Form No. 3466-855 Rev B

AutoSteer Kit

Multi Pro® 5800 Turf Sprayer with GeoLink®

Model No. 41636—Serial No. 415400000 and Up

Installation Instructions

Introduction

The AutoSteer kit is an accessory for the GeoLink spray system, used for a turf spray application vehicle, and is intended to be used by professional, hired operators in commercial applications. It is designed primarily for spraying on well-maintained lawns in parks, golf courses, sports fields, and on commercial grounds. Using this product for purposes other than its intended use could prove dangerous to you and bystanders.

Read this information carefully to learn how to operate and maintain your product properly and to avoid injury and product damage. You are responsible for operating the product properly and safely.

Visit www.Toro.com for product safety and operation training materials, accessory information, help finding a dealer, or to register your product.

Whenever you need service, genuine Toro parts, or additional information, contact an Authorized Service Dealer or Toro Customer Service and have the model and serial numbers of your product ready. Figure 1 identifies the location of the model and serial numbers on the product. Write the numbers in the space provided.

Important: **With your mobile device, you can scan the QR code (if equipped) on the serial number plate to access warranty, parts, and other product information.**

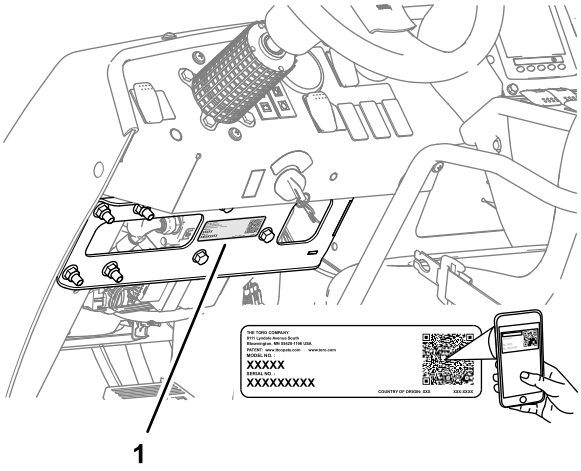

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Figure 1

1. Model and serial number location

Model No. _____

Serial No. _____

This manual identifies potential hazards and has safety messages identified by the safety-alert symbol (Figure 2), which signals a hazard that may cause serious injury or death if you do not follow the recommended precautions.

g000502

Figure 2

1. Safety-alert symbol

This manual uses 2 words to highlight information. **Important** calls attention to special mechanical information and **Note** emphasizes general information worthy of special attention.

8111 Lyndale Avenue South
Bloomington, MN 55420

Register at www.Toro.com.

Original Instructions (EN)
Printed in the USA

3466-855

Contents

Safety

⚠ WARNING

Chemical substances used in the spray system may be hazardous and toxic to you, bystanders, animals, plants, soil, or other property.

- **Carefully read and follow the chemical warning labels and safety data sheet (SDS) for all chemicals used and protect yourself according to the chemical manufacturer's recommendations. For example, use appropriate personal protective equipment (PPE), including face and eye protection, gloves, or other equipment to guard against personal contact with a chemical.**
- **There may be more than 1 chemical used and information on each chemical; assess each chemical.**
- **Refuse to operate or work on the sprayer if this information is not available.**
- **Before working on a spray system, ensure that the system has been triple rinsed and neutralized according to the recommendations of the chemical manufacturer(s) and that all the valves are cycled 3 times.**
- **Verify that there is an adequate supply of clean water and soap nearby, and immediately wash off any chemicals that contact you.**

Shut off the machine, remove the key (if equipped), and wait for all movement to stop before you leave the operator's position. Allow the machine to cool before adjusting, servicing, cleaning, or storing it.

Improperly using or maintaining this machine can result in injury. To reduce the potential for injury, comply with these safety instructions and always pay attention to the safety-alert symbol ⚠, which means Caution, Warning, or Danger—personal safety instruction. Failure to comply with these instructions may result in personal injury or death.

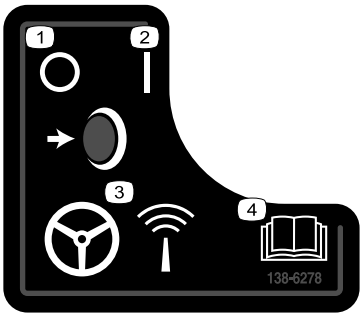
Safety and Instructional Decals

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.

decal138-6259

138-6259

1. Transport mode
2. Spray mode



decal138-6278

138-6278

1. Off
2. On
3. Autosteer engage/disengage button
4. Read the *Operator's Manual*.

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	No parts required	–	Remove the negative battery cable.
3	No parts required	–	Remove the hood.
4	No parts required	–	Remove the heat shield and shroud.
5	No parts required	–	Remove the wheel.
6	Shim	1	Install the wheel angle sensor shim (Serial Numbers 406294345 through 412811092).
7	Wheel angle sensor (WAS; magnetic target and sensor) Jam nut (10 mm) Sensor bracket Sensor alignment tool Pan-head screw (#4 x 3/4 inch) Locknut (#4) Flange-head capscrew (1/4 x 3/4 inch) Locknut (1/4 inch)	1 1 1 1 2 2 2 2	Install the wheel angle sensor (WAS).
8	Cap	1	Remove the hydraulic hoses.
9	Manifold mount Flange-head capscrew (1/4 x 1/2 inch) Washer (1/4 inch) Flange locknut (1/4 inch) U-bolt (3/8 inch) Flange locknut (3/8 inch) Model/serial decal EHI steering valve Straight hydraulic fitting (-6 x 12 mm) Straight hydraulic fitting (-8 x 22 mm) Straight hydraulic fitting (-6 x 18 mm) Flange-head capscrew (8 x 16 mm)	1 2 2 2 2 4 1 1 2 4 4 3	Install the steering valve.
10	Grommet	1	Drill the console base.

Procedure	Description	Qty.	Use
11	2-position switch	1	Install the electrical harness.
	Transport decal	1	
	Wire harness	1	
	Cable tie	7	
	Fuse (10 A)	1	
	Push-button switch, jam nut, and lock washer	1	
	AutoSteer remote-engage decal	1	
12	O-ring 9.2/1.8 mm (0.364/0.070 inch)	3	Replace the steering valve O-rings.
	O-ring 7.6/1.8 mm (0.301/0.070 inch)	2	
13	Hose 6 x 203 mm (1/4 x 8 inches); -6 (straight) and -6 (45°) fittings	1	Install the hoses.
	O-ring 12.4/1.8 mm (0.489/0.070 inch)	2	
	Hose 6 x 2819 mm (1/4 x 111 inches); -4 (90°) and -6 (90°) fittings	1	
	Hose 6 x 673 mm (1/4 x 26-1/2 inches); -4 (straight) and -6 (90°) fittings	1	
	Hose 6 x 711 mm (1/4 x 28 inches); -4 (straight) and -6 (90°) fittings	1	
	Hose 10 x 187 mm (3/8 x 7-3/8 inches); -6 (straight) and -8 (90°) fittings	1	
	Hose 10 x 264 mm (3/8 x 10-3/8 inches); -8 (90°) and -6 (45°) fittings	1	
	O-ring 9.2/1.8 mm (0.364/0.070 inch)	2	
	Hose 6 x 1397 mm (1/4 x 55 inches); -6 (straight) and -6 (90°) fittings	1	
	Hose 6 x 1270 mm (1/4 x 50 inches); -6 (straight) and -6 (90°) fittings	1	
	Hose 10 x 2921 mm (3/8 x 115 inches); -8 (90°) and -8 (90°) fittings	1	
	O-ring 7.6/1.8 mm (0.301/0.070 inch)	1	
	Cable tie	3	
14	No parts required	–	Finish the kit installation.
15	No parts required	–	Purge air from the hydraulic system.
16	No parts required	–	Check for hydraulic leaks.
17	Push-in fasteners	6	Install the hood.
18	No parts required	–	Install the heat shield and shroud.
19	No parts required	–	Check the hydraulic fluid level.
20	No parts required	–	Verify the software version.
21	No parts required	–	Verify the minimum hardware requirements.

Procedure	Description	Qty.	Use
22	No parts required	–	Download the software.
23	No parts required	–	Set up the GeoLink software.

1

Preparing the Machine

No Parts Required

Procedure

⚠ CAUTION

Chemicals are hazardous and can cause personal injury.

- **Read the directions on the chemical labels before handling the chemicals and follow all manufacturer recommendations and precautions.**
- **Keep chemicals away from your skin. Should contact occur, wash the affected area thoroughly with soap and clean water.**
- **Wear goggles and any other protective equipment recommended by the chemical manufacturer.**

1. Park the machine on a level surface.
2. Engage the parking brake.
3. Ensure that the tires are aligned straight ahead.
4. Shut off the engine and remove the key.
5. Wait for all movement to stop before leaving the operator's seat.
6. Clean the sprayer; refer to Cleaning the Sprayer in the *Operator's Manual* for the machine.
7. Allow the machine components to cool.

2

Remove the Negative Battery Cable

No Parts Required

Procedure

Remove the cover from the battery box and disconnect the negative-battery cable from the battery.

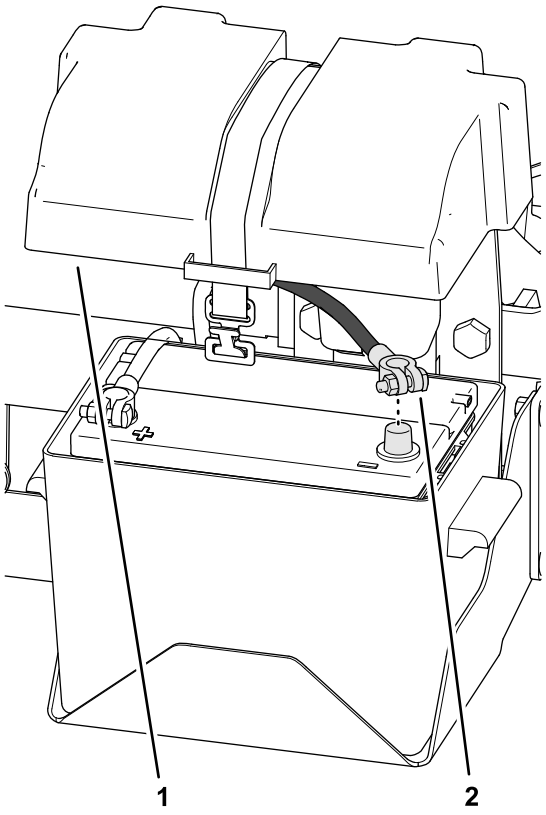


Figure 3

1. Cover
2. Negative battery cable

3

Removing the Hood

No Parts Required

Procedure

1. Remove the headlight connector of the machine wire harness from the connector of the headlight bulb (Figure 4).

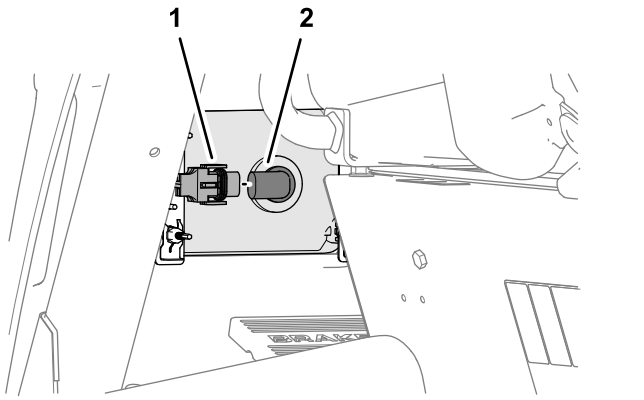


Figure 4

1. Connector (machine harness—headlight)
2. Connector (bulb)

2. Repeat step 1 at the other headlight.
3. Remove the 4 push-in fasteners that secure the bottom flange of the hood to the machine (Figure 5).

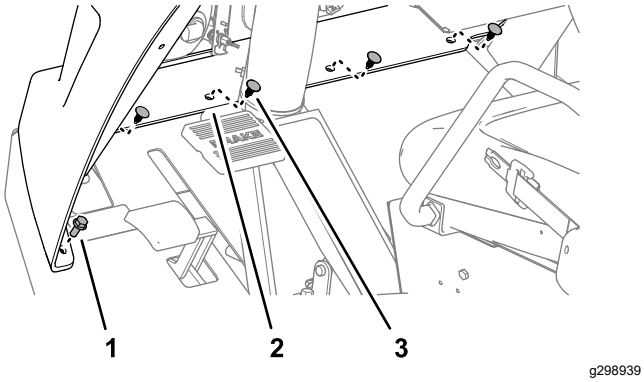


Figure 5

1. Flange-head bolt (5/16 x 3/4 inch)
2. Flange (hood)
3. Push-in fastener

4. Remove the 2 flange-head bolts (5/16 x 3/4 inch) that secure the bottom flange to the machine (Figure 5).
5. Remove the 4 Phillips pan-head screws (1/4 x 1 inch) that secures the hood to the dash support (Figure 6).

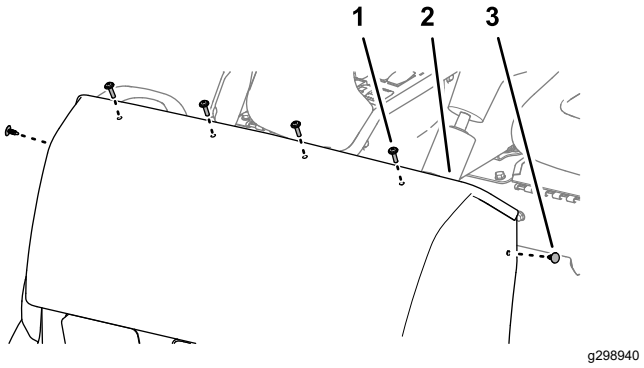


Figure 6

1. Phillips pan-head screw (1/4 x 1 inch)
2. Hood
3. Push-in fastener

6. Remove the 2 push-in fasteners that secure the hood to the dash support (Figure 6).
7. Remove the hood from the machine (Figure 7).

   Note: Retain the hood, 2 flange-head bolts, and 4 Phillips pan-head screws.

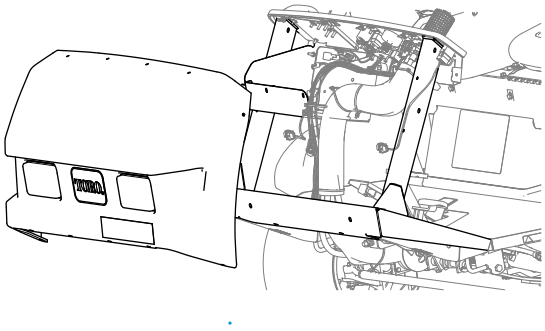


Figure 7

4

Removing the Heat Shield and Undercarriage Shroud

2015 and Later Machines

No Parts Required

Procedure

If equipped, remove the heat shield and shroud from the bottom of the machine; refer to the *Operator's Manual* for your machine.

5

Removing the Left, Front Wheel

No Parts Required

Procedure

1. Lift the machine and support it with jack stands; refer to the *Operator's Manual* for your machine.
2. Remove the 5 wheel nuts that secure the left tire and wheel to the wheel hub, and remove the wheel from the machine (Figure 8).

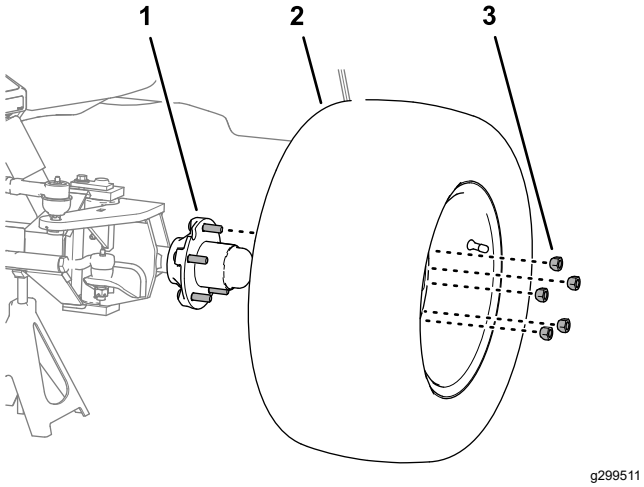


Figure 8

1. Wheel hub
2. Wheel nut
3. Tire and wheel

6

Installing the Wheel Angle Sensor Shim

Parts needed for this procedure:

1	Shim

Procedure

1. Install the shim into the wheel hub/spindle assembly.
2. Install the wheel hub/spindle assembly and king pin.

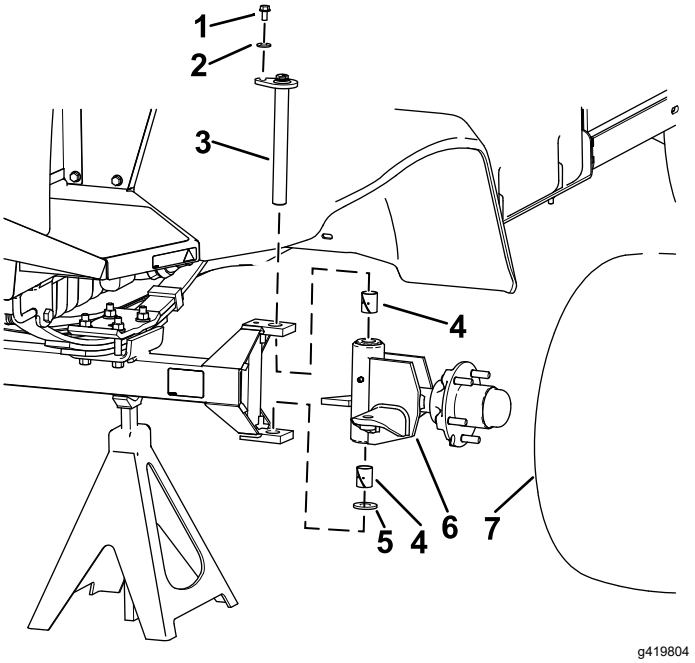


Figure 9

1. Bolt
2. Washer
3. King pin
4. Bushing
5. Shim
6. Wheel hub/spindle assembly
7. Front tire

7

Installing the Wheel Angle Sensor (WAS)

Parts needed for this procedure:

1	Wheel angle sensor (WAS; magnetic target and sensor)
1	Jam nut (10 mm)
1	Sensor bracket
1	Sensor alignment tool
2	Pan-head screw (#4 x 3/4 inch)
2	Locknut (#4)
2	Flange-head capscrew (1/4 x 3/4 inch)
2	Locknut (1/4 inch)

Installing the Sensor Bracket

1. Remove the capscrew from the end of the kingpin (Figure 10).

   Note: Discard the capscrew.

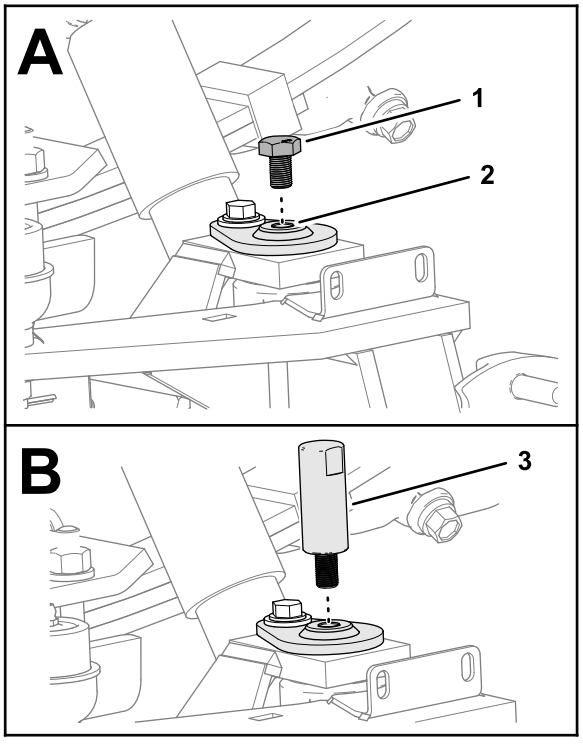


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Figure 10

1. Capscrew
2. King pin
3. Alignment tool

2. Thread the alignment tool into the top of the king pin (Figure 10).
3. Align the sensor bracket over the alignment tool and the slots in the flange of the spindle (Figure 11).

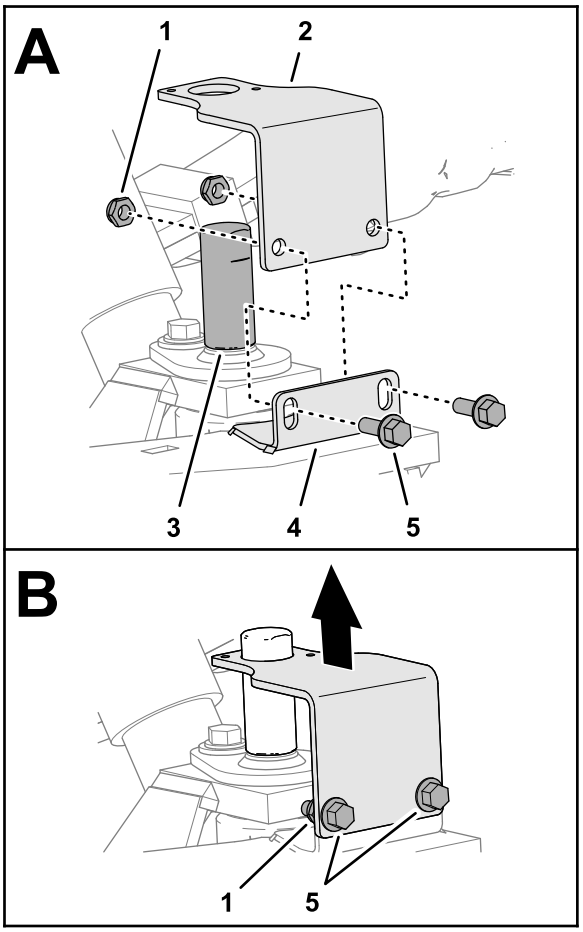

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Figure 11

1. Locknut (1/4 inch)
2. Sensor bracket
3. Alignment tool
4. Flange (spindle)
5. Flange-head capscrews (1/4 x 3/4 inch)

4. Loosely assemble the bracket to the flange (Figure 11) with 2 flange-head capscrews (1/4 x 3/4 inch) and 2 locknuts (1/4 inch).
5. Position the bracket to the bottom of the slots in the flange of the spindle, and tighten the flange-head capscrews and locknuts (Figure 11).
6. Remove the alignment tool (Figure 12).

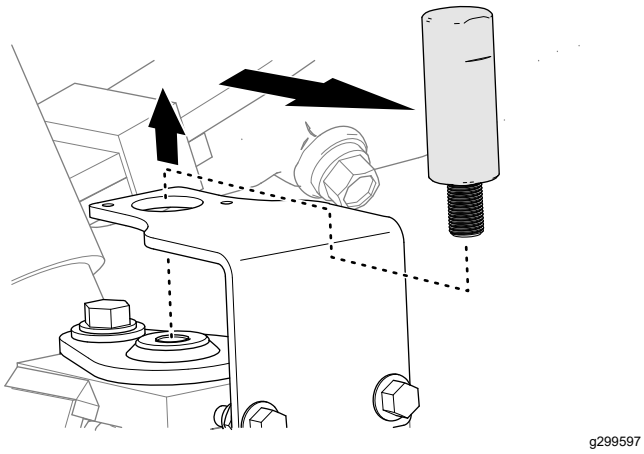

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Figure 12

Assembling the Wheel Angle Sensor (WAS)

1. Fully thread the jam nut onto the WAS.

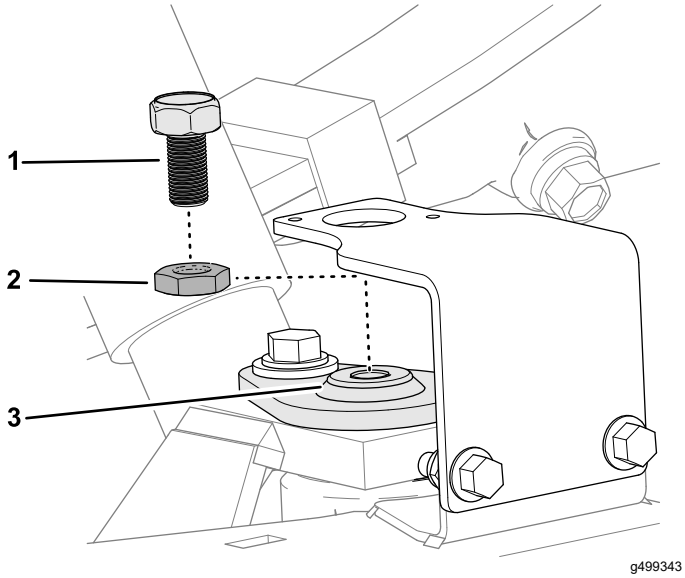

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Figure 13

1. WAS
2. Jam nut
3. King pin

2. Thread the WAS into the top of the king pin.
3. Assemble the steering position sensor to the sensor bracket with 2 pan-head screws (#4 x 3/4 inch) and locknuts (#4), and tighten the screws and locknuts.

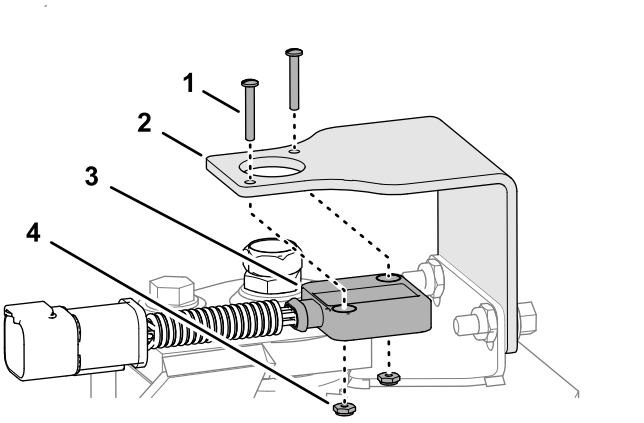

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Figure 14

1. Pan-head screws (#4 x 3/4 inch)
2. Sensor bracket
3. Steering position sensor
4. Locknuts (#4)

Adjusting the WAS

1. Adjust the position of the WAS until you measure a gap 4 mm (0.16 inch) between the target and the face of sensor (Figure 15).

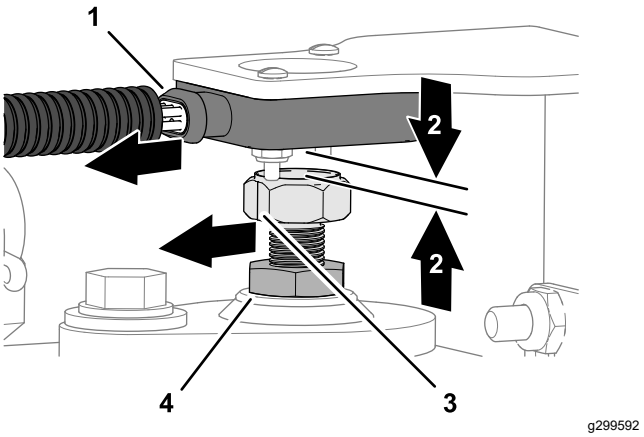

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Figure 15

1. Wiring port (sensor)
2. Gap 3.5 mm (0.14 inch)
3. Indicator line (magnetic target)
4. Jam nut

2. Rotate the WAS until the indicator line that is stamped into the flat face of the WAS aligns with the wiring port of the sensor (Figure 15).
3. Tighten the jam nut (Figure 15).
4. Measure the gap between the target and the face of sensor (Figure 15). You should measure 2 to 4 mm (0.08 to 0.16 inch).

   Note: If the gap is smaller than 2 mm (0.08 inch) or larger than 4 mm (0.16 inch)—adjust the position of the WAS, align the indicator line, and tighten the jam nut.

Installing the Wheel

1. Align the holes of the wheel onto the studs of the wheel hub (Figure 16).

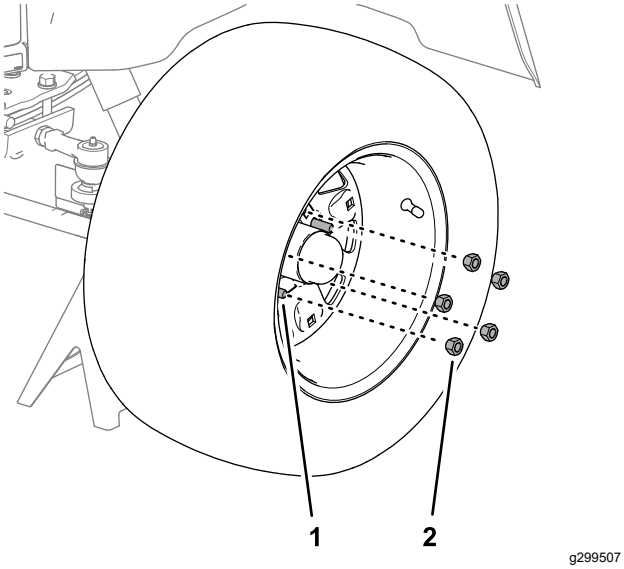


Figure 16

1. Stud
2. Wheel nut

2. Assemble the wheel to the studs with the 5 wheel nuts, and tighten them by hand (Figure 16).
3. Lower the machine and remove the jack stands.
4. Torque the wheel nuts in a crossing pattern to 75 to 102 N·m (55 to 75 ft-lb).

8

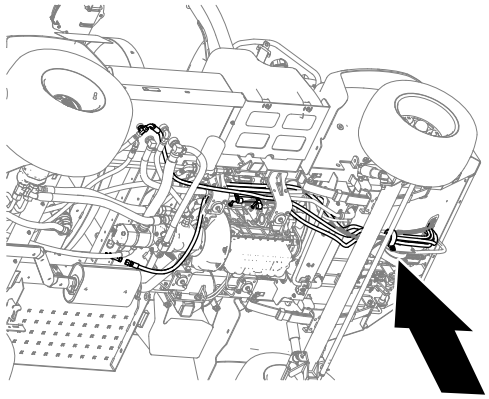
Removing the Steering Valve Hoses

Parts needed for this procedure:

1	Cap

Removing the Hose Support Clamps

1. Under the floor plate, remove the nut (1/4 inch), lock washer (1/4 inch), washer (3/8 x 7/8 inch), and capscrew (1/4 x 7/8 inch) that secure the clamp supporting the hydraulic hoses to the clutch plate, and remove the clamp (Figure 17).



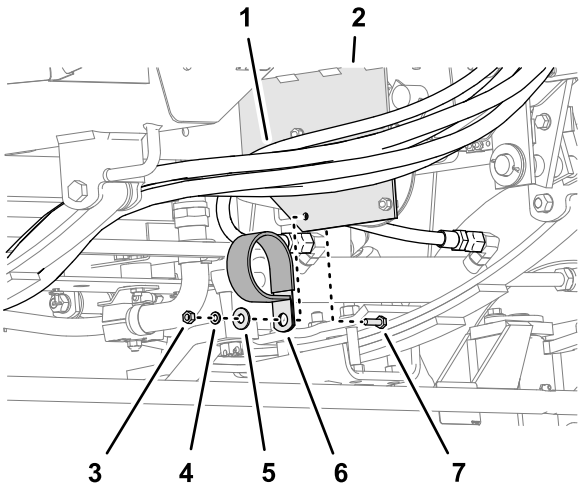
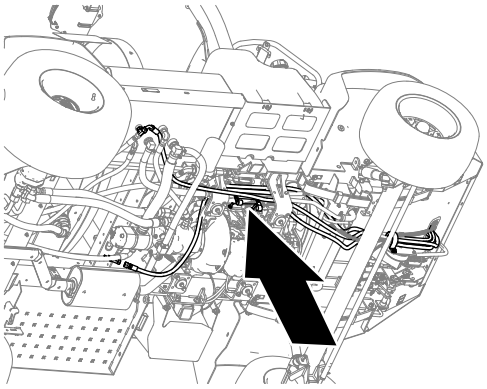


Figure 17

1. Hydraulic hoses
2. Clutch plate
3. Nut (1/4 inch)
4. Lock washer (1/4 inch)
5. Washer (3/8 x 7/8 inch)
6. Support clamp
7. Capscrew (1/4 x 7/8 inch)

2. At the right side of the machine, remove the flange locknuts (5/16 inch), carriage bolt (5/16 x 1 inch), and carriage bolt (5/16 x 1-1/2 inches) that secure the 2 clamps supporting the return hose of the steering valve to the engine mounts, and remove the clamps (Figure 18).



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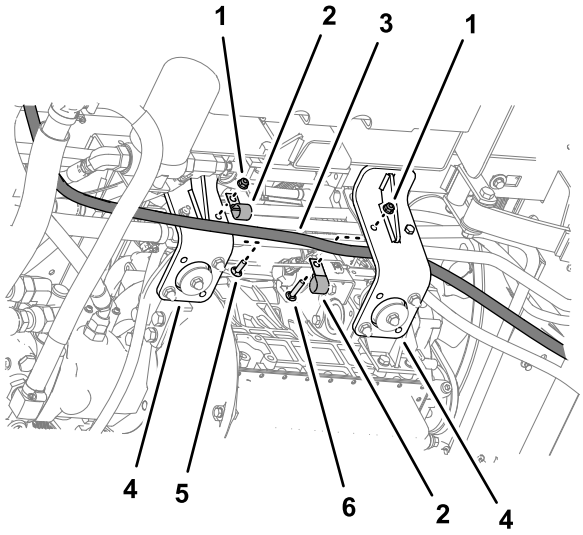

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Figure 18

1. Flange locknut (5/16 inch)
2. Support clamp
3. Return hose (steering valve)
4. Engine mount
5. Carriage bolt (5/16 x 1 inch)
6. Carriage bolt (5/16 x 1-1/2 inches)

3. Remove the 2 flange locknuts (5/16) securing the 2 upper tube-clamp halves as shown in Figure 19, and remove the clamp halves.

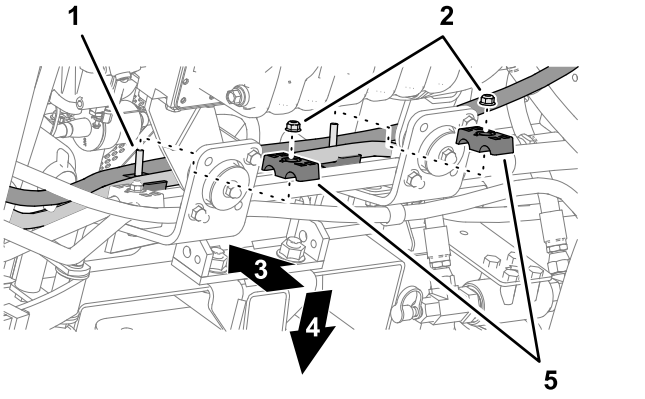

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Figure 19

1. Carriage bolt (5/16 x 2 inches)
2. Flange locknut (5/16 inch)
3. Top of the machine
4. Right side of the machine
5. Tube-clamp half (upper location)

Removing the Return Hose for the Steering Valve

1. Disconnect the return hose for the steering valve from the T-fitting at the bottom of the hydraulic tank (Figure 20).

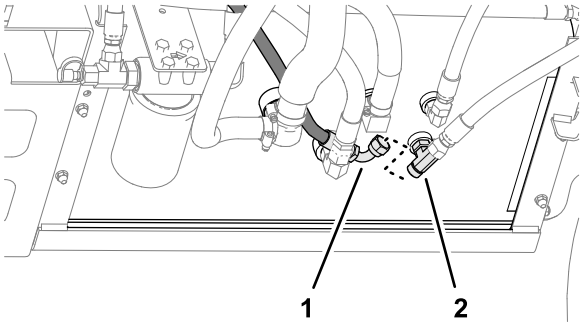

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Figure 20

1. Return hose (steering valve)
2. T-fitting (hydraulic tank)

2. Install the cap onto the T-fitting, as shown in Figure 21.

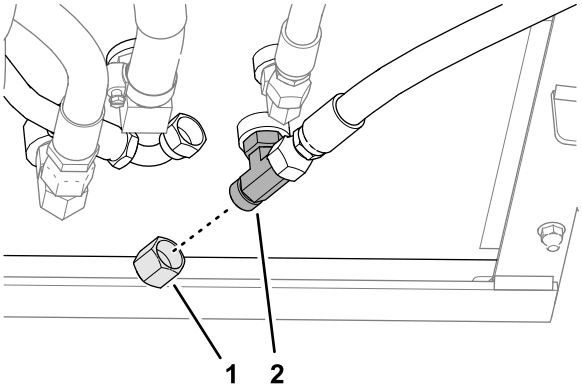

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Figure 21

1. Cap
2. T-fitting (hydraulic tank)

3. Remove the return hose for the steering valve from the machine (Figure 22).

   Note: Discard the return hose.

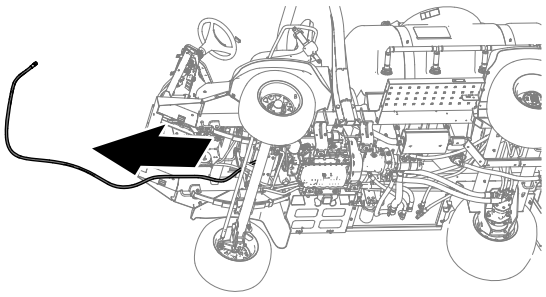

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Figure 22

Removing the Pressure Hose for the Steering Valve

1. Disconnect the pressure hose for the steering valve from the T-fitting at the end of the hydraulic pump.

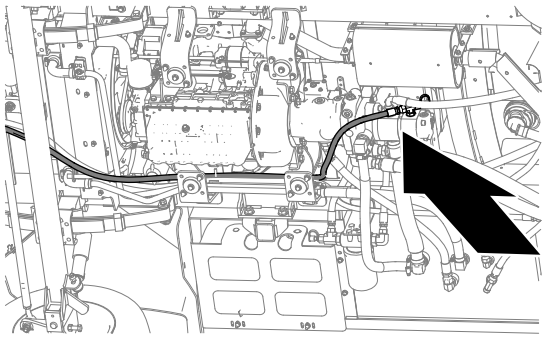

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Figure 23

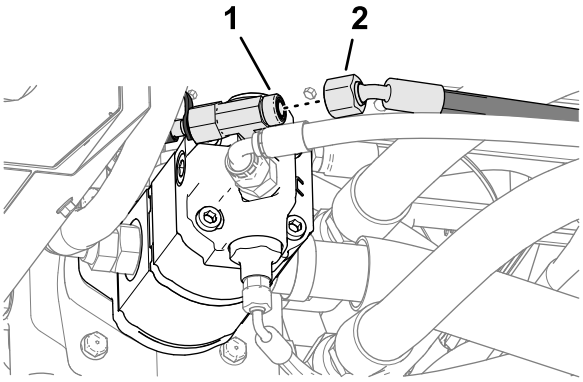

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Figure 24

2. Remove the pressure hose from the machine.

   Note: Discard the pressure hose.

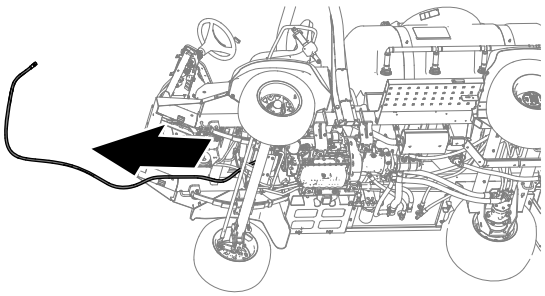

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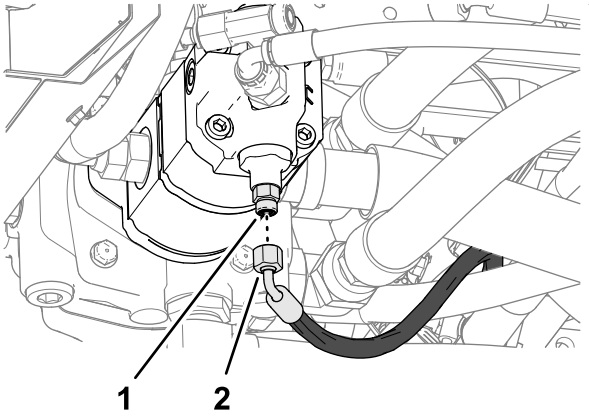
Figure 25

Removing the Load Sense Hose

1. Disconnect the load-sense hose for the steering valve from the straight fitting at the bottom of the hydraulic pump.



g337772

Figure 26

2.

Removing the Steering Cylinder Hoses

1. Disconnect the steering-cylinder hoses from the 90° fittings in the extend and retract ports of the steering cylinder (Figure 27).

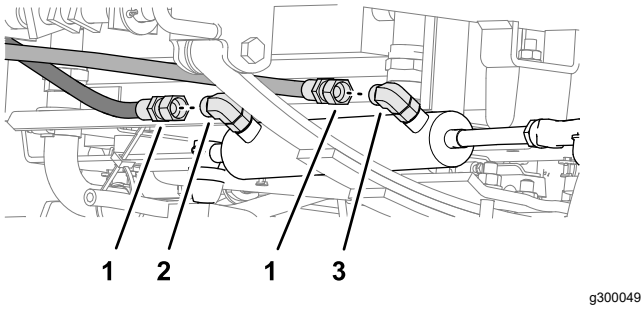


Figure 27

1. Steering-cylinder hose
2. 90° fitting (extend port—steering cylinder)
3. 90° fitting (retract port—steering cylinder)

2. Remove the steering-cylinder hoses from the machine.

   Note: Discard the steering-cylinder hoses.

9

Installing the EHI Steering Valve

Parts needed for this procedure:

1	Manifold mount
2	Flange-head capscrew (1/4 x 1/2 inch)
2	Washer (1/4 inch)
2	Flange locknut (1/4 inch)
2	U-bolt (3/8 inch)
4	Flange locknut (3/8 inch)
1	Model/serial decal
1	EHI steering valve
2	Straight hydraulic fitting (-6 x 12 mm)
4	Straight hydraulic fitting (-8 x 22 mm)
4	Straight hydraulic fitting (-6 x 18 mm)
3	Flange-head capscrew (8 x 16 mm)

Installing the Manifold Mount

1. Align the manifold mount to the front of the machine as shown in Figure 28.

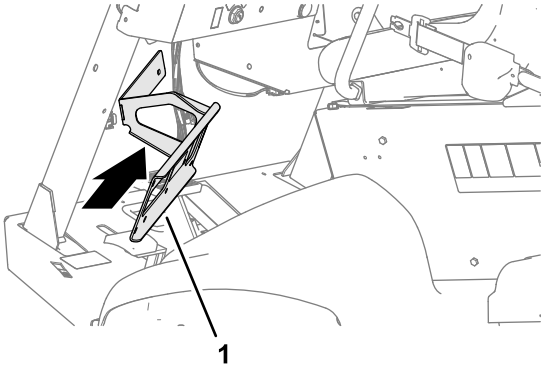
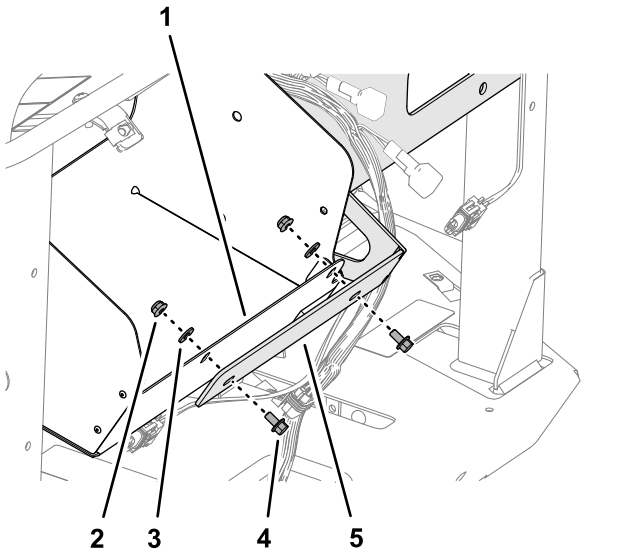


Figure 28

1. Manifold mount

2. Align the holes in the manifold mount with the slots in the flange of the storage compartment (Figure 29).

   Note: Ensure that the wires harness is not pinched between the mount and the compartment.

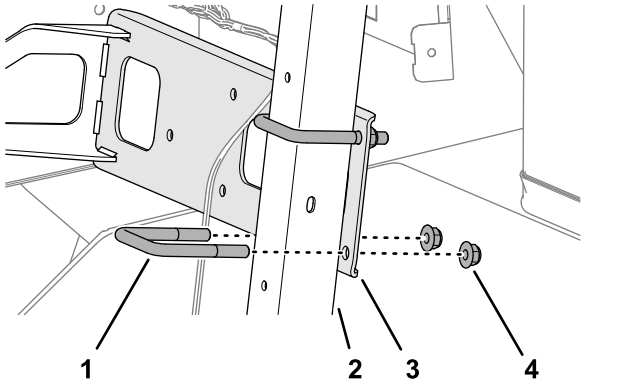


g299721

Figure 29

1. Flange (storage compartment)
2. Flange locknut (1/4 inch)
3. Washer (1/4 inch)
4. Flange-head capscrew (1/4 x 1/2 inch)
5. Manifold mount

3. Loosely assemble the manifold mount to the flange (Figure 29) with 2 flange-head capscrews (1/4 x 1/2 inch), 2 washers (1/4 inch), and 2 flange locknuts (1/4 inch).
4. Loosely assemble the manifold mount to the dash support tube (Figure 30) with 2 U-bolts (3/8 inch) and 4 flange locknuts (3/8 inch).



g299723

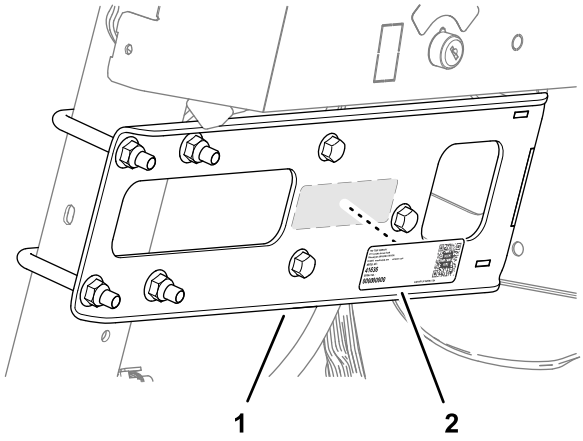
Figure 30

1. U-bolt (3/8 inch)
2. Dash support tube
3. Manifold mount
4. Flange locknut (3/8 inch)

5. Tighten the capscrews, U-bolts, and locknuts.

Affixing the Model/Serial Decal

1. Remove the backing from the model/serial decal.
2. Affix the decal to the manifold mount as shown in Figure 31.

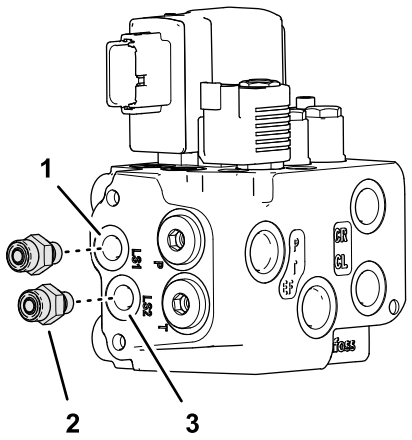


g303489

Figure 31

Preparing the EHI Steering Valve

1. Assemble 2 straight hydraulic fittings (-6 x 12 mm) into the EHI steering valve (Figure 32) as follows:
   - Port LS1
   - Port LS2

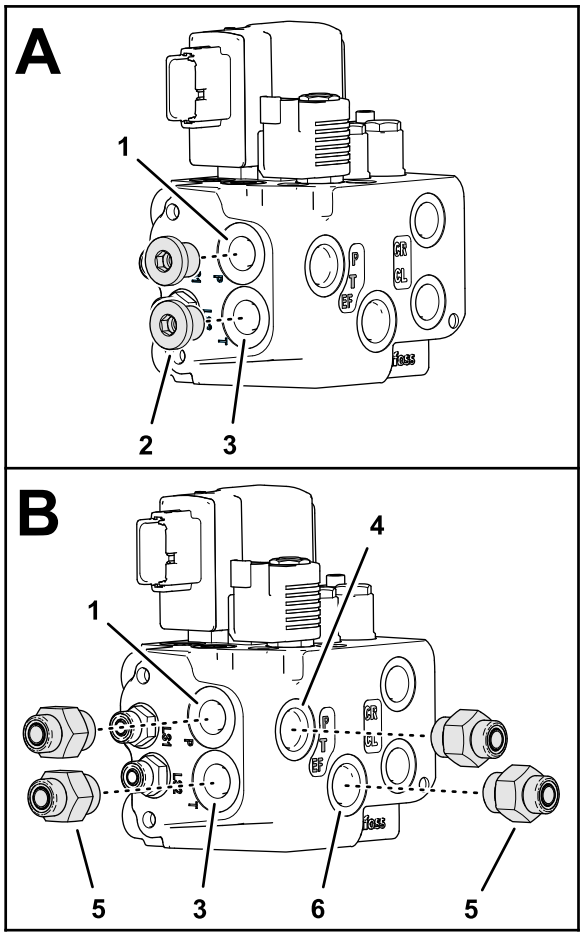


g299718

Figure 32

1. Port LS1 (EHI steering valve)
2. Straight hydraulic fitting (-6 x 12 mm)
3. Port LS2

2. Remove the 2 plugs from port P and port T of the EHI steering valve (Figure 33).

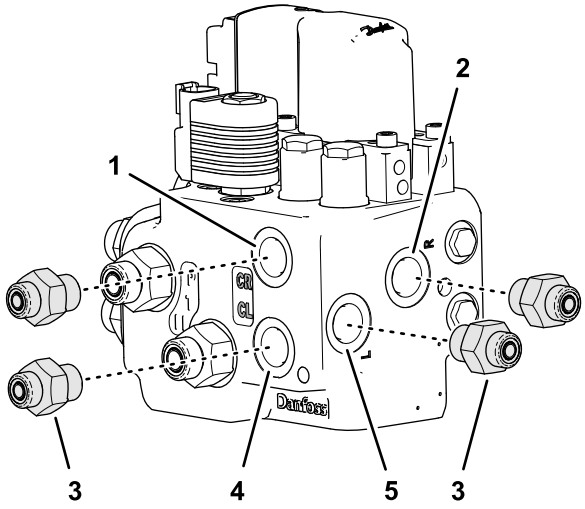


g299720

Figure 33

1. Port P (EHI steering valve)
2. Plug
3. Port T
4. Port P (EF)
5. Straight hydraulic fitting (-8 x 22 mm)
6. Port T (EF)

3. Assemble 4 straight hydraulic fittings (-6 x 22 mm) into the valve (Figure 33) as follows:
   - Port P
   - Port T
   - Port P (EF)
   - Port T (EF)
4. Assemble 4 straight hydraulic fittings (-6 x 18 mm) into the EHI steering valve (Figure 34) as follows:
   - Port CR
   - Port R
   - Port CL
   - Port L



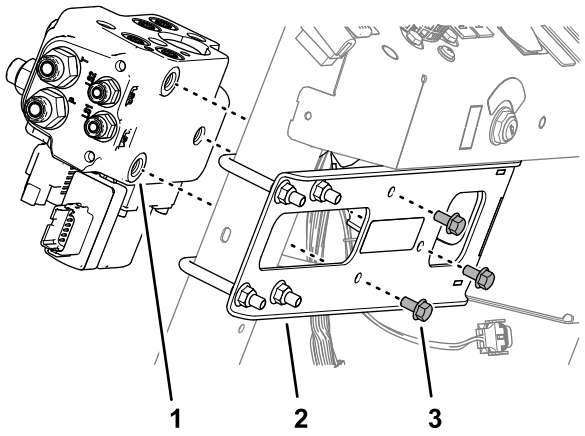
g299719

Figure 34

1. Port CR (EHI steering valve)
2. Port R
3. Straight hydraulic fitting (-6 x 18 mm)
4. Port CL
5. Port L

Installing the EHI Steering Valve

1. Align the holes in the body of the EHI steering valve with the holes in the manifold mount (Figure 35).



g299722

Figure 35

1. EHI steering valve
2. Manifold mount
3. Flange-head capscrew (8 x 16 mm)

2. Secure the valve to the mount (Figure 35) with 3 flange-head capscrews (8 x 16 mm).

10

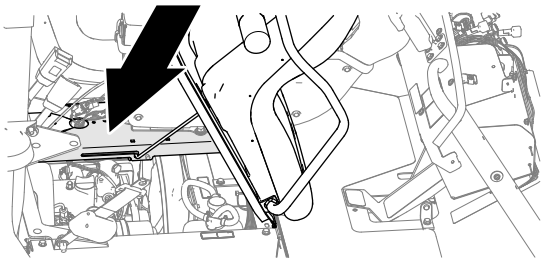
Drilling the Console Base

Parts needed for this procedure:

1	Grommet

Procedure

1. Tilt the passenger seat forward to access the console base (Figure 36).



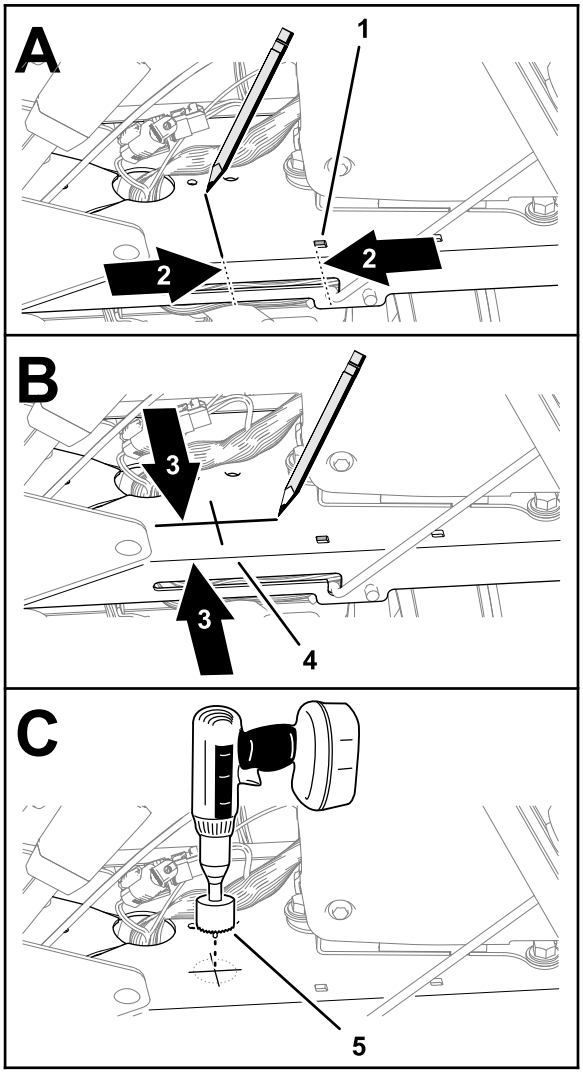
g299797

Figure 36

2. Align a piece of sheet metal, approximately 120 mm (4 inches) wide, through the prop-rod slot in the console base, between the base and the wire harness below it.

   Note: The sheet metal protects the wire harness when you drill through the console base.

3. Measure 69 mm (2-11/16 inches) rearward from the square hole near the prop-rod slot in the console base, and mark the console base (Figure 37).



g299798

Figure 37

1. Square hole (above the prop-rod slot)
2. Mark 69 mm (2-11/16 inches)
3. Mark 45 mm (1-3/46 inches)
4. Slotted flange (console base)
5. Drill bit 32 mm (1-1/4 inches)

4. Measure 45 mm (1-3/46 inches) inward from the slotted flange of console base, and mark the console base (Figure 37).
5. Center punch the console base at the intersection of the marks.
6. Drill a hole in the console base at the centerpunch mark with a 32 mm (1-1/4 inches) drill bit (Figure 37).
7. Remove the sheet piece of sheet metal, and remove any burrs around the hole.
8. Install the grommet into the hole (Figure 38).

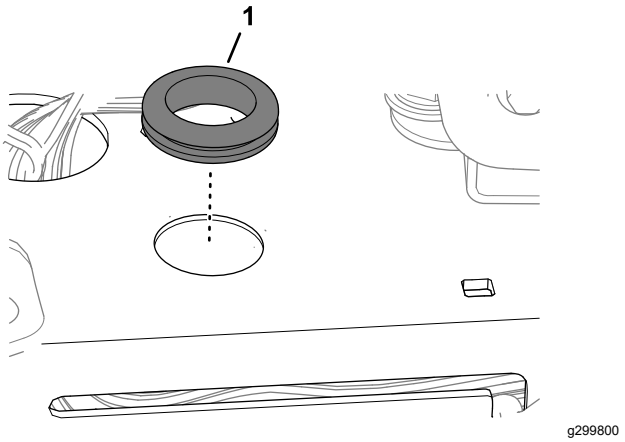


Figure 38

1. Grommet

11

Installing the Electrical Harness

Parts needed for this procedure:

1	2-position switch
1	Transport decal
1	Wire harness
7	Cable tie
1	Fuse (10 A)
1	Push-button switch, jam nut, and lock washer
1	AutoSteer remote-engage decal

Assembling the Road Switch to the Dash

1. Remove the plug in the dash panel as shown in Figure 39.

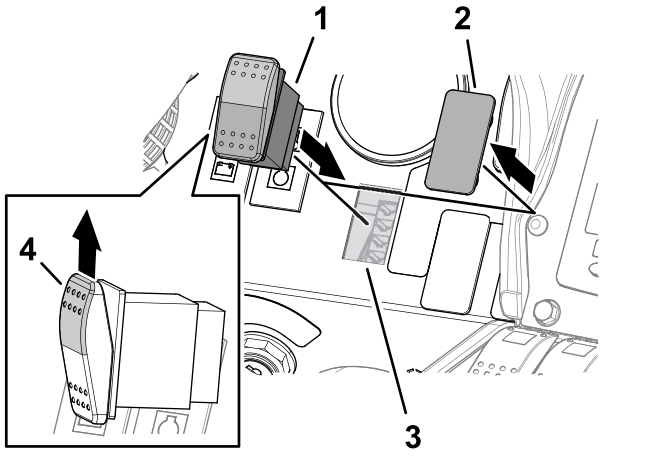


Figure 39

1. 2-position switch
2. Plug
3. Hole (dash panel)
4. Shoulder—aligned (2-position switch)

2. Align the 2-position switch with the shoulder of the switch (Figure 39) aligned to the top of the dash panel.
3. Insert the 2-position switch into the hole in the dash panel (Figure 39).
4. Apply the transport decal over the dash decal as shown in Figure 40.

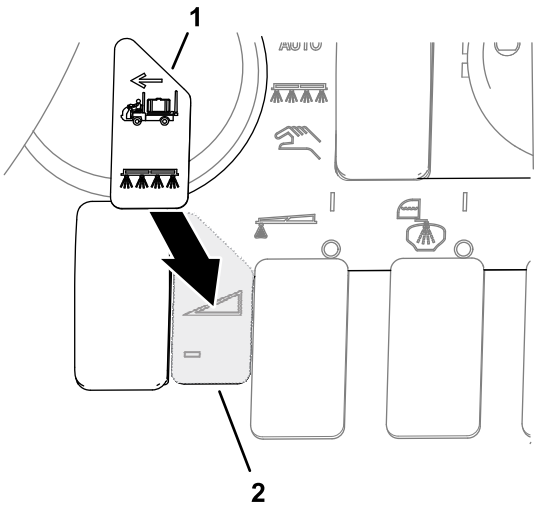
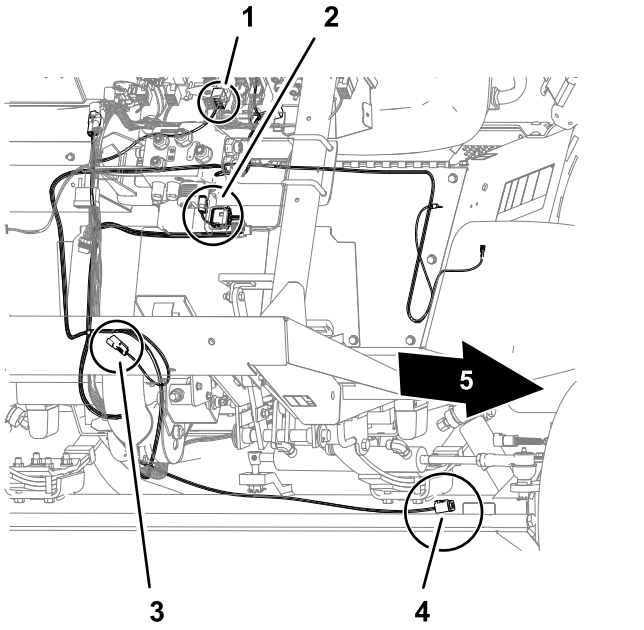


Figure 40

1. Transport decal
2. Dash decal

Routing the Wire Harness at the Dash

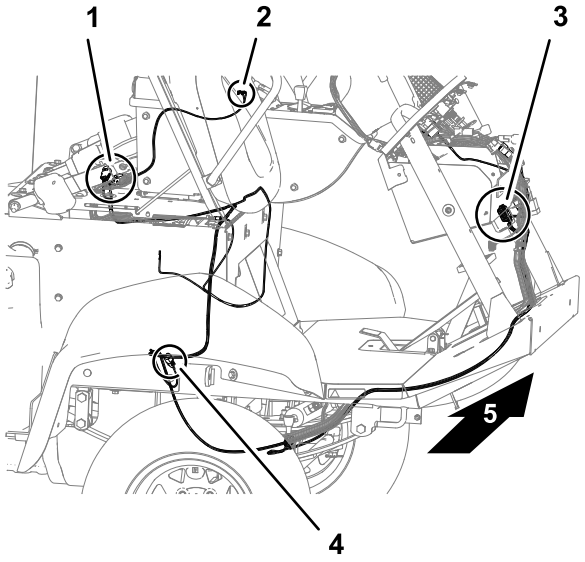


g315010

Figure 41

Harness overview—left

1. ROAD SWITCH connector
2. EHI A KEY (GREY) and EHI SOLENOID CONNECTORS
3. ISOBUS CONNECTOR
4. WHEEL ANGLE SENSOR connector
5. Left side of the machine

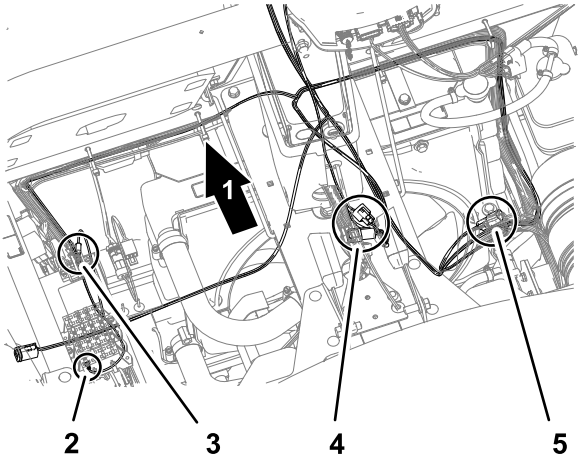


g315011

Figure 42

Harness overview—right

1. TO MACHINE DIAG CONNECTOR and REMOTE ENGAGE SWITCH connectors
2. REMOTE ENGAGE SWITCH terminals
3. EHI A KEY (GREY) and EHI SOLENOID CONNECTORS
4. ISOBUS CONNECTOR
5. Right side of the machine



g315012

Figure 43

Harness overview—top

1. Front of the machine
2. SWITCHED PWR terminal
3. GROUND terminal
4. TO MACHINE DIAG CONNECTOR and REMOTE ENGAGE SWITCH connectors
5. ISOBUS CONNECTOR

1. At the front of the machine, route the wire-harness connectors (Figure 44) with the

following labels through the bottom of the floor plate:

- ISOBUS CONNECTOR
- ROAD SWITCH
- EHI SOLENOID
- LABELED EHI A KEY (GREY)

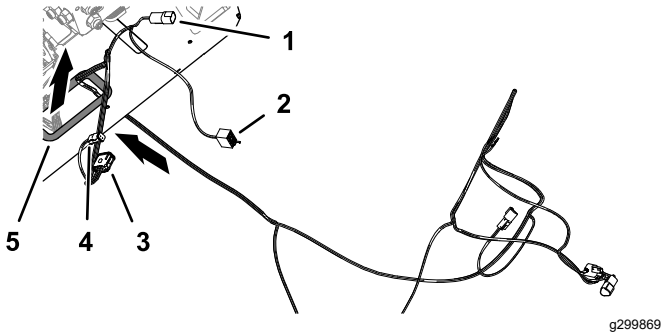


Figure 44

1. 4-pin connector—wire harness (labeled ISOBUS CONNECTOR)
2. 8-socket connector—wire harness (labeled ROAD SWITCH)
3. 2-socket connector—wire harness (labeled EHI SOLENOID)
4. 12-socket connector—wire harness (labeled EHI A KEY (GREY))
5. Grommet (floor plate)

2. Plug the 12-socket wire-harness connector labeled EHI A KEY (GREY) into the 12-pin connector of the EHI steering-valve (Figure 45).

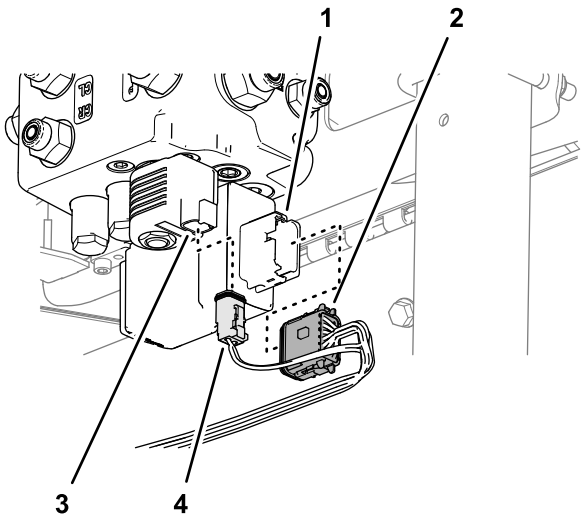


Figure 45

1. 12-pin EHI steering-valve connector
2. 12-socket connector—wire harness (labeled EHI A KEY (GREY))
3. 2-pin EHI-solenoid connector
4. 2-socket connector—wire harness (labeled EHI SOLENOID)

3. Plug the 2-socket wire-harness connector labeled EHI SOLENOID into the 2-pin connector of the EHI-solenoid (Figure 45).
4. Remove the cap from the 4-socket connector GeoLink wire harness labeled CAN 1 ISOBUS (Figure 46).

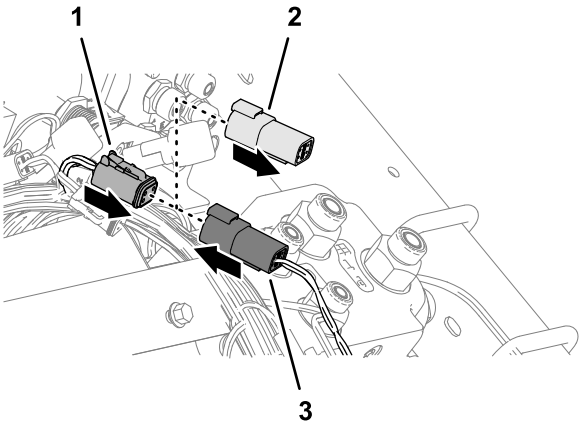


Figure 46

1. 4-socket connector (labeled CAN 1 ISOBUS)
2. Cap
3. 4-pin connector (labeled ISOBUS CONNECTION)

5. Plug the 4-pin connector of the kit wire harness labeled ISOBUS CONNECTION into the 4-socket connector labeled CAN 1 ISOBUS (Figure 46).
6. Plug the 8-socket connector of the kit wire harness labeled ROAD SWITCH (Figure 47) into the 2-position switch that you installed in Assembling the Road Switch to the Dash (page 18).

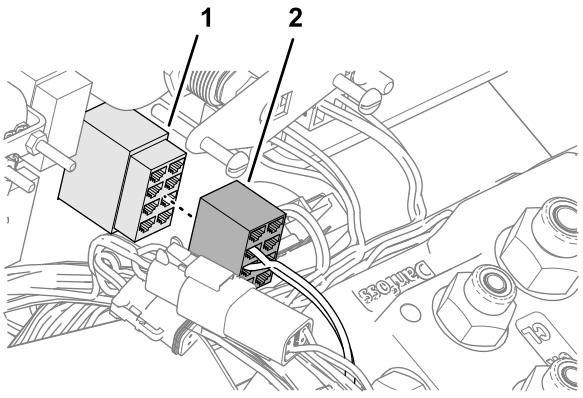
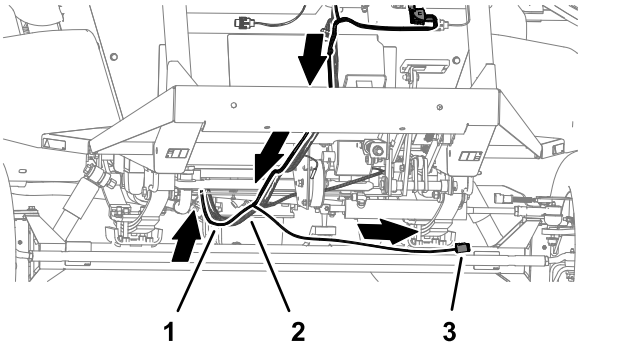


Figure 47

1. 2-position switch
2. 8-socket connector (labeled ROAD SWITCH)

Routing the Wire Harness Under the Operator's Platform

1. Route the wire harness for the kit rearward, along the wire harness for the machine (Figure 48).

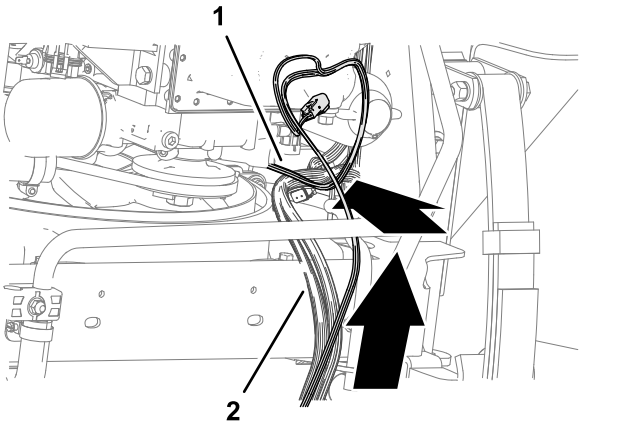


g301673

Figure 48

1. Kit wire harness
2. Machine wire harness
3. Wheel angle sensor branch (kit wire harness)

2. Route the wire harness branch with the connector labeled WHEEL ANGLE SENSOR along the back of the front axle tube (Figure 48).
3. At the bottom, back side of the radiator, route the wire harness up, along the machine wire harness (Figure 49).



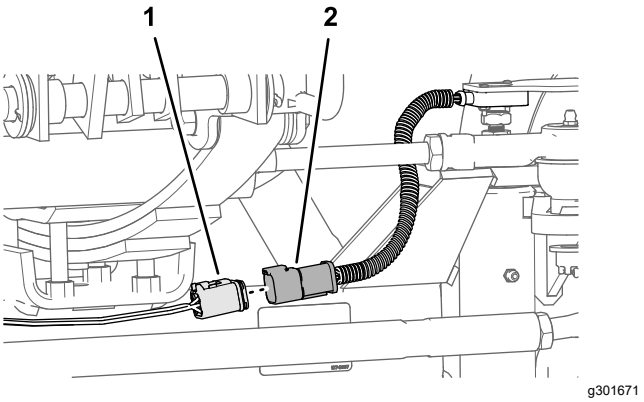
g301676

Figure 49

1. Kit wire harness
2. Machine wire harness

Connecting the Wheel Angle Sensor

1. Plug the 6-pin connector of the angle-sensor harness into the 6-socket connector of the kit wire harness labeled WHEEL ANGLE SENSOR (Figure 50).



g301671

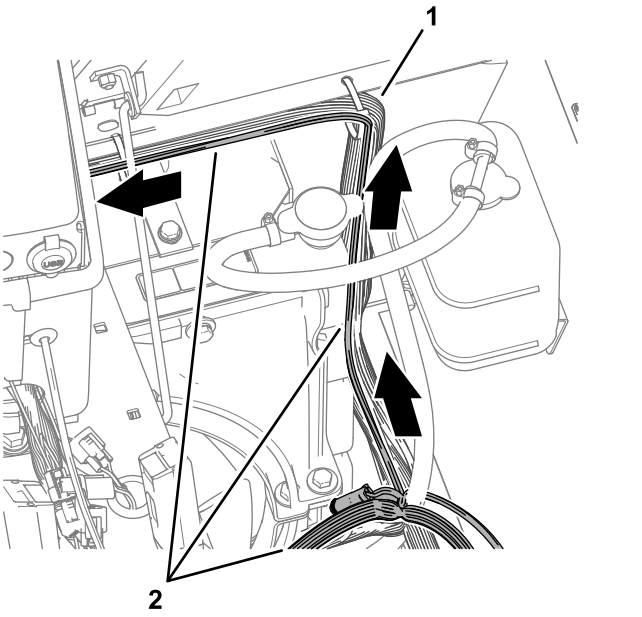
Figure 50

1. 6-socket connector (labeled WHEEL ANGLE SENSOR—kit wire harness)
2. 6-pin connector (angle-sensor harness)

2. Secure the harness of the wheel angle sensor and the angle-sensor branch of the kit wire harness to the axle tube with 2 cable ties.

Connecting the Wire Harness to the Ground Block and Fuse Block

1. Route the wire harness branch with the terminals labeled GROUND and SWITCHED PWR across the top of the radiator, along the machine wire harness (Figure 51).



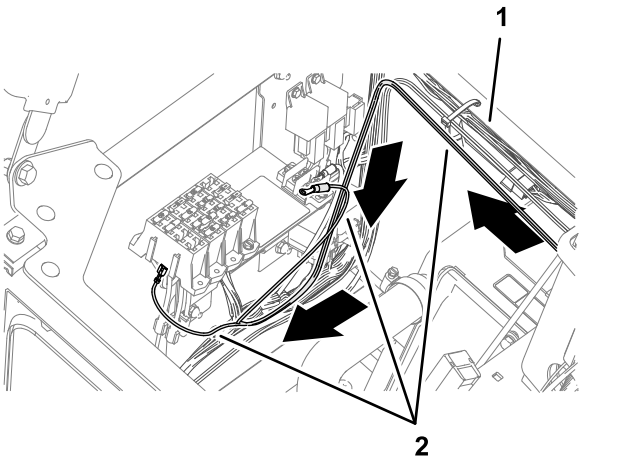


Figure 51

1. Machine wire harness
2. Kit wire harness (switched power and ground branch)

2. Remove a terminal screw from the ground block (Figure 52).

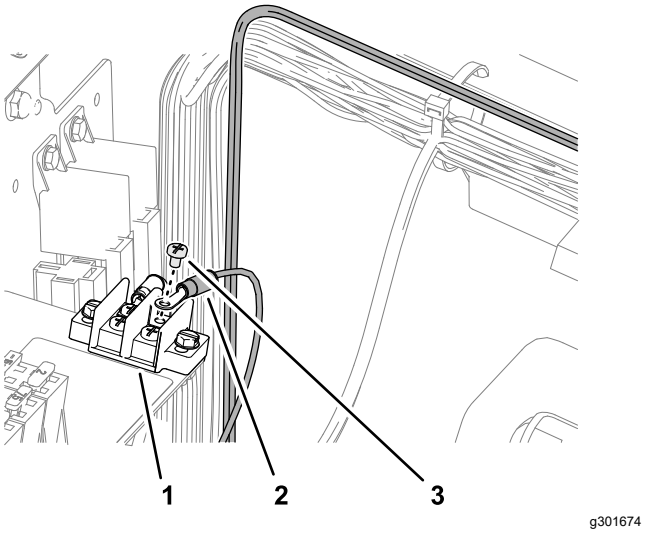


Figure 52

1. Ground block
2. Ring terminal (labeled GROUND—kit wire harness)
3. Terminal screw

3. Assemble the ring terminal of the kit wire harness labeled GROUND to the ground block with the terminal screw (Figure 52).
4. Plug the terminal of the kit wire harness labeled SWITCHED PWR into the blade connector for options power of the fuse block (Figure 53).

   Note: If the fuse block of your machine does not have an available options-power circuit, install an additional options-fuse block; refer to your authorized Toro distributor.

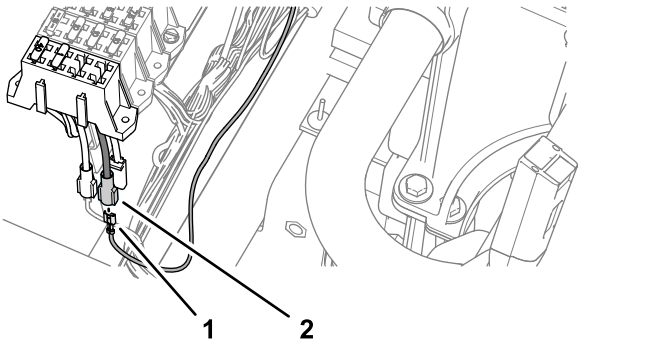
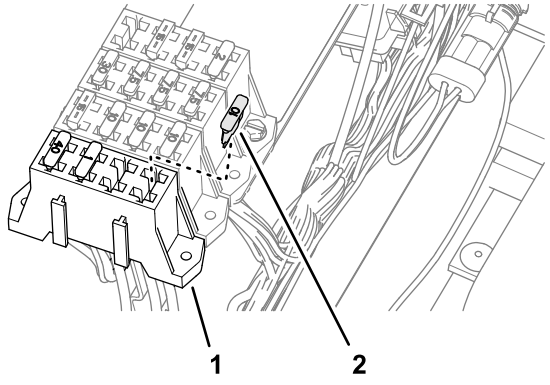


Figure 53

1. Terminal (labeled SWITCHED PWR—kit wire harness)
2. Blade connector (options power—fuse block)

5. Insert the fuse (10 A) into the fuse-block socket (Figure 54) for the options power circuit that you used in step 4.



g301672

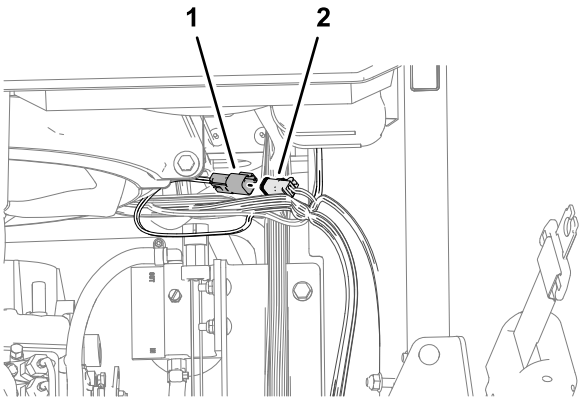
Figure 54

1. Fuse block
2. Fuse (10 A)

6. Secure the switched power and ground branch of the kit wire harness to the machine wire harness with 4 cable ties.

Connecting the Remote Engage Connectors

Plug the 2-pin connector of the kit wire harness labeled REMOTE ENGAGE CONNECTOR into the 2-socket connector of the GeoLink wire harness labeled REMOTE ENGAGE (Figure 55).



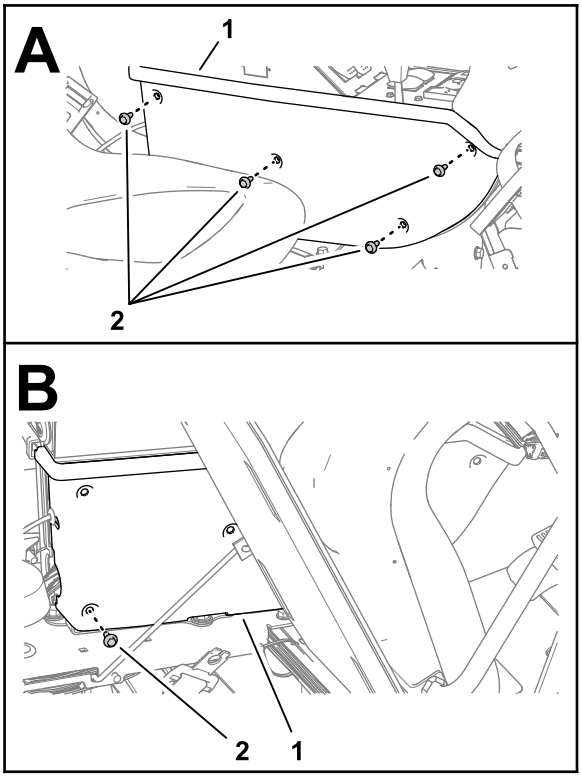
g301669

Figure 55

1. 2-pin connector (labeled REMOTE ENGAGE CONNECTOR—kit wire harness)
2. 2-socket connector (labeled REMOTE ENGAGE—GeoLink wire harness

Removing the Armrest

1. Remove 4 flange-head capscrews (1/4 x 3/4 inch) that secure the side panel of the center console as shown in Figure 56.

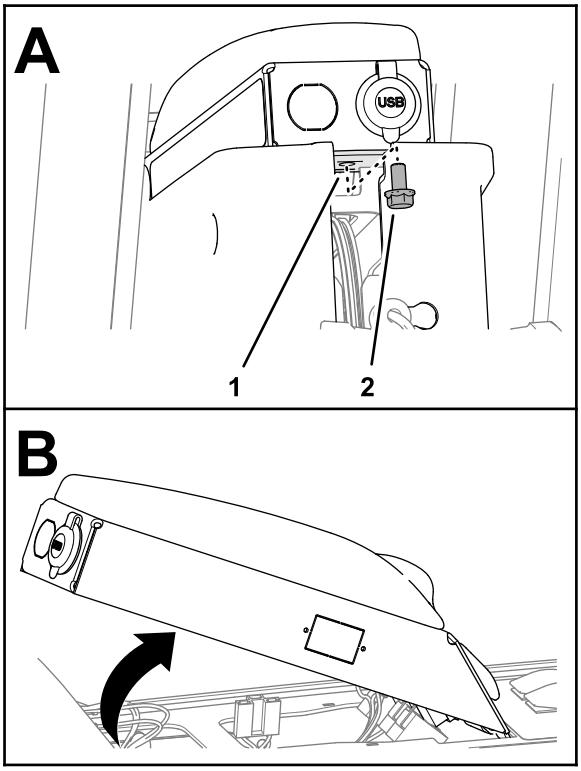


g301406

Figure 56

1. Side panel
2. Flange-head capscrews (1/4 x 3/4 inch)

2. Tilt the seat forward, and remove the lower rear flange-head capscrew (Figure 56).
3. Repeat steps 1 and 2 at the other side of the center console.
4. Remove the flange-head capscrew (5/16 x 5/8 inch) that secures the arm panel to the console frame (Figure 57).



g301405

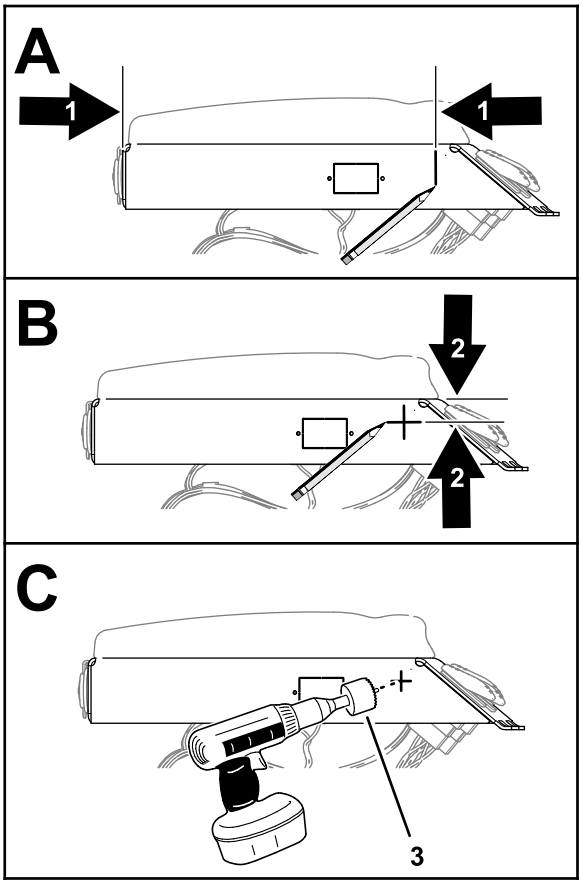
Figure 57

1. Hole (console frame)
2. Flange-head capscrew (5/16 x 5/8 inch)

5. Lift the arm panel from the frame (Figure 57).

Drilling a Hole in the Armrest

1. Measure 260 mm (10-1/4 inches) from the back end of the arm panel, and mark the panel (Figure 58).



g301404

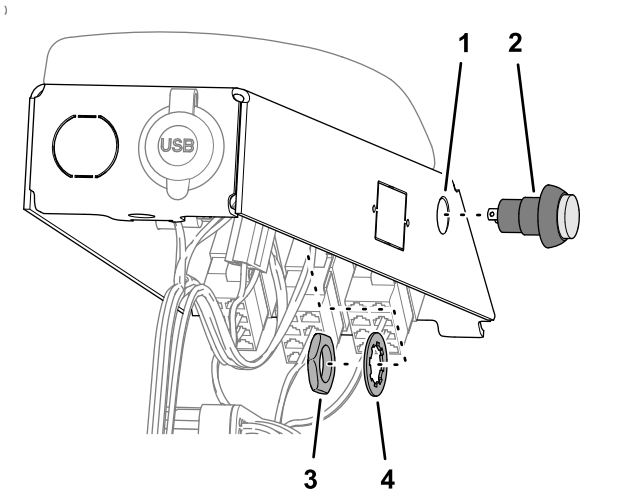
Figure 58

1. 260 mm (10-1/4 inches) measurement
2. 35 mm (1-3/8 inches) measurement
3. Drill bit 17 mm (11/16 inch)

2. Measure 35 mm (1-3/8 inches) from the top of the arm panel, and mark the panel (Figure 58).
3. Center punch the intersection of the marks.
4. Protect the wire in the arm panel.
5. Drill a 17 mm (11/16 inch) hole in the arm panel at the centerpunch mark (Figure 58).
6. Remove any burrs from the hole.

Assembling the Push-Button Switch to the Armrest

1. Insert the push-button switch into the hole in the arm panel (Figure 59).



g301402

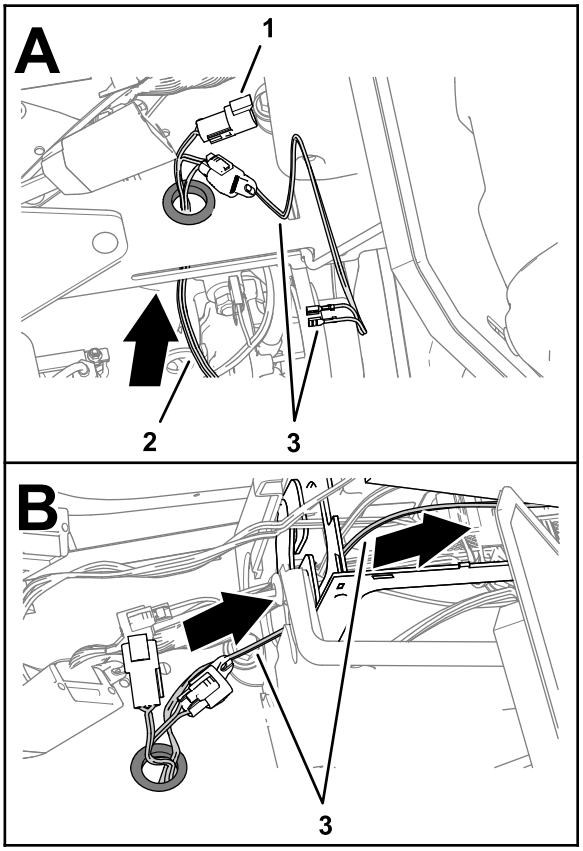
Figure 59

1. Hole (arm panel)
2. Push-button switch
3. Jam nut
4. Lock washer

2. Secure the switch to the panel with the lock washer and jam nut that came with the switch (Figure 59).

Routing the Wire Harness to the Remote Engage Switch

1. Route the wire harness branch labeled REMOTE ENGAGE SWITCH through the grommet (Figure 60) that you installed in 10 Drilling the Console Base (page 16).

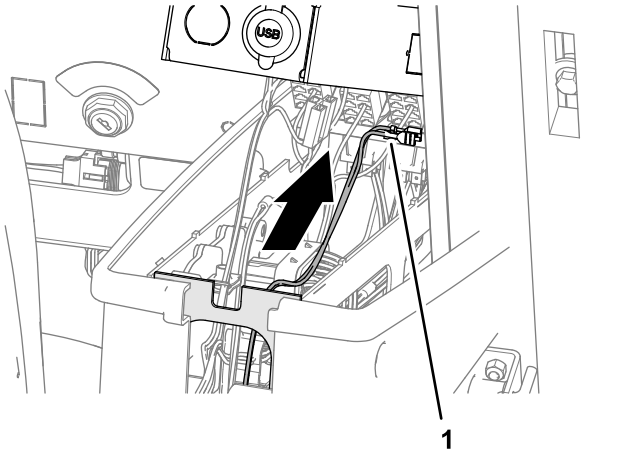


g301408

Figure 60

1. 3-pin connector (labeled TO MACHINE DIAG CONNECTOR)
2. Wire harness branch—89 cm (35 inches)
3. Wire harness branch labeled REMOTE ENGAGE SWITCH

2. Route the wire harness branch labeled REMOTE ENGAGE SWITCH) into the center console (Figure 60).
3. Route the wire harness branch labeled REMOTE ENGAGE SWITCH) toward the arm panel (Figure 61).

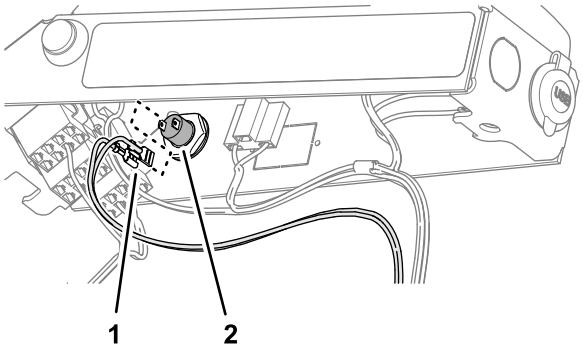


g301407

Figure 61

1. Wire harness branch labeled REMOTE ENGAGE SWITCH

4. Assemble the terminals of the wire harness branch labeled REMOTE ENGAGE SWITCH) onto the terminals of the push-button switch (Figure 62).



g301403

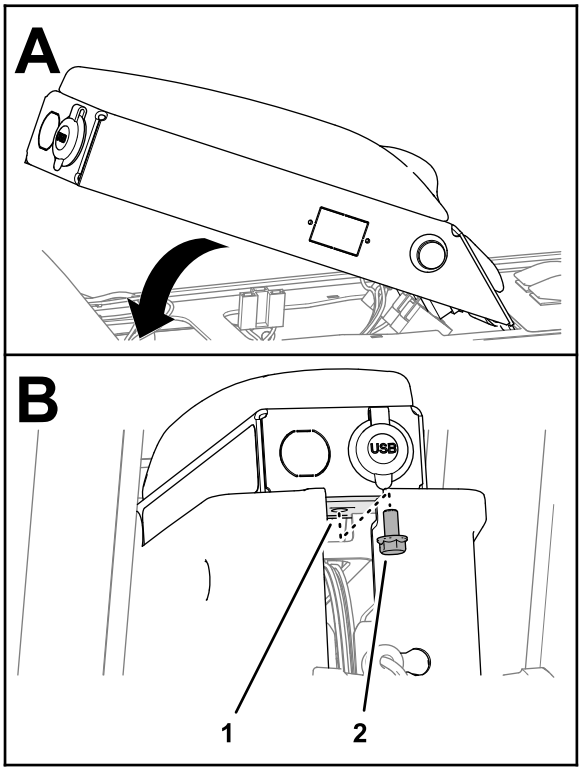
Figure 62

1. Terminals (wire harness branch labeled REMOTE ENGAGE SWITCH)
2. Push-button switch

5. Secure the wire harness branch to the machine wire harness with a cable tie.

Assembling the Arm Panel to the Console Frame

1. Align the tabs at the front of the arm panel with the slots in the console frame, and rotate the arm pane down (Figure 63).

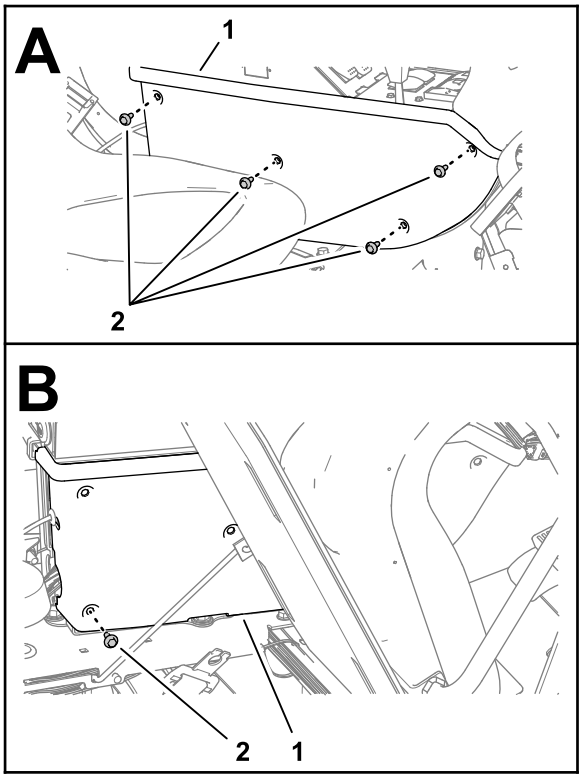


g301409

Figure 63

1. Console frame
2. Flange-head capscrew (5/16 x 5/8 inch)

2. Secure the arm panel to the console frame (Figure 63) with the flange-head capscrew (5/16 x 5/8 inch).
3. Assemble the side panel to the console frame (Figure 64) with 4 flange-head capscrews (1/4 x 3/4 inch).

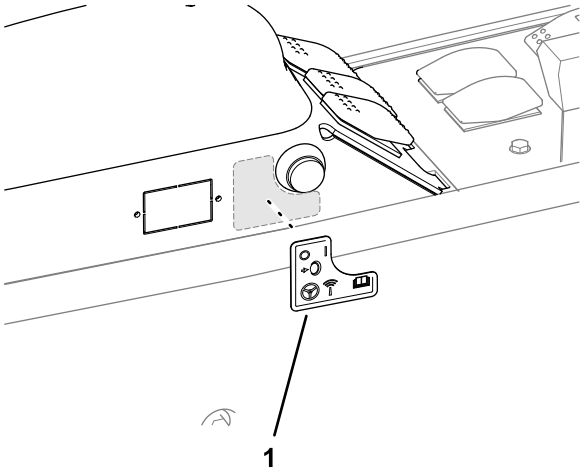


g301406

Figure 64

1. Side panel
2. Flange-head capscrews (1/4 x 3/4 inch)

4. Tilt the seat forward and install the lower rear flange-head capscrew (Figure 64).
5. Repeat steps 3 and 4 at the other side of the center console.
6. Affix the AutoSteer remote-engage decal to the arm panel as shown in Figure 65.



g301794

Figure 65

1. AutoSteer remote-engage decal

12

Replacing the Steering Valve O-rings

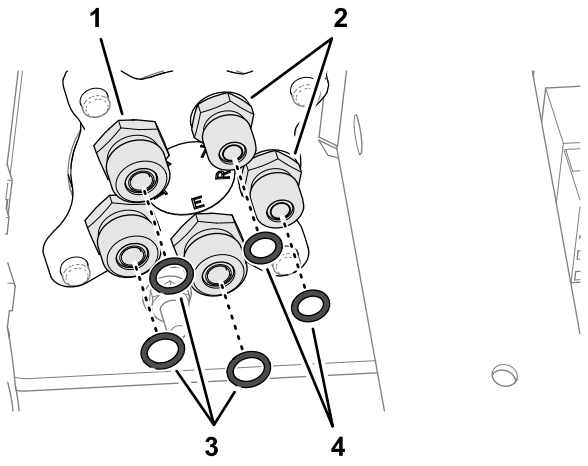
Parts needed for this procedure:

3	O-ring 9.2/1.8 mm (0.364/0.070 inch)
2	O-ring 7.6/1.8 mm (0.301/0.070 inch)

Procedure

1. Remove the 3 O-rings from the face of the -6 fittings of the steering valve.

   Note: Discard the O-ring.



g313836

Figure 66

1. -6 fitting (steering valve)
2. -4 fittings (steering valve)
3. O-rings 9.2/1.8 mm (0.364/0.070 inch)
4. O-rings 7.6/1.8 mm (0.301/0.070 inch)

2. Install a 3 new O-ring 9.2/1.8 mm (0.364/0.070 inch) into the grooves of the -6 fittings.
3. Remove the 2 O-rings from the face of the -4 fittings of the steering valve.

   Note: Discard the O-ring.
4. Install a 2 new O-ring 7.6/1.8 mm (0.301/0.070 inch) into the grooves of the -4 fittings.

13

Installing the Hoses

Parts needed for this procedure:

1	Hose 6 x 203 mm (1/4 x 8 inches); -6 (straight) and -6 (45°) fittings
2	O-ring 12.4/1.8 mm (0.489/0.070 inch)
1	Hose 6 x 2819 mm (1/4 x 111 inches); -4 (90°) and -6 (90°) fittings
1	Hose 6 x 673 mm (1/4 x 26-1/2 inches); -4 (straight) and -6 (90°) fittings
1	Hose 6 x 711 mm (1/4 x 28 inches); -4 (straight) and -6 (90°) fittings
1	Hose 10 x 187 mm (3/8 x 7-3/8 inches); -6 (straight) and -8 (90°) fittings
1	Hose 10 x 264 mm (3/8 x 10-3/8 inches); -8 (90°) and -6 (45°) fittings
2	O-ring 9.2/1.8 mm (0.364/0.070 inch)
1	Hose 6 x 1397 mm (1/4 x 55 inches); -6 (straight) and -6 (90°) fittings
1	Hose 6 x 1270 mm (1/4 x 50 inches); -6 (straight) and -6 (90°) fittings
1	Hose 10 x 2921 mm (3/8 x 115 inches); -8 (90°) and -8 (90°) fittings
1	O-ring 7.6/1.8 mm (0.301/0.070 inch)
3	Cable tie

Installing the Steering Valve Hoses

1. Assemble the 45° fitting of the hose 6 x 203 mm (1/4 x 8 inches) onto the port LS2 fitting of the EHI steering valve (Figure 67).

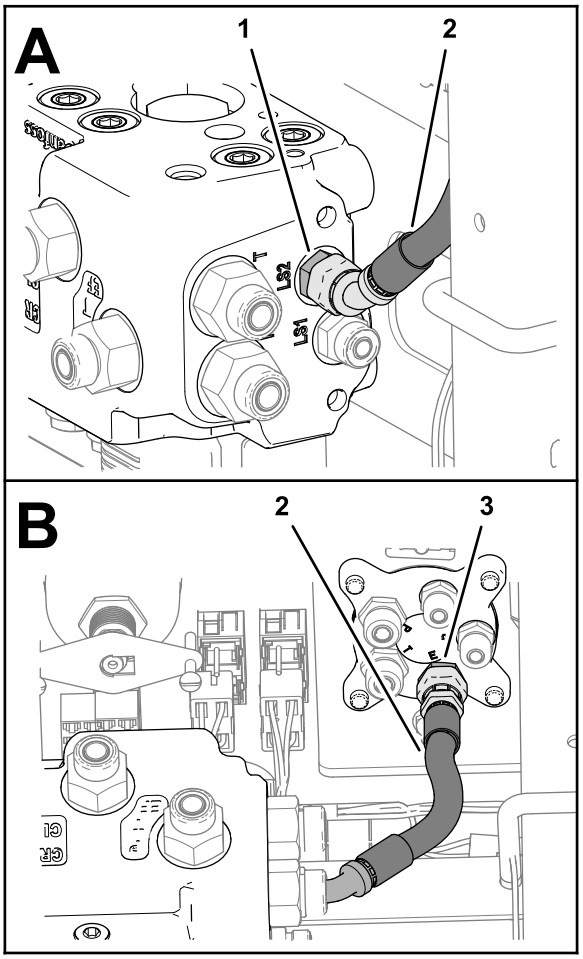


Figure 67

1. Port LS2 fitting (EHI steering valve)
2. Hose 6 x 203 mm (1/4 x 8 inches)
3. Port E fitting (steering valve)

2. Assemble the straight fitting of the hose 6 x 203 mm (1/4 x 8 inches) onto the port E fitting of the steering valve, and tighten both hose fittings (Figure 67).
3. Route the end of the hydraulic pump hose 6 x 2819 mm (1/4 x 111 inches) with the -4, 90° fitting through the grommet in the floor plate (Figure 68).

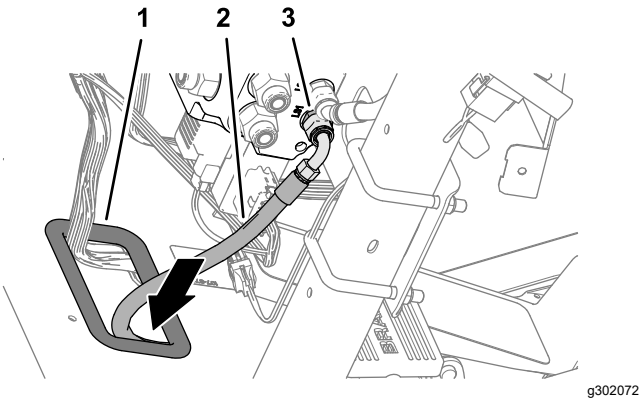


Figure 68

1. Grommet
2. Hydraulic pump hose 6 x 2819 mm (1/4 x 111 inches)
3. Port LS1 fitting (EHI steering valve)

4. Assemble the -6, 90° fitting of the hose 6 x 2819 mm (1/4 x 111 inches) onto the port the LS1 fitting of the EHI steering valve, and tighten the hose fitting (Figure 68).
5. Assemble the 90° fitting of the hose 6 x 673 mm (1/4 x 26-1/2 inches) into the port R fitting of the EHI steering valve (Figure 69).

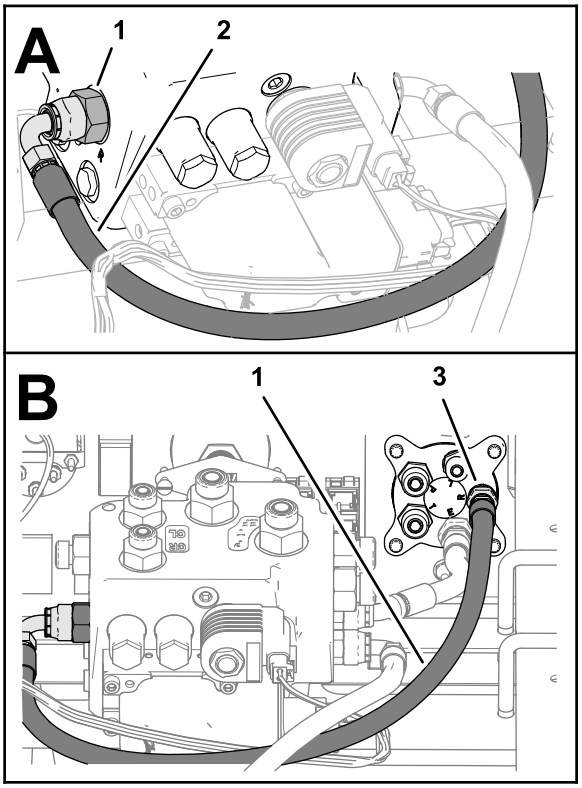
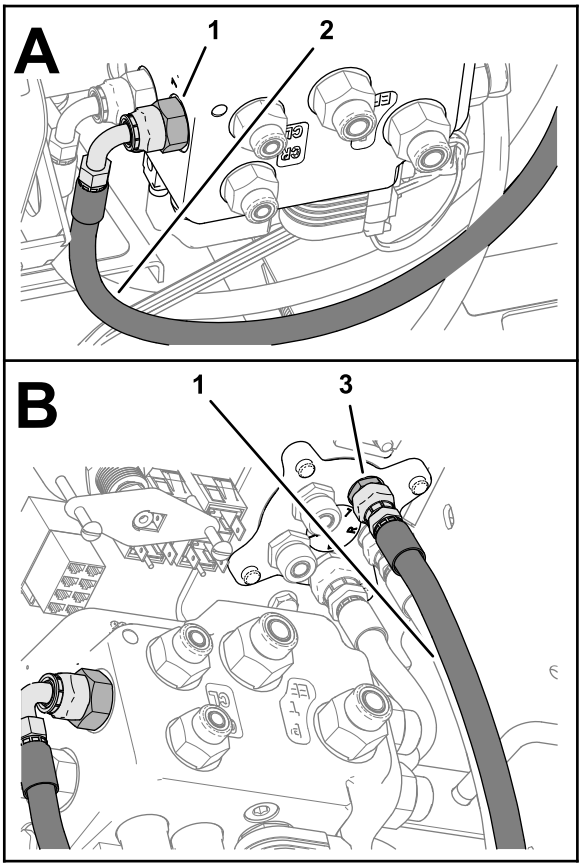


Figure 69

1. Port R fitting (EHI steering valve)
2. Hose 6 x 673 mm (1/4 x 26-1/2 inches)
3. Port R fitting (steering valve)

6. Assemble the straight fitting of the hose 6 x 673 mm (1/4 x 26-1/2 inches) into the port R fitting of the steering valve, and tighten both hose fittings (Figure 69).
7. Assemble the 90° fitting of the hose 6 x 711 mm (1/4 x 28 inches) onto the port L fitting of the EHI steering valve (Figure 70).

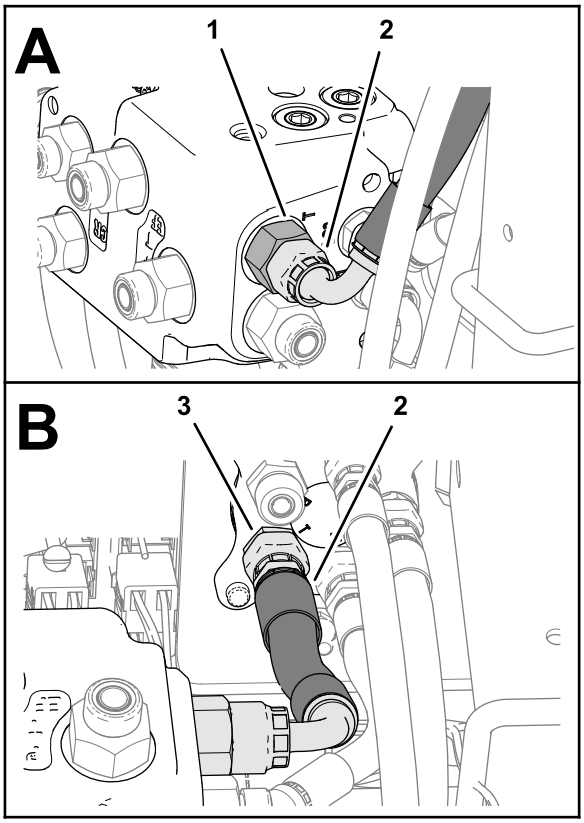


g302131

Figure 70

1. Port L fitting (EHI steering valve)
2. Hose 6 x 711 mm (1/4 x 28 inches)
3. Port L fitting (steering valve)

8. Assemble the straight fitting of the hose 6 x 711 mm (1/4 x 28 inches) onto the port L fitting of the steering valve, and tighten both hose fittings (Figure 70).
9. Assemble the 90° fitting of the hose 10 x 187 mm (3/8 x 7-3/8 inches) onto the port T fitting of the EHI steering valve (Figure 71).

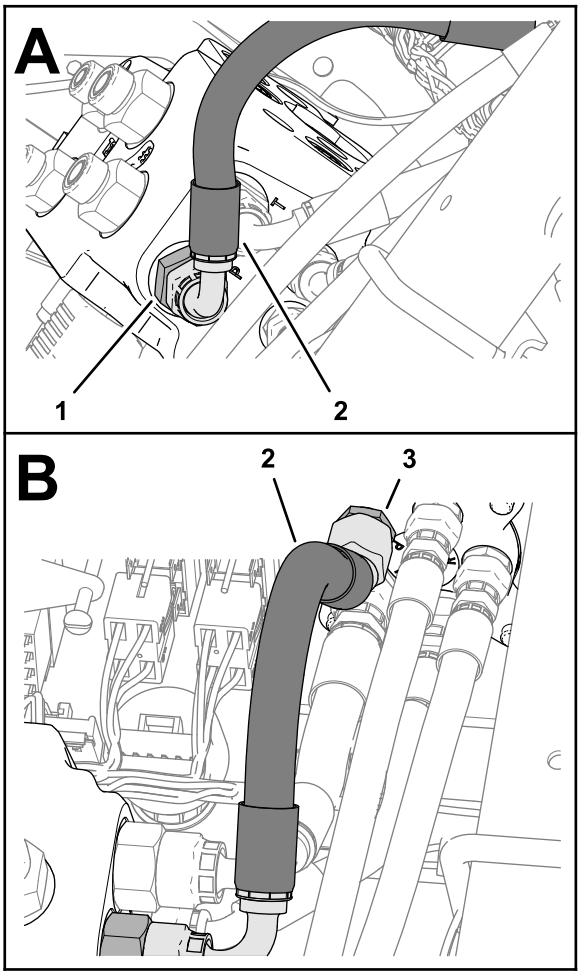


g302044

Figure 71

1. Port T fitting (EHI steering valve)
2. Hose 10 x 187 mm (3/8 x 7-3/8 inches)
3. Port T fitting (steering valve)

10. Assemble the straight fitting of the hose 10 x 187 mm (3/8 x 7-3/8 inches) onto the port T fitting of the steering valve, and tighten both hose fittings (Figure 71).
11. Assemble the 90° fitting of the hose 10 x 264 mm (3/8 x 10-3/8 inches) onto the port P fitting of the EHI steering valve (Figure 72).



g302042

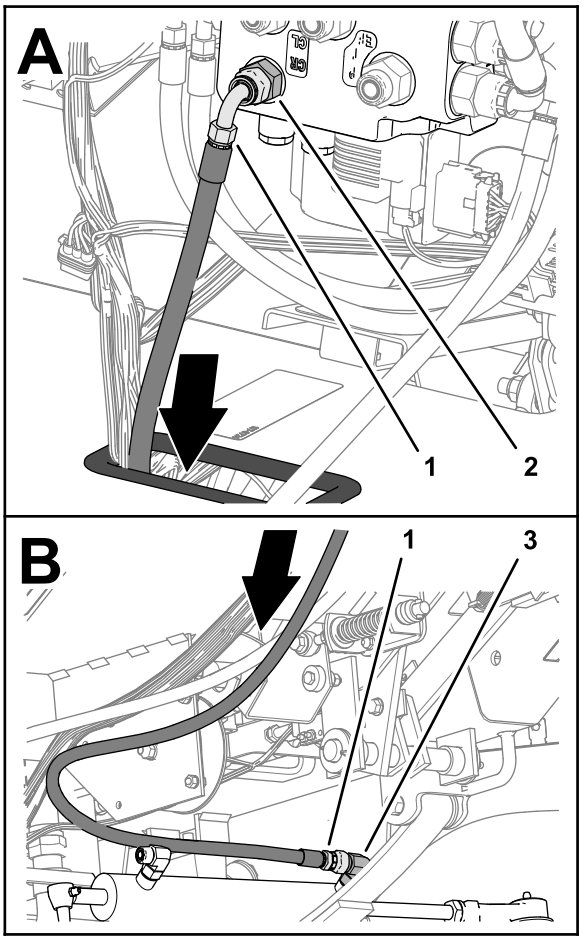
Figure 72

1. Port P fitting (EHI steering valve)
2. Hose 10 x 264 mm (3/8 x 10-3/8 inches)
3. Port P fitting (steering valve)

12. Assemble the 45° fitting of the hose 10 x 264 mm (3/8 x 10-3/8 inches) onto the port P fitting of the steering valve, and tighten both hose fittings (Figure 72).

Installing the Steering Cylinder Hoses

1. Route the end of the hose 6 x 1397 mm (1/4 x 55 inches) with the straight fitting through the grommet in the floor plate (Figure 73).



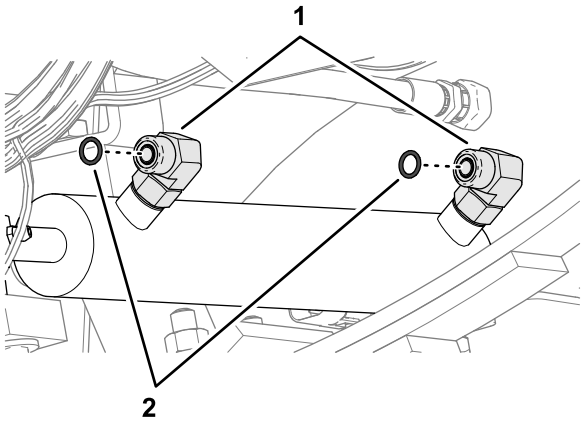
g302038

Figure 73

1. Hose 6 x 1397 mm (1/4 x 55 inches); -6 (straight) and -6 (90°) fittings
2. Port CR fitting (EHI steering valve)
3. 90° fitting (retract port—steering cylinder)

2. Assemble the 90° fitting of the hose 6 x 1397 mm (1/4 x 55 inches) onto the port CR fitting of the EHI steering valve (Figure 73).
3. Remove the 2 O-ring in the face 90° fittings in the extend and retract ports of the steering cylinder (Figure 74).

   Note: Discard the O-ring.

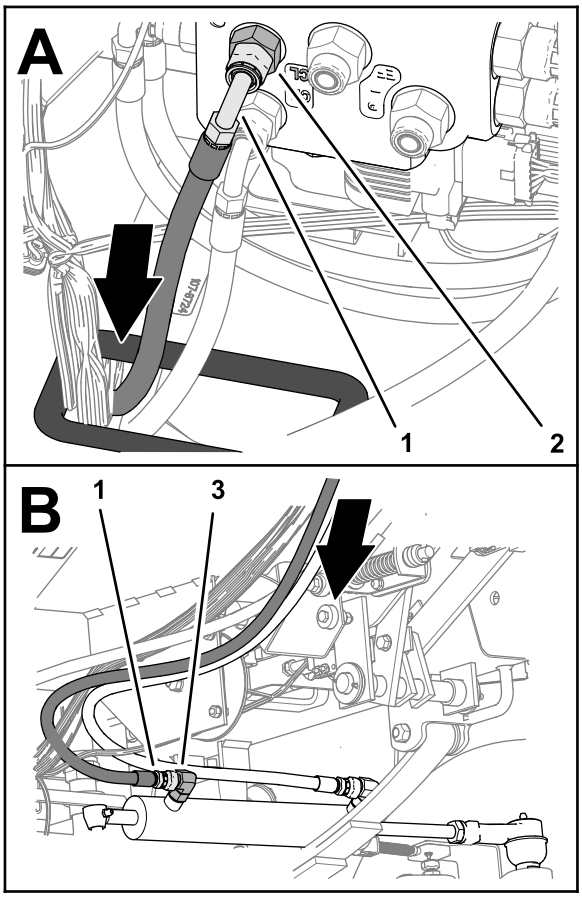


g313835

Figure 74

1. 90° fittings
2. O-rings 9.2/1.8 mm (0.364/0.070 inch)

4. Install a 2 new O-ring 9.2/1.8 mm (0.364/0.070 inch) into the groove of the 90° fittings (Figure 74).
5. Assemble the straight fitting of the hose 6 x 1397 mm (1/4 x 55 inches) onto the 90° fitting in the retract port of the steering cylinder, and tighten both hose fittings (Figure 73).
6. Route the end of the hose 6 x 1270 mm (1/4 x 50 inches) with the straight fitting through the grommet in the floor plate (Figure 75).



g302037

Figure 75

1. Hose 6 x 1270 mm (1/4 x 50 inches); -6 (straight) and -6 (90°) fittings
2. Port CL fitting (EHI steering valve)
3. 90° fitting (extend port—steering cylinder)

7. Assemble the 90° fitting of the hose 6 x 1270 mm (1/4 x 50 inches) onto the port CL fitting of the EHI steering valve (Figure 75).
8. Assemble the straight fitting of the hose 6 x 1270 mm (1/4 x 50 inches) onto the 90° fitting in the extend port of the steering cylinder, and tighten both hose fittings (Figure 75).

Assembling the Tank-Return Hose and Hydraulic-Pump Hose to the EHI Steering Valve

1. Identify the tank-return hose 10 x 2921 mm (3/8 x 115 inches) with 2 fittings (90°).
2. Route the end of the tank-return hose 10 x 2921 mm (3/8 x 115 inches) through the grommet in the floor plate (Figure 76).

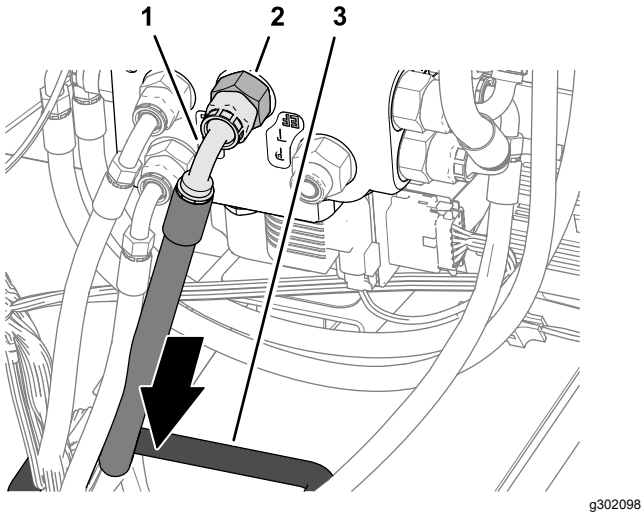


Figure 76

1. Tank-return hose 10 x 2921 mm (3/8 x 115 inches); -8 (90°) and -8 (90°) fittings
2. Port EF fitting (EHI steering valve)
3. Grommet

3. Assemble the 90° fitting of the tank-return hose 10 x 2921 mm (3/8 x 115 inches) onto the port EF fitting of the EHI steering valve, and tighten the hose fitting (Figure 76).
4. Identify the hydraulic-pump hose 10 x 2921 mm (3/8 x 115 inches) with a 90° fitting and a 45° fitting.
5. Route the end of the hydraulic-pump hose 10 x 2921 mm (3/8 x 115 inches) with the 45° fitting the through the grommet in the floor plate (Figure 77).

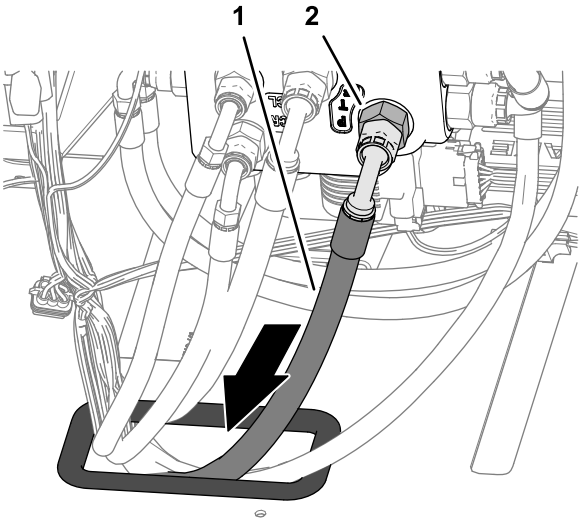


Figure 77

1. Port PT fitting (EHI steering valve)
2. Hydraulic-pump hose 10 x 2921 mm (3/8 x 115 inches); -8 (90°) and -6 (45°) fittings

6. Assemble the 90° fitting of the hydraulic-pump hose 10 x 2921 mm (3/8 x 115 inches) onto the port PT fitting of the EHI steering valve, and tighten the hose fitting (Figure 77).
7. Route the 2 hydraulic pump hoses and the tank-return hose rearward, along the right frame tube of the machine (Figure 78).

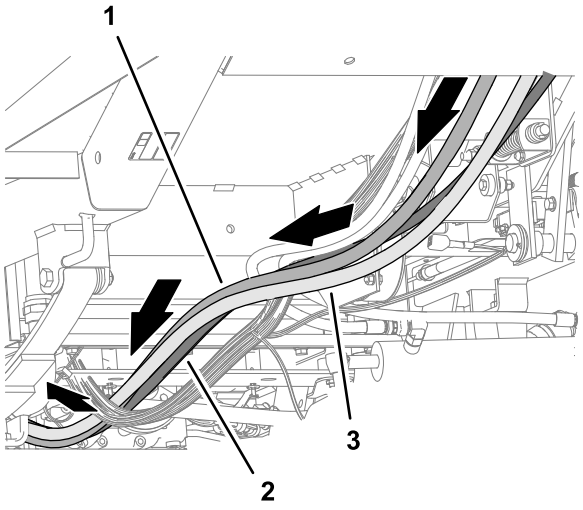
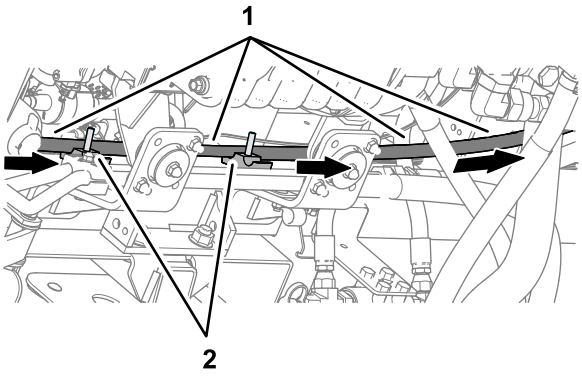


Figure 78

1. Tank-return hose 10 x 2921 mm (3/8 x 115 inches); -8 (90°) and -8 (90°) fittings
2. Hydraulic-pump hose 10 x 2921 mm (3/8 x 115 inches); -8 (90°) and -6 (45°) fittings
3. Hydraulic-pump hose 6 x 2819 mm (1/4 x 111 inches); -4 (90°) and -6 (90°) fittings

Routing the Hydraulic Pump Hoses

1. Route the hydraulic pump hose 10 x 2921 mm (3/8 x 115 inches—EHI steering valve port PT) with the 45° fitting into the top groove of the tube-clamp half at the upper location (Figure 79).

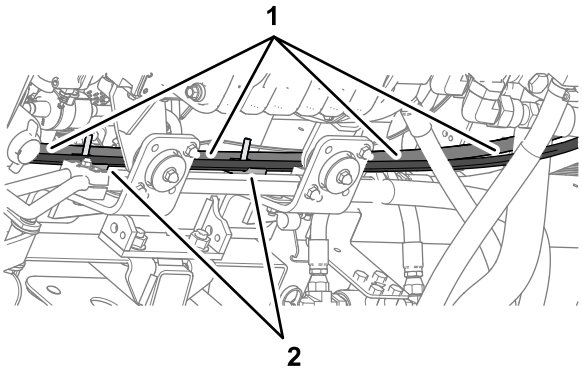


g302043

Figure 79

1. Hydraulic pump hose 10 x 2921 mm (3/8 x 115 inches—EHI steering valve port PT) with the 45° fitting
2. Upper groove—tube-clamp half (upper location)

2. Route the 45° fitting of the hose toward the hydraulic pump.
3. Route the hydraulic pump hose 6 x 2819 mm (1/4 x 111 inches—EHI steering valve port LS1) with the 90° fitting into the bottom groove of the tube-clamp half at the upper location (Figure 80).

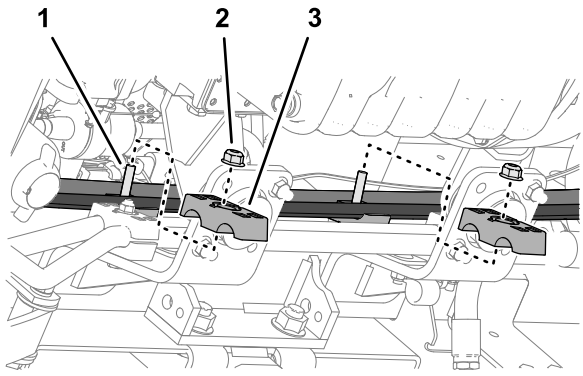


g302040

Figure 80

1. Hose 6 x 2819 mm (1/4 x 111 inches—EHI steering valve port LS1) 90° fitting
2. Lower groove—tube-clamp half (upper location)

4. Route the 90° fitting of the hose toward the hydraulic pump.
5. Assemble the 2 tube-clamp halves onto the capscrews, and secure the tube-clamp halves and hoses (Figure 81) with 2 flange-head locknuts (5/16 inch).



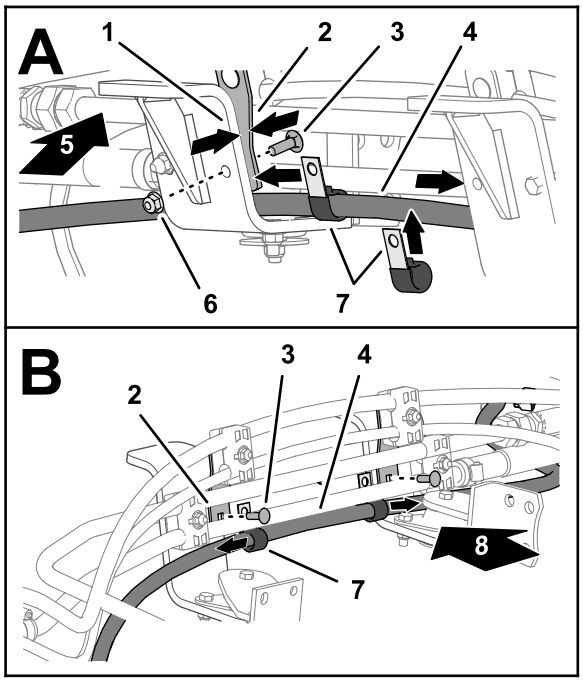
g302036

Figure 81

1. Capscrew (5/16 x 2-1/4 inch)
2. Flange-head locknut (5/16 inch)
3. Tube-clamp half

Installing the Hydraulic Tank Return Hose

1. Route the tank-return hose 6 x 2819 mm (1/4 x 111 inches—EHI steering valve port EF) across the top of the right engine mount brackets (Figure 82).

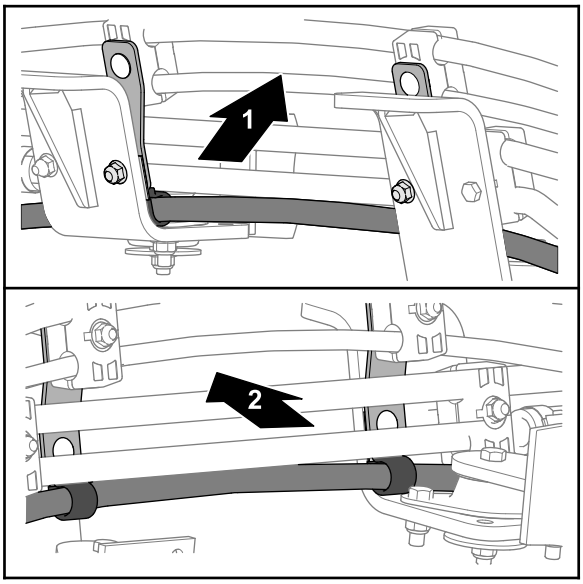


g302152

Figure 82

1. Engine mount bracket
2. Tube clamp mount plate
3. Carriage bolt (5/16 x 1 inch)
4. Tank-return hose 6 x 2819 mm (1/4 x 111 inches—EHI steering valve port EF)
5. Left side of the machine
6. Flange locknut (5/16 inch)
7. P-clamp
8. Right side of the machine

2. Assemble the 2 P-clamps onto the hose as shown in Figure 82.
3. Align the 2 P-clamps between the tube clamp mount plates and the engine mount brackets (Figure 82).
4. Secure the clamp mount plates and P-clamps to the engine mount brackets (Figure 82 and Figure 83) with the 2 carriage bolt (5/16 x 1 inch) and 2 flange locknut (5/16 inch).



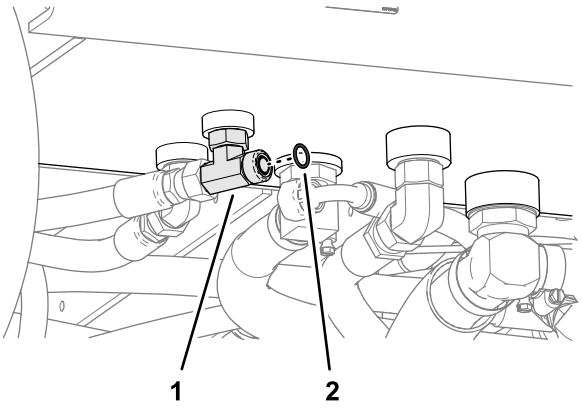
g302153

Figure 83

1. Left side of the machine
2. Right side of the machine

5. Remove the O-ring in the face of the T-fitting of the hydraulic tank (Figure 84).

   Note: Discard the O-ring.

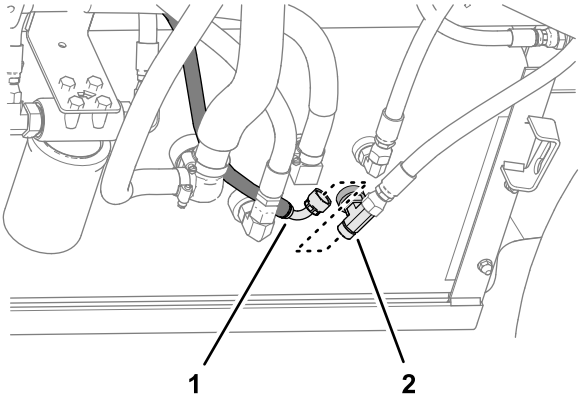


g313837

Figure 84

1. T-fitting (hydraulic tank return)
2. O-ring 12.4/1.8 mm (0.489 /0.070 inch)

6. Install a new O-ring 12.4/1.8 mm (0.489/0.070 inch) into the groove of the T-fitting (Figure 84).
7. Assemble the 90° fitting of the tank-return hose 6 x 2819 mm (1/4 x 111 inches) onto the T-fitting, and tighten the hose fitting (Figure 85).



g302101

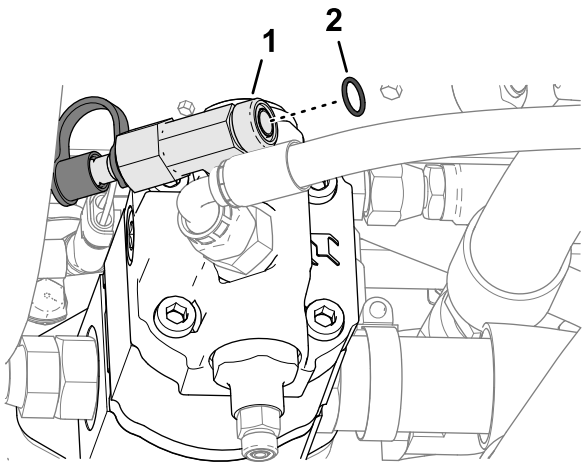
Figure 85

1. Hose 10 x 2921 mm (3/8 x 115 inches)
2. T-fitting (hydraulic tank)

Installing the Hydraulic Pump Hoses

1. Remove the O-ring in the face of the T-fitting at the end the hydraulic pump (Figure 86).

   Note: Discard the O-ring.

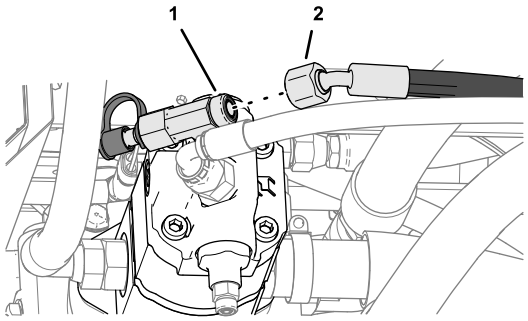


g337828

Figure 86

1. T-fitting
2. O-ring 12.4/1.8 mm (0.489/0.070 inch)

2. Install a new O-ring 12.4/1.8 mm (0.489/0.070 inch) into the groove of the T-fitting (Figure 86).
3. Assemble the 45° fitting of the hose 10 x 2921 mm (3/8 x 115 inches) onto the T-fitting, and tighten the hose fitting (Figure 87).



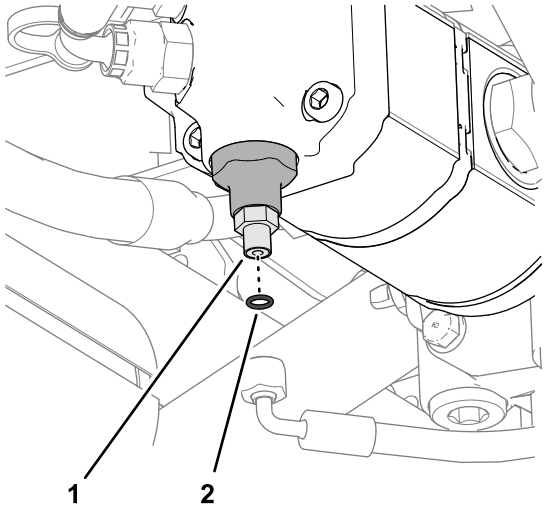
g337827

Figure 87

1. Hose 10 x 2921 mm (3/8 x 115 inches—45° fitting)
2. T-fitting—hydraulic pump

4. Remove the O-ring in the face of the straight fitting at the end of the hydraulic pump (Figure 88).

   Note: Discard the O-ring.

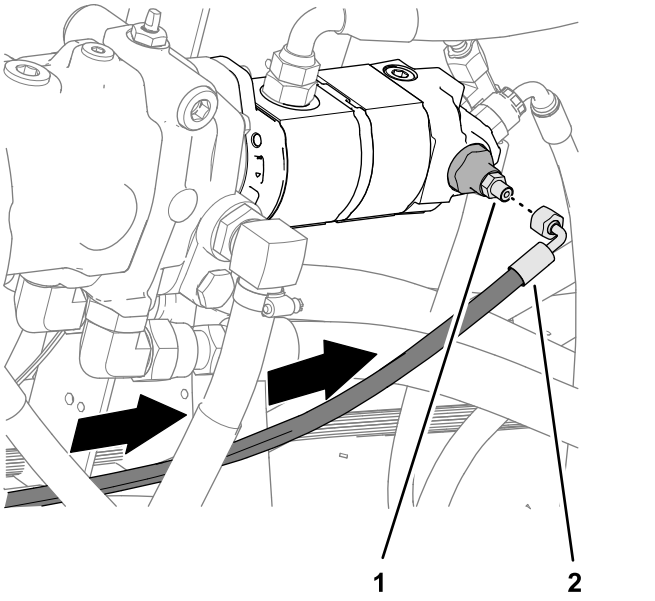


g313834

Figure 88

1. Straight fitting
2. O-ring 7.6/1.8 mm (0.301/0.070 inch)

5. Install a new O-ring 7.6/1.8 mm (0.301/0.070 inch) into the groove of the straight fitting (Figure 88).
6. Assemble the 90° fitting of the hose 6 x 2819 mm (1/4 x 111 inches) onto the straight fitting, and tighten the hose fitting (Figure 89).



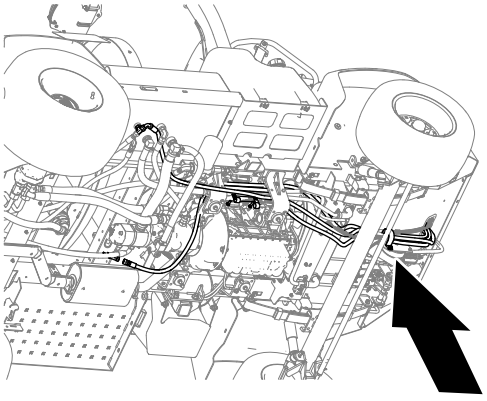
g314161

Figure 89

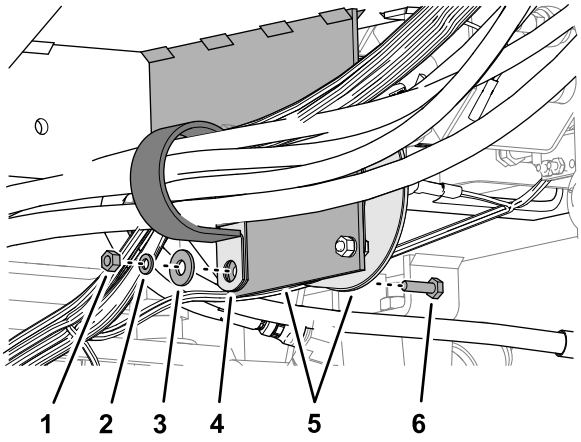
1. Straight fitting (1/4 x 1/4 inch)—hydraulic pump
2. Hose 6 x 2819 mm (1/4 x 111 inches—90° fitting)

Installing the Lower Hose Cover

1. Under the floor plate, secure the hoses and wire harnesses to the clutch and clutch plate as shown in Figure 90 with the support clamp, capscrew (1/4 x 7/8 inch), nut (1/4 inch), lock washer (1/4 inch), and washer (3/8 x 7/8 inch) that you removed in Removing the Hose Support Clamps (page 11).



g300044

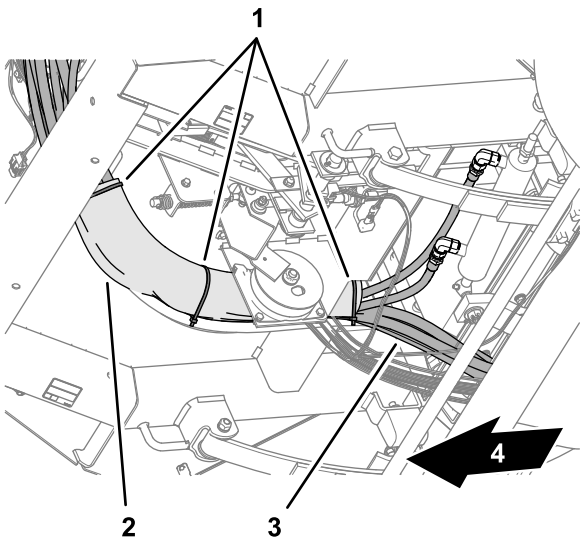


g313648

Figure 90

1. Nut (1/4 inch)
2. Lock washer (1/4 inch)
3. Washer (3/8 x 7/8 inch)
4. Support clamp
5. Clutch and clutch plate
6. Capscrew (1/4 x 7/8 inch)

2. Assemble the lower hose cover over the steering hoses (Figure 91).



g299125

Figure 91

1. Cable ties
2. Lower hose cover
3. Steering hose
4. Front of the machine

3. Secure the cover to the hoses with 3 cable ties (Figure 91).

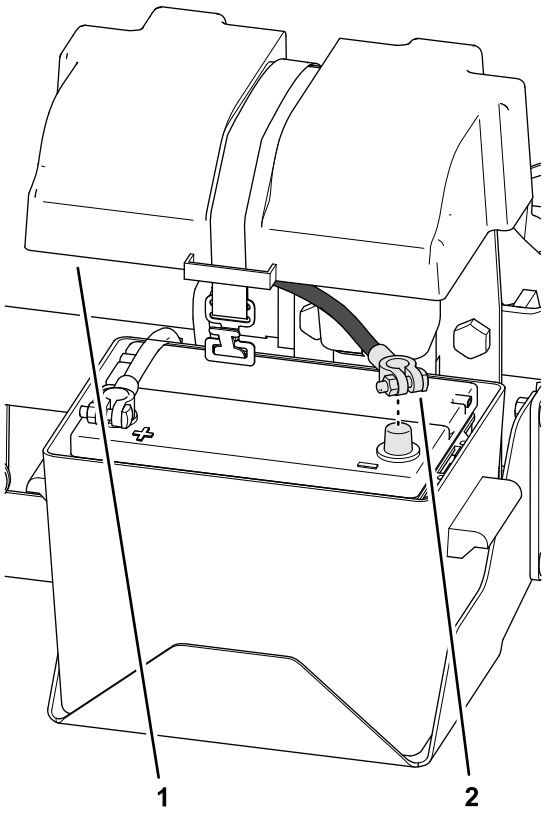
14

Installing the Negative Battery Cable

No Parts Required

Procedure

1. Install the negative-battery cable onto the battery terminal (Figure 92).



g292314

Figure 92

1. Cover
2. Negative battery cable

2. Assemble the cover onto the battery box, and secure the cover with the strap (Figure 92).

15

Purging Air from the Hydraulic System

No Parts Required

Procedure

1. Start the engine.
2. Fully turn the steering wheel left and right until the wheel turns smoothly.
3. Shut off the engine and remove the key.

16

Checking for Hydraulic Leaks

No Parts Required

Procedure

1. Check the hoses and fittings at the EHI steering valve and the steering valve for hydraulic leaks.

   Important: **Fix all leaks before installing the hood.**
2. Check the hoses and fittings at the hydraulic tank and hydraulic pump for leaks.

   Important: **Fix all leaks.**

17

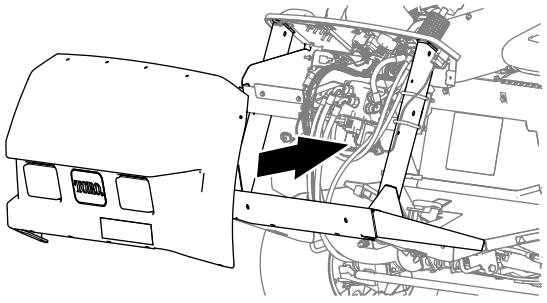
Installing the Hood

Parts needed for this procedure:

6	Push-in fasteners

Procedure

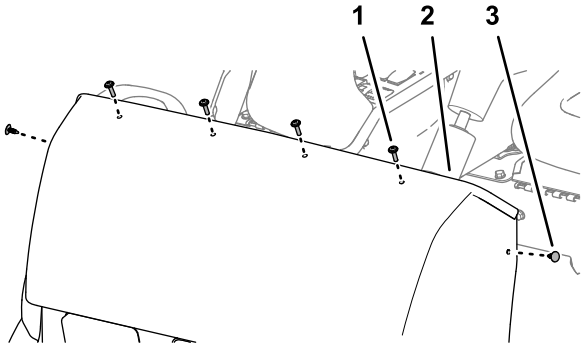
1. Align the holes in the hood with the holes in the chassis of the machine (Figure 93).



g298935

Figure 93

2. Assemble the hood to the dash support with 2 push-in fasteners (Figure 94).

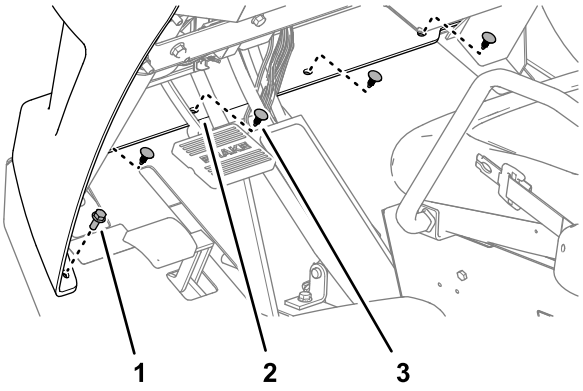


g298940

Figure 94

1. Phillips pan-head screw (1/4 x 1 inch)
2. Hood
3. Push-in fastener

3. Secure the hood to the dash support (Figure 94) with 4 Phillips pan-head screws (1/4 x 1 inch).
4. Assemble the bottom flange of the hood to the machine with 4 push-in fasteners (Figure 95).



g298937

Figure 95

1. Flange-head bolt (5/16 x 3/4 inch)
2. Flange (hood)
3. Push-in fastener

5. Secure the flange to the machine (Figure 95) with 2 flange-head bolts (5/16 x 3/4 inch).

6. Assemble the headlight connector of the machine wire harness to the connector of the headlight bulb (Figure 96).

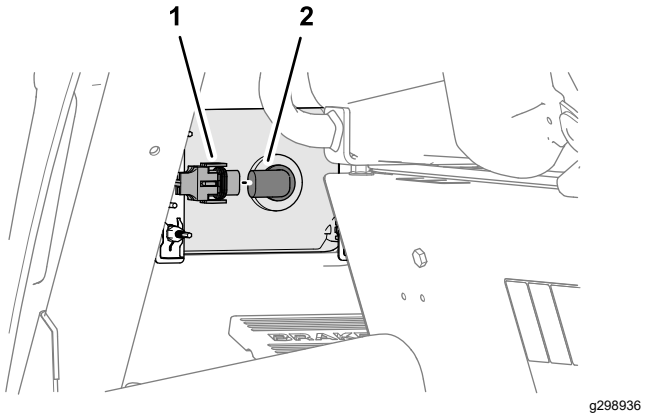


Figure 96

1. Connector (machine harness—headlight)
2. Connector (bulb)

7. Repeat step 6 at the other headlight.

18

Installing the Heat Shield and Undercarriage Shroud

2015 and Later Machines

No Parts Required

Procedure

If removed, installed the heat shield and undercarriage shroud to the bottom of the machine; refer to the *Operator's Manual* for your machine.

19

Checking the Hydraulic Fluid Level

No Parts Required

Procedure

Check the hydraulic fluid level. If the fluid level is low, add fluid to the hydraulic tank; refer to the *Operator's Manual* for the hydraulic fluid specification and checking procedure.

20

Verifying the Software Version

GeoLink Control Console

No Parts Required

Procedure

1. Turn the ignition key to the RUN(gasoline) or PREHEAT/RUN (diesel) position.
2. Press the ABOUT (Toro) icon at the upper left corner of the control console (Figure 97).

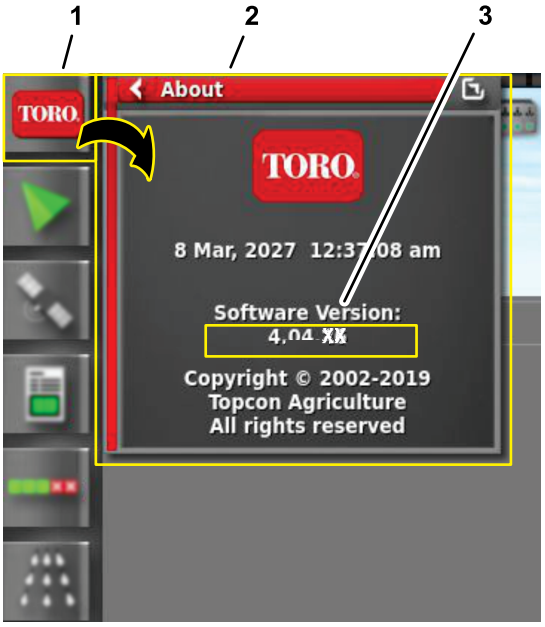


Figure 97

1. ABOUT (Toro) icon
2. ABOUT fly-out-window
3. Software version number (version 4.04 or higher)

3. When the software version is correct, the About dialog box displays software version 4.04 or higher.

   Note: If the software versions differ, contact the Toro technical assistance center.

21

Verifying the Minimum Hardware Requirements

Laptop Computer

No Parts Required

Procedure

Ensure that your laptop computer that meets the hardware, operating system, and application requirements before installing the Danfoss PLUS+1® Service Tool; refer to the tables that follow.

Hardware

Component	Minimum Capacity
CPU*	1.5 GHz, 32–bit, 1 core, 2008 or later
Memory	1 GB
Unused Hard Drive Space	Greater than 1 GB
Minimum Display Resolution	1024 x 768
USB Port	Version 2.0 or higher

* The CPU must be intended for laptop use. Processors intended for netbooks, tablets, or similar devices are not recommended.

Operating System

Software	Version
Operating System Version	Microsoft Windows 7—32 bit
OS Components	MSXML 4.0, Service Pack 2 (Microsoft XML Core Services)
User Account Rights	Local administrator access

Applications

Software	Notes
Email Client/Reader	For license registration.
PDF Reader	Any recent standards compliant reader.
Web Browser	Any recent standards compliant web browser (for HTML based F1 Help).

22

Downloading the Software

No Parts Required

Procedure

Refer to the AutoSteer *Software Guide*.

23

Setting Up and Calibrating the Software

No Parts Required

Calibrating the Compass

Ensure that the GeoLink compass is calibrated, refer to the GeoLink *Software Guide* for your machine.

Preparing to Calibrate the Machine

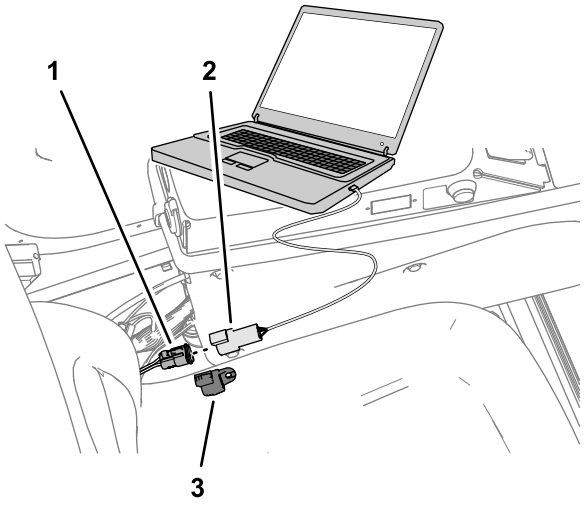
Installer provided equipment: a USB/CAN interface cable (Toro DIAG cable) Part No. 115-1944

1. Park the machine on the grass at a level location.
2. Shut off the engine and engage the parking brake.

Connecting the Laptop Computer to the Machine

1. If the Toro Diag application is running on the laptop computer, close the Toro Diag application.

   Important: **Do not begin the calibration process if the Toro Diag application is running on the laptop computer.**
2. Plug the USB/CAN interface cable into a USB port of the laptop computer.
3. At the machine, rotate the key to the ON position.
4. Open the Plus+1 program.
5. Remove the cap from the 3-socket connector of the kit wire harness CAN port labeled DUPLICATE DIAG CONNECTOR, and plug the 3-pin connector USB/CAN interface cable into the 3-socket connector.

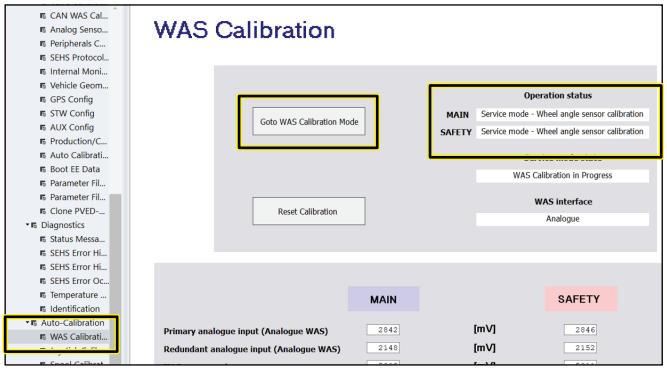


g302258

Figure 98

1. 3-socket connector (labeled DUPLICATE DIAG CONNECTOR—kit wire harness)
2. 3-pin connector (USB/CAN interface cable)
3. Cap

6. On the dash panel of the machine, press enable/transport switch to the ENABLE MODE position.
7. In the System Navigator tab, navigate to the AUTO CALIBRATION directory, expand the directory, and click on WAS Calibration.



g489523

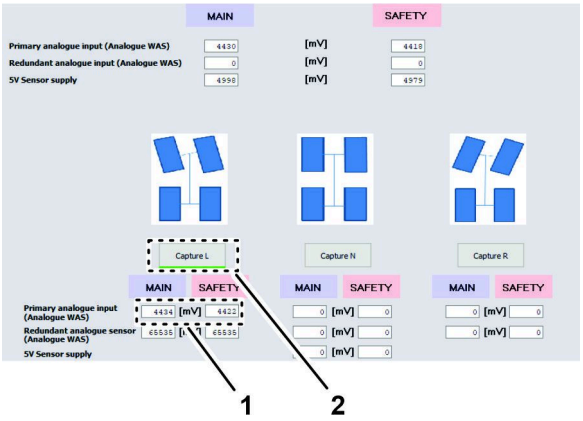
Figure 99

8. Click GOTO WAS CALIBRATION MODE button.

Capturing Steering Values

1. Start the engine of the machine.
2. Fully turn the steering wheel to the left and stop.
3. Click the CAPTURE L button.

   Note: The sensor value changes as you turn the steering wheel.



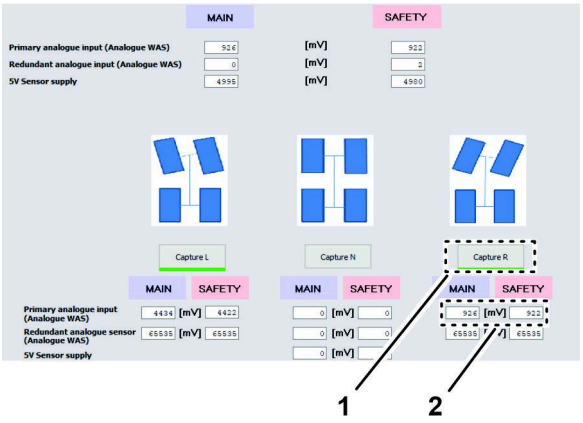
g302220

Figure 100

1. Sensor value
2. CAPTURE L button

4. Fully turn the steering wheel to the right and stop.
5. Click the CAPTURE R button.

   Note: The sensor value changes as you turn the steering wheel.



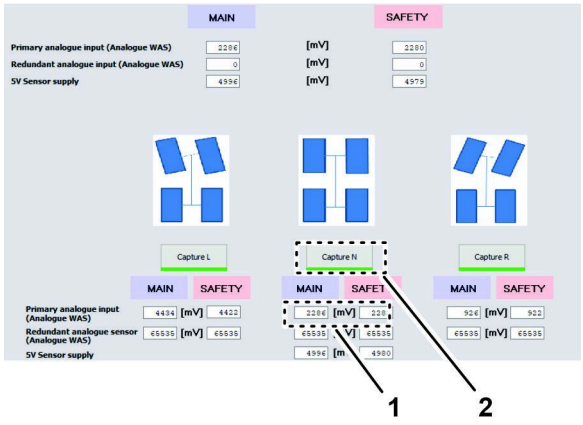
g302222

Figure 101

1. Sensor value
2. CAPTURE R button

6. Turn the steering wheel until the tires align straight ahead and stop.
7. Click the CAPTURE N button.

   Note: The sensor value changes as you turn the steering wheel.



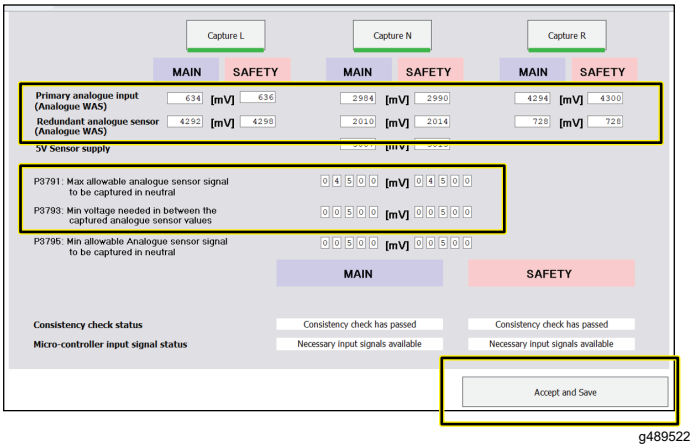
g302221

Figure 102

1. Sensor value
2. CAPTURE N button

Verifying / Checking the WAS Calibration Values

1. Ensure that your values are within the minimum and maximum ranges as listed.



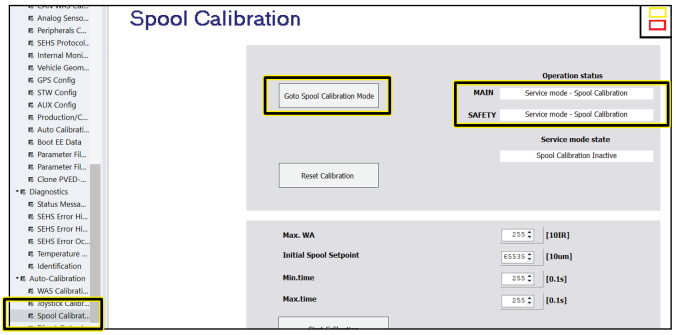
g489522

Figure 103

2. Click the ACCEPT AND SAVE button.

Running Spool Calibration Process

1. Turn the steering wheel as needed to position the front tires straight ahead.
2. In the System Navigator tab, navigate to the AUTO CALIBRATION directory, expand the directory, and click on SPOOL CALIBRATION.



g489521

Figure 104

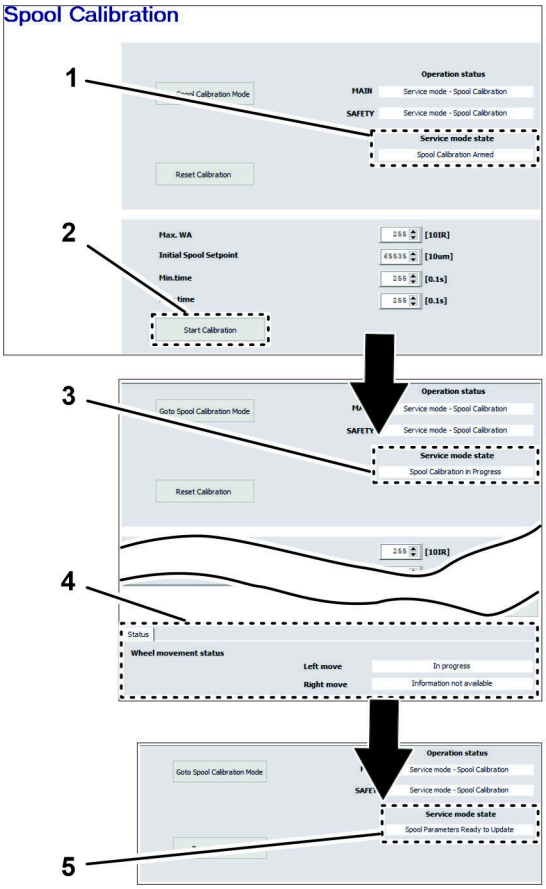
3. On the spool calibration page, click the GOTO SPOOL CALIBRATION MODE button.
4. Click the START CALIBRATION button.

   Note: The service mode state must display Spool Calibration Armed before starting calibration.

   Important: **Do not touch the steering wheel.**

   The steering wheel moves while spool calibrations proceeds. The spool calibration

process takes several minutes. Note that the wheel movement status changes in Status tab. Calibration is finished when Service Mode State field displays SPOOL PARAMETERS READY TO UPDATE.

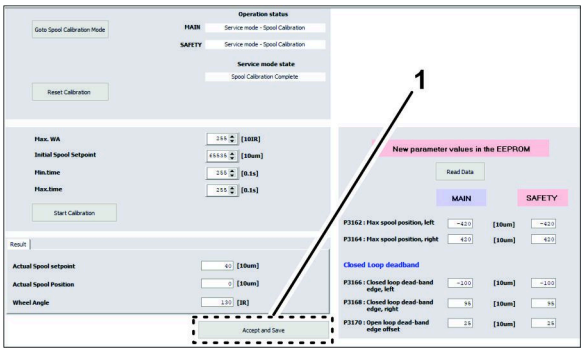


g302250

Figure 105

1. Service mode state field—SPOOL CALIBRATION ARMED
2. START CALIBRATION icon
3. Service mode state field—SPOOL CALIBRATION IN PROGRESS
4. Wheel movement status
5. Service mode state field—SPOOL PARAMETERS READY TO UPDATE

5. At the bottom of the spool calibration screen, click the ACCEPT AND SAVE icon (Figure 106).

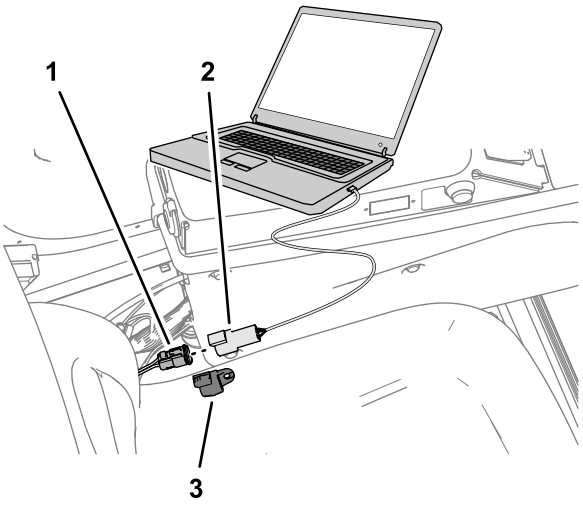


g302248

Figure 106

1. ACCEPT AND SAVE icon

6. Shut off the engine.
7. Remove the connector of the USB/CAN interface cable from the connector of the kit wire harness, and install the cap onto the wire harness connector.

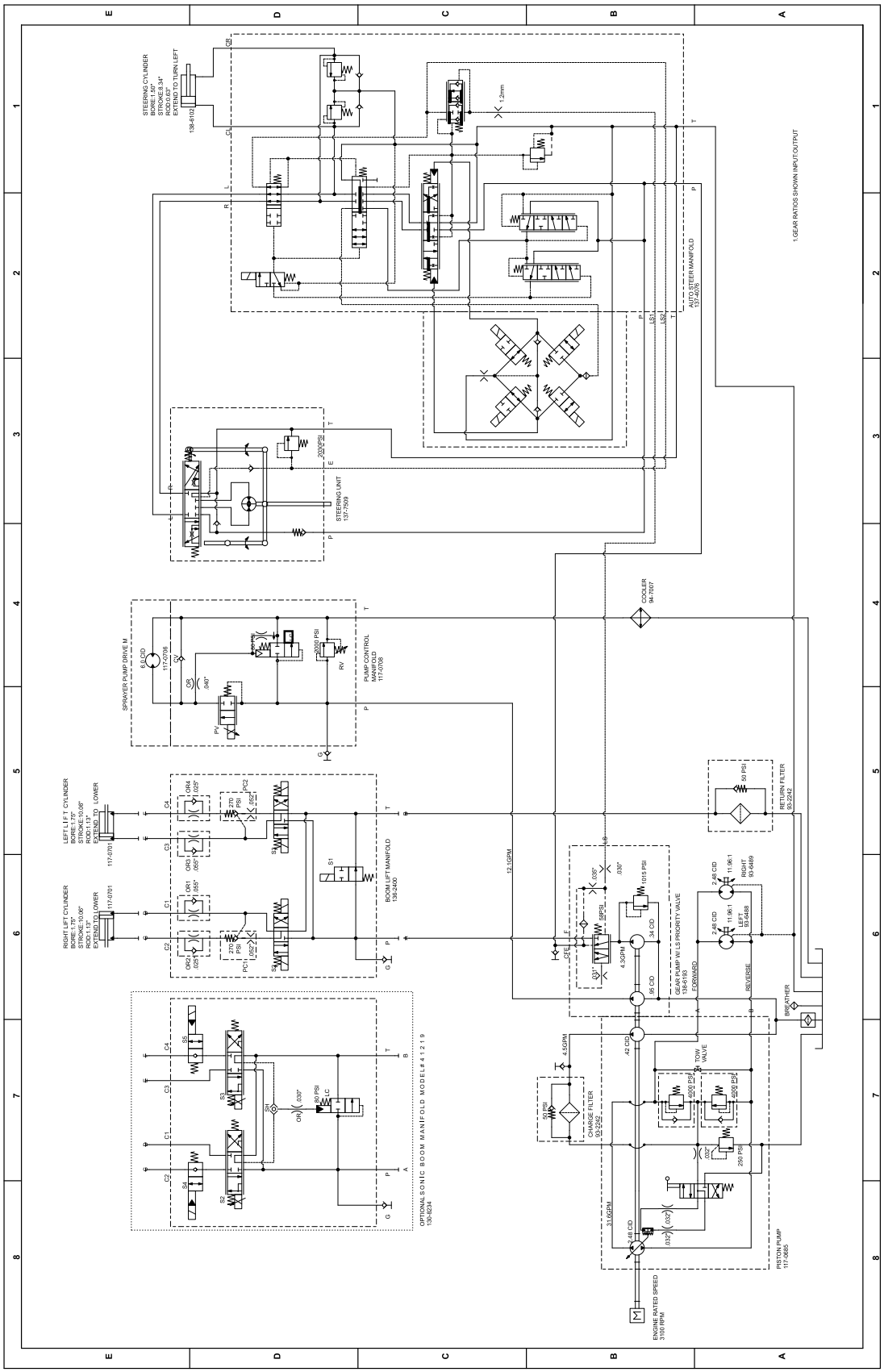


g302258

Figure 107

1. 3-socket connector (labeled DUPLICATE DIAG CONNECTOR—kit wire harness)
2. 3-pin connector (USB/CAN interface cable)
3. Cap

Schematics



g300521

Hydraulic Schematic 138-6255 (Rev. A)

Notes:

Notes:

The Toro Warranty

Two-Year or 1,500 Hours Limited Warranty

Conditions and Products Covered

The Toro Company and its affiliate, Toro Warranty Company, pursuant to an agreement between them, jointly warrant your Toro Commercial product ("Product") to be free from defects in materials or workmanship for 2 years or 1,500 operational hours*, whichever occurs first. This warranty is applicable to all products with the exception of Aerators (refer to separate warranty statements for these products). Where a warrantable condition exists, we will repair the Product at no cost to you including diagnostics, labor, parts, and transportation. This warranty begins on the date the Product is delivered to the original retail purchaser.
* Product equipped with an hour meter.

Instructions for Obtaining Warranty Service

You are responsible for notifying the Commercial Products Distributor or Authorized Commercial Products Dealer from whom you purchased the Product as soon as you believe a warrantable condition exists. If you need help locating a Commercial Products Distributor or Authorized Dealer, or if you have questions regarding your warranty rights or responsibilities, you may contact us at:

Toro Commercial Products Service Department
Toro Warranty Company
8111 Lyndale Avenue South
Bloomington, MN 55420-1196

952–888–8801 or 800–952–2740
E-mail: commercial.warranty@toro.com

Owner Responsibilities

As the product owner, you are responsible for required maintenance and adjustments stated in your *Operator's Manual*. Repairs for product issues caused by failure to perform required maintenance and adjustments are not covered under this warranty.

Items and Conditions Not Covered

Not all product failures or malfunctions that occur during the warranty period are defects in materials or workmanship. This warranty does not cover the following:

- Product failures which result from the use of non-Toro replacement parts, or from installation and use of add-on, or modified non-Toro branded accessories and products.
- Product failures which result from failure to perform recommended maintenance and/or adjustments.
- Product failures which result from operating the Product in an abusive, negligent, or reckless manner.
- Parts consumed through use that are not defective. Examples of parts which are consumed, or used up, during normal Product operation include, but are not limited to, brake pads and linings, clutch linings, blades, reels, rollers and bearings (sealed or greasable), bed knives, spark plugs, castor wheels and bearings, tires, filters, belts, and certain sprayer components such as diaphragms, nozzles, flow meters, and check valves.
- Failures caused by outside influence, including, but not limited to, weather, storage practices, contamination, use of unapproved fuels, coolants, lubricants, additives, fertilizers, water, or chemicals.
- Failure or performance issues due to the use of fuels (e.g. gasoline, diesel, or biodiesel) that do not conform to their respective industry standards.
- Normal noise, vibration, wear and tear, and deterioration. Normal "wear and tear" includes, but is not limited to, damage to seats due to wear or abrasion, worn painted surfaces, scratched decals or windows.

Parts

Parts scheduled for replacement as required maintenance are warranted for the period of time up to the scheduled replacement time for that part. Parts replaced under this warranty are covered for the duration of the original product warranty and become the property of Toro. Toro will make the final decision whether to repair any existing part or assembly or replace it. Toro may use remanufactured parts for warranty repairs.

Deep Cycle and Lithium-Ion Battery Warranty

Deep cycle and Lithium-Ion batteries have a specified total number of kilowatt-hours they can deliver during their lifetime. Operating, recharging, and maintenance techniques can extend or reduce total battery life. As the batteries in this product are consumed, the amount of useful work between charging intervals will slowly decrease until the battery is completely worn out. Replacement of worn out batteries, due to normal consumption, is the responsibility of the product owner.
Note: (Lithium-Ion battery only): Refer to the battery warranty for additional information.

Lifetime Crankshaft Warranty (ProStripe 02657 Model Only)

The Prostripe which is fitted with a genuine Toro Friction Disc and Crank-Safe Blade Brake Clutch (integrated Blade Brake Clutch (BBC) + Friction Disc assembly) as original equipment and used by the original purchaser in accordance with recommended operating and maintenance procedures, are covered by a Lifetime Warranty against engine crankshaft bending. Machines fitted with friction washers, Blade Brake Clutch (BBC) units and other such devices are not covered by the Lifetime Crankshaft Warranty.

Maintenance is at Owner's Expense

Engine tune-up, lubrication, cleaning and polishing, replacement of filters, coolant, and completing recommended maintenance are some of the normal services Toro products require that are at the owner's expense.

General Conditions

Repair by an Authorized Toro Distributor or Dealer is your sole remedy under this warranty.

Neither The Toro Company nor Toro Warranty Company is liable for indirect, incidental or consequential damages in connection with the use of the Toro Products covered by this warranty, including any cost or expense of providing substitute equipment or service during reasonable periods of malfunction or non-use pending completion of repairs under this warranty. Except for the Emissions warranty referenced below, if applicable, there is no other express warranty. All implied warranties of merchantability and fitness for use are limited to the duration of this express warranty.

Some states do not allow exclusions of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions and limitations may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Note Regarding Emissions Warranty

The Emissions Control System on your Product may be covered by a separate warranty meeting requirements established by the U.S. Environmental Protection Agency (EPA) and/or the California Air Resources Board (CARB). The hour limitations set forth above do not apply to the Emissions Control System Warranty. Refer to the Engine Emission Control Warranty Statement supplied with your product or contained in the engine manufacturer's documentation.

Countries Other than the United States or Canada

Customers who have purchased Toro products exported from the United States or Canada should contact their Toro Distributor (Dealer) to obtain guarantee policies for your country, province, or state. If for any reason you are dissatisfied with your Distributor's service or have difficulty obtaining guarantee information, contact your Authorized Toro Service Center.

Count on it.