

Special Considerations for Deviated Wells

When running the Slimline® TAC or Slimline® Quick-Set™ TAC in an extremely deviated and/or horizontal well, special attention should be paid to a few important factors. In addition to closely following the directions outlined in TechTAC's Setting and Releasing Instructions, operators and rig crews should also consider the following:

It is not recommended to exceed 30 degrees when running a Slimline QuickSet TAC in the bend of a horizontal well

Because the Slimline QuickSet TAC can be fully set in 1–3 turns, it's proven to be an ideal solution for deep or deviated wells, where it can be difficult to get enough torque down to a tool to set a traditional anchor. However, setting the TAC so deep that its vertical alignment exceeds 30 degrees can create an undue bending moment on the anchor. That's why many of the production companies that use TechTAC anchors prefer to set them just above the kickoff point in a horizontal well.

It should also be noted that for some wells even setting the anchor at 30 degrees may be too much, depending on the geometry of the wellbore. Always confirm the TAC placement in relation to the pump, well deviations and/or any other downhole assembly.

Ensure that enough upward tension is pulled on the TAC before landing the tubing

Before landing the tubing, it's vital to pull the proper tension on the tubing anchor. Without the proper tension, the cyclic loading inherent during sucker rod pumping can exceed the tension placed on the TAC. This means that instead of remaining under constant tension as designed, the TAC alternates between tension and compression with every pump

stroke. This cycle places undue wear and tear on the TAC and, over time, can lead to tool failure—either through premature shearing, or worse, causing the top sub to break off.

However, it is essential that this tension is measured in inches of stretch and NOT pounds of pull. Particularly in a well with high dog-leg severity or cork-screwed geometry, all of the bends the tubing must navigate can make the surface measurement of pounds of pull highly inaccurate when compared to the tension at the tool. Instead, a calculation like this one (taken from the Setting and Releasing Instructions) should be used:

(Example) 20,000 lbs. of pull on 8,000 ft. of 2.375" OD, 4.7#, 1.995" ID tubing.

20 x 8 x 0.30675 (stretch constant for 4.7# 2.375 tubing) = 49.08 inches of stretch

Do not over-torque the tool

Most tubing anchor mandrels (bodies) are connected to the subs with NU 10-round threads, whereas most tubing connections are EUE 8-round threads which can handle higher amounts of torque. This knowledge is particularly important when attaching tubing to the anchor.

It's recommended to put a backup on the TAC subs, while independently connecting the tubing to both the top and bottom TAC connections. Doing so will help prevent over tightening and possible galling the 10-round inner threads on the TAC.