

INVESTIGATION/8D REPORT

Class: 1 Published: 06-MAY-2014 (D8)

CUSTOMER HONEYWELL ENGINES & SYSTEMS					1075867
CUSTOMER ORDER NONE		woodward sales order 3161646			WOODWARD WORK ORDER 778556
USTOMER REJECTION DOCUMENT (CAR,QN RFA DMR,ETC.) N/A		WARRANTY DISPOSITION N/A		PRODUCT STATUS 1 RCVD	
PROGRAM/ENGINE TYPE GARRETT			8070-302		ENGINE MFR. MODEL RECEIVED N/A
PROGRAM CODE 82228	21329		8070-302		893561-26
PARENT ITEM NUMBER 8070-302	21329	EM SERIAL NUMBER	FIRST SHIPPED 22-JUL-1988		13-JAN-1993
CUSTOMER SERIAL NUMBER N/A	APPLICATION N/A	ON	VESSEL TYPE & VESSEL NUMBER Gulfstream AM 690C N840V		SITE & LOCATION GRID ID N/A N/A
TIME/CYCLES SINCE NEW, OVERHAUL, OF	REPAIR				
DATE REPORT OPENED 29-APR-2014	DATE PART REMOVED N/A			DATE RECEI	VED PR-2014

TEAM MEMBERS (D1)

Product Engineer:
Customer QA Engineer:

Tech Advisor/Reviewer: Steven A. Krugler

Customer Account Manager: Customer Service Rep:

ger:

PROBLEM DESCRIPTION (D2)

Reported Problem: UNIT WAS REPORTEDLY INVOLVED IN AN INCIDENT ON FEB. 3, 2014 IN BELLEVUE TENENESSEE TPE331. GULFSTREAM AM 690C N840V

CONTAINMENT/IMMEDIATE ACTIONS (D3)

INVESTIGATION SUMMARY (D4)

Confirmation Text: NO REPORTED PROBLEM

Conclusion:

A visual as-received inspection was performed. The cover was missing therefore the unit could not be identified from the nameplate. The case number marked on the housing was identified as 722 and was cross-referenced to Woodward shipping records to determine the unit serial number. S/N 2132980 was last shipped from Woodward as model 8070-302 in January 1993. The presence of foreign lockwire indicates the unit was serviced by another facility since it was last shipped from Woodward.

The unit was found to have extensive impact damage. Portions of the housing were fractured and missing such that the internal mechanical linkage was exposed. The portion of the housing containing the Pt2 bellows and 3D cam shaft was fractured and missing. The majority of the computer linkage assembly was also missing.

The portion of the housing containing the Ps3 sensor was fractured and separated from the control. The Ps3 rack was bent and there was a hole in the Ps3 cap. The drive spline was intact but did not spin freely. The pump mounting pad was fractured and missing from the housing.

Due to the extensive damage to the unit, as-received testing could not be performed. The unit was then disassembled for inspection. The vespel stub shaft was removed and no evidence of damage or wear on the splines was observed. The accel limit bracket was bent such that the remaining portion of the computer linkage could not be removed from the bracket. The accel limit shaft was broken off in the fuel valve cover.

The overspeed and underspeed governors were disassembled and removed from the control. The bearings and flyweights in both governors were found to move freely.

ROOT CAUSE (D4)

Investigation Type: Product Return General Cause: No Problem Found

Cause Notes:

The unit was disassembled for inspection and no evidence of a pre-incident malfunction was found. All damage observed was consistent with impact.

CORRECTIVE ACTION PLAN (D5)

General Corrective Action: No Action without Additional Customer Input



INVESTIGATION/8D REPORT Class: 1 Published: 06-MAY-2014 (D8)

		Class: 1	Published: 06-MAY-20	<u>014 (</u> E
	Corrective Action: No corrective action required of Woodward.			
				4
				E
1				