



Technical Bulletin			 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	
No: TB104	Rev: 0	Date: February 25, 2016		
Failure of 8x12" Torque Track Connector Pin			 TESCO	
<input type="checkbox"/> Internal Use Only		<input checked="" type="checkbox"/> External Use		<input checked="" type="checkbox"/> Mandatory

ATTENTION ALL CUSTOMERS/RENTERS/USERS OF ESI TOP DRIVES:
THIS BULLETIN CONTAINS IMPORTANT SAFETY AND TECHNICAL INFORMATION
CONCERNING POTENTIAL TORQUE TRACK CONNECTOR PIN FAILURE

NOTE: All numbers in parentheses are Tesco part numbers unless otherwise noted.

BACKGROUND INFORMATION:

During field operation of a Tesco ESI Top Drive, a dropped object incident occurred where a connector pin on an 8x12" torque track (Figure 1) had broken and the sheared end fell to the rig floor.

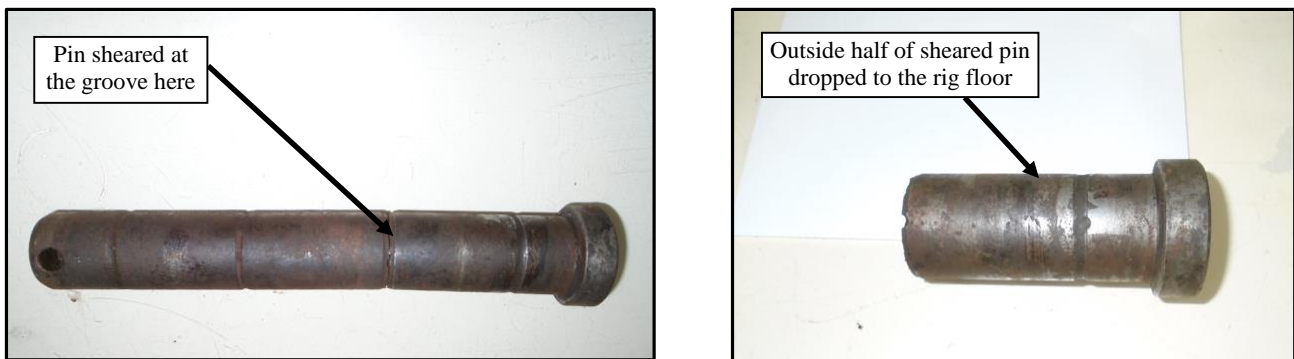


Figure 1: 8x12" torque track connector pin sheared at the second groove closest to the pin head

While drilling a 28" surface hole section, prolonged vibration caused the connector pin (13902) of a second section of torque track to shear at the second groove closest to the pin head. One piece of the pin weighing 2.2 lb. (1 kg) fell onto rig floor near the rotary table from a height of approximately 20 ft. (6.1 m). The other half of the pin remained secured in the torque track dual-pin connector.

No injuries to personnel or additional damage to equipment were reported. This was an isolated occurrence from a single customer, and there have not been any other incidents reported to date. Upon further investigation, it was revealed that the standard weekly maintenance schedule of inspecting torque track pin connections may not have been routinely followed, which could have contributed to the pin's gradual loss of structural integrity that resulted in it shearing.



MEMBER OF **DROPS**

Copyright © 2016 Tesco Corporation. TESCO® is a registered trademark in the United States and Canada. Casing Drive System™, CDS™, Multiple Control Line Running System™ and MCLRS™ are trademarks in the United States. All information in this document is proprietary and confidential, and shall remain the sole property of Tesco Corporation. This document shall not be used, copied, or reproduced in whole or in part, nor shall be revealed in any manner to outside parties without prior written permission from Tesco Corporation.

AFFECTED PRODUCTS:

All 8x12" torque track connector pins (13902) used on Tesco ESI Top Drives (Figure 2).

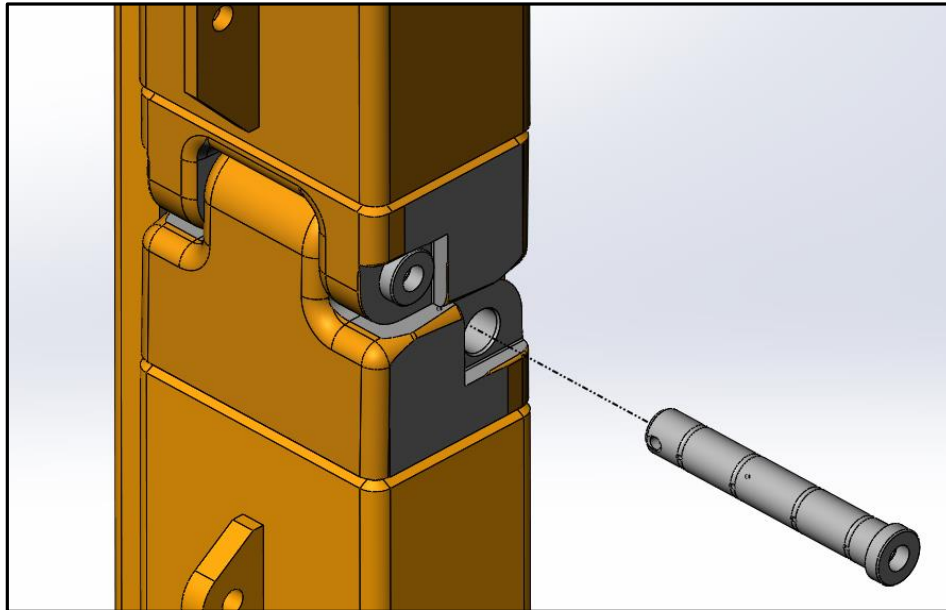


Figure 2: 8x12" torque track connector pins

The connector pins are also used on Tesco HCI, HXI, ECI and EXI Top Drives.

ACTION REQUIRED:

As an active member of the Dropped Objects Prevention Scheme (DROPS) initiative, Tesco adopts and utilizes industry best practices and guidelines outlined by DROPS for safe operation of Tesco equipment. Tesco works with customers on an ongoing basis to identify potential dropped object hazards, and is fully committed to raising the awareness and understanding of their inherent risks and consequences.

Customers must adhere to and follow the guidelines described in the Tesco Installation and Operation Guides for proper torque track installation and operation. The incident described above occurred on the ESI Top Drive and highlights the potentially severe consequences that can occur on other top drives as a result of torque track users not following Tesco's recommended maintenance schedules. Therefore, all customers should visually inspect torque track pin connections for surface defects such as wear, deformation, cracks and corrosion, and lubricated at least once every operating week as specified in the *Maintenance and Service Schedules* chapter of a unit's Maintenance Guide, see Figure 3.



MEMBER OF **DROPS**

Weekly Torque Arrest System Service

The following visual inspections should be performed *at least once every operating week*. More frequent inspection might be required if operating the top drive in harsh or demanding drilling environments.

Inspect	For
All bolts and threaded rods	damage or decay, tightness, secondary retention
All pinned connections	damage, corrosion, decay, secondary retention
Torque bushing	damage, secondary retention
Torque bushing clearance	amount of clearance (it might be necessary to remove a torque bushing shim if there is more than 1/4 inch clearance between the torque bushing and the torque tube, or if there is excessive torque bushing movement)
Torque bushing liner	wear (the bushing liner must be replaced before the liner mounting bolts come in contact with the torque tube)
Torque track pin connections	damage, lubrication, secondary retention with lockwire

Figure 3: Torque track pin connections should be inspected on a weekly basis

If connector pins are showing excess wear, they must be replaced immediately. Any other components that are found to have excessive wear or indications of cracking must be replaced or repaired at the earliest convenience to maintain the integrity of the torque arrest system.

In the *Non-Destructive Testing and Inspection Schedules* chapter of a Maintenance Guide (Figure 4), all components of the torque arrest system, including torque track connector pins, must be subjected to periodic magnetic particle inspection (MPI) by a qualified inspector. The pins should be inspected for surface defects (wear, deformation, cracks, corrosion, galling, heat damage, etc.). If a crack is suspected, a local paint strip and MPI inspection must be performed. All cracked components should be referred to Tesco.

Inspection Type	Description
A	<p>Visually inspect for:</p> <ul style="list-style-type: none"> • wear • deformation • cracks • corrosion • galling • heat damage • other irregularities <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	Perform MPI or WFMPI for cracks. All cracked components should be referred to Tesco Engineering for disposition.
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>



MEMBER OF **DROPS**

Point	Name	Frequency (Operating Days) and Inspection Type*				
		Every 30	At 250	At 500	At 750	At 1000
1	Torque bushing side plates	—	A	A	A	C
2	Torque bushing front plate	—	A	A	A	C
3	Extend frame	—	A	A,B	A	C
4	Redi-rod nuts (torque arrest system)	—	A	A	A	Replace
5	Torque beam clamp bars	—	A	A	A	C
6	Torque track pins	—	A	A	A	C
7	Torque track connectors	—	A	A	A	C
8	Torque track	—	A	A	A	C
9	Torque bushing bolts/nuts	—	—	—	—	Replace
10	Extend arms	—	A	A,B	A	C
11	Torque anchor beam	—	A	A	A	C
12	T-bar clamp plate and bolts	—	A	A	A	C
14	T-bar	—	A	A,B	A	C
15	Extend frame mounts	—	A	A	A	C
16	Extend frame bolts	—	A	A	A	Replace
17	Torque track mounting plate on bottom section; include all bolt holes	—	A	A,B	A	C
	T-bar extension (if applicable)	—	A	A	A	C
18	Torque track lifting bars	—	B	B	B	C
19	Sling hanging assembly	B	—	—	—	—

Figure 4: MPI schedule for torque track components

TESCO SUPPORT:

Tesco encourages all customers to adhere to the DROPS best practice guidelines (www.dropsonline.org) and follow the operation and inspection intervals outlined in the respective Tesco Installation, Operations and Maintenance Guides. For further information, or additional copies of the maintenance guides, contact a local Tesco service center.



MEMBER OF **DROPS**

Copyright © 2016 Tesco Corporation. TESCO® is a registered trademark in the United States and Canada. Casing Drive System™, CDS™, Multiple Control Line Running System™ and MCLRS™ are trademarks in the United States. All information in this document is proprietary and confidential, and shall remain the sole property of Tesco Corporation. This document shall not be used, copied, or reproduced in whole or in part, nor shall be revealed in any manner to outside parties without prior written permission from Tesco Corporation.