AJW

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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 conrad@ajw-group.com
Alun Roberts alun.roberts@ajw-leasing.com
Mike Dean mike.dean@ajw-group.com

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APU RELEASE CERTIFICATE/FORM 8130

1. Approving Civil Aviation Authority/Country:	2. **AUTHORIZED RELEASE CERTIFICATE** FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG	3. Form Tracking Number:
FAA/United States		S000021468

4. Organization Name and Address:	5. Work Order/Contract/Invoice Number:
TurbineAero Repair 50 South 56th Street, Chandler, Arizona 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

12. Remarks:

The subject APU has been Repaired, Functionally Tested, and Accepted I.A.W. Honeywell Manual 49-26-57 Rev. 20, dated 27/Sep/2016.
No SB's or AD's were incorporated this shop visit.
Refer to the Logbook Summary Page, LLP Summary Page and the Shop Visit Report for pertinent information.

TSN: 28944 TSO: UNK TSR: 0:00 CSN: 19953 CSO: UNK CSR: 0

Certifies that the work specified in block 11/12 was carried out in accordance with EASA Part-145 and in respect to that work the component is considered ready for release to service under EASA Part-145 Approval Number: EASA 145.4948

13a. Certifies the items identified above were manufactured in conformity to: ☒ Approved design data and are in a condition for safe operation. ☐ Non-approved design data specified in Block 12.		14a. ☒ 14 CFR 43.9 Return to Service ☒ Other regulation specified in Block 12 Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.	
13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.: VIJR367K
13d. Name (Typed or Printed):	13e. Date (dd/mmm/yyyy):	14d. Name (Typed or Printed): Thadeus Winiecke	14e. Date (dd/mmm/yyyy): 12/Jul/2018

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 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.

1. Approving Civil Aviation Authority/Country:	2.	3. Form Tracking Number:
FAA/United States	**AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	S000021468-1

4. Organization Name and Address:	5. Work Order/Contract/Invoice Number:
TurbineAero Repair 50 South 56th Street, Chandler, Arizona 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

12. Remarks:

The subject APU has been Repaired, Functionally Tested, and Accepted I.A.W. Honeywell Manual 49-26-57 Rev. 20, dated 27/Sep/2016.
No SB's or AD's were incorporated this shop visit. Refer to the Logbook Summary Page, LLP Summary Page and the Shop Visit Report for pertinent information. Preservation of APU 2 years or less IAW SB 49-7997 Rev. 4, 12/Jan/2015.

TSN: 28944 TSO: 2558 TSR: 0:00 CSN: 19953 CSO: 1536 CSR: 0

1st Turbine Disk: 7047 CR, 2nd Turbine Disk: 7047 CR, 3rd Turbine Rotor Assembly: 7047 CR

Load Compressor Impeller 21245 CR, 1st Impeller 11931 CR, 2nd Impeller 25464 CR

"This FAA Form 8130-3 corrects the error in Block 12 of the FAA Form 8130-3 S000021468 dated 12/Jul/2018 and does not cover conformity/condition/release to service."

Certifies that the work specified in block 11/12 was carried out in accordance with EASA Part-145 and in respect to that work the component is considered ready for release to service under EASA Part-145 Approval Number: EASA 145.4948

13a. Certifies the items identified above were manufactured in conformity to:		14a. ☒ 14 CFR 43.9 Return to Service ☒ Other regulation specified 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. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.: VIJR367K
13d. Name (Typed or Printed):	13e. Date (dd/mmm/yyyy):	14d. Name (Typed or Printed): Curtis Bebee	14e. Date (dd/mmm/yyyy): 12/Jul/2018

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 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.

TURBINEAER

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

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 APU Times and Cycles:

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.)
2nd Stage Compressor Impeller:	CSN: 1536	Cycles Remaining 25464 (27,000 Max.)
1st Stage Turbine Disk:	CSN: 19953	Cycles Remaining 7047 (27,000 Max.)
2nd 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:	☒NO	☐YES					
Customer Supplied:	☐NO	☒YES					
Shipping Container is a:	Wooden box with shock mounted metal engine stand.						
S/N:		☒N/A					
Shipping Container damage:	☒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:	☐NO	☒YES	Starter boot is missing.				
Missing Q.E.C. Items:	☒NO	☐YES					
Starter Brush Wear Indicator:	☐Full	☐ ¾	☐ ½	☐¼	☐Flush	☒N/A	
Engine Rotation:	☒Smooth	☐Rough	☐Seized				
Oil Condition:	☐Normal	☐Burnt	☒No-Oil	☐Contaminated			

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Filters

Lube Pump Contamination:	☒None	☐Light	☐Moderate	☐Heavy
Fuel Control Contamination:	☒None	☐Light	☐Moderate	☐Heavy
Gen. Scavenge Contamination:	☒None	☐Light	☐Moderate	☐Heavy

Magnetic Chip Detectors

Gearbox Chip Detector:	☒None	☐Light	☐Moderate	☐Heavy
Lube Cluster Chip Detector	☒None	☐Light	☐Moderate	☐Heavy
Mid Frame Chip Detector:	☒None	☐Light	☐Moderate	☐Heavy
Turbine. Scav. Chip Detector:	☒None	☐Light	☐Moderate	☐Heavy
Air Turbine Starter Chip Detector:	☒None	☐Light	☐Moderate	☐Heavy

A.P.U. Borescoped ☐NO ☒YES

Borescope Findings:

Load Compressor:	☒Acceptable	☐Damaged	One L/C Diffuser Vane has erosion or a blended Vane, serviceability not affected.
Load Compressor Brg Cone:	☒Dry	☐Wet	
1st Stage Compressor:	☒ Acceptable	☐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.
2nd Stage Compressor:	☒ Acceptable	☐ Damaged	No defects noted.
1st Stage Turbine:	☒ Acceptable	☐Damaged	minor L/E erosion.
1st Stage Turbine Stator:	☒Acceptable	☐Damaged	No defects noted.
Combustion Chamber:	☒ Acceptable	☐Damaged	No defects noted.
3rd Stage Turbine Wheel:	☒ Acceptable	☐Damaged	No defects noted.

Data Plate Information:

Gearbox Assembly Data plate:	P/N: 3805034-8	S/N: P-247
Load Compressor Data Plate:	P/N: 3804011-8	S/N: P-254
Engine Compressor Module Data Plate:	P/N: 3826980-8	S/N: P-254
Power Section Module Data Plate:	P/N: 3844517-5	S/N: P-254

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Incoming Functional Test Results

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

N/A

Recommended Workscope:

LRU's: 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 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 ☒ Visually Accept ☒ 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:

☐ Repair ☐ Overhaul ☒ Visually Accept ☒ Not Disassembled

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:

☐ Repair ☐ Overhaul ☐ HSI ☒ Visually Accept ☒ Not Disassembled

Line Replaceable Units

☐ 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.

Auxiliary Power Unit Recommended Workscope:

☒ Repair ☐ No Fault Found ☐ Hot Section Inspection
☐ Overhaul ☐ Beyond Economical Repair / Part out ☐ Return As Is ☐ F/T Only

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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.

TurbineAero Repair
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Service Bulletin Report

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

S.B. Number	Rev. No.	Date	Description	Change No.
			No SB's incorporated during this shop visit	

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.	

TurbineAero Repair
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Accessories Parts Status Report

	Removed		Status				Installed	
Description	Part Number	Serial No.	Use	Repair	O/H	Replace	Part Number	Serial No.
APU Starter Valve	3283076-5	374	☒	☐	☐	☐	3283076-5	374
Check Valve	3202854-1	1100	☒	☐	☐	☐	3202854-1	1100
Surge Control Valve	3290814-5	664C	☒	☐	☐	☐	3290814-5	664C
Pneumatic Cluster	3884863-7	P-304	☒	☐	☐	☐	3884863-7	P-304
Air Starter	3505814-3	246	☒	☐	☐	☐	3505814-3	246
Electric Starter	2704442-5	77-385	☒	☐	☐	☐	2704442-5	77-385
Fuel Cluster	3879008-1	CAU10610	☒	☐	☐	☐	3879008-1	CAU10610
Lube Cluster	4131000-6	342C	☒	☐	☐	☐	4131000-6	342C
Oil Temp Valve	160536-1	77-286	☒	☐	☐	☐	160536-1	77-286
Oil Cooler	160488-2	77-339	☒	☐	☐	☐	160488-2	77-339
Temp Sensor	MS28034-1	Not Accessed	☒	☐	☐	☐	MS28034-1	Not Accessed
Monopole	3876212-1	Not Accessed	☒	☐	☐	☐	3876212-1	Not Accessed
Monopole	3876212-1	Not Accessed	☒	☐	☐	☐	3876212-1	Not Accessed
Low Oil Quantity Sensor	3876211-3	No S/N	☒	☐	☐	☐	3876211-3	No S/N
IGV Actuator	3883499-3	0262	☒	☐	☐	☐	3883499-3	0262
Ignition Cluster	3888275-9	020218034031	☒	☐	☐	☐	3888275-9	020218034031
Primary Fuel Manifold	3883688-1	97936200495	☒	☐	☐	☐	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	☒	☐	☐	☐	304643-2	GE1392

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Accessories Parts Status Report

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

Life Limited Parts

Description	Part No.	Serial No.	TSN	CSN	Life Limit	Remarks
1st Stage Turbine Disk	3842151-3	970335700399	28944	19953	27,000 Cycles	NOT ACCESSED
2nd Stage Turbine Disk	3842155-4	960335701592	28944	19953	27,000 Cycles	NOT ACCESSED
3rd Stage Turbine Wheel Assy.	3842160-5	970134505954	28944	19953	27,000 Cycles	NOT ACCESSED
1st 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)

NOTE: Fuel system preserved for long or extended-term storage must be de-preserved in accordance with CMM.

Acceptance Test Report

The APU was assembled and tested in accordance with ATA manual 49-26-57 Rev. 20, dated 27/Sep/2016

Documents shipped with APU:

☒8130-3 ☐FAA form 337 ☐Log Book ☒Test Data Sheet ☒Shop Visit Report ☐Other

TurbineAero Repair
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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

The following service bulletins were incorporated in this A.P.U. during this shop visit:

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

DER Repairs

The following DER repairs were incorporated in this A.P.U. during this shop visit:

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

TURBINEAERO
FAA Repair Station VIJR367K

Life Limited Parts Summary

Customer: Tag Aero

Job Number: S000021468

APU Model: 331-500B

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
1ST STAGE TURBINE ROTOR	3842151-3	970335700399	28944	19953	27000 CYCLES	7047
2ND STAGE TURBINE ROTOR	3842155-4	960335701592	28944	19953	27000 CYCLES	7047
3RD STAGE TURBINE ROTOR	3842160-5	970134505954	28944	19953	27000 CYCLES	7047
1ST 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: _____ RTS 145

Date: 12/Jul/2018

Rev. New 3/18

TURBINEAERO

TurbineAero Repair
FAA Repair Station VIJR367K

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

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 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		81.8	
2.2	Closing	ppm	159.7 to 173	169.4	PASS
	SCV Position (closing)	degrees		89.9	
2.3	WC (ARINC)	ppm		166.9	
	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
	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
	Lab EGT Corrected	Deg F	1155 max	1131	PASS
	IGV Position	degrees	7.0 min	12.8	PASS
	IGV Position (adjusted)	degrees		5.2	
	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		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	
	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
	Gear Box Pressure	InH2O	-41.52 to 41.52	16.0	PASS
	APU EGT 1	Deg F		727	
	APU EGT 2	Deg F		693	
	APU EGT Spread	Deg F	60 max	35	PASS
	N1 Speed	RPM	38653 to 39434	39022	PASS
	WF	pph		337	
	Accessory Vibrations	IPS	0.7 max	0.281	PASS
	Turbine Vibrations	IPS	1.0 max	0.272	PASS

TURBINEAERO

TurbineAero Repair
FAA Repair Station VIJR367K

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

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 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
	Oil Temperature	Deg F	312 max	160	PASS
	Gear Box Pressure	InH2O	-41.52 to 41.52	14.4	PASS
	APU EGT 1	Deg F		1100	
	APU EGT 2	Deg F		1103	
	APU EGT Spread	Deg F	60 max	2	PASS
	Lab EGT Corrected	Deg F	1177 max	1133	PASS
	WBCDNA	ppm	104 to 108	105.3	PASS
	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	
				Overall Test Results:	PASS

Remarks: Poss Test

Operator Signature: Mil R Lohl Date: 7-9-18 Stamp: ENG 112

TurbineAero Repair Data Log

Engine Model : GTCP331-500	Fuel Type : Jet A ASTM (D-1655-88)	Test Facility : TurbineAero Repair
Engine S/N : P-1154	Oil Type : Mobil Jet II (MIL-PRF-23699)	Test Address : 50 S. 56th Street, Chandler, AZ 85226
Customer : Tag Aero	Test Cell # : TestCell 1	Operator : Bud Lohl
Work Order : S000021468	Type of Test : Repair	Date of Test : 7/6/2018

Data Required Time of Day	Mnemonic TOD Test Condition	Units	07/06/18 07:42:44 1.0	07/06/18 07:59:49 2.1	07/06/18 09:00:24 2.2	07/06/18 09:00:36 2.3	07/06/18 09:02:07 3.1	07/06/18 09:03:08 3.2	07/06/18 09:03:32 3.3	07/06/18 09:15:43 4.0	07/06/18 09:25:36 5.0	07/06/18 09:49:57 6.0	07/06/18 09:53:52 7.0	07/06/18 07:49:04 8.1	07/06/18 09:54:49 8.1	07/06/18 09:02:26 8.1	07/06/18 14:19:06 9.0	07/06/18 14:19:43 10.0	07/06/18 14:20:02 11.0	00/00/00 14:22:17 n/a	00/00/00 0:00:00 n/a
N1a RPM	N1a	rpm	39029	39030	39027	39025	39030	39023	39033	3	39025	39022	39036	39028	39034	39029	0	2	3	4	0.0	0.0
N1b RPM	N1b	rpm	39037	39036	39038	39033	39031	39031	39039	0	39040	39034	39038	39033	39037	39035	0	0	0	0	0.0	0.0
Oil Pump Discharge Press.	Poil	psig	74.2	73.1	73.1	73.0	73.1	72.9	72.7	0.8	72.2	73.2	72.8	77.6	72.5	73.8	0.4	0.3	0.3	0.4	0.0	0.0
Barometeric Press.	Pbaro	psia	14.09	14.07	14.06	14.07	14.07	14.07	14.04	14.12	14.07	14.09	14.07	14.09	14.09	14.09	14.04	14.04	14.04	14.04	0.0	0.0
Orifice Inlet Press.	Portlice	psig	0.5	39.6	38.7	38.7	40.8	43.4	44.8	-0.1	34.9	4.3	42.1	0.5	1.7	30.4	-0.1	-0.0	-0.1	-0.1	0.0	0.0
Orifice Delta Press.	DPorifice	InH2O	8.1	96.3	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	Pacb	InH2O	18.1	17.2	15.5	15.3	16.1	12.9	6.3	-0.2	13.3	16.0	14.4	32.7	9.4	15.3	0.2	0.2	0.2	0.3	0.0	0.0
Inlet Fuel Press.	Pfuel	psig	29.7	27.9	28.4	28.6	28.2	28.2	28.4	31.4	28.1	29.3	28.7	29.6	30.6	30.0	32.8	32.8	32.8	32.8	0.0	0.0
Fuel Flow	WF	pph	330	594	591	591	594	586	579	0	606	337	635	345	327	345	0	0	0	0	0.0	0.0
Oil Temp	TOil	degF	164	159	159	159	160	158	157	157	163	161	160	116	161	161	81	81	81	81	0.0	0.0
Fuel Temp	Tfuel	degF	97	101	101	101	102	102	102	100	104	102	104	94	104	103	94	94	94	94	0.0	0.0
Cell Ambient Temp	TCell	degF	80	83	83	83	83	84	84	81	83	80	82	80	83	81	81	81	81	80	0.0	0.0
Orifice Temp	Torifice	degF	204	397	402	403	409	409	404	334	400	341	402	172	356	366	100	100	100	100	0.0	0.0
Lab EGT 1	LabEGT1	degF	722	1058	1058	1057	1061	1054	1042	394	1073	729	1112	718	738	725	83	83	83	83	0.0	0.0
Lab EGT 2	LabEGT2	degF	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	0.0	0.0
Lab EGT 3	LabEGT3	degF	743	1077	1075	1076	1079	1073	1062	348	1092	751	1126	745	760	751	83	83	83	83	0.0	0.0
Lab EGT 4	LabEGT4	degF	734	1057	1064	1065	1070	1061	1048	381	1074	741	1100	732	749	734	83	83	83	83	0.0	0.0
Lab EGT 5	LabEGT5	degF	737	1042	1040	1040	1045	1040	1031	351	1051	744	1090	744	749	742	83	83	83	83	0.0	0.0
Lab EGT 6	LabEGT6	degF	775	2020	2020	2020	2020	1103	1060	2020	2020	2020	2020	780	2020	2020	139	139	139	139	0.0	0.0
Lab EGT 7	LabEGT7	degF	725	1027	1025	1026	1028	1022	1011	490	1048	731	1102	709	744	729	84	84	84	83	0.0	0.0
Lab EGT 8	LabEGT8	degF	714	1025	1024	1025	1027	1020	1005	474	1040	720	1090	709	724	719	84	84	84	83	0.0	0.0
Lab EGT 2	LabEGT9	degF	710	1035	1033	1034	1034	1029	1020	445	1053	714	1106	708	720	716	83	83	83	83	0.0	0.0
Lab EGT 3	LabEGT10	degF	728	1065	1064	1068	1069	1058	1042	482	1086	734	1116	721	740	726	84	84	84	83	0.0	0.0
Lab EGT 4	LabEGT11	degF	731	1038	1039	1042	1044	1031	1011	469	1055	731	1079	728	739	727	83	83	83	83	0.0	0.0
Lab EGT 5	LabEGT12	degF	745	1068	1069	1072	1074	1060	1042	466	1096	745	1115	743	757	742	83	83	83	83	0.0	0.0
Lab EGT 6	LabEGT13	degF	721	1074	1070	1071	1072	1064	1049	433	1085	727	1114	710	736	717	83	83	83	83	0.0	0.0
Lab EGT 7	LabEGT14	degF	712	1060	1054	1055	1057	1047	1030	416	1068	719	1098	712	722	711	84	83	83	83	0.0	0.0
Lab EGT 8	LabEGT15	degF	736	1081	1075	1076	1077	1067	1050	430	1089	744	1123	736	747	738	83	83	83	83	0.0	0.0
Average Selected LabEGTs	LabEGTavg	degF	731	1055	1053	1054	1057	1048	1034	429	1071	733	1106	728	740	728	87	87	87	87	0.0	0.0
Absolute diff. Max and Min Temps.	LabEGTdiff	degF	65	56	52	51	52	54	57	143	57	37	47	71	40	39	56	56	56	56	0.0	0.0
EGT Corrected	EGTCOR	degF	0	0	0	0	0	0	0	0	1131	0	1133	0	0	0	0	0	0	0	0.0	0.0
EGTcorr Maximum Limit	EGTcorrMax	degF	0	0	0	0	0	0	0	0	1155	0	1177	0	0	0	0	0	0	0	0.0	0.0
EGT Temp Margin	EGTmarg	degF	0	0	0	0	0	0	0	0	24	0	44	0	0	0	0	0	0	0	0.0	0.0
Exhaust Gas Temp 1	EGT1	degF	721	1053	1049	1050	1052	1043	1028	425	1067	727	1100	723	733	725	83	83	83	83	0.0	0.0
Exhaust Gas Temp 2	EGT2	degF	690	1062	1064	1067	1070	1058	1040	492	1067	693	1103	693	697	690	83	83	83	82	0.0	0.0
Average APU EGTs	EGTavg	degF	706	1057	1056	1058	1061	1050	1034	459	1067	710	1102	708	715	708	83	83	83	83	0.0	0.0
APU EGT Spread.	EGTdiff	degF	31	9	15	17	17	15	12	67	0	35	2	30	36	35	0	0	0	0	0.0	0.0
Inlet Temp 1	InletTemp1	degF	81	83	84	84	84	84	84	82	84	81	83	80	83	82	81	81	81	81	0.0	0.0
Inlet Temp 2	InletTemp2	degF	81	84	84	84	84	84	84	83	83	81	83	80	83	82	81	81	81	81	0.0	0.0
Inlet Temp 3	InletTemp3	degF	81	84	84	84	84	84	84	83	83	82	83	80	83	81	81	81	81	81	0.0	0.0
Inlet Temp 4	InletTemp4	degF	84	92	90	93	90	90	89	82	91	82	87	80	93	86	81	81	81	81	0.0	0.0
Inlet Temp 5	InletTemp5	degF	81	84	84	84	84	84	84	83	84	82	83	81	83	82	81	81	81	81	0.0	0.0
Inlet Temp 6	InletTemp6	degF	81	84	84	84	84	84	84	83	84	82	83	81	83	82	81	81	81	81	0.0	0.0
Inlet Temp 7	InletTemp7	degF	81	86	86	84	86	87	86	82	86	82	85	81	84	83	81	81	81	81	0.0	0.0
Inlet Temp 8	InletTemp8	degF	81	84	84	84	84	85	85	83	85	82	83	81	84	82	81	81	81	81	0.0	0.0
Inlet Temp 7	InletTemp9	degF	81	86	87	87	87	87	85	82	85	81	84	80	85	82	81	81	81	81	0.0	0.0
Inlet Temp 8	InletTemp10	degF	81	83	84	84	84	84	84	83	84	82	83	80	83	82	81	81	81	81	0.0	0.0
Average Selected Inlets	CIT	degF	81	85	85	85	85	85	85	82	85	82	84	80	84	82	81	81	81	81	0.0	0.0
Absolute diff. Max and Min Temps.	CITdiff	degF	3	9	6	10	7	6	5	1	8	1	5	1	10	3	1	1	1	1	0.0	0.0
Bleed Temp 1	TBleed1	degF	278	427	427	427	428	429	422	178	408	143	422	254	321	193	81	81	81	81	0.0	0.0
Bleed Temp 2	TBleed2	degF	278	426	426	426	428	429	422	186	408	145	422	253	322	197	81	81	81	81	0.0	0.0
Average Selected Bleed Temps.	Tbmeas	degF	278	426	427	426	428	429	422	182	408	144	422	254	321	195	81	81	81	81	0.0	0.0
Absolute diff. Max and Min Temps.	Tbdiff	degF	0	0	1	0	0	0	1	8	0	1	0	1	1	4	0	0	0	0	0.0	0.0
Delta Correction Factor	Delta	ratio	0.959	0.957	0.957	0.957	0.957	0.957	0.955	0.961	0.958	0.959	0.958	0.958	0.959	0.959	0.955	0.955	0.955	0.955	0.0	0.0
Measured Airflow	Wbmeas	ppm	86.2	495.2	497.3	496.3	420.2	240.8	0.0	0.0	459.4	0.0	316.9	81.6	60.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WB Corrected	WBCOR	ppm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	461.4	0.0	296.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WBcorr Minimum Limit	WBcorrMin	ppm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	460.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bleed Flow Margin	Wbmargin	ppm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	296.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bleed Pressure	Pbmeas	psia	15.0	57.1	56.4	56.4	57.4	58.3	59.0	14.1	52.2	18.5	57.7	15.0	16.1	44.6	14.1	14.1	14.1	14.1	0.0	0.0
Initial Bleed Pressure Setpoint	PBSETCOR	psia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB Corrected	PBCOR	psia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	53.0	0.0	54.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PBcorr Minimum Limit	PBcorrMin	psia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.6	0.0	54.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bleed Pressure Margin	Pbmargin	psia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Corrected Discharge Flow	WBCDNA	ppm	100.6	166.5	169.4	169.1	140.9	79.4	0.0	0.0	167.1	0.0	105.3	93.9	67.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WBCDNA Minimum Limit	WBCDNAMin	ppm	0.0	159.7	159.7	0.0	0.0	0.0	0.0	0.0	165.0	0.0	104.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WBCDNA Maximum Limit	WBCDNAMax	ppm	0.0	173.0	173.0	0.0	0.0	0.0	0.0	0.0	169.0	0.0	108.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delta Lab vs ARINC Corrected Discharge	WCdelta	%	-42.9	0.5	0.7	1.3	-14.4	-51.8	-100.0	-100.0	1.0	-100.0	-35.4	-45.3	-61.0	-100.0	-100.0	-100.0	-100.0	-100.0	0.0	0.0
FCU TM Current	FCUTM	mA	36	47	46	46	47	47	46	0	47	37	48	37	36	37	0	0	0	0	0.0	0.0
IGV TM Current	IGVTM	mA	11	12	12	11	11	11	12	0	12	11	11	11	11	11	0	0	0	0	0.0	0.0
SCV TM Current	SCVTM	mA	8	8	13	13	8	8	9	0	13	8	8	8	8	8	0	0	0	0	0.0	0.0
N1a RMS Voltage	N1arms	volts	9.8	9.6	9.6	9.6	9.6	9.6	9.7	0.0	9.6	9.8	9.6	9.8	9.8	9.8	0.0	0.0	0.0	0.0	0.0	0.0
N1b RMS Voltage	N1brms	volts	4.2	4.2	4.2	4.2	4.2	4.1	4.1	0.0	4.2	4.1	4.2	4.2	4.1	4.2	0.0	0.0	0.0	0.0	0.0	0.0
DC Start Volts	Vstart	volts	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Starter Amps	Astart	amps	0	0	0	0	5	8	7	0	9	4	1	0	0	0	0	0	0	0	0.0	0.0
Accessory Vibration Composite	VibAccy	IPS	0.182	0.406	0.429	0.400	0.361	0.418	0.445	0.000	0.201	0.281	0.184	0.182	0.269	0.276	0.000	0.000	0.000	0.000	0.0	0.0
Rotating Group	A_RG	IPS	0.182	0.406	0.429	0.400	0.361	0.418	0.445	0.000	0.201	0.281	0.184	0.182	0.269	0.276	0.000	0.000	0.000	0.000	0.0	0.0
ATS Turbine	A_ATST	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	0.000	0.0	0.0
ATS Gear	A_ATSG	IPS	0.078	0.030	0.026	0.031	0.028	0.054	0.073	0.000	0.051	0.030	0.031	0.065	0.022	0.017	0.000	0.000	0.000	0.000	0.0	0.0
Generator	A_Gen	IPS	0.014	0.037	0.020	0.033	0.023	0.025	0.000	0.000	0.024	0.025	0.020	0.004	0.034	0.024	0.000	0.000	0.000	0.000	0.0	0.0
Fuel Control and Lube Pump	A_FCU	IPS	0.016	0.009	0.006	0.007	0.009	0.013	0.020	0.000	0.011	0.007	0.007	0.012	0.006	0.005	0.000	0.000	0.000	0.000	0.0	0.0
Starter	A_Starter	IPS	0.022	0.031	0.014	0.020	0.018	0.016	0.016	0.000	0.008	0.018	0.007	0.010	0.014	0.020	0.000	0.000	0.000	0.000	0.0	0.0
Turbine Vibration Composite	VibTurb	IPS	0.167	0.263	0.272	0.262	0.312	0.414	0.316	0.000	0.290	0.272	0.322	0.237	0.319	0.583	0.000	0.000	0.001	0.000	0.0	0.0
Rotating Group	T_RG	IPS	0.155	0.263	0.272	0.262	0.282	0.306	0.316	0.000	0.290	0.139	0.322	0.237	0.077	0.346	0.000	0.000	0.000	0.000	0.0	0.0
ATS Turbine	T_ATST	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	0.000	0.0	0.0
ATS Gear	T_ATSG	IPS	0.062	0.049	0.046	0.048	0.049	0.068	0.068	0.000	0.065	0.035	0.021	0.059	0.036	0.024	0.000	0.000	0.000	0.000	0.0	0.0
Generator	T_Gen	IPS	0.056	0.100	0.071	0.086	0.090	0.063	0.054	0.000	0.088	0.094	0.065	0.016	0.108	0.086	0.000	0.000	0.000	0.000	0.0	0.0
Fuel Control and Lube Pump	T_FCU	IPS	0.015	0.007	0.007	0.007	0.007	0.017	0.027	0.000	0.011	0.009	0.008	0.009	0.006	0.009	0.000	0.000	0.000	0.000	0.0	0.0
Starter	T_Starter	IPS	0.009	0.010	0.007	0.009	0.010	0.006	0.011	0.000	0.006	0.004	0.004	0.009	0.004	0.007	0.007	0.000	0.000	0.000	0.0	0.0
P2 Voltage	P2volts	volts	-0.000	-0.000	-0.000	0.000	0.002	0.000	-0.001	0.000	0.001	0.001	0.001	-0.001	-0.000	0.003	0.000	0.000	0.000	0.000	0.0	0.0
Transducer Excitation Voltage	VTexc	volts	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PT Voltage	PTvolts	volts	0.000	0.001	0.000	-0.001	-0.001	-0.000	-0.003	0.000	0.000	0.001	0.001	-0.001	0.000	-0.001	0.000	0.000	0.000	-0.000	0.0	0.0
DP Voltage	Dpvolts	volts	0.001	0.000	-0.000	0.000	0.001	0.000	0.001	-0.000	-0.000	-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 A	A_amps	amps	0	0	0	0	0	0	0	0	319	0	320	0	0	0	0	0	0	0	0.0	0.0
Power Meter Amps phase B	B_amps	amps	0	0	0	0	0	0	0	0	325	0	326	0	0	0	0	0	0	0	0.0	0.0
Power Meter Amps phase C	C_amps	amps	0	0	0	0	0	0	0	0	327	0	328	0	0	0	0	0	0	0	0.0	0.0
Power Meter Volts A-B	V_AB	vac	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	202.0	0.0	202.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Power Meter Volts B-C	V_BC	vac	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	203.0	0.0	203.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Power Meter Volts A-C	V_AC	vac	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	202.0	0.0	202.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Power Meter Volts A-Neutral	V_AN	vac	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	116.0	0.0	116.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Power Meter Volts B-Neutral	V_BN	vac	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	117.0	0.0	117.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Power Meter Volts C-Neutral	V_CN	vac	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	117.0	0.0	118.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KVA Load Bank 1	KVA	KVA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	113.0	0.0	114.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Frequency Power Meter 1	PMfreq1	Hz	0	0	0	0	0	0	0	0	399	0	399	0	0	0	0	0	0	0	0.0	0.0
Shaft Horsepower Corrected	SHPCOR	hp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	181.5	0.0	183.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IGV value written to LrMM	IGVadj	deg	68.9	-7.6	-7.6	-7.6	-7.6	-7.6	-7.6	69.4	5.2	68.9	-2.4	68.9	68.8	68.9	69.4	69.4	69.4	69.4	0.0	0.0
Starter Cutout	StartCutout	secs.	38	36	36	36	36	36	36	36	36	36	36	38	36	0	41	41	41	41	0.0	0.0
APU Start Time	StartTime	secs.	53	50	50	50	50	50	50	50	51	51	51	53	51	42	56	56	56	56	0.0	0.0
ARINC Surge Control Valve Position	SCVpos	deg	11.2	81.8	89.9	89.9	89.9	60.2	35.5	16.4	9.5	89.9	11.1	47.1	11.4	11.0	11.1	9.5	9.5	9.5	0.0	0.0
ARINC Corrected Discharge Flow ppm	WC	ppm	176.2	165.5	168.3	166.9	164.5	164.5	162.7	96.6	165.5	147.7	163.1	171.6	172.5	145.3	76.9	76.9	76.9	76.9	0.0	0.0
ARINC LCIT Temperature degF	T2	degF	86.0	-31.0	-31.0	-31.0	-31.0	-31.0	-31.0	84.2	78.8	82.4	82.4	86.0	82.4	82.4	84.2	84.2	84.2	84.2	0.0	0.0
ARINC Inlet Guide Vane Position	IGVpos	deg	76.4	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	76.9	12.8	76.4	5.1	76.4	76.2	76.4	76.9	76.9	76.9	76.9	0.0	0.0
WF Corrected	WFCOR	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

TURBINEAERO

TurbineAero Repair
FAA Repair Station VIJR367K

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

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 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		81.8	
2.2	Closing	ppm	159.7 to 173	169.4	PASS
	SCV Position (closing)	degrees		89.9	
2.3	WC (ARINC)	ppm		166.9	
	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
	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
	Lab EGT Corrected	Deg F	1155 max	1131	PASS
	IGV Position	degrees	7.0 min	12.8	PASS
	IGV Position (adjusted)	degrees		5.2	
	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		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	
	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
	Gear Box Pressure	InH2O	-41.52 to 41.52	16.0	PASS
	APU EGT 1	Deg F		727	
	APU EGT 2	Deg F		693	
	APU EGT Spread	Deg F	60 max	35	PASS
	N1 Speed	RPM	38653 to 39434	39022	PASS
	WF	pph		337	
	Accessory Vibrations	IPS	0.7 max	0.281	PASS
	Turbine Vibrations	IPS	1.0 max	0.272	PASS

TURBINEAERO

TurbineAero Repair
FAA Repair Station VIJR367K

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

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 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
	Oil Temperature	Deg F	312 max	160	PASS
	Gear Box Pressure	InH2O	-41.52 to 41.52	14.4	PASS
	APU EGT 1	Deg F		1100	
	APU EGT 2	Deg F		1103	
	APU EGT Spread	Deg F	60 max	2	PASS
	Lab EGT Corrected	Deg F	1177 max	1133	PASS
	WBCDNA	ppm	104 to 108	105.3	PASS
	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	
				Overall Test Results:	PASS

Remarks: Poss Test

Operator Signature: Mil R Lohl Date: 7-9-18 Stamp: ENG 112

TurbineAero Repair Data Log

Engine Model : GTCP331-500	Fuel Type : Jet A ASTM (D-1655-88)	Test Facility : TurbineAero Repair
Engine S/N : P-1154	Oil Type : Mobil Jet II (MIL-PRF-23699)	Test Address : 50 S. 56th Street, Chandler, AZ 85226
Customer : Tag Aero	Test Cell # : TestCell 1	Operator : Bud Lohl
Work Order : S000021468	Type of Test : Repair	Date of Test : 7/6/2018

Data Required Time of Day	Mnemonic TOD Test Condition	Units	07/06/18 07:42:44 1.0	07/06/18 07:59:49 2.1	07/06/18 09:00:24 2.2	07/06/18 09:00:36 2.3	07/06/18 09:02:07 3.1	07/06/18 09:03:08 3.2	07/06/18 09:03:32 3.3	07/06/18 09:15:43 4.0	07/06/18 09:25:36 5.0	07/06/18 09:49:57 6.0	07/06/18 09:53:52 7.0	07/06/18 07:49:04 8.1	07/06/18 09:54:49 8.1	07/06/18 09:02:26 8.1	07/06/18 14:19:06 9.0	07/06/18 14:19:43 10.0	07/06/18 14:20:02 11.0	00/00/00 14:22:17 n/a	00/00/00 0:00:00 n/a
N1a RPM	N1a	rpm	39029	39030	39027	39025	39030	39023	39033	3	39025	39022	39036	39028	39034	39029	0	2	3	4	0.0	0.0
N1b RPM	N1b	rpm	39037	39036	39038	39033	39031	39031	39039	0	39040	39034	39038	39033	39037	39035	0	0	0	0	0.0	0.0
Oil Pump Discharge Press.	Poil	psig	74.2	73.1	73.1	73.0	73.1	72.9	72.7	0.8	72.2	73.2	72.8	77.6	72.5	73.8	0.4	0.3	0.3	0.4	0.0	0.0
Barometeric Press.	Pbaro	psia	14.09	14.07	14.06	14.07	14.07	14.07	14.04	14.12	14.07	14.09	14.07	14.09	14.09	14.09	14.04	14.04	14.04	14.04	0.0	0.0
Orifice Inlet Press.	Portlice	psig	0.5	39.6	38.7	38.7	40.8	43.4	44.8	-0.1	34.9	4.3	42.1	0.5	1.7	30.4	-0.1	-0.0	-0.1	-0.1	0.0	0.0
Orifice Delta Press.	DPorifice	InH2O	8.1	96.3	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	Pacb	InH2O	18.1	17.2	15.5	15.3	16.1	12.9	6.3	-0.2	13.3	16.0	14.4	32.7	9.4	15.3	0.2	0.2	0.2	0.3	0.0	0.0
Inlet Fuel Press.	Pfuel	psig	29.7	27.9	28.4	28.6	28.2	28.2	28.4	31.4	28.1	29.3	28.7	29.6	30.6	30.0	32.8	32.8	32.8	32.8	0.0	0.0
Fuel Flow	WF	pph	330	594	591	591	594	586	579	0	606	337	635	345	327	345	0	0	0	0	0.0	0.0
Oil Temp	TOil	degF	164	159	159	159	160	158	157	157	163	161	160	116	161	161	81	81	81	81	0.0	0.0
Fuel Temp	Tfuel	degF	97	101	101	101	102	102	102	100	104	102	104	94	104	103	94	94	94	94	0.0	0.0
Cell Ambient Temp	TCell	degF	80	83	83	83	83	84	84	81	83	80	82	80	83	81	81	81	81	80	0.0	0.0
Orifice Temp	Torifice	degF	204	397	402	403	409	409	404	334	400	341	402	172	356	366	100	100	100	100	0.0	0.0
Lab EGT 1	LabEGT1	degF	722	1058	1058	1057	1061	1054	1042	394	1073	729	1112	718	738	725	83	83	83	83	0.0	0.0
Lab EGT 2	LabEGT2	degF	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	0.0	0.0
Lab EGT 3	LabEGT3	degF	743	1077	1075	1076	1079	1073	1062	348	1092	751	1126	745	760	751	83	83	83	83	0.0	0.0
Lab EGT 4	LabEGT4	degF	734	1057	1064	1065	1070	1061	1048	381	1074	741	1100	732	749	734	83	83	83	83	0.0	0.0
Lab EGT 5	LabEGT5	degF	737	1042	1040	1040	1045	1040	1031	351	1051	744	1090	744	749	742	83	83	83	83	0.0	0.0
Lab EGT 6	LabEGT6	degF	775	2020	2020	2020	2020	1103	1060	2020	2020	2020	2020	780	2020	2020	139	139	139	139	0.0	0.0
Lab EGT 7	LabEGT7	degF	725	1027	1025	1026	1028	1022	1011	490	1048	731	1102	709	744	729	84	84	84	83	0.0	0.0
Lab EGT 8	LabEGT8	degF	714	1025	1024	1025	1027	1020	1005	474	1040	720	1090	709	724	719	84	84	84	83	0.0	0.0
Lab EGT 2	LabEGT9	degF	710	1035	1033	1034	1034	1029	1020	445	1053	714	1106	708	720	716	83	83	83	83	0.0	0.0
Lab EGT 3	LabEGT10	degF	728	1065	1064	1068	1069	1058	1042	482	1086	734	1116	721	740	726	84	84	84	83	0.0	0.0
Lab EGT 4	LabEGT11	degF	731	1038	1039	1042	1044	1031	1011	469	1055	731	1079	728	739	727	83	83	83	83	0.0	0.0
Lab EGT 5	LabEGT12	degF	745	1068	1069	1072	1074	1060	1042	466	1096	745	1115	743	757	742	83	83	83	83	0.0	0.0
Lab EGT 6	LabEGT13	degF	721	1074	1070	1071	1072	1064	1049	433	1085	727	1114	710	736	717	83	83	83	83	0.0	0.0
Lab EGT 7	LabEGT14	degF	712	1060	1054	1055	1057	1047	1030	416	1068	719	1098	712	722	711	84	83	83	83	0.0	0.0
Lab EGT 8	LabEGT15	degF	736	1081	1075	1076	1077	1067	1050	430	1089	744	1123	736	747	738	83	83	83	83	0.0	0.0
Average Selected LabEGTs	LabEGTavg	degF	731	1055	1053	1054	1057	1048	1034	429	1071	733	1106	728	740	728	87	87	87	87	0.0	0.0
Absolute diff. Max and Min Temps.	LabEGTdiff	degF	65	56	52	51	52	54	57	143	57	37	47	71	40	39	56	56	56	56	0.0	0.0
EGT Corrected	EGTCOR	degF	0	0	0	0	0	0	0	0	1131	0	1133	0	0	0	0	0	0	0	0.0	0.0
EGTcorr Maximum Limit	EGTcorrMax	degF	0	0	0	0	0	0	0	0	1155	0	1177	0	0	0	0	0	0	0	0.0	0.0
EGT Temp Margin	EGTmarg	degF	0	0	0	0	0	0	0	0	24	0	44	0	0	0	0	0	0	0	0.0	0.0
Exhaust Gas Temp 1	EGT1	degF	721	1053	1049	1050	1052	1043	1028	425	1067	727	1100	723	733	725	83	83	83	83	0.0	0.0
Exhaust Gas Temp 2	EGT2	degF	690	1062	1064	1067	1070	1058	1040	492	1067	693	1103	693	697	690	83	83	83	82	0.0	0.0
Average APU EGTs	EGTavg	degF	706	1057	1056	1058	1061	1050	1034	459	1067	710	1102	708	715	708	83	83	83	83	0.0	0.0
APU EGT Spread.	EGTdiff	degF	31	9	15	17	17	15	12	67	0	35	2	30	36	35	0	0	0	0	0.0	0.0
Inlet Temp 1	InletTemp1	degF	81	83	84	84	84	84	84	82	84	81	83	80	83	82	81	81	81	81	0.0	0.0
Inlet Temp 2	InletTemp2	degF	81	84	84	84	84	84	84	83	83	81	83	80	83	82	81	81	81	81	0.0	0.0
Inlet Temp 3	InletTemp3	degF	81	84	84	84	84	84	84	83	83	82	83	80	83	81	81	81	81	81	0.0	0.0
Inlet Temp 4	InletTemp4	degF	84	92	90	93	90	90	89	82	91	82	87	80	93	86	81	81	81	81	0.0	0.0
Inlet Temp 5	InletTemp5	degF	81	84	84	84	84	84	84	83	84	82	83	81	83	82	81	81	81	81	0.0	0.0
Inlet Temp 6	InletTemp6	degF	81	84	84	84	84	84	84	83	84	82	83	81	83	82	81	81	81	81	0.0	0.0
Inlet Temp 7	InletTemp7	degF	81	86	86	84	86	87	86	82	86	82	85	81	84	83	81	81	81	81	0.0	0.0
Inlet Temp 8	InletTemp8	degF	81	84	84	84	84	85	85	83	85	82	83	81	84	82	81	81	81	81	0.0	0.0
Inlet Temp 7	InletTemp9	degF	81	86	87	87	87	87	85	82	85	81	84	80	85	82	81	81	81	81	0.0	0.0
Inlet Temp 8	InletTemp10	degF	81	83	84	84	84	84	84	83	84	82	83	80	83	82	81	81	81	81	0.0	0.0
Average Selected Inlets	CIT	degF	81	85	85	85	85	85	85	82	85	82	84	80	84	82	81	81	81	81	0.0	0.0
Absolute diff. Max and Min Temps.	CITdiff	degF	3	9	6	10	7	6	5	1	8	1	5	1	10	3	1	1	1	1	0.0	0.0
Bleed Temp 1	TBleed1	degF	278	427	427	427	428	429	422	178	408	143	422	254	321	193	81	81	81	81	0.0	0.0
Bleed Temp 2	TBleed2	degF	278	426	426	426	428	429	422	186	408	145	422	253	322	197	81	81	81	81	0.0	0.0
Average Selected Bleed Temps.	Tbmeas	degF	278	426	427	426	428	429	422	182	408	144	422	254	321	195	81	81	81	81	0.0	0.0
Absolute diff. Max and Min Temps.	Tbdiff	degF	0	0	1	0	0	0	1	8	0	1	0	1	1	4	0	0	0	0	0.0	0.0
Delta Correction Factor	Delta	ratio	0.959	0.957	0.957	0.957	0.957	0.957	0.955	0.961	0.958	0.959	0.958	0.958	0.959	0.959	0.955	0.955	0.955	0.955	0.0	0.0
Measured Airflow	Wbmeas	ppm	86.2	495.2	497.3	496.3	420.2	240.8	0.0	0.0	459.4	0.0	316.9	81.6	60.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WB Corrected	WBCOR	ppm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	461.4	0.0	296.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WBcorr Minimum Limit	WBcorrMin	ppm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	460.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bleed Flow Margin	Wbmargin	ppm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	296.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bleed Pressure	Pbmeas	psia	15.0	57.1	56.4	56.4	57.4	58.3	59.0	14.1	52.2	18.5	57.7	15.0	16.1	44.6	14.1	14.1	14.1	14.1	0.0	0.0
Initial Bleed Pressure Setpoint	PBSETCOR	psia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB Corrected	PBCOR	psia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	53.0	0.0	54.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PBcorr Minimum Limit	PBcorrMin	psia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.6	0.0	54.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bleed Pressure Margin	Pbmargin	psia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Corrected Discharge Flow	WBCDNA	ppm	100.6	166.5	169.4	169.1	140.9	79.4	0.0	0.0	167.1	0.0	105.3	93.9	67.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WBCDNA Minimum Limit	WBCDNAMin	ppm	0.0	159.7	159.7	0.0	0.0	0.0	0.0	0.0	165.0	0.0	104.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WBCDNA Maximum Limit	WBCDNAMax	ppm	0.0	173.0	173.0	0.0	0.0	0.0	0.0	0.0	169.0	0.0	108.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delta Lab vs ARINC Corrected Discharge	WCdelta	%	-42.9	0.5	0.7	1.3	-14.4	-51.8	-100.0	-100.0	1.0	-100.0	-35.4	-45.3	-61.0	-100.0	-100.0	-100.0	-100.0	-100.0	0.0	0.0
FCU TM Current	FCUTM	mA	36	47	46	46	47	47	46	0	47	37	48	37	36	37	0	0	0	0	0.0	0.0
IGV TM Current	IGVTM	mA	11	12	12	11	11	11	12	0	12	11	11	11	11	11	0	0	0	0	0.0	0.0
SCV TM Current	SCVTM	mA	8	8	13	13	8	8	9	0	13	8	8	8	8	8	0	0	0	0	0.0	0.0
N1a RMS Voltage	N1arms	volts	9.8	9.6	9.6	9.6	9.6	9.6	9.7	0.0	9.6	9.8	9.6	9.8	9.8	9.8	0.0	0.0	0.0	0.0	0.0	0.0
N1b RMS Voltage	N1brms	volts	4.2	4.2	4.2	4.2	4.2	4.1	4.1	0.0	4.2	4.1	4.2	4.2	4.1	4.2	0.0	0.0	0.0	0.0	0.0	0.0
DC Start Volts	Vstart	volts	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Starter Amps	Astart	amps	0	0	0	0	5	8	7	0	9	4	1	0	0	0	0	0	0	0	0.0	0.0
Accessory Vibration Composite	VibAccy	IPS	0.182	0.406	0.429	0.400	0.361	0.418	0.445	0.000	0.201	0.281	0.184	0.182	0.269	0.276	0.000	0.000	0.000	0.000	0.0	0.0
Rotating Group	A_RG	IPS	0.182	0.406	0.429	0.400	0.361	0.418	0.445	0.000	0.201	0.281	0.184	0.182	0.269	0.276	0.000	0.000	0.000	0.000	0.0	0.0
ATS Turbine	A_ATST	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	0.000	0.0	0.0
ATS Gear	A_ATSG	IPS	0.078	0.030	0.026	0.031	0.028	0.054	0.073	0.000	0.051	0.030	0.031	0.065	0.022	0.017	0.000	0.000	0.000	0.000	0.0	0.0
Generator	A_Gen	IPS	0.014	0.037	0.020	0.033	0.023	0.025	0.000	0.000	0.024	0.025	0.020	0.004	0.034	0.024	0.000	0.000	0.000	0.000	0.0	0.0
Fuel Control and Lube Pump	A_FCU	IPS	0.016	0.009	0.006	0.007	0.009	0.013	0.020	0.000	0.011	0.007	0.007	0.012	0.006	0.005	0.000	0.000	0.000	0.000	0.0	0.0
Starter	A_Starter	IPS	0.022	0.031	0.014	0.020	0.018	0.016	0.016	0.000	0.008	0.018	0.007	0.010	0.014	0.020	0.000	0.000	0.000	0.000	0.0	0.0
Turbine Vibration Composite	VibTurb	IPS	0.167	0.263	0.272	0.262	0.312	0.414	0.316	0.000	0.290	0.272	0.322	0.237	0.319	0.583	0.000	0.000	0.001	0.000	0.0	0.0
Rotating Group	T_RG	IPS	0.155	0.263	0.272	0.262	0.282	0.306	0.316	0.000	0.290	0.139	0.322	0.237	0.077	0.346	0.000	0.000	0.000	0.000	0.0	0.0
ATS Turbine	T_ATST	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	0.000	0.0	0.0
ATS Gear	T_ATSG	IPS	0.062	0.049	0.046	0.048	0.049	0.068	0.068	0.000	0.065	0.035	0.021	0.059	0.036	0.024	0.000	0.000	0.000	0.000	0.0	0.0
Generator	T_Gen	IPS	0.056	0.100	0.071	0.086	0.090	0.063	0.054	0.000	0.088	0.094	0.065	0.016	0.108	0.086	0.000	0.000	0.000	0.000	0.0	0.0
Fuel Control and Lube Pump	T_FCU	IPS	0.015	0.007	0.007	0.007	0.007	0.017	0.027	0.000	0.011	0.009	0.008	0.009	0.006	0.009	0.000	0.000	0.000	0.000	0.0	0.0
Starter	T_Starter	IPS	0.009	0.010	0.007	0.009	0.010	0.006	0.011	0.000	0.006	0.004	0.004	0.009	0.004	0.007	0.007	0.000	0.000	0.000	0.0	0.0
P2 Voltage	P2volts	volts	-0.000	-0.000	-0.000	0.000	0.002	0.000	-0.001	0.000	0.001	0.001	0.001	-0.001	-0.000	0.003	0.000	0.000	0.000	0.000	0.0	0.0
Transducer Excitation Voltage	VTexc	volts	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PT Voltage	PTvolts	volts	0.000	0.001	0.000	-0.001	-0.001	-0.000	-0.003	0.000	0.000	0.001	0.001	-0.001	0.000	-0.001	0.000	0.000	0.000	-0.000	0.0	0.0
DP Voltage	Dpvolts	volts	0.001	0.000	-0.000	0.000	0.001	0.000	0.001	-0.000	-0.000	-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 A	A_amps	amps	0	0	0	0	0	0	0	0	319	0	320	0	0	0	0	0	0	0	0.0	0.0
Power Meter Amps phase B	B_amps	amps	0	0	0	0	0	0	0	0	325	0	326	0	0	0	0	0	0	0	0.0	0.0
Power Meter Amps phase C	C_amps	amps	0	0	0	0	0	0	0	0	327	0	328	0	0	0	0	0	0	0	0.0	0.0
Power Meter Volts A-B	V_AB	vac	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	202.0	0.0	202.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Power Meter Volts B-C	V_BC	vac	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	203.0	0.0	203.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Power Meter Volts A-C	V_AC	vac	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	202.0	0.0	202.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Power Meter Volts A-Neutral	V_AN	vac	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	116.0	0.0	116.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Power Meter Volts B-Neutral	V_BN	vac	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	117.0	0.0	117.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Power Meter Volts C-Neutral	V_CN	vac	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	117.0	0.0	118.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KVA Load Bank 1	KVA	KVA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	113.0	0.0	114.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Frequency Power Meter 1	PMfreq1	Hz	0	0	0	0	0	0	0	0	399	0	399	0	0	0	0	0	0	0	0.0	0.0
Shaft Horsepower Corrected	SHPCOR	hp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	181.5	0.0	183.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IGV value written to LrMM	IGVadj	deg	68.9	-7.6	-7.6	-7.6	-7.6	-7.6	-7.6	69.4	5.2	68.9	-2.4	68.9	68.8	68.9	69.4	69.4	69.4	69.4	0.0	0.0
Starter Cutout	StartCutout	secs.	38	36	36	36	36	36	36	36	36	36	36	38	36	0	41	41	41	41	0.0	0.0
APU Start Time	StartTime	secs.	53	50	50	50	50	50	50	50	51	51	51	53	51	42	56	56	56	56	0.0	0.0
ARINC Surge Control Valve Position	SCVpos	deg	11.2	81.8	89.9	89.9	89.9	60.2	35.5	16.4	9.5	89.9	11.1	47.1	11.4	11.0	11.1	9.5	9.5	9.5	0.0	0.0
ARINC Corrected Discharge Flow ppm	WC	ppm	176.2	165.5	168.3	166.9	164.5	164.5	162.7	96.6	165.5	147.7	163.1	171.6	172.5	145.3	76.9	76.9	76.9	76.9	0.0	0.0
ARINC LCIT Temperature degF	T2	degF	86.0	-31.0	-31.0	-31.0	-31.0	-31.0	-31.0	84.2	78.8	82.4	82.4	86.0	82.4	82.4	84.2	84.2	84.2	84.2	0.0	0.0
ARINC Inlet Guide Vane Position	IGVpos	deg	76.4	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	76.9	12.8	76.4	5.1	76.4	76.2	76.4	76.9	76.9	76.9	76.9	0.0	0.0
WF Corrected	WFCOR	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: **83 417 : 06**
Total aircraft Flight Cycles: **12 798**

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

VIM Airlines
Novokhohlovskaya str. 23, bld. 1, Moscow, Russia, 109052
tel.: +7 (495) 783-00-88, fax: +7 (495) 783-00-87, e-mail: info@vim-avia.com, www.vim-avia.com

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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

AJW

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Shop Visit

Pulsar – December 2017

1. Approving Civil Aviation Authority/Country:	2.	3. Form Tracking Number:
FAA/United States	**AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130–3, AIRWORTHINESS APPROVAL TAG**	1085-058-1

4. Organization Name and Address:	5. Work Order/Contract/Invoice Number:
Pulsar Aviation Services Inc. 255 S. Leland Norton Way, San Bernardino, CA 92408 FAA CRS 2PBR941B	1085-058

6. Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status/Work:
1	Auxiliary Power Plant	3800550-1	1	P-1154	Inspected

12. Remarks:

Borescope Inspected engine I/A/W Boeing B777 AMM Chap 49-20-00 PB601, Borescope report provided to the customer dated 27/DEC/2017.
This engine was mounted in APU position MSN 28413. Hours as reported by MCAP
Details of the work scope identified in Block 11/12 are on file at this Repair Station under Master Work Order #1085-058
TSN: 28,944 CSN: 19,953

PULSAR AVIATION SERVICES INC. CERTIFIES THAT THE WORK SPECIFIED IN BLOCKS 11/12 WAS CARRIED OUT IN ACCORDANCE WITH EASA PART 145, AND WITH RESPECT TO THAT WORK, THE COMPONENT IS CONSIDERED READY FOR RELEASE TO SERVICE UNDER EASA PART 145 APPROVAL NUMBER EASA.145.6444

13a. Certifies the items identified above were manufactured in conformity to:	14a. ☑ 14 CFR 43.9 Return to Service ☑ Other regulation specified 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. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.:
		Donald Maddock	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/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 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.

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
www.borescopeonvideo.com 'Since 1996'

DVD Video Borescope Inspection Report

MC Aviation Partners

1 Park Plaza, Suite 700 Irvine, CA 92614

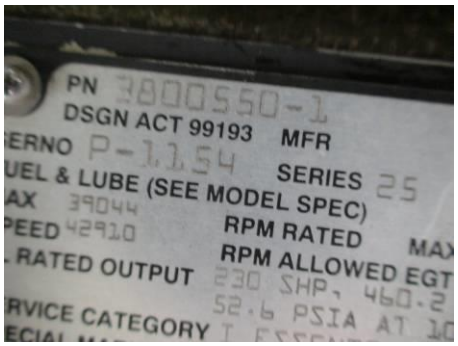
ESN P-1154	**POS** APU 331-500B	**P/N** 3800550-1	**DATE** December 27, 2017
MODEL B777-2H6	**MSN** 28413	**REG#** VP-BVA	**REASON** Acceptance Inspection
JOB SITE ComAv - Victorville, CA (VCV)			**TSN: 28,944** **VCSN: 19,953**

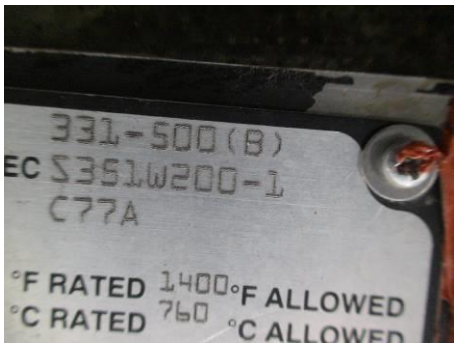
General Inspection Reference AMM 49-00

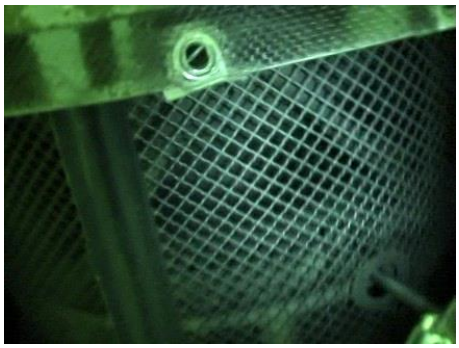
Exterior
No discrepancies noted at this time.

Case
No discrepancies noted at this time.

Components
No discrepancies noted at this time.







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 1ST Stage
No discrepancies noted at this time.

Engine Compressor 2ND Stage
No discrepancies noted at this time.

Suggest Action: *None.*

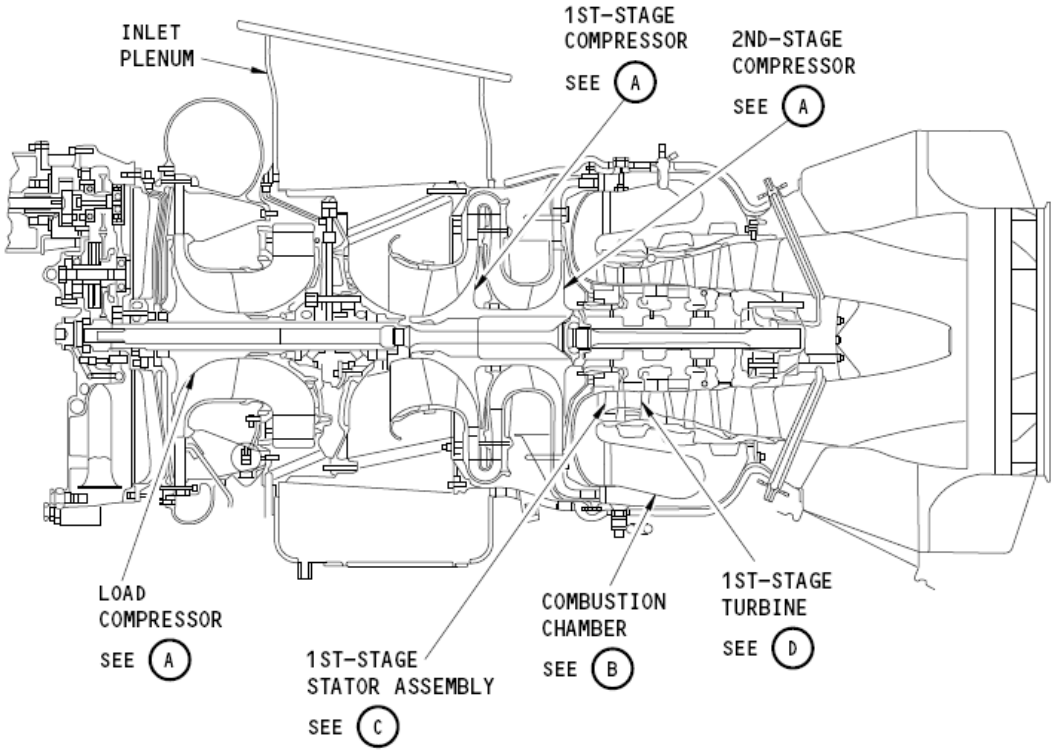
Combustor, Vanes, Turbine Reference AMM 49-21

Combustor
Minor coating loss is acceptable.

Vanes
No discrepancies noted at this time.

1ST Stage Turbine
No discrepancies noted at this time.

3RD Stage Turbine
No discrepancies noted at this time.



APU CROSS SECTION
A-A

SIGNATURE _____ **A&P** 3015305 **DATE** December 27, 2017

AJW

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Shop Visit

Honeywell – March 2015

1. Approving Competent Authority/Country	2.	3. Form Tracking Number
EASA	**AUTHORISED RELEASE CERTIFICATE** **EASA FORM 1**	20150000580132Y02 320093302

4. Organisation Name and Address: Honeywell Aerospace Singapore Pte Ltd
(Gul Circle)
161 Gul Circle
Singapore 629619

5. Work Order/Contract/Invoice
NP5300937

320093301

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

13a. Certifies that the items identified above were manufactured in conformity to:		14a. ☒ Part-145.A.50 Release to Service ☐ Other regulation specified in block 12	
☐ 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 respect to that work the items are considered ready for release to service.	
13b. Authorised Signature	13c. Approval/Authorisation Number	14b. Authorised Signature	14c. Certificate/Approval Ref. No EASA.145.0076
13d. Name	13e. Date (dd mmm yyyy)	14d. Name Stephen Lee (Stephen Lee Kok Neo)	14e. Date (dd mmm yyyy) 18 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.

1. Approving Civil Aviation Authority/Country: **FAA/United States**	2. **AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	3. Form Tracking Number: 20150000580131Y03 320093302

4. Organization Name and Address: Honeywell Aerospace Singapore Pte Ltd (Gul Circle)
161 Gul Circle
Singapore 629619

Repair Station
FT4Y192M

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

6.Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	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

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

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

COPY

13a. Certifies the items identified above were manufactured in conformity to:
- ☐ Approved design data and are in a condition for safe operation.
- ☐ Non-approved design data specified in Block 12.

14a. ☒ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12

Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.:
			FT4Y192M
13d. Name (Typed or 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.

1. Country:	2. Department of Civil Aviation Malaysia	3. Form Tracking Number:
Malaysia	**AUTHORIZED RELEASE CERTIFICATE** **AIRWORTHINESS APPROVAL TAG**	20150000580130Y18 320093302

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 No:	12. Status / Work:
001	ENGINE OUTLINE GAS TURBINE	3800550-1	UNKNOWN	1	P-1154	OVERHAULED

13. 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

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

14. Certifies the items identified above were manufactured in conformity to:	19. ☒ MCAR Reg. 30; 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. Authorised Signature:	16. Approval/Authorisation Number:	20. Authorised Signature: HONEYWELL QC 32	21. Certificate/Approval Ref. No.: **AO/0037/78**
17. Name:	18. Date (dd mmm yyyy):	22. Name: **Stephen Lee (Stephen Lee Kok Neo)**	23. Date (dd mmm yyyy): **18 MAR 2015**

Honeywell

ENGINE MODEL: 331-500B
ENGINE SERIAL NUMBER: P-1154
CUSTOMER: MALAYSIA AIRLINES SUBANG
REPAIR ORDER: 000320093301
MODULE: ENGINE
PART: 3800550-1

SERVICE RECORD

SERVICE BULLETIN COMPLIANCE

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: HONEYWELL QC 32

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

DATE: 18 MAR 2015

Honeywell

DATE	ACCUMULATED ENGINE HOURS HH.DD (HH:MM)		ACCUMULATED ENGINE CYCLES		ENGINE SERVICE RECORD REMARKS, INSPECTIONS, REPAIRS, AND ADJUSTMENTS PAGE : 1 of 1
17/MAR/2015	TSN 26386.56 (26386:34)	TSO 0.00 (0:00)	CSN 18417	CSO 0	**P/N** 3800550-1 **S/N** P-1154 **Model** 331-500B **Series** 25 **Customer PO** NP5300937

DESCRIPTION OF WORK PERFORMED

DISASSEMBLED ENGINE TO ACCOMPLISH INSPECTIONS AS INDICATED / TO ACCOMPLISH REPAIR FOR REPORTED REASON: FOR NTE REPAIRS REASON 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
49-42-05	2	11/NOV/2014

INSPECTIONS COMPLIED WITH:
AS ABOVE

SERVICE BULLETINS COMPLIED WITH: SEE SERVICE BULLETIN LIST

PARTS REPAIRED OR REPLACED THIS VISIT: SEE TRACE INPUT PAGE

NDC / LIFE LIMITED PARTS: SEE NDC / LIFE LIMITED PARTS RECORD FOR SERIALIZED COMPONENTS INSTALLED

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:
18 MAR 2015

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

TSN: 26388:34 HRS

CSN: 18423 CYCLES

Honeywell

Honeywell Aerospace Singapore Pte Ltd

GTCP 331-500[B] PERFORMANCE DATA SHEET

NOTIFICATION NUMBER	: 320093302			**SERVICE ORDER**	: 5008225314
APU MODEL	: GTCP331-500[B]	**PART NUMBER**	: 3800550-1	**SERIAL NUMBER**	: P-1154
OPERATION TEXT	: LAB 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	MEASURED	°F	86.6	87.1	87.8
APU INLET TEMPERATURE (T2) (ARINC)		°F	90.5	90.8	91.3
TURBINE DISCHARGE TEMPERATURE (UNIT RAKES)	UPPER (EGT 1)	°F	708.3	1069.7	1093.1
	LOWER (EGT 2)	°F	702.6	1075.9	1105.2
EXHAUST GAS TOTALTEMPERATURE (LA	MEASURED	°F	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		" H_2O		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	°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 : HONEYWELL (S) TEST 09 Stamp & Sign

DATE : 18-Mar-2015

QUALITY CONTROL : HONEYWELL (S) QC 32 Stamp & Sign

DATE : 18 MAR 2015

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

Honeywell Aerospace Singapore Pte Ltd
(Gul Circle)

Honeywell

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	-	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	-	[redacted]			OVERHAULED
DISK PART NO	3842152-1			26386:34	18417	27000	
2ND T-WHEEL ASSY	3842155-4	960335701592	97P309	[redacted]			OVERHAULED
DISK PART NO	3842156-1			26386:34	18417	27000	
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	-	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:

HONEYWELL QC (S) 32

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

PREPARED BY : _____ HONEYWELL QC 32 (S)

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 months IAW SB 49-7997

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: 18 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
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					
NO	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	26385 / 18417			3805034-8	P-247	26385/ 18417	REPAIRED MODIFIED		
2	DRIVE COMP.ASSY	3804011-8	P254	26385 / 18417			3804011-8	P-254	26385/ 18417	OVERHAULED		
2.1	IMPELLER COMP LOAD	3822468-3	050322901613	18417	27000 Cycs		3822612-1	11-182449 - 02712	5382:09/ 4219	OVERHAULED		ORIGINAL UNIT SN AS RECEIVED.
3	ENG.COMP.ASSY	3826980-9	P254	26385 / 18417			3826980-9	P-254	26385/ 18417	OVERHAULED 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		3822483-1	960322 903503	19632:52/ 13533	OVERHAULED		
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/ 18417	OVERHAULED		
4.3	3RD STG ROTOR ASSY	3842160-5	970134505954	18417	27000 Cycs		3842160-5	970134 505954	26386:34/ 18417	OVERHAULED		

GTCP-331-500B-ACCESSORIES

APU S/N: P-1098

NO	DESCRIPTION ACCESSORIES	INCOMING					OUTGOING					
		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	OC		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	OC		304643-2	GE1392	26385	VISUALLY INSPECTED		
5.4	FUEL CLUSTER	4417617	CUA10186	26385	OC		3879008-1	CUA10610	20849	REPAIRED		TRANSFERRED FROM MAS APU P-1145
5.5	APU CHECK VALVE	3202610-5	581	UNK	OC		3202854-1	1100	-	REPAIRED		ORIGINAL UNIT SN AS RECEIVED SN @
5.6	A.T.S.C.V	3283076-5	314C	26385	OC		3283076-5	374	-	TESTED		ORIGINAL UNIT SN AS RECEIVED
5.7	AIR TURBINE START	3505814-3	246	12276	OC		3505814-3	246	12276	OVERHAULED		
5.8	I.G.V ACT	B55690-004		26385	OC		3883499-3	0262	-	TESTED		ORIGINAL UNIT SN AS RECEIVED
5.9	PNEU. CLUSTER	3884863-7		26385	OC		3884863-7	P-304	-	REPAIRED		ORIGINAL UNIT SN AS RECEIVED
5.10	IGNITION CLUSTER	3888275-9	UNKP1154	26385	OC		3888275-9	020218 034031	26385	REPAIRED		ORIGINAL UNIT SN AS RECEIVED
5.11	LUBE CLUSTER	4131000-6	342C	26396	OC		4131000-6	342C	26396	REPAIRED		
5.12	S.G.V	3290814-5	337C	26396	OC		3290814-5	664C	-	TESTED		ORIGINAL UNIT SN 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.	3. Form Tracking Number
EASA	**AUTHORISED RELEASE CERTIFICATE** **EASA FORM 1**	20150000577417Y02 320264765

4. Organisation Name and Address: Honeywell Aerospace Singapore Pte Ltd
(Gul Circle)
161 Gul Circle
Singapore 629619

5. Work Order/Contract/Invoice
NP4311791
320071093

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

THE SERVICE SPECIFIED HAS BEEN ACCOMPLISHED IN ACCORDANCE WITH:
CMM 49-31-71 Rev 8, FEB/22/2012

	HH.DD	(HH:MM)
TSR	0.00	(0:00)
CSR	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

14a. ☒ Part-145.A.50 Release 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 Part-145 and in respect to that work the items are considered ready for release to service.

13b. Authorised Signature	13c. Approval/Authorisation Number	14b. Authorised Signature	14c. Certificate/Approval Ref. No
		HONEYWELL QC 32 (S)	EASA.145.0076
13d. Name	**13e. Date (dd mmm yyyy)**	**14d. Name**	**14e. Date (dd mmm yyyy)**
		Stephen Lee (Stephen Lee Kok Neo)	17 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.

1. Approving Civil Aviation Authority/Country: **FAA/United States**	2. **AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	3. Form Tracking Number: 20150000577418Y03 320264765

4. Organization Name and Address: Honeywell Aerospace Singapore Pte Ltd (Gul Circle)
161 Gul Circle
Singapore 629619

Repair Station
FT4Y192M

5. Work Order/Contract/Invoice Number:
NP4311791
320071093
Page 1 of 1

6.Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status / Work:
001	FUEL CLUSTER	3879008-1	1	CUA10610	REPAIRED

12. Remarks:

THE SERVICE SPECIFIED HAS BEEN ACCOMPLISHED IN ACCORDANCE WITH:
CMM 49-31-71 Rev 8, FEB/22/2012

	HH.DD	(HH:MM)
TSR	0.00	(0:00)
CSR	0.00	

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

13a. Certifies the items identified above were manufactured in conformity to:
- ☐ Approved design data and are in a condition for safe operation.
- ☐ Non-approved design data specified in Block 12.

14a. ☒ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12

Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.:
			FT4Y192M
13d. Name (Typed or Printed):	13e. Date(dd/mmm/yyyy):	14d. Name (Typed or Printed): **Stephen Lee (Stephen Lee Kok Neo)**	14e. Date (dd/mmm/yyyy): **17/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. Approving Civil Aviation Authority/Country: **FAA/United States**	2. **AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	3. Form Tracking Number: 20150000558929Y03 320244458

4. Organization Name and Address: Honeywell Aerospace Singapore Pte Ltd (Gul Circle)
161 Gul Circle
Singapore 629619

Repair Station
FT4Y192M

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

6.Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status / Work:
001	IMPELLER, LOAD COMPRESSOR	3822612-1	1	11-182449-02712	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	5382.15	(5382:09)
CSN	4219.00	
TSO	0.00	(0:00)
CSO	0.00	

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

13a. Certifies the items identified above were manufactured in conformity to:
- ☐ Approved design data and are in a condition for safe operation.
- ☐ Non-approved design data specified in Block 12.

14a. ☒ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12

Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.:
			FT4Y192M
13d. Name (Typed or Printed):	13e. Date(dd/mmm/yyyy):	14d. Name (Typed or Printed): **Ramesh Ramadoss**	14e. Date (dd/mmm/yyyy): **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. Approving Competent Authority/Country	2.	3. Form Tracking Number
EASA	**AUTHORISED RELEASE CERTIFICATE** **EASA FORM 1**	20150000558928Y02 320244458

4. Organisation Name and Address: Honeywell Aerospace Singapore Pte Ltd
(Gul Circle)
161 Gul Circle
Singapore 629619

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. Remarks

THE SERVICE SPECIFIED HAS BEEN ACCOMPLISHED IN ACCORDANCE WITH:
IRM 49-24-79 Rev 8, JAN/30/2015

	HH.DD	(HH:MM)
TSN	5382.1	(5382:09)
CSN	4219.00	
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

14a. ☒ Part-145.A.50 Release 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 Part-145 and in respect to that work the items are considered ready for release to service.

13b. Authorised Signature	13c. Approval/Authorisation Number	14b. Authorised Signature	14c. Certificate/Approval Ref. No
		M Manerjee HONEYWELL QC 11	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/instsller before the aircraft may be flown.

1. Country:	2 . Department of Civil Aviation Malaysia	3. Form Tracking Number:
Malaysia	**AUTHORIZED RELEASE CERTIFICATE** **AIRWORTHINESS APPROVAL TAG**	20150000558930Y18 320244458

4. Approved Organization Name and Address:	Repair Station	5. Work Order/Contract/Invoice:
Honeywell Aerospace Singapore Pte Ltd (Gul Circle) 161 Gul Circle Singapore 629619	AO/0037/78	NP5300937 320093301 Page 1 of 1

6.Item:	7. Description:	8. Part No:	9. Eligibility:	10. Qty:	11. Serial / Batch No:	12. Status / Work:
001	IMPELLER, LOAD COMPRESSOR	3822612-1	UNKNOWN	1	11-182449-02712	OVERHAULED

13. Remarks :

THE SERVICE SPECIFIED HAS BEEN ACCOMPLISHED IN ACCORDANCE WITH:
IRM 49-24-79 Rev 8, JAN/30/2015

	HH.DD	(HH:MM)
TSN	5382.15	(5382:09)
CSN	4219.00	
TSO	0.00	(0:00)
CSO	0.00	

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

14. Certifies the items identified above were manufactured in conformity to:	19. ☒ MCAR Reg. 30; 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. Authorised Signature:	16. Approval/Authorisation Number:	20. Authorised Signature: M Manoss... HONEYWELL SG 11	21. Certificate/Approval Ref. No.: **AO/0037/78**
17. Name:	18. Date (dd mmm yyyy):	22. Name: **Ramesh Ramadoss**	23. Date (dd mmm yyyy): **09 MAR 2015**

Honeywell Aerospace Singapore Pte Ltd
co Honeywell Aerospace Singapore Pte Ltd
161 Gul Circle
SINGAPORE 629619

Commercial

Honeywell

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

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:**

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)*		
[redacted]	5382.15	(5382:09)	[redacted]	4219.00
[redacted]			[redacted]	
[redacted]			[redacted]	

CUSTOMER REASON FOR RETURN

Overhaul

GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

[redacted]

Nicked

[redacted] FIRE, FLAMES FROM TAILPIPE

[redacted]

DETAIL DISASSEMBLY / EVALUATION FINDINGS

[redacted]

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

[redacted]

[redacted] [redacted] [redacted] [redacted]

[redacted] [redacted] [redacted] [redacted]

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

[redacted]

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

[redacted] Overhaul

[redacted]

[redacted]

Honeywell Aerospace Singapore Pte Ltd
co Honeywell Aerospace Singapore Pte Ltd
161 Gul Circle
SINGAPORE 629619
Date:08 MAR 2015

Commercial

Honeywell

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

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 **DATE: 24 FEB 2015**

1. Country:	2. Department of Civil Aviation Malaysia	3. Form Tracking Number:
Malaysia	**AUTHORIZED RELEASE CERTIFICATE** **AIRWORTHINESS APPROVAL TAG**	20150000554913Y18 320244395

4. Approved Organization Name and Address:	Repair Station	5. Work Order/Contract/Invoice:
Honeywell Aerospace Singapore Pte Ltd (Gul Circle) 161 Gul Circle Singapore 629619	AO/0037/78	NP5300937 320093301 Page 1 of 1

6.Item:	7. Description:	8. Part No:	9. Eligibility:	10. Qty:	11. Serial / Batch No:	12. Status / Work:
001	IMPELLER, CENTRIFUGAL- STAGE 1	3822483-1	UNKNOWN	1	960322903503	OVERHAULED

13. 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

14. Certifies the items identified above were manufactured in conformity to:	19. ☒ MCAR Reg. 30; 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. Authorised Signature:	16. Approval/Authorisation Number:	20. Authorised Signature: M Manero...	21. Certificate/Approval Ref. No.: **AO/0037/78**
17. Name:	18. Date (dd mmm yyyy):	22. Name: **Ramesh Ramadoss**	23. Date (dd mmm yyyy): **06 MAR 2015**

1. Approving Competent Authority/Country	2.	3. Form Tracking Number
EASA	**AUTHORISED RELEASE CERTIFICATE** **EASA FORM 1**	20150000554904Y02 320244395

4. Organisation Name and Address: Honeywell Aerospace Singapore Pte Ltd
(Gul Circle)
161 Gul Circle
Singapore 629619

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

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	

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

14a. ☒ Part-145.A.50 Release 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 Part-145 and in respect to that work the items are considered ready for release to service.

13b. Authorised Signature	13c. Approval/Authorisation Number	14b. Authorised Signature	14c. Certificate/Approval Ref. No
		M Ramesh	EASA.145.0076
13d. Name	**13e. Date (dd mmm yyyy)**	**14d. Name**	**14e. Date (dd mmm yyyy)**
		Ramesh Ramadoss	06 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.

1. Approving Civil Aviation Authority/Country: **FAA/United States**	2. **AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	3. Form Tracking Number: 20150000554905Y03 320244395

4. Organization Name and Address: Honeywell Aerospace Singapore Pte Ltd (Gul Circle)
161 Gul Circle
Singapore 629619

Repair Station
FT4Y192M

5. Work Order/Contract/Invoice Number:
NP5300937
320093301
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	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 manufactured in conformity to:
- ☐ Approved design data and are in a condition for safe operation.
- ☐ Non-approved design data specified in Block 12.

14a. ☒ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12

Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.:
		MManero	**FT4Y192M**
13d. Name (Typed or 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.

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 Number: 3822483-1 **Part Desc:** IMPELLER, CENTRIFUGAL-STAGE 1 **Serial No:** 960322903503

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:** **Alternate S/N:**

TIMES/CYCLES	*HH.DD*	*(HH:MM)*		
[redacted]	19632.86	(19632:52)	[redacted]	13533.00

CUSTOMER REASON FOR RETURN

Overhaul

GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

[redacted]

ERODED

[redacted] FIRE, FLAMES FROM TAILPIPE

[redacted]

DETAIL DISASSEMBLY / EVALUATION FINDINGS

[redacted]

BLADE L/ES ERODED. KNIFE EDGE EXCESSIVELY RUBBED. BALANCE. TSN/CSN:
25015:00/17752

[redacted]

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

[redacted]

UNIT INSPECTED & OVERHAULED IAW IRM. KNIFE EDGE SEAL REPLACED & MACHININED TO SIZE.
HAND BLEND, FPI, BALANCE & SHOT-PEENING CARRIED OUT.

[redacted] Overhaul

[redacted]

[redacted]

Honeywell Aerospace Singapore Pte Ltd
co Honeywell Aerospace Singapore Pte Ltd
161 Gul Circle
SINGAPORE 629619

Commercial

Honeywell

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

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-STAGE 1 **Serial No:** 960322903503

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 **DATE: 24 FEB 2015**

1. Country:	2 . Department of Civil Aviation Malaysia	3. Form Tracking Number:
Malaysia	**AUTHORIZED RELEASE CERTIFICATE** **AIRWORTHINESS APPROVAL TAG**	20150000558939Y18 320243301

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 No:	12. Status / Work:
001	ROTOR ASSY 1STG	3842151-3	UNKNOWN	1	970335700399	OVERHAULED

13. 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	
TSO	0.00	(0:00)
CSO	0.00	

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

14. Certifies the items identified above were manufactured in conformity to:		19. ☒ MCAR Reg. 30; 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. Authorised Signature:	16. Approval/Authorisation Number:	20. Authorised Signature:	21. Certificate/Approval Ref. No.:
			AO/0037/78
17. Name:	18. Date (dd mmm yyyy):	22. Name: **Ramesh Ramadoss**	23. Date (dd mmm yyyy): **09 MAR 2015**

1. Approving Competent Authority/Country	2.	3. Form Tracking Number
EASA	**AUTHORISED RELEASE CERTIFICATE** **EASA FORM 1**	20150000558937Y02 320243301

4. Organisation Name and Address: Honeywell Aerospace Singapore Pte Ltd
(Gul Circle)
161 Gul Circle
Singapore 629619

5. Work Order/Contract/Invoice
NP5300937
320093301

6. Item	7. Description	8. Part No	9. Quantity	10. Serial No.	11. Status/Work
001	ROTOR ASSY 1STG	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	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

14a. ☒ Part-145.A.50 Release 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 Part-145 and in respect to that work the items are considered ready for release to service.

13b. Authorised Signature	13c. Approval/Authorisation Number	14b. Authorised Signature	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

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.

1. Approving Civil Aviation Authority/Country: **FAA/United States**	2. **AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	3. Form Tracking Number: 20150000558938Y03 320243301

4. Organization Name and Address: Honeywell Aerospace Singapore Pte Ltd (Gul Circle)
161 Gul Circle
Singapore 629619

Repair Station
FT4Y192M

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

6.Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status / Work:
001	ROTOR ASSY 1STG	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	26386.56	(26386:34)
CSN	18417.00	
TSO	0.00	(0:00)
CSO	0.00	

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

13a. Certifies the items identified above were manufactured in conformity to:
- ☐ Approved design data and are in a condition for safe operation.
- ☐ Non-approved design data specified in Block 12.

14a. ☒ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12

Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.:
			FT4Y192M
13d. Name (Typed or 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.

Honeywell Aerospace Singapore Pte Ltd
co Honeywell Aerospace Singapore Pte Ltd
161 Gul Circle
SINGAPORE 629619

Commercial

Honeywell

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

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:**

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)*		
[redacted]	26386.56	(26386:34)	[redacted]	18417.00

CUSTOMER REASON FOR RETURN

Overhaul

GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

[redacted]

Eroded
Corrosion/Corroded

[redacted] FIRE, FLAMES FROM TAILPIPE

[redacted]

DETAIL DISASSEMBLY / EVALUATION FINDINGS

[redacted]

ALL BLADE TIPS ERODED & PLATFORM OF BLADES CORRODED, REPLACE ALL.
REASSEMBLE & BALANCE. TSN/CSN: 26386:34 & 18417

[redacted]

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

[redacted]

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
SINGAPORE 629619
Date:08 MAR 2015

Honeywell

Commercial

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

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.

[redacted] Overhaul

FINAL CONFIGURATION
Part No: 3842151-3

[redacted]

S/N: 970335700399

[redacted]

Series/Issues/Amdts:

Mods:

MECHANIC/ANALYST Beng Chong Koh **DATE: 23 FEB 2015**

1. Country:	2 . Department of Civil Aviation Malaysia	3. Form Tracking Number:
Malaysia	**AUTHORIZED RELEASE CERTIFICATE** **AIRWORTHINESS APPROVAL TAG**	20150000558988Y18 320244002

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 No:	12. Status / Work:
001	ROTOR ASSY TURB - 2STG	3842155-4	UNKNOWN	1	960335701592	OVERHAULED

13. 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	
TSO	0.00	(0:00)
CSO	0.00	

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

14. Certifies the items identified above were manufactured in conformity to:	19. ☒ MCAR Reg. 30; 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. Authorised Signature:	16. Approval/Authorisation Number:	20. Authorised Signature:	21. Certificate/Approval Ref. No.: **AO/0037/78**
17. Name:	18. Date (dd mmm yyyy):	22. Name: **Ramesh Ramadoss**	23. Date (dd mmm yyyy): **09 MAR 2015**

1. Approving Competent Authority/Country	2.	3. Form Tracking Number
EASA	**AUTHORISED RELEASE CERTIFICATE** **EASA FORM 1**	20150000558985Y02 320244002

4. Organisation Name and Address:	5. Work Order/Contract/Invoice
Honeywell Aerospace Singapore Pte Ltd (Gul Circle) 161 Gul Circle Singapore 629619	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

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. 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

14a. ☒ Part-145.A.50 Release 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 Part-145 and in respect to that work the items are considered ready for release to service.

13b. Authorised Signature	13c. Approval/Authorisation Number	14b. Authorised Signature	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

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.

1. Approving Civil Aviation Authority/Country: **FAA/United States**	2. **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 (Gul Circle) 161 Gul Circle Singapore 629619 — Repair Station FT4Y192M

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

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	
TSO	0.00	(0:00)
CSO	0.00	

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

13a. Certifies the items identified above were manufactured in conformity to:
- ☐ Approved design data and are in a condition for safe operation.
- ☐ Non-approved design data specified in Block 12.

14a. ☒ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12

Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.:
			FT4Y192M
13d. Name (Typed or 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.

Honeywell Aerospace Singapore Pte Ltd
co Honeywell Aerospace Singapore Pte Ltd
161 Gul Circle
SINGAPORE 629619

Commercial

Honeywell

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

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*	*(HH:MM)*		
[redacted]	26386.56	(26386:34)	[redacted]	18417.00

CUSTOMER REASON FOR RETURN

Overhaul

GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

[redacted]

Eroded
Rubbed/Abraded

[redacted] FIRE, FLAMES FROM TAILPIPE

[redacted]

DETAIL DISASSEMBLY / EVALUATION FINDINGS

[redacted]

ALL BLADE L/EDGES ERODED & TIPS RUBBED. REASSEMBLE & BALANCE. TSN/CSN:
26386:34 & 18417

[redacted]

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

[redacted]

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

Honeywell Aerospace Singapore Pte Ltd
co Honeywell Aerospace Singapore Pte Ltd
161 Gul Circle
SINGAPORE 629619

Commercial

Honeywell

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

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.

[redacted] Overhaul

FINAL CONFIGURATION
Part No: 3842155-4

[redacted]

S/N: 960335701592

[redacted]

Series/Issues/Amdts:

Mods:

MECHANIC/ANALYST Chin Cheng See **DATE: 25 FEB 2015**

1. Country:	2 . Department of Civil Aviation Malaysia	3. Form Tracking Number:
Malaysia	**AUTHORIZED RELEASE CERTIFICATE** **AIRWORTHINESS APPROVAL TAG**	20150000558947Y18 320243274

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 No:	12. Status / Work:
001	TURBINE ROTOR ASSY, BLADED 3RD STAGE	3842160-5	UNKNOWN	1	970134505954	OVERHAULED

13. 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	
TSO	0.00	(0:00)
CSO	0.00	

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

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.		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. Authorised Signature:	16. Approval/Authorisation Number:	20. Authorised Signature: M Manager	21. Certificate/Approval Ref. No.: **AO/0037/78**
17. Name:	18. Date (dd mmm yyyy):	22. Name: **Ramesh Ramadoss**	23. Date (dd mmm yyyy): **09 MAR 2015**

1. Approving Civil Aviation Authority/Country: **FAA/United States**	2. **AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	3. Form Tracking Number: 20150000558946Y03 320243274

4. Organization Name and Address: Honeywell Aerospace Singapore Pte Ltd (Gul Circle)
161 Gul Circle
Singapore 629619

Repair Station
FT4Y192M

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

6.Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status / Work:
001	TURBINE ROTOR ASSY, BLADED 3RD STAGE	3842160-5	1	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)
TSN	26386.56	(26386:34)
CSN	18417.00	
TSO	0.00	(0:00)
CSO	0.00	

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

13a. Certifies the items identified above were manufactured in conformity to:
- ☐ Approved design data and are in a condition for safe operation.
- ☐ Non-approved design data specified in Block 12.

14a. ☒ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12

Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.:
			FT4Y192M
13d. Name (Typed or 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.

1. Approving Competent Authority/Country	2.	3. Form Tracking Number
EASA	**AUTHORISED RELEASE CERTIFICATE** **EASA FORM 1**	20150000558945Y02 320243274

4. Organisation Name and Address: Honeywell Aerospace Singapore Pte Ltd
(Gul Circle)
161 Gul Circle
Singapore 629619

5. Work Order/Contract/Invoice
NP5300937
320093301

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

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	
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

14a. ☒ Part-145.A.50 Release 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 Part-145 and in respect to that work the items are considered ready for release to service.

13b. Authorised Signature	13c. Approval/Authorisation Number	14b. Authorised Signature	14c. Certificate/Approval Ref. No
		M Manero	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.

Honeywell Aerospace Singapore Pte Ltd
c/o Honeywell Aerospace Singapore Pte Ltd
161 Gul Circle
SINGAPORE 629619

Commercial

Honeywell

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

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 **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)*		
[redacted]	26386.56	(26386:34)	[redacted]	18417.00

CUSTOMER REASON FOR RETURN

Overhaul

GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

[redacted]

Nicked

[redacted] FIRE, FLAMES FROM TAILPIPE

[redacted]

DETAIL DISASSEMBLY / EVALUATION FINDINGS

[redacted]

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

[redacted]

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

[redacted]

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

[redacted] Overhaul

[redacted]

Honeywell Aerospace Singapore Pte Ltd
co Honeywell Aerospace Singapore Pte Ltd
161 Gul Circle
SINGAPORE 629619
Date:08 MAR 2015

Commercial

Honeywell

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

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 **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 **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					
NO	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	26385 / 18417			3805034-8	P-247	26385/ 18417	REPAIRED MODIFIED		
2	DRIVE COMP.ASSY	3804011-8	P254	26385 / 18417			3804011-8	P-254	26385/ 18417	OVERHAULED		
2.1	IMPELLER COMP LOAD	3822468-3	050322901613	18417	27000 Cycs		3822612-1	11-182449 - 02712	5382:09/ 4219	OVERHAULED		ORIGINAL UNIT SN AS RECEIVED.
3	ENG.COMP.ASSY	3826980-9	P254	26385 / 18417			3826980-9	P-254	26385/ 18417	OVERHAULED 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		3822483-1	960322 903503	19632:52/ 13533	OVERHAULED		
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 701892	26386:34/ 18417	OVERHAULED		
4.3	3RD STG ROTOR ASSY	3842160-5	970134505954	18417	27000 Cycs		3842160-5	970134 505954	26386:34/ 18417	OVERHAULED		

GTCP-331-500B-ACCESSORIES

APU S/N: P-1098

NO	DESCRIPTION	INCOMING					OUTGOING					
	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	OC		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	OC		304643-2	GE1392	26385	VISUALLY INSPECTED		
5.4	FUEL CLUSTER	4417617	CUA10186	26385	OC		3879008-1	CUA10610	20849	REPAIRED		TRANSFERRED FROM MAS APU P-1145
5.5	APU CHECK VALVE	3202610-5	591	UNK	OC		3202854-1	1100	-	REPAIRED		ORIGINAL UNIT SN AS RECEIVED
5.6	A.T.S.C.V	3283076-5	314C	26385	OC		3283076-5	374	-	TESTED		ORIGINAL UNIT SN AS RECEIVED
5.7	AIR TURBINE START	3505814-3	246	12276	OC		3505814-3	246	12276	OVERHAULED		
5.8	I.G.V ACT	B55690-004		26385	OC		3883499-3	0262	-	TESTED		ORIGINAL UNIT SN AS RECEIVED
5.9	PNEU. CLUSTER	3884863-7		26385	OC		3884863-7	P-304	-	REPAIRED		ORIGINAL UNIT SN AS RECEIVED
5.10	IGNITION CLUSTER	3888275-9	UNKP1154	26385	OC		3888275-9	020218 034031	26385	REPAIRED		ORIGINAL UNIT SN 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		ORIGINAL UNIT SN 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

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 months IAW SB 49-7997

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: 18 MAR 2015

1. Approving Competent Authority/Country	2.	3. Form Tracking Number
EASA	**AUTHORISED RELEASE CERTIFICATE** **EASA FORM 1**	20150000577417Y02 320264765

4. Organisation Name and Address:	5. Work Order/Contract/Invoice
Honeywell Aerospace Singapore Pte Ltd (Gul Circle) 161 Gul Circle Singapore 629619	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

12. Remarks

THE SERVICE SPECIFIED HAS BEEN ACCOMPLISHED IN ACCORDANCE WITH:
CMM 49-31-71 Rev 8, FEB/22/2012

	HH.DD	(HH:MM)
TSR	0.00	(0:00)
CSR	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

14a. ☒ Part-145.A.50 Release 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 Part-145 and in respect to that work the items are considered ready for release to service.

13b. Authorised Signature	13c. Approval/Authorisation Number	14b. Authorised Signature	14c. Certificate/Approval Ref. No
		HONEYWELL QC 32	EASA.145.0076
13d. Name	**13e. Date (dd mmm yyyy)**	**14d. Name**	**14e. Date (dd mmm yyyy)**
		Stephen Lee (Stephen Lee Kok Neo)	17 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.

1. Approving Civil Aviation Authority/Country: **FAA/United States**	2. **AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	3. Form Tracking Number: 20150000577418Y03 320264765

4. Organization Name and Address: Honeywell Aerospace Singapore Pte Ltd (Gul Circle) 161 Gul Circle Singapore 629619 — Repair Station FT4Y192M

5. Work Order/Contract/Invoice Number: NP4311791 320071093 Page 1 of 1

6.Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status / Work:
001	FUEL CLUSTER	3879008-1	1	CUA10610	REPAIRED

12. Remarks:

THE SERVICE SPECIFIED HAS BEEN ACCOMPLISHED IN ACCORDANCE WITH:

CMM 49-31-71 Rev 8, FEB/22/2012

	HH.DD	(HH:MM)
TSR	0.00	(0:00)
CSR	0.00	

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

13a. Certifies the items identified above were manufactured in conformity to:

- ☐ Approved design data and are in a condition for safe operation.
- ☐ Non-approved design data specified in Block 12.

14a. ☒ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12

Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.:
			FT4Y192M
13d. Name (Typed or Printed):	13e. Date(dd/mmm/yyyy):	14d. Name (Typed or Printed): **Stephen Lee (Stephen Lee Kok Neo)**	14e. Date (dd/mmm/yyyy): **17/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. Approving Civil Aviation Authority/Country: **FAA/United States**	2. **AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	3. Form Tracking Number: 20150000558929Y03 320244458

4. Organization Name and Address: Honeywell Aerospace Singapore Pte Ltd (Gul Circle)
161 Gul Circle
Singapore 629619

Repair Station
FT4Y192M

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

6.Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status / Work:
001	IMPELLER, LOAD COMPRESSOR	3822612-1	1	11-182449-02712	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	5382.15	(5382:09)
CSN	4219.00	
TSO	0.00	(0:00)
CSO	0.00	

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

13a. Certifies the items identified above were manufactured in conformity to:
- ☐ Approved design data and are in a condition for safe operation.
- ☐ Non-approved design data specified in Block 12.

14a. ☒ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12

Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.:
			FT4Y192M
13d. Name (Typed or 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.

1. Approving Competent Authority/Country	2.	3. Form Tracking Number
EASA	**AUTHORISED RELEASE CERTIFICATE** **EASA FORM 1**	20150000558928Y02 320244458

4. Organisation Name and Address: Honeywell Aerospace Singapore Pte Ltd
(Gul Circle)
161 Gul Circle
Singapore 629619

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. Remarks

THE SERVICE SPECIFIED HAS BEEN ACCOMPLISHED IN ACCORDANCE WITH:
IRM 49-24-79 Rev 8, JAN/30/2015

	HH.DD	(HH:MM)
TSN	5382.1	(5382:09)
CSN	4219.00	
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

14a. ☒ Part-145.A.50 Release 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 Part-145 and in respect to that work the items are considered ready for release to service.

13b. Authorised Signature	13c. Approval/Authorisation Number	14b. Authorised Signature	14c. Certificate/Approval Ref. No
		M Manero	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.

1. Country:	2 . Department of Civil Aviation Malaysia	3. Form Tracking Number:
Malaysia	**AUTHORIZED RELEASE CERTIFICATE** **AIRWORTHINESS APPROVAL TAG**	20150000558930Y18 320244458

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 No:	12. Status / Work:
001	IMPELLER, LOAD COMPRESSOR	3822612-1	UNKNOWN	1	11-182449-02712	OVERHAULED

13. Remarks :

THE SERVICE SPECIFIED HAS BEEN ACCOMPLISHED IN ACCORDANCE WITH:

IRM 49-24-79 Rev 8, JAN/30/2015

	HH.DD	(HH:MM)
TSN	5382.15	(5382:09)
CSN	4219.00	
TSO	0.00	(0:00)
CSO	0.00	

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

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.		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. Authorised Signature:	16. Approval/Authorisation Number:	20. Authorised Signature:	21. Certificate/Approval Ref. No.: **AO/0037/78**
17. Name:	18. Date (dd mmm yyyy):	22. Name: **Ramesh Ramadoss**	23. Date (dd mmm yyyy): **09 MAR 2015**

Honeywell Aerospace Singapore Pte Ltd
co Honeywell Aerospace Singapore Pte Ltd
161 Gul Circle
SINGAPORE 629619
Date:08 MAR 2015

Commercial

Honeywell

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

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:** **Alternate S/N:**

TIMES/CYCLES	*HH.DD*	*(HH:MM)*		
[redacted]	5382.15	(5382:09)	[redacted]	4219.00
[redacted]			[redacted]	
[redacted]			[redacted]	

CUSTOMER REASON FOR RETURN

Overhaul

GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

[redacted]

Nicked

[redacted] FIRE, FLAMES FROM TAILPIPE

[redacted]

DETAIL DISASSEMBLY / EVALUATION FINDINGS

[redacted]

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

[redacted]

[redacted] [redacted] [redacted]

[redacted] [redacted] [redacted] [redacted]

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

[redacted]

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

[redacted] Overhaul

[redacted]

[redacted]

Honeywell Aerospace Singapore Pte Ltd
co Honeywell Aerospace Singapore Pte Ltd
161 Gul Circle
SINGAPORE 629619
Date:08 MAR 2015

Honeywell

Commercial

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

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 **DATE: 24 FEB 2015**

1. Country:	2 . Department of Civil Aviation Malaysia	3. Form Tracking Number:
Malaysia	**AUTHORIZED RELEASE CERTIFICATE** **AIRWORTHINESS APPROVAL TAG**	20150000554913Y18 320244395

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 No:	12. Status / Work:
001	IMPELLER, CENTRIFUGAL- STAGE 1	3822483-1	UNKNOWN	1	960322903503	OVERHAULED

13. 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

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.		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. Authorised Signature:	16. Approval/Authorisation Number:	20. Authorised Signature: M Manego	21. Certificate/Approval Ref. No.: **AO/0037/78**
17. Name:	18. Date (dd mmm yyyy):	22. Name: **Ramesh Ramadoss**	23. Date (dd mmm yyyy): **06 MAR 2015**

1. Approving Competent Authority/Country	2.	3. Form Tracking Number
EASA	**AUTHORISED RELEASE CERTIFICATE** **EASA FORM 1**	20150000554904Y02 320244395

4. Organisation Name and Address: Honeywell Aerospace Singapore Pte Ltd
(Gul Circle)
161 Gul Circle
Singapore 629619

5. Work Order/Contract/Invoice
NP5300937
320093301

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

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	

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

14a. ☒ Part-145.A.50 Release 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 Part-145 and in respect to that work the items are considered ready for release to service.

13b. Authorised Signature	13c. Approval/Authorisation Number	14b. Authorised Signature	14c. Certificate/Approval Ref. No
		M Ramesh	EASA.145.0076
13d. Name	**13e. Date (dd mmm yyyy)**	**14d. Name**	**14e. Date (dd mmm yyyy)**
		Ramesh Ramadoss	06 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.

1. Approving Civil Aviation Authority/Country: **FAA/United States**	2. **AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	3. Form Tracking Number: 20150000554905Y03 320244395

4. Organization Name and Address: Honeywell Aerospace Singapore Pte Ltd (Gul Circle)
161 Gul Circle
Singapore 629619

Repair Station
FT4Y192M

5. Work Order/Contract/Invoice Number:
NP5300937
320093301
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	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 manufactured in conformity to:
- ☐ Approved design data and are in a condition for safe operation.
- ☐ Non-approved design data specified in Block 12.

14a. ☒ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12

Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.:
			FT4Y192M
13d. Name (Typed or 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.

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 Number: 3822483-1 **Part Desc:** IMPELLER, CENTRIFUGAL-STAGE 1 **Serial No:** 960322903503

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:** **Alternate S/N:**

TIMES/CYCLES	*HH.DD*	*(HH:MM)*		
Time Since New:	19632.86	(19632:52)	Cycles Since New:	13533.00
Time Since Overhaul:			Cycles Since Overhaul:	
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:

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:

Honeywell Aerospace Singapore Pte Ltd
co Honeywell Aerospace Singapore Pte Ltd
161 Gul Circle
SINGAPORE 629619

Commercial

Honeywell

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

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-STAGE 1 **Serial No:** 960322903503

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

DATE: 24 FEB 2015

1. Approving Civil Aviation Authority/Country: **FAA/United States**	2. **AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	3. Form Tracking Number: 20150000543808Y14 904026911-80001

4. Organization Name and Address:	Production Approval		5. Work Order/Contract/Invoice Number:
Honeywell International Inc. 111 S. 34th Street Phoenix, Arizona 85072	PT1222NM	Honeywell International Inc. Units 2-4, Chevron, Eaton Road Hemel Hempstead, HP2 7UB UNITED KINGDOM	4703472567-000010 Page 1 of 1

6.Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status / Work:
001	IMPELLER, COMPRESSOR, SECOND STAGE	3822341-5	1	14-182449-13712	NEW

12. Remarks:
EXPORT AIRWORTHINESS APPROVAL: THIS ARTICLE MEETS THE SPECIAL REQUIREMENTS OF REPUBLIC OF SINGAPORE.
THIS PART IS A SUBCOMPONENT OF A TSO AUTHORIZATION.

13a. Certifies the items identified above were manufactured in conformity to:	14a. ☐ 14 CFR 43.9 Return to Service ☐ Other regulation specified 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. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.:
S. Foulger	ODA-602216-NM		
13d. Name (Typed or Printed):	13e. Date (dd/mmm/yyyy):	14d. Name (Typed or Printed):	14e. Date(dd/mmm/yyyy):
Stephen Foulger	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.

LN15703400K

Honeywell

LIFE LIMITED PART LOG

ASSEMBLY NAME: PART NUMBER: SERIAL NUMBER:

LIFE LIMITED PART NAME: IMPELLER, COMPRESSOR, SECOND STAGE PART NUMBER: 3822341-5 SERIAL NUMBER: 14-182449-13712

MANUFACTURED PER FAR PART 21 UNDER PRODUCTION CERTIFICATE PC413 SIGNATURE OR ACCEPTANCE STAMP: A428

DATE INSTALLED	DATE REMOVED	ENGINE SERIAL NUMBER	TIME ON PART THIS INSTALLATION		TOTAL TIME ON PART		SIGNATURE / FAA NUMBER
			CYCLES*	HOURS	CYCLES*	HOURS	
17 MAR 2015		P-1154	0.0	0.0	0.0	0.0	

* 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

PX-3107-76 BACK

1. Country:	2 . Department of Civil Aviation Malaysia	3. Form Tracking Number:
Malaysia	**AUTHORIZED RELEASE CERTIFICATE** **AIRWORTHINESS APPROVAL TAG**	20150000558939Y18 320243301

4. Approved Organization Name and Address:	Repair Station	5. Work Order/Contract/Invoice:
Honeywell Aerospace Singapore Pte Ltd (Gul Circle) 161 Gul Circle Singapore 629619	AO/0037/78	NP5300937 320093301 Page 1 of 1

6.Item:	7. Description:	8. Part No:	9. Eligibility:	10. Qty:	11. Serial / Batch No:	12. Status / Work:
001	ROTOR ASSY 1STG	3842151-3	UNKNOWN	1	970335700399	OVERHAULED

13. 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	
TSO	0.00	(0:00)
CSO	0.00	

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

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.

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. Authorised Signature:	16. Approval/Authorisation Number:	20. Authorised Signature:	21. Certificate/Approval Ref. No.:
			AO/0037/78
17. Name:	18. Date (dd mmm yyyy):	22. Name: **Ramesh Ramadoss**	23. Date (dd mmm yyyy): **09 MAR 2015**

1. Approving Competent Authority/Country	2.	3. Form Tracking Number
EASA	**AUTHORISED RELEASE CERTIFICATE** **EASA FORM 1**	20150000558937Y02 320243301

4. Organisation Name and Address: Honeywell Aerospace Singapore Pte Ltd
(Gul Circle)
161 Gul Circle
Singapore 629619

5. Work Order/Contract/Invoice
NP5300937
320093301

6. Item	7. Description	8. Part No	9. Quantity	10. Serial No.	11. Status/Work
001	ROTOR ASSY 1STG	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	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

14a. ☒ Part-145.A.50 Release 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 Part-145 and in respect to that work the items are considered ready for release to service.

13b. Authorised Signature	13c. Approval/Authorisation Number	14b. Authorised Signature	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

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.

1. Approving Civil Aviation Authority/Country: **FAA/United States**	2. **AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	3. Form Tracking Number: 20150000558938Y03 320243301
4. Organization Name and Address: Honeywell Aerospace Singapore Pte Ltd (Gul Circle) 161 Gul Circle Singapore 629619 Repair Station FT4Y192M		5. Work Order/Contract/Invoice Number: NP5300937 320093301 Page 1 of 1

6.Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status / Work:
001	ROTOR ASSY 1STG	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	26386.56	(26386:34)
CSN	18417.00	
TSO	0.00	(0:00)
CSO	0.00	

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

13a. Certifies the items identified above were manufactured in conformity to:
- ☐ Approved design data and are in a condition for safe operation.
- ☐ Non-approved design data specified in Block 12.

14a. ☒ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12

Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.:
			FT4Y192M
13d. Name (Typed or Printed):	13e. Date(dd/mmm/yyyy):	14d. Name (Typed or Printed): **Ramesh Ramadoss**	14e. Date (dd/mmm/yyyy): **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.

Honeywell Aerospace Singapore Pte Ltd
co Honeywell Aerospace Singapore Pte Ltd
161 Gul Circle
SINGAPORE 629619
Date:08 MAR 2015

Honeywell

Commercial

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

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:**

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)*		
[redacted]	26386.56	(26386:34)	[redacted]	18417.00
[redacted]			[redacted]	
[redacted]			[redacted]	

CUSTOMER REASON FOR RETURN

Overhaul

GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

[redacted]

Eroded
Corrosion/Corroded

[redacted] FIRE, FLAMES FROM TAILPIPE

[redacted]

DETAIL DISASSEMBLY / EVALUATION FINDINGS

[redacted]

ALL BLADE TIPS ERODED & PLATFORM OF BLADES CORRODED, REPLACE ALL.
REASSEMBLE & BALANCE. TSN/CSN: 26386:34 & 18417

[redacted]

[redacted] [redacted] [redacted]

[redacted] [redacted] [redacted] [redacted]

[redacted]

[redacted]

[redacted] [redacted] [redacted]

[redacted] [redacted] [redacted] [redacted]

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

[redacted]

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
SINGAPORE 629619
Date:08 MAR 2015

Honeywell

Commercial

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

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.

[redacted] Overhaul

FINAL CONFIGURATION
Part No: 3842151-3

S/N: 970335700399

Series/Issues/Amdts:

Mods:

MECHANIC/ANALYST Beng Chong Koh **DATE: 23 FEB 2015**

1. Country:	2 . Department of Civil Aviation Malaysia	3. Form Tracking Number:
Malaysia	**AUTHORIZED RELEASE CERTIFICATE** **AIRWORTHINESS APPROVAL TAG**	20150000558988Y18 320244002

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 No:	12. Status / Work:
001	ROTOR ASSY TURB - 2STG	3842155-4	UNKNOWN	1	960335701592	OVERHAULED

13. 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	
TSO	0.00	(0:00)
CSO	0.00	

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

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.		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. Authorised Signature:	16. Approval/Authorisation Number:	20. Authorised Signature:	21. Certificate/Approval Ref. No.: **AO/0037/78**
17. Name:	18. Date (dd mmm yyyy):	22. Name: **Ramesh Ramadoss**	23. Date (dd mmm yyyy): **09 MAR 2015**

1. Approving Competent Authority/Country	2.	3. Form Tracking Number
EASA	**AUTHORISED RELEASE CERTIFICATE** **EASA FORM 1**	20150000558985Y02 320244002

4. Organisation Name and Address: Honeywell Aerospace Singapore Pte Ltd
(Gul Circle)
161 Gul Circle
Singapore 629619

5. Work Order/Contract/Invoice
NP5300937
320093301

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

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. 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

14a. ☒ Part-145.A.50 Release 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 Part-145 and in respect to that work the items are considered ready for release to service.

13b. Authorised Signature	13c. Approval/Authorisation Number	14b. Authorised Signature	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

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.

1. Approving Civil Aviation Authority/Country: **FAA/United States**	2. **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 (Gul Circle) 161 Gul Circle Singapore 629619 — Repair Station FT4Y192M

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

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	
TSO	0.00	(0:00)
CSO	0.00	

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

13a. Certifies the items identified above were manufactured in conformity to:
- ☐ Approved design data and are in a condition for safe operation.
- ☐ Non-approved design data specified in Block 12.

14a. ☒ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12

Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.:
			FT4Y192M
13d. Name (Typed or Printed):	13e. Date(dd/mmm/yyyy):	14d. Name (Typed or Printed): **Ramesh Ramadoss**	14e. Date (dd/mmm/yyyy): **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.

Honeywell Aerospace Singapore Pte Ltd
co Honeywell Aerospace Singapore Pte Ltd
161 Gul Circle
SINGAPORE 629619

Commercial

Honeywell

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

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*	*(HH:MM)*		
[redacted]	26386.56	(26386:34)	[redacted]	18417.00
[redacted]			[redacted]	
[redacted]			[redacted]	

CUSTOMER REASON FOR RETURN

Overhaul

GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

[redacted]

Eroded
Rubbed/Abraded

[redacted] FIRE, FLAMES FROM TAILPIPE

[redacted]

DETAIL DISASSEMBLY / EVALUATION FINDINGS

[redacted]

ALL BLADE L/EDGES ERODED & TIPS RUBBED. REASSEMBLE & BALANCE. TSN/CSN:
26386:34 & 18417

[redacted]

[redacted] [redacted] [redacted]

[redacted] [redacted] [redacted] [redacted]

[redacted]

[redacted]

[redacted] [redacted] [redacted]

[redacted] [redacted] [redacted] [redacted]

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

[redacted]

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

Honeywell Aerospace Singapore Pte Ltd
co Honeywell Aerospace Singapore Pte Ltd
161 Gul Circle
SINGAPORE 629619

Commercial

Honeywell

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

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.

[redacted] Overhaul

FINAL CONFIGURATION

Part No: 3842155-4

S/N: 960335701592

Series/Issues/Amdts:

Mods:

MECHANIC/ANALYST Chin Cheng See **DATE: 25 FEB 2015**

1. Country:	2 . Department of Civil Aviation Malaysia	3. Form Tracking Number:
Malaysia	**AUTHORIZED RELEASE CERTIFICATE** **AIRWORTHINESS APPROVAL TAG**	20150000558947Y18 320243274

4. Approved Organization Name and Address:	Repair Station	5. Work Order/Contract/Invoice:
Honeywell Aerospace Singapore Pte Ltd (Gul Circle) 161 Gul Circle Singapore 629619	AO/0037/78	NP5300937 320093301 Page 1 of 1

6.Item:	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. 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	
TSO	0.00	(0:00)
CSO	0.00	

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

14. Certifies the items identified above were manufactured in conformity to:	19. ☒ MCAR Reg. 30; 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. Authorised Signature:	16. Approval/Authorisation Number:	20. Authorised Signature: Mganeg...
17. Name:	18. Date (dd mmm yyyy):	22. Name: **Ramesh Ramadoss**

21. Certificate/Approval Ref. No.:
AO/0037/78
23. Date (dd mmm yyyy): **09 MAR 2015**

1. Approving Civil Aviation Authority/Country: **FAA/United States**	2. **AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	3. Form Tracking Number: 20150000558946Y03 320243274

4. Organization Name and Address: Honeywell Aerospace Singapore Pte Ltd (Gul Circle) 161 Gul Circle Singapore 629619 — Repair Station FT4Y192M

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

6.Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status / Work:
001	TURBINE ROTOR ASSY, BLADED 3RD STAGE	3842160-5	1	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)
TSN	26386.56	(26386:34)
CSN	18417.00	
TSO	0.00	(0:00)
CSO	0.00	

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

13a. Certifies the items identified above were manufactured in conformity to:
- ☐ Approved design data and are in a condition for safe operation.
- ☐ Non-approved design data specified in Block 12.

14a. ☒ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12

Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.:
		M Ramesh	**FT4Y192M**
13d. Name (Typed or 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.

1. Approving Competent Authority/Country	2.	3. Form Tracking Number
EASA	**AUTHORISED RELEASE CERTIFICATE** **EASA FORM 1**	20150000558945Y02 320243274

4. Organisation Name and Address: Honeywell Aerospace Singapore Pte Ltd
(Gul Circle)
161 Gul Circle
Singapore 629619

5. Work Order/Contract/Invoice
NP5300937
320093301

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

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	
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

14a. ☒ Part-145.A.50 Release 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 Part-145 and in respect to that work the items are considered ready for release to service.

13b. Authorised Signature	13c. Approval/Authorisation Number	14b. Authorised Signature	14c. Certificate/Approval Ref. No
		M Ramesh	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.

Honeywell Aerospace Singapore Pte Ltd
co Honeywell Aerospace Singapore Pte Ltd
161 Gul Circle
SINGAPORE 629619
Date:08 MAR 2015

Commercial

Honeywell

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

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 **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)*		
[redacted]	26386.56	(26386:34)	[redacted]	18417.00
[redacted]			[redacted]	
[redacted]			[redacted]	

CUSTOMER REASON FOR RETURN

Overhaul

GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

[redacted]

Nicked

[redacted] FIRE, FLAMES FROM TAILPIPE

[redacted]

DETAIL DISASSEMBLY / EVALUATION FINDINGS

[redacted]

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

[redacted]

[redacted] [redacted] [redacted]

[redacted] [redacted] [redacted] [redacted]

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

[redacted]

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

[redacted] Overhaul

[redacted]

[redacted]

Honeywell Aerospace Singapore Pte Ltd
co Honeywell Aerospace Singapore Pte Ltd
161 Gul Circle
SINGAPORE 629619

Commercial

Honeywell

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

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 **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 **DATE: 23 FEB 2015**

1. Country:	2. Department of Civil Aviation Malaysia	3. Form Tracking Number:
Malaysia	**AUTHORIZED RELEASE CERTIFICATE** **AIRWORTHINESS APPROVAL TAG**	20150000580130Y18 320093302

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 No:	12. Status / Work:
001	ENGINE OUTLINE GAS TURBINE	3800550-1	UNKNOWN	1	P-1154	OVERHAULED

13. 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

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

14. Certifies the items identified above were manufactured in conformity to:	19. ☒ MCAR Reg. 30; 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. Authorised Signature:	16. Approval/Authorisation Number:	20. Authorised Signature: HONEYWELL QC 32 (S)	21. Certificate/Approval Ref. No.: **AO/0037/78**
17. Name:	18. Date (dd mmm yyyy):	22. Name: **Stephen Lee (Stephen Lee Kok Neo)**	23. Date (dd mmm yyyy): **18 MAR 2015**

1. Approving Competent Authority/Country	2.	3. Form Tracking Number
EASA	**AUTHORISED RELEASE CERTIFICATE** **EASA FORM 1**	20150000580132Y02 320093302

4. Organisation Name and Address: Honeywell Aerospace Singapore Pte Ltd
(Gul Circle)
161 Gul Circle
Singapore 629619

5. Work Order/Contract/Invoice
NP5300937

320093301

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

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

14a. ☒ Part-145.A.50 Release 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 Part-145 and in respect to that work the items are considered ready for release to service.

13b. Authorised Signature	13c. Approval/Authorisation Number	14b. Authorised Signature	14c. Certificate/Approval Ref. No
		HONEYWELL QC 32	EASA.145.0076
13d. Name	**13e. Date (dd mmm yyyy)**	**14d. Name**	**14e. Date (dd mmm yyyy)**
		Stephen Lee (Stephen Lee Kok Neo)	18 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.

1. Approving Civil Aviation Authority/Country: **FAA/United States**	2. **AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	3. Form Tracking Number: 20150000580131Y03 320093302

4. Organization Name and Address: Honeywell Aerospace Singapore Pte Ltd (Gul Circle) 161 Gul Circle Singapore 629619 — Repair Station FT4Y192M

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

6.Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	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

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

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

COPY

13a. Certifies the items identified above were manufactured in conformity to:
- ☐ Approved design data and are in a condition for safe operation.
- ☐ Non-approved design data specified in Block 12.

14a. ☒ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12

Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.:
			FT4Y192M
13d. Name (Typed or Printed):	13e. Date(dd/mmm/yyyy):	14d. Name (Typed or Printed): **Stephen Lee (Stephen Lee Kok Neo)**	14e. Date (dd/mmm/yyyy): **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.

Honeywell

Honeywell Aerospace Singapore Pte Ltd

GTCP 331-500[B] PERFORMANCE DATA SHEET

NOTIFICATION NUMBER	: 320093302			SERVICE ORDER	: 5008225314
APU MODEL	: GTCP331-500[B]	PART NUMBER	: 3800550-1	SERIAL NUMBER	: P-1154
OPERATION TEXT	: LAB 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	MEASURED	°F	86.6	87.1	87.8
APU INLET TEMPERATURE (T2) (ARINC)		°F	90.5	90.8	91.3
TURBINE DISCHARGE TEMPERATURE (UNIT RAKES)	UPPER (EGT 1)	°F	708.3	1069.7	1093.1
	LOWER (EGT 2)	°F	702.6	1075.9	1105.2
EXHAUST GAS TOTALTEMPERATURE (LA	MEASURED	°F	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		" H_2O		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	°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 : HONEYWELL (S) TEST 09 Stamp & Sign

DATE : 18-Mar-2015

QUALITY CONTROL : HONEYWELL QC 32 Stamp & Sign

DATE : 18 MAR 2015

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

Honeywell Aerospace Singapore Pte Ltd
(Gul Circle)

Honeywell

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	-	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	-	[redacted]			OVERHAULED
DISK PART NO	3842152-1			26386:34	18417	27000	
2ND T-WHEEL ASSY	3842155-4	960335701592	97P309	[redacted]			OVERHAULED
DISK PART NO	3842156-1			26386:34	18417	27000	
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	-	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
ENGINE SERIAL NUMBER: P-1154
CUSTOMER: MALAYSIA AIRLINES SUBANG
REPAIR ORDER: 000320093301
MODULE: ENGINE
PART: 3800550-1

SERVICE RECORD

SERVICE BULLETIN COMPLIANCE

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

18 MAR 2015

Honeywell

DATE	ACCUMULATED ENGINE HOURS HH.DD (HH:MM)		ACCUMULATED ENGINE CYCLES		PAGE : 1 of 1 **ENGINE SERVICE RECORD** **REMARKS, INSPECTIONS, REPAIRS, AND ADJUSTMENTS**
17/MAR/2015	**TSN** 26386.56 (26386:34)	**TSO** 0.00 (0:00)	**CSN** 18417	**CSO** 0	**P/N** 3800550-1 **S/N** P-1154 **Model** 331-500B **Series** 25 **Customer PO** NP5300937
					DESCRIPTION OF WORK PERFORMED DISASSEMBLED ENGINE TO ACCOMPLISH INSPECTIONS AS INDICATED / TO ACCOMPLISH REPAIR FOR REPORTED REASON: FOR NTE REPAIRS REASON 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 49-42-05 / 2 / 11/NOV/2014
					INSPECTIONS COMPLIED WITH: AS ABOVE
					SERVICE BULLETINS COMPLIED WITH: SEE SERVICE BULLETIN LIST
					PARTS REPAIRED OR REPLACED THIS VISIT: SEE TRACE INPUT PAGE
					NDC / LIFE LIMITED PARTS: SEE NDC / LIFE LIMITED PARTS RECORD FOR SERIALIZED COMPONENTS INSTALLED
					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: _____ HONEYWELL QC 32

DATE:
18 MAR 2015

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

TSN: 26388:34 HRS

CSN: 18423 CYCLES

HONEYWELL QC 32

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

PREPARED BY : _____ HONEYWELL QC 32 (S)

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					
NO	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	26385 / 18417			3805034-8	P-247	26385/ 18417	REPAIRED MODIFIED		
2	DRIVE COMP.ASSY	3804011-8	P254	26385 / 18417			3804011-8	P-254	26385/ 18417	OVERHAULED		
2.1	IMPELLER COMP LOAD	3822468-3	050322901613	18417	27000 Cycs		3822612-1	11-182449 - 02712	5382:09/ 4219	OVERHAULED		ORIGINAL UNIT SN AS RECEIVED.
3	ENG.COMP.ASSY	3826980-9	P254	26385 / 18417			3826980-9	P-254	26385/ 18417	OVERHAULED 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		3822483-1	960322 903503	19632:52/ 13533	OVERHAULED		
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 701592	26386:34/ 18417	OVERHAULED		
4.3	3RD STG ROTOR ASSY	3842160-5	970134505954	18417	27000 Cycs		3842160-5	970134 505954	26386:34/ 18417	OVERHAULED		

GTCP-331-500B-ACCESSORIES

APU S/N: P-1098

NO	DESCRIPTION	INCOMING					OUTGOING					
	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	OC		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	OC		304643-2	GE1392	26385	VISUALLY INSPECTED		
5.4	FUEL CLUSTER	4417617	CUA10186	26385	OC		3879008-1	CUA10610	20849	REPAIRED		TRANSFERRED FROM MAS APU P-1145
5.5	APU CHECK VALVE	3202610-5	581	UNK	OC		3202854-1	1100	-	REPAIRED		ORIGINAL UNIT SN AS RECEIVED
5.6	A.T.S.C.V	3283076-5	314C	26385	OC		3283076-5	374	-	TESTED		ORIGINAL UNIT SN AS RECEIVED
5.7	AIR TURBINE START	3505814-3	246	12276	OC		3505814-3	246	12276	OVERHAULED		
5.8	I.G.V ACT	B55690-004		26385	OC		3883499-3	0262	-	TESTED		ORIGINAL UNIT SN AS RECEIVED
5.9	PNEU. CLUSTER	3884863-7		26385	OC		3884863-7	P-304	-	REPAIRED		ORIGINAL UNIT SN AS RECEIVED
5.10	IGNITION CLUSTER	3888275-9	UNKP1154	26385	OC		3888275-9	020218 034031	26385	REPAIRED		ORIGINAL UNIT SN 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		ORIGINAL UNIT SN 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

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 months IAW SB 49-7997

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: 18 MAR 2015

1. Approving Competent Authority/Country	2.	3. Form Tracking Number
EASA	**AUTHORISED RELEASE CERTIFICATE** **EASA FORM 1**	20150000577417Y02 320264765

4. Organisation Name and Address: Honeywell Aerospace Singapore Pte Ltd
(Gul Circle)
161 Gul Circle
Singapore 629619

5. Work Order/Contract/Invoice
NP4311791
320071093

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

THE SERVICE SPECIFIED HAS BEEN ACCOMPLISHED IN ACCORDANCE WITH:
CMM 49-31-71 Rev 8, FEB/22/2012

	HH.DD	(HH:MM)
TSR	0.00	(0:00)
CSR	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

14a. ☒ Part-145.A.50 Release 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 Part-145 and in respect to that work the items are considered ready for release to service.

13b. Authorised Signature	13c. Approval/Authorisation Number	14b. Authorised Signature	14c. Certificate/Approval Ref. No
		HONEYWELL QC 32	EASA.145.0076
13d. Name	**13e. Date (dd mmm yyyy)**	**14d. Name**	**14e. Date (dd mmm yyyy)**
		Stephen Lee (Stephen Lee Kok Neo)	17 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.

1. Approving Civil Aviation Authority/Country: **FAA/United States**	2. **AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	3. Form Tracking Number: 20150000577418Y03 320264765

4. Organization Name and Address: Honeywell Aerospace Singapore Pte Ltd (Gul Circle) 161 Gul Circle Singapore 629619 — Repair Station FT4Y192M

5. Work Order/Contract/Invoice Number: NP4311791 320071093 Page 1 of 1

6.Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status / Work:
001	FUEL CLUSTER	3879008-1	1	CUA10610	REPAIRED

12. Remarks:

THE SERVICE SPECIFIED HAS BEEN ACCOMPLISHED IN ACCORDANCE WITH:
CMM 49-31-71 Rev 8, FEB/22/2012

	HH.DD	(HH:MM)
TSR	0.00	(0:00)
CSR	0.00	

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

13a. Certifies the items identified above were manufactured in conformity to:
- ☐ Approved design data and are in a condition for safe operation.
- ☐ Non-approved design data specified in Block 12.

14a. ☒ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12

Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.:
			FT4Y192M
13d. Name (Typed or Printed):	13e. Date(dd/mmm/yyyy):	14d. Name (Typed or Printed): **Stephen Lee (Stephen Lee Kok Neo)**	14e. Date (dd/mmm/yyyy): **17/MAR/2015**

HONEYWELL QC 32

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. Approving Civil Aviation Authority/Country: **FAA/United States**	2. **AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	3. Form Tracking Number: 20150000558929Y03 320244458

4. Organization Name and Address: Honeywell Aerospace Singapore Pte Ltd (Gul Circle)
161 Gul Circle
Singapore 629619

Repair Station
FT4Y192M

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

6.Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status / Work:
001	IMPELLER, LOAD COMPRESSOR	3822612-1	1	11-182449-02712	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	5382.15	(5382:09)
CSN	4219.00	
TSO	0.00	(0:00)
CSO	0.00	

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

13a. Certifies the items identified above were manufactured in conformity to:
- ☐ Approved design data and are in a condition for safe operation.
- ☐ Non-approved design data specified in Block 12.

14a. ☒ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12

Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.:
			FT4Y192M
13d. Name (Typed or 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.

1. Approving Competent Authority/Country	2.	3. Form Tracking Number
EASA	**AUTHORISED RELEASE CERTIFICATE** **EASA FORM 1**	20150000558928Y02 320244458

4. Organisation Name and Address: Honeywell Aerospace Singapore Pte Ltd
(Gul Circle)
161 Gul Circle
Singapore 629619

5. Work Order/Contract/Invoice
NP5300937
320093301

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

THE SERVICE SPECIFIED HAS BEEN ACCOMPLISHED IN ACCORDANCE WITH:
IRM 49-24-79 Rev 8, JAN/30/2015

	HH.DD	(HH:MM)
TSN	5382.1	(5382:09)
CSN	4219.00	
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

14a. ☒ Part-145.A.50 Release 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 Part-145 and in respect to that work the items are considered ready for release to service.

13b. Authorised Signature	13c. Approval/Authorisation Number	14b. Authorised Signature	14c. Certificate/Approval Ref. No
		M Manerov	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.

1. Country: **Malaysia**	2 . Department of Civil Aviation Malaysia **AUTHORIZED RELEASE CERTIFICATE** **AIRWORTHINESS APPROVAL TAG**	3. Form Tracking Number: 20150000558930Y18 320244458
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 No:	12. Status / Work:
001	IMPELLER, LOAD COMPRESSOR	3822612-1	UNKNOWN	1	11-182449-02712	OVERHAULED

13. Remarks :

THE SERVICE SPECIFIED HAS BEEN ACCOMPLISHED IN ACCORDANCE WITH:

IRM 49-24-79 Rev 8, JAN/30/2015

	HH.DD	(HH:MM)
TSN	5382.15	(5382:09)
CSN	4219.00	
TSO	0.00	(0:00)
CSO	0.00	

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

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.		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. Authorised Signature:	16. Approval/Authorisation Number:	20. Authorised Signature: M Mamer...	21. Certificate/Approval Ref. No.: **AO/0037/78**
17. Name:	18. Date (dd mmm yyyy):	22. Name: **Ramesh Ramadoss**	23. Date (dd mmm yyyy): **09 MAR 2015**

Honeywell Aerospace Singapore Pte Ltd
co Honeywell Aerospace Singapore Pte Ltd
161 Gul Circle
SINGAPORE 629619
Date:08 MAR 2015

Commercial

Honeywell

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

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:** **Alternate S/N:**

TIMES/CYCLES	*HH.DD*	*(HH:MM)*		
[redacted]	5382.15	(5382:09)	[redacted]	4219.00
[redacted]			[redacted]	
[redacted]			[redacted]	

CUSTOMER REASON FOR RETURN

Overhaul

GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

[redacted]

Nicked

[redacted] FIRE, FLAMES FROM TAILPIPE

[redacted]

DETAIL DISASSEMBLY / EVALUATION FINDINGS

[redacted]

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

[redacted]

[redacted] [redacted] [redacted]

[redacted] [redacted] [redacted] [redacted]

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

[redacted]

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

[redacted] Overhaul

[redacted]

[redacted]

Honeywell Aerospace Singapore Pte Ltd
co Honeywell Aerospace Singapore Pte Ltd
161 Gul Circle
SINGAPORE 629619

Commercial

Honeywell

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

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

DATE: 24 FEB 2015

1. Country:	2 . Department of Civil Aviation Malaysia	3. Form Tracking Number:
Malaysia	**AUTHORIZED RELEASE CERTIFICATE** **AIRWORTHINESS APPROVAL TAG**	20150000554913Y18 320244395

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 No:	12. Status / Work:
001	IMPELLER, CENTRIFUGAL- STAGE 1	3822483-1	UNKNOWN	1	960322903503	OVERHAULED

13. 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

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.		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. Authorised Signature:	16. Approval/Authorisation Number:	20. Authorised Signature:	21. Certificate/Approval Ref. No.: **AO/0037/78**
17. Name:	18. Date (dd mmm yyyy):	22. Name: **Ramesh Ramadoss**	23. Date (dd mmm yyyy): **06 MAR 2015**

1. Approving Competent Authority/Country	2.	3. Form Tracking Number
EASA	**AUTHORISED RELEASE CERTIFICATE** **EASA FORM 1**	20150000554904Y02 320244395

4. Organisation Name and Address:	5. Work Order/Contract/Invoice
Honeywell Aerospace Singapore Pte Ltd (Gul Circle) 161 Gul Circle Singapore 629619	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

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	

13a. Certifies that the items identified above were manufactured in conformity to:		14a. ☒ Part-145.A.50 Release to Service ☐ Other regulation specified in block 12	
☐ 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 respect to that work the items are considered ready for release to service.	
13b. Authorised Signature	13c. Approval/Authorisation Number	14b. Authorised Signature	14c. Certificate/Approval Ref. No
		MRamesh	EASA.145.0076
13d. Name	13e. Date (dd mmm yyyy)	14d. Name	14e. Date (dd mmm yyyy)
		Ramesh Ramadoss	06 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.

1. Approving Civil Aviation Authority/Country: **FAA/United States**	2. **AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	3. Form Tracking Number: 20150000554905Y03 320244395
4. Organization Name and Address: Honeywell Aerospace Singapore Pte Ltd (Gul Circle) 161 Gul Circle Singapore 629619 Repair Station FT4Y192M		5. Work Order/Contract/Invoice Number: NP5300937 320093301 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	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 manufactured in conformity to: ☐ Approved design data and are in a condition for safe operation. ☐ Non-approved design data specified in Block 12.		14a. ☒ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12. Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.	
13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.: **FT4Y192M**
13d. Name (Typed or Printed):	13e. Date(dd/mmm/yyyy):	14d. Name (Typed or Printed): **Ramesh Ramadoss**	14e. Date (dd/mmm/yyyy): **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.

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 Number: 3822483-1 **Part Desc:** IMPELLER, CENTRIFUGAL-STAGE 1 **Serial No:** 960322903503

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:** **Alternate S/N:**

TIMES/CYCLES	*HH.DD*	*(HH:MM)*		
[redacted]	19632.86	(19632:52)	[redacted]	13533.00
[redacted]			[redacted]	
[redacted]			[redacted]	

CUSTOMER REASON FOR RETURN

Overhaul

GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

[redacted]

ERODED

[redacted] FIRE, FLAMES FROM TAILPIPE

[redacted]

DETAIL DISASSEMBLY / EVALUATION FINDINGS

[redacted]

BLADE L/ES ERODED. KNIFE EDGE EXCESSIVELY RUBBED. BALANCE. TSN/CSN:
25015:00/17752

[redacted]

[redacted] [redacted] [redacted]

[redacted] [redacted] [redacted] [redacted]

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

[redacted]

UNIT INSPECTED & OVERHAULED IAW IRM. KNIFE EDGE SEAL REPLACED & MACHININED TO SIZE.
HAND BLEND, FPI, BALANCE & SHOT-PEENING CARRIED OUT.

[redacted] Overhaul

[redacted]

[redacted]

Honeywell Aerospace Singapore Pte Ltd
co Honeywell Aerospace Singapore Pte Ltd
161 Gul Circle
SINGAPORE 629619

Commercial

Honeywell

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

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-STAGE 1 **Serial No:** 960322903503

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

DATE: 24 FEB 2015

1. Approving Civil Aviation Authority/Country: **FAA/United States**	2. **AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	3. Form Tracking Number: 20150000543808Y14 904026911-80001

4. Organization Name and Address:	Production Approval		5. Work Order/Contract/Invoice Number:
Honeywell International Inc. 111 S. 34th Street Phoenix, Arizona 85072	PT1222NM	Honeywell International Inc. Units 2-4, Chevron, Eaton Road Hemel Hempstead, HP2 7UB UNITED KINGDOM	4703472567-000010 Page 1 of 1

6.Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status / Work:
001	IMPELLER, COMPRESSOR, SECOND STAGE	3822341-5	1	14-182449-13712	NEW

12. Remarks:

EXPORT AIRWORTHINESS APPROVAL: THIS ARTICLE MEETS THE SPECIAL REQUIREMENTS OF REPUBLIC OF SINGAPORE.

THIS PART IS A SUBCOMPONENT OF A TSO AUTHORIZATION.

13a. Certifies the items identified above were manufactured in conformity to:

- ☒ Approved design data and are in a condition for safe operation.
- ☐ Non-approved design data specified in Block 12.

14a. ☐ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12

Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.:
S. Foulger	ODA-602216-NM		
13d. Name (Typed or Printed):	**13e. Date (dd/mmm/yyyy):**	**14d. Name (Typed or Printed):**	**14e. Date(dd/mmm/yyyy):**
Stephen Foulger	**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.

Honeywell

LIFE LIMITED PART LOG

ASSEMBLY NAME:	PART NUMBER:	SERIAL NUMBER:
LIFE LIMITED PART NAME: IMPELLER, COMPRESSOR, SECOND STAGE	PART NUMBER: 3822341-5	SERIAL NUMBER: 14-182449-13712
MANUFACTURED PER FAR PART 21 UNDER PRODUCTION CERTIFICATE PC413	SIGNATURE OR ACCEPTANCE STAMP: A428	

DATE INSTALLED	DATE REMOVED	ENGINE SERIAL NUMBER	TIME ON PART THIS INSTALLATION		TOTAL TIME ON PART		SIGNATURE / FAA NUMBER
			CYCLES*	HOURS	CYCLES*	HOURS	
17 MAR 2015		P-1154	0.0	0.0	0.0	0.0	

* 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

PX-3107-76 BACK

1. Country:	2 . Department of Civil Aviation Malaysia	3. Form Tracking Number:
Malaysia	**AUTHORIZED RELEASE CERTIFICATE** **AIRWORTHINESS APPROVAL TAG**	20150000558939Y18 320243301

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 No:	12. Status / Work:
001	ROTOR ASSY 1STG	3842151-3	UNKNOWN	1	970335700399	OVERHAULED

13. 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	
TSO	0.00	(0:00)
CSO	0.00	

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

14. Certifies the items identified above were manufactured in conformity to:	19. ☒ MCAR Reg. 30; 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. Authorised Signature:	16. Approval/Authorisation Number:	20. Authorised Signature:	21. Certificate/Approval Ref. No.:
			AO/0037/78
17. Name:	18. Date (dd mmm yyyy):	22. Name:	23. Date (dd mmm yyyy):
		Ramesh Ramadoss	**09 MAR 2015**

1. Approving Competent Authority/Country	2.	3. Form Tracking Number
EASA	**AUTHORISED RELEASE CERTIFICATE** **EASA FORM 1**	20150000558937Y02 320243301

4. Organisation Name and Address:	5. Work Order/Contract/Invoice
Honeywell Aerospace Singapore Pte Ltd (Gul Circle) 161 Gul Circle Singapore 629619	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

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	
TSO	0.00	(0:00)
CSO	0.00	

13a. Certifies that the items identified above were manufactured in conformity to:		14a. ☒ Part-145.A.50 Release to Service ☐ Other regulation specified in block 12	
☐ 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 respect to that work the items are considered ready for release to service.	
13b. Authorised Signature	13c. Approval/Authorisation Number	14b. Authorised Signature	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

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.

1. Approving Civil Aviation Authority/Country: **FAA/United States**	2. **AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	3. Form Tracking Number: 20150000558938Y03 320243301

4. Organization Name and Address: Honeywell Aerospace Singapore Pte Ltd (Gul Circle) 161 Gul Circle Singapore 629619 — Repair Station FT4Y192M

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

6.Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status / Work:
001	ROTOR ASSY 1STG	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	26386.56	(26386:34)
CSN	18417.00	
TSO	0.00	(0:00)
CSO	0.00	

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

13a. Certifies the items identified above were manufactured in conformity to:
- ☐ Approved design data and are in a condition for safe operation.
- ☐ Non-approved design data specified in Block 12.

14a. ☒ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12

Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.:
			FT4Y192M
13d. Name (Typed or Printed):	13e. Date(dd/mmm/yyyy):	14d. Name (Typed or Printed): **Ramesh Ramadoss**	14e. Date (dd/mmm/yyyy): **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.

Honeywell Aerospace Singapore Pte Ltd
co Honeywell Aerospace Singapore Pte Ltd
161 Gul Circle
SINGAPORE 629619
Date:08 MAR 2015

Honeywell

Commercial

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

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:**

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)*		
[redacted]	26386.56	(26386:34)	[redacted]	18417.00

CUSTOMER REASON FOR RETURN

Overhaul

GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

[redacted]

Eroded
Corrosion/Corroded

[redacted] FIRE, FLAMES FROM TAILPIPE

[redacted]

DETAIL DISASSEMBLY / EVALUATION FINDINGS

[redacted]

ALL BLADE TIPS ERODED & PLATFORM OF BLADES CORRODED, REPLACE ALL.
REASSEMBLE & BALANCE. TSN/CSN: 26386:34 & 18417

[redacted]

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

[redacted]

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
SINGAPORE 629619

Commercial

Honeywell

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

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.

[redacted] Overhaul

FINAL CONFIGURATION
Part No: 3842151-3

[redacted]

S/N: 970335700399

[redacted]

Series/Issues/Amdts:

Mods:

MECHANIC/ANALYST Beng Chong Koh

DATE: 23 FEB 2015

1. Country:	2 . Department of Civil Aviation Malaysia	3. Form Tracking Number:
Malaysia	**AUTHORIZED RELEASE CERTIFICATE** **AIRWORTHINESS APPROVAL TAG**	20150000558988Y18 320244002

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 No:	12. Status / Work:
001	ROTOR ASSY TURB - 2STG	3842155-4	UNKNOWN	1	960335701592	OVERHAULED

13. 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	
TSO	0.00	(0:00)
CSO	0.00	

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

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.		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. Authorised Signature:	16. Approval/Authorisation Number:	20. Authorised Signature:	21. Certificate/Approval Ref. No.: **AO/0037/78**
17. Name:	18. Date (dd mmm yyyy):	22. Name: **Ramesh Ramadoss**	23. Date (dd mmm yyyy): **09 MAR 2015**

1. Approving Competent Authority/Country	2.	3. Form Tracking Number
EASA	**AUTHORISED RELEASE CERTIFICATE** **EASA FORM 1**	20150000558985Y02 320244002

4. Organisation Name and Address:	5. Work Order/Contract/Invoice
Honeywell Aerospace Singapore Pte Ltd (Gul Circle) 161 Gul Circle Singapore 629619	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

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. Certifies that the items identified above were manufactured in conformity to:	14a. ☒ Part-145.A.50 Release to Service ☐ Other regulation specified in block 12
☐ 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 respect to that work the items are considered ready for release to service.

13b. Authorised Signature	13c. Approval/Authorisation Number	14b. Authorised Signature	14c. Certificate/Approval Ref. No
		M Ramesh	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.

1. Approving Civil Aviation Authority/Country: **FAA/United States**	2. **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 (Gul Circle) 161 Gul Circle Singapore 629619 — Repair Station FT4Y192M

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

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	
TSO	0.00	(0:00)
CSO	0.00	

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

13a. Certifies the items identified above were manufactured in conformity to:

☐ Approved design data and are in a condition for safe operation.

☐ Non-approved design data specified in Block 12.

14a. ☒ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12

Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.:
			FT4Y192M
13d. Name (Typed or Printed):	13e. Date(dd/mmm/yyyy):	14d. Name (Typed or Printed): **Ramesh Ramadoss**	14e. Date (dd/mmm/yyyy): **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.

Honeywell Aerospace Singapore Pte Ltd
co Honeywell Aerospace Singapore Pte Ltd
161 Gul Circle
SINGAPORE 629619
Date:08 MAR 2015

Commercial

Honeywell

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

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*	*(HH:MM)*		
[redacted]	26386.56	(26386:34)	[redacted]	18417.00
[redacted]			[redacted]	
[redacted]			[redacted]	

CUSTOMER REASON FOR RETURN

Overhaul

GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

[redacted]

Eroded
Rubbed/Abraded

[redacted] FIRE, FLAMES FROM TAILPIPE

[redacted]

DETAIL DISASSEMBLY / EVALUATION FINDINGS

[redacted]

ALL BLADE L/EDGES ERODED & TIPS RUBBED. REASSEMBLE & BALANCE. TSN/CSN:
26386:34 & 18417

[redacted]

[redacted] [redacted] [redacted]

[redacted] [redacted] [redacted]

[redacted]

[redacted]

[redacted] [redacted] [redacted]

[redacted] [redacted] [redacted]

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

[redacted]

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

Honeywell Aerospace Singapore Pte Ltd
co Honeywell Aerospace Singapore Pte Ltd
161 Gul Circle
SINGAPORE 629619

Commercial

Honeywell

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

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.

[redacted]

Overhaul

FINAL CONFIGURATION
Part No: 3842155-4

S/N: 960335701592

Series/Issues/Amdts:

Mods:

MECHANIC/ANALYST Chin Cheng See

DATE: 25 FEB 2015

1. Country:	2 . Department of Civil Aviation Malaysia	3. Form Tracking Number:
Malaysia	**AUTHORIZED RELEASE CERTIFICATE** **AIRWORTHINESS APPROVAL TAG**	20150000558947Y18 320243274

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 No:	12. Status / Work:
001	TURBINE ROTOR ASSY, BLADED 3RD STAGE	3842160-5	UNKNOWN	1	970134505954	OVERHAULED

13. 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	
TSO	0.00	(0:00)
CSO	0.00	

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

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.		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. Authorised Signature:	16. Approval/Authorisation Number:	20. Authorised Signature:	21. Certificate/Approval Ref. No.: **AO/0037/78**
17. Name:	18. Date (dd mmm yyyy):	22. Name: **Ramesh Ramadoss**	23. Date (dd mmm yyyy): **09 MAR 2015**

1. Approving Civil Aviation Authority/Country: **FAA/United States**	2. **AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	3. Form Tracking Number: 20150000558946Y03 320243274

4. Organization Name and Address: Honeywell Aerospace Singapore Pte Ltd (Gul Circle) 161 Gul Circle Singapore 629619 — Repair Station FT4Y192M

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

6.Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status / Work:
001	TURBINE ROTOR ASSY, BLADED 3RD STAGE	3842160-5	1	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)
TSN	26386.56	(26386:34)
CSN	18417.00	
TSO	0.00	(0:00)
CSO	0.00	

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

13a. Certifies the items identified above were manufactured in conformity to:
- ☐ Approved design data and are in a condition for safe operation.
- ☐ Non-approved design data specified in Block 12.

14a. ☒ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12

Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.:
			FT4Y192M
13d. Name (Typed or 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.

1. Approving Competent Authority/Country	2.	3. Form Tracking Number
EASA	**AUTHORISED RELEASE CERTIFICATE** **EASA FORM 1**	20150000558945Y02 320243274

4. Organisation Name and Address: Honeywell Aerospace Singapore Pte Ltd
(Gul Circle)
161 Gul Circle
Singapore 629619

5. Work Order/Contract/Invoice
NP5300937
320093301

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

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	
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

14a. ☒ Part-145.A.50 Release 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 Part-145 and in respect to that work the items are considered ready for release to service.

13b. Authorised Signature	13c. Approval/Authorisation Number	14b. Authorised Signature	14c. Certificate/Approval Ref. No
		M Ramesh	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.

Honeywell Aerospace Singapore Pte Ltd
co Honeywell Aerospace Singapore Pte Ltd
161 Gul Circle
SINGAPORE 629619
Date:08 MAR 2015

Honeywell

Commercial

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

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 **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)*		
[redacted]	26386.56	(26386:34)	[redacted]	18417.00
[redacted]			[redacted]	
[redacted]			[redacted]	

CUSTOMER REASON FOR RETURN

Overhaul

GENERAL CONDITION AS RECEIVED (HIDDEN DAMAGE)

[redacted]

Nicked

[redacted] FIRE, FLAMES FROM TAILPIPE

[redacted]

DETAIL DISASSEMBLY / EVALUATION FINDINGS

[redacted]

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

[redacted]

[redacted] [redacted] [redacted]

[redacted] [redacted] [redacted] [redacted]

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

[redacted]

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

[redacted] Overhaul

[redacted]

[redacted]

Honeywell Aerospace Singapore Pte Ltd
co Honeywell Aerospace Singapore Pte Ltd
161 Gul Circle
SINGAPORE 629619

Commercial

Honeywell

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

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 **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

DATE: 23 FEB 2015

1. Country:	2. Department of Civil Aviation Malaysia	3. Form Tracking Number:
Malaysia	**AUTHORIZED RELEASE CERTIFICATE** **AIRWORTHINESS APPROVAL TAG**	20150000580130Y18 320093302

4. Approved Organization Name and Address:	Repair Station	5. Work Order/Contract/Invoice:
Honeywell Aerospace Singapore Pte Ltd (Gul Circle) 161 Gul Circle Singapore 629619	AO/0037/78	NP5300937 320093301 Page 1 of 1

6.Item:	7. Description:	8. Part No:	9. Eligibility:	10. Qty:	11. Serial / Batch No:	12. Status / Work:
001	ENGINE OUTLINE GAS TURBINE	3800550-1	UNKNOWN	1	P-1154	OVERHAULED

13. 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

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

14. Certifies the items identified above were manufactured in conformity to:		19. ☒ MCAR Reg. 30; 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. Authorised Signature:	16. Approval/Authorisation Number:	20. Authorised Signature: HONEYWELL QC 32 (SG)	21. Certificate/Approval Ref. No.: **AO/0037/78**
17. Name:	18. Date (dd mmm yyyy):	22. Name: **Stephen Lee (Stephen Lee Kok Neo)**	23. Date (dd mmm yyyy): **18 MAR 2015**

1. Approving Competent Authority/Country	2.	3. Form Tracking Number
EASA	**AUTHORISED RELEASE CERTIFICATE** **EASA FORM 1**	20150000580132Y02 320093302

4. Organisation Name and Address: Honeywell Aerospace Singapore Pte Ltd
(Gul Circle)
161 Gul Circle
Singapore 629619

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

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

14a. ☒ Part-145.A.50 Release 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 Part-145 and in respect to that work the items are considered ready for release to service.

13b. Authorised Signature	13c. Approval/Authorisation Number	14b. Authorised Signature	14c. Certificate/Approval Ref. No
		HONEYWELL QC 32	EASA.145.0076
13d. Name	**13e. Date (dd mmm yyyy)**	**14d. Name**	**14e. Date (dd mmm yyyy)**
		Stephen Lee (Stephen Lee Kok Neo)	18 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.*

1. Approving Civil Aviation Authority/Country: **FAA/United States**	2. **AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	3. Form Tracking Number: 20150000580131Y03 320093302

4. Organization Name and Address: Honeywell Aerospace Singapore Pte Ltd (Gul Circle)
161 Gul Circle
Singapore 629619

Repair Station
FT4Y192M

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

6.Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	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

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

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

13a. Certifies the items identified above were manufactured in conformity to:
- ☐ Approved design data and are in a condition for safe operation.
- ☐ Non-approved design data specified in Block 12.

14a. ☒ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12

Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.:
			FT4Y192M
13d. Name (Typed or 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.

Honeywell

Honeywell Aerospace Singapore Pte Ltd

GTCP 331-500[B] PERFORMANCE DATA SHEET

NOTIFICATION NUMBER	: 320093302			SERVICE ORDER	: 5008225314
APU MODEL	: GTCP331-500[B]	PART NUMBER	: 3800550-1	SERIAL NUMBER	: P-1154
OPERATION TEXT	: LAB 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	MEASURED	°F	86.6	87.1	87.8
APU INLET TEMPERATURE (T2) (ARINC)		°F	90.5	90.8	91.3
TURBINE DISCHARGE TEMPERATURE (UNIT RAKES)	UPPER (EGT 1)	°F	708.3	1069.7	1093.1
	LOWER (EGT 2)	°F	702.6	1075.9	1105.2
EXHAUST GAS TOTALTEMPERATURE (LA	MEASURED	°F	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		" H_2O		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	°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 : HONEYWELL (S) TEST 09 Stamp & Sign

DATE : 18-Mar-2015

QUALITY CONTROL : HONEYWELL QC 32 ST Stamp & Sign

DATE : 18 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

PREPARED BY : _____

Honeywell

ENGINE MODEL: 331-500B
ENGINE SERIAL NUMBER: P-1154
CUSTOMER: MALAYSIA AIRLINES SUBANG
REPAIR ORDER: 000320093301
MODULE: ENGINE
PART: 3800550-1

SERVICE RECORD

SERVICE BULLETIN COMPLIANCE

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: HONEYWELL QC 32 DATE:

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

18 MAR 2015

Honeywell

DATE	ACCUMULATED ENGINE HOURS HH.DD (HH:MM)		ACCUMULATED ENGINE CYCLES		PAGE : 1 of 1 **ENGINE SERVICE RECORD** **REMARKS, INSPECTIONS, REPAIRS, AND ADJUSTMENTS**
17/MAR/2015	**TSN** 26386.56 (26386:34)	**TSO** 0.00 (0:00)	**CSN** 18417	**CSO** 0	**P/N** 3800550-1 **S/N** P-1154 **Model** 331-500B **Series** 25 **Customer PO** NP5300937
					DESCRIPTION OF WORK PERFORMED DISASSEMBLED ENGINE TO ACCOMPLISH INSPECTIONS AS INDICATED / TO ACCOMPLISH REPAIR FOR REPORTED REASON: FOR NTE REPAIRS REASON 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 49-42-05 — 2 — 11/NOV/2014
					INSPECTIONS COMPLIED WITH: AS ABOVE
					SERVICE BULLETINS COMPLIED WITH: SEE SERVICE BULLETIN LIST
					PARTS REPAIRED OR REPLACED THIS VISIT: SEE TRACE INPUT PAGE
					NDC / LIFE LIMITED PARTS: SEE NDC / LIFE LIMITED PARTS RECORD FOR SERIALIZED COMPONENTS INSTALLED
					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: _____ HONEYWELL QC 32 IS

DATE:
18 MAR 2015

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

TSN: 26388:34 HRS

CSN: 18423 CYCLES

HONEYWELL QC 32 IS

Honeywell Aerospace Singapore Pte Ltd
(Gul Circle)

Honeywell

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	-	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	-	[redacted]			OVERHAULED
DISK PART NO	3842152-1			26386:34	18417	27000	
2ND T-WHEEL ASSY	3842155-4	960335701592	97P309	[redacted]			OVERHAULED
DISK PART NO	3842156-1			26386:34	18417	27000	
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	-	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:

HONEYWELL QC 32

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

AJW

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

1. Approving National Aviation Authority/Country: FAA/UNITED STATES

2.

AUTHORIZED RELEASE CERTIFICATE

FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG

3. Form Tracking Number: S11/481874

4. Organization Name and Address:

Honeywell Aerospace Singapore Pte Ltd
(Gul Circle)
161 Gul Circle
Singapore 629619

FT4Y192M

5. Work Order/Contract/Invoice Number: 756484-000
CUST PO: NP1307680

6. Item:	7. Description:	8. Part Number:	9. Eligibility:*	10. Quantity:	11. Serial/Batch Number:	12. Status/Work:
001	GTCP331-500B	3800550-1	N/A	1	P-1154	OVERHAULED

13. Remarks:

OVERHAULED IAW EM 49-26-57 REV 16, DATED NOV/30/2009. CUST. NAME : MALAYSIAN AIRLINE SYSTEM BHD Order Entry No: 228346-001
NO FAA AIRWORTHINESS DIRECTIVES APPLICABLE TO THIS APU.
REFER TO FORM G0093 REV 1 FOR SERVICE BULLETIN COMPLIANCE.
REFER TO FORM GTCP331-500B-G16 R3 FOR CRITICAL LIFE LIMITED PARTS.
TSN: 21004:05, CSN: 14198 IS AT POINT OF INSTALLATION FOR COMPUTATION
OF LLP CYCLES.
APU ON RELEASE DMM TSN: 21006:17, CSN: 14206
PER CUSTOMER REQUEST CONCURRENT RELEASE OF CERTIFICATES FAA FORM
8130-3/MALAYSIA AUTHORISED RELEASE CERTIFICATE ARE RELEASED ON
THIS WORK ORDER WITH THE SAME PURCHASE ORDER NUMBER AS LISTED IN
BLOCK 5 ON THE CERTIFICATE.

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.

19. ☑ 14 CFR 43.9 Return 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 Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

15. Authorized Signature:	16. Approval/Authorization No.:	20. Authorized Signature :	21. Approval/Certificate No.:
			FT4Y192M
17. Name (Typed or Printed):	18. Date (m/d/y) :	22. Name (Typed or Printed): NG KWOK KAU	23. Date (m/d/y) : JUL/22/2011

HONEYWELL QC 36

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 the user/installer before the aircraft may be flown.

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

ENGINE SERVICE RECORD

Honeywell Aerospace Singapore Pte Ltd (Gul Circle) Singapore 629619		**Engine Model:** **GTCP331-500B**		**HONEYWELL**	
Part No:	3800550-1	Work Order:	756484-000	Date:	22-Jul-11
Serial No:	P-1154	Series :	25	Customer:	MAS
TSN:	21004:05	TSO:	00	TSR:	NA
CSN:	14198	CSO:	00	CSR:	NA

Engine has been :

Inspected	X		Full Performance Tested	X
Repaired	NA		Functional Tested	NA
Overhauled	X		Hot Section Inspected	NA
Modified	X			

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)

Honeywell

Honeywell Aerospace Singapore Pte Ltd

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 TEMPERATURE		°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) (ARINC)		°F	94.4	94.2	93.6
TURBINE DISCHARGE TEMPERATURE (UNIT RAKES)	UPPER (EGT 1)	°F	719.9	1070.3	1103.2
	LOWER (EGT 2)	°F	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		" H_2O		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 : HONEYWELL IS TEST 09 — Stamp & Sign

DATE : 21-Jul-2011

QUALITY CONTROL : Stamp & Sign

DATE : 22 JUL 2011

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

Honeywell Aerospace Singapore Pte Ltd
(Gul Circle)

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 **CSN:** 14198
TSR: NA **CSR:** NA
TSO: 00 **CSO:** 00

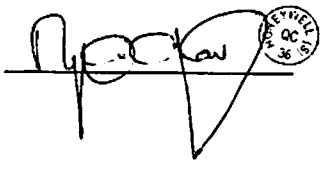
DESCRIPTION	PART NO	SERIAL NO	LOT NO	TSN	CSN	LIFE LIMITS (CYCLES)
D/COMP IMPELLER	3822612-1	11-182449-02712	112101098	00	00	27000
1ST STG IMPELLER	3822483-1	960322903503	-	19632.86	13533	27000
2ND STG IMPELLER	3822341-4	020322905617	03P193	10343.58	8164	27000
1ST T-WHEEL ASSY	3842151-3	970335700399	-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

APU ACCESSORIES RECORD

DESCRIPTION	PART NO.	SERIAL NO.	SERIES	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)

AJW

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

1. Approving National Aviation Authority/Country:

FAA/UNITED STATES

2.

AUTHORIZED RELEASE CERTIFICATE

FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG

3. Form Tracking Number:

306/391846

4. Organization Name and Address:

Honeywell

Honeywell (Singapore) Pte Ltd
161 Gul Circle Singapore 629619

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

6. Item:	7. Description:	8. Part Number:	9. Eligibility:*	10. Quantity:	11. Serial/Batch Number:	12. Status/Work:
1.	GTCP331-500B APU	3800550-1	N/A	1	P1154	REPAIRED

13. Remarks:

REPAIRED IAW EM 49-26-57 REV 8.
NO FAA AIRWORTHINESS DIRECTIVES APPLICABLE TO THIS APU.
REFER TO FORM G0093 REV 0 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: 00
NOTE: APU HOURS AND CYCLES ARE BASED ON DMM.

CUST. NAME : MALAYSIAN AIRLINE SYSTEM BHD Order Entry No: 173896-001

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.

15. Authorized Signature:

16. Approval/Authorization No.:

17. Name (Typed or Printed):

18. Date (m/d/y):

19. [✓] 14 CFR 43.9 Return 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 Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

20. Authorized Signature:

21. Approval/Certificate No.:
FT4Y192N

22. Name (Typed or Printed):
NG KNOK KAU

23. Date (m/d/y):
FEB 23 2006

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 the user/installer before the aircraft may be flown

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.	LOT NO	TSN	CSN	LIFE LIMITS
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	PART NO.	SERIAL NO.	SERIES	CHG NOS	REMARKS
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: _____

malaysia AIRLINES

POWER PLANT CONTROL SHEET

ENG/APU TYPE: GTCP 331-500B

S/NO: P1154

DATE: 28/02/06

NO.	DOCUMENT CONTROL NO.	DATE RAISED	RAISED BY	DATE CLOSED	APPROVAL HOLDER	REMARK
1	53107060	28-02-06	ALEX			SERVICEABLE LABEL
2	ARC	23.02.06	HONEYWELL SING			506/381846
3	TEST CERT	23-02-06	HONEYWELL SING			
4	OPEN ITEM					
5	IRC 1154-1	28-02-06	ALEX			
6	IRC 1154-2	28-02-06	ALEX			
7	IRC 1154-3	28-02-06	ALEX	7/3/06	YAZIR	
8	IRC 1154-4	28-02-06	ALEX	7/3/06	YAZIR.	
9	IRC 1154-5	28-02-06	ALEX			
10						
11						
12						
13						
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18						
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22						
23						

Honeywell

Honeywell (Singapore) Pte Ltd

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 TEMPERATURE		°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) (ARINC)		°F	95	96.8	96.8
TURBINE DISCHARGE TEMPERATURE (UNIT RAKES)	UPPER (EGT 1)	°F	726	1084	1117
	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		" H_2O		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. 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

TEST TECHNICIAN : TEST 9 — Stamp & Sign

DATE : 22-Feb-2006

QUALITY CONTROL : Stamp & Sign

DATE : 28 FEB 2006

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

malaysia AIRLINES

PPW ACCEPTANCE OPEN ITEM LIST

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

No	Description	Part Number	IPC Ref	Qty	IRC ref	PPW task to action	Remark
1	Oil system drained				P1154-1	To transfer to PPW final open item list	To service before operation
2	Fuel system preserved				P1154-2	To transfer to PPW final open item list	To depreserve before operation
	Preservation date : 23/02/06						
	Preservation expiry: 22/02/08						
3	Generator	756589A	24-21-01-01-20	1	P1154-3	To install	FITTED.
4	Mounts				P1154-4	To install	
	Fwd LH	351W3101-1	49-13-01-02-05	1			FITTED
	Fwd RH	351W3101-2	49-13-01-02-10	1			FITTED
	Aft	351W3000-4	49-13-03-01-01	1			FITTED.
5	LEAK CHK - GENERATOR				P1154-5	ON A/C.	

Check by : Hidayat

Date : 28/02/06

ENGINE SERVICE RECORD

Honeywell Singapore Pte Ltd 161 Gul Circle Singapore 629619		Engine Model: GTCP331-500B		HONEYWELL	
Part No:	3800550-1	Work Order:	692501	Date:	23-Feb-06
Serial No:	P-1154	Series :	25	Customer:	MAS
TSN:	14120:43	TSO:	NA	TSR:	00
CSN:	8018	CSO:	NA	CSR:	00

Engine has been :

Inspected	X		Full Performance Tested	X
Repaired	X		Functional Tested	NA
Overhauled	NA		Hot Section Inspected	NA
Modified	X			

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)

BB019R WBID: QA03 HONEYWELL (SINGAPORE) PTE LTD DATE: 23-02-06
USER: KKNG SERVICE BULLETIN REPORT PAGE: 1 TIME: 8:29:20

FROM MODEL NO.- GTCP331-500B FROM SB NO.- FROM RECEIVED DATE-
TO MODEL NO.- GTCP331-500B TO SB NO.- 9999999999 TO RECEIVED DATE- 99-99-99
FROM SERIAL NO.- P-1154 FROM REVISION DATE-
TO SERIAL NO.- P-1154 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
49-0003	1	RWK FUEL CLUSTER UNIT PN 441761-7 TO 3879008-1.	3879008-1	C
49-2379		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 BYPASS 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	C
49-7537	2	UPDATE ENG COMPR MODULE, PN 3826980-8 TO -9,BY INSTALLING CONICAL BELLMOUTH COVER PN 3810973-1.	3810973-1 3826980-9	C
49-7670		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.	3884863-7 3290814-5	C
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 PCU PN 441761-7 WITH PN 3879008-1.	3879008-1	C
49-7800		REPL IMPELLER INLET PANEL PN 3826962-2 WITH 3827623-1, IN LOAD COMPR MODULE PN 3804011-ALL.	3827623-1	C
49-7801		REPL IMPELLER INLET PANEL PN 3826962-2 WITH 3827623-1 IN ENG COMPR MODULE PN 3826980-ALL.	3827623-1	C

REV 01

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

malaysia

APU P/NO: 3800550-1
APU S/NO: P1154
AC REGN: 9M-MRB
TSN/CSN: 14120.00 / 8018
TSR/CSF: 2916.00 / 1631

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 :

		INCOMING					OUTGOING					
NO	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			3805034-8	P247	14120 8018	REPAIRED		
2	DRIVE COMP.ASSY	3804011-8	P254	14120 / 8018			3804011-8	P254	14120 8018	REPAIRED AND MODIFIED		
2.1	IMPELLER COMP LOAD	3822468-3	030322902079	2916 / 1631	27000 CYCS		3822468-3	050322 901613	00 00	—		NEW
3	ENG.COMP.ASSY	3826980-8	P254	14120 / 8018			3826980-8	P254	14120 8018	REPAIRED AND MODIFIED		
3.1	IMPELLER COMP.2ND STG	3822341-4	970322900951	14120 / 8018	27000 CYCS		3822341-4	020322 905817	34602 1984	—		OVERHAULED EXCHANGE
3.2	IMPELLER COMP.1ST STG	3822483-1	990322901217	8014 / 4798	27000 CYCS		3822483-1	960322 903503	12749.50 7353	—		REPAIRED EXCHANGE
4	TURBINE MOD.ASSY	3844517-5	P254	14120 / 8018			3844517-5	P254	14120 8018	REPAIRED AND MODIFIED		
4.1	1ST STG ROTOR ASSY	3842151-3	970335700399	14120 / 8018	27000 CYCS		3842151-3	970335 00399	14120 8018	REPAIRED		
4.2	2ND STG ROTOR ASSY	3842155-3	960335701592	14120 / 8018	27000 CYCS		3842155-3	960335 01592	14120 8018	INSPECTED AND BALANCED		S/N 960335701592
4.3	3RD STG ROTOR ASSY	3842160-5	970134505954	14120 / 8018	27000 CYCS		3842160-5	970134 05954	14120 8018	INSPECTED AND BALANCED		

GTCP-331-600B-ACCESSORIES

APU S/N: P1154

NO	DESCRIPTION ACCESSORIES	INCOMING PART NUMBER	INCOMING SERIAL NUMBER	INCOMING TSN CSN	LIFE	REMARKS	OUTGOING PART NUMBER	OUTGOING SERIAL NUMBER	OUTGOING TSN CSN	TASK PERFORMED	DOC. REFERENCE BATCH NO.	REMARKS
5.1	AIR/OIL COOLER	160488-2	77-339	14120 8018	OC		160488-2	TT-339	14120 8018	REPAIRED		
5.2	ELEC.STR.MOTOR	2704442-4	19-619	6923 4073	OC		2704442-4	TT-385	UNK UNK	REPAIRED		RECEIVED FROM CUSTOMER.
5.3	DATA MEMORY MOD.	304643-2	GE1392	14120 8018	OC		304643-2	GE1392	14120 8018	VISUALLY INSPECTED		
5.4	FUEL CLUSTER	441761-7	CUA10186	NIL NIL	OC		38790081	CUA10186	NIL NIL	REPAIRED AND MODIFIED		
5.5	APU CHECK VALVE	3202610-5	581	14120 8018	OC		3202610-5	581	14120 8018	REPAIRED		
5.6	A.T.S.C.V	3283076-5	314C	14120 8018	OC		32830765	314C	14120 8018	REPAIRED		
5.7	AIR TURBINE START	3505814-3	312	14120 8018	OC		3505814-3	246	UNK UNK	—		REPAIRED EXCHANGE
5.8	I.G.V ACT	3883499-2	0262	14120 8018	OC		3883499-2	0262	14120 8012	OVERHAULED		
5.9	PNEU. CLUSTER	3884863-6	P304	14120 8018	OC		38848637	P304	14120 8018	REPAIRED AND MODIFIED		
5.10	IGNITION CLUSTER	3888275-9	UNKNOWN	14120 8018	OC		3888275-9	UNK	14120 8018	REPAIRED		
5.11	LUBE CLUSTER	4131000-6	342C	14120 8018	OC		4131006-6	342C	14120 8018	REPAIRED		
5.12	S.C.V	3290814-4	337	14120 8018	OC		32908145	3290814/ 337C	14120 8018	REPAIRED AND MODIFIED		
5.13	TEMP.CONT.VALVE	160536-1	77-286	14120 8018	OC		160536-1	TT-286	14120 8018	REPAIRED AND MODIFIED		
5.14	GENERATOR	756589A	0190	5641 NIL	OC		—	—	—	—		NOT RECEIVED

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

QUALITY CONTROL
HONEYWELL (SINGAPORE) PTE LTD

Form No. 700042 R0 08/97

AJW

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

1. Country: UNITED STATES

2.

FAA FORM 8130-3
AIRWORTHINESS APPROVAL TAG
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

3. System Tracking: S01/338157

4. Organization:
Honeywell (Singapore) Pte Ltd
161 Gul Circle
Singapore 629619

Honeywell

5. WorkOrder, Contract or Invoice Number:
641539-000
MALAYSIAN AIRLINE SYSTEM BHD

6. Item	7. Description	8. Part No.	9. Eligibility*	10. Quantity	11. Serial / Batch No.	12. Status / Work
1.	GTCP331-500B	3800550-1	B-777	1	P1154	INSPECTED MODIFIED REPAIRED
	Purchase Order No.: NP1300241	Order Entry No.:	132559-001			

13. Remarks

UNIT REPAIRED IAW EM 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 G0093 ATTACHED FOR ALL SERVICE BULLETINS COMPLIED.
TSN: 6106:35 CSN: 3220 NOTE: HRS AND CYCLES DERIVES FROM DMM.
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 ☐
Newly Overhauled ☐

Certifies that the new or newly overhauled part(s) identified above, except as otherwise specified in block 13 was (were) manufactured in accordance with FAA approved design data and airworthiness.

NOTE: In case of parts to be exported, the special requirements of the importing country have been met.

19. Return to Service in Accordance with FAR 43.9

Certifies that the work specified in block 13 (or attached) above was carried out in accordance with FAA airworthiness regulations and in respect to the work performed the part(s) is (are) approved for return to service.

15. Signature	16. FAA Authorization No.	20. Authorized Signature	21. Certificate Number
		HONEYWELL (S) QC 32	FT4Y192M
17. Name (typed or printed)	18. Date	22. Name (Typed or Printed) STEPHEN LEE KOK NEO	23. Date 09 FEB 2001

FAA FORM 8130-3 (07/94)

*(Optional) Installer must cross check eligibility with applicable technical data.

CUSTOMER COPY

NOTE

1. 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.

malaysia
VISUAL INSPECTION ONLY
SIGNATURE:
APPROVAL NO:
DATE: 14 FEB 2001
REMARKS:

1. Country: **UNITED STATES**

2.

FAA FORM 8130-3
AIRWORTHINESS APPROVAL TAG
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

3. System Tracking Ref. No.: L0100290300

4. Organization: HONEYWELL INTERNATIONAL INC.
1944 E. SKY HARBOR CIRCLE
PHOENIX, AZ 85034

PRODUCTION APPROVAL
TSOA

5. Workorder, Contract or Invoice Number:
AL00725876
72523A1-088
07N2314986

6. Item	7. Description	8. Part No.	9. Eligibility*	10. Quantity	11. Serial / Batch No.	12. Status / Work
001	IMPELLER, 1ST STAGE	3822483-1	N/A TSO	1	990322901217	NEW

13. Remarks
THIS FORM IS ISSUED AT 1944 E. SKY HARBOR CIRCLE PHOENIX, AZ 85034 AS AUTHORIZED BY THE PRODUCTION APPROVAL HOLDER
EXPORT

Limited life parts must be accompanied by maintenance history including total time / total cycles / time since new.

14.
New [X]
Newly Overhauled [ ]

Certifies that the new or newly overhauled part(s) identified above, except as otherwise specified in block 13 was (were) manufactured in accordance with FAA approved design data and airworthiness.

NOTE: In case of parts to be exported, the special requirements of the importing country have been met.

19.
Return to Service in Accordance with FAR 43.9

Certifies that the work specified in block 13 (or attached) above was carried out in accordance with FAA airworthiness regulations and in respect to the work performed the part(s) is (are) approved for return to service.

15. Signature	16. FAA Authorization No.	20. Authorized Signature	21. Certificate Number
	ODARF602216NM		
17. Name *(Typed or Printed)*	**18. Date**	**22. Name *(Typed or Printed)***	**23. Date**
JOYCE ALBERS	19JAN01		

FAA FORM 8130-3

*(Optional) Installer must cross check eligibility with applicable technical data.

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. Other countries such as Canada also have equivalent acceptable documents.

HONEYWELL (SINGAPORE) PTE LTD

STORAGE

NP1300241

W/O NO: 641539 S/NO: P-1154

See Other side

INSPECTOR SIGNATURE

FORM G0052R.1
(ddmmyy 220300)

DATE: 9/2/2001

ATTN :

SHEELA,

THIS IS THE INHIBITION TAG FOR GTCP 331-500 APU S/N : P 1154.

REGARDS

NAZRUN.

DESSICANT PLACED IN INLET & EXHAUST DUCTS 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 1 year.

MALAYSIAN AIR... RECEIVED ... ENGINE PLANNING

TOTAL P.01

Honeywell (Singapore) Pte Ltd

Honeywell

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

PREPARED BY : STEPHEN LEE

SB019R WSID: WCDE HONEYWELL (SINGAPORE) PTE LTD DATE: 8-02-01
USER: LSTEPHEN SERVICE BULLETIN REPORT PAGE: 1 TIME: 14:19:20

FROM MODEL NO.- GTCP331-500B FROM SB NO.- FROM RECEIVED DATE-
TO MODEL NO.- GTCP331-500B TO SB NO.- 9999999999 TO RECEIVED DATE- 99-99-99
FROM SERIAL NO.- P1154 FROM REVISION DATE-
TO SERIAL NO.- P1154 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		LUBE 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	C
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	C
49-7407		REPL CHECK VALVE, P/N 3202610-4 WITH 3202610-5.	3202610-5	C
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 -3		C
49-7502		REPL BALL BEARING, P/N: 3616641-1, WITH BALL BEARING, P/N: 3860837-1, IN GEARBOX ASSY, P/N: 3805034-8	3860837-1	C
49-7547	1	INSPN OF 331-500(B) APU INLET BELLMOUTH CLAMP.		C

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)

QC 32

QUALITY CONTROL
HONEYWELL (SINGAPORE) PTE LTD

FORM G0093(ddmmyy 310300)

Honeywell (Singapore) Pte Ltd

Honeywell

TURBINE ACCEPTANCE TAG & TRACEABILITY INPUT

PART NO:	3800550-1	SERIAL NO.:	P-1154	CUSTOMER:	MAS
MODEL :	GTCP331-500B	SERIES :	25	DATE :	9 FEB. 2001
W/O NO.:	641539	TSR / TSN :	00 / 6106:35	CSR / CSN :	00 / 3220

DESCRIPTION	PART NO.	SERIAL NO.	LOT NO	TSN	CSN	LIFE LIMITS
1ST 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
1ST 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.	SERIES	CHG NOS	REMARKS
STARTER CTRL VALVE	3283076-5	314C	1		
AIR TURB STARTER	3505814-3	312	1		
STARTER MOTOR	2704442-4	77-394	1		
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	1		
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: _____

Honeywell

Honeywell (Singapore) Pte Ltd

GTCP 331-500[B] PERFORMANCE DATA SHEET

WO NO	: 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

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 TEMPERATURE		°F	156	156	156
GEARBOX PRESSURE		PSIA	14.71	14.66	14.81
COMPRESSOR INLET TEMPERATURE	MEASURED	°F	85	35	35
APU INLET TEMPERATURE (T2) (ARINC)		°F	89	91	89
TURBINE DISCHARGE TEMPERATURE (UNIT RAKES)	UPPER (EGT 1)	°F	720	1057	1090
	LOWER (EGT 2)	°F	718	1076	1108
EXHAUST GAS TOTALTEMPERATURE	MEASURED	°F	734	1074	1118
	CORRECTED	°F		1122.90	1129.10
ORIFICE INLET AIR PRESSURE		" Hg		76.40	90.20
ORIFICE INLET TEMPERATURE		°F		408	424
ORIFICE DELTA PRESSURE		" H_2O		61.50	26.30
IGV POSITION** (IGVPOS)		DEGREES		10.00	-0.50
IGV PERFORMANCE ADJ (IGVPERADJ)		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		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 : [illegible]

DATE : 8-Feb-2001

QUALITY CONTROL : [signature]

DATE : 09 FEB 2001

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

malaysia

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

APU P/NO : 3800350-1
APU S/NO : P1154
TSN / CSN : 6106 | 3220

DATE OF REMOVAL : 02-01-01
REASON FOR REMOVAL : NOISY (INTAKE BELLMOUTH ERODED).
REASON FOR PREVIOUS REMOVAL : —

CUSTOMER : MAS AA 867127
JOB CARD NO. : T-01-01
DATE RELEASED :

NO.	DESCRIPTION	PART NUMBER	INCOMING SERIAL NUMBER	INCOMING TSN / CSN	LIFE	REMARKS	OUTGOING PART NUMBER	OUTGOING SERIAL NUMBER	OUTGOING TSN / CSN	TASK PERFORMED	DOC. REFERENCE / BATCH NO.	REMARKS
1	GEARBOX ASSY	3805034-8	P247	6106 Hrs 3220 Cyc			3805034-8	P247	6106:35 Hrs 3220 Cyc	R&M		
2	DRIVE COMP. ASSY	3804011-8	P254	6106 Hrs 3220 Cyc			3804011-8	P254	6106:35 Hrs 3220 Cyc	R		
21	IMPELLER COMP LOAD	[illegible]	9703229010[illegible]	6106 Hrs 3220 Cyc	22000 Cyc		~~3822483-1~~ 3822468-3	9703229010 25	6106:35 Hrs 3220 Cyc	R		
5	ENG. COMP. ASSY	3826980-8	P254	6106 Hrs 3220 Cyc			3826980-6	P254	6106:35 Hrs 3220 Cyc	R&M		
31	IMPELLER COMP 2ND STG	3822341-4	970322 900951	6106 Hrs 3220 Cyc	22000 Cyc		3822341-4	9703229009 51	6106:35 Hrs 3220 Cyc	R		
32	IMPELLER COMP 1ST STG	3822483-1	96032290 6712	6106 Hrs 3220 Cyc	22000 Cyc		3822483-1	9903229012 17	00 Hrs 00 Cyc	N		
4	TURBINE MOD. ASSY	3811517-5	P254	6106 Hrs 3220 Cyc			3811517-5	P254	6106:35 Hrs 3220 Cyc	R		
41	1ST STG ROTOR ASSY	3842151-2	9703357 00399	6106 Hrs 3220 Cyc	22000 Cyc		3842151-2	9703357003 99	6106:35 Hrs 3220 Cyc	R		
42	2ND STG ROTOR ASSY	3842155-3	9603357 1592	6106 Hrs 3220 Cyc	22000 Cyc		3842155-3	9603357015 92	6106:35 Hrs 3220 Cyc	R		
43	3RD STG ROTOR ASSY	3842160-5	9701345 059954	6106 Hrs 3220 Cyc	22000 Cyc		3842160-5	9701345059 54	6106:35 Hrs 3220 Cyc	R		

NOTE: ORIGINAL SN OF LOAD comp impeller should be 9703229010 25 and not 9703229010 24. New amended acceptance tag provided.

GTCP-331-500B - ACCESORIES STATUS

malaysia

NO S	DESCRIPTION ACCESORIES	INCOMING PART NUMBER	INCOMING SERIAL NUMBER	INCOMING TSN CSN	LIFE	REMARKS	OUTGOING PART NUMBER	OUTGOING SERIAL NUMBER	OUTGOING TSN CSN	TASK PERFORMED	DOC REFERENCE /BATCH NO	REMARKS
S1	AIR/OIL COOLER	160488-2	77339	6106 Hrs 3220 Cyes	OK		160488-2	77-339	6106:35 Hrs 3220 Cyes	C, I &FT.		
S2	ELEC STR MOTOR	2704442-3	77-394	6106 Hrs 3220 Cyes	OK		2704442-4	77-394	6106:35 Hrs 3220 Cyes	R		
S3	DATA MEMORY MOD	304643-2	GE1392	6106 Hrs 3220 Cyes	OK		304643-2	GE 1392	6106:35 Hrs 3220 Cyes	M&FT.		
S4	FUEL CLUSTER	441761-7	CUA10291	6106 Hrs 3220 Cyes	OK		441761-7	CUA10291	6106:35 Hrs 3220 Cyes	C. I &FT.		
S5	APU CHECK VALVE	3202610-4	286	6106 Hrs 3220 Cyes	OK		3202610-5	561	00 Hrs 00 Cyes	N	10100037.	
S6	A I S C V	3283076-4	314	6106 Hrs 3220 Cyes	OK		3283076-5	314C	6106:35 Hrs 3220 Cyes	R&M		NEW P/N 3283076-5 SN 314C
S7	AIR TURBINE START	3505814-3	312	6106 Hrs 3220 Cyes	OK		3505814-3	312	6106:35 Hrs 3220 Cyes	VI.		
S8	I G V ACT	3883499-2	0222	6106 Hrs 3220 Cyes	OK		3883499-2	0262	Hrs Cyes	C, I &FT.		Received as S/N 0262
S9	PNEU CLUSTER	3884863-6	P304	6106 Hrs 3220 Cyes	OK		3884863-6	P304	6106:35 Hrs 3220 Cyes	R		
S10	IGNITION CLUSTER	3888275-8	—	6106 Hrs 3220 Cyes	OK		—	—	— Hrs — Cyes	—	—	NOTE: Ignition cluster, partially receive, new P/N 4131000-6 S/N 342C
S11	LUBE CLUSTER	4131000-5	342	6106 Hrs 3220 Cyes	OK		14131000-6	342C	6106:35 Hrs 3220 Cyes	R&M:		
S12	SCV	3210814-3	337	6106 Hrs 3220 Cyes	OK		3210814-4	337	6106:35 Hrs 3220 Cyes	R		
S13	TEMP CONT VALVE	160536-1	77-286	6106 Hrs 3220 Cyes	OK		160536-1	77-286	6106:35 Hrs 3220 Cyes	R		
S14	GENERATOR	756389A	0271	6106 Hrs 3220 Cyes	OK		NOT Received.		Hrs Cyes			

PREPARED BY ENAM HUSSIN (TECH RECORDS OFFICER)

CHECKED BY ENAM HUSSIN (SNR TECH RECORDS OFFICER)

DATE 09/01/01

NOTE: Ignition cluster was partially received less ~~Eng~~ Ignition unit.

Form No 200002 TRD 00002

APU S/NO. : P1154

OUTSTANDING SPECIAL INSPECTION OR OTHER REQUIREMENTS

NO	REFERENCE	DESCRIPTION	COMPLIANCE	HRS / CYCS AVAILABLE
		NIL -		

FORM CODE

A - AS IT IS
FT - FUNCTIONAL TESTED
F - FLUSHED
FC - FILTER CLEANED
R - REPAIRED
C - CLEANED
E - EXCHANGED
M - MODIFIED
PT - PRESSURE TESTED
N - NEW
O - OVERHAULED
I - INSPECTED

AJW

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

1. Country: UNITED STATES

2.

FAA FORM 8130-3
AIRWORTHINESS APPROVAL TAG
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

3. System Tracking: S01/338157

4. Organization:
Honeywell (Singapore) Pte Ltd
161 Gul Circle
Singapore 629619

Honeywell

5. WorkOrder, Contract or Invoice Number:
641539-000
MALAYSIAN AIRLINE SYSTEM BHD

6. Item	7. Description	8. Part No.	9. Eligibility*	10. Quantity	11. Serial / Batch No.	12. Status / Work
1.	GTCP331-500B	3800550-1	B-777	1	P1154	INSPECTED MODIFIED REPAIRED
	Purchase Order No.: NP1300241	Order Entry No.:	132559-001			

13. Remarks

UNIT REPAIRED IAW EM 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 G0093 ATTACHED FOR ALL SERVICE BULLETINS COMPLIED.
TSN: 6106:35 CSN: 3220 NOTE: HRS AND CYCLES DERIVES FROM DMM.
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 ☐
Newly Overhauled ☐

Certifies that the new or newly overhauled part(s) identified above, except as otherwise specified in block 13 was (were) manufactured in accordance with FAA approved design data and airworthiness.

NOTE: In case of parts to be exported, the special requirements of the importing country have been met.

19. Return to Service in Accordance with FAR 43.9

Certifies that the work specified in block 13 (or attached) above was carried out in accordance with FAA airworthiness regulations and in respect to the work performed the part(s) is (are) approved for return to service.

15. Signature	16. FAA Authorization No.	20. Authorized Signature	21. Certificate Number
		HONEYWELL (S) QC 32	FT4Y192M
17. Name (typed or printed)	18. Date	22. Name (Typed or Printed) STEPHEN LEE KOK NEO	23. Date 09 FEB 2001

FAA FORM 8130-3 (07/94)

*(Optional) Installer must cross check eligibility with applicable technical data.

CUSTOMER COPY

NOTE

1. 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.

malaysia
VISUAL INSPECTION ONLY
SIGNATURE:
APPROVAL NO:
DATE: 14 FEB 2001
REMARKS:

1. Country: **UNITED STATES**

2.

FAA FORM 8130-3
AIRWORTHINESS APPROVAL TAG
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

3. System Tracking Ref. No.: L0100290300

4. Organization: HONEYWELL INTERNATIONAL INC.
1944 E. SKY HARBOR CIRCLE
PHOENIX, AZ 85034

PRODUCTION APPROVAL
TSOA

5. Workorder, Contract or Invoice Number:
AL00725876
72523A1-088
07N2314986

6. Item	7. Description	8. Part No.	9. Eligibility*	10. Quantity	11. Serial / Batch No.	12. Status / Work
001	IMPELLER, 1ST STAGE	3822483-1	N/A TSO	1	990322901217	NEW

13. Remarks
THIS FORM IS ISSUED AT 1944 E. SKY HARBOR CIRCLE PHOENIX, AZ 85034 AS AUTHORIZED BY THE PRODUCTION APPROVAL HOLDER
EXPORT

Limited life parts must be accompanied by maintenance history including total time / total cycles / time since new.

14.
New [X]
Newly Overhauled [ ]

Certifies that the new or newly overhauled part(s) identified above, except as otherwise specified in block 13 was (were) manufactured in accordance with FAA approved design data and airworthiness.

NOTE: In case of parts to be exported, the special requirements of the importing country have been met.

19.
Return to Service in Accordance with FAR 43.9

Certifies that the work specified in block 13 (or attached) above was carried out in accordance with FAA airworthiness regulations and in respect to the work performed the part(s) is (are) approved for return to service.

15. Signature	16. FAA Authorization No.	20. Authorized Signature	21. Certificate Number
	ODARF602216NM		
17. Name *(Typed or Printed)*	**18. Date**	**22. Name *(Typed or Printed)***	**23. Date**
JOYCE ALBERS	19JAN01		

FAA FORM 8130-3

*(Optional) Installer must cross check eligibility with applicable technical data.

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. Other countries such as Canada also have equivalent acceptable documents.

HONEYWELL (SINGAPORE) PTE LTD

STORAGE

NP1300241

W/O NO: 641539 S/NO: P-1154

See Other side

INSPECTOR SIGNATURE

FORM G0052R.1
(ddmmyy 220300)

DATE: 9/2/2001

ATTN :

SHEELA,

THIS IS THE INHIBITION TAG FOR GTCP 331-500 APU S/N : P 1154.

REGARDS

NAZRUN.

DESSICANT PLACED IN INLET & EXHAUST DUCTS 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 1 year.

MALAYSIAN AIR... RECEIVED ... ENGINE PLANNING

TOTAL P.01

Honeywell (Singapore) Pte Ltd

Honeywell

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

PREPARED BY : STEPHEN LEE

SB019R WSID: WCDE HONEYWELL (SINGAPORE) PTE LTD DATE: 8-02-01
USER: LSTEPHEN SERVICE BULLETIN REPORT PAGE: 1 TIME: 14:19:20

FROM MODEL NO.- GTCP331-500B FROM SB NO.- FROM RECEIVED DATE-
TO MODEL NO.- GTCP331-500B TO SB NO.- 9999999999 TO RECEIVED DATE- 99-99-99
FROM SERIAL NO.- P1154 FROM REVISION DATE-
TO SERIAL NO.- P1154 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		LUBE 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	C
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	C
49-7407		REPL CHECK VALVE, P/N 3202610-4 WITH 3202610-5.	3202610-5	C
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 -3		C
49-7502		REPL BALL BEARING, P/N: 3616641-1, WITH BALL BEARING, P/N: 3860837-1, IN GEARBOX ASSY, P/N: 3805034-8	3860837-1	C
49-7547	1	INSPN OF 331-500(B) APU INLET BELLMOUTH CLAMP.		C

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)

QC 32

QUALITY CONTROL
HONEYWELL (SINGAPORE) PTE LTD

FORM G0093(ddmmyy 310300)

Honeywell (Singapore) Pte Ltd

Honeywell

TURBINE ACCEPTANCE TAG & TRACEABILITY INPUT

PART NO:	3800550-1	SERIAL NO.:	P-1154	CUSTOMER:	MAS
MODEL :	GTCP331-500B	SERIES :	25	DATE :	9 FEB. 2001
W/O NO.:	641539	TSR / TSN :	00 / 6106:35	CSR / CSN :	00 / 3220

DESCRIPTION	PART NO.	SERIAL NO.	LOT NO	TSN	CSN	LIFE LIMITS
1ST 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
1ST 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.	SERIES	CHG NOS	REMARKS
STARTER CTRL VALVE	3283076-5	314C	1		
AIR TURB STARTER	3505814-3	312	1		
STARTER MOTOR	2704442-4	77-394	1		
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	1		
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: _____

Honeywell

Honeywell (Singapore) Pte Ltd

GTCP 331-500[B] PERFORMANCE DATA SHEET

WO NO	: 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

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 TEMPERATURE		°F	156	156	156
GEARBOX PRESSURE		PSIA	14.71	14.66	14.81
COMPRESSOR INLET TEMPERATURE	MEASURED	°F	85	35	35
APU INLET TEMPERATURE (T2) (ARINC)		°F	89	91	89
TURBINE DISCHARGE TEMPERATURE (UNIT RAKES)	UPPER (EGT 1)	°F	720	1057	1090
	LOWER (EGT 2)	°F	718	1076	1108
EXHAUST GAS TOTALTEMPERATURE	MEASURED	°F	734	1074	1118
	CORRECTED	°F		1122.90	1129.10
ORIFICE INLET AIR PRESSURE		" Hg		76.40	90.20
ORIFICE INLET TEMPERATURE		°F		408	424
ORIFICE DELTA PRESSURE		" H_2O		61.50	26.30
IGV POSITION** (IGVPOS)		DEGREES		10.00	-0.50
IGV PERFORMANCE ADJ (IGVPERADJ)		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		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 : [illegible]

DATE : 8-Feb-2001

QUALITY CONTROL : [signature]

DATE : 09 FEB 2001

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

malaysia

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

APU P/NO : 3800350-1
APU S/NO : P1154
TSN / CSN : 6106 | 3220

DATE OF REMOVAL : 02-01-01
REASON FOR REMOVAL : NOISY (INTAKE BELLMOUTH ERODED).
REASON FOR PREVIOUS REMOVAL : —

CUSTOMER : MAS AA 867127
JOB CARD NO. : T-01-01
DATE RELEASED :

NO.	DESCRIPTION	PART NUMBER	INCOMING SERIAL NUMBER	INCOMING TSN / CSN	LIFE	REMARKS	OUTGOING PART NUMBER	OUTGOING SERIAL NUMBER	OUTGOING TSN / CSN	TASK PERFORMED	DOC. REFERENCE / BATCH NO.	REMARKS
1	GEARBOX ASSY	3805034-8	P247	6106 Hrs 3220 Cyc			3805034-8	P247	6106:35 Hrs 3220 Cyc	R&M		
2	DRIVE COMP. ASSY	3804011-8	P254	6106 Hrs 3220 Cyc			3804011-8	P254	6106:35 Hrs 3220 Cyc	R		
21	IMPELLER COMP LOAD	[illegible]	9703229010[illegible]	6106 Hrs 3220 Cyc	22000 Cyc		~~3822483-1~~ 3822468-3	9703229010 25	6106:35 Hrs 3220 Cyc	R		
5	ENG. COMP. ASSY	3826980-8	P254	6106 Hrs 3220 Cyc			3826980-6	P254	6106:35 Hrs 3220 Cyc	R&M		
31	IMPELLER COMP 2ND STG	3822341-4	970322 900951	6106 Hrs 3220 Cyc	22000 Cyc		3822341-4	9703229009 51	6106:35 Hrs 3220 Cyc	R		
32	IMPELLER COMP 1ST STG	3822483-1	96032290 6712	6106 Hrs 3220 Cyc	22000 Cyc		3822483-1	9903229012 17	00 Hrs 00 Cyc	N		
4	TURBINE MOD. ASSY	3811517-5	P254	6106 Hrs 3220 Cyc			3811517-5	P254	6106:35 Hrs 3220 Cyc	R		
41	1ST STG ROTOR ASSY	3842151-2	9703357 00399	6106 Hrs 3220 Cyc	22000 Cyc		3842151-2	9703357003 99	6106:35 Hrs 3220 Cyc	R		
42	2ND STG ROTOR ASSY	3842155-3	9603357 1592	6106 Hrs 3220 Cyc	22000 Cyc		3842155-3	9603357015 92	6106:35 Hrs 3220 Cyc	R		
43	3RD STG ROTOR ASSY	3842160-5	9701345 059954	6106 Hrs 3220 Cyc	22000 Cyc		3842160-5	9701345059 54	6106:35 Hrs 3220 Cyc	R		

NOTE: ORIGINAL SN OF LOAD comp impeller should be 9703229010 25 and not 9703229010 24. New amended acceptance tag provided.

GTCP-331-500B - ACCESORIES STATUS

malaysia

NO S	DESCRIPTION ACCESORIES	INCOMING PART NUMBER	INCOMING SERIAL NUMBER	INCOMING TSN CSN	LIFE	REMARKS	OUTGOING PART NUMBER	OUTGOING SERIAL NUMBER	OUTGOING TSN CSN	TASK PERFORMED	DOC REFERENCE /BATCH NO	REMARKS
S1	AIR/OIL COOLER	160488-2	77339	6106 Hrs 3220 Cyes	OK		160488-2	77-339	6106:35 Hrs 3220 Cyes	C, I &FT.		
S2	ELEC STR MOTOR	2704442-3	77-394	6106 Hrs 3220 Cyes	OK		2704442-4	77-394	6106:35 Hrs 3220 Cyes	R		
S3	DATA MEMORY MOD	304643-2	GE1392	6106 Hrs 3220 Cyes	OK		304643-2	GE 1392	6106:35 Hrs 3220 Cyes	M&FT.		
S4	FUEL CLUSTER	441761-7	CUA10291	6106 Hrs 3220 Cyes	OK		441761-7	CUA10291	6106:35 Hrs 3220 Cyes	C. I &FT.		
S5	APU CHECK VALVE	3202610-4	286	6106 Hrs 3220 Cyes	OK		3202610-5	561	00 Hrs 00 Cyes	N	10100037.	
S6	A I S C V	3283076-4	314	6106 Hrs 3220 Cyes	OK		3283076-5	314C	6106:35 Hrs 3220 Cyes	R&M		NEW P/N 3283076-5 SN 314C
S7	AIR TURBINE START	3505814-3	312	6106 Hrs 3220 Cyes	OK		3505814-3	312	6106:35 Hrs 3220 Cyes	VI.		
S8	I G V ACT	3883499-2	0222	6106 Hrs 3220 Cyes	OK		3883499-2	0262	Hrs Cyes	C, I &FT.		Received as S/N 0262
S9	PNEU CLUSTER	3884863-6	P304	6106 Hrs 3220 Cyes	OK		3884863-6	P304	6106:35 Hrs 3220 Cyes	R		
S10	IGNITION CLUSTER	3888275-8	—	6106 Hrs 3220 Cyes	OK		—	—	— Hrs — Cyes	—	—	NOTE: Ignition cluster, partially receive, new P/N 4131000-6 S/N 342C
S11	LUBE CLUSTER	4131000-5	342	6106 Hrs 3220 Cyes	OK		14131000-6	342C	6106:35 Hrs 3220 Cyes	R&M:		
S12	SCV	3210814-3	337	6106 Hrs 3220 Cyes	OK		3210814-4	337	6106:35 Hrs 3220 Cyes	R		
S13	TEMP CONT VALVE	160536-1	77-286	6106 Hrs 3220 Cyes	OK		160536-1	77-286	6106:35 Hrs 3220 Cyes	R		
S14	GENERATOR	756389A	0271	6106 Hrs 3220 Cyes	OK		NOT Received.		Hrs Cyes			

PREPARED BY ENAM HUSSIN (TECH RECORDS OFFICER)

CHECKED BY ENAM HUSSIN (SNR TECH RECORDS OFFICER)

DATE 09/01/01

NOTE: Ignition cluster was partially received less ~~Eng~~ Ignition unit.

Form No 200002 TRD 00002

APU S/NO. : P1154

OUTSTANDING SPECIAL INSPECTION OR OTHER REQUIREMENTS

NO	REFERENCE	DESCRIPTION	COMPLIANCE	HRS / CYCS AVAILABLE
		NIL -		

FORM CODE

A - AS IT IS
FT - FUNCTIONAL TESTED
F - FLUSHED
FC - FILTER CLEANED
R - REPAIRED
C - CLEANED
E - EXCHANGED
M - MODIFIED
PT - PRESSURE TESTED
N - NEW
O - OVERHAULED
I - INSPECTED

AJW

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

Allied Signal – November 1997

AlliedSignal, Inc.
Engine Division

ACCEPTANCE TAG

AlliedSignal AEROSPACE

OUTLINE/INSTALL NO.	REV	SERIAL NO.	CUSTOMER NAME	CUST CODE	MODEL	DATE
3800550-1	N	P-1154	BOEING COMMERCIAL	172	331-500 (B)	1197

SERIES	CHANGES	QTY.	INSP. SIGNATURE & STAMP	ALLOCATION & DATE	SALES/REPAIR ORDER NO.
25	NONE	1	JAN 30 98	2107(REL)DLU 11/18/97	418475-003C

NDC COMPONENTS				TRACEABLE PARTS			
PART NO.	NOMENCLATURE	SERIAL NO.	SERIES	PART NO.	SERIAL NUMBER	LOT NUMBER	HOURS
1601488-2	AIR/OIL COOLER	77-339	2	3822341-4	970322900951	97P280	00:00
2704442-4	ELEC. STR. MTR.	77-394	1	3822468-3	970322901025	97P300	00:00
304643-2	DATA MEM. MOD.	GE-1382	1	3822483-1	960322906712	97P312	00:00
441761-7	FUEL CLUSTER	CUA10291	NONE	3842151-2	970335700399	97P284	00:00
3202610-4	APU CHK. VALVE	286	1	3842155-3	960335701592	97P309	00:00
3283076-4	A.T.S.C.V.	314	1	3842160-5	970134505954	97P319	00:00
3505814-3	AIR TURB. START.	312	1				
3804011-8	DRV. COMP. ASSY.	P-254	NONE				
3805034-8	G/BOX. ASSY.	P-247	1				
3826980-8	ENG. COMP. ASSY.	P-254	NONE				
3844517-5	TURB. MOD. ASSY.	P-254	NONE				
3883499-2	I.G.V. ACT.	0222	NONE				
3884863-6	PNEU. CLUSTER	P-304	1				
3888275-8	IGNITION CLUSTER	NONE	NONE				
4131000-5	LUBE CLUSTER	342	1				
3290814-4	S.C.V.	337	1	F. T. DATE: 20 NOVEMBER 1997			
160536-1	TEMP. CONT. VALVE	77-386	1	DRY WEIGHT : 727LBS.			

LOG BOOK WITH ENGINE: ? YES

AlliedSignal, Inc.

Engine Division

ACCEPTANCE TAG

AlliedSignal AEROSPACE

OUTLINE/INSTALL NO.	REV	SERIAL NO.	CUSTOMER NAME	CUST CODE	MODEL	DATE
3800550-1	N	P-1154	BOEING	172	331-500 (B)	1197

SERIES	CHANGES	QTY.	INSP. SIGNATURE & STAMP	ALLOCATION & DATE	SALES/REPAIR ORDER NO.
25	NONE	1		2107(REL)DLU 11/18/97	418475-003C

NDC COMPONENTS				TRACEABLE PARTS			
PART NO.	NOMENCLATURE	SERIAL NO.	SERIES	PART NO.	SERIAL NUMBER	LOT NUMBER	HOURS
160488-2	AIR/OIL COOLER	77-339	2	3822341-4	970322900951	97P280	00:00
2704442-4	ELEC. STR. MTR.	77-394	1	3822468-3	970322901024	97P300	00:00
304643-2	DATA MEM. MOD.	GE-1392	1	3822483-1	960322906712	97P312	00:00
441761-7	FUEL CLUSTER	CUA10291	NONE	3842151-2	970335700399	97P284	00:00
3202610-4	APU CHK. VALVE	286	1	3842155-3	960335701592	97P309	00:00
3283076-4	A.T.S.C.V.	314		3842160-5	970134505954	97P319	00:00
3505814-3	AIR TURB. START.	312	1				
3804011-8	DRV. COMP. ASSY.	P-254	NONE				
3805034-8	G/BOX. ASSY.	P-247	1				
3826980-8	ENG. COMP. ASSY.	P-254	NONE				
3844517-5	TURB. MOD. ASSY.	P-254	NONE				
3883499-2	I.G.V. ACT.	0222	NONE				
3884863-6	PNEU. CLUSTER	P-304	1				
3888275-8	IGNITION CLUSTER	NONE	NONE				
4131000-5	LUBE CLUSTER	342	1				
3290814-4	S.C.V.	337	1	F. T. DATE:	20 NOVEMBER 1997		
160536-1	TEMP. CONT. VALVE	77-286	1	DRY WEIGHT:	727. Lbs.		

LOG BOOK WITH ENGINE: ? YES ~ L.L. CARDS IN LOGBOOK: ? YES

DATE	ACCUMULATED ENGINE HOURS	ACCUMULATED ENGINE STARTS	REMARKS, INSPECTIONS, REPAIRS, AND ADJUSTMENTS	SIGNATURE
			3800550-1 P-1154	
11-20-97	0	0	NEW PRODUCTION UNIT SERIES 25 CHANGE NONE	499
2-2-98	0	0	INSTALLED ON WB166, REGISTRATION 9M-MRF.	
3-18-98	28	62	ACCUMULATED DURING PRODUCTION TESTING AT BOEING.	

SERVICE BULLETIN COMPLIANCE RECORD

F28

ACCEPTANCE TEST DATA SHEET
331-500(B)

APU S/N P- 1154

ATP PARAGRAPH --> -->			4.3.8	4.3.10	4.3.12	5.1
QUANTITY		UNITS	103°F, ECS	NO LOAD	103°F, MES	OIL CONSUMPTION
BAROMETRIC PRESSURE		PSIA	14.13	14.13	14.12	
AVERAGE INLET TEMPERATURE		DEG F	72.3	73.0	74.6	
UNIT INLET TEMPERATURE (T2)		DEG F	71.1	73.6	73.2	
OIL PRESSURE		PSIG	68.7	69.6	68.5	
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	
	LOWER	DEG F	998.9	685.9	1048.4	
EXHAUST GAS TOTAL TEMPERATURE	ACTUAL	DEG F	1032.7	699.4	1080.0	
	CORRECTED *	DEG F	1095.8		1094.2	
ORIFICE INLET PRESSURE		PSIA	51.69		58.49	
ORIFICE INLET TEMPERATURE		DEG F	387.9		406.7	
ORIFICE DELTA P		PSID	2.10		.88	
EXHAUST STATIC PRESSURE		PSIA	14.13		14.12	
IGV POSITION **		DEG	12.1		1.6	
CORRECTED BLEED AIRFLOW		LB/MIN	167.3		105.5	
BLEED AIRFLOW	ACTUAL	LB/MIN	474.3		327.3	
	CORRECTED *	LB/MIN	466.1		298.3	
BLEED TOTAL PRESSURE	ACTUAL	PSIA	53.52		59.27	
	CORRECTED *	PSIA	53.53		54.60	
BLEED TOTAL TEMPERATURE	ACTUAL	DEG F	395.8		416.1	
	CORRECTED *	DEG F	426.3		432.6	
FUEL CONSUMPTION	ACTUAL	LB/HR	618.6	327.2	652.2	
	CORRECTED	LB/HR	622.6		623.9	
OIL CONSUMPTION	OIL QUANTITY A	CM^3				440
	OIL QUANTITY B	CM^3				60
	OIL CONSUMED	CM^3				0
	TOTAL OPER TIME	HRS				2:17
	CONSUMPTION RT	CM^3/HR				0
	MAX CONSUMP RT	CM^3/HR				12.0
SHAFT OUTPUT CORRECTED TO SL		HP	202.7		202.0	
UNIT VIBRATION	ACCESSORY	IN/SEC	.133	.176	.132	
	TURBINE	IN/SEC	.255	.250	.259	
APU SPEED		RPM	39045.	39050.	39045.	
SPECIFICATION REQUIREMENTS (CORRECTED)	BLEED AIRFLOW	LB/MIN	460.2			
	BLEED PRESSURE	PSIA	52.6		54.6	
	MAX IGV POS	DEG	9.5			
	SHAFT POWER	HP	202.0		202.0	
	EGT	DEG F	1151.0		1137.0	
DIGITAL DATA SCAN		TIME	12:44	13:01	13:17	
		DATE	11/20/97	11/20/97	11/20/97	
DIGITAL DATA POINT NO.		----	1001	1002	1003	

* DATA CORRECTED TO INDICATED T1 AND INSTALLED, SEA LEVEL CONDITIONS
** RELATIVE TO 0 DEGREE BEING FULL OPEN

DSC3800550-1D
PAGE 1 OF 2

ACCEPTANCE TEST DATA SHEET
331-500[B]

USED WITH
TI-3800550
REV. A
ATP 31-10160-1
REV. C

UNIT OUTLINE: 3800550-1 MODEL: 331-500[B] SERIAL NO: P- 1154 DATE: 11/20/97

TEST CELL NO: D106 RUN NO: 1 REPAIR ORDER NO: N/A

PROD RELEASE NO: 2107 OIL USED: MIL-L-23699 TYPE: II

AIRFLOW MEASURING SEC NO: OP 1541 FUEL USED: ~~MIL~~ ASTM - D1655 TYPE: JET "A"

*APUC PART NO: 2118834-3 APUC S/N: D18

ITEM	UNITS	RECORD	
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	2:41	
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 TEMPERATURE	DEG F	N/R	113
IGV PERF ADJ	DEG	N/R	2

LRU FAULTS OBSERVED: NONE ✓ OTHER ___

UNIT STATUS: ACCEPT ✓ REJECT ___

REMARKS:

TECHNICIAN: [signature] F28 DATE: 11-20-97

SUPERVISOR: [signature] F1 176 DATE: 11-20-97

QUALITY ASSURANCE: [signature] 0:34 DATE: 11-24-97

* INDICATE "LAB SLAVE" AND SERIAL NO WHEN APPLICABLE

331-500B LIFE LIMITED PART LOG

PART NAME IMPELLER, CPRSR, LD — PART NUMBER 3822348-1

SERIAL NUMBER 970322901074 — ASSY PART NUMBER 3822468-3

DATE		ENGINE SERIAL NUMBER	AIRCRAFT SERIAL NUMBER	TIME ON PART THIS INSTALLATION		TOTAL TIME ON THIS PART		REMARKS
INSTALLED	REMOVED			CYCLE	HOURS	CYCLE	HOURS	
11-20-97		P-1154		0	0	0	0	

AlliedSignal AEROSPACE

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

AX6167-2A

331-500B LIFE LIMITED PART LOG

PART NAME IMPELLER, CPRSR, 2ND STAGE — PART NUMBER 3822347-1

SERIAL NUMBER 970322900951 — ASSY PART NUMBER 3822341-4

DATE		ENGINE SERIAL NUMBER	AIRCRAFT SERIAL NUMBER	TIME ON PART THIS INSTALLATION		TOTAL TIME ON THIS PART		REMARKS
INSTALLED	REMOVED			CYCLE	HOURS	CYCLE	HOURS	
11-20-97		P-1154		0	0	0	0	

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AlliedSignal Engines
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LLP Back to Birth

AJW

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T1 LLP

PN 3842152-1

SN 970335700399

331-500B LIFE LIMITED PART CARD

PART NAME ROTOR ASSY. 1ST STAGE ASSY. PART NUMBER 3842151-2

SERIAL NUMBER 970335700399 DISC. PART NUMBER 3842152-1

DATE		ENGINE SERIAL NUMBER	AIRCRAFT SERIAL NUMBER	TIME ON PART THIS INSTALLATION		TOTAL TIME ON THIS PART		REMARKS
INSTALLED	REMOVED			CYCLE	HOURS	CYCLE	HOURS	
11-20-97	[redacted]	P-1154		0	0	0	0	
[redacted]								
	[redacted]							
[redacted]								
	[redacted]							
[redacted]								
	[redacted]							
[redacted]								
	[redacted]							
[redacted]								
	[redacted]							
[redacted]								
	[redacted]							
[redacted]								

AlliedSignal AEROSPACE

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T2

PN 3842156-1

SN 9603350701592

331-500B LIFE LIMITED PART CARD

PART NAME ROTOR ASSEMBLY, 2ND STAGE ASSY. PART NUMBER 3842155-3

SERIAL NUMBER PC23570159 DISC. PART NUMBER 3842156-1

DATE		ENGINE SERIAL NUMBER	AIRCRAFT SERIAL NUMBER	TIME ON PART THIS INSTALLATION		TOTAL TIME ON THIS PART		REMARKS
INSTALLED	REMOVED			CYCLE	HOURS	CYCLE	HOURS	
11-20-97		P-1154		0	0	0	0	

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T3

PN 3842160-5

SN 970134505954

331-500B LIFE LIMITED PART CARD

PART NAME ROTOR ASSEMBLY, 3RD STAGE PART NUMBER 3610894-7

SERIAL NUMBER 970134501595Y ASSY PART NUMBER 3842160-5

DATE		ENGINE SERIAL NUMBER	AIRCRAFT SERIAL NUMBER	TIME ON PART THIS INSTALLATION		TOTAL TIME ON THIS PART		REMARKS
INSTALLED	REMOVED			CYCLE	HOURS	CYCLE	HOURS	
11-20-97	[redacted]	P-1154		0	0	0	0	
[redacted]								
	[redacted]							
[redacted]								
	[redacted]							
[redacted]								
	[redacted]							
[redacted]								
	[redacted]							
[redacted]								
	[redacted]							
[redacted]								
	[redacted]							
[redacted]								

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Load Impeller

PN 3822612-1

SN 11-182449-02712

Honeywell

LIFE LIMITED PART LOG

ASSEMBLY NAME: PART NUMBER: SERIAL NUMBER:

LIFE LIMITED PART NAME: IMPELLER, LOAD COMPRESSOR PART NUMBER: 3822612-1 SERIAL NUMBER: 11-182449-02712

MANUFACTURED PER FAR PART 21 UNDER PRODUCTION CERTIFICATE PC413 SIGNATURE OR ACCEPTANCE STAMP: A-395

DATE INSTALLED	DATE REMOVED	ENGINE SERIAL NUMBER	TIME ON PART THIS INSTALLATION		TOTAL TIME ON PART		SIGNATURE / FAA NUMBER
			CYCLES*	HOURS	CYCLES*	HOURS	
21 JUL 2011		P-1154	0.0	0.0	0.0	0.0	

* 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

PX-3107-76 BACK

LIN : 11210098

1110886

698-5972

1. Approving National Aviation Authority/Country:	2.	3. Form Tracking Number:
FAA/United States	**AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	890001989071Y14 8001000176-10 890001950512Y14 901501836-10

4. Organization Name and Address:	Production Approval		5. Work Order/Contract/Invoice Number:
Honeywell International Inc 111 South 34th Street Phoenix AZ 85072	PT1222NM	Honeywell International Inc Units 2-4, Chevron Eaton Road Hemel Hempstead, HP2 7DR United Kingdom	91820A1-404 Page 1 of 1

6. Item:	7. Description:	8. Part Number:	9. Eligibility:*	10. Quantity:	11. Serial / Batch Number:	12. Status / Work:
001	IMPELLER, LOAD COMPRESSOR	3822612-1	N/A	1	11-182449-02712	NEW

13. Remarks :

EXPORT AIRWORTHINESS APPROVAL - THIS ARTICLE MEETS THE SPECIAL REQUIREMENTS OF REPUBLIC OF SINGAPORE.

THIS PART IS A SUBCOMPONENT OF A TSO AUTHORIZATION.

14. 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 13.

19. ☐ 14 CFR 43.9 Return 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 Title 14, Code of federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

15. Authorized Signature:	16. Approval/Authorization No.:	20. Authorized Signature:	21. Approval/Certificate No.:
Luis Mendoza	ODA-602216-NM		
17. Name (Typed or Printed):	**18. Date (m d y):**	**22. Name (Typed or Printed):**	**23. Date (m d y):**
LUIS MENDOZA	JUL 06 2011		

User / Installer Responsibilities

It is important to understand that the existence of this document alone does not automatically constitute authority to install the part/component/assembly. Where the user/Installer performs work in accordance with 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 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 maintanance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.

1. Approving National Aviation Authority/Country:	2.	3. Form Tracking Number:
FAA/United States	**AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	890002014752Y14 8001029233-10 890001997078Y14 901547600-10

4. Organization Name and Address:	Production Approval		5. Work Order/Contract/Invoice Number:
Honeywell International Inc 111 South 34th Street Phoenix AZ 85072	PT1222NM	Honeywell International Inc Units 2-4, Chevron Eaton Road Hemel Hempstead, HP2 7DR United Kingdom	91820A1-403 Page 1 of 1

6. Item:	7. Description:	8. Part Number:	9. Eligibility:*	10. Quantity:	11. Serial / Batch Number:	12. Status / Work:
001	VALVE CHECK, APU	3202854-1	N/A	1	1100	NEW

13. Remarks :

EXPORT AIRWORTHINESS APPROVAL - THIS ARTICLE MEETS THE SPECIAL REQUIREMENTS OF REPUBLIC OF SINGAPORE.

THIS PART IS A SUBCOMPONENT OF A TSO AUTHORIZATION.

14. Certifies the items identified above were manufactured in conformity to:	19. ☐ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 13
☒ Approved design data and are in a 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 was described in Block13 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

15. Authorized Signature:	16. Approval/Authorization No.:	20. Authorized Signature:	21. Approval/Certificate No.:
Luis Mendoza	ODA-602216-NM		
17. Name (Typed or Printed):	**18. Date (m d y):**	**22. Name (Typed or Printed):**	**23. Date (m d y):**
LUIS MENDOZA	JUL 18 2011		

User / Installer Responsibilities

It is important to understand that the existence of this document alone does not automatically constitute authority to install the part/component/assembly. Where the user/installer performs work in accordance with 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 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 maintanance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.

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1st STG Impeller

PN 3822483-1

SN 960322903503

Component History Card

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

			Unit		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	17,793
Current Component TSN	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**

gine Division

AlliedSignal AEROSPACE

JTLINE/INSTALL NO.	REV	SERIAL NO.	CUSTOMER NAME	CUST CODE	MODEL	DATE
3800550-1	N	P-1095	GASD	ASD	331-500 (B)	0397

RIES	CHANGES	QTY.	INSP. SIGNATURE & STAMP	ALLOCATION & DATE	SALES/REPAIR ORDER NO.
22	NONE	1		202(REL.)JNH 24MAR97	687957-001

NDC COMPONENTS

RT NO.	NOMENCLATURE	SERIAL NO.	SERIES
9488-2	AIR/OIL COOLER	116-276	2
84442-3	ELEC. STR. MTR.	46-242	1
4643-2	DATA MEM. MOD.	GE1230	1
1761-7	FUEL CLUSTER	CUA10243	NONE
02610-4	APU CHK. VALVE	216	1
83076-4	A.T.S.C.V.	214	1
85814-3	AIR TURB. START.	211	1
84011-8	DRV. COMP. ASSY.	P-195	NONE
05034-8	G/BOX. ASSY.	P-195	1
26980-8	ENG. COMP. ASSY.	P-195	NONE
44517-5	TURB. MOD. ASSY.	P-195	NONE
83499-2	I.G.V. ACT.	0140	NONE
84863-6	PNEU. CLUSTER	P-224	1
88275-8	IGNITION CLUSTER	NONE	NONE
31000-5	LUBE CLUSTER	284	1
90814-4	S.C.V.	264	1
0536-1	TEMP. CONT. VALVE	17-234	1

TRACEABLE PARTS

PART NO.	SERIAL NUMBER	LOT NUMBER	HOURS
3822341-4	960322902804	96P355	00:00
3822468-3	960322900971	97P035	00:00
3822483-1	960322903503	97P057	00:00
3842151-2	950335701366	97P058	00:00
3842155-3	950335701380	97P046	00:00
3842160-5	960134506462	97P069	00:00

F. T. DATE: 23 MAR 97

DRY WEIGHT : 723 Lbs.

LOG BOOK WITH ENGINE: ? YES

331-500B LIFE LIMITED PART CARD

PART NAME IMPELLER, CTFGL, 1ST STAGE PART NUMBER 3822340-2

SERIAL NUMBER 960322903503 ASSY PART NUMBER 3822483-1

DATE INSTALLED	DATE REMOVED	ENGINE SERIAL NUMBER	AIRCRAFT SERIAL NUMBER	TIME ON PART THIS INSTALLATION CYCLE	TIME ON PART THIS INSTALLATION HOURS	TOTAL TIME ON THIS PART CYCLE	TOTAL TIME ON THIS PART HOURS	REMARKS
23mar97		P-1095		0	0	0	0	
	14.1105	P-1095						

AlliedSignal AEROSPACE

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

AXE667-3A

B777 A.I

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

malaysia

WO. 691131

A/C REGN : 9M-MRJ
APU P/NO. : 3800550-1
APU S/NO : P1095
TSN / CSN : 12749 | 7352
TSF / CSF : 4303 | 2409

DATE OF REMOVAL : 14.11.05
REASON FOR REMOVAL : SYS MSG APU START SYS TIMES
REASON FOR PREVIOUS REMOVAL : STARTER REMOVAL | HIGH TIME

CUSTOMER : MAS
JOB CARD NO. : ---
DATE RELEASED : ---

NO.	DESCRIPTION	INCOMING					OUTGOING					
		PART NUMBER	SERIAL NUMBER	TSN / CSN	LIFE	REMARKS	PART NUMBER	SERIAL NUMBER	TSN / CSN	TASK PERFORMED	DOC. REFERENCE / BATCH NO	REMARKS
1	GEARBOX ASSY	3804054-8	P-195	12749 Hrs 7352 Cyc			3C5034-8	P195	12749 Hrs 7352 Cyc	R		
2	DRIVE COMP. ASSY	3804011-8	P-195	12749 Hrs 7352 Cyc			3E04011-8	P195	12749 Hrs 7362 Cyc	R&M		
2.1	IMPELLER COMP. LOAD	3823488-3	960322 900471	12749 Hrs 7352 Cyc	27000 Cyc		3C22468-3	050322 903197	~~12749~~ OR ~~7352~~ OC Cyc	N C		
3	EMC COMP. ASSY	3826850-8	P195	12749 Hrs 7352 Cyc			3E26850-9	P195	12749 Hrs 7352 Cyc	R&M		
3.1	IMPELLER COMP 2ND STG	3823341-4	020322 903053	12749 Hrs 7352 Cyc	27000 Cyc		3822341-4	000322 906545	5771.57 Hrs 3406 Cyc	OE		From MAS on P1112
3.2	IMPELLER COMP 1ST STG	3823483-1	960322 903503	12749 Hrs 7352 Cyc	27000 Cyc 12749:50 7353		3822483-1	960322 903502	13201.93 Hrs 7749 Cyc	OE		From MAS on P1112
4	TURBINE MOD ASSY	3844517-9	P195	12749 Hrs 7352 Cyc			3E44517-5	P195	12749 Hrs 7352 Cyc	R&M		
4.1	1ST STG ROTOR ASSY	3842151-2	950335 701366	12749 Hrs 7352 Cyc	27000 Cyc		3842151-2	950335 701366	12749 Hrs 7353 Cyc	R		
4.2	2ND STG ROTOR ASSY	3842155-3	950335 701380	12749 Hrs 7352 Cyc	27000 Cyc		3842155-3	950335 701380	12749 Hrs 7353 Cyc	R		
4.3	MID STG ROTOR ASSY	3843160-5	960134 506462	12749 Hrs 7352 Cyc	27000 Cyc		3842160-5	960134 506462	12749 Hrs 7353 Cyc	R		

WORK CODES

A - AS IT IS
FT - FUNCTIONAL TESTED
F - FLUSHED

FC - FILTER CLEANED
R - REPAIRED
C - CLEANED

E - EXCHANGE
M - MODIFIED
PT - PRESSURE TESTED

N - NEW
O - OVERHAULED
I - INSPECTED

692501-090

HONEYWELL (SINGAPORE) PTE LTD

CRITICAL

A3 2200

ROUTING CARD — ORIGINAL

691131-087

RE-MANUFACTURING

DATE:10-12-05
TIME:11:14:45
PAGE: 1

PS

ROUTE-TO.:		ORD.ENTRY:	172726 1	CUST P.O.:	NP5309776
PART NO..:	3822483-1	QUANTITY.:	1	ASSEMBLY.:	331-500PS0101
PART DESC:	IMPELLER-1ST STAGE	PRODUCT..:	APU Hardware	ASSY WONO:	691131-054
CUSTOMER.:	MAS	JOB SCOPE:	Repair	START DTE:	29-11-05
CREATE BY:	0385 ELWIN PHANG SEN	WO CREATE:	9-12-05	CMPLT DTE:	30-11-05 1.63Days
CS EXEC..:	RICKY LEE (TEL 65-68	OE CREATE:	29-11-05	MODEL NO.:	GTCP331
				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	
REG:	UNKNOWN TSO	UNKNOWN TSF	UNKNOWN CSO	UNKNOWN CSF	
NHA: PART	SRL		RMV	0 C.SRL	

SERIES: N/A CHANGE: N/A CUST PART

WORK SCOPE:
INSPECTED AS PER ATA 49-26-57
VISUAL:
DEFECT DESCRIPTION: L/EDGE NICKED & ERODED. BALANCE.
REPAIR DESCRIPTION:
01 HAND BLEND BLADE LEADING EDGES IAW ORI # T31507 (EM REPAIR-0212)
07 BALANCE IAW ORI # T31618 (EM REPAIR-0213).
ETCH X:74 CYCS.

STAMP/DATE: HONEYWELL(S) PWJ 17

STAMP/DATE: HONEYWELL(S) PWJ 17
MP 091205
KOH

OPN-SEQ	WORK CENTRE / OPERATION DESCRIPTION	SETUP/RUN-TIME	SIGN/ STAMP/DATE
0120	**E340 BLADE AND DISK (ENGINE CELL)**		
	PLAN START: 29-11-05 PLAN COMPLETION: 29-11-05	.00 6.000	
	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 IAW ORI # T31507 REPAIR 6.1 TO 6.7		
	Description of the work performed: Hand blend nicks & eroded L/Edge as above		
	Reference: IRM / OHM / CMM / AD / SB / Others ORI # T31507 Rev: -		BAL 9
	NB:Indicate the manual & its revision that the job is performed to.		
	REMARKS: -NIL-		B12054
0130	**E390 FINAL INSPECTION (ENGINE CELL)**		
	PLAN START: 29-11-05 PLAN COMPLETION: 29-11-05	.00 .260	
	QCMM PERFORM CMM CHECK		
	01 HAND BLEND BLADE LEADING EDGES IAW ORI # T31507 (EM REPAIR-0212).		
	PERFORM CMM CHECK.		
	Description of the work performed: Visual T31507		
	Reference: IRM / OHM / CMM / AD / SB / Others 72-26-57 Rev: -		
	NB:Indicate the manual & its revision that the job is performed to.		
	REMARKS: Satisfactory.		10/12/05

HONEYWELL (SINGAPORE) PTE LTD

CRITICAL

A3 2200

ROUTING CARD

ORIGINAL

691131-087

RE-MANUFACTURING

DATE:10-12-05
TIME:11:14:45
PAGE: 2

PS

ROUTE-TO.:
PART NO..: 3822483-1
PART DESC: IMPELLER-1ST STAGE
CUSTOMER.: MAS
CREATE BY: 0385 ELWIN PHANG SEN
CS EXEC..: RICKY LEE (TEL 65-68

ORD.ENTRY: 172726 1
QUANTITY.: 1
PRODUCT..: APU Hardware
JOB SCOPE: Repair
WO CREATE: 9-12-05
OE CREATE: 29-11-05

CUST P.O.: NP5309776
ASSEMBLY.: 331-500PS0101
ASSY WONO: 691131-054
START DTE: 29-11-05
CMPLT DTE: 30-11-05 1.63Days
MODEL NO.: GTCP331
C.OIL.SYS: YES

OPN-SEQ	WORK CENTRE / OPERATION DESCRIPTION	SETUP/RUN-TIME	SIGN/ STAMP/DATE
0140	**0041 NDT** 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: Frequency check Reference: IRM / OHM / CMM / AD / SB / (Others) ORI T31507 Rev: – NB:Indicate the manual & its revision that the job is performed to. REMARKS: satisfactory	.00 2.000	HONEYWELL (S) QC 45 20/12/05
0150	**E41F NDT, FPI (ENGINE CELL)** 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: FPI on blended areas. Reference: IRM / OHM / CMM / AD / SB / (Others) ASTM E-1417 Rev: – NB:Indicate the manual & its revision that the job is performed to. REMARKS: NO CRACKS FOUND	.00 1.000	HONEYWELL (S) NDT P06 21/12
0160	**E330 BALANCING (ENGINE CELL)** PLAN START: 30-11-05 PLAN COMPLETION: 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: Balance Reference: IRM / OHM / CMM / AD / SB / (Others) ORI T31618 Rev: – NB:Indicate the manual & its revision that the job is performed to. REMARKS: –NIL–	.00 1.000	HONEYWELL (S) BAL 6 21/12/05
0170	**E340 BLADE AND DISK (ENGINE CELL)** PLAN START: 30-11-05 PLAN COMPLETION: 30-11-05 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: Shot Peen As above Reference: IRM / OHM / CMM / AD / SB / (Others) ORI # T31618 Rev: – NB:Indicate the manual & its revision that the job is performed to. REMARKS: A1 : 0.005" A2 : 0.005" A3 : 0.005" A4 : 0.014"	.00 2.500	HONEYWELL (S) BAL 9 21/12/05
0180	**E390 FINAL INSPECTION (ENGINE CELL)** PLAN START: 30-11-05 PLAN COMPLETION: 30-11-05 QF10 FINAL INSPECTION 01 HAND BLEND BLADE LEADING EDGES IAW ORI # T31507 (EM REPAIR-0212). 07 BALANCE IAW ORI # T31618 (EM REPAIR-0213).	.00 .300	

HONEYWELL (SINGAPORE) PTE LTD

CRITICAL

A3 2200

ROUTING CARD

691131-087

ORIGINAL

RE-MANUFACTURING

DATE:10-12-05
TIME:11:14:45
PAGE: 3

PS

ROUTE-TO.:		ORD.ENTRY:	172726 1	CUST P.O.:	NP5309776
PART NO..:	3822483-1	QUANTITY.:	1	ASSEMBLY.:	331-500PS0101
PART DESC:	IMPELLER-1ST STAGE	PRODUCT..:	APU Hardware	ASSY WONO:	691131-054
CUSTOMER.:	MAS	JOB SCOPE:	Repair	START DTE:	29-11-05
CREATE BY:	0385 ELWIN PHANG SEN	WO CREATE:	9-12-05	CMPLT DTE:	30-11-05 1.63Days
CS EXEC..:	RICKY LEE (TEL 65-68	OE CREATE:	29-11-05	MODEL NO.:	GTCP331
				C.OIL.SYS:	YES

OPN-SEQ	WORK CENTRE / OPERATION DESCRIPTION	SETUP/RUN-TIME	SIGN/ STAMP/DATE
	FINAL INSPECTION.		

SB Complied: NOT-APPLICABLE

New PartNo.: NOT-APPLICABLE

I HEREBY CERTIFY THE REPAIR HAS BEEN CARRIED OUT SATISFACTORILY IN ACCORDANCE WITH THE 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

Honeywell (Singapore) Pte Ltd

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TURBINE ACCEPTANCE TAG & TRACEABILITY INPUT

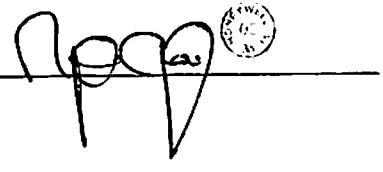
PART NO:	3800550-1	SERIAL NO.:	P-1154	CUSTOMER:	MAS
MODEL :	GTCP331-500B	SERIES :	25	DATE :	23 FEB 2006
W/O NO.:	692501	TSR / TSN :	00 / 14120:43	CSR / CSN :	00 / 8018

DESCRIPTION	PART NO.	SERIAL NO.	LOT NO	TSN	CSN	LIFE LIMITS
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	PART NO.	SERIAL NO.	SERIES	CHG NOS	REMARKS
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: 

REV.01

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
TSF/CSF: 2916.00 / 1631

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 :

INCOMING							OUTGOING					
NO	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			3805034-8	P247	14120 8018	REPAIRED		
2	DRIVE COMP.ASSY	3804011-8	P254	14120 / 8018			3804011-8	P254	14120 8018	REPAIRED AND MODIFIED		
2.1	IMPELLER COMP LOAD	3822468-3	030322902079	2916 / 1631	27000 CYCS		3822468-3	050322 901613	00 00	—		NEW
3	ENG.COMP.ASSY	3826980-8	P254	14120 / 8018			3826980-8	P254	14120 8018	REPAIRED AND MODIFIED		
3.1	IMPELLER COMP.2ND STG	3822341-4	970322900951	14120 / 8018	27000 CYCS		3822341-4	020322 905617	34602 1984	—		OVERHAULED EXCHANGE
3.2	IMPELLER COMP.1ST STG	3822483-1	990322901217	8014 / 4798	27000 CYCS		3822483-1	960322 903503	12749.50 7353	—		REPAIRED EXCHANGE
4	TURBINE MOD.ASSY	3844517-5	P254	14120 / 8018			3844517-5	P254	14120 8018	REPAIRED AND MODIFIED		
4.1	1ST STG ROTOR ASSY	3842151-3	970335700399	14120 / 8018	27000 CYCS		3842151-3	970335700399	14120 8018	REPAIRED		
4.2	2ND STG ROTOR ASSY	3842155-3	960335701592	14120 / 8018	27000 CYCS		3842155-3	960335701592	14120 8018	INSPECTED AND BALANCED		S/N960335701592
4.3	3RD STG ROTOR ASSY	3842160-5	970134505954	14120 / 8018	27000 CYCS		3842160-5	970134505954	14120 8018	INSPECTED AND BALANCED		

1. Approving National Aviation Authority/Country: FAA/UNITED STATES

2.

AUTHORIZED RELEASE CERTIFICATE

FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG

3. Form Tracking Number: S11/481974

4. Organization Name and Address:

Honeywell Aerospace Singapore Pte Ltd
(Gul Circle)
161 Gul Circle
Singapore 629619

FT4Y192M

5. Work Order/Contract/Invoice Number: 756484-000
CUST PO: NP1307680

6. Item:	7. Description:	8. Part Number:	9. Eligibility:*	10. Quantity:	11. Serial/Batch Number:	12. Status/Work:
001	GTCP331-500B	3800550-1	N/A	1	P-1154	OVERHAULED

13. Remarks:

OVERHAULED IAW EM 49-26-57 REV 16, DATED NOV/30/2009. CUST. NAME : MALAYSIAN AIRLINE SYSTEM BHD Order Entry No: 228346-001
NO FAA AIRWORTHINESS DIRECTIVES APPLICABLE TO THIS APU.
REFER TO FORM G0093 REV 1 FOR SERVICE BULLETIN COMPLIANCE.
REFER TO FORM GTCP331-500B-G16 R3 FOR CRITICAL LIFE LIMITED PARTS.
TSN: 21004:05, CSN: 14198 IS AT POINT OF INSTALLATION FOR COMPUTATION
OF LLP CYCLES.
APU ON RELEASE DMM TSN: 21006:17, CSN: 14206
PER CUSTOMER REQUEST CONCURRENT RELEASE OF CERTIFICATES FAA FORM
8130-3/MALAYSIA AUTHORISED RELEASE CERTIFICATE ARE RELEASED ON
THIS WORK ORDER WITH THE SAME PURCHASE ORDER NUMBER AS LISTED IN
BLOCK 5 ON THE CERTIFICATE.

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.

19. ☑ 14 CFR 43.9 Return 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 Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

15. Authorized Signature:	16. Approval/Authorization No.:	20. Authorized Signature :	21. Approval/Certificate No.:
			FT4Y192M
17. Name (Typed or Printed):	18. Date (m/d/y) :	22. Name (Typed or Printed): NG KWOK KAU	23. Date (m/d/y) : JUL/22/2011

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 the user/installer before the aircraft may be flown.

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

Honeywell Aerospace Singapore Pte Ltd
(Gul Circle)

Honeywell

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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 **CSN:** 14198
TSR: NA **CSR:** NA
TSO: 00 **CSO:** 00

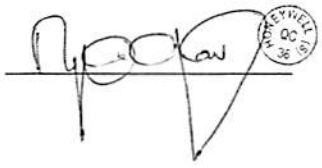
DESCRIPTION	PART NO	SERIAL NO	LOT NO	TSN	CSN	LIFE LIMITS (CYCLES)
D/COMP IMPELLER	3822612-1	11-182449-02712	112101098	00	00	27000
1ST STG IMPELLER	3822483-1	960322903503	-	19632.86	13533	27000
2ND STG IMPELLER	3822341-4	020322905617	03P193	10343.58	8164	27000
1ST T-WHEEL ASSY	3842151-3	970335700399	-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

APU ACCESSORIES RECORD

DESCRIPTION	PART NO.	SERIAL NO.	SERIES	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. Country:	2 . Department of Civil Aviation Malaysia	3. Form Tracking Number:
Malaysia	**AUTHORIZED RELEASE CERTIFICATE** **AIRWORTHINESS APPROVAL TAG**	20150000580130Y18 320093302

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 No:	12. Status / Work:
001	ENGINE OUTLINE GAS TURBINE	3800550-1	UNKNOWN	1	P-1154	OVERHAULED

13. 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

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

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.		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. Authorised Signature:	16. Approval/Authorisation Number:	20. Authorised Signature:	21. Certificate/Approval Ref. No.: **AO/0037/78**
17. Name:	18. Date (dd mmm yyyy):	22. Name: **Stephen Lee (Stephen Lee Kok Neo)**	23. Date (dd mmm yyyy): **18 MAR 2015**

Honeywell Aerospace Singapore Pte Ltd
(Gul Circle)

Honeywell

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	-	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	-	[redacted]			OVERHAULED
DISK PART NO	3842152-1			26386:34	18417	27000	
2ND T-WHEEL ASSY	3842155-4	960335701592	97P309	[redacted]			OVERHAULED
DISK PART NO	3842156-1			26386:34	18417	27000	
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	-	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)

1. Country:	2 . Department of Civil Aviation Malaysia	3. Form Tracking Number:
Malaysia	**AUTHORIZED RELEASE CERTIFICATE** **AIRWORTHINESS APPROVAL TAG**	20150000554913Y18 320244395
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 No:	12. Status / Work:
001	IMPELLER, CENTRIFUGAL- STAGE 1	3822483-1	UNKNOWN	1	960322903503	OVERHAULED

13. 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

14. Certifies the items identified above were manufactured in conformity to:	19. ☒ MCAR Reg. 30; 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. Authorised Signature:	16. Approval/Authorisation Number:	20. Authorised Signature: M Manego... HONEYWELL 06 17	21. Certificate/Approval Ref. No.: **AO/0037/78**
17. Name:	18. Date (dd mmm yyyy):	22. Name: **Ramesh Ramadoss**	23. Date (dd mmm yyyy): **06 MAR 2015**

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.

1. Approving Competent Authority/Country	2.	3. Form Tracking Number
EASA	**AUTHORISED RELEASE CERTIFICATE** **EASA FORM 1**	20150000554904Y02 320244395

4. Organisation Name and Address: Honeywell Aerospace Singapore Pte Ltd
(Gul Circle)
161 Gul Circle
Singapore 629619

5. Work Order/Contract/Invoice
NP5300937
320093301

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

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	

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

14a. ☒ Part-145.A.50 Release 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 Part-145 and in respect to that work the items are considered ready for release to service.

13b. Authorised Signature	13c. Approval/Authorisation Number	14b. Authorised Signature	14c. Certificate/Approval Ref. No
		M Ramesh	EASA.145.0076
13d. Name	**13e. Date (dd mmm yyyy)**	**14d. Name**	**14e. Date (dd mmm yyyy)**
		Ramesh Ramadoss	06 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.

1. Approving Civil Aviation Authority/Country: **FAA/United States**	2. **AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	3. Form Tracking Number: 20150000554905Y03 320244395
4. Organization Name and Address: Honeywell Aerospace Singapore Pte Ltd (Gul Circle) 161 Gul Circle Singapore 629619 Repair Station FT4Y192M		5. Work Order/Contract/Invoice Number: NP5300937 320093301 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	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 manufactured in conformity to: ☐ Approved design data and are in a condition for safe operation. ☐ Non-approved design data specified in Block 12.		14a. ☒ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12. Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.	
13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.: **FT4Y192M**
13d. Name (Typed or Printed):	13e. Date(dd/mmm/yyyy):	14d. Name (Typed or Printed): **Ramesh Ramadoss**	14e. Date (dd/mmm/yyyy): **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.

Honeywell Aerospace Singapore Pte Ltd
co Honeywell Aerospace Singapore Pte Ltd
161 Gul Circle
SINGAPORE 629619
Date:06 MAR 2015

Honeywell

Commercial

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 Number: 3822483-1 **Part Desc:** IMPELLER, CENTRIFUGAL-STAGE 1 **Serial No:** 960322903503

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:** **Alternate S/N:**

TIMES/CYCLES	*HH.DD*	*(HH:MM)*		
Time Since New:	19632.86	(19632:52)	**Cycles Since New:**	13533.00
Time Since Overhaul:			**Cycles Since Overhaul:**	
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:**

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

Honeywell Aerospace Singapore Pte Ltd
co Honeywell Aerospace Singapore Pte Ltd
161 Gul Circle
SINGAPORE 629619

Commercial

Honeywell

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

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-STAGE 1 **Serial No:** 960322903503

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

DATE: 24 FEB 2015

Honeywell Aerospace Singapore Pte Ltd
(Gul Circle)

Honeywell

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	-	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	-	[redacted]			OVERHAULED
DISK PART NO	3842152-1			26386:34	18417	27000	
2ND T-WHEEL ASSY	3842155-4	960335701592	97P309	[redacted]			OVERHAULED
DISK PART NO	3842156-1			26386:34	18417	27000	
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	-	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

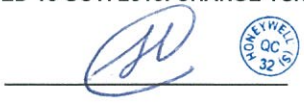
REMARKS: APU HOURS AND CYCLES ARE BASED AT THE POINT OF ASSEMBLY AND OBTAINED FROM THE DMM.

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.

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

INSPECTOR SIGNATURE & STAMP:



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

1. Approving Competent Authority/Country	2.	3. Form Tracking Number
EASA	**AUTHORISED RELEASE CERTIFICATE** **EASA FORM 1**	20150001059710Y02 320244395

4. Organisation Name and Address: Honeywell Aerospace Singapore Pte Ltd
(Gul Circle)
161 Gul Circle
Singapore 629619

5. Work Order/Contract/Invoice
NP5300937
320093301

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

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	25015.00	(25015:00)
CSN	17752.00	
TSO	0.00	(0:00)
CSO	0.00	

THIS CERTIFICATE CORRECTS THE ERROR(S) IN BLOCK(S) 12
OF THE CERTIFICATE 20150000554904Y02/320244395 DATED 06 MAR 2015
AND DOES NOT COVER CONFORMITY/CONDITION/RELEASE TO SERVICE.

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

14a ☑ Part-145.A.50 Release to ☐ 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 Part-145 and in respect to that work the items are considered ready for release to service.

13b. Authorised Signature	13c. Approval/Authorisation Number	14b. Authorised Signature	14c. Certificate/Approval Ref. No
		M. Ramesh HONEYWELL QC 77	EASA.145.0076
13d. Name	**13e. Date (dd mmm yyyy)**	**14d. Name**	**14e. Date (dd mmm yyyy)**
		Ramadoss Ramesh	16 OCT 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.

1. Approving Civil Aviation Authority/Country: **FAA/United States**	2. **AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	3. Form Tracking Number: 20150001059711Y03 320244395
4. Organization Name and Address: Honeywell Aerospace Singapore Pte Ltd (Gul Circle) 161 Gul Circle Singapore 629619 Repair Station FT4Y192M		5. Work Order/Contract/Invoice Number: NP5300937 320093301 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	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	25015.00	(25015:00)
CSN	17752.00	
TSO	0.00	(0:00)
CSO	0.00	

THIS FAA FORM 8130-3 CORRECTS THE ERROR(S) IN BLOCK(S) 12
OF THE FAA FORM 8130-3 20150000554905Y03/320244395 DATED 06/MAR/2015
AND DOES NOT COVER CONFORMITY/CONDITION/RELEASE TO SERVICE.

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

13a. Certifies the items identified above were manufactured in conformity to: ☐ Approved design data and are in a condition for safe operation. ☐ Non-approved design data specified in Block 12.		14a. ☒ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12. Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.	
13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature: M. Ramesh HONEYWELL QC 77	14c. Approval/Certificate No.: **FT4Y192M**
13d. Name (Typed or Printed):	13e. Date(dd/mmm/yyyy):	14d. Name (Typed or Printed): **Ramadoss Ramesh**	14e. Date (dd/mmm/yyyy): **16/OCT/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. Country:	2 . Department of Civil Aviation Malaysia	3. Form Tracking Number:
Malaysia	**AUTHORIZED RELEASE CERTIFICATE** **AIRWORTHINESS APPROVAL TAG**	20150001059712Y18 320244395

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 No:	12. Status / Work:
001	IMPELLER, CENTRIFUGAL- STAGE 1	3822483-1	UNKNOWN	1	960322903503	OVERHAULED

13. 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	25015.00	(25015:00)
CSN	17752.00	
TSO	0.00	(0:00)
CSO	0.00	

THIS FORM MALAYSIA REPLACES FORM MALAYSIA WITH FORM TRACKING NUMBER 20150000554913Y18/320244395 DATED 06 MAR 2015

SEE ATTACHED DOCUMENTS AS APPLICABLE FOR WORK PERFORMED

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.		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. Authorised Signature:	16. Approval/Authorisation Number:	20. Authorised Signature: M. Mamesh HONEYWELL QC 77	21. Certificate/Approval Ref. No.: **AO/0037/78**
17. Name:	18. Date (dd mmm yyyy):	22. Name: **Ramadoss Ramesh**	23. Date (dd mmm yyyy): **16 OCT 2015**

Honeywell Aerospace Singapore Pte Ltd
co Honeywell Aerospace Singapore Pte Ltd
161 Gul Circle
SINGAPORE 629619
Date:15 OCT 2015

Honeywell

Commercial

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

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-STAGE 1 **Serial No:** 960322903503

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:** **Alternate S/N:**

TIMES/CYCLES	*HH.DD*	*(HH:MM)*		
Time Since New:	25015.00	(25015:00)	Cycles Since New:	17752.00
Time Since Overhaul:			Cycles Since Overhaul:	
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:**

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

Honeywell Aerospace Singapore Pte Ltd
co Honeywell Aerospace Singapore Pte Ltd
161 Gul Circle
SINGAPORE 629619
Date:15 OCT 2015

Commercial

Honeywell

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

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-STAGE 1 **Serial No:** 960322903503

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

DATE: 24 FEB 2015

AJW

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 LIMITED PART LOG

ASSEMBLY NAME:	PART NUMBER:	SERIAL NUMBER:
LIFE LIMITED PART NAME: IMPELLER, COMPRESSOR, SECOND STAGE	PART NUMBER: 3822341-5	SERIAL NUMBER: 14-182449-13712
MANUFACTURED PER FAR PART 21 UNDER PRODUCTION CERTIFICATE PC413	SIGNATURE OR ACCEPTANCE STAMP: A428	

DATE INSTALLED	DATE REMOVED	ENGINE SERIAL NUMBER	TIME ON PART THIS INSTALLATION		TOTAL TIME ON PART		SIGNATURE / FAA NUMBER
			CYCLES*	HOURS	CYCLES*	HOURS	
17 MAR 2015		P-1154	0.0	0.0	0.0	0.0	

* 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

PX-3107-76 BACK

1. Approving Civil Aviation Authority/Country: **FAA/United States**	2. **AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	3. Form Tracking Number: 20150000543808Y14 904026911-80001

4. Organization Name and Address:	Production Approval		5. Work Order/Contract/Invoice Number:
Honeywell International Inc. 111 S. 34th Street Phoenix, Arizona 85072	PT1222NM	Honeywell International Inc. Units 2-4, Chevron, Eaton Road Hemel Hempstead, HP2 7UB UNITED KINGDOM	4703472567-000010 Page 1 of 1

6.Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status / Work:
001	IMPELLER, COMPRESSOR, SECOND STAGE	3822341-5	1	14-182449-13712	NEW

12. **Remarks:**

EXPORT AIRWORTHINESS APPROVAL: THIS ARTICLE MEETS THE SPECIAL REQUIREMENTS OF REPUBLIC OF SINGAPORE.

THIS PART IS A SUBCOMPONENT OF A TSO AUTHORIZATION.

13a. Certifies the items identified above were manufactured in conformity to:

- ☒ Approved design data and are in a condition for safe operation.
- ☐ Non-approved design data specified in Block 12.

14a. ☐ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12

Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.:
S. Foulger	ODA-602216-NM		
13d. Name (Typed or Printed):	**13e. Date (dd/mmm/yyyy):**	**14d. Name (Typed or Printed):**	**14e. Date(dd/mmm/yyyy):**
Stephen Foulger	**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.

LN15703400R

AJW

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

} Date of Installation 2.2.98

(7)

(1) Particulars of all maintenance work done on the engine.
(2) Particulars of all overhauls, repairs, replacements, modifications and mandatory inspections relating to the engine or any of its accessories.
(3) Particulars of any defects occurring in the engine, and of the rectification of such defects, including a reference to the relevant entries in the technical log.
(4) Certificate that in carrying out the overhaul, repairs, etc. all mandatory requirements applicable thereto have been complied with.

2.2.98 : APU S/NO. P1154 FITTED TO A/C 9M-MRP AT SEATTLE.

REF: DELIVERY DOC.

Technical Records Supervisor

LOG BOOK CLOSED FOR C. OF A ISSUE.

MAS TRS

AlliedSignal, Inc.

Engine Division

ACCEPTANCE TAG

AlliedSignal AEROSPACE

OUTLINE/INSTALL NO.	REV	SERIAL NO.	CUSTOMER NAME	CUST CODE	MODEL	DATE
3800550-1	N	P-1154	BOEING COMMERCIAL	172	331-500 (B)	1197

SERIES	CHANGES	QTY.	INSP. SIGNATURE & STAMP	ALLOCATION & DATE	SALES/REPAIR ORDER NO.
25	NONE	1	JAN 30 98	2107(REL)DLU 11/18/97	418475-003C

NDC COMPONENTS				TRACEABLE PARTS			
PART NO.	NOMENCLATURE	SERIAL NO.	SERIES	PART NO.	SERIAL NUMBER	LOT NUMBER	HOURS
160488-2	AIR/OIL COOLER	77-339	2	3822341-4	970322900951	97P280	00:00
2704442-4	ELEC. STR. MTR.	77-394	1	3822468-3	970322901025	97P300	00:00
304643-2	DATA MEM. MOD.	GE-1392	1	3822483-1	960322906712	97P312	00:00
441761-7	FUEL CLUSTER	CUA10291	NONE	3842151-2	970335700399	97P284	00:00
3202610-4	APU CHK. VALVE	286	1	3842155-3	960335701592	97P309	00:00
3283076-4	A.T.S.C.V.	314	1	3842160-5	970134505954	97P319	00:00
3505814-3	AIR TURB. START.	312	1				
3804011-8	DRV. COMP. ASSY.	P-254	NONE				
3805034-8	G/BOX. ASSY.	P-247	1				
3826980-8	ENG. COMP. ASSY.	P-254	NONE				
3844517-5	TURB. MOD. ASSY.	P-254	NONE				
3883499-2	I.G.V. ACT.	0222	NONE				
3884863-6	PNEU. CLUSTER	P-304	1				
3888275-8	IGNITION CLUSTER	NONE	NONE				
4131009-3	LUBE CLUSTER	342	1				
3290814-4	S.C.V.	337	1	F.T. DATE:	20 NOVEMBER 1997		
160536-1	TEMP. CONT. VALVE	77-386	1	DRY WEIGHT:	727LBS.		

LOG BOOK WITH ENGINE: ? YES

AlliedSignal, Inc.

Engine Division

ACCEPTANCE TAG

AlliedSignal AEROSPACE

OUTLINE/INSTALL NO.	REV	SERIAL NO.	CUSTOMER NAME	CUST CODE	MODEL	DATE
3800550-1	N	P-1154	BOEING	172	331-500 (B)	1197

SERIES	CHANGES	QTY.	INSP. SIGNATURE & STAMP	ALLOCATION & DATE	SALES/REPAIR ORDER NO.
25	NONE	1		2107(REL)DLU 11/18/97	418475-003C

NDC COMPONENTS				TRACEABLE PARTS			
PART NO.	NOMENCLATURE	SERIAL NO.	SERIES	PART NO.	SERIAL NUMBER	LOT NUMBER	HOURS
160488-2	AIR/OIL COOLER	77-339	2	3822341-4	970322900951	97P280	00:00
2704442-4	ELEC. STR. MTR.	77-394	1	3822468-3	970322901024	97P300	00:00
304643-2	DATA MEM. MOD.	GE-1392	1	3822483-1	960322906712	97P312	00:00
441761-7	FUEL CLUSTER	CUA10291	NONE	3842151-2	970335700399	97P284	00:00
3202610-4	APU CHK. VALVE	286	1	3842155-3	960335701592	97P309	00:00
3283076-4	A.T.S.C.V.	314		3842160-5	970134505954	97P319	00:00
3505814-3	AIR TURB. START.	312	1				
3804011-8	DRV. COMP. ASSY.	P-254	NONE				
3805034-8	G/BOX. ASSY.	P-247	1				
3826980-8	ENG. COMP. ASSY.	P-254	NONE				
3844517-5	TURB. MOD. ASSY.	P-254	NONE				
3883499-2	I.G.V. ACT.	0222	NONE				
3884863-6	PNEU. CLUSTER	P-304	1				
3888275-8	IGNITION CLUSTER	NONE	NONE				
4131000-5	LUBE CLUSTER	342	1				
3290814-4	S.C.V.	337	1	F. T. DATE:	20 NOVEMBER 1997		
160536-1	TEMP. CONT. VALVE	77-286	1	DRY WEIGHT:	727. Lbs.		

LOG BOOK WITH ENGINE: ? YES ~ L.L. CARDS IN LOGBOOK: ? YES

DATE	ACCUMULATED ENGINE HOURS	ACCUMULATED ENGINE STARTS	REMARKS, INSPECTIONS, REPAIRS, AND ADJUSTMENTS	SIGNATURE
			3800550-1 P-1154	
1-20-97	0	0	NEW PRODUCTION UNIT SERIES 75 CHANGE LEVEL	
2-2-98	0	0	INSTALLED ON WB166, REGISTRATION 9M-MRF.	
3-18-98	28	62	ACCUMULATED DURING PRODUCTION TESTING AT BOEING.	

F28

ACCEPTANCE TEST DATA SHEET
331-500(B)

APU S/N D- 1154

ATP PARAGRAPH --> -->			4.3.8	4.3.10	4.3.12	5.1
QUANTITY		UNITS	103°F, ECS	NO LOAD	103°F, MES	OIL CONSUMPTION
BAROMETRIC PRESSURE		PSIA	14.13	14.13	14.12	
AVERAGE INLET TEMPERATURE		DEG F	72.3	73.0	74.6	
UNIT INLET TEMPERATURE (T2)		DEG F	71.1	73.6	73.2	
OIL PRESSURE		PSIG	68.7	69.6	68.5	
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	
	LOWER	DEG F	998.9	685.9	1048.4	
EXHAUST GAS TOTAL TEMPERATURE	ACTUAL	DEG F	1032.7	699.4	1080.0	
	CORRECTED *	DEG F	1095.8		1094.2	
ORIFICE INLET PRESSURE		PSIA	51.69		58.49	
ORIFICE INLET TEMPERATURE		DEG F	387.9		406.7	
ORIFICE DELTA P		PSID	2.10		.88	
EXHAUST STATIC PRESSURE		PSIA	14.13		14.12	
IGV POSITION **		DEG	12.1		1.6	
CORRECTED BLEED AIRFLOW		LB/MIN	167.3		105.5	
BLEED AIRFLOW	ACTUAL	LB/MIN	474.3		327.3	
	CORRECTED *	LB/MIN	466.1		298.3	
BLEED TOTAL PRESSURE	ACTUAL	PSIA	53.52		59.27	
	CORRECTED *	PSIA	53.53		54.60	
BLEED TOTAL TEMPERATURE	ACTUAL	DEG F	395.8		416.1	
	CORRECTED *	DEG F	426.3		432.6	
FUEL CONSUMPTION	ACTUAL	LB/HR	618.6	327.2	652.2	
	CORRECTED	LB/HR	622.6		623.9	
OIL CONSUMPTION	OIL QUANTITY A	CM^3				440
	OIL QUANTITY B	CM^3				60
	OIL CONSUMED	CM^3				0
	TOTAL OPER TIME	HRS				2:17
	CONSUMPTION RT	CM^3/HR				0
	MAX CONSUMP RT	CM^3/HR				12.0
SHAFT OUTPUT CORRECTED TO SL		HP	202.7		202.0	
UNIT VIBRATION	ACCESSORY	IN/SEC	.133	.176	.132	
	TURBINE	IN/SEC	.255	.250	.259	
APU SPEED		RPM	39045.	39050.	39045.	
SPECIFICATION REQUIREMENTS (CORRECTED)	BLEED AIRFLOW	LB/MIN	460.2			
	BLEED PRESSURE	PSIA	52.6		54.6	
	MAX IGV POS	DEG	9.5			
	SHAFT POWER	HP	202.0		202.0	
	EGT	DEG F	1151.0		1137.0	
DIGITAL DATA SCAN		TIME	12:44	13:01	13:17	
		DATE	11/20/97	11/20/97	11/20/97	
DIGITAL DATA POINT NO.		----	1001	1002	1003	

* DATA CORRECTED TO INDICATED T1 AND INSTALLED, SEA LEVEL CONDITIONS
** RELATIVE TO 0 DEGREE BEING FULL OPEN

DSC3800550-1D
PAGE 1 OF 2

ACCEPTANCE TEST DATA SHEET
331-500[B]

USED WITH
TI-3800550
REV. A
ATP 31-10160-1
REV. C

UNIT OUTLINE: 3800550-1 MODEL: 331-500[B] SERIAL NO: P- 1154 DATE: 11/20/97

TEST CELL NO: D106 RUN NO: 1 REPAIR ORDER NO: N/A

PROD RELEASE NO: 2107 OIL USED: MIL-L-23699 TYPE: II

AIRFLOW MEASURING SEC NO: OP 1541 FUEL USED: ~~MIL~~ ASTM- D1655 TYPE: JET "A"

*APUC PART NO: 2118834-3 APUC S/N: D18

ITEM	UNITS	RECORD	
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	2:41	
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 TEMPERATURE	DEG F	N/R	113
IGV PERF ADJ	DEG	N/R	2

LRU FAULTS OBSERVED: NONE ✓ OTHER —

UNIT STATUS: ACCEPT ✓ REJECT —

REMARKS:

TECHNICIAN: [signature] F28 DATE: 11-20-97

SUPERVISOR: [signature] F1 176 DATE: 11-20-97

QUALITY ASSURANCE: [signature] QC84 DATE: 11-24-97

* INDICATE "LAB SLAVE" AND SERIAL NO WHEN APPLICABLE

331-500B LIFE LIMITED PART LOG

PART NAME IMPELLER, CPRSR, LD PART NUMBER 3822348-1

SERIAL NUMBER 9703229010?4 ASSY PART NUMBER 3822468-3

DATE		ENGINE SERIAL NUMBER	AIRCRAFT SERIAL NUMBER	TIME ON PART THIS INSTALLATION		TOTAL TIME ON THIS PART		REMARKS
INSTALLED	REMOVED			CYCLE	HOURS	CYCLE	HOURS	
11-2097		P-1154		0	0	0	0	

AlliedSignal AEROSPACE

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

AX6167-2A

331-500B LIFE LIMITED PART LOG

PART NAME IMPELLER, CPRSR, 2ND STAGE PART NUMBER 3822347-1

SERIAL NUMBER 9703229009?1 ASSY PART NUMBER 3822341-4

DATE		ENGINE SERIAL NUMBER	AIRCRAFT SERIAL NUMBER	TIME ON PART THIS INSTALLATION		TOTAL TIME ON THIS PART		REMARKS
INSTALLED	REMOVED			CYCLE	HOURS	CYCLE	HOURS	
11-2097		P-1154		0	0	0	0	

AlliedSignal AEROSPACE

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

AX6167-2A

331-500B LIFE LIMITED PART CARD

PART NAME ROTOR ASSY. 1ST STAGE ASSY. PART NUMBER 3842151-2

SERIAL NUMBER 9703357O0399 DISC. PART NUMBER 3842152-1

DATE		ENGINE SERIAL NUMBER	AIRCRAFT SERIAL NUMBER	TIME ON PART THIS INSTALLATION		TOTAL TIME ON THIS PART		REMARKS
INSTALLED	REMOVED			CYCLE	HOURS	CYCLE	HOURS	
11-20-97		P-1154		0	0	0	0	

AlliedSignal AEROSPACE

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

AX6167-2A

331-500B LIFE LIMITED PART CARD

PART NAME IMPELLER, CTFGL. 1ST STAGE PART NUMBER 3822340-2

SERIAL NUMBER 960322906712 ASSY PART NUMBER 3822483-1

DATE		ENGINE SERIAL NUMBER	AIRCRAFT SERIAL NUMBER	TIME ON PART THIS INSTALLATION		TOTAL TIME ON THIS PART		REMARKS
INSTALLED	REMOVED			CYCLE	HOURS	CYCLE	HOURS	
11-20-97		P-1154		0	0	0	0	

AlliedSignal AEROSPACE

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

AX6167-2A

331-500B LIFE LIMITED PART CARD

PART NAME ROTOR ASSEMBLY, 3RD STAGE PART NUMBER 3610894-7

SERIAL NUMBER 970184505954 ASSY PART NUMBER 3842160-5

DATE		ENGINE SERIAL NUMBER	AIRCRAFT SERIAL NUMBER	TIME ON PART THIS INSTALLATION		TOTAL TIME ON THIS PART		REMARKS
INSTALLED	REMOVED			CYCLE	HOURS	CYCLE	HOURS	
11-20-97		P-1154		0	0	0	0	

AlliedSignal AEROSPACE

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

AX6167-2A

331-500B LIFE LIMITED PART CARD

PART NAME ROTOR ASSEMBLY, 2ND STAGE ASSY. PART NUMBER 3842155-3

SERIAL NUMBER 9C033570 1592 DISC. PART NUMBER 3842156-1

DATE		ENGINE SERIAL NUMBER	AIRCRAFT SERIAL NUMBER	TIME ON PART THIS INSTALLATION		TOTAL TIME ON THIS PART		REMARKS
INSTALLED	REMOVED			CYCLE	HOURS	CYCLE	HOURS	
11-20-97		P-1154		0	0	0	0	

AlliedSignal AEROSPACE

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

AX6167-2A

1. Approving National Aviation Authority/Country: FAA/UNITED STATES

2.

AUTHORIZED RELEASE CERTIFICATE

FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG

3. Form Tracking Number: S06/391846

4. Organization Name and Address:

Honeywell

Honeywell (Singapore) Pte Ltd
161 Gul Circle Singapore 629619

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

6. Item:	7. Description:	8. Part Number:	9. Eligibility:*	10. Quantity:	11. Serial/Batch Number:	12. Status/Work:
1.	GTCP331-500B APU	3800550-1	N/A	1	P1154	REPAIRED

13. Remarks:

REPAIRED IAW EM 49-26-57 REV 8.
NO FAA AIRWORTHINESS DIRECTIVES APPLICABLE TO THIS APU.
REFER TO FORM G0093 REV 0 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: 00
NOTE: APU HOURS AND CYCLES ARE BASED ON DMM.

CUST. NAME : MALAYSIAN AIRLINE SYSTEM BHD Order Entry No: 173896-001

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.

19. ☑ 14 CFR 43.9 Return 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 Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

15. Authorized Signature:	16. Approval/Authorization No.:	20. Authorized Signature :	21. Approval/Certificate No.:
			FT4Y192M
17. Name (Typed or Printed):	18. Date (m/d/y) :	22. Name (Typed or Printed): NG KWOK KAU	23. Date (m/d/y) : FEB 23 2006

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 the user/installer before the aircraft may be flown.

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

ENGINE SERVICE RECORD

Honeywell Singapore Pte Ltd 161 Gul Circle Singapore 629619		**Engine Model:** **GTCP331-500B**		**HONEYWELL**	
Part No:	3800550-1	Work Order:	692501	Date:	23-Feb-06
Serial No:	P-1154	Series :	25	Customer:	MAS
TSN:	14120:43	TSO:	NA	TSR:	00
CSN:	8018	CSO:	NA	CSR:	00

Engine has been :

Inspected	X		Full Performance Tested	X
Repaired	X		Functional Tested	NA
Overhauled	NA		Hot Section Inspected	NA
Modified	X			

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)

Honeywell

Honeywell (Singapore) Pte Ltd

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 TEMPERATURE		°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) (ARINC)		°F	95	96.8	96.8
TURBINE DISCHARGE TEMPERATURE (UNIT RAKES)	UPPER (EGT 1)	°F	726	1084	1117
	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		" H_2O		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. 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

TEST TECHNICIAN : _____ Stamp & Sign

DATE : 22-Feb-2006

QUALITY CONTROL : _____ Stamp & Sign

DATE : 23 FEB 2006

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

Honeywell (Singapore) Pte Ltd

Honeywell
Honeywell Confidential

TURBINE ACCEPTANCE TAG & TRACEABILITY INPUT

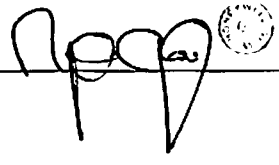
PART NO:	3800550-1	SERIAL NO.:	P-1154	CUSTOMER:	MAS
MODEL :	GTCP331-500B	SERIES :	25	DATE :	23 FEB 2006
W/O NO.:	692501	TSR / TSN :	00 / 14120:43	CSR / CSN :	00 / 8018

DESCRIPTION	PART NO.	SERIAL NO.	LOT NO	TSN	CSN	LIFE LIMITS
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	PART NO.	SERIAL NO.	SERIES	CHG NOS	REMARKS
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: 

FROM MODEL NO.- GTCP331-500B FROM SB NO.- FROM RECEIVED DATE-
TO MODEL NO.- GTCP331-500B TO SB NO.- 9999999999 TO RECEIVED DATE- 99-99-99
FROM SERIAL NO.- P-1154 FROM REVISION DATE-
TO SERIAL NO.- P-1154 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
49-0003	1	RWK FUEL CLUSTER UNIT PN 441761-7 TO 3879008-1.	3879008-1	C
49-2379		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 BYPASS 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	C
49-7537	2	UPDATE ENG COMPR MODULE, PN 3826980-8 TO -9,BY INSTALLING CONICAL BELLMOUTH COVER PN 3810973-1.	3810973-1 3826980-9	C
49-7670		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.	3884863-7 3290814-5	C
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	C
49-7800		REPL IMPELLER INLET PANEL PN 3826962-2 WITH 3827623-1, IN LOAD COMPR MODULE PN 3804011-ALL.	3827623-1	C
49-7801		REPL IMPELLER INLET PANEL PN 3826962-2 WITH 3827623-1 IN ENG COMPR MODULE PN 3826980-ALL.	3827623-1	C

FROM MODEL NO.- GTCP331-500B FROM SB NO.- FROM RECEIVED DATE-
TO MODEL NO.- GTCP331-500B TO SB NO.- 9999999999 TO RECEIVED DATE- 99-99-99
FROM SERIAL NO.- P-1154 FROM REVISION DATE-
TO SERIAL NO.- P-1154 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
49-7811		INSTALL IMPROVED TURBINE BEARING THRUST WASHER SYSTEM.	3844497-5 3844944-2	C
49-7828		IMPROVE CLEARANCE BETWEEN IGVA/SCV FUEL TUBES & WIRE HARNESS CLAMP.	MS9593-125	C
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.		C

14 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

REV.01

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
TSF/CSF: 2916.00 / 1631

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 :

INCOMING							OUTGOING					
NO	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			3805034-8	P247	14120 8018	REPAIRED		
2	DRIVE COMP.ASSY	3804011-8	P254	14120 / 8018			3804011-8	P254	14120 8018	REPAIRED AND MODIFIED		
2.1	IMPELLER COMP LOAD	3822468-3	030322902079	2916 / 1631	27000 CYCS		3822468-3	050322 901613	00 00	–		NEW
3	ENG.COMP.ASSY	3826980-8	P254	14120 / 8018			3826980-8	P254	14120 8018	REPAIRED AND MODIFIED		
3.1	IMPELLER COMP.2ND STG	3822341-4	970322900951	14120 / 8018	27000 CYCS		3822341-4	020322 905617	34602 1984	–		OVERHAULED EXCHANGE
3.2	IMPELLER COMP.1ST STG	3822483-1	990322901217	8014 / 4798	27000 CYCS		3822483-1	960322 903503	12749.50 7353	–		REPAIRED EXCHANGE
4	TURBINE MOD.ASSY	3844517-5	P254	14120 / 8018			3844517-5	P254	14120 8018	REPAIRED AND MODIFIED		
4.1	1ST STG ROTOR ASSY	3842151-3	970335700399	14120 / 8018	27000 CYCS		3842151-3	970335700399	14120 8018	REPAIRED		
4.2	2ND STG ROTOR ASSY	3842155-3	960335701592	14120 / 8018	27000 CYCS		3842155-3	960335701592	14120 8018	INSPECTED AND BALANCED		S/N 960335701592
4.3	3RD STG ROTOR ASSY	3842160-5	970134505954	14120 / 8018	27000 CYCS		3842160-5	970134505954	14120 8018	INSPECTED AND BALANCED		

APU S/N: P1154

GTCP-331-500B-ACCESSORIES

NO	DESCRIPTION ACCESSORIES	INCOMING					OUTGOING					
		PART NUMBER	SERIAL NUMBER	TSN CSN	LIFE	REMARKS	PART NUMBER	SERIAL NUMBER	TSN CSN	TASK PERFORMED	DOC. REFERENCE BATCH NO.	REMARKS
5.1	AIR/OIL COOLER	160488-2	77-339	14120 8018	OC		160488-2	TT-339	14120 8018	REPAIRED		
5.2	ELEC.STR.MOTOR	2704442-4	19-619	6923 4073	OC		2704442-4	TT-385	UNK UNK	REPAIRED		RECEIVED FROM CUSTOMER
5.3	DATA MEMORY MOD.	304643-2	GE1392	14120 8018	OC		304643-2	GE1392	14120 8018	VISUALLY INSPECTED		
5.4	FUEL CLUSTER	441761-7	CUA10186	NIL NIL	OC		38798081	CUA10186	NIL NIL	REPAIRED AND MODIFIED		
5.5	APU CHECK VALVE	3202610-5	581	14120 8018	OC		3202610-5	581	14120 8018	REPAIRED		
5.6	A.T.S.C.V	3283076-5	314C	14120 8018	OC		3283076-5	314C	14120 8018	REPAIRED		
5.7	AIR TURBINE START	3505814-3	312	14120 8018	OC		3505814-3	246	UNK UNK	-		REPAIRED EXCHANGE
5.8	I.G.V ACT	3883499-2	0262	14120 8018	OC		3883499-2	0262	14120 8012	OVERHAULED		
5.9	PNEU. CLUSTER	3884863-6	P304	14120 8018	OC		3884863-7	P304	14120 8018	REPAIRED AND MODIFIED		
5.10	IGNITION CLUSTER	3888275-9	UNKNOWN	14120 8018	OC		3888275-9	UNK	14120 8018	REPAIRED		
5.11	LUBE CLUSTER	4131000-6	342C	14120 8018	OC		4131000-6	342C	14120 8018	REPAIRED		
5.12	S.C.V	3290814-4	337	14120 8018	OC		32908145	3290814/ 337C	14120 8018	REPAIRED AND MODIFIED		
5.13	TEMP.CONT.VALVE	160536-1	77-286	14120 8018	OC		160536-1	TT-286	14120 8018	REPAIRED AND MODIFIED		
5.14	GENERATOR	756589A	0190	5641 NIL	OC		-	-	-	-		NOT RECEIVED

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

Form No. 700042 R0 08/97

HONEYWELL (SINGAPORE) PTE LTD

WO: 692501 23 FEB 2006

Honeywell (Singapore) Pte Ltd

Honeywell

Honeywell Confidential

OPEN ITEM LIST

WORK ORDER NO : 692501 APU PART NO : 3800550-1 APU MODEL : GTCP331-500B

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

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

PREPARED BY : NG KWOK KAU

1. Approving National Aviation Authority/Country:	2.	3. Form Tracking Number:
FAA/United States	**AUTHORIZED RELEASE CERTIFICATE** FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG	L0500699506

4. Organization Name and Address:		5. Work Order/Contract/Invoice Number:
Honeywell International, Inc. 1944 E. Sky Harbor Circle Phoenix, AZ 85034	PRODUCTION APPROVAL PT1222NM	HM8435-001 017913-A3/0274 001

6. Item:	7. Description:	8. Part Number:	9. Eligibility:*	10. Quantity:	11. Serial / Batch No:	12. Status / Work:
001	IMPELLER CMPRSR LD	3822468-3	N/A TSO	000001	050322901613	NEW

13. Remarks:

THIS FORM IS ISSUED AT 1944 E. SKY HARBOR CIRCLE PHOENIX, AZ 85034 AS AUTHORIZED BY THE PRODUCTION APPROVAL HOLDER EXPORT
THE PART SHIPPED UNDER THIS APPROVAL IS A SUBCOMPONENT OF 3800550-1

14. Certifies the items identified above were manufactured in conformity to:

- [X] Approved design data and are in a condition for safe operation.
- [ ] Non-approved design data specified in Block 13.

19. [ ] 14 CFR 43.9 Return 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 Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

15. Authorized Signature:	16. Approval/Authorization No:	20. Authorized Signature:	21. Approval/Certificate No:
Joyce Albers	ODARF602216NM		
17. Name (Typed or Printed):	**18. Date (m/d/y):**	**22. Name (Typed or Printed):**	**23. Date (m/d/y):**
JOYCE ALBERS	SEP/30/2005		

User/Installer Responsibilities

It is important to understand that the existence of this document alone does not automatically constitute authority to install the part/component/assembly. Where the user/installer performs work in accordance with the national regulations of an airworthiness authority different than the airworthiness authority of the country specified in Block 1, it is essential that the user/installer ensures that his/her airworthiness authority accepts parts/components/assemblies from the airworthiness authority of the country specified in Block 1. Statements in Blocks 14 & 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.

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

LIFE LIMITED PART LOG

ASSEMBLY NAME | PART NUMBER

LIFE LIMITED PART NAME: IMPELLER CPRSR | PART NUMBER: 3822468-3 | SERIAL NUMBER: 050322901613

MANUFACTURED PER FAR PART 21 UNDER PRODUCTION CERTIFICATE PC413 | SIGNATURE OR ACCEPTANCE STAMP: INSP STAMP # A-075

DATE INSTALLED	DATE REMOVED	ENGINE SERIAL NUMBER	TIME ON PART THIS INSTALLATION		TOTAL TIME ON PART		SIGNATURE/FAA NUMBER
			CYCLES*	HOURS	CYCLES*	HOURS	
23 FEB 2006		P-1154	0:0	0:0	0:0	0:0	

* SEE SERVICE LIFE LIMITS OF CRITICAL LIFE LIMITED COMPONENTS, ENTRIES SHALL COMPY TO FAR 43.

PX-3107-76C

LIFE LIMITED PART MAINTENANCE RECORD

DATE	MAINTENANCE PERFORMED	AUTHORIZED SIGNATURE

PX-3107-76 BACK

Aircraft Type: B777-2H6 Nationality: MALAYSIAN

Registration: 9M-MRO Position: APU

(1) Date	(2) Number of Flights	(3) Flight Time		(4) Time Run since New		(5) Time Run Since Complete Overhaul		(6) Time and/or Cycles * Run Since Last Statement of Life Used on Life Limited Parts REF ..... DATE		
		Hrs.	Min.	Hrs.	Min.	Hrs.	Min.	Hrs.	Min.	Cycles
Total Brought Forward	8018			14120	00					
23-5-06	8136			14299						
Total Carried Forward	8136			14299						

* Cycles — See Constructor's Manuals for Definition

Date of Installation 21-4-06

(7)

(1) Particulars of all maintenance work done on the engine.
(2) Particulars of all overhauls, repairs, replacements, modifications and mandatory inspections relating to the engine or any of its accessories.
(3) Particulars of any defects occurring in the engine, and of the rectification of such defects, including a reference to the relevant entries in the technical log.
(4) Certificate that in carrying out the overhaul, repairs, etc. all mandatory requirements applicable thereto have been complied with.

-4-06 :-

APU S/NO P1154 FITTED TO 9M-MRO.

REF: APU FILE

T.

Senior Technical Records Officer

CHECK B1 ROUTINE CARRIED OUT AT ~~KUL~~

ON 23-5-06 TO 26-5-06 FILE REF MAS/MRO/B1

CRS SMI NO. 19150