


Change Bulletin			 <p>Tesco Corporation 5616 – 80th Avenue SE Calgary, Alberta, Canada T2C 4N5 Tel: 1-877-TESCO-77 (North America) Tel: 1 (713) 359-7195 (AMSS 24-hour support) Tel: 1 (713) 359-7295 (International) Email: bulletins@tescocorp.com www.tescocorp.com www.tescoparts.com</p>	
No: CB053	Rev: 0	Date: November 30, 2013		
HMI Gearbox – MK1 Quill Assembly				
<input checked="" type="checkbox"/> Internal Use Only		<input type="checkbox"/> External Use	<input type="checkbox"/> Mandatory	<input checked="" type="checkbox"/> Recommended

BACKGROUND INFORMATION:

The TESCO HMI top drive was initially introduced in 1997. In 2003, gearboxes 16628 and 16631 were released. In these gearboxes, the connection for transmitting torque from the gearbox’s drive gear (TESCO part number 7955) to the quill is accomplished through the quill gear drive bushing (TESCO part number 7960). The bushing is a split component with an internal spline that is designed to mate with a corresponding spline on the quill. The bushing is then secured to the drive gear by twelve 1/2 in. UNC screws along with two dowel pins, all located on an 8.50 in. bolt circle.

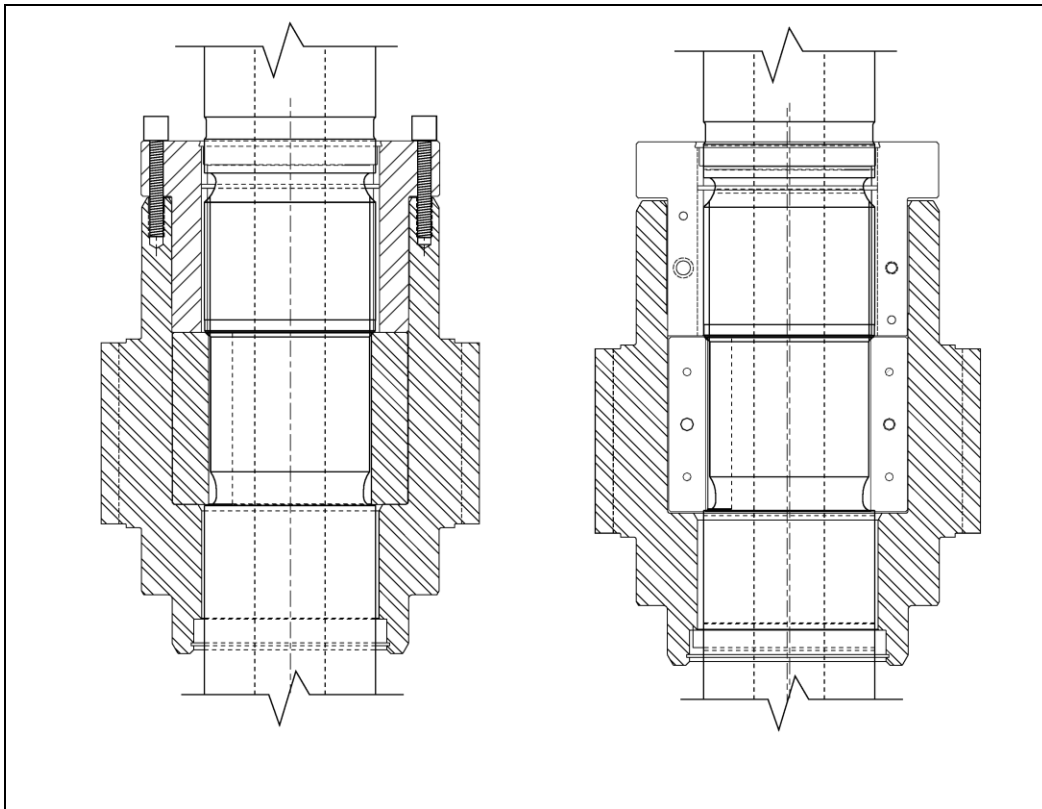


Figure 1: Original HMI gearbox quill connection

With the shift to horizontal drilling, the HMI top drive has been subject to increasingly demanding drilling programs. It was found that the connection from the drive gear to the quill’s drive bushing could begin to slip and wear and eventually require repairs. To improve this connection, a prototype MK1 design was designed and several units were produced and tested. The performance of these prototypes in the field was established and determined to be an improvement over the initial design, proving to extend service life in the more extreme drilling programs. The prototype MK1 design was incorporated into several production units beginning in 2012. Based on feedback from the production and testing teams, some modifications were made to the prototype MK1 design to improve

manufacturability and ease of service, resulting in the current standard MK1 design. These changes do not affect the performance of the design.

The MK1 quill connection design increases the torque transmission capacity of the gearbox quill connection. Instead of directly fastening the drive bushing to the gear, a clamping ring is added between the drive gear and the drive bushing. The 12 threaded holes on the quill gear are replaced with a buttress thread to which the clamping ring is assembled. The connection between the new drive bushing and the clamp ring is now sixteen 5/8 in.-11UNC cap screws on a 10.50 in. base circle diameter (BCD). Increasing the number and size of the cap screws increases the clamping force between the drive bushing and the gear, greatly reducing the potential for slippage and the resulting wear. This also increases the torque transmission capacity.

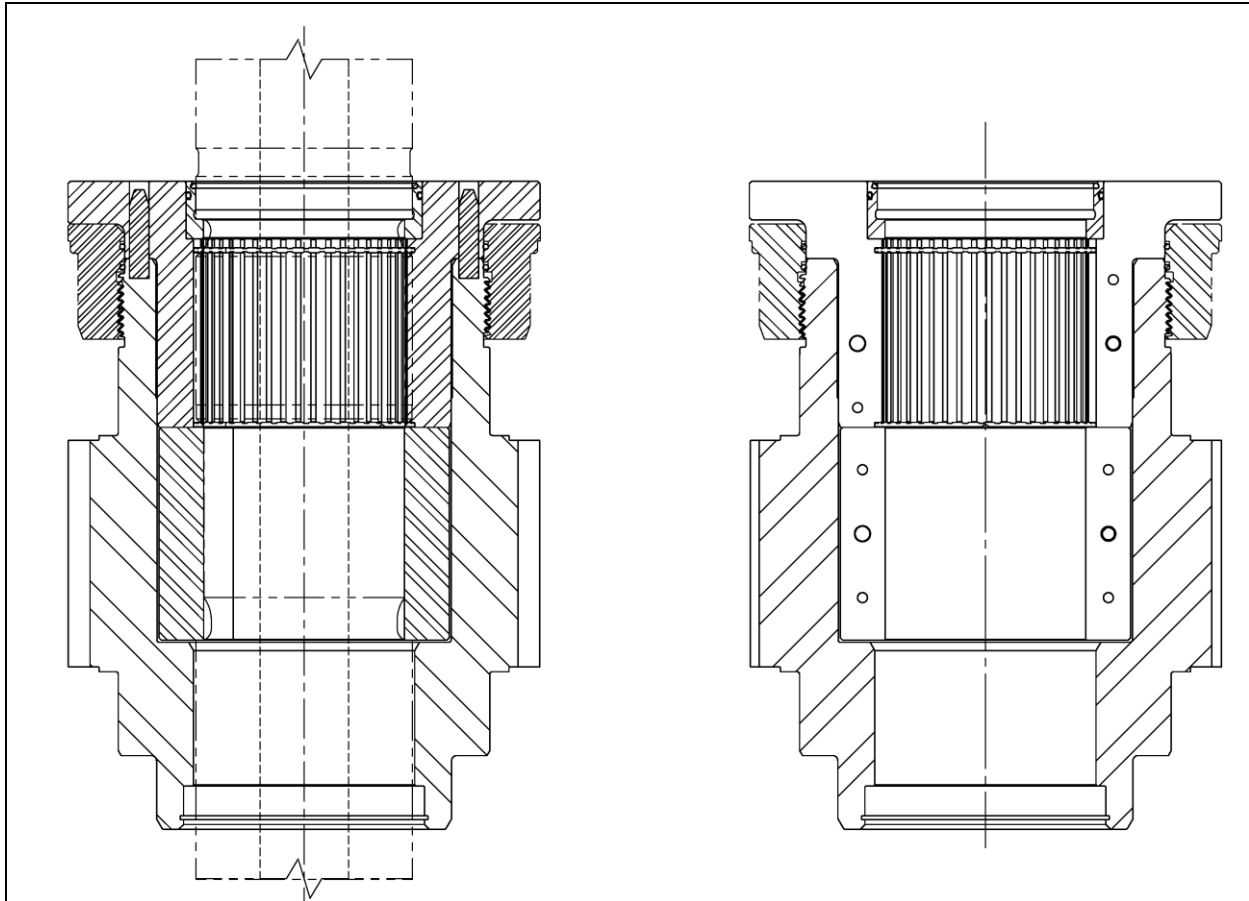


Figure 2: MK1 gearbox quill connection

AFFECTED PRODUCTS:

All TESCO 250-HMIS-475 Hydraulic Top Drives.

ACTION REQUIRED:

No action required. This bulletin is for information purpose only. Contact a local TESCO service center for more information regarding the MK1 quill connection design.

Version	Date (D/M/Y)	ECN	Description of changes
Rev 0	30/11/2013	212-0040, 212-0042	Initial release of document

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