

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 www.tescoparts.com
No: TB114	Rev: 0	Date: December 19, 2016	
Over-Torqued Bolts on Sprockets of Catwalk TAC-45 Carriage Assembly			
<input type="checkbox"/> Internal Use Only <input checked="" type="checkbox"/> External Use		<input checked="" type="checkbox"/> Mandatory <input type="checkbox"/> Recommended	

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

BACKGROUND INFORMATION

A recent incident on a Tesco Automated Catwalk TAC-45 occurred whereby the drive chain sprocket (bushing) and sprocket hub assembled on the drive chain shaft loosened and separated from the unit’s carriage assembly during operation. An investigation revealed that the three cap screws fastening the sprocket hub to the drive chain sprocket appear to have been over-torqued well beyond the recommended limits

There were no injuries to personnel. This is considered an isolated case as there have not been any other reported incidents in the operating fleet of TAC-45 Catwalks.

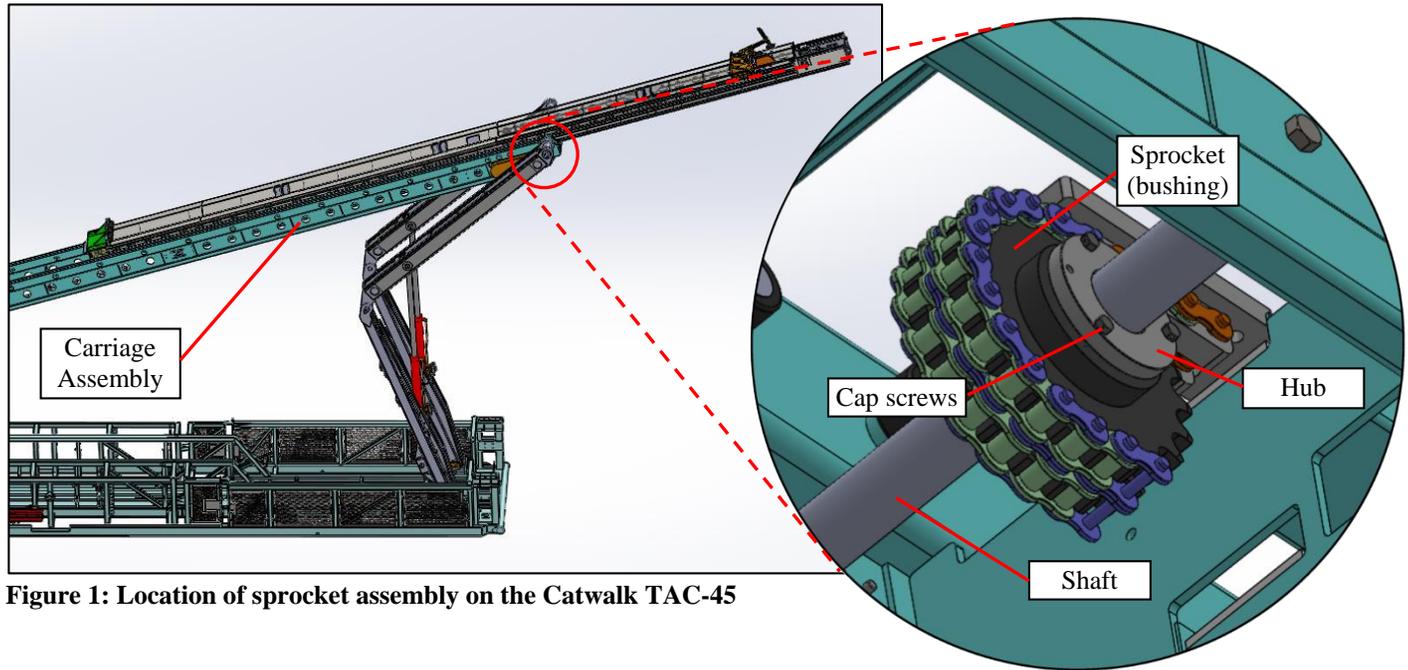


Figure 1: Location of sprocket assembly on the Catwalk TAC-45

AFFECTED PRODUCTS

All Tesco Automated Catwalk TAC-45 units.

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ACTION REQUIRED

Tesco recommends checking the screws and sprocket assembly for any premature wear or cracks, and replace if necessary:

- The Catwalk TAC-45 Maintenance Guide (5041567) outlines recommended weekly and monthly inspections of sprockets and screws. If the components require replacing, reference the points below and follow the manufacturer instructions in the Appendix for proper removal and installation. There are two sprockets (5050322), each affixed to the rear and front drive chain shaft, respectively. Each sprocket is fastened with three screws, therefore six screws in total should be inspected at the pre-defined intervals.
- If the existing screws in use are Grade 3 type, Tesco recommends replacing them with Grade 8 full-threaded screws (5063956) with drilled heads. If the screws are already Grade 8 type but do not have drilled heads present, then drill appropriate size holes into the head of each screw.
- Ensure the screws are fully tightened on the keyway and are properly torqued to sprocket/bushing manufacturer specifications, size “R” as shown in the Appendix: 348 in.lb. (29 ft.lb).
- Screws tightened and torqued to the proper spec leaves a small gap between the sprocket and the flange of the bushing that prevents the two from coming into contact with one another (Figure 2).
- After the screws are securely fastened, install safety wire through the drilled heads.

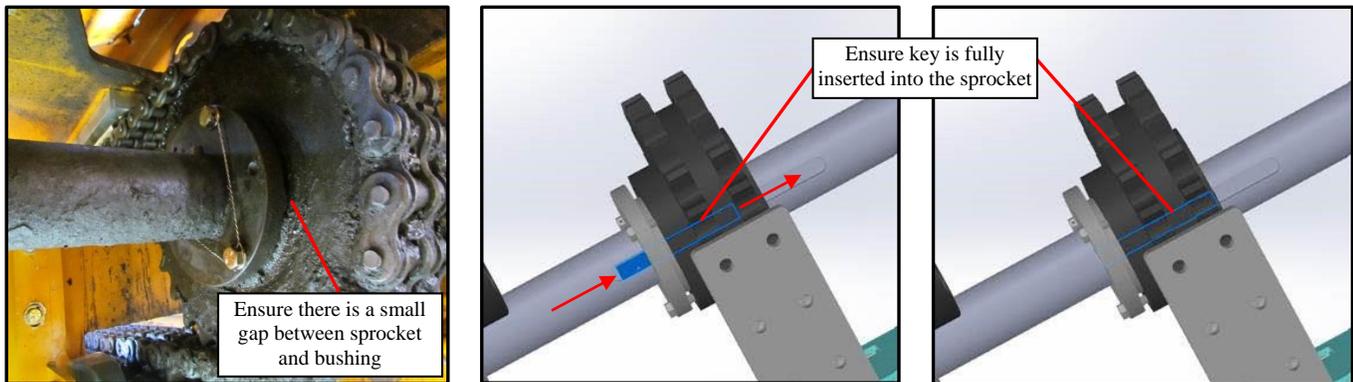


Figure 2: Sprocket assembly properly assembled, torqued and safety-wired, with key fully inserted into sprocket

NOTE: Follow all recommended capacity and safety guidelines in the Catwalk TAC-45 System Description (5041565) and Installation / Operations Guide (5041566).

For more information regarding the sprocket assembly, contact your local Tesco service center.

Version	Date (D/M/Y)	ECN	Description of changes
Rev 0	19/12/2016	157-0092	Initial release of document

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**MST®
Bushings**

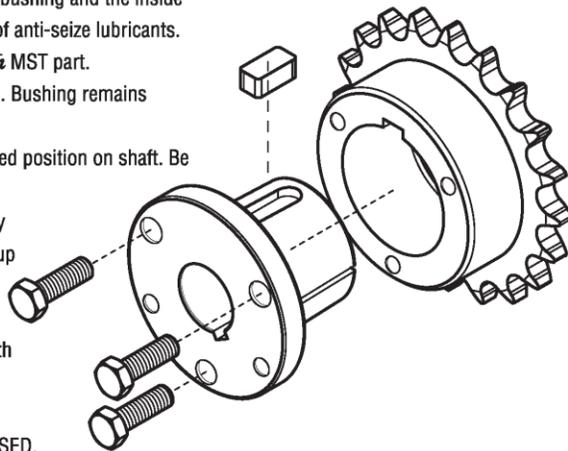
Martin

Martin **MST BUSHING
INSTALLATION & REMOVAL INSTRUCTIONS**

The MST bushings are easy to install and remove. They are split through the barrel and have a taper to provide a true clamp on the shaft. They are keyed to both the shaft and the hub to help during "blind" installations.

INSTALLATION

1. Be sure the tapered cone surfaces of the bushing and the inside of the driven product are clean and free of anti-seize lubricants.
2. Place bushing in sprocket or other *Martin* MST part.
3. Place cap screws loosely in pull-up holes. Bushing remains loose to assure sliding fit on shaft.
4. With key on shaft, slide sprocket to desired position on shaft. Be sure heads of capscrews are accessible.
5. Align sprocket. Tighten screws alternately and progressively - until they are pulled up tight (see table below). Do not use extensions on wrench handles. Do not allow sprocket to be drawn in contact with flange of bushing. There should be a gap between bushing flange and sprocket.



CAUTION: THIS GAP MUST NOT BE CLOSED.

**WRENCH TORQUE VALUES FOR
TIGHTENING BUSHINGS**

MST Bushing Size	Size of Cap Screw	Wrench Torque in. / lbs.
G	1/4 x 5/8	95
H	1/4 x 3/4	95
P	5/16 x 1	192
Q	3/8 x 1-1/4	348
R	3/8 x 1-3/4	348
S	1/2 x 2-1/4	840
U	5/8 x 2-3/4	1680
W	3/4 x 3	3000

REMOVAL

1. Loosen and remove capscrews.
2. Insert capscrews in tapped removal holes.
3. Tighten inserted screws until sprocket is loose on shaft.
4. Remove sprocket from shaft.



WARNING: USE OF ANTI-SEIZE LUBRICANT ON TAPERED CONE SURFACES OR ON BOLT THREADS WHEN MOUNTING MAY RESULT IN DAMAGE TO SHEAVES AND SPROCKETS. THIS VOIDS ALL MANUFACTURER'S WARRANTIES.

WARNING: Because of the possible danger to person(s) or property from accidents which may result from the improper use of products, it is important that correct procedures be followed: Products must be used in accordance with the engineering information specified in the catalog. Proper installation, maintenance and operation procedures must be observed. The instructions given above must be followed. Inspections should be made as necessary to assure safe operation under prevailing conditions. All rotating power transmission products when used in a drive are potentially dangerous and must be guarded by the user as required by applicable laws, regulations, standards, and good safety practice. (Refer to ANSI Standard B15.1.)