



Rear Remote Hydraulic Kit

For Sand/Infield Pro 3040 and 5040 Traction Unit

Model No. 08781

Installation Instructions

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

Loose Parts

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

Step	Description	Qty.	Use
1	No parts required	–	Prepare the machine.
2	No parts required	–	Remove the air cleaner.
3	No parts required	–	Remove the hydraulic reservoir and shrouds.
4	Small 90 degree elbow with barb	1	Install fittings to the hydraulic tank.
	Large 90 degree elbow (threaded both ends)	1	
	Strainer	1	
5	Retainer bracket	1	Install the coupler bracket to the rear frame.
	Muffler clamp	2	
	Hose retainer bracket	1	
	Coupler bracket	1	
6	Valve	1	Install the manifold and bracket.
	Valve plate	1	
	Bolt, (1/4 x 1–3/4 inches)	2	
	Nut, (1/4 inch)	2	
	Small 90 degree elbow	1	
	Tee fitting	1	
	Tapping bolt, (9/32 x 3/4 inch)	2	
	Tee adapter	1	
	Relay	1	
	Cap	1	
7	Hydraulic line number 1	1	Install the hydraulic lines.
	Hydraulic line number 2	1	
	Hydraulic line number 5	1	
8	Hydraulic pump	1	Install the hydraulic pump.
	45 degree fitting (male ends)	1	
	Hub assembly	1	
	Square key (1/4 x 1 inch)	1	
	Set screw, (5/16 x 3/4 inch)	4	
	Pump bracket	1	
	Bolt (with Loctite®), (5/16 x 3/4 inch)	2	
	Large 90 degree elbow (with hose barbed end)	1	

Step	Description	Qty.	Use
9	Hydraulic line number 3	1	Install the hydraulic lines.
	Hydraulic line number 4	1	
10	Large hydraulic hose	1	Install the hydraulic hoses.
	Hydraulic hose with fittings	1	
	Large hose clamp	2	
	Small hose clamp	2	
	Small molded hydraulic hose	1	
	R-clamp	1	
	Bolt, (5/16 x 7/8 inch)	1	
	Flange nut, (5/16 inch)	1	
11	No parts required	—	Tighten all connections.
12	Harness	1	Install the switch and harness.
	Switch	1	
	Fuse	1	
13	Dipstick	1	Install the hydraulic oil and check for leaks.
	Hydraulic oil	6–3/4 gallons	

Step

1

Preparing the Machine

No Parts Required

Procedure

Thoroughly clean the machine. All debris must be removed to ensure the mounting brackets will fit properly and that no dirt or debris gets into the hydraulic system.

Step

2

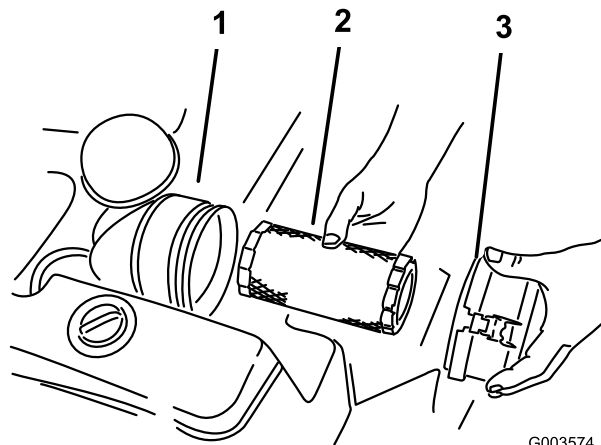
Removing the Air Cleaner

No Parts Required

Procedure

1. Thoroughly clean the area around the air cleaner.
2. Loosen the radiator clamp around the hose and lower the clamp onto the hose.

3. Remove the inside bolt holding the air cleaner in place.
4. Remove the air cleaner cover and filter.



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Figure 1

1. Air cleaner canister
2. Air filter
3. Canister cover

5. Remove the hose from the air cleaner canister.
6. Open the air cleaner strap open and pull it over the end of the canister where the filter was taken out (Figure 2).

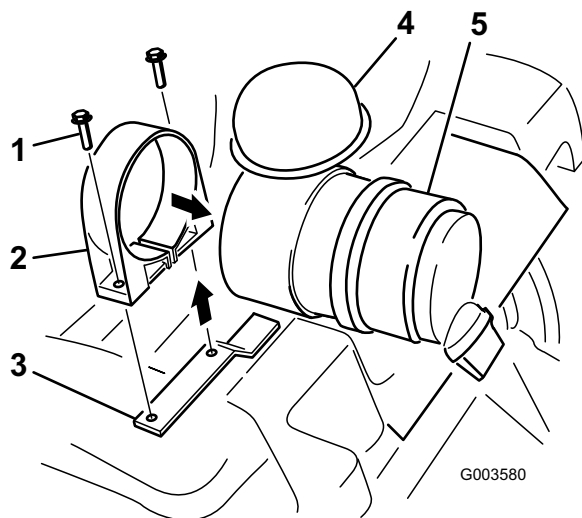


Figure 2

- | | |
|----------------------|-------------------------|
| 1. Bolt | 4. Cap |
| 2. Air cleaner strap | 5. Air cleaner canister |
| 3. Machine frame | |

7. Cover the hose or install a rag into it so that no dirt or debris gets into it while installing this kit.
8. Remove the opposite bolt holding the air cleaner strap to the machine frame.

Step 3

Removing the Hydraulic Reservoir and Shrouds

No Parts Required

Procedure

1. Drain the hydraulic tank. Refer to the machine *Operator's Manual*.
2. Raise the rear of the machine off the ground and block up the rear of the machine. Refer to the machine *Operator's Manual* under Jacking the Machine.
3. Remove the left rear tire.
4. Remove the 4 flange-head screws securing the left-hand wheel shroud to the frame (Figure 3). Remove and retain the shroud.

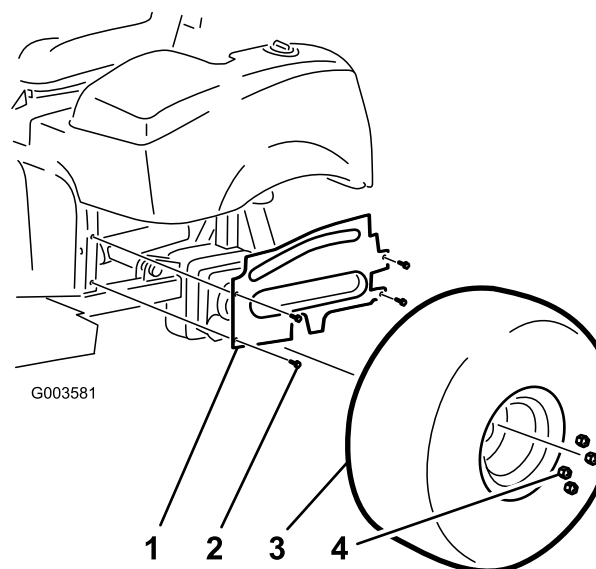


Figure 3

- | | |
|---------------------------|---------|
| 1. Left-hand wheel shroud | 3. Tire |
| 2. Flange-head screws | 4. Nut |

5. Remove the 2 flange-head screws securing the left front screen to the frame. Remove and retain the screen.

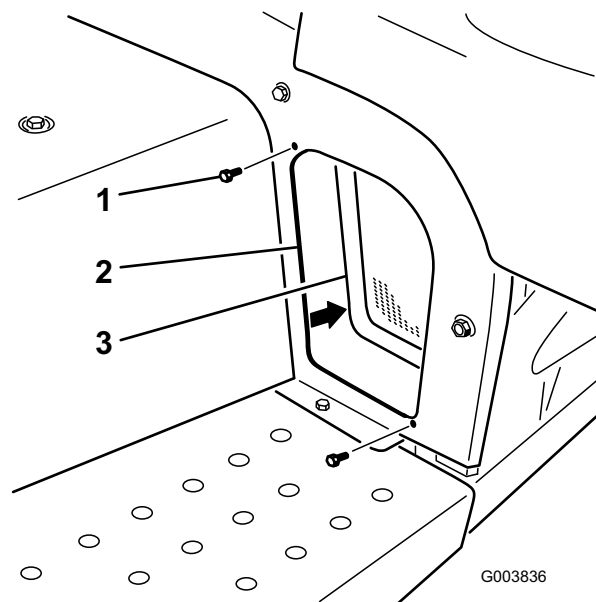


Figure 4

- | | |
|-----------------------|----------------------|
| 1. Flange-head screws | 3. Left front screen |
| 2. Frame | |

6. Remove the 3 bolts securing the rear hitch shield to the frame.

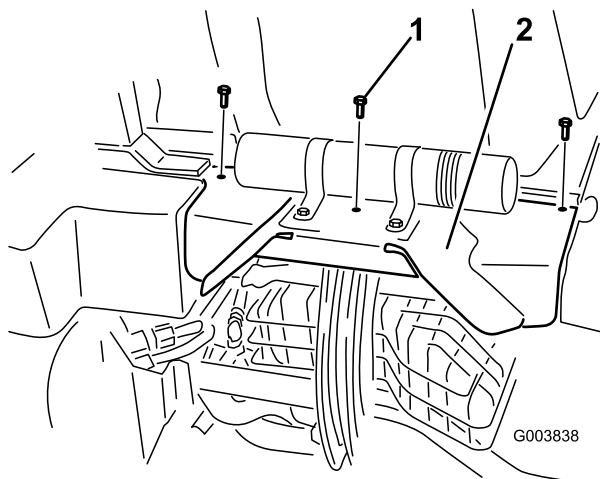


Figure 5

1. Bolt
2. Rear hitch shield

7. Remove the 2 screws securing the center shroud to the frame (Figure 6). Remove and retain the shroud.

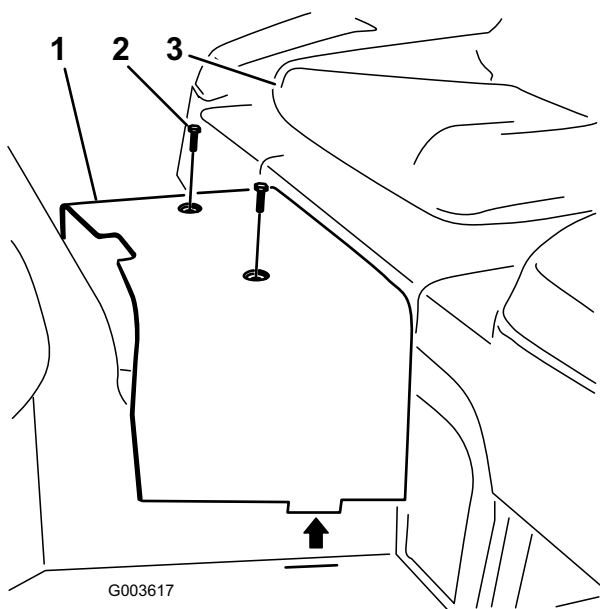


Figure 6

1. Center shroud
2. Screws
3. Seat

8. Disconnect the hydraulic lines going to the tank.
9. Remove the top hydraulic tank bracket from the machine frame and loosen the two brackets on the side of the frame. (Figure 7). Remove the tank and retain the hardware.

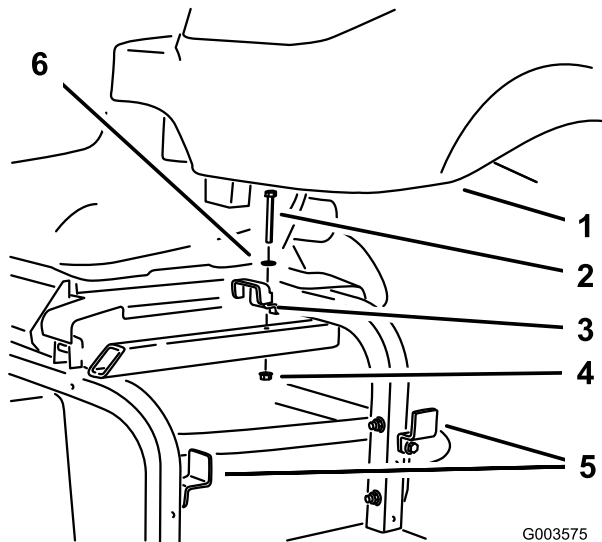


Figure 7

1. Hydraulic tank
2. Bolt
3. Top bracket
4. Nut
5. Side bracket
6. Washer

Step

4

Installing Fittings to the Hydraulic Tank

Parts needed for this step:

1	Small 90 degree elbow with barb
1	Large 90 degree elbow (threaded both ends)
1	Strainer

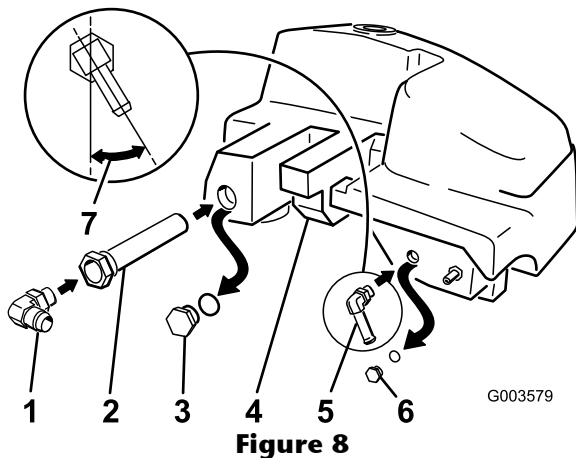
Procedure

Note: Install all fittings and hydraulic lines loosely first and then tighten them when everything is installed. Install the fittings at the angles shown in the figures.

Note: Make sure all O-rings are lubricated and properly positioned on all fittings before installation.

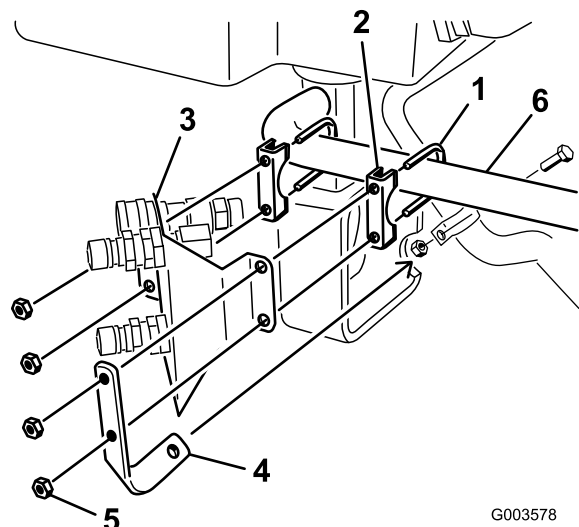
1. Remove the 2 hydraulic tank plugs from the side of the tank.
2. Install the strainer into the hydraulic tank where the large plug was removed.

3. Install the large 90 degree elbow into the strainer.
4. Install the small 90 degree elbow with barb where the small plug was removed (Figure 8).



1. Large 90 degree elbow, install at angle shown
2. Strainer
3. Remove the large plug
4. Hydraulic tank
5. Small 90 degree elbow, install at angle shown
6. Remove the small plug
7. 30 degrees

Use Figure 10 to temporarily locate the coupler bracket on the round frame tube. Place it where the tube begins to bend.



1. Muffle clamp
2. Muffle bracket
3. Coupler bracket
4. Retainer bracket
5. Nut
6. Rear frame round tube

Step 5

Installing the Coupler Bracket to the Rear Frame

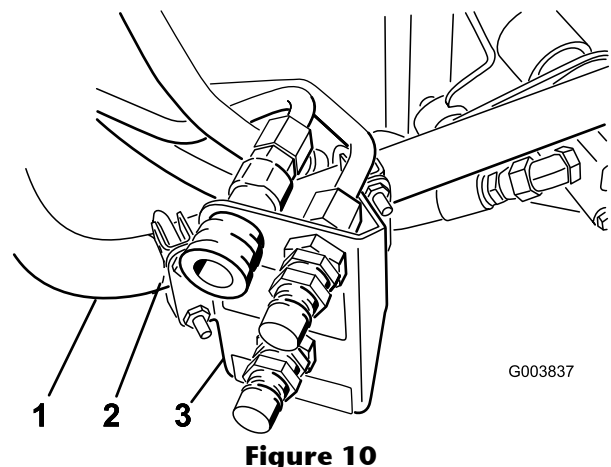
Parts needed for this step:

1	Retainer bracket
2	Muffle clamp
1	Hose retainer bracket
1	Coupler bracket

Procedure

Note: Install all hydraulic lines loosely first and then tighten them when everything is installed.

1. Position the clamps around the round tube of the rear frame.
2. Install the hose retainer bracket and the coupler bracket to the muffle clamps. Do not tighten the nuts at this time. The coupler bracket needs to be loose to install the hydraulic lines (Figure 9).



1. Round frame tube
2. Temporary position for the coupler bracket
3. Coupler bracket

Step

6

Installing the Valve

Parts needed for this step:

1	Valve
1	Valve plate
2	Bolt, (1/4 x 1–3/4 inches)
2	Nut, (1/4 inch)
1	Small 90 degree elbow
1	Tee fitting
2	Tapping bolt, (9/32 x 3/4 inch)
1	Tee adapter
1	Relay
1	Cap

Procedure

Note: Install all fittings and hydraulic lines loosely first and then tighten them when everything is installed. Install the fittings at the angles shown in the figures.

Note: Make sure all O-rings are lubricated and properly positioned on all fittings before installation.

1. Install the fittings at the angles shown in the figures. Install the tee fitting to the side of the valve. Refer to Figure 11 for the correct tee fitting.
2. Install a small 90 degree elbow to the top of the valve (Figure 11).
3. Install the tee adapter to the 90 degree elbow. Refer to Figure 11 for the correct tee fitting.
4. Install the cap onto the tee adapter (Figure 11).
5. Install the relay to the valve bracket at the same time the valve is installed to the valve bracket.
6. Install the valve to the valve bracket with 2 bolts (1/4 x 1–3/4 inches) and 2 nuts (1/4 inch) (Figure 11).

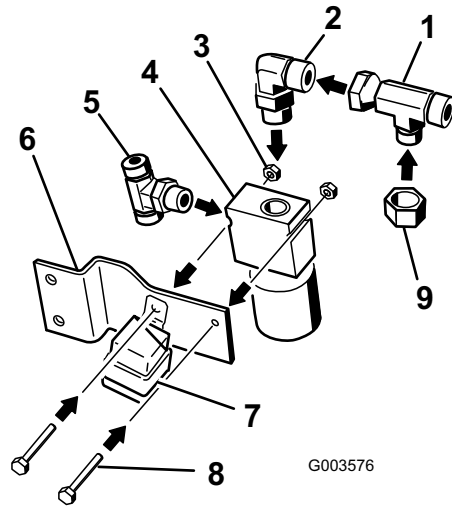


Figure 11

- | | |
|--------------------------|-------------------------------|
| 1. Tee adapter | 6. Valve bracket |
| 2. Small 90 degree elbow | 7. Relay |
| 3. Nut | 8. Bolt, (1/4 x 1–3/4 inches) |
| 4. Valve | 9. Cap |
| 5. Tee fitting | |

7. Install the valve bracket to the machine frame with 2 tapping bolts (9/32 x 3/4 inch) (Figure 12).

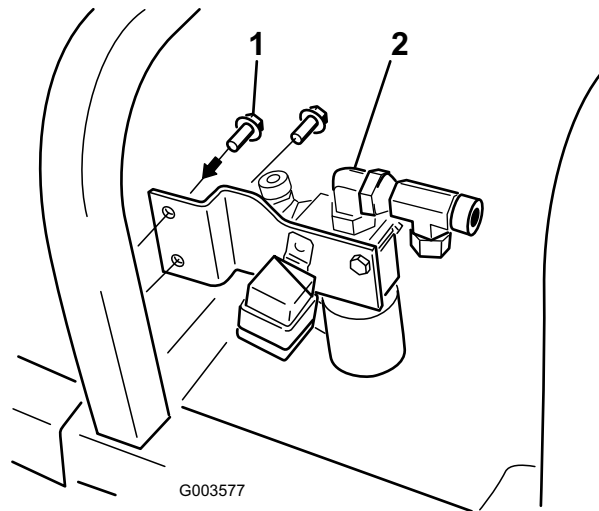


Figure 12

- | | |
|-----------------------------------|-------------------|
| 1. Machine frame | 3. Valve assembly |
| 2. Tapping bolt (9/32 x 3/4 inch) | |

Step

7

Installing Hydraulic Lines 1, 2 and 5

Parts needed for this step:

1	Hydraulic line number 1
1	Hydraulic line number 2
1	Hydraulic line number 5

Procedure

Use Figure 13 for identifying the correct hydraulic lines.

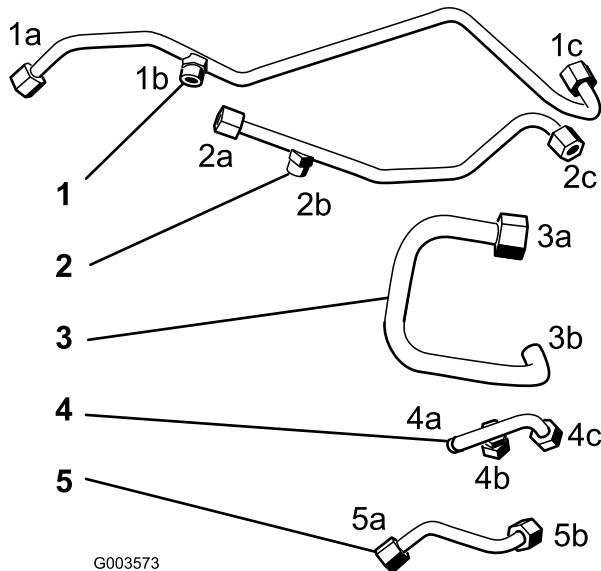


Figure 13

1. Hydraulic line number 1
2. Hydraulic line number 2
3. Hydraulic line number 3
4. Hydraulic line number 4
5. Hydraulic line number 5

Note: Install all hydraulic lines loosely first and then tighten them when everything is installed.

1. Position hydraulic line number 1 into the machine as shown in Figure 14.
2. Install hydraulic line number 1 to the tee fitting assembled to the side of the valve (Figure 14).
3. Install the hydraulic line number 1 to the upper male coupler (Figure 14).

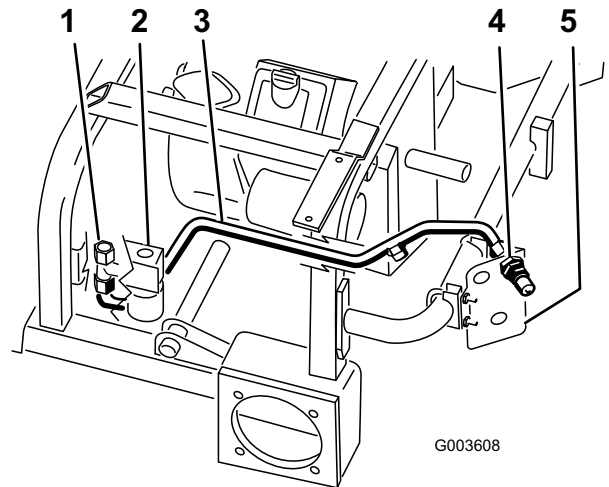


Figure 14

1. Tee fitting on the side of the valve
2. Valve
3. Hydraulic line number 1
4. Upper male coupler
5. Coupler bracket

4. Position hydraulic line number 2 into the machine as shown in Figure 15.
5. Install hydraulic line number 2 to the tee fitting assembled to the 90 degree elbow and the top of the valve (Figure 15).
6. Install hydraulic line number 2 to the upper female coupler (Figure 15).

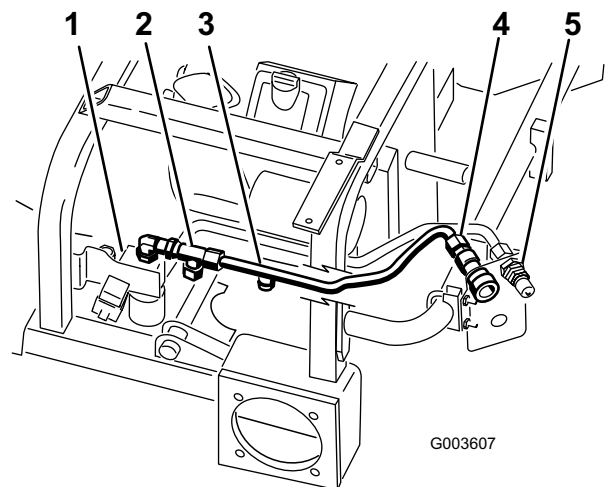


Figure 15

1. Valve
2. Tee fitting assembled to the 90 degree elbow
3. Hydraulic line number 2
4. Upper female coupler
5. Coupler bracket

7. Loosely install hydraulic line number 5 to hydraulic line number 1 and the lower male coupler (Figure 16).

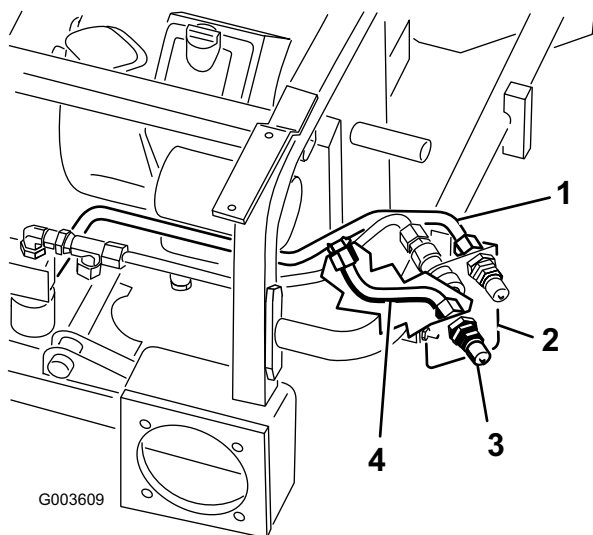


Figure 16

1. Hydraulic line number 1
2. Coupler bracket
3. Lower male coupler
4. Hydraulic line number 5

Step

8

Installing the Hydraulic Pump

Parts needed for this step:

1	Hydraulic pump
1	45 degree fitting (male ends)
1	Hub assembly
1	Square key (1/4 x 1 inch)
4	Set screw, (5/16 x 3/4 inch)
1	Pump bracket
2	Bolt (with Loctite®), (5/16 x 3/4 inch)
1	Large 90 degree elbow (with hose barbed end)

Procedure

1. Install the large square 90 degree elbow to the side of the hydraulic pump.
2. Install the 45 degree elbow to the side of the hydraulic pump (Figure 17).

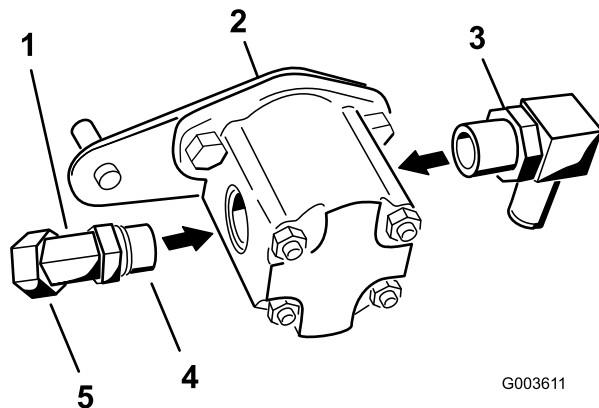


Figure 17

1. 45 degree elbow
2. Hydraulic pump
3. Large 90 degree elbow (with hose barbed end)
4. Male end
5. Female end

3. Remove the existing cover over the engine PTO (Power Take Off).
4. Install the pump bracket to the engine with 2 bolts (5/16 x 3/4 inch). Refer to Figure 18 for the correct position to install the pump bracket.

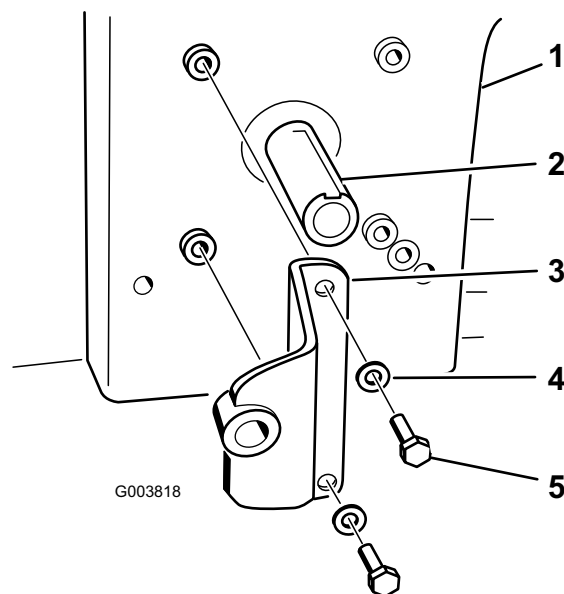


Figure 18

1. Engine
2. Engine PTO shaft
3. Pump bracket
4. Washer (3/8 inch)
5. Bolt (5/16 x 3/4 inch)

5. Apply Never-Seez® to the engine PTO (Power Take Off) shaft and the hydraulic motor shaft.
6. Install the square key (1/4 x 1 inch) into the slot in the engine PTO shaft (Figure 19).

7. Align the hub assembly with the square key and install it onto the engine PTO (Power Take Off) shaft (Figure 19).

Note: Make sure that the hub assembly is totally bottomed out on the shaft.

8. Apply blue Loctite® to the 2 set screws (5/16 x 3/4 inch) and install them into the hub assembly to secure it to the PTO shaft (Figure 19).

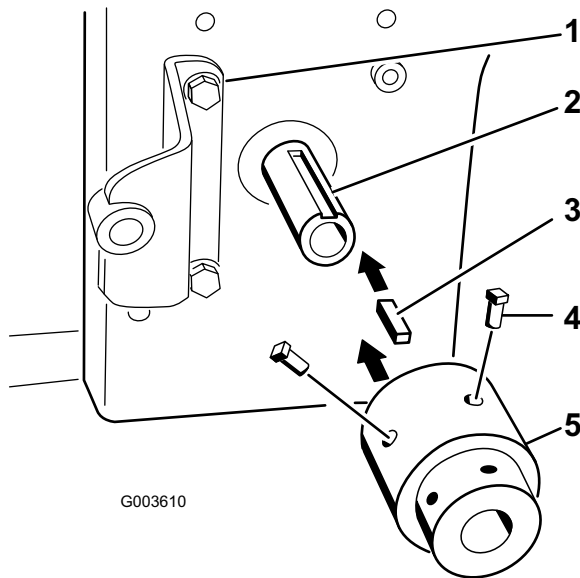


Figure 19

- | | |
|-------------------------------|--------------------------------|
| 1. Pump bracket | 4. Set screw (5/16 x 3/4 inch) |
| 2. Engine PTO shaft | 5. Hub assembly |
| 3. Square key, (1/4 x 1 inch) | |

9. Install the pump plate stud into the pump bracket while installing the hydraulic pump shaft into the hub assembly. The hydraulic pump shaft will touch the end of the engine PTO shaft Figure 20.

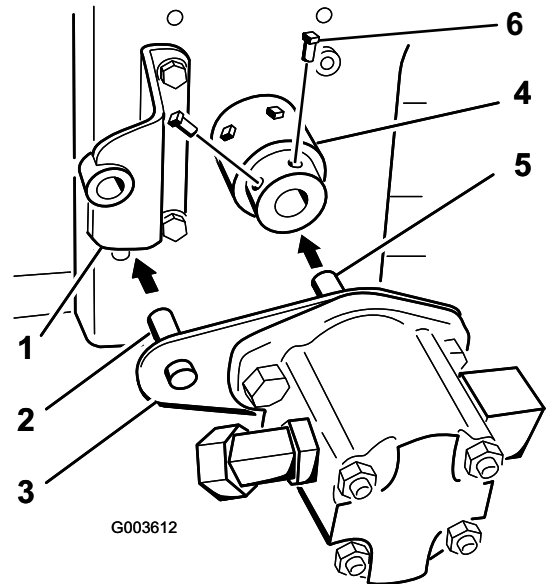


Figure 20

- | | |
|--------------------|--------------------------------|
| 1. Pump bracket | 4. Hub assembly |
| 2. Pump plate stud | 5. Hydraulic pump shaft |
| 3. Pump plate | 6. Set screw (5/16 x 3/4 inch) |

10. The hub assembly needs to be totally seated on the shaft. Verify that there is a gap between the pump plate and hub assembly. If there is no gap, then the hub assembly is not installed correctly and needs to be seated correctly (Figure 21).

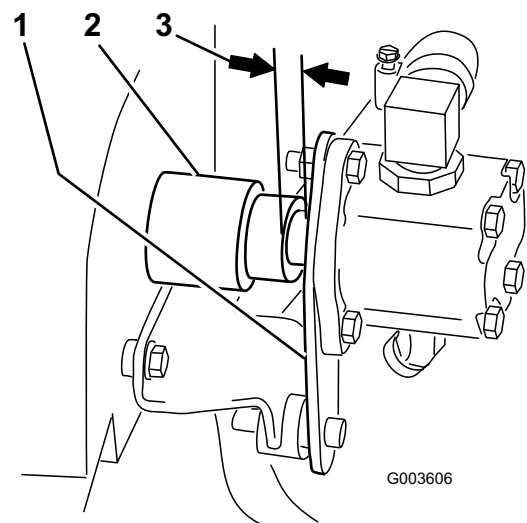


Figure 21

- | | |
|-----------------|--|
| 1. Pump plate | 3. 0.040 to 0.122 inch gap between hub assembly and pump plate |
| 2. Hub assembly | |

11. Apply blue Loctite® to the 2 set screws (5/16 x 3/4 inch) and install them into the hub

assembly to secure the hydraulic pump shaft (Figure 20).

Step

9

Installing Hydraulic Lines 3 and 4

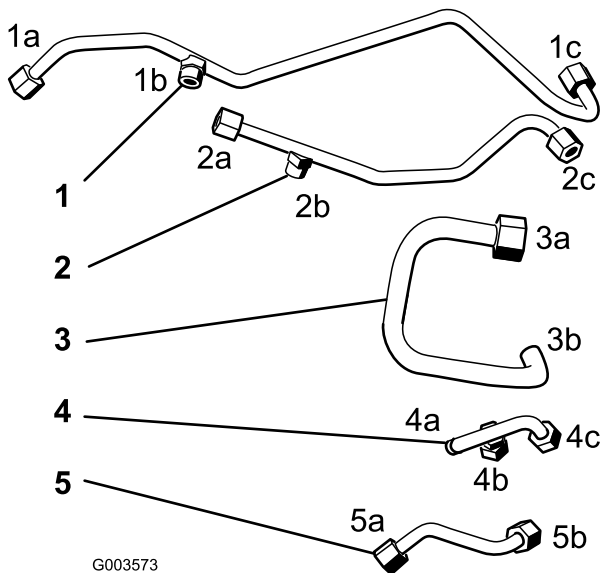
Parts needed for this step:

1	Hydraulic line number 3
1	Hydraulic line number 4

Procedure

Note: Install all hydraulic lines loosely first and then tighten them when all everything is installed.

Use Figure 22 as a key for identifying the correct hydraulic lines.

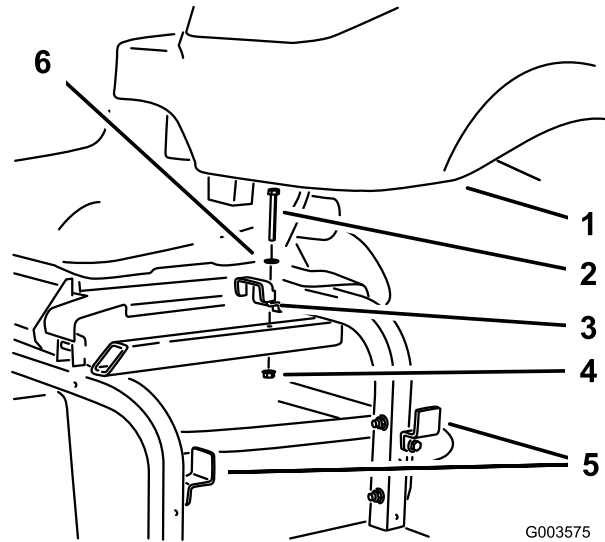


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Figure 22

- | | |
|----------------------------|----------------------------|
| 1. Hydraulic line number 1 | 4. Hydraulic line number 4 |
| 2. Hydraulic line number 2 | 5. Hydraulic line number 5 |
| 3. Hydraulic line number 3 | |

1. Install the existing hoses back onto the hydraulic tank.
2. Install the hydraulic tank to the frame and secure it with the 3 brackets previously removed and loosened (Figure 23).

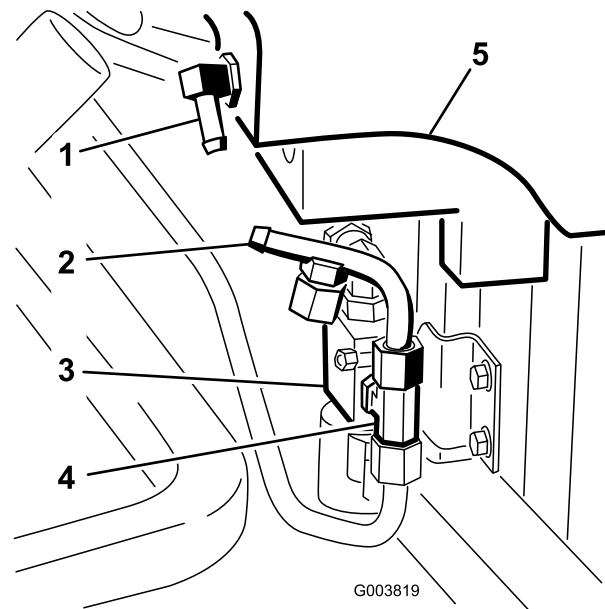


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Figure 23

- | | |
|-------------------|-----------------|
| 1. Hydraulic tank | 4. Nut |
| 2. Bolt | 5. Side bracket |
| 3. Top bracket | 6. Washer |

3. Install hydraulic line number 4 to the tee fitting assembled to the side of the valve (Figure 24).



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Figure 24

- | | |
|--|-------------------|
| 1. Small 90 degree elbow with barb in hydraulic tank | 4. Tee fitting |
| 2. Hydraulic line number 4 | 5. Hydraulic tank |
| 3. Valve | |

4. Position hydraulic line number 3 into the machine as shown in Figure 25.
5. Install hydraulic line number 3 to the large 90 degree elbow installed to the strainer and hydraulic tank (Figure 25 and Figure 30).

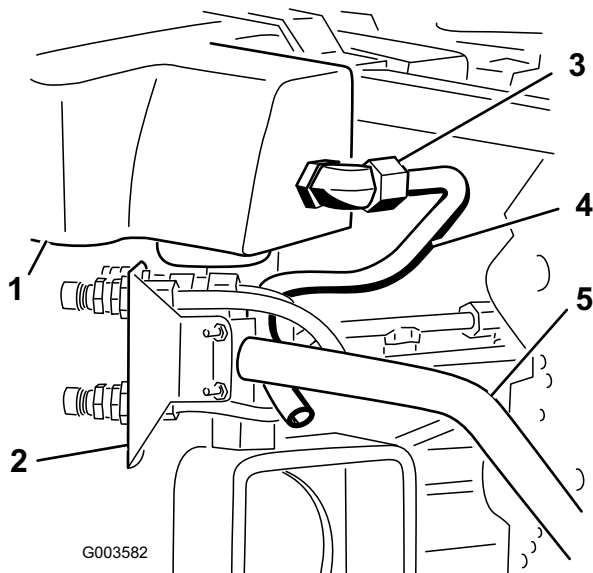


Figure 25

1. Hydraulic tank
2. Coupler bracket
3. Large 90 degree elbow installed in tank
4. Hydraulic line number 3
5. Machine frame

Step 10

Install the Hydraulic Hoses

Parts needed for this step:

1	Large hydraulic hose
1	Hydraulic hose with fittings
2	Large hose clamp
2	Small hose clamp
1	Small molded hydraulic hose
1	R-clamp
1	Bolt, (5/16 x 7/8 inch)
1	Flange nut, (5/16 inch)

Procedure

Note: Make sure that nothing rubs against any hoses.

1. Slide the two large hose clamps onto the large hydraulic hose.
2. Install the large hydraulic hose to the 90 degree elbow installed to the side of the hydraulic pump (Figure 26 and Figure 30).
3. Tighten a hose clamp around the hose and elbow (Figure 26).

4. Install the large hydraulic hose to hydraulic line number 3 (Figure 26).
5. Tighten the hose clamp around the hose and hydraulic line number 3 (Figure 26).

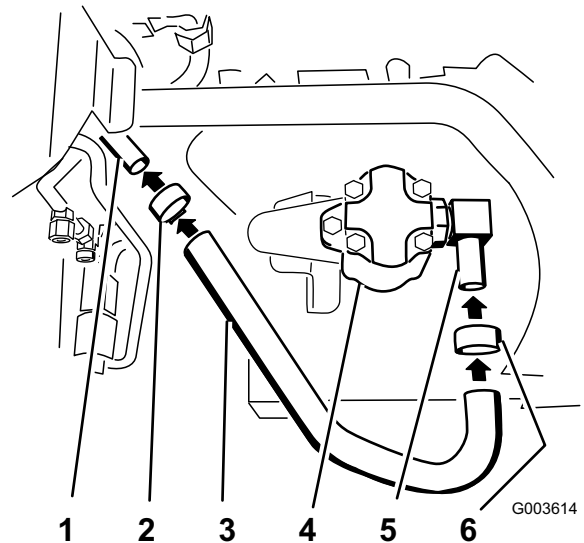


Figure 26

1. Hydraulic line number 3
2. Hose clamp
3. Large hydraulic hose
4. Hydraulic pump
5. 90 degree elbow
6. Hose clamp

Install a R-clamp onto the large hydraulic hose as shown in Figure 27. Install the R-clamp to the retainer bracket with a bolt (5/16 x 7/8 inch) and nut (5/16 inch) (Figure 27).

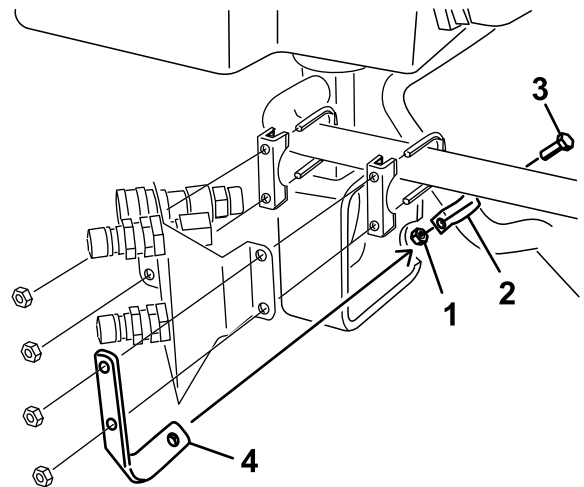


Figure 27

1. Nut (3/8 inch)
2. R-clamp
3. Bolt (3/8 x 3/4 inch)
4. Retainer bracket

6. Install the hydraulic hose with fittings to the tee adapter installed on top of the valve (Figure 28).

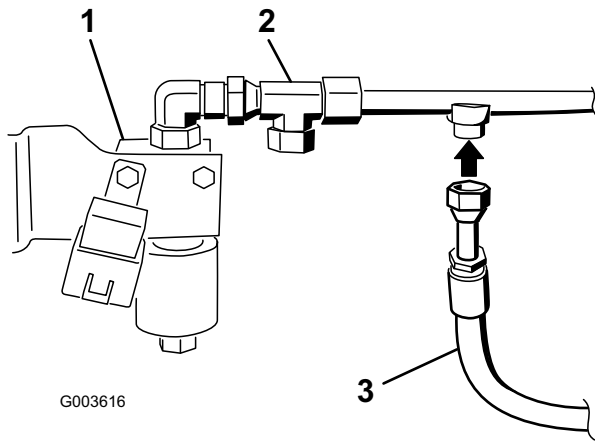


Figure 28

1. Valve
2. Tee adapter on top of valve
3. Hydraulic hose with fittings

7. Install the hydraulic hose with fittings to the 45 degree elbow attached to the hydraulic pump (Figure 29 and Figure 30). It will be below the hydraulic cylinder.

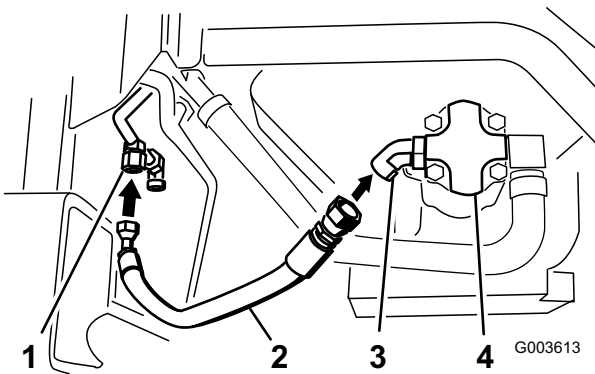


Figure 29

1. Tee adapter to the side of the valve
2. Hydraulic hose with fittings
3. 45 degree elbow
4. Hydraulic pump

8. Use Figure 30 for the correct locations of the hoses and hydraulic lines to the hydraulic pump.

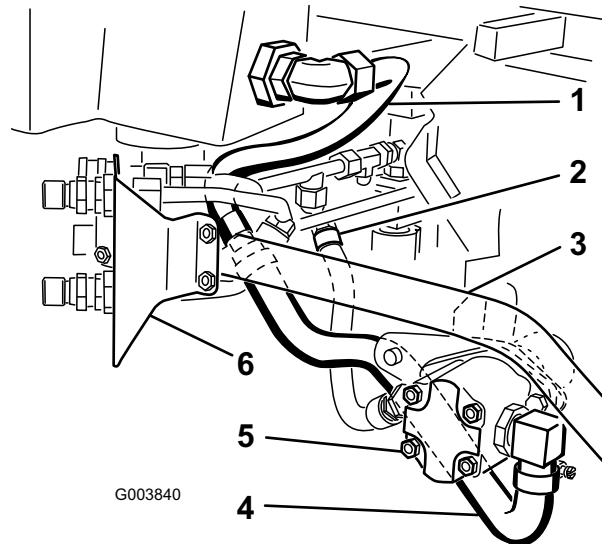


Figure 30

1. Hydraulic line number 3
2. Hydraulic hose with fittings
3. Machine frame tube
4. Large hydraulic hose
5. Hydraulic pump
6. Coupler bracket

9. Slide the two small hose clamps onto the small molded hydraulic hose.
10. Install the long leg of the molded hose onto the 90 degree elbow in the hydraulic tank (Figure 31).
11. Install the short leg of the molded hose onto the barb end of hydraulic line number 4 (Figure 31).
12. Tighten the two small hose clamps on each end of the molded hose.

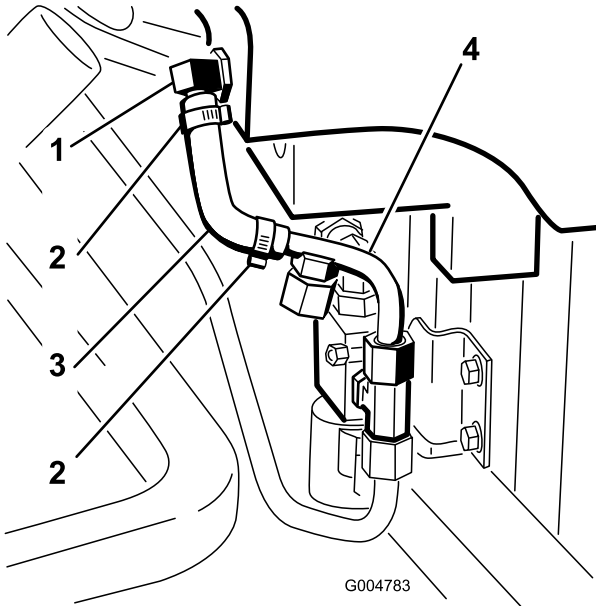


Figure 31

1. Small 90 degree elbow with barb in hydraulic tank
2. Small hose clamp
3. Small molded hose
4. Hydraulic line number 4

Step 11

Tightening all Connections

No Parts Required

Procedure

Note: Make sure the hoses and hydraulic lines are routed away from and to do not rub against any sharp, hot, or moving components.

1. When all hydraulic lines and hoses are installed, tighten all of the connections.
2. Position the coupler bracket as close to the left tire as possible and tighten the clamps.

Step 12

Installing the Switch and Harness

Parts needed for this step:

1	Harness
1	Switch
1	Fuse

Procedure

1. Remove the control panel from the machine.
2. Remove the plastic plug from the panel and install the switch to the panel (Figure 34).
3. Route the harness along the seat hinge from the switch and to the relay previously installed to the valve (Figure 32).

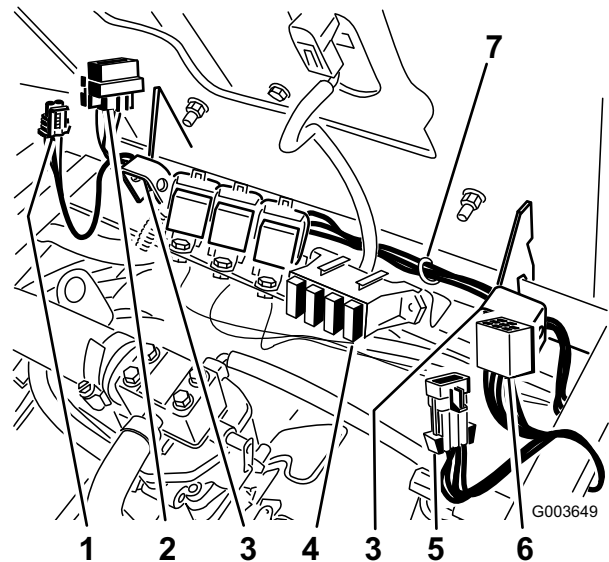


Figure 32

1. Small connector
2. Square connector
3. Seat hinges
4. Fuse block
5. Main harness connector
6. Switch connector
7. Cable tie

4. Install the harness to the switch in the control panel (Figure 34).
5. Remove the jumper wire from the main harness under the control panel (Figure 33).

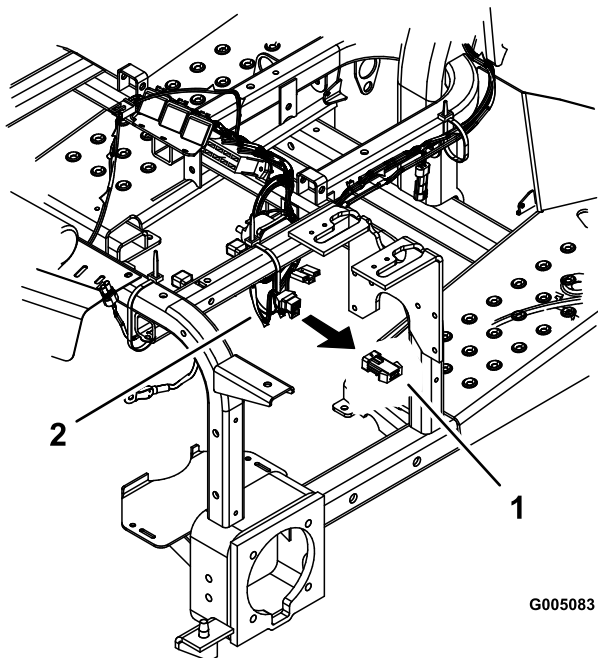


Figure 33

1. Main harness connector
2. Jumper wire

6. Install the main harness connector to the main harness (Figure 34).
7. Install the control panel to the machine.

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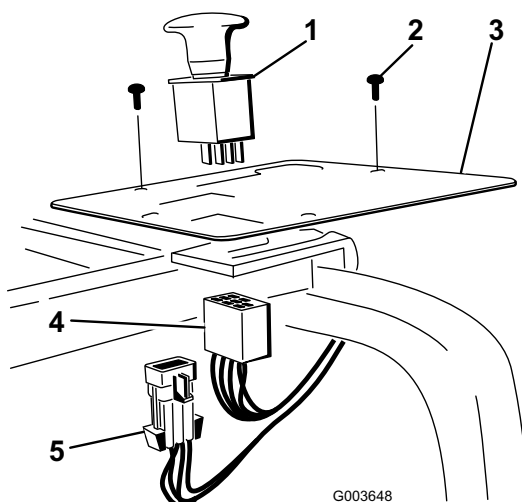


Figure 34

1. Switch
2. Screw
3. Control panel
4. Switch connector
5. Main harness connector

Install the fuse into right slot in the fuse block (Figure 32).

8. Install the square connector to the relay installed next with the valve (Figure 35).

9. Install the small connector to the valve (Figure 35).
10. Fasten the wire harness to the valve with a cable tie.

10. Fasten the wire harness to the valve with a cable tie.

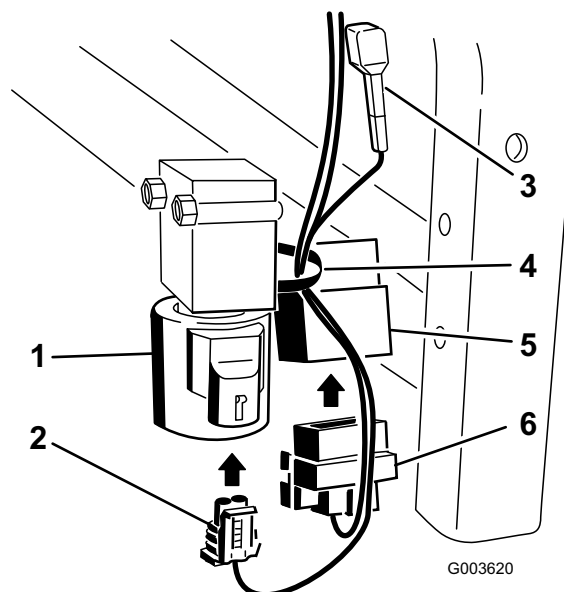


Figure 35

1. Valve
2. Small connector
3. Diode
4. Cable tie
5. Relay
6. Square connector

Step 13

Installing the Hydraulic Oil and Checking for Leaks

Parts needed for this step:

1	Dipstick
6-3/4 gallons	Hydraulic oil

Procedure

The hydraulic system capacity is now 6-3/4 gallons.

Refer to the *Operator's Manual* for the correct oil to use.

1. Remove the old dipstick from the hydraulic tank and discard.
2. Slowly pour approximately 80% of the specified oil into the tank.

3. Insert the new dipstick and check the hydraulic oil level (Figure 36)
4. Slowly add the additional oil to bring it to the **Full** mark.

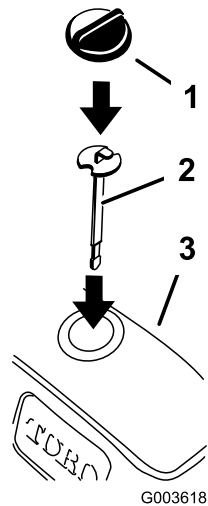


Figure 36

1. Hydraulic tank cap
2. Dipstick
3. Hydraulic tank

5. Start the machine and let it run for 5 minutes.
6. Check for any leaks in the system with a piece of cardboard. Hydraulic fluid escaping under pressure can penetrate skin and cause injury.

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

- If hydraulic fluid is injected into the skin it must be surgically removed within a few hours by a doctor familiar with this type of injury. Gangrene may result if this is not done.
- Keep body and hands away from pin hole 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.
- Make sure all hydraulic fluid hoses and lines are in good condition and all hydraulic connections and fittings are tight before applying pressure to hydraulic system.

7. Install the left front screen to the frame.
8. Install the front shroud to the frame with 4 flange-head screws.
9. Install the 4 flange-head screws securing the left-hand wheel shroud to the frame (Figure 37).
10. Install the left rear tire (Figure 37).

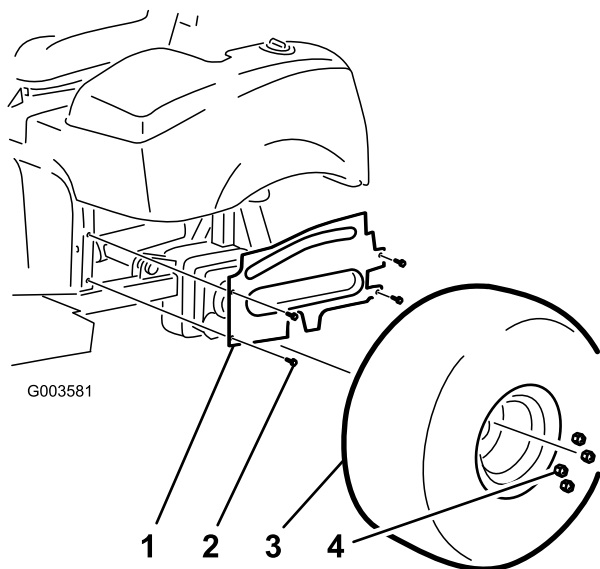
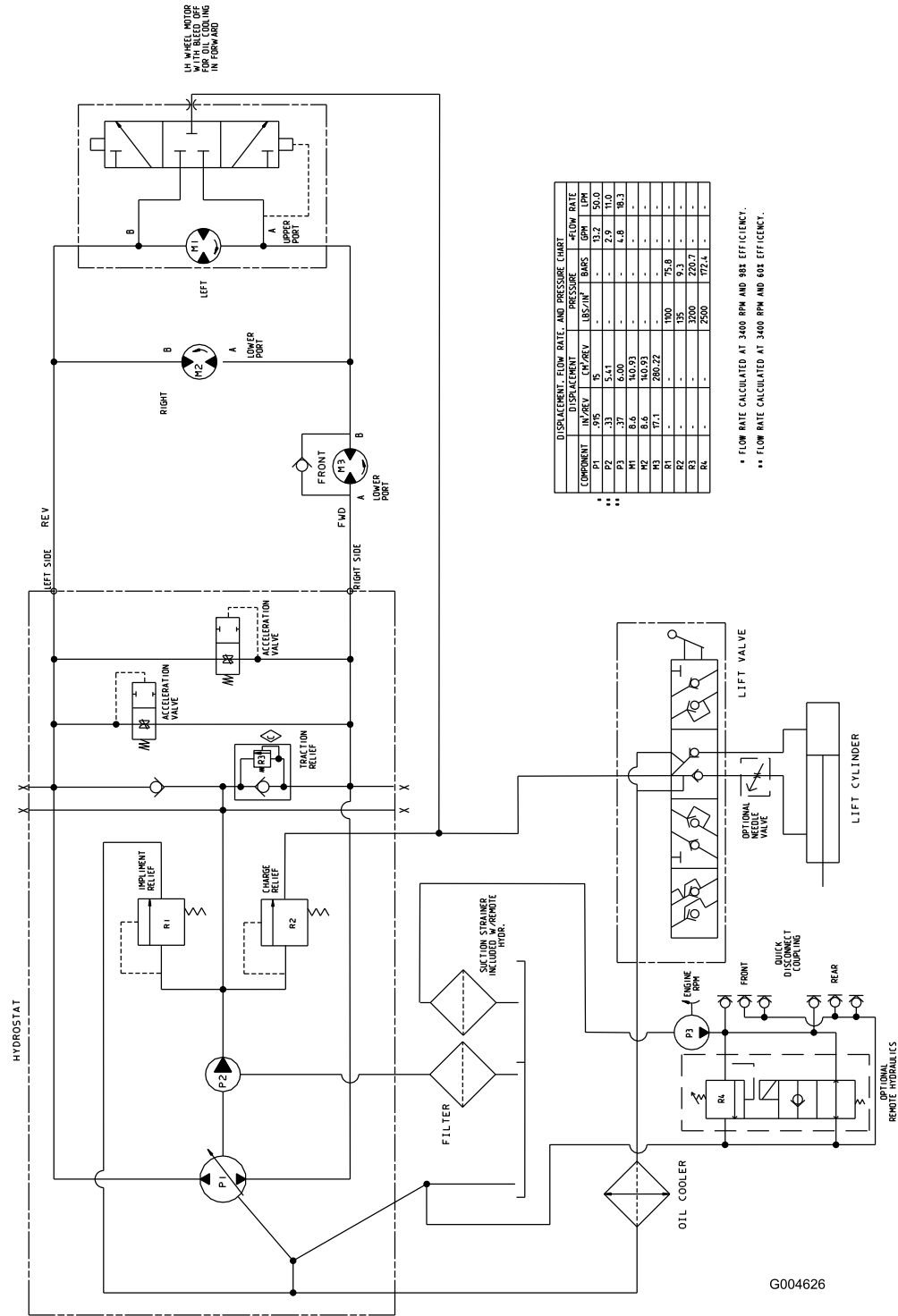


Figure 37

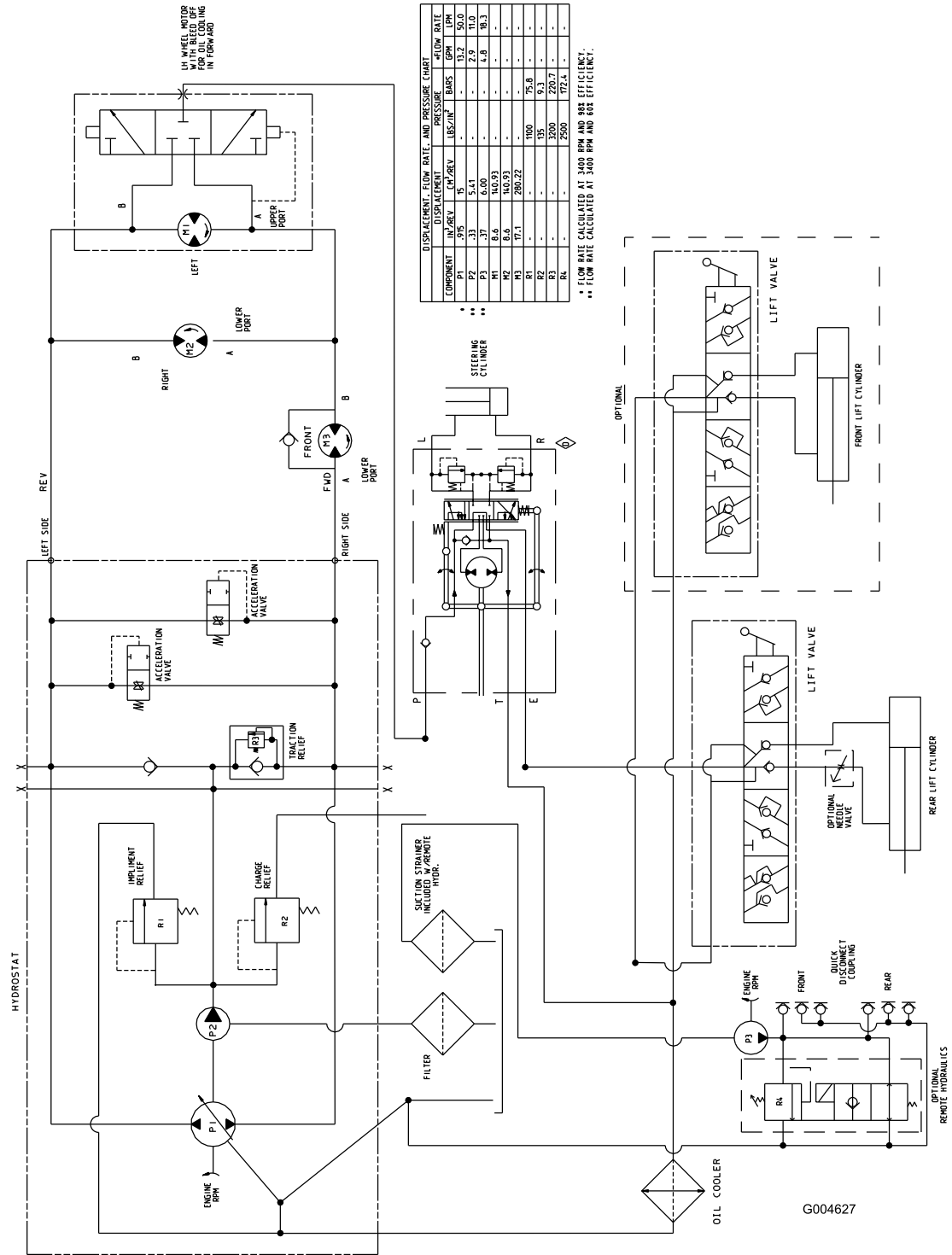
- | | |
|---------------------------|--------------|
| 1. Left-hand wheel shroud | 3. Left tire |
| 2. Flange-head screws | 4. Nut |

-
11. Lower the machine onto the ground.
 12. Install the rear hitch shield.
 13. Install the air cleaner assembly.

Schematics



Hydraulic Schematic, Sand Pro 3040 Options (Rev. C)



Hydraulic Schematic, Sand Pro 5040 Options (Rev. D)



Count on it.