
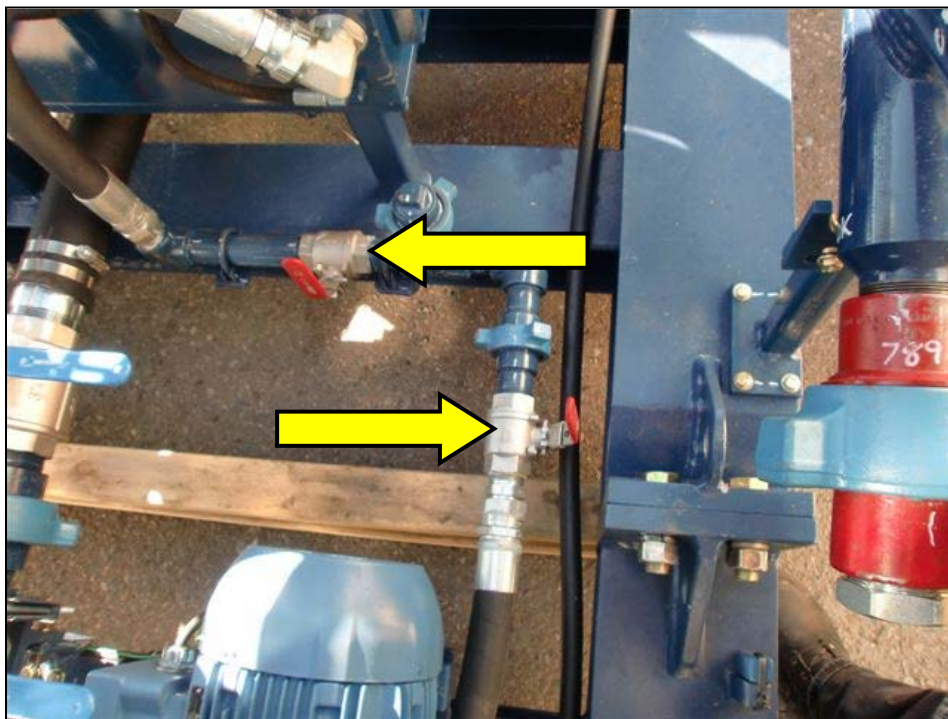


<b>Technical Bulletin</b>			 <b>TESCO</b> <sup>®</sup>
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<b>High Pressure Valve for Troubleshooting and Bypassing Operation of Hot Oil Shuttle Circuit</b>			

**BACKGROUND INFORMATION**

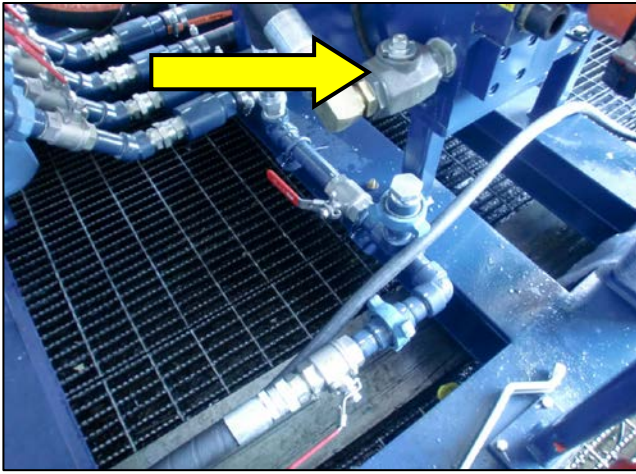
TESCO’s highly modular HXI and HCI top drives utilizing the 12V2000 D4P and 16V2000/3512 D6P hydraulic power units can be easily disassembled for transportation to meet many of today’s demanding offshore and land-based drilling applications. During transport there is a chance of oil spillage and to prevent this from occurring, low pressure transportation ball valves are installed in the hosing between skids (Figure 1).



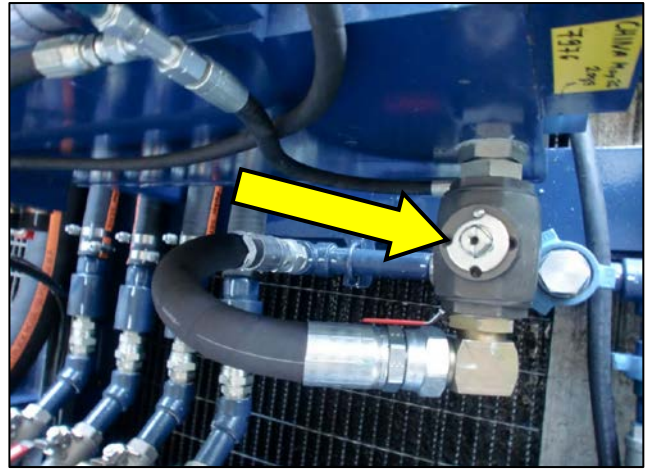
**Figure 1: Low pressure transportation ball valves (top view)**

It has been determined that the shuttle circuit on the 12V2000 D4P and 16V2000/3512 D6P HPUs may be exposed to full system pressure if one of the ball valves is closed, particularly if there is a failure in the shuttle components that allow excessive oil flow in the reverse direction during drilling operations. This excessive leakage will prevent breakout functionality; therefore, closing the ball valve allows drilling operations to continue until it is safe to service the faulty circuit. However, this is not a recommended practice as these ball valves are not rated for system pressure.

To isolate the hot oil shuttle circuit, TESCO recommends installing a 5,000 psi high pressure ball valve (part# 1550002) directly at the outlet of the filter manifold where the hot oil shuttle plumbing is connected (Figure 2). This will ensure that the shuttle circuit will not be exposed to full system pressure in the event that the ball valves need to be closed.



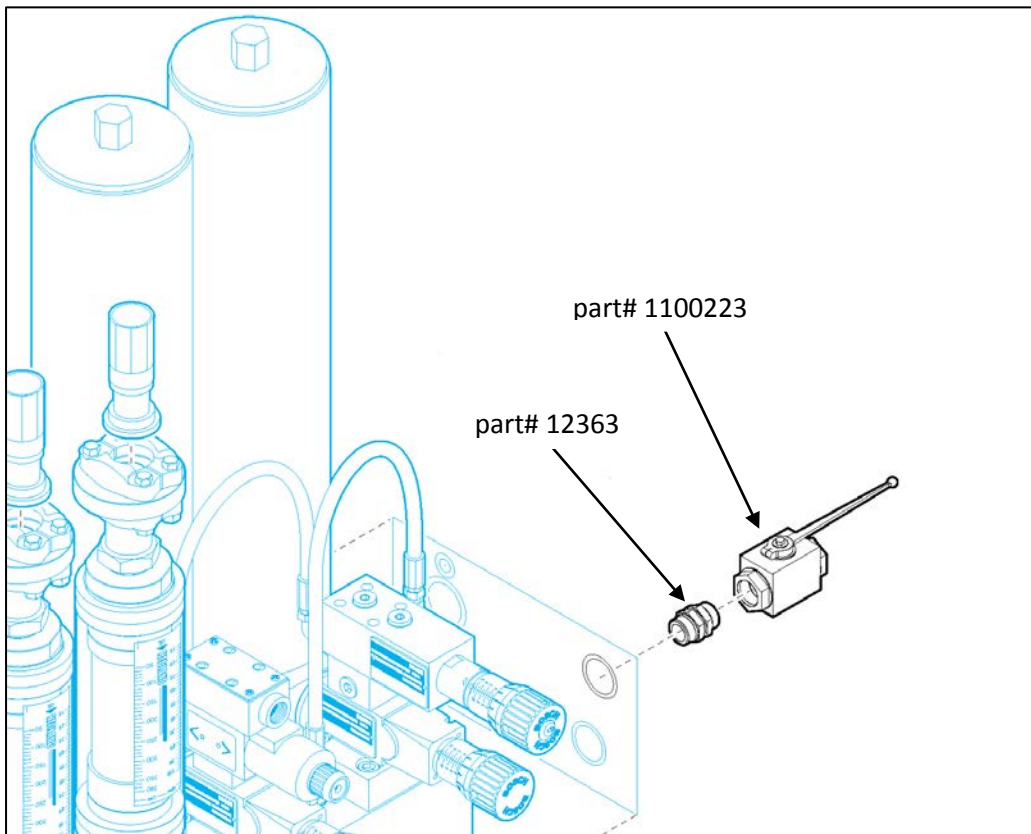
(Side view)



(Top view)

**Figure 2: 5,000 psi ball installed at manifold where hot oil shuttle plumbing is connected**

The current design of the DDC Series 60/CAT C15 D2P HPU's utilized on the HMIS top drives does not include transportation ball valves. However, a high pressure ball valve (part# 1100223) may also be installed, if desired, at the filter manifold (Figure 3).



**Figure 3: Installing high pressure ball valve and fitting to DDC Series 60/C15 D2P filter manifold**

Parts for the high pressure ball valve are available for the following HPU:

**1) 12V2000 D4P and 16V2000/3512 D6P Models**

- a) TESCO # 1550002: Valve,Ball,2-way,Forged Housing,5000 psi,#20FORB
- b) TESCO # 11297: Fitting,Hyd,Str,#20MORBx#20MORB

**2) DDC Series 60/C15 D2P Models**

- a) TESCO # 1100223: Valve,Ball,2-way,Block Housing,5000 psi,#16FORB
- b) TESCO # 12363: Fitting,Hyd,Str,#16MORBx#16MORB

**AFFECTED PRODUCTS**

- All 500-HCI-750 top drives using the 12V2000 D4P
- All 250-HXI-700 and 250-HXI-750 top drives using the 12V2000 D4P
- All 500-HCI(S)-1205 and 650-HCI(S)-1205 top drives using the 16V2000/3512 D6P
- All 250-HMIS-475 top drives using the DDC Series 60/CAT C15 D2P

**ACTION REQUIRED**

Customers operating top drives using the 12V2000 D4P, 16V2000/3512 D6P or Series 60/C15 D2P are encouraged to obtain and install the appropriate ball valve and fitting on their HPU. The parts can be obtained from a local TESCO representative.

If customers choose not to obtain and install the parts, TESCO recommends applying a lock-out procedure to ensure the transportation valves remain open during operation.

Version	Date (D/M/Y)	ECN	Description of changes
Rev 0	30/08/2010	180-0002	Initial release of document