

APPLICATION STUDY

HOLD & DRIVE AEROSPACE FASTENER SOLUTION

Due to the sensitive nature of our customer relationships, Ingersoll Rand® has chosen not to include the names of our clients in these case studies. Ingersoll Rand provides products, services and solutions that enhance our customers' energy efficiency, productivity and operations.



AEROSPACE MANUFACTURER USA

Taking total control of your fastening process doesn't have to be complicated. Our comprehensive QX Series™ family of fastening systems deliver simple, flexible and capable solutions for all of your assembly requirements. No matter the industry or application, you can count on Ingersoll Rand® as a trusted partner to help you get the job done right

THE OPPORTUNITY

The Aerospace Industry has unique requirements from other manufacturing segments worldwide. The requirements may include speed tolerances, torque tolerances, & specialty head attachments for aerospace fasteners.

The aerospace industry needs high quality tooling to meet unique requirements, precision torque accuracy, specialized fastening to join unique materials, and the ability to reach areas with access challenges such as the wing or jet engine.

AERO STRUCTURE APPLICATIONS FOR HOLD & DRIVE FASTENERS

- Wing Assembly
- Door & Window Assembly
- Structural Panels
- Landing Gears
- Engine Mount
- Flight Controls
- Bolt type required in any area of airplane where high strength needed



THE INGERSOLL RAND® SOLUTION

When it comes to fastening, non-transducerized tools don't stand a chance. The QX Series™ line of products give you closed-loop control of your fastening process. Each and every tool allows for programmable tightening strategies to deliver higher quality fastened joints and a level of control that is unmatched by other solutions.

The diversity of the QX Series lineup offers a simple, flexible and capable solution for any fastening need. The Ingersoll Rand QX Pistol Special Head Adapter simplifies how manufacturers use specialty attachments for fastening operations with any Ingersoll Rand QX Series pistol grip tool.

SPECIAL HEAD ADAPTER

The Special Head Adapter increases the flexibility of the QX Series™ tools and eliminates the need for challenging customization's of the tool in order to integrate special attachments. Using the Special Adapter, manufacturers in the aerospace sector can leverage the closed-loop transducerized control of a QX Series tool while using a variety of industry-specific specialty attachments that have previously been challenging to integrate. Ingersoll Rand Direct Solution Center offers flexibility for our customers when adapting products to fit their production requirements.

Ingersoll Rand® has worked with many of the world's leading manufacturers for more than 100 years and understands the interface between the tool and operator. Ingersoll Rand applies this experience to ensure the accuracy, flexibility and durability of its products.

LEARN MORE AT [IRTOOLS.COM/QX](https://www.ingersollrand.com/qx)

QX HOLD AND DRIVE AEROSPACE FASTENER TOOL SOLUTION

- Provide a fully programmable solution for hold and drive fastening in the aircraft business.
- Fully controllable speeds and transducer controlled torque are key selling features.
- Fasteners are easily controlled and perform best at 200-250 RPM.
- Standard fastener sizes range between 1/8" to 1/4"
- Standard fastening torques range between 20 and 100 inch pounds.