

11-VALVE V-FLOW 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.

Install new O-ring into pump counter bore.

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

Re-use existing alignment ring. Inspect seal and replace if damaged.

Blade drop-speed adjustment.

C – Pump Relief Valve

Fit pin into manifold alignment 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 (11) 40–60 in.-lb.

Clean magnet.

Snap filter onto pump. Align to fit manifold pocket.

DS Plowing Relief Valves

PS Plowing Relief Valves

Relief Valve Service

Relief valves B use 7/32" ball, and stem is marked with drill point in screwdriver slot. Relief Valves A and C use 1/4" ball, and stem is unmarked.

Apply one drop of 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)	3700	1-1/4
B (Qty 4)	4600	1-1/4
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 (11) – 19–21 ft.-lb.

Check Valve (4) – 19–21 ft.-lb.

1/4-20 x 3 Socket-Head Cap Screw (5) – 10–13 ft.-lb.

A Backdragging Relief Valves

Spring
Spacer
Ball

**Seal Protector

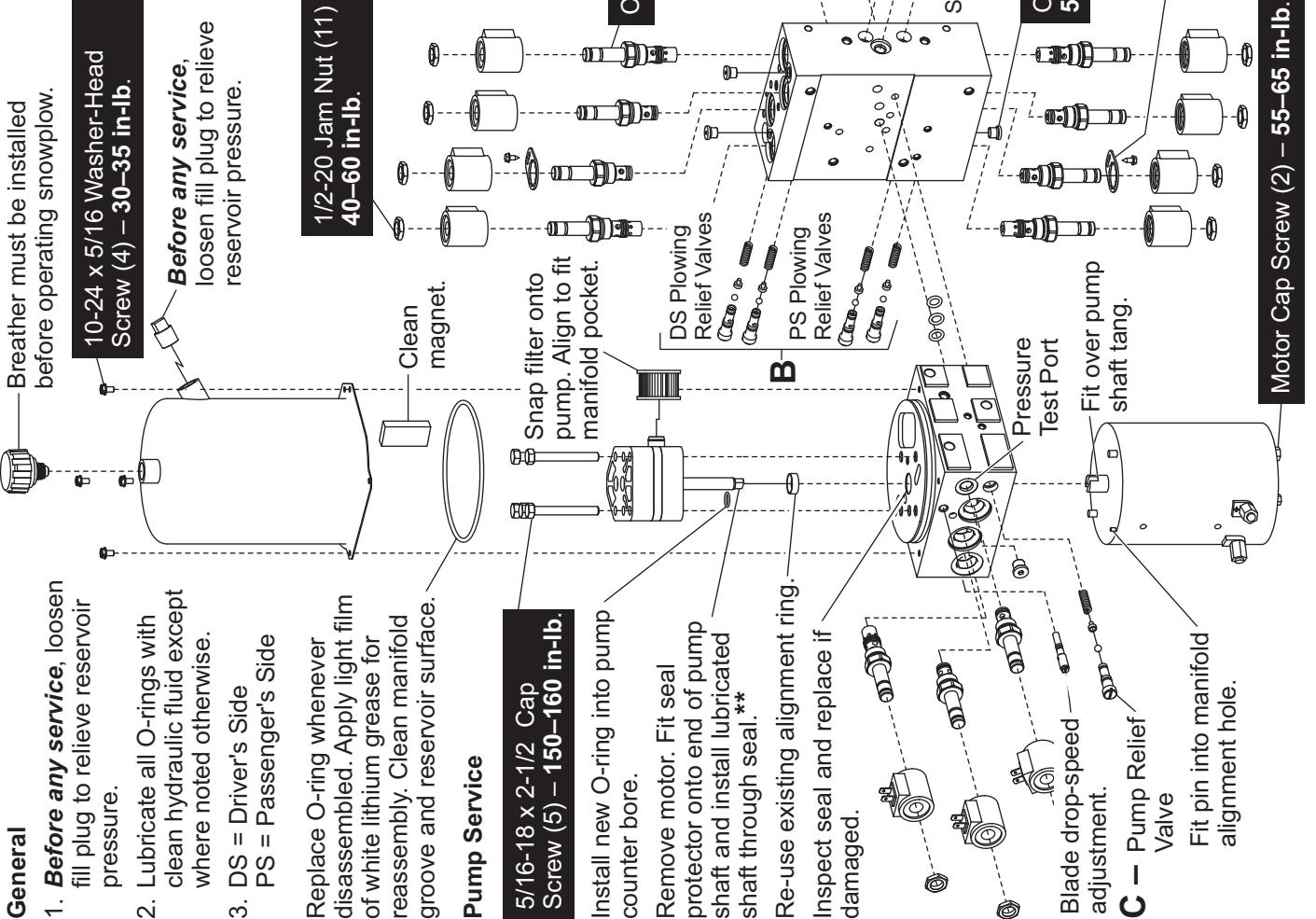
Fit over pump shaft tang and lubricate with hydraulic fluid.



Valve Lock Ring (4)
After tightening valve, place ring over hex and tighten screw to **45–55 in.-lb.**

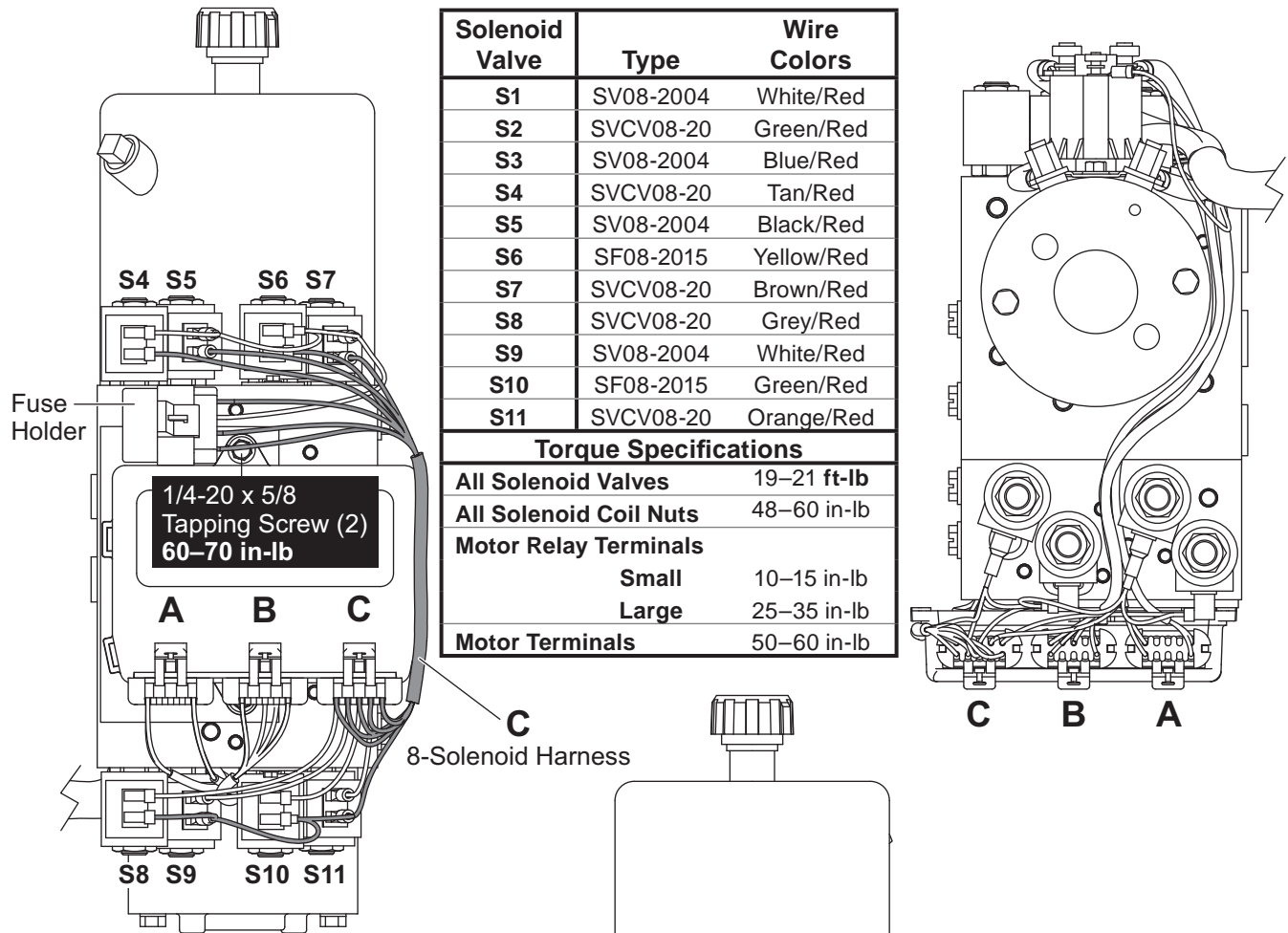
O-ring Boss Plug (5) 55–65 in.-lb.

Motor Cap Screw (2) – 55–65 in.-lb.



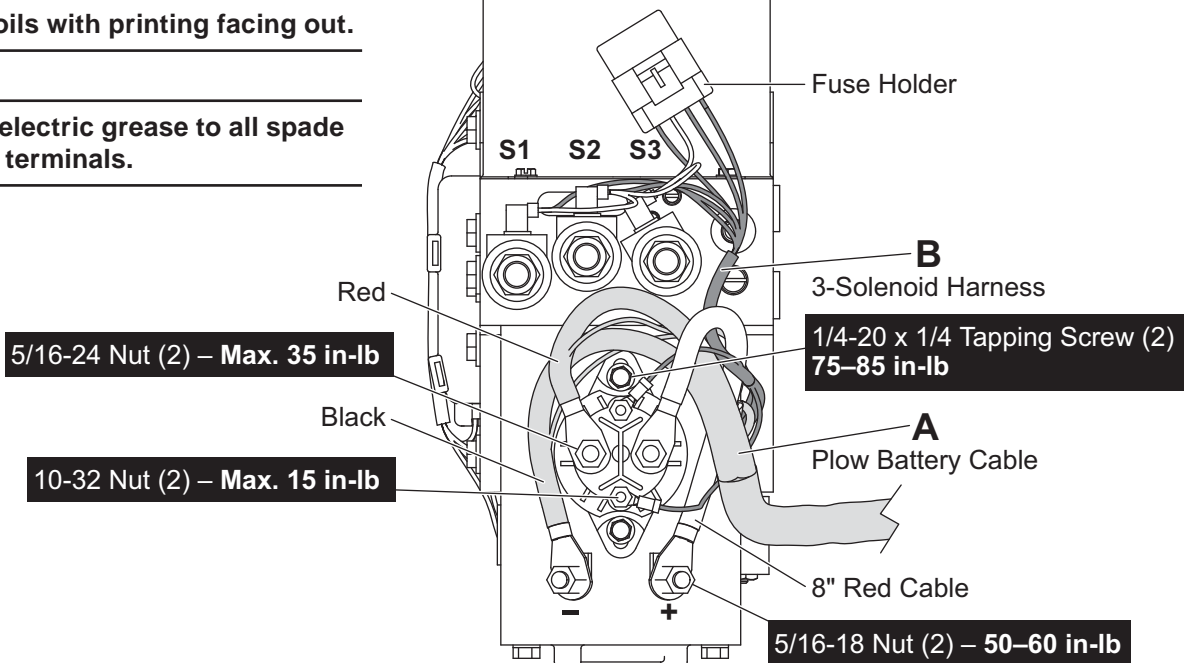
11-VALVE V-PLOW HYDRAULIC UNIT SERVICE INSTRUCTIONS

Electrical Assembly



Install coils with printing facing out.

Apply dielectric grease to all spade and ring terminals.



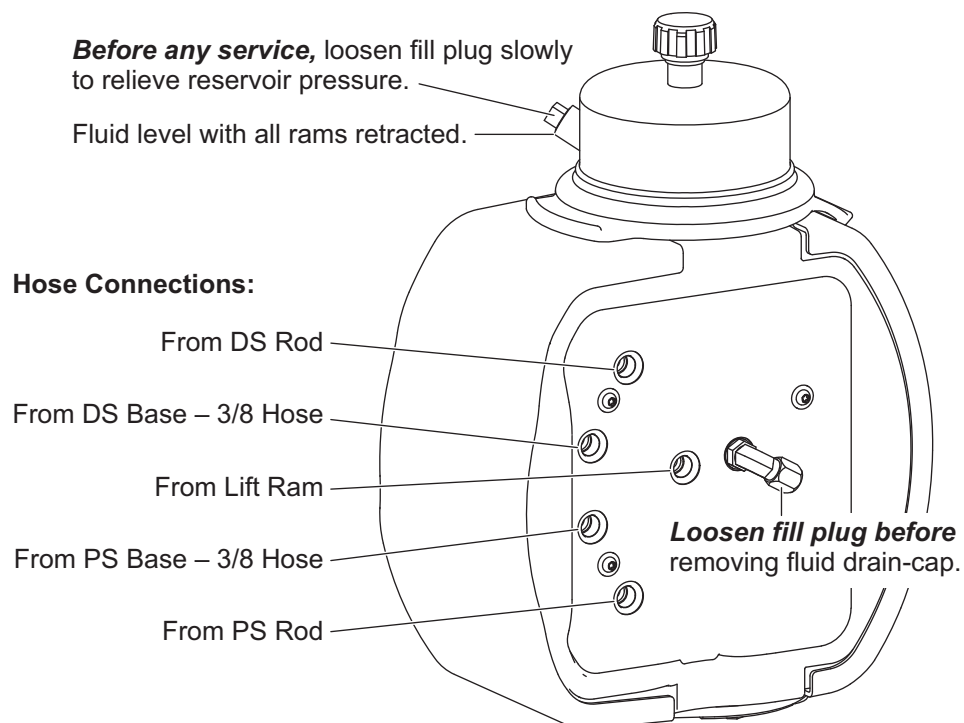
11-VALVE V-PLOW HYDRAULIC UNIT SERVICE INSTRUCTIONS

Torque Chart

11-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

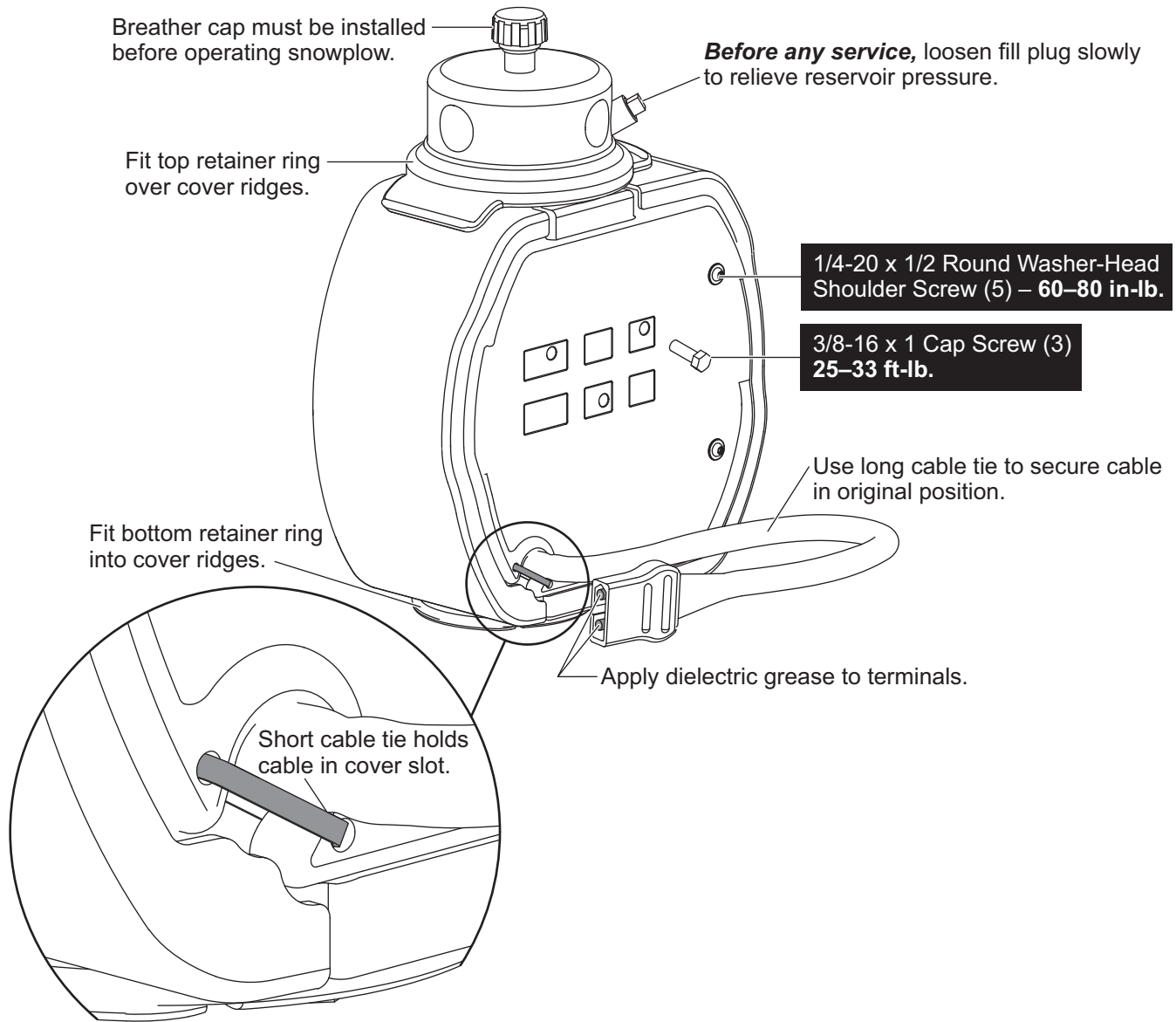
Hydraulic Fluid (Drain and Fill), Fittings and Hoses

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.



11-VALVE V-PLOW HYDRAULIC UNIT SERVICE INSTRUCTIONS

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.

Printed in U.S.A.