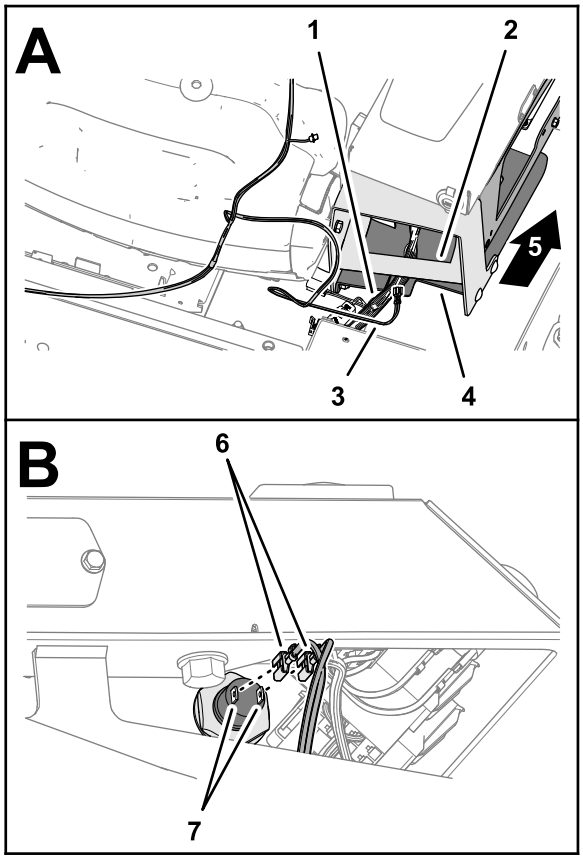
1. Position the kit wire harness behind the seat and control console as shown in Figure 6.



g320701

Figure 6

2. At the back of the control console, route the 2-wire branch (the branch with 2 single-receptacle terminals) of the kit wire harness along the platform wire harness and into the console (Figure 7).



g320702

Figure 7

1. Machine wire harness
2. Arm support
3. 2-wire branch (kit wire harness)
4. Support channel
5. Front of the machine
6. 2 single-receptacle terminals (2-wire branch—kit wire harness)
7. Spade terminals (momentary switch)

3. Assemble the 2 single-receptacle terminals onto the spade terminals of the momentary switch (Figure 7).

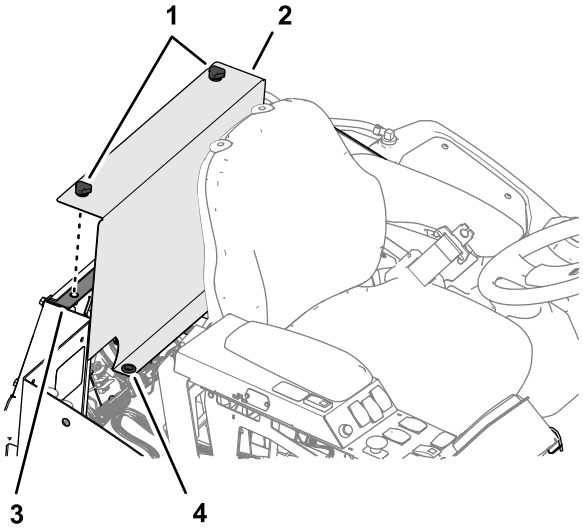
3

Removing the Electrical Panel Cover

No Parts Required

Procedure

1. Move the operator's seat fully forward.
2. Loosen the knobs that secure the electrical-panel cover to the machine, and remove the cover (Figure 8).



g320789

Figure 8

1. Knobs
2. Electrical-panel cover
3. Electrical plate
4. Grommet

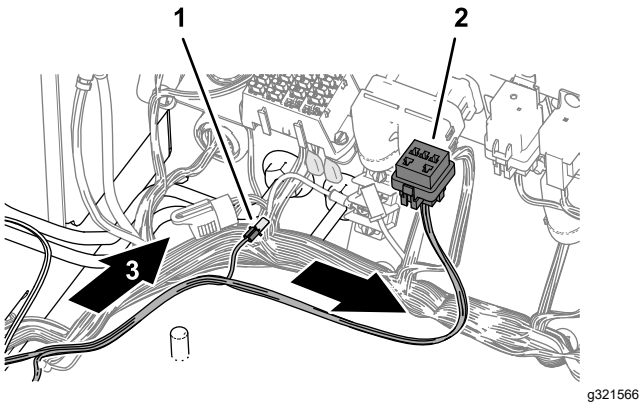
4

Installing the Kit Wire Harness at the Electrical Panel

No Parts Required

Routing the Kit Wire Harness to the Electrical Panel

Route the branch of the wire kit harness with the spade connector and the 5-socket connector along the platform wire harness of the machine, and toward the fuse block (Figure 9).



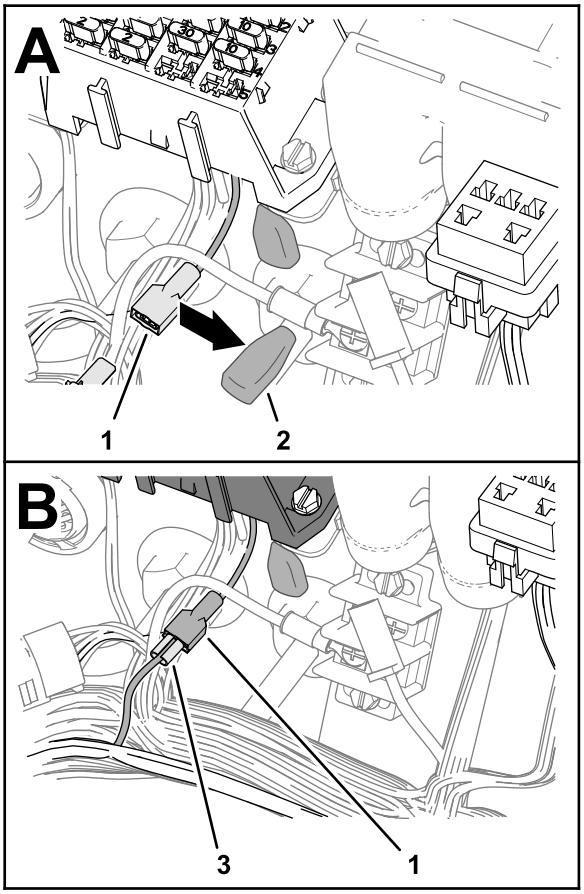
g321566

Figure 9

1. Spade connector (kit wire harness)
2. 5-socket connector (kit wire harness)

Installing the Kit Wire Harness to the Fuse Block

1. At the bottom of the fuse block, locate the wire attached to socket C5 of the block and remove the shrink-wrap insulator from the terminal receptacle (Figure 10).

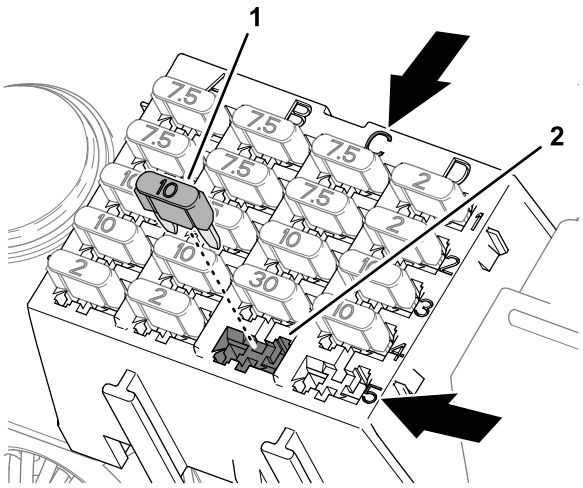


g321564

Figure 10

1. Terminal receptacle (options power wire—fuse-block socket C5)
2. Shrink-wrap insulator
3. Spade connector (kit wire harness)

2. Plug the spade connector of the kit wire harness (Figure 10) into the terminal receptacle for the options power wire (fuse-block socket C5).
3. Insert the fuse (10 A) into fuse-block socket C5 (Figure 11).



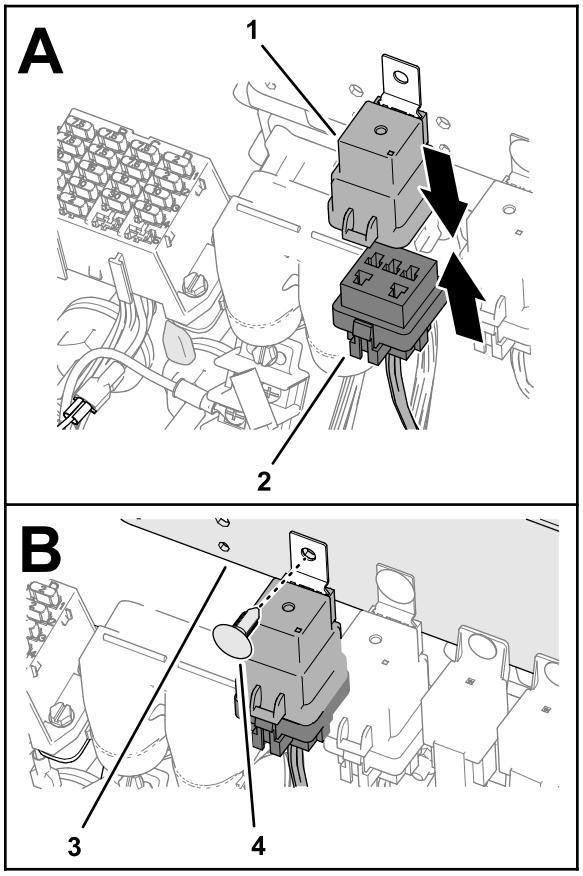
g321565

Figure 11

1. Fuse (10 A)
2. Fuse-block socket C5

Installing the Relay

1. Plug the relay into the 5-socket connector of the kit wire harness (Figure 12).



g321563

Figure 12

1. Relay
2. 5-socket connector (kit wire harness)
3. Electrical plate
4. Push-in fastener

2. Align the hole in the tab of the relay with the hole in the electrical plate, and secure the relay to the plate with a push-in fastener (Figure 12).

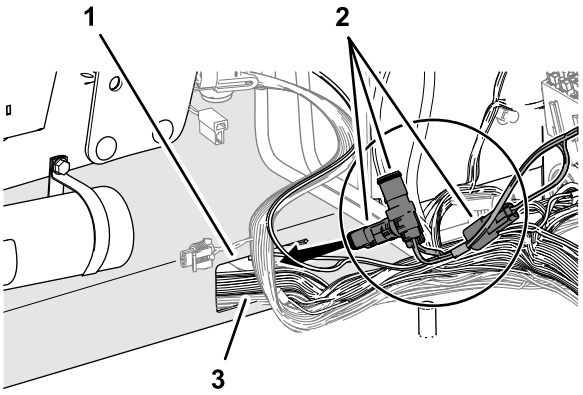
5 Installing the Kit Wire Harness to the Traction Manifold

Parts needed for this procedure:

1	Traction-control valve
1	Coil
1	Coil nut
1	MOC-LOC fastener
1	Cable tie

Routing the Kit Wire Harness to the Traction Manifold

1. Route the 2-pin connector and the 2-socket connectors along the platform wire harness and through the hole in the right floor pan (Figure 13).

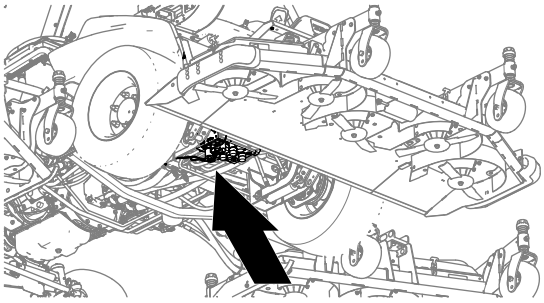


g321568

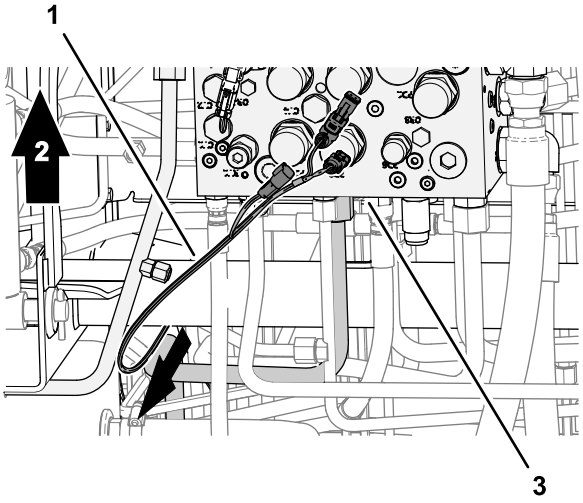
Figure 13

1. Hole (right floor pan)
2. 2-pin connector and 2-socket connectors (kit wire harness)
3. Platform wire harness

2. Route the kit wire harness down and toward the traction manifold (Figure 14).



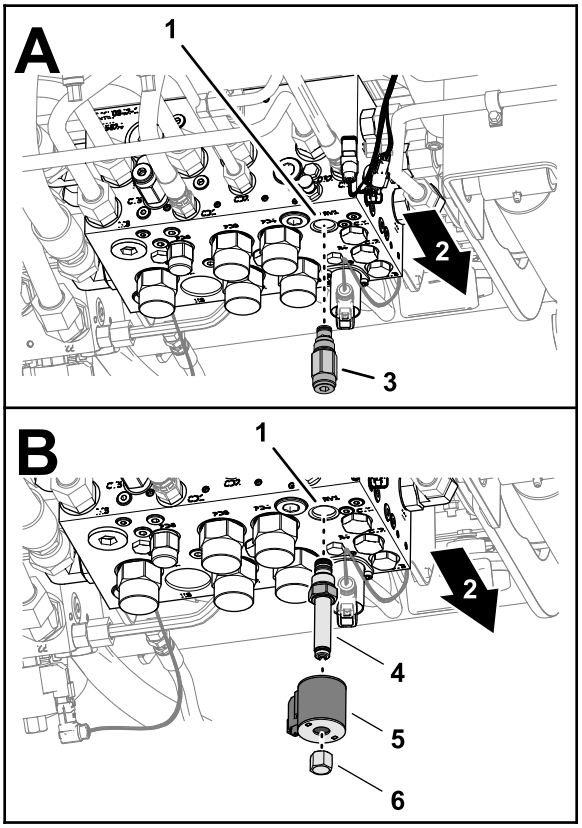
g321582



g321567

Figure 14

1. Kit wire harness
2. Front of the machine
3. Traction manifold



g321606

Figure 15

1. Port RV1 (traction manifold)
2. Front of the machine
3. Relief-valve cartridge
4. Traction-control valve
5. Coil
6. Coil nut

Installing the Coil and Valve to the Traction Manifold

1. Remove the relief-valve cartridge from port RV1 of the traction manifold (Figure 15).

   Note: Loosen the relief-valve cartridge using the hex flats of the valve body.

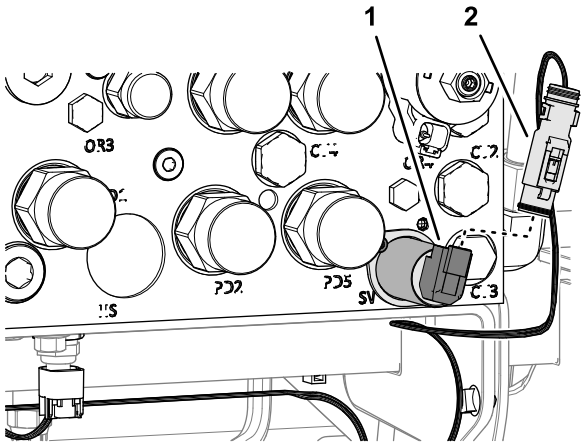
2. Install the traction-control valve into port RV1 of the traction manifold (Figure 15).

   Important: **Tighten the valve using the hex flats of the valve body.**

3. Assemble the coil onto the traction-control valve, and secure the coil with the coil nut (Figure 15).
4. Torque the coil nut to 9.5 to 13.6 N·m (84 to 120 in-lb).

Connecting the Kit Wire Harness to the Traction Manifold

1. Remove the 2-socket connector of the machine wire harness labeled TRACTION MOW/TRANSPORT from the 2-pin connector of the solenoid valve in port SV of the traction manifold (Figure 16).

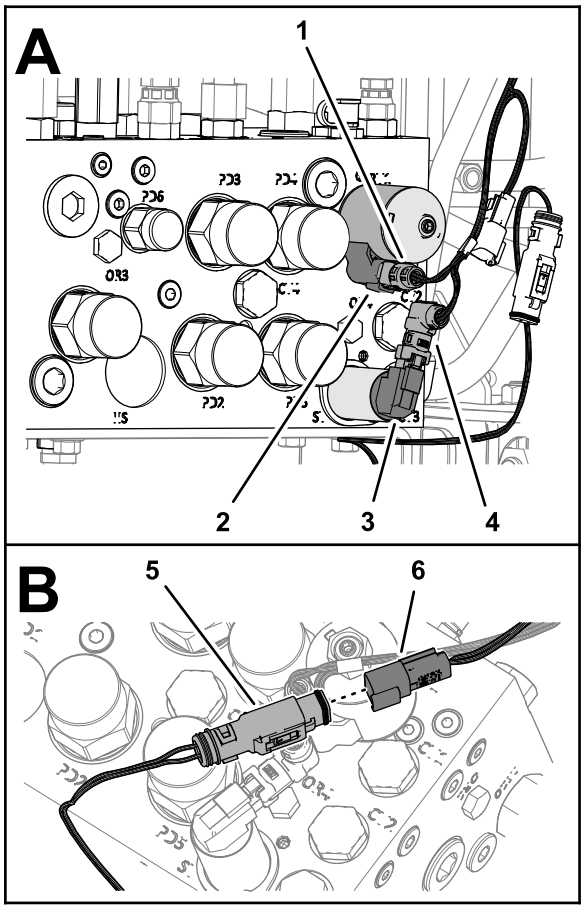


g321607

Figure 16

1. 2-pin connector (solenoid valve—traction manifold-port SV
2. 2-socket connector (machine wire harness—labeled TRACTION MOW/TRANSPORT)

2. Plug the 90° 2-socket connector of the kit wire harness into the 2-pin connector of the solenoid valve in port SV of the traction manifold (Figure 17).



g321640

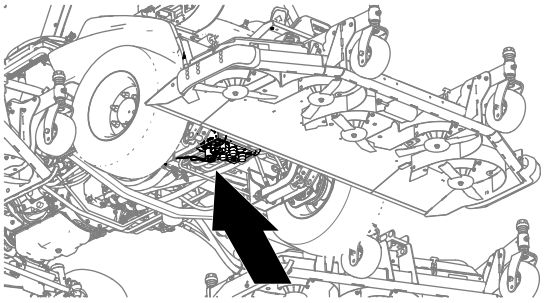
Figure 17

1. Straight 2-socket connector (kit wire harness)
2. 2-pin connector (coil—traction manifold-port RV1)
3. 2-pin connector (solenoid valve—traction manifold-port SV)
4. 90°2-socket connector (kit wire harness)
5. 2-socket connector (machine wire harness—labeled TRACTION MOW/TRANSPORT)
6. 2-pin connector (kit wire harness)

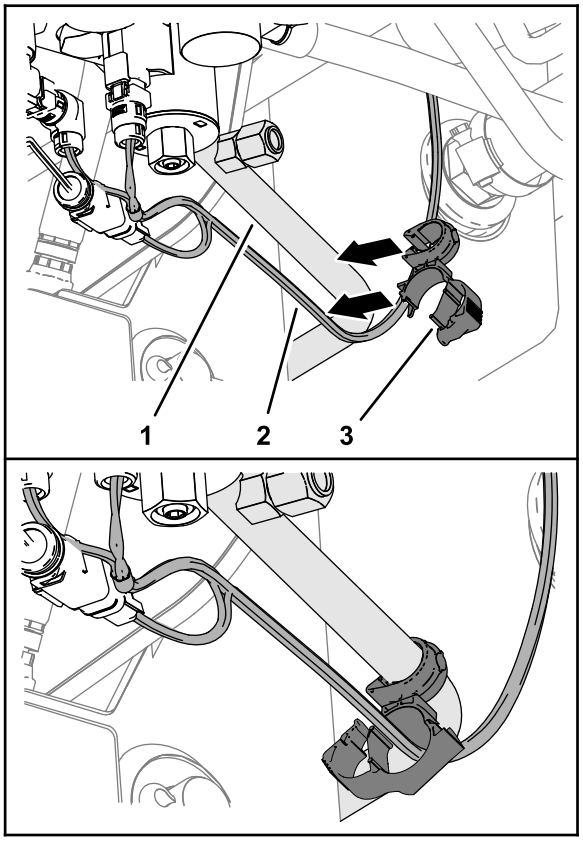
3. Plug the straight 2-socket connector of the kit wire harness into the 2-pin connector of the coil at port RV1 of the traction manifold (Figure 17).
4. Plug the 2-socket connector of the machine wire harness labeled TRACTION MOW/TRANSPORT into the 2-pin connector of the kit wire harness (Figure 17).

Securing the Kit Wire Harness to the Machine

1. At the bottom of the machine, clip the MOC-LOC fastener to the tube connecting port M7 of the traction manifold to the right, front traction motor, as shown in Figure 18.



g321582

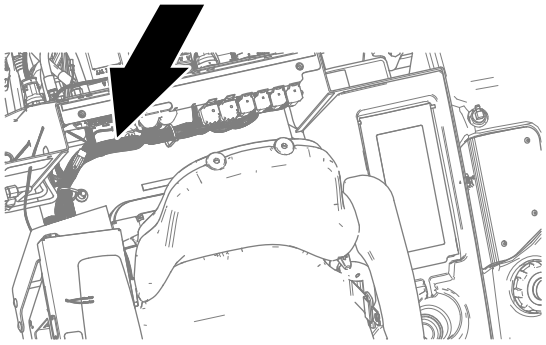


g321701

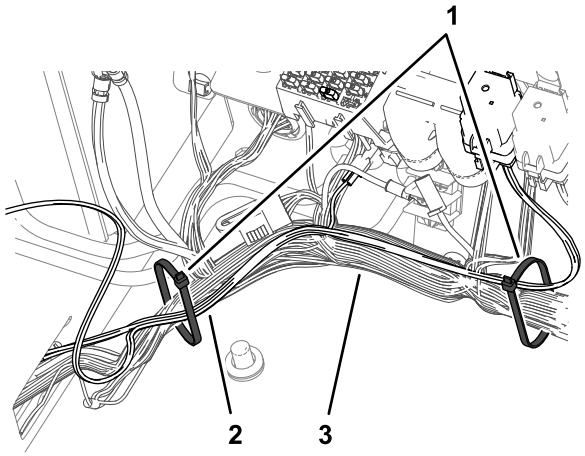
Figure 18

1. Tube (traction manifold-port M7—right, front traction motor)
2. Kit wire harness
3. MOC-LOC fastener

2. Align the kit wire harness though the clamp side of the MOC-LOC fastener, and secure the clamp around the harness (Figure 18).
3. At the top of the machine, secure the kit wire harness to the platform wire harness with 2 cable ties (Figure 19)



g321708



g321709

Figure 19

1. Cable tie
2. Kit wire harness
3. Platform wire harness

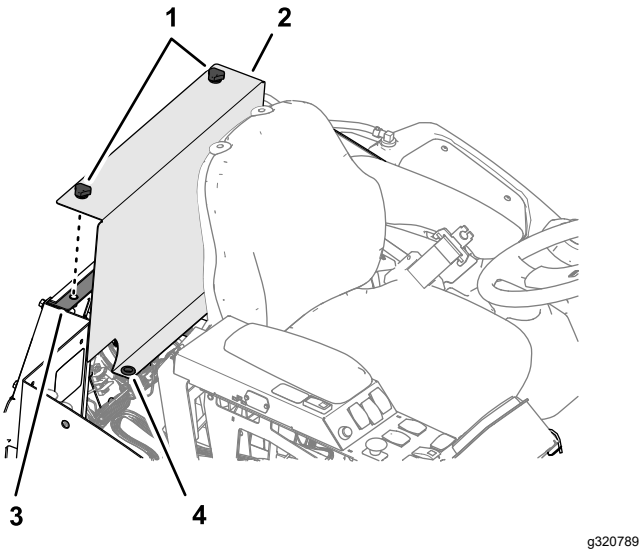
6

Installing the Electrical-Panel and Control-Console Covers

No Parts Required

Procedure

1. Align the grommets at the bottom of the electrical-panel cover (Figure 20) with the 2 pins in the floor panel.
2. Align the threaded rods of the knobs attached to the cover with the cinch nuts of the electrical plate (Figure 20).

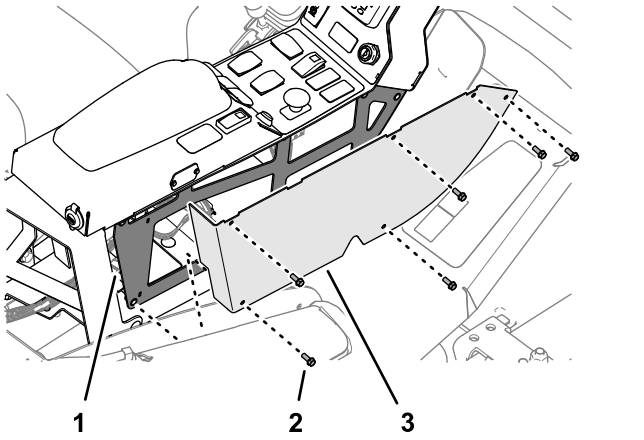


g320789

Figure 20

1. Knobs
2. Electrical-panel cover
3. Electrical plate
4. Grommet

3. Assemble the cover to the plate and secure the panel with the knobs (Figure 20).
4. At the outboard side of the control console, align the holes in the right control-console cover with the holes in the console (Figure 21).



g320588

Figure 21

1. Control console panel
2. Flange-head capscrew
3. Control-console cover (right)

5. Assemble the cover to the control console (Figure 21) with the 5 flange-head capscrews that you removed in Preparing the Control Console (page 3).

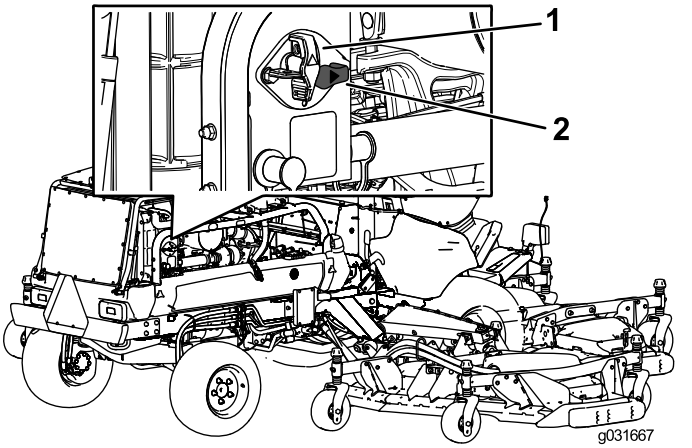
7

Finishing the Kit Installation

No Parts Required

Connecting the Battery

1. Rotate the battery-disconnect switch to the ON position (Figure 22).



g031667

g031667

Figure 22

1. Battery-disconnect switch (OFF position)
2. Battery-disconnect switch (ON position)

2. Close the hood and secure it with the 2 hood latches.

Testing the Traction System

1. Start the engine and disengage the parking brake.
2. Press the high—low range-speed switch to the L (low range) position (Figure 23)

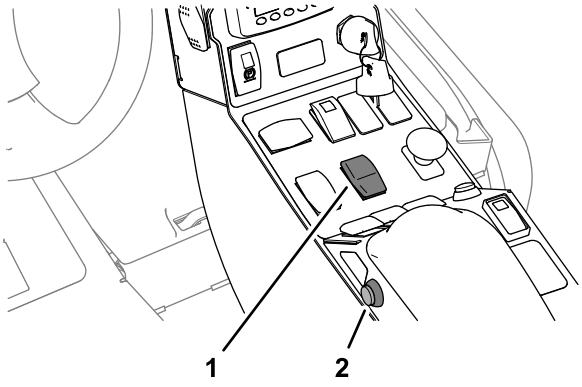


Figure 23

1. High—low range-speed switch
2. Momentary switch

3. Press and hold the momentary switch (Figure 23).
4. To feel the 4-wheel drive is more aggressive, slowly drive the machine in a full turn.

   Note: You should feel increased powertrain torque and it is easily felt on a paved surface.
5. While driving the machine in a turn, release the momentary switch to confirm that the 4-wheel drive returns to it's normal mode.
6. Stop the machine, engage the parking brake, shut off the engine, remove the key, and wait for all moving parts to stop.

Operation

Operating the Traction System

Note: The 4-wheel drive momentary switch engages a more aggressive 4-wheel drive mode while the switch is pressed.

1. Stop the machine.
2. Press the high—low range-speed switch to the L (low range) position (Figure 24).

   Important: **Do not use the 4-wheel drive switch while the traction system is in high range.**

   Note: Only use the 4-wheel drive switch when necessary to avoid premature wear on the traction system.

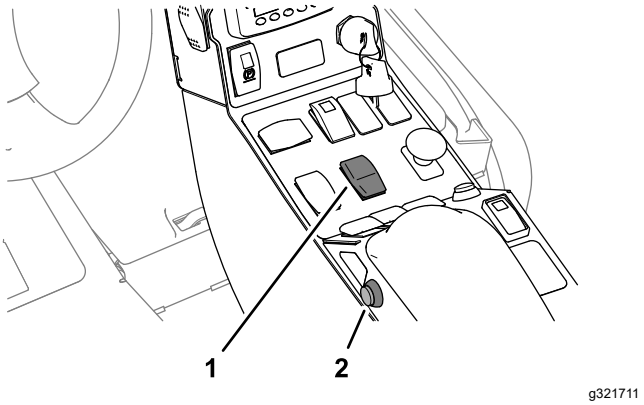


Figure 24

1. High—low range-speed switch
2. 4-wheel drive switch

3. Press and hold the 4-wheel drive switch to engage a more aggressive 4-wheel drive response (Figure 24).
4. Drive the machine while pressing the 4-wheel drive switch.
5. Release the 4-wheel drive switch to drive the machine in the normal 4-wheel drive mode.