

# ST-80E Torque Wrench Upgrade Kit

## ST-80E, an enhanced torque wrench upgrade kit – enabling your iron roughneck to be even better.

Increased make-up, breakout torque for evolving market applications. The ST-80E TW upgrade kit continues the reliability and durability of your current ST-80 model while increasing torque magnitude to meet the emerging rig application demands associated with longer lateral wells. Offering make-up torque (MUT) and breakout torque (BOT) respectively at 75,000 and 95,000 ft-lbs, the ST-80E TW upgrade kit increases current torque capabilities by as much as 25%. Many newly developed well plans are enlisting 5½ in. or 5¾ in. drill pipe to aid in better torque transmission through the string and enable higher flow rates. With larger pipe, comes higher torque connections. The ST-80E TW upgrade kit applied to your current ST-80 will offer the certainty and confidence to make & break those connections.

With a new primary control manifold and a new mechanical design, this upgrade supports the higher pressure necessary to reach those torque levels. A proportionate clamp force feature affords a perfect balance between torque accuracy and grip. The SoftClamp™ feature is included in the upgrade kit and delivers the appropriate lower clamping on thin walled connections during spinning operation. This retrofit-able kit is designed to fit on all existing ST-80 models, no matter the production date, while maintaining its current footprint. New die holders will reduce costly jaw reworks.

The ST-80E is a lower cost alternative to purchasing a new, higher torque tool. The upgrade comes with the benefit of testing and an OEM warranty. Performing the upgrade at our certified NOV repair centers guarantees the expertise of the OEM and the continued support of a global organization that understands the product better than anyone else. Incorporating the kit while refurbishing or reconditioning the iron roughneck is a convenient way to coordinate the upgrade.

**Contact your local NOV representative to learn how an upgrade can improve make-up and breakout torque for your higher torque applications.**

### Features and Benefits

- 25% increase in torque
- Retrofit-able to all existing ST-80s
- Accommodates 5½ in. to 5¾ in. drill pipe connections
- Extends the lifecycle and utilization of existing iron roughneck
- Meets market need of tubular range, efficiency, and torque requirements
- Cost-effective solution



## High torque drill pipe for long lateral drilling.

More long laterals drilled in factory drilling style operations use premium drill pipe connections. Grant Prideco's GPDS™, XT™, and Delta™ connections address the needs for torque and improved hydraulics to deliver these wells.

More operators chose to use larger size drill pipe, which requires higher make-up torque and sometimes requires an upgrade of the iron roughneck.

Grant Prideco's fourth-generation Delta connection balances performance and reliability while maintaining cost-effectiveness.

Pipe OD (in.)	Nom. Weight (lb/ft)	Grade	Connection	Tool Joint OD (in.)	Tool Joint ID (in.)	Recommended MUT (ft-lbs)
5.500	21.90	S135	Delta 576	7.000	4.250	59,200
5.500	21.90	S135	Delta 544	6.625	4.000	50,300
5.875	23.40	S135	Delta 576	7.000	4.250	59,200

### Features and Benefits

#### Performance

- Balanced thread form for ruggedness
- High strength tool joints for torque
- Operational envelope comparable to XT connections
- Better fatigue resistance

#### Ease of Use

- Faster makeup
- Deeper stabbing
- No stabbing guide required
- Reduced tong gripping distance

#### Reduced Total Cost of Ownership

- Reduced repair frequency
- More refacing allowance
- Less material loss on every chase and face
- More tool joint room for recuts