20260319 – SERV- A – Pressure Relief Valve Replacement Instructions

Pressure Relief Valve Replacement Instructions

This document provides detailed instructions for replacing the Pressure Relief Valve (PRV) on RH Sheppard steering gear assemblies. All service work must be performed by qualified technicians trained in heavy-duty vehicle systems.

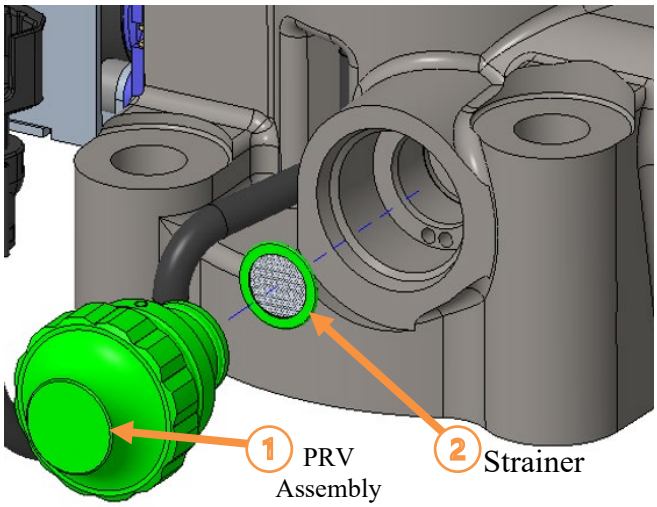

Figure 1

Pressure Relief Valve Kit Contents:

1x Pressure Relief Valve (PRV) *(Figure 1 #1)*
1x Strainer *(Figure 1 #2)*

1. Place a container under the steering gear to catch any power steering fluid that may come out of the gear when replacing the PRV.
2. Have the engine off and the ignition off.
3. Use a 12-point 1-3/8 in. socket to remove PRV and strainer from steering gear.
4. Insert the new strainer in the PRV cavity.
5. Start threading in the new PRV by hand.
6. Torque PRV to 55-65 FT-LB.
7. Top off steering fluid if needed.

8. Bleed any air out of the system if needed.

SAFETY INFORMATION

General Safety Warning

WARNING: Failure to follow the safety instructions in this procedure may result in serious injury, death, or property damage. Only trained, qualified technicians familiar with heavy-duty vehicle systems should perform the procedures contained in this document.

Technician Qualification

This procedure is intended for professional service technicians trained in heavy-duty vehicle maintenance and hydraulic and power steering systems. Technicians must understand proper diagnostic methods, equipment handling, and all applicable safety standards before performing any repair.

Vehicle Securement & Lockout/Tagout (LOTO)

• Park the vehicle on a flat, stable surface.
• Apply the parking brake and chock the wheels to prevent unintended movement.
• Follow lockout/tagout (LOTO) procedures before beginning work, including disabling the engine, isolating electrical circuits, preventing unintended hydraulic pressure buildup, and securing steering assist systems.
• Never work under a vehicle unless it is properly supported by approved heavy-duty jack stands and lifting equipment.

Personal Protective Equipment (PPE)

• Safety glasses or face shields
• Cut-resistant gloves
• Steel-toe safety footwear
• Protective clothing
• Hearing protection where required

Additional PPE may be required when working with pressurized hydraulic systems or chemical products.

High-Pressure Hydraulic & Power Steering System Safety

• Hydraulic systems can retain high pressure even when the engine is off. Relieve pressure before disconnecting lines or components.
• Do NOT place hands near pressurized leaks. High-pressure fluid can penetrate the skin and requires immediate medical treatment.
• Use only approved tools, fittings, and replacement components.
• Inspect hoses, lines, and fittings for wear, abrasion, leaks, or cracking before starting service.

Component Integrity & Replacement Parts

• Use only RH Sheppard-approved parts and fasteners.
• Do not modify steering components. Modifications may compromise vehicle safety.
• Torque all fasteners to published specifications. Under- or over-torquing may result in component failure.

Safe Steering System Testing

• Ensure the test area is clear of personnel and obstacles.
• Keep hands, tools, and clothing away from moving components.
• When performing engine-running tests, never reach into the engine compartment unless safe access is guaranteed.

Road Test Safety

• Conduct road tests only in controlled, low-traffic environments.
• Observe all traffic laws and confirm the vehicle is safe to operate.
• Do not perform diagnostics on public roads when safety concerns remain unresolved.

Environmental & Chemical Handling

• Handle fluids and chemicals in accordance with SDS/MSDS requirements.
• Dispose of waste fluids, filters, and materials in compliance with all regulations.
• Clean spills immediately using appropriate containment methods.

Safety Disclaimer

RH Sheppard safety guidelines support—but do not replace—proper technician judgment, standard shop practices, and applicable regulatory requirements. It is the responsibility of the technician and employer to ensure all work is performed in accordance with OSHA, EPA, DOT, and industry safety standards.