

GE7FA Gas Turbine



Use of Technofast HiTemp HydraNuts has saved an Asian Utility many thousands of dollars in reduced down time and labor costs.

These hydraulically actuated nuts are fitted as direct replacements for standard nuts on the 7FA turbine horizontal and vertical joints.

The HiTemp HydraNuts are interconnected and pressurized simultaneously. This gives an evenly applied load over the full flange and ensures that bolts are correctly loaded.

The previous method of torque tightening the bolts was time consuming and labor intensive, causing bolt, nut and flange damage, thus making subsequent removal difficult.

Utilizing the HydraNuts, the half joint bolts (20x 2.1/4" and 10x2") were tensioned in 1 hour 12 minutes.

HiTemp HydraNuts are so called due to the unique patented seal designs' capability to be energized after thousands of hours at the elevated temperatures on the casing.

The vertical joint bolts (42x1.3/4" and 8x2") were tensioned in 1 hour 50 minutes.

Ease of removal is assured due to the fact that the bolts are held in tension whilst the locking is unscrewed under zero load.

Subsequent unbolting of casing after 12 months service carried out in under 3 hours.

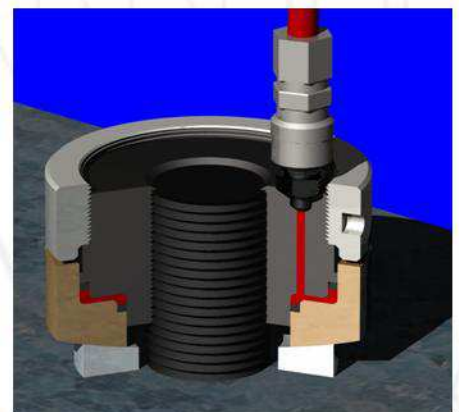
Re-bolting of the same casing carried out in less than 4.1/2 hours, including training of local operatives for future use of the system.

During 1 year, 5 sister turbines have been fitted with HiTemp HydraNuts at the same site.



How does it work?

The HydraNut is screwed into position into the casing spot face. The quick connect coupling is connected and pressure is applied by a hydraulic pump. The hydraulic force applied equals the pressure times the hydraulic area and is therefore a known load. The bolt is stretched and the lockring is wound down to seat on the top face of the piston. The hydraulic pressure is released and the hose is disconnected. Removal is simply a reversal of this procedure. No galling occurs due to minimal friction.



Benefits:

*Fast

*Accurate

*Simple

*Safe


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precision engineered solutions

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