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Recommended Field Running Procedure for GEOCONN-HT Connections

1. Identification

GEOCONN-HT is a threaded & coupled connection and has features as below (compared with BTC).

- The thread form of GEOCONN-HT is identical to and fully compatible with API Buttress.
- GEOCONN-HT has knurled pin ends to achieve high torque capacity.
- GEOCONN-HT couplings are same as other GEOCONN series, except the tolerance of thread PD and coupling length, 1 to 2 inches shorter than Buttress couplings.
- The couplings are clearly marked with a GEOCONN-HT stencil with one pink band by the manufacturer. If the stencil is unclear, measure the coupling full length to avoid mistaking it for an API Buttress.
- GEOCONN-HT is designed to achieve "pin-to-pin abutment" and shouldering should always be observed after correct make-up. If shouldering is not observed, the connection should be broken-out and inspected for connection anomalies.

2. Running

- 2.1 Preparation
 - Always use a stubbing guide.
 - Use the thread compound described in 2.3 unless the customer specifies a special thread compound. Keep it free of contamination and thoroughly stirred.
 - Ensure the tongs are hanging horizontally.
 - If not using an integral back-ups, ensure the snub line is set at 90° to ensure proper torque is applied during final make-up.
 - Ensure the traveling block and rotary are aligned correctly (see 2.4 Stabbing).
- 2.2 Thread Inspection
 - Make sure the connections are completely clean and dry.
 - Visually inspect the connections for the absence of burrs or tears and for relatively flat thread surfaces. No "mash" pins or boxes are acceptable.
- 2.3 Thread Compound
 - BESTOLIFE 2000® (herein after referred BOL2000) is required as designated thread compound.

Metal One

- For Pin: Apply a small amount from the end face to around first 5 threads surface evenly.
- For Box: A thin, even coat of thread compound shall be applied to the whole threads surface.

*Pin and Box thread form should still remain visible after application.





(a) Pin

(b) Box

Photo 1. Example of BOL2000 application for pin and box

2.4 Stabbing

- With the joint hanging freely in the derrick, check the vertical alignment, making sure the pin is directly over the box.
- Precise vertical alignment must be maintained during MU operations by using either a stabber, stubbing arm, or block.
- Install the stubbing guide onto the box connection on the rotary.
- Slowly lower the pipe into the box connection to avoid damaging the threads.
- Once stabbing is complete, remove the stubbing guide and ensure that the pipe is vertically aligned.
- 2.5 Power Make-up
 - The power tongs should be installed at least 10 cm above the pin thread runout. This ensures that the die does not contact the coupling face while absorbing make-up loss.
 - If back-up tong is used, always place them under the coupling, not directly on it. Make sure the back-up line of the tongs is at 90 degrees to the tong and pipe axis (both vertically and horizontally).
 - Make sure the elevator is not supporting the weight of the pipe.
 - Use the power tong to make-up the connection at a speed of 25 rpm or less to ensure that the tong does not slip and damage the pipe body during make-up.
 - Since precise torque control is required to avoid over torque, the tong must be



switched to a low gear at a maximum of 5 to 7 rpm one or two revolutions before shouldering and complete the make-up.

- Make-up the connection to the correct torque and position using a torque gauge, and confirm that the make-up is acceptable in accordance with the criteria in 2.6.
- 2.6 Acceptance Criteria for Make-up
 - Recommended torque values are given in APPENDIX-A.
 - The torque should be set to the minimum torque and if shouldering does not occur, increase the torque accordingly up to the maximum torque.
 - The two pin noses must contact and be displayed as a sudden increase in torque (a "spike") on the torque dial gauge.
 - The triangle mark base on the pipe body is aligned with the coupling face as described on the figure 1.



Figure 1. Correct make-up position of field end

3. Pulling

- The equipment required for pulling is essentially the same as running.
- Back-up tong should be placed on the lower half of the coupling. It is not recommended to use rig tongs for this operation.
- If back-up tong is not available, make sure the coupling mill-end side does not rotate. It is recommended to paint the fitting line as the guide.
- During the breakout operation, precise vertical alignment must be maintained using either a stabber, stubbing arm, or block.
- The power tongs should be applied in the same position of the pipe as make-up.
- A controlled torque must be used to break-out the connection ("jerk" is not permitted).
- Rotation speed during break out and spinning out should not exceed 15 rpm. Once the threads have disengaged, the pin will "bump" in the box, rotate 1/3 of a turn before lifting out the pipe.
- When lifting the pipe out, make sure the threads are completely disengaged to prevent jump out. Using a stabbing guide helps protect the pin and also helps when lifting the pipe out of the box.

4. Monitor Damage on the Thread

- Minor imperfections and corrosion in the threads are acceptable.



- Minor damage to the threads on the pin ends, such as burrs, can be repaired with a fine file, grinding wheel, or emery paper.
- However, minor imperfections and corrosion on the knurled pin ends and their repairs are not acceptable.

5. INTERCHANGEABILITY WITH API BUTTRESS

- GEOCONN-HT is interchangeable with API-BTC.
- The points to note for each assembly pattern are summarized below;

- GEOCONN-HT PIN & API-BTC BOX

The pin noses will not contact and the make-up criteria should be the same as BTC. (= Not Internally Flush).

- GEOCONN-HT BOX & API-BTC PIN

The pin noses will contact and the make-up criteria should be the same as GEOCONN (Not GEOCONN-HT). (= Internally Flush).

- MAKE-UP PROCEDURE

GEOCONN-HT Pin & BTC Box

→ As per API make-up procedure

GEOCONN-HT Box & BTC Pin

- ➔ As per GEOCONN make-up procedure*
- * Operational max. torque on APPENDIX-A is not applicable for this pattern.





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APPENDIX-A

GEOCONN Recommended Torque at Field End

1. Recommended Torque (lb-ft)

OD	Weight	WT	Coupling		P110		
[Inch]	[lbs/f]t	[inch]	Туре	OD	Min.	Max.	Operational
				[inch]			Max.
5-1/2"	20.0	0.361	Regular	6.300	17,800	21,800	30,000
			Special	6 050	17 000	21 200	20.000
			Clearance	0.050	17,000	21,000	30,000

Note 1: Operational Max. torque can be applied for following case.

- If the actual make-up torque exceeds the Max. torque in the table above, make-up is permitted as long as it is below the operational max. torque.

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