

Hose Clamp Assembly

A Case Study



Reliability Issues Resolved

Agricultural Equipment Manufacturer, USA

This case study discusses the successful installation of an [Ingersoll Rand® QX Series™ Cordless Precision Screwdriver](#) to solve a hose clamp reliability issue on an agricultural equipment manufacturer's production line. Ingersoll Rand® offers innovative solutions to customers all around the world who value reliability, efficiency and process intelligence.

Customer Overview

Our customer is a global leader in the agriculture industry, who provides market-leading equipment for sale in over 170 countries around the world.

The Challenge

This customer used mechanical clutch air tools to fasten fuel line hose clamps and had problems consistently delivering the final clamp load required for this critical application. Hose clamps installed improperly can lead to serious problems.

The Ingersoll Rand® Solution

Initial analysis determined the root cause to be premature air tool clutch activation due to the joint's inconsistent prevailing torque signature. Due to the material properties of hose clamps and the other components in the joint, generating proper clamp load requires the ability to deliver the precise torque over time, allowing the joint to relax appropriately.

To resolve the issue, the customer and Ingersoll Rand® worked together to implement the correct prevailing torque strategy using the [QX Series™ Precision Cordless Screwdriver](#).

The Ingersoll Rand® [QX Series™ Screwdriver](#) has a prevailing torque algorithm feature and speed control that allows the fastener to drive through torque profiles to prevent pre-mature shut-offs and increase joint consistency.



The Result

With the help of Ingersoll Rand®, the manufacturer transitioned its product lines to the QX Series™ Precision Cordless Screwdriver, enabling them to eliminate the final clamp-load reliability issue on its production line. As a result, the agricultural equipment manufacturer increased productivity, product quality and end-user safety.

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

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.

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