

<b>Safety Bulletin</b>			 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: <a href="mailto:bulletins@tescocorp.com">bulletins@tescocorp.com</a> <a href="http://www.tescocorp.com">www.tescocorp.com</a> <a href="http://www.tescoparts.com">www.tescoparts.com</a>
<b>No: SB060</b>	<b>Rev: 0</b>	<b>Date: 18 July 2011</b>	
<b>250-HXI-700 Quill Pin Failure</b>			

**BACKGROUND INFORMATION:**

Two separate incidents have occurred in which an HXI Top Drive quill has suffered from a crack in the pin connection during operation.

The first quill was sent for analysis and the preliminary results indicate that the crack was initiated by a brittle fracture mechanism. Independent material testing confirmed that the material met TESCO's specification for toughness and it is therefore believed that the brittle fracture was the result of a transient condition and was likely the result of hydrogen embrittlement. Further, the most likely source of the hydrogen embrittlement was identified as the phosphating process used for coating the quill. The second failed quill will undergo the same analysis once received at TESCO's Manufacturing facility.

Both quills that have experienced this issue are from the same batch and as a precaution TESCO is undertaking to replace all quills from this batch. TESCO has made changes to its manufacturing process, including a post-phosphate hydrogen bake-out step, to eliminate the possibility of reoccurrence.

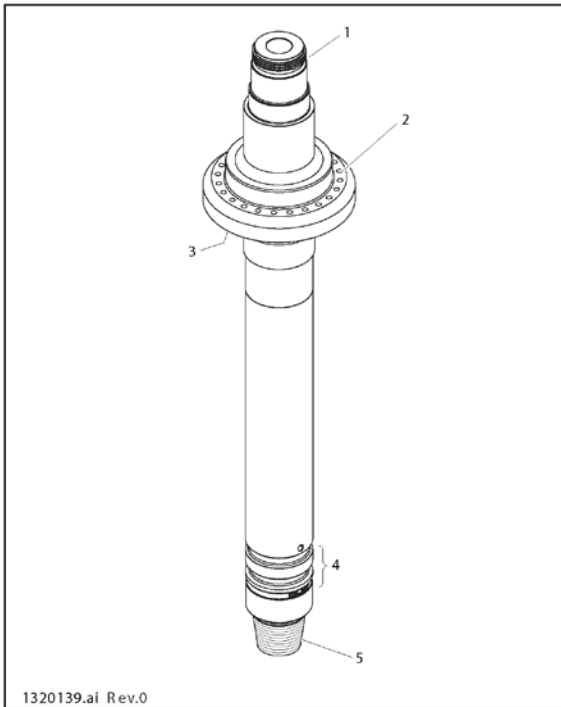
**AFFECTED PRODUCT:**

The following TESCO HXI Top Drive units are affected:

UNIT	SERIAL NUMBER
889	6-021235-2-1100008-1
894	6-021235-2-1100008-2
887	6-021235-2-1100008-3
886	6-021235-2-1100008-4
895	6-021235-2-1100008-5
885	6-021235-2-1100008-6

**RECOMMENDED ACTION:**

TESCO recommends that the customer immediately performs an MPI inspection of the six HXI Top Drive units and to continue inspections on a 60-day basis (as per HXI Maintenance Guide document # 1570015) until quill replacement is scheduled. TESCO is recommending that wet fluorescent magnetic particle inspection (WFMPI) be conducted on the lower portion of the quill including the pin, seal face, and the load nut grooves on this schedule. See below for inspection specifications.



Inspection Type	Description
A	<p>Visually inspect for:</p> <ul style="list-style-type: none"> <li>• Wear</li> <li>• deformation</li> <li>• cracks</li> <li>• corrosion</li> <li>• galling</li> <li>• heat damage</li> <li>• other irregularities</li> </ul> <p>If a crack is suspected, perform local paint strip and MPI inspection. All cracked components should be referred to TESCO Engineering for disposition.</p>
B	<p>Perform MPI or WFMPI for cracks. All cracked components should be referred to TESCO Engineering for disposition.</p>
C	<p>Return to a TESCO authorized service center for complete dimensional, visual, WFMPI/MPI inspection for recertification.</p> <p>Upon completion of Type C inspection, the inspection schedule starts at zero operating days.</p>

Point	Name	Frequency (Operating Days) and Inspection Type*				
		Every 60	At 250	At 500	At 750	At 1000
1	Threads on the lower gland nut and bore	—	A	A	A	C
2	Upper thrust surface	—	—	—	—	C
3	Lower thrust surface	—	—	—	—	C
4	Load nut grooves	—	—	—	—	C
5	Quill pin end and seal face	A,B	—	—	—	C

TESCO will notify customers when new quill replacements are available.

Version	Date (D/M/Y)	ECN	Description of Bulletin Changes
Rev 0	18/07/2011		Initial release of document

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