Honeywell

SERVICE INFORMATION LETTER

Engines, Systems & Services – Phoenix, Arizona

APPLICABLE: ☒ **MAINTENANCE & ENGINEERING** ☐ **FLIGHT OPERATIONS**

FOR ALL AIRFRAME MANUFACTURERS USING GENERAL AVIATION, GENERAL PRODUCTS AND/OR AUXILIARY POWER UNITS, OWNER/OPERATORS, DISTRIBUTORS, SALES AND SERVICE ORGANIZATIONS, AND FIELD SERVICE REPRESENTATIVES.

Applicable To: Auxiliary Power Unit, RE220[GX]

Subject: APU Seizure Due to Compressor Shroud Corrosion

Purpose: To advise field personnel of an optional procedure that can be used to free the rotation of an APU in case of a seizure due to compressor shroud corrosion.

Background: Honeywell has issued a Service Bulletin (RE220-49-7792) that provides a repair of the compressor shroud to protect against APU engine compressor shroud corrosion.

The surface of the compressor shroud is made of an abradable material. This abradable material (METCO 601) is aluminum based and fairly porous. The surface aluminum is subject to minor corrosion from salty environments that does not affect the operation of the rotating group. In extreme cases, moisture can carry the salt into the pores of the abradable material and create corrosion in pockets underneath the abradable surface. This corrosion can cause the material to lift, which can interfere with the operation of the impeller. This lift can become severe enough to cause the APU not to start (rotate) due to rotor seizure. If the APU fails to rotate during a start attempt, no RPM will be indicated on the EICAS and the messages that follow will be shown.

EICAS – APU SHUTDOWN (ADVISORY)
CAIMS – APU NO CRANK

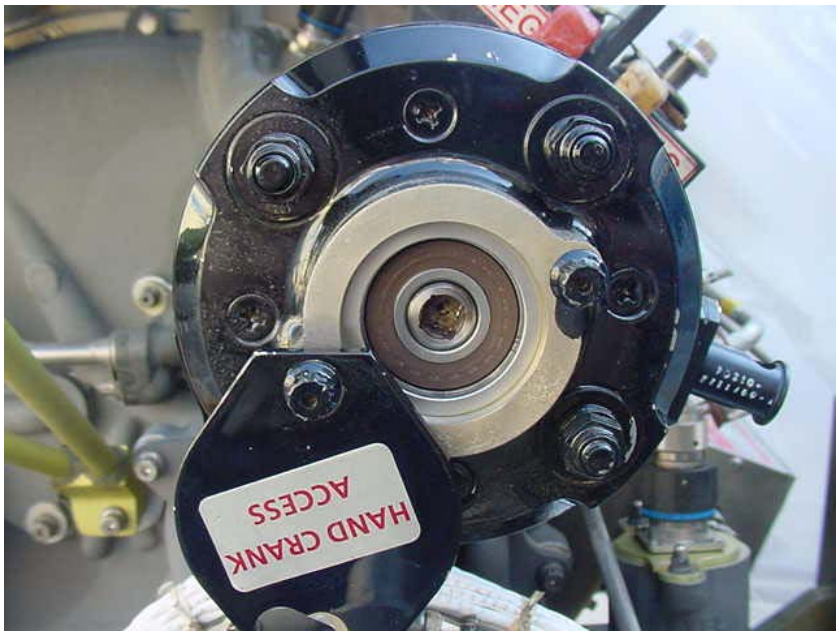
Discussion: In the case of seizure, operators have found that it may be possible to temporarily free APU rotation. Do the procedures that follows to attempt to temporarily free APU rotation.

With the APU access door open, locate the APU starter. On the end of the starter is an end plate labeled “HAND CRANK ACCESS”. Remove the end plate to expose the manual hand crank access port. (See picture on page 2.)

With the end plate removed, install a 1/4” square drive extension into the hand crank port on the APU starter. Install a torque wrench on the 1/4" square drive extension. Set the torque wrench to 60 foot/pounds.

CAUTION: DO NOT EXCEED 60 FOOT/POUNDS OF TORQUE WHILE ATTEMPTING TO ROTATE THE APU.

Use the torque wrench and slowly rotate the APU starter (if possible) in the counter-clockwise direction. DO NOT shock load the APU starter or exceed the 60 foot/pounds setting on the torque wrench while rotating the APU starter. Continue to rotate the APU for at least two revolutions or until the APU rotates freely. If the torque limit is reached and the APU does not rotate, **STOP!** Do not exceed the torque limit. The APU must be removed from the aircraft and returned to a Honeywell Repair and Overhaul shop for corrective action.



CAUTION: IF THE APU DOES NOT START IN A NORMAL MANNER OR LOUD NOISES ARE HEARD DURING THE START CYCLE, STOP THE APU IMMEDIATELY AND DO NOT ATTEMPT FURTHER STARTS.

If the APU rotates freely by following this procedure, remove the torque wrench and 1/4" drive extension, replace the end plate, and attempt to start the APU normally.

If the APU starts in a normal manner with no unusual noises heard, check indications of APU RPM and EGT. If all readings are normal, return the APU to service.

NOTE: This procedure is for a one-time use only. The shroud abradable material will continue to delaminate and rotor seizure will again occur. It is advised to use this procedure only when necessary in order to return the aircraft to the nearest service center for removal/replacement of the APU.