

PROPORTIONAL VALVE TESTER PVT-02

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DESCRIPTION

The Proportional Valve Tester (PVT-02) is an inline electrical monitor for proportional hydraulic valves with on-board electronics. It is designed to monitor those voltages which can affect the control of proportional hydraulic valves in a hydraulic system. Configured for industry standard proportional valves (Bosch, Rexroth) operating on 24VDC, a ± 10 VDC command signal, and utilizing Hirschmann 7-pin connectors. Users are cautioned that some valves use non-standard supply and command voltages. Users must check the pinout provided in this manual against the pinout of the valve to be tested. ***Failure to do so could result in damage to the valve.***

FEATURES

Monitoring of operational, LVDT feedback, and command signal voltages are displayed on three voltmeters. A selector switch provides for selecting the source of the command signal sent to the valve. Users can select the External (command signal from the control system) or Internal (a manual command signal adjusted by the drive potentiometer). Power for the tester is provided by the control system. Figure 1 shows the control layout of the Proportional Valve Tester .

WARNING * WARNING**
OBSERVE ALL LOCAL LOCKOUT AND SAFETY PROCEDURES!

1. Turn off motion system power and control power to hydraulics.
 - **Follow all LOCK OUT procedures!!!**
2. Disconnect the control cable from the valve.
3. Connect the control system cable to JP2 on the valve tester.
4. Connect JP1 connector to the valve.

Note: Check the pinout provided in Figures 2 & 3 against the pinout of the valve to be tested. ***Failure to do so could result in damage to the valve.***

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For **EXTERNAL** operation:

5. Place the **EXTERNAL/INTERNAL** selector switch to **EXTERNAL**. (This places the motion control system in control of the valve. The **DRIVE** potentiometer has no effect when **EXTERNAL** is selected).
6. Power may now be re-applied to the motion control system.
7. Turn on hydraulics power.
8. Proceed with operation / testing of the valve.

For **INTERNAL** operation:

5. Place the **EXTERNAL/INTERNAL** selector switch to **INTERNAL**. (This places the Proportional Valve Tester in control of the valve).
6. Power may now be re-applied to the motion control system.
7. Adjust the **DRIVE** potentiometer to read 0 (No drive).

Note: The accuracy of the panel voltmeters is $\pm 1.1\%$.
The command signal voltmeter has been calibrated for 10VDC.

SOME MOVEMENT OF THE HYDRALICS CYLINDER MAY OCCUR WHEN HYDRAULIC POWER IS APPLIED. ENSURE ALL LOCAL SAFTEY PROCEDURES ARE FOLLOWED TO PREVENT INJURY BY MOVING MACHINERY.

8. Turn on hydraulic power.
9. Proceed with operation / testing of the proportional valve.

SPECIFICATIONS

Operating voltage:
Nominal: 24.0VDC @ 160ma
Maximum: 21.6VDC to 26.4VDC

Meter Accuracy: $\pm 1.1\%$
.88VDC at full scale (calibrated)
.55VDC at 0VDC

DRIVE output: ± 10 VDC @ 90ma (**INTERNAL** selected)

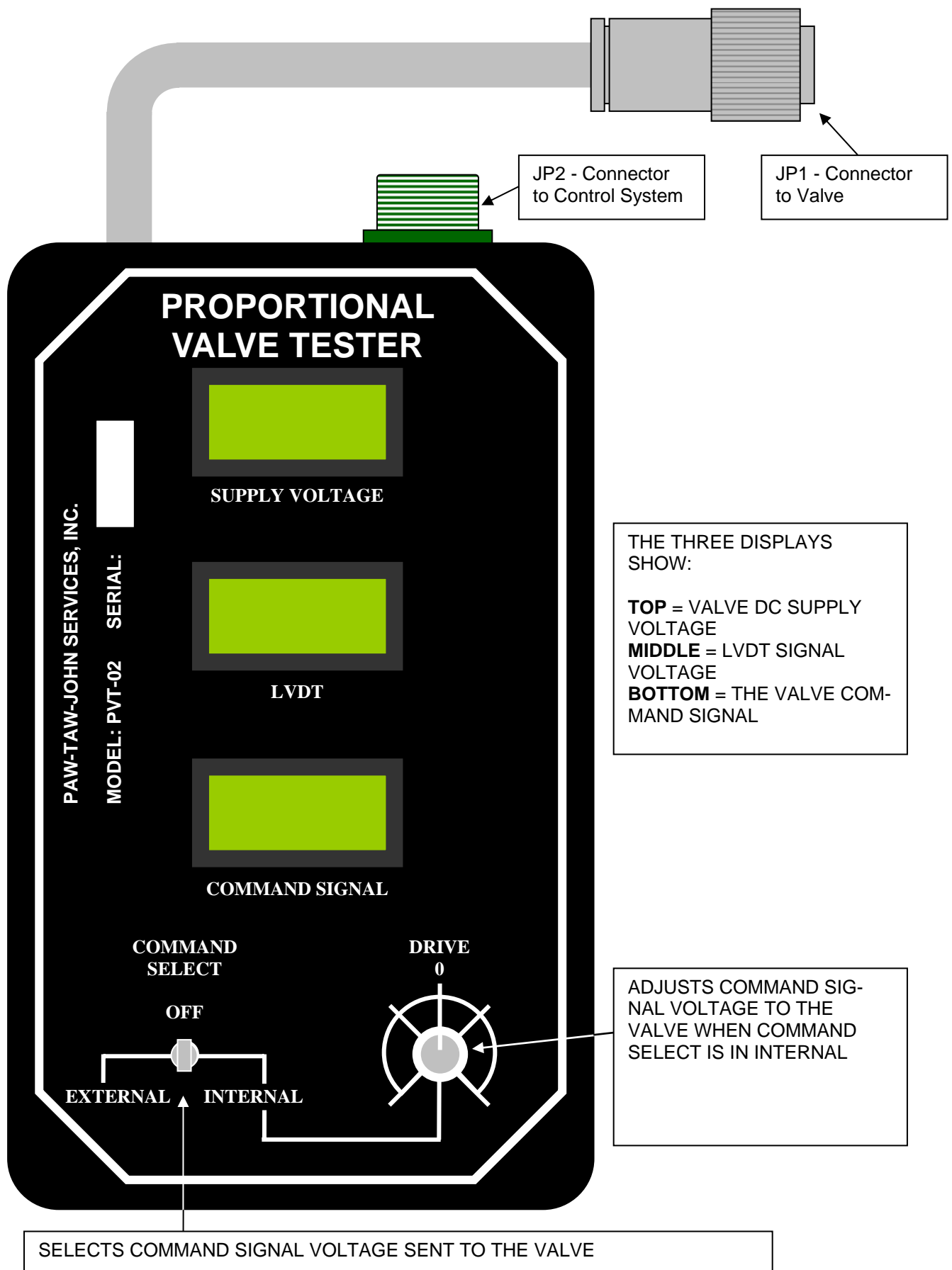


Figure 1 Control Layout

WARNING * WARNING**
Improper use of the proportional valve tester can result in damage to the valve, hydraulics and/or control system.

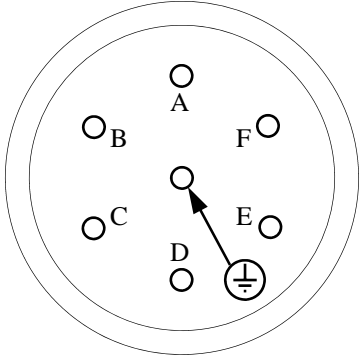


Figure 2
Pinout looking at connector end

Pin	Meaning
A	24VDC
B	24VDC Return
C	LVDT Return (LVDT -)
D	Command +
E	Command -
F	LVDT Voltage (LVDT +)

Figure 3
JP1 & JP2 Pinouts