

# HYDRAULIC UNIT SERVICE INSTRUCTIONS

## General

1. **Before any service**, loosen fill plug to relieve reservoir pressure.
2. Lubricate all O-rings with clean hydraulic fluid except where noted otherwise.
3. DS = Driver's Side  
PS = Passenger's Side

Replace O-ring whenever disassembled. Apply light film of white lithium grease for reassembly. Clean manifold groove and reservoir surface.

## Pump Service

5/16-18 x 2-1/2 cap screw (5) – 150-160 in-lb

Remove motor. Fit seal protector onto end of pump shaft and install lubricated shaft through seal.\*\*

Re-use existing alignment ring. Install new O-ring into pump counter bore.

Inspect seal and replace if damaged.

**C** – Pump Relief Valve

Blade drop-speed adjustment.

Pressure Test Port

Fit pin into manifold adjustment hole.

Breather must be installed before operating snowplow.

10-24 x 5/16 washer-head screw (4) – 30-35 in-lb

**Before any service**, loosen fill plug to relieve reservoir pressure.

1/2-20 Jam nut (8) 40-60 in-lb

Clean magnet.

Snap filter onto pump. Align to fit manifold pocket.

**A**

DS Plowing Relief Valves

PS Plowing Relief Valves

**B**

Check Valve (3) 19-21 ft-lb

Fit over pump shaft tang.

Motor Cap Screw (2) – 30-40 in-lb

## Relief Valve Service

Relief Valves A, B and C use 1/4" ball, and stem is unmarked.

Apply one drop low-strength thread locker to threads.

Do not mix or interchange parts.

Adjustment: Screw stem in until spring is fully compressed and back out number of turns in chart.

| Relief Valve | Approximate Pressure (psi)* | # of Turns Out (CCW) from Fully Seated |
|--------------|-----------------------------|--|
| A (Qty 2)    | 1500                        | N/A                                    |
| B (Qty 2)    | 1700                        | N/A                                    |
| C (Qty 1)    | 2250                        | 2-1/2                                  |

\* Attach 3000 psi gauge to pressure test port above valve. Read pump relief pressure when holding the right retract button. Adjust pump relief valve to obtain 2250 ± 50 psi.

Cartridge Valve (8) – 19-21 ft-lb

1/4-20 x 3 socket-head cap screw (4) – 10-13 ft-lb

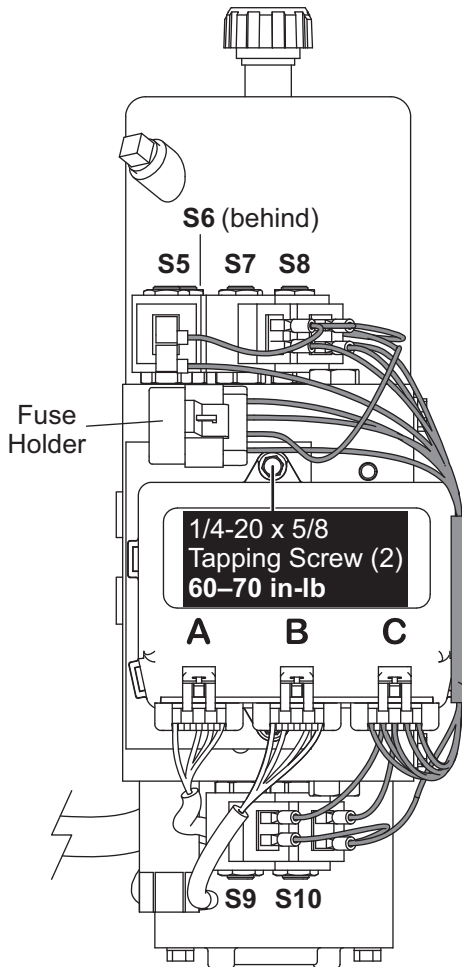
\*\* Seal Protector

Fit over pump shaft tang and lubricate with hydraulic fluid.

Crossover Relief Valve (1) 19-21 ft-lb

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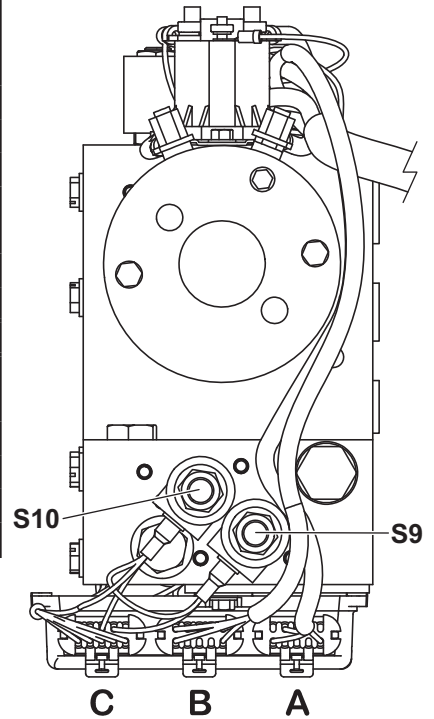
## Electrical Assembly



| Solenoid Valve | Type      | Wire Colors |
|----------------|-----------|-------------|
| S1             | SVCV08-20 | White/Red   |
| S2             | SV08-2004 | Green/Red   |
| S5             | SV08-45   | Black/Red   |
| S6             | SV08-41   | Yellow/Red  |
| S7             | SV08-30   | Brown/Red   |
| S8             | SV08-30   | Gray/Red    |
| S9             | SV08-30   | White/Red   |
| S10            | SV08-30   | Blue/Red    |

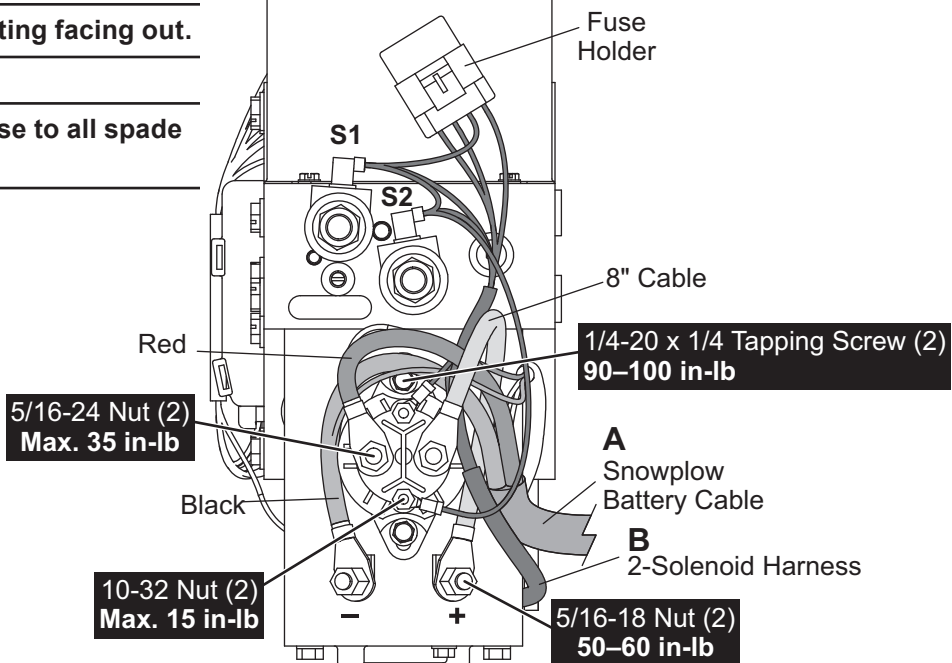
  

| Torque Specifications        |             |
|------------------------------|-------------|
| All Solenoid Valves          | 19-21 ft-lb |
| All Solenoid Coil Nuts       | 4-5 ft-lb   |
| <b>Motor Relay Terminals</b> |             |
| Small                        | 10-15 in-lb |
| Large                        | 25-35 in-lb |
| Motor Terminals              | 50-60 in-lb |



Install coils with printing facing out.

Apply dielectric grease to all spade and ring terminals.



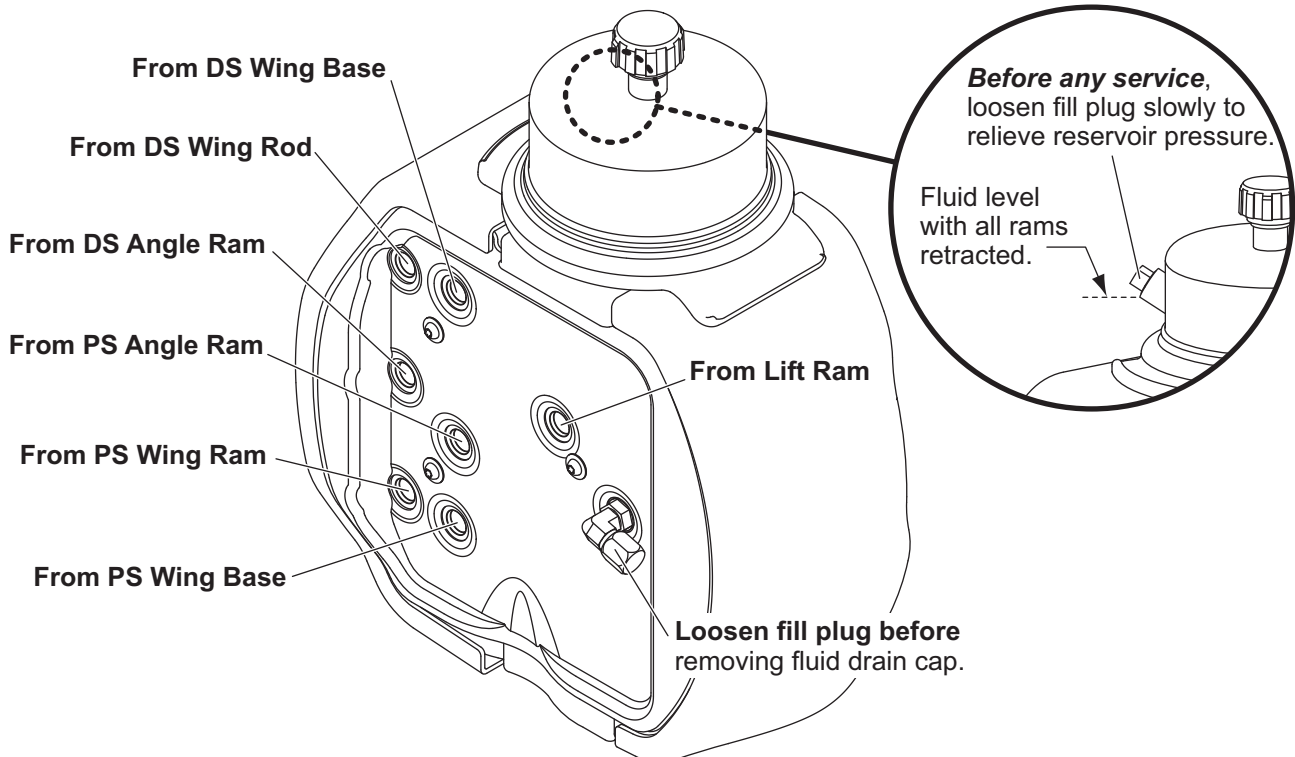
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## Torque Chart

| 8-Valve Hydraulic Unit Torque Chart |                             |               |
|-------------------------------------|-----------------------------|---------------|
| Location                            | Fastener Size               | Torque        |
| Pump Cap Screws                     | 5/16-18 x 2-1/2             | 150–160 in-lb |
| Motor Terminals (+ and –)           | 5/16-18 Nut                 | 50–60 in-lb   |
| Motor to Manifold Cap Screws        | 1/4-20 x 6-1/4              | 55–65 in-lb   |
| Reservoir Screws                    | #10-24 x 5/16               | 30–35 in-lb   |
| Solenoid Valves                     | 7/8 Hex Head                | 19–21 ft-lb   |
| Coil Nuts                           | 3/4 Hex-Head Jam Nut        | 40–60 in-lb   |
| Cover Screws                        | 1/4-20 x 1/2 Shoulder Screw | 60–80 in-lb   |
| SAE O-Ring Plugs                    | 1/8 or 5/32 Internal Hex    | 55–65 in-lb   |
| Hydraulic Unit Mount Bolts          | 3/8-16 x 1                  | 25–33 ft-lb   |
| Check Valves                        | 7/8 Hex Head                | 19–21 ft-lb   |
| Secondary to Primary Manifolds      | 1/4-20 x 3                  | 10–13 ft-lb   |
| Motor Relay Small Terminals         | 10-32 Nut                   | 15 in-lb max  |
| Motor Relay Large Terminals         | 5/16-24 Nut                 | 35 in-lb max  |
| Motor Relay Mount Screws            | 1/4-20 x 1/4                | 75–85 in-lb   |
| Plow Module Mount Screws            | 1/4-20 x 5/8                | 60–70 in-lb   |

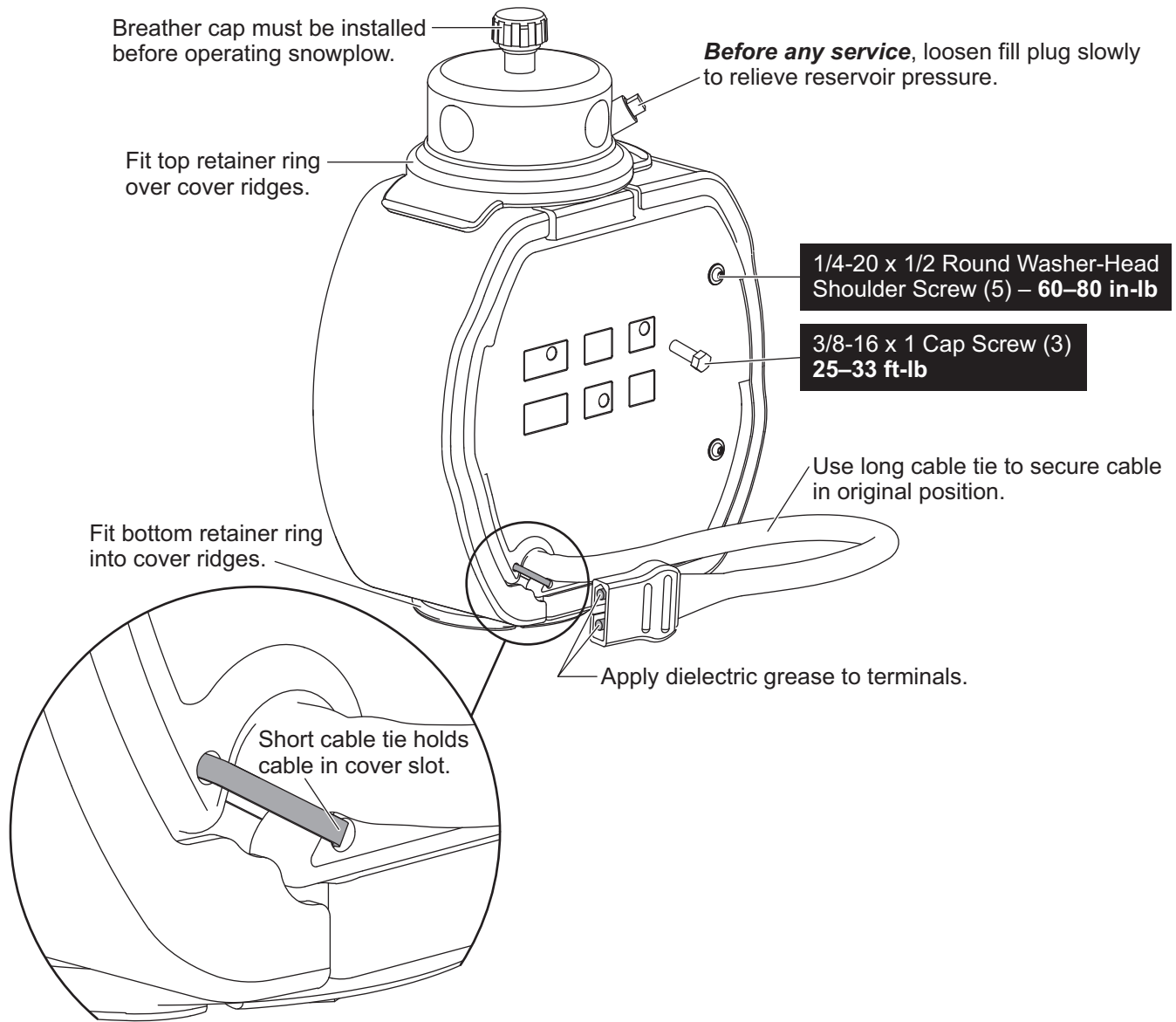
## Hydraulic Fluid (Drain and Fill), Fittings and Hoses

**NOTE:** Before removing hoses and fittings, carefully note hose routing and positions of any protective hose wraps for proper reassembly. For complete hydraulic fluid level/change or hose/fitting instructions, see the Maintenance Section of your Owner's Manual.



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## Cover and Final Assembly



The company reserves the right under its product improvement policy to change construction or design details and furnish equipment when so altered without reference to illustrations or specifications used. This equipment manufacturer or the vehicle manufacturer may require or recommend optional equipment for snow removal. Do not exceed vehicle ratings with a snowplow. The company offers a limited warranty for all snowplows and accessories. See separately printed page for this important information.

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