

Safety

Improper use or maintenance by the operator or owner can result in injury. To reduce the potential for injury, comply with these safety instructions and always pay attention to the safety-alert symbol **A**, which means *Caution, Warning, or Danger*—personal safety instruction. Failure to comply with the instruction may result in personal injury or death.

- Read the *Owner's Manual* before operating or servicing the equipment.
- Ensure that only trained personnel install and maintain the equipment.
- Keep your hands, feet, and clothing away from moving parts and mounting points.
- Never put any part of your body between the hydraulics and the machine.

Installation

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

Preparing the Machine

1. Park the machine on a level surface, shut off the engine, wait for all moving parts to stop, engage the parking brake, and remove the key.
2. Support the machine on jack stands.
3. Release the cushion for rear access according to the instructions in your Grandstand Multi Force *Operator's Manual*.

Note: You can also remove the fuel tank at this time; refer to your Grandstand Multi Force *Operator's Manual*.

4. If a mower deck is attached to the machine, remove it according to the instructions in your Grandstand Multi Force *Operator's Manual*.
5. Place the front frame cross-tube on a jack and raise the machine until the caster wheels clear the ground.
6. Remove the outer bolts and nuts securing the caster wheels in place (Figure 1).

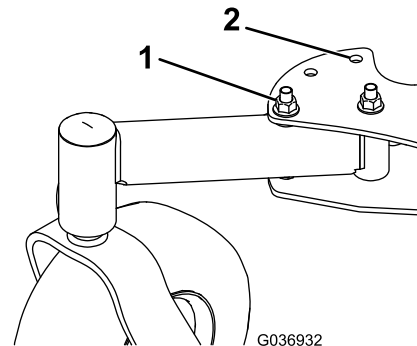


Figure 1
Right Caster Shown

1. Outer bolt and nut
2. Rear wheel position

7. Rotate the caster wheels to the rear position and secure them with the previously removed bolts and nuts (Figure 1).

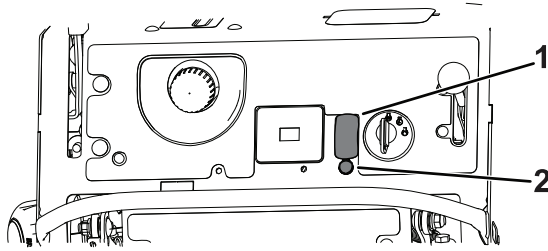
Note: Torque the bolts to 101 N·m (75 ft-lb).

Installing the Controller

1. Remove the mounting tab:



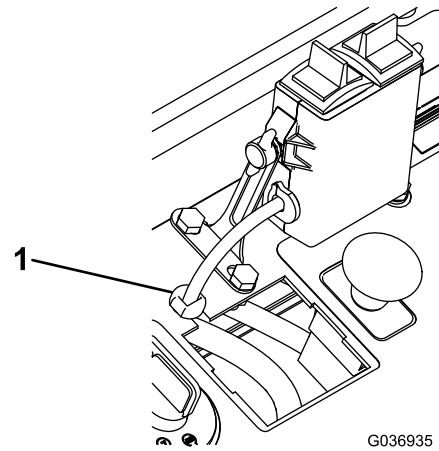
- If you have a PTO rocker switch, remove the rocker switch and punch out the round tab.



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Figure 2

1. Rocker switch
2. Remove



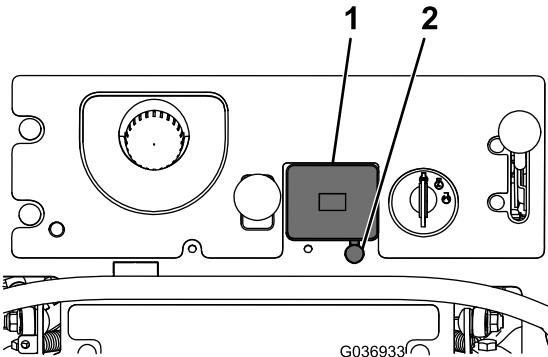
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Figure 5

1. Strain relief

- If you have a PTO knob, remove the hour meter and punch out the round tab.



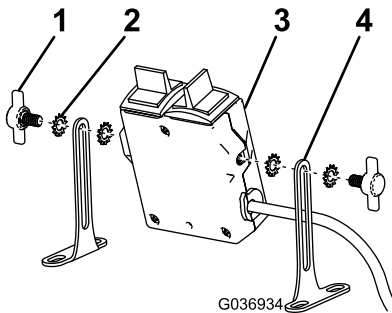
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Figure 3

1. Hour meter
2. Remove

2. Attach the mounting brackets to the controller using 4 star washers and 2 thumbscrews.



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Figure 4

1. Thumbscrew
2. Star washer
3. Controller
4. Mounting bracket

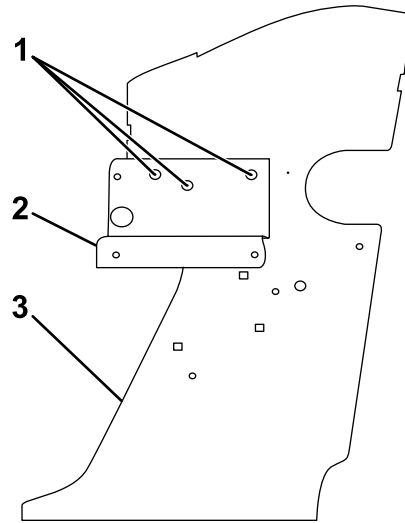
3. Secure the controller to the machine console using 4 hex-head bolts (1/4 inch) and 4 nylon locknuts (1/4 inch).

4. Attach the strain relief plug to the controller cable approximately 7 cm (3 inches) from the controller.

5. Route the controller cord through the opening for the hour meter/rocker switch and slide the strain relief plug into the opening made in step 1.

Attaching the Hydraulic Manifold and BOSS Wire Harness

1. Use the hydraulic manifold assembly to determine which pilot holes on the left side of the machine need to be drilled larger (Figure 6).



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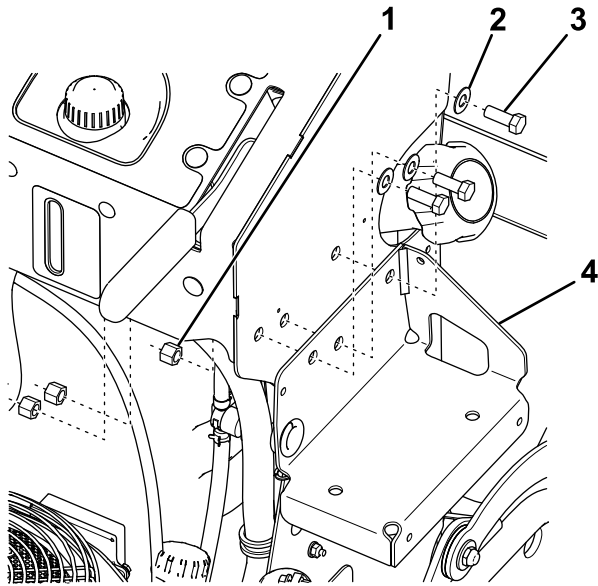
Figure 6

1. Pilot holes
2. Hydraulic manifold mounting bracket
3. Left side plate

2. Drill through the 3 pilot holes using a 7/16-inch drill bit.

Important: The fuel tank is located directly behind the side plate. Remove the fuel tank or place a steel plate between the fuel tank and side plate to prevent damaging the tank.

- Secure the hydraulic manifold mounting bracket to the machine using 3 bolts (3/8 x 1 inch), 3 flat washers, and 3 nylon locknuts (Figure 7).

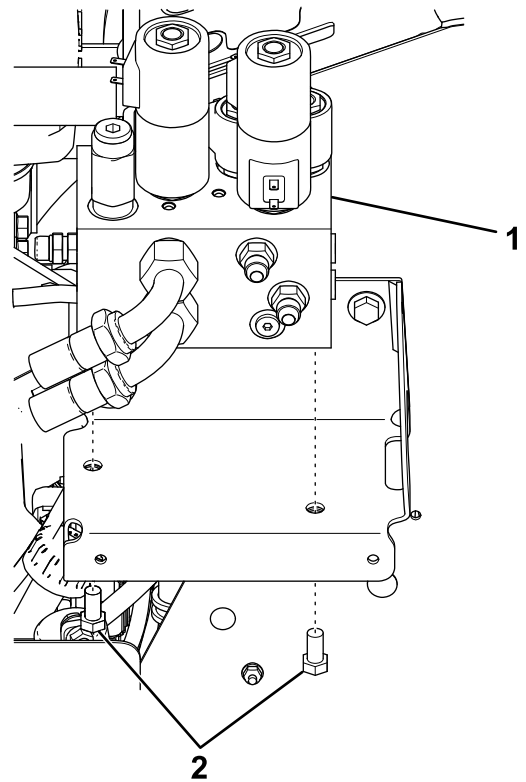


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Figure 7

- | | |
|-----------------------------|--|
| 1. Nylon locknut (3/8 inch) | 3. Bolt (3/8 x 1 inch) |
| 2. Flat washer (3/8 inch) | 4. Hydraulic manifold mounting bracket |

- Mount the hydraulic manifold assembly to the mounting bracket using 2 bolts (3/8 x 3/4 inch) as shown in Figure 8.

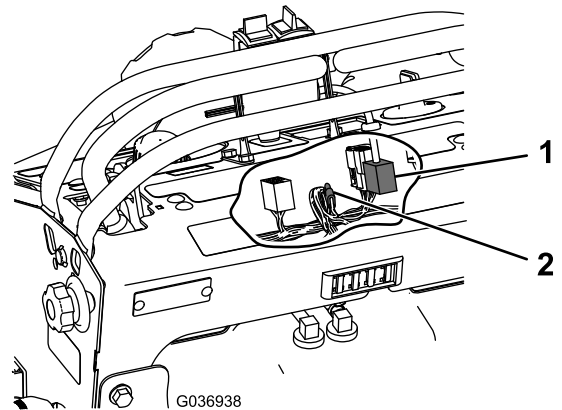


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Figure 8

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|--------------------------------|--------------------------|
| 1. Hydraulic manifold assembly | 2. Bolt (3/8 x 3/4 inch) |
|--------------------------------|--------------------------|

- Route the BOSS hydraulic-manifold wire harness over the fuel tank and connect it to the auxiliary-power connector on the wire harness of the machine (Figure 9).



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Figure 9

- | | |
|-------------------------|------------------------------|
| 1. Controller connector | 2. Auxiliary-power connector |
|-------------------------|------------------------------|

- Connect the BOSS hydraulic-manifold wire harness to the controller connector (Figure 9).
- Secure the BOSS hydraulic-manifold wire harness to the wire harness of the machine with cable ties.

Installing the Hydraulics

⚠ WARNING

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

- Seek immediate medical attention if fluid is injected into skin. Injected fluid must be surgically removed within a few hours by a doctor.
- Ensure that all hydraulic-fluid hoses are in good condition, and all that the 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.

1. Install the 90° fittings to the lift cylinder (Figure 10).
2. Attach the hydraulic cylinder to the A-frame using 2 shoulder bolts (1/2 inch) and bushings (Figure 10), and torque the bolts to 77 N·m (57 ft-lb).

Note: The rod end of the cylinder may need to be rotated to slide the cylinder into the A-frame.

Note: Ensure that the hydraulic fittings are facing the rear of the machine.

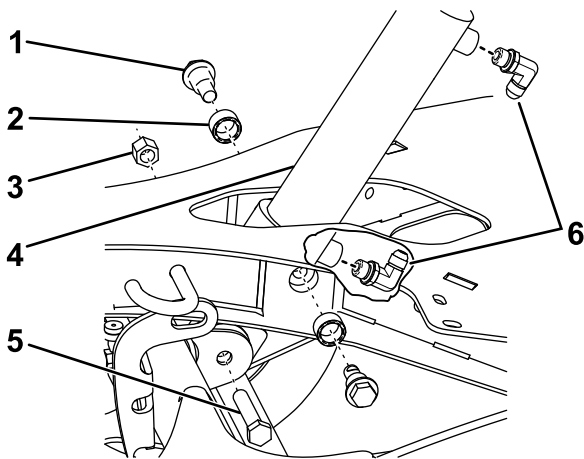


Figure 10

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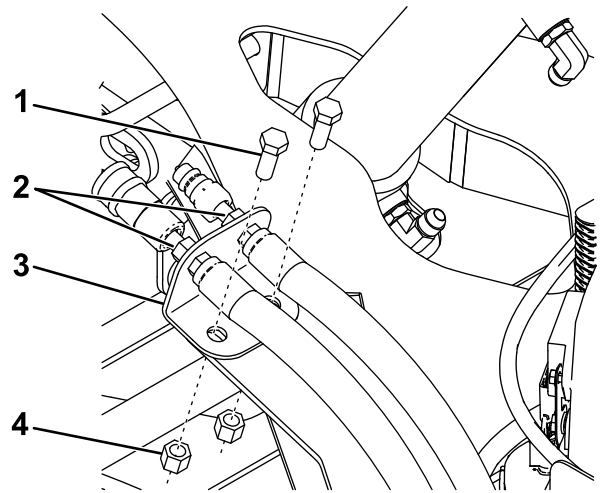
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|-----------------------------|-----------------------------|
| 1. Shoulder bolt (1/2 inch) | 4. Hydraulic cylinder |
| 2. Bushing | 5. Hex-head bolt (1/2 inch) |
| 3. Nylon locknut (1/2 inch) | 6. 90° fitting |

3. Attach the hydraulic cylinder rod to the machine frame using a hex-head bolt (1/2 inch) and nylon locknut (1/2 inch) as shown in Figure 10.

Important: Do not overtighten the bolts and nuts; ensure that the cylinder can pivot freely.

4. Attach the bulkhead bracket to the A-frame using 2 hex-head bolts (3/8 inch) and 2 nylon locknuts (3/8 inch) as shown in Figure 11, and torque the bolts to 40 N·m (30 ft-lb).

Note: Ensure that the quick disconnects are facing the front of the machine.



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Figure 11

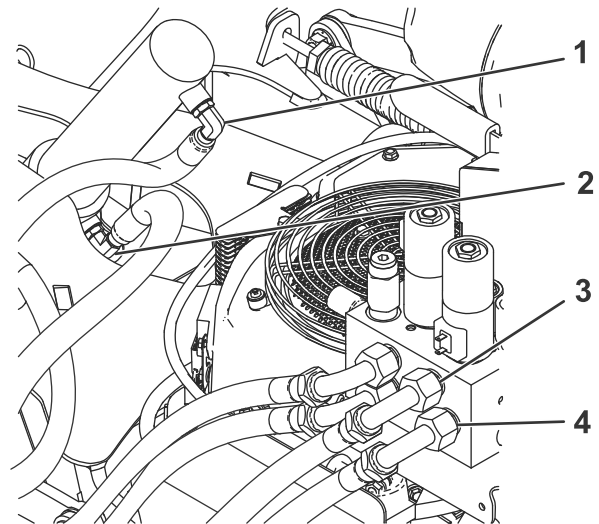
- | | |
|------------------------------|-----------------------------|
| 1. Hex-head bolt (3/8 inch) | 3. Bulkhead bracket |
| 2. Quick-disconnect fittings | 4. Nylon locknut (3/8 inch) |

5. Tighten the fittings that secure the quick disconnects to the mounting bracket (Figure 11).

Installing the Hoses

Note: While tightening a hose fitting, hold the hose steady to prevent the hose from twisting.

1. Connect the loose end of the hose in the C3 port of the manifold to the 90° fitting on the top of the hydraulic cylinder (Figure 12).



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Figure 12

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|--------------------------------------|------------|
| 1. Top hydraulic-cylinder fitting | 3. C4 port |
| 2. Bottom hydraulic-cylinder fitting | 4. C3 port |

2. Connect the loose end of the hose in the C4 port of the manifold to the 90° fitting on the bottom of the hydraulic cylinder (Figure 12).
3. Wearing protective gloves, apply a thin film of hydraulic fluid to the filter and install the filter head, filter, and 45° hose fitting to the fitting in the T port on the manifold as shown in Figure 13.

Note: Ensure that the flow arrow on the filter head is pointing away from the manifold.

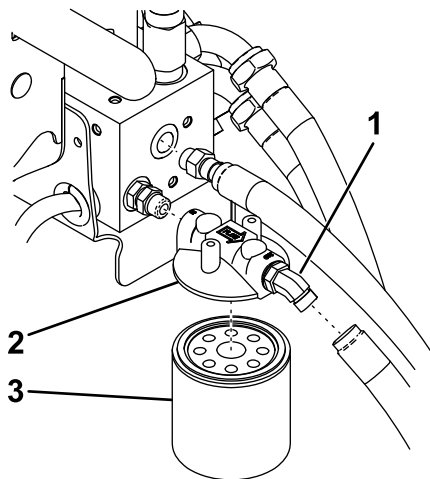


Figure 13

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- | | |
|---------------------|-----------|
| 1. 45° hose fitting | 3. Filter |
| 2. Filter head | |

4. Install a 90° fitting and hose to the 45° fitting on the filter.
5. Install a 90° fitting and hose to the manifold.
6. Place a drain pan under the manifold block of the left hydrostatic drive (Figure 14).

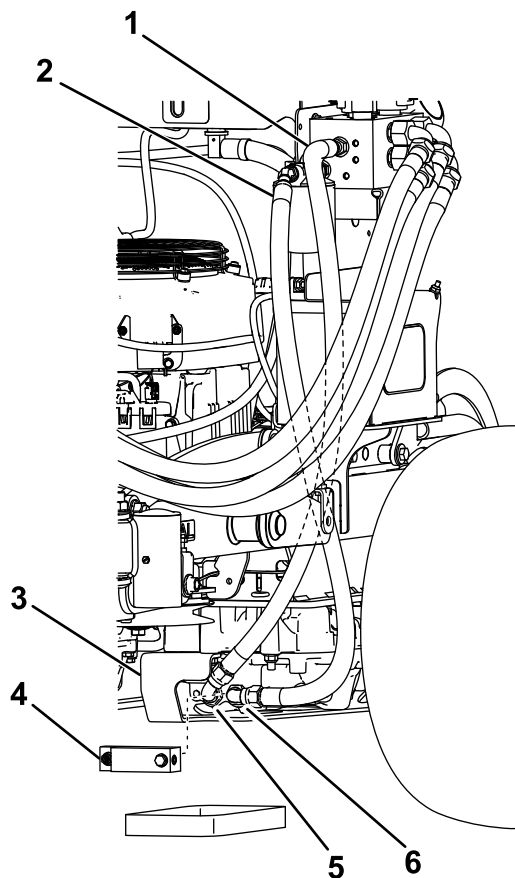


Figure 14

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|----------------|-------------------|
| 1. P-port hose | 4. Manifold block |
| 2. Filter hose | 5. Inner port |
| 3. Skid plate | 6. Outer port |

7. Remove the manifold block (Figure 14).

Note: You may need to remove the rear bolt from the transmission skid plate, loosen the front bolt, and rotate the skid plate in order to remove the manifold block.

8. Route the filter hose (short 90° fitting) between the lift arm and frame (Figure 15), and connect it to the outer port on the hydrostatic drive (Figure 14).

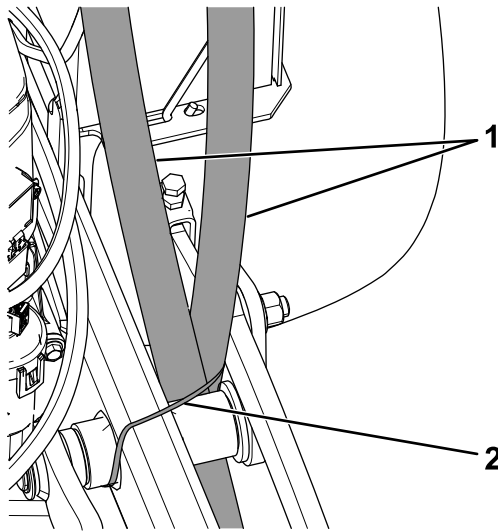


Figure 15

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- 1. Hoses
- 2. Cable tie

9. Route the loose end of the hose in the P port (long 90° fitting) of the manifold between the lift arm and frame (Figure 15), and connect it to the inner port on the hydrostatic drive (Figure 14).
10. Secure the hoses to the frame using a cable tie (Figure 15).
11. Secure the hydraulic hoses away from moving components or sharp edges using cable ties.
12. Attach the manifold cover to the hydraulic manifold mounting bracket using 4 push fasteners (Figure 16).

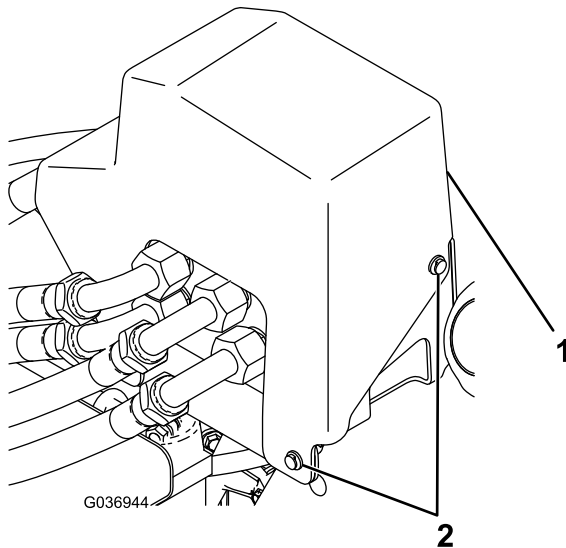


Figure 16

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- 1. Manifold cover
- 2. Push fasteners

Finishing the Installation

1. Install the previously removed hour meter.
2. Install the fuel tank if it was removed.
3. Start the machine; refer to your Grandstand Multi Force *Operator's Manual*.
4. Use the controls to move the hydraulics in all directions to cycle the hydraulic fluid.
5. With the hydraulic cylinder fully extended, shut off the engine and wait for all moving parts to stop.
6. Clean the area around the cap and the filler neck of the hydraulic tank (Figure 17).

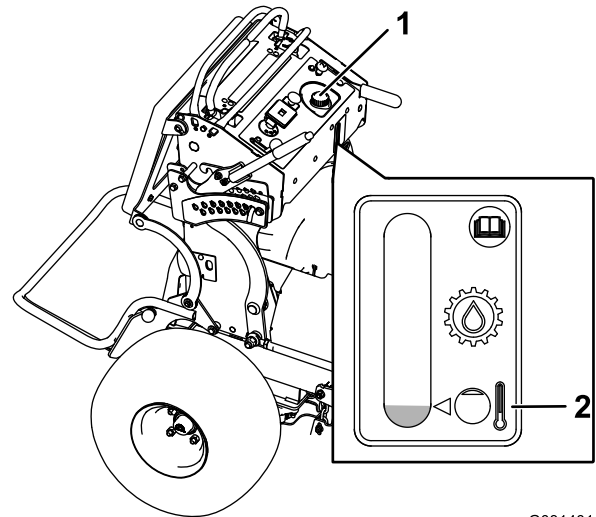


Figure 17

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- 1. Hydraulic-tank cap
- 2. Fill mark

7. Remove the cap from the filler neck, and add fluid to the reservoir until it reaches the fill mark (Figure 17).

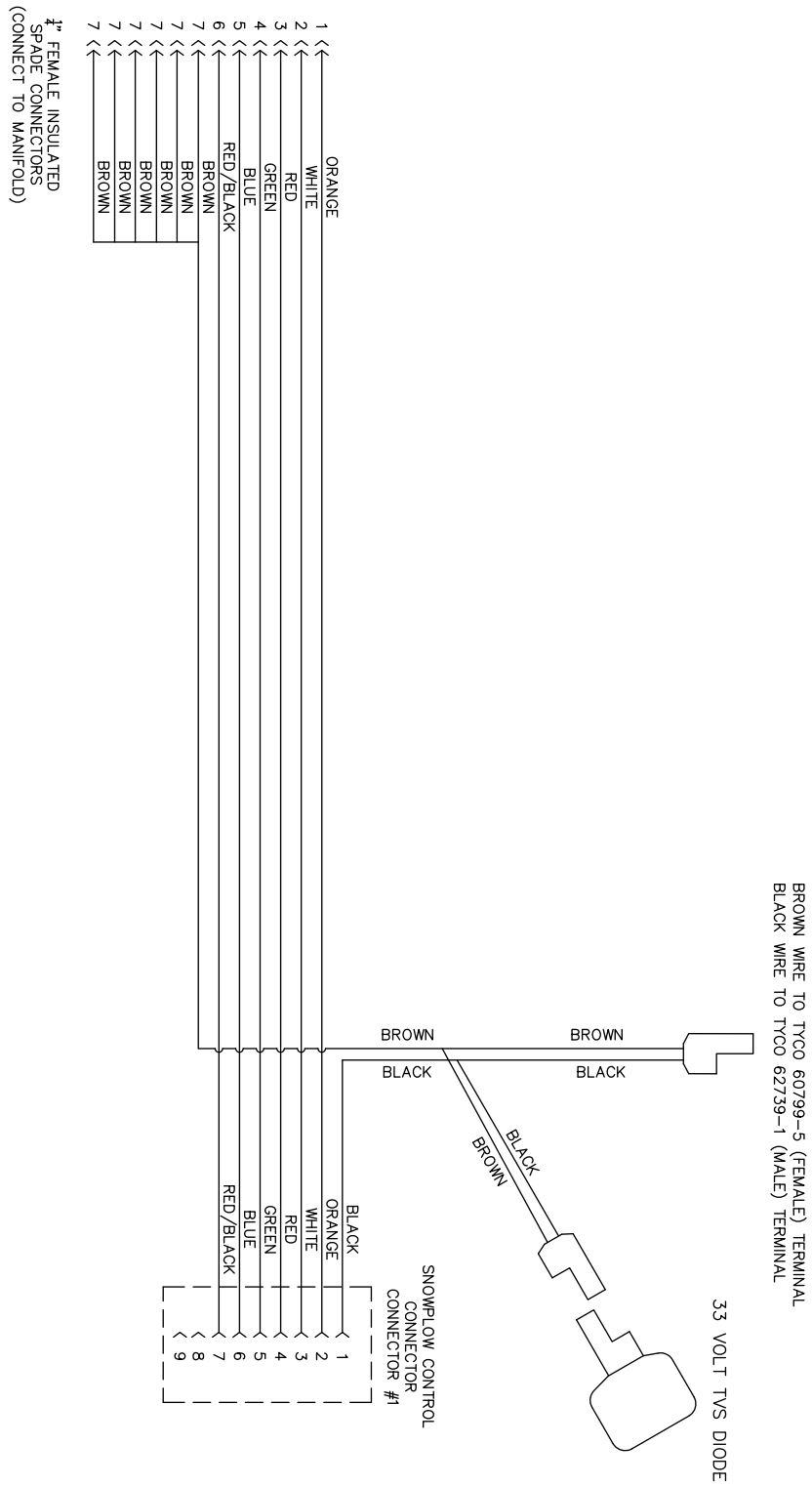
Important: Do not use standard BOSS hydraulic fluid in this system. Refer to your Grandstand Multi Force *Operator's Manual* for the appropriate hydraulic fluid.

8. Install the cap on the filler neck.
9. Repeat steps 4 through 8.

Note: The fluid level should be at the full mark with the lift cylinder fully extended.

10. Raise the cushion and secure it according to the instructions in your Grandstand Multi Force *Operator's Manual*.

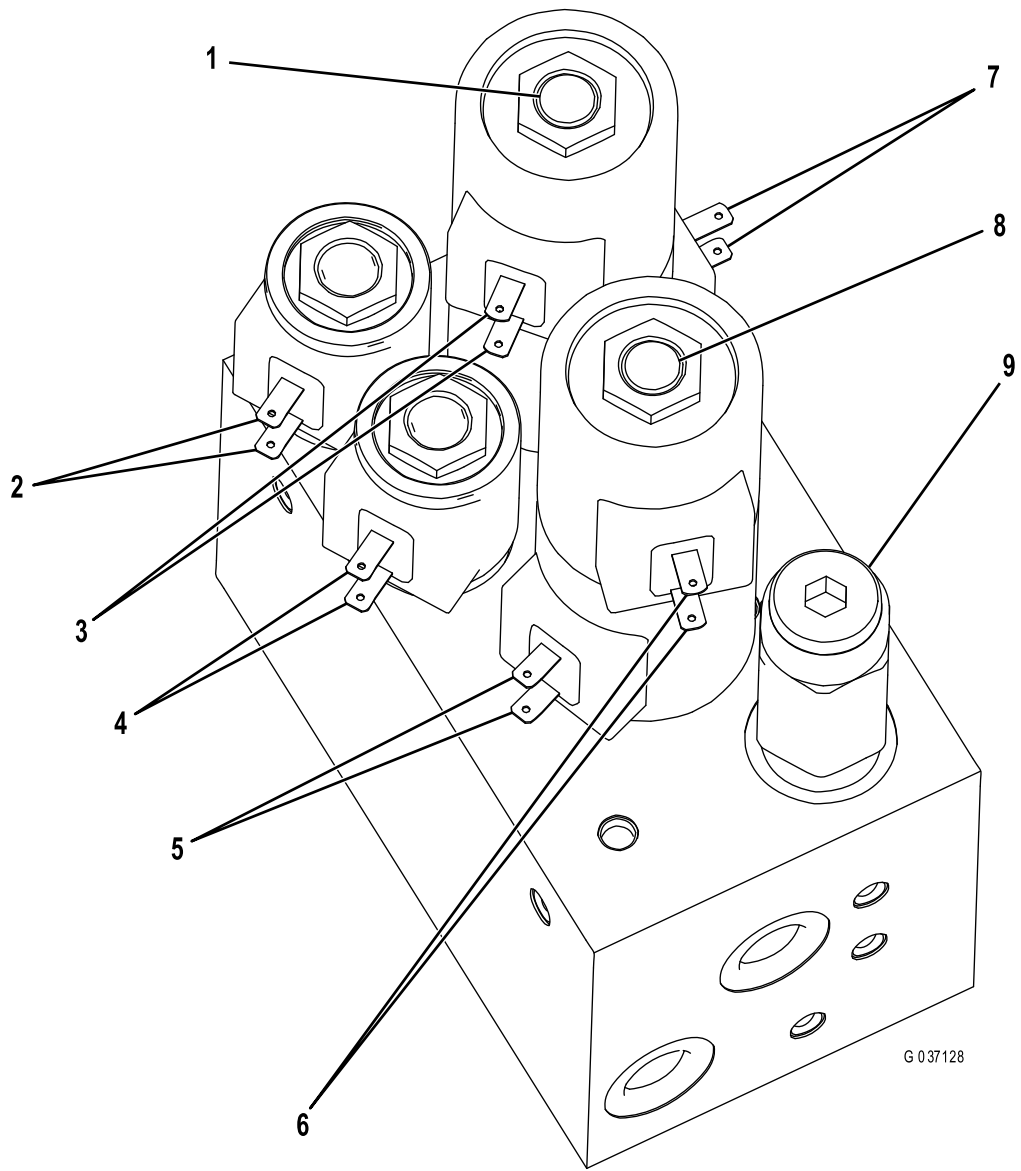
Schematics



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Electrical Schematic (Rev. 0)



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- 1. RAISE/LOWER valve
- 2. Float coil (blue)
- 3. Lower coil (white)
- 4. Float coil (red and black)
- 5. Angle left coil (green)

- 6. Angle right coil (red)
- 7. Raise coil (orange wire)
- 8. ANGLE RIGHT/LEFT valve
- 9. Pressure relief valve

Hydraulic Manifold (Rev. 0)