

Aerospace

# White Paper: Minimizing Aircraft Maintenance Cost and Productivity Inefficiencies

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## You'll learn:

- How using the right precision tools can ensure aircraft readiness, safety and efficiency.
- How electronic torque wrenches increase safety by reducing margin of error.
- In-house solutions to check your torque tool for proper calibration in minutes.

## Introduction:

### The Need To Do More For Less

Aircraft demand is on the rise while customers expect lower costs and increased efficiency. Yet a 9% gap between available technicians and higher technician demand looms, leaving maintenance shops under considerable pressure to compete.

**Aircraft maintenance operations require innovative solutions to decrease overall maintenance costs in labor, turn time, and hard materials without sacrificing safety.**

A new range of torque wrenches and in-house torque testing and calibration solutions are now available to help meet these needs. Designed for efficiency, solutions by Proto® help increase safety while reducing overhead costs.

## In This Paper We Discuss:

- How electronic torque wrenches increase safety by reducing margin of error.
- The cost and time-saving benefits of in-house check and calibration technology.
- How utilizing these solutions will increase efficiency while reducing overhead and costly mistakes.

## Background

As aircraft demand continues to rise with active global commercial fleet projected to grow 4.2% annually over the next five years, customers — from airlines to government defense procurement officials — continue to expect more value for their money. Economic and competition pressures remain high, causing customers to demand increased reliability, reduced maintenance costs, shorter maintenance times and better, more competitive mechanics' tool offerings. In fact, the global aerospace and defense sector is expected to continue to experience pricing pressure, resulting in the need for more efficiencies and reduced costs on all levels.

Additionally, a shortage of current and future maintenance technicians puts further stress on the maintenance industry. Over the next 10 years, a projected increased demand in maintenance

technicians, paired with a current shortage in qualified applicants, will lead to a 9% gap by 2027.

These demands directly affect maintenance operations, putting pressure on divisions and managers to continually find new solutions to work smarter, and save time and money while increasing efficiency.

**One area of high investment that can quickly add up is aircraft maintenance tools. Tight spaces and stringent specifications demand specialized tools that reach into constricted areas, clearly meet torque requirements, and contain an aerospace-compliant plating that helps prevent corrosion and potential FOD.**

Traditionally utilized aerospace-grade mechanical torque wrenches are a staple in any aviation maintenance toolbox. Yet there are times when an extra level of precision can make all the difference between a quick turn and a long, costly maintenance delay. A micrometer torque wrench with a high-tooth-count ratcheting head and slim pear design can allow mechanics to access tough-to-reach fasteners. Downtime can be avoided if the user is able to achieve accessibility with a single, precise torque wrench. Those who prefer an electronic torque tool can achieve precision with the help of warning lights on the approach to target torque rather than an abrupt warning or “click” at the correct point. The increased access of high tooth count micrometer torque wrenches can help technicians get their job done faster and more efficiently, while the improved feedback of electronic torque wrenches can help reduce the risk of a costly over-torque, saving time and money.

Torque tools, whether electronic or mechanical, also require check and calibration steps to ensure compliance. In many cases, the tools must be shipped to their manufacturers’ facilities for calibration, requiring maintenance organizations to absorb shipping costs, calibration fees, and up to a week of downtime or the cost of additional backup tools.

For a maintenance shop or tool crib with a large number of wrenches on site relying on outside calibration services, for example, an average of 100 wrenches a week would spend up to a week out of service for their annual calibration. To maintain maintenance schedules, the shop would need to procure, maintain and calibrate an additional 100 wrenches to make up for those out for calibration.

The cost-effective solution to these concerns lies in advancements in torque tools, testing and calibration.

To continue reading this White Paper and learn how Proto's new advanced line of electronic torque wrenches can help increase precision and safety by providing users with live feedback alerts, click [\*\*here\*\*](#).

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