



High-Flow Hydraulics Kit

Workman® HDX-Auto Utility Vehicle

Model No. 07395

Form No. 3382-720 Rev B

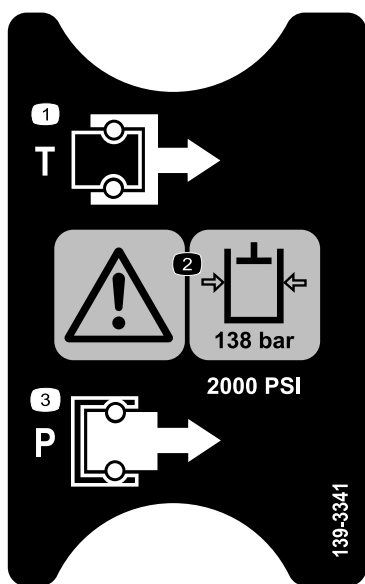
Installation Instructions

Safety

Safety and Instructional Decals



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



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1. Tank
2. Warning—the hydraulic-fluid pressure is 138 bar (2,000 psi).
3. Pressure



Installation

Loose Parts

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

Procedure	Description	Qty.	Use
1	No parts required	–	Prepare the machine.
2	No parts required	–	Remove the cargo bed.
3	No parts required	–	Remove the radiator screen.
4	No parts required	–	Remove the hood.
5	No parts required	–	Remove the hydraulic tank.
6	45° fitting with O-rings 45° fitting with hose barb	1 1	Install the fittings onto the pump.
7	High-flow pump assembly	1	Install the pump.
8	Manifold Tee fitting Flange bolt (1/4 x 1-7/8 inch)	1 2 2	Install the manifold.
9	Quick coupler assembly Flange bolt (1/4 x 3/4 inch) Flange nut (1/4 inch)	1 2 2	Install the quick coupler.
10	Hard hydraulic line (top) Hard hydraulic line (bottom)	1 1	Install the hardlines.
11	Hose (5-1/8 inches) Hose (4-3/4 inches) Hydraulic hose Large tee fitting 90° fitting with barb Hose clamp	1 1 1 1 1 4	Install the tee fitting and short hoses.
12	Cooler	1	Install the cooler.
13	Hose (86-1/2 inches) Hose (80-1/2 inches) Tee fitting with O-rings Cable clamp Cable tie	1 1 1 2 2	Install the long hoses.
14	Switch Decal Harness adapter	1 1 1	Install the switch.
15	No parts required	–	Fill the hydraulic reservoir with fluid.

1

Preparing the Machine

No Parts Required

Procedure

1. Park the machine on a level surface.
2. Engage the parking brake.
3. Shut off the engine and remove the key.

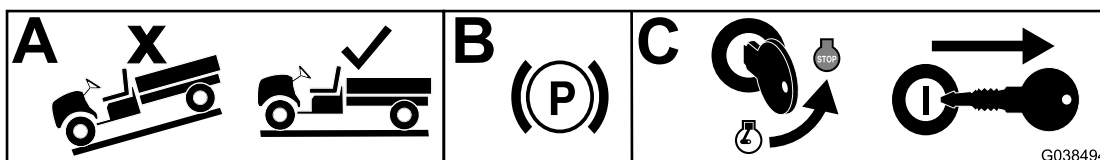


Figure 1

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2

Removing the Cargo Bed

No Parts Required

Procedure

Remove the cargo bed from the machine; refer to your *Operator's Manual*.

3

Removing the Radiator Screen

No Parts Required

Procedure

Open the latches and remove the radiator screen from the radiator housing ([Figure 2](#)).

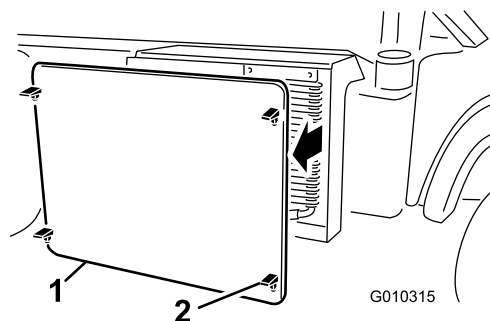


Figure 2

1. Radiator screen
2. Latch

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4

Removing the Hood

No Parts Required

Procedure

1. While grasping the hood in the headlight openings, lift up the hood to release the lower mounting tabs from the frame slots (Figure 3).

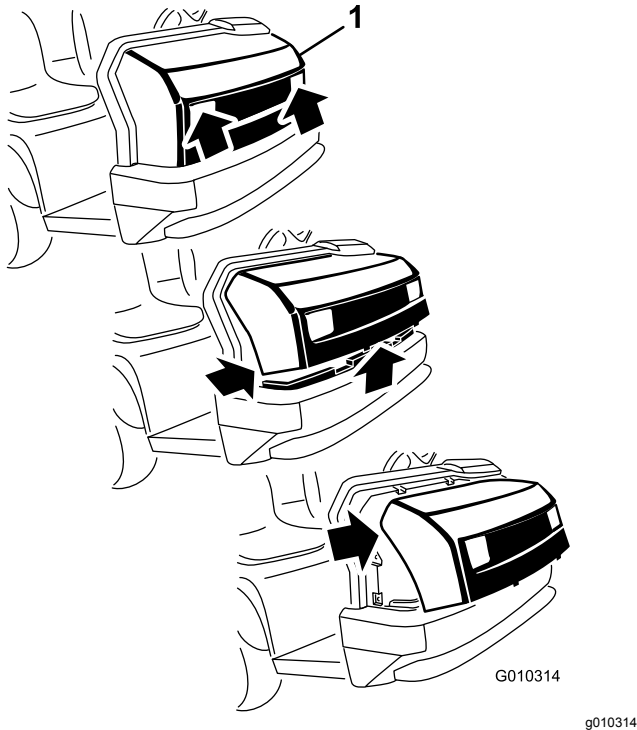


Figure 3

1. Hood

2. Pivot the bottom of the hood upward until you can pull the top mounting tabs from the frame slots (Figure 3).
3. Pivot the top of the hood forward and unplug the wire connectors from the headlights (Figure 3).
4. Remove the hood.

5

Removing the Hydraulic Tank

No Parts Required

Procedure

1. Place a drain pan under the hydraulic tank.
2. Remove the straight fitting to allow the fluid to drain out (Figure 4 and Figure 11). Discard the straight fitting.
3. Remove the bolt and bracket holding the hydraulic tank (Figure 4).
4. Remove the hose from the top of the hydraulic tank.
5. Slide the tank forward and remove it from the machine.

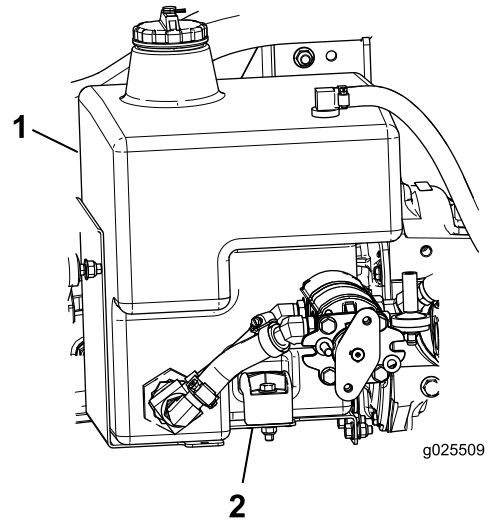


Figure 4

1. Hydraulic tank
2. Bracket and bolt

6

Installing the Fittings onto the Pump

Parts needed for this procedure:

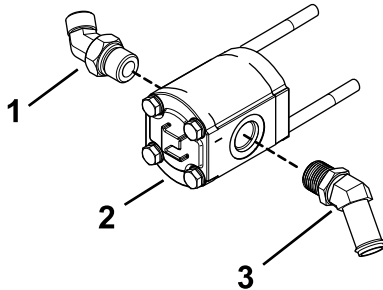
1	45° fitting with O-rings
1	45° fitting with hose barb

Procedure

Note: Make sure the O-rings are lubricated with hydraulic fluid and in place before installing the fittings.

Note: Ensure the fittings are installed at the angles show in [Figure 5](#).

1. Thread the 45° fitting with O-rings into the driver's side of the pump ([Figure 5](#)).



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Figure 5

1. 45° fitting with O-rings
2. High-flow pump
3. 45° fitting with hose barb

2. Thread 45° fitting with hose barb into the right side of the pump ([Figure 5](#)).

7

Installing the Pump

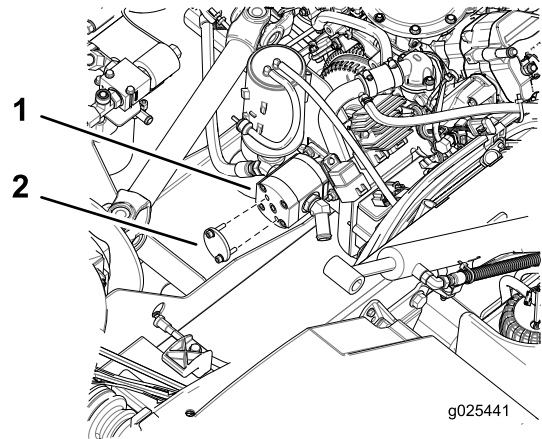
Parts needed for this procedure:

1	High-flow pump assembly
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Procedure

1. Thoroughly clean the area around the hydraulic pump end cap to prevent contamination from entering the pump ([Figure 6](#)).

2. Remove the 2 bolts securing the end cap to the hydraulic pump ([Figure 6](#)). Remove the end cap.



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Figure 6

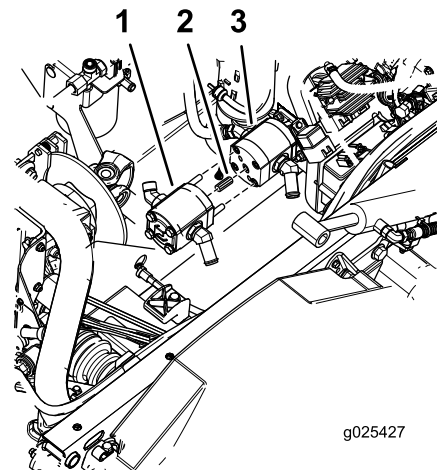
1. Hydraulic pump
2. End cap

3. Remove the top left and the bottom right screws from the existing pump plate. Discard the screws.

Note: Do not remove the remaining 2 screws from the pump end plate.

4. Using the 2 long bolts, assemble the high flow pump onto the existing pump ([Figure 7](#)).

Note: Make sure the mating surfaces are clean, the stub shaft is lubricated with molybdenum grease, and it is inserted into the pump.



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Figure 7

1. High flow pump
2. Stub shaft
3. Existing pump

5. Thread the bolts into the existing pump and torque to 29.8 N·m (22 ft-lb).

8

Installing the Manifold

Parts needed for this procedure:

1	Manifold
2	Tee fitting
2	Flange bolt (1/4 x 1-7/8 inch)

Procedure

Note: Make sure the O-rings are lubricated with hydraulic fluid and in place before installing the fittings.

1. Loosely install the tee fittings onto the manifold (Figure 8).

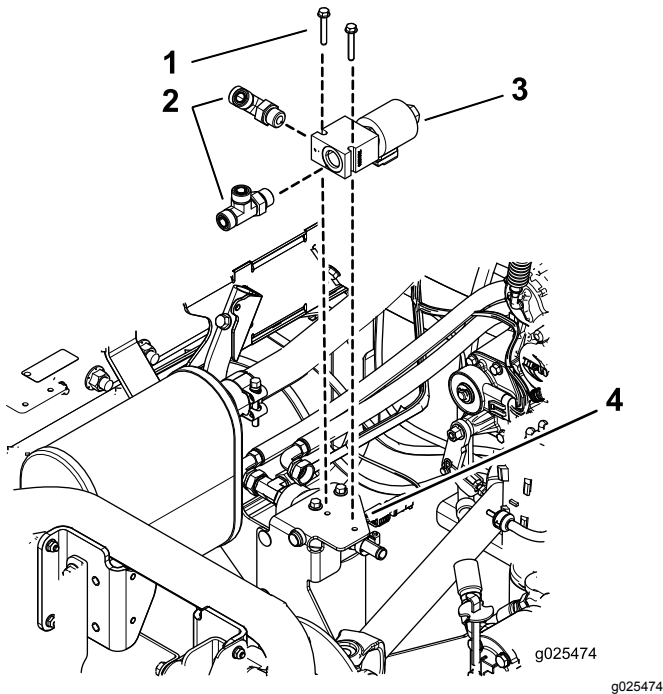


Figure 8

1. Flange bolt (1/4 x 1-7/8 inch)
2. Tee fitting
3. Manifold
4. Frame bracket

2. Mount the manifold to the frame bracket with 2 flange bolts (1/4 x 1-7/8 inch) as shown in Figure 8.
3. Locate the wire harness lead along the left side of the machine frame and remove the cable tie. The harness will be labeled high flow hydraulic.
4. Plug the manifold into the wire harness lead.

9

Install the Quick Coupler Assembly

Parts needed for this procedure:

1	Quick coupler assembly
2	Flange bolt (1/4 x 3/4 inch)
2	Flange nut (1/4 inch)

Procedure

Mount the quick coupler assembly to the rear frame bracket with 2 flange bolts (1/4 x 3/4 inch) and 2 flange nuts (1/4 inch) (Figure 9).

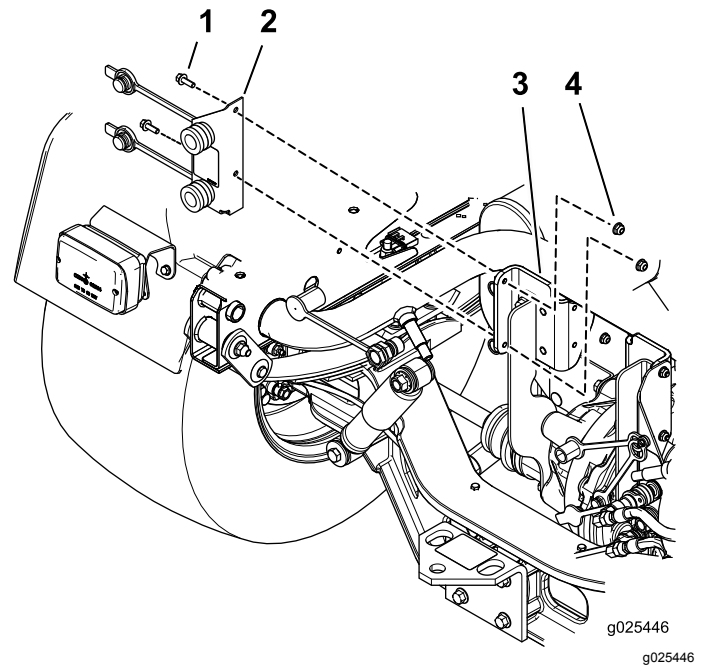


Figure 9

1. Flange bolt (1/4 x 3/4 inch)
2. Quick coupler
3. Rear frame
4. Flange nut (1/4 inch)

10

Installing the Hardlines

Parts needed for this procedure:

1	Hard hydraulic line (top)
1	Hard hydraulic line (bottom)

Procedure

1. Loosely install the bottom hard hydraulic line to the lower quick coupler and rear tee fitting on the manifold ([Figure 10](#)).

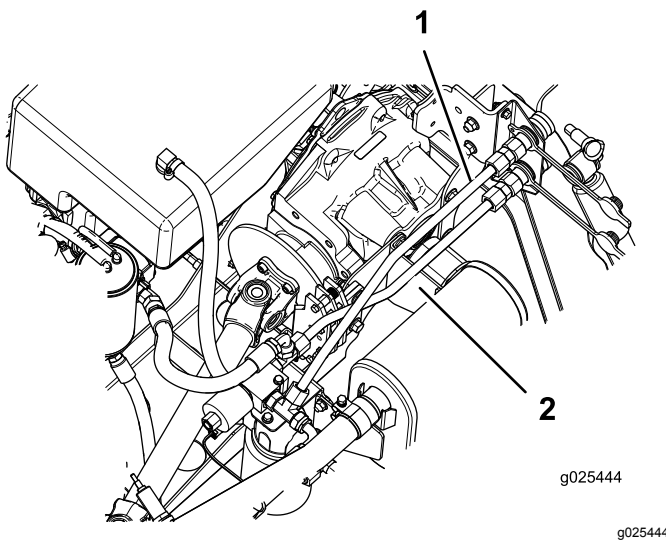


Figure 10

1. Hard hydraulic line (top)
2. Hardline clamp (bottom)

2. Loosely install the top hard hydraulic line to the upper quick coupler and side tee fitting on the manifold ([Figure 10](#)).
3. Tighten the hardlines and manifold fittings.

11

Installing the Large Tee Fitting and Short Hoses

Parts needed for this procedure:

1	Hose (5-1/8 inches)
1	Hose (4-3/4 inches)
1	Hydraulic hose
1	Large tee fitting
1	90° fitting with barb
4	Hose clamp

Procedure

1. Loosely install the large tee fitting into the hydraulic tank ([Figure 11](#)).
2. Install the 90° fitting into the large tee fitting ([Figure 11](#)).
3. Install the hydraulic tank. Reverse the instructions in [5 Removing the Hydraulic Tank](#) ([page 4](#)).

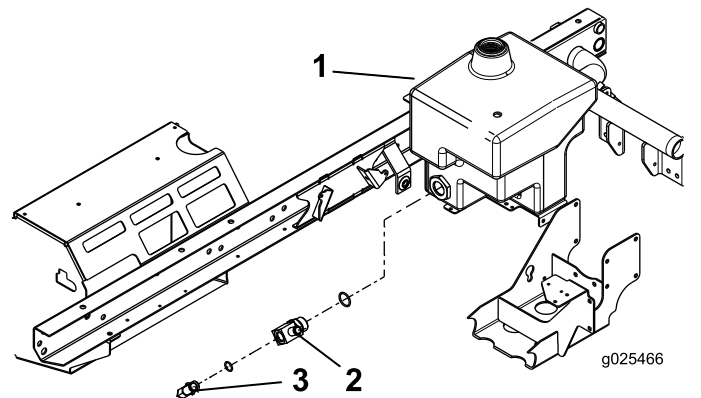


Figure 11

1. Hydraulic tank
2. Large tee fitting
3. 90° fitting with barb

4. Install the hydraulic hose and the hoses by rotating the large tee fitting and 90° fitting into the ends of the hoses. Rotating the fittings allows the hoses to be installed easier. Refer to [Figure 12](#).
5. Secure the hoses with hose clamps ([Figure 12](#)).

12

Installing the Cooler

Parts needed for this procedure:

1	Cooler
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Procedure

1. Insert the cooler-mounting tabs into the slots below the radiator (Figure 13).
2. Rotate the cooler up and fasten the top of the cooler with the 1/4-turn fasteners on the radiator (Figure 13).

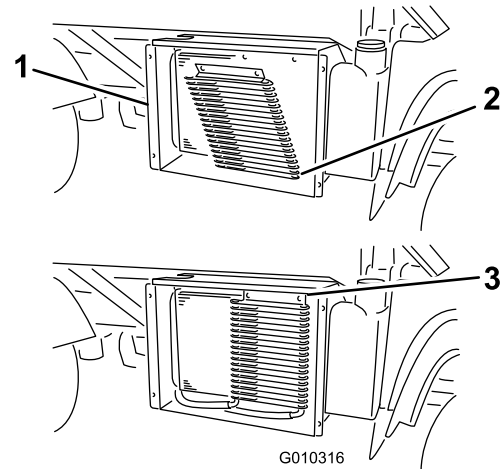


Figure 13

- | | |
|-----------|-----------------------|
| 1. Cooler | 3. 1/4-turn fasteners |
| 2. Slots | |

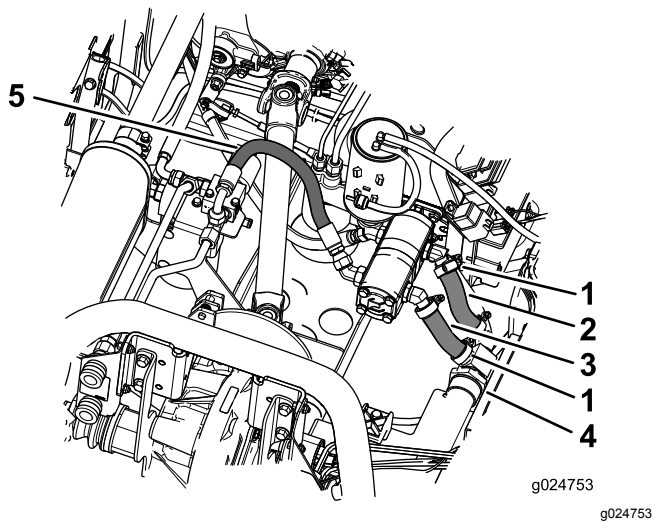


Figure 12

- | | |
|------------------------|-------------------|
| 1. Hose clamp | 4. Tee fitting |
| 2. Hose (5-1/8 inches) | 5. Hydraulic hose |
| 3. Hose (4-3/4 inches) | |

13

Installing the Long Hoses

Parts needed for this procedure:

1	Hose (86-1/2 inches)
1	Hose (80-1/2 inches)
1	Tee fitting with O-rings
2	Cable clamp
2	Cable tie

Procedure

1. Remove the existing 90° fitting from the hydraulic-fluid filter (Figure 14).

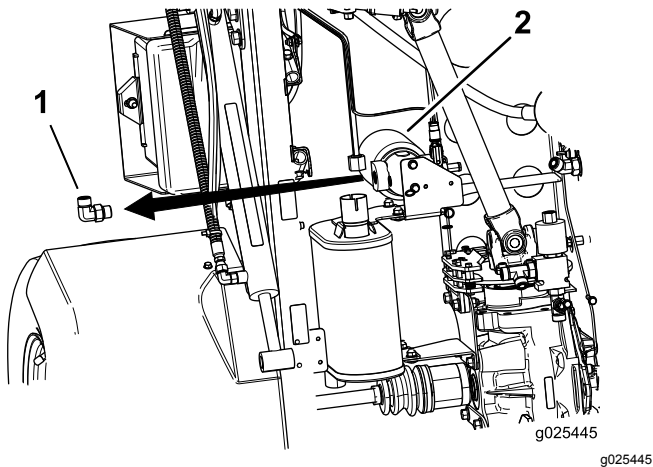


Figure 14

1. Remove the 90° fitting
2. Hydraulic-fluid filter

2. Install the tee fitting with O-rings (Figure 15).

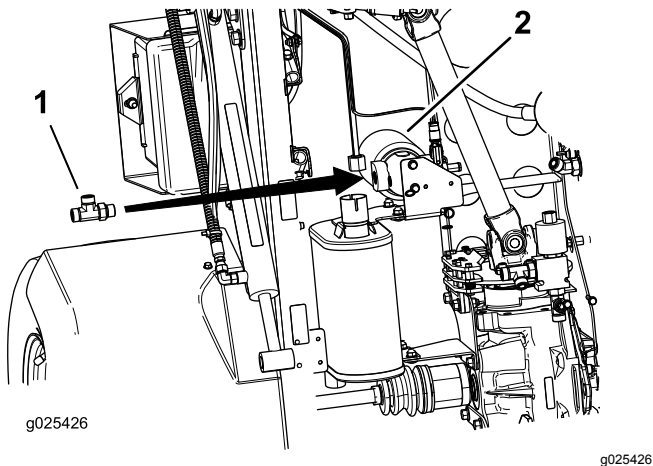


Figure 15

1. Tee fitting
2. Hydraulic-fluid filter

3. Install the long hose (86-1/2 inches) to the tee fitting on the manifold (Figure 16).
4. Install the long hose (80-1/2 inches) to the tee fitting on the filter housing (Figure 16).

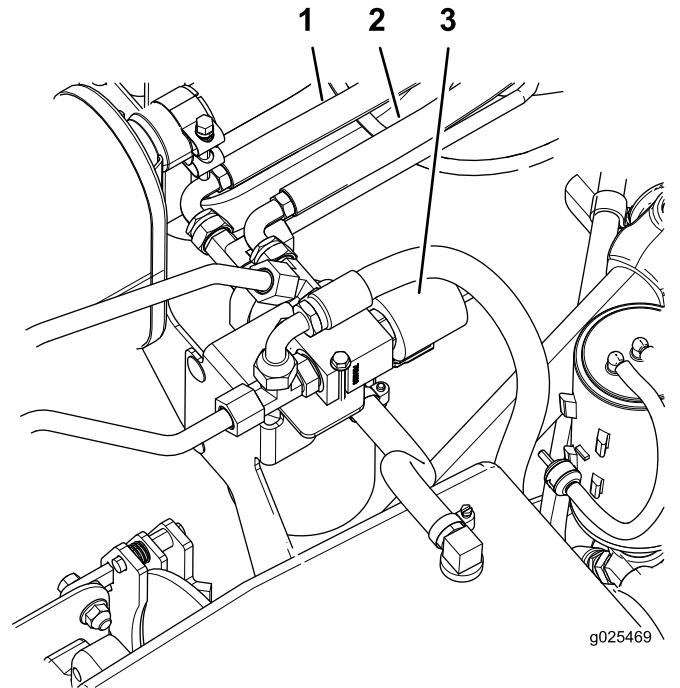


Figure 16

1. Long hose (80-1/2 inches) connected to the filter housing
2. Long hose (86-1/2 inches) connected to the manifold
3. Manifold connected to the filter housing

5. Route the long hoses along the frame and over to the cooler (Figure 17).
6. Use the cable ties to secure the long hoses (Figure 17).

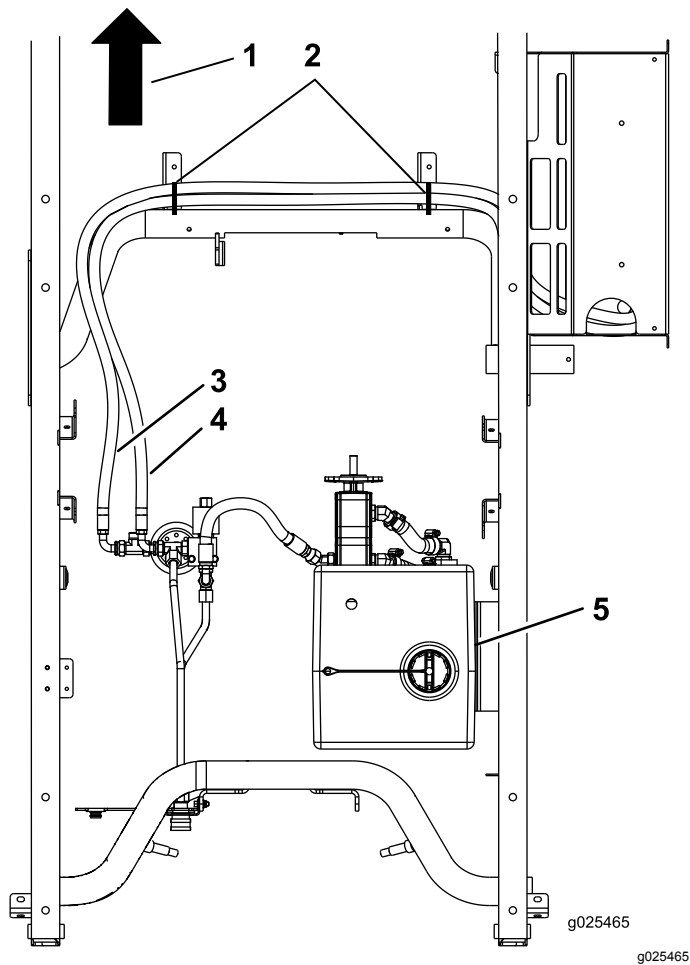


Figure 17

1. To the front of the machine
2. Cable ties
3. Long hose (80-1/2 inches)
4. Long hose (86-1/2 inches)
5. Hydraulic tank

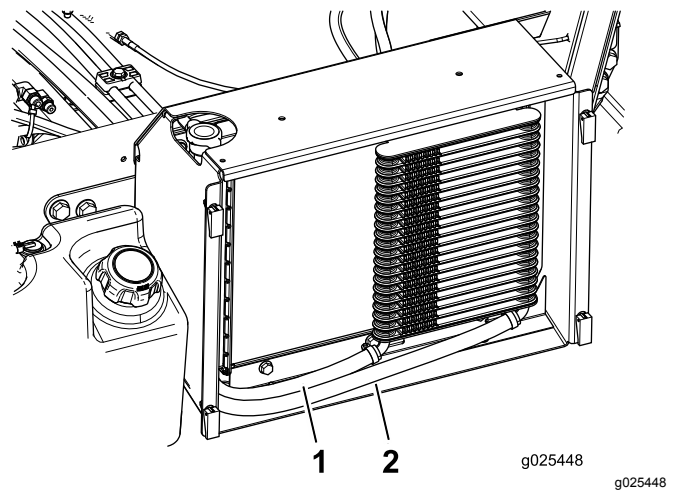


Figure 18

1. Long hose (80-1/2 inches)
2. Long hose (86-1/2 inches)

7. Install the long hoses to the cooler as shown in [Figure 18](#).

14

Installing the Switch

Parts needed for this procedure:

1	Switch
1	Decal
1	Harness adapter

Procedure

1. Remove a plug from an unused opening in the dash panel (Figure 19).

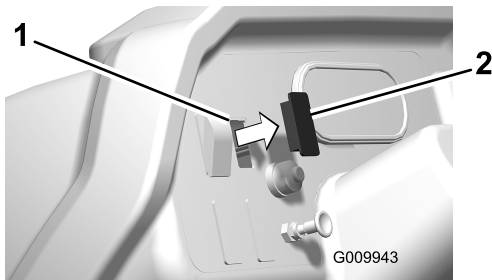


Figure 19

1. Dash-panel opening
2. Plug

2. Insert the switch into the dash-panel opening (Figure 20).

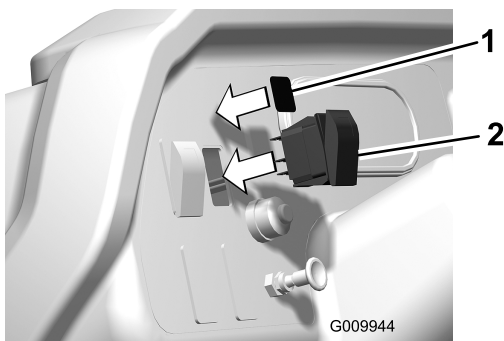


Figure 20

1. Decal
2. Switch

3. Apply the decal to the dash panel next to the switch (Figure 20).
4. Locate the wire harness with the loop-back connector under the dash (Figure 21).

Note: The harness is labeled “high-flow hydraulic”.

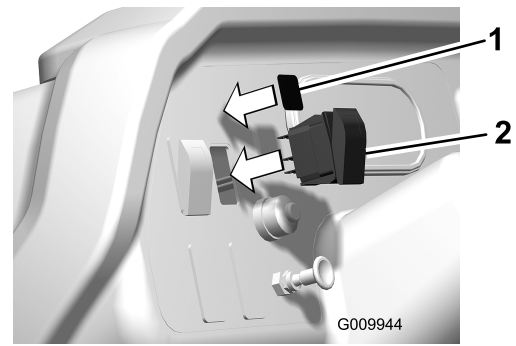


Figure 21

1. Switch
2. Harness adapter

5. Unplug the loop-back connector from the harness connector.
6. Plug the harness adapter into the harness connector and into the switch (Figure 21).

15

Filling the Hydraulic Reservoir with Fluid

No Parts Required

Procedure

The hydraulic reservoir must be filled with approximately 15.1 L (4 US gallons) of high-quality hydraulic fluid. **Check the level of hydraulic fluid before starting the engine, and daily, thereafter. The appropriate hydraulic fluids are listed below.**

The following list is not assumed to be all-inclusive. Hydraulic fluids produced by other manufacturers may be used if they can cross reference to find an equivalent to the products listed. Toro will not assume responsibility for damage caused by improper substitutions, so use only products from reputable manufacturers who will stand behind their recommendation.

Multigrade Hydraulic Fluid: ISO VG 46

Normal Climate: -18 to 43°C (0 to 110°F)

Manufacturer	Fluid Type
Mobil	DTE 15M
Amoco	Rykon Premium ISO 46
Chevron	Rykon Premium Fluid ISO 46
Conoco	Hydroclear AW MV46
Exxon	Univis N46
Pennzoil	AWX MV46
Shell	Tellus T 46
Texaco	Rando HDZ 46

Important: The ISO VG 46 Multigrade fluid has been found to offer optimal performance in a wide range of temperature conditions. For operation in consistently high ambient temperatures, 18° to 49°C (65° to 120°F), ISO VG 68 hydraulic fluid may offer improved performance.

Note: Many hydraulic fluids are almost colorless, making it difficult to spot leaks. A red dye additive for the hydraulic-system fluid is available in 20 mL (0.67 fl oz) bottles. One bottle is sufficient for 15 to 22 L (4 to 6 US gallon) of hydraulic fluid. Order Toro Part No. 44-2500 from your authorized Toro distributor. Bio-degradable fluid (use food coloring) is not recommended.

1. Clean the area around the filler neck and the cap of the hydraulic tank (Figure 22). Remove the cap from the filler neck.

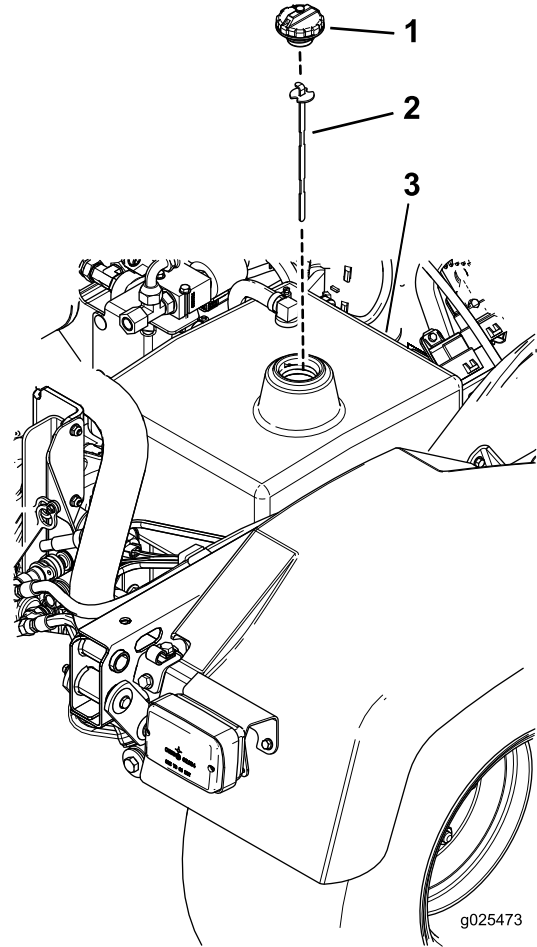


Figure 22

1. Cap
2. Dipstick
3. Hydraulic tank

2. Remove the dipstick (Figure 22) from the filler neck and wipe it with a clean rag. Insert the dipstick into the filler neck; then remove it and check the fluid level. The fluid level should be between the two marks on the dipstick.
3. If the level is low, add the appropriate fluid to raise the level to the upper mark.
4. Install the dipstick and cap onto the filler neck.
5. Start the engine and turn on the kit. Let them run for about two minutes to purge air from the system. Shut off the engine and kit and check for leaks.

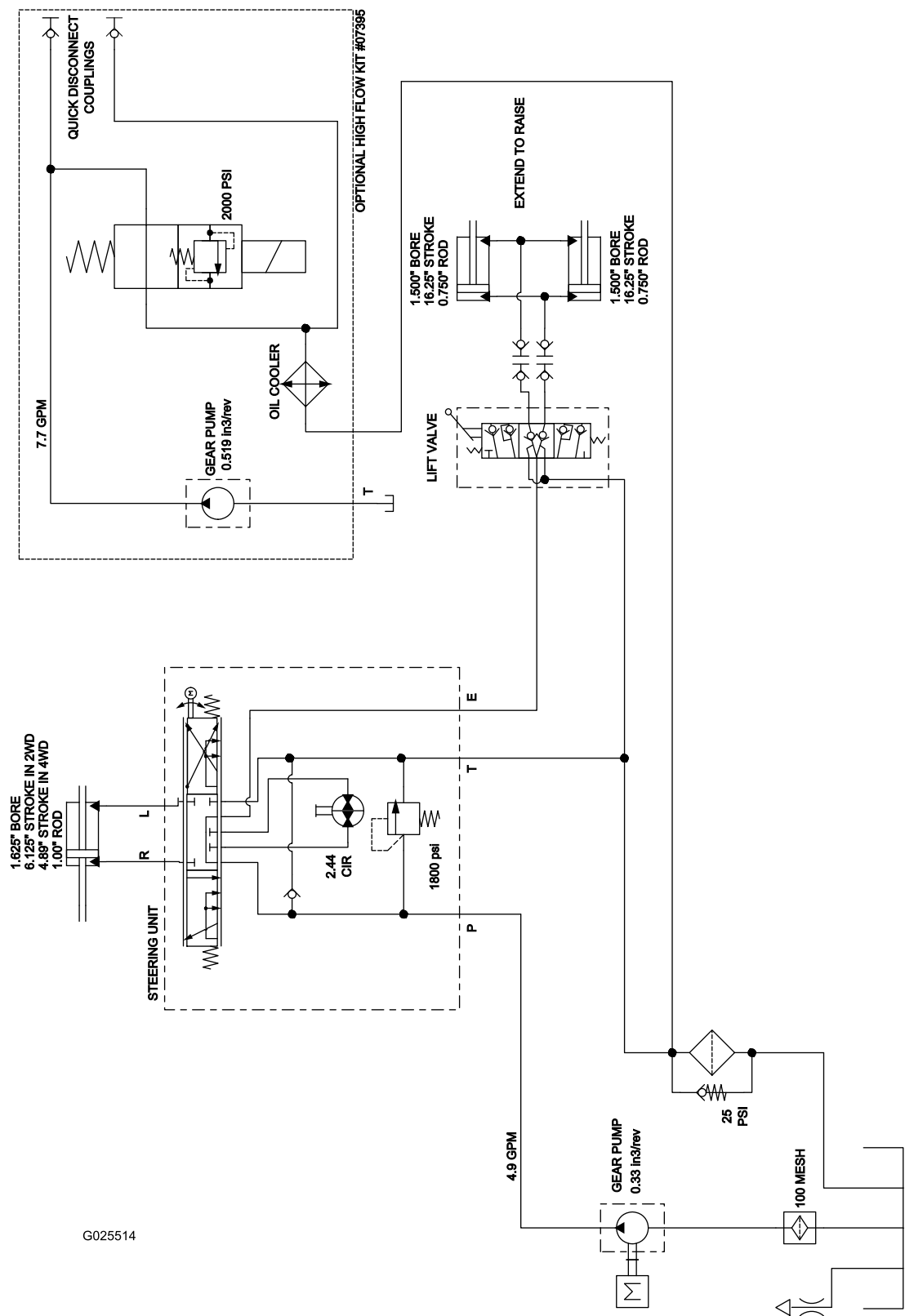
Important: You must start the machine before starting the kit.

⚠ DANGER

Hydraulic fluid escaping under pressure can penetrate skin and cause serious injury or death.

- Seek immediate medical attention if fluid is injected into your skin.
- Make sure that all hydraulic-fluid hoses and lines are in good condition and all hydraulic connections and fittings are tight before applying pressure to the hydraulic system.
- Keep your body and hands away from pinhole leaks or nozzles that eject high-pressure hydraulic fluid.
- Use cardboard or paper to find hydraulic leaks.
- Safely relieve all pressure in the hydraulic system before performing any work on the hydraulic system.

Schematics



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Hydraulic Schematic (Rev. A)

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Notes:



Count on it.