

TEC-LOCK BTC ANCILLARY SPECIFICATION

SECTION	V	
Prepared By	ED	09/13/18
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GM QA	GJR	09/13/18
REVISION	000	09/14/18

SUBJECT:

COUPLING MAKE-UP

1.0 SCOPE

1.1 This document sets forth the specification for the mill end make-up or bucking of **TEC-LOCK BTC** connectors.

2.0 DEFINITION

2.1 Make-up shall be defined as the power tight application of a coupling or box connector to a pin connector.

3.0 EQUIPMENT

- 3.1 The following list of equipment is required in the making-up or the bucking-on of couplings to pin connectors.
 - 3.1.1 Appropriate size, grade, type box connector, or coupling to match the pipe and pin connector.
 - 3.1.2 An adequate supply of clean, uncontaminated Best-O-Life 72733 or any other API 5A3 modified thread compound.
 - 3.1.3 Thread lubricant application brushes (Model 58235 moustache brush recommended.)
 - 3.1.4 Power tongs capable of producing the required torque at 5 15 RPM.
 - NOTE: The power and back-up tongs shall have sufficient dies, evenly spaced around the coupling and pipe circumferences, so that an even gripping pressure is applied, both axially and circumferentially, to prevent distortion to the connection.
 - 3.1.5 Latest Hunting sales drawing with specified torque values for the appropriate size, weight and grade product of **TEC-LOCK BTC**.
 - 3.1.6 **OPTIONAL** Torque turn monitoring system.

4.0 CERTIFICATION

4.1 The torque unit shall be calibrated for accuracy every four (4) months.

5.0 MAKE-UP PROCEDURE

- 5.1 Thoroughly clean and visually inspect both sides of the connection to be made-up.
 - 5.1.1 Ensure that the pin thread start and full form threads are free from tears and burrs.
 - 5.1.2 Ensure that the coupling or box connector is free from burrs or tears on the starting threads and throughout the full form thread length.
 - 5.1.3 Both connectors shall be free of any debris such as chips, shavings, dirt or other foreign particles that could create galling or damage to the connection during make-up.
- 5.2 Apply a light to moderate, even coating of API MODIFIED THREAD COMPOUND to cover the <u>full box/coupling threaded surface</u> and the thread runout of the pin connector, per API MODIFIED THREAD COMPOUND Application Procedures (see Figure A).

Thread Compound Application TKC-LOCK BTC

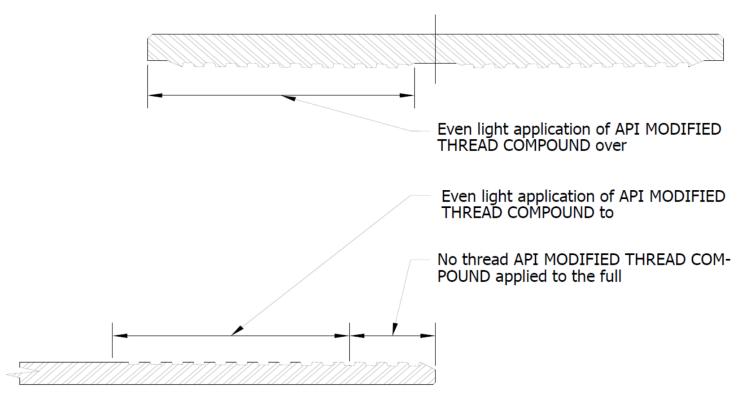


Figure A

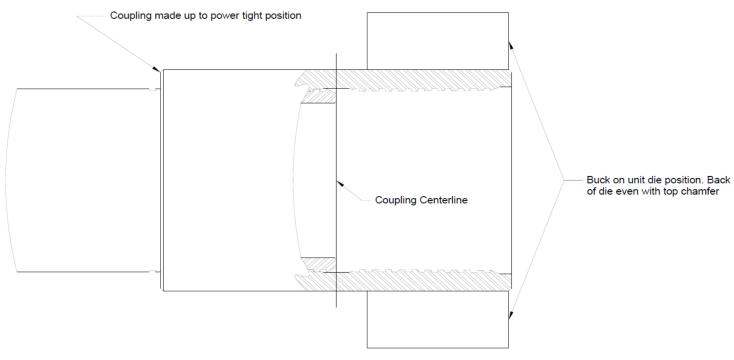


Figure B



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NOTE: A light to moderate, even coating of thread compound is defined as all thread surfaces, root and crest, and pin face/ torque shoulder covered with an even coating of threadcompound. However, the thread form should remain clearly visible.

- Do Not Use Bottle Brush
- Preferred Moustache Brush #58235
- Alternate Acceptable Modified Paint Brush
- 5.3 Apply the box or coupling to the pin end by hand to the hand-tight position.
- 5.4 Position the connection in the power tongs. See Figure B for the proper buck on unit die position.
- 5.5 Apply the specified torque to the connection at 5-15 RPM. Make-up speed should not exceed 15 rpm. Make-up speed should not vary excessively during make-up and should be continuous with no gear changing.

NOTE: The TEC-LOCK BTC connection is a position make-up connection, and the pin connector on the mill end shall be located in the middle of the coupling (see Figure B and D). The tolerance is "Make-up Loss Length -1/32" - 1/8".

- 5.6 **OPTIONAL** Make-up Torque/Turn Monitoring
 - 5.6.1 Optional Torque-Turn Equipment A torque-turn /time or torque/turn monitoring system may be utilized. Monitoring equipment should be capable of resolving torque to 1/100th of a turn increments as a minimum but equipment capable of resolving torque to 1/1000th of a turn should be utilized when available. An enhanced computer display should be part of the torque-turn monitoring equipment and should be utilized to monitor make-up. The load cells used with the torque monitoring equipment should be calibrated every four (4) months, traceable to the appropriate national standard.
 - 5.6.2 If the optional torque/turn monitoring equipment is used, a make-up torque/turn graph should be generated for every connection.

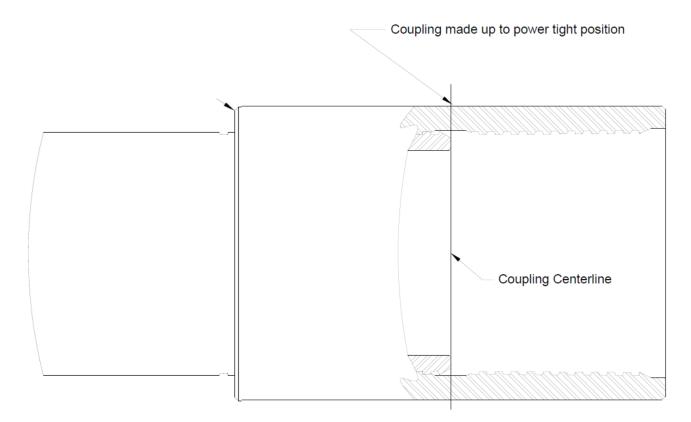
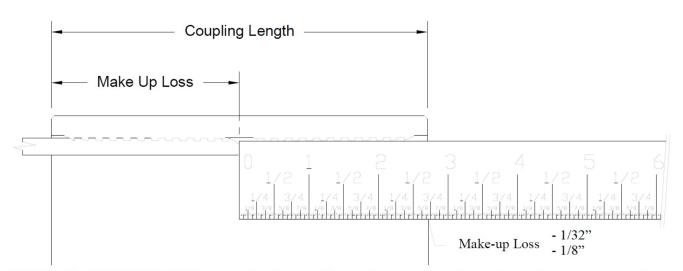


Figure C



NOTE: The TEC-LOCK BTC connection is a position make-up connection, and the pin connector on the mill end shall be located in the middle of the coupling. The tolerance is: "Make-up Loss Length -1/32" - 1/8".

Figure D



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NOTE: If an appreciable amount of thread lubricant is being pushed to the tube ID and/or the tube OD during make-up, too much thread lubricant is being applied to the connection.

NOTE: The TEC-LOCK BTC connection is a position make-up connection. The internal torque shoulders on box accessories determines the correct make-up position on accessory connections.

6.0 MAKE-UP ACCEPTANCE AND REJECTION

- 6.1 For an acceptable make-up both position and torque requirements must be met.
 - 6.1.1 The criteria for proper make-up shall be as described in Section 5.5 of this document.
 - 6.1.2 The torque applied to the connection should meet the minimum published torque when the position requirements are met.
 - 6.1.3 Accessory connections must exhibit a positive shoulder; pin face to box shoulder engagement. The delta torque of the shouldered connection shall be a minimum of 10% of the actual shoulder torque. The maximum published torque may be exceeded on thick wall accessories but shall not exceed 80% of the published minimum yield torque.
- 6.2 Connections which do not meet the criteria of Paragraph 6.1 should be set aside and a Hunting representative contacted as soon as possible.
- 6.3 Following buck-up, the ovality or out-of-roundness shall be within the specified manufacturing tolerances for the product when measured on the open end of the coupling.
- 6.4 End drift the made-up connection in accordance with the Hunting "Full Length Drift/End Drift Inspection Procedure" (Generic).

7.0 REWORK

- 7.1 If the connection does not reach to the proper position during make-up, remove the coupling, clean and visually examine both pin and box for damage. If no damage is found remake up as directed in Section 5.0 and visually inspect.
- 7.2 Connections which will not meet the criteria of Section 6.0 should be set aside and a Hunting representative contacted.