Form No. 3448-819 Rev B

GeoLink® Precision Spray System Finishing Kit

Serial Number 315000001 and After Multi Pro® 1750 Turf Sprayer

Model No. 41674—Serial No. 409900000 and Up

Installation Instructions

Introduction

The GeoLink™ spray system kit is an attachment 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.**

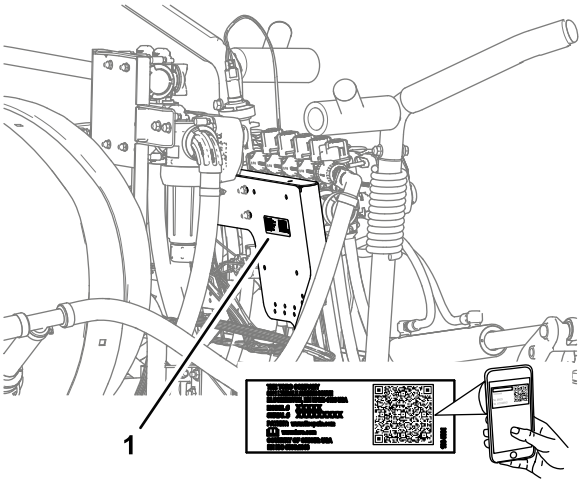

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Figure 1

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

3448-819

Contents

Safety

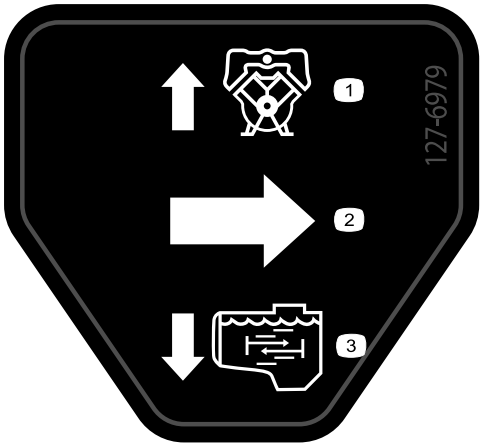
⚠ WARNING

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.**

Safety and Instructional Decals

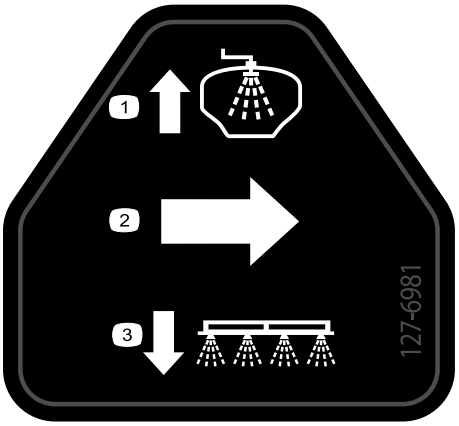
Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or missing.



decal127-6979

127-6979

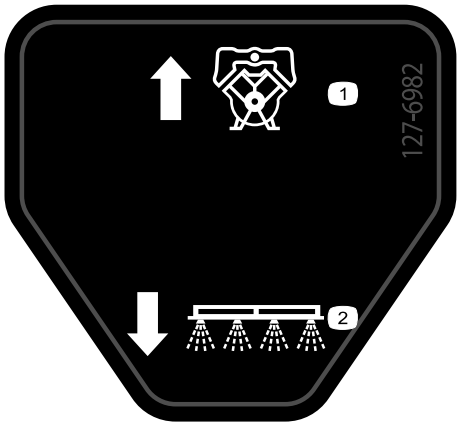
1. Bypass-return flow
2. Flow
3. Agitation flow



decal127-6981

127-6981

1. Bypass-return flow
2. Flow
3. Boom spray



decal127-6982

127-6982

1. Bypass-return flow
2. Boom spray

decal127-6976

127-6976

1. Decrease
2. Increase

Installation

Loose Parts

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

Procedure	Description	Qty.	Use
1	No parts required	–	Prepare to install the kit.
2	No parts required	–	Remove the seat and the engine access panel.
3	No parts required	–	Remove the front fenders and the hood.
4	Tube assembly—Toro Part No. 114-9553	2	Disconnect the optional foam-marker kit.
5	No parts required	–	Disconnecting the optional ultra sonic boom leveling kit.
6	No parts required	–	Remove the center-section cover (11-nozzle) of the optional covered-boom kit.
7	No parts required	–	Disconnect the pressure-sense tube for the dash gauge.
8	No parts required	–	Disconnect the sprayer valve connectors.
9	No parts required	–	Remove the spray sections.
10	Flange-head bolt (3/8 x 1 inch) Flange locknuts (3/8 inch) Center-boom extension Cylinder mount (wide) Tie plate (wide) Carriage bolt (1/2 x 1-1/4 inches) Flange locknut (1/2 inch)	2 2 1 1 1 4 4	Install the center boom extension.
11	Sprayer nozzle Hose assembly (sprayer valve 5 or 6) Flange locknut (5/16 inch)	2 2 2	Install the mount brackets and sprayer nozzles to the center-spray section.
12	Cap (quick coupler) Retainer	3 3	Remove the boom-section valves.
13	Flow meter mount Support-clamp half Bolt (1/4 x 4-1/2 inches) Flange locknuts (1/4 inch)	1 4 4 4	Installing the flow meter support clamps.
14	Kit sprayer harness	1	Assemble the kit sprayer harness to the machine.
15	Straight hose barb (1 x 2 inches) Hose clamp (3/4 to 1-1/2 inches) Hose (1 x 5-3/4 inches) Manifold Hose (1 x 16 inches)	1 3 1 1 1	Assemble the manifold to the flow meter.

Procedure	Description	Qty.	Use
16	Bypass hose assembly Shutoff valve	1 1	Install the bypass hoses to the tank.
17	No parts required	–	Install the modified center-spray section.
18	No parts required	–	Assembling the lift cylinder manifold to the cylinder mount.
19	Valve mount and sprayer-valve assembly Bolt (4 x 10 mm) ASC 10 sprayer controller Flange locknut (4 mm) Cap (quick-disconnect fitting) Flange-head bolts (5/16 x 3/4 inch) Flange locknuts (5/16 inch) Hose clamp Push-in fastener (cable tie) Push-in fastener (connector anchor)	1 3 1 3 2 8 8 1 1 3	Install the valve mount and sprayer valves.
20	No parts required	–	Connect the kit sprayer harness at the back of the machine.
21	Hydraulic hose (1/4 x 24-3/4 inches)	4	Assemble the boom-lift cylinders.
22	Nylon-flange bushing Supply-hose assembly 188 cm (74 inches) Supply-hose assembly 234 cm (92 inches) Supply-hose assembly 279 cm (110 inches)	4 1 1 1	Install the outer-spray sections.
23	Supply-hose 279 cm (110 inches) Supply-hose 234 cm (92 inches) Supply-hose 188 cm (74 inches) Supply-hose 81 cm (32 inches)	2 2 4 2	Install the sprayer nozzle hoses.
24	No parts required	–	Connect the pressure-sense tube for the dash gauge.
25	No parts required	–	Connect the optional foam-marker kit.
26	No parts required	–	Connect the ultra sonic boom kit.
27	Cover extension assembly (12-nozzle—Toro 120-0621) Pop rivet (Toro Part No. 114439) Support bracket (center-section cover—Toro Part No. 131-3703-03) Clip nut (Toro Part No. 94-2413) Flange-head bolts (3/8 x 1-1/4 inches—Toro Part No. 110-5050) Flange locknuts (3/8 inch—Toro Part No. 104-8301) Cover strap (Toro Part No. 120-0629) Flange-head bolts (5/16 x 1-1/4 inches—Toro Part No. 323-36)	1 22 4 4 16 16 2 4	Assemble the optional covered-boom kit.

Procedure	Description	Qty.	Use
28	Navigation-receiver plate Receiver mount Bolt (3/8 x 3-1/4 inches) Lock washer (3/8 inch) Washer (3/8 x 13/16 inch) Spacer (3/8 x 1 inch) Flange locknut (3/8 inch) Flange-head bolt (5/16 x 3/4 inch) Flange locknut (5/16 inch) Flange-head bolt (3/8 x 1-1/2 inches) Spacer (3/8 x 7/16 inch) Navigation receiver—GeoLink precision spray system kit (Model 41633 or Model 41634) Modem antenna bracket Hex-head bolt (5 x 16 mm) Washer (5 mm)	1 1 1 1 1 1 1 1 1 2 2 1 1 3 3	Install the navigation receiver.
29	Modem antenna—GeoLink precision spray system kit (Model 41633 or Model 41634)	1	Install the modem antenna to the machine.
30	Navigation-data and electrical harness—GeoLink precision-spray-system kit (Model 41633 and 41634)	1	Route the navigation-data and electrical harness.
31	Control console—GeoLink precision spray system kit (Model 41633 or Model 41634) Adhesive strips Threaded standoff Display hood	1 2 1 1	Install the monitor visor.
32	Monitor mount Flange-head bolt (6 x 12 mm) U-bolt (5/16 inch) Flange-head bolt (5/16 x 3/4 inch) Flange locknut (5/16 inch) Ball mount—GeoLink precision spray system kit (Model 41633 or Model 41634) Monitor Arm—GeoLink precision spray system kit (Model 41633 or Model 41634)	1 3 2 4 8 1 1	Install the control console.
33	No parts required	–	Connect the wire harnesses to the control console.
34	Modem data harness—300 cm (118 inches)—GeoLink precision spray system kit (Model 41633 or Model 41634)	1	Assembling the modem data harness to the machine
35	Modem power harness—GeoLink precision spray system kit (Model 41633 or Model 41634)	1	Assembling the modem power harness to the machine.

Procedure	Description	Qty.	Use
36	CL-55 modem—GeoLink precision spray system kit (Model 41633 or Model 416344)	1	Install the CL-55 modem
	Modem bracket—GeoLink precision spray system kit (Model 41633 or Model 41634)	1	
	Slotted machine screw (10-24 x 1-1/2 inches)—GeoLink precision spray system kit (Model 41633 or Model 41634)	2	
	Spacer—GeoLink precision spray system kit (Model 41633 or Model 41634)	2	
	Locknut (10-24 inch)—GeoLink precision spray system kit (Model 41633 or Model 41634)	2	
	Capscrew (1/4 x 3/4 inch)—GeoLink precision spray system kit (Model 41633 or Model 41634)	1	
	Flange locknut (1/4 inch)—GeoLink precision spray system kit (Model 41633 or Model 41634)	1	
37	No parts required	–	Remove the passive resistor from the machine wire harness.
38	ISO-CAN bus harness—302 cm (119 inches)—GeoLink precision spray system kit (Model 41633 or Model 41634)	1	Route the ISO-CAN bus harness.
39	Adapter harness—13 cm (5 inches)—GeoLink precision spray system kit (Model 41633 or Model 41634)	1	Install the adapter harness and terminating resistor.
40	No parts required	–	Wire the spray pump clutch.
41	Battery bracket	1	Install the sprayer electrical system.
	Bumper	1	
	Flange-locknut (1/4 inch)	2	
	Strap	1	
	Bolt (5/16 x 1-3/4 inches)	1	
	Washer (5/16 inch)	1	
	Battery (540 A)	1	
	Battery retainer	1	
	Flange locknut (5/16 inch)	1	
	Alternator bracket	1	
	Drive pulley 279 mm (11 inch)	1	
	Bolt (1/4 x 2-1/4 inches)	4	
	Alternator (60 A)	1	
	Flange-head bolt (8 x 25 mm)	1	
	Flange-head bolt (3/8 x 1-1/2 inches)	1	
	V-belt	1	

Procedure	Description	Qty.	Use
42	Alternator cable (red—6 gauge) Relay Push-in fastener Fuse (15 A) Fuse (50 A)	1 1 1 1 1	Connect the kit sprayer harness at the seat base.
43	Quick-connect clamp (red handle) Quick-connect clamp (black handle)	1 1	Install the wire harnesses for the navigation components.
44	Switch plug	1	Remove the rate-control switch.
45	Push-in fastener	13	Install the hood and the left and right front fenders.
46	No parts required	–	Install the engine-access panel and the seat.
47	No parts required	–	Program the machine settings.
48	No parts required	–	Power the GeoLink components.
49	No parts required	–	Verify the software version.
50	No parts required	–	Select the units of measure.
51	No parts required	–	Create a field.
52	No parts required	–	Create a new product and application rate.
53	No parts required	–	Balance the nozzle valves—Multi Pro 1750.
54	No parts required	–	Create a generic spray job.
55	No parts required	–	Check the spray system.
56	No parts required	–	Balance the agitation bypass valve.
57	No parts required	–	Perform a flow meter calibration.
58	No parts required	–	Verify the cellular status.
59	No parts required	–	Perform a compass calibration.
60	No parts required	–	Erase the NVRAM.
61	No parts required	–	Perform a compass calibration.

1

Preparing to Install the Kit

No Parts Required

Preparing the Sprayer Tank and Optional Rinse Tank

1. Clean the sprayer; refer to Cleaning the Sprayer in the *Operator's Manual* for the machine.

   Important: **Completely empty the sprayer tank before installing the GeoLink Spray System Finishing Kit.**

2. **For machines with the optional tank-rinse kit, perform the following:**

   A. Pump the water from the rinse tank into the sprayer tank; refer to Operating the Rinse Kit in the *Installation Instructions* for the Tank-Rinse Kit.

   B. Drain the water from the sprayer tank; refer to Cleaning the Sprayer in the *Operator's Manual* for the machine.

3. Extend the left- and right-spray sections to the horizontal position.

4. Park the machine on a level surface, engage the parking brake, shut off the engine, and remove the key; refer to the *Operator's Manual*.

   Important: **Park the machine on a level surface before installing the GeoLink kit.**

Disconnecting the Battery

1. Unlatch the seat by pushing the seat-latch handle rearward (Figure 3).

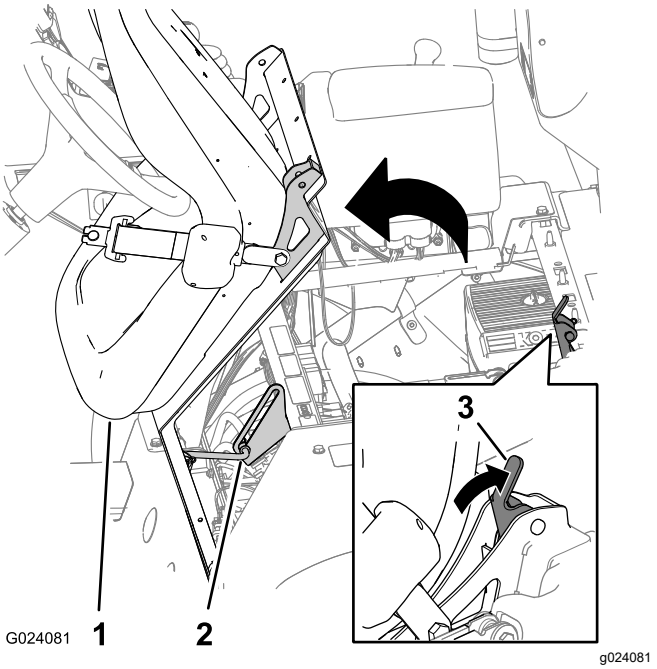


Figure 3

1. Seat
2. Prop rod
3. Seat-latch handle

2. Rotate the seat and seat plate forward until the end of the prop rod, at the prop-rod bracket, is at the bottom of the slot in the bracket (Figure 3).

3. Allow the engine to cool completely.

4. Remove the bolt and nut that secures the terminal of the negative-battery cable to the negative post of the battery.

⚠ WARNING

Incorrect battery cable routing could damage the machine and cables causing sparks. Sparks can cause the battery gasses to explode, resulting in personal injury.

- **Always *disconnect* the negative (black) battery cable before disconnecting the positive (red) cable.**
- **Always *connect* the positive (red) battery cable before connecting the negative (black) cable.**

⚠ WARNING

Battery terminals or metal tools could short against metal components causing sparks. Sparks can cause the battery gasses to explode, resulting in personal injury.

- **When removing or installing the battery, do not allow the battery terminals to touch any metal parts of the machine.**
- **Do not allow metal tools to short between the battery terminals and metal parts of the machine.**

5. Slide back the insulator cover and remove the bolt and nut that secures the terminal of the positive-battery cable to the positive post of the battery. (Figure 4).

   Note: Ensure that the terminals of the battery cables do not touch the battery posts.

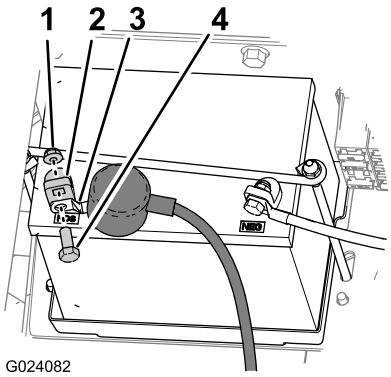


Figure 4

1. Nut
2. Battery post
3. Terminal (positive-battery cable)
4. Bolt

2

Removing the Seat and the Engine-Access Panel

No Parts Required

Removing the Seat

1. Remove the 2-socket connector of the machine wire harness that connects to the seat-switch connector (Figure 5).

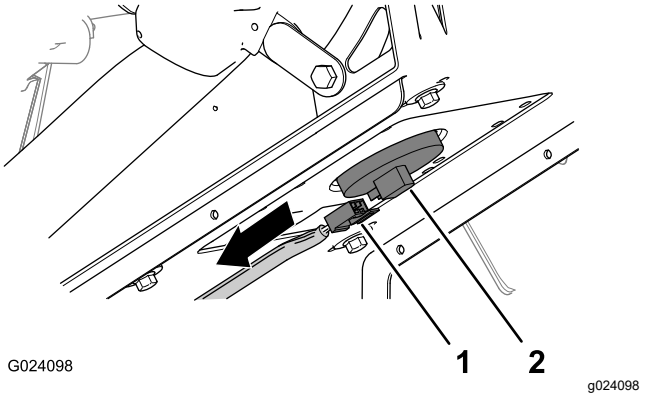


Figure 5

1. 2-socket connector (machine wire harness)
2. Seat-switch connector

2. Remove the hairpin that secures the prop rod to the bracket at the bottom of the seat plate (Figure 6).

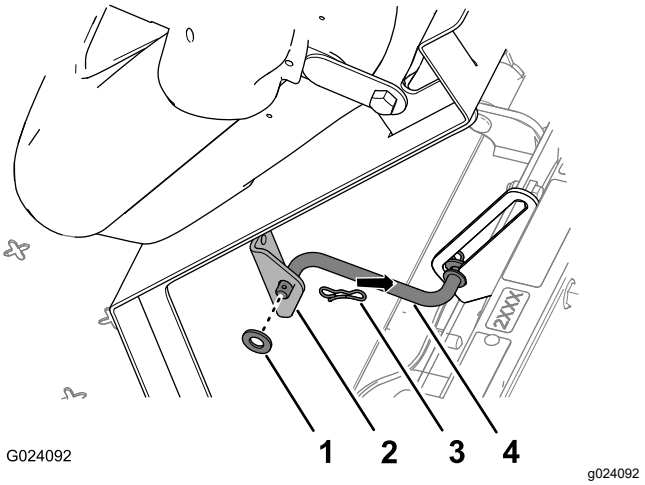


Figure 6

1. Washer
2. Bracket (seat)
3. Hairpin
4. Prop rod

3. Remove the 2 hairpins that secure the pivot fitting of the seat plate to the chassis brackets (Figure 7).

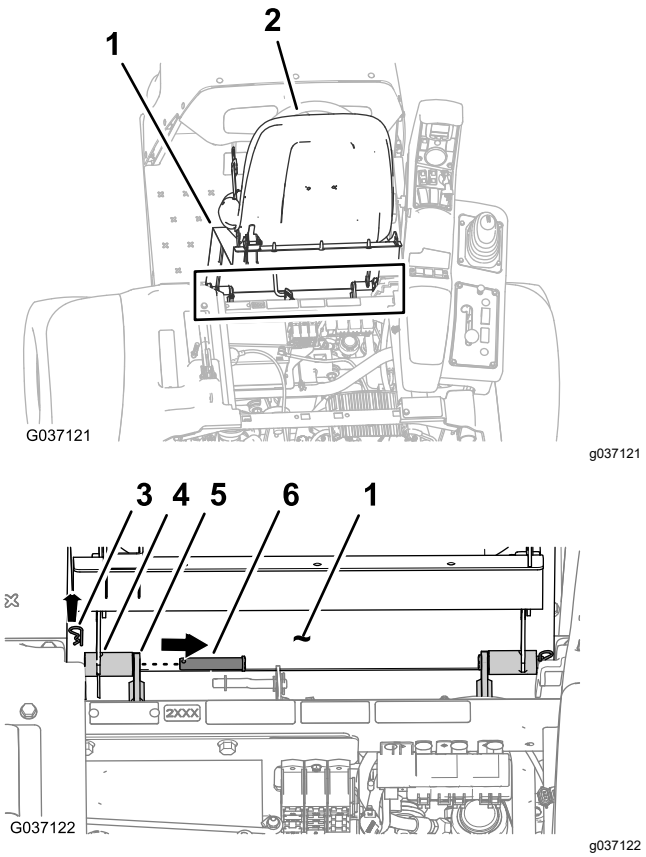


Figure 7

1. Seat plate
2. Seat
3. Hairpin
4. Pivot fitting (seat pan)
5. Chassis bracket
6. Pivot pin

4. Remove the 2 pivot pins that secure the seat and seat plate to the chassis (Figure 7).
5. Lift the seat and seat plate up and out of the machine (Figure 8).

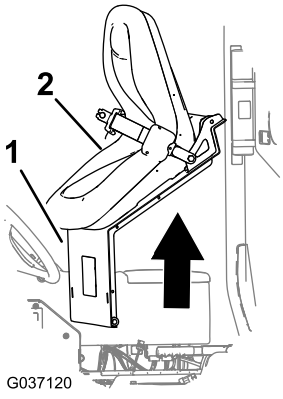


Figure 8

1. Seat plate
2. Seat

Removing the Engine-Access Panel

Machines without the Tank Rinse Kit

1. Rotate up the handles for the latches of the engine-access panel (Figure 9).

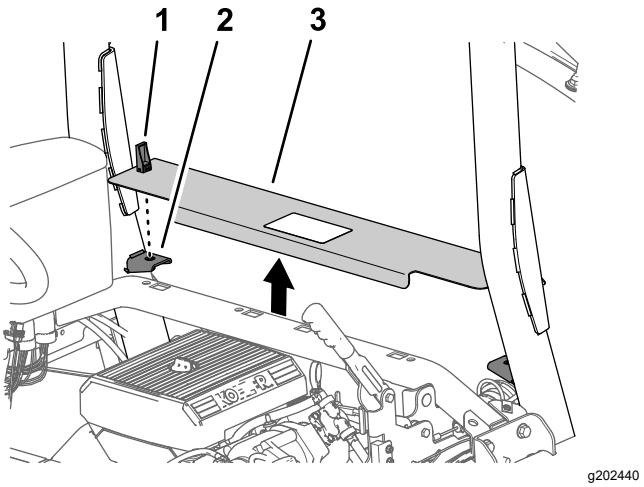


Figure 9

1. Latch
2. Panel-support bracket
3. Engine access panel

2. Lift the engine-access panel and remove it from the machine (Figure 9).

3

Removing the Front Fenders and the Hood

No Parts Required

Removing the Left Front Fender

1. Remove the 2 push-in fastener that secure the left, front fender to the lower ROPS channel (Figure 10).

   Note: Discard push-in fasteners that you removed.

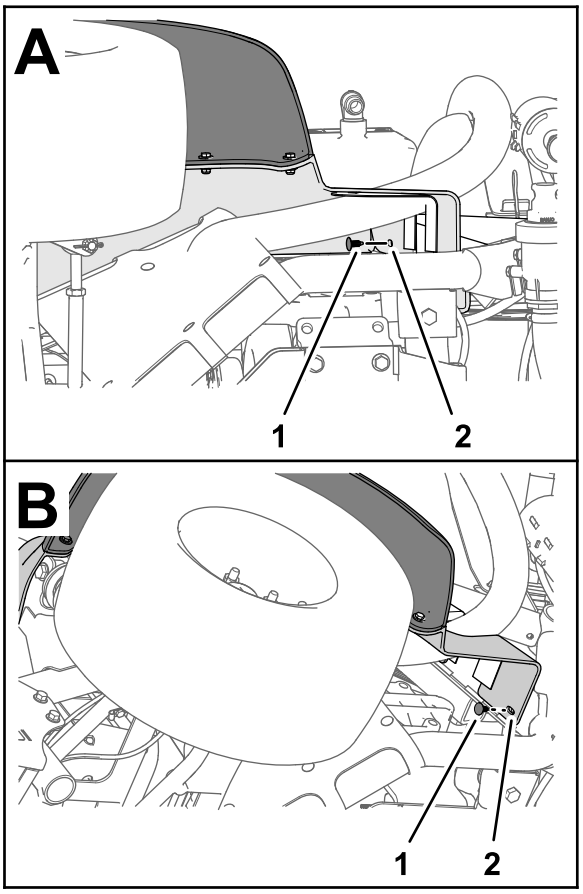


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Figure 10

1. Push-in fastener
2. Left, front fender

2. Remove the 3 bolts (5/16 x 1 inch) and 3 washers (5/16 inch) that secure the fender to the frame of the machine (Figure 11).

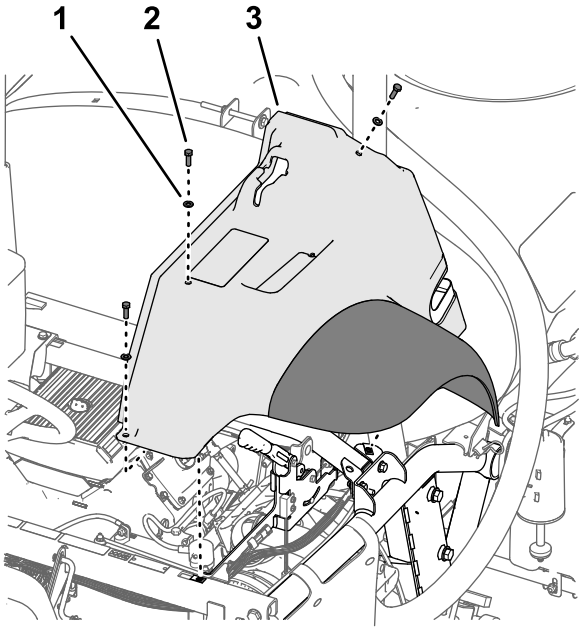

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Figure 11

1. Washer (5/16 inch)
2. Bolt (5/16 x 1 inch)
3. Left, front fender

3. Remove the fender from the machine.

   Note: Discard push-in fasteners that you removed; retain the fender, bolts, and washers for installation in Installing the Left Front Fender (page 110).

4. Remove the 6 push-in fasteners and 5 washers (9/16 x 1/2 inch) that secure the inner-fender shroud to the frame of the machine (Figure 12).

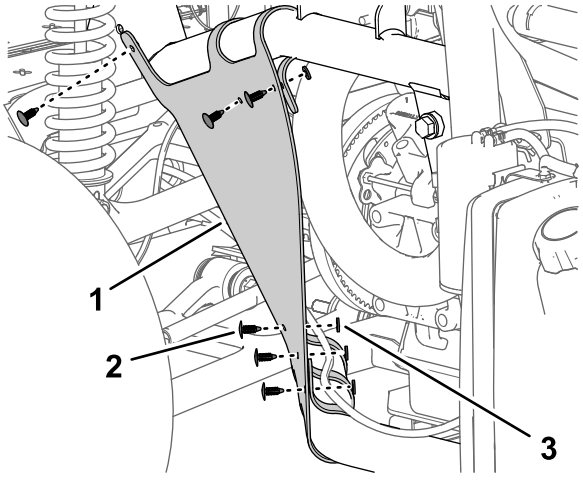

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Figure 12

1. Inner-fender shroud
2. Push-in fastener
3. Washer (9/16 x 1/2 inch)

5. Remove the inner-fender shroud from the machine (Figure 13).

Note: Discard push-in fasteners that you removed.

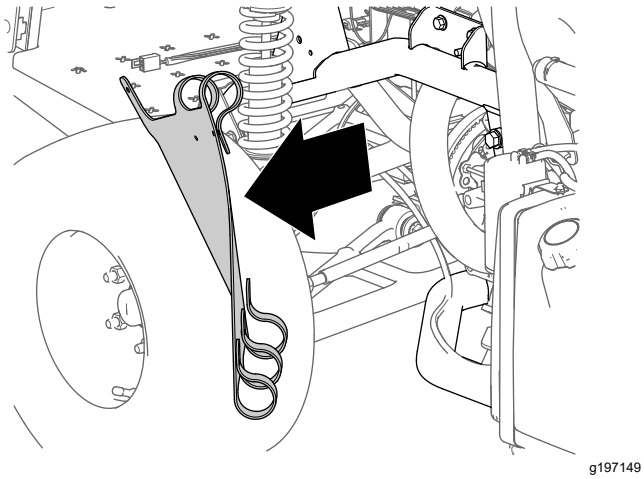

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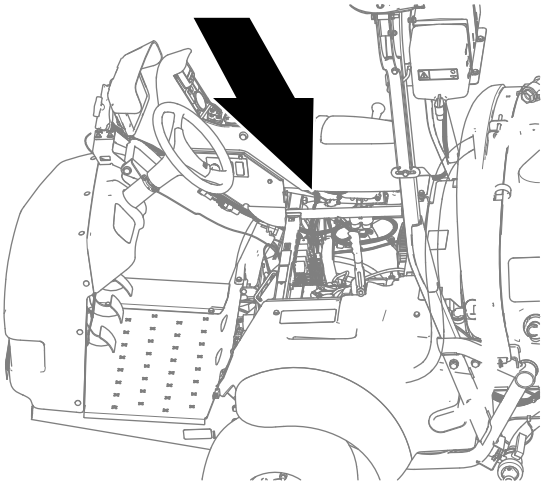
Figure 13

6. Repeat steps 1 through 5 for the fender and inner-fender shroud at the other side of the machine.

Removing the Right Front Fender

Note: If you damage the push-in fasteners removing them, replace the fasteners with Toro Part No. 117-2382.

1. Remove the 2 capscrews (5/16 x 1 inch) and 2 washers (5/16 inch) that secure the bottom console cover and end console cover to the machine, and remove the covers (Figure 14).



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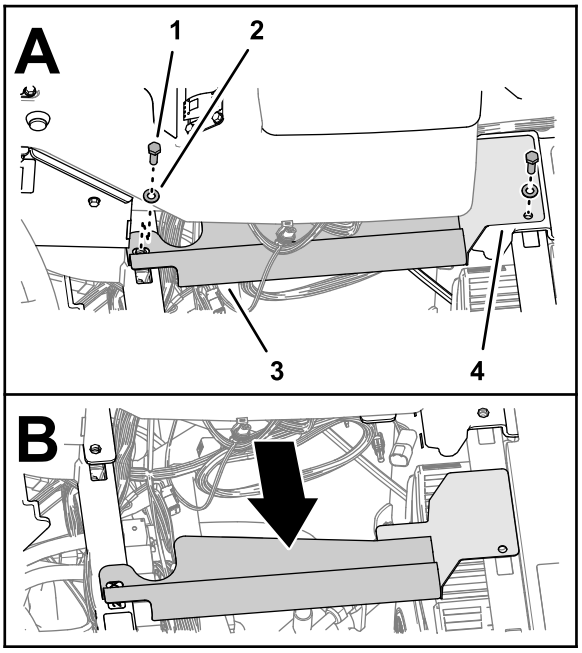

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Figure 14

1. Capscrew (5/16 x 1 inch)
2. Washer (5/16 inch)
3. Console cover (bottom)
4. Console cover (end)

2. Remove the capscrew (5/16 x 1 inch) and washer (5/16 inch) that secures the right, front fender to the platform floor (Figure 15).

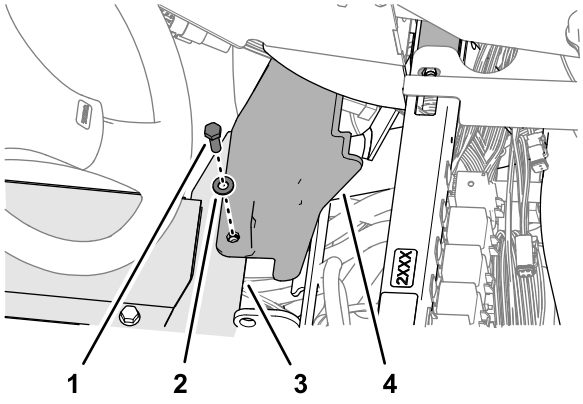

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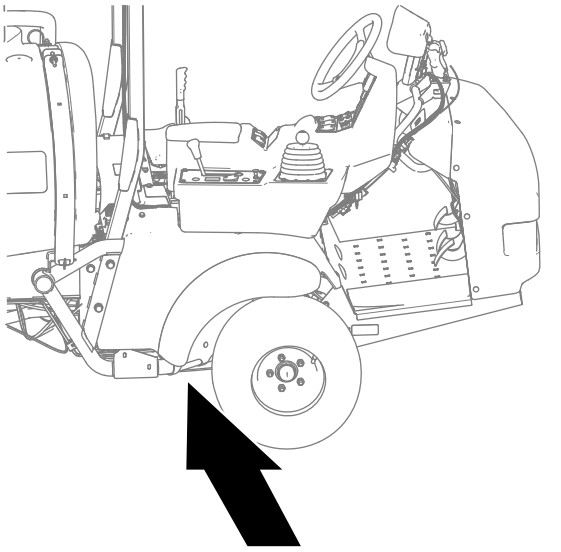
Figure 15

1. Capscrew (5/16 x 1 inch)
2. Washer (5/16 inch)
3. Platform floor
4. Right, front fender

3. Carefully remove the 2 push-in fasteners that secure the right, front fender to the roll bar mounting channel (Figure 16).



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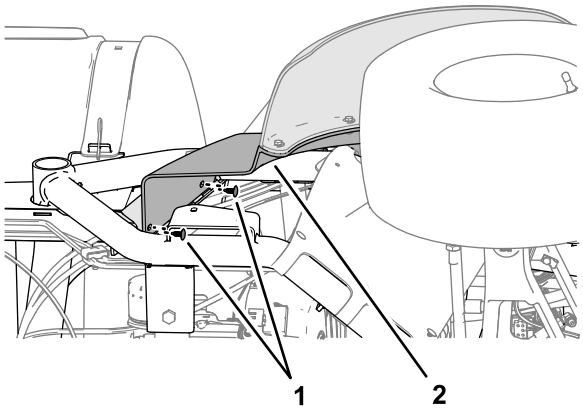

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Figure 16

1. Push-in fastener
2. Right, front fender

4. Remove the capscrew (5/16 x 1 inch) and washer (5/16 inch) that secures the right, front fender to the cross-member support (Figure 17).

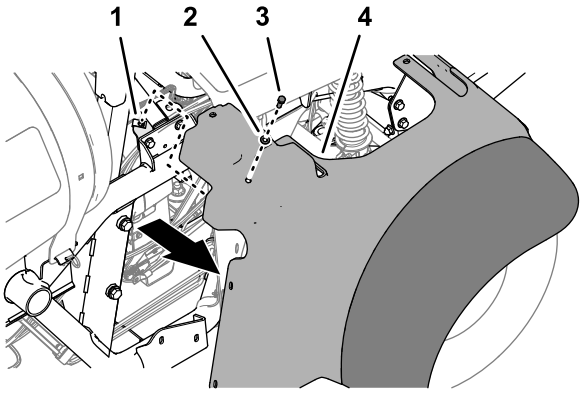

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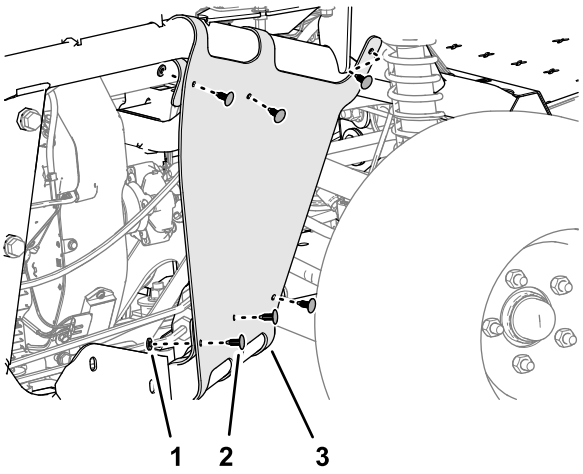
Figure 17

1. Clip nut (cross-member support)
2. Washer (5/16 inch)
3. Capscrew (5/16 x 1 inch)
4. Right, front fender

5. Remove the right, front fender from the machine.
6. Remove the 6 push-in fasteners and 5 washers (9/16 x 1/2 inch) that secure the inner-fender shroud to the right, upper and right, lower-frame tubes (Figure 18).



g323162

Figure 18

1. Washer (9/16 x 1/2 inch)
2. Push-in fastener
3. Inner-fender shroud

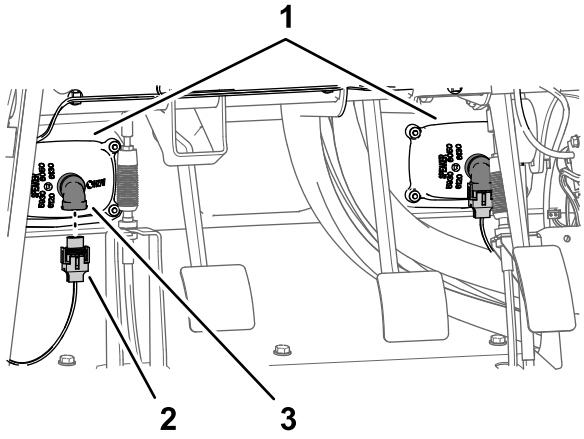
7. Remove the inner-fender shroud from the machine (Figure 18).

   Note: Retain the right, front fender, inner-fender shroud, capscrews, washers, and undamaged push-in fasteners for installation in Installing the Right Front Fender (page 112).

   Replace damaged push-in fasteners with Toro Part No. 117-2382.

Removing the Hood

1. Disconnect the 2 electrical connectors (2-socket) of the machine wire harness from the 2-pin connectors of the left and right headlights (Figure 19).



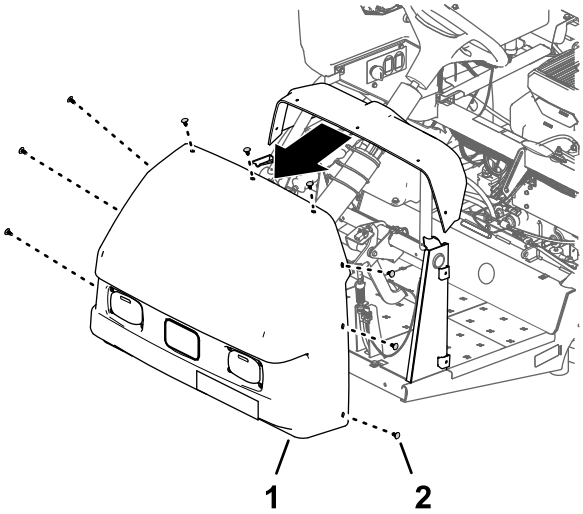
g197153

Figure 19

1. Headlights
2. 2-socket connector (machine wire harness)
3. 2-pin connector (headlight)

2. Remove the 9 push-in fasteners that secure the hood to the dash and frame of the machine (Figure 20).

   Note: Retain the push-in fasteners for installation in Installing the Hood (page 110).



g197148

Figure 20

1. Hood
2. Push-in fastener

3. Remove the hood from the machine (Figure 20).

   Note: Discard push-in fasteners that you removed.

4

Disconnecting the Optional Foam-Marker Kit

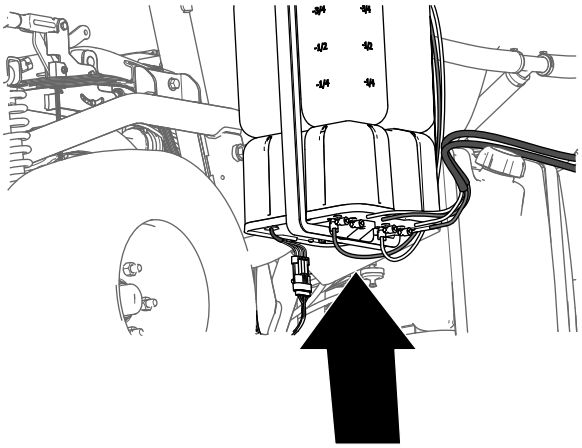
Parts needed for this procedure:

2	Tube assembly—Toro Part No. 114-9553

Removing the Liquid and Air Tubes at the Compressor

Foam Marker Kits 2017 and After

1. At the connection panel of the compressor for the foam-marker kit, secure a cable tie around the clear and blue tubing for the right-spray section (Figure 21 and Figure 22).



g197746

Figure 21

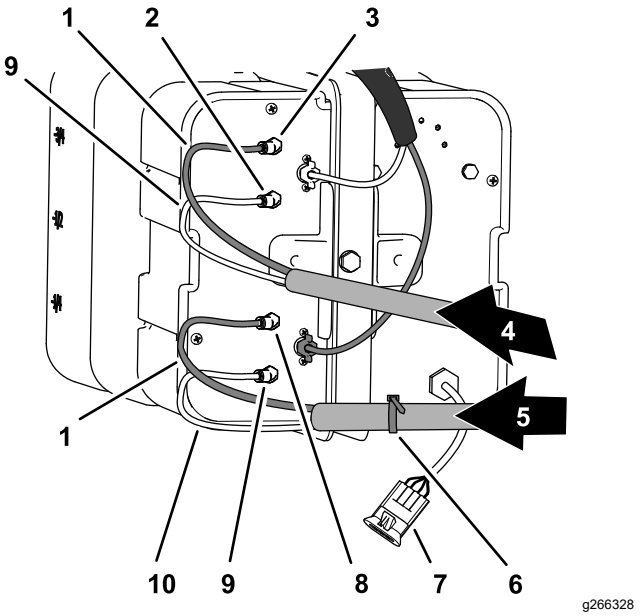


Figure 22

1. Blue tube
2. Air fitting (left-spray section)
3. Liquid fitting (left-spray section)
4. Foam tubes (left-spray section)
5. Foam tubes (right-spray section)
6. Cable tie
7. Electrical connector
8. Liquid fitting (right-spray section)
9. Clear tube
10. Air fitting (right-spray section)

2. Press in the locking collar (Figure 23).

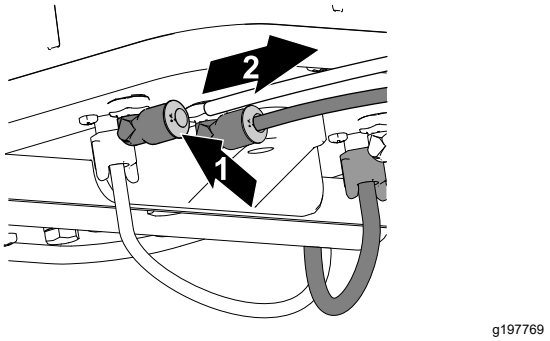


Figure 23

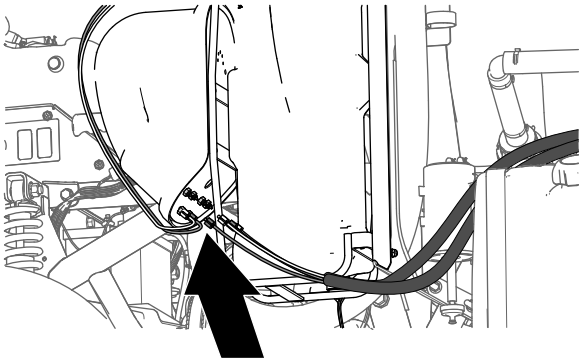
1. Push in the lock collar
2. Pull out the tube

3. Pull out the tube from the fitting (Figure 23).
4. Repeat steps 2 and 3 for the other 3 tubes for the spray sections.

Removing the Liquid and Air Tubes at the Compressor

Foam Marker Kits 2016 and Before

1. At the connection panel of the compressor for the foam-marker kit, secure a cable tie around the clear and blue tubing for the right-spray section (Figure 24).



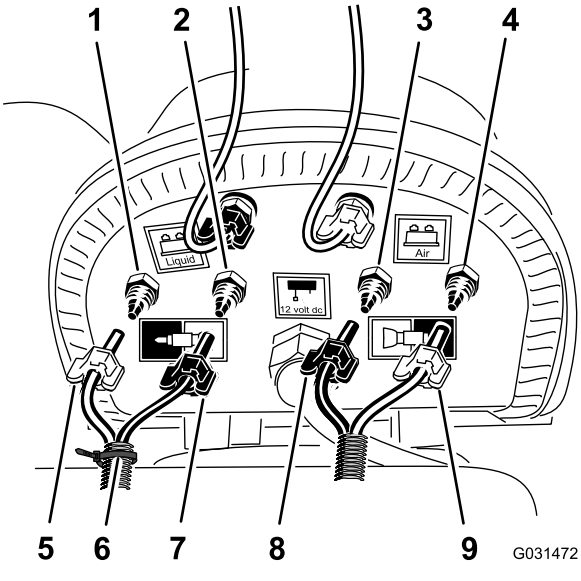


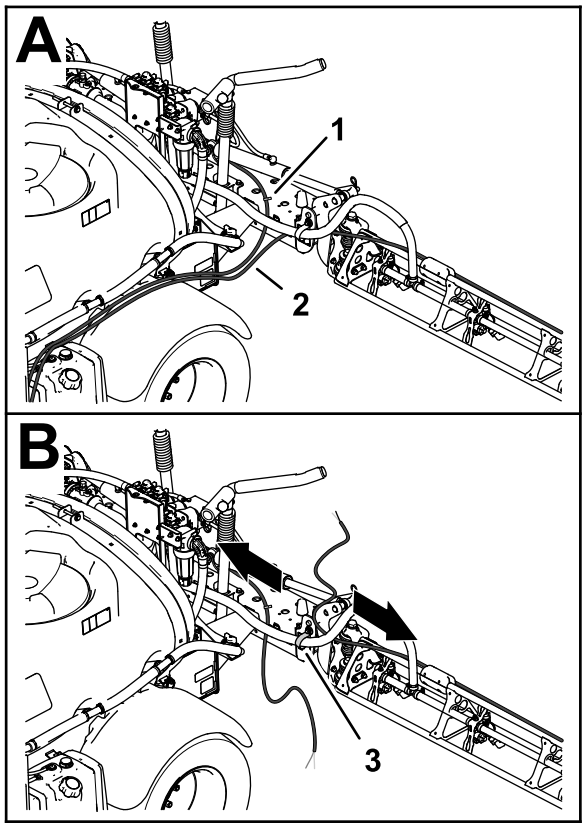
Figure 24

1. Air compression fitting (right-spray section)
2. Liquid compression fitting (right-spray section)
3. Liquid compression fitting (left-spray section)
4. Air compression fitting (left-spray section)
5. Compression nut—air (right-spray section—blue tube)
6. Cable tie
7. Compression nut—water (right-spray section—clear tube)
8. Compression nut (left-spray section—blue tube)
9. Compression nut (left-spray section—clear tube)

2. Loosen the compression nuts for the 2 clear and 2 blue tubes for the foam nozzles at the left- and right-spray section (Figure 24).
3. Remove the 4 tubes from the compression fittings for the spray sections (Figure 24).

Removing the Liquid and Air Tubes to the Spray Sections

1. At the outer-spray section, use a piece of tape to mark the left liquid and air tubes for the left spray section and the right liquid and air tubes for the right spray section.
2. Move the tubes for the foam nozzles at the left- and right-spray section rearward and through the R-clamp near the pivot point for the spray section (Figure 25).



g197783

Figure 25

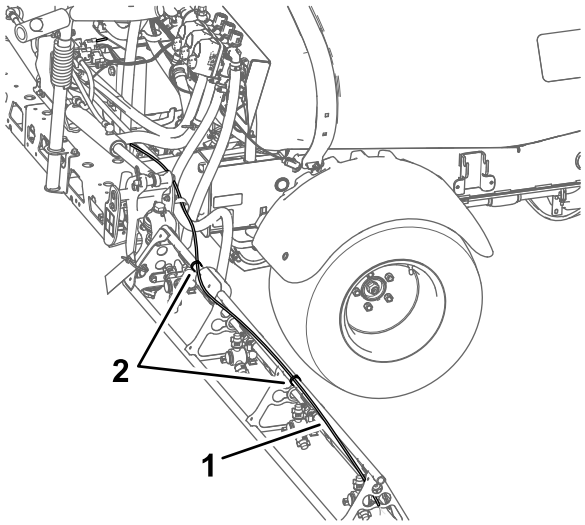
1. Tubing—foam-marker nozzle (left-spray section)
2. Tubing—foam-marker nozzle (right-spray section)
3. R-clamp

3. If your machine has the **center boom-extension kit** installed, loosely secure the free end of the liquid and air tubes to the outer-spray section. and skip the procedures for Preparing the New Tube Assemblies for the Foam-Marker Nozzles (page 18) and Installing the New Tube Assembly (page 20).

Preparing the New Tube Assemblies for the Foam-Marker Nozzles

Machines without the Optional Center Boom-Extension Kit

1. Remove the cable ties that secure the liquid and air tubes of the foam marker kit to the outer-spray section (Figure 26).



g197816

Figure 26

1. Liquid and air tubes (right-spray section shown)
2. Cable ties

2. At the foam-marker nozzle, loosen the compression nut that secures the blue tube (water) to the blue compression fitting of the foam-marker nozzle (Figure 27).

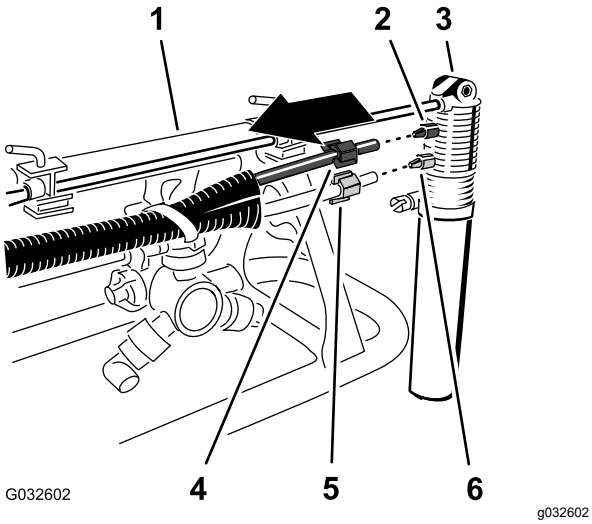


Figure 27

1. Outer-spray section
2. Compression fitting (blue)
3. Foam-marker nozzle
4. Compression nut (blue—blue water tube)
5. Compression nut (white—clear air tube)
6. Compression fitting (white)

3. Loosen the compression nut that secures the clear tube (air) to the white compression fitting of the foam-marker nozzle of the foam-marker nozzle (Figure 27).
4. Remove the liquid and air tubes from the machine.
5. Remove the compression nuts at the ends of the tubes (Figure 27).

   Note: Retain the compression nuts for installation in step 1 of Installing the New Tube Assembly (page 20).
6. Align the old liquid and air tubes (Figure 28) to the new tube assembly (Toro Part No. 114-9553).

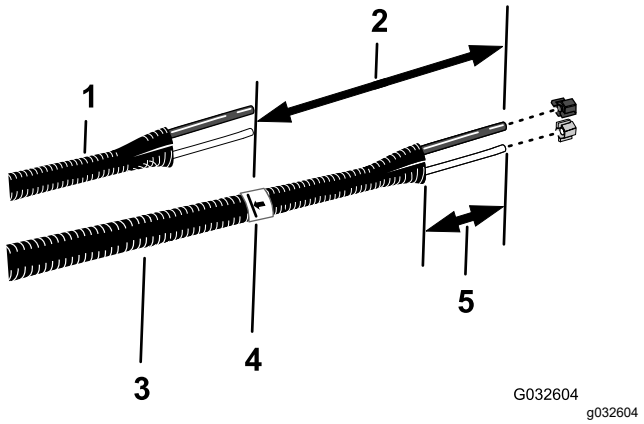


Figure 28

1. Old liquid and air tubes
2. 26 cm (10 inches)
3. New tube assembly (Toro Part No. 114-9553)
4. Tape and mark
5. 77 to 102 mm (3 to 4 inches)

7. Use a piece of tape to mark the length of the old liquid and air tubes onto the new tube assembly.
8. At the new tube assembly, add 26 cm (10 inches) length from the mark that you made in step 7, mark the tube assembly, and cut the tubes at the second (longer) mark (Figure 28).
9. If the old liquid and air tubes are marked with a cable tie, mark the new tube assembly with a cable tie; otherwise skip to step 10.

   Note: You no longer need the old liquid and air tubes.
10. Remove 77 to 102 mm (3 to 4 inches) of the sheathing from around each end of the tube assembly (Figure 28).
11. Repeat steps 1 through 10 for the liquid and air tubes at the other side of the machine.

Installing the New Tube Assembly

Machines without the Optional Center Boom-Extension Kit

1. Slip the blue compression nut over the ends of blue tube and the white compression nut over the clear tube (Figure 29).

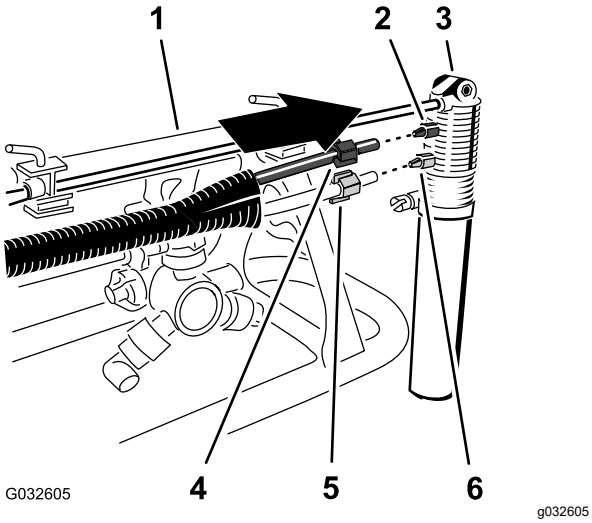


Figure 29

1. Outer-spray section	4. Compression nut (blue—blue water tube)
2. Compression fitting (blue)	5. Compression nut (white—clear air tube)
3. Foam-marker nozzle	6. Compression fitting (white)

2. Align the end of the clear tube with the white compression nut to the white fitting of the foam-marker nozzle, and tighten the compression nut by hand (Figure 29).
3. Align the end of the blue tube with the blue compression nut to the blue fitting of the foam-marker nozzle, and tighten the compression nut by hand (Figure 29).
4. Route the tube assembly along rear side of the upper support pole of the outer-spray section as shown in Figure 30.

   Important: **If the tube assembly is installed at the wrong side of the upper support pole, the tubes will be pinched between the cradle and the outer-spray section when the booms are in the transport position.**

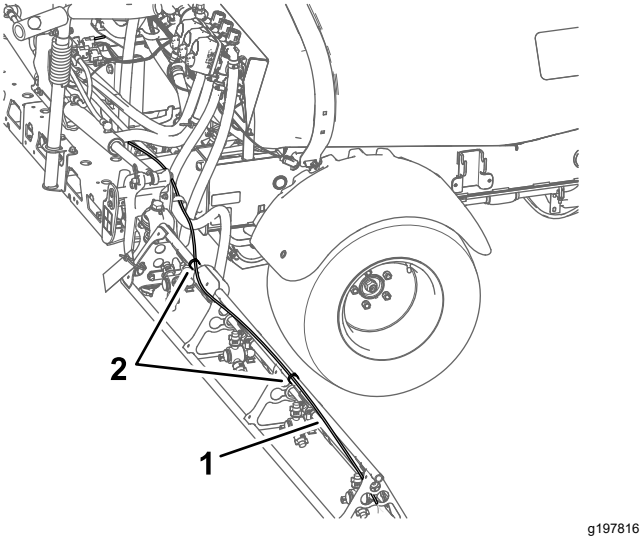


Figure 30

1. Tube assembly (right-spray section shown)	2. Cable ties

5. Secure the tube assembly to the hole in the nozzle support with a cable tie as shown in Figure 31.

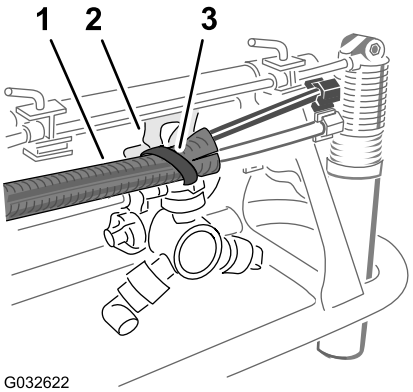


Figure 31

1. Tube assembly	3. Cable tie
2. Nozzle support	

6. Secure the tube assembly to the outer-spray section with cable ties as shown in Figure 30.
7. Loosely secure the free end of the tube assembly to the outer-spray section.
8. Repeat steps 1 through 6 for the tube assembly at the other side of the machine.

5

Disconnecting the Optional Ultra Sonic Boom Leveling Kit

No Parts Required

Procedure

1. Disconnect 3-pin connector of the wire harness for the ultra sonic boom leveling kit from the 3-socket connector of the machine wire harness (Figure 32).

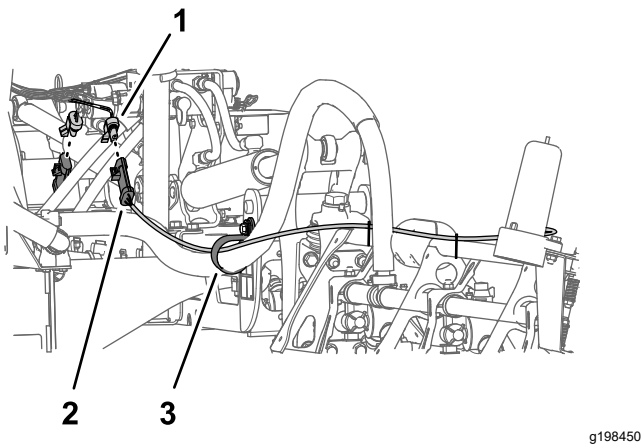


Figure 32

1. 3-socket connector (machine wire harness)
2. 3-pin connector (wire harness—ultra sonic boom leveling kit)
3. Support clamp

2. Repeat step 1 for the 3-pin connector of the ultra sonic boom wire harness at the other side of the machine.

6

Removing the Center-Section Cover (11-nozzle) of the Optional Covered-Boom Kit

No Parts Required

Procedure

1. While supporting the center-section cover (11–nozzle), remove the 4 flange-head bolts (5/16 x 1-1/4 inches) and 2 cover straps that secure the cover to the cover-support bracket (Figure 33).

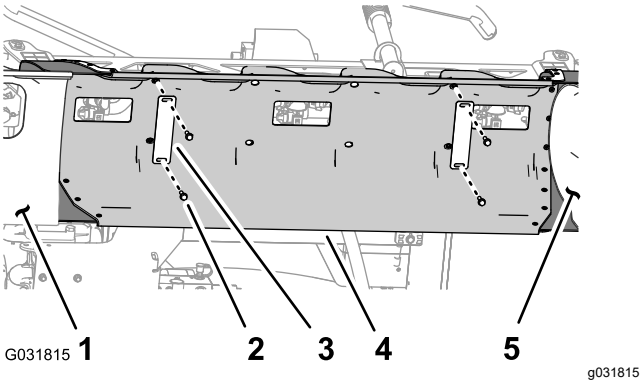
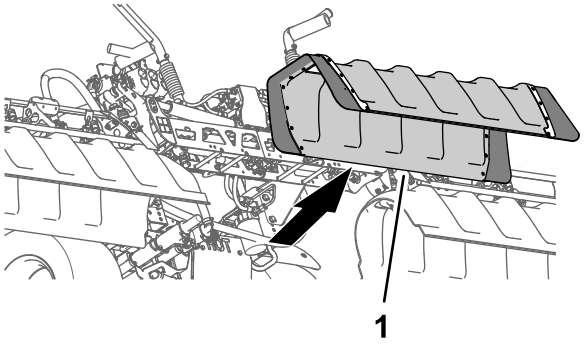


Figure 33

1. Boom-section cover (left)
2. Flange-head bolt (5/16 x 1-1/4 inches)
3. Cover strap
4. Center-section cover
5. Boom-section cover (right)

2. Remove the center-section cover from the machine (Figure 34).

   Note: Retain the cover for assembly, cover straps, and flange-head bolts for installation in steps 1 and 2 of Installing the Center-Section Cover (page 73).



g197940

Figure 34

1. Center-section cover

7

Disconnecting the Pressure-Sense Tube for the Dash Gauge

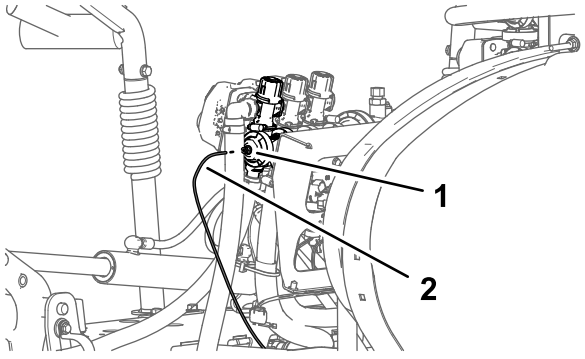
No Parts Required

Disconnecting the Pressure-Sense Tube for the Dash Gauge

Machines without the Optional Hand Wand Kit or the Optional Electric Hose Reel Kit

Note: If your machine is equipped with an optional spray gun kit, refer to Disconnecting Pressure-Sense Tube and Supply Hose (page 22).

1. Press in the collar for the tube coupler in the end cap of the right boom-section valve (Figure 35).



g197991

Figure 35

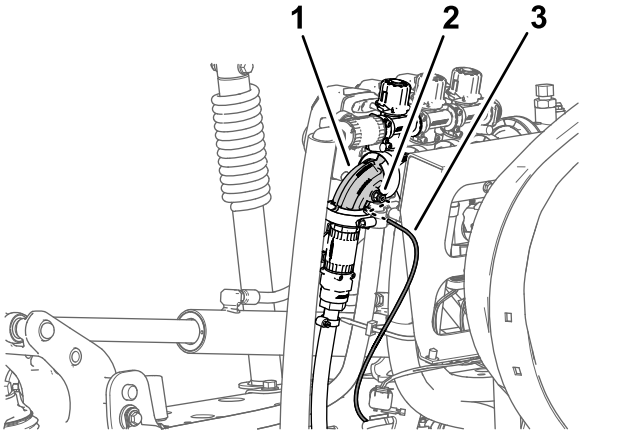
1. Tube coupler (end cap of the right boom-section valve)
2. Pressure-sense tube

2. Pull the pressure-sense tube for the dash gauge out of the tube coupler (Figure 35).

Disconnecting Pressure-Sense Tube and Supply Hose

Machines with the Optional Hand Wand Kit or the Optional Electric Hose Reel Kit

1. Press in the collar for the tube coupler in the 90° elbow of the right spray-section valve (Figure 36).



g198002

Figure 36

1. 90° elbow (right boom-section valve)
2. Tube coupler
3. Pressure-sense tube (dash-pressure gauge)

2. Pull the pressure-sense tube for the dash gauge out of the tube coupler (Figure 36).

   Note: Do not remove the 90° elbow for the shutoff valve for the supply hose of the hose reel from the flange of the right boom-section valve.

8

Disconnecting the Sprayer Valve Connectors

No Parts Required

Procedure

1. Disconnect the 3-socket connector labeled LEFT SPRAY VALVE, CENTER SPRAY VALVE, and RIGHT SPRAY VALVE of the machine wire harness from the 3-pin connectors of the 3 spray-valve actuators (Figure 37).

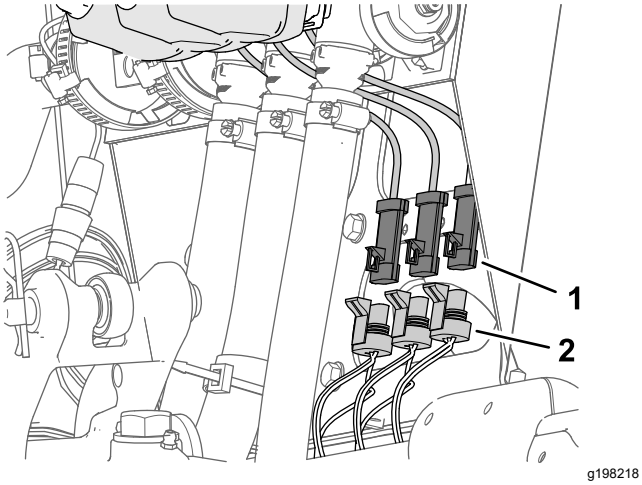


Figure 37

1. 3-pin connector (spray-valve actuator)
2. 3-socket connector—machine wire-harness (LEFT SPRAY VALVE, CENTER SPRAY VALVE, and RIGHT SPRAY VALVE)

2. Disconnect the 4-socket connector of the machine wire harness labeled RATE VALVE from the 4-pin connector of the rate-valve actuator (Figure 38).

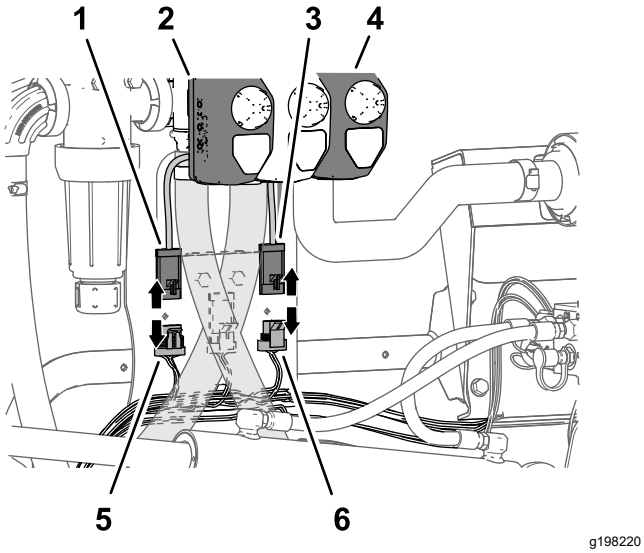


Figure 38

1. 4-pin connector (rate-valve actuator)
2. Actuator (rate valve)
3. 3-pin connector (master spray-valve actuator)
4. Actuator (master-spray valve)
5. 4-socket connector—machine wire harness (RATE VALVE)
6. 3-socket connector—machine wire harness (MASTER SPRAY VALVE)

3. Disconnect the 3-socket connector of the machine wire harness labeled MASTER SPRAY VALVE from the 3-pin connector of the master spray-valve actuator (Figure 38).

9

Removing the Spray Sections

No Parts Required

Removing the Spray-Section Hoses

1. At the outer spray section, remove the hose clamp that secures the sprayer-section hose to the barbed T-fitting (Figure 39).

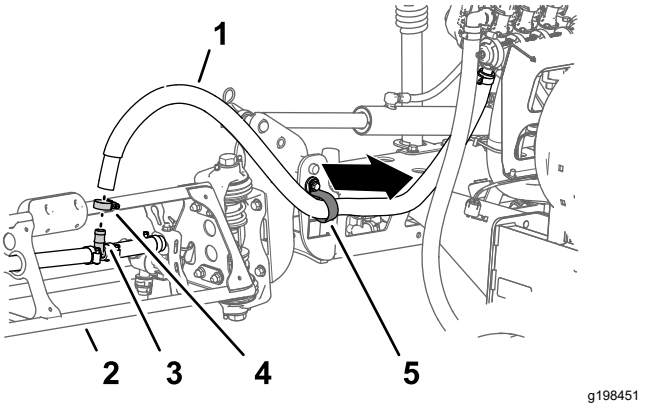
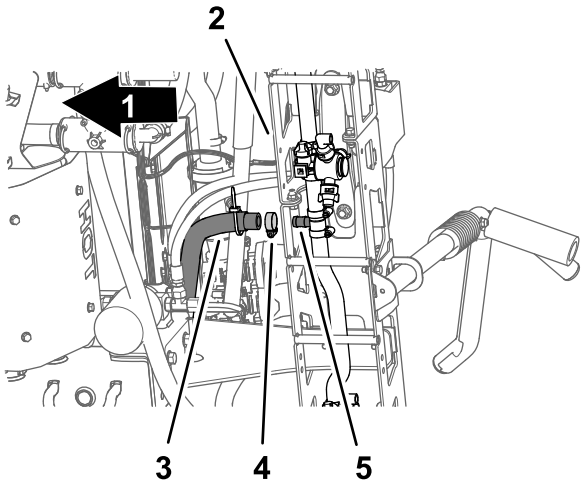


Figure 39

1. Sprayer-section hose (outer-spray section)
2. Outer-spray section
3. Barbed T-fitting
4. Hose clamp
5. R-clamp

2. Remove the hose from the T-fitting (Figure 39).
3. Remove the free end of the hose from the R-clamp (Figure 39).
4. Repeat steps 1 through 3 for the supply hose at the other outer-spray section.
5. Under the center-spray section, remove the hose clamp that secures the supply hose for the center-spray section to the barbed T-fitting (Figure 40).



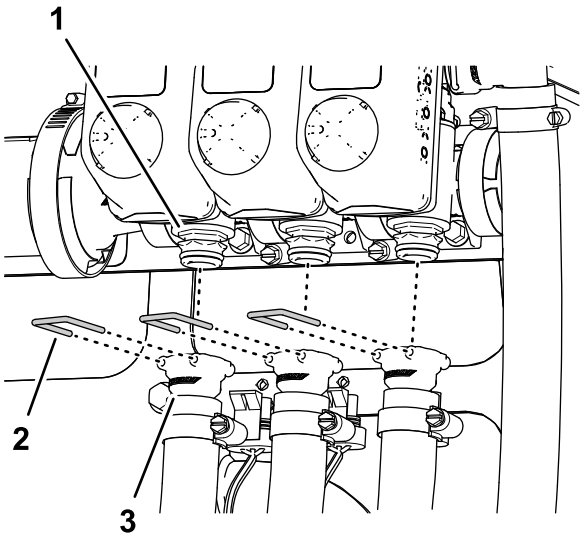
g198473

Figure 40

1. Front of the machine
2. Center-spray section
3. Supply hose (center-spray section)
4. Hose clamp
5. Barbed T-fitting

6. Remove the retainers that secure the quick couplers of the left, center, and right supply hoses from the quick couplers if the spray-section valves (Figure 41).

   Note: Retain the retainers for installation in Assembling the Hoses to Nozzle Valves 7 through 10 (page 63).



g198474

Figure 41

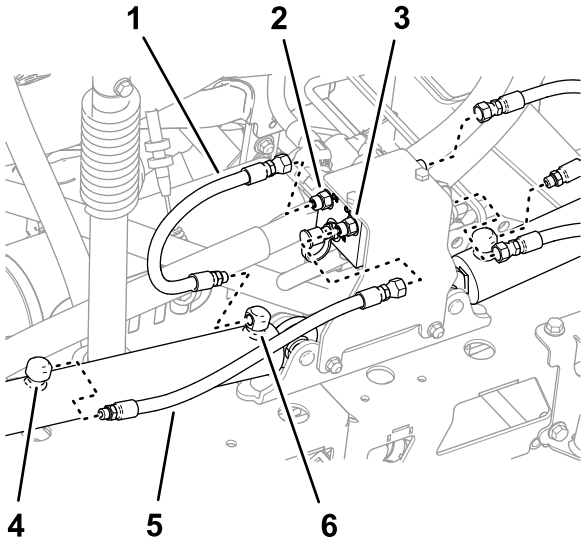
1. Quick coupler (spray-section valve)
2. Retainer
3. Quick coupler (socket—supply hose)

7. Remove the left, center, and right section-supply hoses from the quick couplers of the spray-section valves, and remove the hoses from the machine (Figure 41).

   Note: You no longer need the hoses for the left, center, and right section-supply hoses.

Removing the Extend and Retract Hoses for the Lift Cylinder

1. Remove the hoses from the extend ports of the left and right lift cylinders (Figure 43).



g198542

Figure 42

1. Hose (extend position)
2. Port C3 (lift-cylinder manifold)
3. Port C4 (lift-cylinder manifold)
4. Retract port (lift cylinder)
5. Hose (retract position)
6. Extend port (lift cylinder)

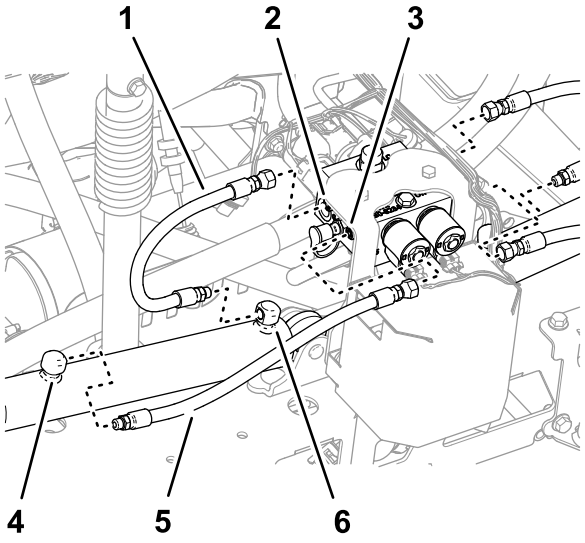


Figure 43

Machine with the Optional Ultra Sonic Boom Leveling Kit

1. Hose (extend position)
2. Port C3 (lift-cylinder manifold)
3. Port C4 (lift-cylinder manifold)
4. Retract port (lift cylinder)
5. Hose (retract position)
6. Extend port (lift cylinder)

2. Remove the hoses from the ports of the C2 and C4 of the lift-cylinder manifold (Figure 43).
3. Remove the hoses from the retract ports of the left and right lift cylinders (Figure 43).
4. Remove the hoses from the ports of the C1 and C3 of the lift-cylinder manifold (Figure 43).

   Note: You no longer need the hoses.

Removing the Lift Cylinders

Note: Except where noted, retain all hardware that you remove; you will use the hardware to install the center-boom extension.

1. Use lifting equipment of the specified capacity to support the outer-spray section.
2. Remove the hairpin and clevis pin that secure the rod end of the lift cylinder to the pivot bracket (Figure 44).

   Note: Retain the clevis pin and hairpin for installation in Assembling the Lift Cylinders (page 56).

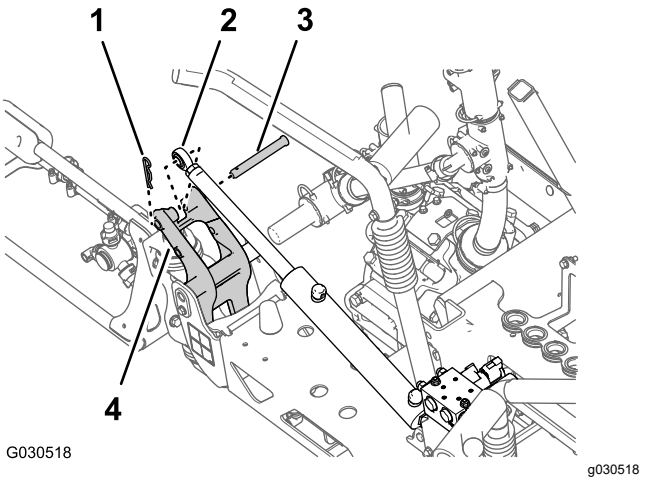


Figure 44

1. Hairpin
2. Rod fitting (lift cylinder)
3. Clevis pin
4. Pivot bracket

3. Remove the flange locknut (5/16 inch) and flange-head bolt (5/16 x 3/4 inch) that secures the pivot pin to the cylinder mount (Figure 45).

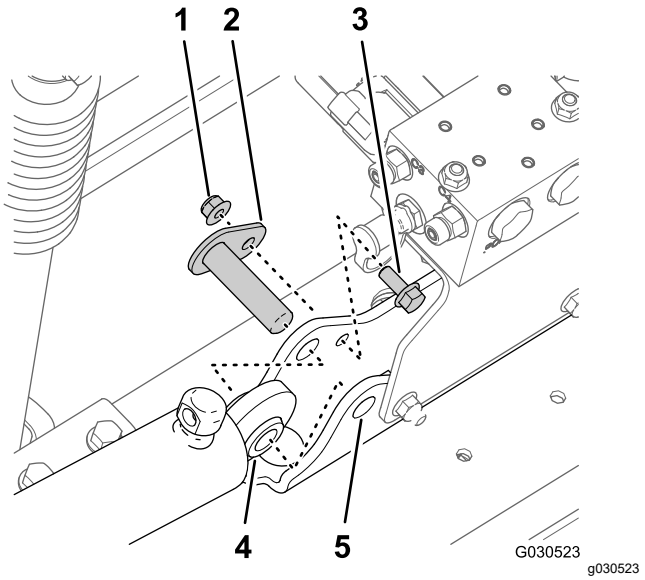


Figure 45

1. Flange locknut (5/16 inch)
2. Pivot pin
3. Flange-head bolt (5/16 x 3/4 inch)
4. Lift cylinder
5. Cylinder mount

4. Remove the pivot pin and the lift cylinder from the machine (Figure 45).
5. Perform the steps in Removing the Outer-Spray Sections (page 26).

Removing the Outer-Spray Sections

Lift equipment capacity: 46 kg (100 lb)

Note: If your machine is equipped with the optional covered-boom kit, leave the covers installed at the outer-spray sections.

⚠ WARNING

Lifting heavy machines and attachments improperly could result in serious injury or even death.

When lifting heavy machines and attachments, use lifting equipment, such as chains and straps, that is rated for the weight of the equipment.

Note: Except where noted, retain all hardware that you remove; you will use the hardware to install the center-boom extension.

1. Remove the flange bolt (5/16 x 1 inch) and flange locknut (5/16 inch) securing the pivot pin to the pivot bracket (Figure 46).

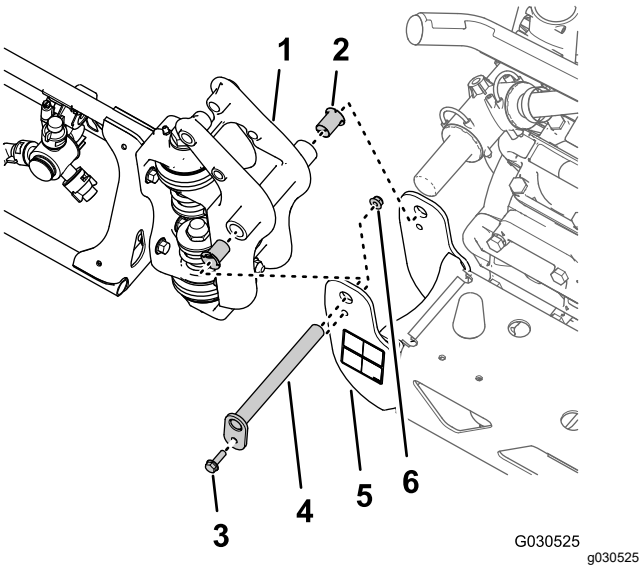


Figure 46

1. Pivot fitting (outer-spray section)
2. Nylon-flange bushing
3. Flange bolt (5/16 x 1 inch)
4. Pivot pin
5. Pivot bracket (center-spray section)
6. Flange locknut (5/16 inch)

2. Remove the pivot pin from the pivot bracket for the center-spray section and the pivot fitting for the outer-spray section (Figure 46).

   Note: Retain the flange bolt, flange nut and pivot pin for installation in Assembling the Outer-Spray Sections to the Machine (page 58).

3. Separate the outer-spray section from the center-spray section and remove outer section from the machine (Figure 46).
4. Remove the 2 nylon-flange bushings from the pivot fitting of the outer-spray section (Figure 46).

   Note: Discard the bushings.

5. Repeat steps 1 through 3 in Removing the Lift Cylinders (page 25) for the outer-spray section at the other side of the machine.
6. Repeat steps 1 through 4 of this section for the outer-spray section at the other side of the machine.

Removing the Section-Lift Manifold from the Center-Spray Section

1. Remove the section-lift manifold from the cylinder mount as follows:
   - **For machines without the optional ultra sonic boom leveling kit:** remove the 2 flange locknuts (5/16 inch) and 2 flange-head bolts (5/16 x 1 inch) that secure the support bracket for the section-lift manifold to the cylinder mount, and separate the manifold and bracket from the cylinder mount (Figure 47).

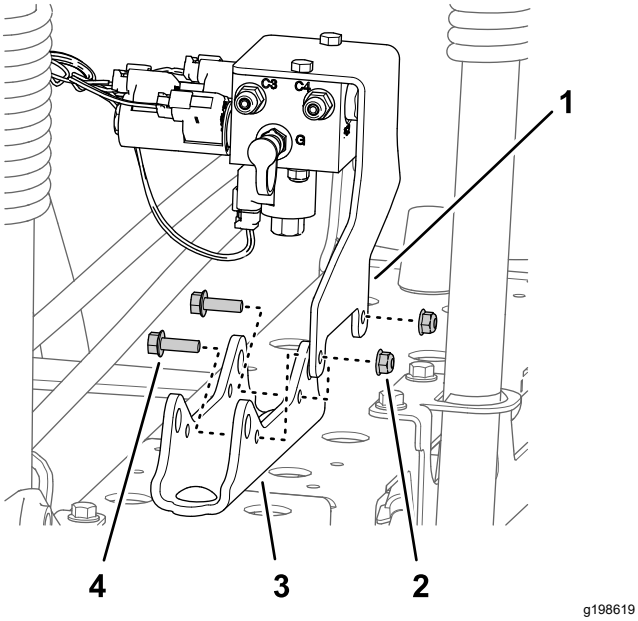


Figure 47

1. Support bracket (section-lift manifold)
2. Flange locknut (5/16 inch)
3. Cylinder mount
4. Flange-head bolt (5/16 x 1 inch)

- **For machines with the optional ultra sonic boom leveling kit:** Remove the 2 flange locknuts (5/16 inch) and 2 flange-head bolts (5/16 x 1 inch) that secure the support bracket for the section-lift manifold and the TEC controller bracket to the cylinder mount, and separate the manifold and bracket from the cylinder mount (Figure 48).

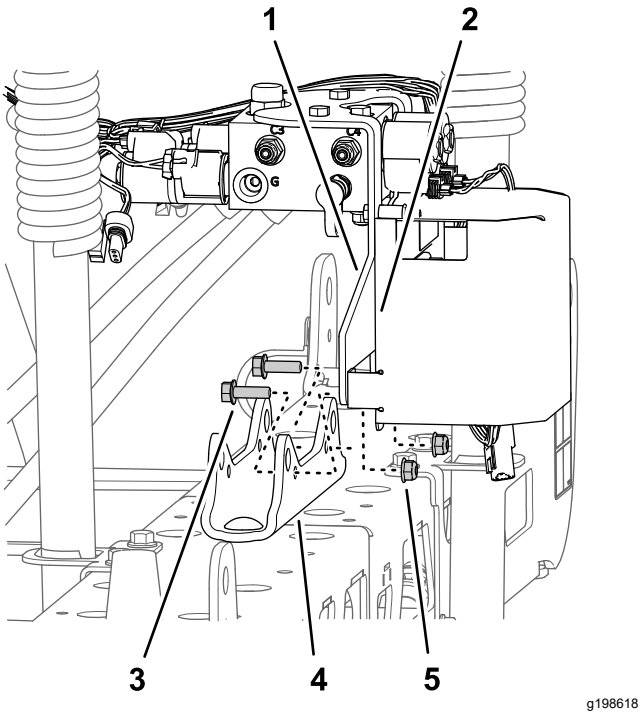


Figure 48

Machine with the Optional Ultra Sonic Boom Leveling Kit

1. Support bracket (section-lift manifold)
2. TEC controller bracket
3. Flange-head bolt (5/16 x 1 inch)
4. Cylinder mount
5. Flange locknut (5/16 inch)

2. Support the section-lift manifold by tying it to the sprayer valve mount bracket with a piece of rope.

   Note: Retain the support bracket and lift manifold, bolts, and nuts for installation in 18 Assembling the Lift Cylinder Manifold to the Cylinder Mount (page 47).

Removing the Center-Spray Section

Lifting-equipment capacity: 41 kg (90 lb)

1. If your machine is equipped with the optional covered-boom kit, remove the cover from the center-spray sections.
2. Support the center-spray section with lifting equipment with the specified capacity (Figure 49).

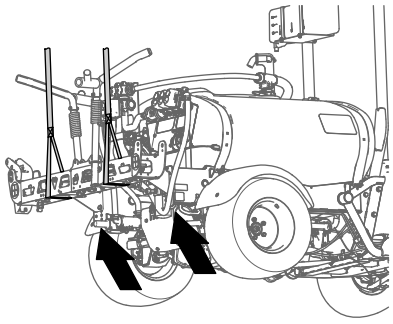


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Figure 49

3. Remove the 4 flange-head bolts (3/8 x 1-1/4 inches) and 4 flange locknuts (3/8 inch) that secure the center spray section to the support brackets (Figure 50).

   Note: Note: Retain the bolts and locknuts for installation in 17 Installing the Modified Center-Spray Section (page 47).

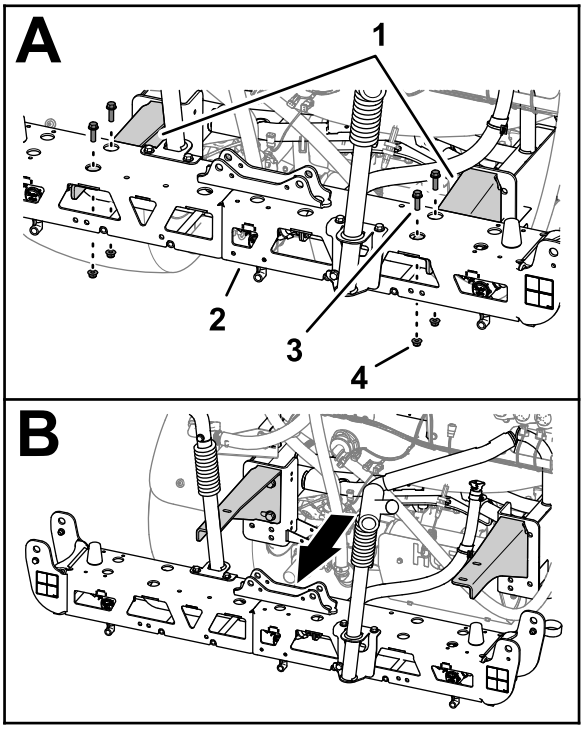

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Figure 50

1. Support brackets
2. Center spray section
3. Flange-head bolt (3/8 x 1-1/4 inches)
4. Flange locknut (3/8 inch)

4. Lift the center spray section (Figure 50), and remove it from the machine.

10

Installing the Center-Boom Extension

Parts needed for this procedure:

2	Flange-head bolt (3/8 x 1 inch)
2	Flange locknuts (3/8 inch)
1	Center-boom extension
1	Cylinder mount (wide)
1	Tie plate (wide)
4	Carriage bolt (1/2 x 1-1/4 inches)
4	Flange locknut (1/2 inch)

Removing the Sprayer Nozzles

1. At the center-spray section, remove the flanged locknut that secures the sprayer nozzle to the nozzle mount (Figure 51 and Figure 52).

Note: Retain the locknut for installation in step 6 of 11 Installing the Sprayer Nozzles to the Center-Spray Section (page 31).

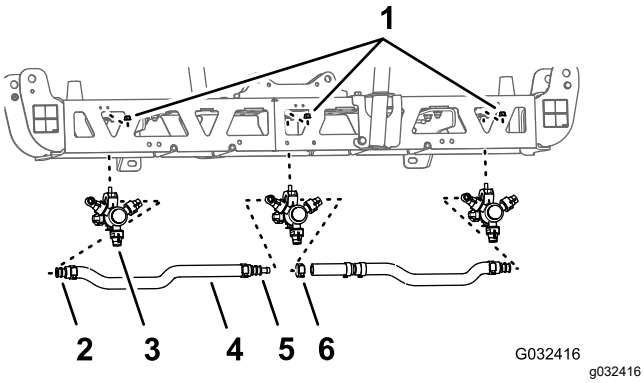

Figure 51

1. Flange locknut (5/16 inch)
2. Single barbed-hose shank (3/4 inch)
3. Sprayer nozzle
4. Hose (3/4 inch inside diameter)
5. Double barbed-hose shank (3/4 inch)
6. Hose clamp

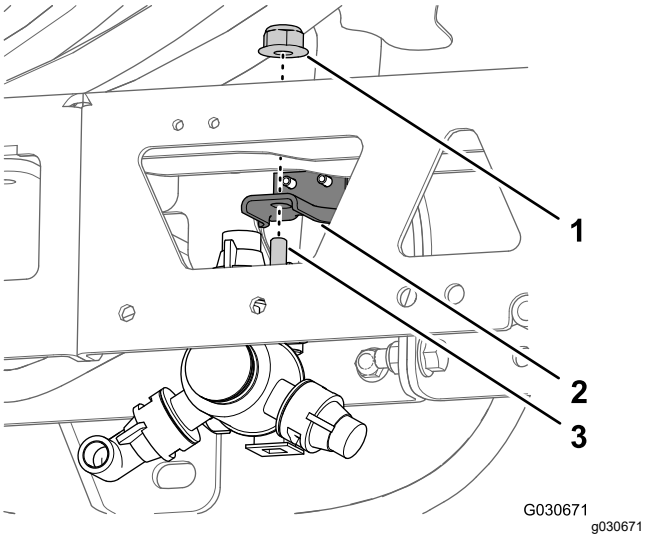

Figure 52

1. Flange locknut (5/16 inch)
2. Nozzle mount
3. Hex-head bolt (5/16 x 3/4 inch—sprayer nozzle)

2. Remove the stainless steel screw (#12 x 1-1/4 inches) that secures the upper clamp half and double or single barbed-hose shank (3/4 inch) to the body of the sprayer nozzle, and separate the barbed-hose shank and hose from the nozzle (Figure 53).

   Note: The hex-head bolt (5/16 x 3/4 inch—stainless steel) will separate from the upper clamp half when you open the clamp, retain the bolt for installation.

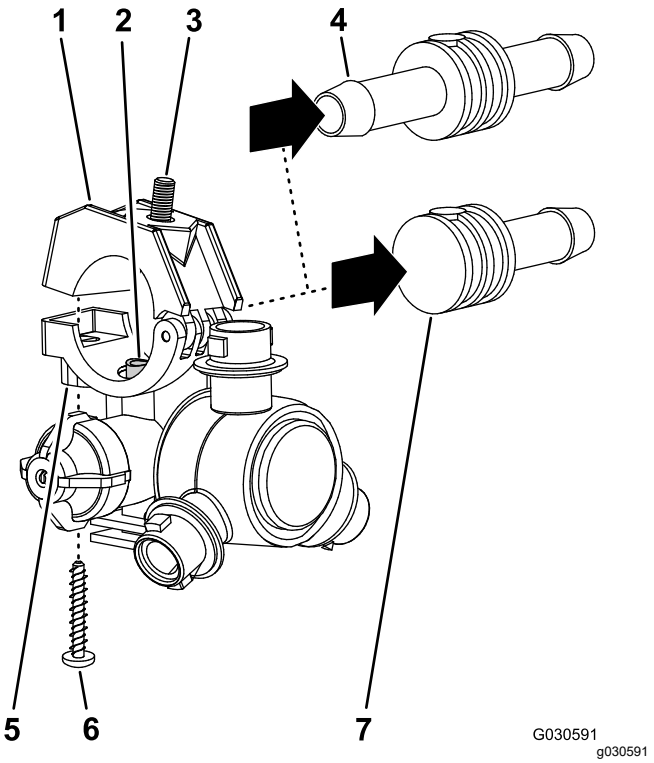

Figure 53

1. Upper clamp half
2. Transfer tube
3. Hex-head bolt (5/16 x 3/4 inch—stainless steel)
4. Double barbed-hose shank (3/4 inch)
5. Saddle (sprayer-nozzle body)
6. Stainless steel screw (#12 x 1-1/4 inches)
7. Single barbed-hose shank (3/4 inch)

3. Remove the nozzle from the center-spray section (Figure 51 and Figure 52).
4. Repeat steps 1 and 2 for the other 2 sprayer nozzles.

   Note: Retain the sprayer nozzles, stainless steel screws, and hex-head bolts for installation in step 6 and 7 of Assembling the Sprayer Nozzles and Hoses for the Center-Spray Section (page 31).

5. Remove the hoses (3/4 inch inside diameter), barbed-hose shanks, clamps and barbed T-fitting from the center-spray section (Figure 51).

   Note: You no longer need the hose, hose shanks, clamps, and T-fitting.

Separating the Center-Spray Section Trusses

1. Remove the 2 flange head bolts (3/8 x 1 inch) and 2 locknuts (3/8 inch) that secure the vertical flanges of the left and right truss frames (Figure 54).

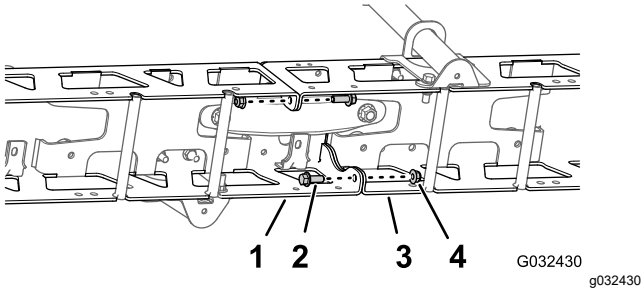

Figure 54

1. Left truss frame
2. Flange-head bolt (3/8 x 1 inch)
3. Right truss frame
4. Locknuts (3/8 inch)

2. Remove the 2 carriage bolts (1/2 x 1-1/4 inches) and 2 locknuts (1/2 inch) that secure the narrow cylinder mount, left and right truss frames, and narrow tie plate (Figure 55).

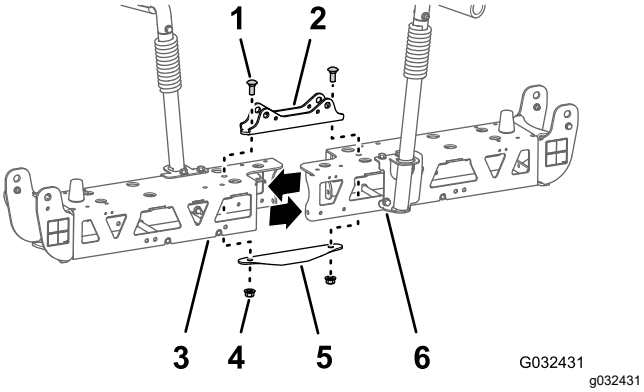

Figure 55

1. Carriage bolt (1/2 x 1-1/4 inches)
2. Cylinder mount (narrow)
3. Left truss frame
4. Locknuts (1/2 inch)
5. Tie plate (narrow)
6. Right truss frame

Note: Retain the flange-head bolts, carriage bolts, and locknuts for installation in steps 2 and 7 of Installing the Center-Boom Extension (page 30). You no longer need the narrow cylinder mount and narrow tie plate.

3. Separate the left and right truss frames.

Installing the Center-Boom Extension

1. Align the holes in vertical flanges of the center-boom extension with the holes in the truss frame (Figure 56).

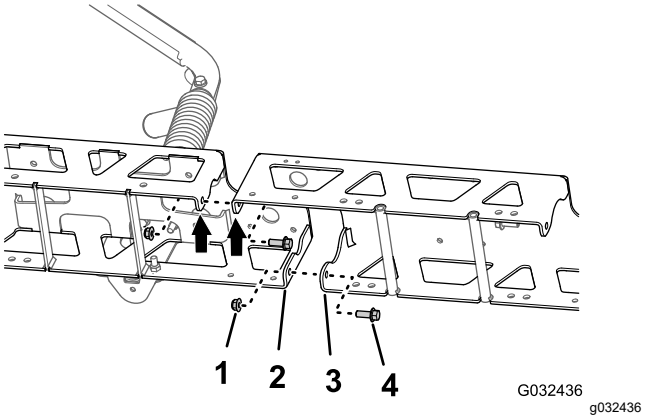

Figure 56

1. Flange locknut (3/8 inch)
2. Vertical flange (truss frame)
3. Vertical flange (center-boom extension)
4. Flange-head bolt (3/8 x 1 inch)

2. Loosely assemble the center-boom extension to the truss frame (Figure 56) with the 2 flange-head bolts (3/8 x 1 inch) and 2 flange locknuts (3/8 inch) that you removed in step 1 of Separating the Center-Spray Section Trusses (page 30).
3. Align the holes in vertical flanges of the center-boom extension with the holes in the other truss frame (Figure 56).
4. Loosely assemble the center-boom extension to the other truss frame (Figure 56) with the 2 flange-head bolts (3/8 x 1 inch) and 2 flange locknuts (3/8 inch) from the GeoLink spray system finishing kit (Figure 56).
5. Align the holes in the cylinder mount with the holes at the centerline of the truss frame and center-boom extension (Figure 57).

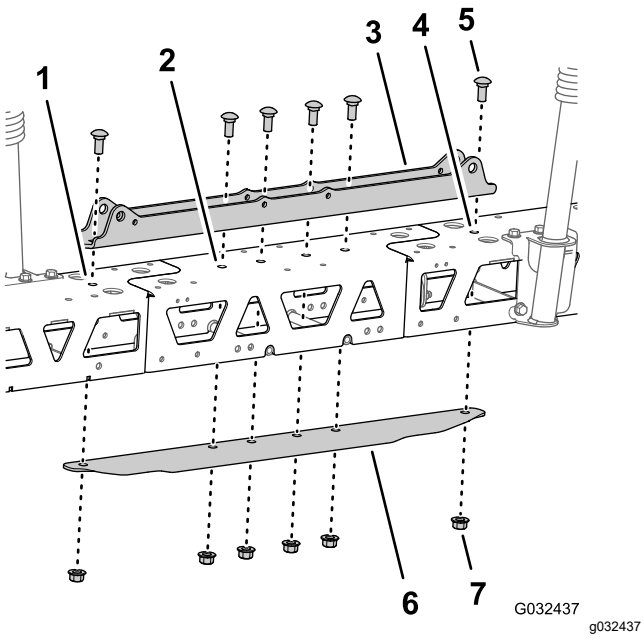

Figure 57

1. Left truss frame
2. Center-boom extension
3. Cylinder mount (wide)
4. Right truss frame
5. Carriage bolt (1/2 x 1-1/4 inches)
6. Tie plate (wide)
7. Flange locknut (1/2 inch)

6. Insert the tie plate into the truss frame and center-boom extension and align the hole in the tie plate with the holes at the centerline of the trusses and boom extension (Figure 57).
7. Assemble the cylinder mount, trusses, center-boom extension, and tie plate with the 2 carriage bolt (1/2 x 1-1/4 inches) and 2 flange locknut (1/2 inch) that you removed in step 2 of Separating the Center-Spray Section Trusses (page 30), and the 4 carriage bolt (1/2 x 1-1/4 inches) and 4 flange locknut (1/2 inch) from the GeoLink spray system finishing kit (Figure 57).
8. Torque the 3/8 inch flange head bolts and flange locknuts to 37 to 45 N·m (27 to 33 ft-lb).
9. Torque the 1/2 inch flange locknuts to 91 to 113 N·m (67 to 83 ft-lb).

11

Installing the Sprayer Nozzles to the Center-Spray Section

Parts needed for this procedure:

2	Sprayer nozzle
2	Hose assembly (sprayer valve 5 or 6)
2	Flange locknut (5/16 inch)

Assembling the Sprayer Nozzles and Hoses for the Center-Spray Section

1. Using lifting equipment, raise the new center-spray section to a comfortable working height.
2. Working with the 2 sprayer nozzle from the GeoLink spray system finishing kit, remove the stainless steel screw that secures the upper clamp half to the saddle (Figure 58).

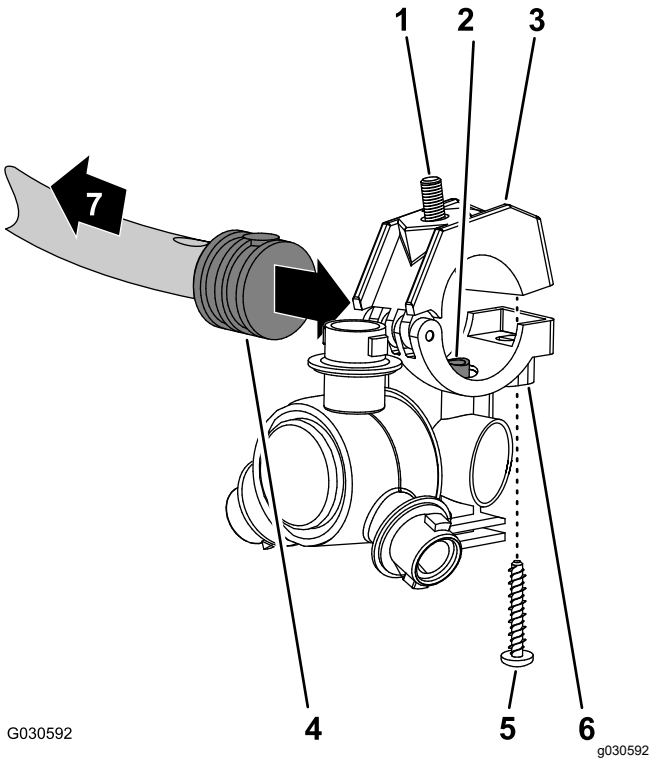

Figure 58

1. Hex-head bolt (5/16 x 3/4 inch—stainless steel)
2. Transfer tube
3. Upper clamp half
4. Single barbed-hose shank (1/2 inch)
5. Stainless steel screw (#12 x 1-1/4 inches)
6. Sprayer-nozzle body
7. Toward the spray section

3. Locate the hole in the side of single barbed-hose shank at the end of the hose 25 cm (10 inches) of the hose assembly (sprayer valve 5 or 6) for the center-spray section (Figure 58 and Figure 59).

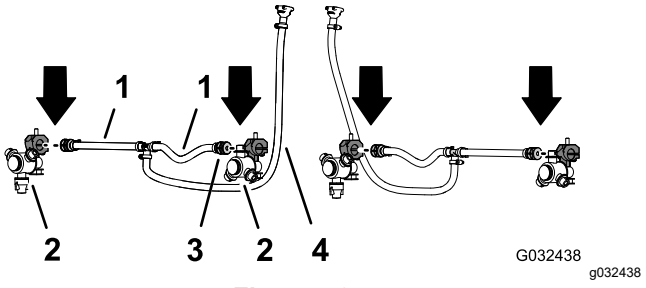

Figure 59

1. Hose 13 x 250 mm (1/2 x 10 inches—sprayer valve 5 or 6)
2. Sprayer nozzle
3. Single barbed-hose shank 13 mm (1/2 inch)
4. Hose and barbed coupler 13 x 810 mm (1/2 x 32 inches—sprayer valve 5 or 6)

4. Align the transfer tube in the saddle of a sprayer nozzle (Figure 58) with the hole in the side of the single barbed-hose shank (1/2 inch).
5. Close the upper clamp half around the barbed-hose shank and secure the clamp half and spray-nozzle body (Figure 58) with the stainless steel screw (#12 x 1-1/4 inches); torque the stainless steel screw to 14 to 18 N·m (20 to 25 in-lb).

   Important: **Do not tighten the stainless steel screw more than the torque specification in step 5.**

   Note: Ensure that the hex-head bolt (5/16 x 3/4 inch) is seated in the recess in the upper clamp half when closing the clamp.
6. Working with the sprayer nozzle, hex-head bolt, and stainless steel screw that you removed in steps 1 and 2 of Removing the Sprayer Nozzles (page 28), repeat steps 3 through 5 to the single barbed-hose shank (Figure 58 and Figure 59) at the end of the other hose 25 cm (10 inches).
7. Working with the 2 sprayer nozzles that you removed in step 4 of Removing the Sprayer Nozzles (page 28), repeat steps 3 through 5 to the single barbed-hose shanks of the other hose assembly (sprayer valve 5 or 6) for the center-spray section (Figure 58 and Figure 59).

Installing the Sprayer Nozzles and Hoses to the Center-Spray Section

1. Route the hose 13 mm (10 inches) and nozzle assembly between the truss braces of the outer truss (Figure 60).

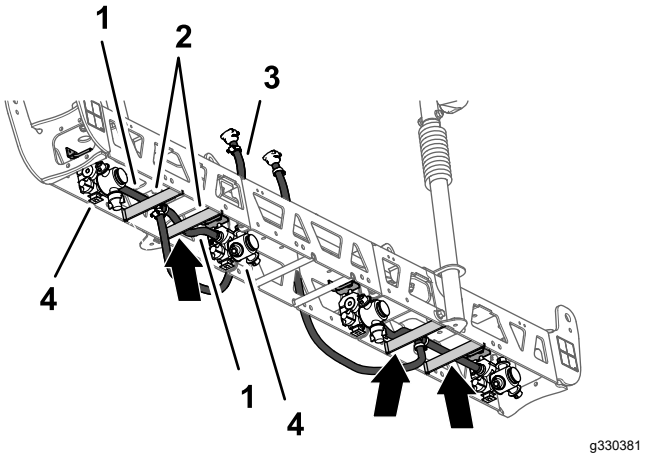

Figure 60

1. Hose 13 x 250 mm (1/2 x 10 inches)
2. Truss braces (left truss)
3. Hose and barbed coupler 13 x 810 mm (1/2 x 32 inches)
4. Sprayer nozzle

2. Route the hose and nozzle above the truss brace and outward to the outboard nozzle mount (Figure 60).
3. Align the hex-head bolt (5/16 x 3/4 inch) of the sprayer nozzle through the hole in the nozzle mount and loosely secure the nozzle to the mount with a flange locknut (5/16 inch) from the GeoLink spray system finishing kit (Figure 61).

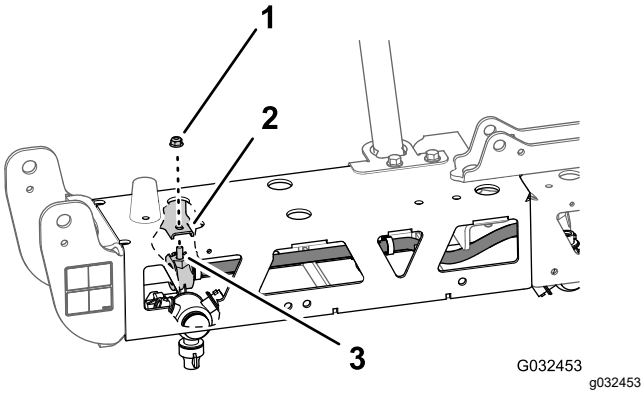

Figure 61

1. Flange locknut (5/16 inch)
2. Nozzle mount (outboard)
3. Hex-head bolt (5/16 x 3/4 inch—stainless steel)

4. Route the other hose 13 mm (10 inches)and nozzle assembly between the s truss braces of the outer truss (Figure 60).
5. Route the hose and nozzle above the truss brace and inward to the inboard nozzle mount (Figure 60).
6. Align the hex-head bolt (5/16 x 3/4 inch) of the sprayer nozzle through the hole in the nozzle mount (Figure 61) and loosely secure the nozzle to the mount with a flange locknut (5/16 inch) that you removed in steps 1 and 4 of Removing the Sprayer Nozzles (page 28).
7. Torque the flange locknut to 1978 to 2542 N·cm (175 to 225 in-lb).
8. Route the hose and barbed coupler 13 x 810 mm (1/2 x 32 inches) to the side of the center-spray section with the left and right support brackets (Figure 60).
9. Repeat steps 1 through 8 for the other hose and nozzle assembly at the other outer truss (Figure 60 and Figure 61).

12

Removing the Boom-Section Valves

Parts needed for this procedure:

3	Cap (quick coupler)
3	Retainer

Removing the Section Bypass Hose

1. Remove the upper end of the bypass hose as follows:
   - **For machines without the optional hand wand kit or optional electric hose reel kit,** remove the small retainer that secures the quick-disconnect fitting of the bypass hose to the quick-disconnect fitting of the right section-bypass valve (Figure 62).

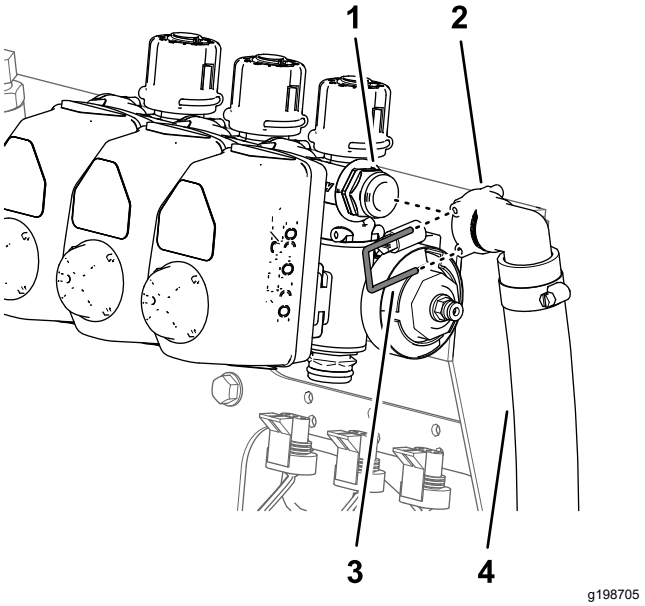

Figure 62

1. Quick-disconnect fitting (right section-bypass valve)
2. Quick-disconnect fitting (90° socket—bypass hose)
3. Retainer (small)
4. Bypass hose

- **For machines with the optional hand wand kit or optional electric hose reel kit, perform the following steps:**

A. Remove the retainer that secures the quick connect fitting of the shutoff valve to the quick-disconnect socket of the right section-bypass valve, and separate the valve from the socket (Figure 63).

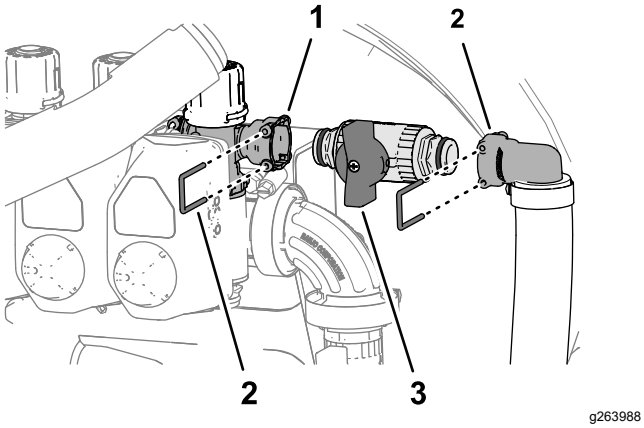

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Figure 63

1. Quick connect socket (right section-bypass valve)
2. Quick-disconnect coupling (90° barbed fitting)
3. Retainer
4. Quick connect fitting (shutoff valve)

B. Remove the retainer that secures the quick connect fitting of the shutoff valve to the quick-disconnect socket of the 90° barbed fitting, and separate the valve from the socket (Figure 63).

Note: Retain the shutoff valve and retainers for installation in Assembling the Shutoff Valve to the Bypass Hose (page 45).

2. Remove the large retainer that secures the 90° barbed fitting at the lower end of the bypass hose to the bulkhead fitting of the sprayer tank (Figure 64).

Note: Retain the large retainer for installation in Assembling the Bypass Hoses to the Tank (page 46).

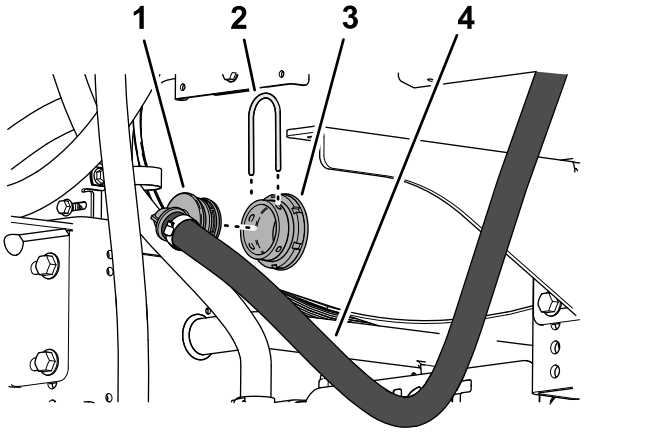

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Figure 64

1. 90° barbed fitting
2. Retainer (large)
3. Bulkhead fitting
4. Bypass hose

3. Remove the bypass hose from the machine.

Note: You no longer need the bypass hose and the small retainer.

Positioning the Bypass Valves—Machines without the Optional Hand Spray Wand Kit or the Optional Electric Hose Reel Kit

1. Remove the 3 retainers that secure the 3 valve actuators to the left, center, and right section valves (Figure 65).

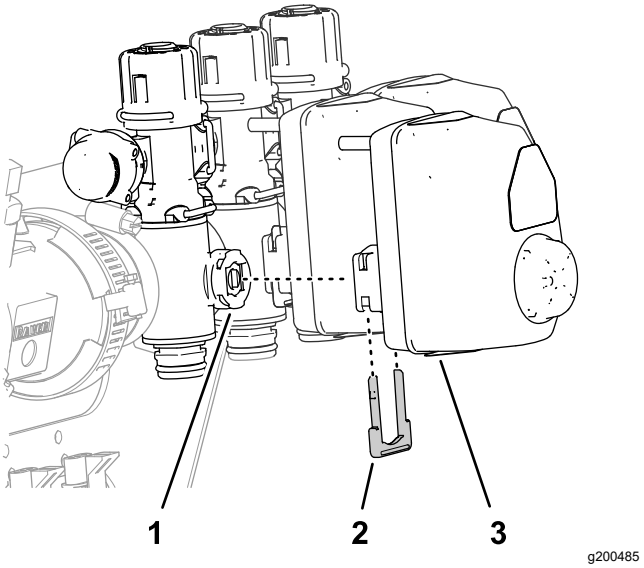

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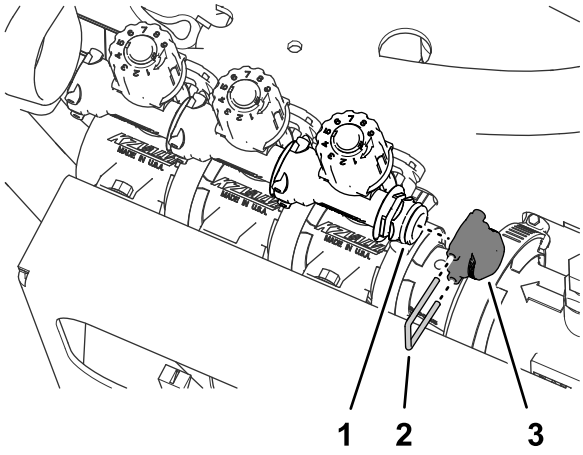
Figure 65

1. Section valve
2. Retainer
3. Valve actuator

2. Remove the valve actuators from the left, center, and right section valves (Figure 65).
3. Remove the retainer that secures the cap to the quick disconnect fitting of the bypass valve, and remove the cap (Figure 66).

   Note: You no longer need the cap.



g200483

Figure 66

1. Quick disconnect fitting (bypass valve)
2. Retainer
3. Cap

4. Remove the 3 retainers that secure the 3 bypass valves to the left, center, and right section valves (Figure 67).

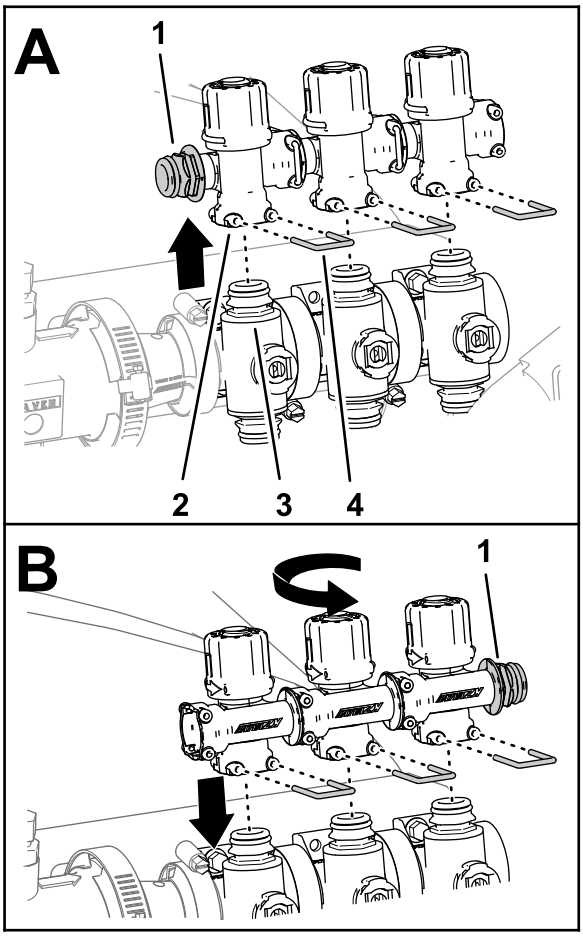


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Figure 67

1. Quick disconnect fitting
2. Quick connect fitting—socket (bypass valve)
3. Quick connect fitting (section valve)
4. Retainer

5. Lift the bypass valves from the section valves (Figure 67).
6. Rotate the bypass valves 180° and assemble them onto the quick disconnect fittings of the section valves (Figure 67).
7. Secure the 3 bypass valves to the section valves with the 3 retainers that you removed in step 4 (Figure 67).
8. Assemble plug into the quick connect socket of the bypass valve (Figure 68).

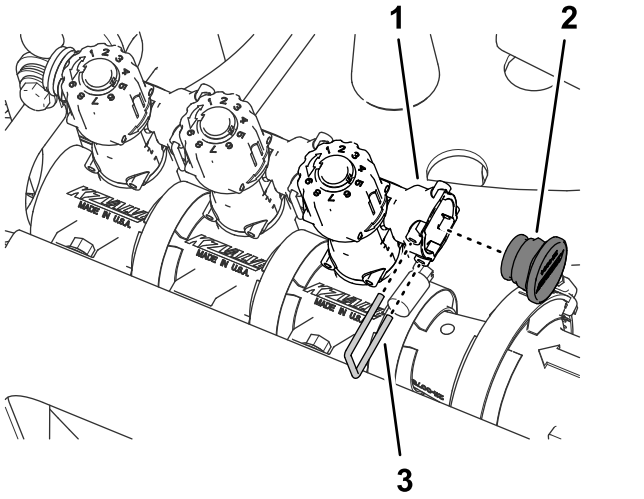

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Figure 68

1. Quick connect socket (bypass valve)
2. Plug
3. Retainer

9. Secure the plug to the quick connect socket with the retainer that you removed in step 3 (Figure 68).
10. Assemble the 3 valve actuators onto the left, center, and right section valves (Figure 65) with the retainers that you removed in step 1.

Removing the Section Valves from the Manifold Mount

Note: You will add the section valves to the valves for the 10-valve GeoLink sprayer system in Assembling the 3 Section Valves to the Valve Mount (page 51).

1. Remove the 2 flange-head bolts (1/4 x 3/4 inch) and 2 locknuts (1/4 inch) that secure the left boom-section valve to the manifold mount (Figure 69).

   Note: You no longer need the 2 flange head bolts and locknuts.

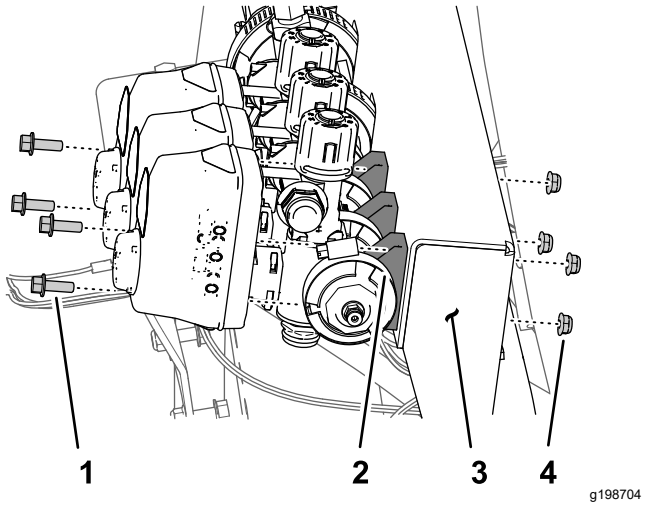

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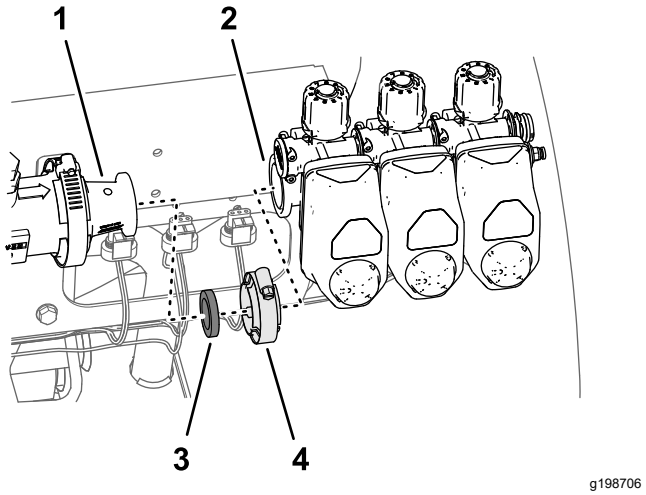
Figure 69

1. Flange-head bolt (1/4 x 3/4 inch)
2. Section valve
3. Manifold mount
4. Locknut (1/4 inch)

2. Remove the 2 flange-head bolts (1/4 x 3/4 inch) and 2 locknuts (1/4 inch) that secure the right boom-section valve to the manifold mount (Figure 69).
3. Remove the flange clamp 40 to 64 mm (1-9/16 to 2-1/2 inches) and gasket 25 x 35 mm (1 x 1-3/8 inches) that secures the flange of the left section valve to the adapter (Figure 69).

   Note: Retain the 2 flange-head bolts, 2 locknuts, flange clamp and gasket for installation in Assembling the 3 Section Valves to the Valve Mount (page 51).



g198706

Figure 70

1. Adapter
2. Flange (left section valve)
3. Gasket 25 x 35 mm (1 x 1-3/8 inches)
4. Flange clamp 40 to 64 mm (1-9/16 to 2-1/2 inches)

4. Remove the 3 section valves from the machine (Figure 70).
5. Remove the decals from the actuators of the 3 section valves (Figure 71).

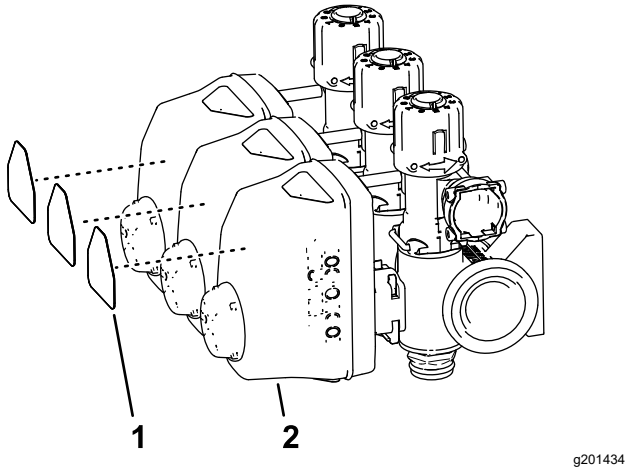


Figure 71

1. Section-valve decal
2. Actuator (section valve)

6. Remove the flange clamp 51 mm (2 inches) and gasket 38 mm (1-1/2 inches) that secure the flange of the adapter to the flange of the flow meter (Figure 72).

   Note: Retain the flange clamp and gasket for installation in Assembling the Manifold to the Flow Meter (page 45).

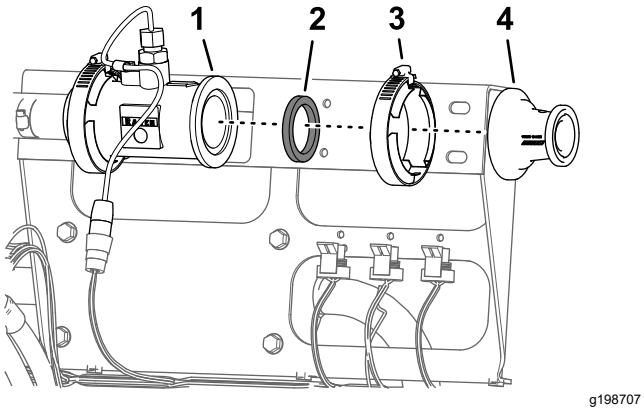


Figure 72

1. Flange (flow meter)
2. Gasket
3. Flange clamp 51 mm (2 inches)
4. Adapter

13

Installing the Flow Meter Support Clamps

Parts needed for this procedure:

1	Flow meter mount
4	Support-clamp half
4	Bolt (1/4 x 4-1/2 inches)
4	Flange locknuts (1/4 inch)

Removing the Section-Valve Bracket

1. Disconnect the 3-socket connector of the machine wire harness labeled FLOW METER from the 3-pin connector of the flow meter (Figure 73).

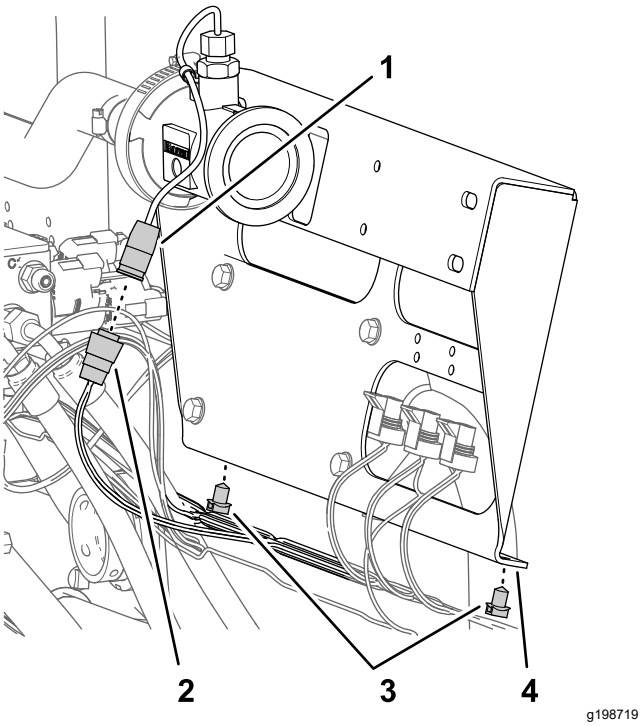


Figure 73

1. 3-pin connector (flow meter)
2. 3-socket connector (machine wire harness—FLOW METER)
3. Push-in fasteners
4. Section-valve bracket

2. Remove the 2 push-in fasteners of the machine wire harness from the bottom flange of the section-valve bracket (Figure 73).

3. Remove the 4 flange-head screws (5/16 x 3/4 inch) that secure the section-valve bracket from the valve mount, and remove the valve bracket from the machine (Figure 74).

   Note: Retain the 4 flange-head screws for installation in Installing the Flow Meter Mount and Clamps (page 38); you no longer need the section-valve bracket.

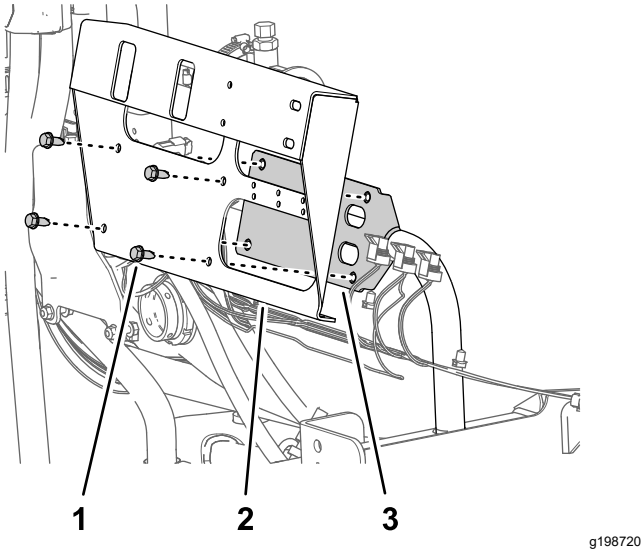


Figure 74

1. Flange-head screw (5/16 x 3/4 inch)
2. Section-valve bracket
3. Valve mount

Installing the Flow Meter Mount and Clamps

1. Align the holes in the flow-meter bracket with the holes in the valve mount (Figure 75).

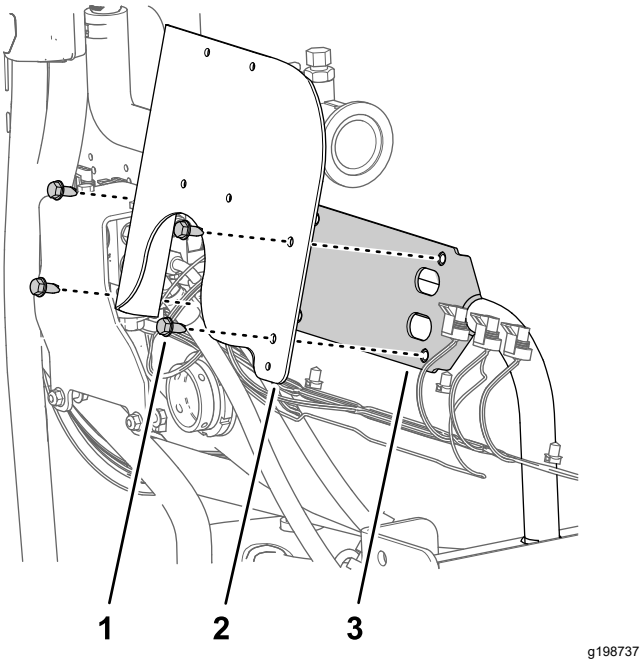


Figure 75

1. Flange-head screw (5/16 x 3/4 inch)
2. Flow-meter bracket
3. Valve mount

2. Assemble the flow-meter bracket to the valve mount with the 4 flange-head screws that you removed in step 3 of Removing the Section-Valve Bracket (page 37), and torque the screws to 1978 to 2542 N·cm (175 to 225 in-lb).
3. Align a 2 support-clamp halves between the flow meter and the flow-meter bracket, and align the holes in the clamp halves with the holes in the bracket (Figure 76).

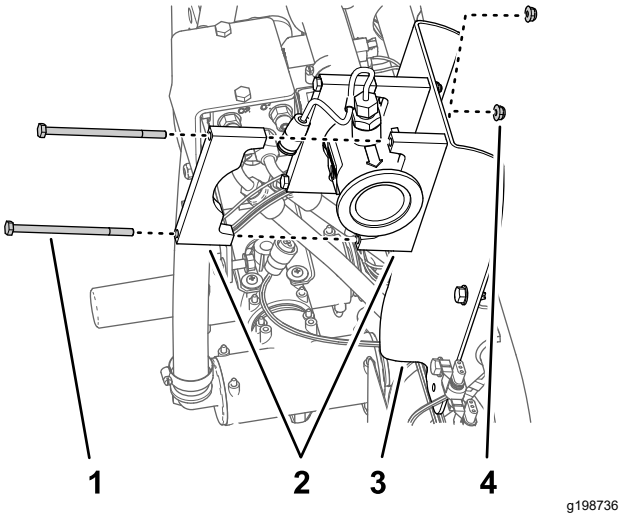


Figure 76

1. Bolt (1/4 x 4-1/2 inches)
2. Support-clamp half
3. Flow-meter bracket
4. Flange locknut (1/4 inch)

4. Align a support clamp half at the rear side of the flow meter with 1 of the clamp halves that you assembled in step 3 (Figure 76).
5. Assemble the pair of clamp halves to the flow meter bracket (Figure 76) with 2 bolts (1/4 x 4-1/2 inches) and 2 flange locknuts (1/4 inch).
6. Repeat steps 4 and 5 at the other clam half that you assembled in step 3.
7. Torque the bolts and nuts to 1017 to 1243 N·cm (90 to 110 in-lb).

14

Assembling the Kit Sprayer Harness to the Machine

Parts needed for this procedure:

1	Kit sprayer harness

Routing Kit Sprayer Harness

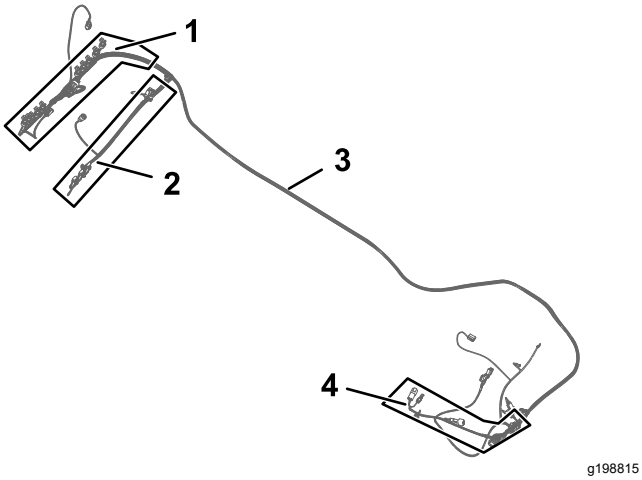


Figure 77

1. 102 cm (40 inch) wire-harness branch—ASC10 and NOZZLE-VALVES 1 through 10
2. 89 cm (35 inch) wire-harness branch—RATE VALVE, MASTER VALVE, FLOW METER, LEFT SPRAY, CENTER SPRAY, and RIGHT SPRAY
3. Kit wire harness 457 cm (180 inch)
4. 84 cm (33 inch) wire-harness branch—PUMP CLUTCH

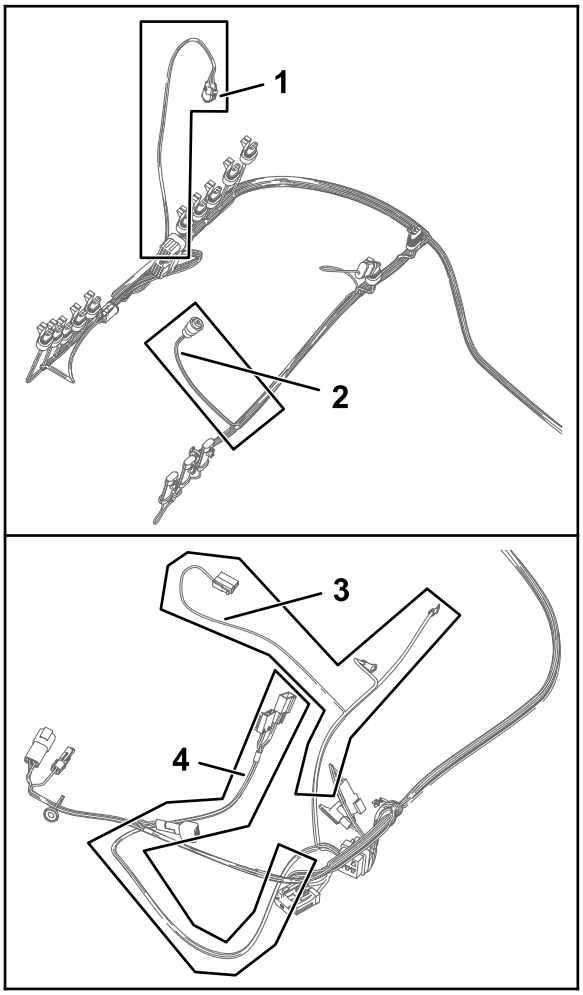
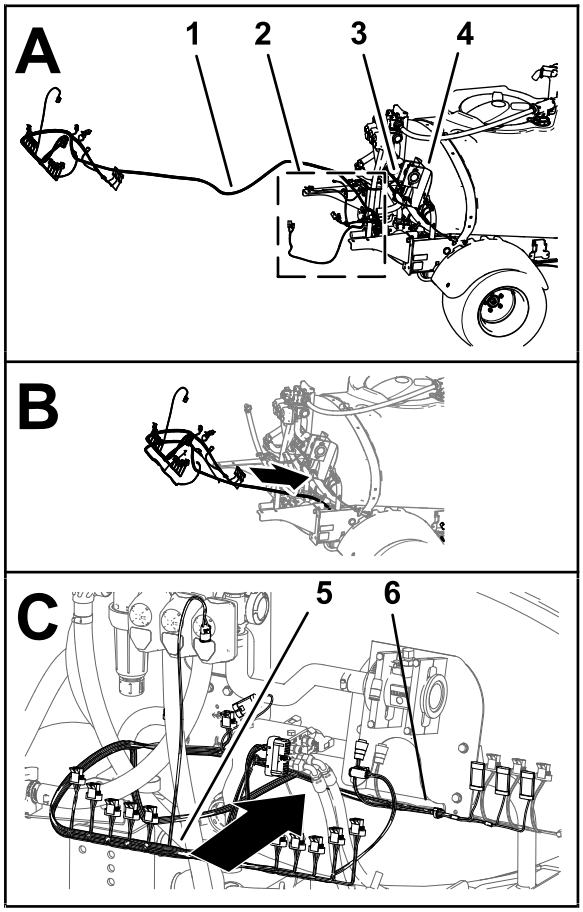


Figure 78

1. 61 cm (24 inch) wire-harness branch—PRESSURE TRANSDUCER GREEN WEDGE
2. 23 cm (9 inch) wire-harness branch—FLOW METER
3. 60 cm (23-1/2 inch) wire-harness branch—TO BATTERY POSITIVE, battery negative, and alternator
4. 66 cm (26 inch) wire-harness branch—ASC 10 ENABLE RELAY, 50 A FUSE, DIODE, SW'D PWR FOR GEN 2 TOPCON, and ASC 10 power and CAN from X25

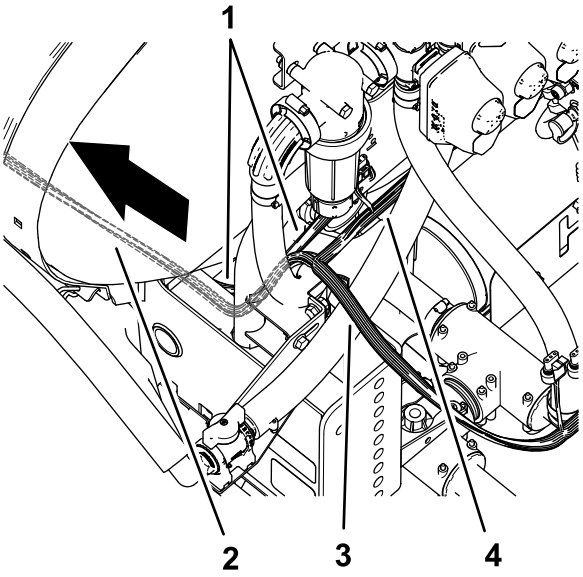
1. Locate the 84 cm (33 inch) wire-harness branch, 60 cm (23-1/2 inch) wire-harness branch, and 66 cm (26 inch) wire-harness branch of the kit wire harness (Figure 77 and Figure 78).
2. Route the 84 cm (33 inch), 60 cm (23-1/2 inch), and 66 cm (26 inch) wire-harness branches of the kit sprayer harness to the left side of the machine along the machine wire harness (Figure 79 and Figure 80).



g330375

Figure 79

1. Kit wire harness 457 cm (180 inch)
2. 84 cm (33 inch) wire-harness branch, 60 cm (23-1/2 inch) wire-harness branch, and 66 cm (26 inch) wire-harness branch
3. Machine wire harness
4. Manifold mount
5. 102 cm (40 inch) wire-harness branch
6. 89 cm (35 inch) wire-harness branch

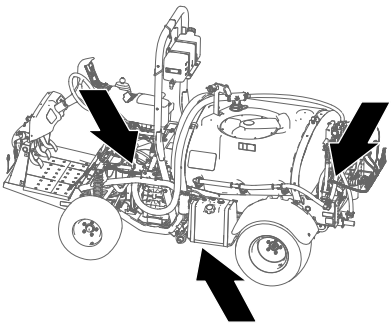


g199037

Figure 80

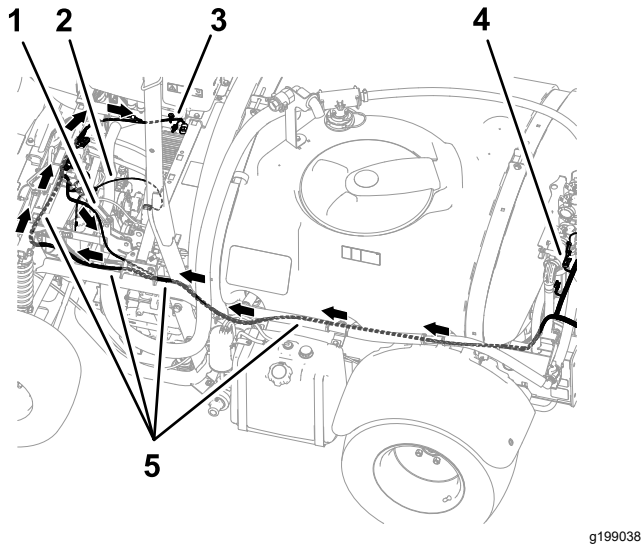
1. Machine wire harness
2. Kit sprayer harness 457 cm (180 inch)
3. 102 cm (40 inch) wire-harness branch—ASC10 and NOZZLE-VALVES 1 through 10
4. 89 cm (35 inch) wire-harness branch—RATE VALVE, MASTER VALVE, FLOW METER, LEFT SPRAY, CENTER SPRAY, and RIGHT SPRAY

3. Route the 84 cm (33 inch), 60 cm (23-1/2 inch), and 66 cm (26 inch) wire-harness branches of the kit sprayer harness forward along the left frame channel (Figure 82 and Figure 83).



g199043

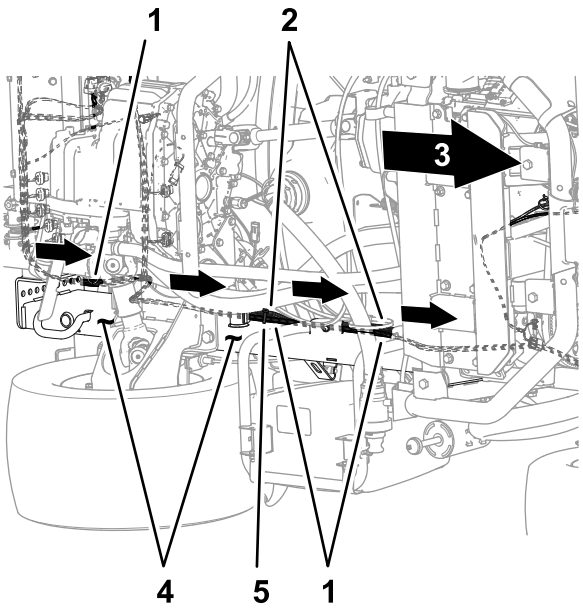
Figure 81



g199038

Figure 82

1. 84 cm (33 inches) wire-harness branch—pump clutch
2. 60 cm (23-1/2 inch) wire-harness branch—TO BATTERY POSITIVE, battery negative, and alternator
3. 66 cm (26 inch) wire-harness branch—ASC 10 ENABLE RELAY, 50 A FUSE, DIODE, SW'D PWR FOR GEN 2 TOPCON, and ASC 10 power and CAN from X25
4. 102 cm (40 inch) wire-harness branch—ASC10 and NOZZLE-VALVES 1 through 10
5. Kit sprayer harness 457 cm (180 inch)



g199039

Figure 83

Bottom of the machine

1. Kit sprayer harness 457 cm (180 inch)
2. Machine wire harness
3. Front of the machine
4. Left frame channel
5. Cable tie

4. Route the 84 cm (33 inch), 60 cm (23-1/2 inch), and 66 cm (26 inch) wire-harness branches of the kit sprayer harness along the machine wire harness, outboard of the parking-brake assembly (Figure 84).

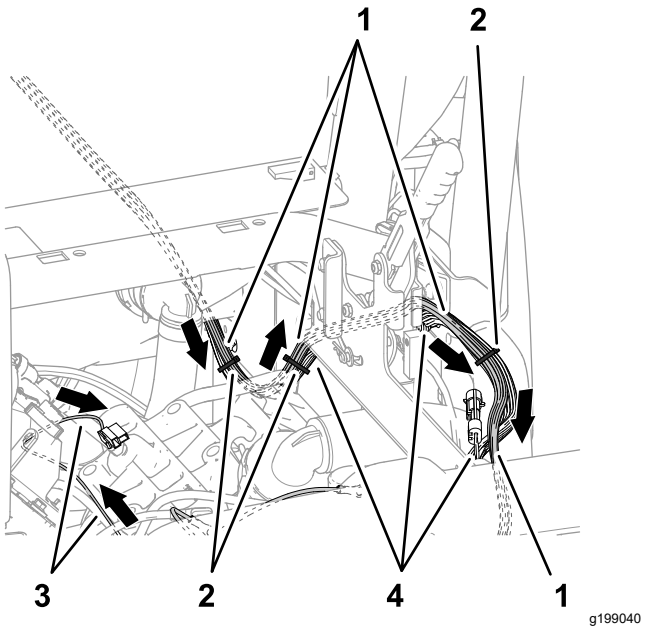


Figure 84

1. Kit sprayer harness 457 cm (180 inch)
2. Cable ties
3. 60 cm (23-1/2 inch) wire-harness branch—TO BATTERY POSITIVE, battery negative, and alternator
4. Machine wire harness

5. Route the 84 cm (33 inch), 60 cm (23-1/2 inch), and 66 cm (26 inch) wire-harness branches of the kit sprayer harness across the shock-support tube as shown in Figure 85.

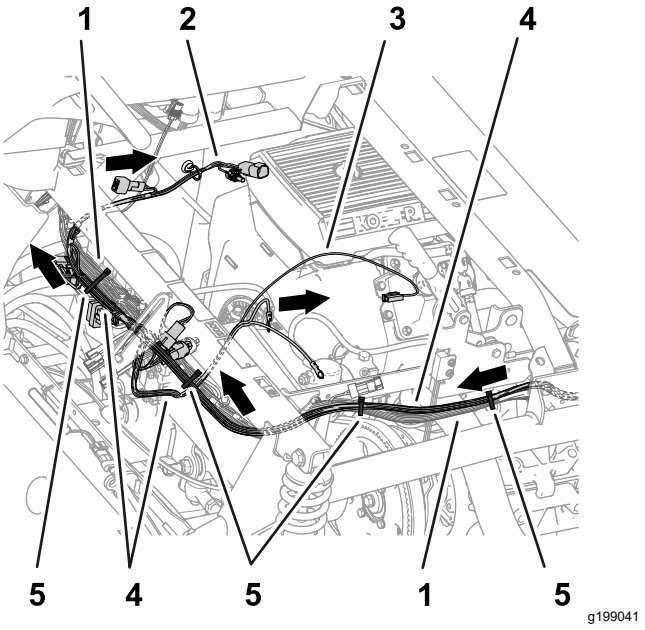


Figure 85

1. Machine wire harness
2. 66 cm (26 inch) wire-harness branch—ASC 10 ENABLE RELAY, 50 A FUSE, DIODE, SW'D PWR FOR GEN 2 TOPCON, and ASC 10 power and CAN from X25
3. 60 cm (23-1/2 inch) wire-harness branch—TO BATTERY POSITIVE, battery negative, and alternator
4. Kit sprayer harness 457 cm (180 inch)
5. Cable ties

6. Secure the kit sprayer harness to the machine wire harness as shown in Figure 83, Figure 84, and Figure 85.
7. At the back of the machine, route the 89 cm (35 inch) wire-harness branch forward of the lift manifold, and to the right of the flow meter as shown in Figure 86.

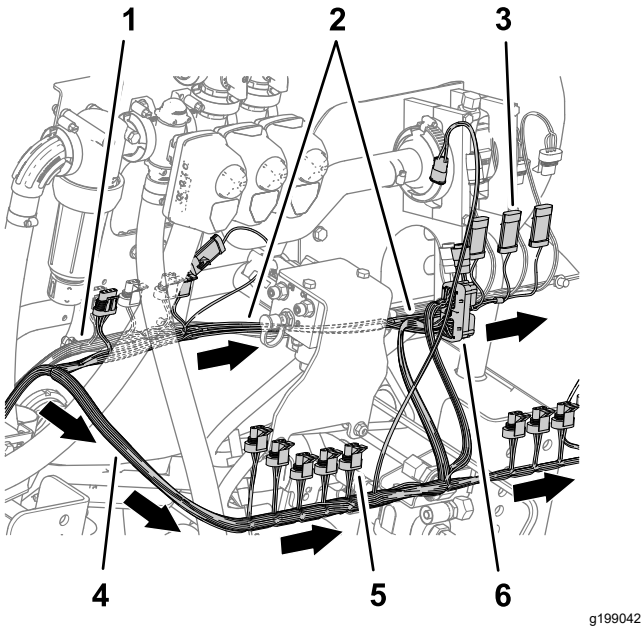


Figure 86

1. Machine wire harness
2. 89 cm (35 inch) wire-harness branch—RATE VALVE, MASTER VALVE, FLOW METER, LEFT SPRAY, CENTER SPRAY, and RIGHT SPRAY
3. 3-pin connector (CENTER SPRAY)
4. 3-socket connector (NOZZLE VALVE 5)
5. 102 cm (40 inch) wire-harness branch—ASC10 and NOZZLE-VALVES 1 through 10
6. 40-socket connector (ASC 10)

8. Route the 102 cm (40 inch) wire-harness branch rearward of the lift manifold, and to the right as shown in Figure 86.

Connecting the Left, Center, and Right Spray-Valve Connectors

1. Connect the 3-pin connector of the 89 cm (35 inch) kit sprayer-harness branch labeled LEFT SPRAY to the 3-socket connector of the machine wire harness labeled LEFT SPRAY VALVE (Figure 87).

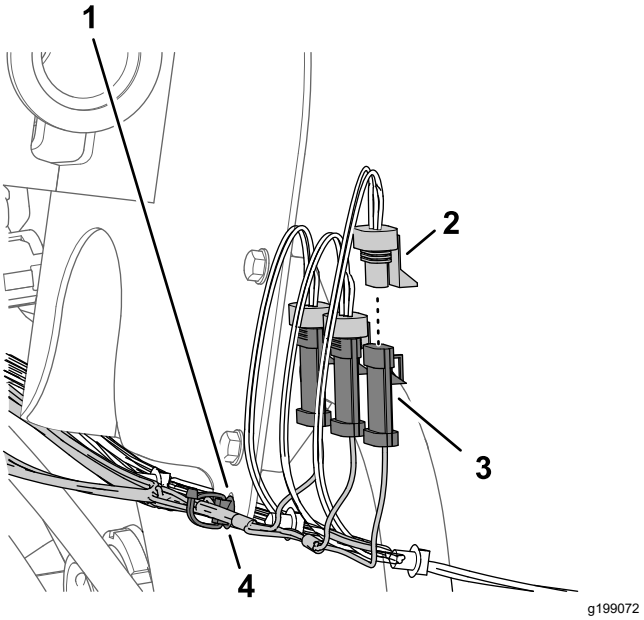


Figure 87

1. Flow-meter bracket
2. 3-socket connector—89 cm (35 inch) kit sprayer-harness branch (RIGHT SPRAY)
3. 3-pin connector (machine wire harness—RIGHT SPRAY VALVE)
4. Push-in fastener

2. Connect the 3-pin connector kit sprayer harness s labeled CENTER SPRAY to the 3-socket connector of the machine wire harness labeled CENTER SPRAY VALVE (Figure 87).
3. Connect the 3-pin connector of the kit sprayer harness labeled RIGHT SPRAY to the 3-socket connector of the machine wire harness labeled RIGHT SPRAY VALVE (Figure 87).
4. Insert the push-in fastener of the kit sprayer harness into the hole in the flange of the flow-meter bracket (Figure 87).

Connecting the Flow Meter, Master Section Valve, and Rate Valves Electrical Connectors

1. Connect the 3-socket electrical connector of the 89 cm (35 inch) kit sprayer-harness branch labeled FLOW METER into the 3-pin connector of the flow meter (Figure 88).

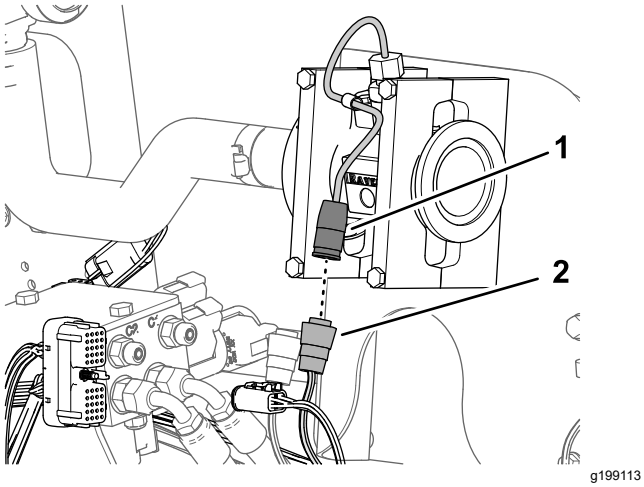


Figure 88

1. 3-pin connector (flow meter)
2. 3-socket electrical connector (89 cm (35 inch) kit sprayer-harness branch—FLOW METER)

2. Connect the 3-pin connector of the 89 cm (35 inch) kit sprayer-harness branch labeled MASTER VALVE into the 3-socket connector of the machine wire harness labeled MASTER SPRAY VALVE (Figure 89).

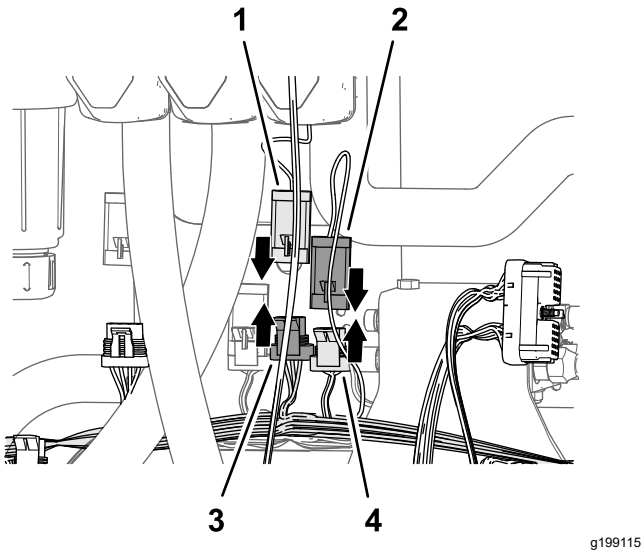


Figure 89

1. 3-pin connector(actuator—master -spray valve)
2. 3-pin connector (89 cm (35 inch) kit sprayer-harness branch—MASTER VALVE)
3. 3-pin connector (89 cm (35 inch) kit sprayer-harness branch—MASTER VALVE)
4. 3-socket connector (machine wire harness—MASTER SPRAY VALVE)

3. Connect 3-pin connector of the actuator for the master-spray valve into the 3-socket connector of the 89 cm (35 inch) kit sprayer-harness branch labeled MASTER VALVE (Figure 89).

4. Connect the 4-pin connector of the actuator for the rate valve into the 4-socket connector of the 89 cm (35 inch) kit sprayer-harness branch labeled RATE VALVE (Figure 90).

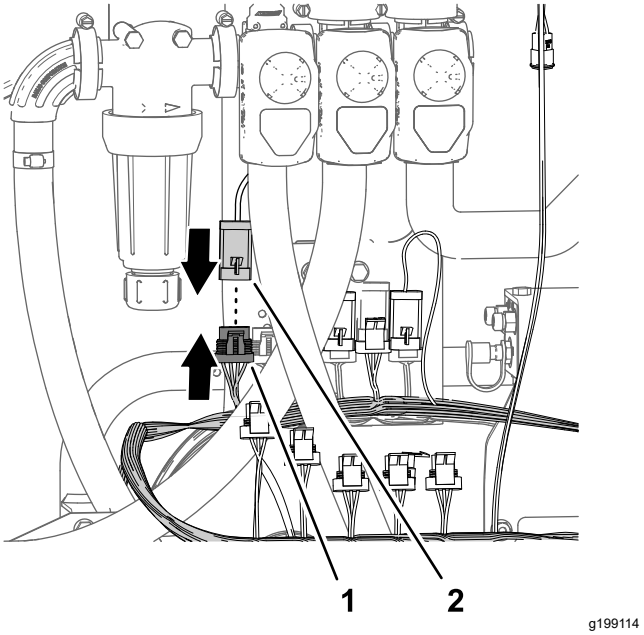


Figure 90

1. 4-socket connector—89 cm (35 inch) kit sprayer-harness branch—RATE VALVE)
2. 4-pin connector(actuator—rate valve)

15

Assembling the Flow-Meter Manifold

Parts needed for this procedure:

1	Straight hose barb (1 x 2 inches)
3	Hose clamp (3/4 to 1-1/2 inches)
1	Hose (1 x 5-3/4 inches)
1	Manifold
1	Hose (1 x 16 inches)

Assembling the Manifold

1. Assemble hose (1 x 5-3/4 inches) on to the straight hose barb (1 x 2 inches) with a hose clamp (3/4 to 1-1/2 inches), and tighten the clamp by hand (Figure 91).

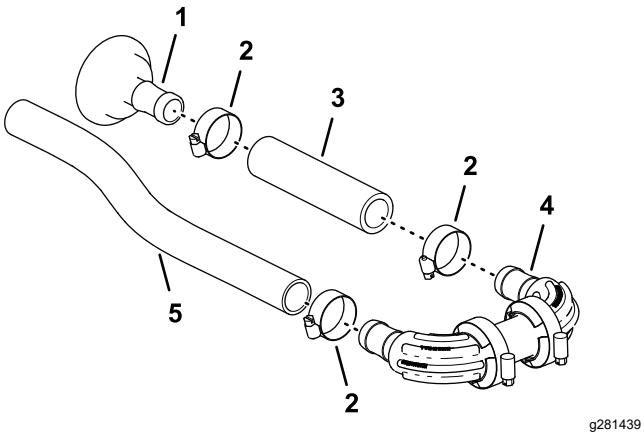


Figure 91

1. Straight hose barb (1 x 2 inches)
2. Hose clamp (3/4 to 1-1/2 inches)
3. Hose (1 x 5-3/4 inches)
4. Manifold
5. Hose (1 x 16 inches)

2. Assemble the other end of the hose (1 x 5-3/4 inches) onto the barbed fitting of the manifold with a hose clamp as shown in Figure 91, and tighten the hose clamp by hand.
3. Assemble the hose (1 x 16 inches) onto the other barbed fitting of the manifold with a hose clamp, and tighten the clamp by hand (Figure 91).

Assembling the Manifold to the Flow Meter

1. Assemble the straight hose barb (1 x 2 inches) to the flange of the flow meter with the gasket 38 mm (1-1/2 inches) and flange clamp 51 mm (2 inches) that you removed in step 6 of Removing the Section Valves from the Manifold Mount (page 36).

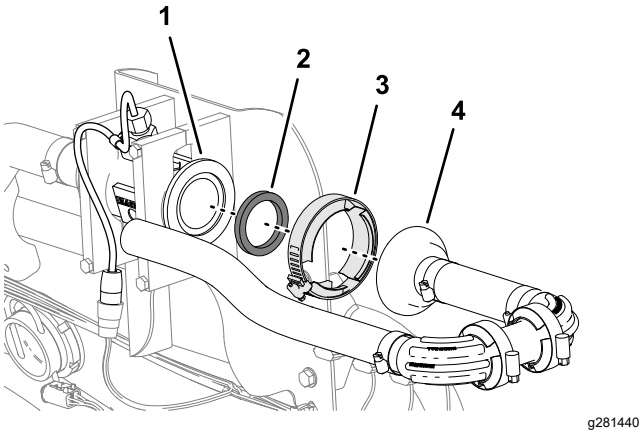


Figure 92

1. Flange (flow meter)
2. Gasket 38 mm (1-1/2 inches)
3. Flange clamp 51 mm (2 inches)
4. Straight hose barb (1 x 2 inches)

2. Tighten the flange clamp by hand (Figure 92).

16

Installing the Bypass Hoses to the Tank

Parts needed for this procedure:

1	Bypass hose assembly
1	Shutoff valve

Assembling the Shutoff Valve to the Bypass Hose

Machines with the Optional Hand Wand Kit or the Optional Electric Hose Reel Kit

1. As shown in Figure 93, remove the retainer from the 90° quick-connect fitting.

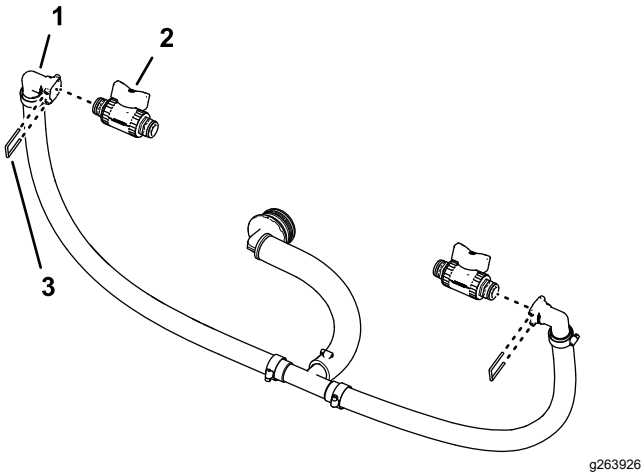


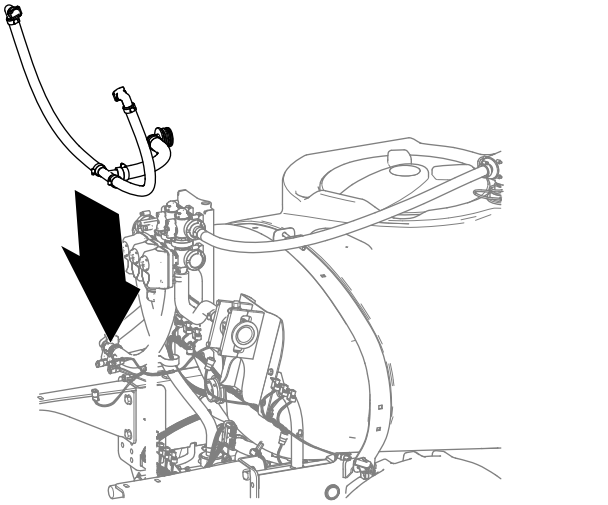
Figure 93

1. Quick-disconnect coupling (90° barbed fitting)
2. Shutoff valve
3. Retainer

2. Assemble the shutoff valve into the quick-disconnect fitting socket (Figure 93).
3. Secure the valve to the fitting with the retainer that you removed in step 1.
4. Assemble the shutoff valve and retainer that you removed in step 1 of Removing the Section Bypass Hose (page 33) to the other quick-disconnect fitting socket (Figure 93).

Assembling the Bypass Hoses to the Tank

1. Align the bypass hose assembly to the sprayer tank (Figure 94).



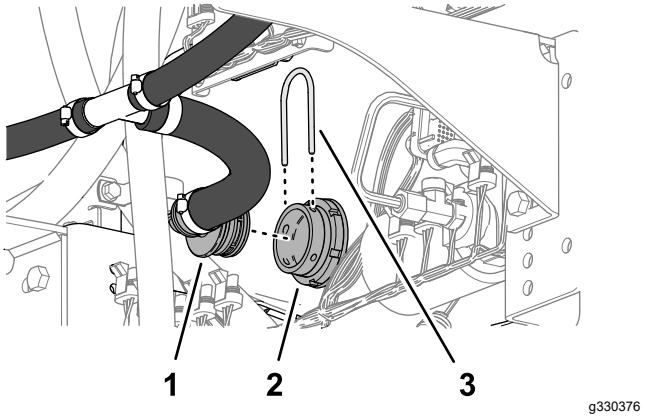


Figure 94

1. 90° barbed fitting (bypass hose assembly)
2. Bulkhead fitting (sprayer tank)
3. Retainer

2. Assemble the 90° barbed fitting to the bulkhead fitting of the sprayer tank and secure the fittings with the retainer that you removed in step 2 of Removing the Section Bypass Hose (page 33).

17

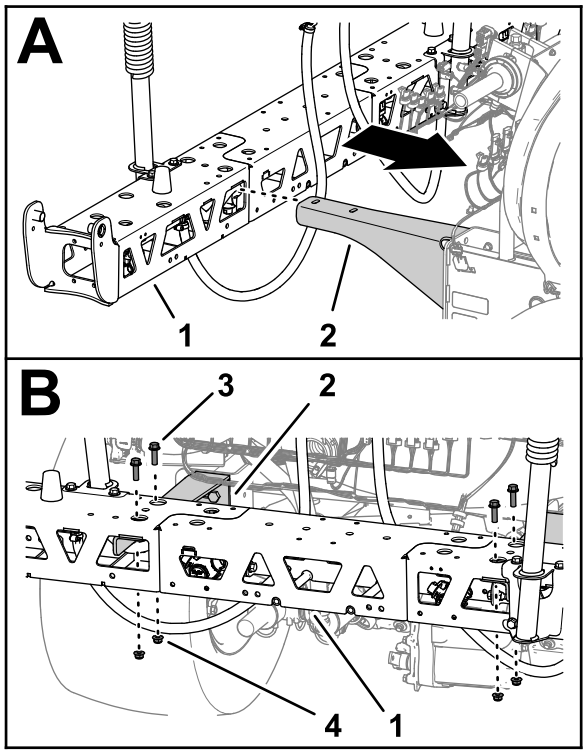
Installing the Modified Center-Spray Section

No Parts Required

Procedure

Lifting-equipment capacity: 55 kg (120 lb)

1. Using lifting equipment with the specified lift capacity, raise the center-spray section and align the spray section with the holes in the support brackets (Figure 95).



g330379

Figure 95

1. Center-spray section
2. Support bracket
3. Flange-head bolt (3/8 x 1-1/4 inches)
4. Flange locknut (3/8 inch)

2. Assemble the center-spray section to the support brackets (Figure 95) with the 4 flange-head bolts (3/8 x 1-1/4 inches) and 4 flange locknuts (3/8 inch) that you removed in Removing the Center-Spray Section (page 28).
3. Torque the nuts and bolts to 37 to 45 N-m (27 to 33 ft-lb).

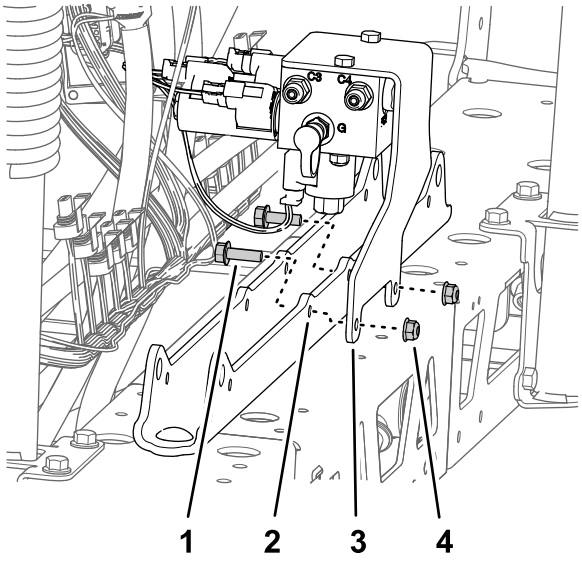
18

Assembling the Lift Cylinder Manifold to the Cylinder Mount

No Parts Required

Procedure

1. Untie the lift manifold from the valve-mount bracket.
2. Assemble the section lift manifold to the cylinder mount as follows:
   - **For machines without the optional ultra sonic boom leveling kit:**
     A. Align the holes in the support bracket for the section-lift manifold with the holes in the cylinder mount (Figure 96).



g199754

Figure 96

1. Flange-head bolt (5/16 x 1 inch)
2. Cylinder mount
3. Support bracket (section-lift manifold)
4. Flange locknut (5/16 inch)

     B. Assemble the support bracket to the cylinder mount (Figure 96) with the 2 flange-head bolt (5/16 x 1 inch) and flange locknut (5/16 inch) that you removed in step 1 of Removing the Section-Lift Manifold from the Center-Spray Section (page 26).
   - **For machines with the optional ultra sonic boom leveling kit:**

A. Align the holes in the support bracket for the section-lift manifold and the TEC controller bracket with the holes in the cylinder mount.

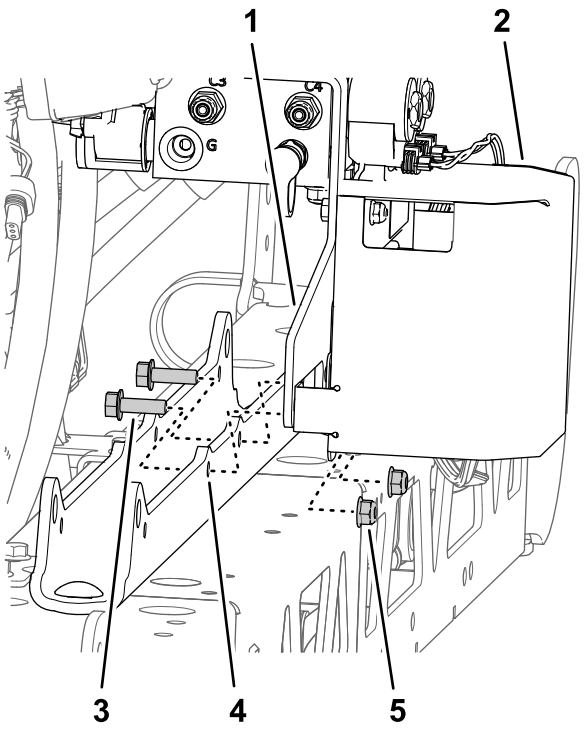


Figure 97

1. Support bracket (section-lift manifold)
2. TEC controller bracket
3. Flange-head bolt (5/16 x 1 inch)
4. Cylinder mount
5. Flange locknut (5/16 inch)

B. Assemble the support bracket and TEC bracket to the cylinder mount (Figure 97) with the 2 flange-head bolt (5/16 x 1 inch) and flange locknut (5/16 inch) that you removed in step 1 of Removing the Section-Lift Manifold from the Center-Spray Section (page 26).

3. Torque the bolts and nuts to 1978 to 2542 N·cm (175 to 225 in-lb).

19

Installing the Valve Mount and Sprayer Valves

Parts needed for this procedure:

1	Valve mount and sprayer-valve assembly
3	Bolt (4 x 10 mm)
1	ASC 10 sprayer controller
3	Flange locknut (4 mm)
2	Cap (quick-disconnect fitting)
8	Flange-head bolts (5/16 x 3/4 inch)
8	Flange locknuts (5/16 inch)
1	Hose clamp
1	Push-in fastener (cable tie)
3	Push-in fastener (connector anchor)

Assembling the Sprayer Controller to the Valve Mount

1. Align the ASC 10 sprayer controller to the forward side of the valve mount with the 4-pin connector outward (Figure 98).

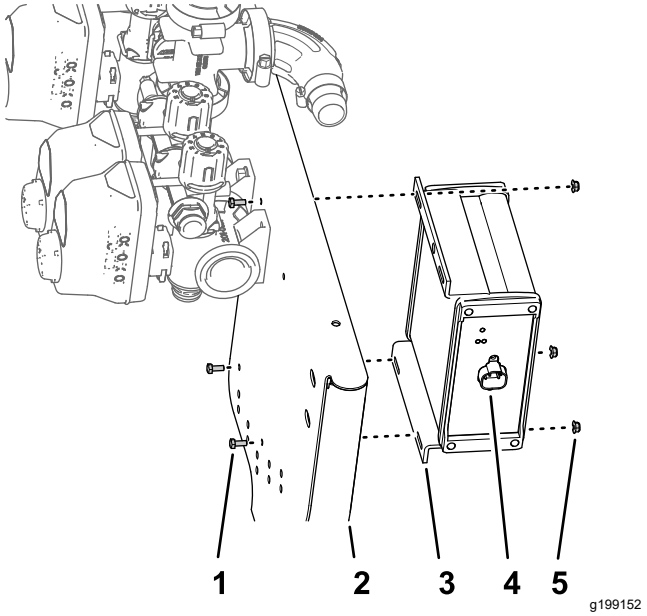


Figure 98

1. Bolt (4 x 10 mm)
2. 10-valve mount
3. ASC 10 sprayer controller
4. 4-pin connector
5. Flange locknut (4 mm)

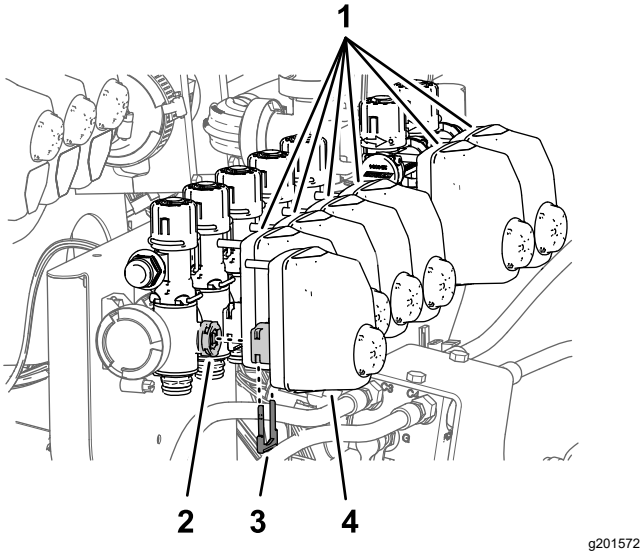
2. Assemble the sprayer controller to the valve mount (Figure 98) with the 3 bolts (4 x 10 mm) and 3 flange locknuts (4 mm).

   Note: Do not use the upper outboard hole in the ASC 10 sprayer controller.

3. Torque the bolts and nuts to 234 to 286 N·cm (21 to 25 to in-lb).

Positioning the Bypass Valves—Machines with the Optional Hand Wand Kit or the Optional Electric Hose Reel Kit

1. Remove the retainers that secure the valve actuators for nozzle valves 1 through 7 (Figure 99).



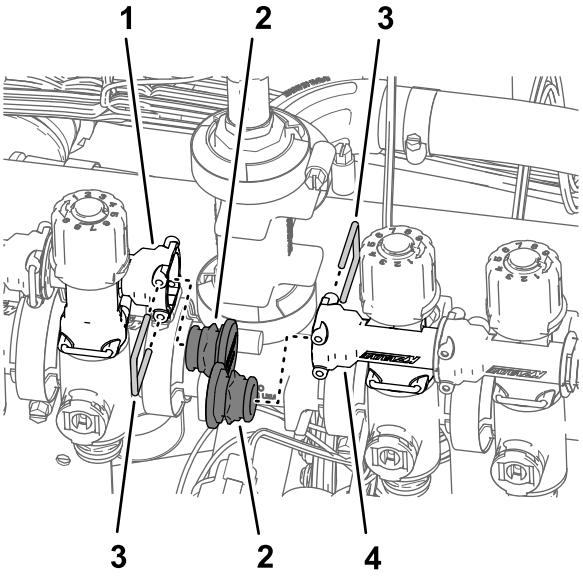
g201572

Figure 99

1. Valve actuators (nozzle valves 2 through 7)
2. Valve stem (nozzle valve 1)
3. Retainer
4. Valve actuator (nozzle valves 1)

2. Remove the valve actuators from nozzle valves 1 through 7 (Figure 99).
3. Remove the retainers that secures the plugs in the sockets of the quick disconnect fitting at the nozzle valve 5 and nozzle valve 6, and remove the plugs (Figure 100).

   Note: You no longer need the plugs; retain the retainers for installation in Installing the Section Bypass Hoses—Machines with the Optional Hand Wand Kit or the Optional Electric Hose Reel Kit (page 53).

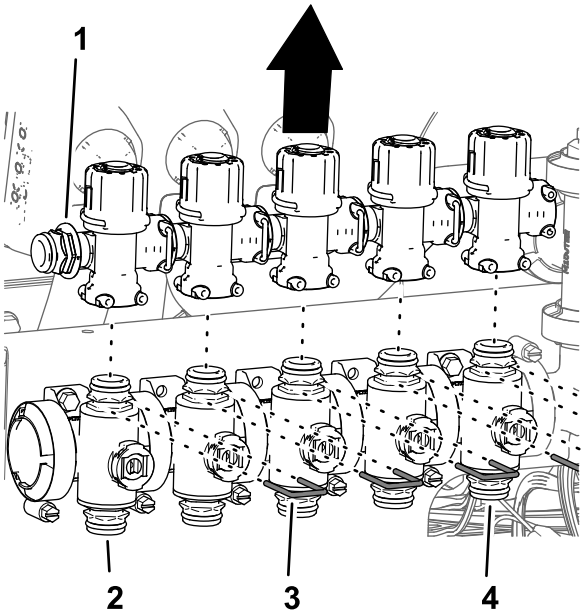


g201570

Figure 100

1. Quick-disconnect fitting—socket (bypass valve of nozzle-valve 5)
2. Cap (quick-disconnect fitting)
3. Retainer
4. Quick-disconnect fitting—socket (bypass valve of nozzle-valve 6)

4. Remove the retainers that secure the bypass valves to nozzle valves 1 through 7 (Figure 101).



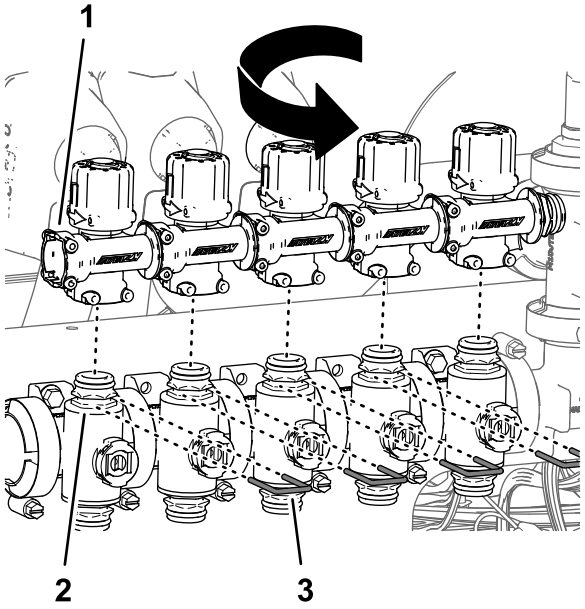
g201568

Figure 101

1. Quick-disconnect fitting—plug
2. Nozzle valve 1
3. Retainer
4. Nozzle valve 5

5. Lift the bypass valves from the nozzle valves 1 through 5 (Figure 101).

6. Rotate the bypass valves 180° and assemble them onto the quick disconnect fittings of the section valves (Figure 102).

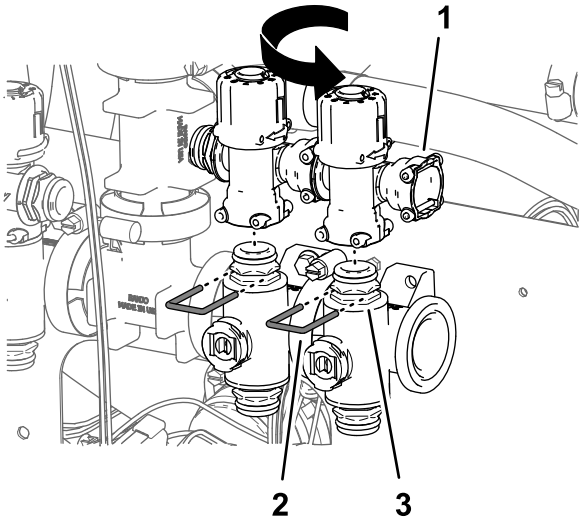


g201573

Figure 102

1. Quick-disconnect fitting—socket (align outward)
2. Nozzle valve 1
3. Retainer

7. Secure the bypass valves to the section valves with the retainers (Figure 102) that you removed in step 4.
8. Repeat steps 5 through 7 for the bypass valves of nozzle valve 6 and nozzle valve 7 (Figure 103).

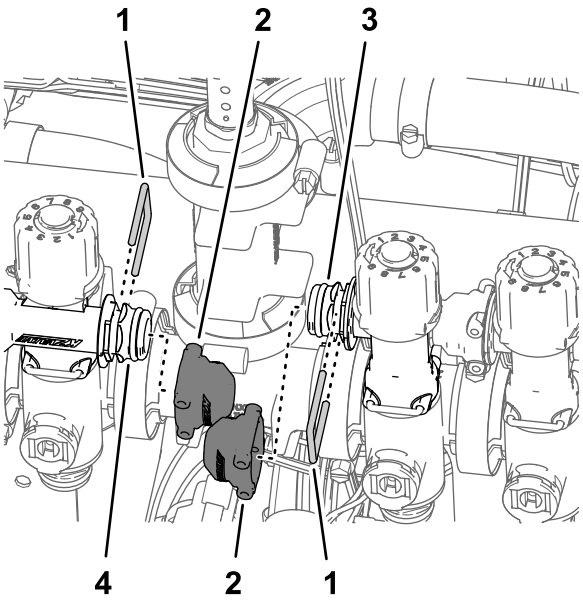


g201625

Figure 103

1. Quick-disconnect fitting—socket (align outward)
2. Retainer
3. Nozzle valve 7

9. Assemble the caps onto the quick disconnect fittings of the bypass valves for nozzle-valve 5 and nozzle-valve 6 with the retainers provided with the caps (Figure 102).



g201567

Figure 104

1. Retainer
2. Cap (quick-disconnect fitting)
3. Quick-disconnect fitting—plug (bypass valve of nozzle-valve 5)
4. Quick-disconnect fitting—plug (bypass valve of nozzle-valve 6)

10. Assemble the valve actuators onto the nozzle valves 1 thought 7 (Figure 99) with the retainers that you removed in step 1.

Assembling the 3 Section Valves to the Valve Mount

1. Assemble the 3 section valves (Figure 105) that you removed in step 8 of Removing the Section Valves from the Manifold Mount (page 36) onto the flange of valve 7 of the sprayer valve assemble with the flange clamp and gasket that you removed in step 4 of Removing the Section Valves from the Manifold Mount (page 36).

   Important: **The left, center, and right section valves are identified in the GeoLink sprayer system as follows: left section valve—nozzle valve 8, center section valve—nozzle valve 9, and right section valve—nozzle valve 10.**

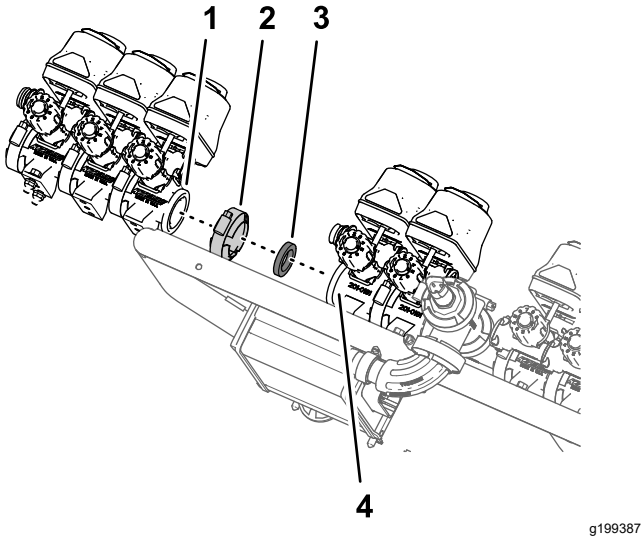


Figure 105

1. Flange—section valve (left sprayer section—nozzle valve 8)
2. Flange clamp
3. Gasket
4. Flange—nozzle valve 7 (GeoLink sprayer valve assembly)

2. Secure the socket of the quick-disconnect coupling for bypass valve of nozzle valve 8 to the quick-disconnect coupling for bypass valve of nozzle valve 7 with the retainer that you removed in step 8 of Removing the Section Valves from the Manifold Mount (page 36).

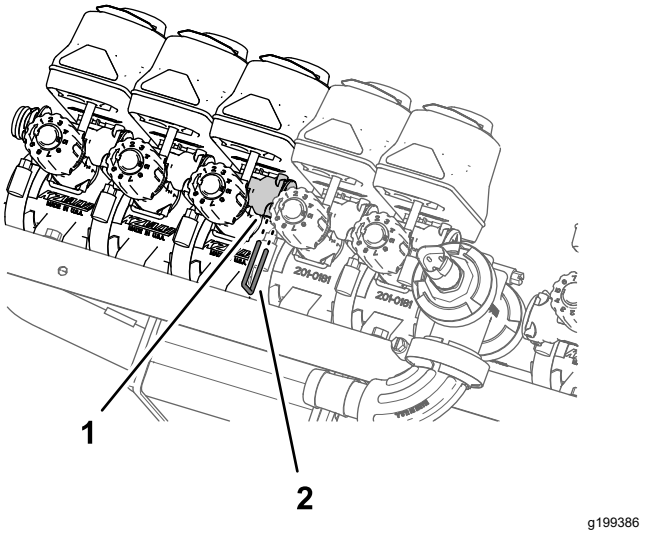


Figure 106

1. Quick-disconnect coupling (socket—bypass valve)
2. Retainer

3. Assemble nozzle valve 10 to the valve mount (Figure 107 or Figure 108) the with the 2 flange-head bolt (1/4 x 3/4 inch) and 2 locknuts (1/4 inch) that you removed in step 2 of Removing the Section Valves from the Manifold Mount (page 36).

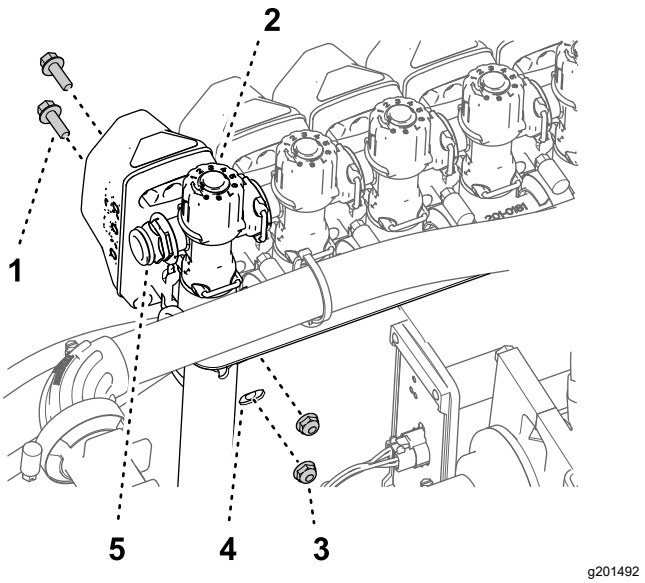


Figure 107

Machines without the Hand Spray Wand Kit or the Electric Hose Reel Kit

1. Flange-head bolt (1/4 x 3/4 inch)
2. Nozzle valve 10
3. Locknut (1/4 inch)
4. Valve mount
5. Quick-disconnect fitting (plug)

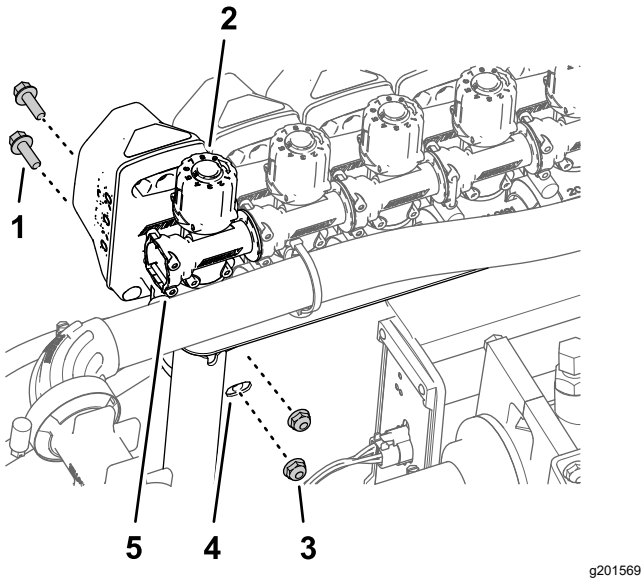


Figure 108

Machines with the Hand Spray Wand Kit or the Electric Hose Reel Kit

1. Flange-head bolt (1/4 x 3/4 inch)
2. Nozzle valve 10
3. Locknut (1/4 inch)
4. Valve mount
5. Quick-disconnect fitting (socket)

4. Torque the flange-head bolts and locknuts to 1017 to 1243 N·m (90 to 120 in-lb).

Assembling the Valve Mount and Sprayer Valve Assembly to the Machine

Lifting-equipment capacity: 23 kg (50 lb)

1. Using lifting equipment with the specified capacity, lift the valve mount and sprayer valve assembly and align it over the center-spray section (Figure 109).

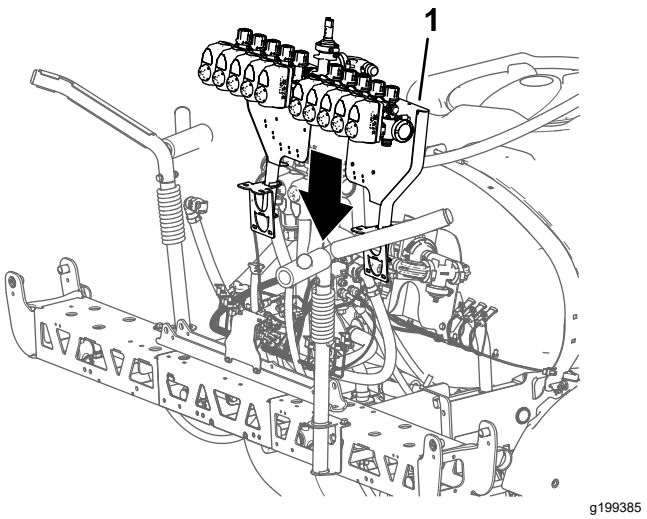


Figure 109

1. Valve mount and sprayer-valve assembly

2. Align the holes on the mount bracket of the valve mount to the holes on the truss frame of the center sprayer section (Figure 110).

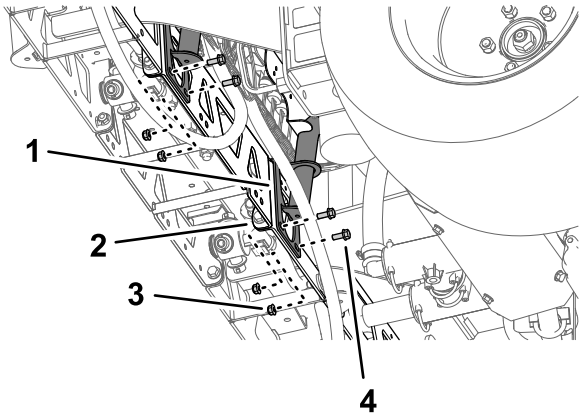
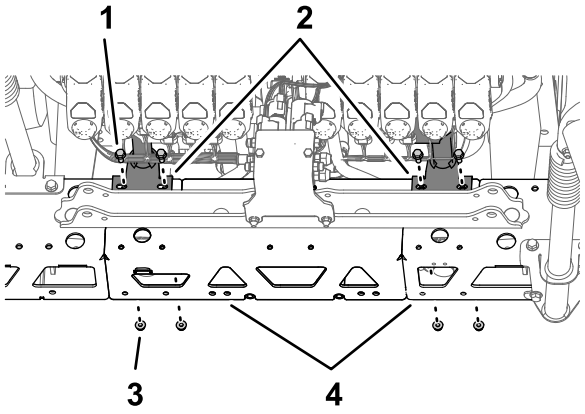


Figure 110

1. Bracket (valve mount)
2. Truss frame (center sprayer section)
3. Flange locknut (5/16 inch)
4. Flange head bolt (5/16 x 3/4 inch)

3. Assemble the valve mount to the truss frame (Figure 110 and Figure 111) with 4 bolts (5/16 x 3/4 inch) and 4 flange locknuts (5/16 inch).



g199541

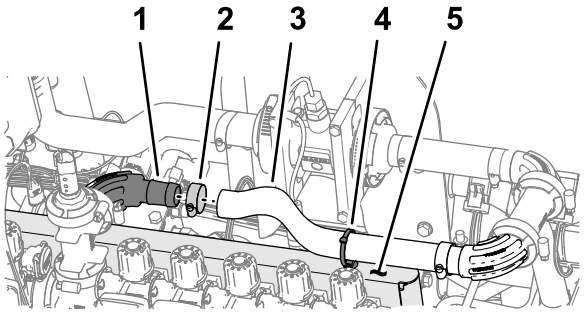
Figure 111

1. Flange head bolt (5/16 x 3/4 inch)
2. Bracket (valve mount)
3. Flange locknut (5/16 inch)
4. Truss frame (center sprayer section)

4. Repeat steps 2 through 3 for the other mount bracket of the valve mount at the other truss frame.
5. Torque the flange-head bolts and flange locknuts to 1978 to 2542 N·cm (175 to 225 in-lb).

Assembling the Hose to the Sprayer Valve Manifold

1. Assemble the hose (1 x 16 inches) over the 90° flange fitting (1 inch) as shown in Figure 112.



g281672

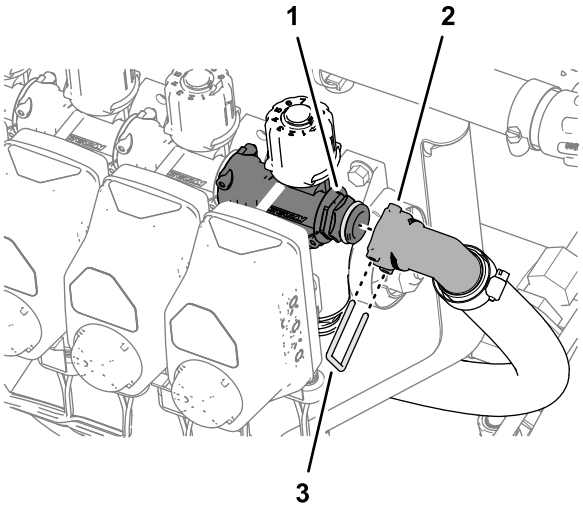
Figure 112

1. 90° flange fitting (1 inch)
2. Hose clamp
3. Hose (1 x 16 inches)
4. Push-in fastener (cable tie)
5. Valve mount

2. Secure the hose to the flange fitting with a hose clamp (Figure 112).
3. Assemble the cable tie/push-in fastener into the hole at the top of the valve mount as shown in Figure 112.
4. Secure the cable tie/push-in fastener (Figure 112) around the hose (1 x 16 inches).

Installing the Section Bypass Hoses—Machines without the Optional Hand Wand Kit or the Optional Electric Hose Reel Kit

1. Remove the retainers from the sockets of the quick-connect fittings.
2. Assemble the quick-connect fitting of the bypass hose to the quick disconnect fitting at the bypass valve at nozzle valve 10 (Figure 113).



g281441

Figure 113

1. Quick disconnect fitting (bypass valve)
2. Socket—quick-connect fitting
3. Retainer

3. Secure the quick disconnect fittings for the bypass hose and the bypass valve with the retainer (Figure 113).
4. Repeat steps 1 through 3 for the quick disconnect fittings at nozzle valve 1.

Installing the Section Bypass Hoses—Machines with the Optional Hand Wand Kit or the Optional Electric Hose Reel Kit

1. Assemble the quick-disconnect fitting of the bypass-shutoff valve with the quick disconnect fitting (socket) of the bypass valve (Figure 114).

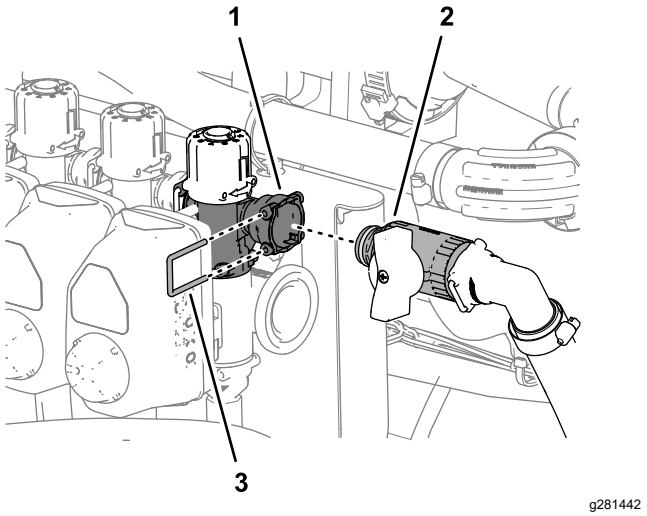


Figure 114

1. Quick-connect fitting—socket (nozzle valve 10)
2. Shutoff valve (hand wand or electric hose reel kit)
3. Retainer

2. Secure the quick disconnect fittings for the bypass-shutoff valve and the bypass valve with the retainer (Figure 114) that you removed in step 3 of Positioning the Bypass Valves—Machines without the Optional Hand Spray Wand Kit or the Optional Electric Hose Reel Kit (page 34).
3. Repeat steps 1 and 2 for the bypass-shutoff valve and the bypass valve at the other side of the machine.

20

Connecting the Kit Sprayer Harness at the Back of the Machine

No Parts Required

Connecting the Nozzle Valve Electrical Connectors

1. Assemble the push-in fasteners of the valve actuator electrical-connectors into the holes in the valve mount (Figure 115).

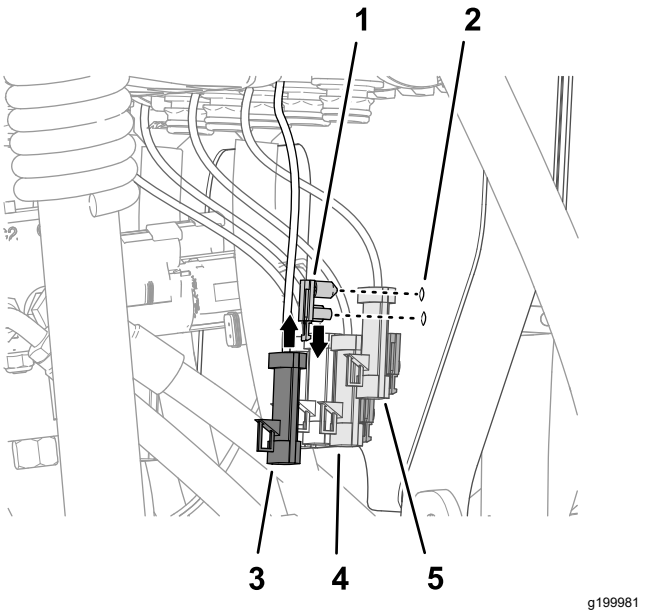
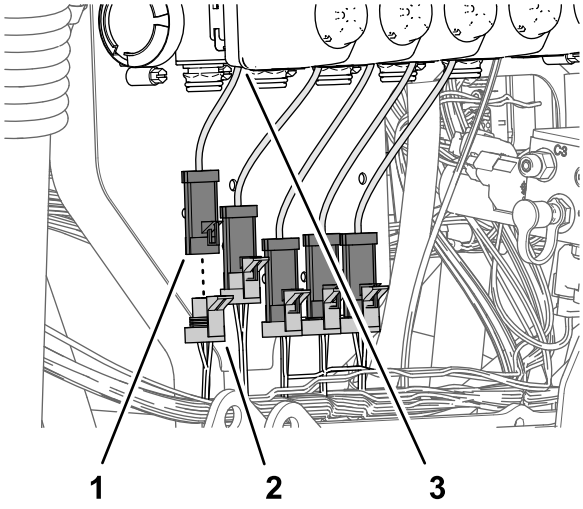


Figure 115

1. Push-in fastener (valve actuator electrical-connector)
2. Valve mount
3. 3-pin connector (valve actuator—position 10)
4. 3-pin connector (valve actuator—position 8)
5. 3-pin connector (valve actuator—position 9)

2. Connect 3-socket connector (Figure 116) of the 89 cm (35 inch) kit sprayer-harness branch labeled NOZZLE VALVE 1) into the 3-pin connector of the left most valve actuator (position 1).

   Note: The valve actuator positions 1 through 10 are arranged from left to right when standing behind the machine.



g199980

Figure 116

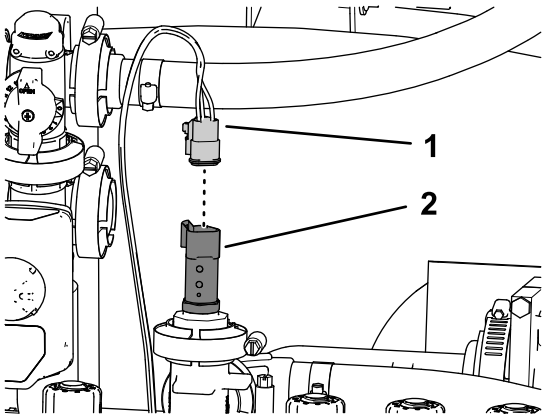
1. 3-pin connector (valve actuator—position 1)
2. 3-socket connector—89 cm (35 inch) kit sprayer-harness branch (NOZZLE VALVE 1)
3. Valve actuator (position 1)

3. Connect 3-socket connector (Figure 116) of the 89 cm (35 inch) kit sprayer-harness branch NOZZLE VALVE 2) into the 3-pin connector of the valve actuator (position 2).
4. Connect the remaining 3-socket connectors of the 89 cm (35 inch) kit sprayer-harness branch into the 3-pin connector of the valve actuators (Figure 116).

   Note: Ensure that the 3-socket connector are connected to the related valve actuator position.

Connecting the Kit Sprayer Harness to the Pressure Transducer

Insert the 3-socket connector 61 cm (24 inch) branch of the kit sprayer harness labeled PRESSURE TRANSDUCER GREEN WEDGE into the 3-pin connector of the pressure transducer (Figure 117).



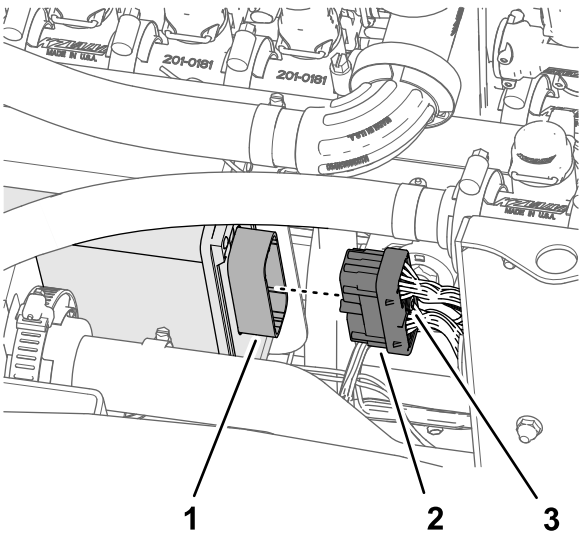
g200254

Figure 117

1. 3-socket connector—61 cm (24 inch) kit wire-harness branch (PRESSURE TRANSDUCER GREEN WEDGE)
2. 3-pin connector (pressure transducer)

Connecting the Kit Sprayer Harness to the ASC 10

1. Insert the 40-socket connector of the 102 cm (40 inch) branch of the kit sprayer harness into the 40-pin connector if the ASC 10 spray controller (Figure 118).



g281673

Figure 118

1. 40-pin connector (ASC 10 spray controller)
2. 40-socket connector (102 cm (40 inch) wire-harness branch)
3. Thumbscrew

2. Thread the thumb screw of the 40-socket connector into the ASC 10 connector by hand (Figure 118).

3. Insert the 4-socket connector of the kit sprayer harness labeled TO ASC 10 into the 4-pin connector of the ASC 10 spray controller (Figure 119).

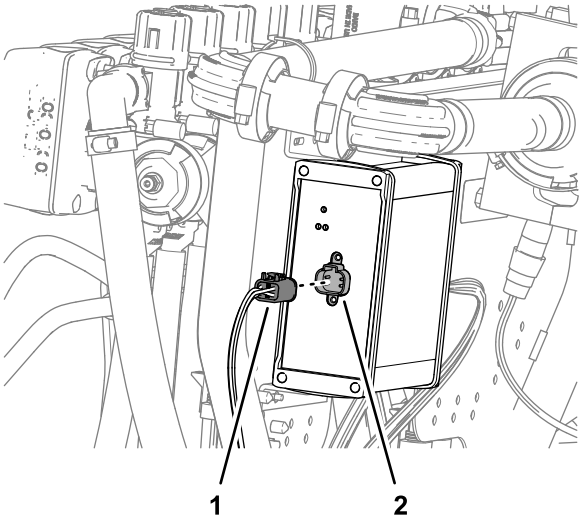


Figure 119

1. 4-socket connector (TO ASC 10)
2. 4-pin connector (ASC 10 spray controller)

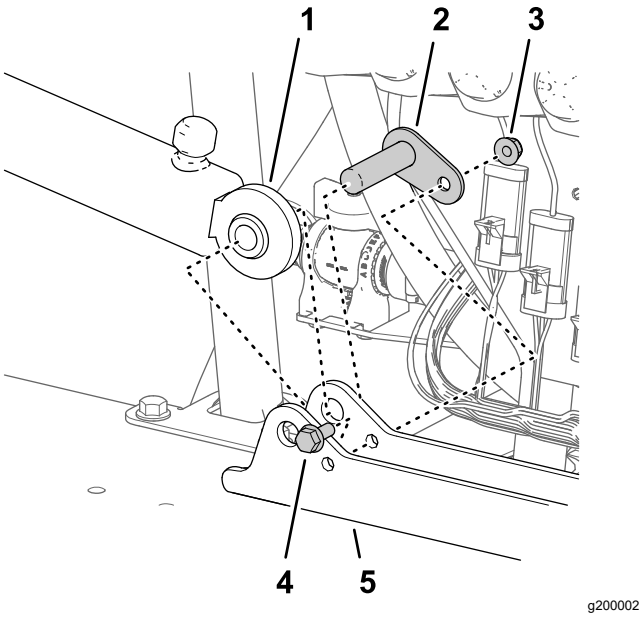


Figure 120

1. Lift cylinder (fixed end)
2. Pivot pin
3. Flange locknut (5/16 inch)
4. Flange-head bolt (5/16 x 3/4 inch)
5. Cylinder mount

21

Assembling the Boom-Lift Cylinders

Parts needed for this procedure:

4	Hydraulic hose (1/4 x 24-3/4 inches)

Assembling the Lift Cylinders

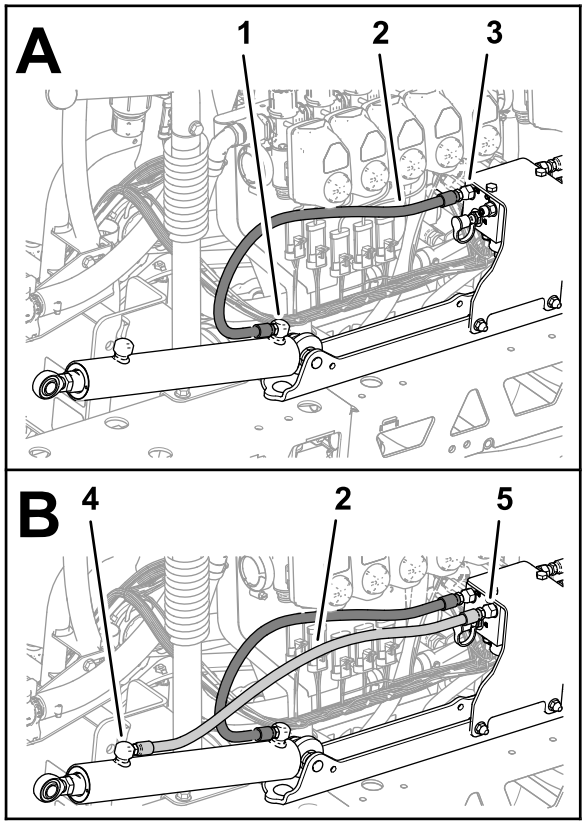
1. Align the fixed end of the lift cylinder that you removed in step 3 of Removing the Lift Cylinders (page 25) to the 16 mm (5/8 inch) hole in the cylinder mount (Figure 120).

   Note: Ensure that the extend and retract ports of the cylinder align up.

2. Assemble the cylinder to the cylinder mount with the pivot pin, flanged-head bolt, and flange nut (Figure 120).
3. Torque the bolt and nut to 1978 to 2542 N·cm (175 to 225 in-lb).
4. Repeat steps 1 through 3 for the other lift cylinder at the other side of the cylinder mount.

Installing the Lift-Cylinder Hoses

1. Loosely assemble a new hydraulic hose (1/4 x 24-3/4 inches) between the extend port of the left boom-lift cylinder and port C3 of the boom-lift manifold (Figure 121).

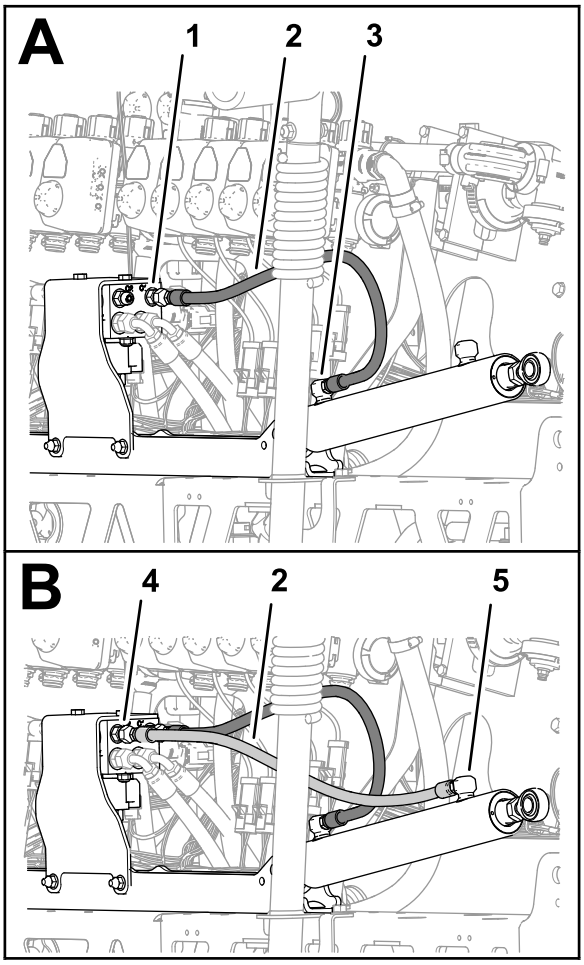


g200075

Figure 121

1. Extend port (left boom-lift cylinder)
2. Hydraulic hose (1/4 x 24-3/4 inches)
3. Port C3 (boom-lift manifold)
4. Retract port (left boom-lift cylinder)
5. Port C4 (boom-lift manifold)

2. Loosely assemble a new hydraulic hose (1/4 x 24-3/4 inches) between the retract port of the left boom-lift cylinder and port C4 of the boom-lift manifold (Figure 121).
3. Loosely assemble a new hydraulic hose (1/4 x 24-3/4 inches) between the extend port of the right boom-lift cylinder and port C1 of the boom-lift manifold (Figure 122).



g200076

Figure 122

1. Port C1 (boom-lift manifold)
2. Hydraulic hose (1/4 x 24-3/4 inches)
3. Extend port (right boom-lift cylinder)
4. Port C2 (boom-lift manifold)
5. Retract port (right boom-lift cylinder)

4. Loosely assemble a new hydraulic hose (1/4 x 24-3/4 inches) between the retract port of the right boom-lift cylinder and port C2 of the boom-lift manifold (Figure 122).
5. Torque the hose fittings at the extend and retract ports of the lift cylinders (Figure 121 and Figure 122) to 21 to 26 N·m (15 to 19 ft-lb).
6. Torque the swivel nuts of the hoses at the boom-lift manifold (Figure 121 and Figure 122) to 24 to 30 N·m (17 to 22 ft-lb).

22

Installing the Outer-Spray Sections

Parts needed for this procedure:

4	Nylon-flange bushing
1	Supply-hose assembly 188 cm (74 inches)
1	Supply-hose assembly 234 cm (92 inches)
1	Supply-hose assembly 279 cm (110 inches)

Removing the Sprayer Nozzles from the Outer-Spray Sections

1. Cut the hose between 2 sprayer nozzles (Figure 123).

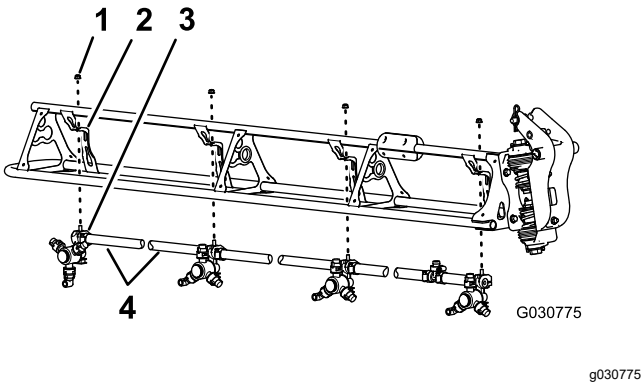


Figure 123

1. Flange locknut (5/16 inch)
2. Nozzle support
3. Sprayer nozzle
4. Hose (3/4 inch inside diameter)

2. Remove the flange locknut (5/16 inch) that secures the sprayer nozzle to the nozzle support (Figure 123).
3. Repeat steps 2 and 1 for the other 3 nozzles.

   Note: Retain the flange locknut and sprayer nozzle for installation in Installing the Sprayer Nozzles at the Outer-Spray Sections (page 64).

   Note: Discard the hoses, clamps, and T-fitting that you removed from the machine.
4. Repeat steps 2 through 3 at the other outer-spray section.
5. Working with the 8 sprayer nozzles that you removed in step 1, remove the stainless steel screws (#12 x 1-1/4 inches) that secures the upper clamp halves and the double or single barbed-hose shanks (3/4 inch) to the body of each of the sprayer nozzle, and remove the barbed-hose shanks (Figure 124).

   Note: The hex-head bolt (5/16 x 3/4 inch—stainless steel) will separate from the upper clamp half when you open the clamp, retain the bolt for installation.

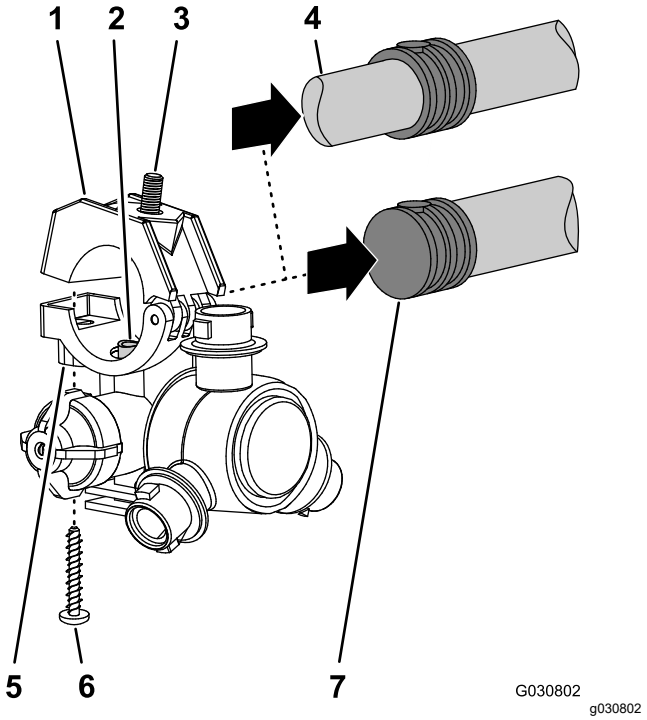


Figure 124

1. Upper clamp half
2. Transfer tube
3. Hex-head bolt (5/16 x 3/4 inch—stainless steel)
4. Double barbed-hose shank (3/4 inch hose)
5. Sprayer-nozzle body
6. Stainless steel screw (#12 x 1-1/4 inches)
7. Single barbed-hose shank (3/4 inch hose)

Assembling the Outer-Spray Sections to the Machine

Lift equipment capacity: 46 kg (100 lb)

1. Using lift equipment with the specified capacity, raise the outer boom.
2. Insert a nylon-flange bushing into the 31.8 mm (1-1/4 inches) hole at each side of the pivot fitting (Figure 125).

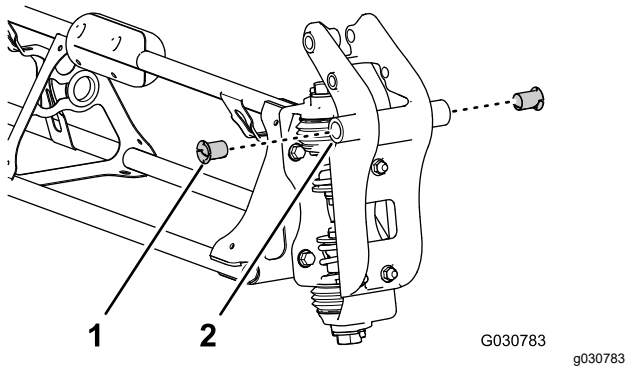


Figure 125

1. Nylon-flange bushing
2. Pivot fitting (outer-spray section)

3. Align the bushings in the pivot fitting with the holes in the flanges of the pivot bracket at the end of the center-spray section (Figure 126).

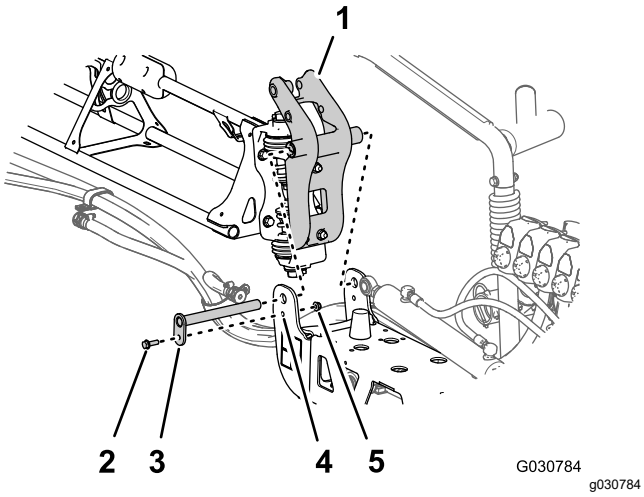


Figure 126

1. Pivot fitting (outer-spray section)
2. Flange bolt (5/16 x 1 inch)
3. Pivot pin
4. Pivot bracket (center-spray section)
5. Flange locknut (5/16 inch)

4. Assemble the pivot fitting to the pivot bracket with the pivot pin, flange bolt (5/16 x 1 inch), and flange locknut (5/16 inch) that you removed in step 2 of Removing the Outer-Spray Sections (page 26).
5. Torque the bolt and nut to 1978 to 2542 N·cm (175 to 225 in-lb).
6. Align the rod end of the lift cylinder with the hole 25 mm (1 inch) in the horn of the pivot fitting (Figure 127).

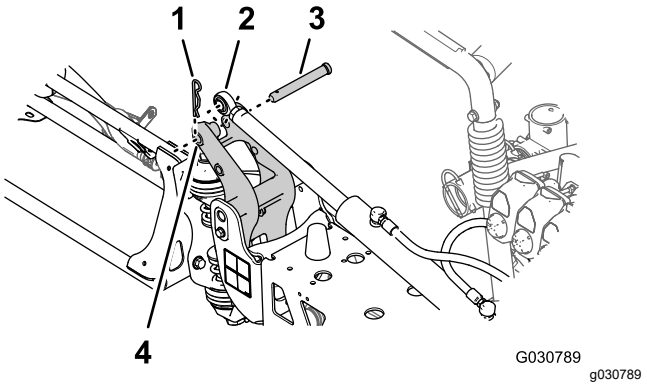


Figure 127

1. Hairpin
2. Rod end (lift cylinder)
3. Clevis pin
4. 25 mm (1 inch) hole—horn of the pivot-fitting

7. Secure the lift cylinder to the pivot fitting with the clevis pin and hairpin (Figure 127) that you removed in step 2 of Removing the Lift Cylinders (page 25).
8. Repeat steps 1 through 7 at the outer-spray section at the other side of the machine.

23

Installing the Sprayer-Nozzle Hoses

Parts needed for this procedure:

2	Supply-hose 279 cm (110 inches)
2	Supply-hose 234 cm (92 inches)
4	Supply-hose 188 cm (74 inches)
2	Supply-hose 81 cm (32 inches)

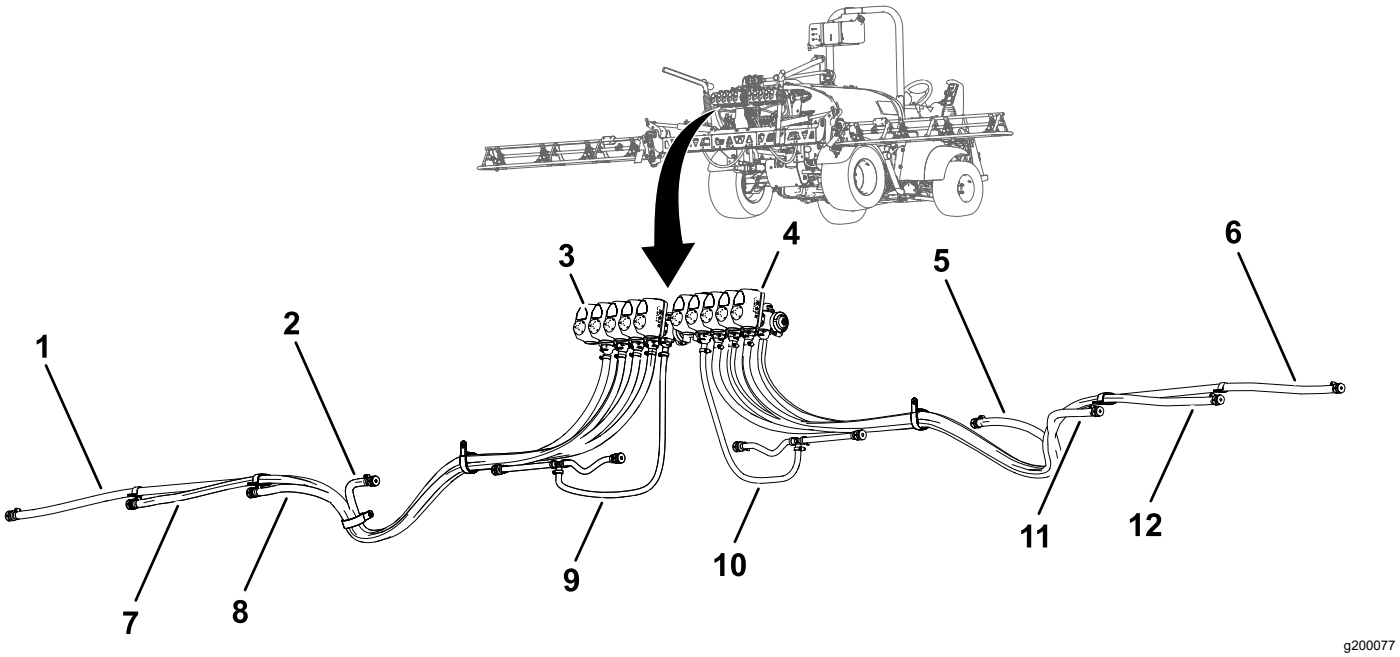
Identifying the Sprayer-Nozzle Hose Positions

Identify the supply hoses by length (Figure 128) for each of the sprayer-nozzle position as follows:

Sprayer nozzle hose-position table

Sprayer-nozzle positions—left-spray section	Sprayer-nozzle positions—center-spray section	Sprayer-nozzle positions—right-spray section
Sprayer nozzle 1 (nozzle valve 1)—supply hose 279 cm (110 inches)	Sprayer nozzles 5 and 6 (nozzle valve 5)—supply hose 81 cm (32 inches) with 2 branch hoses	Sprayer nozzle 9 (nozzle valve 7)—supply hose 188 cm (74 inches)
Sprayer nozzle 2 (nozzle valve 2)—supply hose 234 cm (92 inches)	Sprayer nozzles 7 and 8 (nozzle valve 6)—supply hose 81 cm (32 inches) with 2 branch hoses	Sprayer nozzle 10 (nozzle valve 8)—supply hose 188 cm (74 inches)
Sprayer nozzle 3 (nozzle valve 3)—supply hose 188 cm (74 inches)		Sprayer nozzle 11 (nozzle valve 9)—supply hose 234 cm (92 inches)
Sprayer nozzle 4 (nozzle valve 4)—supply hose 188 cm (74 inches)		Sprayer nozzle 12 (nozzle valve 10)—supply hose 279 cm (110 inches)

Note: Refer to Figure 129 in Assembling the Hoses to Nozzle Valves 1 through 4 (page 62), Figure 130 in Assembling the Hoses to Nozzle Valves 5 and 6 (page 62), and Figure 131 in Assembling the Hoses to Nozzle Valves 7 through 10 (page 63) for the nozzle-valve positions.



g200077

Figure 128

1. Supply hose 279 cm (110 inches)—sprayer nozzle 1
2. Supply hose 188 cm (74 inches)—sprayer nozzle 4
3. Nozzle valve 1
4. Nozzle valve 10
5. Supply hose 188 cm (74 inches)—sprayer nozzle 9
6. Supply hose 279 cm (110 inches)—sprayer nozzle 12
7. Supply hose 234 cm (92 inches)—sprayer nozzle 2
8. Supply hose 188 cm (74 inches)—sprayer nozzle 3
9. Supply hose 81 cm (32 inches)—sprayer nozzle 5 and 6
10. Supply hose 81 cm (32 inches)—sprayer nozzle 7 and 8
11. Supply hose 188 cm (74 inches)—sprayer nozzle 10
12. Supply hose 234 cm (92 inches)—sprayer nozzle 11

Assembling the Hoses to Nozzle Valves 1 through 4

1. Assemble the straight barbed fitting of a supply-hose 279 cm (110 inches) onto the coupler of nozzle valve 1 (Figure 129).

   Note: Ensure that the barbed fitting is fully seated onto the coupler.

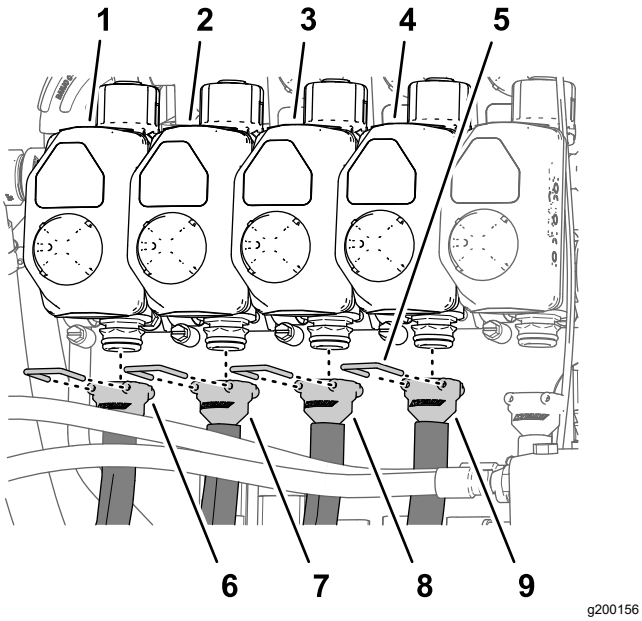


Figure 129

1. Nozzle valve 1
2. Nozzle valve 2
3. Nozzle valve 3
4. Nozzle valve 4
5. Retainer
6. Supply-hose 279 cm (110 inches)
7. Supply-hose 234 cm (92 inches)
8. Supply-hose 188 cm (74 inches)
9. Supply-hose 188 cm (74 inches)

2. Secure the barbed fitting to the coupler with a retainer (Figure 129).
3. Assemble the straight barbed fitting of a supply-hose 234 cm (92 inches) onto the coupler of nozzle valve 2 (Figure 129).

   Note: Ensure that the barbed fitting is fully seated onto the coupler.
4. Secure the barbed fitting to the coupler with a retainer (Figure 129).
5. Assemble the straight barbed fitting of a supply-hose 188 cm (74 inches) onto the coupler of nozzle valve 3 (Figure 129).

   Note: Ensure that the barbed fitting is fully seated onto the coupler.
6. Secure the barbed fitting to the coupler with a retainer (Figure 129).
7. Assemble the straight barbed fitting of a supply-hose 188 cm (74 inches) onto the coupler of nozzle valve 4 (Figure 129).

   Note: Ensure that the barbed fitting is fully seated onto the coupler.
8. Secure the barbed fitting to the coupler with a retainer (Figure 129).

Assembling the Hoses to Nozzle Valves 5 and 6

Note: Supply-hose assembly 81 cm (32 inches) has a T-fitting with 2 branch hoses and 2 single barbed-hose shanks.

1. Assemble the straight barbed fitting of a supply-hose 81 cm (32 inches) onto the coupler of nozzle valve 5 (Figure 130).

   Note: Ensure that the barbed fitting is fully seated onto the coupler.

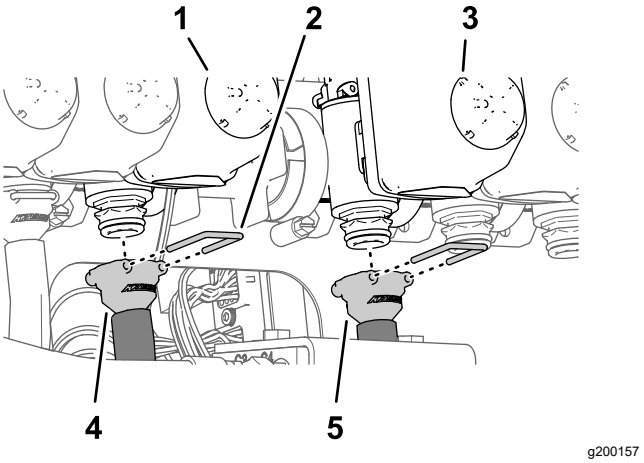


Figure 130

1. Nozzle valve 5
2. Retainer
3. Nozzle valve 6
4. Supply-hose 81 cm (32 inches)
5. Supply-hose 81 cm (32 inches)

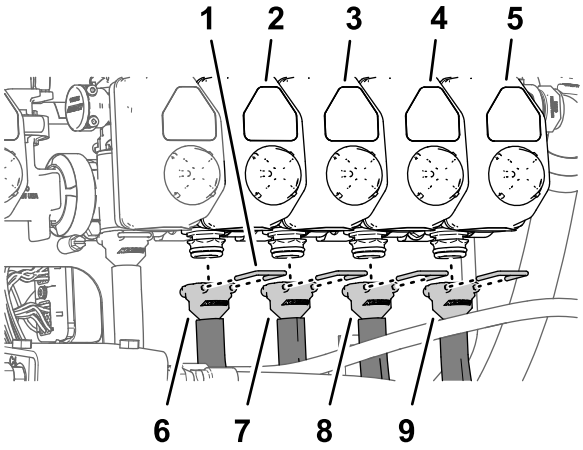
2. Secure the barbed fitting to the coupler with a retainer (Figure 130).
3. Assemble the straight barbed fitting of a supply-hose 81 cm (32 inches) onto the coupler of nozzle valve 6 (Figure 130).

   Note: Ensure that the barbed fitting is fully seated onto the coupler.
4. Secure the barbed fitting to the coupler with a retainer (Figure 130).

Assembling the Hoses to Nozzle Valves 7 through 10

1. Assemble the straight barbed fitting of a supply-hose 188 cm (74 inches) onto the coupler of nozzle valve 7 (Figure 131).

   Note: Ensure that the barbed fitting is fully seated onto the coupler.



g200158

Figure 131

1. Retainer
2. Nozzle valve 7
3. Nozzle valve 8
4. Nozzle valve 9
5. Nozzle valve 10
6. Supply-hose 188 cm (74 inches)
7. Supply-hose 188 cm (74 inches)
8. Supply-hose 234 cm (92 inches)
9. Supply-hose 279 cm (110 inches)

2. Secure the barbed fitting to the coupler with a retainer (Figure 131).
3. Assemble the straight barbed fitting of a supply-hose 188 cm (74 inches) onto the coupler of nozzle valve 8 (Figure 131).

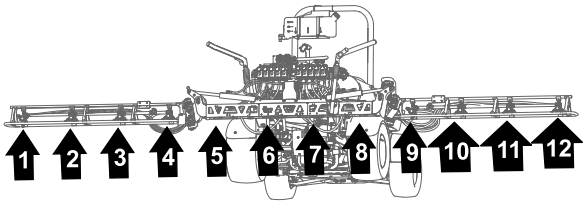
   Note: Ensure that the barbed fitting is fully seated onto the coupler.
4. Secure the barbed fitting to the coupler with a retainer (Figure 131).
5. Assemble the straight barbed fitting of a supply-hose 234 cm (92 inches) onto the coupler of nozzle valve 9 (Figure 131).

   Note: Ensure that the barbed fitting is fully seated onto the coupler.
6. Secure the barbed fitting to the coupler with a retainer (Figure 131).
7. Assemble the straight barbed fitting of a supply-hose 279 cm (110 inches) onto the coupler of nozzle valve 10 (Figure 131).

   Note: Ensure that the barbed fitting is fully seated onto the coupler.
8. Secure the barbed fitting to the coupler with a retainer (Figure 131).

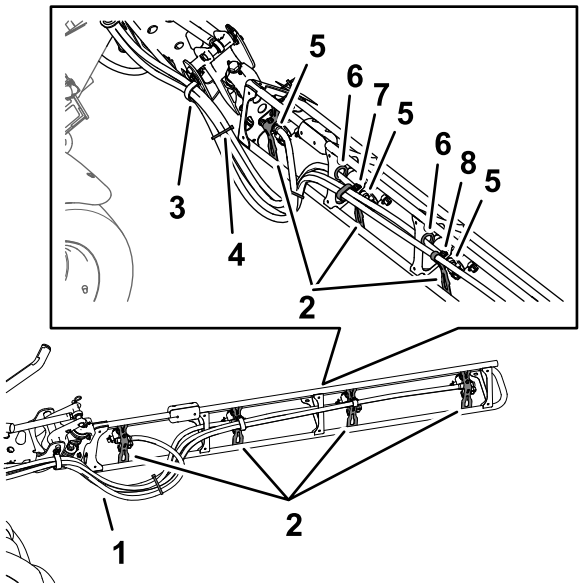
Routing the Supply Hoses to the Sprayer Nozzles

1. Route the hoses for sprayer nozzles 1, 2, 3, and 4 through the R-clamp at the left outboard end of the center-spray section (Figure 132 and Figure 133).



g200162

Figure 132



g200185

Figure 133

1. Hoses
2. Nozzle supports
3. R-clamp
4. Cable tie
5. Single barbed-hose shank (1/2 inch)
6. Grommet
7. Double R-clamp
8. Single R-clamp

2. Route the hoses for sprayer nozzles 7, 8, 9, and 10 through the R-clamp at the right outboard end of the center-spray section (Figure 132 and Figure 133).
3. Route the supply hoses 279 cm (110 inches) and barbed-hose shanks (3/4 inch) along the spray section to sprayer nozzles 1 and 10 as shown in (Figure 132 and Figure 133).

4. Route the supply hoses 234 cm (92 inches) and barbed-hose shanks (3/4 inch) along the spray section to sprayer nozzles 2 and 9 along the spray section as shown in Figure 132 and Figure 133.
5. Route the supply hoses 188 cm (74 inches) and barbed-hose shanks (3/4 inch) along the spray section to sprayer nozzles 3 and 8 as shown in Figure 132 and Figure 133.

   Note: Route the hoses through the lower rear grommets in the tube-frame brackets.
6. Route the supply hoses 188 cm (74 inches) and barbed-hose shanks (3/4 inch) along the spray section to sprayer nozzles 4 and 7 as shown in Figure 132 and Figure 133.

   Note: Route the hoses through the lower rear grommets in the tube-frame brackets.
7. Bundle the 4 hoses for the sprayer nozzles together with a cable tie as shown in Figure 133.

Installing the Sprayer Nozzles at the Outer-Spray Sections

1. Align the transfer tube in the saddle of a sprayer nozzle (Figure 134) with the hole in the side of the single barbed-hose shank (1/2 inch).

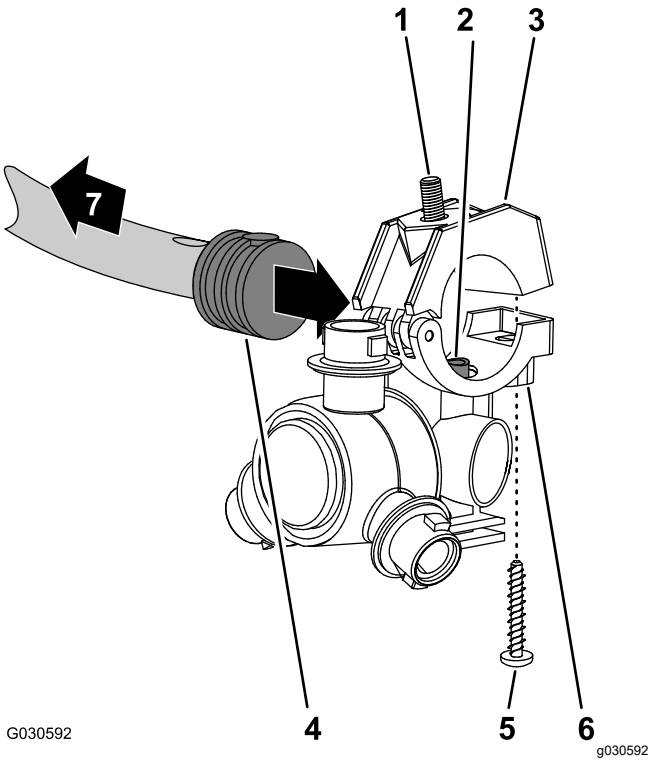
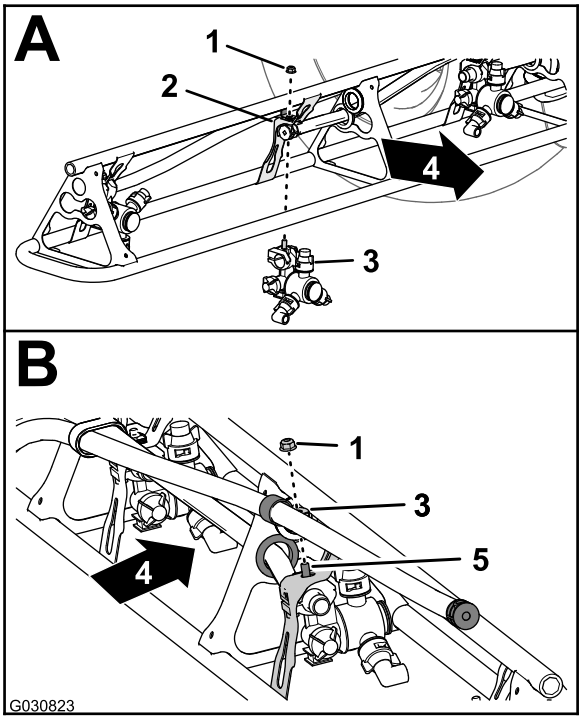


Figure 134

1. Hex-head bolt (5/16 x 3/4 inch—stainless steel)
2. Transfer tube
3. Upper clamp half
4. Single barbed-hose shank (1/2 inch)
5. Stainless steel screw (#12 x 1-1/4 inches)
6. Sprayer-nozzle body
7. Toward the spray section

2. Close the upper clamp half around the barbed-hose shank and secure the clamp half and spray-nozzle body (Figure 134) with the stainless steel screw (#12 x 1-1/4 inches); torque the stainless steel screw to 14 to 18 N·m (20 to 25 in-lb).

   Note: Ensure that the hex-head bolt (5/16 x 3/4 inch) is seated in the recess in the upper clamp half when closing the clamp.
3. Assemble the sprayer nozzles to the outer-spray section as follows:
   - At the nozzle positions 1 and 4, assemble the sprayer nozzle to the nozzle mount (A of Figure 135) with the flange locknut (5/16 inch) that you removed in step 2 of Removing the Sprayer Nozzles from the Outer-Spray Sections (page 58).
   - At the nozzle positions 2 and 3, assemble the sprayer nozzle to the nozzle mount (A and B of Figure 135) with the flange locknut (5/16 inch) that you removed in step 2 of Removing the Sprayer Nozzles from the Outer-Spray Sections (page 58).



g030823

Figure 135

1. Flange locknut (5/16 inch)
2. Nozzle mount
3. Sprayer nozzle
4. Back of the machine
5. Hex-head bolt (stainless steel—5/16 x 3/4 inch)

4. Torque the flange locknut to 1978 to 2542 N·cm (175 to 225 in-lb).
5. Repeat steps 1 through 4 for the other sprayer nozzles for the spray section.
6. Repeat steps 1 through 5 to the outer-spray section at the other side of the machine.

24

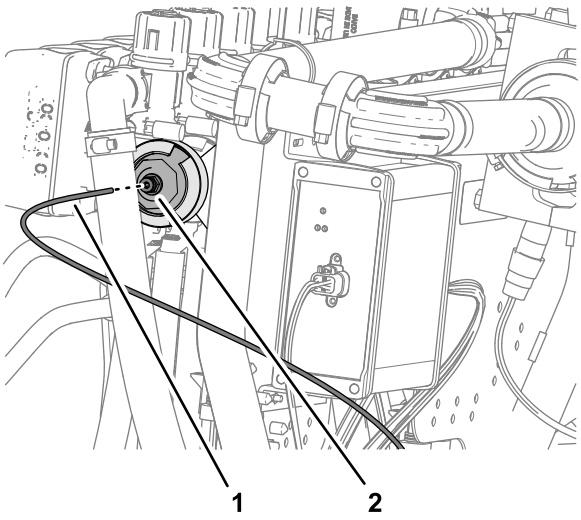
Connecting the Pressure-Sense Tube for the Dash Gauge

No Parts Required

Connecting the Pressure-Sense Tube for the Dash Gauge

Machines without the Optional Hand Wand Kit or the Optional Electric Hose Reel Kit

1. Align the end of the pressure-sense tube (plastic) for the pressure gauge in the dash with the locking collar for the tube coupler (Figure 136).



g281444

Figure 136

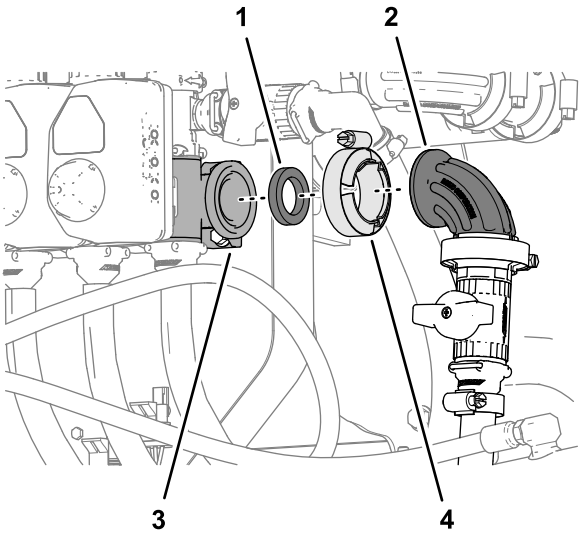
1. Pressure-sense tube (dash-pressure gauge)
2. Locking collar (tube coupler)

2. Insert the sense tube into the locking collar until the tube is fully seated (Figure 136).

Installing the Pressure Sense-Tube

Machines with the Optional Hand Wand Kit or the Optional Electric Hose Reel Kit

1. Assemble the 90° fitting of the shutoff valve for the optional spray wand kit or the electric hose reel kit onto the flange of nozzle valve 10 with the flange clamp and gasket, and tighten the clamp by hand (Figure 137).



g281603

Figure 137

1. Gasket
2. 90° fitting (shutoff valve)
3. Flange (nozzle valve 10)
4. Flange clamp

2. Align the end of the pressure-sense tube (plastic) for the pressure gauge in the dash with the locking collar for the tube coupler in the 90° fitting of the shutoff valve of the hand spray wand or the electric hose reel kit (Figure 138).

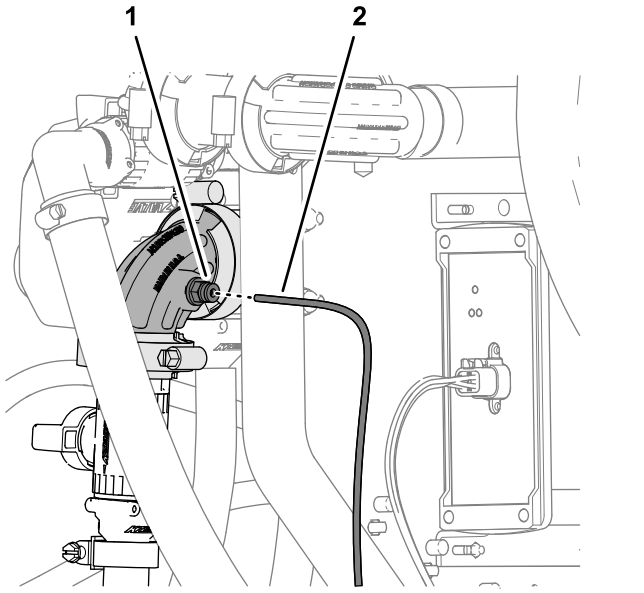


Figure 138

1. Tube coupler (90° fitting—shutoff valve)
2. Pressure-sense tube (dash gauge)

3. Insert the sense tube into the locking collar until the tube is fully seated (Figure 138).

25

Connecting the Optional Foam-Marker Kit

No Parts Required

Routing the Tubing for the Foam-Marker Nozzles

1. Route the tubes for the foam nozzles at the left- and right-spray section, inboard and through the R-clamp near the pivot point for each outer-spray section (Figure 140).

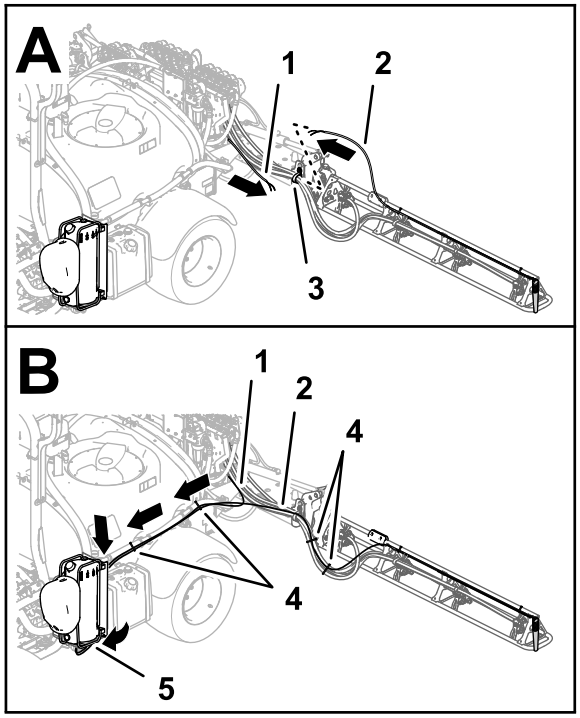
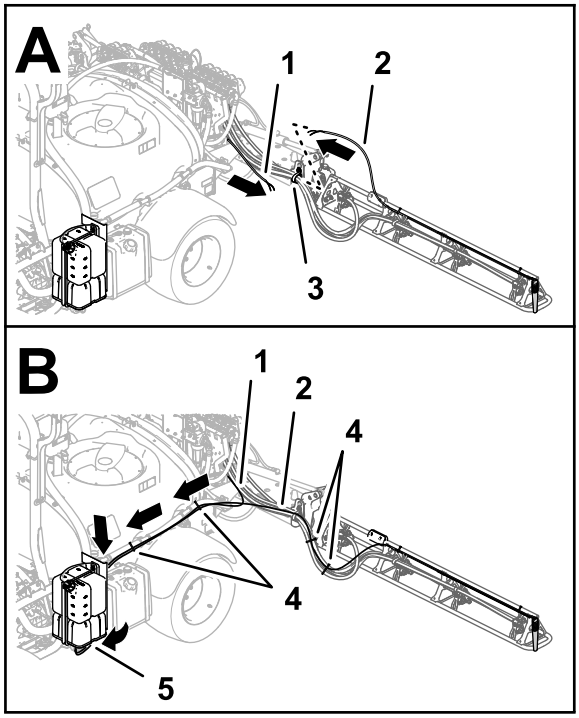


Figure 139

Foam Marker Kits 2016 and Before

1. Tubing—foam-marker nozzle (right-spray section)
2. Tubing—foam-marker nozzle (left-spray section)
3. R-clamp
4. Cable ties
5. Connection panel (foam-marker compressor)



g201934

Figure 140

Foam Marker Kits 2017 and Later

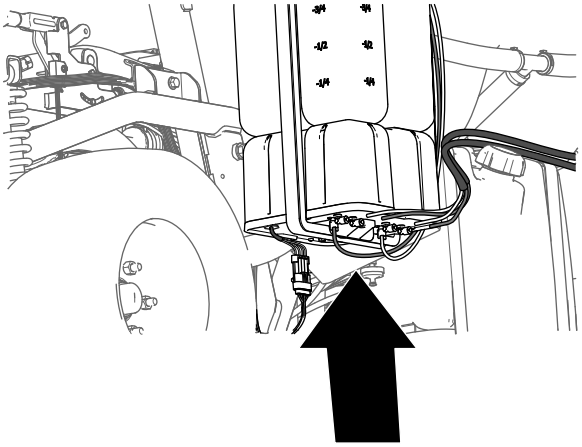
1. Tubing—foam-marker nozzle (right-spray section)
2. Tubing—foam-marker nozzle (left-spray section)
3. R-clamp
4. Cable ties
5. Connection panel (foam-marker compressor)

2. Route the tubes forward along the left side of the sprayer tank (Figure 140).
3. Secure the tubes for the left and right foam-marker nozzles to the sprayer hoses with 4 cable ties as shown on Figure 140.
4. Secure the tubes for the left and right foam-marker nozzles to the tubes for the agitation with 2 cable ties as shown in Figure 140.

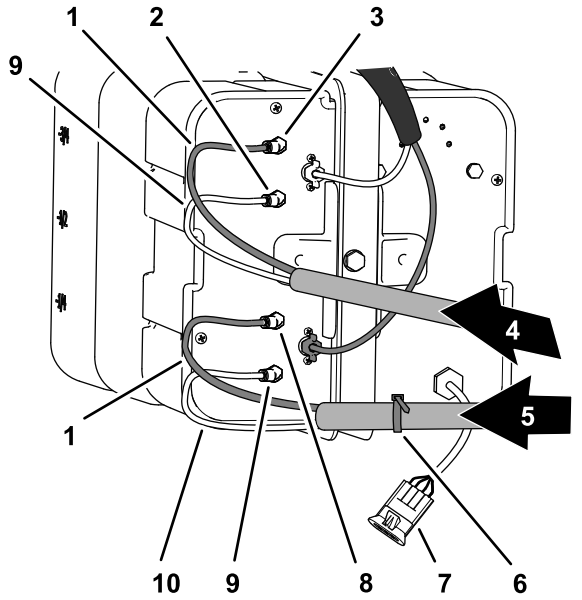
Installing the Liquid and Air Tubes at the Compressor

Foam Marker Kits 2017 and After

1. Route the foam tubes for the right boom as shown in Figure 141.



g197746

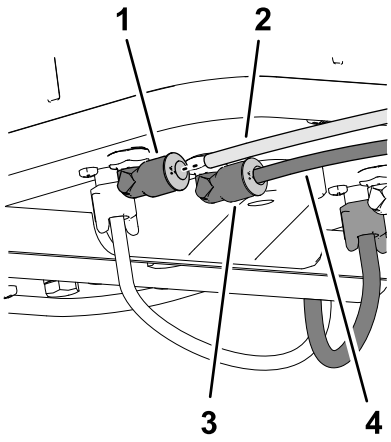


g266328

Figure 141

1. Blue tube
2. Air fitting (left-spray section)
3. Liquid fitting (left-spray section)
4. Foam tubes (left-spray section)
5. Foam tubes (right-spray section)
6. Cable tie
7. Electrical connector
8. Liquid fitting (right-spray section)
9. Clear tube
10. Air fitting (right-spray section)

2. Insert the clear tube into the air fitting at the side compressor plate (Figure 141 and Figure 142).



g201938

Figure 142

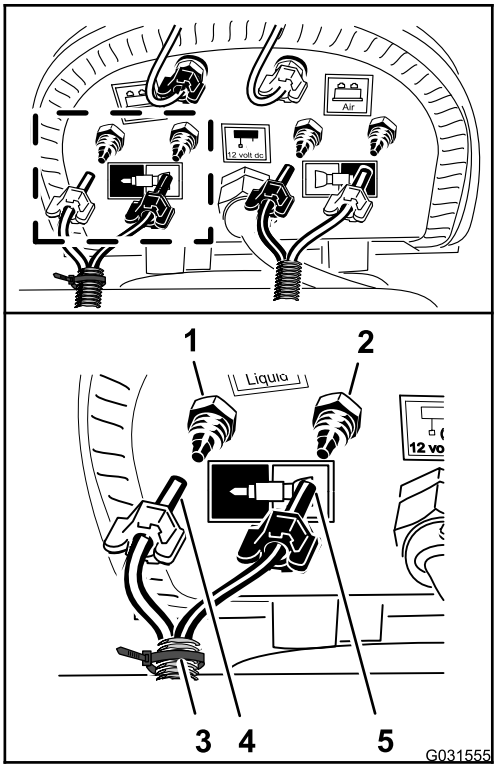
1. Air fitting
2. Clear tube
3. Liquid fitting
4. Blue tube

3. Insert the blue tube into the liquid fitting at the side compressor plate (Figure 141 and Figure 142).
4. Route the foam tubes for the left boom as shown in Figure 141.
5. Insert the clear tube into the air fitting at the side compressor plate (Figure 141 and Figure 142).
6. Insert the blue tube into the liquid fitting at the side compressor plate (Figure 141 and Figure 142).

Installing the Liquid and Air Tubes at the Compressor

Foam Marker Kits 2016 and Before

1. Connect the tubing with the cable tie that you prepared in step 9 of Preparing the New Tube Assemblies for the Foam-Marker Nozzles (page 18) by aligning the blue tube for the right spray section onto the compression fitting for the right-spray section water circuit (Figure 143).

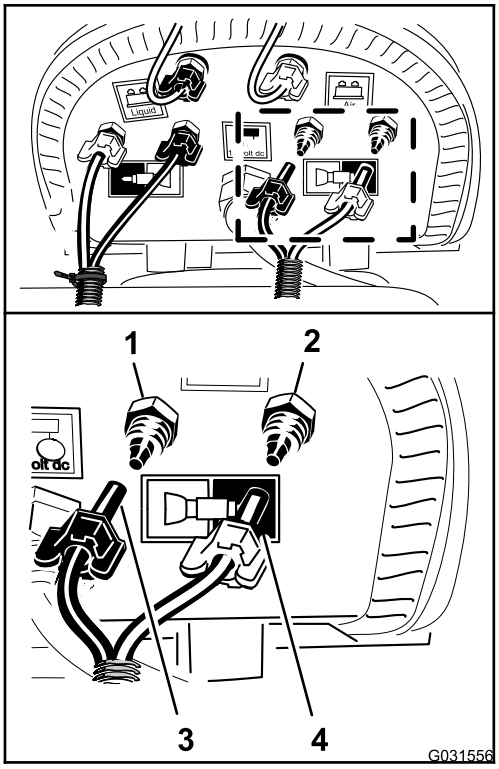


g031555

Figure 143

1. Compression fitting—water (right-spray section—blue tube)
2. Compression fitting—air (right-spray section—clear tube)
3. Cable tie
4. Compression nut—air (right-spray section—blue tube)
5. Compression nut—water (right-spray section—clear tube)

2. Assemble the compression nut for the tube onto the fitting and tighten the nut by hand (Figure 143).
3. Aligning the clear tube for the right-spray section onto the compression fitting for the right-spray section air circuit (Figure 143).
4. Assemble the compression nut for the tube onto the fitting and tighten the nut by hand (Figure 143).
5. Connect the unmarked (no cable tie) tubing by aligning the blue tube for the left-spray section onto the compression fitting for the left-spray section water circuit (Figure 144).



g031556

Figure 144

1. Compression fitting—water (left-spray section—blue tube)
2. Compression fitting—air (left-spray section—clear tube)
3. Compression nut (left-spray section—blue tube)
4. Compression nut (left-spray section—clear tube)

6. Assemble the compression nut for the tube onto the fitting and tighten the nut by hand (Figure 144).
7. Aligning the clear tube for the left spray section onto the compression fitting for the left-spray section air circuit (Figure 144).
8. Assemble the compression nut for the tube onto the fitting and tighten the nut by hand (Figure 144).
9. Secure the foam marker tubing to the sprayer nozzle hoses with 2 cable ties (Figure 140).

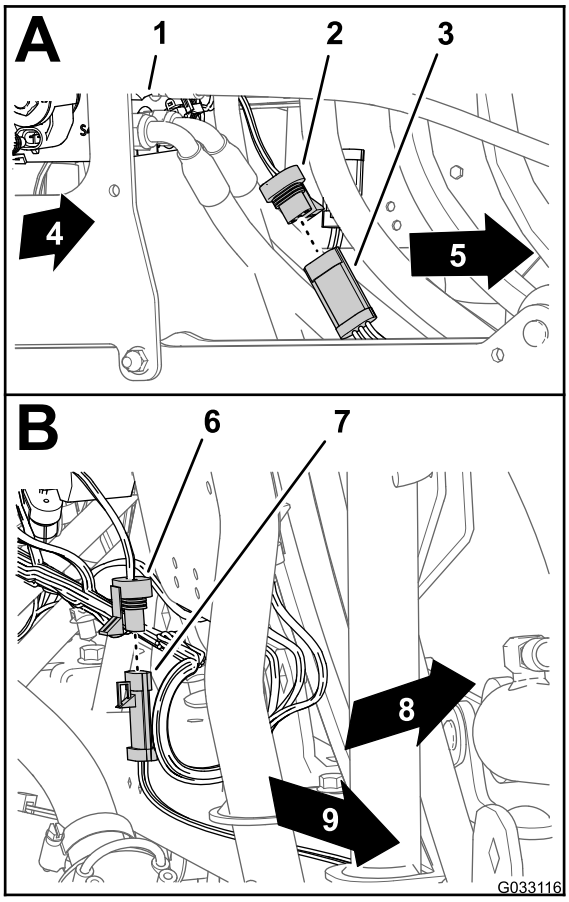
26

Connecting the Optional Ultra Sonic Boom Kit

No Parts Required

Procedure

1. Connect the 3-socket connector of the sonic boom wire harness to the 3-pin connector of the cable for the right ultra-sonic sensor (A of Figure 145).



g033116

Figure 145

1. Lift-cylinder manifold
2. 3-socket connector (sonic boom wire harness—right sensor)
3. 3-pin connector (cable—right ultra-sonic sensor)
4. Right side of the machine
5. 3-socket connector (sonic boom wire harness—left sensor)
6. 3-pin connector (cable—left ultra-sonic sensor)
7. Left side of the machine
8. Back of the machine
9. Left side of the machine

2. Connect the 3-socket connector of the sonic boom wire harness from the 3-pin connector of the cable for the left ultra-sonic sensor (B of Figure 145).

27

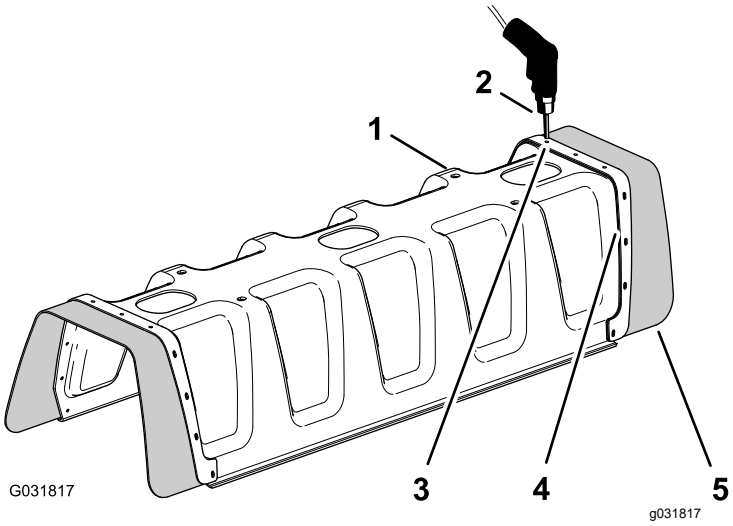
Assembling the Optional Covered-Boom Kit

Parts needed for this procedure:

1	Cover extension assembly (12-nozzle—Toro 120-0621)
22	Pop rivet (Toro Part No. 114439)
4	Support bracket (center-section cover—Toro Part No. 131-3703-03)
4	Clip nut (Toro Part No. 94-2413)
16	Flange-head bolts (3/8 x 1-1/4 inches—Toro Part No. 110-5050)
16	Flange locknuts (3/8 inch—Toro Part No. 104-8301)
2	Cover strap (Toro Part No. 120-0629)
4	Flange-head bolts (5/16 x 1-1/4 inches—Toro Part No. 323-36)

Installing the Cover Extension on to the Center-Section Cover (11-Nozzle)

1. Using a drill with a 5 mm (3/16 inch) drill bit, drill the 11 pop-rivets (Figure 146) that secure the reinforcement plate (with a single row of rivets) and rubber cover to the end of the 11-nozzle section cover for the center-spray section that you removed in step 2 of 6 Removing the Center-Section Cover (11-nozzle) of the Optional Covered-Boom Kit (page 21).



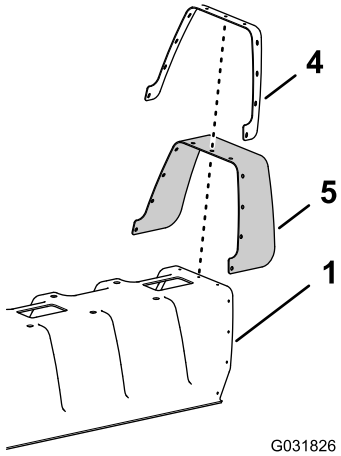


Figure 146

1. 11-nozzle section cover
2. Drill and 5 mm (3/16) drill bit
3. Rivet (3/16 x 1/2)
4. Reinforcement plate (single row)
5. Rubber cover

2. Remove the reinforcement plate, 11 washers (3/16 inch), and rubber cover from the 11-nozzle boom cover (Figure 146).

   Note: Retain the reinforcement plate, washers, and rubber cover for installation in steps 5 and 6.

3. Align the holes in the reinforcement plate (double row)on the cover extension with the holes in the end of the 11-nozzle boom cover (Figure 147).

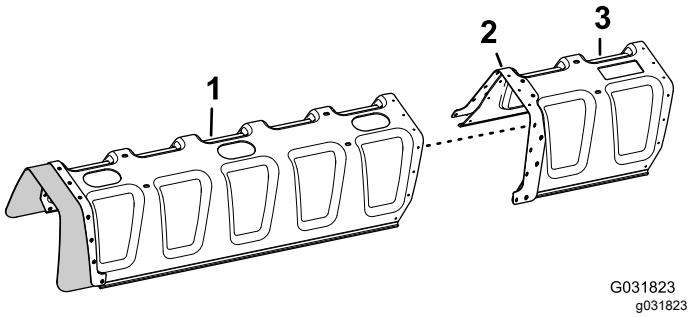


Figure 147

1. 11-nozzle section cover
2. Reinforcement plate (double row)
3. Cover extension

4. Secure the cover extension to the 11-nozzle section cover (Figure 148) with 11 pop rivets (Toro Part No. 114439).

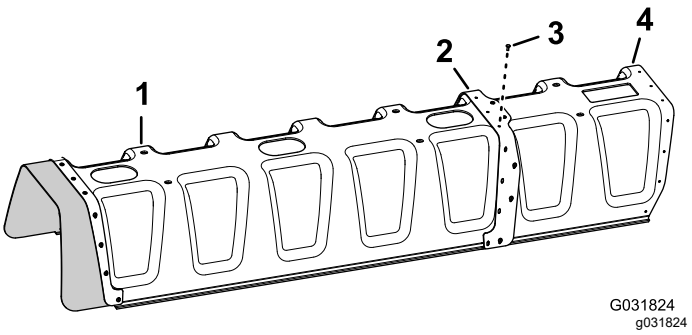


Figure 148

1. 11-nozzle section cover
2. Reinforcement plate (double row)
3. Pop rivets (Toro Part No. 114439)
4. Cover extension

5. Align the holes in the rubber cover and the reinforcement plate (single row) that you removed in step 2 with the holes in the end of the over extension (Figure 149).

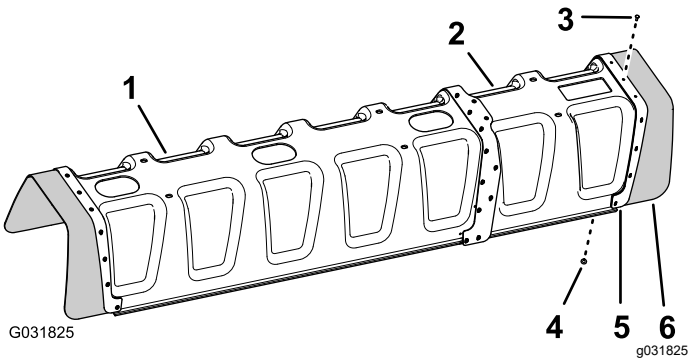


Figure 149

1. 11-nozzle section cover
2. Cover extension
3. Pop rivet (Toro Part No. 114439)
4. Washer (3/16 inch)
5. Reinforcement plate (single row)
6. Rubber cover

6. Secure the reinforcement plate and rubber cover to the cover extension with the 11 pop rivets (Toro Part No. 114439) and the 11 washers (3/16 inch) that you removed in step 5.

   Note: Align the washers (3/16 inch) against the inside surface of the cover extension.

Installing the Support Bracket for the Center-Section Cover

1. Install the 4 clip nuts (Toro Part No. 94-2413) onto the 2 support bracket of the center-section cover (Toro Part No. 131-3703-03) as shown in (Figure 150).

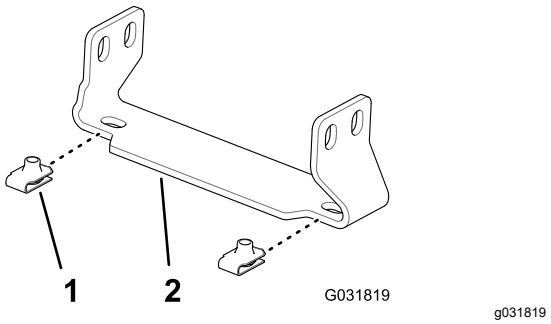


Figure 150

1. Clip nut (Toro Part No. 94-2413)
2. Support bracket (center-section cover—Toro Part No. 131-3703-03)

2. At the extension for the center-spray section, locate the 2 pairs of holes in the vertical face of the truss frame with a 25 mm (1 inch) hole spacing (Figure 151).

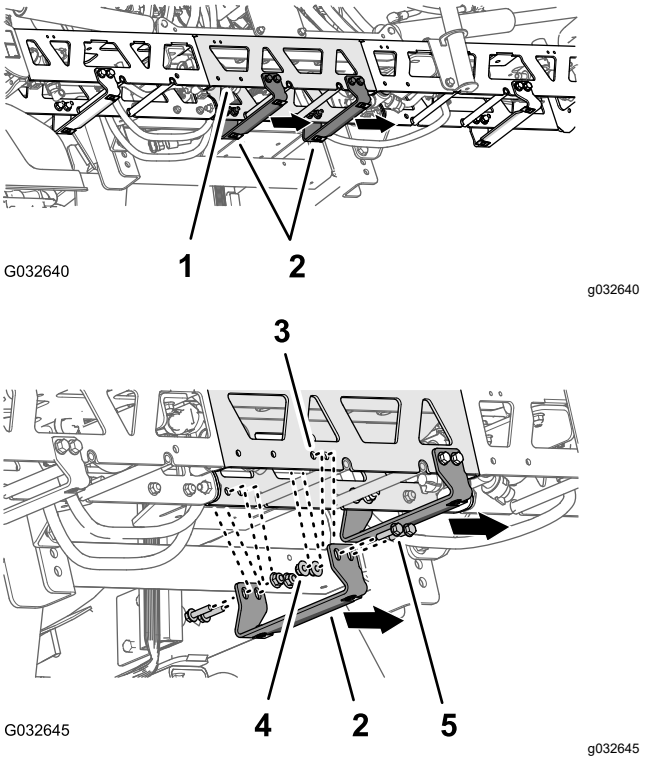


Figure 151

1. Extension (center-spray section_
2. Support bracket—Toro Part No. 131-3703-03 (wide flange to the right)
3. Truss-frame hole (extension for the center-spray section)
4. Flange locknut (3/8 inch—Toro Part No. 104-8301)
5. Flange-head bolt (3/8 x 1-1/4 inches—Toro Part No. 110-5050)

3. Align the holes in a support bracket (Toro Part No. 131-3703-03) to the holes in the extension for the center-spray section that you identified in step 2 with the wide flange of the bracket to the left; refer to Figure 151.
4. Assemble the support bracket to the truss frame (Figure 151) with 4 flange-head bolts (3/8 x 1-1/4 inches—Toro Part No. 110-5050) and 4 flange locknuts (3/8 inch—Toro Part No. 104-8301).
5. Repeat steps 2 through 4 at the other 2 pairs of holes in the extension for the center-spray section and the other support bracket, flange-head bolts, and flange locknuts.
6. Torque the nuts and bolts to 37 to 45 N·m (27 to 33 ft-lb).

Installing the Center-Section Cover

1. Align the holes in the center section cover with the holes in the support brackets for the center-section cover (Figure 152).

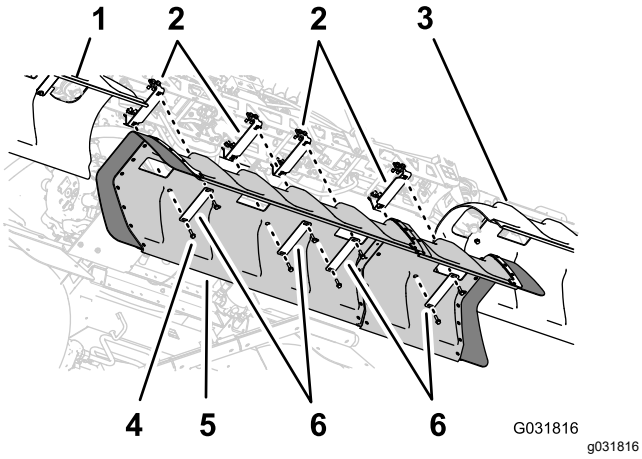


Figure 152

1. Left boom cover
2. Support brackets
3. Right boom cover
4. Flange-head bolt (5/16 x 1-1/4 inches)
5. Center boom cover
6. Cover straps

2. Align the holes in 2 of the cover straps that you removed in step 1 of6 Removing the Center-Section Cover (11-nozzle) of the Optional Covered-Boom Kit (page 21) with the hose in the cover and 2 of the support brackets (Figure 152).
3. Assemble the cover straps and cover to the support brackets with the 4 flange-head bolts (5/16 x 1-1/4 inches) that you removed in step 1 of 6 Removing the Center-Section Cover (11-nozzle) of the Optional Covered-Boom Kit (page 21).
4. Align the holes in the 2 cover straps (Toro Part No. 120-0629) with the 4 remaining holes in the cover and 4 remaining holes in the support brackets (Figure 152).
5. Assemble the cover straps and cover to the support brackets (Figure 152) with the 4 flange-head bolts (5/16 x 1-1/4 inches—Toro Part No. 323-36).
6. Torque the bolts to 1978 to 2542 N·cm (175 to 225 in-lb).

28

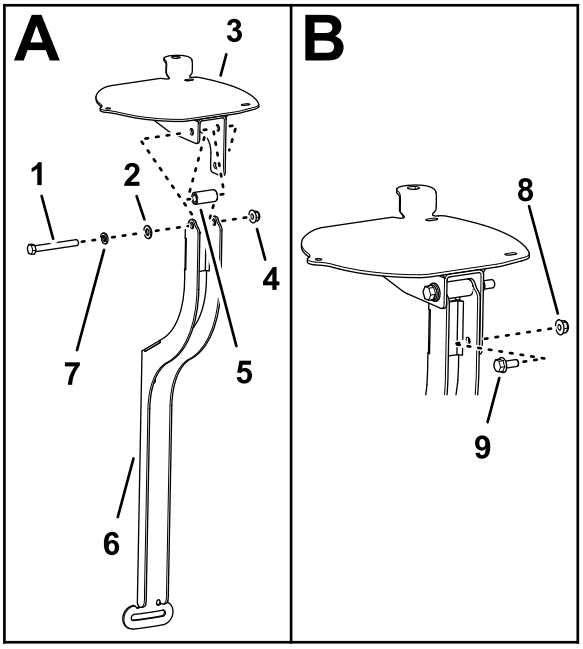
Installing the Navigation Receiver

Parts needed for this procedure:

1	Navigation-receiver plate
1	Receiver mount
1	Bolt (3/8 x 3-1/4 inches)
1	Lock washer (3/8 inch)
1	Washer (3/8 x 13/16 inch)
1	Spacer (3/8 x 1 inch)
1	Flange locknut (3/8 inch)
1	Flange-head bolt (5/16 x 3/4 inch)
1	Flange locknut (5/16 inch)
2	Flange-head bolt (3/8 x 1-1/2 inches)
2	Spacer (3/8 x 7/16 inch)
1	Navigation receiver—GeoLink precision spray system kit (Model 41633 or Model 41634)
1	Modem antenna bracket
3	Hex-head bolt (5 x 16 mm)
3	Washer (5 mm)

Assembling the Receiver Mount

1. Align the holes in the navigation-receiver plate, spacer (3/8 x 1 inch), and receiver mount (Figure 153).



g200645

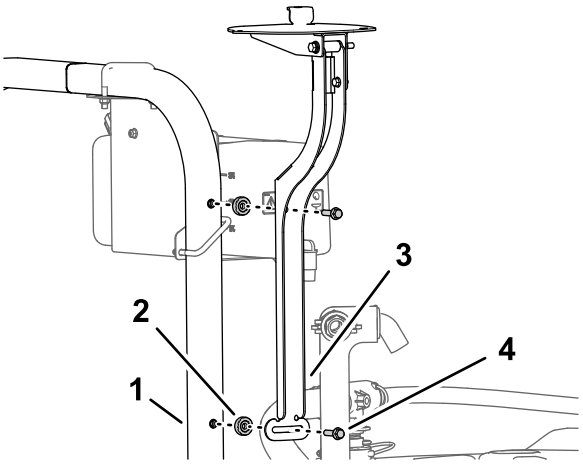
Figure 153

1. Bolt (3/8 x 3-1/4 inches)
2. Washer (3/8 x 13/16 inch)
3. Navigation-receiver plate
4. Flange locknut (3/8 inch)
5. Spacer (3/8 x 1 inch)
6. Receiver mount
7. Lock washer (3/8 inch)
8. Flange locknut (5/16 inch)
9. Flange-head bolt (5/16 x 3/4 inch)

2. Assemble the receiver plate and spacer to the mount with a bolt (3/8 x 3-1/4 inches), lock washer (3/8 inch), washer (3/8 x 13/16 inch), and flange locknut (3/8 inch) as shown in Figure 153.
3. Assemble the flange-head bolt (5/16 x 3/4 inch) and flange locknut (5/16 inch) through the smaller hole in the receiver mount and the slot in the receiver plate (Figure 153).
4. Tighten the bolts and nuts so that you can rotate the receiver plate with slight resistance.

Installing the Receiver Mount to the Machine

1. Assemble the receiver mount and spacer (3/8 x 7/16 inch) to the roll bar with the flange-head bolt (3/8 x 1-1/2 inches) as shown in Figure 154.

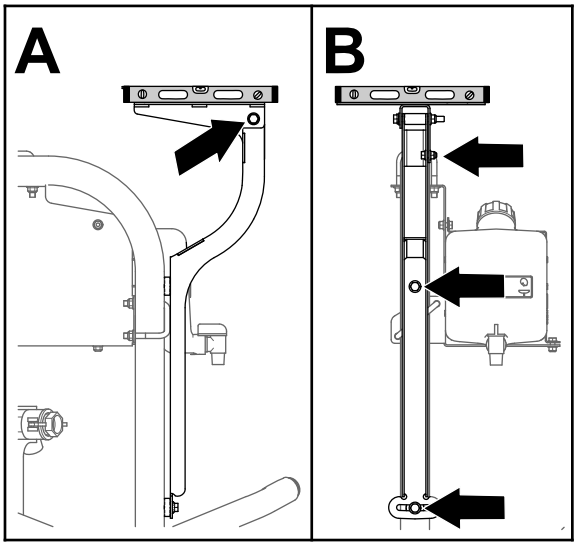


g200669

Figure 154

1. Roll bar (ROPS)
2. Spacer (3/8 x 7/16 inch)
3. Receiver mount
4. Flange-head bolt (3/8 x 1-1/2 inches)

2. Tighten the bolts so that you can rotate the receiver plate with slight resistance.
3. Level the receiver plate left to right (Figure 155).



g200675

Figure 155

4. Torque the flange-head bolt (5/16 x 3/4 inch) and flange locknut (5/16 inch) to 1978 to 2542 N·cm (175 to 225 in-lb).
5. Level the receiver plate front to back (Figure 155).

6. Torque the bolt (3/8 x 3-1/4 inches) and flange locknut (3/8 inch) to 37 to 45 N·m (27 to 33 ft-lb).

Assembling the Navigation Receiver to the Machine

1. Align the 3 threaded flanges in the base of the navigation receiver to the 3 holes in the receiver plate (Figure 156).

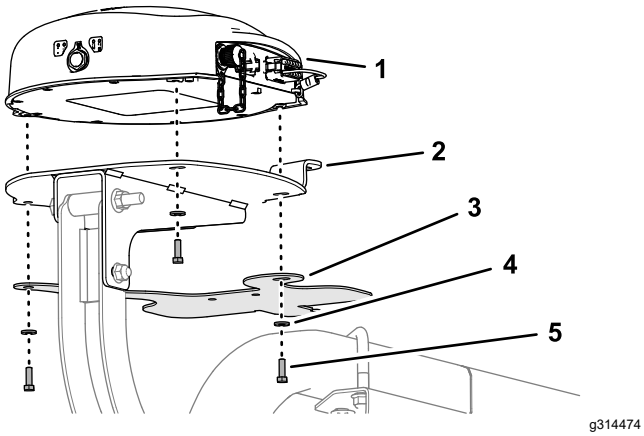


Figure 156

1. Navigation receiver
2. Receiver plate
3. Modem-antenna bracket
4. Washer (5 mm)
5. Hex-head bolt (5 x 16 mm)

2. Align the hole and slot in the modem-antenna bracket with the holes in the receiver plate (Figure 156).
3. Assemble the navigation receiver and antenna bracket to the plate (Figure 156) with the 3 hex-head bolts (5 x 16 mm) and 3 washers (5 mm).
4. Torque the 3 bolts to 576 to 712 N·cm (51 to 63 in-lb).

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Installing the Modem Antenna to the Machine

Parts needed for this procedure:

1	Modem antenna—GeoLink precision spray system kit (Model 41633 or Model 41634)

Installing the Modem Antenna to the Navigation Receiver Mount

1. Clean any grease of oil from the surface of the modem-antenna bracket.
2. Remove the backing from the double sided adhesive liner at the bottom of the modem antenna (Figure 157).

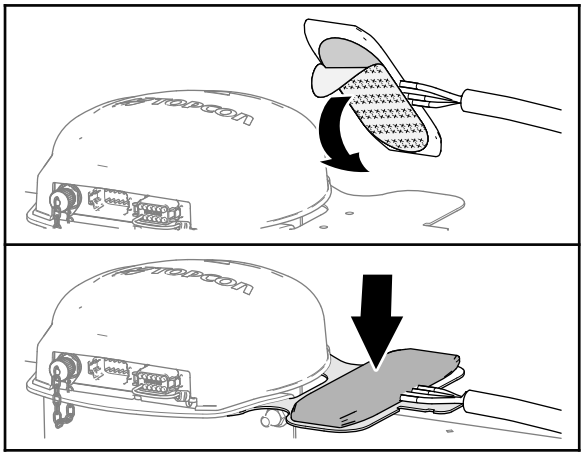
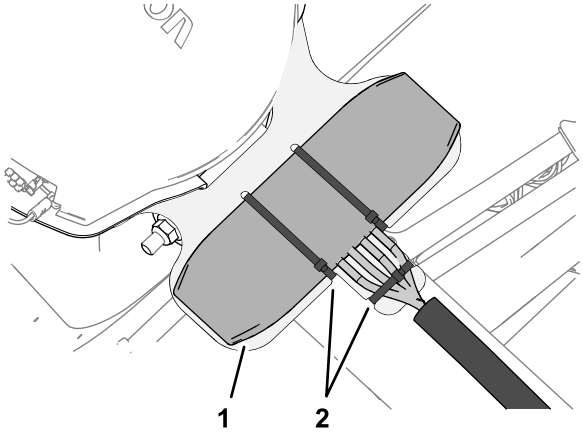


Figure 157

3. Adhere the modem antenna to the top of the modem-antenna bracket as shown in Figure 157.
4. Secure the antenna bracket with 3 cable ties as shown in Figure 158.



g309766

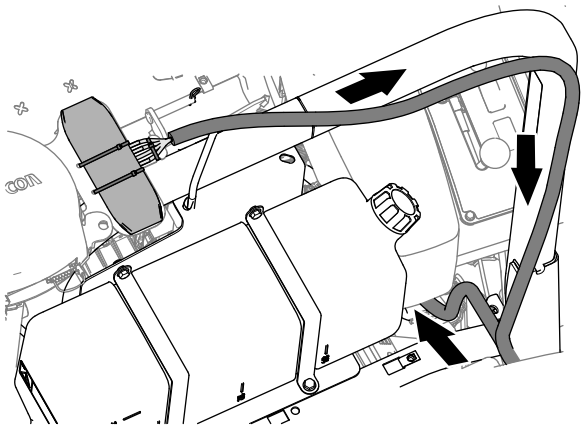
Figure 158

1. Modem antenna
2. Cable ties

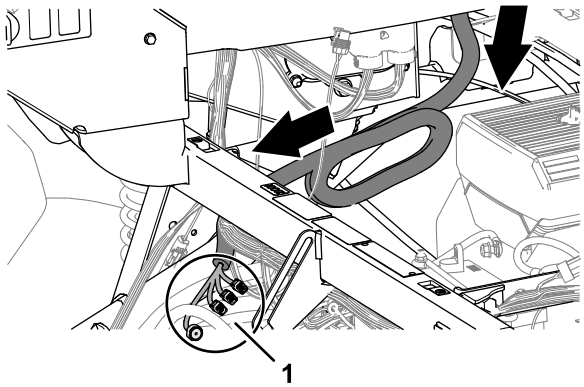
5. Secure the wire harness of the modem antenna to the bracket as shown in Figure 158.

Routing the Modem-Antenna Harness

1. Route the modem-antenna harness to the right, along the roll bar (Figure 159).



g314568



g314602

Figure 159

1. Connectors (modem-antenna harness)
2. Route the harness down, and forward as shown in Figure 159.
3. You will secure the modem-antenna harness to the roll bar in Routing the Navigation-Data and Electrical Harness to the Right Side of the Machine (page 77).

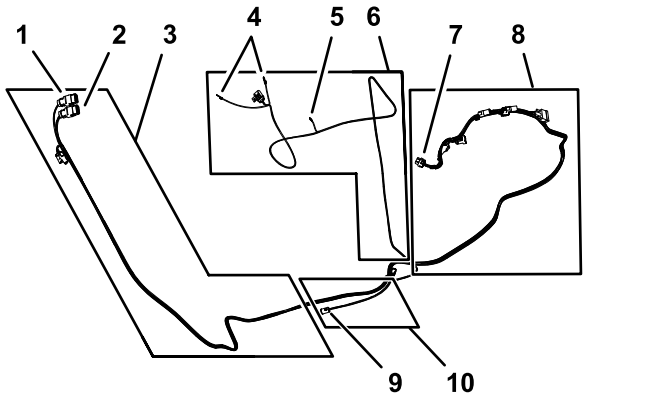
30

Routing the Navigation-Data and Electrical Harness

Parts needed for this procedure:

1	Navigation-data and electrical harness—GeoLink precision-spray-system kit (Model 41633 and 41634)

Identifying the Navigation-Data and Electrical Harness



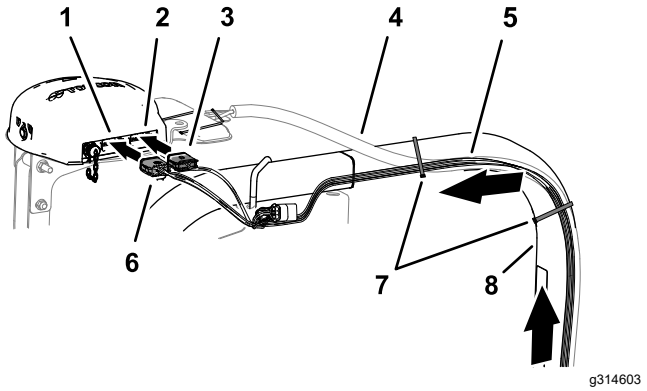
g310848

Figure 160

1. 12-socket connector—navigation receiver AGI4 A KEY (GREY)
2. 12-socket connector—navigation receiver AGI4 B KEY (BLACK)
3. 302 cm (119 inches) data-harness branch (navigation receiver)
4. Ring terminals (to battery positive and battery negative)
5. Socket connector (switched power)
6. 270.5 cm (106-1/2 inch) power-harness branch
7. 26-socket connector—(control console)
8. 226 cm (89 inches) data-harness branch (control console)
9. 4-pin connector (rear harness interface—CAN 2 ASC 10 BUS)
10. 34 cm (13-1/2 inches) data-harness branch (rear harness interface)

Connecting the Navigation-Data and Electrical Harness to the Navigation Receiver

1. Align the 302 cm (119 inches) branch of the navigation-data and electrical harness along the right ROPS tube with the 12-socket connector **(gray)** and 12-socket connector **(black)** up toward the navigation receiver (Figure 161).



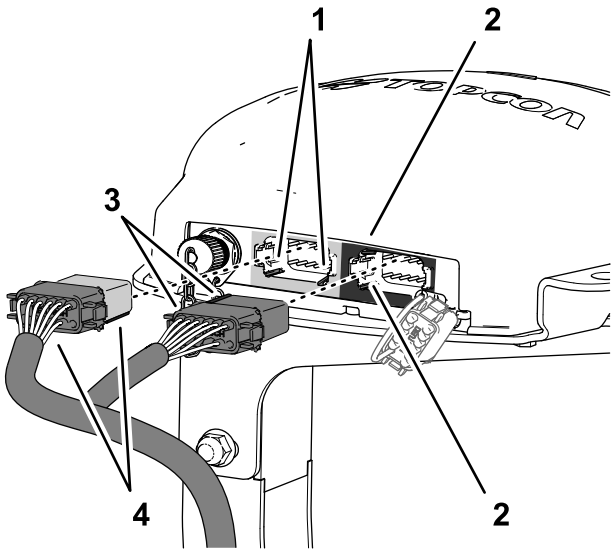
g314603

Figure 161

1. 12-pin connector **left (gray)**—navigation receiver
2. 12-pin connector **right (black)**—navigation receiver
3. 12-socket connector—data harness labeled AGI4 B KEY (BLACK)
4. Modem-antenna harness
5. 302 cm (119 inches) data-harness branch
6. 12-socket connector—data harness labeled AGI4 A KEY (GREY)
7. Cable ties
8. Right ROPS tube

2. Align the 2 keys at the long face of the 12-socket connector of the data harness labeled AGI4 A KEY (GREY) with the 2 key slots in the bottom, horizontal wall of the left (gray) 12-pin connector of the navigation receiver (Figure 162).

Important: **Use caution when connecting wire harness to the navigation receiver; the alignment keys of the harness connectors are unique to the keyways of the pin connectors of the navigation receiver.**



g314604

Figure 162

1. Key slots—bottom, horizontal wall (**left (gray)** 12-pin connector—navigation receiver)
2. Key slots—left, vertical wall (**right (black)** 12-pin connector—navigation receiver)
3. Alignment keys—short face (AGI4 B KEY (BLACK) 12-socket connector—data harness)
4. Alignment keys—long face (AGI4 A KEY (GREY) 12-socket connector—data harness)

3. Plug the AGI4 A KEY (GREY) connector of the data harness into the left (gray) 12-pin connector of the navigation receiver until the connector locks snap together securely (Figure 162).
4. Align the 2 keys at the short side of the 12-socket connector—data harness labeled AGI4 B KEY (BLACK) with the 2 key slots in the left, vertical wall of the right (black) 12-pin connector of the navigation receiver (Figure 162).

   Important: **Use caution when connecting wire harness to the navigation receiver; the alignment keys of the harness connectors are unique to the keyways of the pin connectors of the navigation receiver.**
5. Plug the AGI4 B KEY (BLACK) connector of the data harness into the right (black) 12-pin connector of the navigation receiver until the connector latch snap together securely (Figure 162).

Routing the Navigation-Data and Electrical Harness to the Right Side of the Machine

1. Route the navigation-data and electrical harness along the right roll bar tube and the modem-antenna harness to the cross member for the seat support (Figure 163).

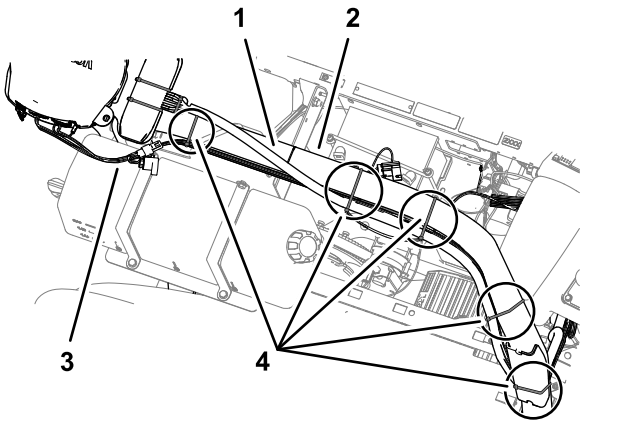


Figure 163

1. Modem-antenna harness
2. Right roll bar tube
3. Data harness
4. Cable ties

2. Secure the harnesses to the roll bar with 5 cable ties as shown in Figure 163.

   Note: Ensure that the harness is slack between the 12-socket connectors and the cable tie.

3. Route the 227 cm (89-1/2 inches) branch of the navigation-data and electrical harness along the bottom of the control console of the machine (Figure 164).

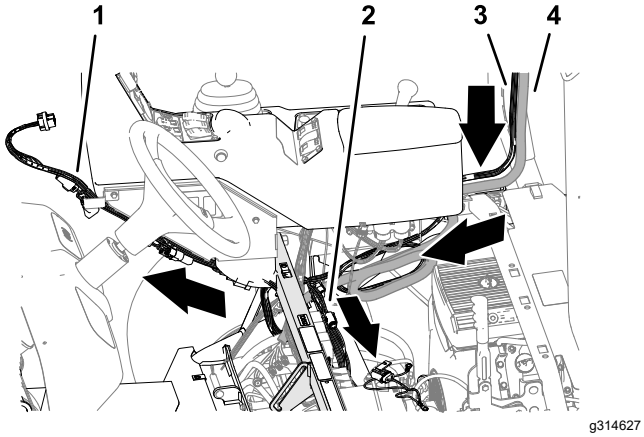


Figure 164

1. 227 cm (89-1/2 inches) harness branch (navigation-data and electrical harness)
2. 258 cm (101-1/2 inch) power-harness branch (navigation-data and electrical harness)
3. Navigation-data and electrical harness
4. Modem-antenna harness

4. Route the 258 cm (101-1/2 inch) branch of the navigation-data and electrical harness across the shock-support tube and toward the battery (Figure 164).

Connecting the CAN 2/ASC 10 Power Connector

1. Adhere the magnetic mount of the kit sprayer harness to the right, upper tube frame of the machine (Figure 165).

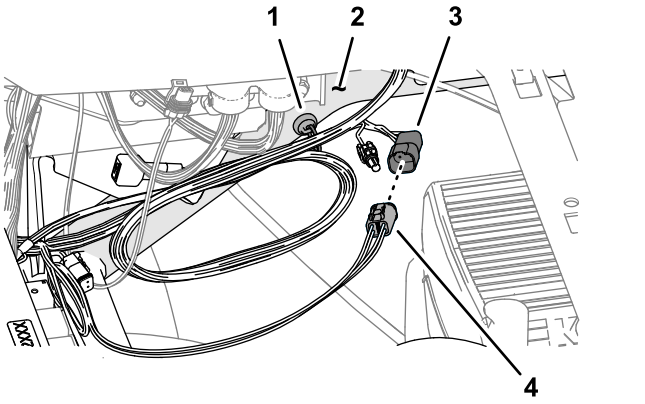


Figure 165

1. Magnetic mount (kit sprayer harness)
2. Right, upper tube frame
3. 4-socket connector (labeled ASC10 PWR & CAN FROM X30—kit sprayer harness)
4. 4-pin connector (labeled CAN 2 ASC 10 BUS—data harness)

2. Plug the 4-pin connector labeled CAN 2 ASC 10 BUS of the data harness into the 4-socket connector labeled ASC10 PWR & CAN FROM X30 of the kit sprayer harness (Figure 165).

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Installing the Monitor Visor

Parts needed for this procedure:

1	Control console—GeoLink precision spray system kit (Model 41633 or Model 41634)
2	Adhesive strips
1	Threaded standoff
1	Display hood

Applying the Adhesive Strips to the Sprayer Monitor

1. Clean the top surface of the X25 sprayer display with rubbing alcohol and a clean rag.
2. Remove the backing from the 2 adhesive strips.

3. At the top of the sprayer monitor, align the strips to the sprayer monitor as shown in Figure 166.

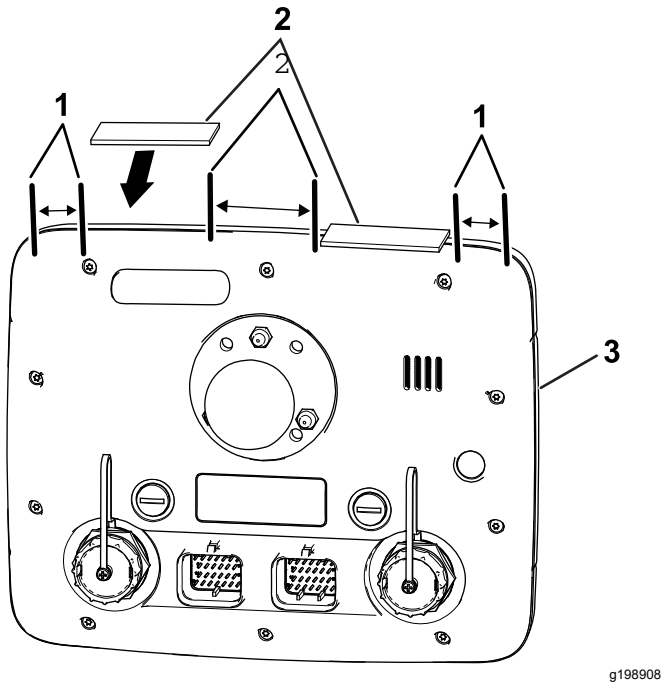

Figure 166

1. 51 mm (2 inches)
2. Adhesive strips
3. Sprayer monitor (back side)

4. Firmly press the adhesive strips to the top of the monitor.

Assembling the Display Hood to the Control Console

1. At the back of the control console and with the 2 connectors (26 pin) aligned down, remove the top locknut (5 mm) from the stud for the ball-pivot fitting (A of Figure 167).

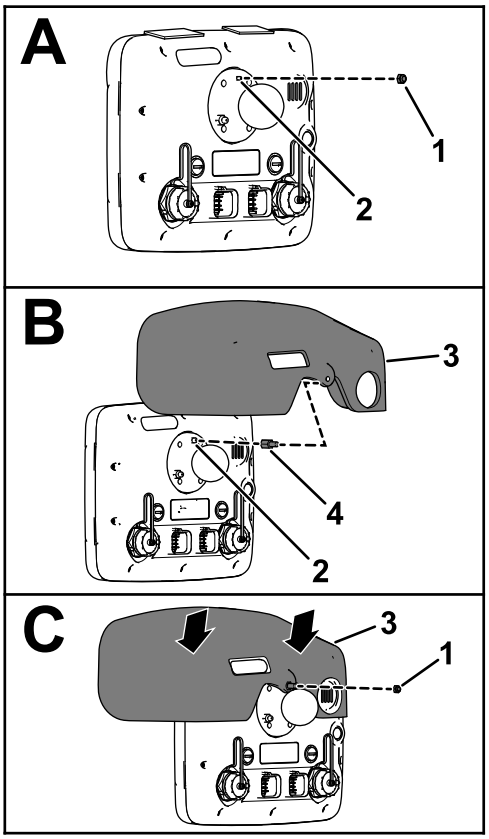

Figure 167

1. Locknut (5 mm)
2. Stud—5 mm (control console at the ball-pivot fitting)
3. Display hood
4. Threaded standoff

2. Apply a coat of thread-locking compound (wicking—medium-high strength) to the threads for the nut portion of the threaded standoff (Figure 168).

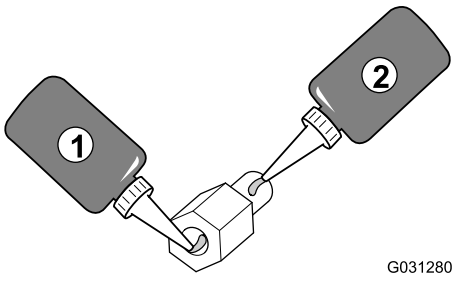

Figure 168

1. Thread-locking compound (wicking—medium-high strength)—nut threads of the threaded standoff
2. Thread-locking compound (wicking—medium-high strength)—stud threads

3. Thread the standoff into the stud for the ball-pivot fitting (B of Figure 167) and torque the standoff to 250 N·cm (22 in-lb).
4. Apply a coat of thread-locking compound (wicking—medium-high strength) to the threads

for the stud portion of the threaded standoff (Figure 168).

5. Remove the backing from the 2 adhesive strips that you applied in Applying the Adhesive Strips to the Sprayer Monitor (page 78).
6. Align the hole in the display hood with the stud portion of the threaded standoff (B of Figure 167).
7. Assemble the hood to the monitor (C of Figure 167) with the locknut (5 mm) that you removed in step 1.

   Note: Press down on the areas of the top of the hood with the adhesive strips underneath.
8. Torque the nut to 250 N·cm (22 in-lb).

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Installing the Control Console

Parts needed for this procedure:

1	Monitor mount
3	Flange-head bolt (6 x 12 mm)
2	U-bolt (5/16 inch)
4	Flange-head bolt (5/16 x 3/4 inch)
8	Flange locknut (5/16 inch)
1	Ball mount—GeoLink precision spray system kit (Model 41633 or Model 41634)
1	Monitor Arm—GeoLink precision spray system kit (Model 41633 or Model 41634)

Removing the Steering Wheel

1. Mark the position of the steering wheel to the steering valve with a piece of tape (Figure 169).

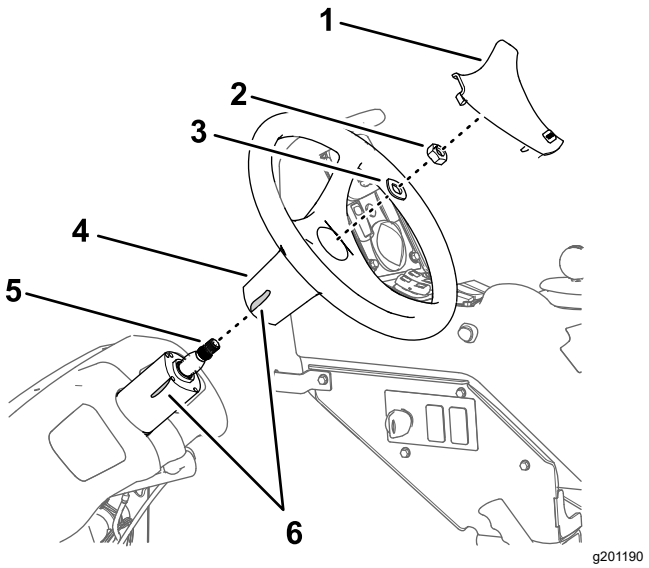


Figure 169

1. Steering-wheel cover
2. Nut (5/8 inch)
3. Washer (5/8 inch)
4. Steering wheel
5. Shaft (steering valve)
6. Tape

2. Remove the cover from the steering wheel (Figure 169).
3. Remove the nut (5/8 inch) and washer (5/8 inch) that secure the steering wheel to the steering valve, and remove the steering wheel (Figure 169).

Installing the Monitor Mount

1. Align the monitor mount to the machine as shown in Figure 170.

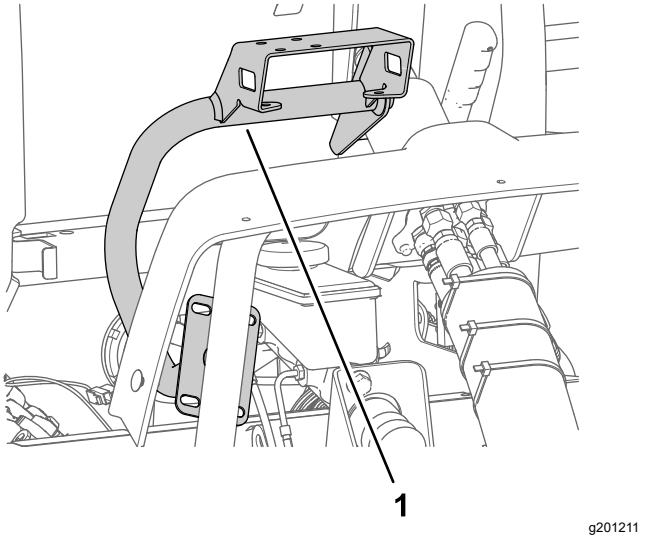


Figure 170

1. Monitor mount

2. Assemble the monitor mount to the housing of the steering valve (Figure 171) with the 3 flange-head bolts (6 x 12 mm).

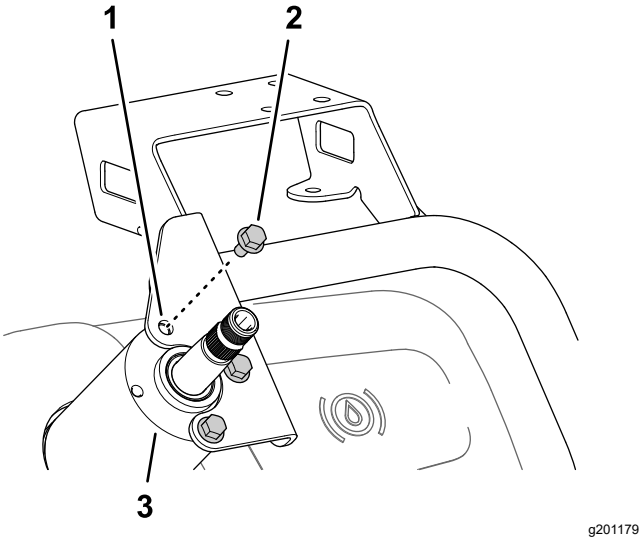


Figure 171

1. Monitor mount
2. Flange-head bolt (6 x 12 mm)
3. Housing (steering valve)

3. Assemble the plate of the monitor mount to the support tube of the machine chassis (Figure 172) with the 2 U-bolts and 4 flange locknuts (5/16 inch).

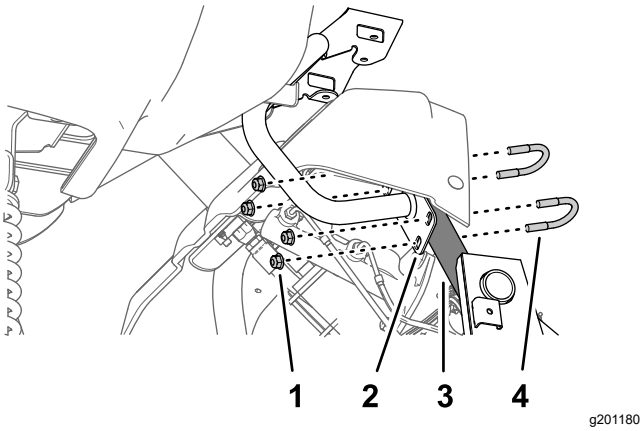


Figure 172

1. Flange locknut (5/16 inch)
2. Plate (monitor mount)
3. Support tube (machine chassis)
4. U-bolt (5/16 inch)

4. Torque the 3 flange-head bolts (6 x 12 mm) at the steering valve to 972 to 1198 N·cm (86 to 106 in-lb); At the support tube, torque the flange locknuts to 1978 to 2542 N·cm (175 to 225 in-lb).

Installing the Steering Wheel

1. Align the tape mark on the steering wheel to the tale mark on the housing of the steering valve (Figure 173).

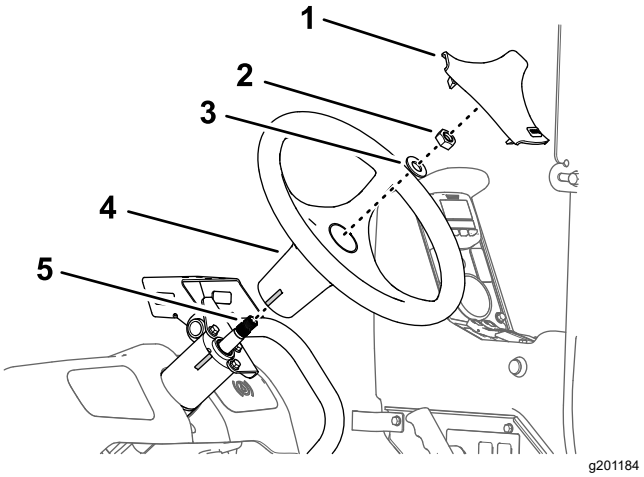


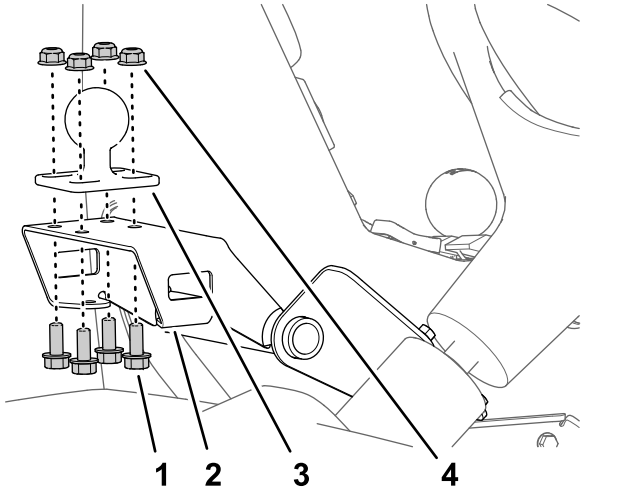
Figure 173

1. Steering-wheel cover
2. Nut (5/8 inch)
3. Washer (5/8 inch)
4. Steering wheel
5. Shaft (steering valve)

2. Assemble the steering wheel onto the shaft of the steering valve (Figure 173) with the washer (5/8 inch) and nut (5/8 inch) that you removed in step 3 of Removing the Steering Wheel (page 80).
3. Torque the nut to 206 to 254 N·m (152 to 188 ft-lb).
4. Install the cover that you removed in step 2 of Removing the Steering Wheel (page 80) onto the steering wheel (Figure 210).

Installing the Control Console to the Mount

1. Assemble the ball mount to the bracket for the monitor mount (Figure 174) with the 4 flange-head bolts (5/16 x 3/4 inch) and 4 flange locknuts (5/16 inch).

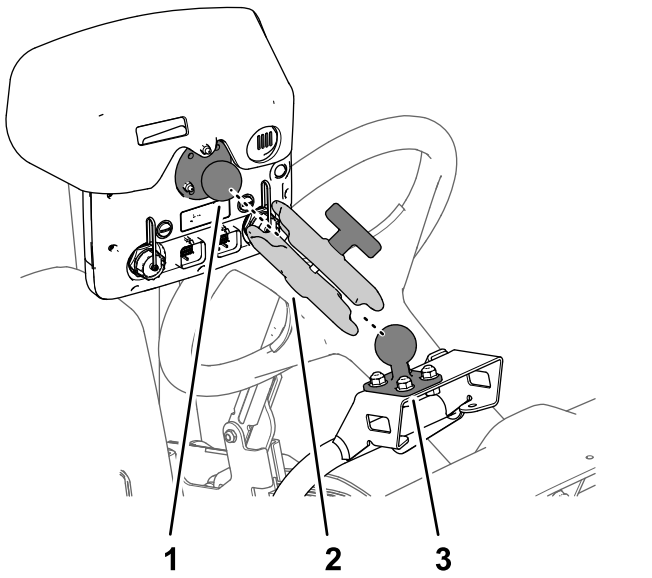


g201181

Figure 174

1. Bracket (monitor mount)
2. Flange-head bolt (5/16 x 3/4 inch)
3. Ball mount
4. Flange locknut (5/16 inch)

2. Torque the bolts and nuts to 1978 to 2542 N·cm (175 to 225 in-lb).
3. Assemble the ball fitting of the monitor and the ball mount on the machine to the monitor arm (Figure 175).



g314569

Figure 175

1. Ball fitting (monitor)
2. Monitor arm
3. Ball mount

4. Adjust the monitor so that it is viewable from the machine operator's position and tighten the knob of the monitor arm by hand (Figure 175).

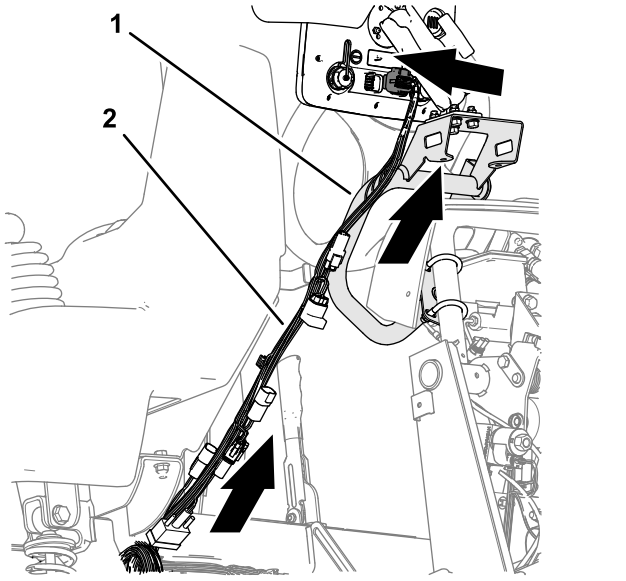
33

Connecting the Data Cable to the Control Console

No Parts Required

Routing and Connecting the Navigation-Data and Electrical Harness to the Control Console

1. Route the 227 cm (89-1/2 inch) branch of the navigation-data and electrical harness (the branch with the 26-socket connector) up and along the support tube for the control console (Figure 176).



g315769

Figure 176

1. Support tube (control console)
2. Navigation-data and electrical harness—227 cm (89-1/2 inch) branch

2. Align the 26-socket connector of the data harness with the 26-pin connector of the control console and press the socket connector into the pin connector until the latch of the connector snaps securely (Figure 177).

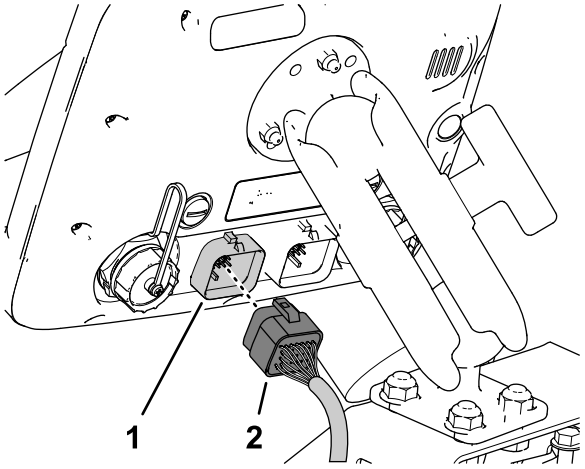


Figure 177

1. 26-pin connector (control console)
2. 26-socket connector—data harness (control console)

Removing the Terminating Resistor

Remove the terminating resistor from the 6-socket connector labeled CAN 2 TERMINATOR of the data cable as shown in Figure 178.

Note: You no longer need the terminating resistor.

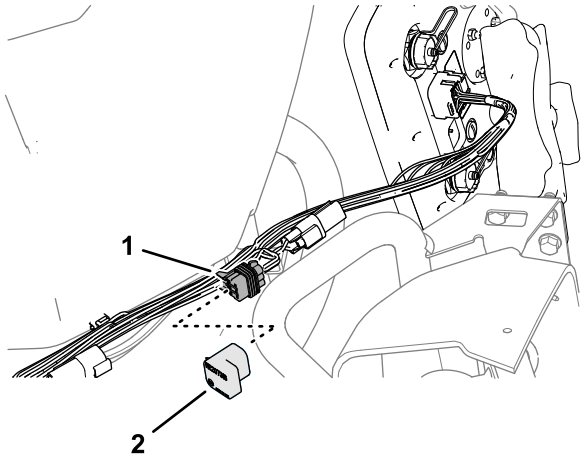


Figure 178

1. 6-socket connector of the data cable
2. Terminating resistor

34

Assembling the Modem Data Harness to the Machine

Parts needed for this procedure:

1	Modem data harness—300 cm (118 inches)—GeoLink precision spray system kit (Model 41633 or Model 41634)

Connecting the Modem Data Harness to the Sprayer Display

1. Align the modem data harness with the RS-232 connector labeled X-CONSOLE toward the control console (Figure 179).

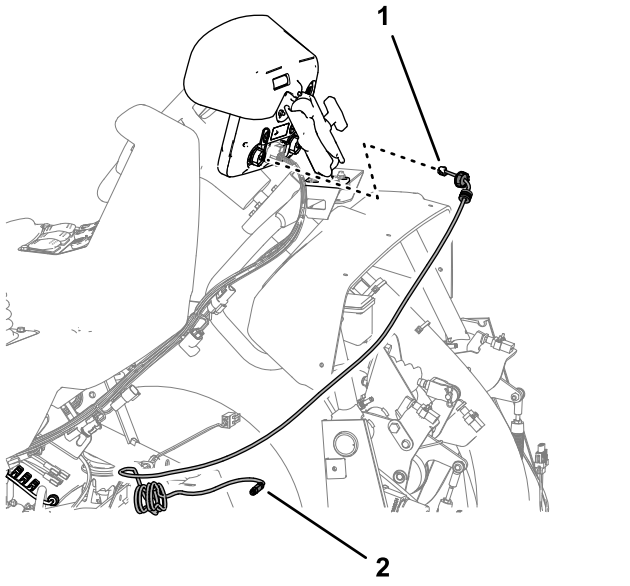
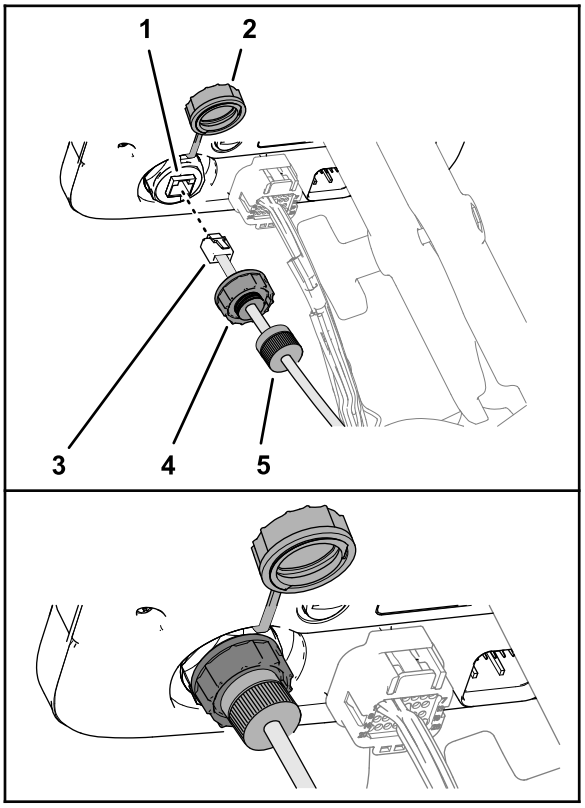


Figure 179

1. RJ45 connector (labeled X-CONSOLE—modem data harness)
2. 4-pin connector (labeled ETHERNET CL-55—modem data harness)

2. At the front of the sprayer display, remove the cap from the RJ45 port (Figure 180).



g315222

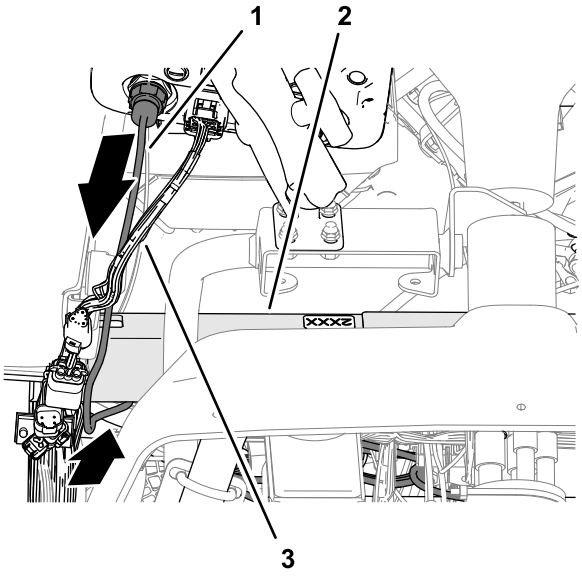
Figure 180

1. RJ45 port (sprayer display)
2. Cap
3. RJ45 connector (labeled X-CONSOLE—modem data harness)
4. Port seal nut
5. Compression nut

3. Plug the RJ45 connector of the modem data cable labeled X-CONSOLE into the RJ45 port of the sprayer display (Figure 180).
4. Assemble the port seal nut over the RJ45 port of the sprayer display, and tighten the seal nut (Figure 180).
5. Assemble compression nut over port seal nut, and tighten the compression nut (Figure 180).

Routing the Modem Data Harness

1. Route the modem data harness along the data harness for the control console (Figure 181).

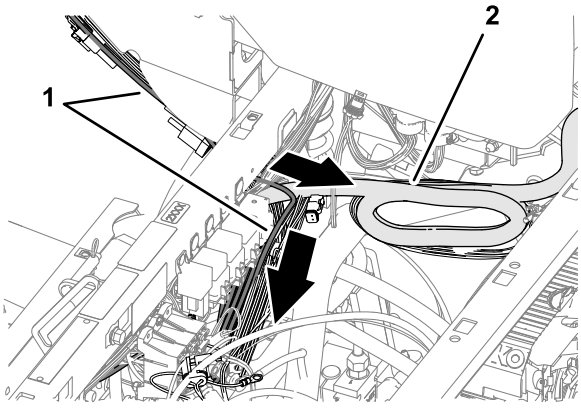


g315306

Figure 181

1. Modem data harness
2. Shock-support tube
3. Data harness (control console)

2. Route the modem data harness under the shock-support tube of the machine
3. Route the modem data harness across the back if the relays and down (Figure 182).



g315307

Figure 182

1. Data harness (control console)
2. Modem data harness

4. Align the 4-pin connector labeled ETHERNET CL-55 of the modem data harness near the 4 connectors for the modem-antenna harness as shown in Figure 183.

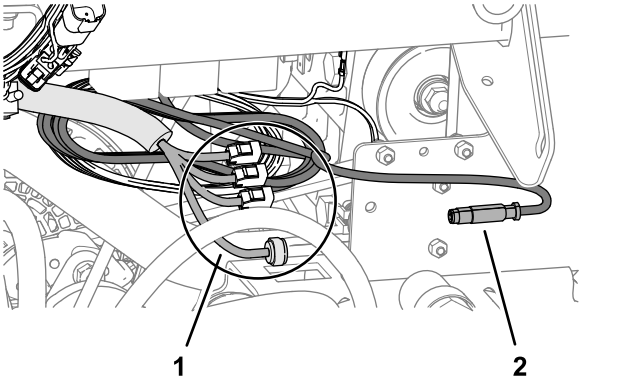


Figure 183

1. Connectors (modem-antenna harness)
2. 4-pin connector (labeled ETHERNET CL-55—modem data harness)

Securing the Navigation-Data and Electrical Harness, Modem-Antenna Harness, and Modem Data Harness

1. At the right, upper tube frame, bundle the navigation-data and electrical harness, and the CAN 2 ASC 10 BUS wire harness branch to the kit sprayer harness with 2 cable ties (Figure 184).

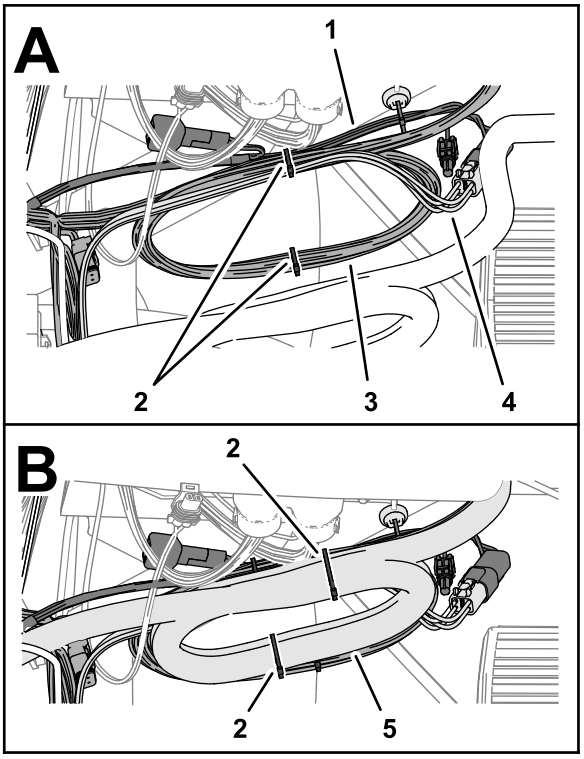


Figure 184

1. Kit sprayer harness
2. Cable ties
3. Navigation-data and electrical harness
4. CAN 2 ASC 10 BUS wire harness branch
5. Modem-antenna harness

2. Bundle the modem-antenna harness and secure it to the kit sprayer harness bundle with 2 cable ties (Figure 184).
3. Secure the modem-data harness and the navigation-data and electrical harness to the monitor tube with a cable tie (Figure 185).

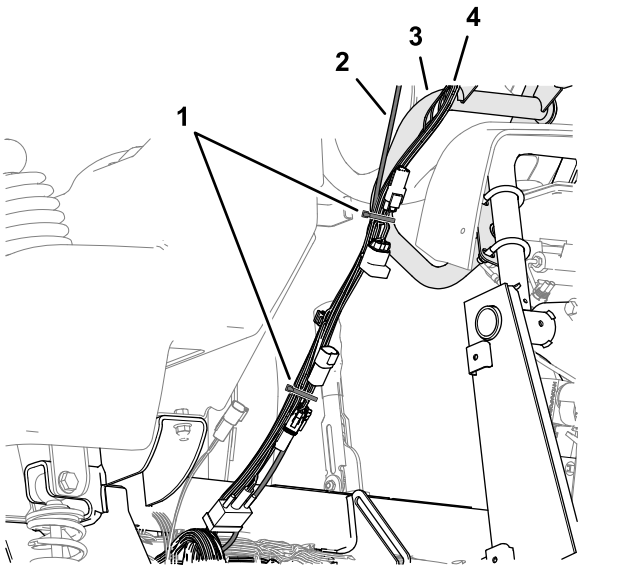


Figure 185

1. Cable tie
2. Modem-data harness
3. Monitor tube
4. Navigation-data and electrical harness

4. Secure the modem-data harness to the navigation-data and electrical harness with a cable tie as shown in Figure 185.

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Assembling the Modem Power Harness to the Machine

Parts needed for this procedure:

1	Modem power harness—GeoLink precision spray system kit (Model 41633 or Model 41634)

Procedure

1. Align the modem power harness to the machine as shown in Figure 186.

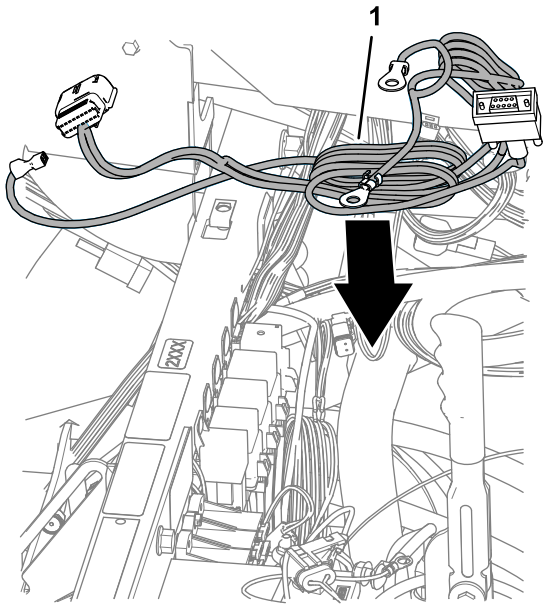


Figure 186

1. Modem power harness

2. Route the ring terminals of the modem power harness labeled BATTERY and GROUND toward the battery (Figure 187).

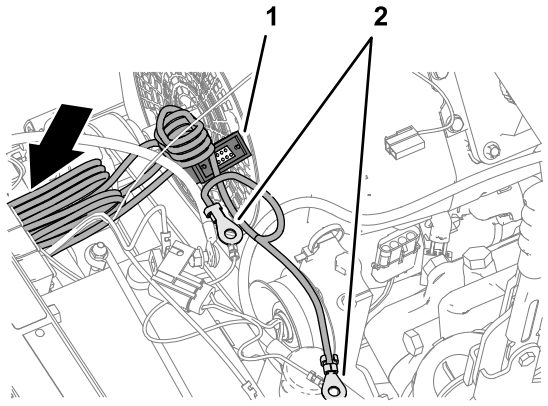
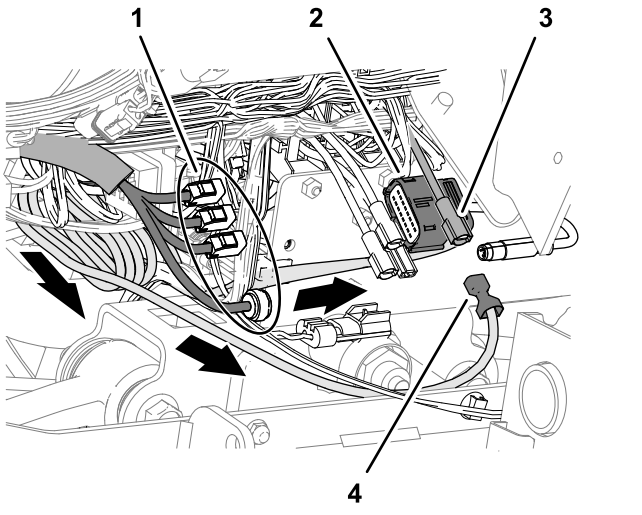


Figure 187

1. 9-pin connector (labeled RS232—modem power harness)
2. Ring terminals (labeled BATTERY and GROUND—modem power harness)

3. Route the 4-pin connector labeled ETHERNET CL-55 and the 18-socket connector labeled CL55 of the modem power harness under the fuse block of the machine.
4. At the front of the machine, route the 4-pin connector labeled ETHERNET CL-55 and the 18-socket connector labeled CL55 of the modem power harness to the machine as shown in Figure 188.



g315595

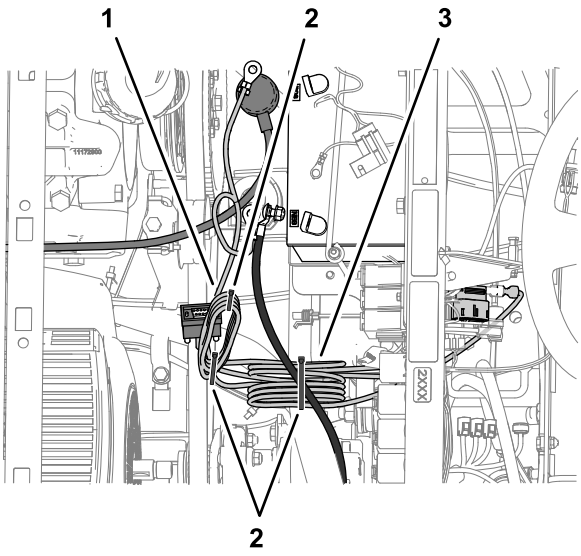
Figure 188

1. 4-pin connector (labeled ETHERNET CL-55—modem data harness)
2. 18-socket connector (labeled CL55—modem power harness)
3. Socket connector (options power—fuse block)
4. Terminal (labeled SWITCHED—modem power harness)

5. Plug the terminal of the modem power harness labeled SWITCHED into the socket connector for options power of the fuse block (Figure 188).

   Note: If 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.

6. Near the fuse block bundle the modem power-harness at the 9-pin connector labeled RS232 and secure the harness with 2 cable ties as shown in Figure 189.

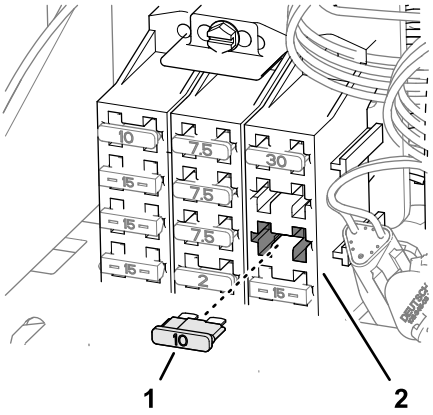


g315843

Figure 189

1. Modem power-harness bundle (at 9-pin connector labeled RS232—not used)
2. Cable ties
3. Modem power-harness bundle (at negative battery cable)

7. Bundle the modem power-harness at the negative battery cable, and secure the bundle to the battery cable with a cable tie as shown in Figure 189.
8. Insert the fuse (10 A) into the fuse-block socket (Figure 190) for the options power circuit that you used in step 5.



g323085

Figure 190

1. Fuse (10 A)
2. Fuse block

36

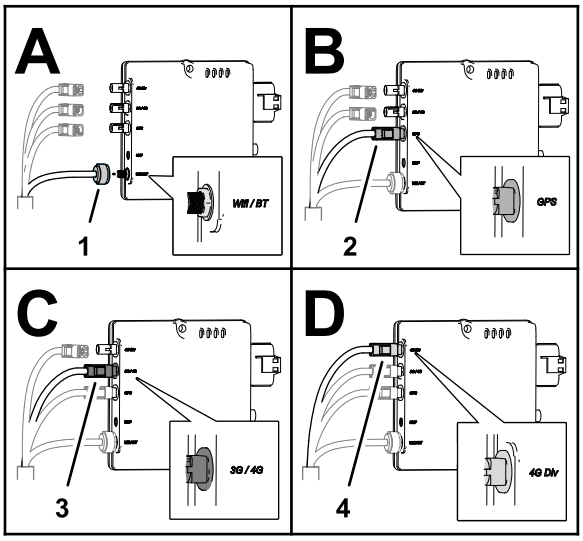
Installing the CL-55 Modem

Parts needed for this procedure:

1	CL-55 modem—GeoLink precision spray system kit (Model 41633 or Model 416344)
1	Modem bracket—GeoLink precision spray system kit (Model 41633 or Model 41634)
2	Slotted machine screw (10-24 x 1-1/2 inches)—GeoLink precision spray system kit (Model 41633 or Model 41634)
2	Spacer—GeoLink precision spray system kit (Model 41633 or Model 41634)
2	Locknut (10-24 inch)—GeoLink precision spray system kit (Model 41633 or Model 41634)
1	Capscrew (1/4 x 3/4 inch)—GeoLink precision spray system kit (Model 41633 or Model 41634)
1	Flange locknut (1/4 inch)—GeoLink precision spray system kit (Model 41633 or Model 41634)

Connecting the Antenna Harness to the Modem

1. Plug the coaxial connector of the modem-antenna harness labeled WIFI into the coaxial port of the CL-55 modem marked WIFI/BT, and tighten the coaxial connector (Figure 191).



g310538

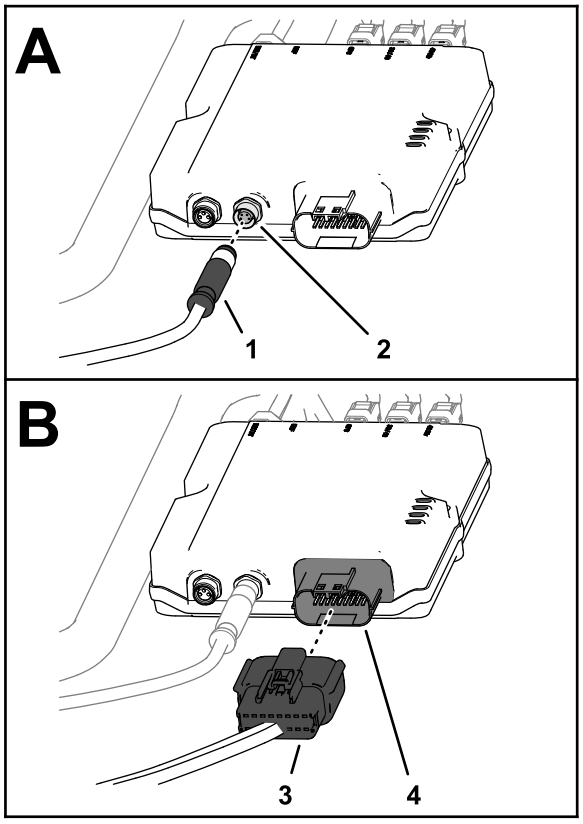
Figure 191

1. Coaxial connector (labeled WIFI—modem-antenna harness)
2. Blue coaxial push-in connector (labeled GNSS—modem-antenna harness)
3. Violet coaxial push-in connector (labeled LTE-1—modem-antenna harness)
4. Red coaxial push-in connector (labeled LTE-2—modem-antenna harness)

2. Plug the blue coaxial push-in connector of the modem-antenna harness labeled GNSS into the connector of the CL-55 modem marked GPS, until the connectors latch securely (Figure 191).
3. Plug the violet coaxial push-in connector of the modem-antenna harness labeled LTE-1 into the connector of the CL-55 modem marked 3G / 4G, until the connectors latch securely (Figure 191).
4. Plug the red coaxial push-in connector of the modem-antenna harness labeled LTE-2 into the connector of the CL-55 modem marked 4G DIV, until the connectors latch securely (Figure 191).

Connecting the Modem Data and Power Harnesses to the Modem

1. Plug the 4-pin connector of the modem data harness labeled ETHERNET CL55 into the 4-socket connector (unmarked) of the CL-55 modem, and tighten the knurled nut of the 4-pin connector (Figure 192).



g310539

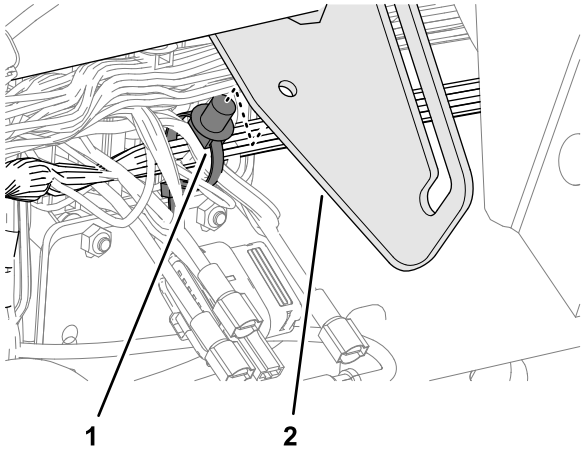
Figure 192

1. 4-pin connector (labeled ETHERNET CL55—modem data harness)
2. 4-socket connector (unmarked—CL-55 modem)
3. 18-socket connector (labeled CL55—modem power harness)
4. 18-pin connector (CL-55 modem)

2. Plug the 18-socket connector of the modem power harness labeled CL55 into the 18-pin connector of the CL-55 modem (Figure 192).

Installing the Modem to the Machine

1. Remove the push-in fastener that secures the wire harness of the machine to the prop-rod bracket (Figure 193).



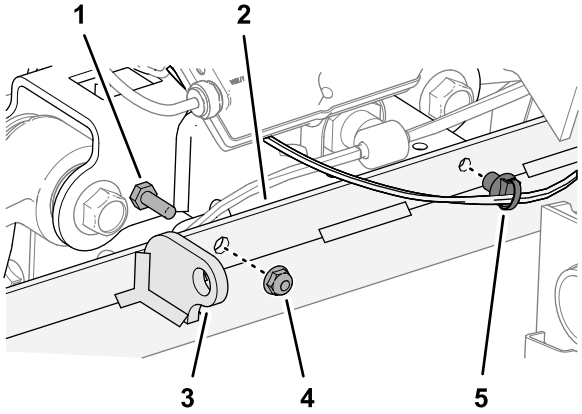
g315555

Figure 193

1. Push-in fastener (machine wire harness)
2. Prop-rod bracket

2. Remove the capscrew (1/4 x 3/4 inch) and flange locknut (1/4 inch) from the flange of the machine frame as shown in Figure 194.

   Note: Retain the capscrew and locknut for installing the modem bracket.



g315461

Figure 194

1. Capscrew (1/4 x 3/4 inch)
2. Flange (machine frame)
3. Right seat-pivot bracket
4. Flange locknut (1/4 inch)
5. Push-in fastener (machine wire harness)

3. Remove the push-in fastener that secures the wire harness of the flange of the machine frame (Figure 194).
4. Assemble the modem bracket to the CL-55 modem with 2 slotted machine screws (#10-24 x 1-1/2 inches), 2 spacers (1/4 x 3/4 inch), and 2 locknuts (#10-24) as shown in Figure 195.

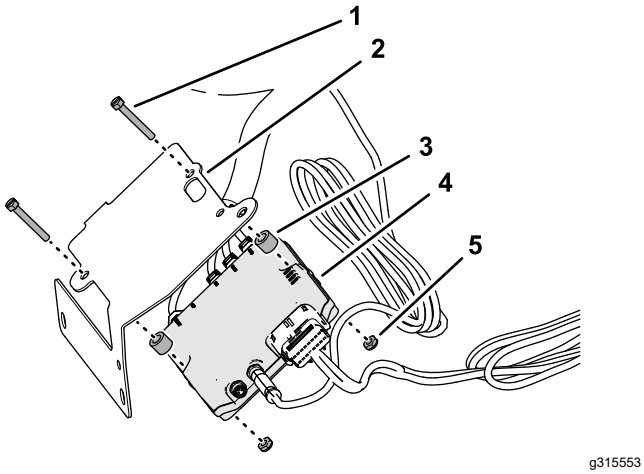


Figure 195

1. Slotted machine screw (#10-24 x 1-1/2 inches)
2. Modem bracket
3. Spacer (1/4 x 3/4 inch)
4. CL-55 modem
5. Locknut (#10-24)

5. Align the modem bracket under the prop-rod bracket and behind the flange of the machine frame as shown in Figure 196.

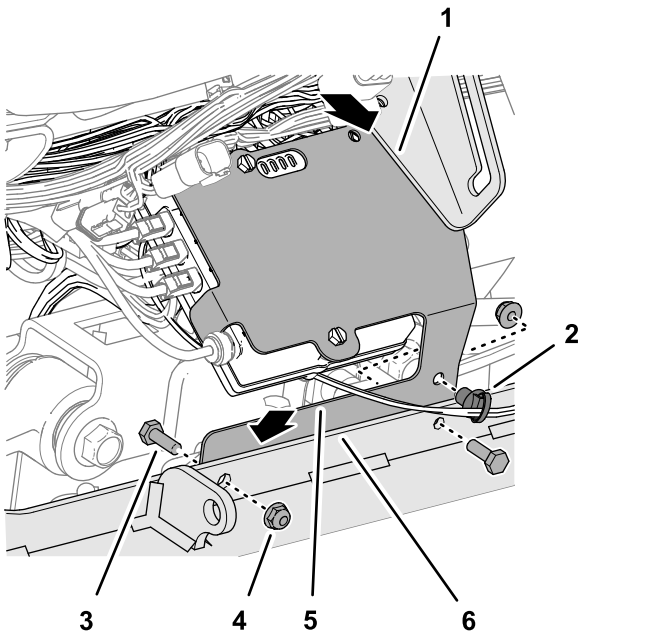


Figure 196

1. Prop-rod bracket
2. Push-in fastener (machine wire harness)
3. Capscrew (1/4 x 3/4 inch)
4. Flange locknut (1/4 inch)
5. Modem bracket
6. Flange (machine frame)

6. Insert the lower push-in fastener of the wire harness into the hole in the modem bracket as shown in Figure 196.

7. Insert the upper push-in fastener of the wire harness into the holes in the modem bracket and prop-rod bracket (Figure 197).

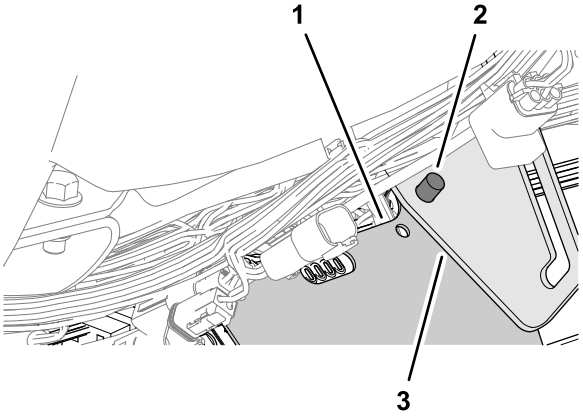


Figure 197

1. Modem bracket
2. Push-in fastener (machine wire harness)
3. Prop-rod bracket

37

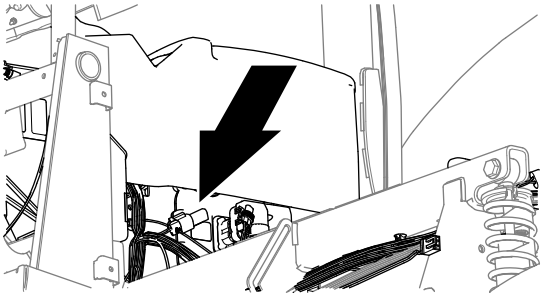
Removing the Passive Resistor from the Machine Wire Harness

No Parts Required

Procedure

At the inboard side of the control console of the machine, remove the passive terminating resistor from the unlabeled 3-pin connector of the machine wire harness (Figure 198).

Note: Retain the passive terminating resistor for installation in Connecting the Antenna Harness to the Modem (page 88).



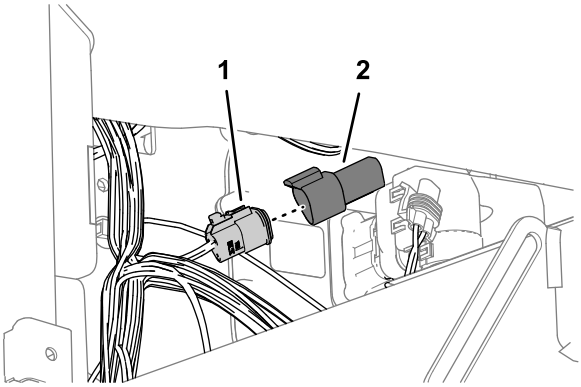


Figure 198

1. 3-pin connector (not labeled—machine wire harness)
2. Terminating resistor (passive)

38

Installing the ISO-CAN Bus Harness

Parts needed for this procedure:

1	ISO-CAN bus harness—302 cm (119 inches)—GeoLink precision spray system kit (Model 41633 or Model 41634)

Connecting the ISO Bus Harness to the Navigation-Data and Electrical Harness

1. At the front of the control console of the machine, route the connector labeled TO ISOBUS of the ISO-CAN bus harness into the bottom of the console (Figure 199).

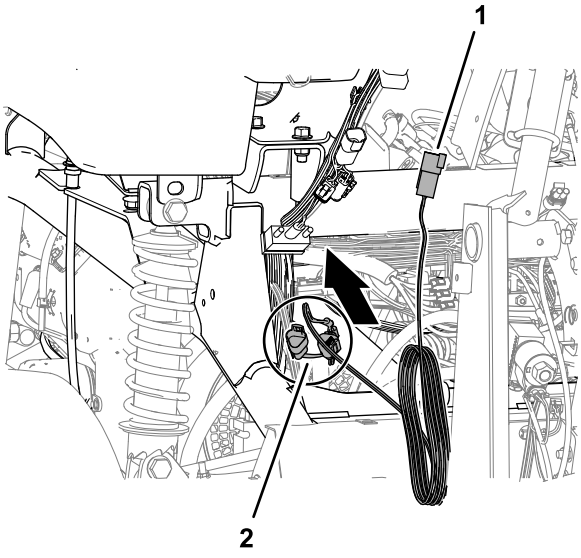


Figure 199

1. Connector (labeled TO ISOBUS—ISO-CAN bus harness)
2. Connectors (labeled CAN PORT A AND TO TORO CAN BUS—ISO-CAN BUS HARNESS)

2. Remove the cap from the 4-socket connector labeled CAN 1 ISOBUS of the navigation-data and electrical harness (Figure 200).

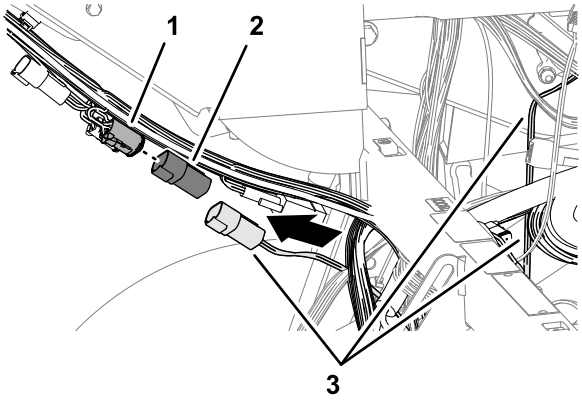
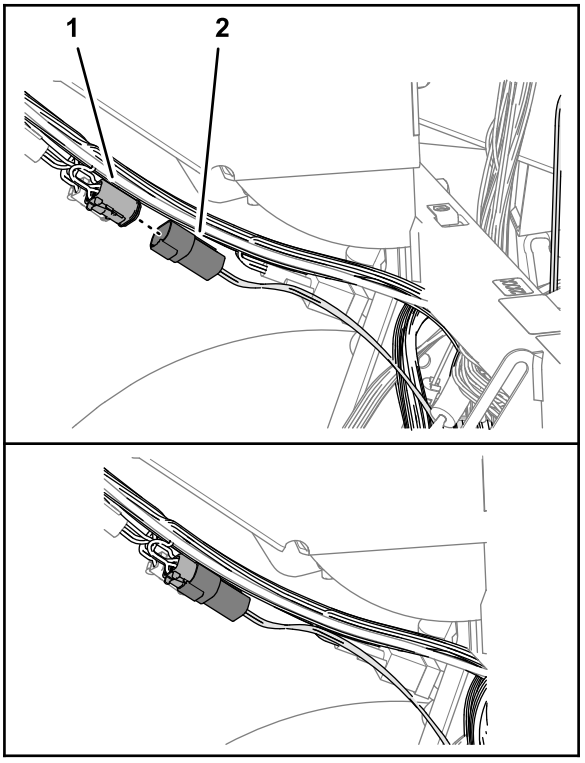


Figure 200

1. 4-socket connector (labeled CAN 1 ISOBUS—navigation-data and electrical harness)
2. Cap
3. ISO-CAN bus harness

3. Plug the 4-pin connector labeled TO ISOBUS of the ISO-CAN bus harness into the 4-socket connector labeled CAN 1 ISOBUS of the navigation-data and electrical harness (Figure 201).

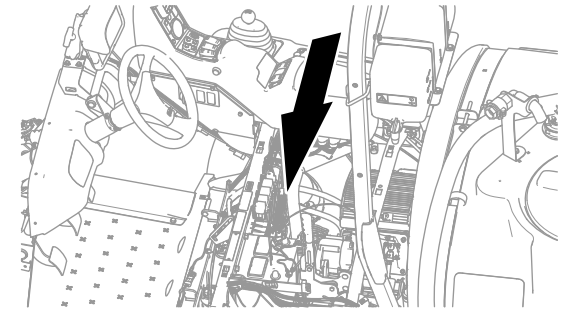


g315681

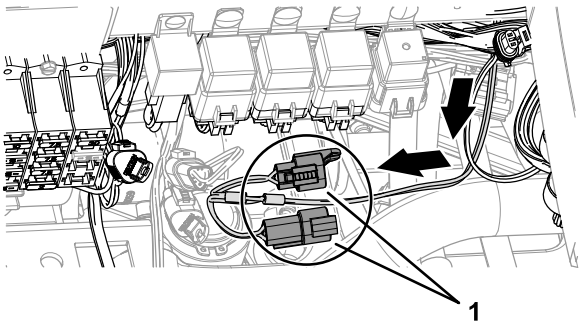
Figure 201

1. 4-socket connector (labeled CAN 1 ISOBUS—navigation-data and electrical harness)
2. 4-pin connector (labeled TO ISOBUS—ISO-CAN bus harness)

4. Route the connectors labeled TO TORO CANBUS and CAN PORT A of the ISO-CAN bus harness toward the fuse block (Figure 202).



g324925



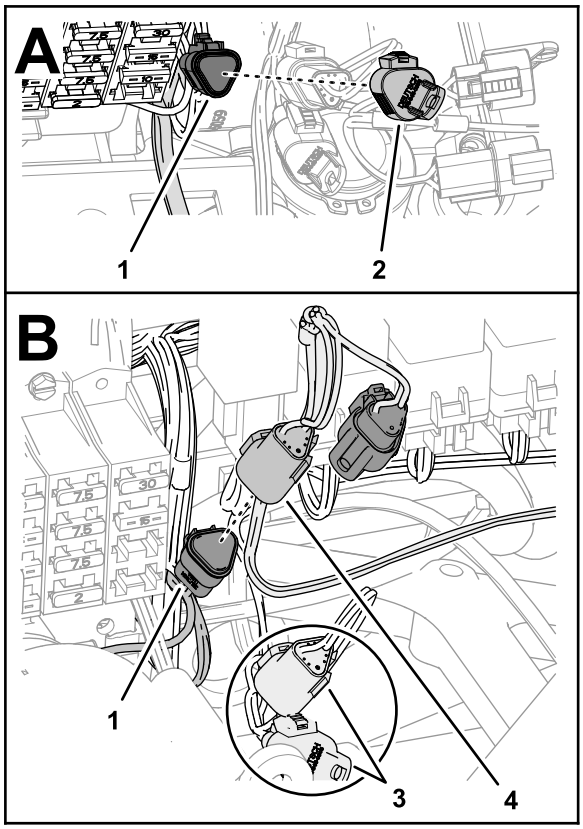
g324880

Figure 202

1. Connectors (labeled TO TORO CANBUS and CAN PORT A—ISO-CAN bus harness)

Connecting the ISO Bus Harness to the Machine Wire Harness

1. At the fuse block, remove the cap from the 3-socket connector labeled CAN BUS DIAGNOSTICS of the machine wire harness (Figure 203).



g324923

Figure 203

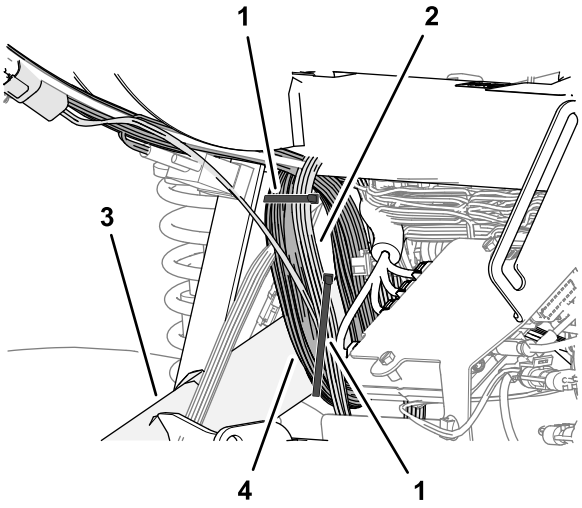
1. 3-socket connector (labeled CAN BUS DIAGNOSTICS—machine wire harness)
2. Cap
3. Connectors—kit sprayer harness (labeled DIAG. CONN. and CAN DIAGNOSTICS INTERCONNECT—do not connect)
4. 3-pin connector (labeled TO TORO CANBUS—ISO-CAN bus harness)

2. Plug the 3-pin connector labeled TO TORO CANBUS of the ISO-CAN bus harness into the 3-socket connector labeled CAN BUS DIAGNOSTICS of the machine wire harness (Figure 203).

   Important: **Do not connect the harness connectors labeled DIAG. CONN. and CAN DIAGNOSTICS INTERCONNECT of the kit sprayer harness.**

Securing the ISO Bus Harness

1. Bundle the ISO-CAN bus harness and secure it to the navigation-data and electrical harness with a cable tie (Figure 204).



g315869

Figure 204

1. Cable tie
2. ISO-CAN bus harness
3. Right frame tube
4. Navigation-data and electrical harness

2. Secure the ISO-CAN bus harness and navigation-data and electrical harness to the right frame tube with a cable tie as shown in Figure 204.
3. Complete setup procedure 38—Installing the Adapter Harness and Terminating Resistor through setup procedure 56—Performing a Flow Meter Calibration in Form No. 3438-188.

39

Installing the Adapter Harness and Terminating Resistor

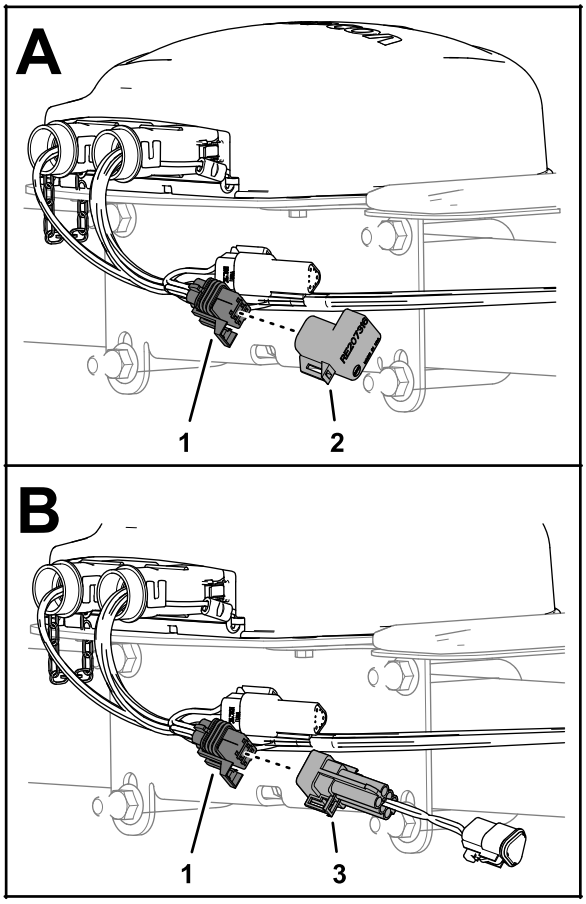
Parts needed for this procedure:

1	Adapter harness—13 cm (5 inches)—GeoLink precision spray system kit (Model 41633 or Model 41634)

Procedure

1. At the satellite receiver, remove the ISO bus terminator for the 6-socket connector of the GeoLink harness (Figure 205).

Note: You no longer need the ISO bus terminator.

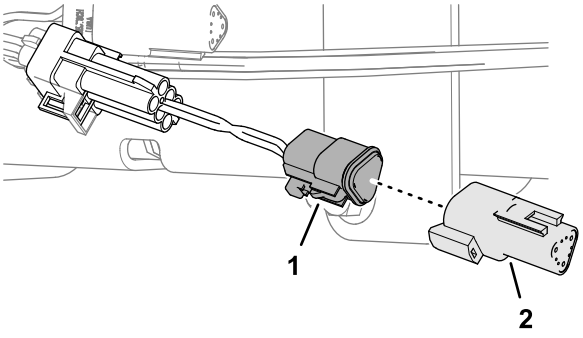


g314512

Figure 205

1. 6-socket connector (GeoLink harness)
2. Terminator (ISO bus)
3. 6-pin connector (adapter harness)

2. Plug the 6-pin connector of the adapter harness—13 cm (5 inches) into the 6-socket connector of the GeoLink harness (Figure 205).
3. Plug the resistor that you removed in 38 Installing the ISO-CAN Bus Harness (page 91)into the 3-socket connector of the adapter harness (Figure 206).



g308954

Figure 206

1. 3-socket connector (adapter harness)
2. Resistor 75Ω (3-pin)

4. Secure the adapter harness to the GeoLink harness with a cable tie.

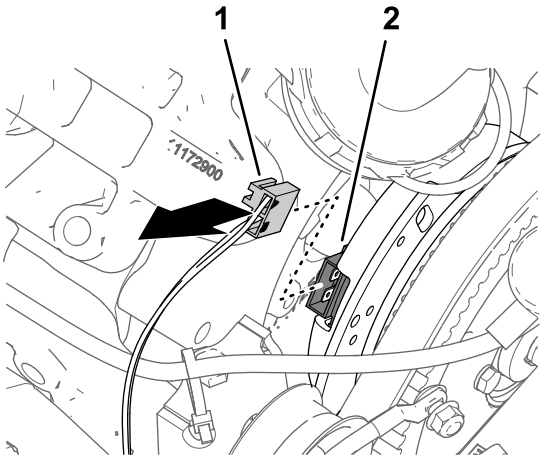
40

Wiring the Spray Pump Clutch

No Parts Required

Procedure

1. Disconnect the 2-socket connector of the machine wire harness labeled SPRAY PUMP COIL from the 2-pin connector of the pump clutch (Figure 207).

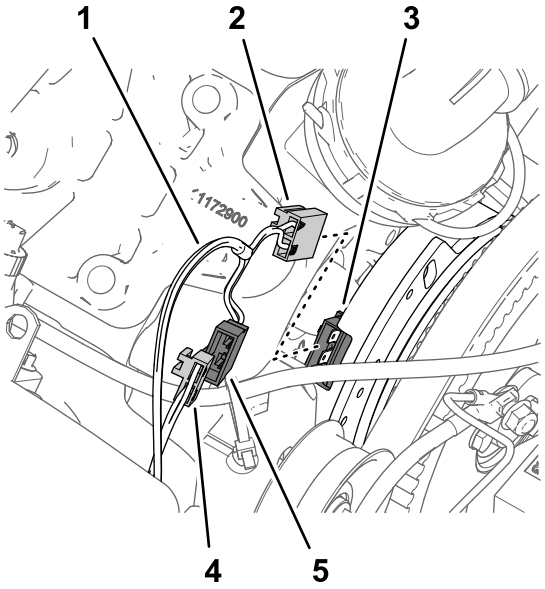


g198155

Figure 207

1. 2-socket connector—machine wire-harness (SPRAY PUMP COIL)
2. 2-pin connector (pump clutch)

2. Connect the 2-pin connector of the kit sprayer harness branch—84 cm (33 inches) into the 2-socket connector of the machine wire-harness labeled SPRAY PUMP COIL (Figure 208).

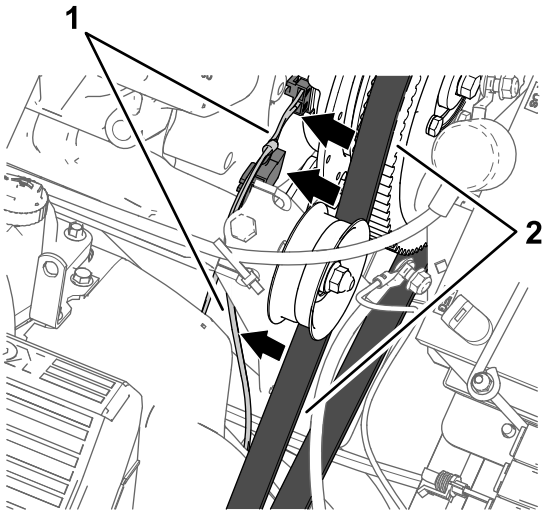


g198144

Figure 208

1. Kit sprayer harness branch—84 cm (33 inches)
2. 2-socket connector (not labeled—kit sprayer harness)
3. 2-pin connector (pump clutch)
4. 2-socket connector—machine wire-harness (SPRAY PUMP COIL)
5. 2-pin connector (not labeled—kit sprayer harness)

3. Connect the 2-socket connector of the kit sprayer harness into the 2-pin connector of the pump clutch (Figure 208).
4. Route the wire-harness branch—84 cm (33 inches) against the engine and spray pump so that the harness clears the alternator belt (Figure 209).



g198156

Figure 209

1. Kit sprayer harness branch—84 cm (33 inches)
2. Alternator belt

41

Installing Components for the Sprayer Electrical System

Parts needed for this procedure:

1	Battery bracket
1	Bumper
2	Flange-locknut (1/4 inch)
1	Strap
1	Bolt (5/16 x 1-3/4 inches)
1	Washer (5/16 inch)
1	Battery (540 A)
1	Battery retainer
1	Flange locknut (5/16 inch)
1	Alternator bracket
1	Drive pulley 279 mm (11 inch)
4	Bolt (1/4 x 2-1/4 inches)
1	Alternator (60 A)
1	Flange-head bolt (8 x 25 mm)
1	Flange-head bolt (3/8 x 1-1/2 inches)
1	V-belt

Removing the Battery (300 A) and Battery Bracket

1. Remove the 2 flange locknuts and hold-down rod from the 2 J-bolts that secure the battery to the battery bracket of the machine (Figure 210).

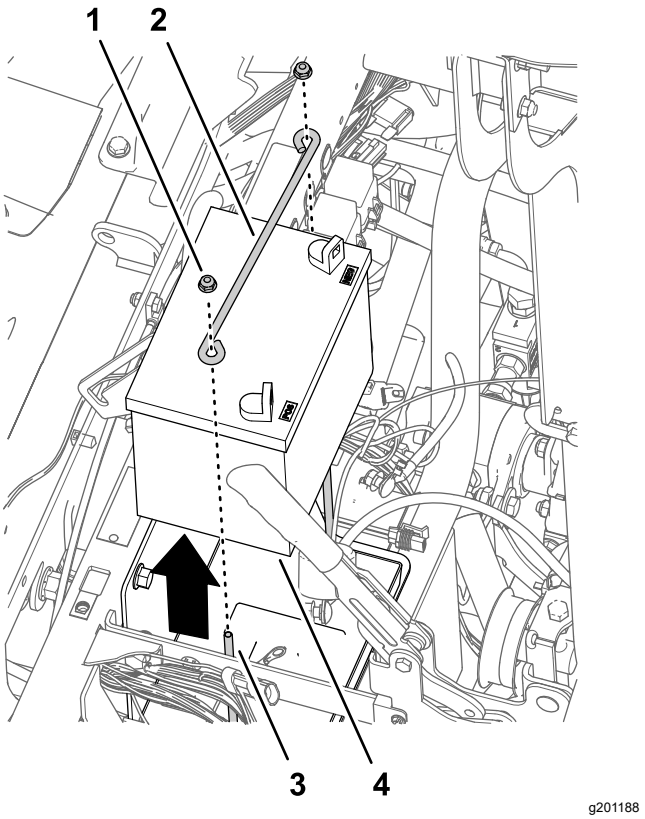


Figure 210

1. Flange locknut (1/4 inch)
2. Hold-down rod
3. J-bolt
4. Battery (300 A)

2. Remove the 2 J-bolts and battery tray from the battery bracket (Figure 211).

   Note: Retain the battery tray; you no longer need the J-bolts and battery tray.

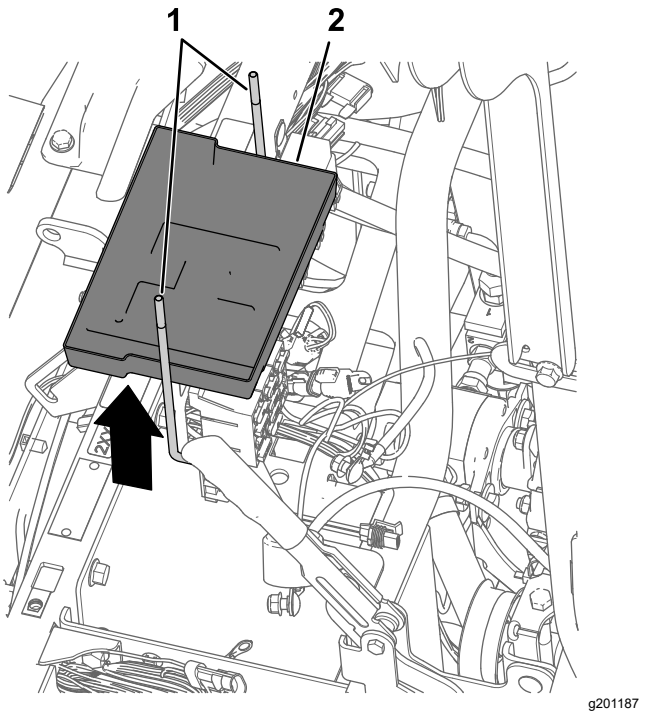


Figure 211

1. J-bolt
2. Battery tray

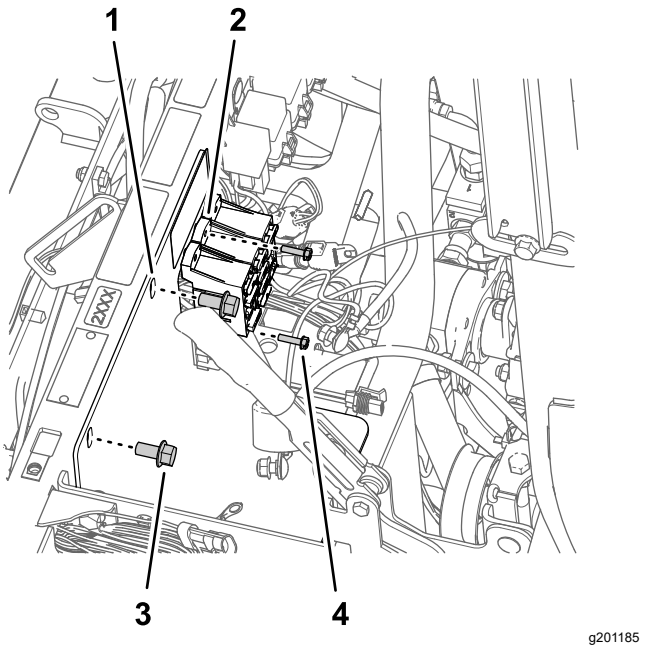


Figure 212

1. Bold-down rod
2. Fuse block
3. Flange-head bolt (3/8 x 3/4 inch)
4. Bolt (10-24 x 3/4 inch)

3. Remove the battery from the machine (Figure 210).

   Note: You no longer need the flange nuts, hold-down rod, and battery (300 A).

4. Remove the 3 bolts (10-24 x 3/4 inch) and 3 nuts (10-24) that secure the fuse blocks to the battery bracket (Figure 212).

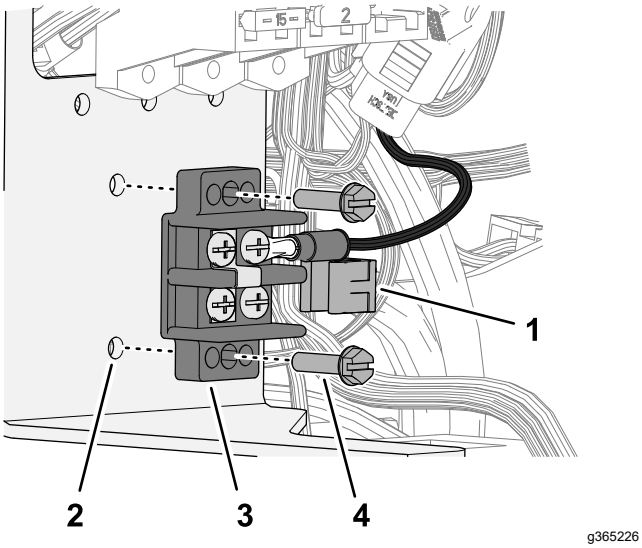
   Note: Retain the bolts and nuts for installation in Installing the Battery Bracket and Battery (540 A) (page 98).

5. Remove the 2 flange-head bolts (3/8 x 3/4 inch) that secure battery bracket to the shock-support tube of the machine (Figure 212).

   Note: Retain the flange-head bolt (3/8 x 3/4 inch) for installation in Installing the Battery Bracket and Battery (540 A) (page 98).

6. Remove the 2 bolts (10-24 x 3/4 inch), 2 locknuts (10-24), and wire-support clip that secure the ground block and wire to the battery bracket (Figure 213).

   Note: Retain the bolts and locknuts.



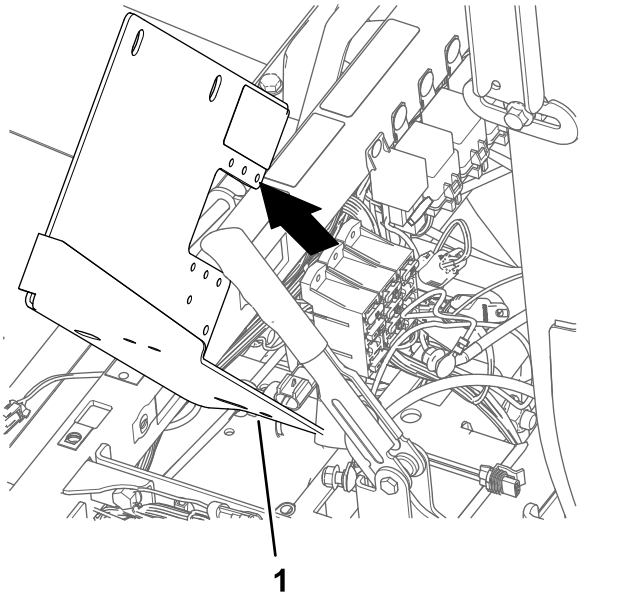
g365226

Figure 213

1. Wire-support clip
2. Battery bracket
3. Ground block
4. Bolt (10-24 x 3/4 inch)

7. Remove the battery bracket from the machine (Figure 214).

   Note: You no longer need the battery bracket.



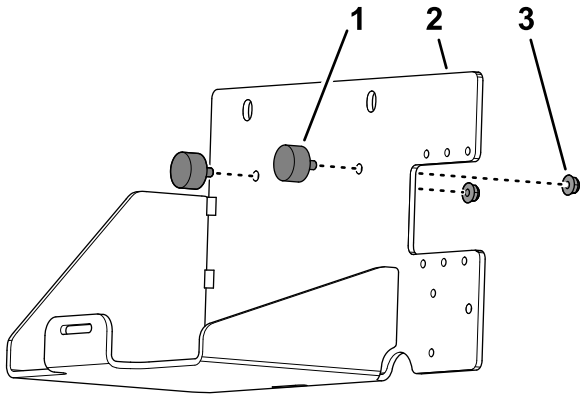
g201186

Figure 214

1. Battery bracket

Assembling the Battery Bracket

1. Assemble the 2 bumpers to the battery bracket (Figure 215) with 2 flange locknuts (1/4 inch).

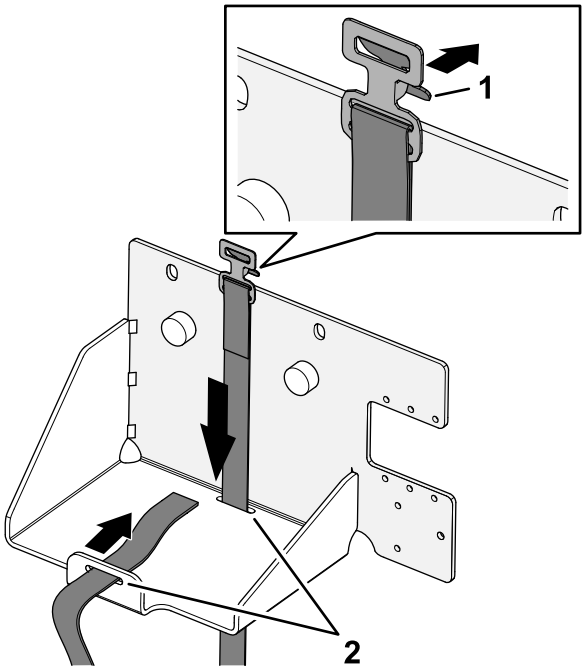


g365210

Figure 215

1. Bumper
2. Battery bracket
3. Flange locknut (1/4 inch)

2. Assemble the strap through the 2 slots in the battery bracket as shown in Figure 216.



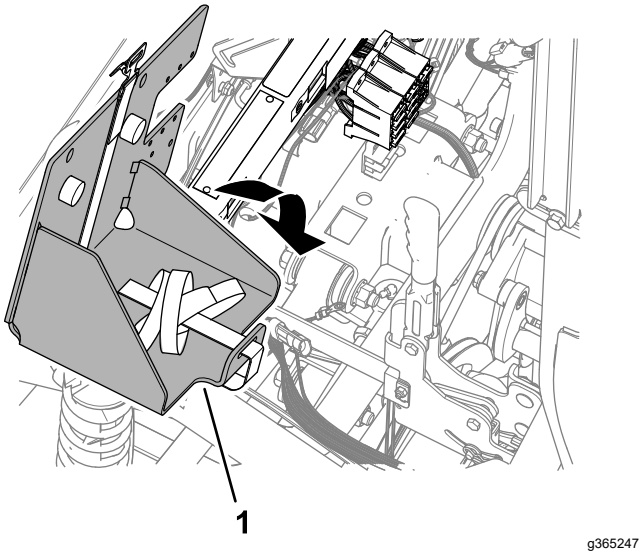
g365211

Figure 216

1. Latch (strap buckle)
2. Slot (battery bracket)

Installing the Battery Bracket and Battery (540 A)

1. Align the new battery bracket to the shock-support tube of the machine and the fuse blocks (Figure 217).

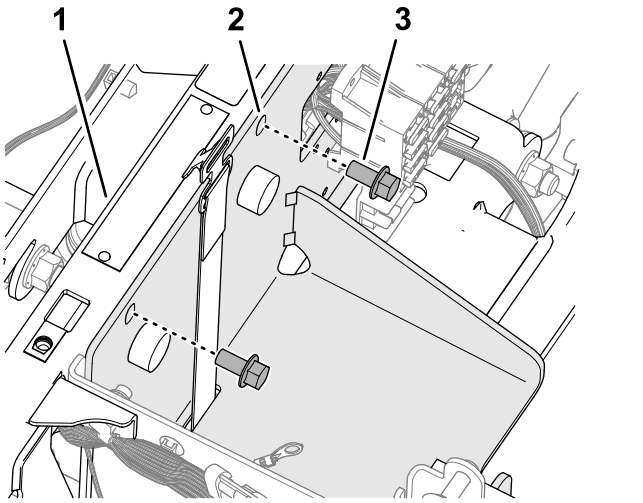


g365247

Figure 217

1. Battery bracket

2. Assemble the battery bracket to the shock-support tube (Figure 218) with the 2 flange-head bolt (3/8 x 3/4 inch) that you retainer in step 5 of Removing the Battery (300 A) and Battery Bracket (page 96).

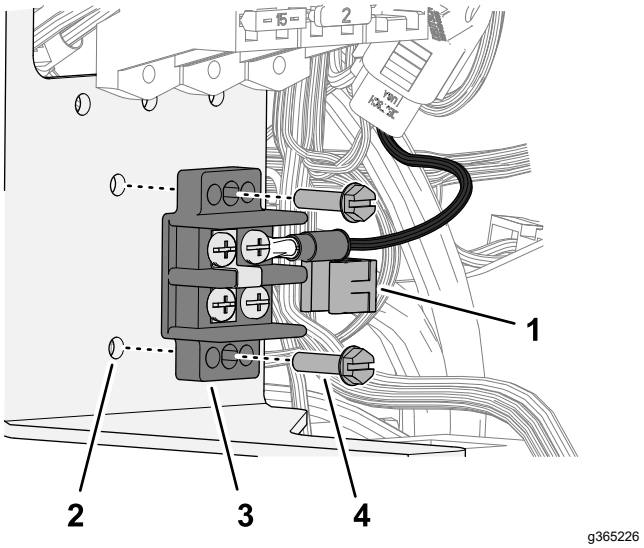


g365259

Figure 218

1. Shock-support tube
2. Battery bracket
3. Flange-head bolt (3/8 x 3/4 inch)

3. Torque the flange head bolts to 37 to 45 N·m (27 to 33 ft-lb).
4. Secure the ground block and to the battery bracket with the 2 bolts (10-24 x 3/4 inch), 2 locknuts (10-24) that you remove in step 6 of Removing the Battery (300 A) and Battery Bracket (page 96), and secure the wire-support clip to the edge of the bracket (Figure 219).

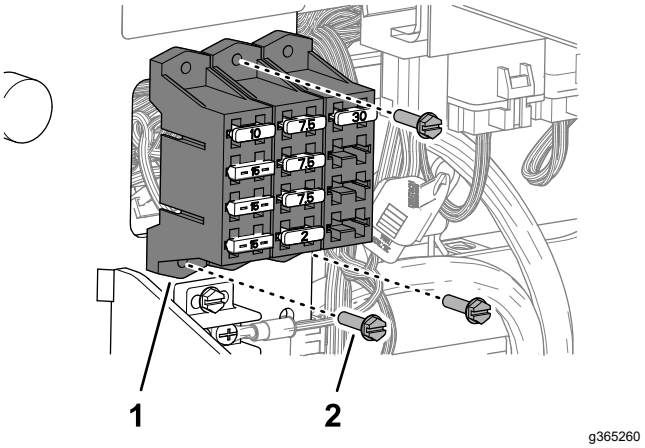


g365226

Figure 219

1. Wire-support clip
2. Battery bracket
3. Ground block
4. Bolt (10-24 x 3/4 inch)

5. Secure the fuse blocks to the battery bracket (Figure 218) with the 3 bolts (10–24 x 3/4 inch) and 3 nuts (10-24) that you removed in step 4 of Removing the Battery (300 A) and Battery Bracket (page 96).

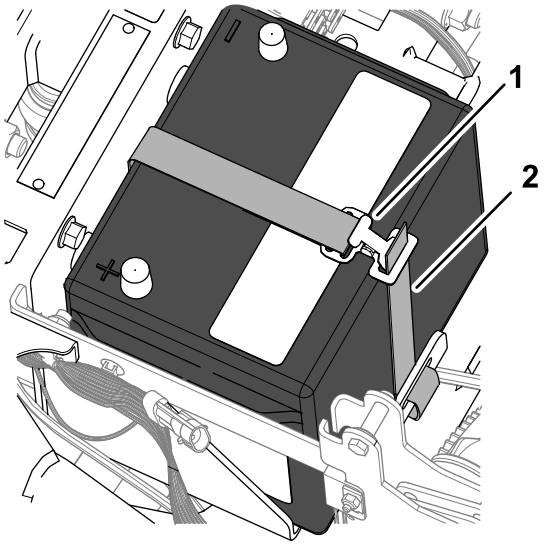


g365260

Figure 220

1. Fuse block
2. Bolt (10–24 x 3/4 inch)

6. Assemble the battery (540 A) into the battery bracket as shown in Figure 221.



g365262

Figure 221

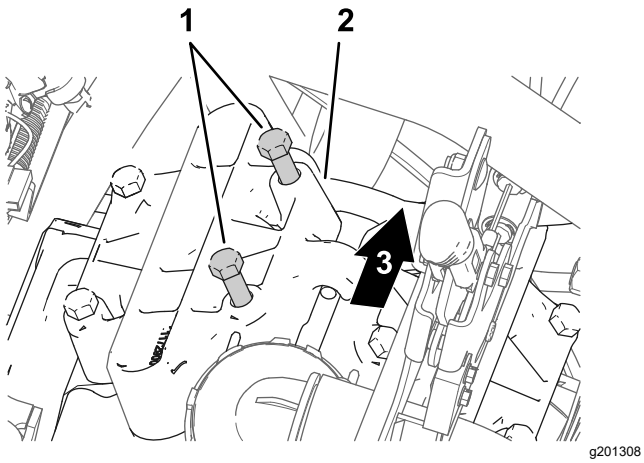
1. Battery-strap buckle
2. Webbing (battery strap)

7. Feed the webbing of the battery strap through the buckle, and tighten the strap until the battery is secure.

Installing the Alternator Bracket

1. At the pump head located at 11 o'clock position, loosen the 2 bolts as shown Figure 222 to provide a 7 to 10 mm (1/4 to 3/8 inch) gap between the head of the bolts and the pump.

   Note: You do not need to remove the bolts from the spray pump.

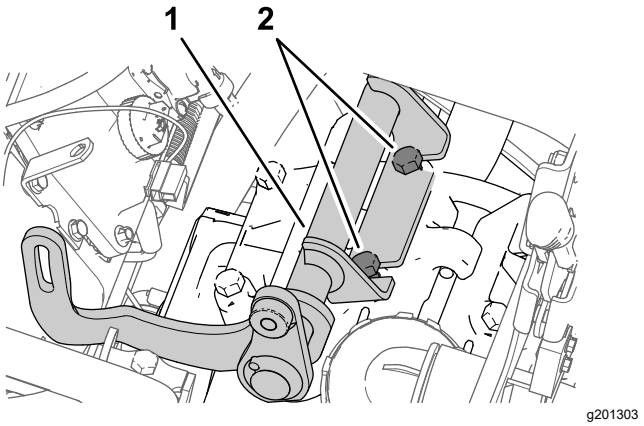


g201308

Figure 222

1. Bolts (pump head)
2. Pump head (11 o'clock position)
3. Back of the machine

2. Align the alternator bracket between the bolts that you loosened and as shown in step 1 and the pump head Figure 223.



g201303

Figure 223

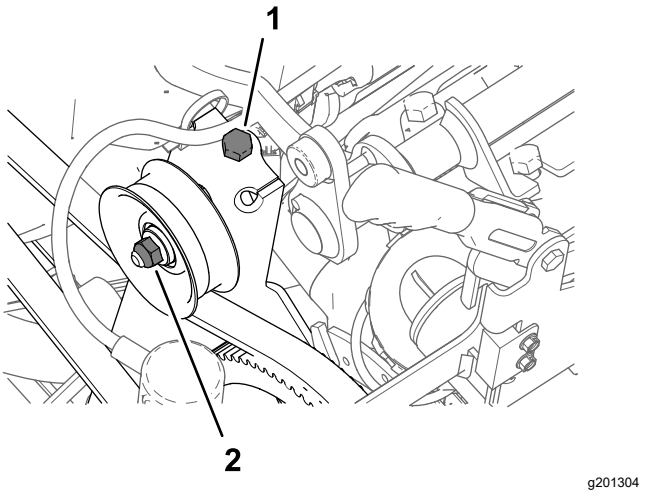
1. Alternator bracket
2. Bolts (pump head)

3. Torque the bolts to 61 to 75 N (45 to 55 ft-lb).

Installing the Drive Pulley

1. Loosen the nut for the idler-pulley shaft (Figure 224).

   Note: Ensure that there is no belt tension.



g201304

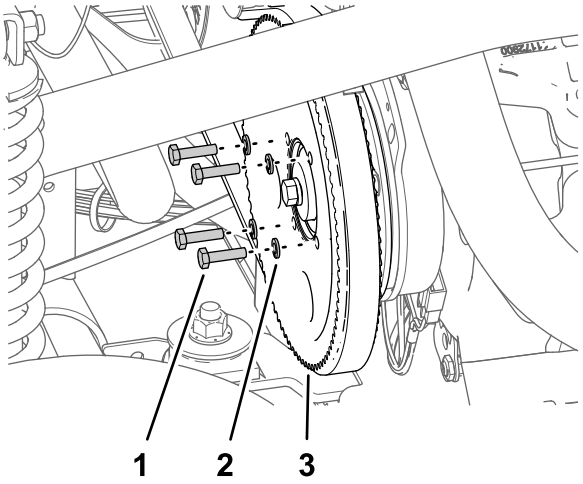
Figure 224

1. Belt-tension bolt (machine)
2. Nut (idler-pulley shaft)

2. Rotate the belt-tension bolt to remove all tension from the sprayer-pump belt (Figure 224).
3. Remove the 4 bolts (1/4 x 1 inch) and 4 lock washers (1/4 inch) that secure the pulley to the sprayer pump (Figure 225).

   Important: **Do not remove the pulley.**

   Note: Retain the lock washer for installation in step 5. You no longer need the bolts.

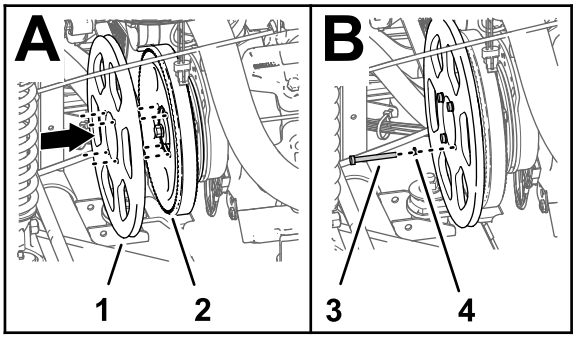


g201306

Figure 225

1. Bolt (1/4 x 1 inch)
2. Lock washer (1/4 inch)
3. Pulley (sprayer pump)

4. Align the holes in the pulley for the alternator (kit) with the holes in the pulley for the sprayer pump (Figure 226).

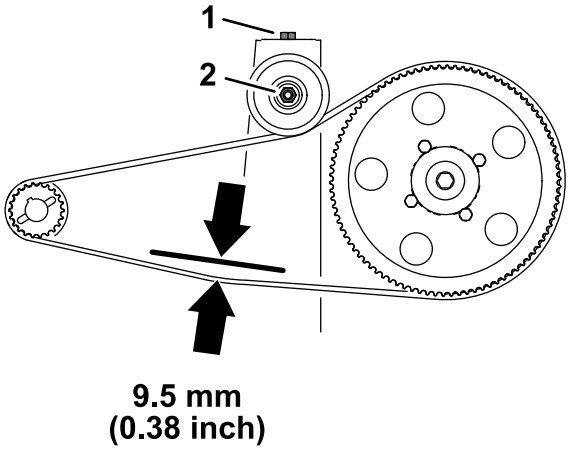


g201305

Figure 226

1. Drive pulley 279 mm (11 inch)
2. Pulley (sprayer pump)
3. Bolt (1/4 x 2-1/4 inches)
4. Lock washer (1/4 inch)

5. Assemble the alternator pulley to the sprayer-pump pulley and sprayer pump with the 4 bolt (1/4 x 2-1/4 inches) and 4 lock washers (1/4 inch).
6. Torque the bolts to 1017 to 1243 N·m (90 to 110 in-lb).
7. Rotate the belt-tension bolt to increase the tension of the belt until you measure belt 9.5 mm (3/8 inch) of belt deflection when you apply 4.5 kg (10 lb) halfway between the engine and spray pump sprockets.



g201360

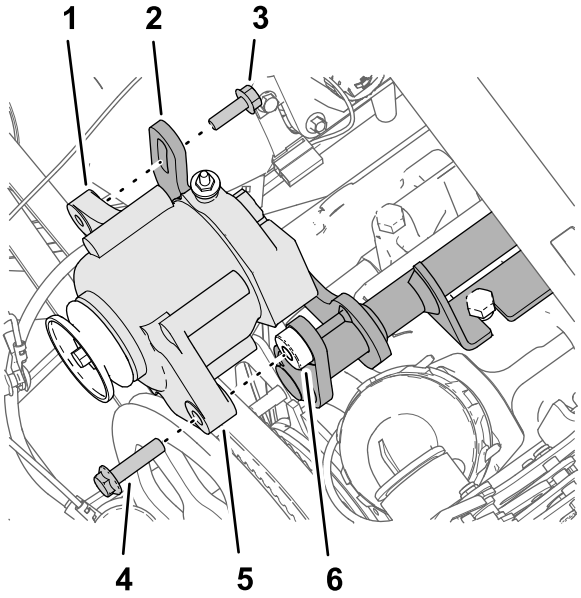
Figure 227

1. Belt-tension bolt (machine)
2. Nut (idler-pulley shaft)

8. Tighten the nut for the idler-pulley shaft to 37 to 44 N·m (27 to 33 ft-lb).

Installing the Alternator

1. Assemble the alternator (60 A) to the threaded boss of the alternator-bracket (Figure 228) with the flange-head bolt (3/8 x 1-1/2 inches).



g201413

Figure 228

1. Threaded flange (8 mm)—alternator (60 A)
2. Slotted flange (alternator bracket)
3. Flange-head bolt (8 x 25 mm)
4. Flange-head bolt (3/8 x 1-1/2 inches)
5. Flange (10 mm (3/8 inch) hole)—alternator (60 A)
6. Threaded boss (3/8-16)—alternator-bracket

2. Assemble the threaded flange of the alternator to the slotted flange of the alternator bracket

(Figure 228) with the flange-head bolt (8 x 25 mm).

3. Assemble the V-belt over the drive pulley 279 mm (11 inch) and the pulley of the alternator (Figure 229).

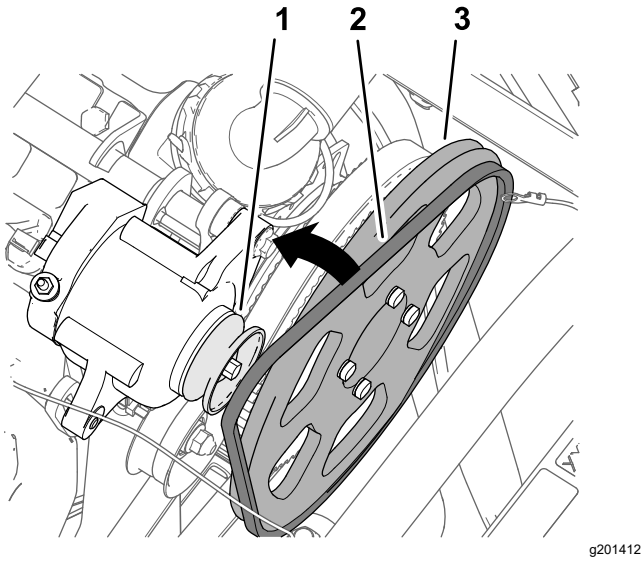


Figure 229

1. Pulley (Alternator—60 A)
2. V-belt
3. Drive pulley 279 mm (11 inch)

4. Rotate the alternator (Figure 230) up to increase tension on the belt until you measure belt 9.5 mm (3/8 inch) of belt deflection when you apply 4.5 kg (10 lb) halfway between the alternator pulley and drive pulley 279 mm (11 inch).

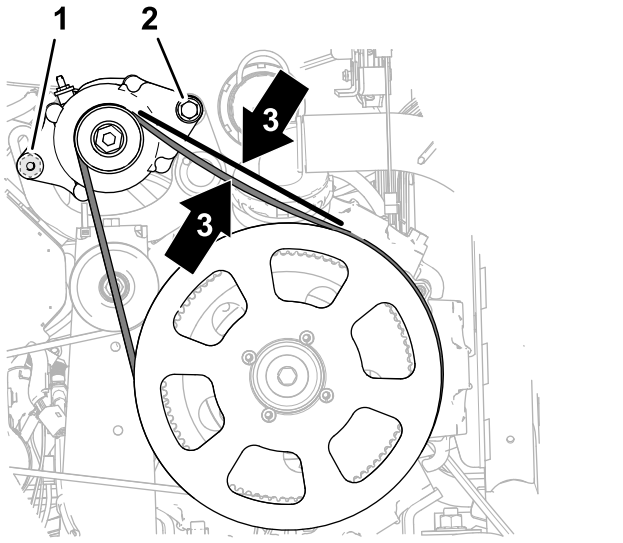


Figure 230

1. Flange-head bolt (8 x 25 mm)
2. Flange-head bolt (3/8 x 1-1/2 inches)
3. Belt deflection 9.5 mm (3/8 inch)

5. Torque the flange-head bolt (8 x 25 mm) to 23 to 29 N·m (17 to 21 ft-lb).
6. Torque the flange-head bolt (3/8 x 1-1/2 inches) to 37 to 45 N·m (27 to 33 ft-lb).

42

Connecting the Kit Sprayer Harness at the Seat Base

Parts needed for this procedure:

1	Alternator cable (red—6 gauge)
1	Relay
1	Push-in fastener
1	Fuse (15 A)
1	Fuse (50 A)

Connecting the Alternator (50 A)

1. Connect the 2-socket at the end of the pink wire 57 cm (23-1/2 inches) of the kit sprayer harness (Figure 231) onto the 2-pin connector of the alternator (50 A).

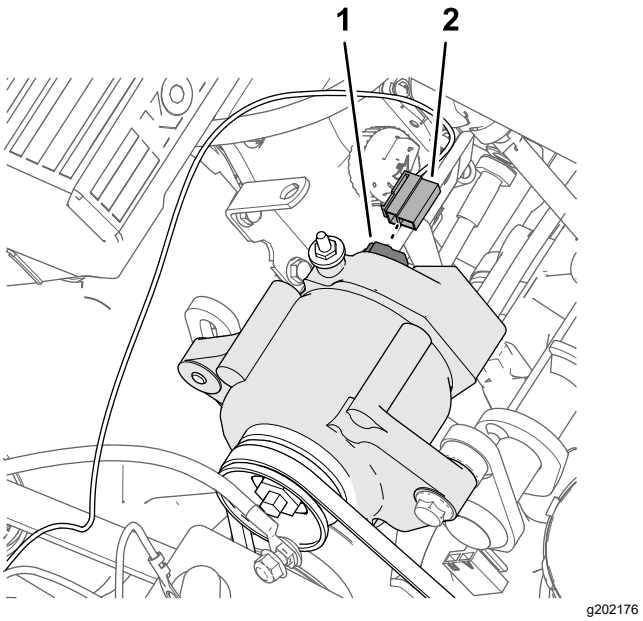


Figure 231

1. 2-pin connector—alternator (50 A)
2. 2-socket connector—sense wire, pink 57 cm (23-1/2 inches)

2. Route the pink sense wire away from the alternator belts and secure the wire with a cable tie.

3. Remove the nut from the terminal post (Figure 232) of the alternator (50 A).

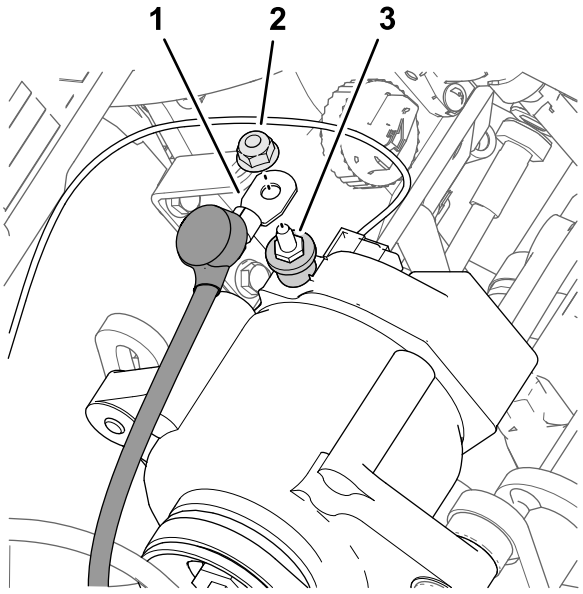


Figure 232

1. Alternator cable (red—6 gauge)
2. Nut
3. Terminal post—alternator (50 A)

4. Assemble the end of the red, 6 gauge alternator cable with the insulator cover onto the terminal post of the alternator (50 A) with the nut (Figure 232).
5. Route the other end of the alternator cable toward the battery posts, away from the pulley and alternator belt.
6. Torque the nut to 47 to 57 N·m (34 to 42 ft-lb).
7. Slip the insulator cover over the terminal post of the alternator (Figure 232).

Connecting the ASC 10 Enable Relay

1. Connect the 5-pin connector of the relay into the 5-socket connector (Figure 233) of the kit sprayer harness labeled ASC 10 ENABLE RELAY.

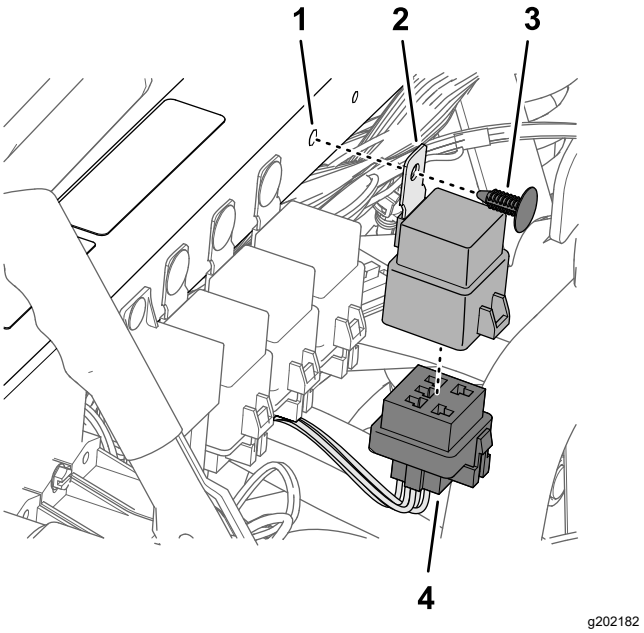


Figure 233

1. Hole (shock-support tube)
2. Relay
3. Push-in fastener
4. 5-socket connector (ASC 10 ENABLE RELAY—kit sprayer harness)

2. Align the hole in the mounting tab of the relay with the hole in the shock-support tube, and secure the relay to the tube with a push-in fastener (Figure 233).

Connecting the Fuse Blocks

1. Prepare a multi-meter for preforming a continuity test.
2. At fuse block 3 of the machine, insert the multi-meter probe into contact 4 (the right column) of fuse-socket 2 as shown in Figure 234.

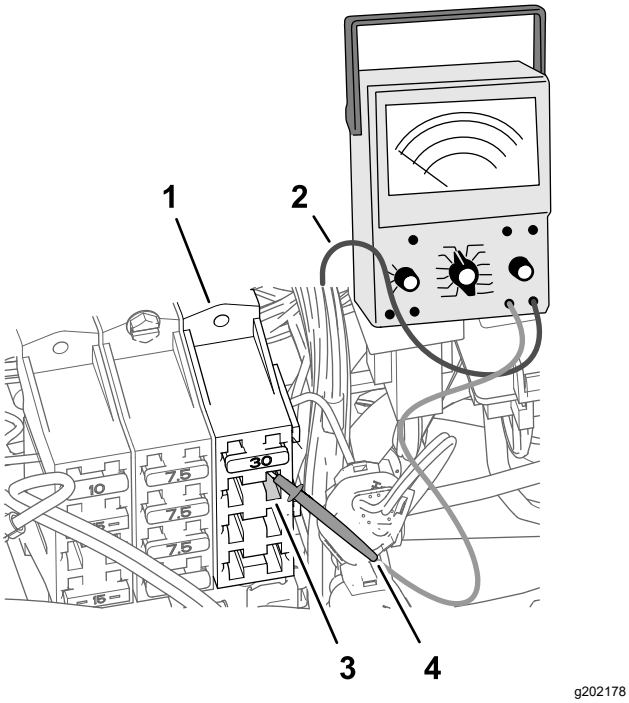


Figure 234

1. Fuse block 3 (machine)
2. Multi-meter lead
3. Fuse-socket 2—contact 4 (right column)
4. Multi-meter probe

3. At the front side of the fuse blocks, use the other multi-meter probe to identify the blade connector at the end of the red 10-gauge wire that connects to fuse-socket 2—contact 4.

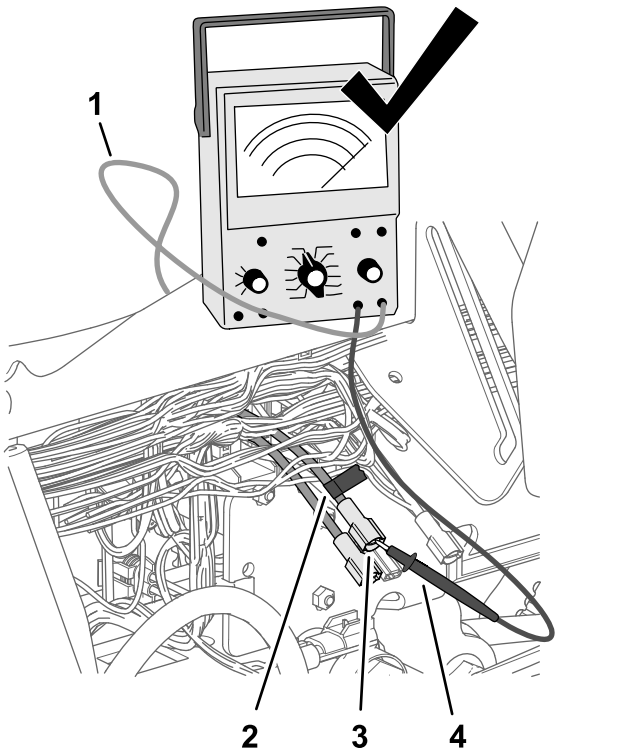
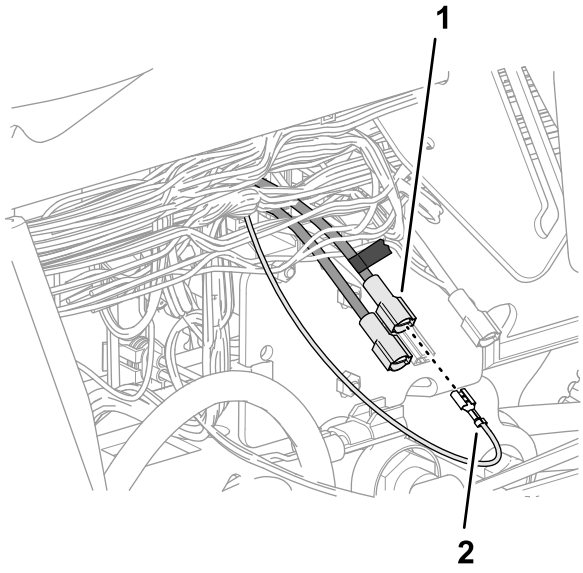


Figure 235

1. Multi-meter lead
2. Tape
3. Blade connector (red 10-gauge wire)
4. Multi-meter probe

4. Use a piece of tape to mark the connector and wire that you identified in step 3 (Figure 235).
5. Connect the blade connector that you marked in step 4 into the socket connector at the end of the pink wire 51 mm (2 inches) of the kit sprayer harness (Figure 236).

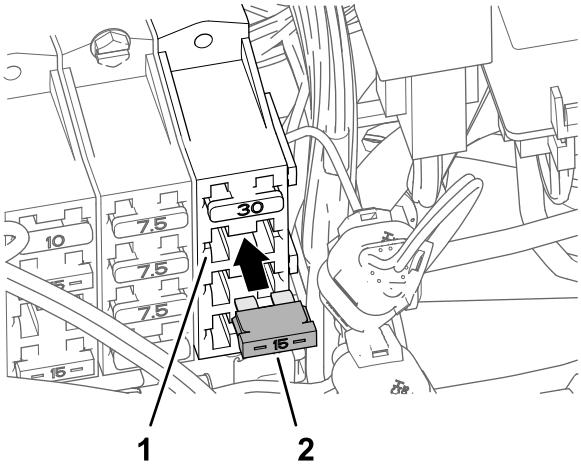


g202177

Figure 236

1. Marked blade connector (red 10-gauge wire)
2. Socket connector—pink wire 51 mm (2 inches)

6. Insert the fuse (15 A) into fuse-socket 2 of fuse block 3 until the fuse is fully seated (Figure 237).

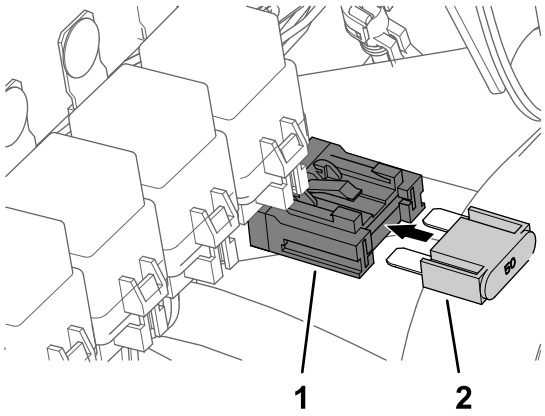


g202180

Figure 237

1. Fuse-socket 2 (fuse block 3)
2. Fuse (15 A)

7. Insert the fuse (50 A) into inline-fuse block of the kit sprayer harness until the fuse is fully seated (Figure 238).



g202183

Figure 238

1. Inline-fuse block
2. Fuse (50 A)

43

Installing the Navigation-Data and Electrical Harness

Parts needed for this procedure:

1	Quick-connect clamp (red handle)
1	Quick-connect clamp (black handle)

Assembling the Quick-Disconnect Clamps to the Battery

1. Remove the hex nuts and washers from the red and black handle quick-connect clamps (Figure 239).

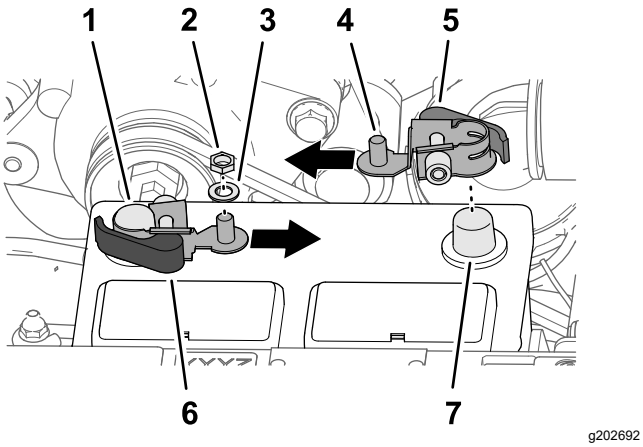


Figure 239

1. Negative battery post
2. Hex nut (1/4 inch—quick-connect clamp)
3. Washer (1/4 inch—quick-connect clamp)
4. Threaded post
5. Red-latch handle (quick-connect clamp)
6. Black-latch handle (quick-connect clamp)
7. Positive battery post

2. Open the latch handle of the quick-connect clamp with the black handle (Figure 240).

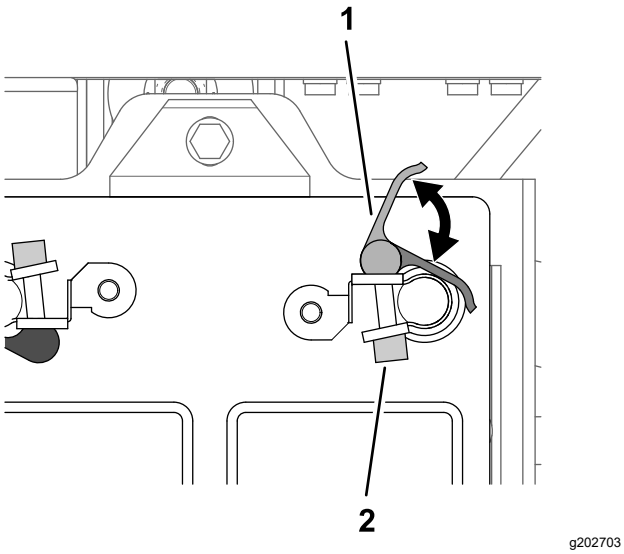


Figure 240

1. Handle (quick-connect clamp)
2. Knurled nut

3. Assemble the quick-connect clamp onto the negative battery post, with the threaded post of the clamp aligned toward the center of the battery as shown in Figure 239.
4. Close the latch handle of the quick-connect clamp (Figure 240).

   Note: If you need to adjust the clamping force of the quick-connect clamp, open the handle, rotate the knurled nut to increase or decrease the clamping force, and close the handle for the clamp.
5. Repeat steps 2 through 4 for the quick-connect clamp with the red handle at the positive battery post.

Connecting the Battery

⚠ WARNING

Incorrect battery cable routing could damage the machine and cables causing sparks. Sparks can cause the battery gasses to explode, resulting in personal injury.

- **Always *disconnect* the negative (black) battery cable before disconnecting the positive (red) cable.**
- **Always *connect* the positive (red) battery cable before connecting the negative (black) cable.**

⚠ WARNING

Battery terminals or metal tools could short against metal components causing sparks. Sparks can cause the battery gasses to explode, resulting in personal injury.

- **When removing or installing the battery, do not allow the battery terminals to touch any metal parts of the machine.**
- **Do not allow metal tools to short between the battery terminals and metal parts of the machine.**

1. Slit the insulator cover of the positive battery cable to the starter as shown in Figure 241.

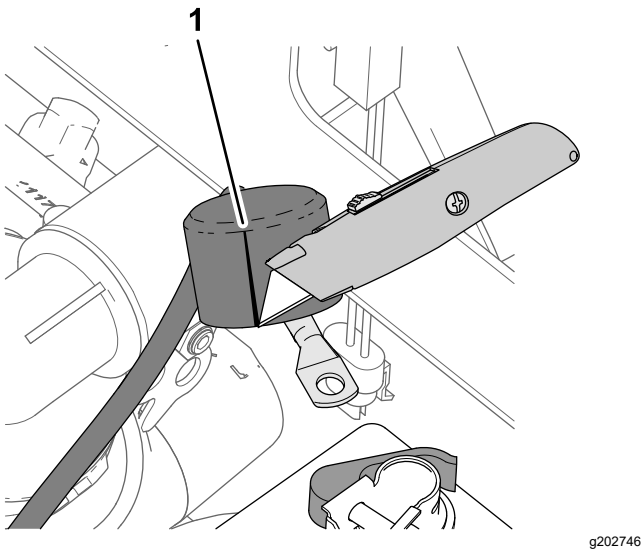


Figure 241

1. Slit (insulator cover—positive battery cable to the starter)

2. Assemble the following wire and cable terminals onto the threaded post of the positive battery terminal (Figure 242) in the following order:

   Important: **Ensure that the battery-cable terminal (positive) to the engine starter is positioned at the top of the stack of terminals on the threaded post.**

   A. Ring terminal—165 cm (65 inch) modem power harness branch (labeled BATTERY

   B. Battery-cable terminal (positive)—to the alternator (50 A)

   C. Ring terminal—258 cm (101-1/2 inch) navigation-data and electrical harness branch (labeled BATTERY (+))

   D. Ring terminal—21.6 cm (8-1/2 inch) machine harness branch (labeled TO BATTERY POSITIVE)

   E. Ring terminal—24 cm (9-1/2 inch) kit sprayer-harness branch (unlabeled)

   F. Battery-cable terminal (positive)—to the engine starter

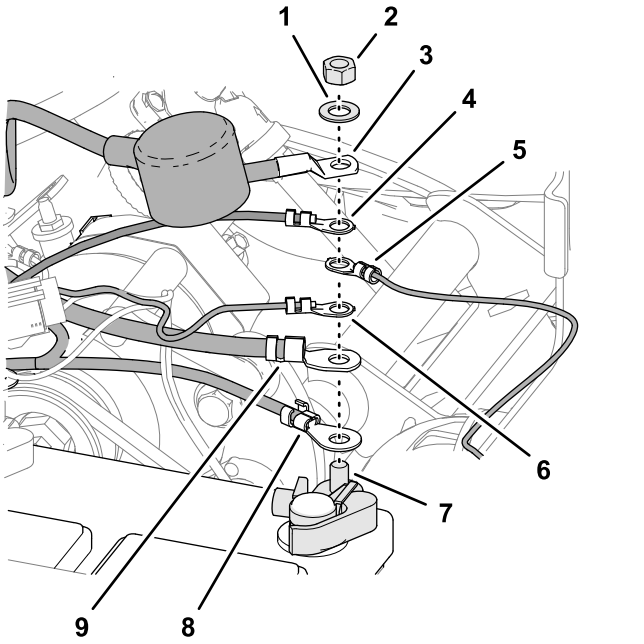


Figure 242

1. Washer 1/4 inch (quick-connect clamp)
2. Hex nut 1/4 inch (quick-connect clamp)
3. Battery-cable terminal (positive)—to the engine starter
4. Ring terminal—24 cm (9-1/2 inch) kit sprayer-harness branch (unlabeled)
5. Ring terminal—21.6 cm (8-1/2 inch) machine harness branch (labeled TO BATTERY POSITIVE)
6. Ring terminal—258 cm (101-1/2 inch) navigation-data and electrical harness branch (not labeled—red wire insulation)
7. Threaded post—quick-connect clamp (positive battery post)
8. Battery-cable terminal (positive)—to the alternator (50 A)
9. Ring terminal—165 cm (65 inch) modem power harness branch (labeled BATTERY)

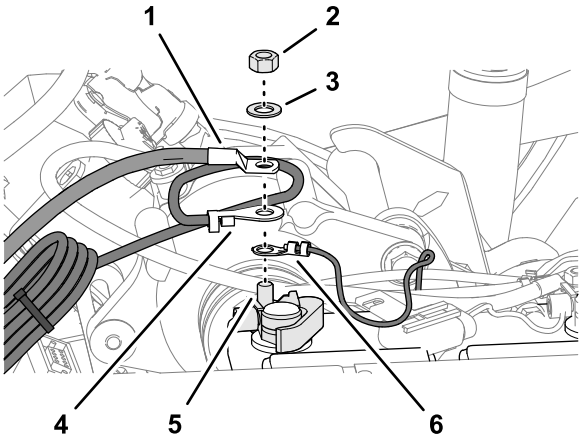
3. Assemble the hex nut (1/4 inch) and washer (1/4 inch) onto the threaded post, and torque the nut to 1017 to 1234 N·cm (90 to 110 in-lb).
4. Align the insulator cover of the positive battery cable to the starter over the threaded post (Figure 242).
5. Assemble the following wire and cable terminals onto the threaded post of the negative battery terminal (Figure 243) in the following order:

   Important: **Ensure that the battery-cable terminal (negative) to the engine and chassis ground is positioned at the top of the stack of terminals on the threaded post.**

A. Ring terminal—258 cm (101-1/2 inch) navigation-data and electrical harness branch (not labeled—black wire insulation)

B. Ring terminal—165 cm (65 inch) modem power harness branch (labeled GROUND)

C. Battery-cable terminal (negative)—to the engine and chassis ground



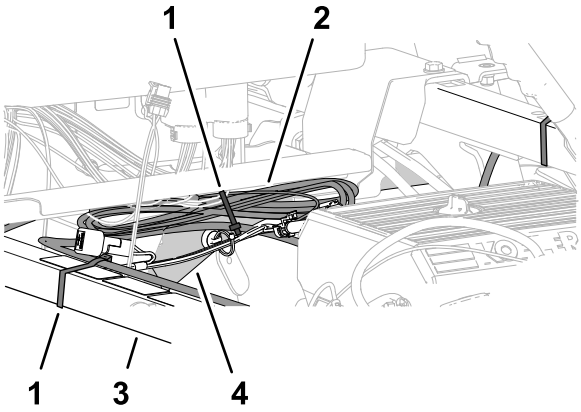
g315992

Figure 243

1. Battery-cable terminal (negative)—to the engine and chassis ground
2. Hex nut (1/4 inch—quick-connect clamp)
3. Washer (1/4 inch—quick-connect clamp)
4. Ring terminal—165 cm (65 inch) modem power harness branch (labeled GROUND)
5. Threaded post—quick-connect clamp (negative battery post)
6. Ring terminal—258 cm (101-1/2 inch) navigation-data and electrical harness branch (not labeled—black wire insulation)

Securing the Harness

1. Gather the excess length of the data harness against the right, upper-frame tube (Figure 244).



g202768

Figure 244

1. Cable tie
2. Data-harness bundle
3. Shock-support tube
4. Right, upper-frame tube

2. Align the data harness to the shock-support tube, and secure the harness to the tube with a cable tie (Figure 244).
3. Align the data-harness bundle to the right, upper-frame tube, and secure the harness bundle to the frame tube with a cable tie (Figure 244).
4. Ensure that there is clearance between the pulleys and belts and the data harness, battery harness, kit wire harness, and battery cables.

   Secure the wire harness and cables with cable ties as needed to provide clearance away from the belts and pulleys.

44

Removing the Rate-Control Switch

Parts needed for this procedure:

1	Switch plug

Procedure

1. Remove the 4 flange head screws (1/4 x 1/2 inch) that secure the 3-switch panel to the control console (Figure 245).

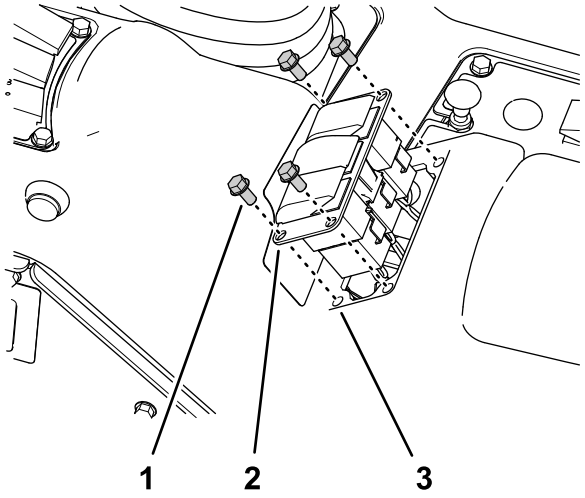


Figure 245

1. Flange head screw (1/4 x 1/2 inch)
2. 3-switch panel
3. Opening (control console)

2. Squeeze the lock tabs of the rate-control switch together and push up the switch out of the 3-switch panel (Figure 246).

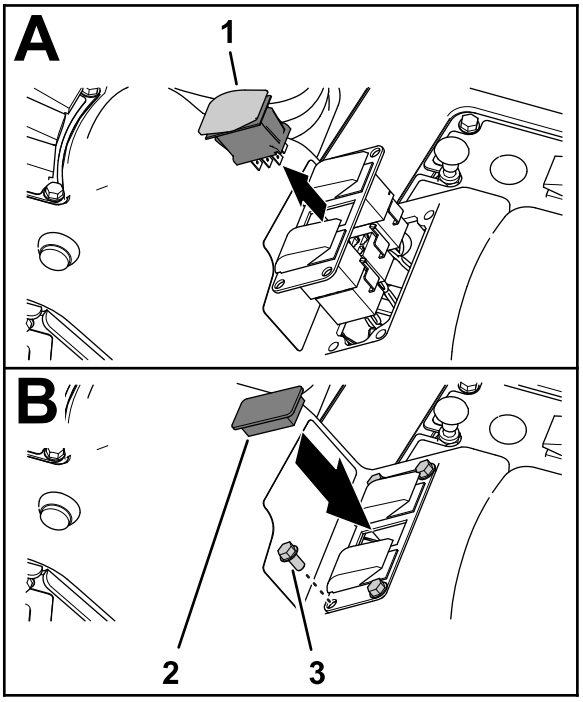


Figure 246

1. Rate-control switch
2. Switch plug
3. Flange head screw (1/4 x 1/2 inch)

3. Disconnect the 8-socket connector of the machine wire harness (labeled **Rate Switch**) from the 8-pin connector of the switch (Figure 245).

Note: You no longer need the rate switch that you removed from the machine.

4. Route the branch of the front harness for the rate switch through the opening in the 3-switch panel and secure the wiring branch against an adjacent wire branch with a cable tie.
5. Assemble the 3-switch panel to the control console (Figure 246) with the 4 flange head screws (1/4 x 1/2 inch) that you removed in step 1.
6. Align the switch plug to the opening in the 3-switch panel where you removed the rate switch (Figure 245).
7. Insert the switch plug into the 3-switch panel until the plug snaps into the panel securely (Figure 245).

45

Installing the Hood and the Front Fenders

Parts needed for this procedure:

13	Push-in fastener

Installing the Hood

1. Align the hood holes in the hood with the holes in the dash panel and frame of the machine (Figure 247).

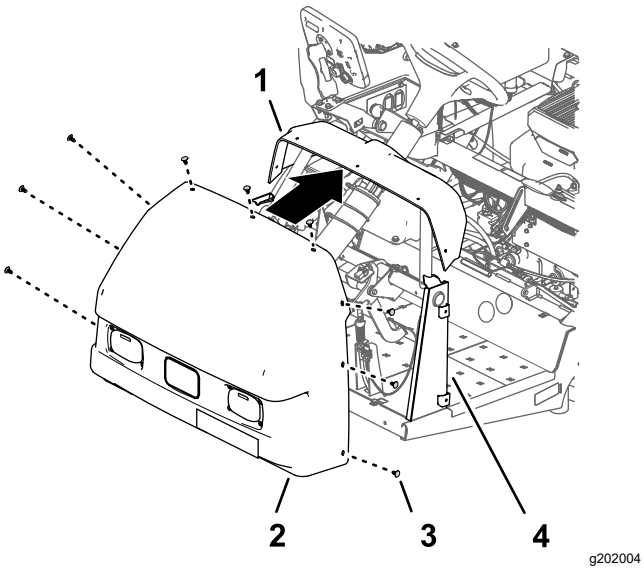


Figure 247

1. Dash panel
2. Hood
3. Push-in fastener
4. Dash support

2. Secure the hood to the dash and frame with 9 push-in fastener (Figure 247).
3. Connect the 2 electrical connectors (2-socket) of the machine wire harness from the 2-pin connectors of the left and right headlights (Figure 248).

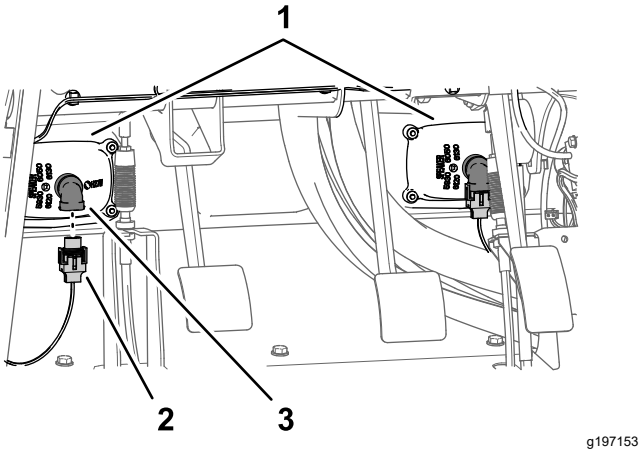


Figure 248

1. Headlights
2. 2-socket connector (machine wire harness)
3. 2-pin connector (headlight)

Installing the Left Front Fender

1. Align the inner-fender shroud to the left, upper- and left, lower-frame tubes (Figure 248).

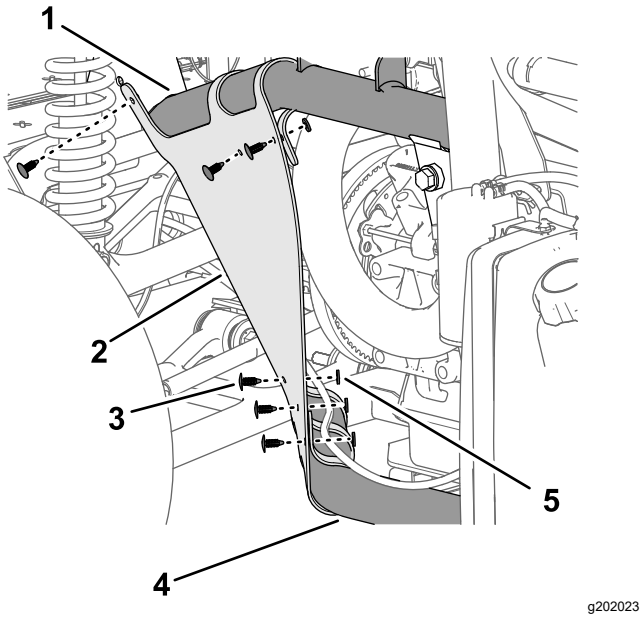
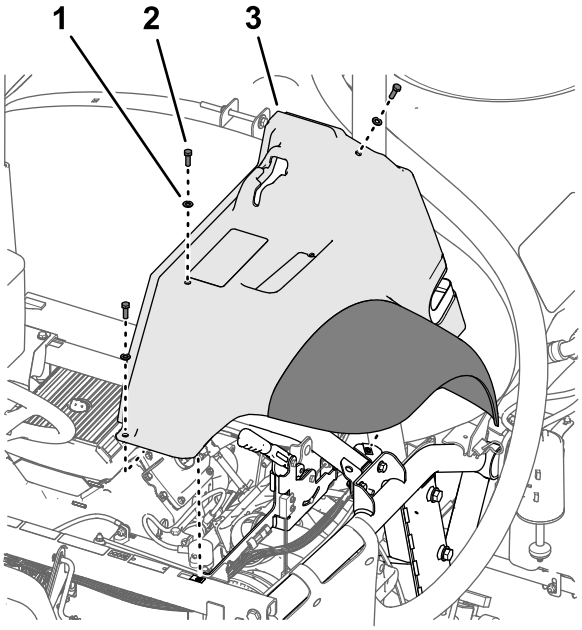


Figure 249

1. Left, upper-frame tube
2. Inner-fender shroud
3. Push-in fastener
4. Left, lower-frame tube
5. Washer (9/16 x 1/2 inch)

2. Secure the inner-fender shroud to the frame tubes with the 6 push-in fasteners (Figure 249).
3. Align the holes in the fender with the holes in the frame of the machine as shown in Figure 249.

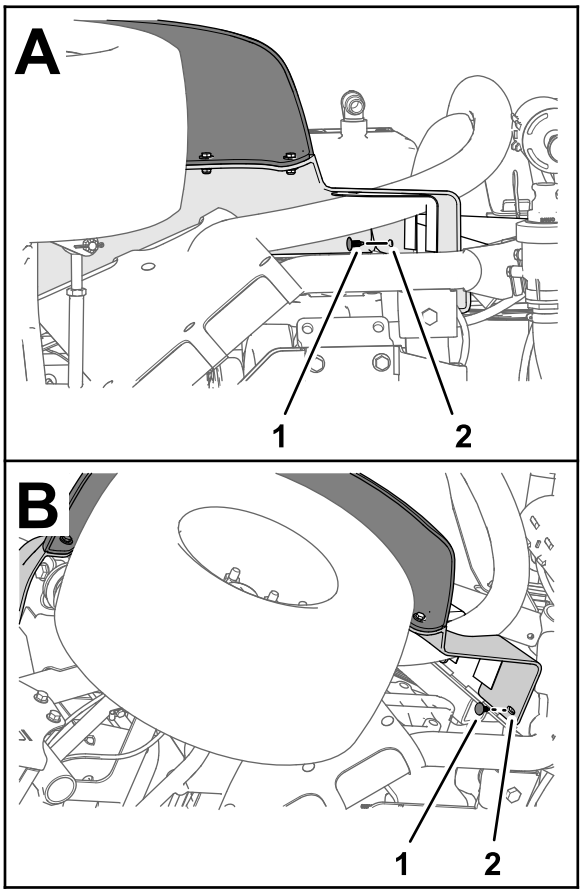


g197152

Figure 250

1. Washer (5/16 inch)
2. Bolt (5/16 x 1 inch)
3. Left, front fender

4. Loosely assemble the fender to the frame (Figure 250) with the 3 bolt (5/16 x 1 inch) and 3 washer (5/16 inch) that you removed in step 2 of Removing the Left Front Fender (page 12).
5. Secure the fender to the frame channel with the 2 push-in fasteners (Figure 251).



g264614

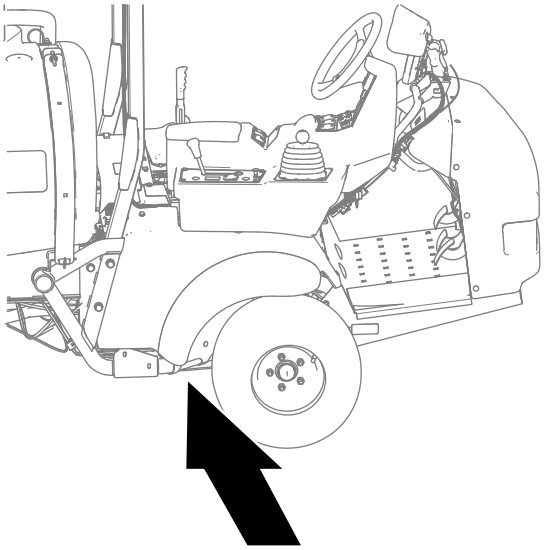
Figure 251

1. Push-in fastener
2. Left, front fender

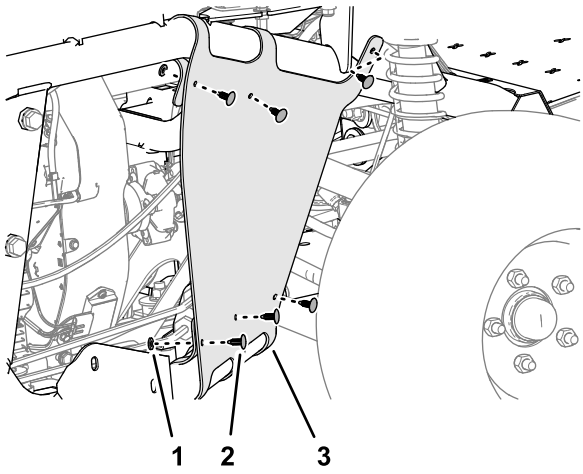
6. Torque the bolt (5/16 x 1 inch) to 1978 to 2542 N·cm (175 to 225 in-lb).
7. Repeat steps 1 through 6 for the inner-fender shroud and fender at the other side of the machine.

Installing the Right Front Fender

1. Align the inner-fender shroud to the right, upper and right, lower-frame tubes (Figure 252).



g323169

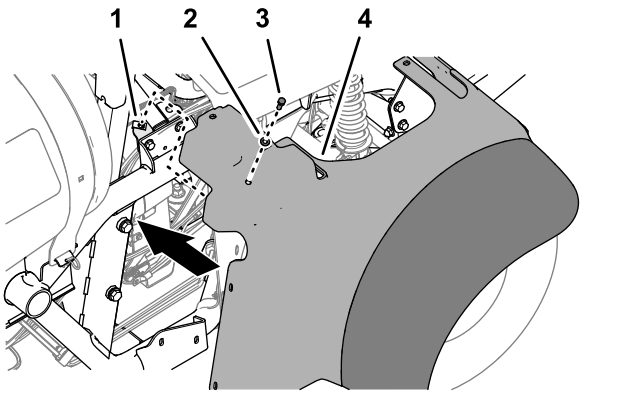


g323162

Figure 252

1. Washer (9/16 x 1/2 inch)
2. Push-in fastener
3. Inner-fender shroud

2. Secure the inner-fender shroud to the frame tubes (Figure 252) with the 6 push-in fasteners and 5 washers (9/16 x 1/2 inch).
3. Align the right, front fender to the machine as shown Figure 253, and align the holes in the fender with the holes in the frame.

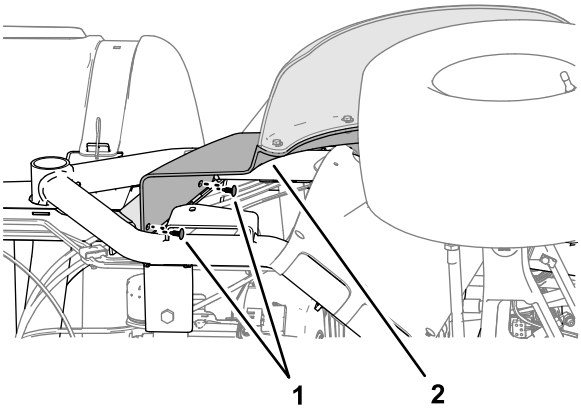


g323164

Figure 253

1. Clip nut (cross-member support)
2. Washer (5/16 inch)
3. Capscrew (5/16 x 1 inch)
4. Right, front fender

4. Secure right, front fender to the clip nut of the cross-member support (Figure 253) with the capscrew (5/16 x 1 inch) and washer (5/16 inch).
5. Secure the right, front fender to the roll bar mounting channel with 2 push-in fasteners (Figure 254).

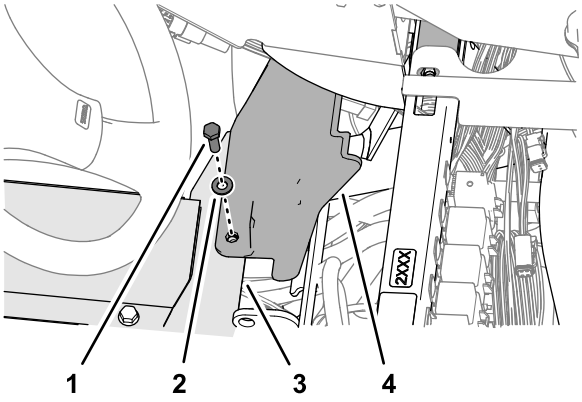


g323166

Figure 254

1. Push-in fastener
2. Right, front fender

6. Align the hole in the right, front fender with the hole in the platform floor (Figure 255), and secure the fender to the floor with a capscrew (5/16 x 1 inch) and washer (5/16 inch).

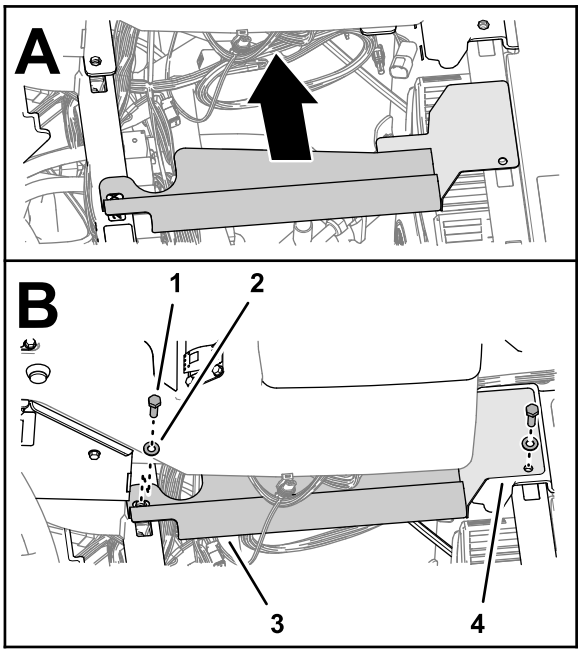


g323165

Figure 255

1. Capscrew (5/16 x 1 inch)
2. Washer (5/16 inch)
3. Platform floor
4. Right, front fender

7. Align the hole in the bottom console cover to the hole in the shock-support tube and the hole in the end console cover to the hole in the cross-member tube (Figure 256).



g323163

Figure 256

1. Capscrew (5/16 x 1 inch)
2. Washer (5/16 inch)
3. Console cover (bottom)
4. Console cover (end)

8. Secure the covers to the tubes (Figure 256) with 2 capscrews (5/16 x 1 inch) and 2 washers (5/16 inch).

46

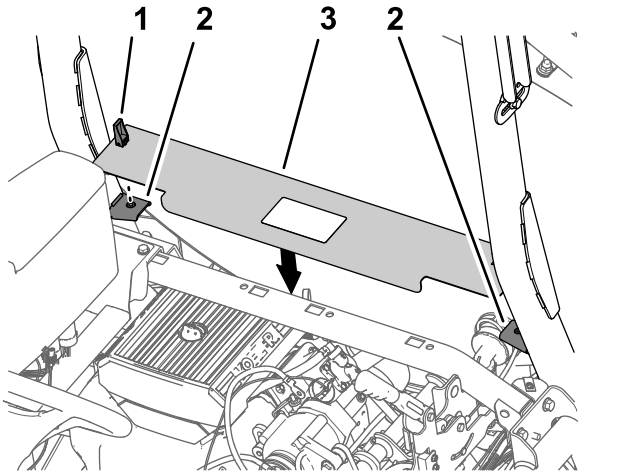
Installing the Engine-Access Panel and the Seat

No Parts Required

Installing the Engine-Access Panel

Machines without the Tank Rinse Kit

1. Align the latches of the engine access panel with the bushings in the panel-support brackets on the roll bar (Figure 257).



g202414

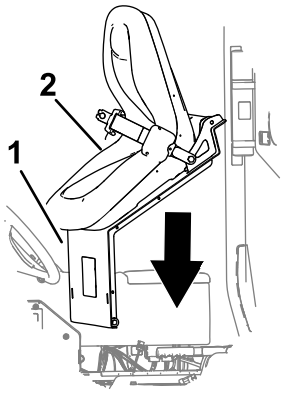
Figure 257

1. Latch
2. Panel-support bracket
3. Engine access panel

2. Assemble the panel onto the brackets (Figure 257).
3. Rotate the handles latches down to secure the panel to the brackets (Figure 257).

Installing the Seat

1. Align the seat and seat plate to the chassis of the machine (Figure 258).

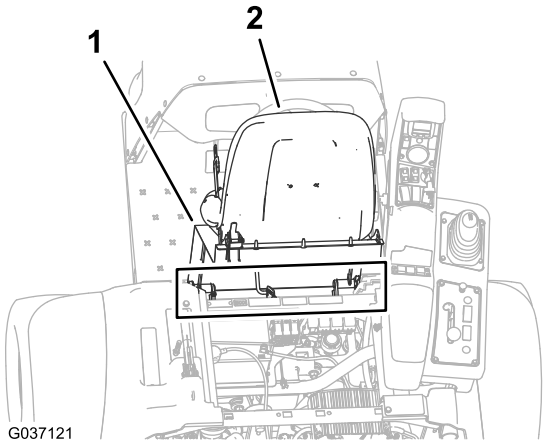


g202000

Figure 258

1. Seat plate
2. Seat

2. Align the holes in the pivot fittings of the seat pan with the holes in the chassis bracket (Figure 259).



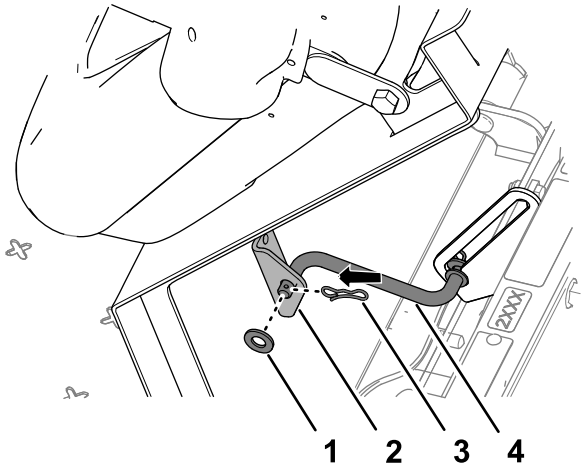
g037121

g202002

Figure 259

1. Seat plate
2. Seat
3. Hairpin
4. Pivot fitting (seat pan)
5. Chassis bracket
6. Pivot pin

3. Assemble the seat pan to the chassis brackets with the 2 pivot pins (Figure 259).
4. Secure the pivot pins to the machine with the 2 hairpins (Figure 259).
5. Assemble the prop rod to the bracket of the seat with the washer and hairpin (Figure 260).

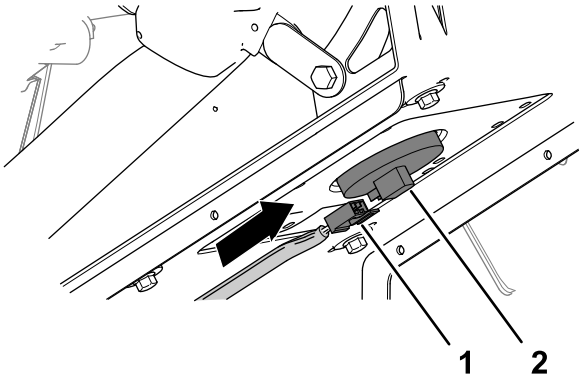


g202001

Figure 260

1. Washer
2. Bracket (seat)
3. Hairpin
4. Prop rod

6. Plug the 2-socket connector of the machine wire harness into the connector for the seat switch until the connectors latch securely (Figure 261).



g202003

Figure 261

1. 2-socket connector (machine wire harness)
2. Seat-switch connector

7. Rotate the seat forward slightly, remove the prop rod from the detent, rotate the seat down until the seat latches securely.

47

Programming the Machine Settings

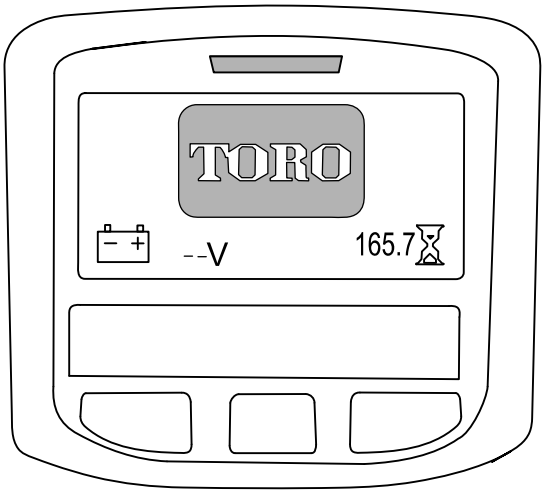
No Parts Required

Procedure

1. Insert the key into the key switch and rotate it to the ON position.

   The splash screen appears in the InfoCenter display and the indicator light illuminates briefly (Figure 262).

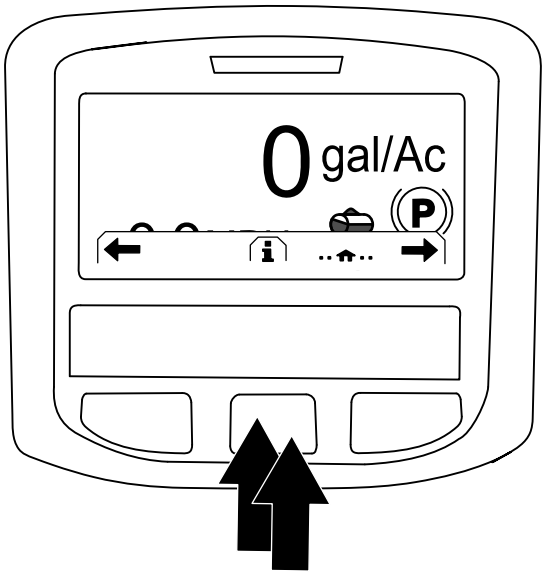
   Note: Do not start the engine.



g202877

Figure 262

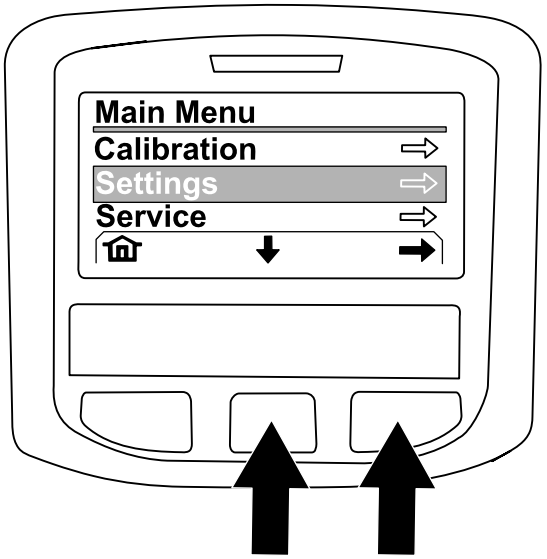
2. At the Home screen, press the center button on the InfoCenter to access the navigation screen (Figure 263).



g202868

Figure 263

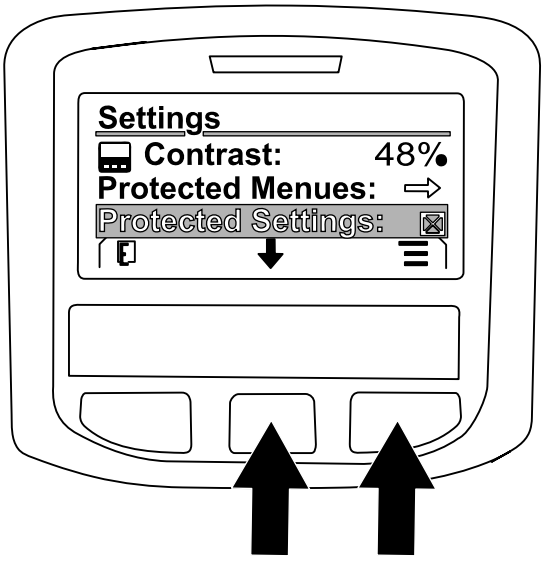
3. Press the center button on the InfoCenter to access the Main Menu (Figure 263).
4. At the MAIN MENU screen, press the center button to navigate to the SETTING option, and press the right button to select the option (Figure 264).



g202874

Figure 264

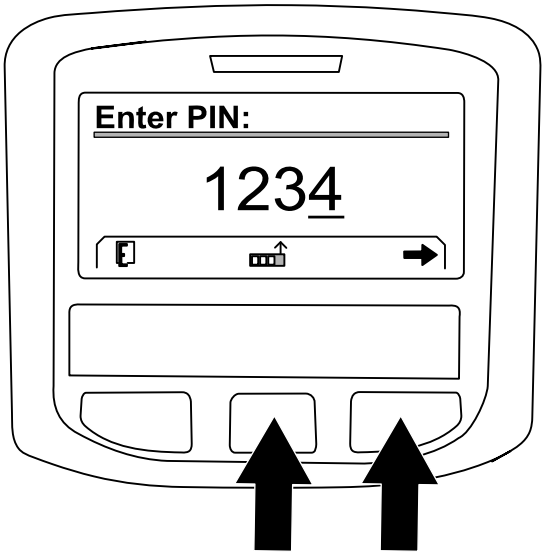
5. At the SETTING screen, press the center button to navigate to the PROTECTED SETTINGS option, and press the right button to select the option.



g202869

Figure 265

6. Enter the PIN code as follows:
   A. Press the center button as needed to enter the PIN code number for the left position (Figure 266).

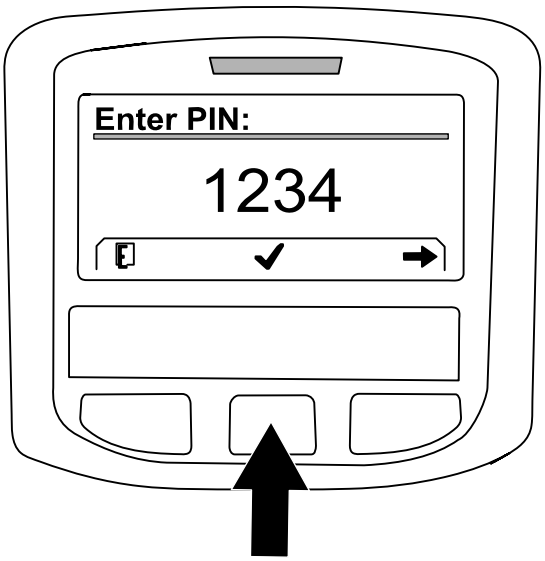


g202870

Figure 266

   B. Press the right button to navigate to the next PIN code number position (Figure 266).
   C. Repeat steps A and B for the 3 other PIN code number positions.
   D. When all the PIN code numbers are entered press the right button (Figure 266) and then press the center button to enter the PIN code (Figure 267).

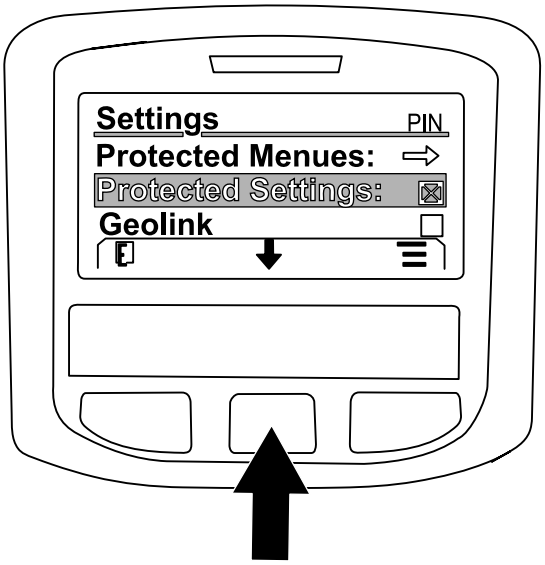
      The indicator light illuminates briefly.



g202871

Figure 267

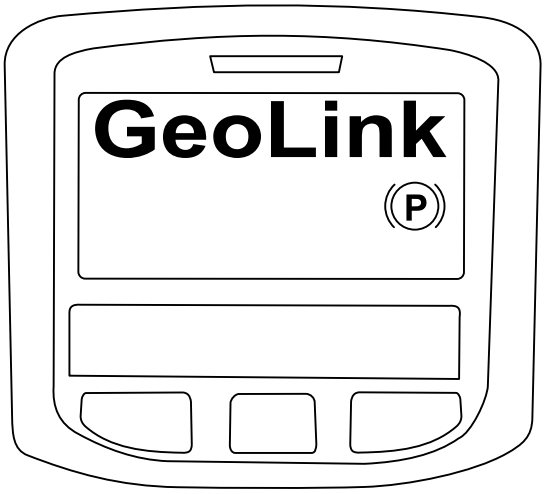
7. Press the center button to navigate to the GEOLINK option, and press the right button to set the option (Figure 268).



g202875

Figure 268

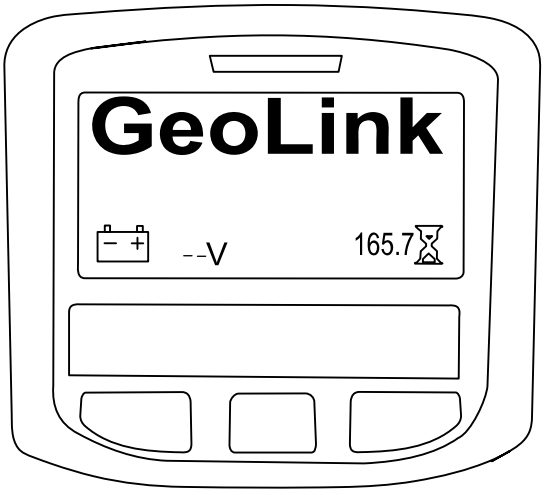
   The GeoLink confirmation screen displays in the InfoCenter (Figure 269).



g202872

Figure 269

8. Rotate the ignition switch to the OFF position and then to the ON position.
9. The GEOLINK splash screen initially appears when you rotate the key switch to the ON position.



g202878

Figure 270

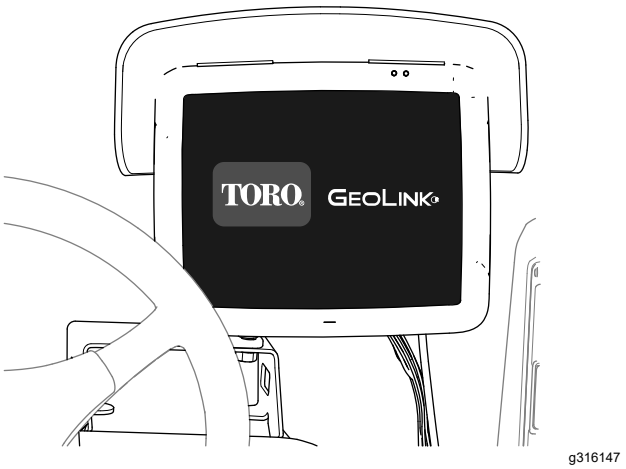
48

Powering the GeoLink Components

No Parts Required

Procedure

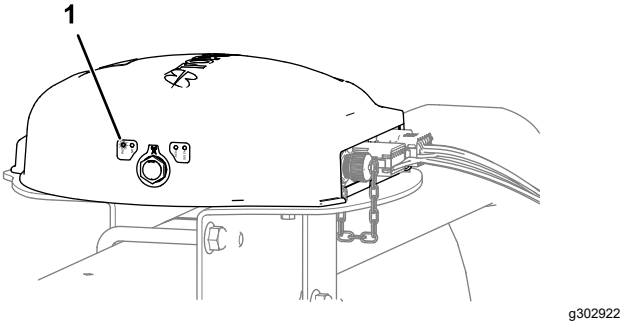
1. Turn the ignition key to the RUN (gasoline) or PREHEAT/RUN (diesel) position.
2. Verify that the following components indicate that each receives power:
   - Control console—displays graphics and text (Figure 271)



g316147

Figure 271

   - Satellite receiver—the PWR indicator illuminates (Figure 272)

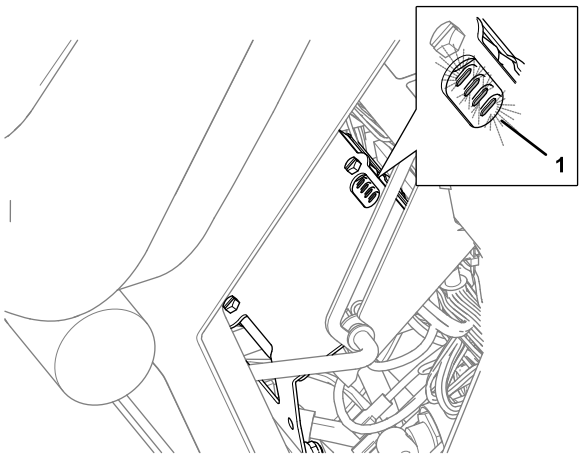


g302922

Figure 272

1. PWR indicator (satellite receiver)

   - Modem—the LED indicators illuminate (Figure 273).

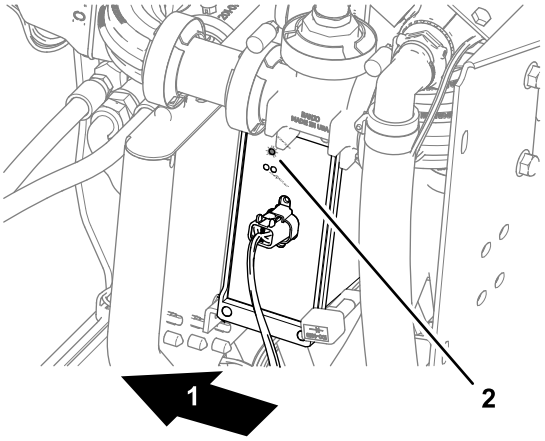


g316148

Figure 273

1. LED Indicators (passenger seat base)

- Automatic section controller—the STATUS indicator illuminates (Figure 274)



g302923

Figure 274

1. Back of the machine
2. STATUS indicator (automatic section controller)

3. Turn the ignition key to the OFF position.
4. Verify that power is shut off at the following components:
   - Control console
   - Satellite receiver
   - Automatic section controller

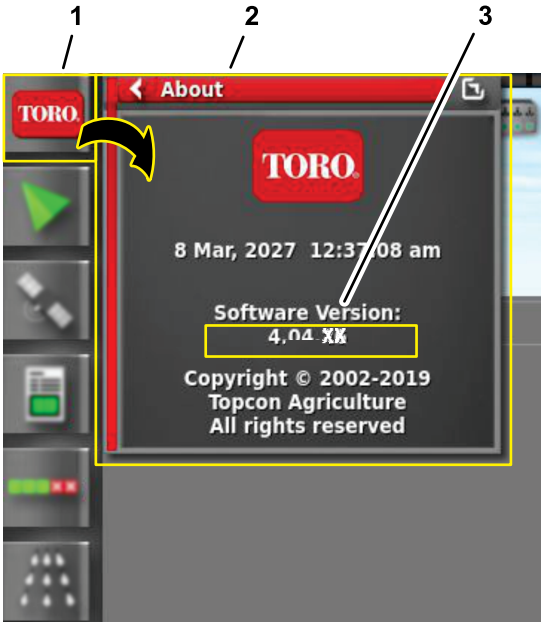
49

Verifying the Software Version

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 275).



g302935

Figure 275

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.

50

Selecting the Units of Measure

No Parts Required

Procedure

Select the units of measure; refer to the *Operator's Manual* or *Software Guide* for your GeoLink system.

51

Creating a Field

No Parts Required

Procedure

Create a new field; refer to the *Operator's Manual* or *Software Guide* for your GeoLink system.

52

Creating a New Product and Application Rate

No Parts Required

Procedure

Create a new product and application rate entry; refer to the *Operator's Manual* or *Software Guide* for your GeoLink system.

53

Balancing the Nozzle Valves

Multi Pro 1750

No Parts Required

Procedure

Balance the nozzle valves by preforming the following procedures:

1. Selecting the Spray Nozzle-Preparing to Balance the Nozzle Valves; refer to the *Operator's Manual* or *Software Guide* for your GeoLink system.
2. Selecting the Spray Nozzle-Valve Balancing Wizard-Steps 1 through 3; refer to the *Operator's Manual* or *Software Guide* for your GeoLink system.
3. Selecting the Spray Nozzle-Valve Balancing Wizard-Steps 4 through 6; refer to the *Operator's Manual* or *Software Guide* for your GeoLink system.

54

Creating a Spray Job

No Parts Required

Procedure

1. Press the Job Menu and press the CREATE NEW JOB icon (Figure 276).

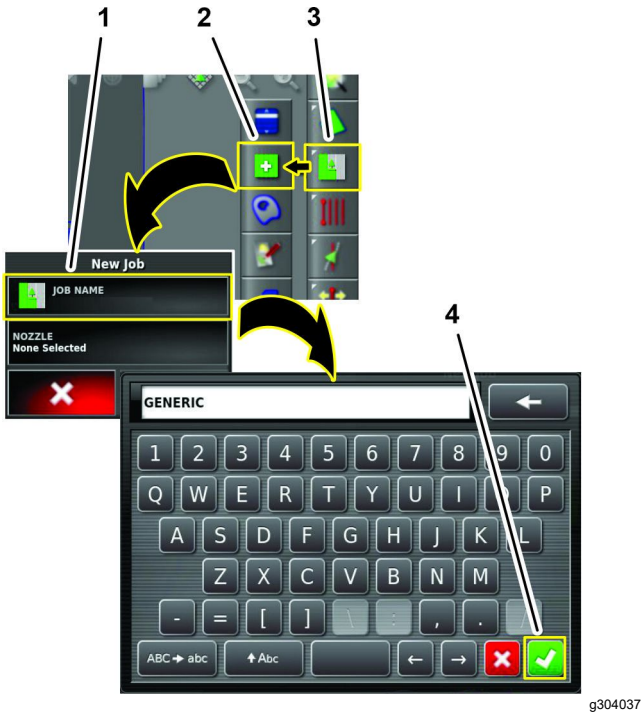


Figure 276

1. JOB NAME icon
2. CREATE NEW JOB icon
3. JOB MENU icon
4. Confirm icon

2. Use on-screen keyboard to type a name for the generic job, and press the confirm icon (Figure 276).
3. In the new job dialog box, press the NOZZLE icon (Figure 277).

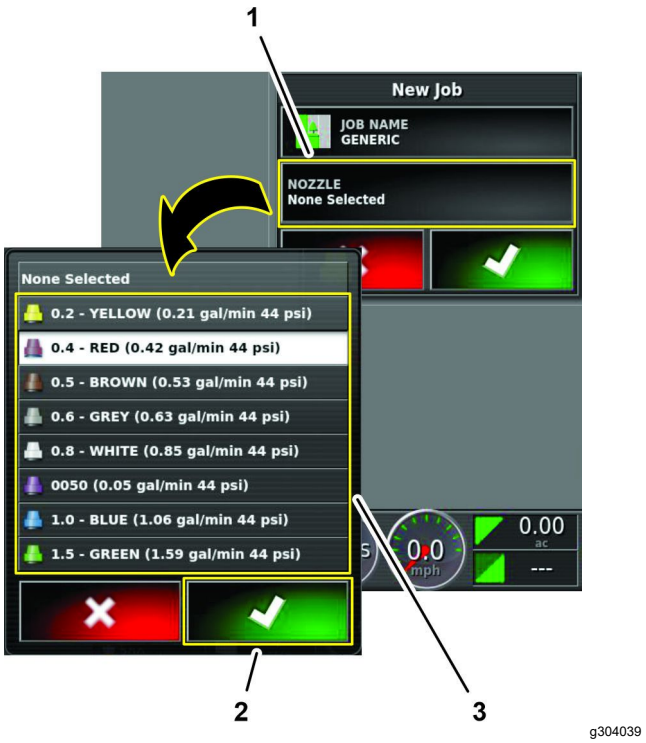


Figure 277

1. NOZZLE icon
2. Nozzle selection list icons
3. Confirm icon

4. In the nozzle selection list, press any nozzle icon, and press the confirm icon (Figure 277).
5. In the new job dialog box, press the confirm icon (Figure 278).

Figure 278

1. Confirm icon

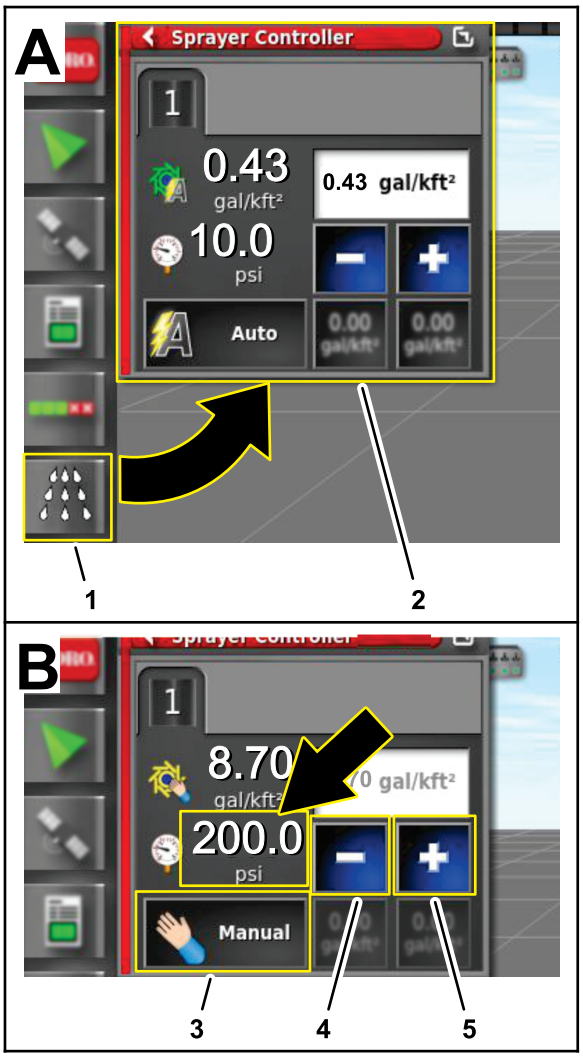
55

Checking the Spray System

No Parts Required

Procedure

1. Engage the parking brake.
2. Add 200 L (50 US gallon) of water into the spray tank; refer to the *Operator's Manual* for your machine.
3. Start the engine and set the engine speed to fast.
4. On the GeoLink control console, press the SPRAY RATE CONTROLLER icon (Figure 279).

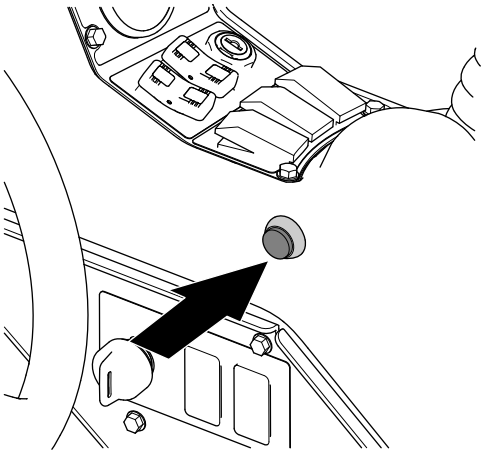


g303612

Figure 279

1. SPRAY RATE CONTROLLER icon
2. Dialog box (spray rate controller)
3. RATE CONTROL MODE icon (manual mode)
4. Decrement icon (-)
5. Increment icon (+)

5. In the spray rate controller dialog box, press the RATE CONTROL MODE icon until manual mode displays (Figure 279).
6. Use the decrement icon (-) or increment icon (+) to adjust the spray system pressure (Figure 279) to 13.75 bar (200 psi).
7. On the machine, press the master-section switch to the ON position (Figure 280).

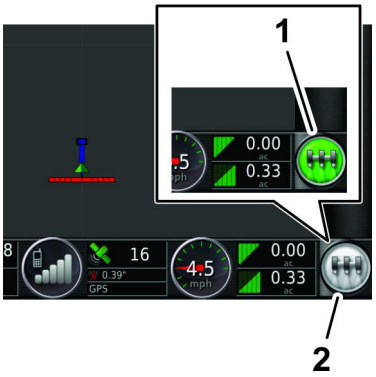


g205125

Figure 280

Master section switch—Multi Pro 1750 turf sprayer:

8. On the GeoLink control console, press the MASTER SWITCH icon (Figure 281) to the ON (green).



g203807

Figure 281

1. Green MASTER SWITCH icon (system ready, sprayer controller on)
2. White MASTER SWITCH icon (standby)

9. Check all sprayer fittings and components for leaks.

   Note: If you find any leaks, shut off the engine and repair the fitting or component.

56

Balancing the Agitation Bypass Valve

No Parts Required

Checking System and Agitation Bypass Pressure

1. Engage the parking brake, and start the engine.

   Note: Allow the engine and hydraulic system to warm for 10 minutes.
2. Ensure that the master section switch to the OFF position.
3. Set the spray-pump switch and the tank agitation switch to the ON position.
4. Set the left, center, and right section switches to the ON position.
5. Set the engine speed to fast.
6. On the GeoLink control console, press the SPRAY RATE CONTROLLER icon.
7. In the spray rate controller dialog box, press the RATE CONTROL MODE icon until manual mode displays (Figure 282).

g303643

Figure 282

1. RATE CONTROL MODE icon (manual mode)
2. Decrement icon (-)
3. Increment icon (+)

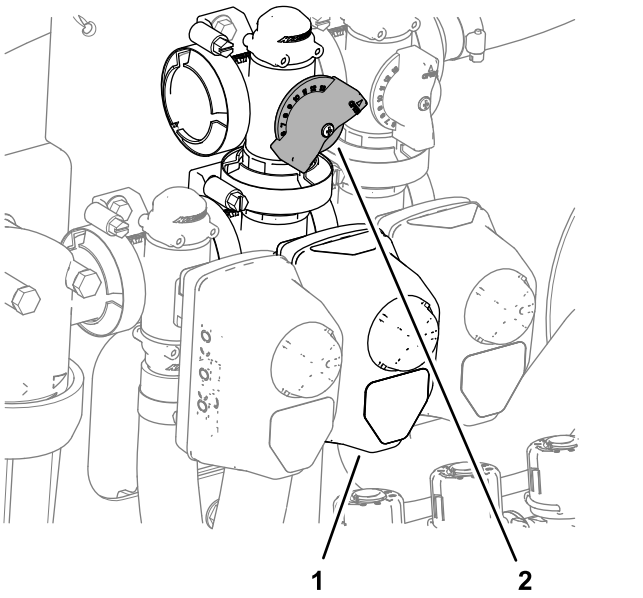
8. Press the decrement icon (-) or increment icon (+) to adjust the spray system pressure (Figure 282) to 6.9 bar (100 psi).
9. On the machine, set the tank agitation switch to the OFF position.

10. Observe the spray system pressure. If the spray system pressure is 6.9 bar (100 psi), the agitation valve is correctly adjusted.

    If the spray system pressure changed, adjust the agitation bypass valve; refer to Adjusting the Agitation Bypass Valve (page 123).

Adjusting the Agitation Bypass Valve

1. With the tank agitation switch in the OFF position, walk to the back of the machine and locate the agitation bypass valve.



g316159

Figure 283

1. Actuator (agitation valve) 2. Agitation-bypass valve

2. Adjust the agitation-bypass valve (Figure 283) until the gauge indicates 689 kPa (100 psi) sprayer system pressure.
3. Set the tank agitation switch to the ON position and observe the spray system pressure.

   Note: If the spray system-pressure gauge indicates greater than or less than 6.9 bar (100 psi), repeat steps 1 and 2.
4. Set the tank agitation switch to the OFF position and observe the spray system pressure.

   Note: If the spray system-pressure gauge indicates greater than or less than 6.9 bar (100 psi), repeat steps 1 and 2.

57

Performing a Flow Meter Calibration

No Parts Required

Procedure

Calibrate the flow meter; refer to the *Operator's Manual* or *Software Guide* for your GeoLink system.

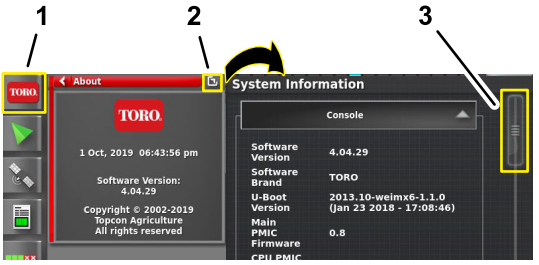
58

Verifying the Cellular Status

No Parts Required

Procedure

1. Press the SYSTEM INFORMATION icon, and then swipe the FULL SCREEN icon in the upper right corner of the system information window (Figure 284).

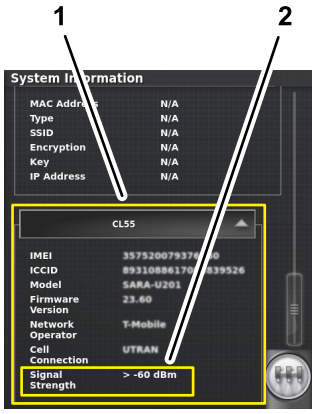


g305245

Figure 284

1. SYSTEM INFORMATION
2. FULL SCREEN icon
3. Scroll bar

2. In the system information screen, use the scroll bar to navigate to the CL55 icon (Figure 285).



g305244

Figure 285

1. CL55 icon
2. Signal strength information

3. Press the CL55 icon to display the signal strength information.(Figure 285), and verify that the modem signal strength is between -60 dBm and -99 dBm.

   Note: If the modem signal is equal to or less than -100 dBm, contact your authorized Toro distributor, Toro NSN at 1-844-GEOLINK (1-844-436-5465), or NSNTech@toro.com for customer service.

4. Swipe the FULL SCREEN icon to minimize the system information screen.

59

Performing a Compass Calibration

At the Distributor's Location

No Parts Required

Procedure

Perform a compass calibration at the distributor's location; refer to Calibrating the Compass in the *Operator's Manual* or *Software Guide* for your GeoLink system.

60

Erasing the NVRAM

At the Customer Location

No Parts Required

Changing the Setup Screen for Dealer Access

Important: **You must erase the nonvolatile RAM at the customer location.**

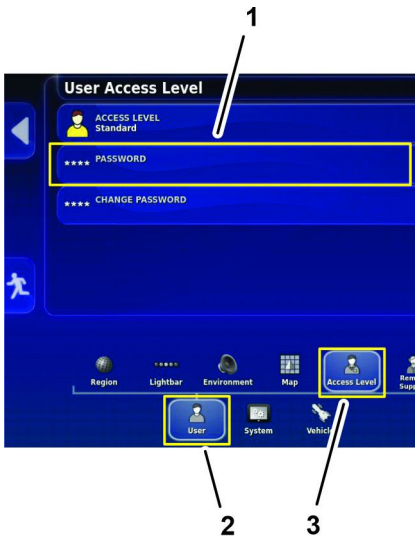
1. Contact the Toro Technical Assistance Center to request the dealer access level password.
2. Rotate the ignition key to the ON position.
3. Press the SETUP icon on the main screen (Figure 286).

g204035

Figure 286

1. SETUP icon

4. In the setup screen, press the USER icon and the ACCESS LEVEL icon(Figure 287).

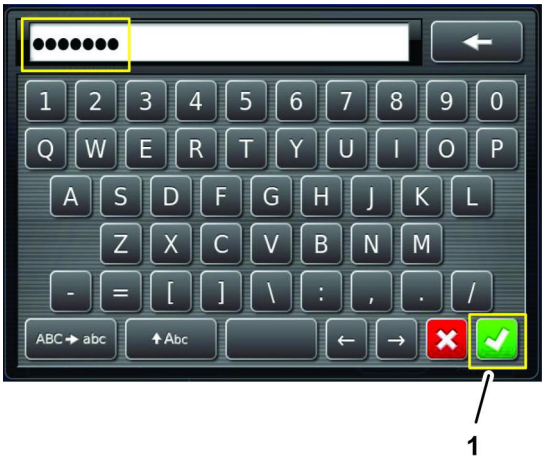


g309146

Figure 287

1. PASSWORD icon
2. USER icon
3. ACCESS LEVEL icon

5. Press the PASSWORD icon (Figure 287).
6. Use the on-screen keyboard to enter the password that you received in step 1, and press the confirm icon (Figure 288).

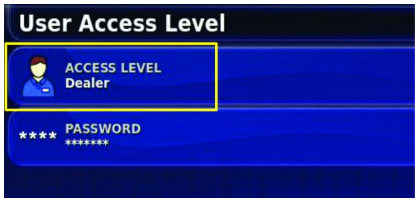


g309149

Figure 288

1. Confirm icon

Note: The user access level screen displays the DEALER icon (Figure 289).

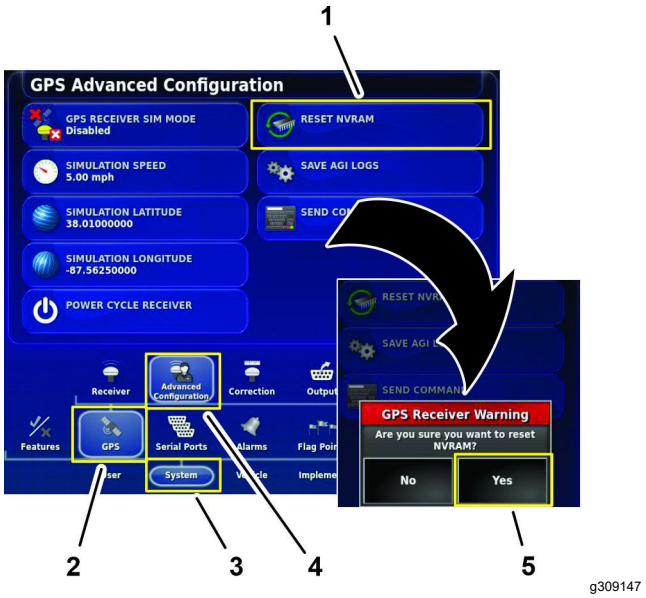


g309223

Figure 289

Erasing the Nonvolatile RAM

1. In the setup screen, press the SYSTEM icon, GPS icon, and ADVANCED CONFIGURATION icon (Figure 290).



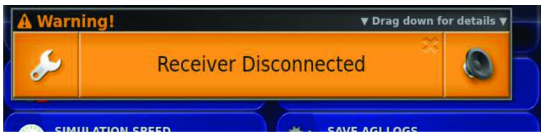
g309147

Figure 290

1. RESET NVRAM icon
2. GPS icon
3. SYSTEM icon
4. ADVANCED CONFIGURATION icon
5. YES icon

2. In the GPS Advanced Configuration screen, press the RESET NVRAM icon (Figure 290).
3. In the GPS receive warning dialog box, press the YES icon (Figure 290).

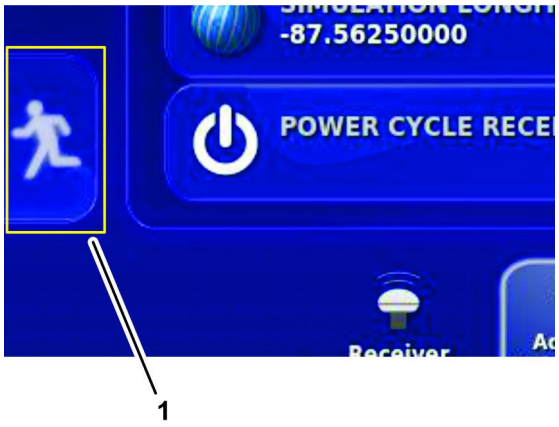
   Note: The receiver disconnected warning (Figure 291) displays briefly.



g309150

Figure 291

4. Wait 2 minutes for the satellite receiver and modem startup.
5. Press the EXIT SETUP icon



g309148

Figure 292

1. EXIT SETUP icon

6. Rotate the ignition switch to the OFF position.

61

Performing a Compass Calibration

At the Customer Location

No Parts Required

Procedure

Perform a compass calibration at the customer's location; refer to Calibrating the Compass in the *Operator's Manual* or *Software Guide* for your GeoLink system.

Notes:

Notes:

Notes:

EEA/UK Privacy Notice

Toro's Use of Your Personal Information

The Toro Company ("Toro") respects your privacy. When you purchase our products, we may collect certain personal information about you, either directly from you or through your local Toro company or dealer. Toro uses this information to fulfil contractual obligations - such as to register your warranty, process your warranty claim or to contact you in the event of a product recall - and for legitimate business purposes - such as to gauge customer satisfaction, improve our products or provide you with product information which may be of interest. Toro may share your information with our subsidiaries, affiliates, dealers or other business partners in connection these activities. We may also disclose personal information when required by law or in connection with the sale, purchase or merger of a business. We will never sell your personal information to any other company for marketing purposes.

Retention of your Personal Information

Toro will keep your personal information as long as it is relevant for the above purposes and in accordance with legal requirements. For more information about applicable retention periods please contact legal@toro.com.

Toro's Commitment to Security

Your personal information may be processed in the US or another country which may have less strict data protection laws than your country of residence. Whenever we transfer your information outside of your country of residence, we will take legally required steps to ensure that appropriate safeguards are in place to protect your information and to make sure it is treated securely.

Access and Correction

You may have the right to correct or review your personal data, or object to or restrict the processing of your data. To do so, please contact us by email at legal@toro.com. If you have concerns about the way in which Toro has handled your information, we encourage you to raise this directly with us. Please note that European residents have the right to complain to your Data Protection Authority.

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.