



# CUSTOM INTERNALLY STRAIN GAGED BOLTS AND STUDS

In addition, to our Strainert Standard Hex Head, 12-Point Bolts, and Studs, Strainert also manufactures many custom force sensing fasteners tailored for unique applications, installations, and special requirements. These may include customer provided fasteners, modifications to common fasteners, or new designs.

The internally gaged bolts and studs (invented by Strainert, U.S. Patent No. 2,873,341) are designed to accurately measure fastener tensile forces. Compression designs can also be provided.

The instrumented fasteners allow direct, accurate, and repeatable force measurements from 1/4" diameter to over 4" diameter in all types of fasteners and materials.

## MANY USES AND APPLICATIONS

- Measurement of Preload in Critical Assemblies
- Inspection of Preload after Assembly, Shipping, Prior to Use
- Provides Overload Detection Resulting from External Loading
- Used as Measurement Tool During Actual / Simulated Service Conditions (Shock, Vibration, Gasket / Joint Relaxation, etc.)
- Feedback to Control Systems
- Provides for Direct Analysis of Components Under Investigation.

## SUPERIOR TECHNICAL FEATURES

Small installation holes allow for greater load carrying capability

Measurement Accuracy (<1% F.S., Typically < 0.5% F.S.)

Gage Installations are Two Patterns in Series, 180° Apart in Small Holes (Minimizes Errors Due to Bending and Torque)

Quarter-Bridge and Full-Bridge Gage Installations with Ratings Up to 300° F

Years of Experience Gaging Aircraft Quality Bolts and Many Other Types of Common and State of the Art Materials (MP 35N, Inconel, Monel, A286, Titanium, etc.)

# CUSTOM BOLT & STUD DESIGNS

FORCE SENSING BOLTS & STUDS

