

DCA21FA174

MAINTENANCE RECORDS

Group Chair's Factual Report - Attachment 8

Engine Shop Records

December 16, 2022

1. Approving Civil Aviation Authority Country: FAA United States		2. AUTHORIZED RELEASE CERTIFICATE FAA Form 8130-3 AIRWORTHINESS APPROVAL TAG			3. Form Tracking Number: 193000	
4. Organization Name and Address: APECS Engine Center APECS ENGINE CENTER, LLC 13642 SW 142 nd AVE MIAMI, FL 33186 FAA REPAIR STATION No. E13R628Y					5. Work Order Contract Invoice Number: 193000/ B200245R/ 193000	
6. Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status Work:	
1	Turbo Wasp Engine	JT8D-9A	1 each	674548	Repaired	
12. Remarks: Engine was processed to comply with ASB G131, LLP change and Combustion Area Inspection. All work performed was accomplished i/a/w the Pratt & Whitney JT8D Engine Manual PN 181672, R179. The following FAA airworthiness directives were accomplished: AD 94-24-14, 94-25-07 & 2003-12-07 Engine TSN: 3124970 CSN: 31585 Pertinent details of the inspection are on file at this repair station under work order number 193 000.						
13a. Certifies the items identified above were manufactured in conformity to: ☐ Approved design data and are in a condition for safe operation. ☐ Non-approved design data specified in Block 12		14a. ☒ 14 CFR 43.9 Return to Service. ☐ Other regulation specified in Block 12. Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, Part 43 and in respect to that work, the items are approved for return to service.				
13b. Authorized Signature:	13c. Approval Authorization No.:				14c. Approval Certificate No.:	
					E13R628Y	
13d. Name (Type or Printed):	13e. Date (dd mmm yyyy):	Fred Laemmerhirt			14e. Date (dd mmm yyyy): 19 SEP 2019 05 JUL 2021 R1 ESN Type.	
User/Installer Responsibilities						
It is important to understand that the existence of this document alone does not automatically constitute authority to install the aircraft engine(s) propeller(s) article(s). Where the user installer performs work in accordance with the national regulations of an airworthiness authority different than the airworthiness authority of the country specified in Block 1, it is essential that the user installer ensures that his/her airworthiness authority accepts aircraft engine(s) propeller(s) article(s) from the airworthiness authority of the country specified in Block 1. Statements in Block 13a and 14a do not constitute installation certification. In all cases, aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user installer before the aircraft may be flown.						



US Department
of Transportation
Federal Aviation
Administration

MAJOR REPAIR AND ALTERATION
(Airframe, Powerplant, Propeller, or Appliance)

Form Approved
OMB No. 2120-0020
2/28/2011

Electronic Tracking Number

For FAA Use Only

INSTRUCTIONS: Print or type all entries. See Title 14 CFR §43.9, Part 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form. This report is required by law (49 U.S.C. §44701). Failure to report can result in a civil penalty for each such violation. (49 U.S.C. §46301(a))

1. Aircraft	Nationality and Registration Mark	Serial No.	
	Make	Model	Series
2. Owner	Name (As shown on registration certificate)	Address (As shown on registration certificate)	
		Address _____	
		City _____ State _____	
		Zip _____ Country _____	

3. For FAA Use Only

4. Type		5. Unit Identification			
Repair	Alteration	Unit	Make	Model	Serial No.
☐	☐	AIRFRAME	_____	(As described in Item 1 above)	_____
☒	☐	POWERPLANT	PRATT & WHITNEY	JT8D-9A	P674548
☐	☐	PROPELLER	_____	_____	_____
☐	☐	APPLIANCE	Type _____	_____	_____
			Manufacturer _____		

6. Conformity Statement

A. Agency's Name and Address		B. Kind of Agency		C. Certificate No. E13R628Y
Name <u>APECS Engine Center</u>		☐ U. S. Certificated Mechanic		
Address <u>13642 SW 142nd Ave</u>		☐ Foreign Certificated Mechanic		
City <u>MAMI</u> State <u>FL</u>		☒ Certificated Repair Station		
Zip <u>33186</u> Country <u>USA</u>		☐ Certificated Maintenance Organization		

D. I certify that the repair and/or alteration made to the unit(s) identified in item 5 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

Extended range fuel per 14 CFR Part 43 App. B ☐	Signature/Date of Authorized Individual  Sept 19, 2019
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7. Approval for Return to Service

Pursuant to the authority given persons specified below, the unit identified in item 5 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is ☒ Approved ☐ Rejected

BY	FAA Flt. Standards Inspector	Manufacturer	Maintenance Organization	Persons Approved by Canadian Department of Transport
	FAA Designee ☒	Repair Station	Inspection Authorization	Other (Specify)

Certificate or Designation No. E13R628Y	Signature  Sept 19, 2019
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NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. Description of Work Accomplished

(If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

Nationality and Registration Mark

Date

Model JT8D-9A Engine Serial Number: P674548

Engine Total Time: 31249.70 Engine Total Cycles: 31585

Subject engine was received to comply with ASB 6431 and to replace life limited parts.

The Low Pressure Compressor was removed and replaced with a serviceable unit from ESN 674544-9A. The C1, C2, C3, C4, C5 and C6 disk/blade assemblies were inspected per EM sec. 72-33-00, chk-01 as accessible. The intermediate case section was cleaned and inspected and repaired as accessible, replaced the 8th stage bleed valve.

The High Pressure Compressor was disassembled to comply with ASB 6431. The C10 disk and blades were replaced with overhauled units. The C7, C8, C9, C11 and C12 disks were disassembled, inspected and overhauled. Installed overhauled blades. The C13 disk/blade assembly was replaced with a serviceable unit. The C7 through C12 stators were overhauled and newly coated with PWA 110. The spacers and hubs were cleaned, inspected and repaired as necessary. The module was reassembled dynamically balanced.

The Diffuser section was removed, cleaned, inspected and repaired as required. The #4 bearing, seals and scavenge pump were cleaned and inspected. The fuel nozzles were cleaned and pressure checked. The C13 stator was replaced with an overhauled unit.

The Combustion section was disassembled, inspected and repaired. The combustion Chambers were continue time inspected per ASB 5639r1 Category 2A (see form AEC-4114). The turbine nozzle case was removed and replaced with a serviceable unit (post S/B 5021). Installed an overhauled inner outlet duct. Installed a thick wall, one piece configuration outer combustion case P/N: 806748.

The High Pressure Turbine disk/shaft assembly was replaced with a serviceable unit (post S/B 5021). The module was cleaned, inspected, repaired and balanced. The #5 carbon seal was disassembled, inspected and flow checked (Post ASB 6196).

The Low Pressure Turbine was disassembled to replace LLP's. The T2, T3 and T4 disks were replaced with serviceable units. The module was inspected, repaired, re-assembled and check balanced. The #4 1/2 and #6 bearings and seals were cleaned and inspected.

The Exhaust section was cleaned and inspected and repaired. The EGT harness was checked for continuity. The Pt7 system was pressure checked.

All engine accessories were functionally checked. The Fuel Control. Fuel Pump, P&D valve, PRBC and Exciter Box were replaced (not received). The main accessory gearbox was dissembled, visually inspected re-sealed.

All pertinent Airworthiness Directives were reviewed and were found to be current. The followings AD's were accomplished this shop visit: 96-24-14 (AD is terminated) and 03-12-07 (HPC disk Inspection). Pertinent details for these and all other AD notes can be found on AEC-AD07 R. The subject engine was re-assembled, tested, and was found airworthy in accordance with Pratt & Whitney Engine Manual P/N 481672 revision #178. Details of the work accomplished are on file at this Repair Station under W.O. 193000

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☐ Additional Sheets Are Attached

1. Approving Civil Aviation Authority/Country: FAA/United States		2. AUTHORIZED RELEASE CERTIFICATE FAA Form 8130-3 AIRWORTHINESS APPROVAL TAG				3. Form Tracking Number: 181000	
4. Organization Name and Address: APECS Engine Center APECS ENGINE CENTER, LLC. 13642 SW 142nd AVE MIAMI, FL 33186 FAA REPAIR STATION No. <u>E13R628Y</u>						5. Work Order/Contract/Invoice Number: 181000/ 657227/ 181000	
6. Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status/Work:		
1.	Turbo Wasp Engine	JT8D-9A	1 each	657227	Repaired		
12. Remarks: Engine was processed to comply with ASB 6431, LLP change and Combustion Area Inspection. All work performed was accomplished i/a/w the Pratt & Whitney JT8D Engine Manual PN 481672, R179. The following FAA airworthiness directives were accomplished: AD 91-24-14, 94-25-07 & 2003-12-07. Engine TSN: 69772.1 CSN: 99283 Note: Engine was preserved I/A/W EM section 72-00-00, Serviceing-02 per ASB 6431R1. Re-inspect ASB 6431 within 4 years after de-preservation. Pertinent details of the inspection are on file at this repair station under work order number 181000.							
13a. Certifies the items identified above were manufactured in conformity to: ☐ Approved design data and are in a condition for safe operation. ☐ Non-approved design data specified in Block 12			14a. ☒ 14 CFR 43.9 Return to Service. ☐ Other regulation specified in Block 12. Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, Part 43 and in respect to that work, the items are approved for return to service.				
13b. Authorized Signature:		13c. Approval Authorization No.:		14b. Authorized Signature:		14c. Approval/Certificate No.:	
				[Redacted Signature]		E13R628Y	
13d. Name (Type or Printed):		13e. Date (dd/mm/yyyy):		14d. Name (typed or printed):		14e. Date (dd/mm/yyyy):	
				Fred Laemmerhirt		5/APR/2019	
User/Installer Responsibilities							
It is important to understand that the existence of this document alone does not automatically constitute authority to install the aircraft engine(s)/propeller(s)/article(s). Where the user/installer performs work in accordance with the national regulations of an airworthiness authority different than the airworthiness authority of the country specified in Block 1, it is essential that the user/installer ensures that his/her airworthiness authority accepts aircraft engine(s)/propeller(s)/article(s) from the airworthiness authority of the country specified in Block 1. Statements in Block 13a and 14a do not constitute installation certification. In all cases, aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.							



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Form Approved
OMB No. 2120-0020
2/28/2011

Electronic Tracking Number

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INSTRUCTIONS: Print or type all entries. See Title 14 CFR §43.9, Part 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form. This report is required by law (49 U.S.C. §44701). Failure to report can result in a civil penalty for each such violation. (49 U.S.C. §46301(a))

1. Aircraft	Nationality and Registration Mark	Serial No.	
	Make	Model	Series
2. Owner	Name (As shown on registration certificate)	Address (As shown on registration certificate)	
		Address	
		City	State
		Zip	Country

3. For FAA Use Only

4. Type		5. Unit Identification			
Repair	Alteration	Unit	Make	Model	Serial No.
☐	☐	AIRFRAME		(As described in Item 1 above)	
☒	☐	POWERPLANT	PRATT & WHITNEY	JT8D-9A	P657227
☐	☐	PROPELLER			
☐	☐	APPLIANCE	Type		
			Manufacturer		

6. Conformity Statement

A. Agency's Name and Address		B. Kind of Agency	
Name	APECS Engine Center	☐ U. S. Certificated Mechanic	☐ Manufacturer
Address	13642 SW 142nd Ave	☐ Foreign Certificated Mechanic	C. Certificate No.
City	MAMI State FL	☒ Certificated Repair Station	E13R628Y
Zip	33186 Country USA	☐ Certificated Maintenance Organization	

D. I certify that the repair and/or alteration made to the unit(s) identified in item 5 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

Extended range fuel per 14 CFR Part 43 App. B ☐	Signature/Date of Authorized Individual  Apr 5, 2019
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7. Approval for Return to Service

Pursuant to the authority given persons specified below, the unit identified in item 5 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is ☒ Approved ☐ Rejected

BY	FAA Fit. Standards Inspector	Manufacturer	Maintenance Organization	Persons Approved by Canadian Department of Transport
	FAA Designee ☒	Repair Station	Inspection Authorization	

Certificate or Designation No. E13R628Y	Signature/Date of Authorized Individual  Apr 5, 2019
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NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. Description of Work Accomplished

(If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

Nationality and Registration Mark

Date

Model JT8D-9A Engine Serial Number: P657227

Engine Total Time: 69772.1 Engine Total Cycles: 99283

Subject engine was received to comply with ASB 6431 (Inspect HPC Disks), AD 03-12-07.

The Low Pressure Compressor was inspected as an assembly and repaired as required. The C1, C2, C3, C4, C5 and C6 disk/blade assemblies were inspected per EM sec. 72-33-00, chk-01 as accessible. The intermediate case section was cleaned and inspected and repaired as accessible, replaced Three 8th stage bleed valves with overhauled units.

The High Pressure Compressor was disassembled to comply with ASB 6431. The C7, C8, C9, C10, C11 and C12 disks and blades were overhauled, assembled and static balanced. The C7, C8, C10, C11, C12 & C13 stators were overhauled. The C13 disk/blade assembly was inspected and static balanced for continued service. All HPC spacers and hubs were cleaned, inspected and repaired as necessary. The module was reassembled dynamically balanced.

The Diffuser section was removed, cleaned, inspected and repaired as required. The #4 bearing, seals and scavenge pump were cleaned and inspected. The fuel nozzles were cleaned, inspected and pressure checked.

The Combustion section was disassembled, inspected and repaired. The combustion Chambers were continue time inspected per ASB 5639r1 Category 2A (see form AEC-4114). The turbine nozzle case was removed, disassembled, inspected and repaired. Install 9 each Overhauled T1 Vanes. Installed a thick wall, one piece configuration outer combustion case P/N: 806748.

The High Pressure Turbine disk was cleaned, inspected, repaired and balanced. The #5 carbon seal was disassembled, inspected and flow checked (Post ASB 6196).

The Low Pressure Turbine was inspected as a module and repaired for continued service. The #4 ½ and #6 bearings and seals were cleaned and inspected. The module was check balanced.

The Exhaust section was cleaned and inspected and repaired. The EGT harness was checked for continuity. The Pt7 system was pressure checked.

All engine accessories were functionally checked. The PRBC and Exciter Box were replaced. The main accessory gearbox external seals were replaced.

All pertinent Airworthiness Directives were reviewed and were found to be current. The followings AD's were accomplished this shop visit: 96-24-14 (AD is terminated) 03-12-07. Pertinent details for these and all other AD notes can be found on AEC-AD07 R. The subject engine was re-assembled, tested, and was found airworthy in accordance with Pratt & Whitney Engine Manual P/N 481672 revision #179. Details of the work accomplished are on file at this Repair Station under W.O. 181000

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☐ Additional Sheets Are Attached