## Safety Bulletin

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Description: Swivel Sub Clamping Mechanism



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: <u>bulletins@tescocorp.com</u>

www.tescocorp.com www.tescoparts.com

## **BACKGROUND INFORMATION:**

An incident recently occurred in which the thrust bearing failed in a customer-owned oilfield swivel. The swivel was being used to suspend a TESCO ECI-900 Top Drive. Prior to the incident the top drive had been observed to be working progressively harder as it rotated the drill string.

During the attempt to rotate the top drive in reverse and break the drill pipe connection [at the saver sub], the swivel crossover sub broke out as the torque was increased above the original swivel crossover sub make-up torque. A subsequent investigation revealed that the thrust bearing in the swivel had become completely seized. The seized swivel contacted the torque tube, which acted as a back-up tong, allowing for this unexpected event to occur. This had the effect of the top drive being left un-suspended in the mast, resulting in it falling to the rig floor.

## AFFECTED PRODUCT:

All TESCO HC, HCI, HS, EC, and ECI Top Drives that are not equipped with an integrated swivel.

## RECOMMENDED ACTION:

The driller must be aware of the breakout torque of the drill pipe compared to that of the swivel/top drive connection torque at all times.

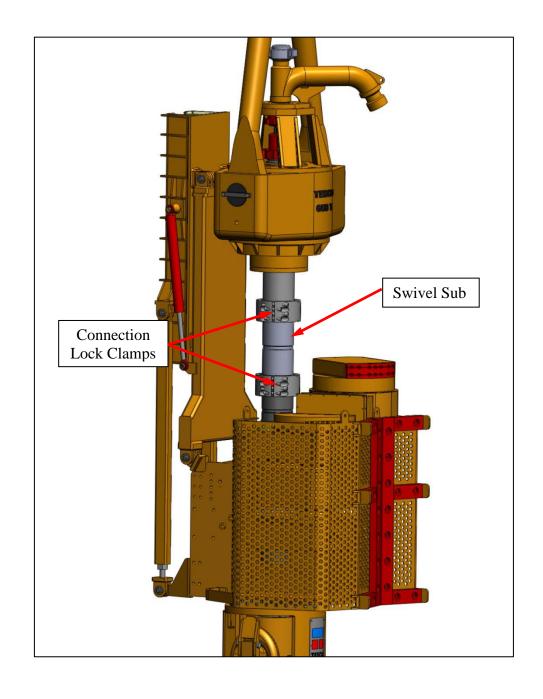
It is imperative that all rotational components of the swivel including the thrust bearing are properly maintained and functioning per OEM specifications as not to become locked or seized. Customers are reminded that attaching a top drive below a swivel via an API left-hand connection are at risk of separating the connection between the swivel and the top drive when the top drive is rotated in reverse/counter-clockwise rotation. In the event the API left-hand connection between the swivel and top drive becomes loose and/or unscrewed, the top drive is at risk to fall to the rig floor.

If abnormal conditions such as a locked or seized swivel are noted then the unit should not be operated in the reverse direction without the use of a connection lock clamp.

TESCO manufactures many models of swivel subs and corresponding connection lock clamps, and can design and fabricate virtually any configuration necessary according to customer requirements. The figure below shows the ECI-900 Top Drive with swivel sub and connection lock clamps.

Contact TESCO for more information on installing swivel subs and clamps.

Version	Date (D/M/Y)	ECN	Description of Bulletin Changes
Rev 0	31/05/2011		Initial release of document



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