

Power Steering PSI & Flow Meter Test Kit



This service procedure has been written to help you repair commercial vehicles. This procedure should not replace your manuals; you should use them together. This material is intended for use by properly trained professionals. You should not try to diagnose or repair steering problems unless you have been trained, and have the right equipment, tools, and know-how to perform the work correctly and safely.

TOOLS REQUIRED

- Pressure & Flow Test Kit (Part No. ULT5517641)
- 1 to 1-1/2" Steel Block Spacer
- Wrenches
- 3331812K Test Plug (if needed)
- Drain Pan

WARNING: All steering mechanisms are safety critical items. As such, it is imperative that the instructions in the vehicle manufacturer's latest published service manual are followed. Failure to observe the proper procedures, cautions and warnings may result in loss of steering and or personal injury.

Edmonton Alberta 833.442.0442 Mount Pearl Newfoundland 844.442.0442 Moncton New Brunswick 844.442.0442

Quebec City Quebec 844.442.0442

Ottawa Ontario 613.749.4858 Mississauga Ontario 833.442.0442

Winnipeg Manitoba 833.442.0442

WE ARE YOUR ONE-STOP DRIVELINE SOURCE SOLUTION!

ULTPOWERTRAIN.COM



Power Steering Flow Meter Instructions

PROCEDURE

- 1. Park the vehicle on an even, clean, dry surface with the transmission in neutral. Set the parking brake and turn off the engine. Place a drain pan directly under the steering gear.
- 2. Install the flow test kit in into the system at the pressure line of the power steering pump to the steering gear. Make sure the test kit flow direction is correct and all fittings and connections are tightened. If the steering gear uses a pressure relief valve (PRV), you must first remove the (PRV) valve and replace it with the 3331812K Test Plug for testing purposes. The PRV valve looks like a 1-1/2" nut on the side of the steering gear bearing head. Unscrew it and replace it with the test plug.
- 3. Check and correct the fluid level. Start the engine. Check the flow meter to ensure flow is in the proper direction as indicated by the arrow on the flow gage. Close the hand valve until 1000 psi is reached. Maintain this pressure until a temperature reading of 180° Fahrenheit is reached at the reservoir.
- 4. Close the tester hand valve all the way and note the maximum pump pressure. It's important to make sure the flow drops to zero. Once the flow drops to zero, open the valve all the way.

CAUTION: Keeping the tester valve closed for longer than 5 seconds at a time can damage the pump.

5. Place a minimum 1" thick block between the axle stop bolt and the axle on the left front wheel. Hold the block in place and then have the wheels turned slowly to full left. This will squeeze the block between the axle stop bolt and the axle. Then turn steering wheel to ensure the valve in the steering gear is completely open. When done correctly, the steering system should achieve the maximum pump pressure and the flow rate should be less than one gallon per minute. Note: Take the pressure and flow readings with the 1" block in place.

CAUTION: Be careful to ensure the block is securely in place when squeezing the block between the axle stop and the axle. The block can slip out of place and personal injury could result.

- 6. Repeat step 5 for the right turn, by placing the block between the axle stop bolt and axle on the right side of the vehicle.
- 7. If there is excessive internal leakage in either or both directions (flow greater than 1 gallon per minute), the steering gear needs to be replaced.

NOTE: If this test is being performed on a dual steering gear system (equipped with a master and slave gear or assist cylinder) and there is excessive internal leakage, remove and plug (or cap) the 2 pressure lines coming from the master gear and going to the slave gear or cylinder. Disconnect the draglink for the slave gear or disconnect one end of the assist cylinder.

Repeat steps 5 and 6. If the internal leakage drops below 1 gallon per minute, the internal leak problem is in the slave gear or assist cylinder. If the internal leakage is still above 1 gallon per minute, the internal leak problem is in the master steering gear.

- 8. Turn off the engine. Remove the pressure and flow test kit and replace the test plug (if used) with the PRV. Be careful not over tighten. Reconnect all lines and linkages previously disconnected.
- 9. Check and correct the fluid level. Remove the drain pan.

Contact the ULT order desk at 905.612.1256 if you have any questions concerning the diagnosis of a steering complaint or your test results. Refer to the ULT website for additional service information.

Edmonton	Mount Pearl	Moncton	Quebec City	Ottawa	Mississauga	Winnipeg
Alberta	Newfoundland	New Brunswick	Quebec	Ontario	Ontario	Manitoba
833.442.0442	844.442.0442	844.442.0442	844.442.0442	613.749.4858	833.442.0442	833.442.0442
VE ARE YOUR ONE-STOP DRIVELINE SOURCE SOLUTION!					ULTPOWERTRAIN.CO	