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: Honeywell APU RE220[GX] and RE220[RJ]

Subject: Uncommanded shutdowns of APU.

Purpose: To advise the field of possible combustor plugging and subsequent uncommanded shutdowns of APU.

Background: In service experience with the RE220[GX] and RE220[RJ] APUs has revealed that uncommanded shutdowns may occur from combustor effusion hole plugging.

Effusion holes are used to provide cooling air to control combustor wall temperatures. Once these holes become plugged, the cooling air instead flows to the combustion area, which creates a lean fuel/air mixture. If the effusion holes are plugged severely enough, the lean fuel/air mixture can cause the unit to flame out and shutdown.

Experience has shown the following fault messages as recorded by the APU ECU to be associated with uncommanded shutdowns and/or combustor plugging:

<u>RE220[GX]</u>

APU / S/D SPEED ROLLBACK	(CAIMS fault code 4960139APU)
APU / S/D FAILED RELIGHT	(CAIMS fault code 4960146APU)
APU / UNDERSPEED	(CAIMS fault code 4960137APU)

<u>RE220[RJ]</u>

APU / S/D SPEED ROLLBACK
APU / UNDERSPEED

The majority of the uncommanded shutdowns have occurred during APU idle with no pneumatic load or during a load transient, typically from a pneumatic load condition to a non-pneumatic load condition.

In the case of the RE220GX, there have been cases where the APU shuts down immediately after being command off and will skip the cooling cycle. Please refer to the applicable FIM for fault interrogation.

Discussion: Units that have been returned for uncommanded shutdowns and have exhibited plugged effusion holes will have the combustor washed. The combustor is removed from the engine and washed with a solution prior to reinstallation on the engine.

Honeywell is currently conducting an investigation to determine if the combustor can be washed on-wing.

If an operator is experiencing uncommanded shutdowns, please contact your local Honeywell or Bombardier Field Service Representative.