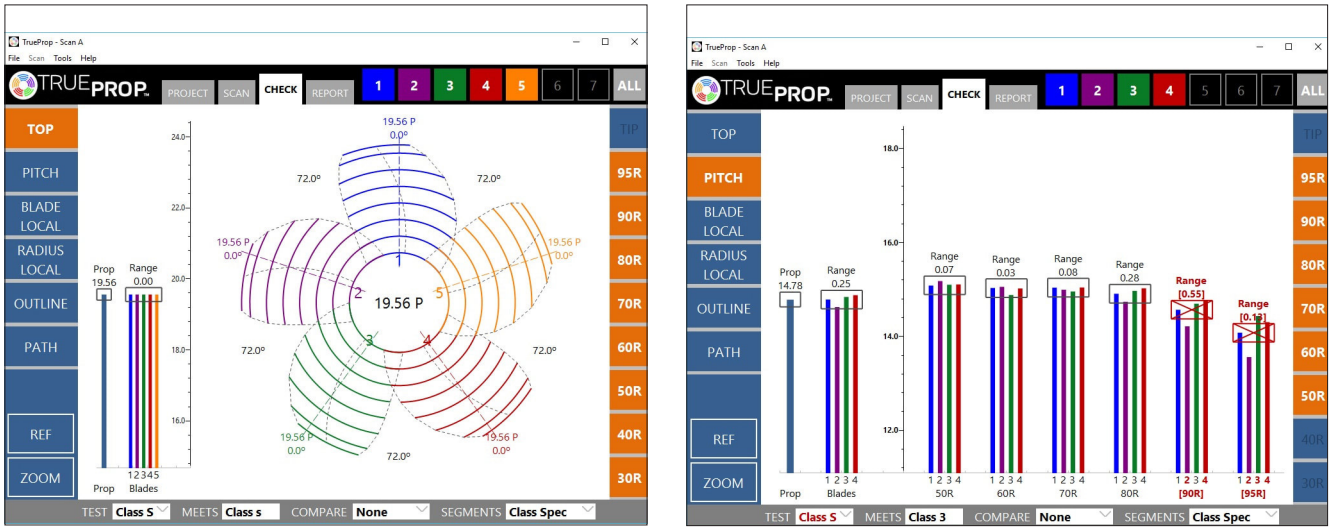
Propeller inspection project assesses software advances

Six US-based companies are collaborating to find ways of further improving the propeller inspection and repair process via user-friendly software



Screenshots showing the TrueProp software in use

A new Joint Industry Project (JIP) called 'Improved Propeller Inspection and Metrology' is now underway in the United States. The six-member JIP – which includes TrueProp Software, HydroComp, Linden Propeller, Padgett-Swann Machinery, Wildcat Propeller and Argonaut Enterprises – was initiated earlier this year, with propeller specialists at HydroComp taking the lead.

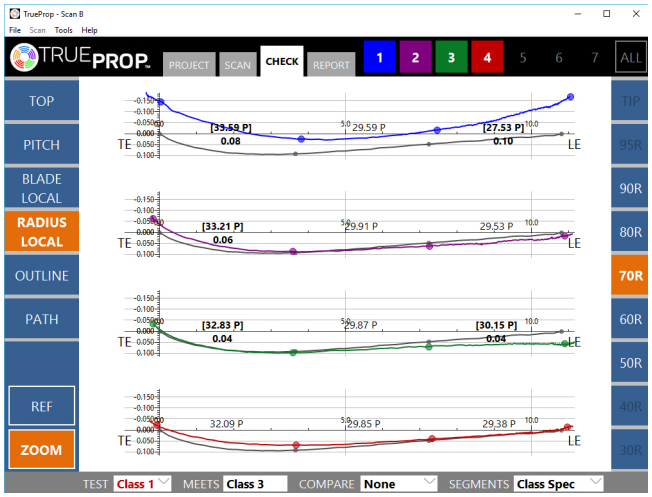
Geometric inspection of a propeller blade's shape is a critical step in assuring the quality of a propeller repair. The JIP aims to resolve a number of current deficiencies that have been identified in metrology, compliance criteria and inspection practices to achieve positive results. These include improved productivity, cost savings, better outcomes and enhanced connectivity for new and legacy inspection devices. In particular, JIP members will take part in the development, application and testing of new modules within TrueProp's propeller inspection software.

A sister company to HydroComp, TrueProp was established in 2017 and specialises in the development of software for marine propeller inspection purposes. It is claimed that it has produced the only 'device agnostic' software currently available for propeller inspection and repair activity.

Taking up the challenge

In early 2016, New Hampshire-based HydroComp was contacted by the manufacturer of a new propeller inspection device (sometimes referred to as a pitchometer) with a specific requirement to create a new inspection software system. In addition to the need for software within new devices, many existing measurement device manufacturers no longer support the original software. HydroComp quickly realised the urgent need for updated software to address the intricacies of propeller inspection and repair, and so took on the challenge.

Lead development engineer, Adam Kaplan, says: "Propellers are a critical component in the propulsion system.



TrueProp software is compatible with almost all inspection devices

They operate under high loads in a harsh environment, and periodically need to be inspected to ensure optimal performance, fuel economy and quiet operation. But propeller inspection and repair is a highly specialised field and technicians must take hundreds of individual measurements and determine which areas of the blade are out of tolerance. This repair process is an incredible mixture of experience and engineering and, given growing demand levels, it is critical the industry has access to improved software that is easy to implement and compatible with existing hardware."

Cost savings

By setting up TrueProp Software, HydroComp hopes to provide a solution. Its principal product – also called TrueProp – is propeller inspection and repair software that aims to offer cost savings for repair facilities and improved performance for ship owners. It uses ISO 484 manufacturing tolerance along with proprietary algorithms to calculate the minimum required movement of the blade.

Kaplan explains: "TrueProp guides you through the measurement and evaluation process during a propeller repair. The software automatically interprets the propeller blade surfaces to identify damaged areas, and immediately allows technicians to quantify the differences between each blade and perform repairs efficiently. This provides the technician with a clear roadmap to a high-quality propeller repair that is faster and more effective, enabling repair professionals to work smarter, not harder."

Real-time scanning

TrueProp therefore simplifies the 'black art' of propeller repair with real-time scanning and the generation of reports that define the initial condition of the propeller, the necessary repair and the optimal condition of the repaired propeller. Using the system, repair workshops can generate professionally-formatted reports to provide customers with a clear understanding of the before-and-after condition of their propeller.

The TrueProp software is based around algorithms that automatically calculate reference geometry and can scan both left and right-handed propellers in the same project on a range of Windows devices, including touchscreen tablets. According to Jill Aaron, managing director of TrueProp Software: "TrueProp brings to the market a flexibility that is necessary to upgrade the propeller repair process. As the only software that is compatible with practically any new or existing propeller inspection device it allows users to minimise their investment requirements by upgrading existing measurement devices or using new ones. Either way they can quickly start using the industry's newest and most accessible propeller inspection and repair software."

TrueProp claims its software can add value to any inspection process. Aaron adds: "It has a modern Windows interface that evaluates blades with proprietary mathematics and produces professional reports for customers. TrueProp exposes out-of-tolerance areas, reduces manual effort, increases shop efficiency and improves your bottom line." *SR*