

**Honeywell**

THE POWER OF **CONNECTED**

## Handheld Connected Caliper

A More Accurate Brake Wearpin Measurement



There is no argument about the importance of landing gear for an aircraft. While there are a few ways to safely stop an aircraft that is finishing its flight, the most common is a braking system. But brakes wear out and stopping an aircraft can wear brakes at an uneven rate. It is critical that the amount of life left in an aircraft brake be quickly and accurately measure to help ensure safe landings.

Unfortunately, the standard way of doing this today is relying on a visual inspection and the experience of the maintenance technician, a process that can, admittedly, vary from technician to technician. This is made even more difficult as these technicians often must find and clean the wearpins before being able to observe and measure them.

Honeywell has made this easier, more consistent, and ultimately safer, with its new Handheld Connected Caliper (HCC), automating the daily walk-around inspection activities carried out by a line maintainer.

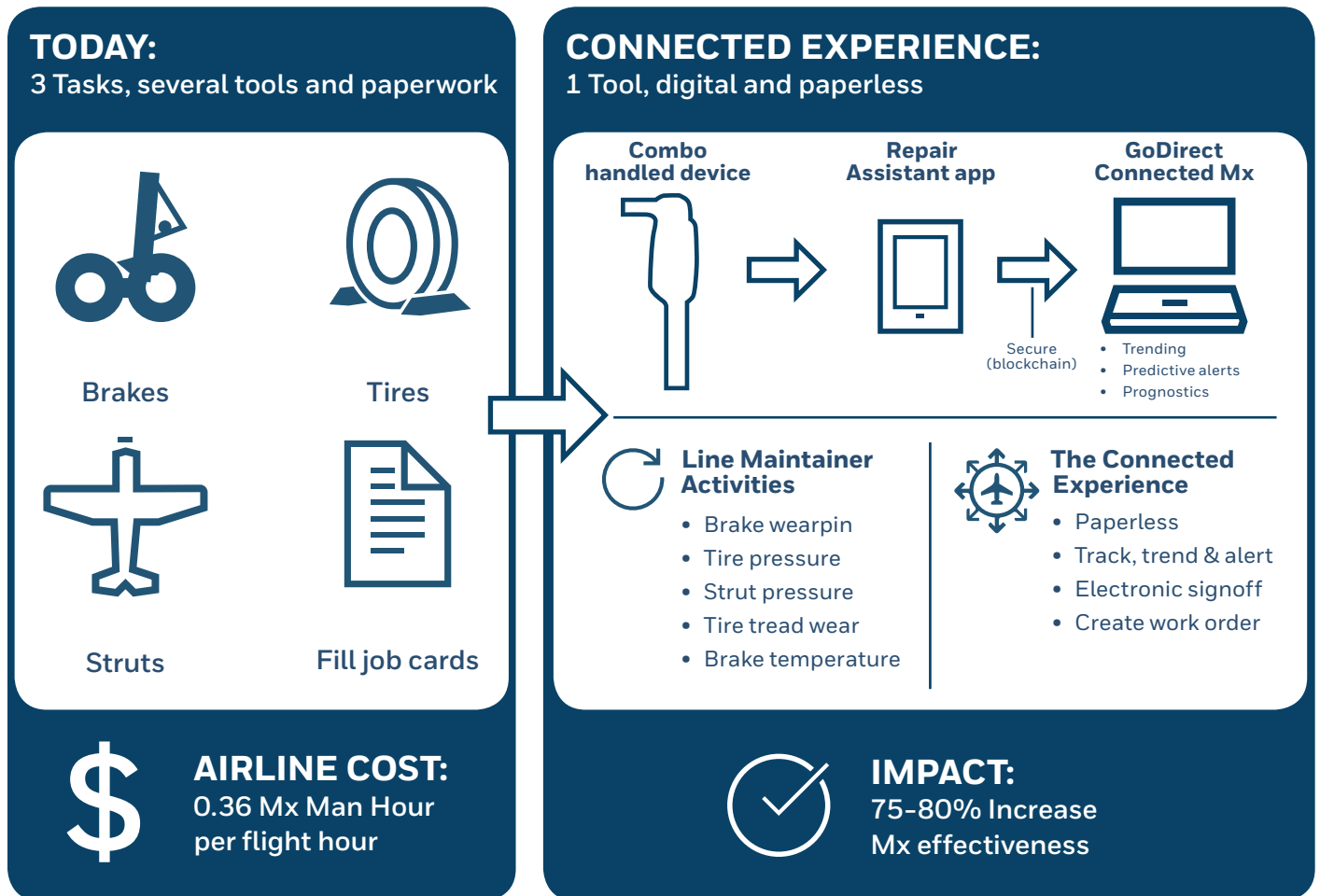


Figure 1. Product Concept of Operations

There are two main parts to the HCC. The measurement tube (also called the neck) that make physical contact with the wearpin and the body that the user holds in his/her hand. The measurement tube also has a LED light as a user aid. There are two status indicators on the body - the solid indicator shows the status, and the blinking indicator indicates data is being transmuted.

The HCC can be charged using a mini USB charger. The power switch turns the device on and off. The light switch controls the LED light. Green, Yellow, Red LED indicators show battery charge level.

The caliper is controlled by an app loaded on a smartphone. Currently both iOS and android smartphones are supported. The app can be downloaded from the Honeywell app store.

The measurement is made by inserting the measurement tube on the wear pin and pressing hard against the boss.

The adjoining picture shows a typical brake wear pin and the boss that provides the zero reference for the measurement.

The HCC communicates with the app using Bluetooth, recording the data and securing it within the maintenance records.

This new offering is part of Honeywell's Data Connected Braking, a Wheels & Braking Systems enterprise-wide initiative for transforming an Airline's experience with the braking system and creating new paradigms to transforming the current reactive manual process to an automated digital process.

There are three key enablers for this transformation:

- Analytics – that combine data from various sensors installed on the aircraft, maintenance records and observations made in the field to generate actionable insights that reduce maintenance burden and operational disruptions.
- Data Collection – incorporation of new sensors as well as creating digital traces of manual observations made in the field that assembles the big-data needed for building high-confidence analytics and decision making.
- Asset Management – that ensure that the maintenance planning team is always aware of their inventory and the serviceability state of the brakes so that the replacement actions can be done quickly and effectively.

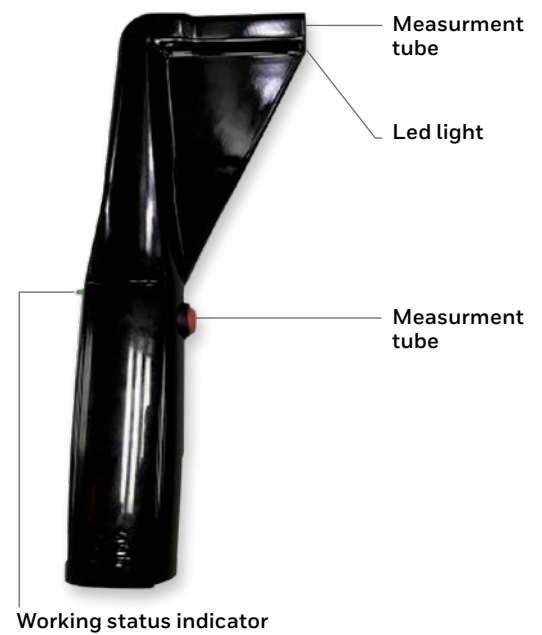


Figure 2. Caliper



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