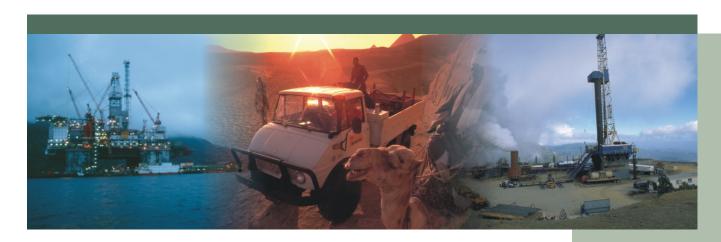
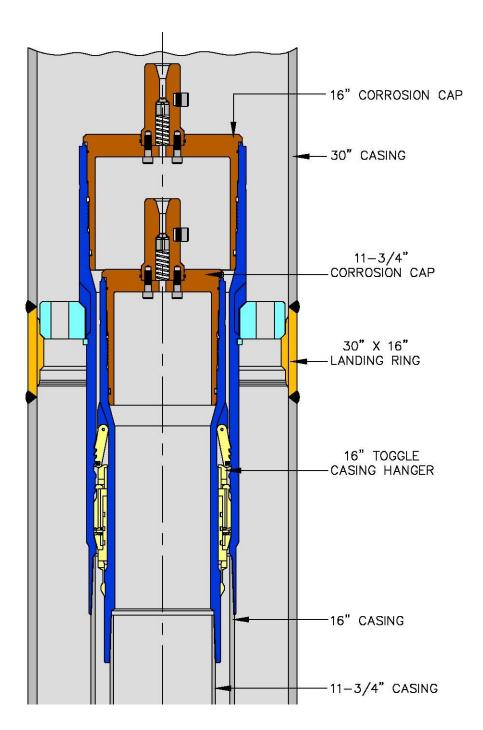


# **Wellhead Systems**



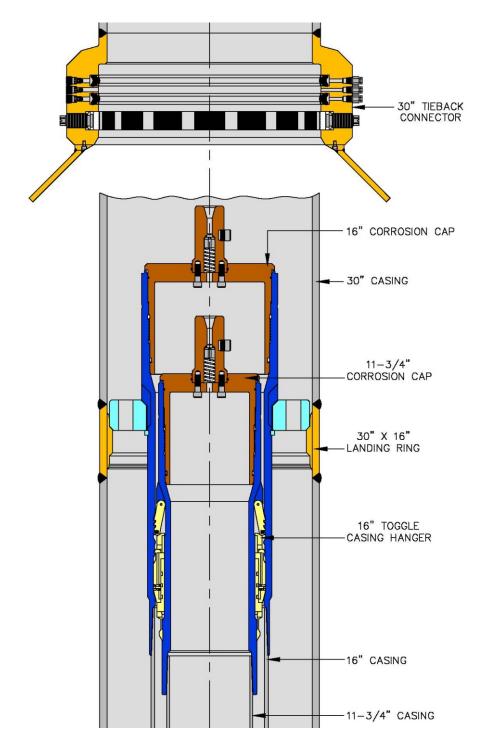
Caisson Metal Seal (CMS)
Mudline Suspension System
Components Catalog





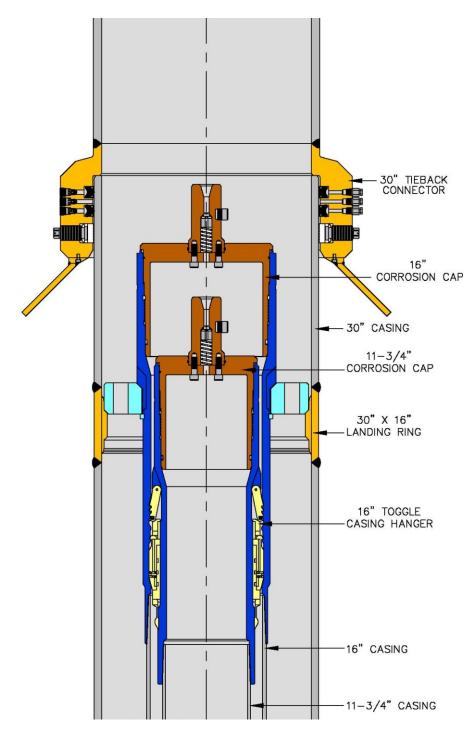
CMS Mudline System, 30 x 16 x 11-3/4 Complete with Corrosion Caps





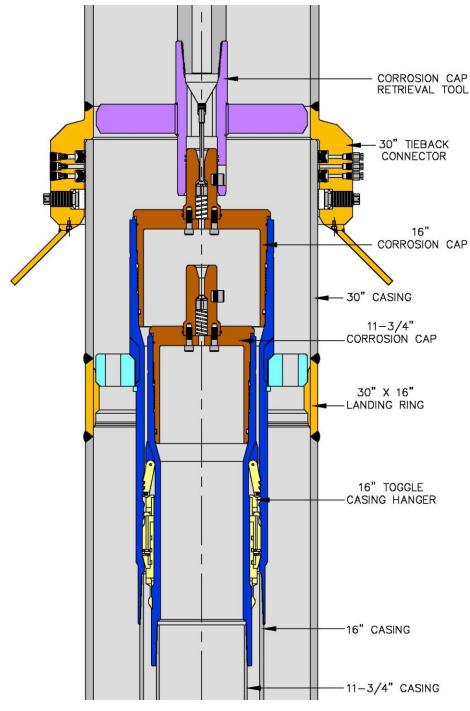
CMS Mudline System, 30 x 16 x 11-3/4 Running 30-in. Tieback Connector





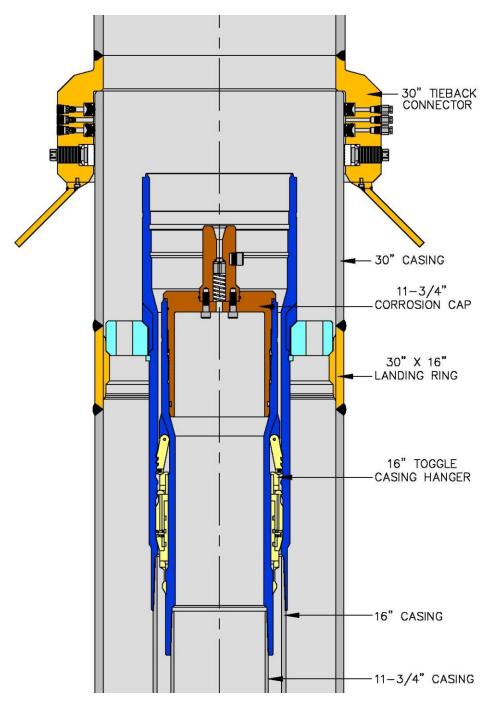
CMS Mudline System, 30 x 16 x 11-3/4 30-in. Tieback Connector Installed





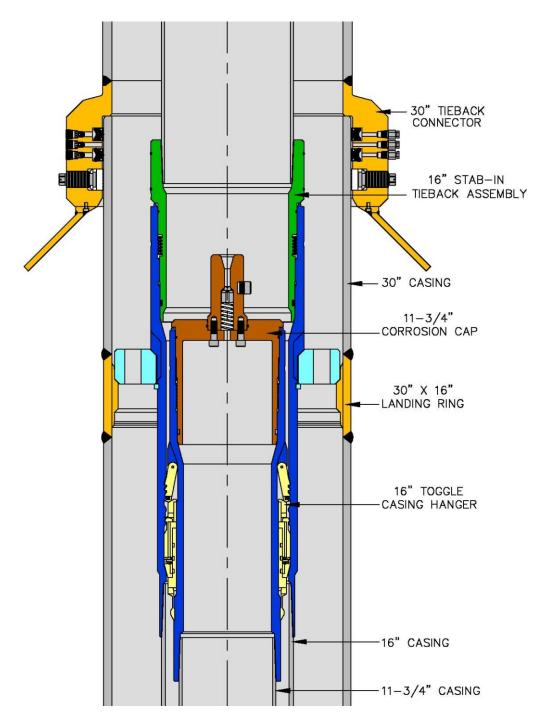
CMS Mudline System, 30 x 16 x 11-3/4 Retrieving 16-in. Corrosion Cap





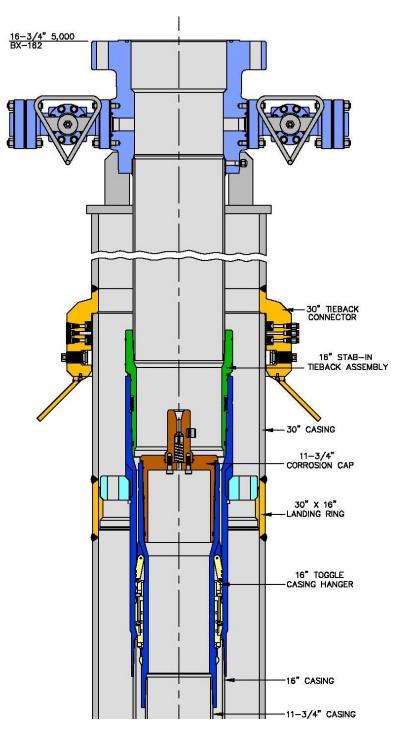
CMS Mudline System, 30 x 16 x 11-3/4 16-in. Corrosion Cap Removed





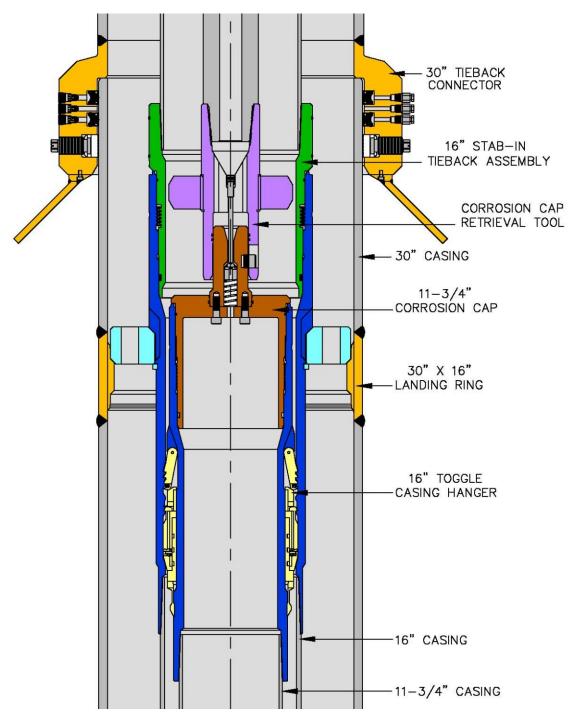
CMS Mudline System, 30 x 16 x 11-3/4 16-in. Stab-in Tieback Installed





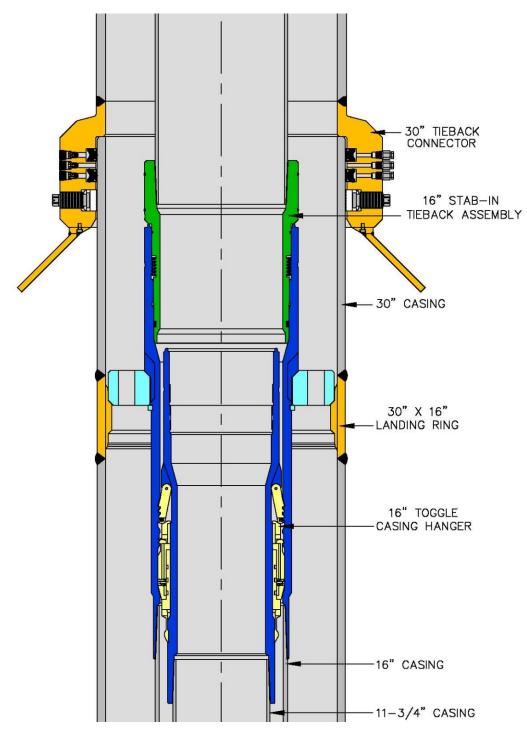
CMS Mudline System, 30 x 16 x 11-3/4 16-3/4-in. 5,000 PSI Casing Flange Installed on 16-in. Casing





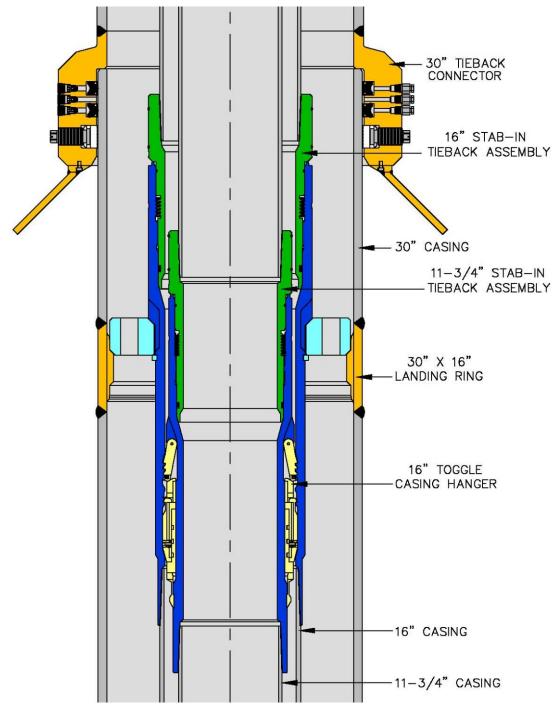
CMS Mudline System, 30 x 16 x 11-3/4 Retrieving 11-3/4-in. Corrosion Cap





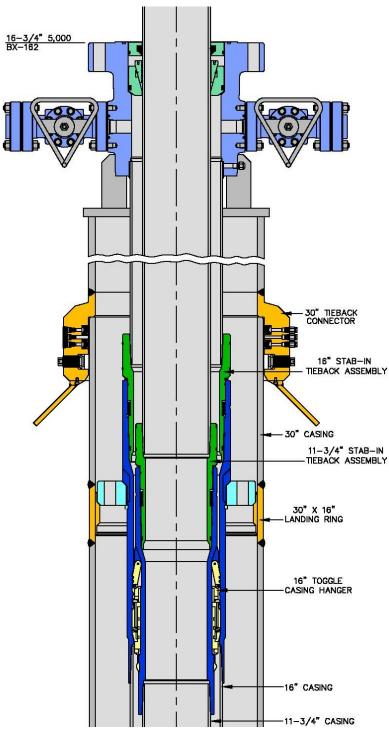
CMS Mudline System, 30 x 16 x 11-3/4 11-3/4-in. Corrosion Cap Removed





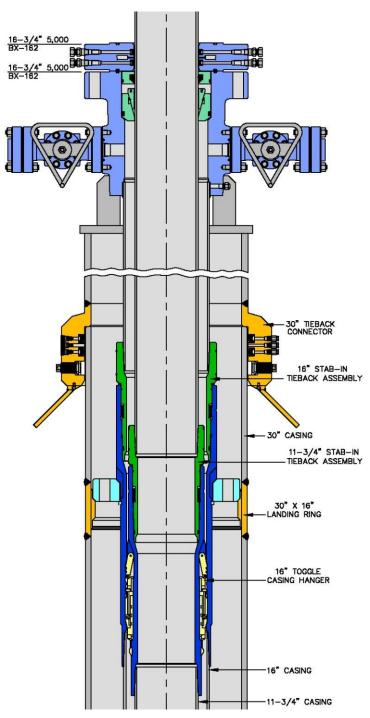
CMS Mudline System, 30 x 16 x 11-3/4 11-3/4-in. Stab-in Tieback Installed





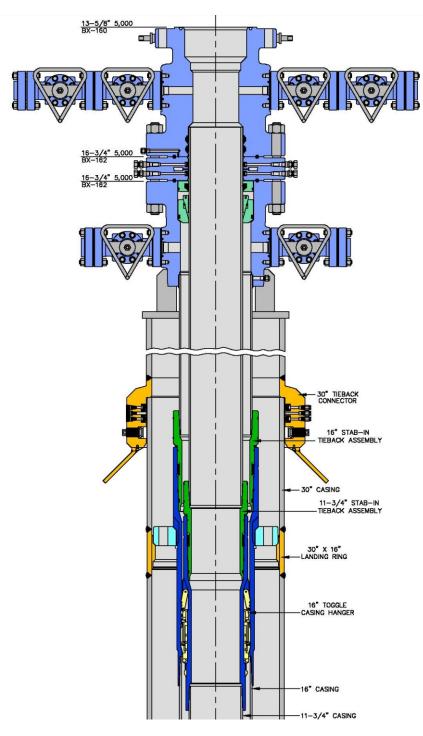
CMS Mudline System, 30 x 16 x 11-3/4 11-3/4-in. Tieback Installed 16-3/4-in. 5,000 PSI Casing Hanger





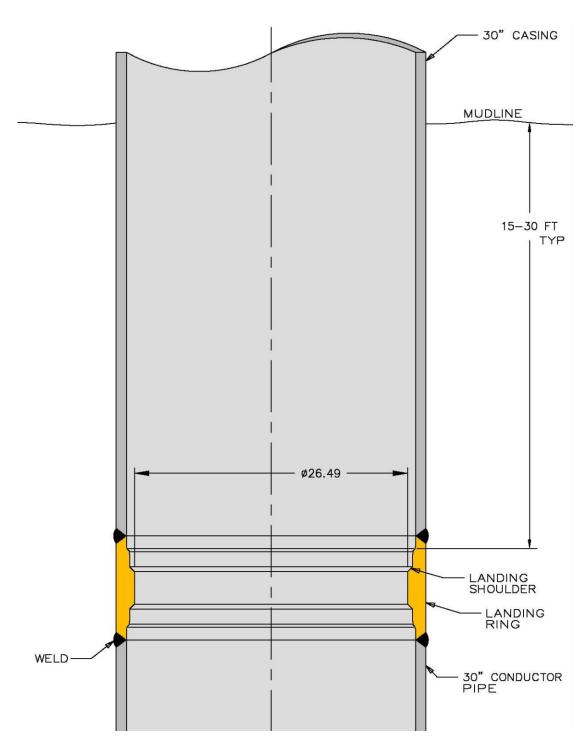
CMS Mudline System, 30 x 16 x 11-3/4 16-3/4 x 16-3/4 5,000 PSI Double Studded Pack-off Flange Installed





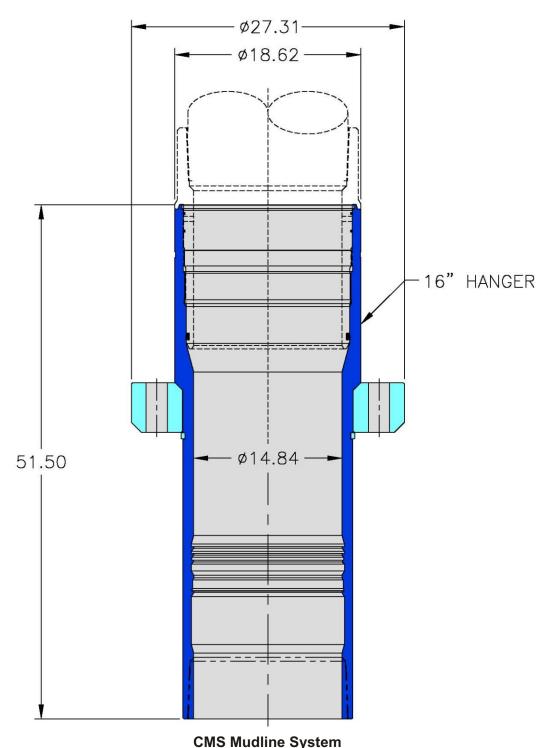
CMS Mudline System, 30 x 16 x 11-3/4 13-5/8-in. 5,000 PSI x 16-3/4-in. 5,000 PSI Tubing Spool Installed





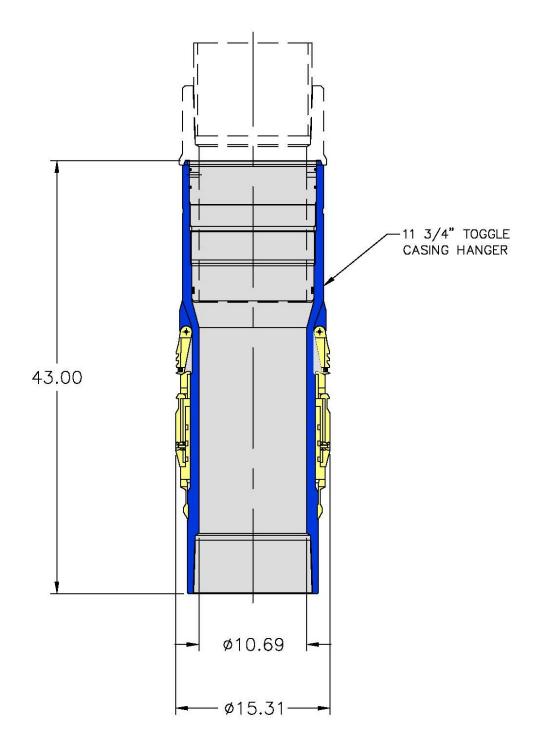
30-in Conductor Pipe with Landing Ring





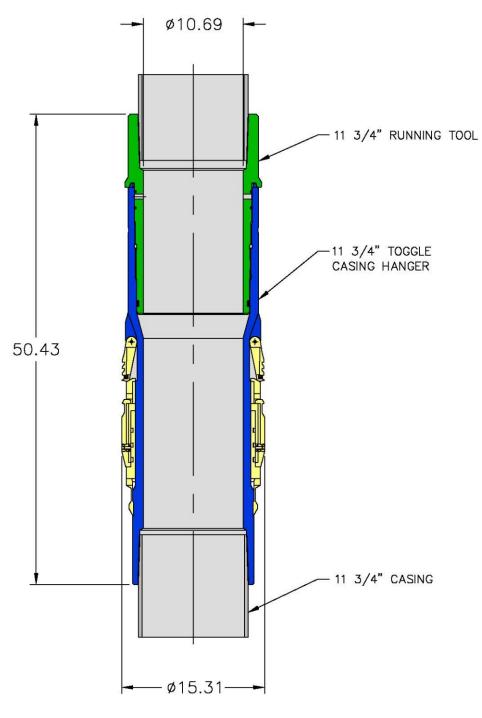
CMS Mudline System Casing Hanger 30" x 16" with Running Tool





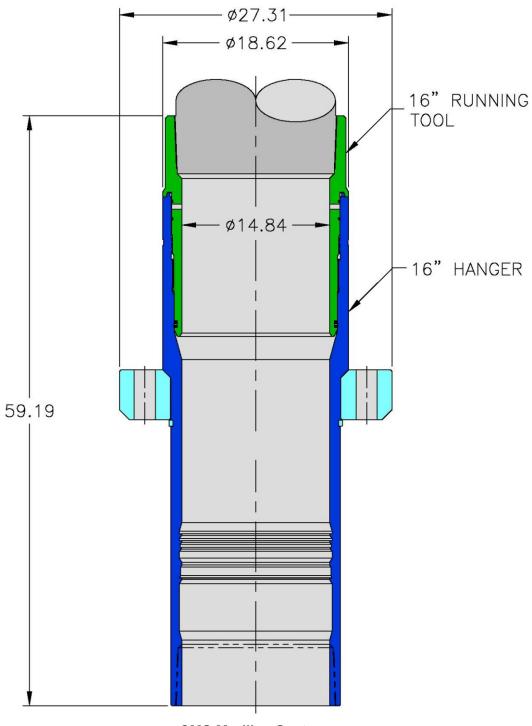
CMS Mudline System Casing Hanger 16 x 11-3/4





CMS Mudline System Casing Hanger 16 x 11-3/4 with Running Tool





CMS Mudline System Casing Hanger 30" x 16" with Running Tool



#### Step 1:

The split threaded ring will be run in this position, which allows it to float in the bottom of the special thread profile (0.15" clearance per side).

#### Step 2:

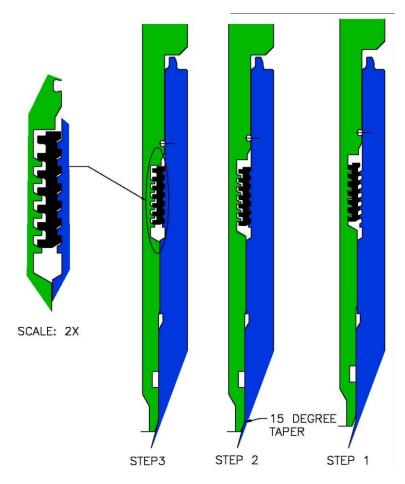
Once the tieback tool has landed on the 15 degree taper, clockwise rotation can begin. The split threaded ring has expanded to its natural pitch diameter. At this point, one of two things will happen depending on the higher friction value. These are:

- a) High friction between threaded ring and tieback—the ring and tieback will move down as one unit until the friction between the hanger and ring becomes greater than the ring/tieback.
- B) High friction between threaded ring and hanger– the ring will move upward until it strikes the 7 degree back angle on the hanger thread.

This begins Step 3.

#### Step 3:

After the threaded ring touches the 7 degree back angle on the hanger's tieback thread, the ring will start to be retained on the correct pitch diameter. This is because the ring is now traveling along the flank angle of the thread. Once at the bottom of the angle, the threaded ring will shoulder on the straight portion of the special thread. This rigidly locks the ring into the outward position and insures the threaded ring will not expand. The tieback tool will continue to be rotated until the proper torque for the metal seal has been achieved.



9-5/8-in. Stab-in Tieback Tool Preliminary Design



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