

Maintenance Group Chairman Factual Report

Attachment 8 - Helicopter Services of Nevada Work Order, M-517

WPR10FA371

HELICOPTER SERVICES OF NEVADA, LLC

1411 Airport Rd. Boulder City Airport, Nevada

PH. 702-953-8809 FX. 702-968-8639 FAA CRS KBMR477F

WORKORDER #
M-517

DATE OPENED 22-Jul-10

DATE CLOSED 7-27-2010

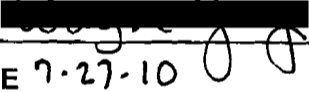
COMPANY AIR METHODS
CONTACT LIFENET OF AZ
2180 W OAK AVE
DOUGLAS, AZ 85607
PHONE
PHONE

MAKE/MODEL
SERIAL NUMBER
AC TOTAL TIME
RIN'S
HOBBS N/A

Cust PO
REGISTRATION: 509AM
ENG. S/N 46268
ENG T. TIME 23366
ENG NG CYC
ENG NP CYC

ITEM#	INSPECTION AND/OR REPAIRS TO BE COMPLETED	OPENED BY
1	REPAIR FUEL MANIFOLD COKING	W YOUNG

I CERTIFY THAT THE WORK PERFORMED ABOVE WAS ACCOMPLISHED IN ACCORDANCE WITH CURRENT FAA AIRWORTHINESS REGULATIONS AND IN RESPECT TO THE WORK PERFORMED, THE AIRCRAFT OR COMPONENT(S) IS RETURNED TO SERVICE.

NAME W YOUNG **SIG**  **FAA CRS** KBMR477F
TITLE INSPECTOR **DATE** 7-27-10

STATEMENT: FOR ANY FACTORY NEW (FN) PARTS INSTALLED ON THIS WORK ORDER; PARTS IDENTIFIED ABOVE WERE OBTAINED FROM THE MANUFACTURER AND MEET REQUIREMENTS OF FAA PART 21 PRODUCTION CERTIFICATE 100. ALL SERVICES PERFORMED ARE REQUIRED TO CONFORM TO THE MANUFACTURER APPROVED STANDARDS AND CURRENT MANUFACTURER PUBLICATIONS AND FAA REQUIREMENTS.

STATEMENT: FOR ANY FAA APPROVED NON MANUFACTURER SUPPLIED PARTS USED ON THIS WORK ORDER (SV),(OH),(NS). : PARTS IDENTIFIED ARE FAA APPROVED BUT MAY NOT HAVE BEEN PRODUCED UNDER THE MANUFACTURER'S FAA PRODUCTION CERTIFICATE AND HAVE NOT BEEN SUBJECTED TO THE MANUFACTURER'S PROCESS CONTROLS AND/OR TYPE INSPECTIONS. THE MANUFACTURER DOES NOT WARRANT THESE PARTS AND THE USE OF PARTS MAY NEGATE THE MANUFACTURER'S WARRANTY.

I, THE CUSTOMER HEREBY AUTHORIZE THE ABOVE WORK TO BE PERFORMED AND UNDERSTAND HSN IS NOT RESPONSIBLE FOR LOSS OR DAMAGE TO AIRCRAFT OR ARTICLES IN CASE OF FIRE, THEFT OR ANY OTHER CAUSE BEYOND HSN'S CONTROL. AN EXPRESS MECHANICS LIEN IS ALSO ACKNOWLEDGED ON THE ABOVE AIRCRAFT OR COMPONENT TO SECURE THE AMOUNT OF REPAIRS THERETO.

CUSTOMER APPROVAL SIGNATURE: _____

HELICOPTER SERVICES OF NEVADA WORK ORDER

<u>CUSTOMER</u> AIR METHODS	<u>SERIAL NUMBER</u>		<u>WO NUMBER</u> M-517
<u>COMPONENT</u>	<u>ENGINE SERIAL #</u> 23366	<u>AIRCRAFT TOTAL TIME</u>	<u>ENGINE TOTAL TIME</u>

<p>1 DISCREPANCY/TASK DATE: 7-26-10 Preliminary Inspection</p>	<p>CORRECTIVE ACTION/WORK COMPLETED DATE: 7-26-10 Preliminary inspection and evaluation revealed Axial Compressor will not turn.</p> <p>SIG: FAA CRS KBMR477F</p>
<p>2 DISCREPANCY/TASK DATE: 7-26-10 Investigate fuel manifold coking. Engine will not turn.</p>	<p>CORRECTIVE ACTION/WORK COMPLETED DATE: 7-26-10 Disassembled engine 23366 to access M03 S/N 20007. Removed fuel manifold 0292217030 S/N ANR 5450 and installed 0292217030 S/N 1956 B referencing MTI. No X292 M13032 30, 2008.</p> <p>SIG: FAA CRS KBMR477F</p>
<p>3 DISCREPANCY/TASK DATE: 7-26-10 Post Maintenance Inspections</p>	<p>CORRECTIVE ACTION/WORK COMPLETED DATE: 7-26-10 Reassembled engine 23366 to accommodate engine. referencing Arriel 2B1. U.M. X 292 NS 4502 revision 19 March 30, 2009. Ground runs; oil pressure and vibration good</p> <p>SIG: FAA CRS KBMR477F</p>
<p>4 DISCREPANCY/TASK DATE: 7-26-10 Post Maintenance Inspections</p>	<p>CORRECTIVE ACTION/WORK COMPLETED DATE: 7-26-10 HMU is leaking from drain. Customer to replace TU43 seal.</p> <p>SIG: FAA CRS KBMR477F</p>
<p>5 DISCREPANCY/TASK DATE: _____</p>	<p>CORRECTIVE ACTION/WORK COMPLETED DATE: _____</p> <p>SIG: _____ FAA CRS KBMR477F</p>
<p>6 DISCREPANCY/TASK DATE: _____</p>	<p>CORRECTIVE ACTION/WORK COMPLETED DATE: _____</p> <p>SIG: _____ FAA CRS KBMR477F</p>

**BILLING REPORT
HELICOPTER SERVICES OF NEVADA**

**WORK ORDER NUMBER
M-517**

A/C COMPONENT INFORMATION			CUSTOMER INFORMATION	
INVOICE NUMBER	I-		CUSTOMER	AIR METHODS
ARTICLE			ADDRESS	2180 W OAK AVE
A/C REG	509AM			DOUGLAS, AZ 85607
TOTAL HRS	0			
TRAVEL HRS (if applicable)				
HRS X	0.00	\$0.00		
Travel Mileage	0.00	\$0.00		
PARTS			DATE OPENED	22-Jul-10
TOTAL INVOICE			DATE CLOSED	

ITEM	Date MM/DD/YY	DESCRIPTION OF WORK	Hours
1	7.24.10	See work order man or hour report. W.Y.	
2			
3			

Part Number	Quantity	Cost	Mark-up 50%	Profit	Shipping	Sell	
			50%	\$0.00		\$0.00	
							Total Parts Charge
							\$0.00

EXPENSE REIMBURSEMENT:

793757273852
793756134227

FLT 823 AA.
5:07
AWB# 67026271

Ariel 2 Fuel Injection Manifold Flow Calculator

1. Approving National Aviation Authority / Country <p style="text-align: center;">FAA / UNITED STATES</p>	2. <h2 style="margin: 0;">AUTHORIZED RELEASE CERTIFICATE</h2> <p style="margin: 0;">FAA FORM 8130-3, AIRWORTHINESS APPROVAL TAG</p>	3. Form Tracking Number : W.O. : R10060731000 CUSTOMER : TURBOMECA USA
---	--	---

4. Organization Name and Address : Propulsion Technologies International, LLC 15301 SW 29th Street Miramar, FL 33027 USA #XZ4R084M	 Propulsion Technologies International <small>A Propulsion and Aircraft company</small>	5. Work Order / Contract / Invoice Number: MU37940 No. Attachments 1 EA
--	---	---

6. Item	7. Description:	8. Part Number:	9. Eligibility: *	10. Quantity:	11. Serial / Batch Number:	12. Status/Work:
1	FUEL INJECTION MANIFOLD	0292217030	N/A	1	861B	REPAIRED

3. Remarks

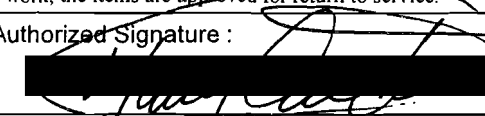
Inspections : Per ATA 72-43-20 (Overhaul Criteria)

Repairs : RP-01-150/RP-01, and RP-01-150/RP-15.

Per : TURBOMECA ARRIEL2 Engine Manual No. X 292 N5 500 2, Reference 72-43-20 Revision 27, Dated 7/30/09

Notes : Records Of Work Performed Are On File At Propulsion Technologies International.

This certifies that the work specified in Block 12/13 was carried out in accordance with EASA.145 and with respect to that work, the aircraft component is considered ready for release to service under EASA Acceptance Certificate Number EASA.145.4791

14. Certifies the items identified above were manufactured in conformity to: <input type="checkbox"/> Approved design data and are in a condition for safe operation. <input checked="" type="checkbox"/> Non-approved design data specified in Block 13.	19. <input checked="" type="checkbox"/> FAR 43.9 Return to Service <input checked="" type="checkbox"/> Other Regulation specified in Block 13 Certifies that unless otherwise specified in Block 13, the work identified in Block 12 and described in Block 13 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.		
15. Authorized Signature <div style="border: 1px solid black; width: 100px; height: 20px; background-color: black;"></div>	16. Approval / Authorization No. <p style="text-align: center;">#XZ4R084M</p>	20. Authorized Signature :  <div style="border: 1px solid black; width: 100px; height: 20px; background-color: black;"></div>	21. Approval / Certificate No : <p style="text-align: center;">#XZ4R084M</p>
17. Name (Typed or Printed):	18. Date (m/d/y):	22. Name (Typed or Printed) : MAURY CARDONA	23. Date (m/d/y): Jun / 18 / 2010

User / Installer Responsibilities

It is important to understand that the existence of this Document alone does not automatically constitute authority to install the part / component / assembly.

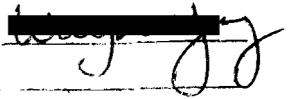
Where the user/installer performs work in accordance with the national regulations of an airworthiness authority different than the airworthiness authority of the country specified in Block 1, it is essential that the user/installer ensures that his / her airworthiness authority accepts parts/components/assemblies from the airworthiness authority of the country specified in Block 1.

Statements in Blocks 14 and 19 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 any aircraft may be flown.

age
22

Moteur Engine
ARRIEL 2B1 N° 46268

UTILISATION, ENTRETIEN, REVISION / OPERATION, MAINTENANCE, OVERHAUL

Date	FONCTIONNEMENT MOTEUR / ENGINE RUN HOUR										Calculateur EECU	Observations - Travaux effectués - Signature Observations - Works carried out - Signature	
	Journalier Daily			Total depuis neuf Total since new			Total depuis état de disp. Total since stat. of life			Cycles			
	H	Cycles		H	Cycles		H	Cycles		Cycles			
		GEN.	T.L. P.T.		GEN.	T.L. P.T.		GEN.	T.L. P.T.	GEN.			T.L. P.T.
7.25.10	-	-	-	352	282.28	234.90	-	-	-	-	-	Removed and Replaced injection manifold referencing Arriel 2 MT1 No X 292 M1 3032 Update No. 4 January 30, 2008. Part removed 0292217030 ^{SIN} ANR 2451 and installed 0292217030 # 861 B. Assembly of engine referencing Arriel 2B1 M.M. X 292 N54502 Revision No. 19 March 30, 2009. All work performed and recorded under WO# M517@ FAA CRS KBMR477F Ground run performed and were acceptable. Helicopter Services of Nevada 	

TYPE D'AERONEF ET N° / AIRCRAFT TYPE AND SERIAL No _____

UTILISATEUR / OPERATOR _____

IMMATICULATION / REGISTRATION _____

POSITION MOTEUR / ENGINE POSITION _____

Lors de chaque changement d'utilisateur, d'aéronef ou de position moteur, passer à la page suivante

AIR METHODS CORPORATION

R E P A I R O R D E R

AIR METHODS CORPORATION
 7301 SOUTH PEORIA, ENGLEWOOD, COLORADO 80112
 (303) 792-7450 FAX (303) 792-7555

Order No. **65008**

SHIP TO: LIFENET OF ARIZONA

VENDOR: HELICOPTER SERVICES OF NEVADA .
 HESN05 1411 AIRPORT ROAD
 BOULDER CITY, NV 89005
 Attention: AOG: (702) 797-0762.
 sales@henv.us

LNAZ01 ATTN: MIKE FLINN
 2180 W OAK AVE

DOUGLAS
 State: AZ Zip: 85607

Phone: 702-953-8809

DATE OF ORDER	SHIP VIA	DATE REQUIRED	AIR METHODS MECHANICS USE ONLY
07/23/2010	ACCT#:	07/23/2010	DATE SERVICE COMPLETED _____ DATE & MECH INITIALS

Comments: ON SITE TECH SUPPORT

ITEM	Quantity	U/M	Part Number	Description	Serial No.	Tail No.	WO - WBS	AMOUNT	EXTEND AMT
1	1	EA	TECH SUPPORT	ENGINE	46268	509AM W	HM1KX-59371 02-713002-AZ0-5208-004698		

Additional Instructions: REPAIR FUEL MANIFOLD COKING

Additional Requirements:

- ✓ Repair as necessary.
- ✓ Overhaul per Manufacturer's specification.
- ✓ Documentation describing parts changed, tests performed and quality control review must accompany the return repaired/overhauled part.
- ✓ Parts will be installed on an aircraft operating under U.S. FAR Regulations. Documentation with returned part must indicate FAA assigned facility Identification and a maintenance release signed by an authorized individual. The Documentation part number must match the "part number" field of this repair order. If a new part is exchanged, documentation must indicate a returned new part and an FAA Form# 8130-3.
- ✓ **Obtain Air Methods cost approval prior to initiating repair/overhaul.**

Duane Saari
 Repairs Administrator

APPROVAL

***** ALL CORRESPONDENCE, INVOICES, SHIPPING PAPER AND PACKAGES MUST SHOW THIS REPAIR ORDER NUMBER *****

1) Please send 2 copies of invoice, 2) If shipping COD packing slip must be outside container & Fax Invoices at time of shipment to ACCTS PAYABLES (303)792-7420

Vendor must be compliant with FAA 14 CFR 121/FAR 121 Anti-drug and Alcohol Misuse Prevention Programs for Personnel Engaged in Specified Aviation Activities

Site – TSC/ext	Year	Field Rep ID	FTEC/TSC Time
-----	-----	-----	-----

TECHNICAL MAINTENANCE REPORT

LEVEL			
1	<input type="checkbox"/>	2	<input type="checkbox"/>
3	<input type="checkbox"/>	(*)	

NAME of operator Air Methods

Maintenance date from 07/25/2010 to 07/27/2010

TYPE OF ENGINE / VARIANT 2B1

Maintenance on

- Engine Serial no. 46268
- (*) Module Designation 70BMO32020 Serial no. 9853
- Module Designation Serial no.
- Accessory Designation

Airframe / Variant AS350B3	No. unknown
----------------------------	-------------

Customer Air Methods
Name of technical contact Jeff Carey
Maintenance carried out at Marana, AZ
Tel.
Country USA
Reference documentation and issue number: MTI X292M13082 Revision no4 Jan 30 2008 and Arriel 2B1 MTI Maintenance manual X292N54502 Revision 19 march 30 2009.

Reason for removal code:
Reason for removal description: Suspected fuel coking at injection manifold
Purpose of maintenance: To investigate reason of engine not rotating freely and repair as needed.

(*) put a cross in the relevant box(es).

Site – TSC/ext	Year	Field Rep ID	FTEC/TSC Time
-----	-----	-----	-----

TECHNICAL MAINTENANCE REPORT

<p>Comments concerning work carried out:</p>
<p><u>Preliminary findings:</u></p> <p>Axial compressor is real hard to turn. Scraping noise heard while rotating.</p>
<p><u>Findings at disassembly:</u></p> <p>Removal of module 3 from engine and after disassembly of the module 3 I found that the injection manifold had signs of fuel carbon in the labyrinth and injection wheel port.</p>
<p><u>Work carried out:</u></p> <p>Removed and replaced injection manifold referencing the Arriel 2B1 Maintenance Technical Instruction X292M13032 no 4 Jan 30 2008. Removed injection manifold p/n 0292217030 s/n ANR 544SO and installed 0292217030 s/n 1956B. Reassembled engine 23366 referencing Arriel 2B1 Maintenance Manual no X292N54502 revision no19 march 30 2009. Engine rotates freely.</p>
<p><u>Test results:</u></p> <p>Performed ground run, oil pressure and vibration check. Ground run revealed a leak from engine drain while boost pump is on. Suspected HMU TU 43 seal. Customer to perform replacement of HMU seal. oil pressure and vibration check were acceptable.</p>

Site -- TSC/ext	Year	Field Rep ID	FTEC/TSC Time
-----	-----	-----	----

TECHNICAL MAINTENANCE REPORT

Engine position (*)	Serial no.	TSN Total hrs	TSO Hrs since overhaul	CSN Gas generator cycles since new	CSO Gas generator cycles since overhaul
single	46268	352	n/a	602.28	n/a

(*) Specify the position of the engine (right, left, single engine)

BEFORE MAINTENANCE

MODULAR COMPOSITION						
Designation	Part Number	Serial no.	Hrs since new	Hrs since overhaul	Gas generator cycles since overhaul	PT cycles since overhaul
M 01	70BMO12010	6442	N/A	N/A	N/A	N/A
M 02	70BMO22010	7653	N/A	N/A	N/A	N/A
M 03	70BMO32020	9853	N/A	N/A	N/A	N/A
M 04	70BMO41720	7618	N/A	N/A	N/A	N/A
M 05	70BMO52000	10546	N/A	N/A	N/A	N/A
(*)		N/A	N/A	N/A	N/A	N/A
(*)		MODULE	TIMES	UNKNOWN	N/A	N/A
(*)		CUSTOMER	DOES NOT	HAVE	ENGINE LOGS	AVAILABLE

AFTER MAINTENANCE

IF MODULE REPLACEMENT (module replaced and/or life-limited part)						
Designation	Part Number	Serial no.	Hrs since new	Hrs since overhaul	Gas generator cycles since overhaul	PT cycles since overhaul
M 01						
M 02						
M 03	SAME	AS	ABOVE			
M 04						
M 05						
(*)						
(*)						
(*)						

Site – TSC/ext	Year	Field Rep ID	FTEC/TSC Time
-----	-----	-----	---

(*) Line reserved for life-limited parts.

Site – TSC/ext	Year	Field Rep ID	FTEC/TSC Time
-----	-----	-----	---

TECHNICAL MAINTENANCE REPORT

- If replacement of accessories and/or parts

Description		Part Number	Serial no.	Operating hrs	Reasons for removal
INJECTION MANIFOLD	Installation	0292217030	861B	TSO 0.0	N/A
INJECTION MANIFOLD	Removal	0292217030	ANR2451	352	FUEL COKING
	Installation				
	Removal				
	Installation				
	Removal				
	Installation				
	Removal				
	Installation				
	Removal				

INCORPORATION OF MODIFICATIONS - SL - SB

TU	N/A								
----	-----	--	--	--	--	--	--	--	--

Service Letter / Service Bulletin

I certify that the engine, module, accessory identified in this technical maintenance report has been checked in accordance with the reference documentation.

Name of operator	Date	Signature	Stamp
WAYNE YOUNG	07-26-2010		
Name of Company	Authorization Card no.		Expiry date
HELICOPTER SERVICES OF NEVADA	200100907		FEB 11 2016

Copies of the following documents must be attached to this report:

Release certificate (EASA Form1, FAA Form1, statement of conformity or other)

Test realization request (ENR0495)

The TECHNICAL MAINTENANCE REPORT shall be sent to your TM technical correspondent within 8 days of completion of maintenance work.