

## **Recommended Field Running Procedure for GeoConn Connections**

(rev. 5) Torque in Appendix-A revised,

### **[1] Identification**

GeoConn is a threaded and coupled connection and has the following features (comparing to Buttress)

- The thread form of GeoConn is identical to Buttress
- GeoConn pins have a special nose detail
- GeoConn couplings are shorter than Buttress couplings
- The pin noses contact in a correctly made-up GeoConn connection
- GeoConn-RS has a non-metallic (Teflon) seal ring pre-installed in the grooves on both sides of the coupling (See para. 6 for special care of GeoConn-RS)

### **[2] Running**

#### **[2.1] Running Preparation**

- Always use a stabbing guide
- Only use API Modified thread compound (or Bestolife 2010 NM), uncontaminated and thoroughly stirred unless customer specifies special thread compound.
- Ensure the tong hangs horizontally
- Check for correct alignment of travelling block and rotary (see 2.3 Stabbing)

#### **[2.2] Thread Inspection**

Ensure that the connections are thoroughly clean and dry.

Visually check that the connections are free from burrs or tears and have a relatively even thread surface.

A "mash" on the pin or box is unacceptable.

#### **For GeoConn-RS**

It is strongly recommended to check that the seal ring is properly installed, and that no hump or deformation is visible on the entire circumference of the seal ring.

#### **[2.3] Thread Compound**

Prior to stabbing a moderate coating of thread compound (dope) should be applied to the pin and box connections. The dope should be applied uniformly to all of the threads using a soft brush.

#### **For GeoConn-RS**

As in the case of any connection with a seal ring, special precaution shall be paid to avoid over-doping because excess dope may push the ring down during make-up.

Dope shall be applied with a brush lightly and uniformly on both the box threads and on the pin threads.

(Note that dope applied on the box is pushed down the inside of the connection and detrimental to "seal ring popped-in", but pin dope is always extruded towards the outside of the coupling)

## [2.4] Stabbing

With the joint hanging freely in the derrick – check the vertical alignment to ensure the pin is directly over the box. True vertical alignment either with a stabber, stabbing arm or with the blocks must be maintained during make-up operations.

Apply the stabbing guide to the box connection in the rotary.

Lower the pipe slowly into the box connection to avoid damaging the threads. After stabbing-in remove the stabbing guide and ensure the pipe remains vertically aligned.

## [2.5] Power make-up

Engage the power tong at least 10cm above the thread run-out area on the pin to ensure the dies do not contact the coupling face as the make-up loss is absorbed.

If a back-up tong is used it should never be placed directly on the coupling, but always under the coupling.

Ensure the tong back-up line is at 90 degrees to the tong and pipe axis (both vertical and horizontal).

Ensure the elevators are not supporting any of the pipe weight.

Using the power tong, make-up the connection at a speed of not more than 15 rpm, and ensure that the tong does not slip during the make-up operation and damage the pipe body.

Torque build up does not normally start until 4 or 5 complete turns are obtained and then torque will gradually build up until the two pin noses contact, at which point the torque will increase very rapidly and a torque “spike” will be seen on the torque gauge.

Make-up the connection to the correct torque & position with the aid of 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

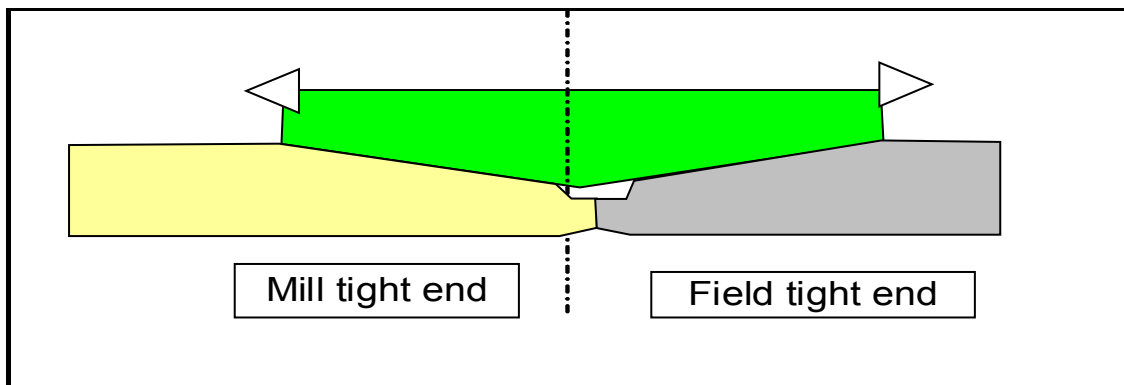
Recommended torque values : See Appendix-A

Torque should be set at Min. and if no shouldering occurs the torque should be increased accordingly up to Max.

“Accidental” over-torque can be accepted up to recommended maximum torque + 2,000 ft.lbs.

Connection make-up is considered successful if ALL of the following criteria are achieved :

- The two pin noses contact which is indicated on the torque dial gauge as a very sudden increase in torque (“spike”)
- The base of the 3/8” triangle stamp on the pipe body is aligned with the coupling face



**Correct Make-up Position**

### **[3] Pulling**

The equipment required for pulling is basically the same as running.

Back-up tong should be placed on the lower half of the coupling. Use of the rig tongs for this operation is not recommended. If back-up tong is not available then please ensure the coupling mill-end side does not rotate and a paint line gives a useful indication.

True vertical alignment either with a stabber, stabbing arm or with the blocks must be maintained during break out operation.

Engage the power tong at the same area of the pipe as make-up. Break out the connection using controlled torque- do not "jerk". 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 out, care should be taken to ensure the threads are fully disengaged to prevent jump out. Use of a stabbing guide will help protect the pin and may assist in the lifting of the pipe out of the box.

### **[4] Minor Damage on the threads**

Light imperfections/corrosion on the threads is acceptable.

Minor damage to pin end threads such as burrs can be repaired with a fine file, hone or emery paper.

### **[5] Inter-changeability with Buttress**

GeoConn and Buttress connections can be inter-changed and the following points should be noted :

#### **GeoConn Pin & BTC Box**

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

#### **GeoConn Box & BTC Pin**

The pin noses will contact and the make-up criteria should be the same as GeoConn  
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Appendix-A					
GeoConn Recommended make-up Torque on Field End					
1. Recommended torque shall be selected from Group 1, 2 and 3 in Table 1 depending on application.					
Table 1 Application group					
Group	Application				
1	Drilling with casing Liner for horizontal wells				
2	Geothermal wells Ordinary Buttress application				
3	GeoConn-RS				
2. Recommended Make up torque for Application <b>Group 1</b>					
		Dope F.F. = 0.8 - 1.0		Dope F.F. = 1.4	
Size	Grade	Min.	Max.	Min.	Max.
4-1/2" x 10.5#	K55	4,000	5,000	5,000	6,500
5-1/2" x 15.5#	K55	6,500	8,000	8,000	10,000
5-1/2" x 17.0#	L80	8,000	10,000	11,000	14,000
6-5/8" x 20.0#	L80	12,000	15,000	16,000	20,000
7" x 23.0#	L80	16,000	20,000	20,000	24,000
7" x 23.0#	K55	13,000	16,000	15,500	19,000
7" x 26.0#	K55	14,000	17,500	17,000	21,000
3. Recommended Make up torque for Application <b>Group 2</b>					
		Dope F.F. = 0.8 - 1.0			
Size	Grade	Min.	Max.		
9-5/8" x 40.0#	K55	15,000	20,000		
13-3/8" x 54.5#	K55	18,000	22,000		
4. Recommended Make up torque for Application <b>Group 3</b>					
		Dope F.F. = 0.8 - 1.0			
Size	Grade	Min.	Max.		
8-5/8" x 32.0#	K55	12,000	15,000		
9-5/8" x 53.5#	K55	20,000	25,000		
13-3/8" x 68.0#	L80	20,000	25,000		
5. Dope and Friction Factor					
Friction factor = 0.8 - 1.0		API5C2 modified, Bestolife2000 series Topco TK-II			
Friction factor = 1.4		Jetlube NC-30			