STANLEY Hydraulic Tools

P/N 04182

Flow and Pressure Tester

Technical Information

Purpose: To test tool circuits for proper function. If the hydraulic tool circuit is not functioning properly, the hydraulic tool may function intermittently or not at all.

When put into the hydraulic circuit in place of the tool, this tester will determine the following items:

1. **Flow Rate** – Reads in GPM (Gallons per Minute) and LPM (Liters per Minute).
2. **Back Pressure** – When the hydraulic oil is at operating temperature, back pressure should not exceed 150 PSI for best tool performance and seal life. Maximum back pressure reading should not exceed 250 PSI. This pressure is read on the "***Return Pressure Gauge / 0-600 PSI***."
3. **Relief Pressure Setting** – With the circuit at the recommended flow rate, the restrictor valve can be turned clockwise to add pressure to the 3000 PSI gauge. Pressure should rise to 2100-2200 PSI without decreasing the flow reading by more than 10%. Low relief settings reduce tool performance and add heat to the hydraulic circuit.

In addition to checking flow rate, back pressure, and relief settings, the flow and pressure tester can help detect pump / valve wear and flow restrictions within the hydraulic circuit.

Note: Before starting the hydraulic system with the circuit tester installed, ensure that the restrictor valve is fully open. (Counter clockwise)

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Hydraulic Tool Categories for Hand-Held Tools

Hydraulic tools fall into four general categories for flow requirements:

Type I = 5 GPM (20 LPM) ±10%
Type II = 8 GPM (30 LPM) ±10%
Type III = 12 GPM (25 LPM) ±10%
Type RR = 10 GPM (40 LPM) ±10%

Note: To operate tools at their maximum efficiency the working pressure of the tool needs to be at 1500-2000 PSI

What can cause a hydraulic circuit to have a low flow rate?

- Worn out pump
- Stripped or damaged pump coupler
- Restrictions in the hydraulic hoses or quick disconnect couplers.

What can cause a hydraulic circuit to have back pressure?

- Restrictions in the hydraulic hoses or quick disconnect couplers.
- Too many fittings in the hydraulic circuit.
- The inside diameter of the hydraulic hose is too small.

End note:

Refer to Hydraulic Recommendations information sheet located in this manual for the flow and pressure requirements related to your tool.

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