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# MINI PACK

#### **Location:**

Phoenix, Arizona, USA

MODEL GTCP331-500B SERIAL P-1154

Part Number 3800550-1 Condition Serviceable/Repaired

TSN 28,944 CSN 19,953 TSR 0 CSR 0

T1 LLP 7,047 CR
T2 LLP 7,047 CR
T3 LLP 7,047 CR
Load Imp 21,245 CR
1st STG Imp 11,931 CR
2nd STG Imp 25,464 CR

#### Trace to

**VIM Airlines** 

#### Tag by

TurbineAero Repair

#### **Tag Date**

12/July/2018

#### **Additional Details**

For additional details on this APU, Please contact; Conrad Vandersluis <u>conrad@ajw-group.com</u> Alun Roberts <u>alun.roberts@ajw-leasing.com</u> Mike Dean <u>mike.dean@ajw-group.com</u>



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# APU RELEASE CERTIFICATE/FORM 8130

. Approvi	ing Civil Aviation	2.				3. Form Tracking Number:
Autho	ority/Country: /United States	AU			SE CERTIFICATE	S000021468
. Organiz	5. Work Order/Contract/Invoic Number:					
0 South	156th Street, Chandler	r, Arizona	85226 (VIJR367K)			7036
. Item:	7. Description:	10. Serial Number:	11. Status/Work:			
1	APU GTCP331-	500B	3800550-1	1ea	P-1154	Repaired
			TSN: 28944 TSO: UN	IK TSR: 0:00 CS	N: 19953 CSO: UNK CSR: 0	
					component is considered ready for release to service under	
		id are in a co	nanufactured in conformity ndinoistor safe operation: nBlock 12	Cert and Fede	14 CFR 43.9 Return to Service  Gifies that unless otherwise specified in Block lescribed in Block 12 was accomplished in ral Regulations, part 43 and in respect to to to service.	accordance with Title 14, Code of
th Auth	orized Signature:		ISe Approval/Authoriz	ation No. : 14b. Aut	horized Signature:	14c. Approval/Certificate No.:
					(RIS)	VIJR367K
3da Nam	e (Fyped or Ranted):	e east	J3e Date (00/mmm/vyy	v); 14d. Nar	ne (Typed or Printed): Thadeus Winiecke	14e. Date (dd/mmm/yyyy): 12/Jul/2018
			IIe.	er/Installer Resp	onsihilities	
ít is imno	rtant to understand that	the existence			nstitute authority to install the aircraft eng	ine/propeller/article.
Where th specified authority	e user/installer performs in Block 1, it is essential of the country specified	work in acco that the user/ in Block 1.	ordance with the national re /installer ensures that his/he	gulations of an airwo r airworthiness autho	rthiness authority different than the airwor rity accepts aircraft engine(s)/propeller(s)/	thiness authority of the country article(s) from the airworthiness
Statemen accordan	ts in Blocks 13a and 14a ce with the national regu	do not consti	itute installation certification e user/installer before the ai	n. In all cases, aircrai rcraft may be flown.	t maintenance records must contain an ins	tallation certification issued in

NSN: 0052-00-012-9005

	ing Civil Aviation	2.				3. Form Tracking Number:
	ority/Country: /United States	Al	UTHORIZE I FAA Form 8130	TE S000021468-1		
4. Organiz	ation Name and Address	5. Work Order/Contract/Invoic				
	Aero Repair					Number:
50 South	56th Street, Chandler	r, Arizona	a 85226 (VIJR367K)			7036
6. Item:	7. Description: 8. Part Number: 9. Quantity: 10. Serial Number:					11. Status/Work:
1	APU GTCP331-500B		3800550-1	1ea	P-1154	Repaired
No SB's o informati "T Certif	ect APU has been Repor AD's were incorportion. Preservation of A This FAA Form 8130-3 cor	rated this APU 2 yes  1st Turbi Load  rrects the er	s shop visit. Refer to the l ars or less IAW SB 49-799 TSN: 28944 TSO: 255 ne Disk: 7047 CR, 2 <sup>nd</sup> Tu Compressor Impeller 21. rror in Block 12 of the FAA For	Logbook Summary 17 Rev. 4, 12/Jan/2 18 TSR: 0:00 CSN rbine Disk: 7047 C 245 CR, 1 <sup>st</sup> Impell rm 8130-3 S000021468 and in respect to that work the	015. I: 19953 CSO: 1536 CSR: 0 R, 3 <sup>rd</sup> Turbine Rotor Assembly: er 11931 CR, 2 <sup>nd</sup> Impeller 2546 dated 12/Jul/2018 and does not cover c component is considered ready for release to service	he Shop Visit Report for pertinent 7047 CR
	pproved design data and	larein a c	ondition for safe operation. in Block 12:	Certii and d Feder return	ies that unless otherwise specified in escribed in Block 12 was accomplishe al Regulations, part 43 and in respect 1 to service.	Block 12, the work identified in Block 11 d in accordance with Tide 14, Code of t to that work, the items are approved for
13b: Autho	orized Signature:	12 (\$ -\$) 12 (\$ -\$)	213C Approval/Authoriza	tion No.: 3 14b. Auth	orized Signature:	14c. Approval/Certificate No.: VIJR367K
13d: Name	(Typed or Printed):		13e Date (dil/mmm/yyyy	): 14d. Nam	e (Typid or Frinced):  Curtis Bebee	14e. Date (dd/mmm/yyyy): 12/Jul/2018

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 Blocks 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.

FAA Form 8130-3 (02-14)



# **Shop Visit Report**

Prepared for

# Tag Aero

Customer P.O.#:

7036

A.P.U. Model #:

GTCP331-500B

A.P.U. Serial #:

P-1154

A.P.U. Part #:

3800550-1

TurbineAero Repair SRO #:

S000021468

Received Date:

7/03/2018

**Shipment Date:** 

July 12, 2018

TARF 4.1.4-53 (Rev. B, 01/17)

TurbineAero Repair 50 S 56th Street Chandler AZ, 85226 Phone 480-824-2700 Fax 480-824-2699

#### **Customer Reason for Removal:**

None provided.

#### Customer Requested Workscope:

TEST & CERT PER OEM MANUAL ONLY. POST TEST-PLEASE REMOVE GENERATOR AND PROVIDE REMOVAL TAG.

Incoming	<b>APU</b>	<b>Times</b>	and	Cycles:
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TSN: 28,944

CSN: 19,953

TSR: 0

CSR: 0

TSO: UNK

CSO: UNK

#### Wheel Times:

Load Compressor Impeller:

CSN: 5755 Cycles Remaining 21245 (27,000 Max.)

1st Stage Compressor Impeller:

CSN: 15069

Cycles Remaining 11931 (27,000 Max.)

2<sup>nd</sup> Stage Compressor Impeller:

CSN: 1536

Cycles Remaining 25464 (27,000 Max.)

1st Stage Turbine Disk:

CSN: 19953

Cycles Remaining 7047 (27,000 Max.)

2<sup>nd</sup> Stage Turbine Disk:

CSN: 19953

Cycles Remaining 7047 (27,000 Max.)

3rd Stage Turbine Rotor Assembly: CSN: 19953

Cycles Remaining 7047 (27,000 Max.)

### **Receiving Inspection Findings:**

Log Book Received: **Customer Supplied:** 

**⊠YES** 

Shipping Container is a:

Wooden box with shock mounted metal engine stand.

S/N:

 $\square$ N/A

Shipping Container damage:

 $\boxtimes$ NO

☐YES

A.P.U. external damage:

thermocouple tip is broken.

□NO

**⊠YES** 

Generator terminal board cover is cracked, 4 o'clock

A.P.U. Missing parts:

Пио

**⊠YES** Starter boot is missing.

Missing Q.E.C. Items:

⊠no

☐YES

Starter Brush Wear Indicator:

Full

□ 3/4 ☐ ½

Flush

⊠N/A

⊠Smooth

Seized

Engine Rotation:

Rough

 $\prod \frac{1}{4}$ 

Oil Condition:

Normal

□Burnt

⊠No-Oil

Contaminated

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Filters				
Lube Pump Contamination: Fuel Control Contamination: Gen. Scavenge Contamination:	⊠None □	Light ☐Modera Light ☐Modera Light ☐Modera	te Heavy	
Magnetic Chip Detectors				
Gearbox Chip Detector: Lube Cluster Chip Detector Mid Frame Chip Detector: Turbine. Scav. Chip Detector: Air Turbine Starter Chip Detector:	None □ None □ None □	Light	te ☐Heavy te ☐Heavy te ☐Heavy	
A.P.U. Borescoped	□NO	⊠YES		
Borescope Findings	:			
Load Compressor: a blended Vane, serviceability not	⊠Acceptable affected.	□Damaged	One L/C Diffuser Vane has erosion or	
Load Compressor Brg Cone:	⊠Dry	□Wet		
1st Stage Compressor:		□Damaged	No defects noted.	
1st Stage Compressor Brg Cone:	□Dry	⊠Wet	Engineering Note: Gearbox pressure/oil consumption in limits entire test. Ducting dry following shutdown. No issue; presumed to be old stain.	
2 <sup>nd</sup> Stage Compressor:		☐ Damaged	No defects noted.	
1st Stage Turbine:		Damaged	minor L/E erosion.	
1st Stage Turbine Stator:	⊠Acceptable	□Damaged	No defects noted.	
Combustion Chamber:		□Damaged	No defects noted.	
3 <sup>rd</sup> Stage Turbine Wheel:		□Damaged	No defects noted.	
Data Plate Informati	on:	•		
Gearbox Assembly Data plate:	P/N: 38050	34-8 S/N: I	P-247	
Load Compressor Data Plate:	P/N: 38040	11-8 S/N: P	P-254	
Engine Compressor Module Data	Plate: P/N: 38269	80-8 , S/N: F	P-254	
Power Section Module Data Plate:	P/N: 38445	17-5 S/N: F	P-254	
TABE 4.4.4.52 (Base B. 04.447)			TurbineAero Renair	

TARF 4.1.4-53 (Rev. B, 01/17)

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Complete detailed functional test results are available upon request.
A.P.U. was not pre-tested. See remarks below.  A.P.U. was not pre-tested due to major internal damage.  A.P.U. was not pre-tested due to major external damage.  A.P.U. was not pre-tested due to metal contamination in oil.  A.P.U. was pre-tested. Results are within acceptable manual specifications.  A.P.U. was pre-tested. The following results exceed allowable specifications:
Confirmation of Cause for Removal No Yes
Recommended Workscope:
<b>LRU's:</b> Replace Thermocouple at 4 o'clock position. All remaining LRU's performed satisfactorily on APU during APU testing, visually inspect, use as is. Additional note: remove Generator and provide removal tag per PO instructions following test completion.
Gearbox: Visually inspect, no disassembly required.
Load Compressor: Visually inspect, no disassembly required.
Power Section: Visually inspect, no disassembly required.
Miscellaneous: Replace missing Starter Boot. Visually inspect remaining external components, repair as

TARF 4.1.4-53 (Rev. B, 01/17)

necessary.

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#### **EVALUATION AFTER WORKSCOPE Gearbox Condition** Metal Contamination Bearing Failure Gear Failure □Oil Leak Liners Worn/Scored High Hours/Cycles Requires Modification Customer Request Other Gearbox Recommended Workscope: Repair ☐ Overhaul Not Disassembled **Load Compressor Condition** Strike Damage Bearing Failure IGV Wear/Failure Rub Damage Low Performance Surge Margin Oil Leak ☐Other Load Compressor Recommended Workscope: ☐Overhaul Not Disassembled Repair **Power Section Condition** Strike Damage Bearing Failure Blade Shift □Rub Damage High Hours/Cycles Hot Section Deteriorated ]High EGT Oil Leak ☐Other **Power Section Recommended Workscope:**

Line Replaceable Units

Repair

☐Route for Test and Repair as Necessary Metal In Oil Check Sheet GTCP331-200/250 REV. A Replace Thermocouple at 4 o'clock position. All remaining LRU's performed satisfactorily on APU during APU testing, visually inspect, use as is.

Not Disassembled

**Auxiliary Power Unit Recommended Workscope:** 

Overhaul

⊠Repair ☐ No Fault Found

☐Hot Section Inspection

☐HSI ☑ Visually Accept

Overhaul ☐ Beyond Economical Repair / Part out ☐ Return As Is F/T Only

TARF 4.1.4-53 (Rev. B, 01/17)

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#### **Analysis and Conclusion**

TAG Aero GTCP331-500B APU S/N P-1154 (S21468) was received 07-03-2018. The Customer-reported Time Since New was 28,944 hours, and the Time Since Repair was zero hours. The requested workscope was to "TEST & CERT PER OEM MANUAL ONLY. POST TEST-PLEASE REMOVE GENERATOR AND PROVIDE REMOVAL TAG. This is the first shop visit for this APU at TurbineAero Repair.

Receiving Inspection findings include:

External damage:

- -4 o'clock position Thermocouple tip broken.
- -Generator Terminal Board Cover cracked.

Missing parts:

-P/N 2709968-1 Starter Boot.

The APU rotated smoothly. The Lube Pump, Fuel Control and Generator Scavenge Filters were not contaminated. The Gearbox, Lube Cluster, Mid-Frame, Turbine Scavenge and Air Turbine Starter Chip Detectors were not contaminated.

Borescope inspection yielded no significant defects.

The engine was pretested with a slave Thermocouple. There were no issues encountered during testing.

At this point the minimum required workscope necessary to return this APU to service would be to:

LRU's: Replace broken Thermocouple at 4 o'clock position. All remaining LRU's performed satisfactorily on APU during APU testing, visually inspect, use as is. Additional note: remove Generator and provide removal tag per PO instructions following test completion.

Gearbox: Visually inspect, no disassembly required.

Load Compressor: Visually inspect, no disassembly required.

Power Section: Visually inspect, no disassembly required.

Miscellaneous: Replace missing Starter Boot. Visually inspect remaining external components, repair as

necessary.

Preserve engine and package for shipment.

## **Service Bulletin Report**

The service bulletin report describes all service bulletins incorporated this shop visit.

S.B. Number Rev. Date No.			Description	Change No.	
			No SB's incorporated during this shop visit		
<del>-</del> -					
•					
		·			
				<u>.                                    </u>	

## **Airworthiness Directive Report**

The Airworthiness Directive (A.D.) Report describes A.D.'s complied with at this shop visit and identifies A.D.'s previously complied with as noted in the logbook.

A.D. Number	Amendment	Description	Status
		None apply to this APU at this time.	

TARF 4.1.4-53 (Rev. B, 01/17)

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# **Accessories Parts Status Report**

	Ren	noved		Sta	itus	•	Ins	talled
Description	Part Number	Serial No.	Use	Repair	O/H	Replace	Part Number	Serial No.
APU Starter Valve	3283076-5	374	$\boxtimes$				3283076-5	374
Check Valve	3202854-1	1100	$\boxtimes$				3202854-1	1100
Surge Control Valve	3290814-5	664C	$\boxtimes$				3290814-5	664C
Pneumatic Cluster	3884863-7	P-304					3884863-7	P-304
Air Starter	3505814-3	246	$\boxtimes$				3505814-3	246
Electric Starter	2704442-5	77-385					2704442-5	77-385
Fuel Cluster	3879008-1	CAU10610	$\boxtimes$				3879008-1	CAU10610
Lube Cluster	4131000-6	342C	$\boxtimes$				4131000-6	342C
Oil Temp Valve	160536-1	77-286	$\boxtimes$				160536-1	77-286
Oil Cooler	160488-2	77-339	$\boxtimes$				160488-2	77-339
Temp Sensor	MS28034-1	Not Accessed	$\boxtimes$				MS28034-1	Not Accessed
Monopole	3876212-1	Not Accessed	$\boxtimes$				3876212-1	Not Accessed
Monopole	3876212-1	Not Accessed	⊠ <sup>¹</sup>				3876212-1	Not Accessed
Low Oil Quantity Sensor	3876211-3	No S/N	$\boxtimes$				3876211-3	No S/N
IGV Actuator	3883499-3	0262	$\boxtimes$				3883499-3	0262
Ignition Cluster	3888275-9	020218034031	$\boxtimes$				3888275-9	020218034031
Primary Fuel Manifold	3883688-1	97936200495	$\boxtimes$				3883688-1	97936200495
Secondary Fuel Manifold	3883689-1	916936200224					3883689-1	916936200224
Pressure Relief Valve	968214-6	No S/N					968214-6	No S/N
Thermocouple	3876214-2	97201219					3876214-2	97201219
Thermocouple	3876214-2	9720296					3876214-2	9720296
Thermocouple	3876214-2	9720260378					3876214-2	9720260378
Thermocouple	3876214-2	992021900508					3876214-2	072021909519
DMM	304643-2	GE1392	$\boxtimes$				304643-2	GE1392

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# **Accessories Parts Status Report**

	Rem	Status				Installed		
Description	Part Number	Serial No.	Use	Repair	O/H	Replace	Part Number	Serial No.
Wiring Harness	3888364-3	971622602797	$\boxtimes$				3888364-3	971622602797
Generator	756589A	0561					Not installed	Returned to Customer

## **Life Limited Parts**

Description	Part No.	Serial No.	TSN	CSN	Life Limit	Remar <u>ks</u>
1 <sup>st</sup> Stage Turbine Disk	3842151-3	970335700399	28944	19953	27,000 Cycles	NOT ACCESSED
2 <sup>nd</sup> Stage Turbine Disk	3842155-4	960335701592	28944	19953	27,000 Cycles	NOT ACCESSED
3 <sup>rd</sup> Stage Turbine Wheel Assy.	3842160-5	970134505954	28944	19953	27,000 Cycles	NOT ACCESSED
1 <sup>st</sup> Stage Compressor Impeller:	3822483-1	960322903503	22190	15069	27,000 Cycles	NOT ACCESSED
2nd Stage Compressor Impeller:	3822341-5	14-182449- 13712	2558	1536	27,000 Cycles	NOT ACCESSED
Load Compressor Impeller	3822612-1	11-182449- 02712	7940	5755	27,000 Cycles	NOT ACCESSED

Preservation  ☐Immediate Use (Less than two weeks of storage) ☐Short Term Storage (6 months or less) ☐Long Term Storage (1 year or less) ☐Extended Term Storage (2 years or less)	
<b>NOTE:</b> Fuel system preserved for long or extended-term storage must be de-preserved i CMM.	n accordance with
Acceptance Test Report  The APU was assembled and tested in accordance with ATA manual 49-26-57 Rev. 20, or	dated 27/Sep/2016
Documents shipped with APU:	
⊠8130-3 □FAA form 337 □Log Book ⊠Test Data Sheet □Shop Visit Report □Othe	er
TARF 4.1.4-53 (Rev. B, 01/17)	TurbineAero Repair 50 S 56 <sup>th</sup> Street Chandler AZ, 85226

Phone 480-824-2700 Fax 480-824-2699

Triumph Air Repair A Triumph Group Company FAA Repair Station VIJR367K A.P.U. Part No: 3800550-1

A.P.U. Serial No: P-1154

T.A.R. Job Number: S000021468

**Airworthiness Directive Report** 

The Airworthiness Directive (AD) Report Describes AD's complied with at this shop visit and identifies AD's previously complied with as noted in the logbook.

AD Number Amendment		Description	Status	
		No AD's apply to this APU at this time.		

#### Service Bulletin Report

SB Number	Rev. No.	Date	Description	Change No.
			No service bulletins were incorporated during this shop visit.	

#### **DER Repairs**

Repair Number	Repair Description
	No DER repairs were incorporated during this shop visit.

#### **PMA Parts**

The following PMA parts were incorporated in this A.P.U. during this shop visit:

No PMA parts were incorporated during this shop visit.

Inspector:

Date: 12/Jul/2018



# **Life Limited Parts Summary**

Customer: Tag Aero

Job Number: <u>S000021468</u>

APU Model: <u>331-500B</u>

APU Serial Number: P-1154

APU T.S.N: 28944

APU C.S.N: 19953

Component	Part Number	Serial Number	Total Time	Total Cycles	Remaining Life Hours	Remaining Life Cycles
1 <sup>ST</sup> STAGE TURBINE ROTOR	3842151-3	970335700399	28944	19953	27000 CYCLES	7047
2 <sup>ND</sup> STAGE TURBINE ROTOR	3842155-4	960335701592	28944	19953	27000 CYCLES	7047
3 <sup>RD</sup> STAGE TURBINE ROTOR	3842160-5	970134505954	28944	19953	27000 CYCLES	7047
1 <sup>ST</sup> STAGE COMP. IMPELLER	3822483-1	960322903503	22190	15069	27000 CYCLES	11931
2ND STAGE COMP. IMPELLER	3822341-5	14-182449-13712	2558	1536	27000 CYCLES	25464
LOAD COMP. IMPELLER	3822612-1	11-182449-02712	7940	5755	27000 CYCLES	21245

Note: The Life Limited Parts Summary is a result of data supplied by the customer and, where applicable, data from records system.

Approved By: The Land

Date: 12/Jul/2018



# FAA Repair Station VIJR367K

Test Type: Repair Test Date: 7/6/2018 Test Sheet #: T331.097 Rev. Letter: Rev. A

Rev. Date: May 2, 2013

ATA Manual: 49-20-00, Rev.

Fuel Type: Jet A ASTM (D-1655-68)

**Test Data Sheet** GTCP331-500 P/N 38550-1

Test Operator: Bud Lohl Engine Model: GTCP331-500 Serial Number: P-1154

Customer: Tag Aero Work Order: S000021468

Oil Type: Mobil Jet II (MIL-PRF-

Test Step	Description	Units	Required	Actual	Pass/Fail
1	Run-In Checks				PASS
2	Flow Sensor Check				
2.1	Opening	ppm	159.7 to 173	166.5	PASS
	SCV Position (opening)	degrees	7001110	81.8	
2.2	Closing	ppm	159.7 to 173	169.4	PASS
	SCV Position (closing)	degrees		89.9	
2.3	WC (ARINC)	ppm	44.00	166.9	100 100 100 100
	WC Delta %	%	-5 to 5	1.3	PASS
3	Stability Check				
3.1	Set Point 1	ppm	138 to 142	140.9	PASS
3.2	Set Point 2	ppm	78 to 82	79.4	PASS
3.3	Set Point 3	ppm	-0.5 to 0.5	0.0	PASS
4	Filter and Mag Plug Check				PASS
. 5	ECS Combination Performance				
	Barometric Pressure	psia		14.07	
	Average Inlet Temperature	Deg F	131 max	85	PASS
100000000000000000000000000000000000000	T2	Deg F		78.8	
	Oil Pressure	psig	50 to 80	· 72.2	PASS
	Oil Temperature	Deg F	312 max	163	PASS
	Gear Box Pressure	InH2O	-41.52 to 41.52	13.3	PASS
	APU EGT 1	Deg F		1067	
	APU EGT 2	Deg F		1067	
	APU EGT Spread	Deg F	60 max	0	PASS
AND A PROPERTY	Lab EGT Corrected	Deg F	1155 max	1131	PASS
	IGV Position	degrees	7.0 min	12.8	PASS
	IGV Position (adjusted)	degrees		5.2	
A (54,64,6) FAIRE TO S	WBCDNA	ppm	165 to 169	167.1	PASS
	WBCOR	ppm	460.2 min	461.4	PASS
	PBCOR	psia	52.6 min	53.0	PASS
	N1 Speed	RPM	38653 to 39434	39025	PASS
	SHPCOR	shp	180 min	181.5	PASS
	WF	pph		606	
	WFCOR	pph	4.5	623.2	
	Accessory Vibrations	IPS	0.7 max	0.201	PASS
	Turbine Vibrations	IPS	1.0 max	0.290	PASS
6	No Load Performance				
	Barometric Pressure	psia		14.09	
100	Average Inlet Temperature	Deg F	131 max	82	PASS
	Oil Pressure	psig	50 to 80	73.2	PASS
	Oil Temperature	Deg F	312 max	161	PASS
To the second	Gear Box Pressure	InH2O	-41.52 to 41.52	16.0	PASS
100000	APU EGT 1	Deg F	PROFESSOR MARK	727	
	APU EGT 2	Deg F		693	
	APU EGT Spread		60 max	35	PASS
	N1 Speed	RPM	38653 to 39434	39022	PASS
	WF	pph		337	# 1 To 1 T
	Accessory Vibrations	IPS	0.7 max	0.281	PASS
	Turbine Vibrations	IPS	1.0 max	0.272	PASS
	i urbine vibrations	175	1.0 max	U.2/2	PASS

#### TURBINEAER TurbineAero Repair

FAA Repair Station VIJR367K

Test Type: Repair Test Date: 7/6/2018 Test Sheet #: T331.097 Rev. Letter: Rev. A Rev. Date: May 2, 2013

ATA Manual: 49-20-00, Rev. 20

Fuel Type: Jet A ASTM (D-1655-68)

Test Data Sheet GTCP331-500 P/N 38550-1

Test Operator: Bud Lohl Engine Model: GTCP331-500

Serial Number: P-1154 Customer: Tag Aero Work Order: S000021468

Oil Type: Mobil Jet II (MIL-PRF-

Test Step	Description	Units	Required	Actual	Pass/Fail
7	MES Engine Performance				
	Barometric Pressure	psia		14.07	
	Average Inlet Temperature	Deg F	131 max	84	PASS
	T2	Deg F		82.4	
	Oil Pressure	psig	50 to 80	72.8	PASS
<b>网络自己</b> 自己	Oil Temperature	Deg F	312 max	160	PASS
	Gear Box Pressure	InH2O	-41.52 to 41.52	14.4	PASS
and a second of	APU EGT 1	Deg F		1100	
	APU EGT 2	Deg F	电压集线型线点点	1103	
	APU EGT Spread	Deg F	60 max	2	PASS
	Lab EGT Corrected	Deg F	1177 max	1133	PASS
on the decision of the	WBCDNA	ppm	104 to 108	105.3	PASS
4900000	PBCOR	psia	54.3 min	54.3	PASS
	N1 Speed	RPM	38653 to 39434	39036	PASS
	SHPCOR	shp	180 min	183.1	PASS
	WF	pph		635	
	WFCOR	pph		622.7	
	Accessory Vibrations	IPS	0.7 max	0.184	PASS
	Turbine Vibrations	IPS	1.0 max	0.322	PASS
8	Automatic Start Checks				
8.1	Electric Start				
	Start Time	seconds	60 max	53	PASS
	Starter Cutout Time	seconds	40 max	38	PASS
8.2	# of Starts		2 min	4	PASS
8.3	Air Turbine Start				
	Start Time	seconds	60 max	42	PASS
	Starter Cutout Time	seconds	40 max	0	PASS
	ATS Inlet Air Pressure	psig	30 min	44.6	PASS
8.4	# of Starts		2 min	2	PASS
9	Leak Check				
10	Total Starts During Test		4 min	7	PASS
11	Total Hours During Test	hours		1.1	
		<del> </del>	Overall	Test Results:	PASS

Remarks:

TurbineAero Repair Data Log

Engine Model ;	GTCP331-500	- ··· · ···			Fare		Jet A A			r Data		Facility	Turbine/	ero Rer	air							
Engine S/N :	P-1154				Oi	Type:	Mobil Je	et II (MÌL-			Test A	ddress ;	50 S. 56	th Street		er, AZ 6:	5266					
Customer : Work Order :	8000021468			,	Type	of Test:				<del>,</del>	Date	of lest:	Bud Loh 7/6/2018		· 				,			
Data Required Time of Day	Mnemonic TOD	Units	07400/18 07:42:44	1	07/05/18 09:50.24	07/00/18 00:00:00	07/06/16 09:02 87	07/06/18 08:03:08	01/06/16 01/03/32	1 1	07406ria 09:25.35	07/06/18 09:49.57	07/06/18 09:53:52	07,49,64	07/09/15 09:54,45	01/06/18 109/02/26	02/09/10 14:10:56	07/00/15 13 19:42	14.251 DZ	07A09/18 14.22.17	0000000 00000	00\00\0
N1a RPM	Test Condition	rpm	1.0 39029	2.1 39030	2.2 39027	2.3 39025	3.1 39030	3.2	3,3 39033	4,0	5,0 39025	6.0 39022	7,0 39036	8.1 39028	8,1 39034	8.1 39029	8.1	9.0 2	10.0	11.0 4	n/a 0.0	n/a 0.0
N1b RPM	NID Poll	rpm	39037 74.2	39036 73.1	39038 73.1	39033 73.0	39031 73.1	39031 72.9	39039 72.7		39040 72.2	39034	39038 72.8	39033 77.6	39037 72.5	39035 73.8	0.4	0.3	0.3	0.4	0.0	0.0
Oil Pump Discharge Press. Barcmeteric Press.	Pharo	psig psia	14.09	14.07	14,06	73.0 14.07 38.7	14,07 40.8	14.07	14.04 44.8	14.12	14.07 34.9	14.09	14.07 42.1	14.09 0.5	14.09 1.7	14.09 30.4	14.04 -0.1	14.04 -0.0	14.04 -0.1	14.04 -0.1	0.0	0.0
Onlice Inlet Press. Onlice Delta Press.		psig InH2O	0.5 8.1	39.6 96.3	38.7 99.4	99.1	67,6	20.6	0.0	0.0	91.0	0.0	36.7	6.9	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Accessory Gear Case Inlet Fuel Press.	Pfuel	InH2O psig	18.1 29.7	17.2 27.9	15.5 28.4	15.3 28.6	16.1 28.2	12.9 28.2	6.3 28.4	0:2 31.4	13.3 28.1	16.0 29.3	14.4 28.7	32.7 29.6	9.4 30.6	15.3 30.0	0.2 32.8	0.2 32.8	0.2 32.8	0,3 32.8	0.0	0.0
Fuel Flow Oil Temp		pph degF	330 164	594 159	591 159	591 159	594 160	588 158	579 157	0 157	608 163	337 161	635 160	345 116	327 161	345 161	0 81	0 81	0 81	0. 81	0.0 0.0	0.0 0.0
Fuel Temp Cell Ambient Temp	Tfuel TCell	degF degF	97 80	101 83	101 83	101 83	102 83	102 84	102 84	100 81	104 83	102 80	104 82	94 80	104 83	103 81	94 81	94 81	94 81	94 80	0.0	0.0
Onlica Temp		degF degF	204 722	397 1058	402 1058	403 1057	409 1061	409 1054	404 1042	334 394	400 1073	341 729	402 1112	172 718	356 738	366 725	100 83	100 83	100 83	100 83	0.0	0.0 0.0
Leo EGT 2 Leo EGT 3	LabEGT2 LabEGT3	degF degF	2200 743	2200 1077	2200 1075	2200 1076	2200 1079	2200 1073	2200 1062	2200 348	2200 1092	2200 751	2200 1126	2200 745	2200 760	220¢ 751	2200 83	2200 83	2200 83	2200 83	9.0 9.0	0.0
Leb EGT 4 Leb EGT 5	LabEGT4 LabEGT5	degF degF	734 737	1057	1064 1040	1065 1040	1070	1061	1048 1031	381 351	1074	741 744	1100 1090	732 744	749 749	734 742	83 83	83 83	83 83	83 83	0,0	0.0
Lab EGT 6	LabEGT6	degF degF	775 725	2020 1027	2020	2020 1026	2020 1028	1103	1060	2020 490	2020 1048	2020 731	2020 1102	780 709	2020 744	2020 729	139 84	139 84	139 84	139 83	0.0	0.0
Lab EGT 7 Lab EGT 8	LebEGY8	degF	714	1025	1024	1025	1027	1020	1005	474 445	1040 1053	720 714	1090	709 708	724 720	719 716	84 83	84 83	84 83	83 83	0.0	0.0 0.0
Lab EGT 2 Lab EGT 3	LobEGT10	degF degF	710 728	1065	1033 1064	1068	1069	1058	1042	482	1086	734	1116	721	740	726	84	84	84	83	0.0	0.0
Lab EGT 5	LobEGT12	degF degF	731 745	1038 1068	1039 1069	1042 1072	1044 1074	1031 1050	1011 1042	466	1055 1095	731 745	1079 1115	728 743	739 757	727 742	83 83	83 83	83 83	83 83	0.0	0.0
Lab EGT 6 Lab EGT 7		degF degF	721 712	1074 1060	1070	1071	1072 1057	1064 1047	1030	416	1085 1068	727 719	1114	710	736 722	717 711	83 84	83 83	83 83	83 83	0.0	0.0
Len EGT 8 Average Selected LabEGTs	LabEGTavg	degF degF	736 731	1081 1055	1075 1053	1076	1077 1057	1067 1048	1050 1034	430 429	1089 1071	744 733	1123 1106	738 728	747 740	736 729	83 87	83 87	83 87	83 87	0.0 0.0	0.0
Absolute diff. Max and Min Temps. EGT Connected	LebEGTdiff	degF degF	65 0	56 0	5 <u>2</u> 0	51 0	52 0	54 0	57 0	143 0	57 1131	37 0	47 -1133	71 0	40 0	39 0	56 0	56 0	56 0	56 0	0.0	0,0 0.0
EGTeors Maximum Limit	EGTconMax	degF degF	0	0	0	0	0	0	0	0	1155 24	0	1177 44	0	0	0	0	0	0	0	0,0	0,0
Exhaust Gas Temp 1 Exhaust Gas Temp 2	EGT1 EGT2	degF degF	721 690	1053 1062	1049 1064	1050 1067	1052 1070	1043 1058	1028 1040	425 492	1057 1057	727 693	1100 1103	723 693	733 697	725 690	83 83	- 83 - 83	83 83	83 62	0.0	0.0
Average APU EGTs	EGTavg	degF degF	706 31	1057	1056	1058 17	1061	1050 15	1034	459 67	1057	710 35	1102	708 30	715 36	708 35	83	83 0	83	83	0.0	0.0
inlet Temp 1	inlet'l'omp1	degl*	81 81	83 84	84 84	84 84	84 84	84 84	84 84	82	84 83	B1 81	83 83	80 80	83 83	82 82	81 81	81 81	81 81	81 81	0.0	0.0
inlet Temp 2 Inlet Temp 3	Inleffemp3	degF degF degF	81 84	84 92	84 90	84 93	84 90	84 90	84 69	83	83 91	82 82	83 87	80 80	83 93	81 85	81 81	81 81	81 81	81 81	0.0	0.0
inlet Temp 4 inlet Temp 5	InletTemp5	degF	81	84	84 84	84 84	84 84	84	84	83	84	82 82	B3	81 81	83	82	81 81	81 81	81 81	81 81	0.0	0.0
Inlet Temp 7	InletTemp7	degF degF	81 81	84 86	86	84	88	84 87	64 66	83 82	84 86	82	83 85	81	83 84	82 83	81	81	81	81	0.0	0.0
Inlet Temp 8 Inlet Temp 7	InletTemp9	degF degF	81 81	84 86	84 87	84 87	84 87	85 87	85 86	83 82	85 85	82 81	83 84	81 80	84 85	82 82	81	81 81	81 81	81 81	0.0	0.0
Average Selected Inlets	CIT	degF degF	81 81	83 85	84 85	84 85	84 85	84 85	84 85	83 82	84 85	82 82	83 84	80 80	83 84	82 82	81 81	81 81	81 81	81 B1	0.0	0.0
Absolute diff, Max and Min Temps. Bleed Temp 1	TBleed1	degF degF	3 278	9 427	6 427	10 427	7 428	6 429	5 422	178	8 408	143	5 422	1 254	10 321	3 193	81 81	81	81	B1	0.0	0.0
Bleed Temp 2 Average Selected Steed Temps.		degF degF	278 278	426 426	426 427	428 426	428 428	429 429	422 422	186 182	408 408	145 144	422 422	253 254	322 321	197 195	81 81	81 81	81 81	81 81	0.0	0.0
Absolute diff, Max and Min Temps.  Delta Correction Factor		degF ratio	0.959	0.957	0.957	0 0.957	0.957	0 0.957	0.955	8 0.961	0 0.958	0.959	0 0,958	0.959	0,959	4 0.959	0,955	0.955	0.955	0.955	0.0	0.0 0.0
Measured Airflow Will Corrected		ppm ppm	86.2 0,0	495.2 0.0	497.3 0,0	496.3 0,0	420.2 0.0	240.8 0.0	0.0	0.0	459.4 461.4	0.0	316.9 296.9	81.6 0.0	60,0 0.0	0.0	0,0	0.0 0.0	0.0	0.0	0.0	0.0
WBcorr Minimum Linut	WBcorrMin	ppm ppm	0.0	0.0	0.0	0.0	D.0	0.0	0.0	0.0	460.2 1.2	0.0	0.0 296.9	0.0	0.0	0.0	0.0 0.0	0.0	0.0	0.0	0.0	0.0
Bleed Pressure		psla psla	15.0	57.1 0.0	56,4 0,0	56,4 0,0	57,4 0.0	58.3 0.0	59.0 0.0	14.1 0.0	52.2 0.0	18.5 0.0	57.7 0.0	15.0 0.0	15.1 0.0	44.6 0.0	14.1 0.0	14,1	14.1 0.0	14.1 0.0	0.0	0,0
PB Corrected Paperr Minimum Limit	PBCOR	psia psia	0.0	0.0	0.0	0.0	D,0 D,0	0,0	0.0	0.0	53.0 52.6	0.0	54.3 54.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 0.0
Bleed Pressure Margin Corrected Discharge Flow	Pemarger	psia ppm	0.0 100.6	0.0 166.6	0.0 159.4	0.0	0.0	0.0 79.4	0.0	0.0	0,4 167.1	0.0	0.0 105.3	0.0 93.9	0.0 67.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WECDNA Minkruin Limit	WBCDNAMin	ppm	0.0 0.0	159.7 173.0	159.7 173.0	0.0	0.0	0.0	0.0	0.0	165.0 169.0	0.0	104.D 108.0	0,0	0.0	0.0	0.0	0.0 0.0	0,0	0.0	0.0	0.0
Delta Lab vs ARING Corrected Discharge	WCdelta	9P.M %	42.9 36	0.6 47	0.7	1,3	·14.4	·51.8 47	-100.0		1.0	-100.0 37	-35.4 48	-45.3 37	-61,0	-100.0 37	-100.0 O	-100.0 0	-100.0 0	-100.0 0	0.0	0.0 0,0
	IGVTM	mA mA	11	12	12	11	11	. 11	46 12	D	12	11	11	11	36 11	11	0	0	0	0	0.0	0.0
SCV TM Current N1a RMS Voltage	N1arms	mA volts	9.8	9.6	9.6	9.6	9.6	9.6	9 9,7	0,0	9.6	9.8	9.6	8 9.8	9.8	9.8	0.0	0.0	0.0	0.0	0.0	0.0
DC Start Volts	Vstart	volts volts	4.2 0.0	0.0	4.2 0.0	4.2 0.0	0.0	4.1 0.0	0.0	0.0	4,2 0,0	4.1 0.0	0.0	0.0	4.1 0.0	4.2 0.0	0.0	0.0	0.0	0.0	0.0	0.0
Starter Amps Accessory Vibration Composite	VibAcoy	amps IPS	0.182		0.429	0.400	5 0,361	9 0.418	7 0.445	0.000	9 0.201	0.281	0.184	0 0.182	0,269	0.276	0.000	0.000	0.000	0.000	9.0 0.0	0.0
Roteting Group ATS Turbine	A RG A AYST	IPS IPS	0.182	0.000	0,429	0.400	0.361	0.418	0.445	0.000	0.201	0.281	0.000	0.182 0.000	0.000	0.276	0.000	000,0 000,0	0.000	0.000	0.0	0.0
Generator	A Gen	IPS IPS	0,078 0.014	0.037	0.026	0.031		0.054	0.073 0.025	0.000	0.051	0.030 0.025	0.031 0.020	0.065 0,004	0,022 0,034	0.017		0.000	0.000	0.000	0.0	0.0
	A FCU	IPS IPS	0.016 0.022		0.006	0.007		0.013 0.016	0.020 0.016	0,000	0.011	0.007 0.018	0.007	0.012 0.010	0.006 0.014	0.005	0.000	0.000	0.000	0.000	0,0	0.0
Turbine Vibration Composite Rotating Group	VibTuth	IPS IPS	0.167	0.263	0.272 0.272		0.312	0.414 0.306	0,316 0,316		0,290 0,290	0,272 0,139	0.322	0,237 0,237	0.319 0.077	0.583 0.345	0.000	0.000	0.001 0.000	0.000 0.000	0.0	0.0
ATS Turbine ATS Gear	T ATST	IPS IPS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.0	0.0
Generator Fuel Control and Lube Pump	T Gen	IPS IPS	0.056	0,100	0.071	0.086	0.090	0.063	0.054	0.000	0.0B8 0.011	0.094	0.065 0.008	910,0 900,0	0.109	0,086	0.000	0.000	0.000	0.000	0.0	0.0
Starter P2 Voltage	T Starter	IPS volts	0.009	0.010	0.007	0.009	0.010	0.006	0.011	0.000	0.006	0.004	0.009	0.004	0.007	0.007	0.000	0.000	0.000	0.000	0.0	0.0
Transducer Excitation Veltage	VTexc	volts	0.00	0.0	0.0	0.0 -0.001	0.002	0.00	-0.001 -0.003	0,0	0.00	0.001	0.001	0.0 -0.001	0.00	0.003 -0.001	0.00	0.00	0.000 0.000	-0.00	0.0	0.0
PT Voltage DP Voltage	Dovoits	volts volts	0.001	0.000	-0.000	0.000	0.001	0.000	0.001	-0.000	-0,000	-0.001 -0.001	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.0	0.0
Power Meter Amps phase B	B amps	amps amps	0	0	0	0	0	0	0	0	319 325	0	320 326	0	0	0	0	0	0	0	0.0	0.0
Power Meter Volls A-B	V AB	amps vac	0.0	0.0	0,0	0.0	0.0	0.0	0.0	0.0	327 202.0	0.0	328 202.0	0.0	0.0	0.0	0.0	0.0	0.0	0,0	0.0	0.0
Power Meter Volls A-C	V AC	vac vac	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	203.0 202.0	0.0	203.0 202.0	0,0	0.0	0.0	0.0	0.0	0.0	0,0	0.0	0.0
Power Meter Volls A-Neutret Power Meter Volls B-Neutret	V AN	vac vac	0.0	0.0	0,0	0.0	0.0	0.0	0.0	0.0	116.0 117.0	0.0	116.0 117.0	0.0	0,0	0,0	0.0 0.0	0.0	0.0 0.0	0.0	0.0	0.0
Power Mater Volls C-Neutral KVA Load Brink 1	V CN KVA	vac KVA	0.0	0.0	0.0	0.0	0.0	0,0	0.0	0.0	117.0 113.0	0.0	118.0 114.0	0.0	0,0	0,0	0.0	0.0	0.0 0.0	0.0 0.0	0.0	0.0
Frequency Power Meler 1	PMFreq1	Hz hp	0.0	0.0	0.0	0.0	0.0	0,0	0.0	0.0	399 181.5	0.0	399 183.1	0.0	0.0	0,0	0.0	0.0	0.0	0.0	0.0 0.0	0.0
	(GVad)	deg secs.	68.9 38	-7.6 36	-7.8 36	-7.6 36	-7.6 36	-7.6 36	-7.8 36	69.4 36	5,2 36	68.9 36	-2.4 36	68.9 38	68.8 36	68,9	69.4 4 I	69.4 4	69.4 41	69.4 4	0.0	0.0
APU Start Time	StarlTane	secs.	53 11.2	50 81.8	50 89.9	50 89.9	50 60.2	50 35.5	50 16.4	50 9.5	51 89.9	51 11.1	51 47.1	53 11.4	51 11.0	42 11.1	56 9.5	56 9.5	56 9,5	56 9.5	0.0	0.0
ARING Corrected Discharge Flow ppm	WC	ppm dogs	176.2	165,5	168.3	166.9	164.5	184.5	162.7	96.6	185.5	147.7	163.1	171.6	172.5	145.3	76.9	76.9 84.2	76.9 84.2	76.9 84.2	0.0	0.0 0.0
ARINC Lost Temperature degF ARINC Inlet Guide Vane Position	IGVnos	degF deg	86.0 76.4	-31.0 -0.1	-31.0 -0.1	-31.0 -0.1	-31.0 -0.1	-31.0 -0.1	-31 <u>.0</u> -0.1	76.9	78.8	82.4 76.4	82.4 5.f	86.0 76.4	82.4 76.2	82.4 76.4	76.9	76.9	76.9	76.9	0.0	0,0
		pph	0.0	0.0	0.0	0.0	0.0	0.0	0,0	0,0	623.2	0,0	622.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



# FAA Repair Station VIJR367K

Test Type: Repair Test Date: 7/6/2018 Test Sheet #: T331.097 Rev. Letter: Rev. A

Rev. Date: May 2, 2013

ATA Manual: 49-20-00, Rev.

Fuel Type: Jet A ASTM (D-1655-68)

**Test Data Sheet** GTCP331-500 P/N 38550-1

Test Operator: Bud Lohl Engine Model: GTCP331-500 Serial Number: P-1154

Customer: Tag Aero Work Order: S000021468

Oil Type: Mobil Jet II (MIL-PRF-

Test Step	Description	Units	Required	Actual	Pass/Fail
1	Run-In Checks				PASS
2	Flow Sensor Check				
2.1	Opening	ppm	159.7 to 173	166.5	PASS
	SCV Position (opening)	degrees	7001110	81.8	
2.2	Closing	ppm	159.7 to 173	169.4	PASS
	SCV Position (closing)	degrees		89.9	
2.3	WC (ARINC)	ppm	44.00	166.9	100 100 100 100
	WC Delta %	%	-5 to 5	1.3	PASS
3	Stability Check				
3.1	Set Point 1	ppm	138 to 142	140.9	PASS
3.2	Set Point 2	ppm	78 to 82	79.4	PASS
3.3	Set Point 3	ppm	-0.5 to 0.5	0.0	PASS
4	Filter and Mag Plug Check				PASS
. 5	ECS Combination Performance				
	Barometric Pressure	psia		14.07	
	Average Inlet Temperature	Deg F	131 max	85	PASS
100000000000000000000000000000000000000	T2	Deg F		78.8	
	Oil Pressure	psig	50 to 80	· 72.2	PASS
	Oil Temperature	Deg F	312 max	163	PASS
	Gear Box Pressure	InH2O	-41.52 to 41.52	13.3	PASS
	APU EGT 1	Deg F		1067	
	APU EGT 2	Deg F		1067	
	APU EGT Spread	Deg F	60 max	0	PASS
AND A PROPERTY	Lab EGT Corrected	Deg F	1155 max	1131	PASS
	IGV Position	degrees	7.0 min	12.8	PASS
	IGV Position (adjusted)	degrees		5.2	
A (54,64,6) FAIRE TO S	WBCDNA	ppm	165 to 169	167.1	PASS
	WBCOR	ppm	460.2 min	461.4	PASS
	PBCOR	psia	52.6 min	53.0	PASS
	N1 Speed	RPM	38653 to 39434	39025	PASS
	SHPCOR	shp	180 min	181.5	PASS
	WF	pph		606	
	WFCOR	pph	4.5	623.2	
	Accessory Vibrations	IPS	0.7 max	0.201	PASS
	Turbine Vibrations	IPS	1.0 max	0.290	PASS
6	No Load Performance				
	Barometric Pressure	psia		14.09	
100	Average Inlet Temperature	Deg F	131 max	82	PASS
	Oil Pressure	psig	50 to 80	73.2	PASS
	Oil Temperature	Deg F	312 max	161	PASS
To the second	Gear Box Pressure	InH2O	-41.52 to 41.52	16.0	PASS
100000	APU EGT 1	Deg F	PROFESSOR MARK	727	
	APU EGT 2	Deg F		693	
	APU EGT Spread		60 max	35	PASS
	N1 Speed	RPM	38653 to 39434	39022	PASS
	WF	pph		337	# 1 To 1 T
	Accessory Vibrations	IPS	0.7 max	0.281	PASS
	Turbine Vibrations	IPS	1.0 max	0.272	PASS
	i urbine vibrations	ا ۱۲۵	1.0 max	U.2/2	PASS

#### TURBINEAER TurbineAero Repair

FAA Repair Station VIJR367K

Test Type: Repair Test Date: 7/6/2018 Test Sheet #: T331.097 Rev. Letter: Rev. A Rev. Date: May 2, 2013

ATA Manual: 49-20-00, Rev. 20

Fuel Type: Jet A ASTM (D-1655-68)

Test Data Sheet GTCP331-500 P/N 38550-1

Test Operator: Bud Lohl Engine Model: GTCP331-500

Serial Number: P-1154 Customer: Tag Aero Work Order: S000021468

Oil Type: Mobil Jet II (MIL-PRF-

Test Step	Description	Units	Required	Actual	Pass/Fail
7	MES Engine Performance				
	Barometric Pressure	psia		14.07	
	Average Inlet Temperature	Deg F	131 max	84	PASS
	T2	Deg F		82.4	
	Oil Pressure	psig	50 to 80	72.8	PASS
<b>网络自己</b> 自己	Oil Temperature	Deg F	312 max	160	PASS
	Gear Box Pressure	InH2O	-41.52 to 41.52	14.4	PASS
and a second of	APU EGT 1	Deg F		1100	
	APU EGT 2	Deg F	电压集线型线点点	1103	
	APU EGT Spread	Deg F	60 max	2	PASS
	Lab EGT Corrected	Deg F	1177 max	1133	PASS
on the desired to	WBCDNA	ppm	104 to 108	105.3	PASS
AND DIFFER	PBCOR	psia	54.3 min	54.3	PASS
	N1 Speed	RPM	38653 to 39434	39036	PASS
	SHPCOR	shp	180 min	183.1	PASS
	WF	pph		635	
	WFCOR	pph		622.7	
	Accessory Vibrations	IPS	0.7 max	0.184	PASS
	Turbine Vibrations	IPS	1.0 max	0.322	PASS
8	Automatic Start Checks				
8.1	Electric Start				
	Start Time	seconds	60 max	53	PASS
	Starter Cutout Time	seconds	40 max	38	PASS
8.2	# of Starts		2 min	4	PASS
8.3	Air Turbine Start				
	Start Time	seconds	60 max	42	PASS
	Starter Cutout Time	seconds	40 max	0	PASS
	ATS Inlet Air Pressure	psig	30 min	44.6	PASS
8.4	# of Starts		2 min	2	PASS
9	Leak Check				
10	Total Starts During Test		4 min	7	PASS
11	Total Hours During Test	hours		1.1	
		<del> </del>	Overall	Test Results:	PASS

Remarks:

TurbineAero Repair Data Log

Engine Model ;	GTCP331-500	- ··· · ···			Fare		Jet A A			r Data		Faciliiv	Turbine/	ero Rer	air							
Engine S/N :	P-1154				Oi	Type:	Mobil Je	et II (MÌL-			Test A	ddress ;	50 S. 56	th Street		er, AZ 6:	5266					
Customer : Work Order :	8000021468			,	Type	of Test:				<del>,</del>	Date	of lest:	Bud Loh 7/6/2018		· 				,			
Data Required Time of Day	Mnemonic TOD	Units	07400/18 07:42:44	1	07/05/18 09:50.24	07/00/18 00:00:00	07/06/16 09:02 87	07/06/18 08:03:08	01/06/16 01/03/32	1 1	07406ria 09:25.35	07/06/18 09:49.57	07/06/18 09:53:52	07,49,64	07/09/15 09:54,45	01/06/18 109/02/26	02/09/10 14:10:36	07/00/15 13 19:42	14.251 DZ	07A09/18 14.22.17	0000000 00000	00\00\0
N1a RPM	Test Condition	rpm	1.0 39029	2.1 39030	2.2 39027	2.3 39025	3.1 39030	3.2	3,3 39033	4,0	5,0 39025	6.0 39022	7,0 39036	8.1 39028	8,1 39034	8.1 39029	8.1	9.0 2	10.0	11.0 4	n/a 0.0	n/a 0.0
N1b RPM	NID Poll	rpm	39037 74.2	39036 73.1	39038 73.1	39033 73.0	39031 73.1	39031 72.9	39039 72.7		39040 72.2	39034	39038 72.8	39033 77.6	39037 72.5	39035 73.8	0.4	0.3	0.3	0.4	0.0	0.0
Oil Pump Discharge Press. Barcmeteric Press.	Pharo	psig psia	14.09	14.07	14,06	73.0 14.07 38.7	14,07 40.8	14.07	14.04 44.8	14.12	14.07 34.9	14.09	14.07 42.1	14.09 0.5	14.09 1.7	14.09 30.4	14.04 -0.1	14.04 -0.0	14.04 -0.1	14.04 -0.1	0.0	0.0
Onlice Inlet Press. Onlice Delta Press.		psig InH2O	0.5 8.1	39.6 96.3	38.7 99.4	99.1	67,6	20.6	0.0	0.0	91.0	0.0	36.7	6.9	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Accessory Gear Case Inlet Fuel Press.	Pfuel	InH2O psig	18.1 29.7	17.2 27.9	15.5 28.4	15.3 28.6	16.1 28.2	12.9 28.2	6.3 28.4	0:2 31.4	13.3 28.1	16.0 29.3	14.4 28.7	32.7 29.6	9.4 30.6	15.3 30.0	0.2 32.8	0.2 32.8	0.2 32.8	0,3 32.8	0.0	0.0
Fuel Flow Oil Temp		pph degF	330 164	594 159	591 159	591 159	594 160	588 158	579 157	0 157	608 163	337 161	635 160	345 116	327 161	345 161	0 81	0 81	0 81	0. 81	0.0 0.0	0.0 0.0
Fuel Temp Cell Ambient Temp	Tfuel TCell	degF degF	97 80	101 83	101 83	101 83	102 83	102 84	102 84	100 81	104 83	102 80	104 82	94 80	104 83	103 81	94 81	94 81	94 81	94 80	0.0	0.0
Onlica Temp		degF degF	204 722	397 1058	402 1058	403 1057	409 1061	409 1054	404 1042	334 394	400 1073	341 729	402 1112	172 718	356 738	366 725	100 83	100 83	100 83	100 83	0.0	0.0 0.0
Leo EGT 2 Leo EGT 3	LabEGT2 LabEGT3	degF degF	2200 743	2200 1077	2200 1075	2200 1076	2200 1079	2200 1073	2200 1062	2200 348	2200 1092	2200 751	2200 1126	2200 745	2200 760	220¢ 751	2200 83	2200 83	2200 83	2200 83	9.0 9.0	0.0
Leb EGT 4 Leb EGT 5	LabEGT4 LabEGT5	degF degF	734 737	1057	1064 1040	1065 1040	1070	1061	1048 1031	381 351	1074	741 744	1100 1090	732 744	749 749	734 742	83 83	83 83	83 83	83 83	0,0	0.0
Lab EGT 6	LabEGT6	degF degF	775 725	2020 1027	2020 1025	2020 1026	2020 1028	1103	1060	2020 490	2020 1048	2020 731	2020 1102	780 709	2020 744	2020 729	139 84	139 84	139 84	139 83	0.0	0.0
Lab EGT 7 Lab EGT 8	LebEGY8	degF	714	1025	1024	1025	1027	1020	1005	474 445	1040 1053	720 714	1090	709 708	724 720	719 716	84 83	84 83	84 83	83 83	0.0	0.0 0.0
Lab EGT 2 Lab EGT 3	LobEGT10	degF degF	710 728	1065	1033 1064	1068	1069	1058	1042	482	1086	734	1116	721	740	726	84	84	84	83	0.0	0.0
Lab EGT 5	LobEGT12	degF degF	731 745	1038 1068	1039 1069	1042 1072	1044 1074	1031 1050	1011 1042	466	1055 1095	731 745	1079 1115	728 743	739 757	727 742	83 83	83 83	83 83	83 83	0.0	0.0
Lab EGT 6 Lab EGT 7		degF degF	721 712	1074 1060	1070	1071	1072 1057	1064 1047	1030	416	1085 1068	727 719	1114	710	736 722	717 711	83 84	83 83	83 83	83 83	0.0	0.0
Len EGT 8 Average Selected LabEGTs	LabEGTavg	degF degF	736 731	1081 1055	1075 1053	1076	1077 1057	1067 1048	1050 1034	430 429	1089 1071	744 733	1123 1106	738 728	747 740	736 729	83 87	83 87	83 87	83 87	0.0 0.0	0.0
Absolute diff. Max and Min Temps. EGT Connected	LebEGTdiff	degF degF	65 0	56 0	5 <u>2</u> 0	51 0	52 0	54 0	57 0	143 0	57 1131	37 0	47 -1133	71 0	40 0	39 0	56 0	56 0	56 0	56 0	0.0	0,0 0.0
EGTeors Maximum Limit	EGTconMax	degF degF	0	0	0	0	0	0	0	0	1155 24	0	1177 44	0	0	0	0	0	0	0	0,0	0,0
Exhaust Gas Temp 1 Exhaust Gas Temp 2	EGT1 EGT2	degF degF	721 690	1053 1062	1049 1064	1050 1067	1052 1070	1043 1058	1028 1040	425 492	1057 1057	727 693	1100 1103	723 693	733 697	725 690	83 83	- 83 - 83	83 83	83 62	0.0	0.0
Average APU EGTs	EGTavg	degF degF	706 31	1057	1056	1058 17	1061	1050 15	1034	459 67	1057	710 35	1102	708 30	715 36	708 35	83	83 0	83	83	0.0	0.0
inlet Temp 1	inlet'l'omp1	degl*	81 81	83 84	84 84	84 84	84 84	84 84	84 84	82	84 83	B1 81	83 83	80 80	83 83	82 82	81 81	81 81	81 81	81 81	0.0	0.0
inlet Temp 2 Inlet Temp 3	Inleffemp3	degF degF degF	81 84	84 92	84 90	84 93	84 90	84 90	84 69	83	83 91	82 82	83 87	80 80	83 93	81 85	81 81	81 81	81 81	81 81	0.0	0.0
inlet Temp 4 inlet Temp 5	InfetTemp5	degF	81	84	84 84	84 84	84 84	84	84	83	84	82 82	B3	81 81	83	82	81 81	81 81	81 81	81 81	0.0	0.0
Inlet Temp 7	InletTemp7	degF degF	81 81	84 86	86	84	88	84 87	64 66	83 82	84 86	82	83 85	81	83 84	82 83	81	81	81	81	0.0	0.0
Inlet Temp 8 Inlet Temp 7	InletTemp9	degF degF	81 81	84 86	84 87	84 87	84 87	85 87	85 86	83 82	85 85	82 81	83 84	81 80	84 85	82 82	81	81 81	81 81	81 81	0.0	0.0
Average Selected Inlets	CIT	degF degF	81 81	83 85	84 85	84 85	84 85	84 85	84 85	83 82	84 85	82 82	83 84	80 80	83 84	82 82	81 81	81 81	81 81	81 B1	0.0	0.0
Absolute diff, Max and Min Temps. Bleed Temp 1	TBleed1	degF degF	3 278	9 427	6 427	10 427	7 428	6 429	5 422	178	8 408	143	5 422	1 254	10 321	3 193	81 81	81	81	B1	0.0	0.0
Bleed Temp 2 Average Selected Steed Temps.		degF degF	278 278	426 426	426 427	428 426	428 428	429 429	422 422	186 182	408 408	145 144	422 422	253 254	322 321	197 195	81 81	81 81	81 81	81 81	0.0	0.0
Absolute diff, Max and Min Temps.  Delta Correction Factor		degF ratio	0.959	0.957	0.957	0 0.957	0.957	0 0.957	0.955	8 0.961	0 0.958	0.959	0 0,958	0.959	0,959	4 0.959	0,955	0.955	0.955	0.955	0.0	0.0 0.0
Measured Airflow Will Corrected		ppm ppm	86.2 0,0	495.2 0.0	497.3 0,0	496.3 0,0	420.2 0.0	240.8 0.0	0.0	0.0	459.4 461.4	0.0	316.9 296.9	81.6 0.0	60,0 0.0	0.0	0,0	0.0 0.0	0.0	0.0	0.0	0.0
WBcorr Minimum Linut	WBcorrMin	ppm ppm	0.0	0.0	0.0	0.0	D.0 D.0	0.0	0.0	0.0	460.2 1.2	0.0	0.0 296.9	0.0	0.0	0.0	0.0 0.0	0.0	0.0	0.0	0.0	0.0
Bleed Pressure		psla psla	15.0	57.1 0.0	56,4 0,0	56,4 0,0	57,4 0.0	58.3 0.0	59.0 0.0	14.1 0.0	52.2 0.0	18.5 0.0	57.7 0.0	15.0 0.0	15.1 0.0	44.6 0.0	14.1 0.0	14,1	14.1 0.0	14.1 0.0	0.0	0,0
PB Corrected Paperr Minimum Limit	PBCOR	psia psia	0.0	0.0	0.0	0.0	D,0 D,0	0,0	0.0	0.0	53.0 52.6	0.0	54.3 54.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 0.0
Bleed Pressure Margin Corrected Discharge Flow	Pemarger	psia ppm	0.0 100.6	0.0 166.6	0.0 159.4	0.0	0.0	0.0 79.4	0.0	0.0	0,4 167.1	0.0	0.0 105.3	0.0 93.9	0.0 67.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WECDNA Minkruin Limit	WBCDNAMin	ppm	0.0 0.0	159.7 173.0	159.7 173.0	0.0	0.0	0.0	0.0	0.0	165.0 169.0	0.0	104.D 108.0	0,0	0.0	0.0	0.0	0.0 0.0	0,0	0.0	0.0	0.0
Delta Lab vs ARING Corrected Discharge	WCdelta	9P.M %	42.9 36	0.6 47	0.7	1,3	·14.4	·51.8 47	-100.0		1.0	-100.0 37	-35.4 48	-45.3 37	-61,0	-100.0 37	-100.0 O	-100.0 0	-100.0 0	-100.0 0	0.0	0.0 0,0
	IGVTM	mA mA	11	12	12	11	11	. 11	46 12	D	12	11	11	11	36 11	11	0	0	0	0	0.0	0.0
SCV TM Current N1a RMS Voltage	N1arms	mA volts	9.8	9.6	9.6	9.6	9.6	9.6	9 9,7	0,0	9.6	9.8	9.6	8 9.8	9.8	9.8	0.0	0.0	0.0	0.0	0.0	0.0
DC Start Volts	Vstart	volts volts	4.2 0.0	0.0	4.2 0.0	4.2 0.0	0.0	4.1 0.0	0.0	0.0	4,2 0,0	4.1 0.0	0.0	0.0	4.1 0.0	4.2 0.0	0.0	0.0	0.0	0.0	0.0	0.0
Starter Amps Accessory Vibration Composite	VibAcoy	amps IPS	0.182		0.429	0.400	5 0,361	9 0.418	7 0.445	0.000	9 0.201	4 0.281	0.184	0 0.182	0,269	0.276	0.000	0.000	0.000	0.000	9.0 0.0	0.0
Roteting Group ATS Turbine	A RG A AYST	IPS IPS	0.182	0.000	0,429	0.400	0.361	0.418	0.445	0.000	0.201	0.281	0.000	0.182 0.000	0.000	0.276	0.000	000,0 000,0	0.000	0.000	0.0	0.0
Generator	A Gen	IPS IPS	0,078 0.014	0.037	0.026	0.031		0.054	0.073 0.025	0.000	0.051	0.030 0.025	0.031 0.020	0.065 0,004	0,022 0,034	0.017		0.000	0.000	0.000	0.0	0.0
	A FCU	IPS IPS	0.016 0.022		0.006	0.007		0.013 0.016	0.020 0.016	0,000	0.011	0.007 0.018	0.007	0.012 0.010	0.006 0.014	0.005	0.000	0.000	0.000	0.000	0,0	0.0
Turbine Vibration Composite Rotating Group	VibTuth	IPS IPS	0.167	0.263	0.272 0.272		0.312	0.414 0.306	0,316 0,316		0,290 0,290	0,272 0,139	0.322	0,237 0,237	0.319 0.077	0.583 0.345	0.000	0.000	0.001 0.000	0.000 0.000	0.0	0.0
ATS Turbine ATS Gear	T ATST	IPS IPS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.0	0.0
Generator Fuel Control and Lube Pump	T Gen	IPS IPS	0.056	0,100	0.071	0.086	0.090	0.063	0.054	0.000	0.0B8 0.011	0.094	0.065 0.008	910,0 900,0	0.109	0,086	0.000	0.000	0.000	0.000	0.0	0.0
Starter P2 Voltage	T Starter	IPS volts	0.009	0.010	0.007	0.009	0.010	0.006	0.011	0.000	0.006	0.004	0.009	0.004	0.007	0.007	0.000	0.000	0.000	0.000	0.0	0.0
Transducer Excitation Veltage	VTexc	volts	0.00	0.0	0.0	0.0 -0.001	0.002	0.00	-0.001 -0.003	0,0	0.00	0.001	0.001	0.0 -0.001	0.00	0.003 -0.001	0.00	0.00	0.000 0.000	-0.00	0.0	0.0
PT Voltage DP Voltage	Dovoits	volts volts	0.001	0.000	-0.000	0.000	0.001	0.000	0.001	-0.000	-0,000	-0.001 -0.001	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.0	0.0
Power Meter Amps phase B	B amps	amps amps	0	0	0	0	0	0	0	0	319 325	0	320 326	0	0	0	0	0	0	0	0.0	0.0
Power Meter Volls A-B	V AB	amps vac	0.0	0.0	0,0	0.0	0.0	0.0	0.0	0.0	327 202.0	0.0	328 202.0	0.0	0.0	0.0	0.0	0.0	0.0	0,0	0.0	0.0
Power Meter Volls A-C	V AC	vac vac	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	203.0 202.0	0.0	203.0 202.0	0,0	0.0	0.0	0.0	0.0	0.0	0,0	0.0	0.0
Power Meter Volls A-Neutret Power Meter Volls B-Neutret	V AN	vac vac	0.0	0.0	0,0	0.0	0.0	0.0	0.0	0.0	116.0 117.0	0.0	116.0 117.0	0.0	0,0	0,0	0.0 0.0	0.0	0.0 0.0	0.0	0.0	0.0
Power Mater Volls C-Neutral KVA Load Brink 1	V CN KVA	vac KVA	0.0	0.0	0.0	0.0	0.0	0,0	0.0	0.0	117.0 113.0	0.0	118.0 114.0	0.0	0,0	0,0	0.0	0.0	0.0 0.0	0.0 0.0	0.0	0.0
Frequency Power Meler 1	PMFreq1	Hz hp	0.0	0.0	0.0	0.0	0.0	0,0	0.0	0.0	399 181.5	0.0	399 183.1	0.0	0.0	0,0	0.0	0.0	0.0	0.0	0.0 0.0	0.0
	(GVad)	deg secs.	68.9 38	-7.6 36	-7.8 36	-7.6 36	-7.6 36	-7.6 36	-7.8 36	69.4 36	5,2 36	68.9 36	-2.4 36	68.9 38	68.8 36	68,9	69.4 4 I	69.4 4	69.4 41	69.4 4	0.0	0.0
APU Start Time	StarlTane	secs.	53 11.2	50 81.8	50 89.9	50 89.9	50 60.2	50 35.5	50 16.4	50 9.5	51 89.9	51 11.1	51 47.1	53 11.4	51 11.0	42 11.1	56 9.5	56 9.5	56 9,5	56 9.5	0.0	0.0
ARING Corrected Discharge Flow ppm	WC	ppm dogs	176.2	165,5	168.3	166.9	164.5	184.5	162.7	96.6	185.5	147.7	163.1	171.6	172.5	145.3	76.9	76.9 84.2	76.9 84.2	76.9 84.2	0.0	0.0 0.0
ARINC Lost Temperature degF ARINC Inlet Guide Vane Position	IGVnos	degF deg	86.0 76.4	-31.0 -0.1	-31.0 -0.1	-31.0 -0.1	-31.0 -0.1	-31.0 -0.1	-31 <u>.0</u> -0.1	76.9	78.8	82.4 76.4	82.4 5.f	86.0 76.4	82.4 76.2	82.4 76.4	76.9	76.9	76.9	76.9	0.0	0,0
		pph	0.0	0.0	0.0	0.0	0.0	0.0	0,0	0,0	623.2	0,0	622.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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# Non-Incident Report





Date: « 30 » October 2017

#### To whom it may concern

#### Statement of No Accident or Incident

We hereby declare the subject aircraft has not been involved in an accident or incident during its operation with "VIM Airlines" from 11 March 2016 until 28 Oct 2017. Furthermore, all appliances and parts installed upon or attached to "the aircraft" have not been obtained from any government or military service or subjected to conditions of extreme stress, heat or environment.

Aircraft Type: B777 – 230 Reg.: VP-BVA
Aircraft Manufacture Serial Number: 28413
Total aircraft Flight Hours: \$3 417:06
Total aircraft Flight Cycles: \$2 798

No.1 Engine Type: RB211 Trent 892B-17 Engine Manufacture Serial Number: 51070

No.2 Engine Type: RB211 Trent 892B-17 Engine Manufacture Serial Number: 51094

Auxiliary Power Unit Type: GTCP331-500B "Honeywell"

APU Manufacture Serial Number: P-1154

Installed Landing gear:

NLG p/n 162W1000-11, serial no. MC0089P0084 LMLG p/n 161W1000-17, serial no. MC0172P0084 RMLG p/n 161W1000-18, serial no. MC0173P0084

**Engineering Manager** 

A.Ambartsumov



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**LLP Summary** 

APU Type:	GTCP 331-500B
APU Assy P/N:	3800550-1
Serial Number:	P-1154
SERIES:	25
Airframe MSN:	28413
Airframe Reg:	VP-BVA

#### APU LIFE LIMITED PARTS STATUS



TSN:	28 943
CSN:	19 952
TSLSV:	2 557
CSLSV:	1 535
Status Date:	02 Oct 2017

Description	Part Number	Serial Number	Life Limit	TSN	CSN	Cycles Remaining
IMPELLER, COMPRESSOR 1ST STG	3822483-1	960322903503	27 000	22 189	15 068	11 932
IMPELLER, COMPRESSOR 2ND STG	3822341-5	14-182449-13712	27 000	2 557	1 535	25 465
IMPELLER, COMPRESSOR LOAD	3822612-1	11-182449-02712	27 000	7 939	5 754	21 246
ROTOR ASSEMBLY, 1ST STG	3842151-3	970335700399	27 000	28 943	19 952	7 048
ROTOR ASSEMBLY, 2ND STG	3842155-4	960335701592	27 000	28 943	19 952	7 048
ROTOR ASSEMBLY, 3RD STG	3842160-5	970134505954	27 000	28 943	19 952	7 048

end

Prepased by powerplant engineer



Vladimir Sysoev



The Headquarters, Maydwell Avenue, Slinfold, West Sussex, RH13 0AS, United Kingdom t: +44 1403 798000 f: +44 1403 710936 e: enquiries@ajw-aviation.com www.ajw-group.com

# Shop Visit

Pulsar – December 2017

	ing Civil Aviation	2.				3. Form Tracking Number:			
	hority/Country:	A T	THORIZED REL	FASE	CERTIFICATE	1085-058-1			
FAA	VUnited States	AC	FAA Form 8130-3, AIRWO						
4. Organiz	zation Name and Address:		FAA Fulli 0130-3, Alkwe	XIIIIVE55 A	HIROVAL IAG	5. Work Order/Contract/Invoice			
Pulsar A	Aviation Services Inc.	255 S. Lelan	d Norton Way, San Bernardino, CA	A 92408 FAA	CRS 2PBR941B	Number: 1085-058			
6. Item:	7. Description:	Description: 8. Part Number: 9. Quantity: 10. Serial Number: 11. Status/Work:							
1	Auxiliary Power	Plant	g B777 AMM Chap 49-20-00 PB601, Borescope report provided to the customer dated 27/DEC/2017.  In MSN 28413. Hours as reported by MCAP						
12. Remai	·ks:	16	·						
Bore	scope Inspected engine	e I/A/W Boei	ing B777 AMM Chap 49-20-00 PE	601, Boresco	pe report provided to the customer da	ted 27/DEC/2017.			
Detai	ls of the work scope io	dentified in 1	Block 11/12 are on file at this Repa	ir Station und	ier Master Work Order #1085-058				
TSN:	28,944 CSN: 19,953		,						
PUL	SAR AVIATION SER	VICES INC.	CERTIFIES THAT THE WORK	SPECIFIED I	IN BLOCKS 11/12 WAS CARRIED	OUT IN ACCORDANCE			
WIT	H EASA PART 145, A	ND WITH I	RESPECT TO THAT WORK, THI	E COMPONE	NT IS CONSIDERED READY FOR	RELEASE TO SERVICE			
UND	ER EASA PART 145	APPROVAL	L NUMBER EASA.145.6444						
13a. Certi	fies the items identified ab	ove were manu	afactured in conformity to:	14a. 🗸 14	CFR 43.9 Return to Service	her regulation specified in Block 12			
				- 2000 C	es that unless otherwise specified in Block 12				
	Approved design data and	are in a condi	tion for safe operation.	and de	scribed in Block 12 was accomplished in acc	ordance with Title 14, Code of			
	Non-approved design data	specified in Bl	lock 12.		al Regulations, part 43 and in respect to that to service.	work, the items are approved for			
13b. Auth	orized Signature:		13c. Approval/Authorization No.	14b. Author	rized Signature:	14c. Approval/Certificate No.:			
					Hou Madblock fe	2PBR941B			
13d. Name	(Typed or Printed):		13e. Date (dd/mmm/yyyy):	14d. Name	(Typed or Printed):	14e. Date (dd/mmm/yyyy):			
					Donald Maddock 27/DEC/2017				
			User/Installe	r Responsibil	lities	1			
It is impor	tant to understand that the	e existence of the	his document alone does not automaticall	v constitute auth	nority to install the aircraft engine/propeller/	/article.			

Statements in Blocks 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.

FAA Form 8130-3 (02–14)

NSN: 0052-00-012-9005

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



#### Don Maddock's BORESCOPE ON VIDEO, INC. (PHX AZ)

83 South Mountain View Rd. Apache Junction AZ - USA 85119-9861 Business 480-671-6734 Cell 602-619-6633

Inspected by: Dave Wiedman don@borescopeonvideo.com

TSN: 28,944

www.borescopeonvideo.com 'Since 1996'

# **DVD Video Borescope Inspection Report**



1 Park Plaza, Suite 700 Irvine, CA 92614

**ESN P-1154** 

**POS** <u>APU 331-500B</u>

P/N 3800550-1

DATE December 27, 2017

VCSN: 19,953

**MODEL** <u>B777-2H6</u>

**MSN 28413** 

REG# VP-BVA

**REASON** Acceptance Inspection

JOB SITE ComAv - Victorville, CA (VCV)

General Inspection Reference AMM 49-00

#### **Exterior**

No discrepancies noted at this time.

#### Case

No discrepancies noted at this time.

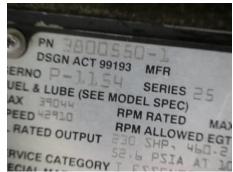
#### Components

No discrepancies noted at this time.



C RATED 760







Suggested Action: None.

#### Compressor Reference AMM 49-21

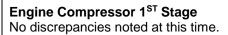
#### **HP Load Compressor**

#### LP IGV'S

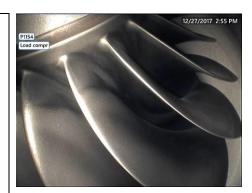
No discrepancies noted at this time.

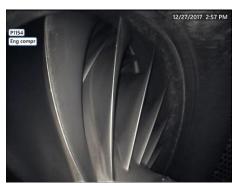
#### **LP Load Compressor**

No discrepancies noted at this time.



Engine Compressor 2<sup>ND</sup> Stage No discrepancies noted at this time.







#### Suggest Action: None.

#### Combustor, Vanes, Turbine Reference AMM 49-21

#### Combustor

Minor coating loss is acceptable.

#### Vanes

No discrepancies noted at this time.





#### 1<sup>ST</sup> Stage Turbine

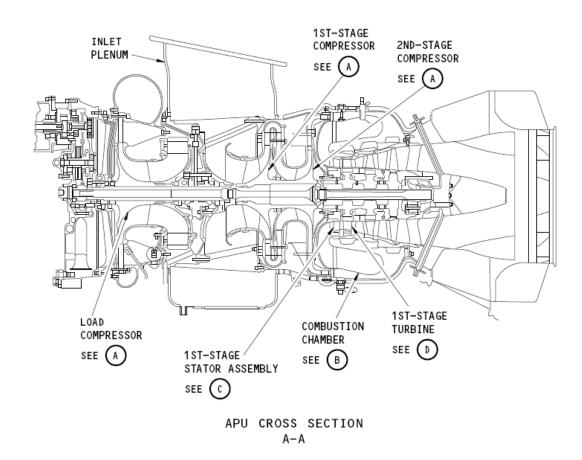
No discrepancies noted at this time.

#### 3<sup>RD</sup> Stage Turbine

No discrepancies noted at this time.







The contents of this report are based on attentive inspection and review. It is exclusive of any damage not detectable without removal and disassemble of the unit. This report is submitted in confidence to the above named client. The external video walk around is for cursory purposes only which covers general cleanliness, obvious damage and leaks, a more detailed inspection should be provided by the maintenance facility. Some service bulletins and AD's may be incorporated as routine but specific SB's should be requested with the work order. Although this report is believed to be a true and fair representation of the condition of the engine, the client acknowledges that BOV's liability is limited to the amount of the invoice. The engines inspected may have been prepared for borescope by the facility named above under job site and returned to original condition by the same facility. Maintenance Manual pages attached to this report if any are uncontrolled and are for general reference only. Verify limits with current MM effective for this engine and or aircraft.

forMadelocke

**SIGNATURE** 

A&P <u>3015305</u>

DATE December 27, 2017



The Headquarters, Maydwell Avenue, Slinfold, West Sussex, RH13 0AS, United Kingdom t: +44 1403 798000 f: +44 1403 710936 e: enquiries@ajw-aviation.com www.ajw-group.com

Shop Visit

Honeywell – March 2015

-	Competent Authority/Country	AUTHORIS	SED RELEAS	E CERTIFICAT	
EASA	320093302				
4. Organisation	on Name and Address: Honeywell A (Gul Circle) 161 Gul Circ Singapore 6	cle			5. Work Order/Contract/Invoice NP5300937 320093301 Page 1 of 1
6. Item	7. Description	8. Part No	9. Quantity	10. Serial No.	11. Status/Work
001	ENGINE OUTLINE GAS TURBINE	3800550-1	1	P-1154	OVERHAULED
12. Remarks  THE SERVICE SPECIFIED HAS BEEN ACCOMPLISHED IN ACCORDANCE WITH:SPM 20-00-02/70-00-01 Rev 18, JUN/14/2013 IRM 49-24-79 Rev 7, MAY/29/2014 IPC 49-26-55 Rev 16, MAY/28/2013 EM 49-26-57 Rev 19, OCT/17/2014 CMM 49-42-05 Rev 2, NOV/11/2014 NO AIRWORTHINESS DIRECTIVES APPLICABLE TO THIS APU. REFER TO FORM GTCP331-500B-G16-R.6 ATTACHED FOR LIFE LIMITED PARTS. For Service Bulletin complied See attached Service Record Service Bulletin Compliance TEXT CONTINUED ON RIGHT SIDE			CONTINUED: TSN: 26386:34 CSN: 18417 IS AT POINT OF INSTALLATION FOR COMPUTATION OF LLP CYCLES AND WAS DERIVED FROM DMM. DMM HRS/CYCLES ON RELEASE IS 26388:34/18423 (2:00 HRS AND 6 CYCLES USED IN APU FINAL TESTING). SHIPPED LESS GENERATOR COVER PN 3862212-3 AND BOOT TERMINAL PN 2709968-1. TSN: 26386:34 CSN: 18417 TSO: 00 CSO: 00		
appr	that the items identified above were man oved design data and are in condition for approved design data specified in block	or safe operation	Certifies that unless of and described in bloo	otherwise specified in block k 12, was accomplished in	Other regulation specified in block 12 : 12, the work identified in block 11 accordance with Part-145 and in
401 4 11 1	10:	Annual III all and a stine North an	<del></del>	he items are considered rea	
13b. Authorise	ed Signature 180	. Approval/Authorisation Number	14b. Authorised Signat	ture	14c. Certificate/Approval Ref. No  EASA.145.0076
13d. Name	13e	. Date (dd mmm yyyy)	14d. Name		14e. Date (dd mmm yyyy)
			Stephen Lee (Steph	en Lee Kok Neo)	18 MAR 2015
This certificate d Where the user/ii ensures that his/ Statements in blo	her airworthiness authority accepts items from	ulation of an airworthiness authority different than the nithe airworthiness authority specified in block 1.  certification. In all cases aircraft maintenance recor			



Authority/Country:				LEASE CERTIFICATE ORTHINESS APPROVAL TAG			3. Form Tracking Number: 20150000580131Y03 320093302	
4. Orga	anization Name and Address:	Honeywell Aerospace Sir (Gul Circle) 161 Gul Circle Singapore 629619	gapore Pte Ltd	Repair Station FT4Y192M			5. Work Orde NP5300937 320093301 Page 1 of 1	r/Contract/Invoice Numb
6.ltem:	7. Description:		8. Part Number:		9. Quantity:	10. Serial Numb	er:	11. Status / Work:
001	ENGINE OUTLINE GAS	TURBINE	3800550-1		1	P-1154 OVE		OVERHAULED
THE	Remarks: SERVICE SPECIFIED HAS	BEEN ACCOMPLISHED IN .	ACCORDANCE			IS AT POINT OF		V FOR
IRM	49-24-79 Rev 7, MAY/2 49-26-55 Rev 16, MAY/2	9/2014		,		IS 26388:34/18 ED IN APU FINAL		
EM 49-26-57 Rev 19, OCT/17/2014 CMM 49-42-05 Rev 2, NOV/11/2014			SHIPPED LESS GENERATOR COVER PN 3862212-3 AND BOOT TERMINAL PN 2709968-1.					
REFE	IRWORTHINESS DIRECTIVE TR TO FORM GTCP331-500 LIFE LIMITED PARTS.	ES APPLICABLE TO THIS : B-G16-R.6 ATTACHED	APU.	TSN: 26386:34	4 CSN: 18417	TSO: 00 C	SO: 00	
For	Service Bulletin comp	lied ord Service Bulletin	Compliance					

TEXT CONTINUED ON RIGHT SIDE

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

13a. Certifies the items identified above were manufa		14a. X 14 CFR 43.9 Return to Service Other regulation specified in Block 12			
Approved design data and are in a cond	· · · · · · · · · · · · · · · · · · ·	Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and			
Non-approved design data specified in I	3lock 12.	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:	(ETME)	14c. Approval/Certificate No.:	
		(N)	(\$ 00 (\$ 00)	FT4Y192M	
13d. Name (Typed of Printed):	13e. Date(dd/mmm/yyyy):	14d. Name (Typed or Printed):		14e. Date (dd/mmm/yyyy):	
		Stephen Lee (Stephen Lee Kok Ned	<b>)</b>	18/MAR/2015	

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/propeller/article. 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 Block1, 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 Block1. Statements in Blocks 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. FAA FORM 8130 - 3 (02-14) NSN: 0052 - 00 - 012 - 9005



# Honeywell

ENGINE MODEL: 331-500B

SERVICE RECORD

PAGE: 1 of 1

ENGINE SERIAL NUMBER: P-1154

SERVICE BULLETIN COMPLIANCE

CUSTOMER: MALAYSIA AIRLINES SUBANG REPAIR ORDER: 000320093301

MODULE: ENGINE PART: 3800550-1

SERVICE BULLETIN	REV	DESCRIPTION	ACCOMP	WHEN ACCOMP	Recurring
331-49-7555	1	AIRBORNE AUXILIARY POWER - GAS TURBINE E	Complied With	17/MAR/2015	
331-49-7698 1		AIRBORNE AUXILIARY POWER - GAS TURBINE E	Complied With	17/MAR/2015	***************************************
331-49-7810	0	AIRBORNE AUXILIARY POWER - GAS TURBINE E	Complied With	16/MAR/2015	
331-49-8022	0	AIRBORNE AUXILIARY POWER - GAS TURBINE E	Complied With	17/MAR/2015	
331-49-8058	0	AIRBORNE AUXILIARY POWER - GAS TURBINE E	Complied With	17/MAR/2015	
3505874-49-9008	0	AIRBORNE AUXILIARY POWER - AIR TURBINE S	Complied With	17/MAR/2015	
49-7046	0	REWRK DRVE SHFT ASSY PN 3503876-5 TO 350	Complied With	17/MAR/2015	
49-7997	4	STANDARD STORAGE AND PRESERVATION GUIDEL	Complied With	18/MAR/2015	Y
GTE1317	0	AUTHORIZE THE USE OF SECOND STAGE TURBIN	Complied With	16/MAR/2015	
SPB GTE1133	OR	REPL TURBINE STATOR SUPPORT	Complied With	16/MAR/2015	

Honeywell Aerospace Singapore Pte Ltd INS

INSPECTOR SIGNATURE:\_\_\_

DATE:

REPAIR STATION # FAA-EASA-CAAS-CAAC-JCAB

1 8 MAR 2015

# Honeywell

DATE	ENG	TED SINE JRS JDD	LA'	UMU- TED SINE CLES	ENGINE SERVICE RECORD  REMARKS, INSPECTIONS, REPAIRS, AND ADJUSTMENTS			
17/MAR/2015	TSN	TSO	CSN	cso	P/N 3800550-1	S/N	P-1154	
	26386.56	0.00	18417	0	Model 331-500B	Serie		
	(26386:34)	(0:00)					omer PO NP5300937	
					DESCRIPTION OF WO			
					ACCOMPLISH REPAIR FOR F	REPORTED REASON:	PLISH INSPECTIONS AS INDICATED / TO ED REASON: FOR NTE REPAIRS REASON	
TEST			REMOVAL: NO BLEED AND TESTED AS SPECIFIED. ALL MANUFACTURER'S MAINTEN.	WORK PERFORMED				
					MANUALS	<u>REV</u>	DATED	
]					20-00-02/70-00-01	18	14/JUN/2013	
					49-24-79	7	29/MAY/2014	
					49-26-57	19	17/OCT/2014	
					49-42-05	2	11/NOV/2014	
					INSPECTIONS COMPLI	ED WITH:		
					SERVICE BULLETINS	COMPLIED WITH:	SEE SERVICE BULLETIN LIST	
					PARTS REPAIRED OR	REPLACED THIS	VISIT: SEE TRACE INPUT	
							PAGE	
NDC / LIFE LIMITED PARTS					LIFE LIMITED PARTS RECORD ZED COMPONENTS INSTALLED			
					THIS ENGINE HAS BEEN REPAIRE APPLICABLE NATIONAL AVIATION FOR RETURN TO SERVICE WITH F DETAILS ARE ON FILE AT THIS AG	ADMINISTRATION REGURESPECT TO THE WORK	LATION AND IS APPROVED PERFORMED. PERTINENT	
					000320093301			

Honeywell Aerospace Singapore Pte Ltd

REPAIR STATION # FAA-EASA-CAAS-CAAC-JCAB

**INSPECTOR SIGNATURE:** 

DATE:

1 8 MAR 2015

Note: APU on release after testcell runs.

The TSN/CSN is as follows:

TSN: 26388:34 HRS

CSN: 18423 CYCLES

# GTCP 331-500[B] PERFORMANCE DATA SHEET

OPERATION NO : 0220 REVISION : 19	NOTIFICATION NUMBER : APU MODEL :		093302 331-500[B]	PART NUMBER	3800550-1	SERVICE ORDER :	
Description   Corrected   Co	OPERATION TEXT :	LAI	B TEST			MANUAL :	EM 49-26-57
BAROMETRIC PRESSURE PSIG 14.86 14.86 14.86 14.86 14.86 14.86 14.86 14.86 14.86 14.86 14.86 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88 14.88	OPERATION NO :		)220			REVISION :	19
PSIG   24.1   21.3   21.2	QUAN	TITY		UNITS	NO LOAD	103°F ECS MODE	103°F MES MODE
DIL PUMP DISCHARGE PRESSURE   PSIG   68.0   67.8   67.8   67.8	BAROMETRIC PRESSURE			PSIA	14.66	14.66	14.66
DIL PUMP DISCHARGE TEMPERATURE   PSIA   1520   1521   1520	FUEL INLET PRESSURE			PSIG	24.1	21.3	21.2
DESTINCTED AURFLOW (DISC. CORRECTED   LIBSMIN   LIBSM	OIL PUMP DISCHARGE PRES	SURE		PSIG	68.0	67.8	67.8
COMPRESSOR INLET TEMPERATURE   MEASURED   °F   86.6   87.1   87.8	OIL PUMP DISCHARGE TEMP	ERATURE		°F	156	157	157
APU INLET TEMPERATURE (T2) (ARINC)  TURBINE DISCHARGE TEMPERATURE (UNIT RAKES)  DIPPER (EGT 1) °F 708.3 1069.7 1093.1  LOWER (EGT 2) °F 702.6 1075.9 1105.2  EXHAUST GAS TOTAL TEMPERATURE (LA MESURED °F 723.2 1073.3 1101.8  CORRECTED °F 723.2 1073.3 1101.8  PRICE INLET AIR PRESSURE  ORIFICE INLET TEMPERATURE  "Hg 76.2 88.9  ORIFICE INLET TEMPERATURE  "Hg 80.37 25.06  IGV POSITION** (IGVPOS)  DEGREES 12.5 5.0  IGV PERFORMANCE ADJ (IGVPERADJ)  BLEED AIRFLOW (DISC. CORR. FLOW)  RESTRICTED AIRFLOW (DISC. CORR. FLOW)  BLEED AIR TOTAL PRESSURE  INDICATED PSIA 55.2 59.5  BLEED AIR TOTAL TEMPERATURE  (CORRECTED PSIA 53.9 54.3  BLEED AIR TOTAL TEMPERATURE  INDICATED °F 426.9 430.2  UNIT VIBRATION ACCESSORY IN/SEC 0.32 0.28 0.33  TURBINE WHEEL SPEED SHP 180.6 180.6	GEARBOX PRESSURE		<u> </u>	PSIA	15.20	15.21	15.20
TURBINE DISCHARGE TEMPERATURE (UNIT RAKES)  EXHAUST GAS TOTALTEMPERATURE (LA  EXHAUST GAS TOTALTEMPERATURE (	COMPRESSOR INLET TEMPE	RATURE	MEASURED	°F	86.6	87.1	87.8
TEMPERATURE (UNIT RAKES)   LOWER (EGT 2) ° F   702.6   1075.9   1105.2	APU INLET TEMPERATURE (T	2) (ARINC)		°F	90.5	90.8	91.3
EXHAUST GAS TOTALTEMPERATURE (LA CORRECTED	TURBINE DISCHARGE		UPPER (EGT 1)	°F	708.3	1069.7	1093.1
CORRECTED   °F	TEMPERATURE (UNIT RAKES	)	LOWER (EGT 2)	°F	702.6	1075.9	1105.2
ORIFICE INLET AIR PRESSURE       "Hg       76.2       88.9         ORIFICE INLET TEMPERATURE       °F       400.3       411.9         ORIFICE DELTA PRESSURE       "H₂O       60.37       25.06         IGV POSITION** (IGVPOS)       DEGREES       12.5       5.0         IGV PERFORMANCE ADJ (IGVPERADJ)       DEGREES       5.0       ////////////////////////////////////	EXHAUST GAS TOTALTEMPERATURE (L		MEASURED	°F	723.2	1073.3	1101.8
ORIFICE INLET TEMPERATURE  "F 400.3 411.9  ORIFICE DELTA PRESSURE  "H <sub>2</sub> O 60.37 25.06  IGV POSITION** (IGVPOS)  DEGREES 12.5 5.0  IGV PERFORMANCE ADJ (IGVPERADJ)  DEGREES 5.0 60.07  BLEED AIRFLOW ACTUAL LBS/MIN 480.96 328.72  CORRECTED LBS/MIN 485.4 298.7  RESTRICTED AIRFLOW (DISC. CORR. FLOW)  BLEED AIR TOTAL PRESSURE INDICATED PSIA 55.2 59.5  CORRECTED PSIA 55.2 59.5  CORRECTED PSIA 53.9 54.3  BLEED AIR TOTAL TEMPERATURE INDICATED °F 411.2 423.4  CORRECTED °F 426.9 430.2  UNIT VIBRATION ACCESSORY IN/SEC 0.32 0.28 0.33  TURBINE WHEEL SPEED RPM 39141 39102 38957  SHAFT LOAD APPLIED SHP 180.6 180.6			CORRECTED	°F		1118.9	1115.1
ORIFICE DELTA PRESSURE         "H₂O         60.37         25.06           IGV POSITION** (IGVPOS)         DEGREES         12.5         5.0           IGV PERFORMANCE ADJ (IGVPERADJ)         DEGREES         5.0         5.0           BLEED AIRFLOW         ACTUAL         LBS/MIN         480.96         328.72           CORRECTED         LBS/MIN         465.4         298.7           RESTRICTED AIRFLOW (DISC. CORR. FLOW)         LBS/MIN         166.14         106.01           BLEED AIR TOTAL PRESSURE         INDICATED         PSIA         55.2         59.5           CORRECTED         PSIA         53.9         54.3           BLEED AIR TOTAL TEMPERATURE         INDICATED         °F         411.2         423.4           CORRECTED         °F         426.9         430.2           UNIT VIBRATION         ACCESSORY         IN/SEC         0.32         0.28         0.33           TURBINE         IN/SEC         0.22         0.37         0.30           TURBINE WHEEL SPEED         RPM         39141         39102         38957           SHAFT LOAD         APPLIED         SHP         180.2         180.2	ORIFICE INLET AIR PRESSUR	E	<u> </u>	" Hg		76.2	88.9
IGV POSITION** (IGVPOS)   DEGREES   12.5   5.0     IGV PERFORMANCE ADJ (IGVPERADJ)   DEGREES   5.0             BLEED AIRFLOW   ACTUAL   LBS/MIN   480.96   328.72     CORRECTED   LBS/MIN   465.4   298.7     RESTRICTED AIRFLOW (DISC. CORR. FLOW)   LBS/MIN   166.14   106.01     BLEED AIR TOTAL PRESSURE   INDICATED   PSIA   55.2   59.5     CORRECTED   PSIA   53.9   54.3     BLEED AIR TOTAL TEMPERATURE   INDICATED   °F   411.2   423.4     CORRECTED   °F   426.9   430.2     UNIT VIBRATION   ACCESSORY   IN/SEC   0.32   0.28   0.33     TURBINE WHEEL SPEED   RPM   39141   39102   38957     SHAFT LOAD   APPLIED   SHP   180.2   180.2     CORRECTED   SHP   180.6   180.6	ORIFICE INLET TEMPERATUR	E		°F		400.3	411.9
IGV PERFORMANCE ADJ (IGVPERADJ)   DEGREES   5.0	ORIFICE DELTA PRESSURE			" H₂O		60.37	25.06
BLEED AIRFLOW   ACTUAL   LBS/MIN   480.96   328.72	IGV POSITION** (IGVPOS)	<del>"</del>		DEGREES		12.5	5.0
CORRECTED   LBS/MIN   465.4   298.7	IGV PERFORMANCE ADJ (IGV	PERADJ)		DEGREES		5.0	
RESTRICTED AIRFLOW (DISC. CORR. FLOW)         LBS/MIN         166.14         106.01           BLEED AIR TOTAL PRESSURE         INDICATED         PSIA         55.2         59.5           CORRECTED         PSIA         53.9         54.3           BLEED AIR TOTAL TEMPERATURE         INDICATED         °F         411.2         423.4           CORRECTED         °F         426.9         430.2           UNIT VIBRATION         ACCESSORY         IN/SEC         0.32         0.28         0.33           TURBINE         IN/SEC         0.22         0.37         0.30           TURBINE WHEEL SPEED         RPM         39141         39102         38957           SHAFT LOAD         APPLIED         SHP         180.2         180.6           CORRECTED         SHP         180.6         180.6	BLEED AIRFLOW		ACTUAL	LBS/MIN		480.96	328.72
BLEED AIR TOTAL PRESSURE			CORRECTED	LBS/MIN		465.4	298.7
CORRECTED   PSIA   53.9   54.3	RESTRICTED AIRFLOW (DISC	. CORR. FLC	)W)	LBS/MIN		166.14	106.01
BLEED AIR TOTAL TEMPERATURE INDICATED °F 411.2 423.4 CORRECTED °F 426.9 430.2 UNIT VIBRATION ACCESSORY IN/SEC 0.32 0.28 0.33 TURBINE IN/SEC 0.22 0.37 0.30 TURBINE WHEEL SPEED RPM 39141 39102 38957 SHAFT LOAD APPLIED SHP 180.2 180.2 CORRECTED SHP 180.6 180.6	BLEED AIR TOTAL PRESSURE		INDICATED	PSIA		55.2	59.5
CORRECTED °F 426.9 430.2  UNIT VIBRATION ACCESSORY IN/SEC 0.32 0.28 0.33  TURBINE IN/SEC 0.22 0.37 0.30  TURBINE WHEEL SPEED RPM 39141 39102 38957  SHAFT LOAD APPLIED SHP 180.2 180.2  CORRECTED SHP 180.6 180.6			CORRECTED	PSIA		53.9	54.3
UNIT VIBRATION         ACCESSORY         IN/SEC         0.32         0.28         0.33           TURBINE         IN/SEC         0.22         0.37         0.30           TURBINE WHEEL SPEED         RPM         39141         39102         38957           SHAFT LOAD         APPLIED         SHP         180.2         180.2           CORRECTED         SHP         180.6         180.6	BLEED AIR TOTAL TEMPERAT	URE	INDICATED	°F		411.2	423.4
TURBINE IN/SEC 0.22 0.37 0.30  TURBINE WHEEL SPEED RPM 39141 39102 38957  SHAFT LOAD APPLIED SHP 180.2 180.2  CORRECTED SHP 180.6 180.6			CORRECTED	°F		426.9	430.2
TURBINE         IN/SEC         0.22         0.37         0.30           TURBINE WHEEL SPEED         RPM         39141         39102         38957           SHAFT LOAD         APPLIED         SHP         180.2         180.2         180.2           CORRECTED         SHP         180.6         180.6	UNIT VIBRATION		ACCESSORY	IN/SEC	0.32	0.28	0.33
TURBINE WHEEL SPEED         RPM         39141         39102         38957           SHAFT LOAD         APPLIED         SHP         180.2         180.2         180.2           CORRECTED         SHP         180.6         180.6		TURBINE		IN/SEC	0.22	0.37	
CORRECTED SHP 180.6 180.6	TURBINE WHEEL SPEED			RPM	39141	39102	38957
CORRECTED SHP 180.6 180.6	HAFT LOAD		APPLIED	SHP		180.2	180.2
FUEL CONSUMPTION INDICATED LBS/HR 337.6 641 659	***************************************		CORRECTED	SHP		180.6	180.6
777777777777777777777777777777777777	FUEL CONSUMPTION	INDICATED	LBS/HR	337.6	641	659	
CORRECTED LBS/HR 634.45 623.31			CORRECTED	LBS/HR		634.45	623.31

TEST TECHNICIAN : QUALITY CONTROL : Stamp & Sign

DATE : 18-Mar-2015 DATE : 18 MAR 2015

FORM 331-500B-T-04 R18 (DDMMYY 301014)



# TURBINE ACCEPTANCE TAG AND TRACEABILITY INPUT LIFE LIMITED PARTS RECORD/TRACE INPUT PAGE

PART NO: 3800550-1 SERIAL NO: P-1154 **CUSTOMER: MAS** 

MODEL: GTCP331-500B

SERIES: 25

**DATE: 18-Mar-15** 

W/O NO: 5008225314

TSN: 26386:34

CSN: 18417

TSO: 00

CSR: NA **CSO**: 0

TSR: NA

DESCRIPTION	PART NO	SERIAL NO	LOT NO	<u>tsn</u>	<u>CSN</u>	<u>LIFE LIMITS</u> (CYCLES)	REMARKS
D/COMP IMPELLER	3822612-1	11-182449-02712	-	5382:09	4219	27000	OVERHAULED
1ST STG IMPELLER	3822483-1	960322903503	-	19632:52	13533	27000	OVERHAULED
2ND STG IMPELLER	3822341-5	14-182449-13712	151034005	00	00	27000	NEW
1ST T-WHEEL ASSY	3842151-3	970335700399					OVERHAULED
DISK PART NO	3842152-1	970333700399	•	26386:34	18417	27000	OVERHAULED
2ND T-WHEEL ASSY	3842155-4	960335701592	97P309				OVERHAULED
DISK PART NO	3842156-1	700333701392	9/1/309	26386:34	18417	27000	OVERNIAGEED
3RD T-WHEEL ASSY	3842160-5	970134505954		26386:34	18417	27000	OVERHAULED

### **APU ACCESSORIES RECORD**

DESCRIPTION	PART NO.	SERIAL NO.	<u>SERIES</u>	CHG NOS	DISPOSITION CODES	REMARKS
STARTER CTRL VLV	3283076-5	374	1	-	3, 5	TESTED
AIR TURB STARTER	3505814-3	246	1	-	4, 5	OVERHAULED
STARTER MOTOR	2704442-5	77-385	2	-	3, 5	REPAIRED
FUEL CLUSTER	3879008-1	CUA10610	-	_	3, 5, 6	REPAIRED. TRANSFERRED FROM MAS APU P-1415
IGV ACTUATOR	3883499-3	0262	,	•	3, 5	TESTED
PNEU CLUSTER	3884863-7	P-304	1	-	3, 5	REPAIRED
CHECK VALVE	3202854-1	1100	1	•	3, 5	REPAIRED
SURGE CTRL VALVE	3290814-5	664C	-	-	3, 5	TESTED
LUBE CLUSTER	4131000-6	342C	1	-	3, 5	REPAIRED
AIR OIL COOLER	160488-2	77-339	2	-	3, 5	TESTED
TEMP CTRL VALVE	160536-1	77-286	2	-	3, 5	TESTED
IGNITION UNIT	3876195-8	020218034031	-	-	3, 5	TESTED
IGNITION SYS ASSY	3888275-9	020218034031	-	•	3, 5	REPAIRED
G/BOX ASSY	3805034-8	P-247	1	-	1, 3, 5	REPAIRED MODIFIED
DRIVEN COMP	3804011-8	P-254	•	•	4, 5	OVERHAULED
COMP MODULE	3826980-9	P-254	-	-	1, 4, 5	OVERHAULED MODIFIED
TURB MODULE	3844517-5	P-254	-	•	4, 5	OVERHAULED
DMM	304643-2	GE1392	1	•	0, 5	CLEANED AND VISUALLY INSPECTED

REMARKS: APU HOURS AND CYCLES ARE BASED AT THE POINT OF ASSEMBLY AND OBTAINED FROM THE DMM.

**DISPOSITION CODES:** 

0 = REUSE AND TEST ON APU. 1 = MODIFY/UPGRADE, 2 = FT FOR FINDINGS, 3 = FT AND REPAIR 4 = DISASSEMBLE AND REPAIR 5 = CLEAN PER CMM OR STANDARD PRACTICE. 6 = SCRAP & REPLACE.

INSPECTOR SIGNATURE & STAMP:

FORM: GTCP331-500B-G16-R.6 (ddmmyy 290813)

# **OPEN ITEM LIST**

**SERVICE ORDER NO:** 

5008225314

APU PART NO:

3800550-1

APU MODEL: GTCP331-500B

**CUSTOMER:** 

MAS

APU SERIAL NO:

P-1154

DATE: 18-Mar-15

ITEM	DESCRIPTION	PART NUMBER	MANUAL REF	QTY	REMARKS						
1	GEN. COVER	3862212-3	49-26-55	1	NOT RECEIVED. SHIPPED LESS						
2	TERMINAL PROTECTOR	2709968-1	49-42-02	1	NOT RECEIVED. SHIPPED LESS						
			/								
				_	<del>-</del>						
			_								
	PREPARED BY :										

ENSURE REMOVAL OF ALL DESSICANT PRIOR TO OPERATION OF ENGINE.

ENGINE PRESERVED AND STORED I.A.W. THE

APPLICABLE MANUAL AND IS ADEQUATE FOR A

PERIOD OF UP TO 24 000 49 49 49 79 97

CHECK HUMIDITY INDICATOR EVERY 30 DAYS

Honeywell Aerospace Singapore Pte Ltd
\_\_\_\_\_(Gul Circle)

# STORAGE

W/O NO: 5008225314

S/NO: P-1154

See Other side

INSPECTOR SIGNATURE

FORM G0052R.3 (ddmmyy250411)

DATE: \_\_\_\_ 1 8 MAR 2015

# GTCP-331-500B-MODULES / LIFE LIMITED PARTS STATUS

APU P/NO: 3800550-1 APU S/NO: P1154

A/C REGN: EX 9M-MRB TSN/CSN:26385 / 18417 TCE/CCE: 5270 / 4244

DATE OF REMOVAL: 20 JAN 2015

REASON FOR REMOVAL: NO BLEED AND TAIL PIPE FIRE

**REASON FOR PREVIOUS REMOVAL: HIGH TIME** 

CUSTOMER: MAS JOB CARD NO: DATE RELEASED:

			INCOMING							OUTGOING		
NO	DESCRIPTION	PART NUMBER	SERIAL NUMBER	TSN/CSN	LIFE	REMARKS	PART NUMBER	SERIAL NUMBER	TSN/CSN	TASK PERFORMED	DOC,REFERENCI BATCH NO.	REMARKS
1	GEARBOX ASSY	3805034-8	P247	26385 / 18417			3805034-8	P-247	26385/ 18417	REPAIRED		
2	DRIVE COMP.ASSY	3804011-8	P254	26385 / 18417			3804011-8	P-254	26385/	ONERHANTED	•	
2.1	IMPELLER COMP LOAD	3822468-3	050322901613	18417	27000 Cycs		3822612-1	11-182449 - 02712	5382:09/ 4219	OVERHAULED		ORIGINAL UNIT SN AS DECEMED
3	ENG.COMP.ASSY	3826980-9	P254	26385 / 18417			3826980-9	P-254	26385/ 18417	MODIFIED		
3.1	IMPELLER COMP.2ND STG	382341-4	02032295617	18417	27000 Cycs	,	3822341-5	14-182449 -13712	00	NEW		
3.2	IMPELLER COMP.1ST STG	3822483-1	960322903503	18417	27000 Cycs			960322 903503	19632:52/	OUER HAULED		
4	TURBINE MOD.ASSY	3844517-5	P254	26385 / 18417			3844517-5	P-254	26385/ 18417	OVERHAULED		
4.1	1ST STG ROTOR ASSY	3842151-3	970335700399	18417	27000 Cycs		2842151-3	970335 700399	26386:34/ 18417	ouerhauled		
4.2	2ND STG ROTOR ASSY	3842155-3	960335701592	18417	27000 Cycs		3842155-4	960335 701592	18417	ONEUMANTED		
4.3	3RD STG ROTOR ASSY	3842160-5	970134505954	18417	27000 Cycs		3842160-5	940134 505954	18417 26386:34/	OVERHAULED		



#### GTCP-331-500B-ACCESSORIES

APU S/N:	P-1098				w.o.	331-500B-ACCE						
NO	DESCRIPTION			INCOMING	1			OUTGOING				
BU	ACCESSORIES	PART NUMBER	SERIAL NUMBER	TSN	LIFE	REMARKS	PART NUMBER	SERIAL NUMBER	TSN CSN	TASK PERFORMED	DOC. REFERENCE BATCH NO.	REMARKS
5.1	AIR/OIL COOLER	160488-2	77-339	26385	ос		160488-2	77-339	26385	TESTED		
5.2	ELEC.STR.MOTOR	2704442-5	77-385	13785	oc		2704442-5	77-385	13785	REPAIRED		
5.3	DATA MEMORY MOD.	304643-2	GE1392	26385	ос		304643-2	GE1392	26385	THE PECTED		
5.4	FUEL CLUSTER	4417617	CUA10186	26385	oc		3874008-1	CMAIOBIO	20849	REPAIRED		TRANSFIERRED FROM MAS APU P-1415
5.5	APU CHECK VALVE	3202610-5	581	UNK	oc		3202854-1	1100	_	REPAIRED		ORIGINAL UNIT As received
5.6	A.T.S.C.V	3283076-5	314C	26385	oc		3283076-5	374	_	ワンアを当て		DICIONAL UNIT
5.7	AIR TURBINE START	3505814-3	245	12276	oc		3505814-3	246	12276	OVERHAULED		
5.8	I.G.V ACT	B55690-004		26385	ос		3883499-3	0262	-	TESTED	1	ORIGINAL UNIT SN AS RECEIVED
5.9	PNEU. CLUSTER	3884863-7		26385	oc		3884863-7	P-304	-	REPRIZE		ORIGINAL UNIT As received
5.10	IGNITION CLUSTER	3888275-9	UNKP1154	26385	oc		38882∓5-9	020218	26385	REPAIRED		Original Unit As Received
5,11	LUBE CLUSTER	4131000-6	342C	26396	oc		4131000-6	342C	26396	REPAIRED		
5.12	s.c.v	3290814-5	337C	26396	oc		3290814-5	664C	_	TESTED	,	driginal Unit as received
5.13	TEMP.CONT.VALVE	160536-1	77-286	26385	oc		160536-1	77 -286	26385	TESTED		
5.14	GENERATOR	756589A		17949	oc		-	_	_			NOT RECEIVED

PREPARED BY: SYAFIQAH DATED: 02.02.2015

1. Approving	Competent Authority/Country	2.	SED DELEAS	E CERTIFICATE	3. Form Tracking Number
		AUTHORI	SED KELEAS	E CERTIFICATE	
EASA					320264765
			EASA FORM 1		
4. Organisati	ion Name and Address: Honeywe	ell Aerospace Singapore Pte Ltd			5. Work Order/Contract/Invoice
	(Gul Čiro 161 Gul				NP4311791
		re 629619			320071093
	•				Page 1 of 1
6. Item	7. Description	8. Part No	9. Quantity	10. Serial No.	11. Status/Work
001	FUEL CLUSTER	3879008-1	1	CUA10610	REPAIRED
12. Remarks					
	CE SPECIFIED HAS BEEN ACCOM	PLISHED IN ACCORDANCE WITH:			
CMM 49-31	-71 Rev 8, FEB/22/2012				
	HH.DD (HH:MM)				
TSR	0.00 (0:00)				
3	0.00				
			T44. M D-+445.4 50		
	that the items identified above were i		_		ner regulation specified in block 12
	proved design data and are in condition approved design data specified in bl				, the work identified in block 11 cordance with Part-145 and in
	r-approved design data specified in bi	10CK 12		e items are considered ready	
13b. Authoris	ed Signature	13c. Approval/Authorisation Number	14b. Authorised Signatu		14c. Certificate/Approval Ref. No
			1	(2 32 5)	EASA.145.0076
13d. Name		13e. Date (dd mmm yyyy)	14d. Name		14e. Date (dd mmm yyyy)
			Stephen Lee (Stephe	n Lee Kok Neo)	17 MAR 2015
	R RESPONSIBILITIES does not automatically constitute authority to	o install the Item(s).			
	•	regulation of an airworthlness authority different than t	he airworthiness authority spec	ified in block 1, it is essential tha	t the user/installer
ensures that his	her alloworthiness authority accepts items	from the airworthiness authority specified in block 1.	•		
	locks 13a and 14a do not constitute installa the user/installer before the aircraft may be	ation certification. In all cases aircraft maintenance reco flown.	ords must contain an installation	n certification issued in accordance	e with the national



Auth	oving Civil Aviation ority/Country:		IORIZED RELE n 8130-3, AIRWOR				3. Form Tracking Number: 20150000577418Y03 320264765		
		Honeywell Aerospace Singal (Gul Circle) 161 Gul Circle Singapore 629619	<u> </u>	Repair Station FT4Y192M			5. Work Order/Contract/Invoice Number: NP4311791 320071093 Page 1 of 1		
C Hamai	7 Description:		8. Part Number:		9. Quantity:	10. Serial Number		11. Status / Work:	
001	7. Description: FUEL CLUSTER		3879008-1		1	CUA10610	31.	REPAIRED	
TSR CSR	49-31-71 Rev 8, FEB/22 HH.DD (HH:MM 0.00 (0:00) 0.00		ORDANCE WITH:						
10-			mih. ta:	14a. X 14 CFR		Service Other		Sad in Direkto	
13a. C	Approved design data	ove were manufactured in confor and are in a condition for safe op data specified in Block 12.	The second secon	Certifies that unles described in Block	fied in Block 12 n Block 11 and ode of Federal for return to service.				
13b. A	uthorized Signature:	13c. Approval/	Authorization No.:	14b. Authorized Si	gnature:	) 🐷	14c. App	roval/Certificate No.:	
					W	(\$\frac{\xi_1}{\xi_2}\cdot \cdot \cdot \xi_2\cdot \cdot \xi_2\cdot \cdot	FT4Y19	2 <b>M</b>	

14d. Name (Typed or Printed):

Stephen Lee (Stephen Lee Kok Neo)

13e. Date(dd/mmm/yyyy)

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/propeller/article. 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 Block1, 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 Block1. Statements in Blocks 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.

14e. Date (dd/mmm/yyyy):

NSN: 0052 - 00 - 012 - 9005

17/MAR/2015

13d. Name (Typed of Printed):

1. Approving Civil Aviation 2. AUT Authority/Country:			AUT	HORIZED REL	EASE CERT	IFICATE		3. Form Tracking Number: 20150000558929Y03	
	onty/Country: //United Stat	tes	FAA Fo	rm 8130-3, AIRWO	RTHINESS AP	PROVAL T	AG	320244458	929103
4. Orga	anization Name and A	(Gul ( 161 C	ywell Aerospace Sing Circle) Gul Circle Apore 629619	gapore Pte Ltd	Repair Station FT4Y192M			5. Work Order/O NP5300937 320093301 Page 1 of 1	ontract/Invoice Number:
6 Item:	7. Description:			8. Part Number:		9. Quantity:	10. Serial Number	er:	11. Status / Work:
001	IMPELLER, LOA	D COMPRES	SOR	3822612-1		1	11-182449-027		OVERHAULED
THE	l Remarks: SERVICE SPECIFI 49-24-79 Rev 8,		ACCOMPLISHED IN A	CCORDANCE WITH:					
TSN CSN TSO CSO	HH.DD 5382.15 4219.00 0.00 0.00	(HH:MM) (5382:09) (0:00)							
SEE 1	ATTACHED DOCUMENT:	S AS APPLICAB	LE FOR WORK PERFORM	ED					
13a. C	Approved des	sign data and ar	ere manufactured in con e in a condition for safe pecified in Block 12.		described in Block	s otherwise spec	Service Other diffied in Block 12, the lished in accordance to that work, the iten	with Title 14, Co	Block 11 and de of Federal
13b. A	uthorized Signature:		13c. Approx	val/Authorization No.:	14b. Authorized Si	ignature; M <i>M</i> a	negro ( ( me)	14c. Appr FT4Y192	oval/Certificate No.:
13d. N	ame (Typed of Print	ed):	13e. Date(c	ld/mmm/yyyy):	14d. Name (Typed	l or Printed):		14e. Date	(dd/mmm/yyyy):
					Ramesh Ramad	ioss		09/MAR	2015

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/propeller/article. 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 Block1, 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 Block1. Statements in Blocks 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.

1. Approvin	g Competent Authority/Country	2. AUTHOR	ISED RELEAS	E CERTIFICATI	3. Form Tracking Number 20150000558928Y02					
EASA					320244458					
			EASA FORM 1							
4. Organisa	tion Name and Address: Honeywell (Gul Circle 161 Gul C Singapore	) rcie			5. Work Order/Contract/Invoice NP5300937 320093301 Page 1 of 1					
6. Item	7. Description	8. Part No	9. Quantity	10. Serial No.	11. Status/Work					
001	IMPELLER, LOAD COMPRESSOR	3822612-1	1	11-182449-02712	OVERHAULED					
12. Remark	8									
THE SERV	ICE SPECIFIED HAS BEEN ACCOMPI 4-79 Rev 8, JAN/30/2015	ISHED IN ACCORDANCE WITH:								
TSN CSN TSO CSO	CSN 4219.00 TSO 0.00 (0:00)									
	es that the items identified above were m	The second secon	14a. X Part-145.A.50	Release to Service O	ther regulation specified in block 12					
	proved design data and are in condition on-approved design data specified in bloo		and described in bloc		2, the work identified in block 11 coordance with Part-145 and in ly for release to service.					
13b. Author	ised Signature	c. Approval/Authorisation Number	14b. Authorised Signat	maner ( & co	14c. Certificate/Approval Ref. No EASA.145.0076					
13d. Name	13	e. Date (dd mmm yyyy)	14d. Name		14e. Date (dd mmm yyyy)					
			Ramesh Ramadoss		09 MAR 2015					
	LER RESPONSIBILITIES a does not automatically constitute authority to	install the Item(s).								
ensures that I Statements in	nis/her airworthiness authority accepts items fr	guiation of an airworthiness authority different than on the airworthiness authority specified in block on certification. In all cases aircraft maintenance rec	1.							



1. Cou	mtry:  Malaysia	2 . Departme	ent of Civil Aviation Malaysia  AUTHORIZED F  AIRWORTHINES	RELEASE CERT			3. Form Tracking 201500005589 320244458		
4. Appı	roved Organization Name and	1	doneywell Aerospace Singapore Pte Ltd Gul Circle) 61 Gul Circle Singapore 629619	Repair Station AO/0037/78			5. Work Order/Co NP5300937 320093301 Page 1 of 1	ntract/invoice:	
6.Item:	7. Description:		8. Part No:	9. Eligibility:	10. Qty:	11. Serial / Batch			
001	IMPELLER, LOAD COM	PRESSOR	3822612-1	UNKNOWN	1	11-182449-027	712	OVERHAULED	
13. F	Remarks :								
		BEEN ACCOM	PLISHED IN ACCORDANCE WITH:						
IRM	49-24-79 Rev 8, JAN/30	/2015							
	HH.DD (HH:MM	1)							
TSN	5382.15 (5382:0	9)							
CSN	4219.00								
TSO	0.00 (0:00)								
cso	0.00								
SEE A	TTACHED DOCUMENTS AS APPI	ICABLE FOR	WORK PERFORMED						
14. Ce	rtities the items identified abo	ve were manu	ufactured in conformity to:	19. MCAR Reg.	30; Release to	Service Oth	er regulation speci	fied in Block 13	
	Approved design data Non-approved design of		ndition for safe operation. in Block 13.	Certifies that unless of described in Block13, work the items are con	was accomplish isidered ready t	ed in Block 13, the ned in accordance v for release to service	work identified in B with JAR-145 and i	lock 12 and	
15. Au	thorised Signature:		16. Approval/Authorisation Number:	20. Authorised Signatu	ire: Mmane	95 ( WELL )	21. Certific AO/0037	ate/Approval Ref. No.:	
17. Na	ime:		18. Date (dd mmm yyyy):	22. Name:				d mmm yyyy):	
<b></b>				Ramesh Ramados	5		09 MAR 2	015	



4219.00

## Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

SINGAPORE 629619 Date:08 MAR 2015

161 Gul Circle

Configuration And Findings Evaluation

Repair Order: 2015-005008279181-001

Customer: 318657 MALAYSIA AIRLINES SUBANG

320244458

Customer P/O: NP5300937

**Orig Cust:** 

Part Number: 3822612-1

Part Desc: IMPELLER, LOAD

Serial No: 11-182449-02712

Mods:

Series/Issue/Amdts:

Quantity: 1

Ship Date: 08 MAR 2015

Aircraft S/N#:

Date on:

**Received Date:** 

Aircraft tail#: Model #: APU 331-500/600

Engine S/N:

Date off:

HH.DD

(HH:MM)

COMPRESSOR

Alternate S/N:

TIMES/CYCLES

5382.15

(5382:09)

# CUSTOMER REASON FOR RETURN

Overhaul

# GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

Nicked

FIRE, FLAMES FROM TAILPIPE

DETAIL DISASSEMBLY / EVALUATION FINDINGS

BLADE L/EDGES NICKED. TSN/CSN: 5382:09 & 4219

# SERVICE BULLETINS / AUTHORIZING DOCUMENTS

# **Authorizing Technical Document**

Complied With:

Doc#: IRM 49-24-79 Rev: 8 Date: 30.01.2015

# WORK PERFORMED / COMMENTS TO CUSTOMER

UNIT INSPECTED & OVERHAULED IAW IRM. HAND BLEND, FPI, BALANCE & SHOT-PEENING CARRIED OUT.

Overhaul

Page: 1 of 2

Honeywell Aerospace Singapore Pte Ltd co Honeywell Aerospace Singapore Pte Ltd 161 Gul Circle

#### Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

SINGAPORE 629619 Date:08 MAR 2015

**Configuration And Findings Evaluation** 

Repair Order: 2015-005008279181-001

Customer: 318657 MALAYSIA AIRLINES SUBANG

320244458

Customer P/O: NP5300937

**Orig Cust:** 

Part Number: 3822612-1

Part Desc: IMPELLER, LOAD

COMPRESSOR

Serial No: 11-182449-02712

Mods:

Series/Issue/Amdts:

Quantity 1

Ship Date: 08 MAR 2015

**Received Date:** 

FINAL CONFIGURATION

Part No: 3822612-1

S/N: 11-182449-02712

Series/Issues/Amdts:

Mods:

MECHANIC/ANALYST Beng Chong Koh

Page: 2 of 2

**DATE: 24 FEB 2015** 

1. Cou	Malaysia	2 . Department o		ED RELEASE CERTIFICATE INESS APPROVAL TAG  3. Form Tracking Number: 20150000554913Y18 320244395					
4. Аррі	roved Organization Name and	(Gul Ó 161 G	ywell Aerospace Singapore Pte Ltd Circle) sul Circle pore 629619	Repair Station AO/0037/78			5. Work Order/Contra NP5300937 320093301 Page 1 of 1	ct/Invoice:	
6.ltem:	7. Description:		8. Part No:	9. Eligibility:	10. Qty:	11. Serial / Batch	No:	12. Status / Work:	
001	IMPELLER, CENTRIFUG	AL- STAGE 1	3822483-1	UNKNOWN	1	960322903503	_	OVERHAULED	
13. F	emarks:								
THE	SERVICE SPECIFIED HAS	BEEN ACCOMPLIS	SHED IN ACCORDANCE WITH:						
IRM	49-24-79 Rev 8, JAN/30	/2015							
	T31507 Rev C, SEP/11/2								
	HH.DD (HH:MM	1)							
TSN	19632.86 (19632	52)							
CSN	13533.00								
TSO	0.00 (0:00)								
cso	0.00								
	TTACHED DOCUMENTS AS APP			<b>—</b>			·····		
14. Ce	rtifies the items identified abo			19. MCAR Reg.	•		r regulation specified		
	Approved design data Non-approved design of			Certifies that unless of described in Block13, work the items are con	was accomplish	ed in accordance wi	ith JAR-145 and in re:	t 12 and spect to that	
15. Au	thorised Signature:		16. Approval/Authorisation Number:	20. Authorised Signatu	ire: MManest	TO TO	21. Certificate// AO/0037/78	Approval Ref. No.:	
17. Na	me:		18. Date (dd mmm yyyy):	22. Name:			23. Date (dd m	mm yyyy):	
				Ramesh Ramadoss	3		06 MAR 2015	*****	



EASA	on Name and Address: Honeywell A (Gul Circle) 161 Gul Circle Singapore 6	ile	3. Form Tracking Number 20150000554904Y02 320244395  5. Work Order/Contract/Invoice NP5300937		
	Singapore	25015			320093301 Page 1 of 1
6. Item	7. Description	8. Part No	9. Quantity	10. Serial No.	11. Status/Work
001	IMPELLER, CENTRIFUGAL- STAGE 1	3822483-1	1	960322903503	OVERHAULED
TSN 1 CSN 1 TSO 0	Rev C, SEP/11/2007  HH.DD (HH:MM)  19632.86 (19632:52)  13533.00  0.00 (0:00)  0.00				·
13a. Certifies t	that the items identified above were man	ufactured in conformity to:	14a. X Part-145.A.50	Release to Service Oth	er regulation specified in block 12
. ,	oved design data and are in condition fo approved design data specified in block		and described in block		the work identified in block 11 ordance with Part-145 and in for release to service.
13b. Authorise	ed Signature	Approval/Authorisation Number	14b. Authorised Signatu	namels ( ( ( )	14c. Certificate/Approval Ref. No EASA. 145. 0076
13d. Name	13e.	Date (dd mmm yyyy)	14d. Name		14e. Date (dd mmm yyyy)
			Ramesh Ramadoss		06 MAR 2015
This certificate d Where the user/in ensures that his/ Statements in bk	her alrworthiness authority accepts items from	lation of an airworthiness authority different than the the airworthiness authority specified in block 1. certification. In all cases aircraft maintenance records	, ,		



Auth	161 (Singa			3. Form Tracking Number: 20150000554905Y03 320244395						
4. Orga		Honeywell Aero (Gul Circle) 161 Gul Circle Singapore 6296	TO SERVICE STATE OF THE LTD STATE OF THE	NP5300937 320093301						
6.Item:	7. Description:		8. Part Number:		9. Quantity:	10. Serial Numb	er:	11. Status / Work:		
001		AL- STAGE 1			1					
THE IRM	SERVICE SPECIFIED HAS 49-24-79 Rev 8, JAN/30	/2015 007	SHED IN ACCORDANCE WITH:							
TSN	19632.86 (19632:	52)								
CSN	13533.00									
TSO CSO	0.00 (0:00)						-			
SEE .	ATTACHED DOCUMENTS AS APP	PLICABLE FOR WO	RK PERFORMED							
130 1	Sertifies the items identified ah	ove were manufac	tured in conformity to:	14a 🕅 14 CFR	43 9 Return to 5	Service Other	regulation speci	ified in Block 12		
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.				Certifies that unless described in Block	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					
13b. A	Authorized Signature:		13c. Approval/Authorization No.:	14b. Authorized Sig		nego ¿ ac s				
13d. N	lame (Typed of Printed):		13e. Date(dd/mmm/yyyy):	14d. Name (Typed	or Printed):		14e. Dat	e (dd/mmm/yyyy):		
				Ramesh Ramad	oss	•	06/MAF	R/2015		

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/propeller/article. 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 Block1, 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 Block1. Statements in Blocks 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.

FAA FORM 8130 - 3 (02-14)

NSN: 0052 - 00 - 012 - 9005

13533.00

#### Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

SINGAPORE 629619 Date:06 MAR 2015

Configuration And Findings Evaluation

Repair Order: 2015-005008278946-001

Customer: 318657 MALAYSIA AIRLINES SUBANG

320244395

Customer P/O: NP5300937

**Orig Cust:** 

Part Number: 3822483-1

Part Desc: IMPELLER, CENTRIFUGAL-

Serial No: 960322903503

STAGE 1

Mods:

Series/Issue/Amdts:

Quantity: 1

Ship Date: 06 MAR 2015

Aircraft S/N#:

Date on:

**Received Date:** 

Aircraft tail#: Model #: APU 331-500/600

Date off:

Engine S/N: HH.DD

(HH:MM)

Alternate S/N:

TIMES/CYCLES

19632.86

(19632:52)

# CUSTOMER REASON FOR RETURN

Overhaul

# GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

**ERODED** 

FIRE, FLAMES FROM TAILPIPE

DETAIL DISASSEMBLY / EVALUATION FINDINGS

BLADE L/ES ERODED. KNIFE EDGE EXCESSIVELY RUBBED. BALANCE. TSN/CSN:

25015:00/17752









# SERVICE BULLETINS / AUTHORIZING DOCUMENTS

### **Authorizing Technical Document**

Complied With:

Doc#: IRM 49-24-79 Rev: 8 Date: 30.01.2015 Doc#: ORI T31507 Rev: C Date: 11.09.2007

# WORK PERFORMED / COMMENTS TO CUSTOMER

UNIT INSPECTED & OVERHAULED IAW IRM, KNIFE EDGE SEAL REPLACED & MACHININED TO SIZE.

HAND BLEND, FPI, BALANCE & SHOT-PEENING CARRIED OUT.

Overhaul

Page: 1 of 2

Honeywell Aerospace Singapore Pte Ltd co Honeywell Aerospace Singapore Pte Ltd 161 Gul Circle

#### Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

SINGAPORE 629619 Date:06 MAR 2015

**Configuration And Findings Evaluation** 

Repair Order: 2015-005008278946-001

Customer: 318657 MALAYSIA AIRLINES SUBANG

320244395

Customer P/O: NP5300937

**Orig Cust:** 

Part Number: 3822483-1

Part Desc: IMPELLER, CENTRIFUGAL-

Serial No: 960322903503

STAGE 1

Mods:

Series/Issue/Amdts:

**Quantity** 1

Ship Date: 06 MAR 2015

**Received Date:** 

**FINAL CONFIGURATION** 

Part No: 3822483-1

S/N: 960322903503

Series/Issues/Amdts:

Mods:

MECHANIC/ANALYST Beng Chong Koh

Page: 2 of 2

**DATE: 24 FEB 2015** 

1. Cou	Malaysia	2 . Departmer	nt of Civil Aviation Malaysia  AUTHORIZED R  AIRWORTHINES	3. Form Tracking Number: 20150000558939Y18 320243301					
4. Аррі	roved Organization Name and	(G: 16	neywell Aerospace Singapore Pte Ltd ul Circle) 1 Gul Circle ngapore 629619	Repair Station AO/0037/78		5. Work Order/Contract/Invoice: NP5300937 320093301 Page 1 of 1			
6.ltem:	7. Description:		8. Part No:	9. Eligibility:	10. Qty:	11. Serial / Batch	n No:	12. Status / Work:	
001	ROTOR ASSY 1STG		3842151-3	UNKNOWN	1	970335700399		OVERHAULED	
13. 1	Remarks :								
THE	SERVICE SPECIFIED HAS	BEEN ACCOMP	LISHED IN ACCORDANCE WITH:						
IRM	49-24-79 Rev 8, JAN/30	/2015							
	HH.DD (HH:MM	1)							
TSN	26386.56 (26386:	34)							
CSN	18417.00								
TSO	0.00 (0:00)								
CSO	0.00								
SEE A	TTACHED DOCUMENTS AS APPI	ICABLE FOR W	ORK PERFORMED						
14. Ce	rtifies the items identified abo	ve were manufa	actured in conformity to:	19. MCAR Reg.	30; Release to	Service Oth	er regulation specified	in Block 13	
	Approved design data a Non-approved design of		The state of the s	Certifies that unless otherwise specified in Block 13, the work identified in Block 12 and described in Block13, was accomplished in accordance with JAR-145 and in respect to that work the items are considered ready for release to service.					
15. Au	thorised Signature:		16. Approval/Authorisation Number:	$M \otimes A = A \otimes A$			21. Certificate/ AO/0037/78	Approval Ref. No.;	
17. Na	ime:		18. Date (dd mmm yyyy):	22. Name:			23. Date (dd m		
	-			_ ∣Ramesh Ramadoss	<b>;</b>		09 MAR 2015	5	

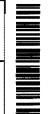


	Competent Authority/Country	authori	AUTHORISED RELEASE CERTIFICATE					
EASA			EASA FORM 1		320243301			
4. Organisati	on Name and Address: Honeywe (Gul Circ 161 Gul ( Singapor	le)			5. Work Order/Contract/Invoice NP5300937 320093301 Page 1 of 1			
6. Item	7. Description	8. Part No	9. Quantity	10. Serial No.	11. Status/Work			
001	ROTOR ASSY 1STG	3842151-3	1	970335700399	OVERHAULED			
TSN CSN TSO	-79 Rev 8, JAN/30/2015  HH.DD (HH:MM) 26386.56 (26386:34) 18417.00 0.00 (0:00) 0.00							
			1					
☐ app	that the items identified above were re roved design data and are in conditional approved design data specified in bl	n for safe operation	Certifies that unless of and described in bloo	otherwise specified in block 12	ther regulation specified in block 12 2, the work identified in block 11 ccordance with Part-145 and in y for release to service.			
13b. Authorise	ed Signature	Ac. Approval/Authorisation Number	14b. Authorised Signal	Monary ( 100 )	14c. Certificate/Approval Ref. No EASA.145.0076			
13d. Name	·	I3e. Date (dd mmm yyyy)	14d. Name		14e. Date (dd mmm yyyy)			
			Ramesh Ramadoss		09 MAR 2015			
This certificate of Where the user/ ensures that his Statements in bi	/her airworthiness authority accepts items	regulation of an airworthiness authority different than the from the airworthiness authority specified in block 1. tion certification. In all cases aircraft maintenance reco	, ,	,				

Authority/Country:		AUTHORIZED REL FAA Form 8130-3, AIRWO		3. Form Tracking Number: 20150000558938Y03 320243301						
4. Orga	anization Name and Address:	Honeywell Aero (Gul Circle) 161 Gul Circle Singapore 6296		Repair Station FT4Y192M			5. Work Order/O NP5300937 320093301 Page 1 of 1	ontract/Invoice Number:		
6.Item:	7. Description:		8. Part Number:	•	9. Quantity:	10. Serial Numbe	er:	11. Status / Work;		
001	ROTOR ASSY 1STG		3842151-3		1	970335700399		OVERHAULED		
THE	Remarks: SERVICE SPECIFIED HAS 49-24-79 Rev 8, JAN/30 HH.DD (HH:MN 26386.56 (26386: 18417.00 0.00 (0:00) 0.00	9/2015 (1)	SHED IN ACCORDANCE WITH:							
SEE	ATTACHED DOCUMENTS AS API	PLICABLE FOR WO	rk performed							
13a. Cedifies 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.				Certifies that unles	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. A	authorized Signature:		13c. Approval/Authorization No.:	14b. Authorized Si		ner ( COS)	14c. Appr FT4Y192	oval/Certificate No.:		
13d. N	lame (Typed of Printed):		13e. Date(dd/mmm/yyyy):	14d. Name (Typed	d or Printed):		14e. Date	(dd/mmm/yyyy):		
				Ramesh Ramad	ioss		09/MAR	2015		

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/propeller/article. 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 Block1, 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 Block1. Statements in Blocks 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.



18417.00

#### Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

SINGAPORE 629619 Date:08 MAR 2015

**Configuration And Findings Evaluation** 

Repair Order: 2015-005008278764-001

Customer: 318657 MALAYSIA AIRLINES SUBANG

320243301

Customer P/O: NP5300937

**Orig Cust:** 

Part Number: 3842151-3

Part Desc: ROTOR ASSY 1STG

Serial No: 970335700399

Mods:

Series/Issue/Amdts:

Quantity: 1

Ship Date: 08 MAR 2015

Aircraft S/N#:

Date on:

**Received Date:** 

Aircraft tail#: Model #: APU 331-500/600

**Engine S/N:** 

Date off:

HH.DD

(HH:MM)

Alternate S/N:

TIMES/CYCLES

26386.56

(26386:34)

## **CUSTOMER REASON FOR RETURN**

Overhaul

# GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

**Eroded** 

Corrosion/Corroded

FIRE, FLAMES FROM TAILPIPE

# DETAIL DISASSEMBLY / EVALUATION FINDINGS

ALL BLADE TIPS ERODED & PLATFORM OF BLADES CORRODED, REPLACE ALL.

REASSEMBLE & BALANCE. TSN/CSN: 26386:34 & 18417

# SERVICE BULLETINS / AUTHORIZING DOCUMENTS

**Authorizing Technical Document** 

Complied With:

Doc#: IRM 49-24-79 Rev: 8 Date: 30.01.2015

WORK PERFORMED / COMMENTS TO CUSTOMER

UNIT INSPECTEED & OVERHAULED IAW IRM. ALL BLADES REPLACED WITH NEW BLADES. ASSEMBLE &

Page: 1 of 2

Honeywell Aerospace Singapore Pte Ltd co Honeywell Aerospace Singapore Pte Ltd 161 Gul Circle

#### Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

SINGAPORE 629619 Date:08 MAR 2015

**Configuration And Findings Evaluation** 

Repair Order: 2015-005008278764-001

Customer: 318657 MALAYSIA AIRLINES SUBANG

320243301

Customer P/O: NP5300937

**Orig Cust:** 

**Part Number:** 3842151-3

Part Desc: ROTOR ASSY 1STG

**Serial No:** 970335700399

Mods:

Series/Issue/Amdts:

**Quantity 1** 

**Ship Date:** 08 MAR 2015

**Received Date:** 

BALANCE CARRIED OUT. FPI PERFORMED ON DISK AT SUPERIOR SERVICE ORDER.

Overhaul

FINAL CONFIGURATION Part No: 3842151-3

S/N: 970335700399

Series/Issues/Amdts:

Mods:

MECHANIC/ANALYST Beng Chong Koh

Page: 2 of 2

**DATE: 23 FEB 2015** 

1. Cou	ntry: Malaysia	2 . Departmer		AUTHORIZED RELEASE CERTIFICATE AIRWORTHINESS APPROVAL TAG				
4. App	roved Organization Name and	(Gi 16	neywell Aerospace Singapore Pte Ltd ul Circle) 1 Gul Circle ngapore 629619	rcle) AO/0037/78 I Circle				ract/Invoice;
6.ltem	7. Description:		8. Part No:	9. Eligibility:	10. Qty:	11. Serial / Batch	No:	12. Status / Work:
001	ROTOR ASSY TURB - 2	STG	3842155-4	UNKNOWN	1	960335701592		OVERHAULED
13. 1	Remarks :		1					
		BEEN ACCOMP	LISHED IN ACCORDANCE WITH:					
IRM	49-24-79 Rev 8, JAN/30	/2015						
	HH.DD (HH:MM	1)						
TSN	26386.56 (26386:	34)						
CSN	18417.00							
TSO	0.00 (0:00)							
cso	0.00			•				
SEE A	TTACHED DOCUMENTS AS APPI	ICABLE FOR WO	DRK PERFORMED					
14. CE	rtifies the items identified abo			19. MCAR Reg.	30; Release to	Service  Othe	er regulation specifie	ed in Block 13
	Approved design data  Non-approved-design of		and the second s	Certifies that unless of described in Block13, work the items are con	was accomplish	ed in accordance v	vith JAR-145 and in	ock 12 and respect to that
15. Au	Ithorised Signature:	<b>&gt;</b>	16. Approval/Authorisation Number:	20. Authorised Signatu	ire: Mulany		21. Certificat AO/0037/7	e/Approval Ref. No.:
17. Na	ame:	***************************************	18. Date (dd mmm yyyy):	22. Name:			23. Date (dd	mmm yyyy):
				Ramesh Ramados	s		09 MAR 20	15



1. Approving	Competent Authority/Country	AUTHORIS	3. Form Tracking Number 20150000558985Y02 320244002		
4. Organisatio	on Name and Address: Honeywell (Gul Circle 161 Gul C Singapore	Aerospace Singapore Pte Ltd ) rcle	5. Work Order/Contract/Invoice NP5300937 320093301 Page 1 of 1		
6. Item	7. Description	8. Part No	9. Quantity	10. Serial No.	11. Status/Work
001	ROTOR ASSY TURB - 2STG	3842155-4	1	960335701592	OVERHAULED
TSN CSN TSO	-79 Rev 8, JAN/30/2015  HH.DD (HH:MM) 26386.56 (26386:34) 18417.00 0.00 (0:00) 0.00				
	that the items identified above were m		14a. X Part-145.A.50	Release to Service Otr	ner regulation specified in block 12
	roved design data and are in condition -approved design data specified in bloo		and described in block		, the work identified in block 11 cordance with Part-145 and in for release to service.
13b. Authorise	ed Signature	c. Approval/Authorisation Number	14b. Authorised Signatu	Maner 300	14c. Certificate/Approval Ref. No EASA. 145.0076
13d. Name	13	e. Date (dd mmm yyyy)	14d. Name		14e. Date (dd mmm yyyy)
			Ramesh Ramadoss		09 MAR 2015
This certificate of Where the userifiensures that his Statements in bi	ther airworthiness authority accepts items fr	gulation of an airworthiness authority different than thom the airworthiness authority specified in block 1.  In certification. In all cases aircraft maintenance record			



1. Approving Civil Aviation Authority/Country:

FAA/United States

# **AUTHORIZED RELEASE CERTIFICATE**

# FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG

3. Form Tracking Number:
20150000558986Y03
320244002

4. Organization Name and Address: Honeywell Aerospace Singapore Pte Ltd

2.

(Gul Ćircle) 161 Gul Circle Repair Station FT4Y192M

5. Work Order/Contract/Invoice Number: NP5300937 320093301 Page 1 of 1

	Singapore oz	:9019		, age 1	DI 1
6.Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status / Work:
001	ROTOR ASSY TURB - 2STG	3842155-4	1	960335701592	OVERHAULED
	Remarks:	VIGUED IN AGGODDINGS NITTH			
	SERVICE SPECIFIED HAS BEEN ACCOMP 49-24-79 Rev 8, JAN/30/2015	LISHED IN ACCORDANCE WITH:			
	HH.DD (HH:MM)				
TSN CSN	26386.56 (26386:34) 18417.00				
TSO CSO	0.00 (0:00)				
SEE A	ATTACHED DOCUMENTS AS APPLICABLE FOR	WORK PERFORMED			
13a. C	Approved design data and are in a co  Non-approved design data specified i	ndition for safe operation.	14a.  14 CFR 43.9 Return to S Certifies that unless otherwise speci described in Block 12 was accompl Regulations, part 43 and in respect	fied in Block 12, the work ident ished in accordance with Title	14, Code of Federal
13b. A	authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	(A)	c. Approval/Certificate No.:
13d. N	lame (Typed of Printed):	13e. Date(dd/mmm/yyyy):	14d. Name (Typed or Printed):	14	e. Date (dd/mmm/yyyy):
			Ramesh Ramadoss	ng	/MAR/2015

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/propeller/article. 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 Block1, 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 Block1. Statements in Blocks 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.

18417.00

#### Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

SINGAPORE 629619 Date:08 MAR 2015

**Configuration And Findings Evaluation** 

Repair Order: 2015-005008278969-001 320244002

Customer: 318657 MALAYSIA AIRLINES SUBANG

Customer P/O: NP5300937

**Orig Cust:** 

Part Number: 3842155-4

Part Desc: ROTOR ASSY TURB - 2STG

Serial No: 960335701592

Mods:

Series/Issue/Amdts:

Quantity: 1

Ship Date: 08 MAR 2015

Aircraft tail#:

Aircraft S/N#:

Date on:

**Received Date:** 

Model #: APU 331-500/600

Engine S/N:

Date off: Alternate S/N:

TIMES/CYCLES

HH.DD 26386.56

(HH:MM) (26386:34)

#### **CUSTOMER REASON FOR RETURN**

Overhaul

#### GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

Eroded

Rubbed/Abraded

FIRE, FLAMES FROM TAILPIPE

# DETAIL DISASSEMBLY / EVALUATION FINDINGS

ALL BLADE L/EDGES ERODED & TIPS RUBBED, REASSEMBLE & BALANCE, TSN/CSN:

26386:34 & 18417

# SERVICE BULLETINS / AUTHORIZING DOCUMENTS

# **Authorizing Technical Document**

Complied With:

Doc#: IRM 49-24-79 Rev: 8 Date: 30.01.2015

# WORK PERFORMED / COMMENTS TO CUSTOMER

UNIT INSPECTED & OVERHAULED IAW IRM. ALL BLADES RE-WORKED ON SUB-SERVICE ORDERS.

Page: 1 of 2

# Honeywell Aerospace Singapore Pte Ltd co Honeywell Aerospace Singapore Pte Ltd 161 Gul Circle

#### Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

SINGAPORE 629619 Date:08 MAR 2015

**Configuration And Findings Evaluation** 

Repair Order: 2015-005008278969-001

Customer: 318657 MALAYSIA AIRLINES SUBANG

320244002

Customer P/O: NP5300937

**Orig Cust:** 

Part Number: 3842155-4

Part Desc: ROTOR ASSY TURB - 2STG

**Serial No:** 960335701592

Mods:

Series/Issue/Amdts:

**Quantity 1** 

Ship Date: 08 MAR 2015

**Received Date:** 

RE-ASSEMBLE & BALANCE CARRIED OUT. FPI PERFORMED ON DISK AT SUPERIOR SERVICE ORDER.

Overhaul

FINAL CONFIGURATION

Part No: 3842155-4

S/N: 960335701592

Series/Issues/Amdts:

Mods:

MECHANIC/ANALYST Chin Cheng See

**DATE: 25 FEB 2015** 

Page: 2 of 2

1. Cour	Malaysia	2 . Department of Civil A	Aviation Malaysia  AUTHORIZED RE  AIRWORTHINESS	3. Form Tracking Number: 20150000558947Y18 320243274					
4. Appr	oved Organization Name and	Address: Honeywell A (Gul Circle) 161 Gul Circ Singapore 6	sle	Repair Station AO/0037/78				ct/Invoice:	
6.ltem:	7. Description:		8. Part No:	9. Eligibility:	10. Qty:	11. Serial / Batch	No:	12. Status / Work:	
001	TURBINE ROTOR ASSY	, BLADED 3RD STAGE	3842160-5	UNKNOWN	1	970134505954		OVERHAULED	
13. R	emarks :			•		•		•	
THE S	SERVICE SPECIFIED HAS	BEEN ACCOMPLISHED I	N ACCORDANCE WITH:						
IRM 4	49-24-79 Rev 8, JAN/30	/2015							
	HH.DD (HH:MN	1)							
TSN	26386.56 (26386:	34)							
CSN	18417.00								
TSO	0.00 (0:00)								
cso	0.00								
SEE AT	TACHED DOCUMENTS AS APPI	ICABLE FOR WORK PERFO	RMED						
14. Cet	rtifies the items identified abo	ve were manufactured in c	onformity to:	19. MCAR Reg. 3	30; Release to	Service Othe	er regulation specified	in Block 13	
	`	and are in condition for safetata specified in Block 13.	e operation.	Certifies that unless otherwise specified in Block 13, the work identified in Block 12 and described in Block13, was accomplished in accordance with JAR-145 and in respect to that work the items are considered ready for release to service.					
15. Authorised Signature: 16. Approval/Authorisation Number:				20. Authorised Signatur	re: MMaine	21. Certificate// AO/0037/78	21. Certificate/Approval Ref. No.: AO/0037/78		
17. Na	me:	18. Date	e (dd mmm yyyy):	22. Name:			23. Date (dd m	mm yyyy):	
				Ramesh Ramadoss	}		09 MAR 2015	5	



**AUTHORIZED RELEASE CERTIFICATE** 1. Approving Civil Aviation 3. Form Tracking Number: 20150000558946Y03 Authority/Country: FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG 320243274 **FAA/United States** 4. Organization Name and Address: Honeywell Aerospace Singapore Pte Ltd Work Order/Contract/Invoice Number: Repair Station (Gul Ćircle) FT4Y192M NP5300937 161 Gul Circle 320093301 Singapore 629619 Page 1 of 1 6.Item: 7. Description: 8. Part Number: 9. Quantity: 10. Serial Number: 11. Status / Work: TURBINE ROTOR ASSY, BLADED 3RD STAGE 3842160-5 970134505954 **OVERHAULED** 12. Remarks: THE SERVICE SPECIFIED HAS BEEN ACCOMPLISHED IN ACCORDANCE WITH: IRM 49-24-79 Rev 8, JAN/30/2015 HH.DD (HH:MM) (26386:34) TSN 26386.56 CSN 18417.00 TSO 0.00 (0:00)CSO 0.00 SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED 14a. X 14 CFR 43.9 Return to Service 13a. Certifies the items identified above were manufactured in conformity to: Other regulation specified in Block 12 Approved design data and are in a condition for safe operation. Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and Non-approved design data specified in Block 12. 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. 13c. Approval/Authorization No.: 14b. Authorized Signature: 14c. Approval/Certificate No.: 13b. Authorized Signature: Mmaner (2000) FT4Y192M

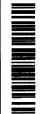
14d. Name (Typed or Printed):

Ramesh Ramadoss

13e. Date(dd/mmm/yyyy);

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/propeller/article. 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 Block1, 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 Block1. Statements in Blocks 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.



13d. Name (Typed of Printed):

14e. Date (dd/mmm/yyyy):

09/MAR/2015

1. Approving	Competent Authority/Country	authoris	3. Form Tracking Number 20150000558945Y02		
EASA					320243274
		1			
4. Organisat	ion Name and Address: Honeywell Ad (Gul Circle) 161 Gul Circl Singapore 62	le			5. Work Order/Contract/invoice NP5300937 320093301 Page 1 of 1
6. Item	7. Description	8. Part No	9. Quantity	10. Serial No.	11. Status/Work
001	TURBINE ROTOR ASSY, BLADED 3RD STAGE	3842160-5	1	970134505954	OVERHAULED
	CE SPECIFIED HAS BEEN ACCOMPLIS -79 Rev 8, JAN/30/2015  HH.DD (HH:MM)	SHED IN ACCORDANCE WITH:			
CSN TSO	26386.56 (26386:34) 18417.00 0.00 (0:00) 0.00				
13a. Certifies	that the items identified above were manu	ufactured in conformity to:	14a. 🛛 Part-145.A.50	Release to Service Otl	ner regulation specified in block 12
· ·	proved design data and are in condition for n-approved design data specified in block		and described in block		, the work identified in block 11 cordance with Part-145 and in for release to service.
13b. Authoris	sed Signature 186.	Approval/Authorisation Number	14b. Authorised Signate	M. Maner - (3 00)	14c. Certificate/Approval Ref. No EASA.145.0076
13d. Name	13e.	Date (dd mmm yyyy)	14d. Name		14e. Date (dd mmm yyyy)
			Ramesh Ramadoss		09 MAR 2015
This certificate Where the user ensures that his	s/her airworthlness authority accepts items from	tail the item(s).  stion of an airworthiness authority different than the the airworthiness authority specified in block 1.  certification. In all cases aircraft maintenance record	airworthiness authority spec		t the user/installer

## Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

**SINGAPORE 629619** Date:08 MAR 2015

**Configuration And Findings Evaluation** 

**BLADED 3RD STAGE** 

Repair Order: 2015-005008278762-001

Customer: 318657 MALAYSIA AIRLINES SUBANG

320243274

Customer P/O: NP5300937

**Orig Cust:** 

Part Number: 3842160-5

Part Desc: TURBINE ROTOR ASSY,

Serial No: 970134505954

Mods:

Series/Issue/Amdts:

Quantity: 1 Aircraft tail#: Ship Date: 08 MAR 2015

Aircraft S/N#:

Date on:

**Received Date:** 

Model #: APU 331-500/600

Engine S/N:

Date off:

HH.DD (HH:MM)

Alternate S/N:

TIMES/CYCLES

26386.56

(26386:34)

18417.00

# **CUSTOMER REASON FOR RETURN**

Overhaul

# GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

Nicked

FIRE, FLAMES FROM TAILPIPE

# DETAIL DISASSEMBLY / EVALUATION FINDINGS

ALL DISK PINS WORN. BLADE L/EDGES NICKED. BALANCE. TSN/CSN: 26386:34 &

18417

# SERVICE BULLETINS / AUTHORIZING DOCUMENTS

# **Authorizing Technical Document**

Complied With:

Doc#: IRM 49-24-79 Rev: 8 Date: 30.01.2015

# WORK PERFORMED / COMMENTS TO CUSTOMER

UNIT INSPECTED & OVERHAULED IAW IRM, ALL DISK PINS REPLACED WITH NEW PINS, HAND BLEND & SMOOTHEN BLADES L/E'S, FPI & BALANCE CARRIED OUT.

Overhaul

Page: 1 of 2

Honeywell Aerospace Singapore Pte Ltd co Honeywell Aerospace Singapore Pte Ltd 161 Gul Circle

# Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

SINGAPORE 629619 Date:08 MAR 2015

**Configuration And Findings Evaluation** 

Repair Order: 2015-005008278762-001

Customer: 318657 MALAYSIA AIRLINES SUBANG

320243274

Customer P/O: NP5300937

**Orig Cust:** 

Part Number: 3842160-5

Part Desc: TURBINE ROTOR ASSY,

BLADED 3RD STAGE

Mods:

Series/Issue/Amdts:

Quantity 1

Ship Date: 08 MAR 2015

**Received Date:** 

Serial No: 970134505954

FINAL CONFIGURATION Part No: 3842160-5

S/N: 970134505954

Series/Issues/Amdts:

Mods:

MECHANIC/ANALYST Beng Chong Koh

Page: 2 of 2

**DATE: 23 FEB 2015** 

# GTCP-331-500B-MODULES / LIFE LIMITED PARTS STATUS

APU P/NO: 3800550-1 APU S/NO: P1154 A/C REGN: EX 9M-MRB TSN/CSN:26385 / 18417

TSF/CSF: 5379 / 4211

DATE OF REMOVAL: 20 JAN 2015

REASON FOR REMOVAL: NO BLEED AND TAIL PIPE FIRE

**REASON FOR PREVIOUS REMOVAL: HIGH TIME** 

CUSTOMER: MAS JOB CARD NO: DATE RELEASED:

			INCOMING							OUTGOING		
МО	DESCRIPTION	PART NUMBER	SERIAL NUMBER	TSN/CSN	LIFE	REMARKS	PART NUMBER	SERIAL NUMBER	TSN/CSN	TASK PERFORMED	OG.REFERENCI BATCH NO.	REMARKS
1	GEARBOX ASSY	3805034-8	P247	26385 / 18417			3805034-8		26385/ 18417	REPAIRED MODIFIED	united no.	
2	DRIVE COMPLASSY	3804011-8	P254	26385 / 18417			3804011-8	P-254	26385/	ONERHAULED		
2.1	IMPELLER COMP LOAD	3822468-3	050322901613	18417	27000 Cycs		3822612-1	11-182449 - 02712	5382:09/ 4219	Overhauled		ORIGINAL UNIT SN AS DECEMED
3	ENG.COMP.ASSY	3826980-9	P254	26385 / 18417			3826980-9	P-254	26385/	MODIFIED		
3.1	IMPELLER COMP.2ND STG	382341-4	02032295617	18417	27000 Cycs		3822341-5	14-182449 - 13712	00	NEM		
3.2	IMPELLER COMP.1ST STG	3822483-1	960322903503	18417	27000 Cycs		38.75.48?-!	960322 903503	19632:52/ 13533	OVER HAULED		
4	TURBINE MOD.ASSY	3844517-5	P254	26385 / 18417			3844517-5	P-254	26385/ 18417	OVERHAULED		
4.1	1ST STG ROTOR ASSY	3842151-3	970335700399	18417	27000 Cycs		3842151-3	970335 700399	26386:34/ 18417	overhauled		
4.2	2ND STG ROTOR ASSY	3842155-3	960335701592	18417	27000 Cycs		3842155-4	960335 701692	26386:34/	ONEKIAHITED	\	
4.3	3RD STG ROTOR ASSY	3842160-5	970134505954	18417	27000 Cycs		3842160-5	970134 505954	18417 26386:34/	OVERHAULED		



#### GTCP-331-500B-ACCESSORIES

P-1098				_,,,							
	INCOMING					OUTGOING					
ACCESSORIES	PART NUMBER	SERIAL NUMBER	TSN	LIFE	REMARKS	PART NUMBER	SERIAL NUMBER	TSN CSN	TASK PERFORMED	DOC. REFERENCE BATCH NO.	REMARKS
AIR/OIL COOLER	160488-2	77-339	26385	oc		160488-2	77-339	26385	TESTED		
ELEC.STR.MOTOR	2704442-5	77-385	13785	ос		2704442-5	77-385	13785	REPAIRED		
DATA MEMORY MOD.	304643-2	GE1392	26385	oc		304643-2	GE1392	26385	IND PECTED		
FUEL CLUSTER	4417617	CUA10186	26385	ос		3 <del>81</del> 9008-1	CMAIOBIO	20849	REPAIRED		TRANSFERRED FROM MAS APU P-1445
APU CHECK VALVE	3202610-5	581	UNK	ос		3202854-1	1100	_	repaired		original hait as ascented
A.T.S.C.V	3283076-5	314C	26385	oc		3283076-5	374	-	TESTED		DUCTING THIS
AIR TURBINE START	3505814-3	246	12276	ос		3505814-3	246	12276	OVERHAULED		
I.G.V ACT	B55690-004		26385	ос		3883499-3	0262	-	TESTED	ł	original unit snas received
PNEU. CLUSTER	3884863-7		26385	oc		3884863-7	P-304	_	REPAIRED		ORIGINAL UNIT As received
IGNITION CLUSTER	3888275-9	UNKP1154	26385	DC		3888275-9	020218	26385	REPAIRED		AT KGCRIACO HT KGCRIACO
LUBE CLUSTER	4131000-6	342C	26396	ос		4131000-6	342C	26396	REPAIRED		
s.c.v	3290814-5	337C	26396	oc		3290814-5	664C	-	TESTED		original Unit As received
TEMP.CONT.VALVE	160536-1	77-286	26385	ос		160536-1	77-286	26385	TESTED		
GENERATOR	756589A		17949	ос		-	_	_			NOT RECEIVED
	DESCRIPTION ACCESSORIES  AIR/OIL COOLER  ELEC.STR.MOTOR  DATA MEMORY MOD.  FUEL CLUSTER  APU CHECK VALVE  A.T.S.C,V  AIR TURBINE START  I.G.V ACT  PNEU. CLUSTER  IGNITION CLUSTER  LUBE CLUSTER  S.C.V  TEMP.CONT.VALVE	DESCRIPTION   ACCESSORIES   PARY   NUMBER	DESCRIPTION   ACCESSORIES   PART   NUMBER   NU	DESCRIPTION   ACCESSORIES   PART   NUMBER   TSN	DESCRIPTION   ACCESSORIES   PART   SERIAL   NUMBER   TSN   LIFE	DESCRIPTION   ACCESSORIES   PARY   SERIAL   TSN   LIFE   REMARKS	DESCRIPTION   ACCESSORIES   PART   SERIAL   TSN   LIFE   REMARKS   NUMBER   NUMBER	DESCRIPTION   ACCESSORIES   PART   SERIAL   TSN   LIFE   REMARKS   PART   NUMBER   NUMBER	DESCRIPTION   ACCESSORIES   PART   SERIAL   TSN   LIFE   REMARKS   PART   SERIAL   TSN   NUMBER   CSN	DESCRIPTION   ACCESSORIES   PART   SERIAL   TSN   LIFE   REMARKS   PART   SERIAL   TSN   TASK   NUMBER   NUMBER   CSN   PERFORMED   NUMBER   NUMBER   CSN   PERFORMED   NUMBER   NUMB	DESCRIPTION   ACCESSORIES   PART   SERIAL   TSN   LIFE   NEMARKS   PART   NUMBER   SSN   PERFORMED   PARTCH NO.

PREPARED BY: SYAFIQAH DATED: 02.02.2015 ENSURE REMOVAL OF ALL DESSICANT PRIOR TO OPERATION OF ENGINE.

ENGINE PRESERVED AND STORED I.A.W. THE

APPLICABLE MANUAL AND IS ADEQUATE FOR A

PERIOD OF UP TO 124 MONTHS 1997

CHECK HUMIDITY INDICATOR EVERY 30 DAYS

Honeywell Aerospace Singapore Pte Ltd
(Gul Circle)

# STORAGE

W/O NO: 5008225314

S/NO:\_P-1154

See Other side

INSPECTOR SIGNATURE

FORM G0052R.3 (ddmmyy250411)

DATE: 1 8 MAR 2015

1. Approving	Competent Authority/Country	2. AUTHORIS	SED RELEAS	E CERTIFICATE	3. Form Tracking Number 20150000577417Y02
EASA					320264765
2, 10, 1			EASA FORM 1		
4. Organisatio	on Name and Address: Honeywell A (Gul Circle) 161 Gul Circ Singapore 62	erospace Singapore Pte Ltd			5. Work Order/Contract/Invoice NP4311791 320071093
					Page 1 of 1
6. Item	7. Description	8. Part No	9. Quantity	10. Serial No.	11. Status/Work
001	FUEL CLUSTER	3879008-1	1	CUA10610	REPAIRED
TSR (	-71 Rev 8, FEB/22/2012  HH.DD (HH:MM) 0.00 (0:00) 0.00				
appi	that the items identified above were man roved design data and are in condition for approved design data specified in block	r safe operation	and described in block respect to that work th	herwise specified in block 12 t 12, was accomplished in acc e items are considered ready	
13b. Authorise	ed Signature 13c.	Approval/Authorisation Number	14b. Authorised Signatu	Ire	14c. Certificate/Approval Ref. No EASA.145.0076
13d. Name	13e.	Date (dd mmm yyyy)	14d. Name	<del></del>	14e. Date (dd mmm yyyy)
			Stephen Lee (Stephe	n Lee Kok Neo)	17 MAR 2015
This certificate of Where the user/i ensures that his Statements in bi	her airworthiness authority accepts items from	lation of an airworthiness authority different than the the airworthiness authority specified in block 1.			



Auth	roving Civil Aviation ority/Country:  //United States anization Name and Address:		AUTHORIZED F FAA Form 8130-3, AIF pspace Singapore Pte Ltd			G	3. Form Tracking Number: 20150000577418Y03 320264765 5. Work Order/Contract/Invoice Number:	
		(Gul Ćircle) 161 Gul Circle Singapore 6296	-	FT <b>4Y</b> 192M			NP4311791 320071093 Page 1 of 1	
6.ltem:	7. Description:		8. Part Number:		9. Quantity:	10. Serial Numb	er:	11. Status / Work:
<b>0</b> 01	FUEL CLUSTER		3879008-1		1	CUA10610		REPAIRED
	Remarks:							
			SHED IN ACCORDANCE WITH:					
CMM	49-31-71 Rev 8, FEB/22	2/2012						
	HH.DD (HH:M	4)						
TSR	0.00 (0:00)							
CSR	0.00							
೯೯೯ :	ATTACHED DOCUMENTS AS AP	DI.ICABI.E EOD WO	DK DEDEODMED					
Jul 2	Allacinio Docoranto la Al	THE WO						
13a. C	edifies the items identified ab	ove were manufac	ctured in conformity to:	14a. 🛛 14 CFR	43.9 Return to Se	rvice 🗌 Other	r regulation specifi	ied in Block 12
	Approved design data Non-approved design		ition for safe operation.	Certifies that unles described in Block Regulations, part 4	12 was accomplis	hed in accordance	with Title 14, Co	Block 11 and de of Federal for return to service.
13b. A	uthorized Signature:		13c. Approval/Authorization No.:	14b. Authorized Si	-			roval/Certificate No.:
					W	\$ 32 8 \$ 0C 8	FT4Y19	2 <b>M</b>

14d. Name (Typed or Printed):

Stephen Lee (Stephen Lee Kok Neo)

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/propeller/article. 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 Block1, 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 Block1. Statements in Blocks 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.

13e. Date(dd/mmm/yyyy)

13d. Name (Typed of Printed):

14e. Date (dd/mmm/yyyy):

17/MAR/2015

Auth	roving Civil Aviation iority/Country: ./United State:	2. S	AUTHORIZED REL FAA Form 8130-3, AIRWO		ng Number: 8929Y03			
4. Orga	anization Name and Add	dress: Honeywell Ae (Gul Circle) 161 Gul Circle Singapore 62		Repair Station FT4Y192M			5. Work Order/ NP5300937 320093301 Page 1 of 1	/Contract/Invoice Number:
6.ltem:	7. Description:		8. Part Number:		9. Quantity:	10. Serial Numb	er:	11. Status / Work:
001	IMPELLER, LOAD	COMPRESSOR	3822612-1		1	11-182449-02	712	OVERHAULED
12. F	Remarks:		300000000000000000000000000000000000000					
THE	SERVICE SPECIFIED	HAS BEEN ACCOMP	LISHED IN ACCORDANCE WITH:					
IRM	49-24-79 Rev 8, J	AN/30/2015						
TSN CSN TSO CSO	5382.15 (5 4219.00	HH:MM) 382:09) :00)						
SEE .	ATTACHED DOCUMENTS A	AS APPLICABLE FOR	WORK PERFORMED					
13a. C	Approved design		factured in conformity to: ndition for safe operation. n Block 12.	Certifies that unless described in Block	12 was accomp	cified in Block 12, the lished in accordance	work identified with Title 14, C	cified in Block 12 in Block 11 and Code of Federal d for return to service.
13b. A	Authorized Signature:		13c. Approval/Authorization No.:	14b. Authorized S		meg ( ( oc o)	14c. Ap	proval/Certificate No.: <b>92M</b>
13d. N	lame (Typed of Printed)	);	13e. Date(dd/mmm/yyyy);	14d. Name (Type	d or Printed):		14e. Da	ite (dd/mmm/yyyy):
				Ramesh Rama	doss		09/MA	R/2015

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/propeller/article. 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 Block1, 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 Block1. Statements in Blocks 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.

FAA FORM 8130 - 3 (02-14)

NSN : 0052 - 00 - 012 - 9005

1. Approving	Competent Authority/Country	2.	ED DELEVE	E CERTIFICATE	3. Form Tracking Number
		AUTHORIS	The state of the s		
EASA					320244458
			EASA FORM 1		
4. Organisatio	on Name and Address: Honeywe				5. Work Order/Contract/Invoice
	(Gul Circl				NP5300937
	Singapor				320093301
	0.				Page 1 of 1
6. Item	7. Description	8. Part No	9. Quantity	10. Serial No.	11. Status/Work
001	IMPELLER, LOAD COMPRESSOR	3822612-1	1	11-182449-02712	OVERHAULED
12. Remarks					
	CE SPECIFIED HAS BEEN ACCOME	PLISHED IN ACCORDANCE WITH:			
	79 Rev 8, JAN/30/2015				
HH.DD (HH:MM)					
TSN 5382.1 (5382:09) CSN 4219.00					
	0.00 (0:00)				
	0.00				,
422 Bodifion	that the items identified above were i	manufactured in conformity to:	149 X Part-145 A 50	Release to Service Oth	er regulation specified in block 12
	roved design data and are in condition	The second secon			
	-approved design data specified in bl			otherwise specified in block 12, ik 12, was accomplished in acc	
	-approved design data specified in bi	OCK 12		he items are considered ready	
13b. Authorise	ed Signature	13c. Approval/Authorisation Number	14b. Authorised Signat	ture (NE)	14c. Certificate/Approval Ref. No
			$r_2$	maner (\$00°)	
					EASA.145.0076
12d Nome		13e. Date (dd mmm yyyy)	14d. Name		14e. Date (dd mmm yyyy)
13d. Name		ise. Date (dd illillill yyyy)			
			Ramesh Ramadoss		09 MAR 2015
	R RESPONSIBILITIES does not authority t	o install the Item(s).			
Where the user/ ensures that his	Installer performs work in accordance with ther alrworthiness authority accepts items	regulation of an airworthiness authority different than the from the airworthiness authority specified in block 1.	airworthiness authority spe	clified in block 1, it is essential that	the user/installer
Statements in bi	locks 13a and 14a do not constitute installa he user/installer before the aircraft may be	ation certification. In all cases aircraft maintenance record flown.	s must contain an Installatio	on certification issued in accordance	with the national



1. Country: 2 . Depa				Department of Civil Aviation Malaysia						3. Form Tracking Number:	
Malaysia AUTHORIZED RELEASE AIRWORTHINESS APPRO								201500005589 320244458	930Y18		
4. Appi	oved Organization	Name and	Address:	(Gul Čirci 161 Gul (		Repair Stat AO/0037/70				5. Work Order/Co NP5300937 320093301 Page 1 of 1	ontract/Invoice:
6.ltem:	7. Description:				8. Part No:	9. Eligi	oility:	10. Qty:	11. Serial / Batch	No:	12. Status / Work:
001	IMPELLER, LOA	AD COMP	RESSOF	<b>R</b>	3822612-1	UNKN	OWN	1	11-182449-027	712	OVERHAULED
13. F	lemarks :					l					
THE	SERVICE SPECIF	IED HAS	BEEN ACC	OMPLISHE	O IN ACCORDANCE WITH:						
IRM	49-24-79 Rev 8	, JAN/30	/2015								
	HH.DD	(HH:MM	)								
TSN	5382.15	(5382:0	9)								
CSN	4219.00										
TSO	0.00	(0:00)									
CSO	0.00										
		a . a . bbpv	- CART - 17	on Mony PE	DP-COLUMN						
-	TTACHED DOCUMENT					10 17	40400	22.5.1	<u> </u>	L 4	:0 11 D1 D10
14. C€	Approved de Non-approve	sign data a	and are in o	condition for	safe operation.	Certifies the described work the it	at unless of in Block13,	was accomplish	ed in Block 13, the led in accordance or release to servi	with JAR-145 and	Block 12 and
15. Au	thorised Signature:			16. /	Approval/Authorisation Number:	20. Author	ised Signatu	ure: MMane	95 (200 E)	21. Certific AO/003	cate/Approval Ref. No.: 7/78
17. Na	ime:			18.	Date (dd mmm yyyy):	22. Name:				23. Date (	dd mmm yyyy):
						Ramesh	Ramados	s		09 MAR	2015



4219.00

#### Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

SINGAPORE 629619 Date:08 MAR 2015

161 Gul Circle

**Configuration And Findings Evaluation** 

Repair Order: 2015-005008279181-001

Customer: 318657 MALAYSIA AIRLINES SUBANG

320244458

Customer P/O: NP5300937

**Orig Cust:** 

Part Number: 3822612-1

Part Desc: IMPELLER, LOAD

COMPRESSOR

Serial No: 11-182449-02712

Mods:

Series/Issue/Amdts:

Quantity: 1

**Ship Date:** 08 MAR 2015

Received Date:

Aircraft tail#:

Aircraft S/N#:

Date on:

Date off:

Model #: APU 331-500/600

Engine S/N: HH.DD

Alternate S/N:

TIMES/CYCLES

5382.15

(HH:MM)

(5382:09)

CUSTOMER REASON FOR RETURN

Overhaul

GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

Nicked

FIRE, FLAMES FROM TAILPIPE

DETAIL DISASSEMBLY / EVALUATION FINDINGS

BLADE L/EDGES NICKED. TSN/CSN: 5382:09 & 4219

SERVICE BULLETINS / AUTHORIZING DOCUMENTS

**Authorizing Technical Document** 

Complied With:

Doc#: IRM 49-24-79 Rev: 8 Date: 30.01.2015

WORK PERFORMED / COMMENTS TO CUSTOMER

UNIT INSPECTED & OVERHAULED IAW IRM. HAND BLEND, FPI, BALANCE & SHOT-PEENING CARRIED OUT.

Action Taken Code

Overhaul

Customer Continued Removal Reason

Evaluation Type

Honeywell Aerospace Singapore Pte Ltd co Honeywell Aerospace Singapore Pte Ltd 161 Gul Circle

#### Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

SINGAPORE 629619 Date:08 MAR 2015

**Configuration And Findings Evaluation** 

Repair Order: 2015-005008279181-001

Customer: 318657 MALAYSIA AIRLINES SUBANG

320244458

Customer P/O: NP5300937

**Orig Cust:** 

Part Number: 3822612-1

Part Desc: IMPELLER, LOAD

COMPRESSOR

Serial No: 11-182449-02712

Mods:

Series/Issue/Amdts:

Quantity 1

Ship Date: 08 MAR 2015

**Received Date:** 

FINAL CONFIGURATION

Part No: 3822612-1

S/N: 11-182449-02712

Series/Issues/Amdts:

Mods:

MECHANIC/ANALYST Beng Chong Koh

Page: 2 of 2

**DATE: 24 FEB 2015** 

1. Cou	Country: 2 . Department of Civil Aviation Malaysia 3. Form Tracking Numb						1	
	Malaysia							110
4. Approved Organization Name and Address: Honeywell Aerospace Singapore Pte Ltd (Gul Circle) 161 Gul Circle Singapore 629619				Repair Station AO/0037/78		5. Work Order/Contract/Invoice: NP5300937 320093301 Page 1 of 1		
6.Item:	7. Description:		8. Part No:	9. Eligibility:	10. Qty:	11. Serial / Batch	ı No:	12. Status / Work:
001	IMPELLER, CENTRIFUC	GAL- STAGE 1	3822483-1	UNKNOWN	1	960322903503		OVERHAULED
13. I	lemarks :							
THE	SERVICE SPECIFIED HAS	BEEN ACCOMP	LISHED IN ACCORDANCE WITH:					
IRM	49-24-79 Rev 8, JAN/3	0/2015						
ORI	T31507 Rev C, SEP/11/	2007						
	HH.DD (HH:M							
TSN	19632.86 (19632	:52)						
CSN	13533.00							
TSO	0.00 (0:00)							
cso	0.00							
_	TTACHED DOCUMENTS AS APP			7 <b>8</b> 7		[7]		
14. CE	rtifies the items identified abo			19. MCAR Reg. 3			er regulation specified	
	Non-approved design		tition for safe operation.  Block 13.	Certifies that unless oth described in Block13, w work the items are cons	as accomplist	ed in accordance	with JAR-145 and in re	k 12 and espect to that
15. Au	thorised Signature:		16. Approval/Authorisation Number:	20. Authorised Signatur	re: Manez	Se oc i	21. Certificate AO/0037/78	/Approval Ref. No.:
17. Na	ime:		18. Date (dd mmm yyyy):	22. Name:		- Ministration (West Land	23. Date (dd n	nmm yyyy):
				Ramesh Ramadoss	<b>;</b>		06 MAR 201	5



	Competent Authority/Country	<sup>2.</sup> AUTHORIS	SED RELEAS	E CERTIFICATE	
EASA					320244395
			EASA FORM 1		
4. Organisati	ion Name and Address: Honeywe (Gul Circl 161 Gul C Singapore	e) Circle			5. Work Order/Contract/Invoice NP5300937 320093301
					Page 1 of 1
6. Item	7. Description	8. Part No	9. Quantity	10. Serial No.	11. Status/Work
001	IMPELLER, CENTRIFUGAL- STAGE	1 3822483-1	1	960322903503	OVERHAULED
12. Remarks	i				
IRM 49-24 ORI T3150 TSN CSN TSO	CE SPECIFIED HAS BEEN ACCOMP -79 Rev 8, JAN/30/2015 7 Rev C, SEP/11/2007  HH.DD (HH:MM) 19632.86 (19632:52) 13533.00 0.00 (0:00) 0.00	LISHED IN ACCORDANCE WITH:			
13a. Certifies	that the items identified above were n	nanufactured in conformity to:	14a. X Part-145.A.50	Release to Service Oth	ner regulation specified in block 12
app	proved design data and are in condition n-approved design data specified in blo	n for safe operation	and described in block		the work identified in block 11 cordance with Part-145 and in for release to service.
13b. Authoris	ed Signature	3c. Approval/Authorisation Number	14b. Authorised Signat	ure	14c. Certificate/Approval Ref. No
				M Manels ( 000)	EASA.145.0076
13d. Name	1	3e. Date (dd mmm yyyy)	14d. Name		14e. Date (dd mmm yyyy)
			Ramesh Ramadoss	-	06 MAR 2015
This certificate Where the user ensures that his Statements in b	s/her airworthiness authority accepts Items	regulation of an airworthiness authority different than the from the airworthiness authority specified in block 1. tion certification. In all cases aircraft maintenance record			

**AUTHORIZED RELEASE CERTIFICATE** 1. Approving Civil Aviation 2. 3. Form Tracking Number: 20150000554905Y03 Authority/Country: FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG 320244395 FAA/United States 5. Work Order/Contract/Invoice Number: 4. Organization Name and Address: Honeywell Aerospace Singapore Pte Ltd Repair Station (Gul Ćircle) FT4Y192M NP5300937 161 Gul Circle 320093301 Singapore 629619 Page 1 of 1 6.Item: 7. Description: 8. Part Number: 9. Quantity: 10. Serial Number: 11. Status / Work: 001 IMPELLER, CENTRIFUGAL- STAGE 1 3822483-1 960322903503 **OVERHAULED** 12. Remarks: THE SERVICE SPECIFIED HAS BEEN ACCOMPLISHED IN ACCORDANCE WITH: IRM 49-24-79 Rev 8, JAN/30/2015 ORI T31507 Rev C. SEP/11/2007 HH.DD (HH:MM) TSN 19632.86 (19632:52) CSN 13533.00 TSO 0.00 (0:00) CSO 0.00 SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

13a. Certifies the items identified above were manufa  Approved design data and are in a cond  Non-approved design data specified in	lition for safe operation.	14a. X 14 CFR 43.9 Return to Service Other regular Certifies that unless otherwise specified in Block 12, the work described in Block 12 was accomplished in accordance with Regulations, part 43 and in respect to that work, the items are	Title 14, Code of Federal
13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.:
		Manego . 3000	FT4Y192M
13d. Name (Typed of Printed):	13e. Date(dd/mmm/yyyy)	14d. Name (Typed or Printed):	14e. Date (dd/mmm/yyyy):
		Ramesh Ramadoss	06/MAR/2015

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/propeller/article. 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 Block1, 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 Block1. Statements in Blocks 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.

#### Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

SINGAPORE 629619 Date:06 MAR 2015

**Configuration And Findings Evaluation** 

Repair Order: 2015-005008278946-001 320244395

Customer: 318657 MALAYSIA AIRLINES SUBANG

Customer P/O: NP5300937

**Oria Cust:** 

Part Number: 3822483-1

Part Desc: IMPELLER, CENTRIFUGAL-

Serial No: 960322903503

STAGE 1

Mods:

Series/Issue/Amdts:

Quantity: 1

Ship Date: 06 MAR 2015

Aircraft S/N#:

**Received Date:** 

Date off:

Aircraft tail#:

Model #: APU 331-500/600

Engine S/N:

Date on:

Alternate S/N:

TIMES/CYCLES

HH.DD

(HH:MM)

19632.86 (19632:52)

Circles Sinkerlew ! 

13533.00

#### CUSTOMER REASON FOR RETURN

Overhaul

#### GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

DETAIL DISASSEMBLY / EVALUATION FINDINGS

**ERODED** 

FIRE, FLAMES FROM TAILPIPE

BLADE L/ES ERODED, KNIFE EDGE EXCESSIVELY RUBBED. BALANCE. TSN/CSN:

25015:00/17752

Indings:

#### SERVICE BULLETINS / AUTHORIZING DOCUMENTS

#### **Authorizing Technical Document**

Complied With:

Doc#: IRM 49-24-79 Rev: 8 Date: 30.01.2015 Doc#: ORI T31507 Rev: C Date: 11.09.2007

#### WORK PERFORMED / COMMENTS TO CUSTOMER

Morks som Caronner Ambreker of Artions (Men

UNIT INSPECTED & OVERHAULED IAW IRM. KNIFE EDGE SEAL REPLACED & MACHININED TO SIZE.

HAND BLEND, FPI, BALANCE & SHOT-PEENING CARRIED OUT.

Action Taken Code

Overhaul

Customer Confirmed Removal Reason:

Evaluation Type

Honeywell Aerospace Singapore Pte Ltd co Honeywell Aerospace Singapore Pte Ltd 161 Gul Circle

#### Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

SINGAPORE 629619 Date:06 MAR 2015

**Configuration And Findings Evaluation** 

Repair Order: 2015-005008278946-001

Customer: 318657 MALAYSIA AIRLINES SUBANG

320244395

Customer P/O: NP5300937

**Orig Cust:** 

Part Number: 3822483-1 Part Desc: IMPELLER, CENTRIFUGAL-

Serial No: 960322903503

STAGE 1

Mods:

Series/Issue/Amdts:

Quantity 1

Ship Date: 06 MAR 2015

**Received Date:** 

**FINAL CONFIGURATION** Part No: 3822483-1

S/N: 960322903503

Series/Issues/Amdts:

Mods:

MECHANIC/ANALYST Beng Chong Koh

Page: 2 of 2

**DATE: 24 FEB 2015** 

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14c. Approval/Certificate No.:

14e. Date(dd/mmm/yyyy):

Approving Civil Aviation     Authority/Country:  FAA/United States	_	3. Form Tracking Number: 20150000543808Y14 904026911-80001						
4. Organization Name and Address	FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG  Organization Name and Address: Honeywell International Inc. 111 S. 34th Street Phoenix, Arizona 85072  Tem: 7. Description:  RAF Form 8130-3, AIRWORTHINESS APPROVAL TAG  Production Approval Production Approval PT1222NM  Honeywell International Inc. Units 2-4, Chevron, Eaton Road Hemel Hempstead, HP2 7UB UNITED KINGDOM  8. Part Number: 9. Quantity: 10. Serial No.							
6.ltem: 7. Description:	- <del></del>	8. Part Number:		9. Quantity:	10. Serial Num	ber:	11. Status / Work:	
001 IMPELLER, COMPRESS	SOR, SECOND STAGE	3822341-5		1	14-182449-13	3712	NEW	

14b. Authorized Signature:

14d. Name (Typed or Printed):

13c. Approval/Authorization No.:

ODA-602216-NM

02/MAR/2015

13e. Date (dd/mmm/yyyy):

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/propeller/article. 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 Block1, 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 Block1. Statements in Blocks 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.

NSN: 0052 - 00 - 012 - 9005

13b. Authorized Signature:

13d. Name (Typed or Printed):

Stephen Foulger

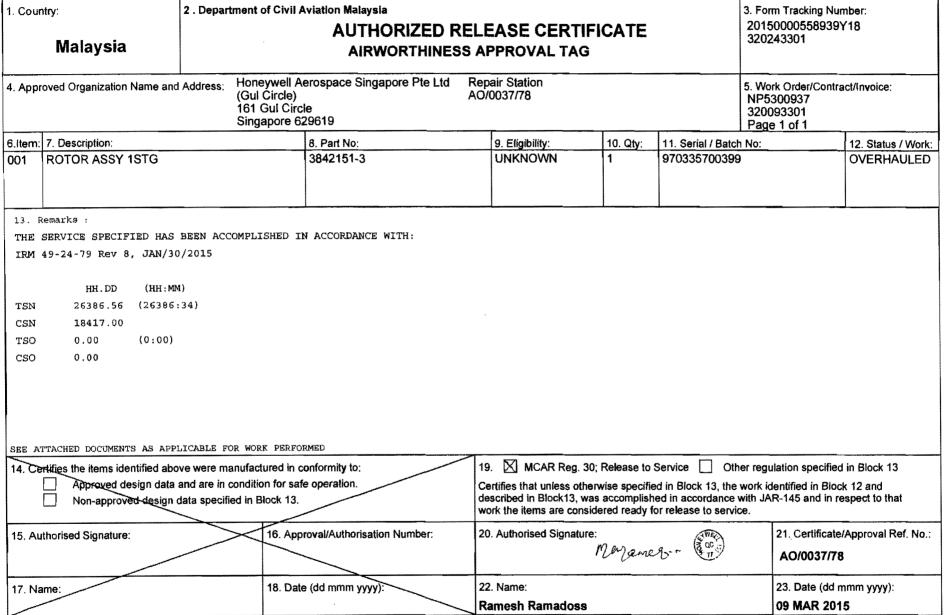
## Honeywell

			LIFE LIMIT	ED PART	LOG	-W	-			
ASSEMBLY NAM	IE:		PART	UMBER:		SERIAL NUMBER:				
LIFE LIMITED PA	ART NAME: IMPEL	LER, COMPRESSOR, SECOND ST	TAGE PART N	IUMBER: 3822341	-5		SERIAL NUMBER: 14-182449-13712			
PRODUCTION CI	D PER FAR PART 2 ERTIFICATE PC413				NCE STAMP: A428					
DATE INSTALLED	DATE REMOYED	ENGINE SERIAL NUMBER	TIME ON PART TH	IS INSTALLATION HOURS	TOTAL TIME	HOURS	SIGNATURE / FAA NUMBER			
/ MAR 2015	REMOYED		0.0	0.0	0.0	0.0	(1) (00 s)			
		P-1154								
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							100000000000000000000000000000000000000			
						•				
						*				

<sup>\*</sup> SEE SERVICE LIFE LIMITS OF CRITICAL LIFE LIMITED COMPONENTS, ENTRIES SHALL COMPY TO FAR 43.

LIFE LIMITED PART MAINTENANCE RECORD							
DATE	MAINTENANCE PERFORMED	AUTHORIZED SIGNATURE					
<u> </u>							
	A						

PX-3107-76 BACK





EASA FORM 1  4. Organisation Name and Address: Honeywell Aerospace Singapore Pte Ltd (Gul Circle)	
### EASA FORM 1  4. Organisation Name and Address: Honeywell Aerospace Singapore Pte Ltd (Gul Circle) 161 Gul Circle Singapore 629619  5. Work Order/Contract Nessauges 37 320093301 Page 1 of 1 Page 2 of 1 Page 1 of 1 Page 1 of 1 Page 2 of 1 Page 3 of 1 Page 4 of 1 Page 3 of 1 Page 3 of 1 Page 4 of 1 Page 3 of 1 Page 4 of 1 Page 5 of 1 Page 6 of 1 Page	
4. Organisation Name and Address: Honeywell Aerospace Singapore Pte Ltd (Gul Circle) 161 Gul Circle Singapore 629619  6. Item 7. Description 8. Part No 9. Quantity 10. Serial No. 11. Status/Work  001 ROTOR ASSY 1STO 3842151-3 1 970335700399 OVERHAULED  12. Remarks THE SERVICE SPECIFIED HAS BEEN ACCOMPLISHED IN ACCORDANCE WITH: IRM 49-24-79 Rev 8. JAN/30/2015  HH. DD (HH: MM) TSN 26336-55 (26386:34) CSN 18417.00 TSO 0.00 (0:00)	
12. Remarks THE SERVICE SPECIFIED HAS BEEN ACCOMPLISHED IN ACCORDANCE WITH: IPM 49-24-79 Rev 8, JAN/30/2015  HH. DD (HH:MM) TSN 26386.56 (26386:34) CSN 18417.00 TSO 0.00 (0:00) CSO 0.00  13a. Cettijes that the items identified above were manufactured in conformity to: approved design data and are in condition for safe operation non-approved design data specified in block 12 non-approved design data specified in block 12 and described in block 12, was accomplished in accordance with Part-145 and in	ct/invoice
12. Remarks  THE SERVICE SPECIFIED HAS BEEN ACCOMPLISHED IN ACCORDANCE WITH:  IRM 49-24-79 Rev 8, JAN/30/2015  HH.DD (HH:MM)  TSN 25386.56 (26386:34)  CSN 18417.00  TSO 0.00 (0:00)  CSO 0.00  13a. Cettifies that the items identified above were manufactured in conformity to:  approved design data and are in condition for safe operation non-approved design data 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 Part-145 and in	
12. Remarks  THE SERVICE SPECIFIED HAS BEEN ACCOMPLISHED IN ACCORDANCE WITH:  IRM 49-24-79 Rev 8, JAN/30/2015  HH.DD (HH:MM)  TSN 25386.56 (26386:34)  CSN 18417.00  TSO 0.00 (0:00)  CSO 0.00  13a. Cettifies that the items identified above were manufactured in conformity to:  approved design data and are in condition for safe operation non-approved design data 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 Part-145 and in	
THE SERVICE SPECIFIED HAS BEEN ACCOMPLISHED IN ACCORDANCE WITH:  IRM 49-24-79 Rev 8, JAN/30/2015  HH, DD (HH:MM)  TSN 26386.56 (26386:34)  CSN 18417.00  TSO 0.00 (0:00)  CSO 0.00  13a. Cedifies that the items identified above were manufactured in conformity to:  approved design data and are in condition for safe operation non-approved design data 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 Part-145 and in	
HH. DD (HH: MM)  TSN 26386.56 (26386:34)  CSN 18417.00  TSO 0.00 (0:00)  CSO 0.00   13a. Cestifies that the items identified above were manufactured in conformity to:  approved design data and are in condition for safe operation non-approved design data specified in block 12  non-approved design data specified in block 12  and described in block 12, the work identified in accordance with Part-145 and in	
TSN 26386.56 (26386:34)  CSN 18417.00  TSO 0.00 (0:00)  CSO 0.00   13a. Certifies that the items identified above were manufactured in conformity to:  approved design data and are in condition for safe operation non-approved design data specified in block 12 and described in block 12, the work identified in block 11 and described in block 12, was accomplished in accordance with Part-145 and in	
TSO 0.00 (0:00) CSO 0.00  13a. Certifies that the items identified above were manufactured in conformity to:  approved design data and are in condition for safe operation non-approved design data specified in block 12  and described in block 12, the work identified in accordance with Part-145 and in	
TSO 0.00 (0:00)  CSO 0.00  13a. Certifies that the items identified above were manufactured in conformity to:  approved design data and are in condition for safe operation non-approved design data specified in block 12 and described in block 12, was accomplished in accordance with Part-145 and in	
13a. Certifies that the items identified above were manufactured in conformity to:    approved design data and are in condition for safe operation   non-approved design data specified in block 12   non-approved design data specified in block 12   and described in block 12, was accomplished in accordance with Part-145 and in	
13a. Certifies that the items identified above were manufactured in conformity to:    approved design data and are in condition for safe operation   non-approved design data specified in block 12   and described in block 12   and described in block 12, was accomplished in accordance with Part-145 and in	
approved design data and are in condition for safe operation non-approved design data 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 Part-145 and in	
approved design data and are in condition for safe operation non-approved design data 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 Part-145 and in	
non-approved design data specified in block 12 and described in block 12, was accomplished in accordance with Part-145 and in	
13b. Authorised Signature 13c. Approval/Authorisation Number 14b. Authorised Signature 14c. Certificate/Approval Ref. No	
Monany (200) EASA. 145.0076	
13d. Name 13e. Date (dd mmm yyyy) 14d. Name 14e. Date (dd mmm yyyy)	
Ramesh Ramadoss 09 MAR 2015	
USER/INSTALLER RESPONSIBILITIES  This certificate does not automatically constitute authority to Install the Item(s).  Where the user/installer performs work in accordance with regulation of an airworthiness authority different than the airworthiness authority specified in block 1, it is essential that the user/installer ensures that his/her airworthiness authority accepts items from the airworthiness authority specified in block 1.  Statements in blocks 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.	

Aut	proving Civil Aviation hority/Country: A/United States	1	AUTHORIZED RELEASE CERTIFICATE  5. Form Tracking Number: 20150000558938Y03 320243301						
4. Org	anization Name and Address:	Honeywell Aerospace Singa (Gul Circle) 161 Gul Circle Singapore 629619	apore Pte Ltd Repair Station FT4Y192M		n		5. Work Order/Contract/Invoice Numbe NP5300937 320093301 Page 1 of 1		
6.Item	7. Description:		8. Part Number:		9. Quantity:	10. Serial Numbe	er:	11. Status / Work:	
001	ROTOR ASSY 1STG		3842151-3	, , , , , , , , , , , , , , , , , , , ,	1	970335700399		OVERHAULED	
TSN CSN TSO CSO	49-24-79 Rev 8, JAN/30  HH.DD (HH:MM 26386.56 (26386: 18417.00 0.00 (0:00) 0.00	1)							
	Approved design data	ove were manufactured in confo and are in a condition for safe o data specified in Block 12.		Certifies that unle described in Bloc	k 12 was accomp 43 and in respect	ified in Block 12, the villahed in accordance	work identified with Title 14, 0 as are approved		

14d. Name (Typed or Printed):

Ramesh Ramadoss

13e. Date(dd/mmm/yyyy);

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/propeller/article. 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 Block1, 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 Block1. Statements in Blocks 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.

NSN: 0052 - 00 - 012 - 9005

FT4Y192M

09/MAR/2015

14e. Date (dd/mmm/yyyy):

FAA FORM 8130 - 3 (02-14)

13d. Name (Typed of Printed):

#### Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

SINGAPORE 629619 Date:08 MAR 2015

**Configuration And Findings Evaluation** 

Repair Order: 2015-005008278764-001

Customer: 318657 MALAYSIA AIRLINES SUBANG

320243301

Customer P/O: NP5300937

**Orig Cust:** 

Part Number: 3842151-3

Part Desc: ROTOR ASSY 1STG

Serial No: 970335700399

Mods:

Series/Issue/Amdts:

Quantity: 1

**Ship Date:** 08 MAR 2015

Aircraft S/N#:

**Received Date:** 

Aircraft tail#:

Engine S/N:

Date on:

Date off:

Model #: APU 331-500/600 TIMES/CYCLES

HH.DD

(HH:MM)

Alternate S/N:

26386.56 (26386:34)

18417.00

#### CUSTOMER REASON FOR RETURN

Overhaul

#### GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

**Eroded** 

Corrosion/Corroded

FIRE, FLAMES FROM TAILPIPE

#### DETAIL DISASSEMBLY / EVALUATION FINDINGS

ALL BLADE TIPS ERODED & PLATFORM OF BLADES CORRODED, REPLACE ALL.

REASSEMBLE & BALANCE. TSN/CSN: 26386:34 & 18417

Related Area Silien Pare

SERVICE BULLETINS / AUTHORIZING DOCUMENTS

**Authorizing Technical Document** 

Complied With:

Doc#: IRM 49-24-79 Rev: 8 Date: 30.01.2015

WORK PERFORMED / COMMENTS TO CUSTOMER

Mortescope Performed Sammary of Actions Taken

UNIT INSPECTEED & OVERHAULED IAW IRM. ALL BLADES REPLACED WITH NEW BLADES. ASSEMBLE &

Honeywell Aerospace Singapore Pte Ltd co Honeywell Aerospace Singapore Pte Ltd 161 Gul Circle

#### Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

SINGAPORE 629619 Date:08 MAR 2015

**Configuration And Findings Evaluation** 

Repair Order: 2015-005008278764-001

Customer: 318657 MALAYSIA AIRLINES SUBANG

320243301

Customer P/O: NP5300937

**Orig Cust:** 

Part Number: 3842151-3

Part Desc: ROTOR ASSY 1STG

Serial No: 970335700399

Mods:

Series/Issue/Amdts:

Quantity 1

Ship Date: 08 MAR 2015

Overhaul

**Received Date:** 

BALANCE CARRIED OUT. FPI PERFORMED ON DISK AT SUPERIOR SERVICE ORDER.

FINAL CONFIGURATION Part No: 3842151-3

S/N: 970335700399

Series/Issues/Amdts:

Mods:

MECHANIC/ANALYST Beng Chong Koh

Page: 2 of 2

**DATE: 23 FEB 2015** 

1. Country:  2 . Department of Civil Aviation Malaysia  AUTHORIZED RELEASE CERTIFICATE							3. Form Tracking Number: 20150000558988Y18		
	Malaysia			AUTHORIZED R				320244002	
(Gul Čir 161 Gul			Honeywell A (Gul Circle) 161 Gul Circ Singapore 6					5. Work Order/Contra NP5300937 320093301 Page 1 of 1	act/Invoice:
6.ltem:	7. Description:			8. Part No:	9. Eligibility:	10. Qty:	11. Serial / Batch	n No:	12. Status / Work:
001	ROTOR ASSY TUP	RB - 2STG		3842155-4	UNKNOWN	1	960335701592	2	OVERHAULED
13. I	Remarks :								
THE	SERVICE SPECIFIED	HAS BEEN A	COMPLISHED I	N ACCORDANCE WITH:					
IRM	49-24-79 Rev 8, J	AN/30/2015							
	HH.DD (	HH:MM)							
TSN	26386.56 (2	(6386:34)							
CSN	18417.00			•					
TSO		):00)							
CSO	0.00								
SEE A	TTACHED DOCUMENTS A	S APPLICABLE	FOR WORK PERFO	RMED		201000000000000000000000000000000000000			
14. CE	rtifies the items identifie			The state of the s	19. X MCAR Reg	g. 30; Release to	Service 🗌 Oth	er regulation specified	l in Block 13
Approved design data and are in condition for safe operation.  Non-approved design data specified in Block 13.				described in Block13	Certifies that unless otherwise specified in Block 13, the work identified in Block 12 and described in Block13, was accomplished in accordance with JAR-145 and in respect to that work the items are considered ready for release to service.				
15. AL	rthorised Signature:		16. App	oroval/Authorisation Number:	20. Authorised Signa	ature: Maanno	**************************************	21. Certificate AO/0037/78	/Approval Ref. No.:
17. Na	ame:		18. Dat	e (dd mmm yyyy):	22. Name: Ramesh Ramado	ss		23. Date (dd n	



EASA EASA FORM 1	1002
FASA FORM 1	1
4. Organisation Name and Address: Honeywell Aerospace Singapore Pte Ltd (Gul Circle) 161 Gul Circle Singapore 629619  5. Work NP53005 2200933 Page 1	3301
6. Item 7. Description 8. Part No 9. Quantity 10. Serial No. 11. Stat	atus/Work
001 ROTOR ASSY TURB - 2STG 3842155-4 1 960335701592 OVERHAU	ULED
12. Remarks	
THE SERVICE SPECIFIED HAS BEEN ACCOMPLISHED IN ACCORDANCE WITH:	
IRM 49-24-79 Rev 8, JAN/30/2015	
	•
HH.DD (HH:MM)	
TSN 26386.56 (26386:34)	
CSN 18417.00	1
TSO 0.00 (0:00)	
CSO 0.00	
	l
	1
13a. Certifies that the items identified above were manufactured in conformity to:	cified in block 12
approved design data and are in condition for safe operation  Certifies that unless otherwise specified in block 12, the work identified	d in block 11
non-approved design data specified in block 12 and described in block 12, was accomplished in accordance with Part-	
respect to that work the items are considered ready for release to servi	vice.
13b. Authorised Signature 13c. Approval/Authorisation Number 14b. Authorised Signature 14c. Certificate/Ap	Approval Ref. No
Maneg.	
EASA.145.0076	
13d. Name 13e. Date (dd mmm yyyy) 14d. Name 14e. Date (dd mm	mm vvvv)
	,,,,,
Ramesh Ramadoss 09 MAR 2015	
USER/INSTALLER RESPONSIBILITIES This certificate does not automatically constitute authority to install the Item(s).	
Where the user/installer performs work in accordance with regulation of an airworthiness authority different than the airworthiness authority specified in block 1, it is essential that the user/installer ensures that his/her airworthiness authority accepts items from the airworthiness authority specified in block 1.	
Statements in blocks 13a and 14a do not constitute installation certification. In all cases alreraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.	



Auth	roving Civil Aviation ority/Country:  L/United States	FAA Form	8130-3, AIRWORT	ELEASE CERTIFICATE  WORTHINESS APPROVAL TAG  3. Form Tracking Number: 20150000558986Y03 320244002				
l. Orga		Honeywell Aerospace Singap (Gul Circle) 161 Gul Circle Singapore 629619	oore Pte Ltd	Repair Station FT4Y192M			5. Work Order/Co NP5300937 320093301 Page 1 of 1	ontract/Invoice Number:
iltem:	7. Description:		8. Part Number:		9. Quantity:	10. Serial Number	er:	11. Status / Work:
001	ROTOR ASSY TURB - 29	STG	3842155-4		1	960335701592		OVERHAULED
12. R	Remarks:							
THE :	SERVICE SPECIFIED HAS	BEEN ACCOMPLISHED IN ACC	ORDANCE WITH:					
IRM	49-24-79 Rev 8, JAN/30	/2015						
	HH.DD (HH:MM							
TSN	26386.56 (26386:	34)						
CSN TSO	18417.00 0.00 (0:00)			•				
CSO	0.00							
SEE /	ATTACHED DOCUMENTS AS API	PLICABLE FOR WORK PERFORMED						
13a. C	edifies the items identified ab	ove were manufactured in confor	mity to:	14a. 🛚 14 CFF	R 43.9 Return to Se	rvice 🗌 Other	regulation specifi	ed in Block 12
		and are in a condition for safe op data specified in Block 12.	eration.	described in Block	12 was accomplis	ed in Block 12, the shed in accordance that work, the iter	with Title 14, Coo	
13b. A	Authorized Signature:	13c. Approval/	Authorization No.:	14b. Authorized S	ignature: Magene	70 - 10 m	14c. Appr	oval/Certificate No.:
13d. N	lame (Typed of Printed):	13e. Date(dd/r	nmm/yyy <del>y)</del> :	14d. Name (Typed	f or Printed):		14e. Date	(dd/mmm/yyyy):
				Ramesh Ramad	ioss		09/MAR	/2015
<u></u>			llear / Inetallar	Responsibiliti	06		**	

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/propeller/article. 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 Block1, 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 Block1. Statements in Blocks 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.

FAA FORM 8130 - 3 (02-14) NSN: 0052 - 00 - 012 - 9005

#### Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

SINGAPORE 629619 Date:08 MAR 2015

**Configuration And Findings Evaluation** 

Repair Order: 2015-005008278969-001

Customer: 318657 MALAYSIA AIRLINES SUBANG

320244002

Customer P/O: NP5300937

**Orig Cust:** 

Part Number: 3842155-4

Part Desc: ROTOR ASSY TURB - 2STG

Serial No: 960335701592

Mods:

Series/Issue/Amdts:

Quantity: 1

Ship Date: 08 MAR 2015

**Received Date:** 

Aircraft tail#:

Aircraft S/N#:

Date on:

Date off:

Model #: APU 331-500/600

Engine S/N:

Alternate S/N:

TIMES/CYCLES

HH.DD

26386.56

(HH:MM) (26386:34)

18417.00

#### **CUSTOMER REASON FOR RETURN**

Overhaul

#### GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

Eroded

Rubbed/Abraded

FIRE, FLAMES FROM TAILPIPE

#### DETAIL DISASSEMBLY / EVALUATION FINDINGS

ALL BLADE L/EDGES ERODED & TIPS RUBBED. REASSEMBLE & BALANCE. TSN/CSN:

26386:34 & 18417

ndnas Zes

Kanie oznaci

alled Part

niumžėjes anaklūs

Pindings:

Kelale Liter

Nicht (Control of the Con-

Falled Park

Seast Meas

Promise States

#### SERVICE BULLETINS / AUTHORIZING DOCUMENTS

#### **Authorizing Technical Document**

Complied With:

Doc#: IRM 49-24-79 Rev: 8 Date: 30.01.2015

#### WORK PERFORMED / COMMENTS TO CUSTOMER

#### Workscope Performed / Summary of Actions Taken

UNIT INSPECTED & OVERHAULED IAW IRM. ALL BLADES RE-WORKED ON SUB-SERVICE ORDERS.

#### Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

SINGAPORE 629619 Date:08 MAR 2015

**Configuration And Findings Evaluation** 

Repair Order: 2015-005008278969-001

Customer: 318657 MALAYSIA AIRLINES SUBANG

320244002

Customer P/O: NP5300937

**Orig Cust:** 

Part Number: 3842155-4

Part Desc: ROTOR ASSY TURB - 2STG

Serial No: 960335701592

Mods:

Series/Issue/Amdts:

**Quantity 1** 

Ship Date: 08 MAR 2015

Received Date:

RE-ASSEMBLE & BALANCE CARRIED OUT. FPI PERFORMED ON DISK AT SUPERIOR SERVICE ORDER.



Overhaul

FINAL CONFIGURATION

Part No: 3842155-4

S/N: 960335701592

Series/Issues/Amdts:

Mods:

MECHANIC/ANALYST Chin Cheng See

Page: 2 of 2

**DATE: 25 FEB 2015** 

1. Country: 2 . Departme				ment of Civil A	ivil Aviation Malaysia 3. Form Tracking Number:						
	Malaysia				AUTHORIZED R AIRWORTHINES					2015000055894 320243274	7Y18
(Gul Čircle 161 Gul C			Honeywell Ad (Gul Circle) 161 Gul Circl Singapore 62					5. Work Order/Con NP5300937 320093301 Page 1 of 1	320093301		
6.ltem:	7. Description:				8. Part No:		9. Eligibility:	10. Qty:	11. Serial / Batch	ı No:	12. Status / Work:
001	TURBINE ROTO	R ASSY	, BLADED	3RD STAGE	3842160-5		UNKNOWN	1	970134505954		OVERHAULED
13. I	Remarks :										
THE	SERVICE SPECIFI	ED HAS	BEEN ACC	OMPLISHED IN	N ACCORDANCE WITH:						
IRM	49-24-79 Rev 8,	JAN/30	/2015								
	HH.DD	(HH:MM	)								
TSN	26386.56	(26386:	34)								
CSN	18417.00										
TSO	0.00	(0:00)									
cso	0.00										
SEE A	TTACHED DOCUMENTS	AS APPI	ICABLE FO	OR WORK PERFOR	RMED						
14. CE	ertifies the items iden	tified abov	ve were ma	anufactured in c	onformity to:	19.	MCAR Reg.	30; Release to	Service Oth	er regulation specifi	ed in Block 13
				condition for safe	The state of the s	Ce	rtifies that unless oth	nerwise specific	ed in Block 13, the	work identified in Bl	ock 12 and
	Non-approve	d-design d	lata specifi	ed in Block 13.		wo	scribed in Block13, w rk the items are cons	sidered ready f	or release to service		respect to that
15. Aı	nthorised Signature:			16. Appi	roval/Authorisation Number:	20.	Authorised Signatur	re: M.Mgune:	7 · (8)	21. Certifica <b>AO/0037/</b>	te/Approval Ref. No.:
17. No	ame:			18. Date	(dd mmm yyyy):	22	Name:			23. Date (do	I mmm yyyy):
						Ra	mesh Ramadoss	3		09 MAR 20	015



Auth	oving Civil Aviation ority/Country: /United States		AUTHORIZED RELEASE CERTIFICATE  5. Form 8130-3, AIRWORTHINESS APPROVAL TAG  3. Form Trac 201500005 320243274					
4. Orga	nization Name and Address:	Honeywell Aerospace Singal (Gul Circle) 161 Gul Circle Singapore 629619	pore Pte Ltd	Repair Station FT4Y192M		***************************************	5. Work Order/ NP5300937 320093301 Page 1 of 1	Contract/Invoice Numb
6 Item	7. Description:		8. Part Number:		9. Quantity:	10. Serial Numb	ler	11. Status / Work:
001	TURBINE ROTOR ASSY	, BLADED 3RD STAGE	3842160-5		1	97013450595		OVERHAULED
	SERVICE SPECIFIED HAS 49-24-79 Rev 8, JAN/30 HH.DD (HH:MN 26386.56 (26386: 18417.00 0.00 (0:00) 0.00	1)	ORDANCE WITH:					
SEE J	ATTACHED DOCUMENTS AS AP	PLICABLE FOR WORK PERFORMED			·			
13a. C	Approved design data	ove were manufactured in confor and are in a condition for safe or data specified in Block 12.		described in Block	ss otherwise spec	ified in Block 12, the lished in accordance	work identified i	
13b. A	uthorized Signature:	13c. Approval	'Authorization No.:	14b. Authorized S	•	1630 ( 100 )	14c. Ap	proval/Certificate No.:

14d. Name (Typed or Printed):

Ramesh Ramadoss

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/propeller/article. 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 Block1, 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 Block1. Statements in Blocks 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.

13d. Name (Typed of Printed):

13e. Date(dd/mmm/yyyy);

09/MAR/2015

14e. Date (dd/mmm/yyyy):

1. Approving	Competent Authority/Country	2. AUTHORIS	SED RELEAS	E CERTIFICATE	3. Form Tracking Number 20150000558945Y02
EASA					320243274
			EASA FORM 1		
4. Organisati	(Gul Čii 161 Gu				5. Work Order/Contract/Invoice NP5300937 320093301 Page 1 of 1
6. Item	7. Description	8. Part No	9. Quantity	10. Serial No.	11. Status/Work
001	TURBINE ROTOR ASSY, BLADED STAGE	3842160-5	1	970134505954	OVERHAULED
12. Remarks			<u> </u>		
THE SERVI		MPLISHED IN ACCORDANCE WITH:			
	HH.DD (HH:MM)				
TSN	26386.56 (26386:34)				
	18417.00				
TSO	0.00 (0:00)				1
132 Certifies	that the items identified above were	manufactured in conformity to:	14a X Part-145 A 50	Release to Service Oth	er regulation specified in block 12
I	proved design data and are in condit	· · · · · · · · · · · · · · · · · · ·	<del></del>		
. ,	n-approved design data specified in		and described in bloc	otherwise specified in block 12, k 12, was accomplished in acc he items are considered ready	
13b. Authoris	ed Signature	13c. Approval/Authorisation Number	14b. Authorised Signat	M. Maner - (3,000)	14c. Certificate/Approval Ref. No
			,		EASA.145.0076
13d. Name		13e. Date (dd mmm yyyy)	14d. Name		14e. Date (dd mmm yyyy)
			Ramesh Ramadoss		09 MAR 2015
This certificate Where the user ensures that his Statements in b	s/her airworthiness authority accepts item blocks 13a and 14a do not constitute insta	th regulation of an airworthiness authority different than the ns from the airworthiness authority specified in block 1. Illation certification. In all cases aircraft maintenance record		•	
regulations by	the user/installer before the aircraft may b	e flown.			



# Honeywell Aerospace Singapore Pte Ltd co Honeywell Aerospace Singapore Pte Ltd

#### Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

161 Gul Circle SINGAPORE 629619 Date:08 MAR 2015

**Configuration And Findings Evaluation** 

Repair Order: 2015-005008278762-001

Customer: 318657 MALAYSIA AIRLINES SUBANG

320243274

Customer P/O: NP5300937

Orig Cust:

Part Number: 3842160-5

Part Desc: TURBINE ROTOR ASSY,

BLADED 3RD STAGE

**Serial No:** 970134505954

Mods:

Series/Issue/Amdts:

Quantity: 1
Aircraft tail#:

Ship Date: 08 MAR 2015

Aircraft S/N#:

Date on:

**Received Date:** 

Date off:

\_ .

Engine S/N:

----

Alternate S/N:

TIMES/CYCLES

Model #: APU 331-500/600

*HH.DD* 26386.56

(HH:MM) (26386:34)

18417.00

nicom son son amoute (company)

CUSTOMER REASON FOR RETURN

Overhaul

GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

Nicked

FIRE, FLAMES FROM TAILPIPE

DETAIL DISASSEMBLY / EVALUATION FINDINGS

ALL DISK PINS WORN. BLADE LÆDGES NICKED. BALANCE. TSN/CSN; 26386:34 & 18417

indiper:

NIGHT FARE

SERVICE BULLETINS / AUTHORIZING DOCUMENTS

**Authorizing Technical Document** 

Complied With:

Doc#: IRM 49-24-79 Rev: 8 Date: 30.01,2015

WORK PERFORMED / COMMENTS TO CUSTOMER

Workspool Pationaed (Standary of Actions Taken

UNIT INSPECTED & OVERHAULED IAW IRM. ALL DISK PINS REPLACED WITH NEW PINS. HAND BLEND & SMOOTHEN BLADES L/E'S, FPI & BALANCE CARRIED OUT.

Action Taken Code

Overhaul

Customer Confirmed Removal Resign.

Evaluation Type

Honeywell Aerospace Singapore Pte Ltd co Honeywell Aerospace Singapore Pte Ltd 161 Gul Circle

#### Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

SINGAPORE 629619 Date:08 MAR 2015

**Configuration And Findings Evaluation** 

**BLADED 3RD STAGE** 

Repair Order: 2015-005008278762-001

Customer: 318657 MALAYSIA AIRLINES SUBANG

320243274

Customer P/O: NP5300937

**Orig Cust:** 

Part Number: 3842160-5

Part Desc: TURBINE ROTOR ASSY,

Serial No: 970134505954

Mods:

Series/Issue/Amdts:

Quantity 1

**Ship Date: 08 MAR 2015** 

Received Date:

FINAL CONFIGURATION Part No: 3842160-5

S/N: 970134505954

Series/Issues/Amdts:

Mods:

MECHANIC/ANALYST Beng Chong Koh

Page: 2 of 2

**DATE: 23 FEB 2015** 

Stephen Lee (Stephen Lee Kok Neo)

18 MAR 2015



1. Approving	Competent Authority/Country	2. AUTHO	RISED RELEAS	E CERTIFICAT	3. Form Tracking Number 20150000580132Y02
EASA					320093302
			EASA FORM 1		
4. Organisati	on Name and Address: Honeywell (Gul Circle 161 Gul Ci Singapore	rcle			5. Work Order/Contract/invoice NP5300937 320093301 Page 1 of 1
6. Item	7. Description	8. Part No	9. Quantity	10. Serial No.	11. Status/Work
001	ENGINE OUTLINE GAS TURBINE	3800550-1	1	P-1154	OVERHAULED
WITH:SPM: IRM 49-24- IPC 49-26- EM 49-26- CMM 49-42- NO AIRWOR REFER TO I FOR LIFE: For Servi- See attack	CE SPECIFIED HAS BEEN ACCOMPL 20-00-02/70-00-01 Rev 18, JUN -79 Rev 7, MAY/29/2014 -55 Rev 16, MAY/28/2013 57 Rev 19, OCT/17/2014 -05 Rev 2, NOV/11/2014 THINESS DIRECTIVES APPLICABLE FORM GTCP331-500B-G16-R.6 ATT LIMITED PARTS. Ce Bulletin complied hed Service Record Service INUED ON RIGHT SIDE	/14/2013 TO THIS APU. ACHED	COMPUTATION OF DMM HRS/CYCLES (2:00 HRS AND SHIPPED LESS (	F LLP CYCLES AND WAS S ON RELEASE IS 26388 6 CYCLES USED IN APU GENERATOR COVER PN 38 PN 2709968-1. CSN: 18417 TSO:	1:34/18423 J FINAL TESTING). 162212-3 AND
app	that the items identified above were ma roved design data and are in condition -approved design data specified in bloc	for safe operation	Certifies that unless o and described in block	therwise specified in block 1	Other regulation specified in block 12 12, the work identified in block 11 accordance with Part-145 and in dy for release to service.
13b. Authorise	ed Signature	Approval/Authorisation Number	14b. Authorised Signate	ure (\$\frac{\partial n}{2000} \text{ (\$\frac{\partial n}{2000} \te	14c. Certificate/Approval Ref. No EASA. 145. 0076
13d. Name	13	e. Date (dd mmm yyyy)	14d. Name		14e. Date (dd mmm yyyy)
			Stephen Lee (Stephe	en Lee Kok Neo)	18 MAR 2015
This certificate of Where the user/lensures that his Statements in bit	ther airworthiness authority accepts items from	pulation of an airworthiness authority different the most the airworthiness authority specified in block or certification. In all cases aircraft maintenance in	ck 1.		



Approving Civil Aviation     Authority/Country:  FAA/United States		HORIZED REL m 8130-3, AIRWO			3. Form Tracking Number: 20150000580131Y03 320093302		
4. Organization Name and Addres	s: Honeywell Aerospace Sing (Gul Circle) 161 Gul Circle Singapore 629619	apore Pte Ltd	Repair Station FT4Y192M	n		5. Work Order NP5300937 320093301 Page 1 of 1	/Contract/Invoice Numbe
6.Item: 7. Description:		8. Part Number:		9. Quantity:	10. Serial Numl	 ber:	11. Status / Work:
001 ENGINE OUTLINE GA	S TURBINE	3800550-1		1	P-1154		OVERHAULED
REFER TO FORM GTCP331-50 FOR LIFE LIMITED PARTS.	01 Rev 18, JUN/14/2013 29/2014 /28/2013 17/2014 11/2014 VES APPLICABLE TO THIS A 0B-G16-R.6 ATTACHED		COMPUTATION DMM HRS/CYCL (2:00 HRS AN SHIPPED LESS BOOT TERMINA	OF LLP CYCLES ES ON RELEASE ID 6 CYCLES US		D FROM DMM. 423 TESTING).	FOR
TEXT CONTINUED ON RIGHT	cord Service Bulletin C	-			·		

13a. Certifies the items identified above were manufact	ctured in conformity to:	14a. X 14 CFR 43.9 Return to Service Other regulation specified in Block 12				
Approved design data and are in a cond  Non-approved design data specified in E	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:	EXID	14c. Approval/Certificate No.:		
		(SV)	( No. 1) ( N	FT4Y192M		
13d. Name (Typed of Printed):	13e. Date(dd/mmm/yyyy):	14d. Name (Typed or Printed):		14e. Date (dd/mmm/yyyy):		
		Stephen Lee (Stephen Lee Kok Neo)		18/MAR/2015		

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/propeller/article. 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 Block1, 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 Block1. Statements in Blocks 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.

NSN: 0052 - 00 - 012 - 9005 FAA FORM 8130 - 3 (02-14)

### GTCP 331-500[B] PERFORMANCE DATA SHEET

NOTIFICATION NUMBER : 32	0093302			SERVICE ORDER :	5008225314
APU MODEL : GTCF	331-500[B]	PART NUMBER :	3800550-1	SERIAL NUMBER :	P-1154
OPERATION TEXT : LA	B TEST			MANUAL :	EM 49-26-57
OPERATION NO :	0220			REVISION :	19
QUANTITY		UNITS	NO LOAD	103°F ECS MODE	103°F MES MODE
BAROMETRIC PRESSURE		PSIA	14.66	14.66	14.66
FUEL INLET PRESSURE		PSIG	24.1	21.3	21.2
OIL PUMP DISCHARGE PRESSURE		PSIG	68.0	67.8	67.8
OIL PUMP DISCHARGE TEMPERATURE		°F	156	157	157
GEARBOX PRESSURE		PSIA	15.20	15.21	15.20
COMPRESSOR INLET TEMPERATURE	°F	86.6	87.1	87.8	
APU INLET TEMPERATURE (T2) (ARINC)		°F	90.5	90.8	91.3
TURBINE DISCHARGE	UPPER (EGT 1)	°F	708.3	1069.7	1093.1
TEMPERATURE (UNIT RAKES)	LOWER (EGT 2)	°F	702.6	1075.9	1105.2
EXHAUST GAS TOTALTEMPERATURE (LA	MEASURED	°F	723.2	1073.3	1101.8
	°F		1118.9	1115.1	
ORIFICE INLET AIR PRESSURE		" Hg		76.2	88.9
ORIFICE INLET TEMPERATURE	WWW	°F		400.3	411.9
ORIFICE DELTA PRESSURE		" H₂O		60.37	25.06
IGV POSITION** (IGVPOS)		DEGREES		12.5	5.0
IGV PERFORMANCE ADJ (IGVPERADJ)		DEGREES		5.0	
BLEED AIRFLOW	ACTUAL	LBS/MIN		480.96	328.72
	CORRECTED	LBS/MIN		465,4	298.7
RESTRICTED AIRFLOW (DISC. CORR. FL	OW)	LBS/MIN		166.14	106.01
BLEED AIR TOTAL PRESSURE	INDICATED	PSIA		55.2	59.5
	CORRECTED	PSIA		53.9	54.3
BLEED AIR TOTAL TEMPERATURE	INDICATED	°F		411.2	423.4
	CORRECTED	°F		426.9	430.2
UNIT VIBRATION	ACCESSORY	IN/SEC	0.32	0.28	0.33
	TURBINE	IN/SEC	0.22	0.37	0.30
TURBINE WHEEL SPEED	RPM	39141	39102	38957	
SHAFT LOAD	APPLIED	SHP		180.2	180.2
	CORRECTED	SHP		180.6	180.6
FUEL CONSUMPTION	INDICATED	LBS/HR	337.6	641	659
	CORRECTED	LBS/HR		634.45	623.31

TEST TECHNICIAN	:	TEST 09	QUALITY CONTROL	M. (200 20)
		Stamp & Sign		Stamp & Sign
DATE	:	18-Mar-2015	DATE	: 1 8 MAR 2015

FORM 331-500B-T-04 R18 (DDMMYY 301014)



#### TURBINE ACCEPTANCE TAG: AND TRACEABILITY INPUT LIFE LIMITED PARTS RECORD/TRACE INPUT PAGE

PART NO: 3800550-1

SERIAL NO: P-1154

**CUSTOMER: MAS** 

MODEL: GTCP331-500B

SERIES: 25

DATE: 18-Mar-15

W/O NO: 5008225314

TSN: 26386:34 TSR: NA

CSN: 18417

CSR: NA

I JK.	INC
TSO:	00

CSO: 0

DESCRIPTION	PART NO	SERIAL NO	LOT NO	<u>T\$N</u>	<u>CSN</u>	<u>LIFE LIMITS</u> (CYCLES)	REMARKS		
D/COMP IMPELLER	3822612-1	11-182449-02712	•	5382:09	4219	27000	OVERHAULED		
1ST STG IMPELLER	3822483-1	960322903503	•	19632:52	13533	27000	OVERHAULED		
2ND STG IMPELLER	3822341-5	14-182449-13712	151034005	00	00	27000	NEW		
1ST T-WHEEL ASSY	3842151-3	970335700399 -	70235700300				OVERHAULED		
DISK PART NO	3842152-1		•	26386:34	18417	27000	OVERTINOLED		
2ND T-WHEEL ASSY	3842155-4	960335701592 97P309	960335701502	060235701507 07D2	070200				OVERHAULED
DISK PART NO	3842156-1		971 309	26386:34	18417	27000	OVERNINGEED		
3RD T-WHEEL ASSY	3842160-5	970134505954	-	26386:34	18417	27000	OVERHAULED		

#### APU ACCESSORIES RECORD

DESCRIPTION	PART NO.	SERIAL NO.	<u>SERIES</u>	CHG NOS	DISPOSITION CODES	REMARKS	
STARTER CTRL VLV	3283076-5	374	1	-	3, 5	TESTED	
AIR TURB STARTER	3505814-3	246	1	-	4, 5	OVERHAULED	
STARTER MOTOR	2704442-5	77-385	2	-	3, 5	REPAIRED	
FUEL CLUSTER	3879008-1	CUA10610	•	-	3, 5, 6	REPAIRED. TRANSFERRED FROM MAS APU P-1415	
IGV ACTUATOR	3883499-3	0262	•	•	3, 5	TESTED	
PNEU CLUSTER	3884863-7	P-304	1	•	3, 5	REPAIRED	
CHECK VALVE	3202854-1	1100	1	•	3, 5	REPAIRED	
SURGE CTRL VALVE	3290814-5	664C	•	•	3, 5	TESTED	
LUBE CLUSTER	4131000-6	342C	1	-	3, 5	REPAIRED	
AIR OIL COOLER	160488-2	77-339	2	•	3, 5	TESTED	
TEMP CTRL VALVE	160536-1	77-286	2	-	3, 5	TESTED	
IGNITION UNIT	3876195-8	020218034031	-	-	3, 5	TESTED	
IGNITION SYS ASSY	3888275-9	020218034031	-	-	3, 5	REPAIRED	
G/BOX ASSY	3805034-8	P-247	1	-	1, 3, 5	REPAIRED MODIFIED	
DRIVEN COMP	3804011-8	P-254	-	-	4, 5	OVERHAULED	
COMP MODULE	3826980-9	P-254		-	1, 4, 5	OVERHAULED MODIFIED	
TURB MODULE	3844517-5	P-254	-	-	4, 5	OVERHAULED	
DMM	304643-2	GE1392	1	•	0, 5	CLEANED AND VISUALLY INSPECTED	

REMARKS: APU HOURS AND CYCLES ARE BASED AT THE POINT OF ASSEMBLY AND OBTAINED FROM THE DMM.

**DISPOSITION CODES:** 

0 ≈ REUSE AND TEST ON APU. 1 = MODIFY/UPGRADE, 2 = FT FOR FINDINGS. 3 ≈ FT AND REPAIR 4 = DISASSEMBLE AND REPAIR 5 = CLEAN PER CMM OR STANDARD PRACTICE. 6 = SCRAP & REPLACE.

INSPECTOR SIGNATURE & STAMP:

FORM: GTCP331-500B-G16-R.6 (ddmmyy 290813)

### Honeywell

ENGINE MODEL: 331-500B

SERVICE RECORD

SERVICE BULLETIN COMPLIANCE

PAGE: 1 of 1

ENGINE SERIAL NUMBER: P-1154

CUSTOMER: MALAYSIA AIRLINES SUBANG

REPAIR ORDER: 000320093301

MODULE: ENGINE PART: 3800550-1

SERVICE BULLETIN	REV	DESCRIPTION	ACCOMP	WHEN ACCOMP	Recurring
331-49-7555	1	AIRBORNE AUXILIARY POWER - GAS TURBINE E	Complied With	17/MAR/2015	
331-49-7698	1	AIRBORNE AUXILIARY POWER - GAS Complied With 17/MAR/2015 TURBINE E			
331-49-7810	0	AIRBORNE AUXILIARY POWER - GAS Complied With 16/MAR/2015 TURBINE E			
331-49-8022	0	AIRBORNE AUXILIARY POWER - GAS TURBINE E	Complied With	17/MAR/2015	
331-49-8058	0	AIRBORNE AUXILIARY POWER - GAS TURBINE E	Complied With	17/MAR/2015	
3505874-49-9008	0	AIRBORNE AUXILIARY POWER - AIR TURBINE S	Complied With	17/MAR/2015	
49-7046	0	REWRK DRVE SHFT ASSY PN 3503876-5 TO 350	Complied With	17/MAR/2015	
49-7997	4	STANDARD STORAGE AND PRESERVATION GUIDEL	Complied With 18/MAR/2015		Y
GTE1317	0	AUTHORIZE THE USE OF SECOND STAGE TURBIN	Complied With 16/MAR/2015		
SPB GTE1133	OR	REPL TURBINE STATOR SUPPORT	Complied With	16/MAR/2015	

Honeywell Aerospace Singapore Pte Ltd

INSPECTOR SIGNATURE:\_

DATE:

REPAIR STATION # FAA-EASA-CAAS-CAAC-JCAB

1 8 MAR 2015

# Honeywell

DATE	LATED ENGINE HOURS HH.DD (HH:MM)			UMU- TED SINE CLES	ENGINE SERVICE RECORD  REMARKS, INSPECTIONS, REPAIRS, AND ADJUSTMENTS					
17/MAR/2015	TSN 26386.56 (26386:34)	<b>TSO</b> 0.00 (0:00)	<b>CSN</b> 18417	cso º	P/N 3800550-1 S/N P-1154  Model 331-500B Series 25  Customer PO NP5300937					
	(20366.34)	(0.00)			DESCRIPTION OF WORK PERFORMED  DISASSEMBLED ENGINE TO ACCOMPLISH INSPECTIONS AS INDICATED / ACCOMPLISH REPAIR FOR REPORTED REASON: FOR NTE REPAIRS REAS FOR REMOVAL: NO BLEED AND TAIL PIPE FIRE. RE-ASSEMBLED ENGINE AND TESTED AS SPECIFIED. ALL WORK PERFORMED IN ACCORDANCE WITH MANUFACTURER'S MAINTENANCE MANUALS.  MANUALS  REV  DATED  20-00-02/70-00-01  18  14/JUN/2013  49-24-79  7  29/MAY/2014  49-26-57  19  17/OCT/2014					
					INSPECTIONS COMPLIE AS ABOVE SERVICE BULLETINS COMPLIES PARTS REPAIRED OR	OMPLIED WITH:				
					NDC / LIFE LIMITED PA	ARTS: SEE NDC / LI	PAGE			
					THIS ENGINE HAS BEEN REPAIRED/INSPECTED IN ACCORDANCE WITH THE APPLICABLE NATIONAL AVIATION ADMINISTRATION REGULATION AND IS APPROVED FOR RETURN TO SERVICE WITH RESPECT TO THE WORK PERFORMED. PERTINENT DETAILS ARE ON FILE AT THIS AGENCY UNDER REPAIR ORDER NUMBER 000320093301					

Honeywell Aerospace Singapore Pte Ltd

**REPAIR STATION#** FAA-EASA-CAAS-CAAC-JCAB **INSPECTOR SIGNATURE:** 

DATE:

1 8 MAR 2015

Note: APU on release after testcell runs. The TSN/CSN is as follows:

TSN: 26388:34 HRS

CYCLES

# **OPEN ITEM LIST**

SERVICE ORDER NO:

5008225314

APU PART NO:

3800550-1

APU MODEL: GTCP331-500B

CUSTOMER:

MAS

APU SERIAL NO:

P-1154

DATE: 18-Mar-15

ITEM	DESCRIPTION	PART NUMBER	MANUAL REF	QTY	REMARKS					
1	GEN. COVER	3862212-3	<b>49-26-5</b> 5	1	NOT RECEIVED. SHIPPED LESS					
2	TERMINAL PROTECTOR	2709968-1	49-42-02	1	NOT RECEIVED. SHIPPED LESS					
	PREPARED BY :									

# GTCP-331-500B-MODULES / LIFE LIMITED PARTS STATUS

APU P/NO: 3800550-1 APU S/NO: P1154 A/C REGN: EX 9M-MRB TSN/CSN:26385 / 18417

DATE OF REMOVAL: 20 JAN 2015

REASON FOR REMOVAL: NO BLEED AND TAIL PIPE FIRE

REASON FOR PREVIOUS REMOVAL: HIGH TIME

CUSTOMER: MAS JOB CARD NO: DATE RELEASED:

			INCOMING							OUTGOING		
NO	DESCRIPTION	PART NUMBER	SERIAL NUMBER	TSN/CSN	LIFE	REMARKS	PART NUMBER	SERIAL NUMBER	TSN/CSN	TASK PERFORMED	OG.REFERENCE BATCH NO.	REMARKS
1	GEARBOX ASSY	3805034-8	P247	26385 / 18417			3805034-8	P-247	26385/ 18417	repaired Modified		
2	DRIVE COMPLASSY	3804011-8	P254	26385 / 18417			3804011-B	P-254	26385/	ONERHAULED		
2.1	IMPELLER COMP LOAD	3822468-3	050322901613	18417	27000 Cycs		3822612-1	11-182449	5382:09/ 4219	Onekaured		ORIGINAL UNIT SM AS DECEMED
3	ENG.COMP.ASSY	3826980-9	P254	26385 / 18417			3826980-9	P-254	26385/ 18417	OUERHAULED MODIFIED		
3.1	IMPELLER COMP.2ND STG	382341-4	02032295617	18417	27000 Cycs		3822341-5	14-182449 - 13712	00	NEW		
3.2	IMPELLER COMP.1ST STG	3822483-1	960322903503	18417	27000 Cycs		3825483-1	960322 903503	19632:52/	over haured		
4	TURBINE MOD.ASSY	3844517-5	P254	26385 / 18417			3844517-5	P-254	26385/ 18417	OVEK!HAULED		
4.1	1ST STG ROTOR ASSY	3842151-3	970335700399	18417	27000 Cycs		3842151-3	970335 700399	26386:34/ 18417	Overhauled		
4.2	2ND STG ROTOR ASSY	3842155-3	960335701592	18417	27000 Cycs		3842155-4	960335 701592	26386:34/ 18417	ONELIAMITED		
4.3	3RD STG ROTOR ASSY	3842160-5	970134505954	18417	27000 Cycs		3842160-5	970134 505954	26386:34/	OVERHAULED		

-4

#### GTCP-331-500B-ACCESSORIES

APU	S/N:	P-1098

NO	DESCRIPTION			INCOMING	1			OUTGOING				
	ACCESSORIES	PART NUMBER	SERIAL NUMBER	TSN	LIFE	REMARKS	PART NUMBER	SERIAL NUMBER	TSN	TASK PERFORMED	DOC, REFERENCE BATCH NO.	REMARKS
5,1	AIR/OIL COOLER	160488-2	77-339	26385	oc		160488-2	17-339	26385	TESTED		
5.2	ELEC.STR.MOTOR	2704442-5	77-385	13765	ос		2704442-5	77-385	13785	REPAIRED		
5.3	DATA MEMORY MOD.	304643-2	GE1392	26385	OC		304643-2	GE1392	26385	TUP PECTED		
5.4	FUEL CLUSTER	4417617	CUA10186	26385	OC		3879008-1	CMAIOBIO	20849	REPAIRED		Transferred From Mas Apu P_1445
5.5	APU CHECK VALVE	3202610-5	581	UNK	oc		3202854-1	1100	_	REPAIRED		de statemen Outivitation
5.6	A.T.S.C,V	3283076-5	314C	26385	90		3283076-5	374	-	TESTED		DRIGINAL UNIT SN 03 SECENED
5.7	AIR TURBINE START	3505814-3	246	12276	oc		2505814-3	246	12276	OVERHAULED		
5.8	I.G.V ACT	855690-004		26385	ос		3883499-3	0262	-	TESTED		ORIGINAL UNIT SN AS RECEIVED
5.9	PNEU. CLUSTER	3884863-7		26385	oc		3884863-7	P-304	-	REPRIRIZO		ORIGINAL UNIT As received
5.10	IGNITION CLUSTER	3888275-9	UNKP1154	26385	oc		3888275-9	020218	26385	REPAIRED		ORIGINAL UNIT As RECEIVED
5,11	LUBE CLUSTER	4131000-6	342C	26398	ос		4131000-6	3420	26396	REPAIRED		
5.12	s,c.v	3290814-5	337C	26396	oc		3290814-5	664C	-	TESTED		brigingl Unit As received
5.13	TEMP.CONT.VALVE	160536-1	77-286	26385	oc		160536-1	77 -286	26385	TESTED		
5.14	GENERATOR	756589A		17949	ос		_			_		NOT RECEIVED

PREPARED BY: SYAFIQAH DATED: 02.02.2015 ENSURE REMOVAL OF ALL DESSICANT PRIOR TO OPERATION OF ENGINE.

CHECK HUMIDITY INDICATOR EVERY 30 DAYS

Honeywell Aerospace Singapore Pte Ltd
(Gul Circle)

# STORAGE

W/O NO: 5008225314

S/NO: P-1154

See Other side

INSPECTOR SIGNATURE

FORM G0052R.3 (ddmmyy250411)

DATE: 1 8 MAR 2015

	g Competent Authority/Country	AUTHORIS	·		
EASA					320264765
			EASA FORM 1		
4. Organisa	tion Name and Address: Honeywell Ad	erospace Singapore Pte Ltd			5. Work Order/Contract/Invoice
	(Gul Circle) 161 Gul Circle	e			NP4311791
	Singapore 62				320071093
					Page 1 of 1
6. Item	7. Description	8. Part No	9. Quantity	10. Serial No.	11. Status/Work
001	FUEL CLUSTER	3879008-1	1	CUA10610	REPAIRED
	ICE SPECIFIED HAS BEEN ACCOMPLIS	HED IN ACCORDANCE WITH:			
CMM 49-31	1-71 Rev 8, FEB/22/2012				
TSR CSR	HH.DD (HH:MM) 0.00 (0:00) 0.00				
13a Portifio	s that the items identified above were manu	factured in conformity to:	14a. X Part-145.A.50	Release to Service C	ner regulation specified in block 12
\	proved design data and are in condition for				
	n-approved design data specified in block 1		and described in block		, the work identified in block 11 cordance with Part-145 and in for release to service.
13b. Authori	sed Signature	Approval/Authorisation Number	14b. Authorised Signatu	re	14c. Certificate/Approval Ref. No
			(1)	(\$ 25 ) (\$ 00 5) (\$ 00 5)	EASA.145.0076
13d. Name	13e. I	Date (dd mmm yyyy)	14d. Name		14e. Date (dd mmm yyyy)
			Stephen Lee (Stephe	n Lee Kok Neo)	17 MAR 2015
	ER RESPONSIBILITIES does not automatically constitute authority to insti	all the item(s).			•
Where the use ensures that h	r/installer performs work in accordance with regula is/her airworthiness authority accepts items from the	tion of an airworthiness authority different than the	e alrworthiness authority spec	lfled in block 1, it is essential that	t the user/installer
	blocks 13a and 14a do not constitute installation of	ertification. In all cases aircraft maintenance recor	ds must contain an installation	n certification issued in accordance	e with the national



Authority/Country:			AUTHORIZED RELE A Form 8130-3, AIRWOR				3. Form Tracking 201500005774 320264765	•
4. Orga		Honeywell Aerospa (Gul Circle) 161 Gul Circle Singapore 629619	ce Singapore Pte Ltd	Repair Station FT4Y192M	Repair Station FT4Y192M		5. Work Order/C NP4311791 320071093 Page 1 of 1	ontract/Invoice Number:
6.ltem:	7. Description:		8. Part Number:	***************************************	9. Quantity:	10. Serial Number	<u>'                                     </u>	11. Status / Work:
001	FUEL CLUSTER		3879008-1		1	CUA10610		REPAIRED
THE	Remarks: SERVICE SPECIFIED HAS 49-31-71 Rev 8, FEB/22 HH.DD (HH:MM 0.00 (0:00) 0.00	/2012	D IN ACCORDANCE WITH:					
SEE A	attached documents as app	LICABLE FOR WORK F	PERFORMED					
13a. C	edifies the items identified about Approved design data  Non-approved design	and are in a condition	for safe operation.	Certifies that unles	12 was accompl	ervice  Other ified in Block 12, the ished in accordance to that work, the item	with Title 14, Co	Block 11 and de of Federal
13b. Authorized Signature: 13c. Approval/Authorization No.;				14b. Authorized Signature: 14c. Approval/Certificate FT4Y192M				
13d. Name (Typed of Printed): 13e. Date(dd/mmm/yyyy):				14d. Name (Typed	d or Printed):		14e. Date	(dd/mmm/yyyy):

Stephen Lee (Stephen Lee Kok Neo)

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/propeller/article. 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 Block1, 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 Block1. Statements in Blocks 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.

FAA FORM 8130 - 3 (02-14)

NSN: 0052 - 00 - 012 - 9005

17/MAR/2015

Auth	roving Civil Aviation ority/Country: ./United Stat	tes	2.	AUTHORI FAA Form 813		3. Form Tracking Number: 20150000558929Y03 320244458				
4. Orga	anization Name and <i>i</i>		Honeywell Aero Gul Circle) 161 Gul Circle Bingapore 6290	ospace Singapore Pt 319	e Ltd	Repair Station FT4Y192M			5. Work Orde NP5300937 320093301 Page 1 of 1	r/Contract/Invoice Number:
6.ltem:	7. Description:		8. Part Number:			1	9. Quantity: 10. Seria			11. Status / Work:
001	IMPELLER, LOA	D COMP	RESSOR	382	2612-1		1	11-182449-027		OVERHAULED
THE	Remarks: SERVICE SPECIFI 49-24-79 Rev 8,			SHED IN ACCORDANG	CE WITH:					
	HH.DD	(HH:MM	ı							•
TSN	5382.15	(5382:0	<del>)</del> )							
CSN	4219.00									
TSO	0.00	(0:00)								
CSO	0.00									
SEE :	ATTACHED DOCUMENT	S AS APF	LICABLE FOR WC	RK PERFORMED						
13a. C	ertifies the items ide	ntified abo	ve were manufa	ctured in conformity to:		14a. 🛛 14 CFF	R 43.9 Return to	Service 🔲 Other	regulation spe	ecified in Block 12
Approved design data and are in a condition for safe operation.  Non-approved design data specified in Block 12.					described in Block	12 was accomp	cified in Block 12, the dished in accordance to that work, the iten	with Title 14,	d in Block 11 and Code of Federal ed for return to service.	
13b. Authorized Signature: 13c. Approval/Author			zation No.:	14b. Authorized S		nebro ( ( )	14c. A	pproval/Certificate No.: 192M		
13d. Name (Typed-of Printed): 13e. Date(dd/mmm/yyyy):					-(KK)	14d. Name (Types	Pate (dd/mmm/yyyy):			

Ramesh Ramadoss

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/propeller/article. 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 Block1, 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 Block1. Statements in Blocks 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.

NSN: 0052 - 00 - 012 - 9005

09/MAR/2015

FAA FORM 8130 - 3 (02-14)



1. Approvin	g Competent Authority/Country	<sup>2.</sup> AUTHOR	RISED RELEAS	E CERTIFICATE	3. Form Tracking Number 20150000558928Y02 320244458
LAOA			EASA FORM 1		
4. Organisa	ntion Name and Address: Honeywo (Gul Circ 161 Gul Singapo	de)			5. Work Order/Contract/Invoice NP5300937 320093301
6. Item	7. Description	8. Part No	9. Quantity	10. Serial No.	Page 1 of 1
001	IMPELLER, LOAD COMPRESSOR	3822612-1	1	11-182449-02712	OVERHAULED
IRM 49-2 TSN CSN TSO CSO	4-79 Rev 8, JAN/30/2015  HH.DD (HH:MM) 5382.1 (5382:09) 4219.00 0.00 (0:00) 0.00				
ar ar	es that the items identified above were oproved design data and are in condition- on-approved design data specified in b	on for safe operation	Certifies that unless of and described in bloo		
13b. Author	ised Signature	186. Approval/Authorisation Number	14b. Authorised Signal		14c. Certificate/Approval Ref. No EASA.145.0076
13d. Name		13e. Date (dd mmm yyyy)	14d. Name		14e. Date (dd mmm yyyy)
This certificate Where the usensures that	his/her airworthiness authority accepts items	to install the item(s). regulation of an airworthiness authority different the from the airworthiness authority specified in blocation certification. In all cases aircraft maintenance	ck 1.		
	y the user/installer before the aircraft may be				

1. Country:  AUTHORIZED RELEASE CERTIFICATE  Malaysia  AIRWORTHINESS APPROVAL TAG  3. Form Tracking Number: 20150000558930Y18 320244458								
4. Appr	oved Organization Name and	Address: Honeywell A (Gul Circle) 161 Gul Circ Singapore 6		Repair Station AO/0037/78			5. Work Order/Contra NP5300937 320093301 Page 1 of 1	ct/Invoice:
6.ltem:	7. Description:		8. Part No:	9. Eligibility:	10. Qty:	11. Serial / Batch	n No:	12. Status / Work:
001	IMPELLER, LOAD COMP	PRESSOR	3822612-1	UNKNOWN	1	11-182449-027	712	OVERHAULED
THE : IRM 4 TSN CSN TSO CSO	emarks : SERVICE SPECIFIED HAS 49-24-79 Rev 8, JAN/30  HH.DD (HH:MM 5382.15 (5382:0 4219.00 0.00 (0:00) 0.00	/2015 () 9)						
<b>—</b>		····		19. MCAR Reg. 3	M. Polesee to	Service C Oth	er regulation enecified	in Block 13
14. Certifies the items identified above were manufactured in conformity to:  Approved design data and are in condition for safe operation.  Non-approved design data specified in Block 13.  Non-approved design data specified in Block 13.  Non-approved design data specified in Block 13.  19. MCAR Reg. 30; Release to Service  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 JAR-145 and in respect to that work the items are considered ready for release to service.							k 12 and	
15. Authorised Signature:  20. Authorised Signature:  21. Certificate/Approval Ref.  AO/0037/78						• •		
17. Na	me:	· 18. Date	e (dd mmm yyyy):	22. Name: Ramesh Ramadoss			23. Date (dd n	



#### Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

SINGAPORE 629619 Date:08 MAR 2015

**Configuration And Findings Evaluation** 

Repair Order: 2015-005008279181-001

Customer: 318657 MALAYSIA AIRLINES SUBANG

320244458

**Customer P/O: NP5300937** 

**Orig Cust:** 

Part Number: 3822612-1

Part Desc: IMPELLER, LOAD

Serial No: 11-182449-02712

Mods:

Series/Issue/Amdts:

Quantity: 1

**Ship Date:** 08 MAR 2015

**Received Date:** 

Aircraft tail#:

Aircraft S/N#:

Date on:

Date off:

Model #: APU 331-500/600

Engine S/N:

Alternate S/N:

TIMES/CYCLES

HH.DD

(HH:MM)

COMPRESSOR

5382.15 (5382:09)

# CUSTOMER REASON FOR RETURN

Overhaul

#### GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

Nicked

FIRE, FLAMES FROM TAILPIPE

#### DETAIL DISASSEMBLY / EVALUATION FINDINGS

BLADE L/EDGES NICKED. TSN/CSN: 5382:09 & 4219

# SERVICE BULLETINS / AUTHORIZING DOCUMENTS

## **Authorizing Technical Document**

Complied With:

Doc#: IRM 49-24-79 Rev: 8 Date: 30.01.2015

# WORK PERFORMED / COMMENTS TO CUSTOMER

UNIT INSPECTED & OVERHAULED IAW IRM. HAND BLEND, FPI, BALANCE & SHOT-PEENING CARRIED OUT.

Action Taken Code

Overhaul

Customer/Confirmed Removal Reason

Evaluation Type

Page: 1 of 2

Honeywell Aerospace Singapore Pte Ltd co Honeywell Aerospace Singapore Pte Ltd 161 Gul Circle

# Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

SINGAPORE 629619 Date:08 MAR 2015

**Configuration And Findings Evaluation** 

Repair Order: 2015-005008279181-001

Customer: 318657 MALAYSIA AIRLINES SUBANG

320244458

Customer P/O: NP5300937

**Orig Cust:** 

Part Number: 3822612-1

Part Desc: IMPELLER, LOAD

COMPRESSOR

Serial No: 11-182449-02712

Mods:

Series/Issue/Amdts:

Quantity 1

Ship Date: 08 MAR 2015

**Received Date:** 

**FINAL CONFIGURATION** 

Part No: 3822612-1

S/N: 11-182449-02712

Series/Issues/Amdts:

Mods:

MECHANIC/ANALYST Beng Chong Koh

Page: 2 of 2

**DATE: 24 FEB 2015** 

1. Cou									mber:	
	Malaysia			AUTHORIZED R AIRWORTHINES	ELEASE CERTI S APPROVAL TAG			20150000554913\ 320244395	Y18	
4. App	roved Organization Name	and Address.	Honeywell A (Gul Circle) 161 Gul Circ Singapore 6		Repair Station AO/0037/78			5. Work Order/Contra NP5300937 320093301 Page 1 of 1	act/invoice:	
6.ltem:	7. Description:			8. Part No:	9. Eligibility:	10. Qty:	11. Serial / Batch	n No:	12. Status / Work:	
001	IMPELLER, CENTRIF	UGAL- STAGI	E 1	3822483-1	UNKNOWN	1	960322903503		OVERHAULED	
13. I	Remarks :									
THE	SERVICE SPECIFIED H	AS BEEN ACCO	MPLISHED I	N ACCORDANCE WITH:						
i	49-24-79 Rev 8, JAN	•								
ORI	T31507 Rev C, SEP/1	1/2007								
	•	:MM)								
TSN	•	32:52)								
CSN TSO	13533.00 0.00 (0:0	0)								
cso	0.00 (0:0	0)								
650	0.00									
SEE A	TTACHED DOCUMENTS AS	APPLICABLE FOR	WORK PERFO	RMED						
	rtifies the items identified				19. MCAR Reg. 3	0: Release to	Service Oth	er regulation specified	l in Block 13	
	Approved design d	*		The second secon	Certifies that unless oth			- '		
	Non-approved-des	gn data specified	d in Block 13.		described in Block13, was accomplished in accordance with JAR-145 and in respect to that work the items are considered ready for release to service.					
15. Au	thorised Signature:		16. App	roval/Authorisation Number:	20. Authorised Signatur	e: MManer	(E 00 T)	21. Certificate AO/0037/78	/Approval Ref. No.:	
17. Na	ıme:		18. Date	e (dd mmm yyyy):	22. Name:			23. Date (dd n	nmm yyyy):	
					Ramesh Ramadoss			06 MAR 201	5	



EASA	Competent Authority/Country		ED RELEASE	CERTIFICATE	3. Form Tracking Number 20150000554904Y02 320244395  5. Work Order/Contract/Invoice
4. Organisatio	Gul Circl (Gul Circl 161 Gul C Singapore	e) ircle			NP5300937 320093301 Page 1 of 1
6. Item	7. Description	8. Part No	9. Quantity	10. Serial No.	11. Status/Work
001	IMPELLER, CENTRIFUGAL- STAGE	1 3822483-1	1	960322903503	OVERHAULED
TSN 3 CSN 3 TSO 6	Rev C, SEP/11/2007  HH.DD (HH:MM) 19632.86 (19632:52) 13533.00 0.00 (0:00) 0.00				
13a. Certifies	that the items identified above were n	nanufactured in conformity to:	14a. X Part-145.A.50 R	telease to Service Oth	er regulation specified in block 12
	roved design data and are in condition approved design data specified in blo	1	and described in block 1		the work identified in block 11 ordance with Part-145 and in for release to service.
13b. Authorise	ed Signature	3c. Approval/Authorisation Number	14b. Authorised Signature	manels (800)	14c. Certificate/Approval Ref. No EASA.145.0076
13d. Name	1	3e. Date (dd mmm yyyy)	14d. Name		14e. Date (dd mmm yyyy)
			Ramesh Ramadoss		06 MAR 2015
This certificate of Where the user/i ensures that his Statements in bi	her alrworthiness authority accepts items	egulation of an airworthiness authority different than the from the airworthiness authority specified in block 1. tion certification. In all cases aircraft maintenance record			

Approving Civil Aviation     Authority/Country:  FAA/United States		2.	AUTHORIZED F FAA Form 8130-3, AIF				3. Form Tracking Number: 20150000554905Y03 320244395	
4. Orga	nization Name and Address:	Honeywell Aero (Gul Circle) 161 Gul Circle Singapore 6296	. •	Repair Station FT4Y192M	n		5. Work Order/Contract/Invoice Number: NP5300937 320093301 Page 1 of 1	
6.ltem:	7. Description:		8. Part Number:		9. Quantity:	10. Serial Numb	) 9r;	11. Status / Work:
001	IMPELLER, CENTRIFUG	GAL- STAGE 1	3822483-1		1	960322903503	3	OVERHAULED
12. F	emarks:						***	
			SHED IN ACCORDANCE WITH:					
1	49-24-79 Rev 8, JAN/30							
ORI	T31507 Rev C, SEP/11/2	2007						
	HH.DD (HH:MN	()						
TSN	19632.86 (19632	•						
CSN	13533.00							
TSO	0.00 (0:00)							
cso	0.00							
				,				
SEE A	ATTACHED DOCUMENTS AS AP	PLICABLE FOR WO	RK PERFORMED					
132 19	edifies the items identified at	ove were manufa	ctured in conformity to:	14a. 🛛 14 CF	R 43.9 Return to S	Service Other	regulation speci	fied in Block 12
15a. C			lition for safe operation.			cified in Block 12, the	•	
	Non-approved design		The second secon	described in Bloc	k 12 was accomp	olished in accordance to that work, the iter	with Title 14, Co	ode of Federal
13b. A	uthorized Signature:		13c. Approval/Authorization No.:	14b. Authorized	Signature:		14c. App	roval/Certificate No.:
					Mora	nego · ( a oc 5)	FT4Y19	2M

14d. Name (Typed or Printed):

Ramesh Ramadoss

13e. Date(dd/mmm/yyyy)

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/propeller/article. 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 Block1, 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 Block1. Statements in Blocks 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.

13d. Name (Typed of Printed):

14e. Date (dd/mmm/yyyy):

06/MAR/2015

# Honeywell Aerospace Singapore Pte Ltd co Honeywell Aerospace Singapore Pte Ltd 161 Gul Circle

#### Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

SINGAPORE 629619 Date:06 MAR 2015

**Configuration And Findings Evaluation** 

Repair Order: 2015-005008278946-001

Customer: 318657 MALAYSIA AIRLINES SUBANG

320244395

Customer P/O: NP5300937

Orig Cust:

Part Number: 3822483-1

Part Desc: IMPELLER, CENTRIFUGAL-

Serial No: 960322903503

STAGE 1

Mods:

Series/Issue/Amdts:

Quantity: 1 Aircraft tail#: Ship Date: 06 MAR 2015

Aircraft S/N#:

Date on:

**Received Date:** 

Date off: Alternate S/N:

Model #: APU 331-500/600 TIMES/CYCLES

Engine S/N:

HH.DD (HH:MM)

19632.86 (19632:52)

13533.00

# CUSTOMER REASON FOR RETURN

Overhaul

# GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

**ERODED** 

FIRE, FLAMES FROM TAILPIPE

#### DETAIL DISASSEMBLY / EVALUATION FINDINGS

BLADE L/ES ERODED. KNIFE EDGE EXCESSIVELY RUBBED. BALANCE. TSN/CSN:

25015:00/17752

SERVICE BULLETINS / AUTHORIZING DOCUMENTS

# **Authorizing Technical Document**

Complied With:

Doc#: IRM 49-24-79 Rev: 8 Date: 30.01.2015 Doc#: ORI T31507 Rev: C Date: 11.09.2007

# WORK PERFORMED / COMMENTS TO CUSTOMER

Borkscope Cenomies//Sambaercolassions/Cakens

UNIT INSPECTED & OVERHAULED IAW IRM. KNIFE EDGE SEAL REPLACED & MACHININED TO SIZE.

HAND BLEND, FPI, BALANCE & SHOT-PEENING CARRIED OUT.

Action Taken Code

Overhaul

Customer Confirmed Removal Registron

Evaluation Type

Page: 1 of 2

Honeywell Aerospace Singapore Pte Ltd co Honeywell Aerospace Singapore Pte Ltd 161 Gul Circle

SINGAPORE 629619

Date:06 MAR 2015

# Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

**Configuration And Findings Evaluation** 

Repair Order: 2015-005008278946-001

Customer: 318657 MALAYSIA AIRLINES SUBANG

320244395

Customer P/O: NP5300937

**Orig Cust:** 

Part Desc: IMPELLER, CENTRIFUGAL-

Serial No: 960322903503

STAGE 1

Mods:

Series/Issue/Amdts:

Part Number: 3822483-1

Quantity 1

Ship Date: 06 MAR 2015

**Received Date:** 

**FINAL CONFIGURATION** Part No: 3822483-1

S/N: 960322903503

Series/Issues/Amdts:

Mods:

MECHANIC/ANALYST Beng Chong Koh

Page: 2 of 2

**DATE: 24 FEB 2015** 

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	- 0

14e. Date(dd/mmm/yyyy):

Auth	roving Civil Aviation ority/Country: /United States		AUTHORIZED RELEASE CERTIFICATE FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG						
4. Organization Name and Address: Honeywell International Inc 111 S. 34th Street Phoenix, Arizona 85072			Production Approval Honeywell International Inc. PT1222NM Units 2-4, Chevron, Eaton R Hemel Hempstead, HP2 7U UNITED KINGDOM		Eaton Road HP2 7UB	5. Work Order/Contract/Invoice i 4703472567-000010 Page 1 of 1			
6.ltem:	7. Description:		8. Part Number:		9. Quantity:	10. Serial Num	per:	11. Status / Work:	
001	IMPELLER, COMPRESS	OR, SECOND STAGE	3822341-5		1	14-182449-13	712	NEW	
13a. Ce	ertifies the items identified ab	ove were manufactured in confo	prmity to: 14a.	14 CFF	R 43.9 Return to	Service Ott	er regulation	specified in Block-12	
	Approved design data	and are in a condition for safe o lata specified in Block 12.	peration. Certi	fies that unles	otherwise speci	fied in Block 12, the	work identifie with Title 14	ed in Block 11 and	
13b. At	ithorized Signature:	13c. Approva	I/Authorization No.: 14b.	Authorized Sig	gnature:		14c. A	Approval/Certificate No.:	
8	Loulge	ODA-60221	6-NM						

13e. Date (dd/mmm/yyyy):

02/MAR/2015

14d. Name (Typed or Printed):

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/propeller/article. 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 Block1, 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 Block1. Statements in Blocks 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.

NSN: 0052 - 00 - 012 - 9005

13d. Name (Typed or Printed):

Stephen Foulger

# Honeywell

			LIFE LIMIT	ED PART	LOG		
ASSEMBLY NAM	ME:		PART	IUMBER:			SERIAL NUMBER:
LIFE LIMITED PA	ART NAME: IMPEL	LER, COMPRESSOR, SECOND ST	AGE PART	IUMBER: 3822341		SERIAL NUMBER: 14-182449-13712	
	ED PER FAR PART 2 ERTIFICATE PC413	i	SIGNA	TURE OR ACCEPTA			
DATE	DATE	ENGINE	TIME ON PART TH		TOTAL TIME		SIGNATURE / FAA NUMBER
INSTALLED	REMOYED	SERIAL NUMBER	CYCLES*	HOURS	CYCLES*	HOURS	J.GIVI. GREAT TO MES
/ HAR 2015		P-1154	0.0	0.0	0.0	0.0	(M) (808)
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		W-44					
		mit - St					
						1011	
				36			

<sup>\*</sup> SEE SERVICE LIFE LIMITS OF CRITICAL LIFE LIMITED COMPONENTS, ENTRIES SHALL COMPY TO FAR 43.

	LIFE LIMITED PART MAINTENANCE RECORD								
DATE	MAINTENANCE PERFORMED	AUTHORIZED SIGNATURE							
	The state of the s								
	, d								

PX-3107-76 BACK

1. Cour	ntry:	2 . Department of Civil A	Department of Civil Aviation Malaysia						
	Malaysia	·	AUTHORIZED RELEASE CERTIFICATE  AIRWORTHINESS APPROVAL TAG				20150000558939Y18 320243301		
Approved Organization Name and Address:     Honey     (Gul Ci     161 Gu     Singap				Repair Station AO/0037/78			5. Work Order/Contra NP5300937 320093301 Page 1 of 1	ct/Invoice:	
6.ltem:	7. Description:		8. Part No:	9. Eligibility:	10. Qty:	11. Serial / Batcl		12. Status / Work:	
001	ROTOR ASSY 1STG		3842151-3	UNKNOWN	1	970335700399		OVERHAULED	
13. F	temarks :								
THE	SERVICE SPECIFIED HAS	BEEN ACCOMPLISHED I	N ACCORDANCE WITH:						
IRM	49-24-79 Rev 8, JAN/3	0/2015							
İ	HH.DD (HH:M	M)							
TSN	26386.56 (26386	:34)							
CSN	18417.00								
TSO	0.00 (0:00)								
CSO SEE A	TTACHED DOCUMENTS AS APP	LICABLE FOR WORK PERFO	RMED						
14. Ce	rtifies the items identified abo	ove were manufactured in c	onformity to:	19. X MCAR Reg. 30	0; Release to	Service 🗌 Oth	er regulation specified	in Block 13	
		and are in condition for saf data specified in Block 13.	e operation.	Certifies that unless otherwise specified in Block 13, the work identified in Block 12 and described in Block13, was accomplished in accordance with JAR-145 and in respect to that work the items are considered ready for release to service.					
15. Authorised Signature:  16. Approval/Authorisation Number:				20. Authorised Signature:  21. Certificate/Approval R  AO/0037/78				••	
17. Na	ime:	18. Date	e (dd mmm yyyy):	22. Name:			23. Date (dd n	nmm yyyy):	
1				Ramesh Ramadoss			09 MAR 201	5	



	g Competent Authority/Country	2. AUTHOR	AUTHORISED RELEASE CERTIFICATE				
EASA					320243301		
			EASA FORM 1				
4. Organisa	ntion Name and Address: Honeyw (Gul Ciro 161 Gul Singapo	cle)			5. Work Order/Contract/invoice NP5300937 320093301		
	3,				Page 1 of 1		
6. Item	7. Description	11. Status/Work					
		8. Part No	9. Quantity	10. Serial No.			
001	ROTOR ASSY 1STG	3842151-3		970335700399	OVERHAULED		
12. Remark	(\$						
	ICE SPECIFIED HAS BEEN ACCOM	PLISHED IN ACCORDANCE WITH:					
IRM 49-2	4-79 Rev 8, JAN/30/2015						
	HH.DD (HH:MM) 26386.56 (26386:34)						
TSN CSN	26386.56 (26386:34) 18417.00						
TSO	0.00 (0:00)						
CSO	0.00						
120 Portific	es that the items identified above were	manufactured in conformity to:	14a XI Part-145 A 50	Release to Service Otl	ner regulation specified in block 12		
	oproved design data and are in conditi	and the same of th	_				
	on-approved design data specified in b		and described in bloc		, the work identified in block 11 cordance with Part-145 and in for release to service.		
13b. Author	ised Signature	13c. Approval/Authorisation Number	14b. Authorised Signat	ure	14c. Certificate/Approval Ref. No		
				Mont ( 00 3)	EASA.145.0076		
13d. Name		13e. Date (dd mmm yyyy)	14d. Name		14e. Date (dd mmm yyyy)		
			Ramesh Ramadoss		09 MAR 2015		
This certificat	LER RESPONSIBILITIES e does not automatically constitute authority						
		regulation of an alrworthiness authority different the from the airworthiness authority specified in block		cified in block 1, it is essential tha	t the user/installer		
	blocks 13a and 14a do not constitute instally the user/installer before the aircraft may be	lation certification. In all cases aircraft maintenance of flown.	records must contain an installation	on certification issued in accordance	e with the national		



Approving Civil Aviation     Authority/Country:		2. <b>AU</b>	AUTHORIZED RELEASE CERTIFICATE 3. Form Tracking Number: 20150000558938Y03							
	/United States	FAA Fo	orm 8130-3, AIRWOF	RTHINESS AP	PROVAL TA	4G	320243301			
4. Orga	anization Name and Address:	Honeywell Aerospace Si (Gul Circle) 161 Gul Circle Singapore 629619	ngapore Pte Ltd	Repair Station FT4Y192M			5. Work Order/0 NP5300937 320093301 Page 1 of 1	Contract/Invoice Number:		
6 Item:	7. Description:		8. Part Number:		9. Quantity:	10. Serial Number	er:	11. Status / Work:		
001	ROTOR ASSY 1STG		3842151-3	-	1	970335700399		OVERHAULED		
12. I	Remarks:									
	SERVICE SPECIFIED HAS	BEEN ACCOMPLISHED IN	ACCORDANCE WITH:							
IRM	49-24-79 Rev 8, JAN/30	7/2015				,				
				•						
	HH.DD (HH:MM	1)								
TSN	26386.56 (26386)	34)								
CSN	18417.00									
TSO	0.00 (0:00)									
CSO	0.00									
	ATTACHED DOCUMENTS AS API			57						
13a. C	edifies the items identified ab	ove were manufactured in c	onformity to:	14a. 🛛 14 CFI	R 43.9 Return to \$	Service Other	regulation specif	fied in Block 12		
Approved design data and are in a condition for safe operation.  Non-approved design data 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. A	Authorized Signature:	13c. Appr	roval/Authorization No.:	14b. Authorized S		(NEX)	14c. App	roval/Certificate No.:		
					Mona	met (2005)	FT4Y19	2M		
13d. N	lame (Typed of Printed):	13e. Date	e(dd/mmm/yyyy);	14d. Name (Type	d or Printed):		14e. Date	e (dd/mmm/yyyy):		

Ramesh Ramadoss

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/propeller/article. 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 Block1, 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 Block1. Statements in Blocks 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.

09/MAR/2015

NSN: 0052 - 00 - 012 - 9005

#### Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

SINGAPORE 629619 Date:08 MAR 2015

**Configuration And Findings Evaluation** 

Repair Order: 2015-005008278764-001

Customer: 318657 MALAYSIA AIRLINES SUBANG

320243301

Customer P/O: NP5300937

**Orig Cust:** 

Part Number: 3842151-3

Part Desc: ROTOR ASSY 1STG

Serial No: 970335700399

Mods:

Series/Issue/Amdts:

Quantity: 1 Aircraft tail#: Ship Date: 08 MAR 2015

Aircraft S/N#:

**Received Date:** 

Engine S/N:

Date on:

Date off:

Model #: APU 331-500/600

HH.DD

(HH:MM)

Alternate S/N:

TIMES/CYCLES

26386.56

(26386:34)

18417.00

# CUSTOMER REASON FOR RETURN

Overhaul

# GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

**Eroded** 

Corrosion/Corroded

FIRE, FLAMES FROM TAILPIPE

DETAIL DISASSEMBLY / EVALUATION FINDINGS

ALL BLADE TIPS ERODED & PLATFORM OF BLADES CORRODED, REPLACE ALL.

REASSEMBLE & BALANCE. TSN/CSN: 26386:34 & 18417

SERVICE BULLETINS / AUTHORIZING DOCUMENTS

**Authorizing Technical Document** 

Complied With:

Doc#: IRM 49-24-79 Rev: 8 Date: 30.01.2015

WORK PERFORMED / COMMENTS TO CUSTOMER

Markscape Performed / Summar/ of Actions Take)

UNIT INSPECTEED & OVERHAULED IAW IRM. ALL BLADES REPLACED WITH NEW BLADES. ASSEMBLE &

Page: 1 of 2

Honeywell Aerospace Singapore Pte Ltd co Honeywell Aerospace Singapore Pte Ltd 161 Gul Circle

# Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

SINGAPORE 629619 Date:08 MAR 2015

**Configuration And Findings Evaluation** 

Repair Order: 2015-005008278764-001

Customer: 318657 MALAYSIA AIRLINES SUBANG

320243301

Customer P/O: NP5300937

**Orig Cust:** 

Part Number: 3842151-3

Part Desc: ROTOR ASSY 1STG

**Serial No:** 970335700399

Mods:

Series/Issue/Amdts:

**Quantity** 1

**Ship Date:** 08 MAR 2015

**Received Date:** 

BALANCE CARRIED OUT. FPI PERFORMED ON DISK AT SUPERIOR SERVICE ORDER.

Overhaul

FINAL CONFIGURATION Part No: 3842151-3

S/N: 970335700399

Series/Issues/Amdts:

Mods:

MECHANIC/ANALYST Beng Chong Koh

**DATE: 23 FEB 2015** 

Page: 2 of 2

Ramesh Ramadoss



09 MAR 2015

	g Competent Authority/Country	2. AUTHOR	AUTHORISED RELEASE CERTIFICATE				
EASA			FARA FORM 4		320244002		
4. Organisa	tion Name and Address: Honeyw (Gul Circ 161 Gul Singapo	ole)	EASA FORM 1		5. Work Order/Contract/Invoice NP5300937 320093301 Page 1 of 1		
6. Item	7. Description	8. Part No	9. Quantity	10. Serial No.	11. Status/Work		
001	ROTOR ASSY TURB - 2STG	3842155-4	1	960335701592	OVERHAULED		
12. Remarks							
	HH.DD (HH:MM) 26386.56 (26386:34) 18417.00 0.00 (0:00) 0.00	PLISHED IN ACCORDANCE WITH:					
13a. Certifie	s that the items identified above were	manufactured in conformity to:	14a. X Part-145.A.50	Release to Service Oth	ner regulation specified in block 12		
	proved design data and are in conditi n-approved design data specified in t	and the same of th	and described in bloc	otherwise specified in block 12 ck 12, was accomplished in acc the items are considered ready			
13b. Authori	sed Signature	18c. Approval/Authorisation Number	14b. Authorised Signat	Maneger 300	14c. Certificate/Approval Ref. No EASA. 145. 0076		
13d. Name		13e. Date (dd mmm yyyy)	14d. Name		14e. Date (dd mmm yyyy)		
			Ramesh Ramadoss		09 MAR 2015		
This certificate Where the use ensures that h Statements in	is/her airworthiness authority accepts item	regulation of an airworthiness authority different tha s from the airworthiness authority specified in block lation certification, in all cases aircraft maintenance r	k 1.				



**AUTHORIZED RELEASE CERTIFICATE** 1. Approving Civil Aviation 2. 3. Form Tracking Number: 20150000558986Y03 Authority/Country: FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG 320244002 FAA/United States 4. Organization Name and Address: Honeywell Aerospace Singapore Pte Ltd 5. Work Order/Contract/Invoice Number: Repair Station NP5300937 (Gul Čircle) FT4Y192M 161 Gul Circle 320093301 Singapore 629619 Page 1 of 1 8. Part Number: 9. Quantity: 10. Serial Number: 6.ltem: 7. Description: 11. Status / Work: **ROTOR ASSY TURB - 2STG** 3842155-4 960335701592 **OVERHAULED** 001 12. Remarks: THE SERVICE SPECIFIED HAS BEEN ACCOMPLISHED IN ACCORDANCE WITH: IRM 49-24-79 Rev 8, JAN/30/2015 HH . DD (HH:MM) TSN (26386:34) 26386.56 CSN 18417.00 0.00 (0:00)TSO 0.00 CSO

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

13a. Certifies the items identified above were manuface.  Approved design data and are in a cond Non-approved design data specified in E	ition for safe operation.	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.: FT4Y192M			
13d. Name (Typed of Printed):	13e. Date(dd/mmm/yyyy):	14d. Name (Typed or Printed):	14e. Date (dd/mmm/yyyy):			
		Ramesh Ramadoss	09/MAR/2015			

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/propeller/article. 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 Block1, 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 Block1. Statements in Blocks 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.

FAA FORM 8130 - 3 (02-14)

NSN: 0052 - 00 - 012 - 9005

## Commercial

Customer: 318657 MALAYSIA AIRLINES SUBANG

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

Date on:

SINGAPORE 629619 Date:08 MAR 2015

**Configuration And Findings Evaluation** 

Repair Order: 2015-005008278969-001

320244002

Customer P/O: NP5300937

**Orig Cust:** 

Part Number: 3842155-4

Part Desc: ROTOR ASSY TURB - 2STG Serial No: 960335701592

Mods:

Series/Issue/Amdts:

TIMES/CYCLES

Quantity: 1 Aircraft tail#:

Model #: APU 331-500/600

Ship Date: 08 MAR 2015

Aircraft S/N#:

Engine S/N:

HH.DD (HH:MM)

26386.56 (26386:34)

**Received Date:** 

Alternate S/N:

Date off:

18417.00

CUSTOMER REASON FOR RETURN

Overhaul

GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

DETAIL DISASSEMBLY / EVALUATION FINDINGS

Eroded

Rubbed/Abraded

FIRE, FLAMES FROM TAILPIPE

ALL BLADE L/EDGES ERODED & TIPS RUBBED, REASSEMBLE & BALANCE, TSN/CSN:

26386:34 & 18417

SERVICE BULLETINS / AUTHORIZING DOCUMENTS

**Authorizing Technical Document** 

Complied With:

Doc#: IRM 49-24-79 Rev: 8 Date: 30.01.2015

WORK PERFORMED / COMMENTS TO CUSTOMER

Workscope Performed / Summary of Actions (alich

UNIT INSPECTED & OVERHAULED IAW IRM, ALL BLADES RE-WORKED ON SUB-SERVICE ORDERS.

Page: 1 of 2

#### Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

SINGAPORE 629619 Date:08 MAR 2015

**Configuration And Findings Evaluation** 

Repair Order: 2015-005008278969-001

Customer: 318657 MALAYSIA AIRLINES SUBANG

320244002

Customer P/O: NP5300937

**Orig Cust:** 

Part Number: 3842155-4

Part Desc: ROTOR ASSY TURB - 2STG

Serial No: 960335701592

Mods:

Series/Issue/Amdts:

Quantity 1

**Ship Date:** 08 MAR 2015

**Received Date:** 

RE-ASSEMBLE & BALANCE CARRIED OUT. FPI PERFORMED ON DISK AT SUPERIOR SERVICE ORDER.



Overhaul

FINAL CONFIGURATION Part No: 3842155-4

S/N: 960335701592

Series/Issues/Amdts:

Mods:

MECHANIC/ANALYST Chin Cheng See

**DATE: 25 FEB 2015** 

Page: 2 of 2

1. Country: 2.  Malaysia			2 . Departm	Department of Civil Aviation Malaysia  AUTHORIZED RELEASE CERTIFICATE  AIRWORTHINESS APPROVAL TAG						3. Form Tracking Number: 20150000558947Y18 320243274  5. Work Order/Contract/Invoice: NP5300937 320093301 Page 1 of 1	
4. Approved Organization Name and Address: Honeywell Address: (Gul Circle) 161 Gul Circle Singapore 62											
6.Item:	7. Description:				8. Part No:	9. Elig	bility:	10. Qty:	11. Serial / Batch		12. Status / Work:
001	TURBINE ROTO	R ASSY	, BLADED 3				IOWN	1	970134505954		OVERHAULED
THE	Remarks : SERVICE SPECIFI 49-24-79 Rev 8,			PLISHED IN	ACCORDANCE WITH:						•
	HH . DD	(HH:MM	•								
TSN	26386.56	(26386:	34)								
CSN	18417.00										
TSO CSO	0.00	(0:00)									
SEE A	TTACHED DOCUMENTS	AS APPL	icable for	WORK PERFOR	:MED						
14. CE	rtifies the items iden	tified abov	e were manu	factured in co	onformity to:	19. 🛛	VICAR Reg. 3	0: Release to	Service Oth	er regulation	specified in Block 13
14. Certifies the items identified above were manufactured in conformity to:  Approved design data and are in condition for safe operation.  Non-approved design data specified in Block 13.					Certifies to described work the in	19. MCAR Reg. 30; Release to Service  Other regulation specified in Block 13 Certifies that unless otherwise specified in Block 13, the work identified in Block 12 and described in Block13, was accomplished in accordance with JAR-145 and in respect to that work the items are considered ready for release to service.					
15. Au	thorised Signature:			16. Appr	oval/Authorisation Number:	20. Author	ised Signatur	e: Mogenes	(4 C C C C C C C C C C C C C C C C C C		ertificate/Approval Ref. No.: 0037/78
17. Na	ıme:	***************************************		18. Date	(dd mmm yyyy):	22. Name:			23. D	ate (dd mmm yyyy):	
					Ramesh Ramadoss 09 MAR 2015				AR 2015		



Approving Civil Aviation     Authority/Country:		2. AUTH	<b>IORIZED REL</b>	EASE CEDI	CIEICATE		3. Form Trackin	a Number
						•	20150000558946Y03	
	/United States	FAA Forr	n 8130-3, AIRWO	RTHINESS AP	PROVAL T	AG	320243274	
4. Orga		Honeywell Aerospace Singa (Gul Circle) 161 Gul Circle Singapore 629619	Repair Station FT4Y192M	Repair Station FT4Y192M			5. Work Order/Contract/Invoice Number: NP5300937 320093301 Page 1 of 1	
6.ltem:	7. Description:		8. Part Number:		9. Quantity:	10. Serial Numb	er:	11. Status / Work:
001	TURBINE ROTOR ASSY	, BLADED 3RD STAGE	3842160-5		1	97013450595	4	OVERHAULED
				_				
12. 1	Remarks:							
THE	SERVICE SPECIFIED HAS	BEEN ACCOMPLISHED IN AC	CORDANCE WITH:					
IRM	49-24-79 Rev 8, JAN/30	)/2015						
	HH.DD (HH:MM	1)						
TSN	26386.56 (26386:	:34)						
CSN	18417.00							
TSO	0.00 (0:00)							
CSO	0.00							
SEE	ATTACHED DOCUMENTS AS AP	PLICABLE FOR WORK PERFORMEN	)					
					•			
13a. C	ertifies the items identified ab	ove were manufactured in confo	ormity to:	14a. 🛛 14 CFI	R 43.9 Return to	Service Othe	r regulation speci	fied in Block 12
		and are in a condition for safe of data specified in Block 12.	peration.	described in Block	12 was accomp	cified in Block 12, the dished in accordance to that work, the ite	with Title 14, Co	
13b. A	authorized Signature:	13c. Approva	I/Authorization No.:	14b. Authorized S	ignature:		14c. App	roval/Certificate No.:
	_				Mazan	ur ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( (	FT4Y19	2M

14d. Name (Typed or Printed):

Ramesh Ramadoss

13e. Date(dd/mmm/yyyy);

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/propeller/article. 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 Block1, 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 Block1. Statements in Blocks 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.

14e. Date (dd/mmm/yyyy):

09/MAR/2015

13d. Name (Typed of Printed):

A Companisation Name and Address: Honeywell Aerospace Singapore Pte Ltd (Gul Circle) 161 Gul Circle Singapore 629619  8. Part No 101 TURBINE ROTOR ASSY, BLADED 3RD 3842160-5 STAGE  2. Remarks THE SERVICE SPECIFIED HAS BEEN ACCOMPLISHED IN ACCORDANCE WITH:	EASA FORM 1  9. Quantity	10. Serial No. 970134505954	20150000558945Y02 320243274  5. Work Order/Contract/Invoice NP5300937 320093301 Page 1 of 1 11. Status/Work OVERHAULED		
. Organisation Name and Address: Honeywell Aerospace Singapore Pte Ltd (Gul Circle) 161 Gul Circle Singapore 629619  6. Item 7. Description 8. Part No 101 TURBINE ROTOR ASSY, BLADED 3RD 3842160-5 STAGE 3842160-5	9. Quantity		5. Work Order/Contract/Involce NP5300937 320093301 Page 1 of 1 11. Status/Work		
(Gul Circle) 161 Gul Circle Singapore 629619  Item 7. Description 8. Part No  TURBINE ROTOR ASSY, BLADED 3RD 3842160-5 STAGE  2. Remarks	9. Quantity		NP5300937 320093301 Page 1 of 1 11. Status/Work		
(Gul Circle) 161 Gul Circle Singapore 629619  Item 7. Description 8. Part No  TURBINE ROTOR ASSY, BLADED 3RD 3842160-5 STAGE  2. Remarks			NP5300937 320093301 Page 1 of 1 11. Status/Work		
161 Gul Circle Singapore 629619  Item 7. Description 8. Part No  TURBINE ROTOR ASSY, BLADED 3RD 3842160-5 STAGE 3842160-5			320093301 Page 1 of 1  11. Status/Work		
Singapore 629619  Item 7. Description 8. Part No  TURBINE ROTOR ASSY, BLADED 3RD 3842160-5  STAGE 3842160-5			Page 1 of 1  11. Status/Work		
01 TURBINE ROTOR ASSY, BLADED 3RD 3842160-5 STAGE  2. Remarks			Page 1 of 1  11. Status/Work		
01 TURBINE ROTOR ASSY, BLADED 3RD 3842160-5 STAGE  2. Remarks					
STAGE  2. Remarks	1	970134505954	OVERHAULED		
IRM 49-24-79 Rev 8, JAN/30/2015					
HH.DD (HH:MM)  TSN 26386.56 (26386:34)  CSN 18417.00  TSO 0.00 (0:00)  CSO 0.00					
		·			
13a. Certifies that the items identified above were manufactured in conformity to:	14a X Part-145 A 5	50 Release to Service Othe	er regulation specified in block 12		
approved design data and are in condition for safe operation non-approved design data specified in block 12	ta and are in condition for safe operation  Certifies that unless otherwise specified in block 12, the work identified in block 11				
13b. Authorised Signature 13c. Approval/Authorisation Number	14b. Authorised Signa	ature EWE	14c. Certificate/Approval Ref. No		
		M. Maner - ( )	EASA.145.0076		
13d. Name 13e. Date (dd mmm yyyy)	14d. Name	•	14e. Date (dd mmm yyyy)		
	Ramesh Ramadoss		09 MAR 2015		
USER/INSTALLER RESPONSIBILITIES	- Names Ramados		OF FEM. SVIJ		
This certificate does not automatically constitute authority to install the item(s).					
Where the user/installer performs work in accordance with regulation of an airworthiness authority different than	the airworthiness authority spe	ecified in block 1, it is essential that t	he user/installer		
ensures that his/her airworthiness authority accepts items from the airworthiness authority specified in block Statements in blocks 13a and 14a do not constitute installation certification. In all cases aircraft maintenance rec	•				

regulations by the user/installer before the aircraft may be flown.

18417.00

Commercial

161 Gul Circle SINGAPORE 629619 Date:08 MAR 2015

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

Customer: 318657 MALAYSIA AIRLINES SUBANG

**Configuration And Findings Evaluation** 

Repair Order: 2015-005008278762-001

320243274

Customer P/O: NP5300937

**Orig Cust:** 

Part Number: 3842160-5

Part Desc: TURBINE ROTOR ASSY,

**BLADED 3RD STAGE** 

Mods:

Series/Issue/Amdts:

Quantity: 1 Aircraft tail#: Ship Date: 08 MAR 2015

Aircraft S/N#:

**Received Date:** 

Date on:

Date off:

Serial No: 970134505954

Engine S/N:

Model #: APU 331-500/600

HH.DD

(HH:MM)

Alternate S/N:

TIMES/CYCLES

26386.56

(26386:34)

# CUSTOMER REASON FOR RETURN

Overhaul

# GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

Nicked

FIRE, FLAMES FROM TAILPIPE

## DETAIL DISASSEMBLY / EVALUATION FINDINGS

ALL DISK PINS WORN, BLADE LÆDGES NICKED, BALANCE, TSN/CSN: 26386:34 & 18417

SERVICE BULLETINS / AUTHORIZING DOCUMENTS

# **Authorizing Technical Document**

Complied With:

Doc#: IRM 49-24-79 Rev: 8 Date: 30.01.2015

# WORK PERFORMED / COMMENTS TO CUSTOMER

UNIT INSPECTED & OVERHAULED IAW IRM. ALL DISK PINS REPLACED WITH NEW PINS. HAND BLEND & SMOOTHEN BLADES L/E'S, FPI & BALANCE CARRIED OUT.

Action Taken Code

Overhaul

Customer Continues Femoral Relation:

Evaluation Type

Page: 1 of 2

Honeywell Aerospace Singapore Pte Ltd co Honeywell Aerospace Singapore Pte Ltd 161 Gul Circle

#### Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

SINGAPORE 629619 Date:08 MAR 2015

**Configuration And Findings Evaluation** 

**BLADED 3RD STAGE** 

Repair Order: 2015-005008278762-001

Customer: 318657 MALAYSIA AIRLINES SUBANG

320243274

Customer P/O: NP5300937

**Orig Cust:** 

Part Number: 3842160-5

Part Desc: TURBINE ROTOR ASSY,

Serial No: 970134505954

Mods:

Series/Issue/Amdts:

Quantity 1

Ship Date: 08 MAR 2015

**Received Date:** 

FINAL CONFIGURATION Part No: 3842160-5

S/N: 970134505954

Series/Issues/Amdts:

Mods:

MECHANIC/ANALYST Beng Chong Koh

Page: 2 of 2

**DATE: 23 FEB 2015** 

1. Country: 2 . Department of Civi		AVIATION Malaysia  AUTHORIZED RELEASE CERTIFICATE  AIRWORTHINESS APPROVAL TAG				3. Form Tracking Number: 20150000580130Y18 320093302 5. Work Order/Contract/Invoice: NP5300937 320093301 Page 1 of 1			
4. Approved Organization Name and Address: Honeywell Aerospace Singapore Pte Ltd (Gul Circle) 161 Gul Circle Singapore 629619			Repair Station AO/0037/78						
6.ltem:	7. Description:		8. Part No:	9. Eligibility:	10. Qty:	11. Serial / Batch N	lo: 12. Status / Work		
001	ENGINE OUTLINE GAS	TURBINE	3800550-1	UNKNOWN	1	P-1154	OVERHAULED		
13 , I	temarks :	22700000000000000000000000000000000		CONTINUED:					
THE	SERVICE SPECIFIED HAS	BEEN ACCOMPLISHED	IN ACCORDANCE	TSN: 26386:34 CSI	N: 18417 IS	AT POINT OF INS	STALLATION FOR		
WITH:SPM 20-00-02/70-00-01 Rev 18, JUN/14/2013			COMPUTATION OF LLP CYCLES AND WAS DERIVED FROM DMM.						
IRM 49-24-79 Rev 7, MAY/29/2014			DMM HRS/CYCLES ON RELEASE IS 26388:34/18423						
	49-26-55 Rev 16, MAY/2			(2:00 HRS AND 6	CYCLES USEI	IN APU FINAL TE	ESTING).		
EM 49-26-57 Rev 19, OCT/17/2014				SHIPPED LESS GENERATOR COVER PN 3862212-3 AND					
CMM 49-42-05 Rev 2, NOV/11/2014				BOOT TERMINAL PN 2709968-1.					
	IRWORTHINESS DIRECTIVE		HIS APU.	TSN: 26386:34 C		TSO: 00 CSO:	: 00		
	R TO FORM GTCP331-500B								
FOR	LIFE LIMITED PARTS.								
For	Service Bulletin compl	ied							
	attached Service Reco		in Compliance						
TEXT	CONTINUED ON RIGHT SI	DE	-						
SEE A'	TTACHED DOCUMENTS AS APPL	ICABLE FOR WORK PERI	FORMED						
14. Ce	rtifies the items identified above	e were manufactured in	conformity to:	19. MCAR Reg. 3	0; Release to	Service  Other	regulation specified in Block 13		
Approved design data and are in condition for safe operation.  Non-approved design data specified in Block 13.			Certifies that unless otherwise specified in Block 13, the work identified in Block 12 and described in Block13, was accomplished in accordance with JAR-145 and in respect to that work the items are considered ready for release to service.						
15. Au	thorised Signature:	16. Ar	pproval/Authorisation Number:	20. Authorised Signatur	e: M	(\$ 00 k)	21. Certificate/Approval Ref. No.: AO/0037/78		
17. Na	me:	18. Da	ate (dd mmm yyyy):	22. Name:			23. Date (dd mmm yyyy):		
				Stephen Lee (Steph	en Lee Kok	Neo)	18 MAR 2015		

1. Approvin	g Competent Authority/Country	<sup>2.</sup> AUTHO	RISED RELEAS	3. Form Tracking Number 20150000580132Y02		
EASA					320093302	
			EASA FORM 1			
4. Organisa	tion Name and Address: Honeywell a (Gul Circle) 161 Gul Cir Singapore	rcie		5. Work Order/Contract/Invoice NP5300937 320093301		
A 14		8. Part No	0.0	10. Serial No.	Page 1 of 1	
6. Item	7. Description		9. Quantity		11. Status/Work	
001	ENGINE OUTLINE GAS TURBINE	3800550-1	1	P-1154	OVERHAULED	
WITH:SPM IRM 49-24 IPC 49-26 EM 49-26 CMM 49-42 NO AIRWOO REFER TO FOR LIFE FOR SERV. See atta	S ICE SPECIFIED HAS BEEN ACCOMPLE 20-00-02/70-00-01 Rev 18, JUN, 4-79 Rev 7, MAY/29/2014 6-55 Rev 16, MAY/28/2013 -57 Rev 19, OCT/17/2014 2-05 Rev 2, NOV/11/2014 RTHINESS DIRECTIVES APPLICABLE FORM GTCP331-500B-G16-R.6 ATTA LIMITED PARTS. ice Bulletin complied ched Service Record Service I	/14/2013 TO THIS APU. ACHED	CONTINUED: TSN: 26386:34 CSN: 18417 IS AT POINT OF INSTALLATION FOR COMPUTATION OF LLP CYCLES AND WAS DERIVED FROM DMM. DMM HRS/CYCLES ON RELEASE IS 26388:34/18423 (2:00 HRS AND 6 CYCLES USED IN APU FINAL TESTING). SHIPPED LESS GENERATOR COVER PN 3862212-3 AND BOOT TERMINAL PN 2709968-1. TSN: 26386:34 CSN: 18417 TSO: 00 CSO: 00			
□ ар	s that the items identified above were ma proved design data and are in condition for n-approved design data specified in block	or safe operation	Certifies that unless of and described in block	therwise specified in block	Other regulation specified in block 12 12, the work identified in block 11 accordance with Part-145 and in ady for release to service.	
13b. Authori	sed Signature	Approval/Authorisation Number	14b. Authorised Signate	ure (FON O)	14c. Certificate/Approval Ref. No EASA. 145.0076	
13d. Name	13e	e. Date (dd mmm yyyy)	14d. Name		14e. Date (dd mmm yyyy)	
			Stephen Lee (Stephe	en Lee Kok Neo)	18 MAR 2015	
This certificate Where the use ensures that hi Statements in	ER RESPONSIBILITIES does not automatically constitute authority to in r/installer performs work in accordance with reg- is/her alrworthiness authority accepts items from blocks 13a and 14a do not constitute installation the user/installer before the aircraft may be fine	ulation of an airworthiness authority different them the airworthiness authority specified in bloom certification. In all cases aircraft maintenance	ck 1.	·		

Auth	roving Civil Aviation nority/Country:		ORIZED RELE 1 8130-3, AIRWOR	3. Form Tracking Number: 20150000580131Y03 320093302					
4. Orga		Honeywell Aerospace Singar (Gul Circle) 161 Gul Circle Singapore 629619	pore Pte Ltd	re Pte Ltd Repair Station FT4Y192M				Contract/Invoice Number:	
6.Item	7. Description:		8. Part Number:	8. Part Number: 9. Quantity:			er:	11. Status / Work:	
001	ENGINE OUTLINE GAS	TURBINE	3800550-1		1	P-1154		OVERHAULED	
THE WITH IRM IPC EM 4 CMM NO P REFE FOR FOR See TEXT	49-24-79 Rev 7, MAY/29 49-26-55 Rev 16, MAY/29 49-26-57 Rev 19, OCT/17 49-42-05 Rev 2, NOV/11 AIRWORTHINESS DIRECTIVE ER TO FORM GTCP331-500E LIFE LIMITED PARTS. Service Bulletin compl attached Service Reco	2/2014 18/2013 1/2014 1/2014 IS APPLICABLE TO THIS APU 1-G16-R.6 ATTACHED 1.ied ord Service Bulletin Com	1.	COMPUTATION C DMM HRS/CYCLE (2:00 HRS AND SHIPPED LESS	OF LLP CYCLES OF SES ON RELEASE OF CYCLES USE GENERATOR COV OF PN 2709968-1		FROM DMM. 23 TESTING).	FOR	
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. A	authorized Signature:	13c. Approval/	Authorization No.:	14b. Authorized Si	gnature:	32 6 2 0C 5	14c. Appr FT4Y192	roval/Certificate No.:	
13d. N	lame (Typed of Printed):	13e. Date(dd/r	nmm/yyyy):	14d. Name (Typed or Printed): 14e. Date (dd/mmn					

Stephen Lee (Stephen Lee Kok Neo)

18/MAR/2015

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/propeller/article. 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 Block1, 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 Block1. Statements in Blocks 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.

FAA FORM 8130 - 3 (02-14) NSN: 0052 - 00 - 012 - 9005

## GTCP 331-500[B] PERFORMANCE DATA SHEET

	32009330 <u>2</u> CP331-500[B]	PART NUMBER :	3800550-1	SERVICE ORDER :	
OPERATION TEXT :	LAB TEST			MANUAL	EM 49-26-57
OPERATION NO :	A.C.O.			REVISION :	19
QUANTITY		UNITS	NO LOAD	103°F ECS MODE	103°F MES MODE
BAROMETRIC PRESSURE		PSIA	14.66	14.66	14.66
FUEL INLET PRESSURE		PSIG	24.1	21.3	21.2
OIL PUMP DISCHARGE PRESSURE	, <u>, , , , , , , , , , , , , , , , , , </u>	PSIG	68.0	67.8	67.8
OIL PUMP DISCHARGE TEMPERATUR	E	°F	156	157	157
GEARBOX PRESSURE		PSIA	15.20	15.21	15.20
COMPRESSOR INLET TEMPERATURE	MEASURED	°F	86.6	87.1	87.8
APU INLET TEMPERATURE (T2) (ARIN	C)	°F	90.5	90.8	91.3
TURBINE DISCHARGE	UPPER (EGT 1)	°F	708.3	1069.7	1093.1
TEMPERATURE (UNIT RAKES)	LOWER (EGT 2)	٥F	702.6	1075.9	1105.2
EXHAUST GAS TOTALTEMPERATURE	(LA MEASURED	٥F	723.2	1073.3	1101.8
	CORRECTED	°F		1118.9	1115.1
ORIFICE INLET AIR PRESSURE		* Hg		76.2	88.9
ORIFICE INLET TEMPERATURE		°F		400.3	411.9
ORIFICE DELTA PRESSURE		" H₂O		60.37	25.06
IGV POSITION** (IGVPOS)		DEGREES		12.5	5.0
IGV PERFORMANCE ADJ (IGVPERADJ	)	DEGREES		5.0	
BLEED AIRFLOW	ACTUAL	LBS/MIN		480.96	328.72
	CORRECTED	LBS/MIN		465.4	298.7
RESTRICTED AIRFLOW (DISC. CORR.	FLOW)	LBS/MIN		166.14	106.01
BLEED AIR TOTAL PRESSURE	INDICATED	PSIA		55.2	59.5
	CORRECTED	PSIA		53.9	54.3
BLEED AIR TOTAL TEMPERATURE	INDICATED	٥F		411.2	423.4
	CORRECTED	٥F		426.9	430.2
UNIT VIBRATION	ACCESSORY	IN/SEC	0.32	0.28	0.33
	TURBINE	IN/SEC	0.22	0.37	0.30
TURBINE WHEEL SPEED		RPM	39141	39102	38957
SHAFT LOAD	APPLIED	SHP		180.2	180.2
	CORRECTED	SHP		180.6	180.6
FUEL CONSUMPTION	INDICATED	LBS/HR	337.6	641	659
	CORRECTED	LBS/HR		634.45	623,31

TEST TECHNICIAN	:	TEST 09	QUALITY CONTROL	:	W. Exwer is
		Stamp & Sign			Stamp & Sign
DATE	:	18-Mar-2015	DATE	:	1 8 MAR 2015

FORM 331-500B-T-04 R18 (DDMMYY 301014)

#### **OPEN ITEM LIST**

SERVICE ORDER NO: 5008225314

APU PART NO:

3800550-1

APU MODEL: GTCP331-500B

CUSTOMER:

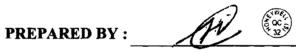
MAS

APU SERIAL NO:

P-1154

DATE: 18-Mar-15

ITEM	DESCRIPTION	PART NUMBER	MANUAL REF	QTY	REMARKS
1	GEN, COVER	3862212-3	49-26-55	1	NOT RECEIVED. SHIPPED LESS
2	TERMINAL PROTECTOR	2709968-1	49-42-02	1	NOT RECEIVED. SHIPPED LESS
					( STUEL





## Honeywell

ENGINE MODEL: 331-500B

SERVICE RECORD

SERVICE BULLETIN COMPLIANCE

PAGE: 1 of 1

ENGINE SERIAL NUMBER: P-1154

CUSTOMER: MALAYSIA AIRLINES SUBANG

REPAIR ORDER: 000320093301

MODULE: ENGINE PART: 3800550-1

SERVICE BULLETIN	REV	DESCRIPTION	ACCOMP	WHEN ACCOMP	Recurring
331-49-7555	1	AIRBORNE AUXILIARY POWER - GAS TURBINE E	Complied With	17/MAR/2015	
331-49-7698	1	AIRBORNE AUXILIARY POWER - GAS TURBINE E	Complied With	17/MAR/2015	
331-49-7810	0	AIRBORNE AUXILIARY POWER - GAS TURBINE E	Complied With	16/MAR/2015	
331-49-8022	0	AIRBORNE AUXILIARY POWER - GAS TURBINE E	Complied With	17/MAR/2015	
331-49-8058	0	AIRBORNE AUXILIARY POWER - GAS TURBINE E	Complied With	17/MAR/2015	
3505874-49-9008	0	AIRBORNE AUXILIARY POWER - AIR TURBINE S	Complied With	17/MAR/2015	
49-7046	0	REWRK DRVE SHFT ASSY PN 3503876-5 TO 350	Complied With	17/MAR/2015	
49-7997	4	STANDARD STORAGE AND PRESERVATION GUIDEL	Complied With	18/MAR/2015	Y
GTE1317	0	AUTHORIZE THE USE OF SECOND STAGE TURBIN	Complied With	16/MAR/2015	
SPB GTE1133	OR	REPL TURBINE STATOR SUPPORT	Complied With	16/MAR/2015	

Honeywell Aerospace Singapore Pte Ltd

INSPECTOR SIGNATURE:\_\_\_

DATE:

REPAIR STATION # FAA-EASA-CAAS-CAAC-JCAB

1 8 MAR 2015

## Honeywell

DATE	ACCL LAT ENG HOL HH. (HH:	ED SINE JRS DD	LA <sup>*</sup>	UMU- TED SINE SLES	ENGINE SERVICE RECORD  REMARKS, INSPECTIONS, REPAIRS, AND ADJUSTMENTS					
17/MAR/2015	TSN	TSO	CSN	CSO	P/N 3800550-1	S/N	P-1154			
	26386.56	0.00	18417	0	Model 331-500B	Serie				
	(26386:34)	(0:00)	<u> </u>				omer PO NP5300937			
					DESCRIPTION OF WO		···			
					DISASSEMBLED ENGINE TO ACCOMPLISH REPAIR FOR R		FOR NTE REPAIRS REASON			
					REMOVAL: NO BLEED AND TAIL PIPE FIRE. RE-ASSEMBLED ENGINE AND TESTED AS SPECIFIED. ALL WORK PERFORMED IN ACCORDANCE WITH MANUFACTURER'S MAINTENANCE MANUALS.					
					MANUALS	REV	DATED			
					20-00-02/70-00-01	18	14/JUN/2013			
					49-24-79	7	29/MAY/2014			
					49-26-57	19	17/OCT/2014			
					49-42-05	2	11/NOV/2014			
					INSPECTIONS COMPLI	ED WITH:				
					AS ABOVE					
					SERVICE BULLETINS	COMPLIED WITH	: SEE SERVICE BULLETIN LIST			
					PARTS REPAIRED OR	REPLACED THIS	S VISIT: SEE TRACE INPUT			
							PAGE			
NDC / LIFE LIMITED PARTS: SEE NDC FOR SER							LIFE LIMITED PARTS RECORD IZED COMPONENTS INSTALLED			
					RDANCE WITH THE  JLATION AND IS APPROVED  PERFORMED. PERTINENT  RDER NUMBER					
					000320093301					

Honeywell Aerospace Singapore Pte Ltd REPAIR STATION # FAA-EASA-CAAS-CAAC-JCAB

**INSPECTOR SIGNATURE:** 

DATE:

1 8 MAR 2015

Note: APU on release after testcell runs.

The TSN/CSN is as follows:

TSN: 26388:34 HRS

CSN: 18423 \_\_\_\_ CYCLES

Me 200 5

#### Honeywell Aerospace Singapore Pte Ltd (Gul Circle)



#### TURBINE ACCEPTANCE TAG AND TRACEABILITY INPUT LIFE LIMITED PARTS RECORD/TRACE INPUT PAGE

PART NO: 3800550-1

SERIAL NO: P-1154

**CUSTOMER: MAS** 

MODEL: GTCP331-500B

SERIES: 25

**DATE: 18-Mar-15** 

W/O NO: 5008225314

TSN: 26386:34 TSR: NA

TSO: 00

CSN: 18417

CSR: NA

CSO: 0

DESCRIPTION	PART NO	SERIAL NO	LOT NO	TSN	CSN	LIFE LIMITS (CYCLES)	REMARKS
D/COMP IMPELLER	3822612-1	11-182449-02712	-	5382:09	4219	27000	OVERHAULED
IST STG IMPELLER	3822483-1	960322903503	-	19632:52	13533	27000	OVERHAULED
2ND STG IMPELLER	3822341-5	14-182449-13712	151034005	00	00	27000	NEW
1ST T-WHEEL ASSY	3842151-3	970335700399					OVERHAULED
DISK PART NO	3842152-1	9/0555/00599	-	26386:34	18417	27000	OVERTINOLED
2ND T-WHEEL ASSY	3842155-4	960335701592	020200	· ·			OVERHAULED
DISK PART NO	3842156-1	900333701392	97P309	26386:34	18417	27000	OVERNACED
3RD T-WHEEL ASSY	3842160-5	970134505954	-	26386:34	18417	27000	OVERHAULED

#### **APU ACCESSORIES RECORD**

DESCRIPTION	PART NO.	SERIAL NO.	<u>SERIES</u>	CHG NOS	DISPOSITION CODES	REMARKS
STARTER CTRL VLV	3283076-5	374	1	•	3, 5	TESTED
AIR TURB STARTER	3505814-3	246	1	-	4, 5	OVERHAULED
STARTER MOTOR	2704442-5	77-385	2	-	3, 5	REPAIRED
FUEL CLUSTER	3879008-1	CUA10610	-	-	3, 5, 6	REPAIRED. TRANSFERRED FROM MAS APU P-1415
IGV ACTUATOR	3883499-3	0262	-	-	3, 5	TESTED
PNEU CLUSTER	3884863-7	P-304	1	-	3, 5	REPAIRED
CHECK VALVE	3202854-1	1100	1	-	3, 5	REPAIRED
SURGE CTRL VALVE	3290814-5	664C	-	•	3, 5	TESTED
LUBE CLUSTER	4131000-6	342C	1	-	3, 5	REPAIRED
AIR OIL COOLER	160488-2	77-339	2	-	3, 5	TESTED
TEMP CTRL VALVE	160536-1	77-286	2	-	3, 5	TESTED
IGNITION UNIT	3876195-8	020218034031	-	_	3, 5	TESTED
IGNITION SYS ASSY	3888275-9	020218034031	-	•	3, 5	REPAIRED
G/BOX ASSY	3805034-8	P-247	1	-	1, 3, 5	REPAIRED MODIFIED
DRIVEN COMP	3804011-8	P-254	-	-	4, 5	OVERHAULED
COMP MODULE	3826980-9	P-254		-	1, 4, 5	OVERHAULED MODIFIED
TURB MODULE	3844517-5	P-254	-		4, 5	OVERHAULED
DMM	304643-2	GE1392	1	•	0, 5	CLEANED AND VISUALLY INSPECTED

REMARKS: APU HOURS AND CYCLES ARE BASED AT THE POINT OF ASSEMBLY AND OBTAINED FROM THE DMM.

**DISPOSITION CODES:** 

0 = REUSE AND TEST ON APU. 1 = MODIFY/UPGRADE. 2 = FT FOR FINDINGS. 3 = FT AND REPAIR 4 = DISASSEMBLE AND REPAIR 5 = CLEAN PER CMM OR STANDARD PRACTICE, 6 = SCRAP & REPLACE.

**INSPECTOR SIGNATURE & STAMP:** 

FORM: GTCP331-500B-G16-R.6 (ddmmyy 290813)



The Headquarters, Maydwell Avenue, Slinfold, West Sussex, RH13 0AS, United Kingdom t: +44 1403 798000 f: +44 1403 710936 e: enquiries@ajw-aviation.com www.ajw-group.com

Shop Visit

Honeywell – July 2011

	g National Aviation ority/Country;	2. AI	JTHORIZI	ED REI	LEASE C	ERTIF	ICA'	TE	3. Form Tracki		
FAA/U	NITED STATES		FAA Form	3130-3, AIRW	ORTHINESS APP	ROVAL TAG			\$11/48197	4	
4. Organiza	tion Name and Address:	Honeywell Ae (Gul Circle) 161 Gul Circle Singapore 629			FT4Y192M 5. Work Order/Contract 756484-00 CUST PO: NP1307680						
5. Item:	7. Description	:	8. Part Number:	9.	Eligibility:*	10. Quantity:	11.	Serial/Bate	12. Status/Work:		
001	GTCP331-500B			1		P-1154		OVERHAULED			
13. Remarks						1					
	REFER TO FORM GOOS: REFER TO FORM GTCP: TSN: 21004:05, CSN: OF LLP CYCLES. APU ON RELEASE DMM PER CUSTOMER REQUE: B130-3/MALAYSIA AU: THIS WORK ORDER WI: BLOCK 5 ON THE CER:	B REV 1 FOR : 331-500B-G16 : 14198 IS A: TSN: 21006: ST CONCURREN: PHORISED RELITED THE SAME INTERIOR SAME IN	T RELEASE OF CERTIFIC BASE CERTIFICATE ARE PURCHASE ORDER NUMBER	LIANCE. LIMITED PAR ON FOR COMPU  ATES FAA FOR RELEASED ON	TATION	3 9 Deturn to Sorvey	len.	Other re	gulation specified in	Rlock 13	
4. Certifies	the items identified above w	ere manufacture	d in conformity to:			3.9 Return to Serv					13
Appr	oved design-data and are in	condition for saf	e operation.		Certifies that	unless otherwise s	specified in	block 13, the 14. Code of Fa	work identified in E	Block 12 and described in Block part 43 and in respect to that wor	k,
Non-	approved design data specif	ied in Block 13.				approved for retur			der ar regulations, p	and in respect to that was	
100	ed Signature:		16. Approval/Autho	orization No.:	20. Authorized Sign	ature:	100	(a) (c) (c) (d) (d) (d) (d) (d) (d) (d) (d) (d) (d	21.	Approval/Certificate No.: FT4Y192M	
17. Name (Ty	Ded or Printed):		18. Date (m/d/y):		22. Name (Typed or				23.	Date (m/d/y):	
				11		G KWOK KAU	(	1		JUL/22/2011	
	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	tongo of a con-	was at almost a transfer		staller Responsib		ambly				
Where the us his/her Airwo Statements i	er/installer work in accordary	nce with the natio	assemblies from the Airworthin	niness Authority di less Authority of th	fferent than the Airworth se country specified in blo	ness Authority of tock 1.	the country			that the user/installer ensures that all regulations by the user/installe	

\*Installer must cross-check eligibility with applicable technical data.

FAA Form 8130-3 (6-01)

NSN: 0052-00-012-9005

Honeywell A (Gul Circle)	Aerospace Singapore Pte Ltd	Engine Model:			HONEYWELL			
Singapore 6	329619	GT	CP331-500	В				
Part No:	3800550-1	Work Order:	756484-00	00	Date:	22-Jul-11		
Serial No:	P-1154	Series:	Series: 25		Customer:	MAS	IEM /	
TSN:	21004:05	TSO:	00		TSR:	NA		
CSN:	14198	CSO:	00		CSR:	NA		
		Eng	gine has b	een:				
Inspected		X		Full Perfor	mance Tested		X	
Repaired		NA		Functiona	Tested		NA	
Overhauled		X		Hot Section Inspected			NA	
Modified		Х						

Remarks:

TSN: 21004:05, CSN: 14198 IS AT POINT OF INSTALLATION FOR COMPUTATION OF LLP CYCLES. APU ON RELEASE DMM TSN: 21006:17, CSN: 14206

Quality Control Inspector Signature & Stamp Honeywell Aerospace Singapore Pte Ltd

Form No: G0302 R2 (041009)

## GTCP 331-500[B] PERFORMANCE DATA SHEET

WO NO	:_	756484	ENGINE P/N	:_	3800550-1	MANUAL	:	EM 49-26-57
MODEL	: _	GTCP 331-500[B]	ENGINE S/N	:_	P-1154	REVISION	:	16

QUANTITY		UNITS	NO LOAD	103°F ECS MODE	103°F MES MODE
BAROMETRIC PRESSURE		PSIA	14.62	14.62	14.62
FUEL INLET PRESSURE		PSIG	28.2	23.8	23.9
OIL PUMP DISCHARGE PRESSURE		PSIG	67.0	66.9	66.9
OIL PUMP DISCHARGE TEMPERATUR	₹E	°F	157	158	157
GEARBOX PRESSURE		PSIA	14.79	14.83	14.82
COMPRESSOR INLET TEMPERATURE	MEASURED	°F	95.3	94.6	94.9
APU INLET TEMPERATURE (T2) (ARIN	IC)	°۴	94.4	94.2	93.6
TURBINE DISCHARGE	UPPER (EGT 1)	°F	719.9	1070.3	1103.2
TEMPERATURE (UNIT RAKES)	LOWER (EGT 2)	°۶	717.3	1100.6	1129.4
EXHAUST GAS TOTALTEMPERATURE	MEASURED	°F	738.2	1106.7	1142.8
	CORRECTED	°F		1140.3	1143.4
ORIFICE INLET AIR PRESSURE		" Hg		75.9	87.1
ORIFICE INLET TEMPERATURE		°F		403.8	414.2
ORIFICE DELTA PRESSURE		" H₂O		59.05	25.32
IGV POSITION** (IGVPOS)		DEGREES		11.5	4.0
IGV PERFORMANCE ADJ (IGVPERADJ)		DEGREES		4.0	
BLEED AIRFLOW	ACTUAL	LBS/MIN		474.04	327.36
	CORRECTED	LBS/MIN		465.0	302.9
RESTRICTED AIRFLOW (DISC. CORR	FLOW)	LBS/MIN		165.44	107.05
BLEED AIR TOTAL PRESSURE	INDICATED	PSIA		54.7	58.8
	CORRECTED	PSIA		54.0	54.3
BLEED AIR TOTAL TEMPERATURE	INDICATED	°F		414.6	426.0
	CORRECTED	°F		423.4	426.3
UNIT VIBRATION	ACCESSORY	IN/SEC	0.32	0.37	0.38
	TURBINE	IN/SEC	0.61	0.42	0.52
TURBINE WHEEL SPEED		RPM	39048	39061	39051
SHAFT LOAD	APPLIED	SHP		179.8	179.8
	CORRECTED	SHP		180.7	180.7
FUEL CONSUMPTION	INDICATED	LBS/HR	336.6	636	663
	CORRECTED	LBS/HR		634.80	633.65

TEST TECHNICIAN	:	TEST 09 Sign	QUALITY CONTROL	<u>:</u>	Stamp & Sign
DATE	:	21-Jul-2011	DATE	<u>:</u>	2 2 JUL 201

FORM 331-500B-T-04 R13 (DDMMYY 200410)

## Honeywell

Honeywell Confidential

#### TURBINE ACCEPTANCE TAG AND TRACEABILITY INPUT

PART NO: 3800550-1

SERIAL NO: P-1154

**CUSTOMER: MAS** 

MODEL: GTCP331-500B

SERIES: 25

DATE: 22-Jul-11

W/O NO: 756484-000

TSN: 21004:05 TSR: NA TSO: 00

CSN: 14198 CSR: NA

CSO: 00

DESCRIPTION	PART NO	SERIAL NO	LOT NO	TSN	CSN	LIFE LIMITS (CYCLES)
D/COMP IMPELLER	3822612-1	11-182449-02712	112101098	00	00	27000
IST STG IMPELLER	3822483-1	960322903503	•	19632.86	13533	27000
2ND STG IMPELLER	3822341-4	020322905617	03P193	10343.58	8164	27000
IST T-WHEEL ASSY	3842151-3	070334700300				
DISK PART NO	3842152-1	970335700399	•	21004.08	14198	27000
2ND T-WHEEL ASSY	3842155-4	0/022/201/202	•			
DISK PART NO	3842156-1	960335701592		21004.08	14198	27000
3RD T-WHEEL ASSY	3842160-5	970134505954		21004.08	14198	27000

#### **APU ACCESSORIES RECORD**

DESCRIPTION	PART NO.	SERIAL NO.	SERIES	CHGNOS	REMARKS	
STARTER CTRL VLV	3283076-5	374	1	•		
AIR TURB STARTER	3505814-3	246	1	-		<del>-</del>
STARTER MOTOR	2704442-5	77-385	2	-		
FUEL CLUSTER	3879008-1	CUA10186	-	•		•
IGV ACTUATOR	3883499-3	0262		-	The second of th	
PNEU CLUSTER	3884863-7	P-304	1	• · · · · · · · · · · · · · · · · · · ·	The second secon	
CHECK VALVE	3202854-1	1100	1	•	· · · · · · · · · · · · · · · · · · ·	
SURGE CTRL VALVE	3290814-5	3290814/337C	• • • • • • • • • • • • • • • • • • •	-		
LUBE CLUSTER	4131000-6	342C		• ···· ·		:
AIR OIL COOLER	160488-2	77-339	2	• • • • • • • • • • • • • • • • • • •		
TEMP CTRL VALVE	160536-1	77-286	2	•		
IGNITION UNIT	3876195-8	020218034031	-			•
IGNITION SYS ASSY	3888275-9	UNK	-	•	the state of the s	
G/BOX ASSY	3805034-8	P-247	-	•	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
DRIVEN COMP	3804011-8	P-254	•	•		- 1
COMP MODULE	3826980-9	P-254	 -			•
TURB MODULE	3844517-5	P-254				
DMM	304643-2	GE1392	1	· :		

**REMARKS: NIL** 

INSPECTOR SIGNATURE & STAMP:

FORM: GTCP331-500B-G16-R3 (ddmmyy 030810)



The Headquarters, Maydwell Avenue, Slinfold, West Sussex, RH13 0AS, United Kingdom t: +44 1403 798000 f: +44 1403 710936 e: enquiries@ajw-aviation.com www.ajw-group.com

# Shop Visit

Honeywell – February 2006

Approvidg National Aviation
Authority/Country:

AUTHORIZED RELEASE CERTIFICATE

FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG

3. Form Tracking Number:

306/391846

FAA/UNITED STATES

Tomas GIAN 2 or Mrs.

. Organization Name and Address:

Honeywell

Honeywelf (Singapore) Pte Ltd 461 Gul Circle Singapore 629619

CUST. NAME: MALAYSIAN AIRLINE SYSTEM BHD

5. Work Order/Contract/Invoice Number: £92501-000

Order Entry No: 173896-001

CUST PO: NP5310706

R mi	7. Description:	8. Part Number:	9. £ligibility:**	10. Quantity:	11. Serial/Batch Number:	12. Status/Work:
1.	GTCP331-500B APU	3800550-1	N/A	1	P1154	REPAIRED
•						

1 marks:

RRPAIRED IAW EN 49-26-57 REV B.

NO PAA AIRWORTHINESS DIRECTIVES APPLICABLE TO THIS APU.

REFER TO FORM GOODS REV & FOR SERVICE BULLETIN COMPLIANCE.

REFER TO FORM GTCP331-500B-G16 R1 FOR CRITICAL LIFE LIMITED PARTS.

SHIPPED LESS COVER-GENERATOR PAD P/N 3862212-3.

TSN: 14120:43 CSN: 8018 TSR: 00 CSR: 09

NOTE: APU HOURS AND CYCLES ARE BASED ON DNB.

* Certifies the items identified above were manuf	factured in conformity to:	19. 14 CFR 43.9 Return to Service	Other regulation sp	reified in Block 13
Approved design data and are in condition	for safe operation.	1		ified in Block 12 and described in Block 13 dations, part 43 and in respect to that work,
$ \hat{f} $ Non-approved design data specified in Bloc	9k 13.	the items are approved for return to serv	ice.	
Vuthorized Signature:	16. Approval/Authorization No.:	20. Authorized Signature :	) () () () () () () () () () () () () ()	21. Approvn/Certificate No.: PT4Y192H
Same (Typed or Printed):	18. Date (m/d/y) :	22. Name (Typed or Printed):		23. Date (m/d/y) :
		NG KNOK KAU		FEB 23 2006
The second section of the desire that the second section is the second section of the second section s	User/Ins	taller Responsibilities	•	A. A.

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 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.

Seconts in block 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 or the arcraft may be flown.

KICKL MOTO NO 610 MIKS

## TURBINE ACCEPTANCE TAG & TRACEABILITY INPUT

PART NO:

3800550-1

SERIAL NO.:

P-1154

CUSTOMER:

MAS

MODEL:

GTCP331-500B

SERIES :

25

DATE

23 FEB 2006

W/O NO.:

692501

TSR/TSN:

00 / 14120:43

CSR/CSN:

00 / 8018

DESCRIPTION	PART NO.	SERIAL NO.	<u>LOT NO</u>	<u>TSN</u>	<u>CSN</u>	<u>LIFE</u> <u>LIMITS</u>
1ST T-WHEEL ASSY	3842151-3	LN97P284	970335700399	14120:43	8018	27000 CYC
2ND T-WHEEL ASSY	3842155-3	LN97P309	960335701592	14120:43	8018	27000 CYC
3RD T-WHEEL ASSY	3842160-5	LN97P319	970134505954	14120:43	8018	27000 CYC
1ST STG IMPELLER	3822483-1	LN97P057	960322903503	12749.50	7353	27000 CYC
2ND STG IMPELLER	3822341-4	LN03P193	020322905617	3460.22	1984	27000 CYC
DRIVEN COM IMP	3822468-3	LN05P141	050322901613	00	00	27000 CYC

#### **APU - ACCESSORIES RECORD**

AIR TURB STARTER 3505814-3 246 STARTER MOTOR 2704442-4 77-385 1 FUEL CLUSTER 3879008-1 CUA10186 IGV ACTUATOR 3883499-2 0262 PNEU CLUSTER 3884863-7 P304	DESCRIPTION	PART NO.	SERIAL NO.	<u>SERIES</u>	CHG NOS	REMARKS	
CHECK VALVE 3202610-5 581 1 SURGE CTRL VALVE 3290814-5 3290814/337C - LUBE CLUSTER 4131000-6 342C 1 AIR OIL COOLER 160488-2 77-339 2 TEMP CTRL VALVE 160536-1 77-286 2 IGNITION UNIT 3876195-8 020218034031 - IGNITION SYSTEM ASSY 3888275-9	AIR TURB STARTER STARTER MOTOR FUEL CLUSTER IGV ACTUATOR PNEU CLUSTER CHECK VALVE SURGE CTRL VALVE LUBE CLUSTER AIR OIL COOLER TEMP CTRL VALVE IGNITION UNIT IGNITION SYSTEM ASSY G/BOX ASSY DRIVEN COMP COMP MODULE TURB MODULE	3505814-3 2704442-4 3879008-1 3883499-2 3884863-7 3202610-5 3290814-5 4131000-6 160488-2 160536-1 3876195-8 3888275-9 3805034-8 3804011-8 3826980-9 3844517-5	246 77-385 CUA10186 0262 P304 581 3290814/337C 342C 77-339 77-286 020218034031 - P247 P254 P254 P254	1 1 1 1 1 1 2 2 2		REPAIRED EXCHANGE	4

**REMARKS:** 

NOTE: APU HOURS AND CYCLES ARE BASED ON DMM.

REPAIRED EXCHANGE 1ST STG IMPELLER S/N 960322903503 FROM MAS APU S/N P1095 AND OVERHAULED EXCHANGE 2ND STG IMPELLER S/N 020322905617 FROM MAS APU S/N P1328.

**# malaysia** POWER PLANT CONTROL SHEET GTCP 331-500B ENG/APU TYPE: DATE: 28/02/66 P1154 S/NO: **DOCUMENT** DATE RAISED DATE **APPROVAL** NO. REMARK CONTROL NO. RAISED BY CLOSED HOLDER 531070601 78-07-02 化欧 SERVICEABLE LABEL HONEYWELL SING 2 ARC 28.02.06 506 381846 HOHEXMELL 3 TEST CERT 13.02-06 SING 4 OPEN ITEM 5 IRC 1154-1 28-07-08 MIN 6 IRC 1154-2 28.07.06 HE( IPC 1154-3 7/3/06 78-07-09 **NEX** YAZIR. 8 IRC 1154-4 28-07-09 MEL 7/3/06 YAZIR . 9 IRC 1154-5 MEL 20206 10 11 12 13 14 15 16 17 18 19 20 21

22

## GTCP 331-500[B] PERFORMANCE DATA SHEET

WO NO	:	692501	ENGINE P/N :	3800550-1	DATE	:	22-Feb-2006
MODEL	:	GTCP 331-500[B]	ENGINE S/N :	P1154	CUSTOMER	:	MAS
MANUAL	:	EM 49-26-57	REVISION NO:	8	ENGINE STATUS	:	Repair

QUANTITY		UNITS	NO LOAD	103°F ECS MODE	103°F MES MODE
BAROMETRIC PRESSURE		PSIA	14.62	14.62	14.62
FUEL INLET PRESSURE		PSIG	25.0	24.0	24.0
OIL PUMP DISCHARGE PRESSURE		PSIG	67.0	67.0	67.0
OIL PUMP DISCHARGE TEMPERATURI	<b>E</b>	٥F	143	147	144
GEARBOX PRESSURE	·	PSIA	14.76	14.86	14.86
COMPRESSOR INLET TEMPERATURE	MEASURED	٥F	93.5	101.4	93.1
APU INLET TEMPERATURE (T2) (ARING	C)	°F	95	96.8	96.8
TURBINE DISCHARGE	UPPER (EGT 1)	°F	726	1084	1117
TEMPERATURE (UNIT RAKES)	LOWER (EGT 2)	°F	742	1138	1165
EXHAUST GAS TOTALTEMPERATURE	MEASURED	°F	752.2	1114.1	1146.8
	CORRECTED	°F		1135.6	1141.4
ORIFICE INLET AIR PRESSURE		" Hg		74.6	87.1
ORIFICE INLET TEMPERATURE		°F		401.8	416.6
ORIFICE DELTA PRESSURE		" H₂O		59.93	25.93
IGV POSITION** (IGVPOS)		DEGREES		11.5	4.0
IGV PERFORMANCE ADJ (IGVPERADJ)		DEGREES		4.0	
BLEED AIRFLOW	ACTUAL	LBS/MIN		475.21	330.88
	CORRECTED	LBS/MIN		471.6	302.9
RESTRICTED AIRFLOW (DISC. CORR. I	FLOW)	LBS/MIN		165.56	106.86
BLEED AIR TOTAL PRESSURE	INDICATED	PSIA		54.8	59.6
	CORRECTED	PSIA		54.5	54.3
BLEED AIR TOTAL TEMPERATURE	INDICATED	°F		414.1	427.3
	CORRECTED	°F		416.0	427.1
UNIT VIBRATION	ACCESSORY	IN/SEC	0.26	0.29	0.32
	TURBINE	IN/SEC	0.24	0.31	. 0.34
TURBINE WHEEL SPEED		RPM	39040	39040	39040
SHAFT LOAD	APPLIED	SHP		179.3	179.3
	CORRECTED	SHP		180.2	180.2
FUEL CONSUMPTION	INDICATED	LBS/HR	338	640	665
	CORRECTED	LBS/HR		642.08	628.54
	<del></del>				

TEST TECHNICIAN	: TEST & WAY	QUALITY CONTROL	: Noor
	Stanto & Sign		Stamp & Sign
DATE	22-Feb-2006	DATE	: 2 8 FEB 2006

FORM 331-500B-T-04 R04 (DDMMYY 04105)



## PPW ACCEPTANCE OPEN ITEM LIST

		ADD HOLDED JALEY	DATE: 28/02/06
Engine P/N:	GTCP331-500	APP. HOLDER : ALEX	
Engine S/N:	P1154		

		Part Number	IPC Ref	Qty	IRC ref	PPW task to action	Remark
No_	Description	Fait Humber					<del></del>
				1 - 1	P1154-1	To transfer to PPW final open	To service before
1	Oil system drained					item list	operation
					D4454.0	To transfer to PPW final open	To depreserve before
2	Fuel system preserved				P1154-2	item list	operation
<u>-</u>	Preservation date : 23/02/06					Itterii not	
	Preservation expiry: 22/02/08			┵╾╁			
			24 24 24 22		P1154-3	To install	FITICO.
3	Generator	756589A	24-21-01-01-20	╾┼╾╌			
				-+	P1154-4	To instali	
4	Mounts		49-13-01-02-05	1 1			FITED
	Fwd LH	351W3101-1	49-13-01-02-10	1 1			FITTED
	Fwd RH	351W3101-2	49-13-03-01-01	1			FITTEO.
	Aft	351W3000-4	43-10-00-01-01	_			
				_	P1154-5	ON AIC.	
3	LEAK CHK - GENERATOR						

Check by : Hidayat

Date:

28/02/06

Page 1 of 1

161 Gul Cir	Singapore Pte Ltd cle	En	gine Mode	d:	HONEYWELL			
Singapore (	629619	GT	CP331-500	В				
Part No:	3800550-1	Work Order:	692501		Date:	23-Feb-06		
Serial No:	P-1154	Series :				MAS	·	
TSN:	14120:43	TSO:	NA		TSR:	00		
CSN:	8018	CSO:	NA		CSR:	00		
			Engine ha	s been :		100		
Inspected		X		Full Perform	mance Tested		х	
Repaired		Х		Functional	Tested	<del></del>	NA	
Overhauled		NA			n Inspected		NA	
Modified		х					142	

Remarks:

NIL

The aircraft component identified above was inspected in accordance with current Federal Aviation Regulations and is approved for return to service. Pertinent details of work performed are on file at this agency under WORK ORDER: 692501.

ality Control Inspector Signature & Stamp Honeywell Singapore F.A.A. Repair Station No: FT4Y192M

Form No: G0197 R1 (010704)

			_	HONEYWELL (BINGAPONE) PTE LT BERVICE BULLETIN REPORT	1700	DATE: 23-02-06 TIME: 8:29:28
PROM TO FROM TO	MODEL MODEL SERIAL SERIAL	NO NO NO	GTCP331-500B GTCP331-500B P-1154 P-1154	FROM SB NO  TO SB NO 9999999999  FROM CUSTOMER NO : 2200	TO RECEIVED DATE FROM REVISION DATE TO REVISION DATE TO CUSTOMER NO:	re- 99-99-99 re- re- 99-99-99
			NO DESCRIPTIO		NEW PART NO.	
	0003		RWK FUEL C 3879008-1.	LUSTER UNIT PN 441761-7 TO		с
49-	2379		1 TO 16053	CONTROL VALVE PN 160536-1 SER 86-1 SER 2 BY REPLACING THE F 159799-2 WITH 159799-4.	160536-1 SER 2 159799-4	c
49-	-7021		PN 413202 GENERATOR	OIL FILTER BYPASS VAVE, 9-2 WITH 4132029-3 AND THE FILTER BYPASS VALVE, 0-2 WITH PN 4132030-3.	4132029-3 4132030-3	С
49	-7052		RWK THE S TO PN 329	URGE CONTROL VALVE PN 3290814-4	3290814-5 SER.1 3176994-2	С
49	-7537		2 UPDATE EN -9,BY INS PN 181097	G COMPR MODULE, PN 3826980-8 TO STALLING CONICAL BELLMOUTH COVER 13-1.	O 3810973-1 R 3826980-9	c
49	9-7670		3884863- 3884863-	J CLUSTER 3884863-6 WITH PN 7,RWK PNEU CLUSTER 3884863-6 TO 7 BY REPLACING SURGE CONTROL 90814-4 WITH 3290814-5.		c i
4:	9-7752			PU TO INCORPORATE AN IMPROVED PRESSOR PORWARD AIR-OIL SEAL		С
4	9-7769		REMOVE & 3879008-	REPL PCU PN 441761-7 WITH PN 1.	3879008-1	С
4	9-7800			ELLER INLET PANEL PN 3826962-2 7623-1, IN LOAD COMPR MODULE PR ALL.		c
4	9-7801			PELLER INLET PANEL PN 3826962-2 27623-1 IN ENG COMPR MODULE PN	3827623-1	c

3826980-ALL.

#### GTCP-331-500B-MODULES / LIFE LIMITED PARTS STATUS

At malaysia

्रमण्ड POSO: 3800550-1 275 SNO: P1154 AT REGH: 9M-MRB

DATE OF REMOVAL: 28/12/2005

REASON FOR REMOVAL:

METAL IN MCD REASON FOR PREVIOUS REMOVAL:

CONTAMINATED WITH LARGE PARTICLES

CUSTOMER: MAS **JOB CARD NO: DATE RELEASED:** 

TS: 14120.00 / 8018

355-35C	FICSF: 2916.00 / 1631 INCOMING							OUTGOING					
520	DESCRIPTION	PART NUMBER	SERIAL NUMBER	TSN/CSN	LIFE	REMARKS	PART NUMBER	SERIAL NUMBER	TSN/CSN	TASK PERFORMED	DOC.REFERENCE BATCH NO.	REMARKS	
4	GEARBOX ASSY	3805034-8	P247	14120 / 8018			38020X-F	P247	8108	REPARED			
2	DRIVE COMP.ASSY	3804011-8	P254	14120 / 8018			SECACITE	P254	14120 8018	REPAIRED AND MUDIFIED	ì		
2:	WPELLER COMP LOAD	3822468-3	030322902079	2916 / 1631	27000 CYCS		Z802468-Z	020203 020203	00	1		NEW	
3	ENG.COMP.ASSY	3826980-8	P254	14120 / 8018			3826980A	P254	14120 8018	REPAIRED AND MODIFIED			
	ELLER COMP.2ND STG	3822341-4	970322900951	14120 / 8018	27000 CYCS		38227412	4028LL 030373	3460)) 1984	_		EXCHANCE CAECHANTED	
3.2	EXPELLER COMP.1ST STG	3822483-1	990322901217	6014 / 4798	27000 CYCS		3822485	20320P 460333	PATCI EZET			exchange Exchange	
4	TURBINE MOD.ASSY	3844517-5	P254	14120 / 8018			38445N:	P254	14120 8018	RGPAIRED AND MODIFIED			
4.1	1ST STG ROTOR ASSY	3842151-3	970335700399	14120 / 8018	27000 CYCS		38421Sr2	970 <b>333</b> 92019	14170 8018	Repuired			
42	ZND STG ROTOR ASSY	3842155-3	960335701592	14120 / 8018	27000 CYCS	3	38421SS	9103	0C141 3108	INSPECTED AND BALANCED	·	DEZEOJPUSE SPEI	
4.3	3RD STG ROTOR ASSY	3842160-5	970134505954	14120 / 8018	27000 CYCS	3	3842160	9701345 5454		INSPECTED AND BALANCED			

#### GTCP-331-\$90B-ACCESSORIES

PU S/N:	F1134			NCO4024C		i	I '	OUTGOING				OFILABLE
NO	DESCRIPTION ACCESSORIES	PART NUMBER	SERIAL NUMBER	TSG CSG	LEE	REMARKS	PART NUMBER	SERIAL NUMBER	TSN CSN	TASK PERFORMED	DOC. REFERENCE BATCH NO.	REMARKS
5,1	AIR/OIL COOLER	160488-2	77-339	14125 6015	oc		166488-2	TI-339	8018	REPVISED		
5,2	ELEC.STR.MOTOR	2704442-4	19-619	6523	œ		PC44076	7T-385	UNK	REPAIRED		RECEIVED FE CUSTOMER
5,3	DATA MEMORY MOD.	304643-2	GE1392	4073 14120	oc		304643-2	GE1392	14120	INSPECTED !		
5.4	FUEL CLUSTER	441761-7	CUA10186	8018 1GL	œ		38790081	CONIOISE	NIL	REPURSO MO HOD FIELD	<b>.</b>	
5.5	APU CHECK VALVE	3202610-5	581	14120	0:		3202610-5	581	14120 8018	KERMKED		
5.6	A.T.S.C.V	3283076-5	314C	8018 14120	œ		278201RZ	314C	14120 8018	REPARED		
5.7	AIR TURBINE START	3505814-3	312	14120	сс		\$5058H-3	246	こまで	~		EXCHANGE REDXIVED
5.8	I.G.V ACT	3883499-2	0262	14120	cc		3883499-3	0262	14120	OVERWULED		
5.9	PNEU. CLUSTER	3884863-6	P304	14120	oc.		38848657	P304	14120 8018	MODIFIED M	<u> </u>	
5,10	IGNITION CLUSTER	3888275-9	UNKNOWN	14120	oc		3888715-9	UNK	14120	REPARED		
5.11	LUBE CLUSTER	4131000-6	342C	14120	ос		431000-6	342C	14120	REPARED		
5.12	s.c.v	3290814-4	337	14120	oc	+	32908145	480PCE		REPAIRED AN	4	
5,13	TEMP.CONT.VALVE	160536-1	77-286	14120	oc		160536-1		14120	REPARED AND MODIFIED	k	
5.14	GENERATOR	756589A	0190	8018 5641 NIL	ос		<b>#</b>	-	-	_		NOT RECEIVE

PREPARED BY: DATED : Ibrahim Abd Rahman 29/12/2005

GERALIS CONTROL
HOMEYV/ELL (SINGAPORE) PTE ETD



The Headquarters, Maydwell Avenue, Slinfold, West Sussex, RH13 0AS, United Kingdom t: +44 1403 798000 f: +44 1403 710936 e: enquiries@ajw-aviation.com www.ajw-group.com

# Shop Visit

Honeywell – February 2001

3. System Tracking **FAA FORM 8130-3** 1. Country AIRWORTHINESS APPROVAL TAG UNITED STATES U.S. DEPARTMENT OF TRANSPORTATION 801/338157 FEDERAL AVIATION ADMINISTRATION 5. WorkOrder, Contract or Invoice Number 4. Organization Honeywell (Singapore) Pte Ltd 641539-000 Honeywell 161 Gul Circle MALAYSIAN AIRLINE SYSTEM Singapore 629619 8. Part No. 9. Eligibility\* 10. Quantity 11. Serial / Batch No. 12. Status / Work 6. Item 7. Description GTCP331-500B 3800550-1 B-777 P1154 -jones INSPECTED REPAIRED Purchase Order No.: NP1300241 Order Entry No .: 132559-001 13. Remarks UNIT REPAIRED IAW BM 49-26-57 REV. 5. NO AIRWORTHINESS DIRECTIVES APPLICABLE TO THIS APU. REFER TO FORM GTCP331-500B-G16-R.1 FOR LIFE LIMITED PARTS. SHIPPED LESS IGNITION UNIT AND GENERATOR COVER. REFER TO FORM GOOSS ATTACHED FOR ALL SERVICE BULLETINS COMPLIED. TSH: 6108:35 CSN: 3220 NOTE: HRS AND CYCLES DERIVES FROM DWM. FAA DER PART DER/EA 98-444, P/N 3830444-1 COMBUSTOR INSTALLED. Limited life parts must be accompanied by maintenance history including total time / total cycles / time since new. 14. New 19. Return to Service in Accordance with FAR 43.9 Newly Overhauled Certifies that the new or newly overhauled part(s) identified above, except as otherwise specified in block 13 Certifies that the work specified in block 13 (or attached) above was carried out in accordance with FAA was (were) manufactured in accordance with FAA approved design data and airworthiness. airworthiness regulations and in respect to the work performed the part(s) is (are) approved for return to service. NOTE: In case of parts to be exported, the special requirements of the importing country have been met 20. Authorized Signature 21. Certificate Number 16. FAA Authorization No. 15. Signature 32 GC 8 FT4Y192H 22. Name (Typed or Printed) 17. Name (typed or printed) 18. Date 23. Date STEPHEN LEE NON NEO 09 FEB 2001 \*(Optional) Installer must cross check eligibility with applicable technical data.

CUSTOMER COPY

FAA FORM 8130-3 (07/94)

#### NOTE

- It is Important to understand that the existence of this Document alone does not automatically constitute authority to install the part/component/ assembly.
- 2. Where the user/installer 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.
- 3. Statements in block 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 the aircraft may be flown.

VISUAL ENSPIRED AND SIGNATURE:

APPROVAL NO: 14 FEB 2001

REMARKS:

1. Country	TED STATES	2.	FAA FORM AIRWORTHINESS A U.S. DEPARTMENT OF FEDERAL AVIATION A	PPROVAL TAG TRANSPORTATION			3. System Trace		*
4. Organiz	1944 E. S PHOENIX,			PRODUC*	TION APPRO	1 10 1 15	5. Workorder, 0 AL007258 72523A1- 07N23149	088 86	
6. Item		. Description	8. Part No.	9. Eligibility*	10. Quantity	11. Serial / Batch No.		12. Status / Work	
001	IMPELLER, 1S	T STAGE	3822483-1	N/A TSO	1	990322901217	NEW		
THIS FO	ĴRM IS ISSUED	AT 1944 E. SKY HARE	OR CIRCLE PHOENIX, AZ	1 35034 AS AUTHO	ORIZED BY	THE PRODUCTION	APPROVAL I	HOLDER	
	1								
Limited life p	parts must be accompanied	d by maintenance history including to	otal time / total cycles / time since new.			THE RESERVE	2 0 5		
Certifies the was (were)	manufactured in accordar	uled part(s) identified above, except ace with FAA approved design data a d, the special requirements of the im	and airworthiness.	19.  Return to Service in  Certifies that the wairworthiness regulations service.	vork specified in t	FAR 43.9 block 13 (or attached) abov pect to the work performed	e was carried ou i the part(s) is (ar	t in accordance with FAA re) approved for return to	
15. Signat	ure Ann	Men	16. FAA Authorization No. ODARF 602216NM	20. Authorized Signat	ure			21. Certificate Number	4
17. Name JOYCE A	(Typed or Printed)		18. Date 19JAN01	22. Name (Typed or P	Printed)			23. Date	

## Airworthiness Approval Tag 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 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 block 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 user/installer before the aircraft may be flown.

The FAA Form 8130-3 and JAA Form One are equivalent. equivalent acceptable documents.

Other countries such as Canada also have

5 FAA Form 8130-3

HONEYWELL (SINGAPORE) PTE LTD

# STORAGE

NP1300241

S/NO: P-1154

See Other side

W/O NO: 641539

FORM G0052R.1 (ddmmyy 220300)

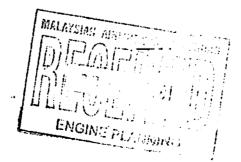
ATTN

SHEELA, THIS IS THE INHIBITION TAG FOR SIN : P 1154 GTCP 331-500 APU

> REZARDS. NATZRUA

IT PLACED IN INLET & EXHA DUCTS ENSURE REMOVAL OF ALL DESSICANT PRIOR TO OPERATION OF ENGINE.

ENGINE PRESERVED AND STORED LA.W. THE APPLICABLE MANUAL AND IS ADEQUATE FOR A PERIOD OF UP TO .... YEAT ...



TOTAL P.01

#### **OPEN ITEM LIST**

WORK ORDER NO:

641539

APU PART NO

3800550-1

APU MODEL: GTCP331-500B

CUSTOMER

M.A.S.

APU SERIAL NO:

P-1154

DATE

9 FEB. 2001

ITEM	DESCRIPTION	PART NUMBER	MANUAL REF	QTY	REMARKS
1	IGNITION UNIT	3876195-8	49-41-21	1	SHIPPED LESS
			1		
					•
					-

PREPARED BY:

STEPHEN LEE

SBQ19R WSID: WCDE

HONEYWELL (SINGAPORE) PTE LTD

SERVICE BULLETIN REPORT

PAGE:

DATE: 8-02-01 TIME: 14:19:20

FROM MODEL NO. - GTCP331-500B MODEL NO.- GTCP331-500B

USER: LSTEPHEN

FROM SB NO.-

FROM RECEIVED DATE-

TO SB NO.- 9999999999 TO RECEIVED DATE- 99-99-99

FROM SERIAL NO. - P1154 TO SERIAL NO. - P1154

FROM REVISION DATE-

TO REVISION DATE- 99-99-99

STATUS CODES SELECTED - C

FROM CUSTOMER NO : 2200 TO CUSTOMER NO : 2200

ร.в. พо.	rev no	DESCRIPTION	NEW PART NO.	STATUS
49-7017		SUBE CLUSTER - REWORK THE LUBE CLUSTER, PN 4131000-5 TO MEET THE REQUIRED JOURNAL BEARING CLEARANCES.	4131000-5 SER 2	C -
49-7023		RWK APU STARTER VALVE, PN 3283076-4 TO 3283076-5 THRU' REPLACEMENT OF THE SOLENOID VALVE ASSY, 320788-1 WITH 320788-2.	3283076-5 320788-2	С
49-7040		REWORK LUBE CLUSTER P/N 4131000-5 TO 4131000-6.	4131000-6	C
49-7402		REPL. COMPR. INLET BELLMOUTH, PN 3826917-1 WITH 3827450-1.	3827450-1	С
49-7407		REPL CHECK VALVE, P/N 3202610-4 WITH 3202610-5.	3202610-5	С
49-7449		REMOVE OIL SYS HEATER ASSY, PN3888311-4 FROM APU ASSY, PN380551-8.	3800551-8	C
49-7464		RWK WIRE HARNESS, PN3888364-2 TO 3888364		<b>c</b>
49-7502		REPL BALL BEARING, P/N: 3616641-1, WITH BALL BEARING, P/N: 3860837-1, IN GEARBOX ASSY, P/N: 3805034-8		<b>c</b>
49-7547	1	INSPN OF 331-500(B) APU INLET BELLMOUTH CLAMP.		С

9 ITEMS LISTED (STATUS: P=post-mod / C=complied at this shop visit A=not applicable / R=not required / S=superseded) D=Not Disassemble / W=Waived / B=Demodified F=Deferred / N=not complied / L=not received )

G=not complied, part serviceable

QUALITY CONTROL HONEYWELL (SINGAPORE) PTE LTD

#### Honeywell (Singapore) Pte Ltd



#### **TURBINE ACCEPTANCE TAG & TRACEABILITY INPUT**

25

PART NO:

3800550-1

SERIAL NO.: P-1154

CUSTOMER:

MAS

MODEL:

GTCP331-500B

SERIES :

DATE :

9 FEB. 2001

W/O NO.:

641539

TSR/TSN : 00/6106:35

CSR/CSN:

00/3220

DESCRIPTION	PART NO.	SERIAL NO.	<u>LOT NO</u>	<u>TSN</u>	<u>CSN</u>	<u>LIFE</u> <u>LIMITS</u>
IST T-WHEEL ASSY	3842151-2	97P284	970335700399	6106:35	3220	27000 CYC
2ND T-WHEEL ASSY	3842155-3	97P309	960335701592	6106:35	3220	27000 CYC
3RD T-WHEEL ASSY	3842160-5	97P319	970134505954	6106:35	3220	27000 CYC
IST STG IMPELLER	3822483-1	00P018	990322901217	00	00	27000 CYC
2ND STG IMPELLER	3822341-4	97P280	970322900951	6106:35	3220	27000 CYC
DRIVEN COM IMP	3822468-3	97P300	970322901025	6106:35	3220	27000 CYC

#### **APU - ACCESSORIES RECORD**

DESCRIPTION	PART NO.	SERIAL NO.	<u>SERIES</u>	CHG NOS	<u>REMARKS</u>
STARTER CTRL VALVE	3283076-5	314C	:		
AIR TURB STARTER	3505814-3	312	1		
STARTER MOTOR	2704442-4	77-394	ì		
FUEL CLUSTER	441761-7	CUA10291	•		
IGV ACTUATOR	3883499-2	0262	-		
PNEU CLUSTER	3884863-6	P304	1		
SURGE CTRL VALVE	3290814-4	337	1		
LUBE CLUSTER	4131000-6	342C	1		
AIR OIL COOLER	160488-2	77-339	2		
TEMP CTRL VALVE	160536-1	77-286	l		
IGNITION UNIT	-	•	-		NOT RECEIVED
IGNITION SYSTEM ASSY	3888275-9	-	-		PARTIAL RECEIVED
G/BOX ASSY	3805034-8	P247	1		
DRIVEN COMP	3804011-8	P254	•		
COMP MODULE	3826980-8	P254	-		
TURB MODULE	3844517-5	P254	•		
DATA MEMORY MODULE	304643-2	GE1392	1		

REMARKS: NOTE: HRS AND CYCLES DERIVES FROM DMM. SHIPPED LESS IGNITION UNIT AND GENERATOR COVER.

INSPECTOR SIGNATURE & STAMP:

## GTCP 331-500[B] PERFORMANCE DATA SHEET

мо ио	:	641539	ENGINE P/N :	3800550-1	DATE	: _	8-Feb-2001
MODEL	:	GTCP 331-500[B]	ENGINE S/N :	P1154	CUSTOMER	:_	MAS
MANUAL	:	EM 49-26-57	REVISION NO:	5	ENGINE STATUS	:_	REPAIR

				ENGINE STATUS :	REPAIR
QUANTITY		UNITS	NO LOAD	103°F ECS MODE	103°F MES MODE
BAROMETRIC PRESSURE		PSIA	14.57	14.57	14.57
FUEL INLET PRESSURE		PSIG	27.0	26.0	26.0
OIL PUMP DISCHARGE PRESSURE	_	PSIG	67.0	66.0	66.0
OIL PUMP DISCHARGE TEMPERATUR	°F	156	156	156	
GEARBOX PRESSURE		PSIA	14.71	14.86	14.31
COMPRESSOR INLET TEMPERATURE	MEASURED	°F	35	35	35
APU INLET TEMPERATURE (T2) (ARIN	IC)	°F	89	91	39
TURBINE DISCHARGE	UPPER (EGT 1)	٥F	720	1057	1090
TEMPERATURE (UNIT RAKES)	LOWER (EGT 2)	۶F	718	1076	1108
EXHAUST GAS TOTALTEMPERATURE	MEASURED	°F	734	1074	1118
	CORRECTED	٥F		1122.90	1129.10
ORIFICE INLET AIR PRESSURE		" Hg		76.40	90.20
ORIFICE INLET TEMPERATURE		°F		408	424
ORIFICE DELTA PRESSURE		" H <sub>2</sub> O		61.50	26.30
IGV POSITION** (IGVPOS)		DEGREES		10.00	-0.50
IGV PERFORMANCE ADJ (ICVPERAD.	J)	DEGREES		2.50	
BLEED AIRFLOW	ACTUAL	LBS/MIN		483.27	335.89
	CORRECTED	LBS/MIN		469.29	304.67
RESTRICTED AIRFLOW (DISC. CORR	. FLOW)	LBS/MIN		167.23	107.98
BLEED AIR TOTAL PRESSURE	INDICATED	PSIA		55.04	59.85
·	CORRECTED	PSIA		53.39	54.3
BLEED AIR TOTAL TEMPERATURE	INDICATED	°F		410.00	428
	CORRECTED	°F		427.80	435.70
UNIT VIBRATION	ACCESSORY	IN/SEC	0.22	0 15	0.15
	TURBINE	IN/SEC	0.32	0.27	0 28
TURBINE WHEEL SPEED	<del></del>	RPM	39040	39040	39040
SHAFT LOAD	APPLIED	SHP		179.0	179.0
	CORRECTED	SHP		180.5	180.5
FUEL CONSUMPTION	INDICATED	LBS/HR	342	639	672
	CORRECTED	LBS/HR		635.13	635.30

TEST TECHNICIAN	ा जिल्ला	QUALITY CONTROL	: files
DATE	8-Feb-2001	DATE	0 9 FEB (CC)

FORM 331-500B-T-04 R01 (DDMMYY 270300)

## GTCP-331-500B - MODULES / LIFE LIMITED PARTS STATUS

**a malaysia** 

380035 0-APH PNO: 7715 LL APH SNO: 61061 3220 DATE OF REMOVAL: 02-01-01

REASON FOR REMOVAL: NOTS CHARVE BELLMOUTH ERODED.

CUSTOMER MAS 86717 MBCARDNO. - AN 86717

· !	, <u></u>	PART	SEREAL. MIMITE	INCOMING TSN TSN	LIFE.	REMARKS	PART NUMBER	SERIAL NUMBER	OUTGOING	PERFORMED	DOC, REFERENCE JULICIE NO.	ILE SIAKES
	DESCRIPTION	MUMBER 3805044-8	P247	6106 Ila		-	3805034-8	P247	1106:35 160	RAM	•	• "
<u>;</u>	GEARROX ASSY	3KO-F31 I-8		3220 Cm		•	3804011-8	P 254	6101:35 Mr.	R		
	DRIVE COMP. ASSV		2 2 4 2 300l	3220 Crus	27000 Cyrs		3633162-1	930322901025	6106:35 110	, R		
21	IMPELLER COMP 1,030	1837 16K T	470°.2300	4720 Cyns	<u>.</u>	٠	3822468-3		3220 "106:35 "10	RAM		
	ENG. COMP. ASSY	3876980-3	Y 254	3,22.0 Cre	! -		3626960-6	97032290015	3220 Cr 6106:35 H	' R		
3 I	IMPLICER COMP 25ID STG	3827341-4	410322	3320 (10	2700 0 Cyc			00 03 2206727	11-			•
137	HAPELLER COMP. ISL STG	1622193 T	96032240	ავე ა გეებ	27097 Use		3622483-1	<del>-</del>	6106:35 H	rs		
	TURBINE MOD. ASSY	311517-5	? <i>02</i> 54	5220 Gr			38 <b>34</b> 57-	5° (254	3220 " bick 35 "	yet		, 4
[41	IST STOROTOR ASSY	3842151 2	1703357 00399	6106 lin	" Same CA	ra ·	3842151-2	04033570037i	ຸ່ 3ກາຍ ເ	142		
	1 25th STG ROLOR ASSY	28421553	96033570			yrs -	3842155-3		3220	,n '\		
	3 1911 STG ROTOR ASSY	1 1 184216U-3	1592 1970134 505954	6106 "	22900 C	ire	3842160-	5 47013450575	4 6106:35	in Cycs R		

NOTE; ORIGINAL SA OF LOAD comp impeller should be 970322901025 and not 970322901024. New Amended Acceptance lag provided.

🏻 🦸 malayşiğ
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				AND TENC			I	•	OUTGOING	r •	1	Destross
	DESCRIPTION ACCESORIES	PART NUMBER	SERIAL NUMBER	fza Tucowing	1,888	REMARKS	PART NUMBER	SERIAL. NUMBER	TSN CSN	TASK PERHORMED	OOC REFERENCE MATCH NO.	DE MORES
,	Vikwif Cooji Eii	160-las-2		6 106 110 3220 CYN	i ov		160488 Z	77-339	6101: 35 IIn	C, I 1FT.	· · · · ·	
_  . .2  .	TLFC, STR. MOTOR	27041112-3	77 - 394	6106 Hrs	0/6	-	2704442-4	77-394	6106:35 Hrs	R		
3	DATA MEMORY MOD	304643-2	GE1392	6106 Ho 3220 CHA	ENC		304643-2	GE 1392	\$106:35 Hs	MOFT.	<del>-</del>	1 2 1 1 1
4	FORE CLUSTER	441761-7	CUNIDAN	6106 116.	OЯС		441761-7	CUA 10291	3220 Cym	C.I PFT.	; ;	1 1 1 1 1
i.5	APUCHECK VALVE	3297648-4	286	6106 111x	OK.		3202610-5	561	00 ths	Ν	. FEW 101	ีนอก เไฟ
( 6	AISCV	37830764	314	6106 Ha	Q/C	•	3283076-5	3140	3370 Cha	RIM	: - •	32830765 3N 314C
. ;	AIR TURBINE START	1505814 3	312	1 6106 m	CPC.	•	3505814-3	312	8220 <sup>Cyc</sup>			Received
s s	IGV ACT	388] 199-2	02 22	3220 00	. 040	•	388:3499-2	0262	Cyd	PFT.		as sin c262
<b>5</b> 11	PREU CLUSTER	3881863-6	P304	3220 In	or		3884863-	b P304	8220 <sup>Cro</sup>	K		NOTE: 3gnit
. Iu	IGN(TION CLUSTER	3248275.8		\$ 6106 III	CHT.	-	_	<b>-</b>	- Cw	5	-	receive new PIN
5.13	CIMECLUSIER	41,310% 5	342	6106 III	(1,1		14131000-6	, 342c	3220 5	3		4131000 · 6 4N 342C
5 2	scv	1290914-1	337	6106 110 3220 0	. O'C		3270814-4	337	6106:35 110 3220 Cv	3   K	:	
5 13	FEMP CONT. VALVE	160544.1	77-28	6106 11	n/r		160536-1	77-286	6106:35 H			
5 14	GENERATOR	736 SRMA	0271	6106 "	on.	•	N	107 receive	ار. <del>در</del>	ł		
.1_	i	PREPARED BY	CELIANT HO			CHECKI-D	184	CORDS OFFICER)			DATE 0.5	[]01[0]

NOTE: Ignition cluster was partially received less Ing Ignition unit.



P1154 APBSMO. :

		OUSTANDING SPECIAL	L INSPECTION	OR OTHER REQUIREMENTS	and the second s
	REFERENCE	DESCRIPTION		COMPLIANCE	BRS/CYCS AVAILABLE
M()		NIL -			
		and the second s			· · · · · · · · · · · · · · · · · · ·
	and the second of the second				· • · · · · · · · · · · · · · · · · · ·
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		Im.		· · · · · · · · · · · · · · · · · · ·	e e e e e e e e e e e e e e e e e e e
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		•		odini. Geografiya	•

A - AS IT S FT - PURCTROWAL TESTED

F - PURED

RC-PILTER CLEANED R - REPASSED C - CLEANED

S - STRANKE

M-RESIDE TESTED

1 - NEW

0 - OVERHAULED 1 - DAYFECTED

Term No. 700042 180 08/97



The Headquarters, Maydwell Avenue, Slinfold, West Sussex, RH13 0AS, United Kingdom t: +44 1403 798000 f: +44 1403 710936 e: enquiries@ajw-aviation.com www.ajw-group.com

# Shop Visit

Honeywell – February 2001

3. System Tracking **FAA FORM 8130-3** 1. Country AIRWORTHINESS APPROVAL TAG UNITED STATES U.S. DEPARTMENT OF TRANSPORTATION 801/338157 FEDERAL AVIATION ADMINISTRATION 5. WorkOrder, Contract or Invoice Number 4. Organization Honeywell (Singapore) Pte Ltd 641539-000 Honeywell 161 Gul Circle MALAYSIAN AIRLINE SYSTEM Singapore 629619 8. Part No. 9. Eligibility\* 10. Quantity 11. Serial / Batch No. 12. Status / Work 6. Item 7. Description GTCP331-500B 3800550-1 B-777 P1154 -jones INSPECTED REPAIRED Purchase Order No.: NP1300241 Order Entry No .: 132559-001 13. Remarks UNIT REPAIRED IAW BM 49-26-57 REV. 5. NO AIRWORTHINESS DIRECTIVES APPLICABLE TO THIS APU. REFER TO FORM GTCP331-500B-G16-R.1 FOR LIFE LIMITED PARTS. SHIPPED LESS IGNITION UNIT AND GENERATOR COVER. REFER TO FORM GOOSS ATTACHED FOR ALL SERVICE BULLETINS COMPLIED. TSH: 6108:35 CSN: 3220 NOTE: HRS AND CYCLES DERIVES FROM DWM. FAA DER PART DER/EA 98-444, P/N 3830444-1 COMBUSTOR INSTALLED. Limited life parts must be accompanied by maintenance history including total time / total cycles / time since new. 14. New 19. Return to Service in Accordance with FAR 43.9 Newly Overhauled Certifies that the new or newly overhauled part(s) identified above, except as otherwise specified in block 13 Certifies that the work specified in block 13 (or attached) above was carried out in accordance with FAA was (were) manufactured in accordance with FAA approved design data and airworthiness. airworthiness regulations and in respect to the work performed the part(s) is (are) approved for return to service. NOTE: In case of parts to be exported, the special requirements of the importing country have been met 20. Authorized Signature 21. Certificate Number 16. FAA Authorization No. 15. Signature 32 GC 8 FT4Y192H 22. Name (Typed or Printed) 17. Name (typed or printed) 18. Date 23. Date STEPHEN LEE ROE NEO 09 FEB 2001 \*(Optional) Installer must cross check eligibility with applicable technical data.

CUSTOMER COPY

FAA FORM 8130-3 (07/94)

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 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. oi

Statements in block 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 the aircraft may be flown. co



1. Country	TED STATES	2.	FAA FORM AIRWORTHINESS A U.S. DEPARTMENT OF FEDERAL AVIATION A	PPROVAL TAG TRANSPORTATION			3. System Trace		*
4. Organiz	1944 E. S PHOENIX,			PRODUC*	TION APPRO	1 10 1 15	5. Workorder, 0 AL007258 72523A1- 07N23149	088 86	
6. Item		. Description	8. Part No.	9. Eligibility*	10. Quantity	11. Serial / Batch No.		12. Status / Work	
001	IMPELLER, 1S	T STAGE	3822483-1	N/A TSO	1	990322901217	NEW		
THIS FO	ĴRM IS ISSUED	AT 1944 E. SKY HARE	OR CIRCLE PHOENIX, AZ	1 35034 AS AUTHO	ORIZED BY	THE PRODUCTION	APPROVAL	HOLDER	
	1								
Limited life p	parts must be accompanied	d by maintenance history including to	otal time / total cycles / time since new.			THE RESERVE	2 0 5		
Certifies the was (were)	manufactured in accordar	uled part(s) identified above, except ace with FAA approved design data a d, the special requirements of the im	and airworthiness.	19.  Return to Service in  Certifies that the wairworthiness regulations service.	vork specified in t	FAR 43.9 block 13 (or attached) abov pect to the work performed	e was carried ou i the part(s) is (ar	t in accordance with FAA re) approved for return to	
15. Signat	ure Ann	Men	16. FAA Authorization No. ODARF 602216NM	20. Authorized Signat	ure			21. Certificate Number	4
17. Name JOYCE A	(Typed or Printed)		18. Date 19JAN01	22. Name (Typed or P	Printed)			23. Date	

### Airworthiness Approval Tag 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 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 block 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 user/installer before the aircraft may be flown.

The FAA Form 8130-3 and JAA Form One are equivalent. equivalent acceptable documents.

Other countries such as Canada also have

5 FAA Form 8130-3

HONEYWELL (SINGAPORE) PTE LTD

# STORAGE

NP1300241

S/NO: P-1154

See Other side

W/O NO: 641539

FORM G0052R.1 (ddmmyy 220300)

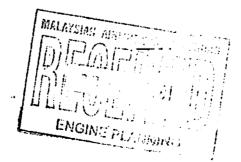
ATTN

SHEELA, THIS IS THE INHIBITION TAG FOR SIN : P 1154 GTCP 331-500 APU

> REZARDS. NATZRUA

IT PLACED IN INLET & EXHA DUCTS ENSURE REMOVAL OF ALL DESSICANT PRIOR TO OPERATION OF ENGINE.

ENGINE PRESERVED AND STORED LA.W. THE APPLICABLE MANUAL AND IS ADEQUATE FOR A PERIOD OF UP TO .... YEAR.



TOTAL P.01

#### **OPEN ITEM LIST**

WORK ORDER NO:

641539

APU PART NO

3800550-1

APU MODEL: GTCP331-500B

CUSTOMER

M.A.S.

APU SERIAL NO:

P-1154

DATE

9 FEB. 2001

ITEM	DESCRIPTION	PART NUMBER	MANUAL REF	QTY	REMARKS
1	IGNITION UNIT	3876195-8	49-41-21	1	SHIPPED LESS
			11-20-11-11-11-11-11-11-11-11-11-11-11-11-11		
					•
					-

PREPARED BY:

STEPHEN LEE

SBQ19R WSID: WCDE

USER: LSTEPHEN

HONEYWELL (SINGAPORE) PTE LTD

SERVICE BULLETIN REPORT

PAGE:

DATE: 8-02-01 TIME: 14:19:20

FROM MODEL NO. - GTCP331-500B FROM RECEIVED DATE FROM SB NO.-TO RECEIVED DATE- 99-99-99 MODEL NO.- GTCP331,500B TO SB NO.- 9999999999

FROM SERIAL NO. - P1154 TO SERIAL NO. - P1154

CLAMP.

FROM REVISION DATE-TO REVISION DATE- 99-99-99

STATUS CODES SELECTED - C

FROM CUSTOMER NO : 2200 TO CUSTOMER NO : 2200

s.B. No.	rev no	DESCRIPTION	NEW PART NO.	STATUS
49-7017		<b>\$UBE CLUSTER - REWORK THE LUBE CLUSTER,</b> PN 4131000-5 TO MEET THE REQUIRED JOURNAL BEARING CLEARANCES.	4131000-5 SER 2	C .
49-7023		RWK APU STARTER VALVE, PN 3283076-4 TO 3283076-5 THRU' REPLACEMENT OF THE SOLENOID VALVE ASSY, 320788-1 WITH 320788-2.	3283076-5 320788-2	с
49-7040		REWORK LUBE CLUSTER P/N 4131000-5 TO 4131000-6.	4131000-6	c
49-7402		REPL. COMPR. INLET BELLMOUTH, PN 3826917-1 WITH 3827450-1.	3827450-1	с
49-7407		REPL CHECK VALVE, P/N 3202610-4 WITH 3202610-5.	3202610-5	с
49-7449		REMOVE OIL SYS HEATER ASSY, PN3888311-4 FROM APU ASSY, PN380551-8.	3800551-8	C
49-7464		RWK WIRE HARNESS, PN3888364-2 TO 3888364		<b>c</b> -
49-7502		REPL BALL BEARING, P/N: 3616641-1, WITH BALL BEARING, P/N: 3860837-1, IN GEARBOX		C
49-7547	1	ASSY, P/N: 3805034-8 INSPN OF 331-500(B) APU INLET BELLMOUTH		С

9 ITEMS LISTED (STATUS: P=post-mod / C=complied at this shop visit A=not applicable / R=not required / S=superseded) D=Not Disassemble / W=Waived / B=Demodified F=Deferred / N=not complied / L=not received ) G=not complied, part serviceable

QUALITY CONTROL HONEYWELL (SINGAPORE) PTE LTD

#### Honeywell (Singapore) Pte Ltd



#### **TURBINE ACCEPTANCE TAG & TRACEABILITY INPUT**

25

PART NO:

3800550-1

SERIAL NO.: P-1154

CUSTOMER:

MAS

MODEL:

GTCP331-500B

SERIES :

DATE :

9 FEB. 2001

W/O NO.:

641539

TSR/TSN : 00/6106:35

CSR/CSN:

00/3220

DESCRIPTION	PART NO.	SERIAL NO.	<u>LOT NO</u>	<u>TSN</u>	<u>CSN</u>	<u>LIFE</u> <u>LIMITS</u>
IST T-WHEEL ASSY	3842151-2	97P284	970335700399	6106:35	3220	27000 CYC
2ND T-WHEEL ASSY	3842155-3	97P309	960335701592	6106:35	3220	27000 CYC
3RD T-WHEEL ASSY	3842160-5	97P319	970134505954	6106:35	3220	27000 CYC
IST STG IMPELLER	3822483-1	00P018	990322901217	00	00	27000 CYC
2ND STG IMPELLER	3822341-4	97P280	970322900951	6106:35	3220	27000 CYC
DRIVEN COM IMP	3822468-3	97P300	970322901025	6106:35	3220	27000 CYC

#### **APU - ACCESSORIES RECORD**

DESCRIPTION	PART NO.	SERIAL NO.	<u>SERIES</u>	CHG NOS	<u>REMARKS</u>
STARTER CTRL VALVE	3283076-5	314C	:		
AIR TURB STARTER	3505814-3	312	1		
STARTER MOTOR	2704442-4	77-394	ì		
FUEL CLUSTER	441761-7	CUA10291	•		
IGV ACTUATOR	3883499-2	0262	-		
PNEU CLUSTER	3884863-6	P304	1		
SURGE CTRL VALVE	3290814-4	337	1		
LUBE CLUSTER	4131000-6	342C	1		
AIR OIL COOLER	160488-2	77-339	2		
TEMP CTRL VALVE	160536-1	77-286	l		
IGNITION UNIT	-	•	-		NOT RECEIVED
IGNITION SYSTEM ASSY	3888275-9	-	-		PARTIAL RECEIVED
G/BOX ASSY	3805034-8	P247	1		
DRIVEN COMP	3804011-8	P254	•		
COMP MODULE	3826980-8	P254	-		
TURB MODULE	3844517-5	P254	•		
DATA MEMORY MODULE	304643-2	GE1392	1		

REMARKS: NOTE: HRS AND CYCLES DERIVES FROM DMM. SHIPPED LESS IGNITION UNIT AND GENERATOR COVER.

INSPECTOR SIGNATURE & STAMP:

### GTCP 331-500[B] PERFORMANCE DATA SHEET

мо ио	:	641539	ENGINE P/N :	3800550-1	DATE	: _	8-Feb-2001
MODEL	:	GTCP 331-500[B]	ENGINE S/N :	P1154	CUSTOMER	:_	MAS
MANUAL	:	EM 49-26-57	REVISION NO:	5	ENGINE STATUS	:_	REPAIR

				ENGINE STATUS :	REPAIR
QUANTITY		UNITS	NO LOAD	103°F ECS MODE	103°F MES MODE
BAROMETRIC PRESSURE		PSIA	14.57	14.57	14.57
FUEL INLET PRESSURE		PSIG	27.0	26.0	26.0
OIL PUMP DISCHARGE PRESSURE	_	PSIG	67.0	66.0	66.0
OIL PUMP DISCHARGE TEMPERATUR	E	°F	156	156	156
GEARBOX PRESSURE		PSIA	14.71	14.86	14.31
COMPRESSOR INLET TEMPERATURE	MEASURED	°F	35	35	35
APU INLET TEMPERATURE (T2) (ARIN	IC)	°F	89	91	39
TURBINE DISCHARGE	UPPER (EGT 1)	٥F	720	1057	1090
TEMPERATURE (UNIT RAKES)	LOWER (EGT 2)	۶F	718	1076	1108
EXHAUST GAS TOTALTEMPERATURE	MEASURED	°F	734	1074	1118
	CORRECTED	٥F		1122.90	1129.10
ORIFICE INLET AIR PRESSURE	***************************************	" Hg		76.40	90.20
ORIFICE INLET TEMPERATURE		°F		408	424
ORIFICE DELTA PRESSURE		" H <sub>2</sub> O		61.50	26.30
IGV POSITION** (IGVPOS)		DEGREES		10.00	-0.50
IGV PERFORMANCE ADJ (ICVPERAD.	J)	DEGREES		2.50	
BLEED AIRFLOW	ACTUAL	LBS/MIN		483.27	335.89
	CORRECTED	LBS/MIN		469.29	304.67
RESTRICTED AIRFLOW (DISC. CORR	. FLOW)	LBS/MIN		167.23	107.98
BLEED AIR TOTAL PRESSURE	INDICATED	PSIA		55.04	59.85
·	CORRECTED	PSIA		53.39	54.3
BLEED AIR TOTAL TEMPERATURE	INDICATED	°F		410.00	428
	CORRECTED	°F		427.80	435.70
UNIT VIBRATION	ACCESSORY	IN/SEC	0.22	0 15	0.15
	TURBINE	IN/SEC	0.32	0.27	0 28
TURBINE WHEEL SPEED	<del></del>	RPM	39040	39040	39040
SHAFT LOAD	APPLIED	SHP		179.0	179.0
	CORRECTED	SHP		180.5	180.5
FUEL CONSUMPTION	INDICATED	LBS/HR	342	639	672
	CORRECTED	LBS/HR		635.13	635.30

TEST TECHNICIAN	ा जिल्ला	QUALITY CONTROL	: files
DATE	8-Feb-2001	DATE	0 9 FEB (CC)

FORM 331-500B-T-04 R01 (DDMMYY 270300)

### GTCP-331-500B - MODULES / LIFE LIMITED PARTS STATUS

**a** malaysia

380035 0-APH PNO: 7715 LL APH SNO: 61061 3220 DATE OF REMOVAL: 02-01-01

REASON FOR REMOVAL: NOTS CHARVE BELLMOUTH ERODED.

CUSTOMER MAS 86717 MBCARDNO. - AN 86717

. <del>.</del> .	, <u></u>	PART	SEREAL MIMITE	INCOMING	LIFE.	REMARKS	PART NUMBER	SERIAL NUMBER	OUTGOING	PERFORMED	IOC. REFERENCE JULICIE NO.	REMARKS
	DESCRIPTION	MUMBER 3805044-8	P247	6106 Ila		-	3805034-8	P247	1106:35 160	RAM	•	• "
<u>į</u>	GEARROX ASSY	3KO-F31 I-8		3220 Cm		•	3804011-8	P 254	6101:35 Mr.	R		
	DRIVE COMP. ASSV		γ 2 <u>ς</u> 4	3220 Crus	27000 Cyrs		3633162-1	910322901025	6106:35 110	Ŗ		
21	IMPELLER COMP 1,030	1837 16K T	475.230d	4720 Cyns	<u>.</u>	٠	3822468-3	_	3220 "106:35 "10	RAM		
	ENG. COMP. ASSY	3876980-3	V 254	3,22.0 Cre	! -		3626960-6	97032290095	3220 Cr 6106:35 H	' R		
31	IMPLICER COMP 25ID STG	3827341-4	410322	3320 (10	2700 0 Cyc			00 63 2296727	11-			
137	HAPELLER COMP. ISL STG	1622193 T	96032240	ავე ა ი გეებ ელ	27097 Use		3622483-1	<del>-</del>	610p:32	ıs		. •
	TURBINE MOD. ASSY	3411517-5	9254	3220 G		•	38 <b>34</b> 57-4	₹ <sup>የ254</sup>	3220 °	yet		, 44
[a]	ist storotor assy	3842151-2	1703357 00399	6106 lin	" Same CA	ra ·	3842151-2	9182019	ຸ່ 3ກາຍ ເ	) te		
	1 200 STG ROLOR ASSY	28421553	96033570			vrs -	3842155-3		3220	,n '\		
	3 1911 STG ROTOR ASSY	1 1 1842160-3	1592 1970134 505954	6106 11	22900 C	jre .	3842160	5 47013450575 5	4 6106:35	in Cycs R	<u>.</u> .	-

NOTE; ORIGINAL SA OF LOAD comp impeller should be 970322901025 and not 970322901024. New Amended Acceptance lag provided.

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				AND TENC			I	•	OUTGOING	r •	1	DEMARKS
	DESCRIPTION ACCESORIES	PART NUMBER	SERIAL NUMBER	fza Tucowing	1,888	REMARKS	PART NUMBER	SERIAL. NUMBER	TSN CSN	TASK PERHORMED	OOC REFERENCE MATCH NO.	DE MORRO
,	Vikuif Cooj Ei	160-las-2		6 106 110 3220 CYN	i ov		160488 Z	77-339	6101: 35 IIn	C, I 1FT.	· · · · ·	
_  . .2  .	TLFC, STR. MOTOR	27041112-3	77 - 394	6106 Hrs	0/6		2704442-4	77-394	6106:35 Hrs	R		
3	DATA MEMORY MOD	304643-2	GE1392	6106 Ho 3220 CHA	ENC		304643-2	GE 1392	\$106:35 Hs	MOFT.		: : :
4	FORE CLUSTER	441761-7	CUNIDAN	6106 116.	OЯС		441761-7	CUA 10291	3220 Cym	C.I PFT.	; ;	1 1
i.5	APUCHECK VALVE	3297648-4	286	6106 111x	OK.		3202610-5	561	00 ths	Ν	. FEW 101	<b>゙゙</b> ਸ਼ਫ਼ <b>ਲ਼</b> し゚゚゙゙゙゙゙゙゚
( 6	AISCV	3783076 4	314	6106 Ha	Q/C	•	3283011-5	3140	3370 Cha	RIM	:	3283576.5 SN 314C
	AIR TURBINE START	1505814 3	312	1 6106 m	CPC.	•	3505814-3	312	8220 <sup>Cyc</sup>			Received
 5 <b>.</b>	IGV ACT	388 ] 199-2	02 22	3220 100	. 040		369:3499-0	0262	Cyd	PFT.		as sin c262
<b>5</b> 11	PREU CLUSTER	 3881263-6	P304	3220 W	or		3884863-	b P304	8220 <sup>Cro</sup>	K		NOTE: 3gni
. lu	IGNOUGH CLUSTER	3238275.8		\$6106 III	CHT.		_	<b>-</b>	- Cw	5	-	receive
5.13	CIMECLUSIER	41,31000.5	342	6106 Hr	(1,1		14131000-6	, 342c	3220 5	3		4131000 · 6 4N 342C
5 2	scv	1290914-1	337	6106 110 3220 0	. O'C		3270814-4	337	6106:35 110 3220 Cv	3   K	:	
5 1)	FEMP CONT. VALVE	160544-1	77-27	6106 11	n/r		160536-1	77-286	6106:35 fr 3220 cr			
5 14	GENERATOR	756 SRMA	0271	6106 "	on.	•	N	107 receive	ار. <del>در</del>	ł		- <u> </u>
1_	i	PREPARED BY	CELIANT HA			CHECKI-D	184	CORDS OFFICER)		- · · · · · · · · · · · · · · · · · · ·	DATE OF	[]01]01

NOTE: Ignition cluster was partially received less Ing Ignition unit.



P1154 APBSMO. :

		OUSTANDING SPECIAL	L INSPECTION	OR OTHER REQUIREMENTS	and the second s
	REFERENCE	DESCRIPTION		COMPLIANCE	BRS/CYCS AVAILABLE
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		and the second s			· · · · · · · · · · · · · · · · · · ·
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				الله المحاجب المستخدم المنظم	· · · · · · · · · · · · · · · · · · ·

A - AS IT S FT - PURCTROWAL TESTED

F - PURED

RC-PILTER CLEANED R - REPASSED C - CLEANED

S - STRANKE

M-RESIDE TESTED

1 - NEW

0 - OVERHAULED 1 - DAYFECTED

Term No. 700042 180 08/97



# Shop Visit

Allied Signal – November 1997

AlliedSignal, Inc.

## ACCEPTANCE TAG

ALROSPACE

Engine Division

OFFEE PRICE	Material State of the State of		····		<del></del>	· · · · · · · · · · · · · · · · · · ·		
		ERIAL NO.		OMER NA		CUST CODE	1	DATE
	00550-1 N	P-1154		COMMER	CIAL	172	331-500 (B)	1197
	HANGES QTY. INSI	SIGNATUR		MP ALLC	CATIC	ON & DATE	SALES/REPAIR OR	DER NO.
25	NONE 1		an An	30 51 2107(	REL)D	LU 11/18/97	418475-0030	;
-	NDC COMPO					TRACEABL	E PARTS	
PART NO.	NOMENCLATURE	SERIAL 198.	SERIES	PART NO.	SERI	L NUMBER	LOT NUMBER	HOURS
16/1488-2	AIR/OIL COOLER	77-339	2	3822341-4	970	322900951	97P280	00:00
2704442~4	ELEC. STR. MTR.	77-394	1	3822468-3	970	322901025	97P300	00:00
304643-2	DATA MEM. MOD.	GE-1392	1	3822483-1	960	322906712	97P312	00:00
441761-7	FUEL CLUSTER	CUA10231	NONE	3842151-2	970	335700399	97P284	00:00
3202610-4	APU CHK. VALVE	286	1	3842155-3	960	335701592	97P309	00:00
3283076-4	A.T.S.C.V.	314	1	3842160-5	970	134505954	97P319	00:00
3505814-3	AIR TURE. START.	312	1					
3804011-8	DRY. COMP. ASSY.	P-254	NONE					
3805034-8	G/BOX. ASSY.	P-247	1					
3826980-8	ENG. COMP. ASSY.	P-254	VONE					-
3844517-5	TURB. MOD. ASSY.	P-254	NONE					<del></del>
3883499-2	I.G.V. ACT.	0222	NONE					
3884863-6	PNEU. CLUSTER	P-304	1					<del></del>
3888275-8	IGNITION CLUSTER	NONE	NONE					
4131000-5	LUBE C USTER	342	1					<del> </del>
3290814-4	3.C.V.	337	1	F. T. DATE	: 20	NOVEMBER	1997	+
160536-1	TEMP. CONT. VALVE	77-386		DRY WEIG		27LBS.		_
LOGRO	OK WITH ENGINE: ?	YES					+ <del></del>	
	Mary Calendar Control Control Control	The state of the land of the l			-		المريب في المراجع والمالة المالية في ويون في المالية والمالية والمالية في المالية في المالية في المالية في الم	

# AlliedSignal, Inc. ACCEPTANCE TAG

Engine Division



	E/INSTALL NO. 800550-1	N'	ERIAL NO. P-1154	1	TOMER NAM BOEING	1E	CUST CODE 172	MODEL 331-500 (B)	DATE 1197
SERIES 25	CHANGES QT NONE 1	Y. INS	P. SIGNATURI				ON & DATE LU 11/18/97	SALES/REPAIR OR 418475-0030	
	NDC	COMPON	ENTS.	8			TRACEABLE	PARTS	
PART NO.	NOMENCLAT	TURE	SERIAL NO.	SERIES	PART NO.	SERI	IAL NUMBER	LOT NUMBER	HOURS
160488-2	AIR/OIL CO	OLER	77-339 🗸	2	3822341-4	97	0322900951	97P280	00:00
2704442-4	ELEC. STR.	MTR.	77-394	1	3822468-3	97	0322901024	97P300	00:00
304643-2	DATA MEM.	MOD.	GE-1392	1	3822483-1	96	0322906712	97P312	00:00
441761-7	FUEL CLUS	STER ,	CUA10291	NONE	3842151-2	97	0335700399	97P284	00:00
3202610-4	APU CHK. V	ALVE"	286	1	3842155-3	96	0335701592	97P309	00:00
3283076-4	A.T.S.C.	v.	314		3842160-5	97	0134505954	97P319	00:00
3505814-3	AIR TURB. S	TART.	312	1			11/37	N. Se	
3804011-8	DRV. COMP.	ASSY.	P-254	NONE	Marian		12075		10
3805034-8	G/BOX. AS	SSY.	P-247	1 1	ACCES - Land	All Co			311
3826980-8	ENG. COMP.	ASSY.	P-254	NONE	SBUS			40	
3844517-5	TURB. MOD.	ASSY.	P-254	· NONE	SHEETS.				
3883499-2	I.G.V. AC	CT.	0222	NONE	14				
3884863-6	PNEU, CLUS	STER	P-304	1	36202.		AA3	244	7.50
3888275-8	IGNITION CL	USTER	NONE	NONE	West of the				
4131000-5	LUBE CLUS	STER	342	1	Winds and		100000		13
3290814-4	S.C.V.		337	1	F. T. DATE:	20	NOVEMBER 19	97	148
160536-1	TEMP. CONT.	VALVE	77-286	1	DRY WEIGH	IT:	727. Lbs.		

DATE	ACCUMU- LATED ENGINE HOURS	ACCUMU- LATED ENGINE STARTS	REMARKS, INSPECTIONS, REPAIRS, AND ADJUSTMENTS  3800550-/ P-1154	SIGNATUR
11-20-97	X	8	NEW PRODUCTION UNIT SERIES & CHANGE CHANGE	499
2-2-98	8	8	INSTALLED ON WB166, REGISTRATION 9M-MRF.	
3-18-98	28	62	ACCUMULATED DURING PRODUCTION	
			TESTING AT BOEING.	
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			No.	
				26

PAGE 2 OF 2-1D
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#### ACCEPTANCE TEST DATA SHEET

APU S/N P= 1154

ATP PARAGRA	PH>>		4.3.8	4.3.10	4.3.12	5.1
QUANTITY		UNITS	103°F, ECS	NO LOAD	103°F, MES	CONSUMPTIO
BAROMETRIC PRESSURE		PSIA	14.13	14.13	14.12	1
AVERAGE INLET TEMP		DEG F	72.3	73.0	74.6	
UNIT INLET TEMPERAT	TURE (T2)	DEG F	71.1	73.6	73.2	
OIL PRESSURE		PSIG	68.7	69.6	63.5	
OIL TEMPERATURE	ARBOX PRESSURE		149.9	143.2	151.9	
GEARBOX PRESSURE		PSIA	14.2	14.2	14.2	
TURBINE DISCHARGE TEMPERATURE (UNIT RAKES)	UPPER	DEG F	1015.2	682.3	1052.1	
	LOWER	DEG F	998.9	685.9	1048.4	
EXHAUST GAS TOTAL TEMPERATURE	ACTUAL	DEG F	1032.7	699.4	1080.0	
ANDIANA TEMPERATURE	CORRECTED *	DEG F	1095.8			
ORIFICE INLET PRESS	SURE	PSIA	51.69		58.49	
ORIFICE INLET TEMPE	ERATURE	DEG F	_ 387.9 -			
ORIFICE DELTA P		- PSID	2.10		.88	Classical Control of the Control of
EXHAUST STATIC PRES	SURE	PSIA	14.13			
IGV POSITION **		DEG	12.1	277	1.6	
CORRECTED BLEED AIR	ORRECTED BLEED AIRFLOW		167.3		1000000	
77 FFF	ACTUAL	LB/MIN	474.3		327.3	
BLEED AIRFLOW	CORRECTED *	LB/MIN	466.1		298.3	
BLEED	ACTUAL	PSIA	53.52		59.27	
BLEED TOTAL PRESSURE	CORRECTED *	PSIA	53.53	Shirt-balancial and		
	ACTUAL	- DEG F	395.8		54.60	
BLEED FOTAL PEMPERATURE	CORRECTED *	DEG F	426.3		416.1	
	ACTUAL	LB/HR		227.2		
FUEL CONSUMPTION	CORRECTED	LB/HR	618.6	327.2	652.2	
	OIL QUANTITY A	CM^3	622.6			
OIL	OIL QUANTITY B	CM^3				110
	OIL CONSUMED	CM <sup>3</sup>				60
	TOTAL OPER TIME	HRS	SECTION OF THE PROPERTY COMES			1
CONSUMPTION	CONSUMPTION RT					2:17
	MAX CONSUMP RT	CM^3/HR				0
SHAFT OUTPUT CORRECT	A REPORT OF THE PROPERTY OF TH	CM^3/HR				12.0
		HP	202.7		202.0	
NIT VIBRATION	ACCESSORY	IM/SEC	.133	.176	.132	
DII CDEED	TURBINE	IN/SEC	.255	.250	.259	
APU SPEED	T DV DDD 1	RPM	39045.	39050.	39045.	
DEGITETOLETOL	BLEED AIRFLOW	LB/MIN				
PECIFICATION	BLEED PRESSURE	PSIA	52.6		54.6	
EQUIREMENTS	MAX IGV POS	DEG	9.5			
CORRECTED)	SHAFT POWER	HP	202.0		202.0	
	EGT	DEG F	1151.0		1137.0	
IGITAL ĈAÑ		TIME	12:44	13:01	13:17	
CAN	- [	DATE	11/20/97	11/20/97	11/20/97	

PAGE 1 OF 2

#### DSC3800550-1D ACCEPTANCE TEST DATA SHEET 331-500[B]

USED WITH TI-3800550

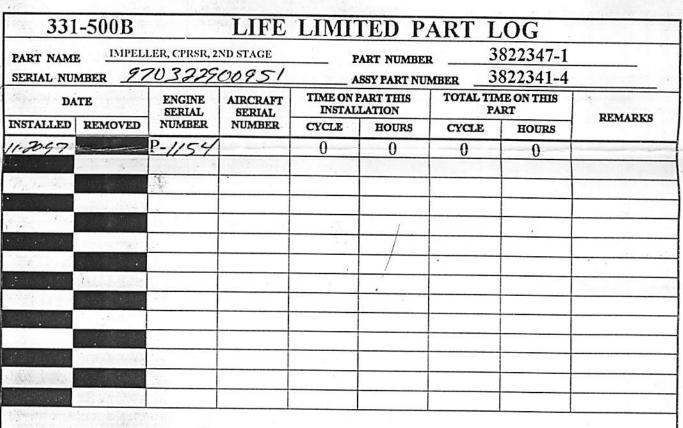
REV A

		Profession of		ATP 3	1-10160-1
UNIT OUTLINE: 3800550-1 MODE	EL:331-500[B]	SERI	AL NO: P-	- 1154 DATE:	REV. <u>C</u> 11/20/97
TEST CELL NO: D106 RUN	NO: <u>1</u>	RE	PAIR ORDE	ER NO: NA	
PROD RELEASE NO: 2107		OI	L USED: M	11L-L-23699	TYPE:
AIRFLOW MEASURING SEC NO:	OP 1541	FU	EL USED:	ASTM MIL- D1655	TYPE: JET "A
*APUC PART NO: 21/8834 -	3		UC S/N: _	The state of the s	
	ITEM		UNITS	RECO	)RD
APUC DRY WEIGHT		1	LB		
APU DRY WEIGHT (FROM APU TR	AVELER)		- LB	727.0	
TOTAL NUMBER OF STARTS DURI	NG ATP .		NO.	6	
TOTAL OPERATING TIME DURING	ATP		HOUR	2:41	
AUTOMATIC START (ELECTRIC)			SECONDS	60 SEC MAX	52
STARTER CUTOUT (ELECTRIC)			SECONDS	40 SEC MAX	38
AUTOMATIC START (PNEUMATIC)			SECONDS	60 SEC MAX	38
STARTER CUTOUT (PNEUMATIC)			SECONDS	40 SEC MAX	27
ATSCV SUPPLY AIR PRESSURE			PSIG	20 PSI MIN	40
ATSCV SUPPLY AIR TEMPERATUR	Е	1 4	DEG F	NIR	113
IGV PERF ADJ			DEG	111/10	2
LRU FAULTS OBSERVED:	NONE _	il c	OTHER _	_ /5//	
UNIT STATUS:	ACCEPT /	R	REJECT _		
REMARKS:	or the same of the				
TECHNICIAN: Ulu ) SUPERVISOR: Mulerun	[28]	FT 176		DATE: <u>//-20-</u>	- Paris de Land
* INDICATE "LAB SLAVE" AND S	6.39			DATE: 11-24-0	97
THE THE SHAVE AND S	EKIAL NO WHEN	1 APPLI	CABLE		

PART NAM	The second second	ELLER, CP 763229			ART NUMBER SSY PART NUI		822348-1 822468-3	
	ATE	ENGINE SERIAL	AIRCRAFT SERIAL	TIME ON P	ART THIS	TOTAL TIM	E ON THIS	REMARKS
NSTALLED	REMOVED	NUMBER	NUMBER	CYCLE	HOURS	CYCLE	HOURS	KEMAKAS
1.20.97		P-1154		0	0	0	0	
			-	9 9				
	Car Page 1		5.51.5					
						3		
外区的宣传的							- 3	
				-				
	DOM: SERVICE							-
Maryla (Carl								
	A SECTION							

Phoenix, Arizona 85072-2181

P.O. Box 52181





AEROSPACE

AlliedSignal Inc. AlliedSignal Engines P.O. Box 52181 Phoenix, Arizona 85072-2181

AX6167-2A

AX6167-2A



# LLP Back to Birth



# T1 LLP PN 3842152-1 SN 970335700399

	TE	ENGINE SERIAL	AIRCRAFT SERIAL	TIME ON P.		TOTAL TIME ON THIS PART		REMARKS
NSTALLED	REMOVED	NUMBER	NUMBER	CYCLE	HOURS	CYCLE	HOURS	REMARKS
1.20.97		P-1154		0	0	0	0	
				-				
			-					
			* -					
		<i>\$</i> . A	24					
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		art.						
SALVALIN.								
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that de A			21 (g) 1.	- F - S				



# T2 PN 3842156-1 SN 9603350701592

	1	

PART NAME SERIAL NUN	21	OR ASSEMBLY			PART NUMB ISC. PART NU		842156-1	
DA	TE	ENGINE SERIAL	AIRCRAFT SERIAL	TIME ON P		TOTAL TIN	E ON THIS	1 : AT - /AT - /
INSTALLED	REMOVED	NUMBER	NUMBER	CYCLE	HOURS	CYCLE	HOURS	REMARKS
11.20.97		P-1154		0	0	0	0	
41 41	ed Hells		1/3/3	- A -	69			20
100				» -1	\$			
	W. San							
40 M. Maria				1,61	15.		7	
and the		2 -		41				*
4. A. T.	313			14 P.	* *			
1-18-400								
Carlotta.	Maria .							
100								
1 1 mg 1 4	10000			11.00	el co			
Marajark -			y .					
· 45								



Alli-dSignal Inc.
Alli-dSignal Engines
P.O. Bor 52181
Phoenix, Arizona 85072-2181

AX6167-2



# T3 PN 3842160-5 SN 970134505954

PART NAME	The second secon	OR ASSEMBLY	the state of the s	and the Control of th	ART NUMBER		610894-	
ERIAL NUA	MBER 97	0/3450	15954	A	SSY PART NU	MBER 3	842160-	Series Alline
DA'		ENGINE	AIRCRAFT	TIME ON I	PART THIS	TOTAL TIM		
NSTALLED	REMOVED	SERIAL NUMBER	SERIAL NUMBER	CYCLE	HOURS	CYCLE	HOURS	REMARK
1.20.97		P-1154		0	0	0	0	
20 1000		1 // 2 /						
	3. A. C.							
4. 17. 11. 12.				T				
* * * * * * * * * * * * * * * * * * * *								
of the grant of			. 1-1		99 9 1			
	200				3			
44.								
	· · · ·	D. D						
Bright of		4.2		596	Barray.		U 7/11	
	lliedS			AlliedSigna AlliedSigna P.O. Box 52 Phoenix, Ar	l Engines	2181		AX61
				AlliedSigna P.O. Box 52	l Engines 181	2181		AX616
				AlliedSigna P.O. Box 52	l Engines 181	2181	<del>//</del>	AX610
				AlliedSigna P.O. Box 52	l Engines 181 izona 85072-2	2181		AX61
				AlliedSigna P.O. Box 52	l Engines 181 izona 85072-2	2181		AX61
				AlliedSigna P.O. Box 52	l Engines 181 izona 85072-2	2181		AX61
				AlliedSigna P.O. Box 52	l Engines 181 izona 85072-2	2181		AX61
				AlliedSigna P.O. Box 52	l Engines 181 izona 85072-2	2181		AX61



Load Impeller
PN 3822612-1
SN 11-182449-02712

# Honeywell

			LIFE LIMIT	ED PART	LOG		
ASSEMBLY NAM	ME:		PART N	UMBER:			SERIAL NUMBER:
LIFE LIMITED P.	ART NAME: IMPEL	LER, LOAD COMPRESSOR	PART N	UMBER: 3822612	-1		SERIAL NUMBER: 11-182449-02712
	ED PER FAR PART 2 ERTIFICATE PC413		SIGNAT	URE OR ACCEPTA	NCE STAMP: A-395		
DATE INSTALLED	DATE REMOVED	ENGINE SERIAL NUMBER	TIME ON PART THIS CYCLES*	HOURS	TOTAL TIME		SIGNATURE / FAA NUMBER
2 1 JUL 2011	REMOVED		0.0	0.0	CYCLES*	0.0	CACO COU SONIE
		P-1154					
				1994			
		-					
		CALLIEE LIMITED COMPONIENT					PX-3107-76C

<sup>\*</sup> SEE SERVICE LIFE LIMITS OF CRITICAL LIFE LIMITED COMPONENTS, ENTRIES SHALL COMPY TO FAR 43.

	LIFE LIMITED PART MAINTENANC	E RECORD				
DATE	MAINTENANCE PERFORMED	AUTHORIZED SIGNATUR				

PX-3107-76 BACK

FIM; 11 DT 010 ds

1110886

608-5972

Author	ring National Aviation ity/Country: United States		THORIZED RELEASE CERTIFICATE  90001989071Y14 8001000176-10 890001950512Y14 901501836-10								
4. Organ		I neywell International Inc 1 South 34th Street oenix AZ 85072	Production Approval PT1222NM	Honeywell Interna Units 2-4, Chevrol Hemel Hempstead United Kingdom	n Eaton Roa	d	5. Work Order/Contract/I 91820A1-404 Page 1 of 1				
6 Item	7. Description:		8. Part Number:		9. Eligibility:*	10. Quantity:	11. Serial / Batch Number:	12. Status / Work:			
	IMPELLER, LOAD COMPR	ESSOR	3822612-1		N/A	1	11-182449-02712	NEW			
REQUIR	AIRWORTHINESS APPROVAL EMENTS OF REPUBLIC OF S  ART IS A SUBCOMPONENT O		SPECIND								
]	Approved design data and	vere manufactured in conformity to	on.	locaribad in Black13 was	rwise specified	I in Block 13, the	er regulation specified in Block e work identified in Block 12 as with Title 14, Code of federal ms are appreved for return to s	4			
	Non-approved design data norized Signature:	16. Approval/Auth		20. Authorized Signature:		<del></del>	21. Approval/Certific	ate No.:			
i io. Auli	-	ODA-602216-N		-							
	Viny Mendo za		ļ	22. Name (Typed or Print			23. Date (m d y):				

national regulations of an airworthiness authority different than the airworthiness authority of the country specified in Block1. Statements in Block 14 and 19 do not constitute installation certification. In all cases, aircraft parts/components/assemblies from the airworthiness authority of the country specified in Block1. Statements in Block 14 and 19 do not constitute installation certification. In all cases, aircraft must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.

	oving National Aviation ority/Country:	, 2. AUTI	HORIZED RELEA	SE-CERTIFIC	ATE		3. Form Tracking Numb 890002014752Y14 8001029233-10	er:
	/United States		m 8130-3, AIRWORTH	IINESS APPROV	/AL TAG		890001997078Y14 901547600-10	
4, Orga		oneyweil International Inc 11 South 34th Street hoenix AZ 85072	Production Approval PT1222NM	Honeywell International Units 2-4, Chevro Homel Hempstea: United Kingdom	n Eaton Roa	d	5. Work Order/Contract 91820A1-403 Page 1 of 1	Trivolce Number:
6. Item:	7. Description:		8. Part Number:		9. Eligiblity:*	10. Quantity:	11. Serial / Batch Number:	12. Status / Work:
001	VALVE CHECK, APU		3202854-1		N/A	1	1100	NEW
REQUIS	REMENTS OF REPUBLIC OF	L - THIS ARTICLE MEETS THE SINGAPORE. OF A TSO AUTHORIZATION.	SPECIAL					
14. Cer	tifies the kems identified above	were manufactured in conformity to:		19. 14 CFR 43.9 F	eturn to Servic	e Other	regulation specified in Block	13
1	Approved design data ar  Non-approved design da	d are in a condition for safe operation	į.	described in Block 13 was	accomplished	in accordance	work identified in Block 12 a with Title 14, Code of tederal	1
	horized Signature:	16. Approvat/Autho		20. Authorized Signature:		at work, the iter	ns are approved for return to	
	Oring Mendo za	ODA-602216-NF						
L	ne (Typed or Printed):	19. Date (m d y):		22. Name (Typed of Print	ed):		23. Date (m d y):	
LUIS	MENDOZA	JUL 18 2011						
It is imp national parts/co must co FAA form	oriunt to understand that the e i regulations of an airworthines imponents/assembles from the main an installation certification in 8130 - 3 (6-01)	ustence of this document alone does a authority different than the airworth a airworthness authority of the count issued in accordance with the natio * Install	User / Installer Re not automatically constitute author ness authority of the country specific y specified in Block 1. Statements in all regulations by the user/installer or must cross check digibility with a	rity to install the part/comp fied in Block1, it is essent in Block 14 and 19 do not before the aircraft may b	ponent/assemi al that the use constitute inst e flown.	oly. Where the ur/insteller ensur allation certifical		accordance with sutherity accepts stanance records



1st STG Impeller
PN 3822483-1
SN 960322903503

#### Component History Card

Description	1st Stage Impeller	
Part No	2822483-1	100
Serial No	960322903503	4.
Item Number	2	

			Ur	nit		APU				Unit			
APU S/N	Fitment Date	Removal Date	CSN at Installation	TSN at Installation	Total Cycles at Installation	Total Hours at Installation	Total Cycles at Removal	Total Hours at Removal	Cycles Used	Hours Used	Accumulated CSN	Accumulated TSN	
P-1095	23Mar1997	14Nov2005	0	0	0	0	7,353	12,749	7,353	12,749	7,353	12,749	
P-1154	23Feb2006	22Jul2011	7,353	12,749	8,018	14,120	14,198	21,004	6,180	6,884	13,533	19,633	
P-1154	22Jul2011	18Mar2015	13,533	19,633	14,198	21,004	18,417	26,386	4,219	5,382	17,752	25,015	
P-1154	18Mar2015	28Oct2015	17,793	25,044	18,417	26,386	18,458	26,415	41	29	17,793	25,044	

Current Component CSN Current Component TSN

17,793 25,044

\* Current cycles and hours as of 28 October 2015

MOHAMED ZIAUDIN
EXECUTIVE TECHNICAL RECORDS
Technical & Planning
Engineering & Maintenance
Malaysia Airlines Berhad

liedSignal, Inc.

# ACCEPTANCE TAG

AlliedSignal

;ine Division

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	INSTALL NO. REV SI	RIAL NO. P-1095	CUST	OMER NA	ME CUST CO		DATE 0397
D- T - 1	HANGES QTY. INSP			MP ALLO	■ 14 × 44	E SALES/REPAIR OR	<b>.</b>
<i></i>	NDC COMPO	KENTS		i	TRACEA		na francisco petro de la la proposação de la colonida de la coloni
RT NO.	NOMENCLATURE	SERIAL NO.	SERIES	PART NO.	SERIAL NUMBE	R LOT NUMBER	HOURS
3488-2	AIR/OIL COOLER	116-276	2	3822341-4	960322902804	96P355	00:00
B4442-3	ELEC. STR. MTR.	46-242	1	3822468-3	960322900971	97P035	90:00
4643-2	DATA MEM. MOD.	GE1230	1	3822483-1	960322903503	97P057	90:00
1761-7	FUEL CLUSTER	CUA10243	NONE	3842151-2	950335701366	97P058	00:00
02610-4	APU CHK. VALVE	216	1	3842155-3	950335701380	97P046	00:00
83076-4	A.T.S.C.V.	214	1	3842160-5	960134506462	97P069	90:00
05814-3	AIR TURB. START.	211	1	<u> </u>		The same of the sa	**************************************
04011-8	DRV. COMP. ASSY.	P-195	NONE	i	and the second of the second o	TRESCRIPTION OF THE	· • · · ·
05034-8	G/BOX. ASSY.	P-195	<u> </u>	•	ngilly, olders and	w. of the latest and	,
26980-8	ENG. COMP. ASSY.	P-195	NONE	!		- was a second to the	
44517-5	TURB. MOD. ASSY.	P-195	NONE		The state of the s	the state of the s	
83499-2	I.G.V. ACT.	0140	NONE		and a supplemental state of the	Topogram a visitat propi grano	+
84863-6	PNEU. CLUSTER	P-224	1	- some		e entre sociale de la companya del la companya de l	
88275-8	IGNITION CLUSTER	NONE	NONE		1 11 10 11 11 11 11 11 11 11 11 11 11 11	ngaran ngarinasangan ngarinasan ngarangan na ana ngar <del>inasan ya</del>	
31000-5	LUBE CLUSTER	284	1	)	agyrayn aynnggosann mor noo baasintaanikkoma signa	The second discount and the second se	
90814-4	S.C.V.	264	· part in displaying to	A security or an expension of the contract of	E: 23 MAR 97	AND THE MAKEUM COMMITTEE C	-
0536-1	TEMP. CONT. VALVE	<ul> <li>Section of the control /li></ul>	1_1_	DRY WEI	HT: 723 Lbs.	rishte ochhasich — stadatetterribis 2 to stempo over regionarismen	
LOG BO	OK WITH ENGINE: 1	YES					

Part Name 😃 Erial Number	9603129			ART NUMBER MEY PART NUI		822340-2 822483-1	
DATE	ENGERE	AIRCRAFT	TIME ON I	LATION	TOTAL TIP		EFMARKS
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#### GTCP-331-500B - MODULES / LIFE LIMITED PARTS STATUS

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WC. 69113	١

	4m - MRJ	
A/C REGIN	3800550-1	
APU PRIO.	71000	
APPEND :	7 1005	
TANKCAN :	12749 7352	
THE / CHE	4308 244	•

MATE OF REMOVAL. 14-11-05	PAC	<b>१क</b> छन	5%5	TIM	Ę\$
BEASON FOR PREVIOUS REMOVAL:	LLER	BE WO	J.M.	HUH	TIME

			INC	OMING			OUTGOING						
MO.	DESCRIPTION	PART NUMBER	SERVAL MANGER	TEN	1.77%	REMARKS	PART NUMBER	SERIAL MUMBER	TAN CSH	TASK PERFORMED	BOC REFERENCE MATCH NO	REMARKS	
-	GRARBOX ASSY	3805034-0	D \ 0.5	12749 1		-	3209034-8	P145	12744 Hn	0		<b>†</b>	
		at a state	6-102	7352 0=			1202340	_	7352 cm	R -			
	DRIVE COMP. ASSY	3004011-0	D 1.5	12749 Ha			2020.00.00		12749 Hn	0		·	
			P- 102	7352 Cree			360401-8	6195	7362 0m	RAM .			
,,	ACTULLER COMP. LOAD	3622466 3	960372	12149 1	21000 Cyes		3635468-3	050322	PETTO OR	27			
			900011	7357 00	]		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	903197	2-24 CC (1-	2	<b>}</b> 1		
	EMG COMP. ARSY	1029090-0		(3) 4 J M			2411 00- 4		12749 M	Rin			
			PIAS	7353 Ga		1	38269854	P195	7352 9-	14.60			
	DAPELLER COMP THE STG	M23341-4	020322	12749 m	17000 Cym		3822341-4	000322	241.2hr	OE	a con	COM PH	
			903050	7352 00	1.			906545	3406 am			QC P.111	
.,	DATELLES COMP ISTSTO	1013483-1	960322	12749 -	12749	02.1	3622483-1	965322	13601 4344			France Pris	
			4 - 3503	1325 G	7353		50427651	903502	7749 0=	OE -		PPU PIN	
	TURBINE MOD ASSY	3544317-9	P 145	12749 1			20 5.7 5	0.05	12749 m	0.4.50			
			F 1-13	7352 00			3844517-5	P195	735200	Ram -			
41	IST STO ROTOR ASSY	1842151-3	450335	12749 16	37000 Cyes		3842151-2	950335	12449 100				
			701366	7352 00			1	701366	7353 Cm	R -			
4,2	IND STO ROTOR ASSY	3842195-1	050375	:27 49 8	37000 Cym		3842155-3	950335	12349 Hm				
			701380	7352 00				701380	7353 OF	R		,	
.,	MAD STO BOTOR ASSY	39(3)46-1	460134	12749 -	17000 Cycs		38421W-5	010134	12449 #	R			
-			506462	7352 00	1		2572100-3	506462	1353 0	K			

#### WORK CODE

A - AS IT IS

R - EXCHANGE

T-FUNCTIONAL TESTED

M - MODIFIED

F - FLUSHED

PT - PRESSURE TESTED

PC - FILTER CLEANED

N - NEW

R - REPAIRED

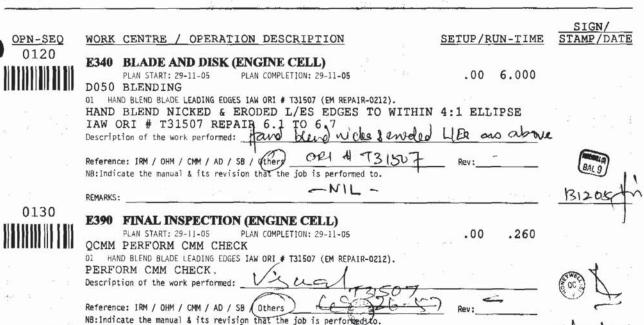
O - OVERHAULED

C - CLEANED

1 - INSPECTED

Form No 700042 R1 04/02

692801-090 ROUTING CARD ORIGINAL RE-MANUFACTURING · HONEYWELL (SINGAPORE) PATE LTD DATE: 10-12-05 \*CRITICAL\* 691131-087 TIME:11:14:45 A32200 PAGE: ORD.ENTRY: 172726 CUST P.O.: NP5309776 ROUTE-TO.: PART NO..: 3822483-1 **OUANTITY.:** ASSEMBLY.: 331-500PS0101 1 PRODUCT..: APU Hardware ASSY WONO: 691131-054 PART DESC: IMPELLER-1ST STAGE JOB SCOPE: Repair START DTE: 29-11-05 CUSTOMER .: MAS WO CREATE: 9-12-05 CMPLT DTE: 30-11-05 1.63Days CREATE BY: 0385 ELWIN PHANG SEN MODEL NO.: GTCP331 CS EXEC..: RICKY LEE (TEL 65-68 OE CREATE: 29-11-05 C.OIL.SYS: YES Cost Estimation Required. All work shall be put on hold until approved by customer. Maintain Parts Integrity. Same basic Serial No. to be returned after repair/rework. REMOVAL REASON: FOR REPAIR UNDER MSA AGREEMENT. STS MSG APU START SYS. TIMES. C/OUT PERFORMANCE RESTORATION PER W/SCOPE REF: EPE900/GTCP331-500/04/05 OUTSTANDING SPECIAL INSP: FUNCTIONALLY CHECK (OFF-A/C) APU COMBUSTOR DRAIN VALVE(ARN 49-16-99-28) (MPD 49-060-00) NOTE: CHECK PER ALLIED SIGNAL CMM 49-31-09. LOG BOOK: 01, LIFE LIMITED PARTS LIST: 02 PAGES & OUTSTANDING SPECIAL INSPECTION LIST: 01 PAGE RECEIVED. PLEASE TAKE NOTE OF APU HOURS/CYCLES RECEIVED: DMM READING: TSN=12749.50/CSN=7353 CUSTOMER PO: TSN=12749.00/CSN=7352/TSF=4308.00/CSF=2490 CERT: FAA REQUIRED. 1ST AMEDNMENT - RICKY LEE - 291105 COMPLY SB-ALLIED-SIGNAL-331-49-7537 (KIT NOT PROVIDED). PART SERIAL NO .: S/N: 960322903503 12749.50 TSN UNKNOWN TSR 7353 CSN UNKNOWN CSR UNKNOWN TSF UNKNOWN CSO UNKNOWN CSF REG: UNKNOWN TSO NHA: PART SRL RMV OC 7 SERIES: CUST PART WORK SCOPE: INSPECTED AS PER ATA 49-26-57 HONEYWELL/S VISUAL: STAMP/DATE: PWU 17 DEFECT DESCRIPTION: L/EDGE NICKED & ERODED. BALANCE. REPAIR DESCRIPTION: STAMP/DATE: 01 HAND BLEND BLADE LEADING EDGES IAW ORI # T31507 (EM REPAIR-0212) HONEYWELLS MP 091205 PWI 17 07 BALANCE IAW ORI # T31618 (EM REPAIR-0213). ETCH X:74 CYCS. KOH SIGN/ OPN-SEQ WORK CENTRE / OPERATION DESCRIPTION SETUP/RUN-TIME STAMP/DATE 0120 E340 BLADE AND DISK (ENGINE CELL) PLAN START: 29-11-05 .00 6.000 PLAN COMPLETION: 29-11-05 D050 BLENDING 01 HAND BLEND BLADE LEADING EDGES IAW ORI # T31507 (EM REPAIR-0212). HAND BLEND NICKED & ERODED L/ES EDGES TO WITHIN 4:1 ELLIPSE Description of the work performed: fand been wicks sended LER as above OPI 4 73150 Reference: IRM / OHM / CMM / AD / SB / Others NB: Indicate the manual & its revision that the job is performed to. -NIL



Sa tis

204

ROUTING CARD ORIGINAL RE-MANUFACTURING HONEYWELL (SINGAPORE) PTE LTD DATE: 10-12-05 \*CRITICAL\* 691131-087 TIME:11:14:45 2200 PAGE: CUST P.O.: NP5309776 ORD.ENTRY: 172726 ROUTE-TO .: PART NO..: 3822483-1 ASSEMBLY .: 331-500PS0101 OUANTITY .: 1 PRODUCT..: APU Hardware ASSY WONO: 691131-054 PART DESC: IMPELLER-1ST STAGE JOB SCOPE: Repair START DTE: 29-11-05 CUSTOMER .: MAS 1.63Days CMPLT DTE: 30-11-05 CREATE BY: 0385 ELWIN PHANG SEN WO CREATE: 9-12-05 MODEL NO.: GTCP331 OE CREATE: 29-11-05 CS EXEC. : RICKY LEE (TEL 65-68 C.OIL.SYS: YES SIGN/ WORK CENTRE / OPERATION DESCRIPTION SETUP/RUN-TIME STAMP/DATE OPN-SEQ 0140 0041 NDT .00 2.000 PLAN START: 29-11-05 PLAN COMPLETION: 30-11-05 NF10 FREQUENCY CHECK 01 HAND BLEND BLADE LEADING EDGES IAW ORI # T31507 (EM REPAIR-0212). PERFORM RESONANT FREQUENCY CHECK IAW ORI # T31507 REPAIR 6.8 REFER BLUE-PRINT P/N 3822340 (1870HZ - 2170HZ).

Description of the work performed: Reference: IRM / DHM / CMM / AD / SB / Shere C /C / 3/5

NB:Indicate the manual & its revision that the job is performed to. atis. 0150 E41F NDT, FPI (ENGINE CELL) .00 1.000 PLAN START: 30-11-05 PLAN COMPLETION: 30-11-05 NP10 FLUORESCENT PENETRANT INSPECTION 01 HAND BLEND BLADE LEADING EDGES IAW ORI # T31507 (EM REPAIR-0212). PERFORM FPI ON BLENDED AREAS IAW ORI # T31507 REPAIR 6.10 AND ORI # T31618 REPAIR 3 Description of the work performed: FP Reference: IRM / OHM / CMM / AD / SB / Others NB: Indicate the manual & its revision that the job is performed to. NO CRACKS FOUND REMARKS: 0160 E330 BALANCING (ENGINE CELL) .00 1.000 PLAN COMPLETION: 30-11-05 PLAN START: 30-11-05 BB10 BALANCE 07 BALANCE IAW ORI # T31618 (EM REPAIR-0213). BALANCE IAW ORI # T31618 REPAIR 4. ETCH X = 74 CYCS Description of the work performed: 7.31618 ORI Reference: IRM / OHM / CMM / AD / SB / Others NB:Indicate the manual & its revision that the job is performed to. -NIL REMARKS: 0170 E340 BLADE AND DISK (ENGINE CELL) PLAN START: 30-11-05 PLAN COMPLETION: 30-11-05 .00 2.500 DS10 SHOTPEENING 01 HAND BLEND BLADE LEADING EDGES IAW ORI # T31507 (EM REPAIR-0212). SHOT-PEEN REPAIRED BLADES IAW ORI # T31618 REPAIR 5. STEEL SHOT SIZE : CS170. INTENSITY : 0.003 - 0.006" ALMEN A2. SHOT-PEEN SPEC. # : AMS2430. PROCESS CONTROL # : SP107 REVISION 0 DATED FEB 10 2003. Description of the work performed: Deen 10 Reference: IRM / OHM / CMM / AD / SB / OFF NB: Indicate the manual & its revision that the job is performed to. 210.005

0180

#### E390 FINAL INSPECTION (ENGINE CELL)

PLAN START: 30-11-05 PLAN COMPLETION: 30-11-05

.00 .300

QF10 FINAL INSPECTION

01 HAND BLEND BLADE LEADING EDGES IAW ORI # T31507 (EM REPAIR-0212).

7 BALANCE IAW ORI # T31618 (EM REPAIR-0213).

· HONEYWELL (SINGAPORE)

PART NO..: 3822483-1

PART DESC: IMPELLER-1ST STAGE

CREATE BY: 0385 ELWIN PHANG SEN

CS EXEC..: RICKY LEE (TEL 65-68

ROUTING CARD

ORIGINAL

**RE-MANUFACTURING** 

DATE: 10-12-05 TIME:11:14:45

PAGE:

DIE LTD \*CRITTCAL\* 2200

CUSTOMER .: MAS

691131-087

ORD.ENTRY: 172726

WO CREATE: 9-12-05

OE CREATE: 29-11-05

1 QUANTITY .: PRODUCT..: APU Hardware ASSY WONO: 691131-054

JOB SCOPE: Repair

START DTE: 29-11-05

ASSEMBLY.: 331-500PS0101

CMPLT DTE: 30-11-05

CUST P.O.: NP5309776

MODEL NO.: GTCP331 C.OIL.SYS: YES

SETUP/RUN-TIME

OPN-SEQ

ROUTE-TO.:

WORK CENTRE / OPERATION DESCRIPTION

FINAL INSPECTION. SB Complied:

NOT-APPLICABLE New PartNo.:

I HEREBY CERTIFY THE REPAIR HAS BEEN CARRIED OUT SATISFACTORILY IN ACCORDANCE AT ABOVE INSTRUCTIONS. IN CONJUNCTION I HEREBY CERTIFY THAT THE WORK ABOVE HAS BEEN CARRIED OUT IN ACCORDANCE WITH THE :

- CURRENT REGULATIONS OF THE UNITED STATES FEDERAL AVIATION ADMINISTRATION AND IS APPROVED FOR RETURN TO SERVICE, AND

- EASA-145 AND IN RESPECT TO THAT WORK THE AIRCRAFT COMPONENT IS CONSIDERED READY FOR RELEASE TO SERVICE.

\* DELETE WHERE APPROPRIATE

SIGN/ STAMP/DATE

1.63Days

#### Honeywell (Singapore) Pte Ltd



#### **TURBINE ACCEPTANCE TAG & TRACEABILITY INPUT**

PART NO:

3800550-1

SERIAL NO.:

P-1154

CUSTOMER:

MAS

MODEL:

GTCP331-500B

SERIES

25

DATE

23 FEB 2006

W/O NO.:

692501

TSR/TSN:

00 / 14120:43

CSR/CSN:

00 / 8018

<u>DESCRIPTION</u>	PART NO.	SERIAL NO.	<u>LOT NO</u>	<u>TSN</u>	<u>CSN</u>	<u>LIFE</u> <u>LIMITS</u>
1ST T-WHEEL ASSY	3842151-3	LN97P284	970335700399	14120:43	8018	27000 CYC
2ND T-WHEEL ASSY	3842155-3	LN97P309	960335701592	14120:43	8018	27000 CYC
3RD T-WHEEL ASSY	3842160-5	LN97P319	970134505954	14120:43	8018	27000 CYC
1ST STG IMPELLER	3822483-1	LN97P057	960322903503	12749.50	7353	27000 CYC
2ND STG IMPELLER	3822341-4	LN03P193	020322905617	3460.22	1984	27000 CYC
DRIVEN COM IMP	3822468-3	LN05P141	050322901613	00	00	27000 CYC

#### **APU - ACCESSORIES RECORD**

DESCRIPTION	<u>PART NO.</u>	<u>SERIAL NO.</u>	<u>SERIES</u>	<u>CHG NOS</u>	<u>REMARKS</u>
STARTER CTRL VALVE	3283076-5	314C	1		
AIR TURB STARTER	3505814-3	246	1		REPAIRED EXCHANGE
STARTER MOTOR	2704442-4	77-385	1		
FUEL CLUSTER	3879008-1	CUA10186	-		
IGV ACTUATOR	3883499-2	0262	-		
PNEU CLUSTER	3884863-7	P304	1		
CHECK VALVE	3202610-5	581	1		
SURGE CTRL VALVE	3290814-5	3290814/337C	-		
LUBE CLUSTER	4131000-6	342C	1		
AIR OIL COOLER	160488-2	77-339	2		
TEMP CTRL VALVE	160536-1	77-286	2		
IGNITION UNIT	3876195-8	020218034031	-		
IGNITION SYSTEM ASSY	3888275-9	-	-		
G/BOX ASSY	3805034-8	P247	1		
DRIVEN COMP	3804011-8	P254	-		
COMP MODULE	3826980-9	P254	-		
TURB MODULE	3844517-5	P254	-		
DATA MEMORY MODULE	304643-2	GE1392	1		

**REMARKS:** 

NOTE: APU HOURS AND CYCLES ARE BASED ON DMM.

REPAIRED EXCHANGE 1ST STG IMPELLER S/N 960322903503 FROM MAS APU S/N P1095 AND OVERHAULED EXCHANGE 2ND STG IMPELLER S/N 020322905617 FROM MAS APU S/N P1328.

INSPECTOR SIGNATURE & STAMP.

Pg 1 of 1

#### GTCP-331-500B-MODULES / LIFE LIMITED PARTS STATUS

At malaysia

APU P/NO: 3800550-1 APU S/NO: P1154 A/C REGN: 9M-MRB

TSN/CSN: 14120.00 / 8018

DATE OF REMOVAL: 28/12/2005

**REASON FOR REMOVAL:** 

METAL IN MCD

**REASON FOR PREVIOUS REMOVAL:** 

CONTAMINATED WITH LARGE PARTICLES

CUSTOMER: MAS JOB CARD NO: DATE RELEASED:

TSF/CSF: 2916.00 / 1631 INCOMING								OUTGOING						
МО	DESCRIPTION	PART NUMBER	SERIAL NUMBER	TSN/CSN	LIFE	REMARKS	PART NUMBER	SERIAL NUMBER	TSN/CSN	TASK PERFORMED	DOC.REFERENCE BATCH NO.	REMARKS		
1	GEARBOX ASSY	3805034-8	P247	14120/8018			38050X4-8	P247	8018	REPARED				
2	DRIVE COMP.ASSY	3804011-8	P254	14120 / 8018			જે. જે.	P254	14120 8018	REPAIRED AND MUDIFIED	1			
2.1	IMPELLER COMP LOAD	3822468-3	030322902079	2916 / 1631	27000 CYCS		Z8)2468-Z	020375	00	1		NEN		
3	ENG.COMP.ASSY	3826980-8	P254	14120 / 8018			3826980A	P254	8018	REPAIRED AND MODIFIED				
3.1	IMPELLER COMP.2ND STG	3822341-4	970322900951	14120 / 8018	27000 CYCS		38223412	71820P 71820P	3460)) 1984	_		exchance Caechanted		
3.2	IMPELLER COMP.1ST STG	3822483-1	990322901217	8014 / 4798	27000 CYCS		3822485·1	20220P 20220P	2.PAPC1 EZEP	<b>–</b>		exchange Kelvinged		
4	TURBINE MOD.ASSY	3844517-5	P254	14120 / 8018			38445Tr5	P254	14120 8018	RGPAIRED AND MODIFIED				
4.1	1ST STG ROYOR ASSY	3842151-3	970335700399	14120 / 8018	27000 CYCS		38421Sr3	9703 <b>33</b>	14120 8018	REPLIKED				
4.2	2ND STG ROTOR ASSY	3842155-3	960335701592	14120 / 8018	27000 CYCS		38421SS-3	910350	14120 8018	INSPECTED AND BALANCED		Drzeedpale Spri		
4.3	3RD STG ROTOR ASSY	3842160-5	970134505954	14120 / B018	27000 CYCS		38421605	9701345 5954		INSPECTED AND BALANCED				

1. Approving Nationa Authority/Cou	l Aviation 2.	AUTHORIZED			CATE		king Number:	
FAA/UNITED	STATES	FAA Form 8130-	-3, AIRWORTHINESS	APPROVAL TAG		\$11/4818	114	
4. Organization Name	Honeyw (Gul Cir 161 Gul				FT4Y192M		er/Contract/Invoice Number: 256484-000 307680	
6. Re(1: 7.	Description:	8. Part Number:	9. Eligibility:*	10. Quantity:	11. Serial/Batcl	Number:	12. Status/Work:	
001 GTCP331	-500B	3800550-1	N/A	1	P-1154		OVERHAULED	
13. Remarks:								
REFER TSN: 2 OF LLP APU ON PER CU 8130-3 THIS W BLOCK	TO FORM GTCP331-500B- 1004:05, CSN: 14198 1 CYCLES. RELEASE DMM TSN: 210 STOMER REQUEST CONCUP /MALAYSIA AUTHORISED ORK ORDER WITH THE SA 5 ON THE CERTIFICATE.	RRENT RELEASE OF CERTIFICATES RELEASE CERTIFICATE ARE RELE AME PURCHASE ORDER NUMBER AS	ITED PARTS. OR COMPUTATION  FAA FORM ASED ON LISTED IN					
14. Certifies the items is	lentified above were manufa-	ctured in conformity to:	V	CFR 43.9 Return to Service	The second secon	lation specified in		
	n-data and are in condition for design data specified in Block		was acc	s that unless otherwise spec omplished in accordance wi is are approved for return to	th Title 14, Code of Fed	ork identified in l eral Regulations,	Block 12 and described in Blo part 43 and in respect to that v	ck 13 vork,
15. Authorizet Signatur		16. Approval/Authorization			We will the second	21	. Approval/Certificate No.:	
17. Name (Typed-of Pri	nted):	18. Date (m/d/y):	22. Name (Ty	ped or Printed): NG KWOK KAU	(36)	23	FT4Y192M . Date (m/d/y) : JUL/22/2011	
11.1			User/Installer Respo	nsibilities	V		AND AND AND A	
his/her Airworthiness Au	thority accepts parts/compone	s Document alone does not automatically national regulations of an Airworthiness ents/assemblies from the Airworthiness Au tallation certification. In all cases aircraft	Authority different than the Air	worthiness Authority of the	country specified in bloc	k 1, it is essential	that the user/installer ensures	that aller



#### Honeywell Confidential

#### TURBINE ACCEPTANCE TAG AND TRACEABILITY INPUT

PART NO: 3800550-1

SERIAL NO: P-1154

CUSTOMER: MAS

MODEL: GTCP331-500B

SERIES: 25

DATE: 22-Jul-11

W/O NO: 756484-000

TSN: 21004:05 TSR: NA TSO: 00

CSN: 14198 CSR: NA

CSR: NA

DESCRIPTION	PART NO	SERIAL NO	LOT NO	TSN	CSN	LIFE LIMITS (CYCLES)
D/COMP IMPELLER	3822612-1	11-182449-02712	112101098	00	00	27000
IST STG IMPELLER	3822483-1	960322903503		19632.86	13533	27000
2ND STG IMPELLER	3822341-4	020322905617	03P193	10343.58	8164	27000
1ST T-WHEEL ASSY	3842151-3	070335700300		2100100		
DISK PART NO	3842152-1	970335700399	•	21004.08	14198	27000
2ND T-WHEEL ASSY	3842155-4	040335701503	-			
DISK PART NO	3842156-1	960335701592	-	21004.08	14198	27000
3RD T-WHEEL ASSY	3842160-5	970134505954	-	21004.08	14198	27000

#### APU ACCESSORIES RECORD

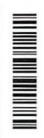
DESCRIPTION	PART NO.	SERIAL NO.	<u>SERIES</u>	CHG NOS	REMARKS
STARTER CTRL VLV	3283076-5	374	1		
AIR TURB STARTER	3505814-3	246	1	-	***************************************
STARTER MOTOR	2704442-5	77-385	2	-	
FUEL CLUSTER	3879008-1	CUA10186	-	-	
IGV ACTUATOR	3883499-3	0262	-	-	
PNEU CLUSTER	3884863-7	P-304	1	-	
CHECK VALVE	3202854-1	1100	1	-	
SURGE CTRL VALVE	3290814-5	3290814/337C	-	-	
LUBE CLUSTER	4131000-6	342C	1	-	
AIR OIL COOLER	160488-2	77-339	2	-	
TEMP CTRL VALVE	160536-1	77-286	2	-	
IGNITION UNIT	3876195-8	020218034031	-	-	
IGNITION SYS ASSY	3888275-9	UNK	-	-	
G/BOX ASSY	3805034-8	P-247	-	-	
DRIVEN COMP	3804011-8	P-254	•	-	
COMP MODULE	3826980-9	P-254	•		
TURB MODULE	3844517-5	P-254	•	-	
DMM	304643-2	GE1392	1	-	

REMARKS: NIL

INSPECTOR SIGNATURE & STAMP:

FORM: GTCP331-500B-G16-R3 (ddmmyy 030810)

1. Cou	<sup>ntry:</sup> Malaysia	2 . Department of	Civil Aviation Malaysia AUTHORIZED R AIRWORTHINES			ICATE		3. Form Tracking Nu 20150000580130 320093302	
4. App	roved Organization Name and	(Gul Čii 161 Gu			air Station 0037/78			5. Work Order/Contract/Invoice: NP5300937 320093301 Page 1 of 1	
6.Item	7. Description:		8. Part No:		9. Eligibility:	10. Qty:	11. Serial / Batch	n No:	12. Status / Work:
001	ENGINE OUTLINE GAS	TURBINE	3800550-1		UNKNOWN	1	P-1154		OVERHAULED
13. 1	Remarks :		•	C	ONTINUED:				
THE	SERVICE SPECIFIED HAS	BEEN ACCOMPLISH	ED IN ACCORDANCE	T	SN: 26386:34 CSN	18417 IS	AT POINT OF I	NSTALLATION FOR	
WITH	:SPM 20-00-02/70-00-01	Rev 18, JUN/14	/2013	C	OMPUTATION OF LL	CYCLES A	ND WAS DERIVED	FROM DMM.	
IRM	49-24-79 Rev 7, MAY/29	/2014		D	MM HRS/CYCLES ON	RELEASE I	S 26388:34/184	23	
IPC	49-26-55 Rev 16, MAY/2	8/2013		(	2:00 HRS AND 6 C	CLES USED	IN APU FINAL	TESTING).	
EM 4	9-26-57 Rev 19, OCT/17	/2014		S	HIPPED LESS GENER	RATOR COVE	R PN 3862212-3	AND	
1,531,00-327	49-42-05 Rev 2, NOV/11			В	OOT TERMINAL PN :	709968-1.			
111200 000	IRWORTHINESS DIRECTIVE		THIS APU.	т	SN: 26386:34 CSI	N: 18417	TSO: 00 CS	O: 00	
REFE	R TO FORM GTCP331-500B	-G16-R.6 ATTACH	ED						
FOR	LIFE LIMITED PARTS.								
For	Service Bulletin compl	ied							
	attached Service Reco		letin Compliance						
3 2 7 7 7 7 7 7 7 7	CONTINUED ON RIGHT SI		•						
	TTACHED DOCUMENTS AS APPL	THE RESERVE OF THE PARTY OF THE			57	Was a second		21718 PAT 15	Wiledam Strate
14. Ce	rtifies the items identified abov			19.			A PARTICIPATION AND A PART	er regulation specified	
	Approved design data a Non-approved-design d			des	rtifies that unless othe scribed in Block13, wa rk the items are consider	s accomplish	ed in accordance v	work identified in Block with JAR-145 and in re se.	12 and      spect to that
15. Au	thorised Signature:	16.	. Approval/Authorisation Number:	20.	Authorised Signature	est	E OC S	21. Certificate/ AO/0037/78	Approval Ref. No.:
17. Na	me:	18.	. Date (dd mmm yyyy):	22.	Name:			23. Date (dd m	ımm yyyy):
				Ste	enhen I ee (Stenhe	n I ee Kok	Neo)	18 MAR 2014	33333





#### TURBINE ACCEPTANCE TAG AND TRACEABILITY INPUT LIFE LIMITED PARTS RECORD/TRACE INPUT PAGE

PART NO: 3800550-1 SERIAL NO: P-1154 CUSTOMER: MAS

MODEL: GTCP331-500B SERIES: 25 DATE: 18-Mar-15

W/O NO: 5008225314 TSN: 26386:34 CSN: 18417 TSR: NA CSR: NA

TSO: 00 CSO: 0

DESCRIPTION	PART NO	SERIAL NO	LOT NO	TSN	CSN	LIFE LIMITS (CYCLES)	REMARKS
D/COMP IMPELLER	3822612-1	11-182449-02712	52	5382:09	4219	27000	OVERHAULED
1ST STG IMPELLER	3822483-1	960322903503		19632:52	13533	27000	OVERHAULED
2ND STG IMPELLER	3822341-5	14-182449-13712	151034005	00	00	27000	NEW
IST T-WHEEL ASSY	3842151-3	970335700399					OVERHAULED
DISK PART NO	3842152-1	970333700399	J6:	26386:34	18417	27000	OVERNAGEED
2ND T-WHEEL ASSY	3842155-4	960335701592	97P309				OVERHAULED
DISK PART NO	3842156-1	900333701392	9/1/309	26386:34	18417	27000	OVERNIAGEED
3RD T-WHEEL ASSY	3842160-5	970134505954		26386:34	18417	27000	OVERHAULED

#### APU ACCESSORIES RECORD

DESCRIPTION	PART NO.	SERIAL NO.	SERIES	CHG NOS	DISPOSITION CODES	REMARKS
STARTER CTRL VLV	3283076-5	374	1	<b>3</b>	3, 5	TESTED
AIR TURB STARTER	3505814-3	246	1	-	4, 5	OVERHAULED
STARTER MOTOR	2704442-5	77-385	2		3, 5	REPAIRED
FUEL CLUSTER	3879008-1	CUA10610		-	3, 5, 6	REPAIRED, TRANSFERRED FROM MAS APU P-1415
IGV ACTUATOR	3883499-3	0262	-	-	3, 5	TESTED
PNEU CLUSTER	3884863-7	P-304	1		3, 5	REPAIRED
CHECK VALVE	3202854-1	1100	1	· *	3, 5	REPAIRED
SURGE CTRL VALVE	3290814-5	664C	-	-	3, 5	TESTED
LUBE CLUSTER	4131000-6	342C	1	-	3, 5	REPAIRED
AIR OIL COOLER	160488-2	77-339	2	•	3, 5	TESTED
TEMP CTRL VALVE	160536-1	77-286	2		3, 5	TESTED
IGNITION UNIT	3876195-8	020218034031	•		3, 5	TESTED
IGNITION SYS ASSY	3888275-9	020218034031	×	-	3, 5	REPAIRED
G/BOX ASSY	3805034-8	P-247	1		1, 3, 5	REPAIRED MODIFIED
DRIVEN COMP	3804011-8	P-254	-	140	4, 5	OVERHAULED
COMP MODULE	3826980-9	P-254	+	Œ,	1, 4, 5	OVERHAULED MODIFIED
TURB MODULE	3844517-5	P-254	-	(4)	4, 5	OVERHAULED
DMM	304643-2	GE1392	1	-	0, 5	CLEANED AND VISUALLY INSPECTED

REMARKS: APU HOURS AND CYCLES ARE BASED AT THE POINT OF ASSEMBLY AND OBTAINED FROM THE DMM.

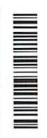
**DISPOSITION CODES:** 

0 = REUSE AND TEST ON APU. 1 = MODIFY/UPGRADE. 2 = FT FOR FINDINGS. 3 = FT AND REPAIR 4 = DISASSEMBLE AND REPAIR 5 = CLEAN PER CMM OR STANDARD PRACTICE. 6 = SCRAP & REPLACE.

INSPECTOR SIGNATURE & STAMP:

FORM: GTCP331-500B-G16-R.6 (ddmmyy 290813)

1. Cou	ntry:	2 . Department	of Civil Aviation Malaysia	SEL EASE SERVI	FIGATE		3. Form Tracking N 201500005549	and the second of the second o	
	Malaysia	AUTHORIZED RELEASE CERTIFICATE  AIRWORTHINESS APPROVAL TAG  20150000554913Y18 320244395							
4. Аррі	roved Organization Name and	(Gu 161	eywell Aerospace Singapore Pte Ltd Circle) Gul Circle papore 629619	Repair Station AO/0037/78			5. Work Order/Cor NP5300937 320093301 Page 1 of 1	ntract/Invoice:	
6.Item:	7. Description:		8. Part No:	9. Eligibility:	10. Qty:	11. Serial / Batch	n No:	12. Status / Work:	
001	IMPELLER, CENTRIFUG	AL- STAGE 1	3822483-1	UNKNOWN	1	960322903503	3	OVERHAULED	
13. R	Remarks :		· · · · · · · · · · · · · · · · · · ·						
THE :	SERVICE SPECIFIED HAS	BEEN ACCOMPL	ISHED IN ACCORDANCE WITH:						
IRM 4	49-24-79 Rev 8, JAN/30	/2015							
ORI '	T31507 Rev C, SEP/11/2	007							
	HH.DD (HH:MM)	)							
TSN	19632.86 (19632:	52)							
CSN	13533.00								
TSO	0.00 (0:00)								
CSO	0.00								
SEE AT	TACHED DOCUMENTS AS APPLI	ICABLE FOR WOR	K PERFORMED						
14. Cer	tities the items identified above	e were manufact	ured in conformity to:	19. MCAR Reg. 3	30; Release to	Service Oth	er regulation specif	ed in Block 13	
[	Approved design data an Non-approved design data		The state of the s	Certifies that unless oth described in Block13, work the items are cons	vas accomplist	ned in accordance	with JAR-145 and ir	ock 12 and respect to that	
15. Auti	horised Signature:		16. Approval/Authorisation Number:	20. Authorised Signatur	re: Manez	- (3.00 E)	21. Certifica AO/0037/	ite/Approval Ref. No.: 78	
17. Nan	ne:		18. Date (dd mmm yyyy):	22. Name:			23. Date (de	d mmm yyyy):	
				Ramesh Ramadoss	r.		06 MAR 2	5161510(0)	

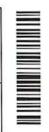


# AUTHORISED RELEASE CERTIFICATE - AIRWORTHINESS APPROVAL TAG USER/INSTALLER RESPONSIBILITIES

#### NOTE:

- 1. It is important to understand that the existence of the Document alone does not automatically constitute authority to install the part/component/assembly.
- 2. Where the user/installer works in accordance with the national regulations of an Airworthiness Authority different from the Airworthiness Authority specified in block [2] it is essential that the user/installer ensures that his/her Airworthiness Authority accepts parts/components/assemblies from the Airworthiness Authority specified in block [2].
- 3. Statements 14 and 19 do not constitute installation certification. In all cases the aircraft maintenance record must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.

EASA	on Name and Address: Honeywe (Gul Circ 161 Gul ( Singapor	Ell Aerospace Singapore Pte Ltd (e) Circle	ED RELEASE ASA FORM 1	10. Serial No.	3. Form Tracking Number 20150000554904Y02 320244395  5. Work Order/Contract/Invoice NP5300937 320093301 Page 1 of 1  11. Status/Work
001	IMPELLER, CENTRIFUGAL- STAGE	1 3822483-1	i	960322903503	OVERHAULED
TSN CSN TSO	-79 Rev 8, JAN/30/2015 7 Rev C, SEP/11/2007 HH.DD (HH:MM) 19632.86 (19632:52) 13533.00 0.00 (0:00) 0.00				
appr	that the items identified above were noted design data and are in conditionapproved design data specified in blood	n for safe operation	and described in block	nerwise specified in block 12,	the work identified in block 12 the work identified in block 11 ordance with Part-145 and in for release to service.
13b. Authorise	ed Signature	3c. Approval/Authorisation Number	4b. Authorised Signatur	manels ( cos	14c. Certificate/Approval Ref. No EASA. 145. 0076
13d. Name		, , , , , , ,	4d. Name Ramesh Ramadoss		14e. Date (dd mmm yyyy) 06 MAR 2015
This certificate d Where the user/ii ensures that his/ Statements in blo	her airworthiness authority accepts items	egulation of an airworthiness authority different than the a from the airworthiness authority specified in block 1. ion certification. In all cases aircraft maintenance records			



		in a second						
Auth	roving Civil Aviation ority/Country: A/United States		THORIZED RE orm 8130-3, AIRW				3. Form Tracking 201500005549 320244395	
4. Orga	anization Name and Address:	Honeywell Aerospace Sir (Gul Circle) 161 Gul Circle Singapore 629619	ngapore Pte Ltd	Repair Station FT4Y192M			5. Work Order/O NP5300937 320093301 Page 1 of 1	Contract/Invoice Number:
6.Item:	7. Description:		8. Part Number:		9. Quantity:	10. Serial Numb	er:	11. Status / Work:
001	IMPELLER, CENTRIFUC	GAL- STAGE 1	3822483-1		1	960322903503	3	OVERHAULED
TSN CSN TSO CSO	SERVICE SPECIFIED HAS 49-24-79 Rev 8, JAN/30 T31507 Rev C, SEP/11/2 HH.DD (HH:MM 19632.86 (19632: 13533.00 0.00 (0:00) 0.00	0/2015 2007 4) :52)						
13a. C	The second secon	ove were manufactured in co and are in a condition for saf data specified in Block 12.	CONTRACTOR AND CONTRACTOR	Certifies that unles described in Block	12 was accomp	ified in Block 12, the lished in accordance	with Title 14, Co	Block 11 and
13b. A	uthorized Signature:	13c. Appro	oval/Authorization No.:	14b. Authorized Si	gnature:	nego . 300		oroval/Certificate No.:

14d. Name (Typed or Printed):

Ramesh Ramadoss

13e. Date(dd/mmm/yyyy):

13d. Name (Typed of Printed):

FAA FORM 8130 - 3 (02-14)

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/propeller/article. 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 Block1, 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 Block1. Statements in Blocks 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.

NSN: 0052 - 00 - 012 - 9005

06/MAR/2015

14e. Date (dd/mmm/yyyy):

#### Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

SINGAPORE 629619 Date:06 MAR 2015

**Configuration And Findings Evaluation** 

Repair Order: 2015-005008278946-001

01

Customer: 318657 MALAYSIA AIRLINES SUBANG

320244395

Customer P/O: NP5300937

Orig Cust:

Part Number: 3822483-1

Ong Cust.

Part Desc: IMPELLER, CENTRIFUGAL-

Serial No: 960322903503

STAGE 1

Mods:

Series/Issue/Amdts:

Quantity: 1

Ship Date: 06 MAR 2015

**-**

Received Date:

Aircraft tail#:

Model #: APU 331-500/600

Engine S/N:

Date on:

Date off:

TIMES/CYCLES

HH.DD

Aircraft S/N#:

(HH:MM)

Alternate S/N:

Time Since New:

19632.86

(19632:52)

Cycles Since New:

13533.00

Time Since Overhaul:

energy in

Cycles Since Overhaul:

8

Time Since Repair:

Cycles Since Repair:

#### **CUSTOMER REASON FOR RETURN**

Overhaul

#### GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

Condition Received Text

**ERODED** 

Reason for return code

FIRE, FLAMES FROM TAILPIPE

Removal Type

#### DETAIL DISASSEMBLY / EVALUATION FINDINGS

Failure Description:

BLADE L/ES ERODED. KNIFE EDGE EXCESSIVELY RUBBED. BALANCE. TSN/CSN:

25015:00/17752

Findings:

Related Area:

Non-conformance:

Recurrent Failure:

Falled Part

Part Name

Condition:

Primary Failure

#### SERVICE BULLETINS / AUTHORIZING DOCUMENTS

#### **Authorizing Technical Document**

Complied With:

Doc#: IRM 49-24-79 Rev: 8 Date: 30.01.2015 Doc#: ORI T31507 Rev: C Date: 11.09.2007

#### WORK PERFORMED / COMMENTS TO CUSTOMER

#### Workscope Performed / Summary of Actions Taken

UNIT INSPECTED & OVERHAULED IAW IRM. KNIFE EDGE SEAL REPLACED & MACHININED TO SIZE.

HAND BLEND, FPI, BALANCE & SHOT-PEENING CARRIED OUT.

Action Taken Code

Overhaul

Customer Confirmed Removal Reason:

Evaluation Type

Page: 1 of 2

Honeywell Aerospace Singapore Pte Ltd co Honeywell Aerospace Singapore Pte Ltd 161 Gul Circle

#### Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

SINGAPORE 629619 Date:06 MAR 2015

**Configuration And Findings Evaluation** 

Repair Order: 2015-005008278946-001 320244395

Customer: 318657 MALAYSIA AIRLINES SUBANG

Customer P/O: NP5300937

**Orig Cust:** 

Part Number: 3822483-1

Part Desc: IMPELLER, CENTRIFUGAL-

Serial No: 960322903503

STAGE 1

Mods:

Series/Issue/Amdts:

**Quantity 1** 

Ship Date: 06 MAR 2015

**Received Date:** 

**FINAL CONFIGURATION** 

Part No: 3822483-1 

S/N: 960322903503

Series/Issues/Amdts:

Mods:

MECHANIC/ANALYST Beng Chong Koh

Page: 2 of 2

**DATE: 24 FEB 2015** 



#### TURBINE ACCEPTANCE TAG AND TRACEABILITY INPUT LIFE LIMITED PARTS RECORD/TRACE INPUT PAGE

PART NO: 3800550-1

SERIAL NO: P-1154

**CUSTOMER: MAS** 

MODEL: GTCP331-500B

SERIES: 25

970134505954

**DATE:** 18-Mar-15

27000

**OVERHAULED** 

W/O NO: 5008225314

3RD T-WHEEL ASSY

3842160-5

TSN: 26386:34

CSN: 18417

TSR: NA TSO: 00 CSR: NA CSO: 0

18417

DESCRIPTION	PART NO	SERIAL NO	LOT NO	TSN	CSN	LIFE LIMITS (CYCLES)	REMARKS
D/COMP IMPELLER	3822612-1	11-182449-02712	-	5382:09	4219	27000	OVERHAULED
*1ST STG IMPELLER	3822483-1	960322903503	-	25015:00	17752	27000	OVERHAULED
2ND STG IMPELLER	3822341-5	14-182449-13712	151034005	00	00	27000	NEW
1ST T-WHEEL ASSY	3842151-3	970335700399					OVERHAULED
DISK PART NO	3842152-1	970333700399	-	26386:34	18417	27000	OVERHAULED
2ND T-WHEEL ASSY	3842155-4	960335701592	070200			THE SEAL OF	OVERHALILED.
DISK PART NO	3842156-1	900333701392	97P309	26386:34	18417	27000	OVERHAULED

#### **APU ACCESSORIES RECORD**

26386:34

DESCRIPTION	PART NO.	SERIAL NO.	SERIES	CHG NOS	DISPOSITION CODES	REMARKS
STARTER CTRL VLV	3283076-5	374	1	-	3, 5	TESTED
AIR TURB STARTER	3505814-3	246	1	-	4, 5	OVERHAULED
STARTER MOTOR	2704442-5	77-385	2	-	3, 5	REPAIRED
FUEL CLUSTER	3879008-1	CUA10610	-	-	3, 5, 6	REPAIRED. TRANSFERRED FROM MAS APU P-1415
IGV ACTUATOR	3883499-3	0262	-	-	3, 5	TESTED
PNEU CLUSTER	3884863-7	P-304	1	-	3, 5	REPAIRED
CHECK VALVE	3202854-1	1100	1	-	3, 5	REPAIRED
SURGE CTRL VALVE	3290814-5	664C	-	-	3, 5	TESTED
LUBE CLUSTER	4131000-6	342C	1	-	3, 5	REPAIRED
AIR OIL COOLER	160488-2	77-339	2	-	3, 5	TESTED
TEMP CTRL VALVE	160536-1	77-286	2	-	3, 5	TESTED
IGNITION UNIT	3876195-8	020218034031	3 <del>5</del>	-	3, 5	TESTED
IGNITION SYS ASSY	3888275-9	020218034031	-	-	3, 5	REPAIRED
G/BOX ASSY	3805034-8	P-247	1	-	1, 3, 5	REPAIRED MODIFIED
DRIVEN COMP	3804011-8	P-254		-	4, 5	OVERHAULED
COMP MODULE	3826980-9	P-254	-	-	1, 4, 5	OVERHAULED MODIFIED
TURB MODULE	3844517-5	P-254	-	-	4, 5	OVERHAULED
DMM	304643-2	GE1392	1	-	0, 5	CLEANED AND VISUALLY INSPECTED

REMARKS: APU HOURS AND CYCLES ARE BASED AT THE POINT OF ASSEMBLY AND OBTAINED FROM THE DMM.

DISPOSITION CODES:

0 = REUSE AND TEST ON APU. 1 = MODIFY/UPGRADE. 2 = FT FOR FINDINGS. 3 = FT AND REPAIR 4 = DISASSEMBLE AND REPAIR 5 = CLEAN PER CMM OR STANDARD PRACTICE. 6 = SCRAP & REPLACE.

NOTE: AMENDED COPY DATED 16 OCT. 2015. CHANGE TSN/CSN OF 1ST IMPELLER

INSPECTOR SIGNATURE & STAMP:

FORM: GTCP331-500B-G16-R.6 (ddmmyy 290813)

	Competent Authority/Country	2. AUTHORIS	SED RELEASE	CERTIFICATE	3. Form Tracking Number 20150001059710Y02
EASA					320244395
			EASA FORM 1		
4. Organisatio	n Name and Address: Honeywell (Gul Circle 161 Gul Ci Singapore	) rcle			5. Work Order/Contract/Invoice NP5300937
					Page 1 of 1
6. Item	7. Description	8. Part No	9. Qty	10. Serial No.	11. Status/Work
001	IMPELLER, CENTRIFUGAL- STAGE 1	3822483-1	1	960322903503	OVERHAULED
TSN 29 CSN 10 TSO 0 CSO 0 THIS CERTIO	E SPECIFIED HAS BEEN ACCOMPLE 79 Rev 8, JAN/30/2015 Rev C, SEP/11/2007  HH.DD (HH:MM) 5015.00 (25015:00) 7752.00 .00 (0:00) .00 FICATE CORRECTS THE ERROR(S) TIFICATE 20150000554904Y02/3 DT COVER CONFORMITY/CONDITION	IN BLOCK(S) 12 20244395 DATED 06 MAR 2015			
appro	nat the items identified above were many of the items identified above were many of the identified above wer	or safe operation	and described in block 1 respect to that work the 14b. Authorised Signature	erwise specified in block 12, 12, was accomplished in acc items are considered ready	er regulation specified in block 12 the work identified in block 11 ordance with Part-145 and in for release to service.  14c. Certificate/Approval Ref. No EASA.145.0076
13d. Name	136	e. Date (dd mmm yyyy)	14d. Name Ramadoss Ramesh		14e. Date (dd mmm yyyy)  16 OCT 2015
This certificate do Where the user/ins ensures that his/he Statements in bloc	er airworthiness authority accepts items fro	nstall the item(s).  ulation of an airworthiness authority different than the m the airworthiness authority specified in block 1.  certification. In all cases aircraft maintenance records	airworthiness authority specific		the user/installer



	oving Civil Aviation ority/Country:	2.	AUTHO	RIZED RELE	ASE CERT	IFICATE		3. Form Tracking	
FAA	/United States			3130-3, AIRWOR	THINESS APP	PROVAL TAC	3	201500010597 320244395	711Y03
4. Orga		Honeywell Aer (Gul Circle) 161 Gul Circle Singapore 629		e Pte Ltd	Repair Station FT4Y192M	7 Q		5. Work Order/C NP5300937 320093301 Page 1 of 1	ontract/Invoice Number:
	7. Description:			8. Part Number:		9. Quantity:	10. Serial Number	er:	11. Status / Work:
001	IMPELLER, CENTRIFUG	AL- STAGE 1		3822483-1		1	960322903503	3	OVERHAULED
THE SIRM 4 ORI TO TSN CSN TSO CSO THIS OF TH AND I	Emarks: ERVICE SPECIFIED HAS 1 19-24-79 Rev 8, JAN/30, 231507 Rev C, SEP/11/20  HH.DD (HH:MM) 25015.00 (25015:0 17752.00 0.00 (0:00) 0.00 FAA FORM 8130-3 CORRECTE FAA FORM 8130-3 2015 DOES NOT COVER CONFORM:	/2015 0007 000) CTS THE ERROI 50000554905Y0	R(S) IN BLOCK(S 03/320244395 DA N/RELEASE TO SE	B) 12 ATED 06/MAR/2015					
[	Approved design data a  Non-approved design d	and are in a cond	dition for safe operations and the distribution for safe operations and the di	tion.	Certifies that unless described in Block Regulations, part 4	43.9 Return to Serv s otherwise specified 12 was accomplish 3 and in respect to t	d in Block 12, the veed in accordance v	with Title 14, Cod	Block 11 and le of Federal
42	thorized Signature:		13c. Approval/Auth		14b. Authorized Sig	gnature: V. Mames &	STANGEL STANGER	14c. Appro	oval/Certificate No.:
13d. Na	me (Typed of Printed):		13e. Date(dd/mmn	n/yyyy):	14d. Name (Typed	or Printed):		14e. Date	(dd/mmm/yyyy):
					Ramadoss Rame	esh	×	16/OCT/2	2015

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/propeller/article. 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 Block1, 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 Block1. Statements in Blocks 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.

FAA FORM 8130 - 3 (02-14) NSN: 0052 - 00 - 012 - 9005

1. Cour	ntry:	2 . Department of Civil	Aviation Malaysia				3. Form Tracking Nun	nber:
	Malaysia		AUTHORIZED RE AIRWORTHINESS		ICATE		20150001059712\ 320244395	′18
4. Appr	oved Organization Name and	Address: Honeywell A (Gul Circle) 161 Gul Circ Singapore 6	A	epair Station O/0037/78			5. Work Order/Contra NP5300937 320093301 Page 1 of 1	ct/Invoice:
6.Item:	7. Description:		8. Part No:	9. Eligibility:	10. Qty:	11. Serial / Batch		12. Status / Work:
001	IMPELLER, CENTRIFUG	AL- STAGE 1	3822483-1	UNKNOWN	1	960322903503		OVERHAULED
13. R	emarks :			2				ž.
THE :	SERVICE SPECIFIED HAS	BEEN ACCOMPLISHED I	N ACCORDANCE WITH:					
IRM 4	49-24-79 Rev 8, JAN/30	/2015					9	
ORI '	T31507 Rev C, SEP/11/2	007						**
	HH.DD (HH:MM	)						
TSN	25015.00 (25015:	00)						
CSN	17752.00							-
TSO	0.00 (0:00)							
CSO	0.00							
THIS	FORM MALAYSIA REPLACE	S FORM MALAYSIA WIT	H FORM TRACKING NUMBER					
2015	0000554913Y18/32024439	5 DATED 06 MAR 2015						
SEE AT	TACHED DOCUMENTS AS APPL	ICABLE FOR WORK PERFO	RMED					
14. Cer	tities the items identified abov	e were manufactured in c	onformity to:	19. MCAR Reg. 30;	Release to S	Service Othe	er regulation specified	in Block 13
[	Approved design data a	nd are in condition for saf ata specified in Block 13.	e operation.	Certifies that unless otherwork described in Block13, was work the items are consider	vise specifie	d in Block 13, the weed in accordance w	work identified in Block with JAR-145 and in res	12 and
15. Aut	horised Signature:	16. App	roval/Authorisation Number:	20. Authorised Signature:	Δ	EIWEL	21. Certificate/	Approval Ref. No.:
				12, n	Jamest	17 OC 6	AO/0037/78	
17. Nar	me:	18. Date	e (dd mmm yyyy):	22. Name:			23. Date (dd mi	mm yyyy):
				Ramadoss Ramesh			16 OCT 2015	



#### Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

SINGAPORE 629619 Date: 15 OCT 2015

Configuration And Findings Evaluation

Repair Order: 2015-005008278946-001

Customer: 318657 MALAYSIA AIRLINES BERHAD

320244395

Customer P/O: NP5300937

**Oriq Cust:** 

Part Number: 3822483-1

Part Desc: IMPELLER, CENTRIFUGAL-

Serial No: 960322903503

STAGE 1

Mods:

Series/Issue/Amdts:

Quantity: 1

Ship Date: 06 MAR 2015

Received Date:

Aircraft tail#:

Aircraft S/N#:

Date on:

Date off:

Model #: APU 331-500/600

Engine S/N: HH.DD

(HH:MM)

Alternate S/N:

TIMES/CYCLES Time Since New:

25015.00

(25015:00)

Cycles Since New:

17752.00

Time Since Overhaul:

Cycles Since Overhaul:

Cycles Since Repair:

Time Since Repair:

#### CUSTOMER REASON FOR RETURN

Overhaul

#### GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

#### Condition Received Text

FRODED

Reason for return code

FIRE, FLAMES FROM TAILPIPE

Removal Type

#### DETAIL DISASSEMBLY / EVALUATION FINDINGS

#### Failure Description:

BLADE L/ES ERODED. KNIFE EDGE EXCESSIVELY RUBBED. BALANCE. TSN/CSN:

25015:00/17752

Findings:

Related Area:

Non-conformance:

Recurrent Failure:

Failed Part

Part Name

Condition:

Primary Failure

#### SERVICE BULLETINS / AUTHORIZING DOCUMENTS

#### **Authorizing Technical Document**

Complied With:

Doc#: IRM 49-24-79 Rev: 8 Date: 30.01.2015 Doc#: ORI T31507 Rev: C Date: 11.09.2007

#### WORK PERFORMED / COMMENTS TO CUSTOMER

#### Workscope Performed / Summary of Actions Taken

UNIT INSPECTED & OVERHAULED IAW IRM. KNIFE EDGE SEAL REPLACED & MACHININED TO SIZE.

HAND BLEND, FPI, BALANCE & SHOT-PEENING CARRIED OUT.

Action Taken Code

Overhaul

Customer Confirmed Removal Reason:

Evaluation Type

Page: 1 of 2

Honeywell Aerospace Singapore Pte Ltd co Honeywell Aerospace Singapore Pte Ltd 161 Gul Circle

#### Commercial

Honeywell

Repair Station # FAA-EASA-CAAS-CAAC-JCAB

SINGAPORE 629619 Date:15 OCT 2015

**Configuration And Findings Evaluation** 

Repair Order: 2015-005008278946-001

Customer: 318657 MALAYSIA AIRLINES BERHAD

320244395

Customer P/O: NP5300937

Orig Cust:

Part Number: 3822483-1

Part Desc: IMPELLER, CENTRIFUGAL-

Serial No: 960322903503

STAGE 1

Mods:

Series/Issue/Amdts:

Quantity 1

Ship Date: 06 MAR 2015

Received Date:

FINAL CONFIGURATION

Part No: 3822483-1

S/N: 960322903503

Series/Issues/Amdts:

Mods:

MECHANIC/ANALYST Beng Chong Koh

Page: 2 of 2

DATE: 24 FEB 2015



The Headquarters, Maydwell Avenue, Slinfold, West Sussex, RH13 0AS, United Kingdom t: +44 1403 798000 f: +44 1403 710936 e: enquiries@ajw-aviation.com www.ajw-group.com

# 2nd STG Impeller PN 3822341-5 SN 14-182449-13712

# Honeywell ·

			LIFE LIMIT	ED PART I	L <b>O</b> G			
ASSEMBLY NAME:			PART N	UMBER:			SERIAL NUMBER:	
LIFE LIMITED PART	NAME: IMPEL	LER, COMPRESSOR, SECOND STA	AGE PART N	UMBER: 3822341-	-5		SERIAL NUMBER: 14-182	2449-13712
MANUFACTURED P PRODUCTION CERT	ER FAR PART 2	I UNDER	SIGNAT	URE OR ACCEPTA				· · · · · · · · · · · · · · · · · · ·
DATE	DATE	ENGINE	TIME ON PART THI		TOTAL TIME	ON PART	SIGNATURE / FAA	MEMBER
INSTALLED	REMOVED	SERIAL NUMBER	CYCLES*	HOURS	CYCLES*	HOURS	JOHATOKETTAA	NOMBER
7 MAR 2015		P-1154	0.0	0.0	0.0	0.0	(N)	(2. 35 E)
	_							
						4411111		
						***************************************		
				and the second s				

<sup>\*</sup> SEE SERVICE LIFE LIMITS OF CRITICAL LIFE LIMITED COMPONENTS, ENTRIES SHALL COMPY TO FAR 43.

	LIFE LIMITED PART MAINTENANCE RE	CORD
DATE	MAINTENANCE PERFORMED	AUTHORIZED SIGNATURE

Auth	roving Civil Aviation ority/Country: //United States		ORIZED RELEASE 8130-3, AIRWORTHINI			G	3. Form Tracki 20150000543 904026911-8	3808Y14
4. Orga	anization Name and Address:	Honeywell International Inc. 111 S. 34th Street Phoenix, Arizona 85072	Production Approval PT1222NM	Hone Units Hem	eywell Internations 2-4, Chevron, lel Hempstead, IFED KINGDOM	nal Inc. Eaton Road	5. Work Order/ 4703472567- Page 1 of 1	Contract/Invoice Number: 000010
6.ltem:	7. Description:		8. Part Number:		9. Quantity:	10. Serial Num	ber:	11. Status / Work:
001	IMPELLER, COMPRESS	OR, SECOND STAGE	3822341-5	_	1	14-182449-13	3712	NEW
		T OF A TSO AUTHORIZATION						
13a. C	ertifies the items identified abo	ove were manufactured in confor	mity to: 14a.	14 CFR	43.9 Return to	Service Ot	her regulation s	pecified in Block 12
	= '' '	and are in a condition for safe operated are in a condition for safe operated in Block 12.	descri	bed in Block 1	12 was accomplis	ed in Block 12, the shed in accordanc that work, the ite	e with Title 14-0	n Block 11 and ode of Federal for return to service.

13c. Approval/Authorization No.:

13e. Date (dd/mmm/yyyy):

**ODA-602216-NM** 

02/MAR/2015

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/propeller/article. 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 Block1, 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 Block1. Statements in Blocks 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.

NSN: 0052 - 00 - 012 - 9005

14b. Authorized Signature:

14d. Name (Typed or Printed):

14c. Approval/Certificate No.:

14e. Date(dd/mmm/yyyy):

13b. Authorized Signature:

13d. Name (Typed or Printed):

Stephen Foulger



The Headquarters, Maydwell Avenue, Slinfold, West Sussex, RH13 0AS, United Kingdom t: +44 1403 798000 f: +44 1403 710936 e: enquiries@ajw-aviation.com www.ajw-group.com

Log Book

	<u> </u>					(7)			1	
(2) (3)	Particulars of a Particulars of	ell overhauls, re any defects occ	curring in the er	nts, modific gine, and of	f the rectification	atory inspections re of such defects, i	lating to the engine o cluding a reference t le thereto have been o	the relevant entric	ories. es in the technical log.	
۵, ۹	78:	Apu s	elno. P	1154	PITTED	70 A/C	9m-MR/	at sea	TTLE.	
							REP:	DELIVER	y <b>b</b> oc.	
						10 ont	hullow words Supervise			
						Technical	cords Superviso	or 		
<u> </u>	book	حده٤٤	D POR	С,	OP A	ISBUE .				
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#### AlliedSignal, Inc.

## ACCEPTANCE TAG

AlledSignal

Engine Division

		ERIAL NO.		OMER NAM		CUST CODE		DATE
		P-1154		COMMER		172	331-500 (B)	1197
	CHANGES QTY. INS	P. SIETATUR				ON & DATE	SALES/REPAIR OR	DER NO.
25	NONE 1	ATTOX_	AND AND	30 59 2107(	REL)D	LU 11/18/97	418475-0030	-
	NDC COMPO					TRACEABL	E PARTS	
PART NO.	NOMENCLATURE	SERIAL 86.	SERIES	PART NO.	SERI	AL NUMBER	LOT NUMBER	HOURS
1641488-2	AIROIL COOLER	77-339	2	3822341-4	970	322900951	97P280	00:00
2704442-4	ELEC. STR. MTR.	77-394	1	3822468-3	970	322901025	97P300	00:00
304643-2	DATA MEM. MOD.	GE-1332	1	3822483-1	960	322906712	97P312	00:00
441761-7	FUEL CLUSTER	CUA10.31	NONE	3842151-2	970	335700399	97P284	00:00
3202610-4	APU CHK. VALVE	286	1	3842155-3	960	335701592	97P309	00:00
3283076-4	A.T.S.C.V.	314	1	3842160-5	970	134505954	97P319	00:00
3505814-3	AIR TURE. START.	312	1					+
3804011-8	DRY. COMP. ASSY.	P-254	NONE					<del></del>
3805034-8	G/BOX. ASSY.	P-247	1					
3826980-8	ENG. COMP. ASSY.	P-254	VONE					
3844517-5	TURB. MOD. ASSY.	P-254	NONE					<del></del>
3883499-2	I.G.V. ACT.	0222	NOIL					<del></del>
3884863-6	PYEU. CLUSTER	P-304	1				·	
3888275-3	IGNITION CLUSTER	NONE	NONE				<del></del>	<del></del>
4131000-3	LUBIC USTER	342	1				<del></del>	
1290814-4	3.C.V.	337	1	F. T. DATE	: 20	NOVEMBER	1997	
60536-1	TEMP. CONT. YALVE	77-386		DRY WEIG		27LBS.		_
LOG BC	OK WITH ENGINE: ?	YZS						

AlliedSig	nal, Inc.	ACC	EPŢAN	ICE	TAG	•	. A	Allie	dSignal
Engine Divisio	on /	,	<b>-</b>		in 23		9	A E F	OSPACE
OUTLIN	E/INSTALL NO	D. REV	SERIAL NO.	CUS	TOMER NAM	E	CUST CODE	MODEL	DATE
3	800550-1	N N	P-1154	1	BOEING		172	331-500 (B)	1197
SERIES	CHANGES	QTY. I	NSP. SKGNATUR	EASTAN	ALLC	CATIC	ON & DATE	SALES/REPAI	R ORDER NO.
25	NONE	$1 \times $		they !	2107(	REL)D	LU 11/18/97	418475	i-003C
	NDC	C COMPO	DNENTS .	8	-		TRACEABL		
PART NO.	NOMENO	CLATURE	SERIAL NO.	SERIES	PART NO.	SERI	AL NUMBER	LOT NUMBE	R HOURS
160488-2	AIR/OIL	COOLER	77-339 🗸	2	3822341-4	970	322900951	97P280	00:00
2704442-4	ELEC. ST	TR. MTR.	77-394	1	3822468-3	970	322901024	97P300	00:00
304643-2	DATA ME	EM. MOD.	GE-1392	1	3822483-1	960	322906712	97P312	00:00
441761-7	FUEL C	LUSTER	· CUA10291	NONE	3842151-2	970	335700399	97P284	00:00
3202610-4	APU CHE	C. VALVE	286	1	3842155-3	960	335701592	97P309	00:00
3283076-4	A.T.S	S.C.V.	314		3842160-5	970	134505954	97P319	00:00
3505814-3	AIR TURI	B. START.	312	1					
3804011-8	DRV. COM	MP. ASSY.	P-254	NONE					
3805034-8	G/BOX	. ASSY.	P-247	1					
3826980-8	ENG. COM	MP. ASSY.	P-254	NONE					
3844517-5	TURB. MO	OD. ASSY.	P-254	NONE					
3883499-2	I.G.V.	ACT.	0222	NONE					
3884863-6	PNEU. C	LUSTER	P-304	1	·				
3888275-8	IGNITION	CLUSTER	NONE	NONE					
4131000-5	LUBE C	LUSTER	342	1					•
3290814-4	S.C	c.v.	337	1	F. T. DATE:	20	NOVEMBER 1	997	
160536-1	TEMP. CO	NT. VALVE	77-286	1	DRY WEIGH	r: :	727. Lbs.		
LOG BO	OK WITH EN	GINE: ? Y	ES ~ L.L. CAR	DS IN L	OGBOOK: ? Y	ES		· · · · · · · · · · · · · · · · · · ·	*

DATE	ACCUMU- LATED ENGINE HOURS	ACCUMU- LATED ENGINE STARTS	REMARKS, INSPECTIONS, REPAIRS, AND ADJUSTMENTS	SIGNATUR
11-20-97	প্ত	苓	NEW PRODUCTION UNIT SERIES 35 CHANGE CHUC	A CONTRACTOR
2-2-98	e	B	INSTALLED ON WOLGE, REGISTRATION 9M-MRE.	
3-18-98	28	62	ACCUMULATED DURING PRODUCTION TESTING AT BOEING.	
			IEJIII A A DOMINION	
		1		
				<u> </u>
	<u> </u>			
	<u> </u>	-		
J. ———	1	1		<u> </u>

<del></del>	•					•
DSC-3800550-1D F2	ACCE	PTANÇĘ, TES	T DATA SHEE	T		
		331-30	) (B)		API	S/N D= 1154
ATP PARAGRAP	H>>	T	4.3.8	4.3.10	4.3.12	5.1
QUANTITY		UNITS	103°F,	NO LOAD	103°F,	CONSUMPTION
BAROMETRIC PRESSURE		PSIA	14.13	14.13	14.12	
AVERAGE INLET TEMPE	RATURE	DEG F	72.3	73.0	74.6	
UNIT INLET TEMPERAT	URE (T2)	DEG F	71.1	73.6	73.2	
OIL PRESSURE		PSIG	68.7	69.6	63.5	
OIL TEMPERATURE		DEG F	149.9	143.2	151.9	
GEARBOX PRESSURE		PSIA	14.2.	14.2	14.2	
TURBINE DISCHARGE TEMPERATURE (UNIT RAKES)	UPPER	DEG F	1015.2	682.3	1052.1	
(UNIT RAKES)	LOWER	DEG F	998.9	685.9	1048.4	
EXHAUST GAS TOTAL TEMPERATURE	ACTUAL	DEG F	1032.7	699.4	1080.0	
TOTAL TEMPERATURE	CORRECTED *	DEG F	1095.8		<del></del>	
ORIFICE INLET PRESS	URE	PSIA	51.69		58.49	
ORIFICE INLET TEMPE	RATURE	DEG F	387.9		406.7	5/25/25/25/25/35
ORIFICE DELTA P		PSID	2.10		.88	
EXHAUST STATIC PRES	SURE	PSIA	14.13		14.12	333000000000000000000000000000000000000
IGV POSITION **		DEG	12.1		1.6	250020000000
CORRECTED BLEED AIR	FLOW	LB/MIN	167.3		105.5	
	ACTUAL	L8/MIN	474.3	ERICE EXPERIENCE		
BLEED AIRFLOW	CORRECTED *	LB/MIN	466.1		298.3	
BLEED	ACTUAL	PSIA	53.52			
PRESSURE	CORRECTED *	PSIA	53.53		59.27	
	ACTUAL	DEG F	395.8		54.60	- Control of the Cont
PLEED TEMPERATURE	CORRECTED *	DEG F	426.3		416.1	
7.3	ACTUAL	LB/HR	618.6	327.2	432.6	
FUEL CONSUMPTION	CORRECTED	LB/HR	622.6	327.2	652.2	
	OIL QUANTITY A	CM^3	022.0	######################################	623.9	
OIL	OIL QUANTITY B	CM^3				440
*	OIL CONSUMED	CM^3				60
	TOTAL OPER TIME	HRS				0
CONSUMPTION	CONSUMPTION RT	CM^3/HR				
	MAX CONSUMP RT	CM^3/HR				<i>-</i>
SHAFT OUTPUT CORRECT		HP			202.0	12.0
	ACCESSORY	IN/SEC	.133	176		
UNIT VIBRATION	TURBINE	IN/SEC		.176		
APU SPEED			.255	.250		
	BLEED AIRFLOW	RPM	39045.	39050.		
SPECIFICATION		LB/MIN	450.2			
REQUIREMENTS	BLEED PRESSURE	PSIA	52.6		54.6	360300000000000000000000000000000000000
(CORRECTED)	MAX IGV POS	DEG				
(CORRECTED)	SHAFT POWER	<u> </u>	202.0		202.0	

1151.0

12:44

1 11/00/97

1001

1137.0

13:17

11/20/97 | 11/20/97 | 12/20/97

1003

13:01

1002

\*\*\*\*\*\*\*\*\*\*

DEG F

TIME

DATE

----

. PATA CORRECTED TO INDICATED TI AND INSTALLED, SEA LEVEL CONDITIONS RELATIVE TO 0 DEGREE BEING FOLL OPEN

EGT

DIGITAL DATA POINT NO.

**					
DSC3800550-1D ACCEPTANCE TEST DATA : 331-500[B]				. ф	USED WITH
				ATP 3	REV. 4
UNIT OUTLINE: 3800550-1 MODEL: 331-500[B] ST	ERIA	L NO: P-	- 1154	DATE:	REV. <u>ح</u> 11/20/97
TEST CELL NO: D106 RUN NO: 1		PAIR ORDE		_	
PROD RELEASE NO: 2/07					TYPE: Z
AIRFLOW MEASURING SEC NO: OP 1541	FUE	L USED:	ASTM MIL- D/	655	TYPE: LET "A
*APUC PART NO: 21/8834 - 3		C S/N: _			
ITEM		UNITS	1	RECO	RD
APUC DRY WEIGHT		, LB			
APU DRY WEIGHT (FROM APU TRAVELER)		- LB		727.0	
TOTAL NUMBER OF STARTS DURING ATP .		NO.	6	,	-
TOTAL OPERATING TIME DURING ATP		HOUR	2:4		•
AUTOMATIC START (ELECTRIC)		SECONDS	60 SEC		52
STARTER CUTOUT (ELECTRIC)		SECONDS	40 SEC	MAX	38
AUTOMATEC START (PNEUMATIC)		SECONDS	60-SEC	MAX	38
STARTER (GUTOUT (PNEUMATEC)		SECONDS	40 SEC	-MAX	27
ATSCV SUPPLY AIR PRESSURE		PSIG	20 PSI	MIN	40
ATSCV SUPPLY AIR TEMPERATURE		DEG F	NI	 'P	113
IGV PERF ADJ	:	DEG .	11/4	<u>.</u> >	-2
LRU FAULTS OBSERVED: NONE	O'	THER _			
UNIT STATUS: ACCEPT	RI	EJECT _			
REMARKS:					
r de statistique de la companya de l La companya de la co				1. 1. 5.	
TECHNICIAN:	===		DATE: _/	11-20-	.97
SOLIKYISOK. M. M. C. WESCH	76		DATE: /	11-20-	97
QUALITY ASSURANCE: Ywy on			DATE: //	1-24-0	<del>17</del>
* INDICATE "LAB SLAVE" AND SERIAL NO WHEN AP	ים זמי	יאסוד			

PART NAME SERIAL NUN		LLER, CP 703229	RSR, LD 0/074	P.	ART NUMBE		<u>8822348-1</u> 8822468-3	gerseen see
DA	TE	ENGINE SERIAL	AIRCRAFT SERIAL	TIME ON F	ART THIS	TOTAL TIM	E ON THIS	
INSTALLED	REMOVED	NUMBER	NUMBER	CYCLE	HOURS	CYCLE	HOURS	REMARKS
11.2097		P-1154	,	0	0	0	0	
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AEROSPACE

AlliedSignal Inc.
AlliedSignal Engines
P.O. Box 52181
Phoenix, Arizona 85072-2181

AX6167-2A

331	1-500B		LIFE	LIMI	TED P.	ART L	.OG	
PART NAME	PART NAME IMPELLER, CPRSR, SERIAL NUMBER 970323			P	ART NUMBE	a3	822347-1	
SERIAL NU	MBER 27	203229	00951	A	SSY PART NU	MBER 3	822341-4	
	TE	Engine Serial	AIRCRAFT BERIAL	TIME ON I	PART THIS		AE ON THIS	REMARKS
INSTALLED	REMOVED	NUMBER	NUMBER	CYCLE	HOURS	CYCLE	HOURS	REMARKS
11-2097	<u>السيال</u> (معمول السيواد)	P-//54		0	0	0	0	
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AlliedSignal Inc. AlliedSignal Engines P.O. Box 52181 Phoenix, Arizona 85072-2181

AX6167-2A

SERIAL NUMBER 22	0555/	10377				842152-1		
DATE		ENGINE SERIAL	AIRCRAFT SERIAL	TIME ON 1 INSTAL	PART THIS	TOTAL TIM		777.
NSTALLED	REMOVED	NUMBER	NUMBER	CYCLE	HOURS	CYCLE	HOURS	REMARKS
12097		P-1154		0	0	0	0	
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Phoenix, Arizona 85072-2181

Axelet-2A

AX6167-2A

CARD 331-500B 3822340-2 IMPELLER, CTFGL, 1ST STAGE PART NAME PART NUMBER 960322906712 3822483-1 SERIAL NUMBER **ASSY PART NUMBER** TIME ON PART THIS INSTALLATION TOTAL TIME ON THIS ENGINE AIRCRAFT DATE PART SERIAL NUMBER SERIAL REMARKS NUMBER INSTALLED REMOVED CYCLE HOURS CYCLE HOURS 0 0

> AlliedSignal Inc. **AlliedSignal Engines** P.O. Box 52181

Phoenix, Arizona 85072-2181

AlliedSignal

	PART NAME SERIAL NUI		OR ASSEMBLY		3610894-7 15959 ASSY PART NUMBER 3842160-5						
	DA	ATE	ENGINE SERIAL	AIRCRAFT SERIAL	TIME ON I	PART THIS	TOTAL TIN	ME ON THIS			
	INSTALLED	REMOVED	NUMBER	NUMBER	CYCLE	HOURS	CYCLE	HOURS	REMARKS		
	11-20-97		P-1154		0	0	0	0			
				<b>——</b>							
	ALC: NEWS	**************************************					<u> </u>	<del>                                     </del>			
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Phoenix, Arizona 85072-2181

AX6167-2A

AX6167-2A

331-500B LIFE LIMITED PART CARD ROTOR ASSEMBLY, 2ND STAGE 3842155-3 PART NAME ASSY, PART NUMBER 3842156-1 SERIAL NUMBER DISC. PART NUMBER TIME ON PART THIS
INSTALLATION TOTAL TIME ON THIS ENGINE AIRCRAFT SERIAL. SERIAL PART REMARKS INSTALLED REMOVED NUMBER NUMBER CYCLE HOURS CYCLE HOURS P-1154 0 Ō 0. . . . . AlliedSignal

AlliedSignal Inc. AlliedSignal Engines P.O. Box 52181

Phoenix, Arizona 85072-2181

Approving National Aviation
Authority/Country:

### AUTHORIZED RELEASE CERTIFICATE

FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG

3. Form Tracking Number:

Order Entry No: 173896-001

806/391846

FAA/	UNITE	DS	IAI	ES

Organization Name and Address:

Honeywell

Honeywell (Singapore) Pte Ltd 161 Gul Circle Singapore 629619

CUST. NAME: MALAYSIAN AIRLINE SYSTEM BHD

5. Work Order/Contract/Invoice Number: 692501-000 CUST PO: NP5310706

6.	Item:	7. Description:		t Number: 9.	Eligibility:*	10. Quantity:	11.	Serial/Batch Number:	12. Status/Work:
	1.	GTCP331-500B APU	38005	50-1	N/A	1		P1154	REPAIRED

13. Remarks:

REPAIRED IAW BM 49-26-57 REV 8.

14. Certifies the items identified above were manufactured in conformity to: Approved design data and are in condition for safe operation,

Non-approved design data specified in Block 13.

NO FAA AIRWORTHINESS DIRECTIVES APPLICABLE TO THIS APU. REFER TO FORM GOOSS REV O FOR SERVICE BULLETIN COMPLIANCE.

REFER TO FORM GTCP331-500B-G16 R1 FOR CRITICAL LIFE LIMITED PARTS.

CSR: 00

SHIPPED LESS COVER-GENERATOR PAD P/N 3862212-3.

TSN: 14120:43 CSN: 8018 TSR: 00 NOTE: APU HOURS AND CYCLES ARE BASED ON DMM

19. 14 CFR 43.9 Return to Service	Other regulation specified in Block 13
	ed in block 13, the work identified in Block 12 and described in Block 13 Fitle 14, Code of Federal Regulations, part 43 and in respect to that work rvice.
20. Authorized Signature :	21. Approval/Certificate No.:
1 Cas	FT4Y192M

User/Installer Responsibilities

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

18. Date (m/d/y):

16. Approval/Authorization No.:

Where the user/installer 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 is/her Airworthiness Authority accepts parts/components/assemblies from the Airworthiness Authority of the country specified in block 1.

Statements in block 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 the aircraft may be flown

15. Authorized Signature:

Name (Typed or Printed):

Honeywell Singapore Pte Ltd 161 Gul Circle Singapore 629619			gine Mode CP331-500		HONEYWELL		
Part No:	3800550-1	Work Order:	692501		Date:	23-Feb-06	-/ -L
Serial No:	P-1154	Series :	25		Customer:	MAS	
TSN:	14120:43	TSO:	NA		TSR:	00	
CSN:	8018	CSO:	NA		CSR:	00	
			Engine ha	s been :			
Inspected		X		Full Performance Tested			X
Repaired		x	Function		Functional Tested		
Overhauled		NA		Hot Sectio	n Inspected		NA
Modified		х					

Remarks:

NIL

The aircraft component identified above was inspected in accordance with current Federal Aviation Regulations and is approved for return to service. Pertinent details of work performed are on file at this agency under WORK ORDER: 692501.

Quality Control Inspector Signature & Stamp Honeywell Singapore

F.A.A. Repair Station No: FT4Y192M

Form No: G0197 R1 (010704)

# GTCP 331-500[B] PERFORMANCE DATA SHEET

WO NO	:	692501	ENGINE PIN :	3800550-1	DATE	:_	22-Feb-2006
MODEL	:	GTCP 331-500[B]	ENGINE S/N :	P1154	CUSTOMER	:	MAS
MANUAL	:	EM 49-26-57	REVISION NO:	8	ENGINE STATUS	<u>:</u> _	Repair

hrun 11 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1					
QUANTITY		UNITS	NO LOAD	103°F ECS MODE	103°F MES MODE
BAROMETRIC PRESSURE		PSIA	14.62	14.62	14.62
FUEL INLET PRESSURE		PSIG	25.0	24.0	24.0
OIL PUMP DISCHARGE PRESSURE		PSIG	67.0	67.0	67.0
OIL PUMP DISCHARGE TEMPERATURE	Ξ.	°F	143	147	144
GEARBOX PRESSURE		PSIA	14.76	14.86	14.86
COMPRESSOR INLET TEMPERATURE	MEASURED	°F	93.5	101.4	93.1
APU INLET TEMPERATURE (T2) (ARING	<b>)</b>	٥F	95	96.8	96.8
TURBINE DISCHARGE	UPPER (EGT 1)	°۴	726	1084	1117
TEMPERATURE (UNIT RAKES)	LOWER (EGT 2)	°F	742	1138	1165
EXHAUST GAS TOTALTEMPERATURE	MEASURED	°F	752.2	1114.1	1146.8
	CORRECTED	°F		1135.6	1141.4
ORIFICE INLET AIR PRESSURE		" Hg		74.6	87.1
ORIFICE INLET TEMPERATURE		°۴		401.8	416.6
ORIFICE DELTA PRESSURE		" H₂O		59.93	25.93
IGV POSITION** (IGVPOS)		DEGREES		11.5	4.0
IGV PERFORMANCE ADJ (IGVPERADJ)		DEGREES		4.0	
BLEED AIRFLOW	ACTUAL	LBS/MIN		475.21	330.88
	CORRECTED	LBS/MIN		471.6	302.9
RESTRICTED AIRFLOW (DISC. CORR. I	FLOW)	LBS/MIN		165.56	106.86
BLEED AIR TOTAL PRESSURE	INDICATED	PSIA		54.8	59.6
	CORRECTED	PSIA		54.5	54.3
BLEED AIR TOTAL TEMPERATURE	INDICATED	°F		414.1	427.3
	CORRECTED	°F		416.0	427.1
UNIT VIBRATION	ACCESSORY	IN/SEC	0.26	0.29	0.32
	TURBINE	IN/SEC	0.24	0.31	0.34
TURBINE WHEEL SPEED		RPM	39040	39040	39040
SHAFT LOAD	APPLIED	SHP		179.3	<sup>47</sup> 179.3
	CORRECTED	SHP		180.2	180.2
FUEL CONSUMPTION	INDICATED	LBS/HR	338	640	665
	CORRECTED	LBS/HR		642.08	628.54

TEST TECHNICIAN	EST W	QUALITY CONTROL	:	1 d O O 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	Stamp & Sign			Stamp & Sign
DATE	22-Feb-2006	DATE	:	2 3 FEB 2006

FORM 331-500B-T-04 R04 (DDMMYY 04105)

## Honeywell (Singapore) Pte Ltd



#### TURBINE ACCEPTANCE TAG & TRACEABILITY INPUT

PART NO:

3800550-1

SERIAL NO.:

P-1154

CUSTOMER:

MAS

MODEL :

GTCP331-500B

SERIES : 3

25

DATE

23 FEB 2006

W/O NO.:

692501

TSR/TSN: 00/14120:43

CSR/CSN:

00 / 8018

DESCRIPTION	PART NO.	SERIAL NO.	LOT NO	<u>TSN</u>	<u>CSN</u>	<u>LIFE</u> <u>LIMITS</u>
1ST T-WHEEL ASSY	3842151-3	LN97P284	970335700399	14120:43	8018	27000 CYC
2ND T-WHEEL ASSY	3842155-3	LN97P309	960335701592	14120:43	8018	27000 CYC
3RD T-WHEEL ASSY	3842160-5	LN97P319	970134505954	14120:43	8018	27000 CYC
1ST STG IMPELLER	3822483-1	LN97P057	960322903503	12749.50	7353	27000 CYC
2ND STG IMPELLER	3822341-4	LN03P193	020322905617	3460.22	1984	27000 CYC
DRIVEN COM IMP	3822468-3	LN05P141	050322901613	00	00	27000 CYC

#### **APU - ACCESSORIES RECORD**

<b>DESCRIPTION</b>	PART NO.	SERIAL NO.	<u>SERIES</u>	CHG NOS	REMARKS
STARTER CTRL VALVE	3283076-5	314C	1		
AIR TURB STARTER	3505814-3	246	ī		REPAIRED EXCHANGE
STARTER MOTOR	2704442-4	77-385	ī		
FUEL CLUSTER	3879008-1	CUA10186	-		
IGV ACTUATOR	3883499-2	0262	-		
PNEU CLUSTER	3884863-7	P304	1		
CHECK VALVE	3202610-5	581	1		
SURGE CTRL VALVE	3290814-5	3290814/337C	-		
LUBE CLUSTER	4131000-6	342C	1		
AIR OIL COOLER	160488-2	77-339	2		
TEMP CTRL VALVE	160536-1	77-286	2		
IGNITION UNIT	3876195-8	020218034031	-		
IGNITION SYSTEM ASSY	3888275-9	-	-		
G/BOX ASSY	3805034-8	P247	1		
DRIVEN COMP	3804011-8	P254	•		
COMP MODULE	3826980-9	P254	-		
TURB MODULE	3844517-5	P254	-		
DATA MEMORY MODULE	304643-2	GE1392	1		

**REMARKS:** 

NOTE: APU HOURS AND CYCLES ARE BASED ON DMM.

REPAIRED EXCHANGE 1ST STG IMPELLER S/N 960322903503 FROM MAS APU S/N P1095 AND OVERHAULED EXCHANGE 2ND STG IMPELLER S/N 020322905617 FROM MAS APU S/N P1328.

INSPECTOD SIGNATURE & STAMP.

Apq ()

SB019R	WSID: QA02	HONEYWELL (SINGAPORE) PTE LTD			DATE: 23-02-06
	USER: KKNG	SERVICE BULLETIN REPORT	PAGE:	1	TIME: 8:29:28

FROM MODEL NO.- GTCP331-500B FROM SB NO.- FROM RECEIVED DATETO MODEL NO.- GTCP331-500B TO SB NO.- 9999999999 TO RECEIVED DATE99-99-99
FROM SERIAL NO.- P-1154 FROM REVISION DATETO SERIAL NO.- P-1154 TO REVISION DATETO SERIAL NO.- P-1154 TO REVISION DATE99-99-99
STATUS CODES SELECTED - C FROM CUSTOMER NO : 2200 TO CUSTOMER NO : 2200

		DESCRIPTION	NEW PART NO.	STATUS
9-0003	1	RWK FUEL CLUSTER UNIT PN 441761-7 TO 3879008-1.	3879008-1	c
19-2379		RWK TEMP CONTROL VALVE PN 160536-1 SER 1 TO 160536-1 SER 2 BY REPLACING THE THERMOSTAT 159799-2 WITH 159799-4.	160536-1 SER 2 159799-4	c
49-7021		REPL THE OIL FILTER EYPASS VAVE, PN 4132029-2 WITH 4132029-3 AND THE GENERATOR FILTER BYPASS VALVE, PN 4132030-2 WITH PN 4132030-3.	4132029-3 4132030-3	c
49-7052		RWK THE SURGE CONTROL VALVE PN 3290814-4 TO PN 3290814-5.	3290814-5 SER.1 3176994-2	С
49-7537	2	UPDATE ENG COMPR MODULE, PN 3826980-8 TO -9,BY INSTALLING CONICAL BELLMOUTH COVER PN 3810973-1.		С
9-7670		REPL PNEU CLUSTER 3884863-6 WITH PN 3884863-7, RWK PNEU CLUSTER 3884863-6 TO 3884863-7 BY REPLACING SURGE CONTROL VALVE 3290814-4 WITH 3290814-5.		с
49-7752	2	REWORK APU TO INCORPORATE AN IMPROVED LOAD COMPRESSOR FORWARD AIR-OIL SEAL SYSTEM	3827534-5 3618089-3	c
49-7769		REMOVE & REPL FCU PN 441761-7 WITH PN 3879008-1.	3879008-1	С
49-7800		REPL IMPELLER INLET PANEL PN 3826962-2 WITH 3827623-1, IN LOAD COMPR MODULE PN 3804011-ALL.	3827623-1	С
49-7801		REPL IMPELLER INLET PANEL PN 3826962-2 WITH 3827623-1 IN ENG COMPR MODULE PN 3826980-ALL.	3827623-1	с

USER: KKNG		PAGE:	DATE: 23-02-06 2 TIME: 8:29:28
FROM MODEL NO G TO MODEL NO G FROM SERIAL NO F TO SERIAL NO F STATUS CODES SELECT	TCP331-500B TO SB NO 999999999999999999999999999999999999	FROM RECEIVED DATE TO RECEIVED DATE OF THE PROPERTY OF THE PRO	ATE- ATE- 99-99-99 ATE- 99-99-99 2200
S.B. NO. REV NO	DESCRIPTION	NEW PART NO.	
49-7811	INSTALL IMPROVED TURBINE BEARING THRUST WASHER SYSTEM.	3844497-5 3844944-2	c
49-7828	IMPROVE CLEARANCE BETWEEN IGVA/SCV FUEL TUBES & WIRE HARNESS CLAMP.	мѕ9593-125	С
49-7829	IMPROVE WIRE HARNESS RETENTION AT LOAD COMPR FORWARD DRAIN TUBE.	211-501-9758 211-501-9756	c ·
49-7870	PERFORM ONE-TIME INSPECTION OF FUEL NOZZLE, PN 3883453-1 SERIAL NUMBERS.		с
. "			

A=not applicable / R=not required / S=superseded) D=Not Disassemble / W=Waived / B=Demodified F=Deferred / N=not complied / L=not received

)

)

(STATUS: P=post-mod / C=complied at this shop visit

G=not complied, part serviceable

FORM G: 11 - ---- 3103001

14 ITEMS LISTED

### GTCP-331-500B-MODULES / LIFE LIMITED PARTS STATUS

& malaysia

APU P/NO: 3800550-1 APU S/NO: P1154 A/C REGN: 9M-MRB

TSN/CSN: 14120.00 / 8018

DATE OF REMOVAL: 28/12/2005

REASON FOR REMOVAL: METAL IN MCD

REASON FOR PREVIOUS REMOVAL:

CONTAMINATED WITH LARGE PARTICLES

CUSTOMER: MAS JOB CARD NO: DATE RELEASED:

<del>5. 7</del>	SF: 2916.00 / 1631		INCOMING				OUTGOING					
ИО	DESCRIPTION	PART NUMBER	SERIAL NUMBER	TSN/CSN	LIFE	REMARKS	PART NUMBER	SERIAL NUMBER	TSN/CSN	TASK PERFORMED	DOC.REFERENCE BATCH NO.	REMARKS
1	GEARBOX ASSY	3805034-8	P247	14120 / 8018			38020X4·8	P247	8018	REPARED		
2	DRIVE COMP.ASSY	3804011-8	P254	14120 / 8018			SECACITES	P254	14120 8018	REPAIRED AND MUDIFIED		
2.1	IMPELLER COMP LOAD	3822468-3	030322902079	2916 / 1631	27000 CYCS		38)5488-3	020355	00	1		NEN
3	ENG.COMP.ASSY	3826980-8	P254	14120 / 8018			38261809	P254	14120 8018	REPAIRED AND MODIFIED		
3.1	IMPELLER COMP.2ND STG	3822341-4	970322900951	14120 / 8018	27000 CYCS		387234174	202817 202025	346020 1984	_		EXCHANCE CNECHAULE
3.2	IMPELLER COMP.1ST STG	3822483-1	990322901217	8014 / 4798	27000 CYCS		3822485°	CCEO3P ZOSEOP	12749.5 7325		1	Repared Exchmer
4	TURBINE MOD.ASSY	3844517-5	P254	14120 / 8018			38445ns	P254	14120 8018	RGPAIRED AND MODIFIED		
4.1	1ST STG ROTOR ASSY	3842151-3	970335700399	14120/8018	27000 CYCS		384215r3	970 <b>333</b>	14120 8018	REPAIRED		
4.2	2ND STG ROTOR ASSY	3842155-3	960335701592	14120 / 8018	27000 CYCS		38421SS-3	1 13 00	8018	INSPECTED AND BALANCED	·	eeedpale erei
4.3	JRD STG ROTOR ASSY	3842160-5	970134505954	14120/8018	27000 CYCS		38421605	9701345 5454		INSCRECTED AND BALANCED		

APU	S/N:	P1154

NO	DESCRIPTION			INCOMING	ì			OUTGOING				
	ACCESSORIES	PART NUMBER	SERIAL NUMBER	TSN CSH	LIFE	REMARKS	PART NUMBER	SERIAL NUMBER	TSN CSN	TASK PERFORMEO	DOC. REFERENCE BATCH NO.	REMARKS
5.1	AIRVOIL COOLER	160488-2	77-339	14120 6018	ос		166488-2	77-339	14420 8018	REPAIRED		
5.2	ELEC.STR.MOTOR	2704442-4	19-619	6923 4073	ос		P-CP+407-C	77-385	ONK	REPAIRED		RECEIVED FI CUSTOMER
5.3	DATA MEMORY MOD.	304643-2	GE1392	14120 8018	ос		304643-2	GE1392	8018	INSPECTED		
5,4	FUEL CLUSTER	441761-7	CUA10186	MIL MIL	ос		38790081	CUNIOISE	NIL NIL	REPURED MD MUDIFIED	<b>&gt;</b>	
5.5	APU CHECK VALVE	3202610-5	581	14120 8018	oc		3202618.5	581	14120 8018	KEDNIKED		
5.6	A.T.S.C.V	3283076-5	314C	14120 8018	ос		3)8301KS	314C	14120 8018	REPARED		
5.7	AIR TURBINE START	3505814-3	312	14120 8018	oc		\$5058H-3	246	UHK	_		RETXINED EXCHANGE
5.8	LG.V ACT	3883459-2	0262	14120 8018	ос		3883499-0	0262	14120 8012	OVERHAULED		
5.9	PHEU. CLUSTER	3884863-6	P304	14120 8018	ос		7 <b>5848</b> 8E	P304	14120 8018	REPARED MILL MODIFIED	2	
5.10	IGNITION CLUSTER	3888275-9	UHKNOWN	14120 8018	oc		3888715-9	UNK	14170 8018	Repared		
5.11	LUBE CLUSTER	4131000-6	342C	14120 8018	ос		4-31006-6	342C	14120 8018	REPURED		
5.12	s.c.v	3290814-4	337	14120 6018	ос		32908145	3090814  '337C	14120 8018	REPAIRED AND	3	
5.13	TEMP.CONT.VALVE	160536-1	77-286	14120 8018	ос		160536-1	11-286	14120	REPURED AND MODIFIED		
5.14	GENERATOR	756589A	0190	5641 NIL	ос		_	-	•	-		NOT RECEIVE
	PREPARED BY: DATED :	Ibrahim Abd Rahman 29/12/2005		·····								-

Form No. 700042 R0 08/97

WO: 692501 23 FEB 2006



## **OPEN ITEM LIST**

WORK ORDER NO: <u>692501</u> APU PART NO: <u>3800550-1</u> APU MODEL: <u>GTCP331-500B</u>

CUSTOMER : <u>M.A.S.</u> APU SERIAL NO : <u>P-1154</u> DATE : <u>23 FEB 2006</u>

ITEM	DESCRIPTION	PART NUMBER	MANUAL REF	QTY	REMARKS				
1	COVER-GENERATOR PAD	3862212-3	49-26-55	1	-				
		·							
		·							
		·							
				,					
NOTE:	NOTE: NIL								

PREPARED BY: NG KWOK KAU

I. Approving National Aviation Authority/Country: FAA/United States			THORIZED RELEA form 8130-3, AIRWORTH		3. Form Tracking No L05006995					
4. Organizati	19	oneywell International, 944 E. Sky Harbor Circ hoenix, AZ 85034		PRODUCTION APPROVAL PT1222NM				5. Work Order/Contract/Invoice Number: HM8435-001 017913-A3/0274 001		
6. Item:	7. Description:	8. Part Num	ber: 9.	Eligibility:*	10. Quantity:	11. Serial /	Batch No:	12. Status / Work:		
001	IMPELLER CMPR	SR LD 3822468	3-3 N	/A TSO	000001	050322	2901613	NEW		
EXPOR	FORM IS ISSUED A		OR CIRCLE PHOENIX, A		THORIZED E			PPROVAL HOLDER		
	_	re manufactured in conformity to:		19. L14 CFR 43.9 Return to Service Other regulation specified in Block 13						
	Approved design data Non-approved design	Certifies that unless otherwise specified in Block 13, the work identified in Block 12 and described in Block 13 was accomplished in a cordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.								
15. Authorize	ed Signature:	unco allero	16. Approval/Authorization No: ODARF602216NM	20. Authorized Signature:			21. Approval/Certificate No			
17. Name (T	Typed or Printed):	-	18. Date (m/d/y):	22. Name (Typed or 7	finted):			23. Dat. (m/d/y):		
J	JOYCE ALBERS		SEP/30/2005							
1			liser/Installer Ro	enonsibilities						

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 & 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 the aircraft may be flown.

ASSEMBLY NAME			PART NU	IMBER					
IFE LIMITED PAR	T NAME	MPELLER CPRSR	PART NUMBER 3822468-3			SERIAL NUMBER 050322901613			
MANUFACTURED			0101114	IDE OD A GGERTAN	IOD STAND	INSP STAME	P #	A-075	
RODUCTION CER		ENGINE	SIGNATU	JRE OR ACCEPTAN	TOTAL TI	ME ON PART			
DATE INSTALLED	DATE REMOVED	SERIAL NUMBER	CYCLES*	HOURS	CYCLES*	HOURS	SIGN	NATURE/FAA NUMBER	
3 FEB 2006	KEWOVED		0:0	0:0	0:0	0:0	(	Con Con	
		P-1154							
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LIFE LIMITED PART MAINTENANCE RECORD							
DATE	· MAINTENANCE PERFORMED	AUTHORIZED SIGNATURE					
	· · · · · · · · · · · · · · · · · · ·						
	<u> </u>						
		PX-3107-76 I					

Aircraft Type B777-2 H6
Registration 9M-MRO

Nationality MALAYSIAN
Position APM

Date	Number of Flights	Number	Number of	Flig	ght me	Time Ro since New		Time I Since Co Overh	Run mplete	ı	(6) e and/or Cycle Last Stateme sed on Life Li	nt of Life mited Parts
-		Hrs.	Min.	Hrs.	Min.	Hrs.	Min.	Hrs.	Min.	Cycles		
Total Brought Forward	8018			14120	00							
23-5-06	012/2			14299								
	8130			140-1-1								
							-					
							<del> </del>	<del> </del>				
* Total Carried Forward	8136			14299								

<sup>\*</sup> Cycles — See Constructor's Manuals for Definition