



Tech TIPS

SUPPORTING TODAY'S PROFESSIONAL TECHNICIAN

Power Steering Hoses: No Flow, No Go

Power Steering Hoses work in a harsh environment. Operating temperatures range from -30° F to over 300° F, and the pressure hose must handle pressures up to 1,500 PSI. These hoses must absorb pressure surges and pulsations and be flexible enough to expand and contract to help control system noise. Hoses must also be resistant to external wear factors like ozone, grease, oil, road debris, wear from rubbing, and twisting stress from engine torque.

The Problem: What you can't see is hurting you.

The operating conditions just described are tough to be sure, but are nothing compared to conditions inside a hose. Small flakes of metal and other impurities from worn parts become suspended in the fluid and eventually deteriorate the hose from the inside. As deterioration advances, larger hose particles flake off, adding more particles into the system. Orifices become blocked, or the flow control valve starts to stick. Eventually, system performance declines, and then component failures begin.

If hoses exposed to these conditions are not replaced before operating a replacement pump or steering unit, then steering system failure is inevitable. The flexing and bending necessary to remove old components will cause hoses that are already broken down internally to completely fail, which often totally blocks flow through to the new parts. So when you suggest a hose change, don't take "no" for an answer!

Things to Check:

- Check for a soft or spongy hose — a serious sign of wear indicating advanced internal deterioration.
- Check the hose-to-coupling connection for leaks or drips.
- Look for small pinholes or cracks in the hose outer jacket.
- Check hose for brittleness or hardness; this indicates that the hose has lost its ability to absorb pressure surges.
- Check for thickened fluid; this is an indication of internal hose deterioration and contamination.
- If fluid is black, silver or gray, the seals on the spool valve have worn grooves in the rack or gear control valve housing. Rubber and metal particles are circulating throughout the system. In addition to replacing the hoses, the rack or gear should also be replaced.
- Check fluid for burnt smell. This indicates the system has been operating under heavy load and may need a cooler. Flush the system and replace fluid.

Two other components found in many systems that can also be a source of flow restriction are power steering coolers and reservoirs with internal filters. Please refer to ProTech TT 20-0022N and TT 20-0029N for more information.

Note: Please refer to your vehicle's service manual for specific diagnostic instructions. This Tech Tip bulletin is supplied as technical information only and is not an authorization for repair.