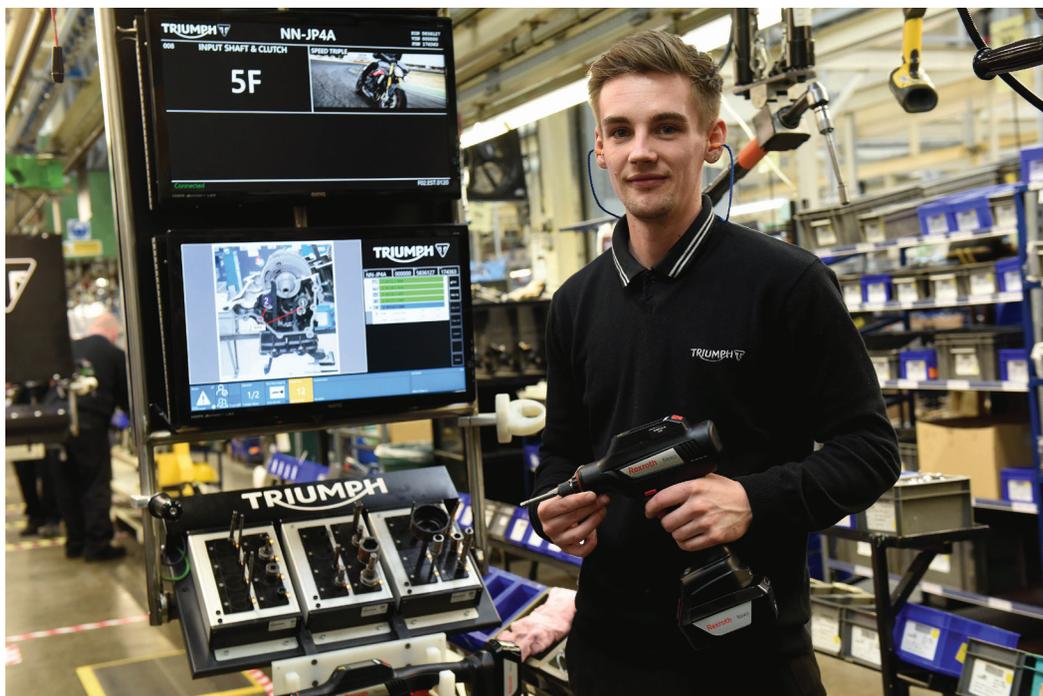


# World-leading motorcycle manufacturer roars into the fast lane

Achieving “no fault forward” through an Operator Guidance System



## Highlights

- ▶ Mixed-batch, manual production
- ▶ Remove time-consuming quality checks
- ▶ Remove risk of rework and delays
- ▶ Comprehensive operator guidance
- ▶ Nexo cordless DC range used extensively
- ▶ “No fault forward”

## About Triumph Motorcycles

Triumph Motorcycles has been a major name in the motorsport sector for more than a century, and has enjoyed multiple successes in national and international motorsport events. It operates from a state-of-the-art facility at Hinckley, Leicestershire, and has around 700 people engaged in the production of a wide range of high-specification motorcycles.

“

The bespoke system introduced by Bosch Rexroth has been integral in guaranteeing the quality of our products.”

”

Triumph Production Engineer

## Solution Provided

Triumph motorcycles are hand-built by choice in order to achieve the precise tolerances and high quality that Triumph owners expect. The manufacturing model is mixed batch production, which means that each motorcycle on the line may be different from the last. This had the potential to increase the risk of production delays due to rework. The ultimate goal was to reduce this rework time significantly. The aesthetics of the factory also needed improvement, as each workstation was home to many air tools and hoses.

Bosch Rexroth’s bespoke solution for Triumph’s engine assembly included an Operator Guidance System (OGS) to guide the operator through the assembly process, and the Nexo Cordless DC tools. The tool range which incorporates all of the processes previously undertaken by individual air tools, but with greater accuracy and repeatability. Each tightening operation was also logged.

# Digitally-based Operator Guidance System with ergonomically-optimised working environment



## About Bosch Rexroth

Economical, precise, safe, and energy efficient: drive and control technology from Bosch Rexroth moves machines and systems of any size. The company bundles global application experience in the market segments of Mobile Applications, Machinery Applications and Engineering, and Factory Automation to develop innovative components as well as tailored system solutions and services.

## The Solution

“What we were seeking was a system which went as far as possible towards eliminating the risk of incorrect part fitting or tool selection,” says Triumph Production Engineer. “We wanted to minimise the volume of tools in the production areas and create an ergonomically optimised working environment. The goal was ‘no fault forward.’”

Now, OGS provides an on-screen, step-by-step guide for every motorcycle engine on the line to ensure that the correct component and tool is used in each process.

To do away with the need for multiple tools, Bosch Rexroth utilised its Nexo cordless DC tool range. The Nexo cordless DC tool range uses specialist sockets for each component fitted on the line and delivers an extensive range of torques on one tool.

The screens, tools and tool trays are all accommodated on a mobile dolly, which the operator can move along the line section as required. Each individual drive bit is housed in a separate socket nest, and flashing LEDs instruct the operator on which drive bit to use.

## The Results

This process has removed the need for multiple air tools with unsightly, dangling hoses on each workstation. It has also reduced the risk of incorrect tool selection. Across the six work stations modernised so far, 12 tools are now performing all of the functions, for which around 180 tools were needed before.

Every process is now recorded by the system and any issues highlighted can be addressed immediately. Process accuracy and quality have increased significantly, as each tool process is pre-programmed with the tool’s programmed sequence applied automatically until the required tightening operation is completed. The results are automatically transmitted to a receiving station, creating a clear audit trail of every process that has been undertaken and completed.

Triumph’s Production Engineer says: “The bespoke system introduced by Bosch Rexroth has been integral in guaranteeing the quality of our products. We have also seen a welcome reduction in energy and calibration costs.

“The goal of ‘no fault forward’ has been achieved and similar systems are set to be rolled out across other areas of the production line over the next two years.”

## Looking for a similar solution?

Contact our experts today on:



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