



HYDRAULIC BOLT TENSIONING FOR CABLE BAND BOLTS



BOLT TENSIONING

of high strength rods and bolts in a very limited space

CUSTOM DESIGN

delivered to solve clients challenge

FAST & ACCURATE

bolting solution

THE CHALLENGE

In 2006 American Bridge and Fluor won the contract to build the new eastern span of the Oakland Bay Bridge - a suspension bridge with only one tower, on limited bedrock with ten lanes of traffic, able to withstand any expected earthquake.

Most suspension bridges have multiple towers, this bridge span has one single tower and is essentially anchored on itself. The main cable is seated in the deck which is an extremely involved structural engineering design achievement.

A total of 114 cable bands needed to be secured around the main cable to keep the suspension ropes in place which needed to be bolted with exactly the right amount of tension. Boltight were approached to deliver a solution to this bolt tightening challenge.

THE SOLUTION

Boltight supplied 2000 bar 2" 8UN quick piston spring return tensioners, with pumps and hoses which tightened 114 cables and high strength rods. These secured both the main tower as well as the bearings and shear keys at the bridge's east end which required a high capacity jacking system to obtain the large clamping force that the bolts needed to achieve.

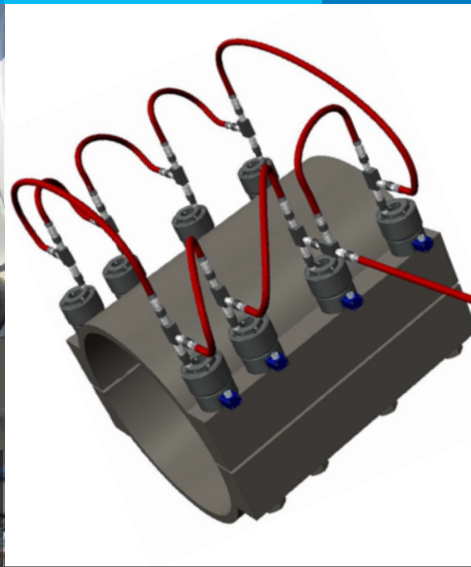
Boltight's solution elongated the rod and tightened the nut, but never turned the rod which was an important design requirement.



CONSTRUCTION SUCCESS STORY



Tensioners in place on the cable bands



LOCATION

Oakland Bay Bridge,
San Francisco - USA

APPLICATION

Cable bands for suspender
ropes

CUSTOMER

AMERICAN BRIDGE / FLUOR A
JOINT VENTURE

PRODUCT

Customised spring return
hydraulic bolt tensioners

“ THE EQUIPMENT HAD A LEVEL OF ACCURACY AND OUR WORKERS COULD EASILY CARRY IT AROUND. NO OTHER MANUFACTURER COULD MEET OUR REQUIREMENTS.

Brian A. Petersen
Vice President - Western Region
American Bridge



Suspension Bridge

THE OUTCOME

Over 2000 fasteners were tensioned on this application with a high level of accuracy.



Boltight Standard Spring
return tensioning tools

FIND OUT MORE

Founded in the United Kingdom, in 2001, Boltight is the creator of the original hydraulic bolt tensioning technology that permanently eliminates the risk of loose or over tightened bolts. We have the largest standard range on the market as well as an unlimited capacity to create custom solutions to solve our customers' unique challenges. The result over an entire lifecycle is increased uptime, savings on maintenance costs and a safer work and public environment.

Boltight is part of the Nord-Lock Group, a world leader in secure bolting solutions that offers a range of innovative technologies including Nord-Lock wedge-locking, Superbolt multi-jackbolt tensioning, Boltight hydraulic tensioning and Expander System pivot pin technology.

Find out how Boltight can solve your bolted challenges at Boltight.com

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