Aug 13th, 9:00 AM - 10:15 AM

Holographic Micro-simulations to Enhance Aviation Training with Mixed Reality

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Tapping into Mixed Reality to Enhance Aviation Training with Micro-simulations

National Training Aircraft Symposium 2018
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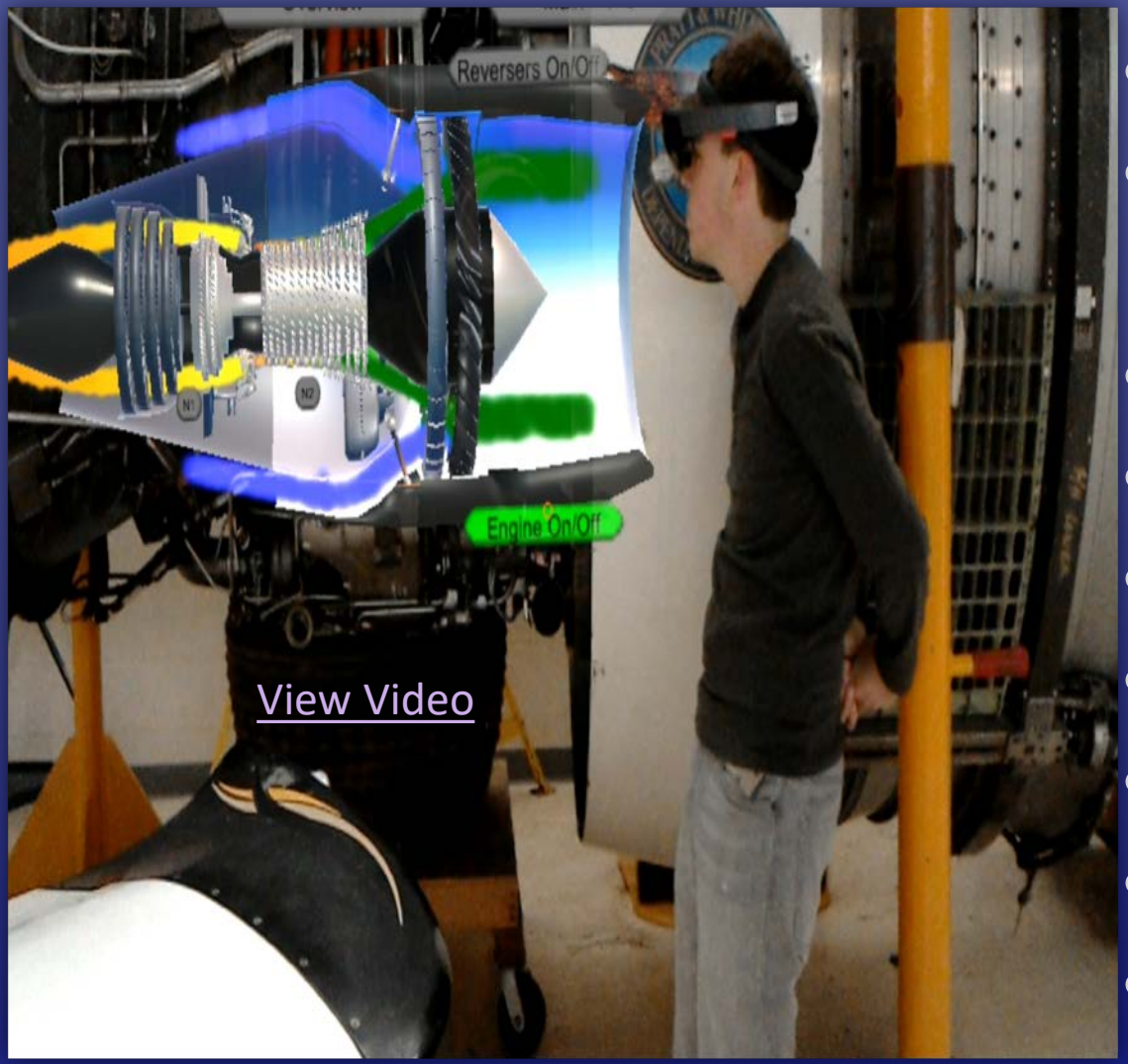
Western Michigan University, College of Aviation
Punta Gorda, Florida

HOW CAN WE USE MIXED AND AUGMENTED REALITY MICRO-SIMULATIONS AVIATION TRAINING?



- Create Virtual Laboratories
- Bridge the gap between classroom and simulation
- Procedure Training
- Aircraft Systems Training
- Aircraft Familiarization
- Maintenance Training-Operations
- Cabin familiarization and training
- Virtual manuals
- Hands Free Remote assistance
- Enhance Printed material

Bridge the gap between classroom and simulator with MR Micro- simulations.

Instructor can see what the student is doing computer and interact in real time from any location. Session is filmed for debrief.

INTEGRATING MIXED REALITY MICRO-SIMULATIONS INTO THE CLASSROOM AT WESTERN MICHIGAN UNIVERSITY

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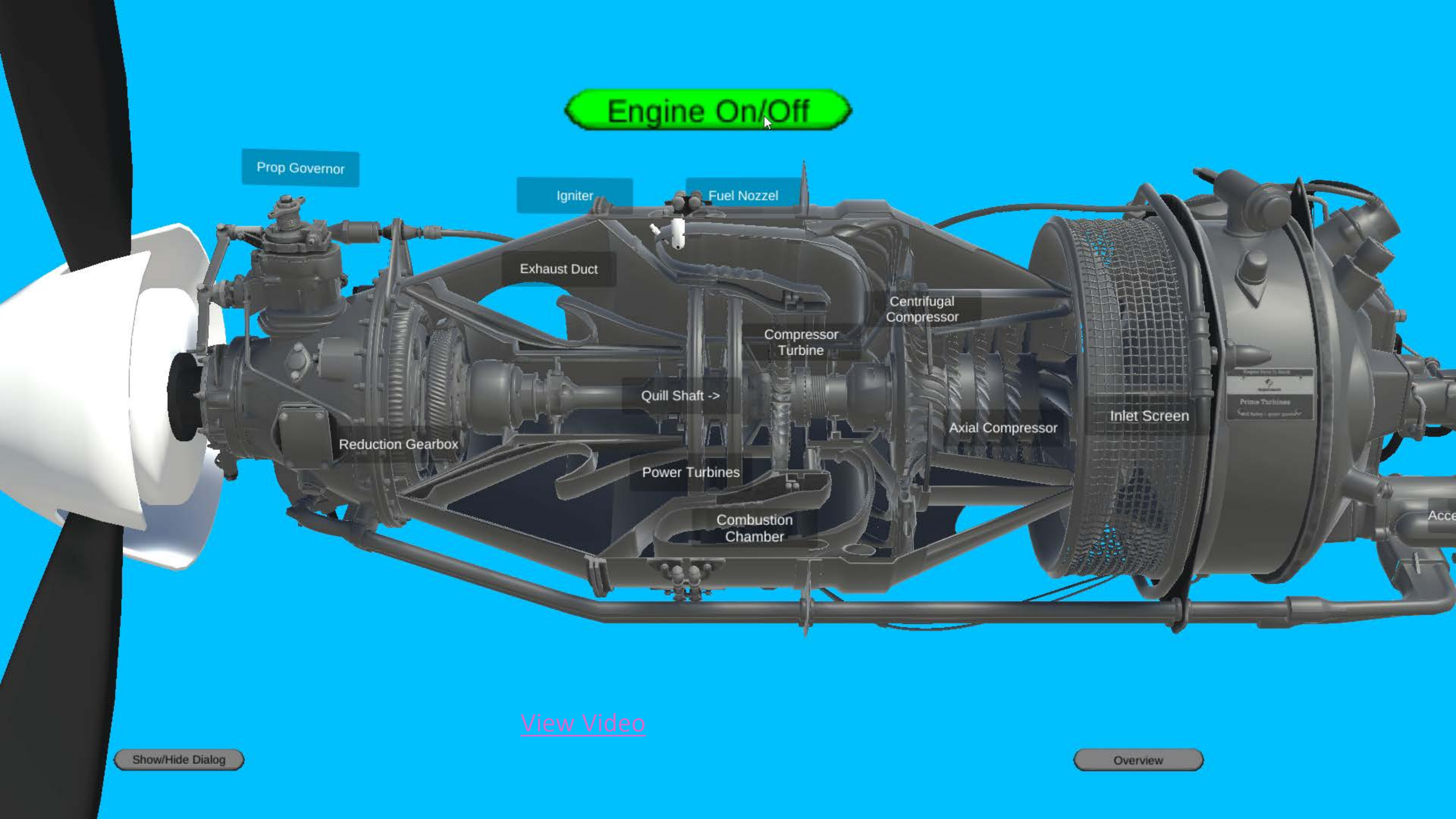
Create Virtual Training Elements and Lab equipment when Space and Resources are lacking.

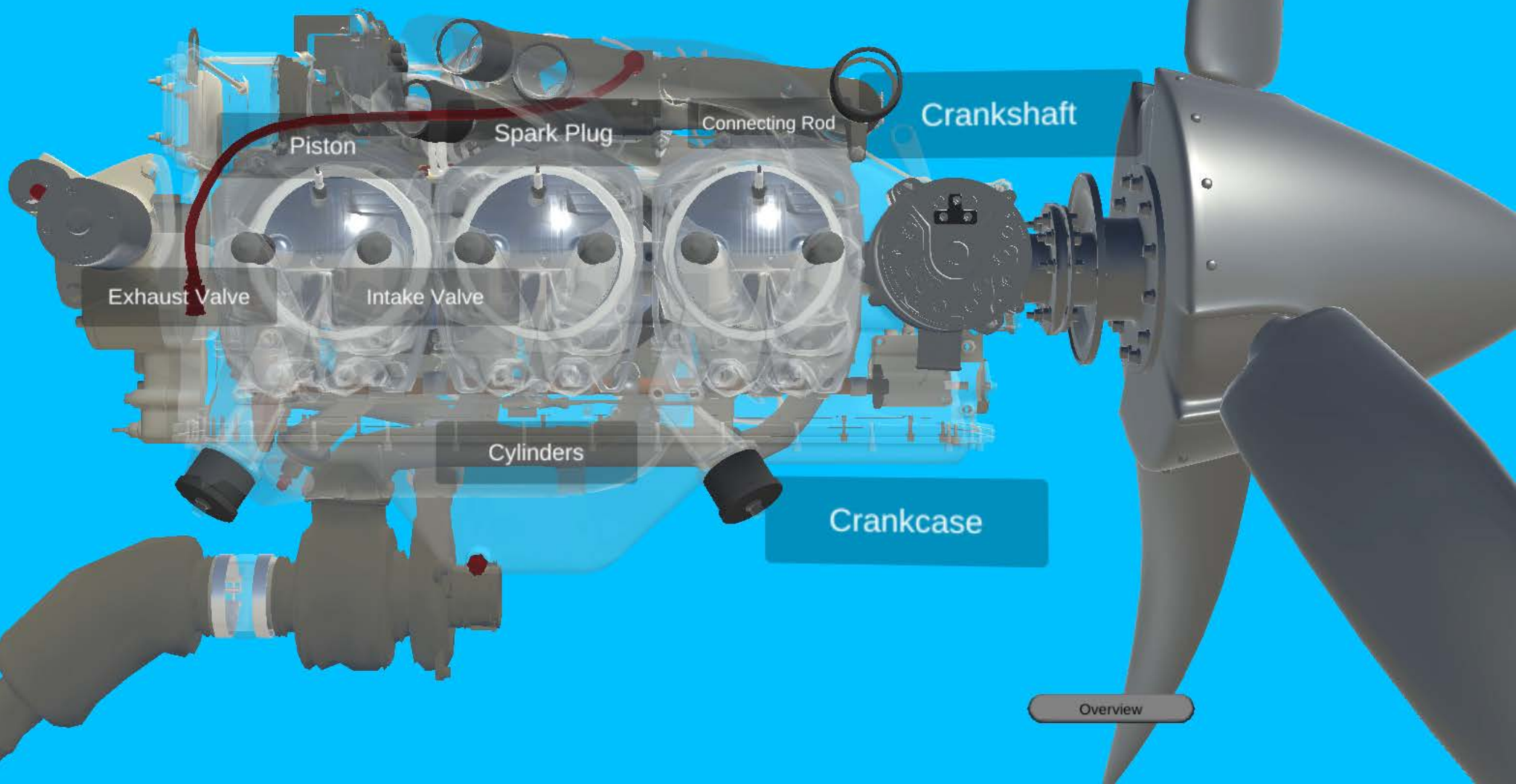
WMU Mixed Reality Laboratory for Aircraft Systems Training


Engine On/Off
Prop Governor
Igniter
Fuel Nozzel
Exhaust Duct
Centrifugal Compressor
Compressor Turbine
Quill Shaft ->
Reduction Gearbox
Axial Compressor
Inlet Screen
Power Turbines
Combustion Chamber
View Video
Show/Hide Dialog
Overview

The Otto Cycle

Engine On/Off

View Video



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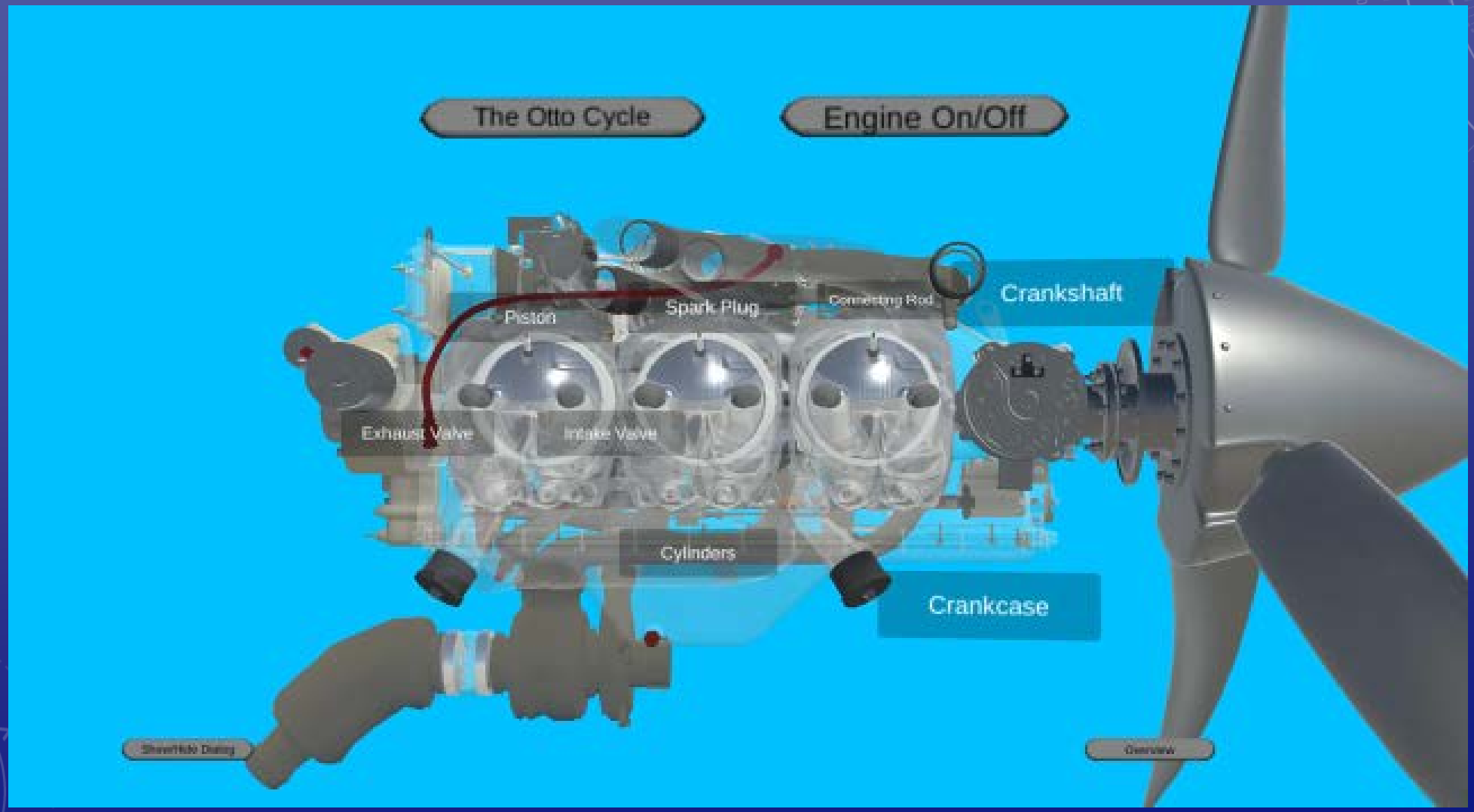
Overview

Partially online AMT Maintenance programs reduce on-ground hands-on training reduced to only 7 months using interactive 3D modeling micro-simulations.

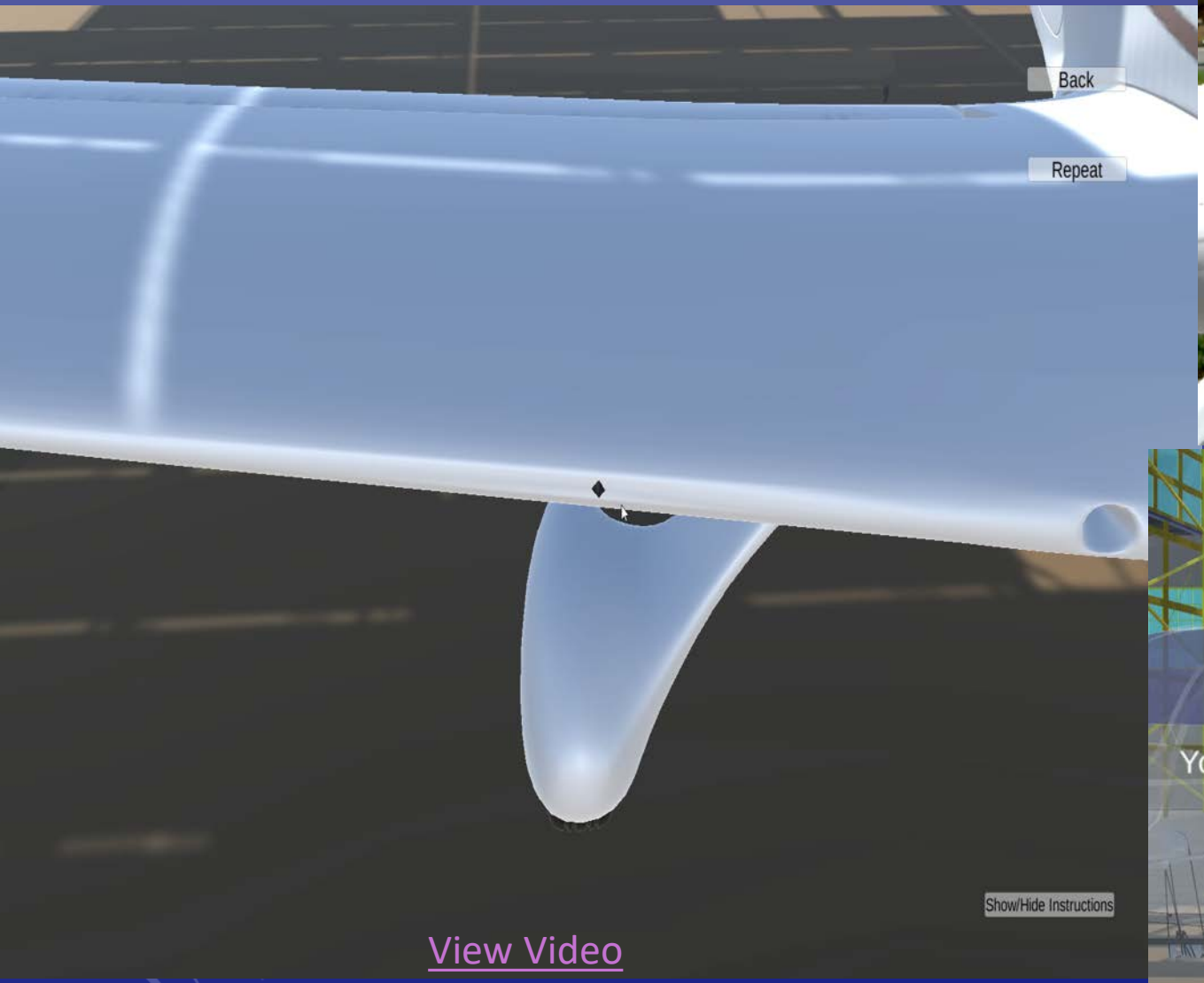


Transferring procedures training from the simulator to the HoloLens

- Cockpit Systems Integration
- Scenarios for each QRH Procedures
- Practice malfunctions
- Assessments
- Brings the simulation into any learning space
- Hands on Practice
- Micro- simulations
- Aircraft preflight/walkaround

Aircraft Preflight, Familiarization and Safety Checks

WMU Cirrus SR22 Aircraft Preflight



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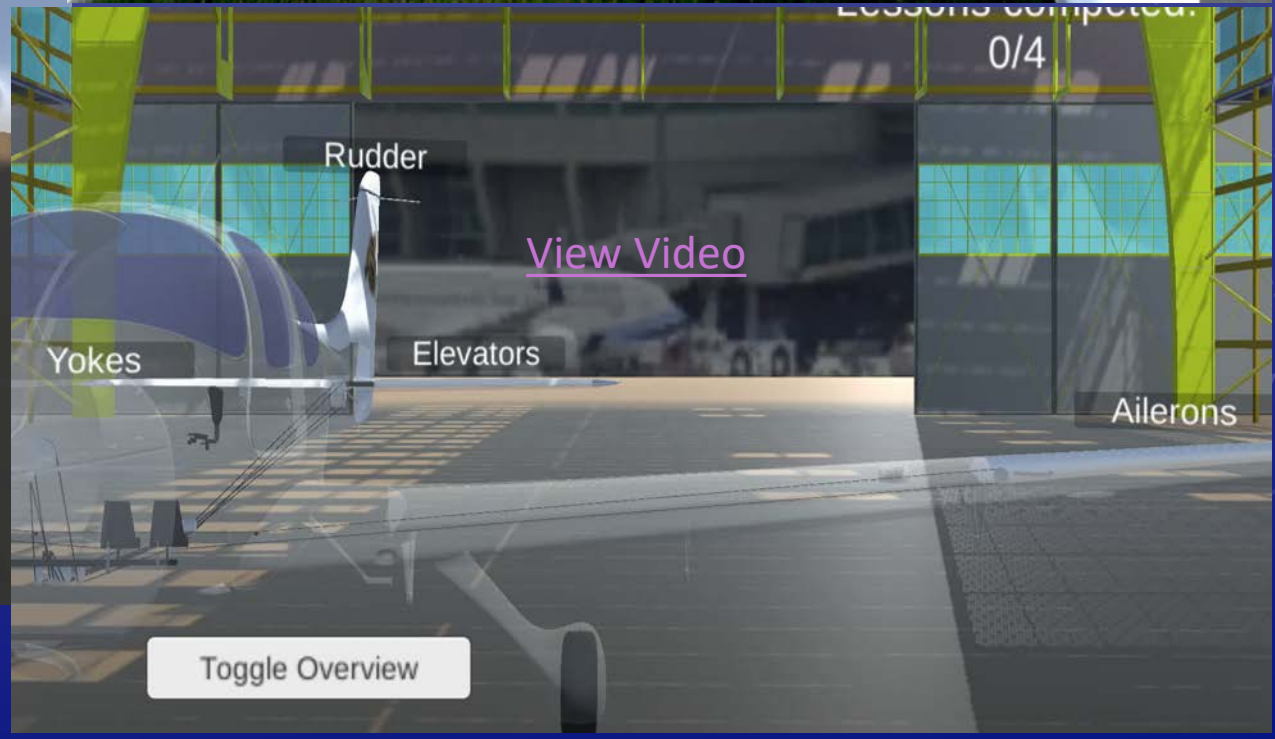
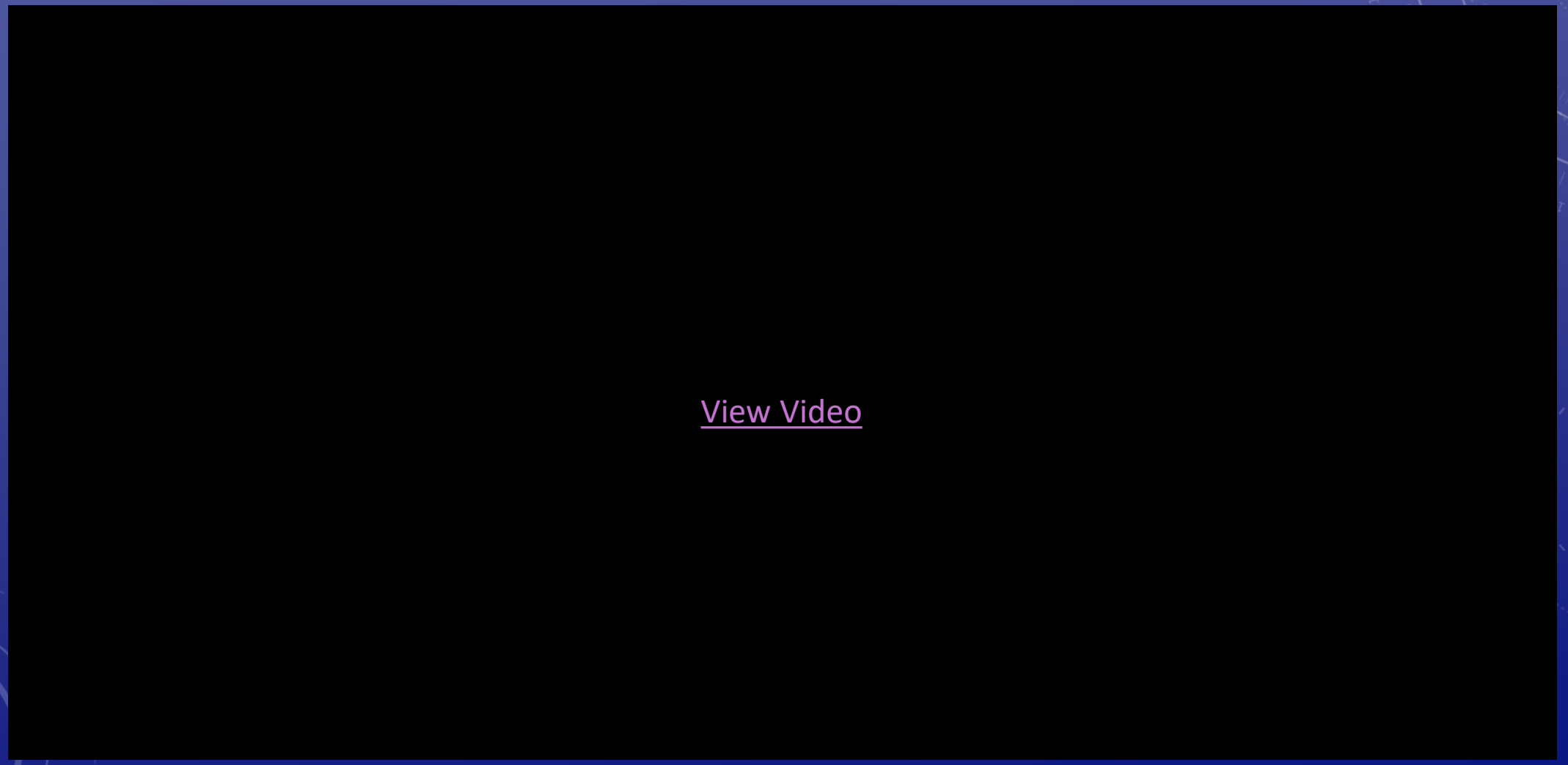


View Video

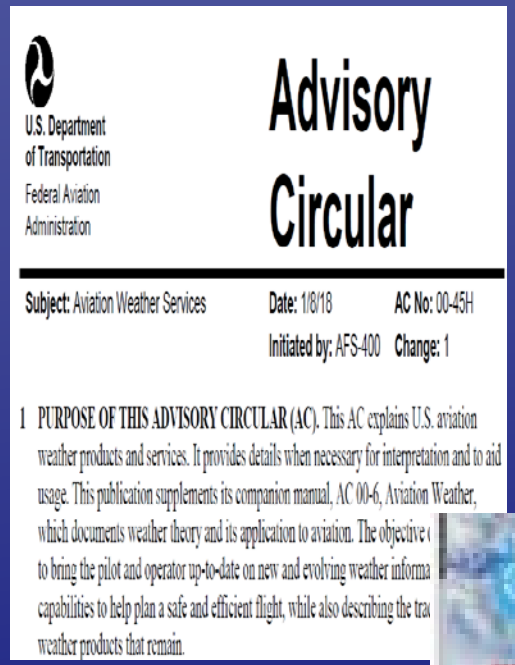
Remote Expert Mode connects the crewmember to ground control via Skype. The person in the maintenance facility and the one in office are both seeing the same thing at the same time. Maintenance can get guidance for problems in real time as well as visual help.



Augmented reality using tablets and phones

WEATHERXPLORE DEMO APP

- Funded by FAA PEGASAS Center of Excellence, Weather Technology in the Cockpit Program
- Free Download from iTunes or Google Play

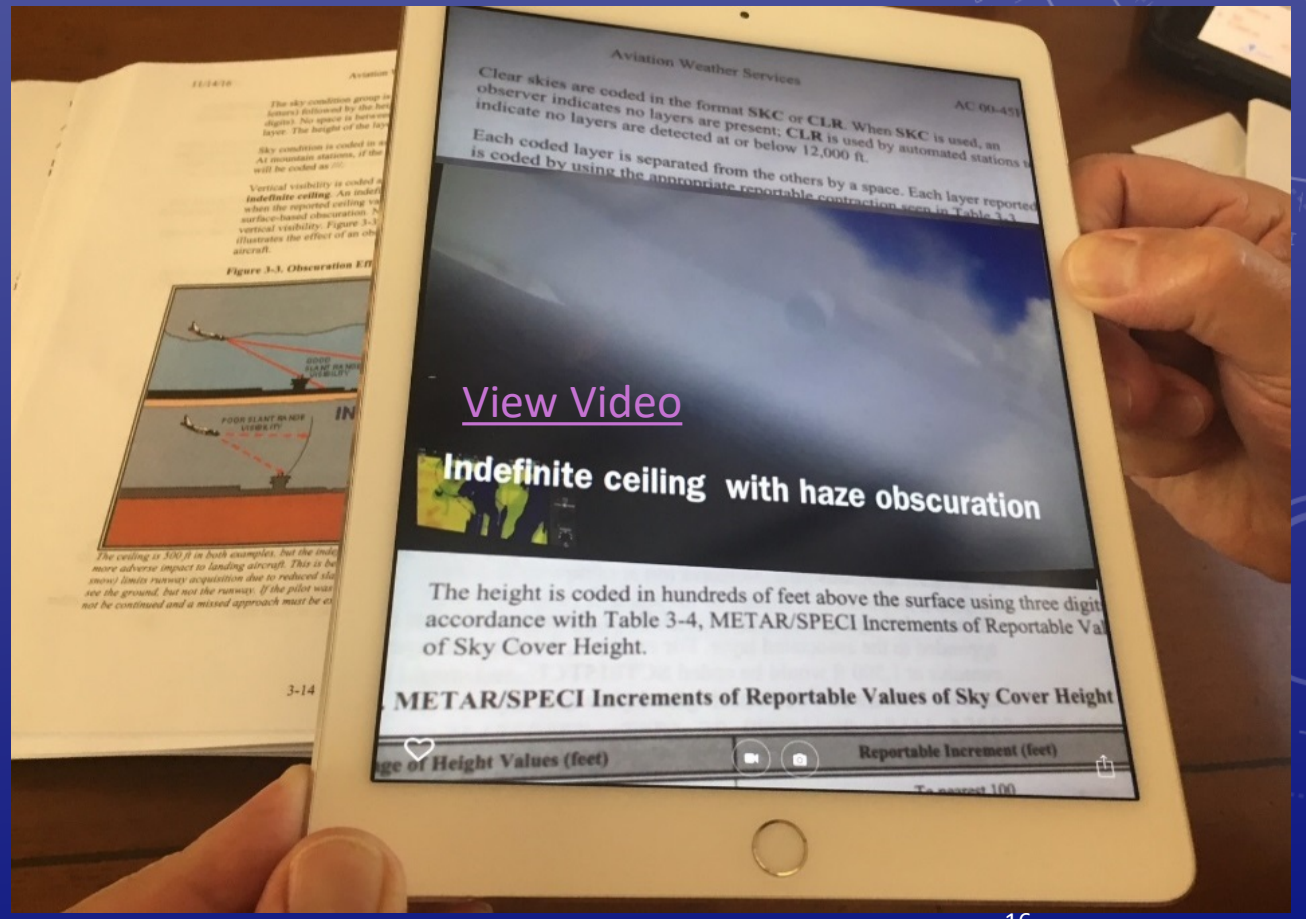


U.S. Department of Transportation
Federal Aviation Administration

Advisory Circular

Subject: Aviation Weather Services **Date:** 1/8/18 **AC No:** 00-45H
Initiated by: AFS-400 **Change:** 1

1 PURPOSE OF THIS ADVISORY CIRCULAR (AC). This AC explains U.S. aviation weather products and services. It provides details when necessary for interpretation and to aid usage. This publication supplements its companion manual, AC 00-6, Aviation Weather, which documents weather theory and its application to aviation. The objective
to bring the pilot and operator up-to-date on new and evolving weather informa
capabilities to help plan a safe and efficient flight, while also describing the tra
weather products that remain.



IDENTIFY THE PROBLEM OR GAP TO FIND BEST SOLUTION


validate
to
me

The future is in artificial intelligence and XReality

“adaptive syllabus” where artificial intelligence (AI) updates the learning plan in real time to keep the student constantly in the zone of proximal development where they are challenged the optimal amount for learning.


The best way to predict the future is to invent it.
It is a very good time to start inventing the
future of aviation training.
Join me on this journey
For more information contact:
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