



DATE: January 15, 2003

SUBJECT: Rotary Manifold – Link Support Passage

SERIAL NUMBERS: 019-220

DISCUSSION: Studies of rotary manifold performance have shown that the most likely seals to fail are the ones used by the link counterbalance system – “K” port in most TD models, “J” port in the 275T Top Drive. Wear and damage to this fluid passage is caused by high pressure pulses generated by fluid flow out of the link counterbalance cylinders. The pressure generated by the link counterbalance cylinders is lowered considerably when the flow control valve in the circuit is opened fully.

RECOMMENDATION: Locate the flow control valve that regulates the “back-pressure” in the “K” (“J”) port “return to tank line”. The location of this valve varies from model to model and from different vintages of Top Drives, but are always between the hydraulic manifold and the rotary manifold mounting plate. For location of this valve, refer to the pictures on the following pages. Loosen the set screw in the knob, then open the valve fully, by turning the adjustment knob **counter clockwise** several turns, until the indicator is showing maximum flow rate (or remove the valve from the circuit). Tighten the set screw to prevent the valve from closing.

Should you have any questions or concerns, please do not hesitate to contact your CANRIG contact or the Field Operations Manager listed below.
IF in doubt, ask!

INFORMATION:

For further information contact:

Field Operations Manager
Canrig Drilling Technology Ltd.
14703 FM 1488
Magnolia, Texas 77354
Phone: 281.259.8887
Fax: 281.259.8158

Flow control valve closed



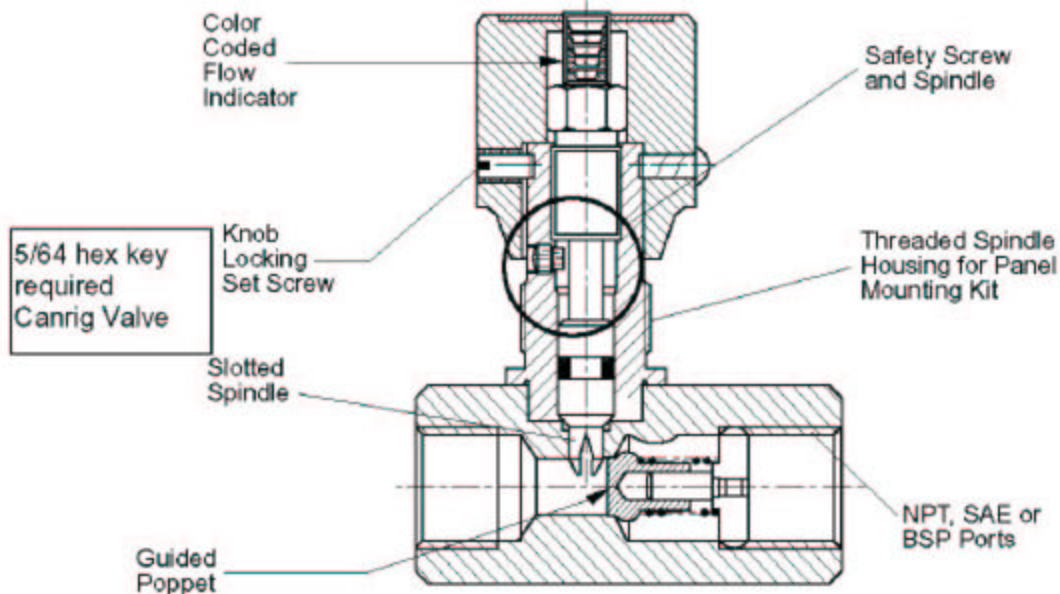
Flow control valve open
Notice the flow indicator



To turn the Knob and adjust the valve, loosen a set screw with a 5/64 inch hex key wrench, this will allow the knob to be rotated. Turn the knob till the indicator extends to its maximum as shown in the photo (above). Tighten the set screw to prevent the valve from closing.

For more details of the functionality of the flow control, see data sheet below.

DESIGN, FEATURES AND OPTIONS



INTRODUCTION

Our complete line of flow control valves are designed and manufactured by our ISO 9001 certified FLUTEC division.

DESCRIPTION

- The **HYDAC** family of flow control valves permit safe, simple and repeatable control of hydraulic fluids at operating pressures to 5000 psi.
- The standard slotted control spindle allows for a wide range of infinitely variable flow adjustments with excellent flow characteristics.
- Precise adjustment of flow is achieved by a micrometer style adjustment knob featuring a color coded flow indicator for accurate, easy-to read visual flow reference.
- Design modifications and special materials are available for corrosive fluids such as phosphate ester, acids and

VALVE DESIGN

HYDAC flow control valves can be adjusted easily and precisely by means of the control knob. Increasing the number of turns from the fully closed position provides a steady increase of the flow rate. The colored scale permits accurate repetition of settings and the colored triangle on the rising spindle provides a visual indication of the increasing cross section of the flow area. A set screw on the side locks the knob at the desired setting.

HYDAC flow control valves include a unique safety spindle design feature. As the valve spindle is turned counter-clockwise, the spindle shoulder will engage the safety screw limiting the travel of the spindle. The hardened, high-strength steel safety screw is sealed in position to discourage tampering.

PRODUCT FEATURES

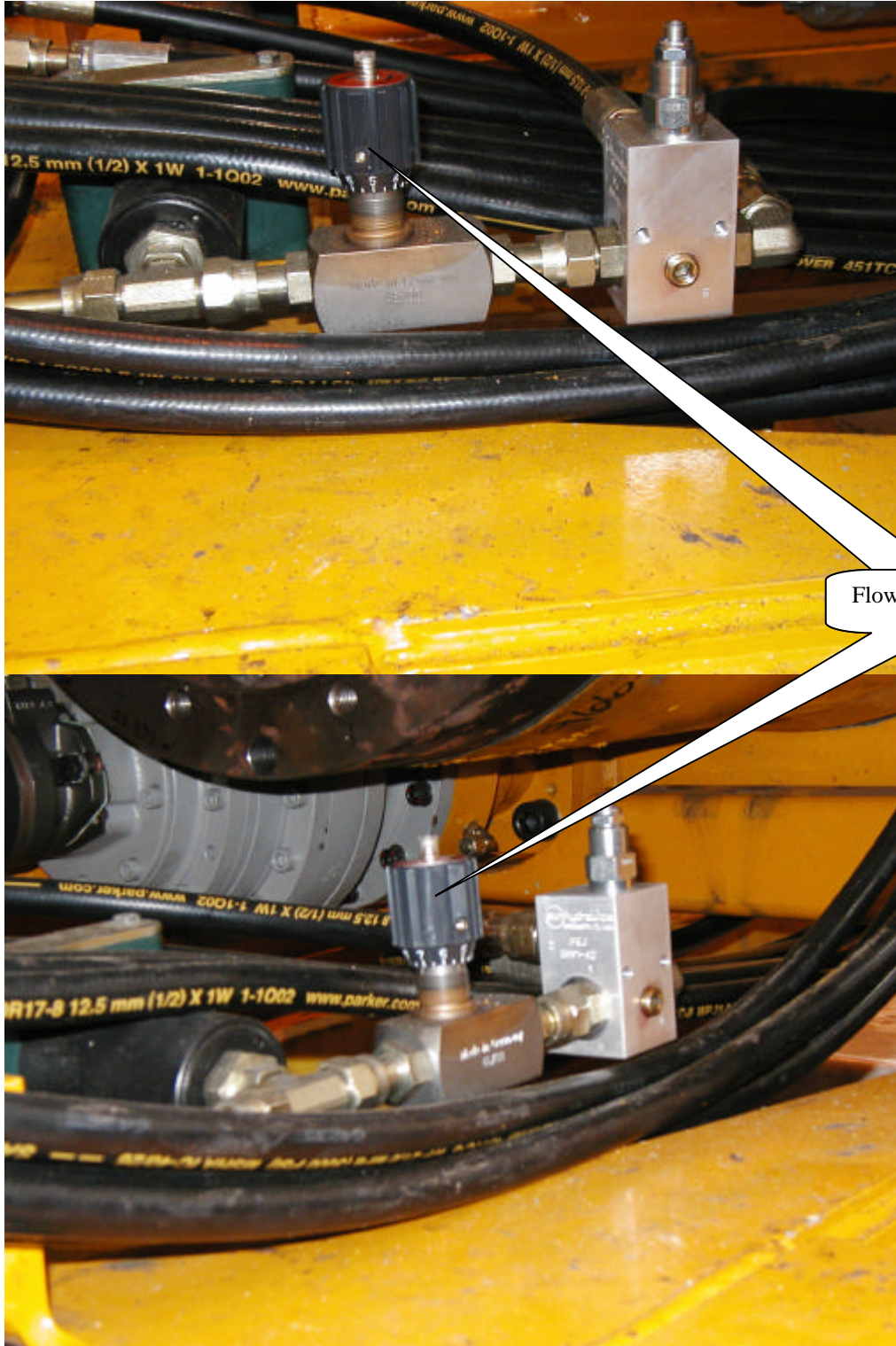
- Phosphate coated steel valve body
- FPM (*Viton*) seals
- Slotted control spindle for precise and linear flow adjustments
- Exclusive safety spindle design
- Graduated knob and color coded spindle for accurate flow control
- Guided poppets for smoother, chatter free operation

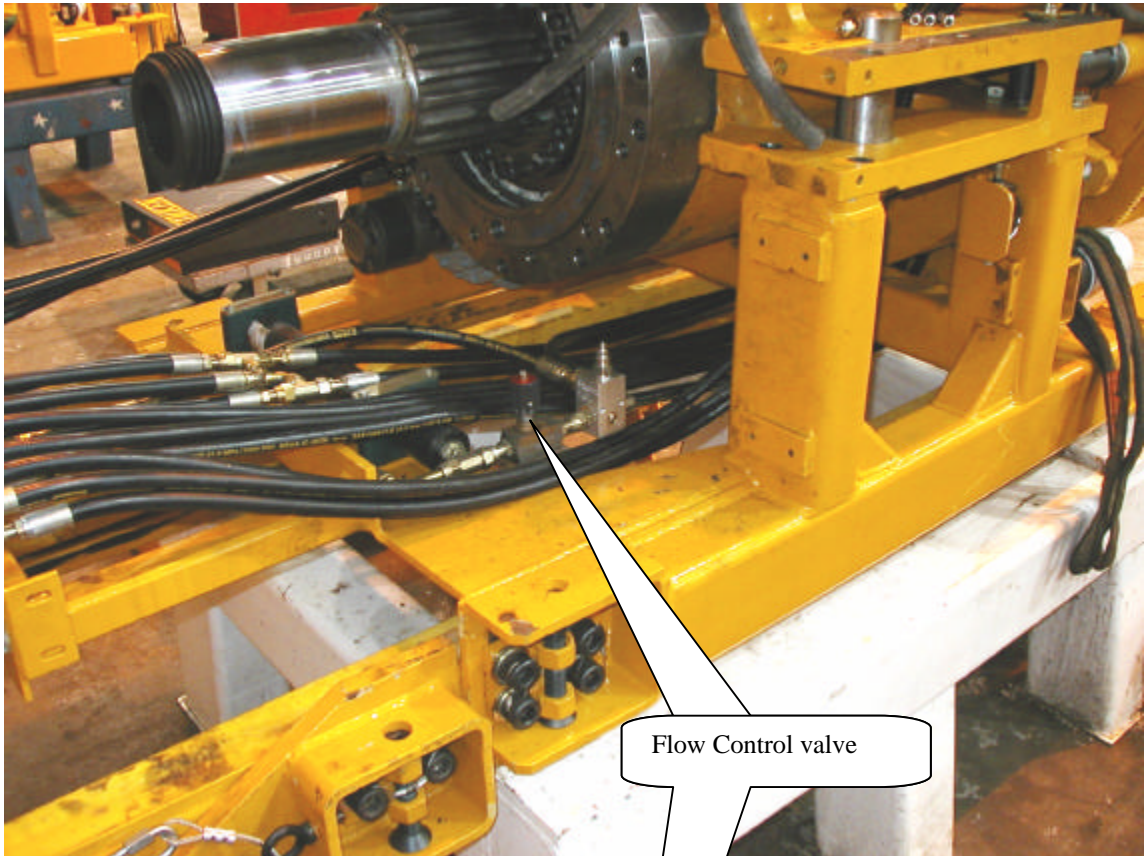
AVAILABLE OPTIONS

- Steel knobs for ambient temperature in excess of 140°F / 60°C
- Panel mounting kit
- 25 and 65 PSI cracking pressure springs (7 psi standard)
- Zinc Plated Body
Consult **HYDAC** for price and delivery

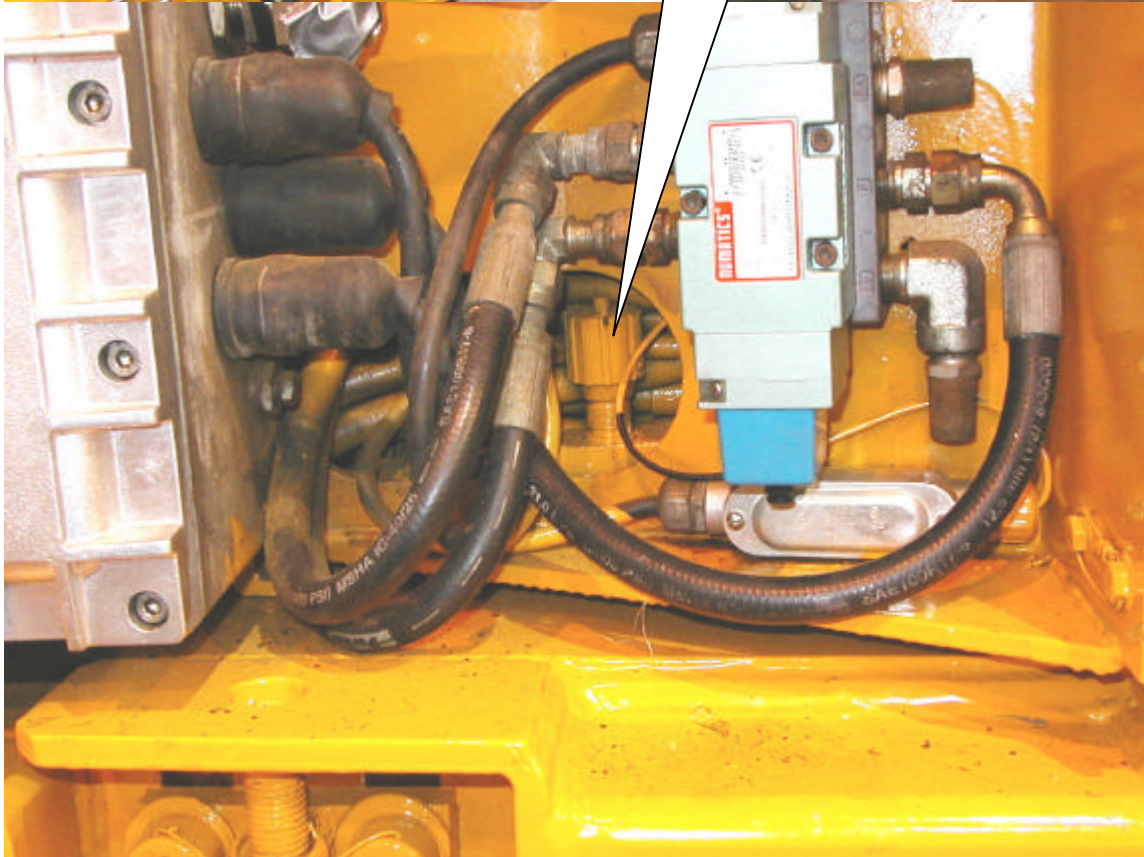


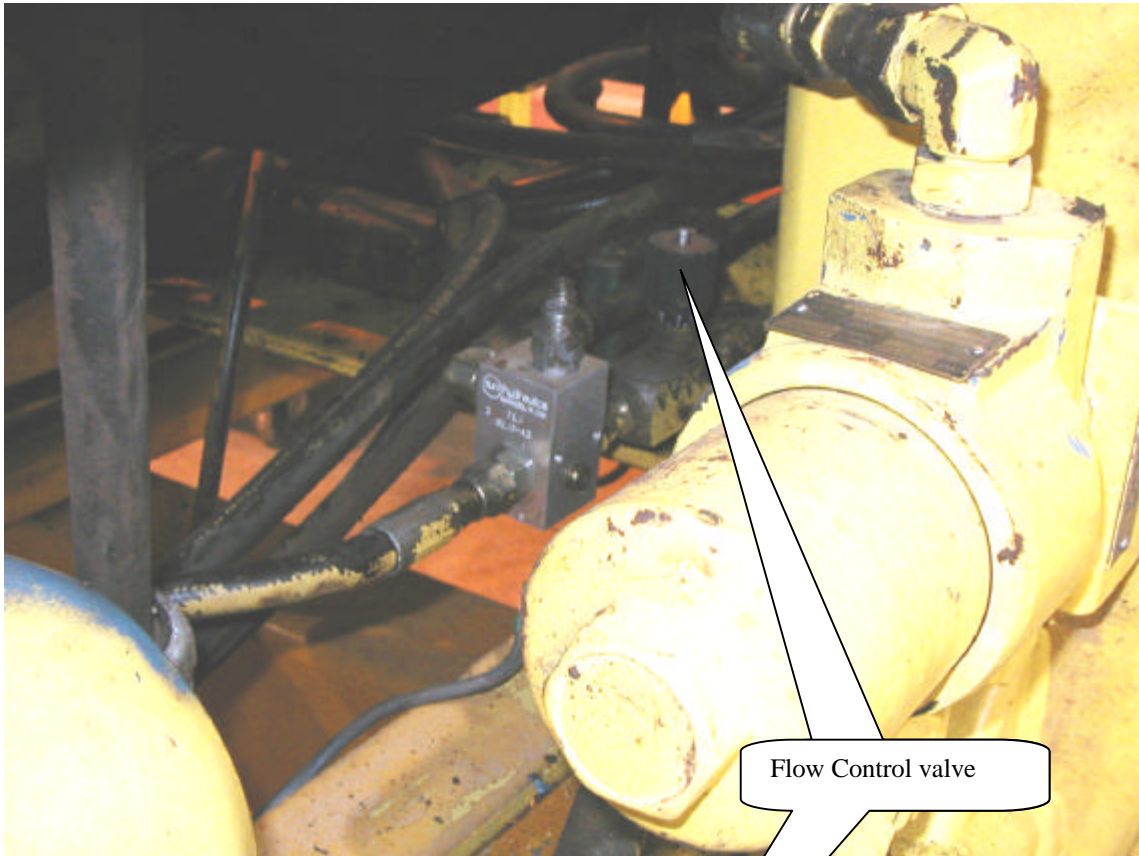
The flow control valves can be found in various places. They are typically underneath the main hydraulic manifold, a few are attached to the manifold, but most are a couple of feet lower and on one side or the other. Some typical placements are:

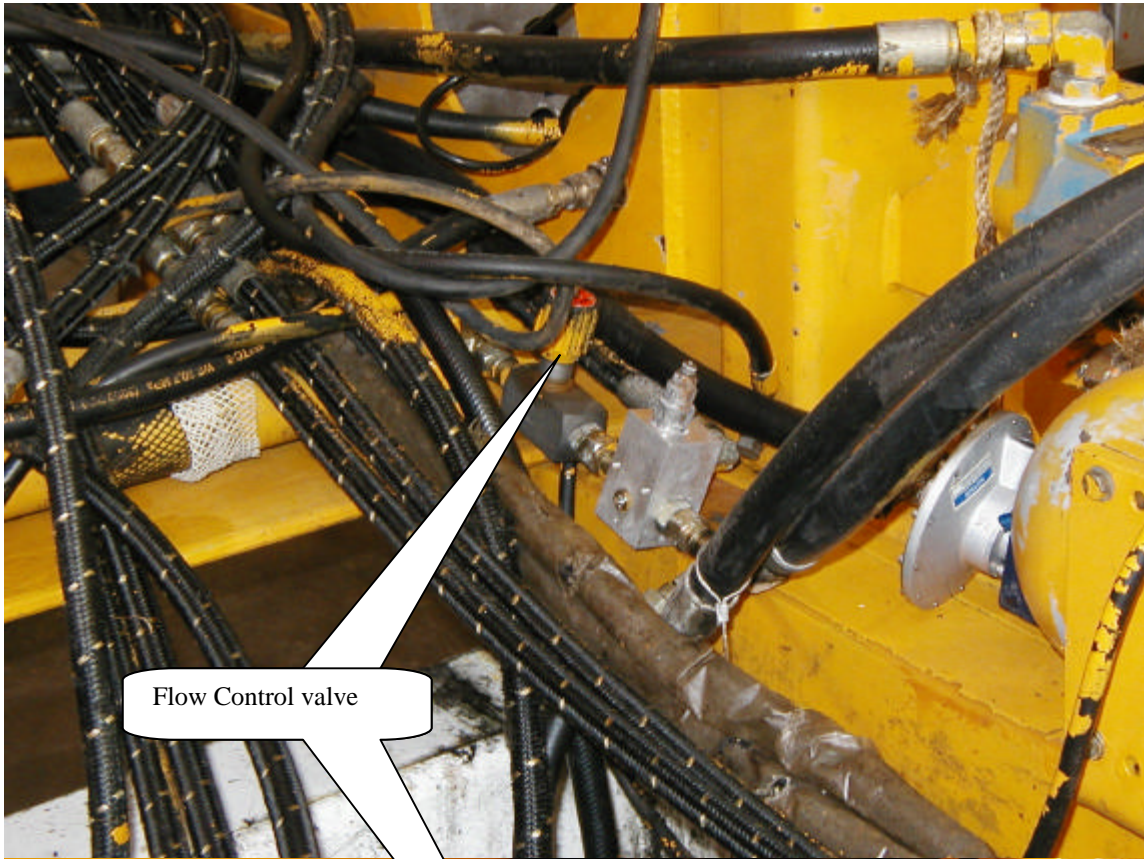




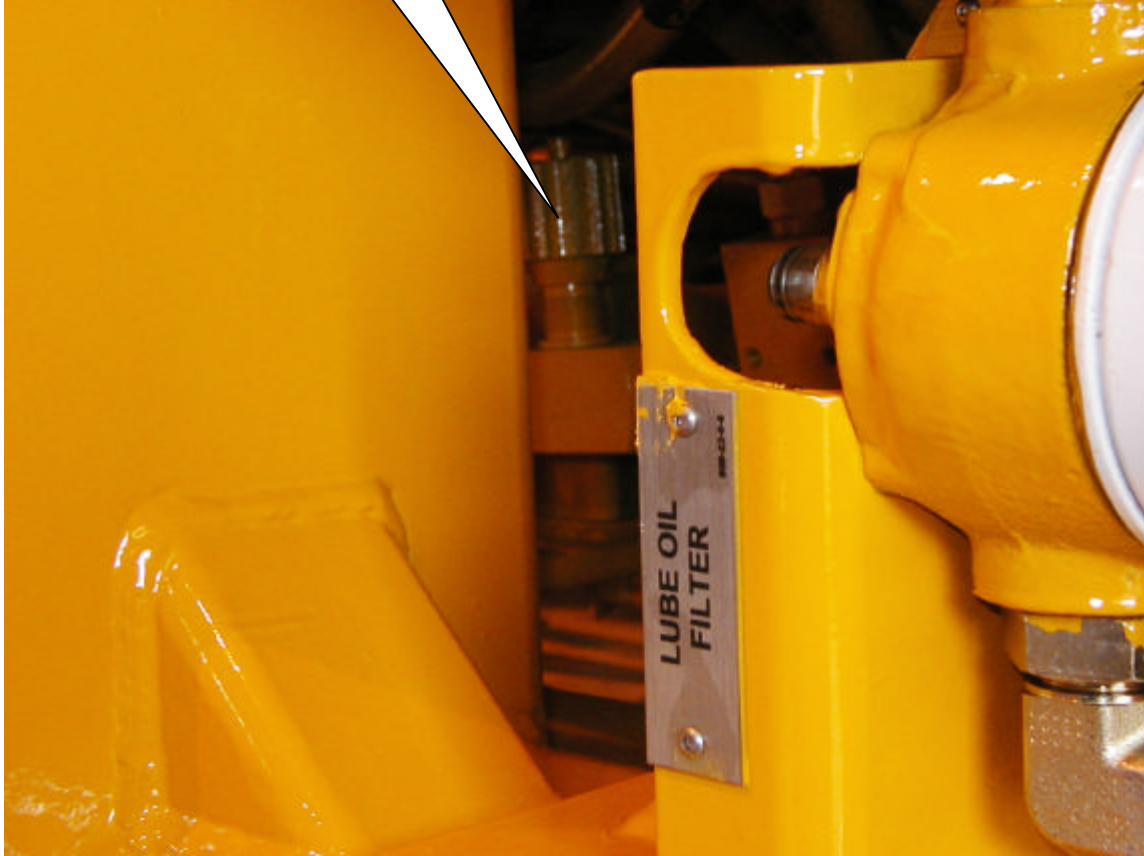
Flow Control valve







Flow Control valve



LUBE OIL FILTER



Flow Control valve

