

# AEDC completes reverse engineering of TF34 engine kit



The reverse engineering of a TF34 50-10000 Quick Engine Change (QEC) kit for the Air Force Life Cycle Management Center (AFLCMC) was completed at AEDC.

With assistance from skilled AEDC personnel, the AFLCMC was able to save thousands of dollars on this task.

The control and adaptor kit enables the A-10/TF34-100 Turbofan Engine to test on the A/M 37T-20C Jet Engine Test Stand used for sea level testing by many Air Force installations.

Due to aging field test assets, AFLCMC leadership considered manufacturing new kit components. However, the database of existing TF34 QEC kit drawings did not contain sufficient information for fabrication.

AEDC was tasked with reverse engineering an existing kit by disassembling the individual components and taking sufficient measurements to produce a drawing package that will be used for manufacturing kit components. To enable greater accuracy and save time over hand measurements, AEDC procured a 3-D laser scanner for obtaining the needed dimensions of each kit component.

ATA Lead Designer Jim Childers helped significantly reduce the cost of the project by carefully researching the existing Air Force drawing database and discovering several TF34 50-10000 QEC kit drawings could be redrawn with very little modification.

With AEDC successfully completing the disassembly process, measuring and reproducing the bill of material fabrication drawings, AFLCMC will be able to contract for the production of new kits.



Shown is the adapter portion of the kit where the engine is mounted.

The yellow screen covering the bellmouth helps protect the engine from foreign object damage.

