


<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: SB075</b>	<b>Rev: 3</b>	<b>Date: February 13, 2014</b>	
<b>Hanger Pin Dropped Object Incident – Torque Track, Telescoping Top Section Hazard</b>			
<input type="checkbox"/> Internal Use Only		<input checked="" type="checkbox"/> External Use	<input type="checkbox"/> Mandatory <input checked="" type="checkbox"/> Recommended

**Note:** All numbers in parentheses are TESCO part numbers unless otherwise noted.

## BACKGROUND INFORMATION

An incident occurred where the hanger pin (15930, Figure 1) of a torque track, telescoping top section became dislodged during drilling. The hanger pin fell to the rig floor where it struck a rig worker on the foot causing injury. The safety bolt pin retainer was not found after the incident.



**Figure 1: Hanger pin (15930)**

The torque track, telescoping top section (1340104, Figure 2) is a two-part torque track sub-assembly that is installed at the top of the torque track installation. The upper portion (item 2) is suspended from a torque track hanging lug by means of a torque track hanging sling. The lower portion (item 1) is suspended from the upper portion by means of a hanger pin (item 3) that is installed at a particular index hole through the upper portion. The index location is selected so that the lower portion is held at a fixed height beneath the crown water table (the underside surface of the mast crown).

The hanger pin (item 3) is retained by a safety bolt pin retainer that provides both primary retention and secondary retention. The primary retention is by means of a 1/4" Grade 8 bolt and 1/4" Grade 8 nylon lock nut (items 4 and 5, respectively). The secondary retention is by means of a 1/16" cotter pin (item 6).

Version	Date (D/M/Y)	ECN	Description of changes
Rev 0	12/03/2013	127-0522	Initial release of document
Rev 1	30/05/2013	197-0039	Replaced pins, added retention
Rev 2	25/07/2013	097-0258 / 197-0046	Corrected the hanger pin part number, updated drawings
Rev 3	21/01/2014	157-0042	Added interim field solution for non-ESI track installations (see page 4)

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**Figure 3: Pin rotation**

In extreme circumstances, vibrations can cause the pin (item 3 in Figure 2) to rotate. This slowly damages the nut and bolt (items 4 and 5 in Figure 2). See also Figure 3, above. This damage would be apparent during daily visual inspections as per the TESCO Maintenance Guides.

## AFFECTED PRODUCTS

Affected products included all TESCO 12" x 8" torque track installations with torque track, telescoping top sections that were manufactured and installed since March 2002.

TESCO Part No.	Description	Serial No.	Mfg. Date
16124	Track,Torque,Flange (Std),Top,Adjustable,12" x 8" x 222" to 316"	All	All
1340104	Track,Torque,Flange (Std),Top,Adjustable,12" x 8" x 222" to 316",SWL 23 Ton	All	All
1340036	Track,Torque,Top,Dual-Pin,Adjustable,8" x 12" x 223-5/8" to 319-5/8",SWL 23 Ton	All	All
1680006	Track,Torque,Low Profile,Top Section,12" x 8" x 222" to 318"	All	All
5023786	Track,Torque,Flg (STD),Top,Adj,300mm x 200mm x 222" to 316",SWL 23 Ton	All	All
5016266	Track,Torque,Top,Dual Pin,Adjustable,12" x 8" x 223 5/8" to 319 5/8", ESI	All	All

## ACTION REQUIRED

### NON-ESI Track Installations

For **Non-ESI track installations** (16124, 1340104, 1340036, 1680006 and 5023786), **replace these parts** (see Figure 2):

- hanger pin (15930)
- cap screw (16435)
- hex nut (9785)
- cotter pin (16434)

**with the following parts** (see Figure 4):

- hanger pin (5032958)
- retention plate (5033781)
- cap screws (5965)

Note that the cap screws (5965) must be safety wired; refer to TESCO standard STD0045 for more information.

The top torque track (item 1 on Figure 4, TESCO part number 720337) should be modified with two 3/8"-16 UNC tapped holes to secure the retention plate (5033781). See Figure 5. The hanger pin (5032958) and retention plate (5033781) are shown in Figure 6.

**IMPORTANT: All torque arrest components should be visually inspected by rig personnel as outlined in the *Maintenance and Service Schedules* chapter of the TESCO Top Drive Maintenance Guides. There are both daily and weekly service requirements.**

**IMPORTANT: All torque track, telescoping top sections (16124, 1340104, 1340036, 1680006, 5023786 and 5016266) must be inspected IMMEDIATELY for missing, damaged, or improperly installed retention systems.**

The above action is a viable solution if the telescoping section of track is delivered to a TESCO facility or machine shop and performed during top drive recertification. The following action outlined below is a proven interim solution that is suitable for implementation in the field:

1. Remove 1/4" fastener hardware and replace with 5/16" fastener hardware.
2. Use 5/16" - 18 UNC socket head cap screw (4477) x 2-3/4" length, drill through the thread for cotter pin per TESCO drawing 55251107. Use two 5/16" hardened narrow washers (16585) and one 5/16" - 18 UNC Grade 8 nylon lock nut (9786), and one 3/32" cotter pin (15608).
3. If the 5/16" screw cannot fit in the hole, it will be necessary to cross drill the hole with a 21/64" bit.



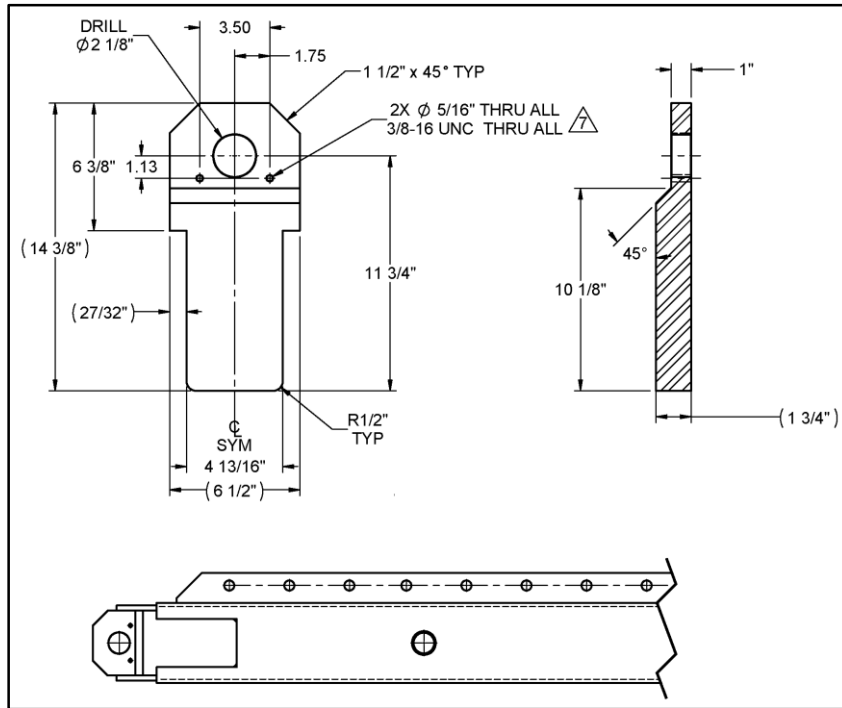
A package of 5/16" retainer bolts and hardware will be available for customers to implement the interim field solution. When the top drive is due for recertification, TESCO recommends customers upgrade to the new pin assembly during that time.

Customers are responsible for delivering the telescoping section of track to a TESCO facility at their convenience.

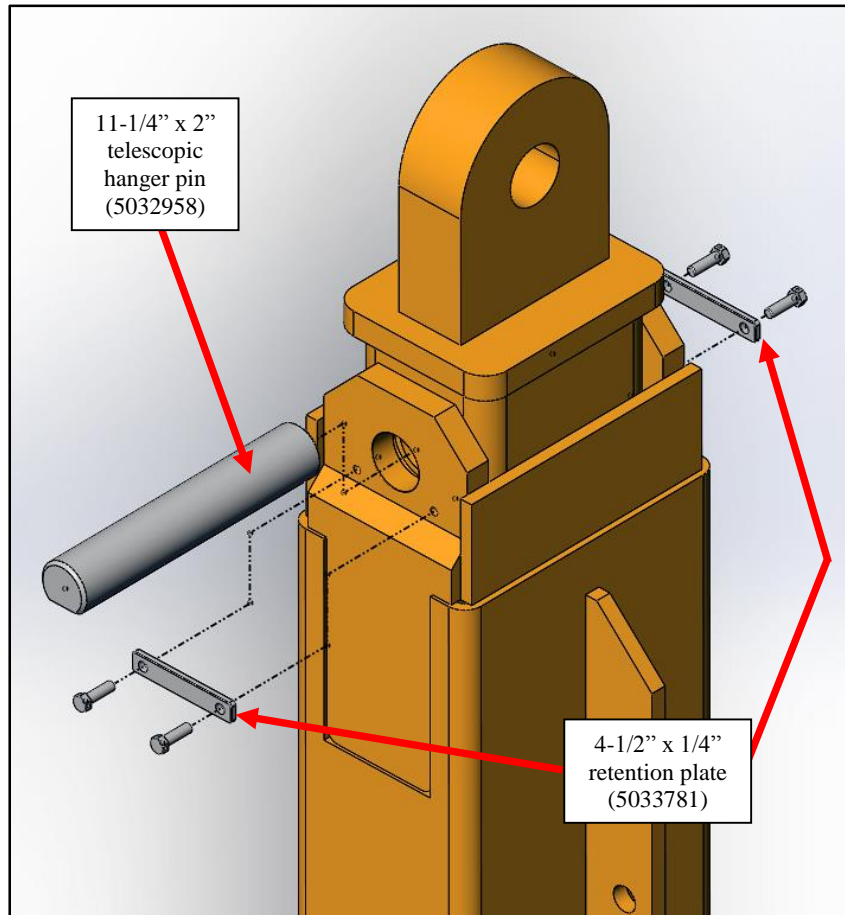
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**Figure 5: Standard torque track, top section (720337)**



**Figure 6: New telescopic hanger pin (5032958) and telescopic pin retention plate (5033781)**

## **ESI Model Track Installations**

For **ESI track installations** (5016266), **replace these parts** (See Figure 7):

- hanger pin (5016269)
- cap screw (731069)
- hex nut (9785)
- cotter pin (16434)

**with the following parts** (see Figure 8):

- hanger pin (5034804)
- pin cap (5034806)
- cap screws (3725)

Note that the cap screws (3725) must be safety wired. Refer to TESCO Standard STD0045 for more information.

The hanger pin (5034804) and the pin cap (5034806) appear in Figure 8.

**IMPORTANT: All torque arrest components should be visually inspected by rig personnel as outlined in the *Maintenance and Service Schedules* chapter of the TESCO Top Drive Maintenance Guides. There are both daily and weekly service requirements.**

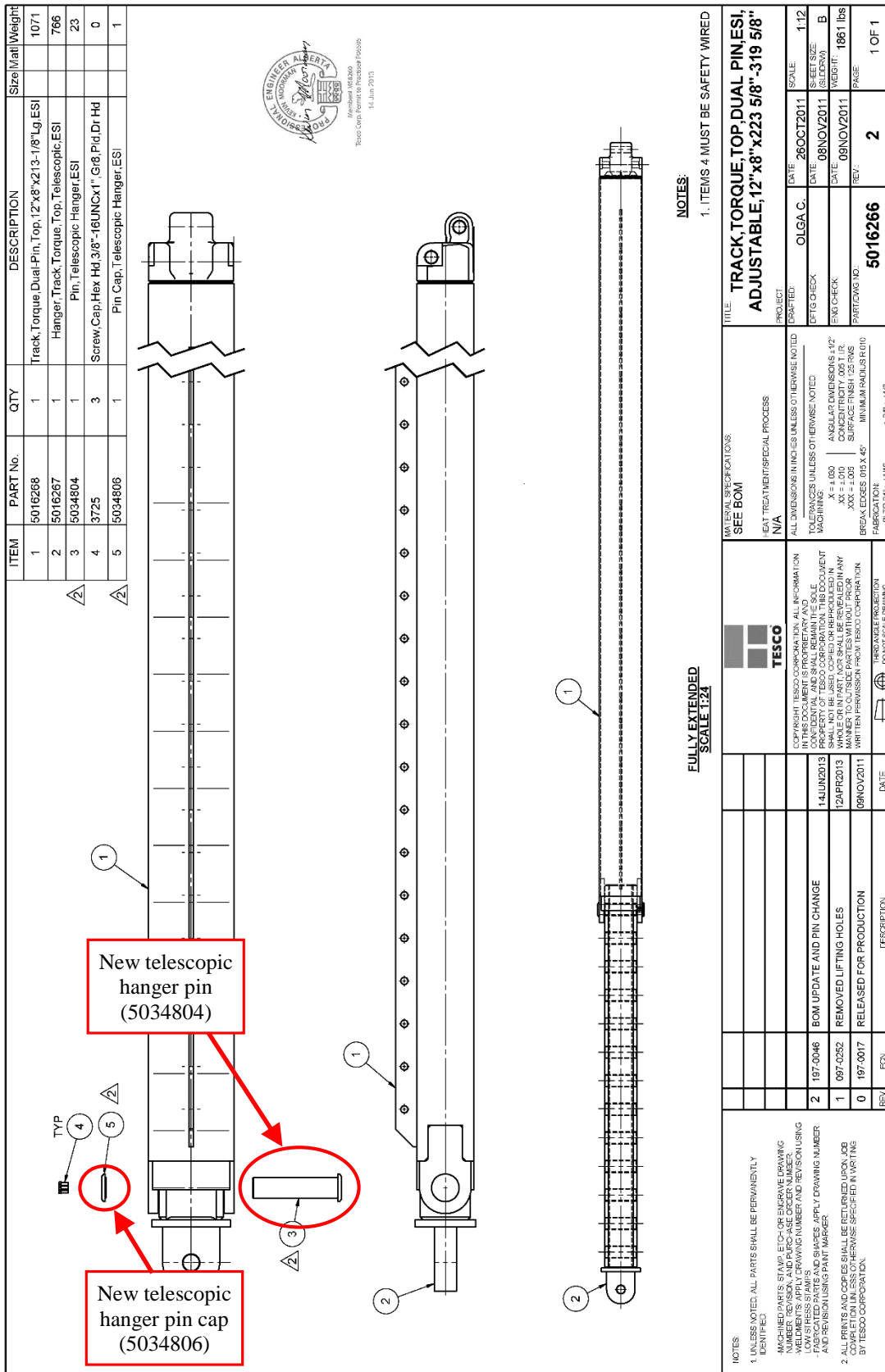
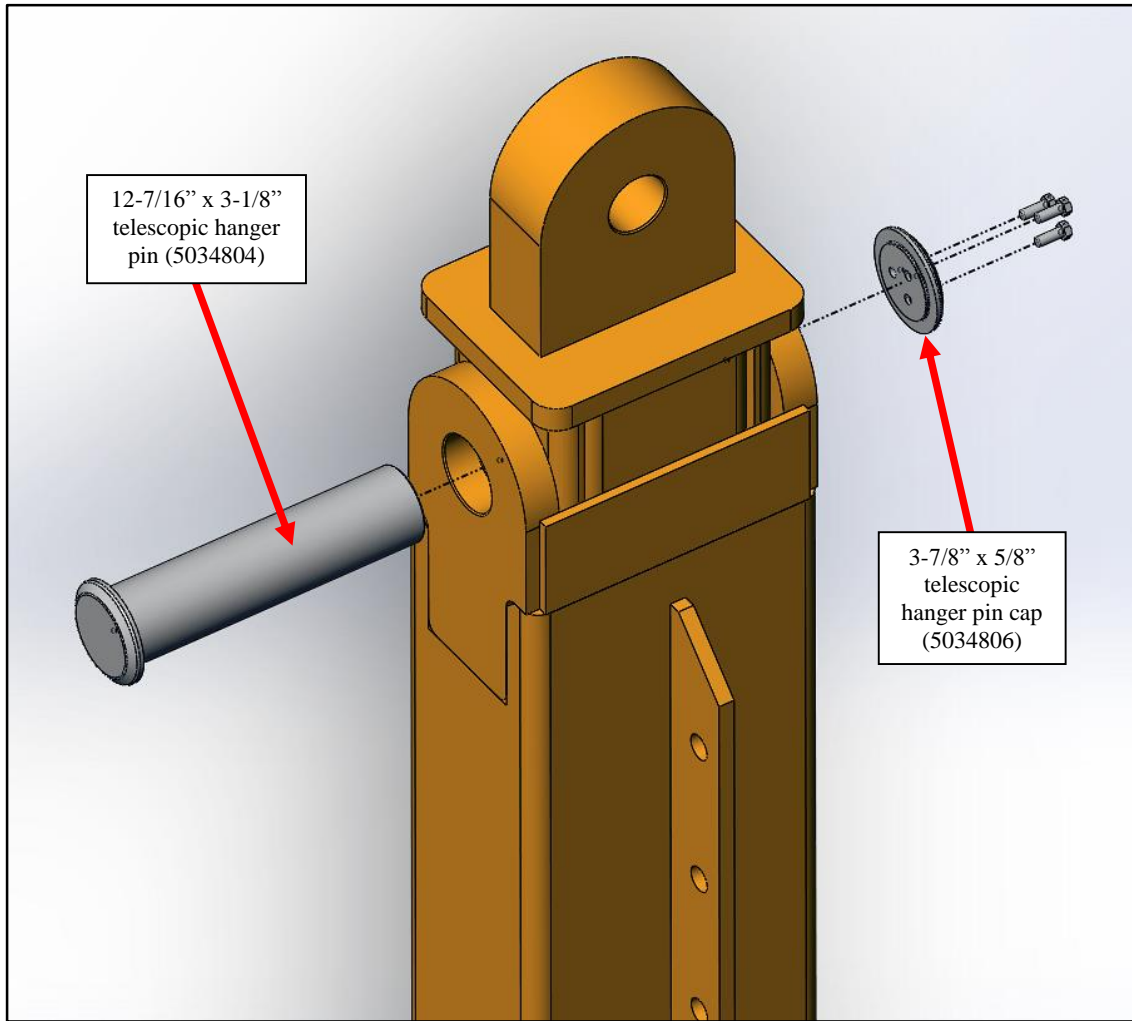


Figure 7: ESI torque track with new hanging pin (5016266)





**Figure 8: New ESI telescopic hanging pin (5034804) and telescopic hanging pin cap, retention method (5034806)**