



# C&L Aerospace

**APU Model:** APS2300

**Aircraft:** EMB 170/175/190/195

**APU P/N:** 4505001B

**LSV Date for Refurbishment:** July 17, 2024



**TSN:** 22,762.1 **TSLR:** 0 **CSN:** 21,658 **CSLR:** 0 **LSV Date:** July 17, 2024

**S/N: HSC-E0823604**

## INTRODUCTION

This APU was inducted to Standard Aero on February 18, 2020 for full disassembly and LLP replacement. It has operated 2,541.1 hours and 2,288 cycles since this shop visit. The APU was removed and sent to NEX T MRO where it was inspected, repaired, tested and released on July 17, 2024.

## LIFE LIMITED PARTS:

ITEM	P/N	TSN	CSN	LIFE LIMIT	CYCLES REMAINING
Impeller	4509329	6,014.6	5,191	50,000	44,809
1 <sup>st</sup> Turbine Rotor Disk	4520419	2,542.2	2,288	60,000	57,712
1 <sup>st</sup> Turbine Blade Set	4507016	2,542.2	2,288	17,500	15,212
2 <sup>nd</sup> Turbine Rotor Disk	4520421	2,542.2	2,288	35,000	32,712
2 <sup>nd</sup> Turbine Blade Set	4520010	2,542.2	2,288	17,500	15,212

## LRU ACCESSORIES:

ITEM	P/N	CONDITION AT LSV
Powerhead Assembly	4505011R	REPAIRED
Gearbox Assembly	4505015G	REPAIRED
Fuel Module	4505008F	NO WORK ACCOMPLISHED
Anti-Surge Valve	4953195-1	INSPECTED / TESTED
BSG Stator Assembly	4952826	NO WORK ACCOMPLISHED
Oil Cooler	4951700	NO WORK ACCOMPLISHED
Ignition Unit	4952793	NO WORK ACCOMPLISHED
Oil Pressure Sensor	4951695	NO WORK ACCOMPLISHED
Oil Temp Sensor	4950760	NO WORK ACCOMPLISHED
Speed Sensor	4951694	NO WORK ACCOMPLISHED
Thermocouple (x2)	4951690-1, -2	NO WORK ACCOMPLISHED
Deprieme Solenoid	756722B	NO WORK ACCOMPLISHED
Data Memory Module	4505576	NO WORK ACCOMPLISHED
Electrical Harness	4505113B	REPAIRED
Fuel Injector Simplex (x6)	4951948	INSPECTED / TESTED
Fuel Injector Duplex (x6)	4951949	INSPECTED / TESTED
Fuel Manifold – Primary	4951707	NO WORK ACCOMPLISHED
Fuel Manifold – Secondary	4951708	NO WORK ACCOMPLISHED
Lube/Scavenge Oil Pump	4951727	NO WORK ACCOMPLISHED



## C&L Aerospace

**APU Model:** APS2300

**Aircraft:** ERJ-190

**APU P/N:** 4505001B

**LSV Date for Refurbishment:** July 17, 2024



**TSN:** 22,762.1 **TSLR:** 0 **CSN:** 21,658 **CSLR:** 0 **LSV Date:** July 17, 2024

**S/N: HSC-E0823604**

### SB / AD EMBODIMENT

<b>SB</b>	<b>DESCRIPTION</b>	<b>STATUS</b>
230025	REWORK OF COMPRESSOR IMPELLER ASSY TO P/N: 4509329	EMBODIED
230026	REPLACEMENT OF CARBON SEAL O-RING	N/A TO DATE
230058	REPLACEMENT OF OIL FILTER ELEMENT	EMBODIED
230061	REPLACEMENT OF FIRST STAGE TURBINE DISK	EMBODIED
230062	REPLACEMENT OF SECOND STAGE TURBINE DISKS	EMBODIED
230063	REPLACEMENT OF TURBINE WHEEL ASSEMBLIES (FIRST AND SECOND STAGES)	EMBODIED
230066	REPLACEMENT OF THE FIRST STAGE TURBINE WHEEL ASSEMBLY	EMBODIED
230067	REPLACEMENT / MODIFICATION OF THE SECOND STAGE TURBINE WHEEL AND SECOND STAGE TURBINE NOZZLE ASSEMBLY	EMBODIED

No airworthiness directives applicable to this engine model.



## C&L Aerospace

**APU Model:** APS2300

**Aircraft:** ERJ-190

**APU P/N:** 4505001B

**LSV Date for Refurbishment:** July 17, 2024



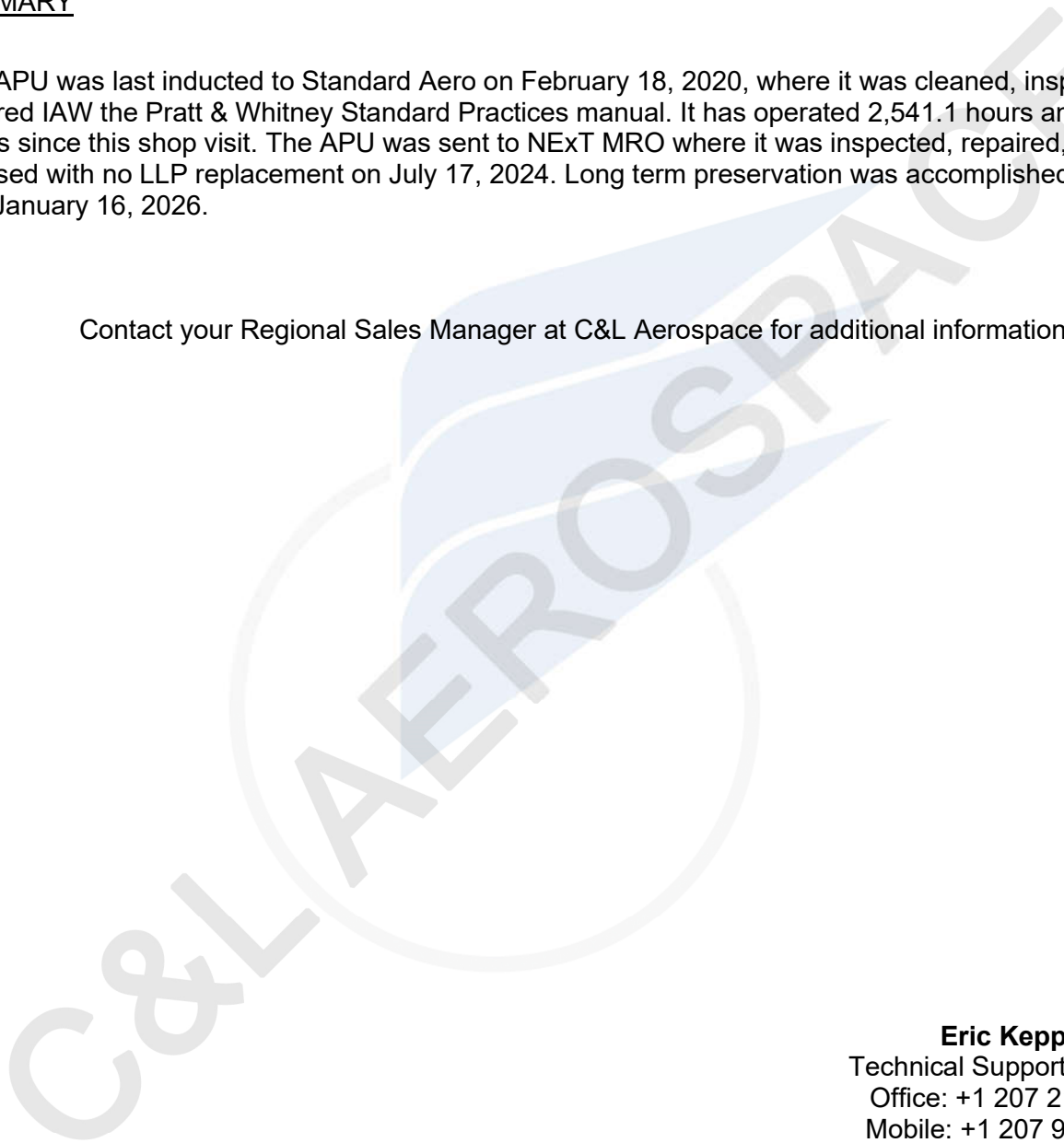
**TSN:** 22,762.1 **TSLR:** 0 **CSN:** 21,658 **CSLR:** 0 **LSV Date:** July 17, 2024

**S/N: HSC-E0823604**

### SUMMARY

This APU was last inducted to Standard Aero on February 18, 2020, where it was cleaned, inspected, and repaired IAW the Pratt & Whitney Standard Practices manual. It has operated 2,541.1 hours and 2,288 cycles since this shop visit. The APU was sent to NExT MRO where it was inspected, repaired, tested and released with no LLP replacement on July 17, 2024. Long term preservation was accomplished and is good until January 16, 2026.

Contact your Regional Sales Manager at C&L Aerospace for additional information.



**\*Note:**

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# NEXt MRO



AN AEROSPACE ENGINEERING GROUP COMPANY

FAA REPAIR STATION # FIDR645K


## SHOP VISIT REPORT

**WORK ORDER 1012893**

**UNIT P/N: 4505001B**

**S/N: HSC-E0823604**

**MODEL APS2300**

1. Approving Civil Aviation Authority/Country: FAA/UNITED STATES		2. <b>AUTHORIZED RELEASE CERTIFICATE</b> FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG			3. Form Tracking Number: <b>12108</b>	
4. Organization Name and Address: <b>NExT MRO LLC</b> <b>15800 N.W. 49th Avenue, Miami Gardens, FL 33014 USA, 305/230-4305 (FIDR645K)</b>				5. Work Order/Contract/Invoice Number: <b>1012893 / R657914</b>		
6. Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status/Work:	
1	APU, APS2300	4505001B	1	HSC-E0823604	REPAIRED	
12. Remarks: <b>The work performed has been accomplished in accordance with 4035,EM,Revision # 33 ATA#05-50-00 Revision Date 13/Nov/2023</b> <b>Pertinent details are on file at this repair station under WO 1012893.</b> 1st Stage Turbine Disk P/N: 4520419 S/N:BSM09836 TSN: 2542.2 CSN: 2293 Remaining: 57707 cycles 2nd Stage Turbine Disk P/N: 4520421 S/N:BSM15165 TSN: 2542.2 CSN: 2293 Remaining: 32707 cycles Compressor Impeller P/N: 4509329 S/N: SIF2407 TSN: 6014.6 CSN: 5196 Remaining: 44804 cycles. <b>Preservation is good until January 14,2026.</b> <b>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 145.4449.</b> <b>APU TSN: 22762:06 CSN: 21658</b> <b>This shop visit 1 hr 8 cycles.</b>						
13a. Certifies the items identified above were manufactured in conformity to: <input type="checkbox"/> Approved design data and are in condition for safe operation. <input type="checkbox"/> Non-approved design data specified in Block 12.			14a. <input checked="" type="checkbox"/> 14 CFR 43.9 Return to Service <input checked="" type="checkbox"/> 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.: <b>FIDR645K</b>
13d. Name (Typed or Printed)		13e. Date (dd/mmm/yyyy):		14d. Name: (Typed or Printed) <b>MAIRIN MEDINA</b>		14e. Date (dd/mmm/yyyy): <b>17/Jul/2024</b>

#### 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 block 13a and 14a do not constitute installation certification. In all cases aircraft maintenance records must contain an installation certification issued in accordance with national regulations by the user/installer before the aircraft may be flown.



# NEXT MRO

AN AEROSPACE ENGINEERING GROUP COMPANY

FAA REPAIR STATION # FIDR645K

**WORK ORDER NUMBER:** 1012893  
**CUSTOMER:** C&L AEROSPACE  
**PART NUMBER:** 4505001B  
**SERIAL NUMBER:** HSC-E0823604  
**MODEL:** APS 2300  
**DATE:** 07-17-2024

## INCOMING PHOTOS





**WORK ORDER NUMBER:** 1012893  
**CUSTOMER:** C&L AEROSPACE  
**PART NUMBER:** 4505001B  
**SERIAL NUMBER:** HSC-E0823604  
**MODEL:** APS 2300  
**DATE:** 07-17-2024

## GENERAL INFORMATION

**RECEIVED DATE: 28-MAY-2024**

**CUSTOMER PO: R657914**

**CUSTOMER REASON FOR REMOVAL**

UNK

**CUSTOMER REQUESTED WORKSCOPE**

FUNCTIONAL TEST

**INCOMING APU TIMES AND CYCLES**

TOTAL CYCLES AT REMOVAL: 21650

TOTAL HRS AT REMOVAL: 22761:06



# NEXT MRO

AN AEROSPACE ENGINEERING GROUP COMPANY

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**WORK ORDER NUMBER:** 1012893  
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**PART NUMBER:** 4505001B  
**SERIAL NUMBER:** HSC-E0823604  
**MODEL:** APS 2300  
**DATE:** 07-17-2024

## RECEIVING REPORT

### CONDITION OF APU WHEN RECEIVED

- UNIT RECEIVED OILY AND DIRTY
- UNIT RECEIVED IN DAMAGED CONDITION
- PHOTOS TAKEN
- UNIT RECEIVED DISASSEMBLED
- UNIT RECEIVED IN GOOD VISIBLE CONDITION
- UNIT ROTATING GROUP TURNS FREELY
- UNIT ROTATING GROUP SEIZED
- UNIT WITH MISSING PARTS

### MISSING PARTS

- ANTI SURGE VALVE

**REMARKS:** N/A





**NEX**T MRO  
AN AEROSPACE ENGINEERING GROUP COMPANY

FAA REPAIR STATION # FIDR645K

**WORK ORDER NUMBER:** 1012893  
**CUSTOMER:** C&L AEROSPACE  
**PART NUMBER:** 4505001B  
**SERIAL NUMBER:** HSC-E0823604  
**MODEL:** APS 2300  
**DATE:** 07-17-2024

## **DAMAGE OR FINDING REPORT (FORM 100)**

# WORK ORDER FORM 100

NEXT MRO LLC  
15800 N.W. 49th Avenue  
Miami Gardens, FL 33014 USA



FAA CRS No: FIDR645K  
WORK ORDER: 1012893-24

305/230-4305

Customer: CLA001 / C&amp;L AVIATION SERVICES LLC

Dept#:APU

Location:APU

Cust RO#: R657914

Step:FINAL QUALITY INSPECTI

Warranty Code: 00 / 0

Mfr: PRATT

Goodthru AD#:

Outgoing 4505001B / APU, APS2300

S/N:HSC-E0823604

Incoming P/N: 4505001B

Incoming S/N: HSC-E0823604

Incoming Work Req.: IRAN

Outgoing Work Req: REPAIR

Manual#: 4035

RevDate: 13/Nov/2023 Rev#: 33 ATA#05-50-00 ATA: 49-10-01

Tools: T075,T0610,T0610002

Reason/Rm:

unk

Date Recvd: 28/May/2024

Date Reqr'd:

Date Estmtd:

PRELIMINARY INSPECTION:

DATE: 13/Jun/2024

INSPECTOR: DAVID PEREZ

P/N AND S/N VERIFIED PER DATAPLATE

PRE TEST (Yes/No): N

DATE: 13/Jun/2024

INSPECTOR: DAVID PEREZ

N/A

HIDDEN DAMAGE:

N

TEARDOWN FINDINGS:

THE UNIT WAS RECEIVED ON ITS CRATE FOR FUNCTIONAL TEST. THE SURGE VALVE IS MISSING.

A BORESCOPE INSPECTION WAS ACCOMPLISHED, NO DAMAGE NOTED.

DETAILS ARE DESCRIBED AS FOLLOW:

- COMBUSTOR SECTION: THERMAL EROSION. CARBON DEPOSIT.
- FIRST STAGE TURBINE NOZZLE: VANE'S LEADING EDGE ERODED.
- FIRST STAGE TURBINE WHEEL: NO DAMAGE NOTED.
- SECOND STAGE TURBINE DISK: NO DAMAGE NOTED.
- COMPRESSOR SECTION: MICROBIOLOGICAL GROWTH.

ALL FINDINGS ARE PROPER OF ITS USAGE.

UNIT REQUIRED A SURGE VALVE TO BE TESTED



# WORK ORDER FORM 100

NEXT MRO LLC  
15800 N.W. 49th Avenue  
Miami Gardens, FL 33014 USA



FAA CRS No: FIDR645K  
WORK ORDER: 1012893-24

305/230-4305

Customer: CLA001 / C&L AVIATION SERVICES LLC

Dept#:APU

Location:APU

Cust RO#: R657914

Step:FINAL QUALITY INSPECTI

Warranty Code: 00 / 0

Mfr: PRATT

Goodthru AD#:

Outgoing 4505001B / APU, APS2300

S/N:HSC-E0823604

TECHNICIAN:DAVID PEREZ DATE: 15/Jul/2024 INSPECTOR: MAIRIN MEDINA

FINAL INSPECTION BEFORE ASSEMBLY: DATE: 15/Jul/2024 INSPECTOR: N/A

**CORRECTIVE ACTION:**

THE SURGE VALVE P/N: 4954226 S/N: 6006 WAS INSTALLED IN REFERENCE TO THE MANUFACTURER'S PROCEDURES.

THE APU WAS TESTED IN ACCORDANCE WITH THE MANUFACTURER'S PROCEDURES ON ENGINE MANUAL REV 31 DATED NOV 14/2022 AND IT PASSED. IT IS READY TO RETURN TO SERVICE.

THE UNIT WAS PRESERVED IN ACCORDANCE WITH THE MANUFACTURER'S PROCEDURES. PRESERVATION IS GOOD UNTIL JANUARY 16, 2026.

TECHNICIAN:DAVID PEREZ DATE: 17/Jul/2024 INSPECTOR: MAIRIN MEDINA

MODIFICATION/SERVICE BULLETINS:  
N/A

Test Data Used: P&W EM 49-10-01 REV 31 DATED NOV 14/2022

Test Technician: DAVID PEREZ	DATE: 17/Jul/2024
Inspector: MAIRIN MEDINA	DATE: 17/Jul/2024
Final Inspection:MAIRIN MEDINA	DATE: 17/Jul/2024
Technician: DAVID PEREZ	DATE: 17/Jul/2024
Inspector: MAIRIN MEDINA	DATE: 17/Jul/2024

**ADDITIONAL COMMENTS:**

PRESERVATION IS GOOD UNTIL JAN 16,2026



# WORK ORDER FORM 100



**NExT MRO LLC**  
15800 N.W. 49th Avenue  
Miami Gardens, FL 33014 USA

**FAA CRS No: FIDR645K**  
**WORK ORDER: 1012893-24**

305/230-4305

**Customer: CLA001 / C&L AVIATION SERVICES LLC**

**Dept#:APU**

**Location:APU**

**Cust RO#: R657914**

**Step:FINAL QUALITY INSPECTI**

**Warranty Code: 00 / 0**

**Mfr: PRATT**

**Goodthru AD#:**

**Outgoing 4505001B / APU, APS2300**

**S/N: HSC-E0823604**

Quoted units MUST be approved within 10 business days. Part pricing and availability subject to change after 10 days from Quote date.  
If a disposition is not received after 30 days, storage fees may apply. If this unit is declared Beyond  
Economical Repair (BER) and NExT MRO is requested to scrap the unit in-house, it is the understanding that all remaining Serviceable components within the unit may be tagged as such and become the property of NExT MRO. Any Customer unit remaining at NExT MRO for more than 60 calendar days, where the quote is neither approved nor rejected from the date of quote, may be subject to evaluation and storage fees and after 100 days be considered abandoned material subject to immediate disposition in accordance with NExT MRO internal processes.  
**Standard Warranty Policy Period (unless otherwise stated):**  
Bench Check/Inspect - No Warranty, Repair - 6 Months, Overhaul - 12 Months

### MAINTENANCE RELEASE RECORD

**THE COMPONENT IDENTIFIED ABOVE WAS REPAIRED IN ACCORDANCE WITH THE CURRENT REGULATIONS OF THE FEDERAL AVIATION ADMINISTRATION, AND IS APPROVED FOR RETURN TO SERVICE. OTHER PERTINENT DETAILS OF THE REPAIR ARE ON FILE AT THIS REPAIR STATION.**

Approved For Return to Service by MAIRIN MEDINA

Date 17/Jul/2024





**NEXtMRO**

AN AEROSPACE ENGINEERING GROUP COMPANY

FAA REPAIR STATION # FIDR645K

**WORK ORDER NUMBER:** 1012893  
**CUSTOMER:** C&L AEROSPACE  
**PART NUMBER:** 4505001B  
**SERIAL NUMBER:** HSC-E0823604  
**MODEL:** APS 2300  
**DATE:** 07-17-2024

## **LIFE LIMITED PARTS**



# NEXT MRO

AN AEROSPACE ENGINEERING GROUP COMPANY



FAA REPAIR STATION # FIDR645K

## LIFE LIMIT PARTS SUMMARY

CUSTOMER: C&L AEROSPACE

APU MODEL: APS 2300

APU P/N: 4505001B

WO #: 1012893

APU SERIAL #: HSC-E0823604

DATE: 07/17/2024

COMPONENT	P/N	S/N	TIME SINCE NEW	CYCLES SINCE NEW	LIFE LIMIT CYCLES	REMAINING CYCLES
TURBINE DISK 1 <sup>ST</sup> STAGE	4520419	BSM09836	2542.2	2293	60000	57707
TURBINE DISK 2 <sup>ND</sup> STAGE	4520421	BSM15165	2542.2	2293	35000	32707
COMPRESSOR WHEEL	4509329	SIF2407	6014.6	5196	50000	44804

Note: The life-limited parts summary is a result of data supplied by the customer and where applicable, data from the records system.



**NEXT MRO**  
AN AEROSPACE ENGINEERING GROUP COMPANY  
FAA REPAIR STATION # FIDR645K

**WORK ORDER NUMBER** 1012893  
**CUSTOMER** C&L AEROSPACE  
**PART NUMBER** 4505001B  
**SERIAL NUMBER** HSC-E0823604  
**MODEL** APS 2300  
**DATE:** 07-17-2024

## INVENTORY

DESCRIPTION	QTY	P/N RECEIVED	S/N RECEIVED	P/N SHIPPED	S/N SHIPPED	WORKSCOPE
OIL TEMP SENSOR	1	4950760	H7695	4950760	H7695	TESTED
SENSOR DUAL OIL	1	4951695	2754913	4951695	2754913	TESTED
STARTER ASSY	1	4952826	V00-0821	4952826	V00-0821	TESTED
OIL COOLER	1	4951700	04491332	4951700	04491332	TESTED
ANTI-SURGE VALVE	1	MISSING	MISSING	4954226	6006	TESTED
FUEL MODULE ASSY	1	4505008E	10-13-109	4505008E	10-13-109	TESTED
PLUG IGNITOR	1	4953089	NSN	4953089	NSN	TESTED
PLUG IGNITOR	1	4953089	NSN	4953089	NSN	TESTED
CABLE ASSY	1	4951693-3	NSN	4951693-3	NSN	TESTED
CABLE ASSY	1	4951693-4	NSN	4951693-4	NSN	TESTED
IGNITION EXCITER	1	4952793	00046165	4952793	00046165	TESTED
SOLENOID VALVE	1	756722B	2011020017	756722B	2011020017	TESTED
SPEED SENSOR	1	4951694	V00-121346	4951694	V00-121346	TESTED
DATAMEMORY	1	4505576	2240	4505576	2240	TESTED
HARNESS	1	4505113B	V28-S1292	4505113B	V28-S1292	TESTED
GEARBOX	1	4505015G	0010	4505015G	0010	TESTED
GENERATOR	1	1701320	1182	1701320	1182	TESTED



**NEXt MRO**  
AN AEROSPACE ENGINEERING GROUP COMPANY

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**PART NUMBER:** 4505001B  
**SERIAL NUMBER:** HSC-E0823604  
**MODEL:** APS 2300  
**DATE:** 07-17-2024

### COMPONENT CHANGE RECORD

COMPONENT	REMOVED P/N	REMOVED S/N	INSTALLED P/N	INSTALLED S/N	DATE
ANTI SURGE VALVE	MISSING	MISSING	4954226	6006	07-17-2024





**NEXT MRO**  
AN AEROSPACE ENGINEERING GROUP COMPANY

FAA REPAIR STATION # FIDR645K

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**PART NUMBER:** 4505001B  
**SERIAL NUMBER:** HSC-E0823604  
**MODEL:** APS 2300  
**DATE:** 07-17-2024

## AD AND SB INCORPORATED

### AIRWORTHINESS DIRECTIVE REPORT

The Airworthiness Directive (AD) report describes AD's complied with at this shop visit.

AD NUMBER	AMENDMENT	DESCRIPTION	STATUS
N/A	N/A	None apply to the APS 2300 at this time	N/A

### SERVICE BULLETIN REPORT

The following service bulletins were incorporated in this APU during this shop visit.

SB NUMBER	REVISION NUMBER	DATE	DESCRIPTION
N/A	N/A	No SB were incorporated during this shop visit.	N/A



**NEX**T MRO 

AN AEROSPACE ENGINEERING GROUP COMPANY

FAA REPAIR STATION # FIDR645K

**WORK ORDER NUMBER:** 1012893  
**CUSTOMER:** C&L AEROSPACE  
**PART NUMBER:** 4505001B  
**SERIAL NUMBER:** HSC-E0823604  
**MODEL:** APS 2300  
**DATE:** 07-17-2024

## TEST DATA SHEET

WO: 1012893  
 CUST: C&L AEROSPACE

ENG APS2300  
 DATE 14-Jul-24

P/N: 4505001B  
 S/N: HSC-E0823604

**TEST DATA SHEET**

STEP		6.2	6.3.1	6.3.1	6.3.1	6.3.2	6.3.2	6.3.2	
TEST		UNITS	F	1A	1D	1E	2B	2C	2D
PBAR	BAROMETRIC PRESSURE	PSIA	14.68	14.68	14.68	14.68	14.68	14.68	14.68
ENG SPEED	ENGINE SPEED	%	100	0.00	100	100	98.50	98.49	98.50
W_FUEL	FUEL FLOW	LB/HR	190.1	0.00	189.20	236.30	320.65	286.90	304.10
PFUEL_IN	FUEL INLET PRESSURE	PSIG	26.9	48.80	26.85	23.80	26.70	26.90	26.89
T_AMB	AMBIENT TEMPERATURE	°F	79	80.10	82.10	82.15	83.45	83.90	83.93
T_INLET	T1 APU INLET TEMPERATURE	°F	79.5	80.45	82.44	82.51	83.78	84.10	84.16
ETC_1	UNIT EGT #1	°F	601.05	382.65	601.21	744.80	1099.80	979.50	1021.23
ETC_2	UNIT EGT #2	°F	599.9	375.24	598.92	742.20	1095.61	975.47	1019.40
ETC_AVG	UNIT EGT (AVG)	°F	600.47	378.94	600.06	743.50	1097.70	977.48	1020.31
PCD	COMPRESSOR DISCHARGE PRESSURE	PSIG	55.1	0.00	55.10	55.20	51.30	51.61	52.05
T_RBRG-OIL	OIL TEMPERATURE	°F	152.15	132.30	154.10	155.27	158.70	162.31	163.80
P_RBRG_OIL	OIL PRESSURE	PSIG	69.2	70.02	70.51	70.34	69.35	69.40	69.28
RVD_ENG	UNIT VIBRATION-POWERHEAD	G	3.02	0.30	3.12	3.39	4.06	3.80	4.02
RVD_GB	UNIT VIBRATION-GEARBOX	G	2.46	0.11	2.45	2.45	2.02	2.01	1.67
VOLT AVG	AVERAGE VOLTAGE	VAC	120.3	0.00	120.3	120.30	120.34	120.32	120.31
T_EXIT	BLEED TEMP	°F	288.2	267.70	280.30	289.20	409.20	441.20	416.10
P_EXIT	BLEED PRESSURE	PSIG	51.4	0.02	51.41	49.30	41.20	43.49	43.80
P-BAIR	BLEED AIR ORIFICE PRESSURE	PSIA	19.9	14.68	20.10	19.50	50.37	55.10	55.50
PBAIRDIF	BLEED AIR ORIFICE DELTA PRESSURE	inH2O	0.1	0.10	0.03	0.02	173.80	94.30	95.10
TBLEED	BLEED AIR ORIFICE TEMPERATURE	°F	309.6	301.00	292.20	290.50	356.80	370.70	376.40
W_BLEED	BLEED AIR FLOW	LB/MIN	0	0.00	0.00	0.00	162.70	128.20	129.91
WB_FLW_FN	BLEED AIR FLOW CORRECTED	LB/MIN	0	0.00	0.00	0.00	0.00	42.92	49.95

APU STATUS: ACCEPT       X      

REJECT \_\_\_\_\_



**NEXT MRO**  
AN AEROSPACE ENGINEERING GROUP COMPANY

FAA REPAIR STATION # FIDR645K

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**PART NUMBER:** 4505001B  
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**OUTGOING BSI PHOTOS**





# NEXT MRO

AN AEROSPACE ENGINEERING GROUP COMPANY

FAA REPAIR STATION # FIDR645K

**WORK ORDER NUMBER:** 1012893  
**CUSTOMER:** C&L AEROSPACE  
**PART NUMBER:** 4505001B  
**SERIAL NUMBER:** HSC-E0823604  
**MODEL:** APS 2300  
**DATE:** 07-17-2024





# NEXT MRO

AN AEROSPACE ENGINEERING GROUP COMPANY



July 17, 2024

**Subject: Preservation**

**Auxiliary Power Unit P/N: 4505001B S/N: HSC-E0823604**

To whom it may concern,

This letter is to confirm that the component mentioned above has been preserved in reference to the manufacturer's standard procedures on Engine Manual rev 33 dated 13/Nov/2023.

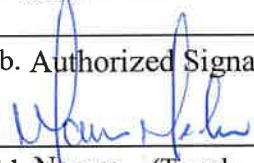
**Preservation is good until 16 JAN 2026**

Please feel free to contact me should you have any additional questions or concerns.

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**Mairin Medina**

APU Engineering

1. Approving Civil Aviation Authority/Country: FAA/UNITED STATES		2. <b>AUTHORIZED RELEASE CERTIFICATE</b> FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG			3. Form Tracking Number: <b>12107</b>	
4. Organization Name and Address: <b>NExT MRO LLC</b> <b>15800 N.W. 49th Avenue, Miami Gardens, FL 33014 USA, 305/230-4305 (FIDR645K)</b>				5. Work Order/Contract/Invoice Number: <b>5006768 / R03255</b>		
6. Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status/Work:	
1	VALVE, ANTI-SURGE	4954226	1	6006	TESTED	
12. Remarks: <b>The work performed has been accomplished in accordance with 4167,CMM,Revision # 5 ATA#49-52-13 Revision Date 04/Jul/2023</b>						
<p align="center">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 145.4449.</p>						
13a. Certifies the items identified above were manufactured in conformity to:			14a. <input checked="" type="checkbox"/> 14 CFR 43.9 Return to Service <input checked="" type="checkbox"/> Other regulation specified in Block 12			
<input type="checkbox"/> Approved design data and are in condition for safe operation. <input type="checkbox"/> 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.:
						<b>FIDR645K</b>
13d. Name (Typed or Printed)		13e. Date (dd/mmm/yyyy):		14d. Name: (Typed or Printed)		14e. Date (dd/mmm/yyyy):
				<b>MAIRIN MEDINA</b>		<b>15/Jul/2024</b>

### 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 block 13a and 14a do not constitute installation certification. In all cases aircraft maintenance records must contain an installation certification issued in accordance with national regulations by the user/installer before the aircraft may be flown.



# NExT MRO

AN AEROSPACE ENGINEERING GROUP COMPANY



## BOROSCOPE INSPECTION REPORT

**APS 2300**

**4505001B**

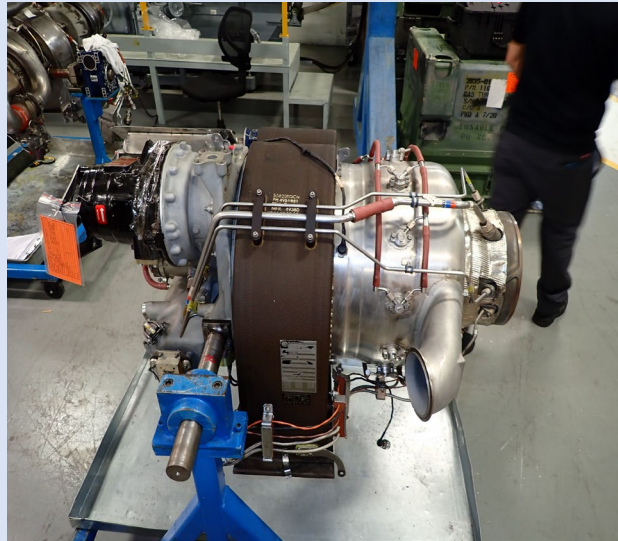
**S/N: HSC-E0823604**

PREPARED FOR: C&L AEROSPACE

BSI DATE: JUN 26 , 2024



## BOROSCOPE INSPECTION REPORT



### COMMENTS:

- The unit arrived on its crate for borescope, bench test & preservation. No damage noted during the borescope inspection. Findings are proper of its operation.

## BOROSCOPE INSPECTION REPORT

### COMBUSTOR SECTION



#### COMMENTS:

- Thermal erosion proper of its usage. Carbon deposit.

## BOROSCOPE INSPECTION REPORT

### TURBINE SECTION



### COMMENTS:

- **First Stage Turbine Nozzle:** Vane's leading edge eroded.

## BOROSCOPE INSPECTION REPORT

### TURBINE SECTION

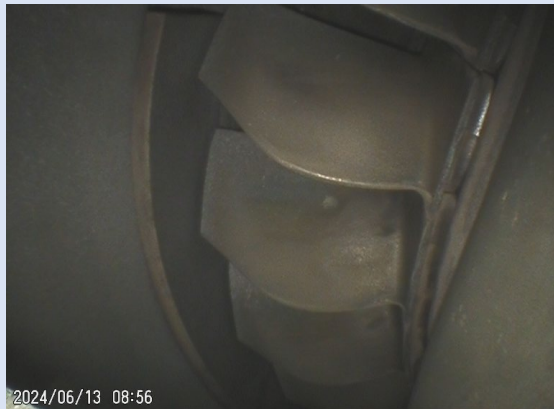


#### COMMENTS:

- **Turbine Nozzle:** Vane's leading edge eroded. Condition proper of its usage.
- **First Stage Turbine Disk:** No damage noted.

## BOROSCOPE INSPECTION REPORT

### TURBINE SECTION



### COMMENTS:

- **Second Stage Turbine Disk:** No damage noted.

## BOROSCOPE INSPECTION REPORT

### COMPRESSOR SECTION



#### COMMENTS:

- Microbiological growth.

- Impeller: Minor Nicks



## Condition Report APU

**Engine Serial Number:** HSC-E0823604  
**Engine Model:** APS2300  
**Manufacturer:** HAMILTON SUNDSTRAND CORP  
**Customer:** LLC AIRCOMPANY IKAR  
**Work Order:** UN337057  
**Report Number:** HSC-E0823604\_UN337057\_FINAL  
**Ship Date:** FEBRUARY 18, 2020



**WORKSCOPE/ REASON FOR REMOVAL:**  
**FULL DISASSEMBLY / FAIL TO START**

**PAST REPAIR HISTORY:**

DATE	W/O	TSN	TSSV	CSN	CSSV	REMOVAL REASON	REMOVAL CAUSE
12/17/2019	UN337057	20219.9	3472.4	19365	2903	FAIL TO START	BSG ROTOR ASSEMBLY (MAGNET)-UNIT- BECAME UNSEATED FROM HSP GEAR
1/8/2017	HSC 314143484	16747.5	4348.7	16462	3916	HIGH TIME	SCHEDULED HIGH TIME
1/19/2015	HSC 9248681	12398.8	11736.1	12546	11867	HIGH TIME	SCHEDULED HIGH TIME
9/25/2009	HSC 025146695	662.7	662.7	679	679	OIL LEAK	UNKNOWN

**ENGINE AIRWORTHINESS AND SERVICE BULLETIN CONFIGURATION**

AD / SB	DESCRIPTION	STATUS
230025	REWORK OF COMPRESSOR IMPELLER ASSY TO P/N 4509329	FOUND EMBODIED
230026	REPLACEMENT OF CARBON SEAL O-RING	N/A TO DATE
230058	OIL FILTER ELEMENT - REPLACEMENT OF	EMBODIED
230061	REPLACEMENT OF THE FIRST STAGE TURBINE DISK	EMBODIED
230062	REPLACEMENT OF SECOND STAGE TURBINE DISKS	EMBODIED
230063	REPLACEMENT OF TURBINE WHEEL ASSEMBLIES, FIRST AND SECOND STAGE	EMBODIED
230066	REPLACEMENT OF THE FIRST STAGE TURBINE WHEEL ASSEMBLY	EMBODIED
230067	REPLACEMENT /MODIFICATION OF THE SECOND STAGE TURBINE WHEEL AND SECOND STAGE TURBINE NOZZLE ASSEMBLY	EMBODIED



**SUMMARY:**

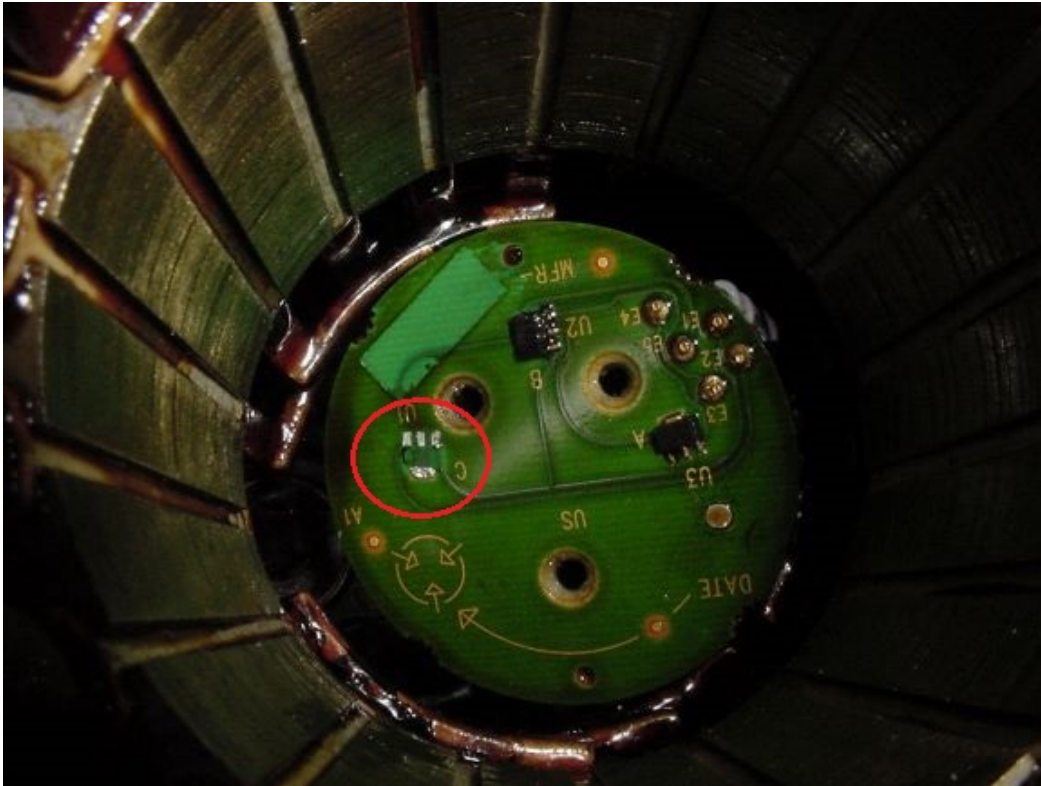
APU serial number HSC-E0823604 was removed from aircraft VP-BZJ on September 24, 2019 with the customer squawk: "APU fail to start." Due to the number of BSG Hall Effect faults in the DMM, the BSG was removed for test. Visual inspection of the BSG revealed one of the Hall Effect sensors to be missing. The gearbox was disassembled for testing of the BSG rotor. The BSG rotor was found to have migrated forward on the shaft, allowing contact with the printed wiring assembly.

The power section was disassembled for customer requested refurbishment. The first and second stage turbine blades were found to have cracks in the fir tree serrations. Both stage discs were replaced in order to comply with P&WC service bulletins 230061 and 230062. Replacement of the first and second rotor assemblies will comply with service bulletins 230066 and 230067. The remaining discrepancies were minor in nature and consistent with the times and cycles accrued.

Refer to the following table for a complete list of discrepant components

Toby Light  
APU Engineer  
Telephone: (865) 273-4617  
Email: toby.light@standardaero.com

**PHOTOGRAPHS:**



BSG stator (Hall Effect sensor missing)



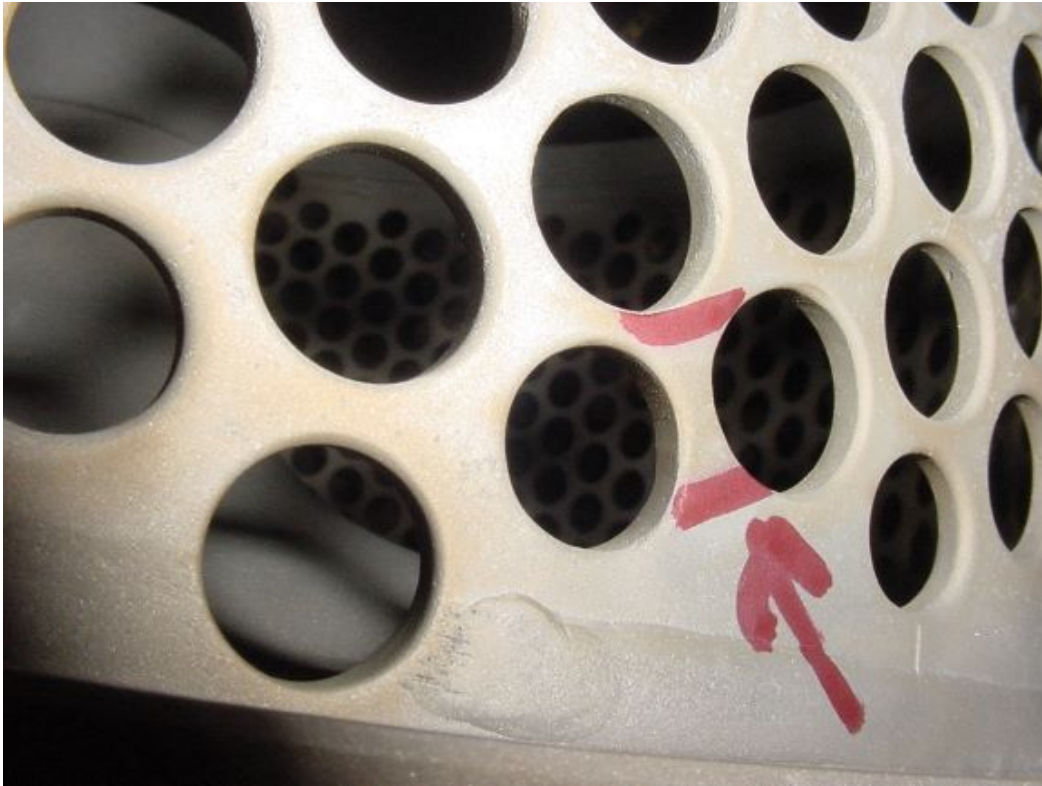
BSG pinion (magnet migrated forward)



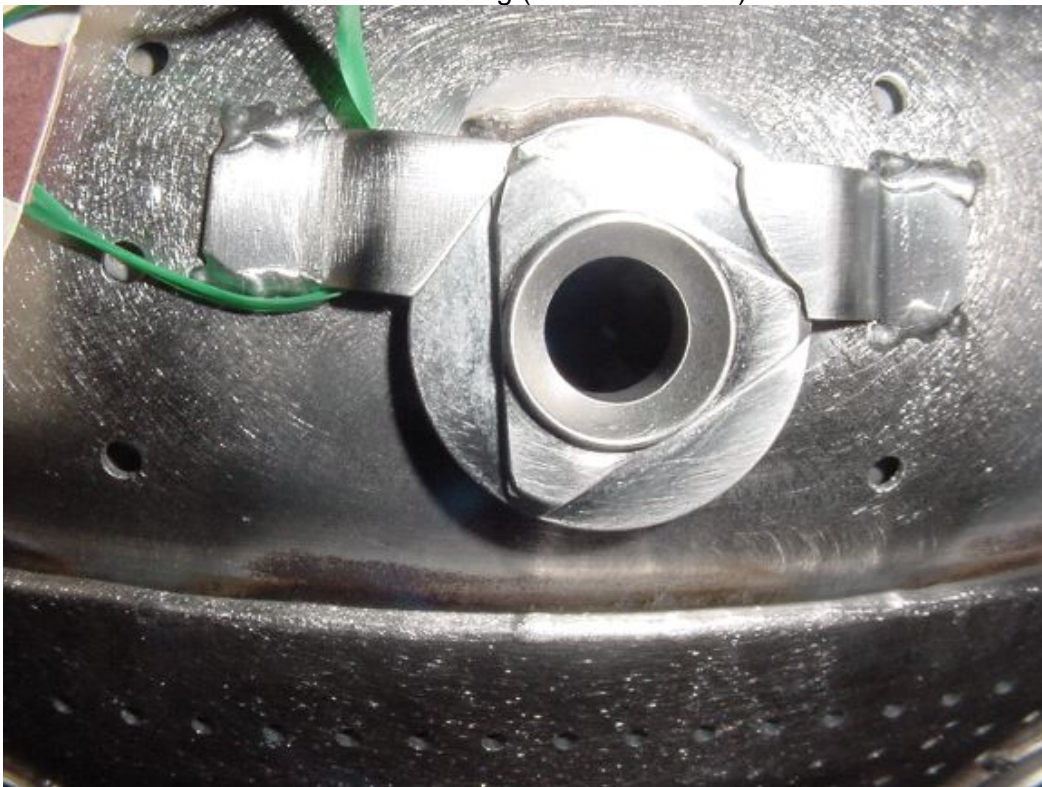
1<sup>ST</sup> stage turbine blades (cracks in the fir trees)



2<sup>ND</sup> stage turbine blades (cracks in fir trees)



Air inlet housing (cracked air hole)



Combustor (igniter grommets and tabs fretted)



Compressor shroud (abradable eroded)



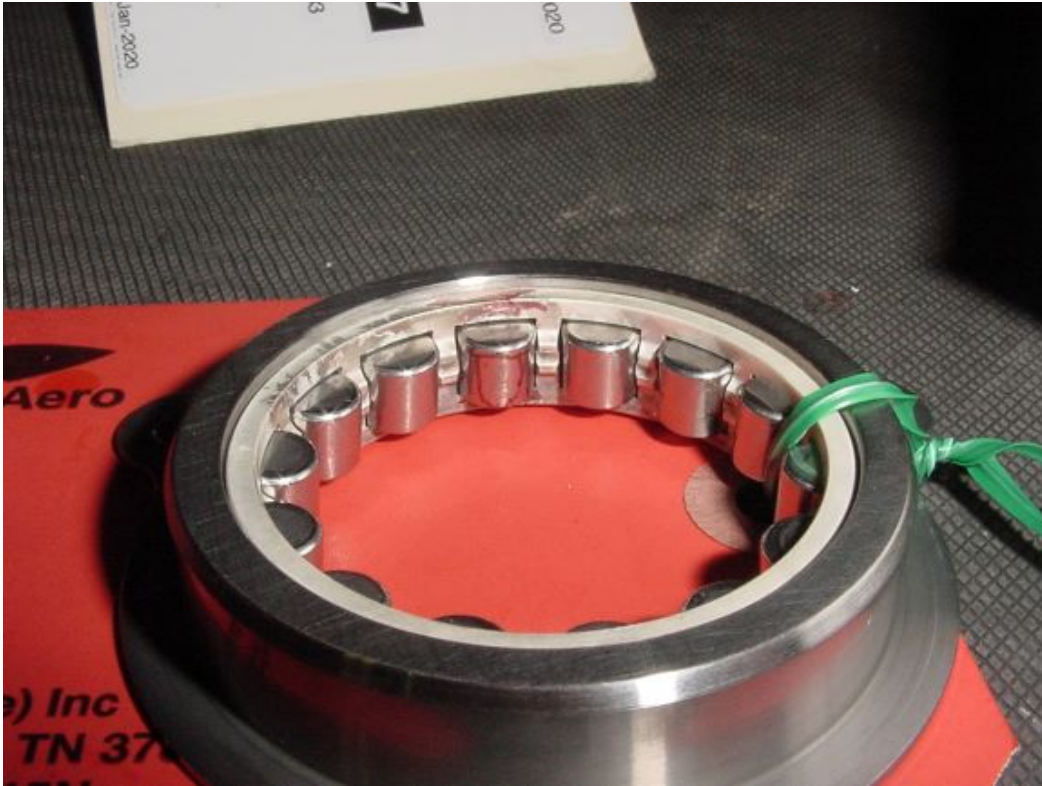
Carbon seal (carbon chipped/pitted)



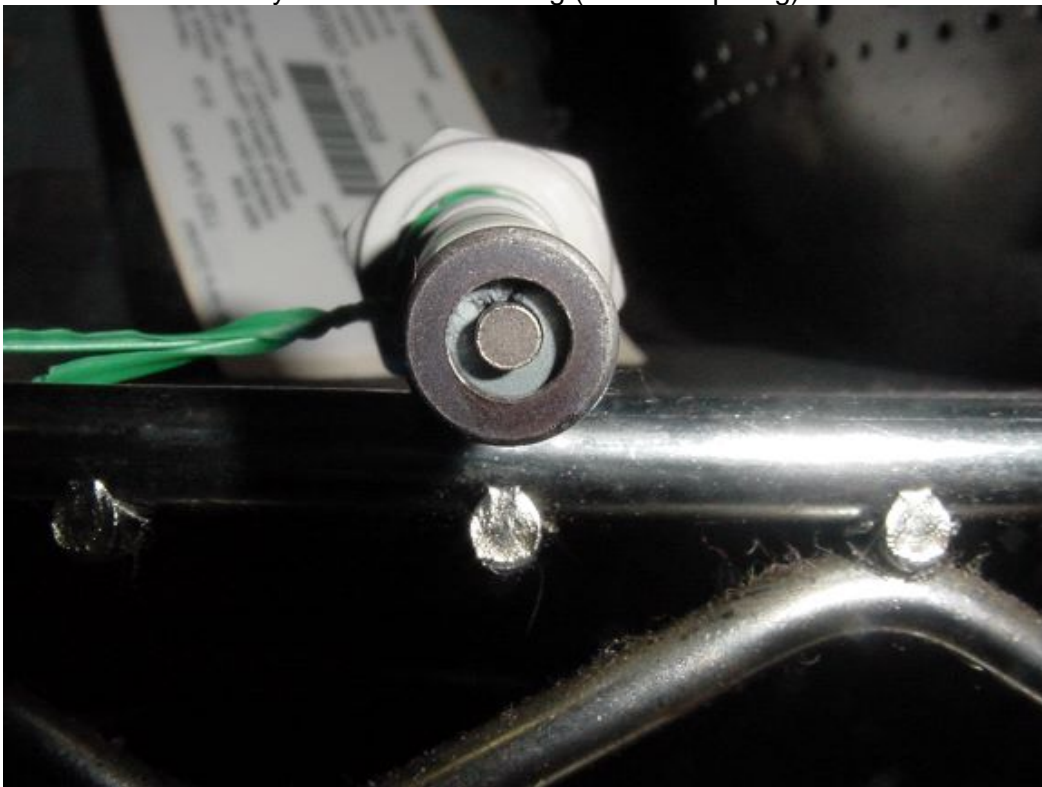
Seal runner (scoring)



Igniter cable (chaffed through)



Cylindrical roller bearing (corrosion/pitting)



Igniter (insulator cracked)



Bracket assembly (corrosion delamination)



Air intake plenum (corrosion at shims)





Engine control harness (corrosion on multiple backshells)

**PARTS REPLACED DISCREPANCY REPORT:**

P/N	S/N	NOMENCLATURE	DISCREPANCY	QTY
4505039		RIVET, SOLID	100% REPLACEMENT	29
4505096		SEAL, FLANGE-GEARBOX	100% REPLACEMENT	1
4505113B	S1106	HARNESS ASSY, ENGINECONTROL	CORROSION ON MULTIPLE BACKSHELLS (EXCHANGED)	1
4505211		SEAL, FLANGE - AIR INLET	100% REPLACEMENT	1
4505404	16391	BEARING, BALL - TURBINE THRUST	100% REPLACEMENT	1
4506285	2969	DISC, TURBINE, 2ND STAGE - MACHINING	REPLACE IAW S/B 230062. (REPLACED)	1
4507019		BLADE, TURBINE - 2ND STAGE MACHINING	REPLACE BLADES FOR CRACKS IN FIR TREE SERRATIONS. (REPLACED)	29
4507866	2220	WHEEL ASSY, TURBINE, 1ST STAGE	BLADES CRACKED IN FIR TREE SERRATIONS. BLADE TIP EROSION. REPLACE DISK PER SB 230061.	1
4950875		PLUG, DRAIN - MAGNETIC	MISSING WHEN RECEIVED (REPLACED)	1
4951670		SEAL, CARBON FACE	WORN (REPLACED)	1
4951693-3		CABLE ASSY, IGNITOR	CHAFFED THROUGH TO CENTER CONDUCTOR (REPLACED)	1
4951693-4		CABLE ASSY, IGNITOR	CONNECTOR WORN (EXCHANGED)	1
4951716	14972	BEARING ASSY, ROLLER- CYLINDRICAL	CORROSION AND PITTING (REPLACED)	1
4951716	14969	BEARING ASSY, ROLLER- CYLINDRICAL	CORROSION AND PITTING (REPLACED)	1
4951716	14979	BEARING ASSY, ROLLER- CYLINDRICAL	CORROSION AND PITTING (REPLACED)	1
4951728		LOCKNUT, TIE BOLT - FORWARD	LOCKING FEATURE MISSING (EXCHANGED)	1
4952365	VO72 0165	ROTOR ASSY, BRUSHLESS STARTER GENERATOR	AFT BORE OF ROTOR IS OVERSIZE (REPLACED)	1
4952384		GASKET, FUEL INJECTOR	100% REPLACEMENT	12
4952416		BRACKET ASSEMBLY, ISOLATOR - FUEL MODULE	CORROSION/DELAMINATION (REPLACED)	1
4952441	14535	BEARING ASSY, ROLLER- CYLINDRICAL	100% REPLACEMENT (REPLACED)	1
4952441	14506	BEARING ASSY, ROLLER- CYLINDRICAL	100% REPLACEMENT (REPLACED)	1
4952781	079G6	RUNNER, SEAL - HYDRODYNAMIC	SCORING ON MATING SURFACE (REPLACED)	1

4952782		SEAL ASSY, FACE, CARBON - HYDRODYNAMIC	MATING SURFACE CHIPPED/PITTED (REPLACED)	1
4952826	V00-0879	BRUSHLESS STARTER	DAMAGED PRINTED WIRE ASSEMBLY, DAMAGED ID PLATE, DAMAGED TERMINAL BLOCK, AND FAILS DIELECTRIC STRENGTH TEST. (EXCHANGED)	1
4953089		IGNITOR	CRACKED CERAMIC (REPLACED)	1
4953246		ELEMENT, FUEL FILTER	100% REPLACEMENT	1
4954216		ELEMENT, FILTER - OIL	100% REPLACEMENT	1

**PARTS REPAIRED/REWORK DISCREPANCY REPORT:**

P/N	S/N	NOMENCLATURE	DISCREPANCY	QTY
4505168D	M063C-003	HOUSING ASSY, GEARBOX-MATCHED SET	CORROSION. REPLACE 1EA DAMAGED INSERT <b>(REPAIRED)</b>	1
4506256B	M990	HOUSING ASSY, AIR INLET	CORROSION. CRACKS. 6EA DAMAGED INSERTS. <b>(REPAIRED)</b>	1
4506258B	15553-1	SHROUD ASSY, COMPRESSOR	EROSION OF ABRADABLE MATERIAL <b>(REPAIRED)</b>	1
4506280	F05-004	CHAMBER ASSY, COMBUSTOR	FRETTING ON IGNITOR GROMMETS AND TABS <b>(REPAIRED)</b>	1
4507549A	3350	NOZZLE ASSY, TURBINE, 2ND STAGE	COMPLY WITH S.B.230067 <b>(REWORKED)</b>	1
4951881	7201371046	INLET ASSY, AIR PLENUM	MINOR DAMAGE TO INLET FLANGE. CORROSION TREAT SHIM PLATES <b>(REPAIRED)</b>	1
4953195-1	2674A	ANTI-SURGE VALVE	TESTED/INSPECTED NO FAULT FOUND	1

- \* All parts labeled “(REPLACED)” were scrapped and replaced with new or serviceable parts
- \* All parts labeled “(REPAIRED)” or “(REWORKED)” were repaired in-house
- \* All parts labeled “(INSPECTED)” were inspected or tested with no other work required
- \* All parts labeled “(EXCHANGED)” were exchanged for new or serviceable parts
- \* All parts labeled “100% REPLACEMENT” were replaced with new parts

**REPLACED PARTS:**

PART NUMBER OFF	SERIAL NUMBER OFF	DESCRIPTION	PART NUMBER ON	SERIAL NUMBER ON	QUANTITY	CONDITION
4505113B	S1106	HARNESS ASSY, ENGINECONTROL	4505113B	V28-S1292	1	SE
4505404	16391	BEARING, BALL - TURBINE THRUST	4505404	19364	1	NW
4506285	2969	DISC, TURBINE, 2ND STAGE - MACHINING	4520421	BSM15165	1	NW
4507019		BLADE, TURBINE - 2ND STAGE MACHINING	4520010		29	NW
4507866	2220	WHEEL ASSY, TURBINE, 1ST STAGE	4520420	BSM09836	1	NW
4950875		PLUG, DRAIN - MAGNETIC	4954059		1	SE
4951670		SEAL, CARBON FACE	4951670		1	NW
4951693-3		CABLE ASSY, IGNITOR	4951693-3		1	NW
4951693-4		CABLE ASSY, IGNITOR	4951693-4		1	SE
4951716	14969	BEARING ASSY, ROLLER-CYLINDRICAL	4951716	19530	1	NW
4951716	14972	BEARING ASSY, ROLLER-CYLINDRICAL	4951716	18559	1	NW
4951716	14979	BEARING ASSY, ROLLER-CYLINDRICAL	4951716	19533	1	NW
4951728		LOCKNUT, TIE BOLT - FORWARD	4951728		1	SE
4952365	VO72 0165	ROTOR ASSY, BRUSHLESS STARTER GENERATOR	4952365	AL2085	1	SE
4952416		BRACKET ASSEMBLY, ISOLATOR - FUEL MODULE	4952416		1	NW
4952441	14506	BEARING ASSY, ROLLER-CYLINDRICAL	4952441	19397	1	NW
4952441	14535	BEARING ASSY, ROLLER-CYLINDRICAL	4952441	19160	1	NW
4952781	079G6	RUNNER, SEAL - HYDRODYNAMIC	4952781		1	NW
4952782		SEAL ASSY, FACE, CARBON - HYDRODYNAMIC	4952782		1	NW
4952826	V00-0879	BRUSHLESS STARTER	4952826	V00-0831	1	SE
4953089		IGNITOR	4953089		1	NW

**TRACKED PARTS:**

Part Name	Part Number	Serial Number	*Condition	Part Name	Part Number	Serial Number	*Condition
Powerhead assembly	4505011R	0517	4	Fuel injector simplex	4951948	AAB38510	3
Gearbox assembly	4505015G	0010	4	Fuel injector simplex	4951948	AAB38508	3
Fuel module	4505008F	10-13-109	5	Fuel injector simplex	4951948	AAB34240	3
Anti-surge valve	4953195-1	2674A	3	Fuel injector simplex	4951948	AAB38511	3
BSG stator assembly	4952826	V00-0831	5	Fuel injector simplex	4951948	AAB38506	3
Oil cooler	4951700	04507113	5	Fuel injector simplex	4951948	1ALD2359	3
Ignition unit	4952793	06046165	5	Fuel injector duplex	4951949	1PV06256	3
Oil pressure sensor	4951695	2754913	5	Fuel injector duplex	4951949	1AKT0326	3
Oil temp sensor	4950760	H7695	5	Fuel injector duplex	4951949	1AKT0316	3
Speed sensor	4951694	V00-S0121346	5	Fuel injector duplex	4951949	1AKU1174	3
Thermocouple	4951690-1	V00-S167006	5	Fuel injector duplex	4951949	1ACD2048	3
Thermocouple	4951690-2	V00-S110972	5	Fuel injector duplex	4951949	1AHH2742	3
Deprime solenoid	756722B	2011020017	5	Fuel manifold primary	4951707	04609428-01	5
Data memory module	4505576	2240	5	Fuel manifold secondary	4951708	05464220-01	5
Electrical harness	4505113B	V28-S1292	4	Lube/scavenge oil pump	4951727	V22-N654	5

\* Condition codes: 1 - New, 2 - Overhauled, 3 - Inspected or functionally tested, 4 - Repaired, 5 - No work accomplished

**LIFE LIMITED ITEMS:**

Part Name	Part Number	Serial Number	TSN	CSN	Life Limit	Cycles Remaining
Powerhead impeller	4509329	SIF2407	3,473.5 hours	2,908 cycles	50,000 cycles	<b>47,092 Cycles</b>
1 <sup>st</sup> Turbine rotor assy.	4520420	BSM09836	-----	-----	-----	-----
1 <sup>st</sup> Turbine rotor disk	4520419	BSM09836	1.1 hours	5 cycles	60,000 cycles	<b>59,995 Cycles</b>
1 <sup>st</sup> Turbine blade set	4507016	N/A	1.1 hours	5 cycles	17,500 cycles	<b>17,495 Cycles</b>
2 <sup>nd</sup> Turbine rotor assy.	4520422	BSM15165	-----	-----	-----	-----
2 <sup>nd</sup> Turbine rotor disk	4520421	BSM15165	1.1 hours	5 cycles	35,000 cycles	<b>34,995 Cycles</b>
2 <sup>nd</sup> Turbine blade set	4520010	N/A	1.1 hours	5 cycles	17,500 cycles	<b>17,495 Cycles</b>



# APS2300 ACCEPTANCE TEST DATA SHEET

P/N: 4505001A  
S/N: HSC-E0823604  
Manual: 4511182, Rev #23.4/29/2019

TCN: UN337057  
Shop Order Number: S48LV  
FADEC Part No. 4505003H  
FADEC Serial No: 0691  
FADEC S/W Ver: 03.00.000

Test Date: Feb 17 2020  
Automatic Start Time: 30 sec  
Coastdown Time: 29.06  
Number of Starts (reg 5 min): 5  
Total Run Time in Test: 70 MIN

## MARYVILLE, TENNESSEE - APU TEST FACILITY

Test Data	Units	Run 1		Run 2(b)		Run 2(c)		Run 2(d)		Run 2(e)		Run 2(f)		
		No Load		Norm 1200°F EGT*		104°F Bleed**		104°F Bleed w/20kW**		104°F Bleed w/45kW**		104°F 45kW***		
		Required	Record	Required	Record	Required	Record	Required	Record	Required	Record	Required	Record	
Time/Date	-	2/17/20 16:43		2/17/20 16:47		2/17/20 16:50		2/17/20 16:51		2/17/20 16:51		2/17/20 16:53		
Barometric Pressure	PSIA		14.26		14.26		14.26		14.26		14.26		14.26	
Test Cell Ambient Pressure	PSIA		14.25		14.26		14.26		14.26		14.26		14.26	
Test Cell Ambient Temperature	°F		67.10		64.50		64.40		64.20		64.20		64.00	
Fuel Inlet Pressure	PSIG		39.70		37.50		38.70		38.30		37.50		39.90	
Fuel Inlet Temperature	°F		66.20		80.00		81.60		80.20		78.80		77.70	
Air Inlet Plenum Temperature (Average)	°F		68.44		67.66		67.69		67.79		69.33		67.63	
Air Inlet Plenum Static Pressure (Average)	PSIA		14.17		14.16		14.16		14.17		14.17		14.17	
Engine Oil Pressure	PSIG	Figure 1302	81.16	Min 35 psi	75.42	Min 35 psi	75.54	Min 35 psi	74.94	Min 35 psi	73.98	Min 35 psi	72.46	
Engine Oil Temperature	°F	Max 275°F	92.66	Max 275°F	134.62	Max 275°F	139.92	Max 275°F	143.15	Max 275°F	147.34	Max 275°F	169.97	
Gearbox Vent Pressure	PSIG		0.19		0.09		0.10		0.09		0.06		0.09	
Exhaust Gas Static Pressure	PSIA		14.15		14.15		14.16		14.15		14.18		14.15	
Compressor Static Discharge Pressure	PSIA		67.69		66.64		68.30		68.78		68.82		61.38	
Compressor Discharge Temperature	°F		306.29		411.59		419.50		421.40		423.98		441.58	
Unit Exhaust Gas Temperature	#1	°F	582.12		1061.67		935.80		970.02		1026.23		675.51	
	#2	°F	590.38		1081.61		934.31		977.42		1046.22		691.22	
	Average	°F	581.36		1092.95		950.82		995.50		1062.26		689.25	
	Delta #1 & #2	°F	8.26		19.94		1.49		7.40		19.99		15.72	
	Delta Unit & T/C	°F	4.89		21.31		15.77		21.78		26.04		5.88	
Anti-Surge Valve Operation Test	°F	>=50°F Delta	146.45											
Unit Bleed Air Temperature	°F		133.46		411.38		416.47		418.06		418.82		410.37	
Unit Bleed Air Pressure (Total)	PSIA		67.93		55.68		57.74		58.14		58.20		61.78	
Orifice Inlet Static Pressure	PSIA		14.30		51.24		54.97		55.34		55.42		14.27	
Orifice Exit Temperature	°F		151.70		347.90		389.10		396.50		401.50		388.70	
Orifice Delta Pressure	PSID		0.04		6.16		3.63		3.64		3.80		0.04	
Bleed Airflow	Actual	LB/MIN	8.71		162.07		128.32		128.40		130.79			
	Corrected	LB/MIN				42.8+/-6	42.45		42.8+/-6	42.22	42.8+/-6	42.98		
Bleed Total Pressure	Actual	PSIA	67.93		55.68		57.74		58.14		58.20			
	Corrected	PSIA				59.57		59.98		60.03				
Bleed Total Temperature	Actual	°F	133.46		411.38		416.47		418.06		418.82			
	Corrected	°F				476.96		478.52		476.54				
T/C Exhaust Gas Temperature (Average)	Actual	°F	Max 1324°F 581.36	1200°F	1092.95	Max 1324°F	950.82	Max 1324°F	995.50	Max 1324°F	1062.26	Max 1324°F	689.25	
	Corrected	°F		Norm.	1199.94		1058.72		1107.44		1170.93			
Fuel Flow	Actual	LB/HR	207.87		314.63		277.83		294.42		317.59		203.28	
	Corrected	LB/HR				298.84		316.76		340.18				
Generator Output Voltage	Phase 1	Volts							120.70		120.69		119.96	
	Phase 2	Volts							120.55		120.11		119.56	
	Phase 3	Volts							121.10		121.18		120.63	
Generator Output Current	Phase 1	Amps							55.88		123.38		122.75	
	Phase 2	Amps							55.17		123.36		122.86	
	Phase 3	Amps							56.11		123.88		123.25	
Generator Power	Actual	KW	-0.05		-0.03		-0.05	20±2kW	20.19	45+0/-2kW	44.84	45+0/-2kW	44.28	
	Actual	RPM	47314.00		45835.44		45894.58		45894.58		45894.58		45894.58	
Engine Speed	Percent	%	100.00		96.88		97.00		97.00		96.88		97.00	
	Actual	RPM	46889.22		45467.44		45514.66		45510.63		45385.82		45517.46	
Engine Speed (Corrected)	Percent	%	100.0±0.2%	99.10	96.0±0.2%	96.08	96.0±0.2%	96.20	96.0±0.2%	96.19	96.0±0.2%	95.92	96.0±0.2%	96.20
	Gearbox	g's (peak)	6.5 MAX	1.81	6.5 MAX	1.59	6.5 MAX	1.46	6.5 MAX	1.75	6.5 MAX	1.65	6.5 MAX	1.26
Unit Vibration	Turbine	g's (peak)	6.5 MAX	1.89	6.5 MAX	1.39	6.5 MAX	2.03	6.5 MAX	1.56	6.5 MAX	1.87	6.5 MAX	1.26

ATP PASS-OFF LIMITS (Normalized to 104°F)			
*At T6.0 set point equivalent to 1200°F on a 104°F day			
Item	Units	Required	Recorded
Normalized Bleed Flow (Wb, norm 104)	lb/min	>=144.05	159.63

**ATP PASS-OFF LIMITS (Corrected to 104°F)			
At 40 kW Correct Generator Load & 42.8 lb/min Corrected Bleed Load			
Item	Units	Required	Recorded
Corrected Bleed Air Pressure (Pb,corr)	PSIA	>=58.1368	60.01
Corrected Bleed Air Temperature (Tb,corr)	°F	<=490.49	477.16
Corrected EGT (T6.0,corr)	°F	<=1206.33	1153.22
Corrected Fuel Flow (Wf,corr)	lb/hr	<=349.185	333.52
***ATP PASS-OFF LIMITS (Corrected to 104°F)			
At 45 kW Correct Generator Load & No bleed Load			
Item	Units	Required	Recorded
Corrected EGT (T6.0,corr)	°F	<=824.40	773.65

Mag Plug Inspected: Accept:  Reject:  Leak Check: Accept:  Reject:   
Oil Filter Replaced:  YES

Test Completed By: *[Signature]* 116924



1029 Ross Drive  
Maryville, TN 37801

# APS2300 TRACKED PARTS LIST

Date: **18-Feb-2020**

Engine P/N: **4505001E**

Eng TSN: **20219.9**

Eng TSR: 3472.4

Engine S/N: **HSC-E0823604**

Eng CSN: **19365**

Eng CSR 2903

Model: APS2300



TCN: UN337057

COMPONENTS	P/N REMOVED	S/N REMOVED	In TT	In CSN	In TSR	In CSR	P/N INSTALLED	S/N INSTALLED	Out TT	Out CSN	Out TSR	Out CSR
Outline, Engine, APS2300 APU	4505001B	HSC-E0823604	20219.9	19365	3472.4	2903	<b>4505001B</b>	HSC-E0823604	20221.0	19370	0.0	0.0
Power Head Assembly	4505011J	0517	20219.9	19365	3472.4	2903	4505011J	0517	20221.0	19370	0.0	0.0
Gearbox Assembly	4505015G	0010	20219.9	19365	3472.4	2903	4505015G	0010	20221.0	19370	0.0	0.0
Power Head Impeller	4509329	SIF2407	3472.4	2903	N/A	N/A	4509329	SIF2407	3473.5	2908	0.0	0.0
First Stage Turbine Rotor	4507866	2220	7821.1	6819	3472.4	2903	<b>4520420</b>	<b>BSM09836</b>	1.1	5	N/A	N/A
First Stage Turbine Disc	4507017	2220	7821.1	6819	3472.4	2903	<b>4520419</b>	<b>BSM09836</b>	1.1	5	N/A	N/A
Second Stage Turbine Rotor	4507867	2969	7821.1	6819	3472.4	2903	<b>4520422</b>	<b>BSM15165</b>	1.1	5	N/A	N/A
Second Stage Turbine Disc	4506285	2969	7821.1	6819	3472.4	2903	<b>4520421</b>	<b>BSM15165</b>	1.1	5	N/A	N/A
Fuel Module Assembly	4505008F	10-13-109	Unknown	Unknown	Unknown	Unknown	4505008F	10-13-109	Unknown	Unknown	N/A	N/A
Anti surge Valve Assembly	4953195-1	2674A	Unknown	Unknown	Unknown	Unknown	4953195-1	2674A	Unknown	Unknown	N/A	N/A
BSG Stator Assembly	4952826	V00-0879	Unknown	Unknown	Unknown	Unknown	4952826	<b>V00-0831</b>	Unknown	Unknown	0.0	0.0
Oil Cooler	4951700	04507113	20219.9	19365	N/A	N/A	4951700	04507113	20221.0	19370	N/A	N/A
Ignition Exciter Unit	4952793	06046165	Unknown	Unknown	Unknown	Unknown	4952793	06046165	Unknown	Unknown	N/A	N/A
Electrical Harness Assembly	4505113B	S1106	Unknown	Unknown	Unknown	Unknown	4505113B	<b>V28-S1292</b>	Unknown	Unknown	0.0	0.0
Dual - Oil Pressure Sensor	4951695	2754913	20219.9	19365	N/A	N/A	4951695	2754913	20221.0	19370	N/A	N/A
Oil Temperature Sensor	4950760	H7695	Unknown	Unknown	N/A	N/A	4950760	H7695	Unknown	Unknown	N/A	N/A
Speed Sensor	4951694	V00-S0121346	20219.9	19365	N/A	N/A	4951694	V00-S0121346	20221.0	19370	N/A	N/A
Thermocouple	4951690-1	V00-S167006	Unknown	Unknown	N/A	N/A	4951690-1	V00-S167006	Unknown	Unknown	N/A	N/A
Thermocouple	4951690-2	V00-S110972	20219.9	19365	N/A	N/A	4951690-2	V00-S110972	20221.0	19370	N/A	N/A
De-Prime Solenoid	756722B	2011020017	Unknown	Unknown	N/A	N/A	756722B	2011020017	Unknown	Unknown	N/A	N/A
Data Memory Module (DMM)	4505576	2240	20219.9	19365	N/A	N/A	4505576	2240	20221.0	19370	N/A	N/A
Lube/scavenge Oil Pump	4951727	V22-N654	20219.9	19365	N/A	N/A	4951727	V22-N654	20221.0	19370	N/A	N/A
Fuel Injector, Simplex	4951948	AAB38510	Unknown	Unknown	Unknown	Unknown	4951948	AAB38510	Unknown	Unknown	0.0	0.0
Fuel Injector, Simplex	4951948	AAB38508	Unknown	Unknown	Unknown	Unknown	4951948	AAB38508	Unknown	Unknown	0.0	0.0
Fuel Injector, Simplex	4951948	AAB34240	Unknown	Unknown	Unknown	Unknown	4951948	AAB34240	Unknown	Unknown	0.0	0.0
Fuel Injector, Simplex	4951948	AAB38511	Unknown	Unknown	Unknown	Unknown	4951948	AAB38511	Unknown	Unknown	0.0	0.0
Fuel Injector, Simplex	4951948	AAB38506	Unknown	Unknown	Unknown	Unknown	4951948	AAB38506	Unknown	Unknown	0.0	0.0
Fuel Injector, Simplex	4951948	1ALD2359	Unknown	Unknown	3472.4	2903	4951948	1ALD2359	Unknown	Unknown	0.0	0.0
Fuel Injector, Duplex	4951949	1PV06256	Unknown	Unknown	Unknown	Unknown	4951949	1PV06256	Unknown	Unknown	0.0	0.0
Fuel Injector, Duplex	4951949	1AKT0326	Unknown	Unknown	Unknown	Unknown	4951949	1AKT0326	Unknown	Unknown	0.0	0.0
Fuel Injector, Duplex	4951949	1AKT0316	Unknown	Unknown	Unknown	Unknown	4951949	1AKT0316	Unknown	Unknown	0.0	0.0
Fuel Injector, Duplex	4951949	1AKU1174	Unknown	Unknown	Unknown	Unknown	4951949	1AKU1174	Unknown	Unknown	0.0	0.0
Fuel Injector, Duplex	4951949	1ACD2048	Unknown	Unknown	Unknown	Unknown	4951949	1ACD2048	Unknown	Unknown	0.0	0.0
Fuel Injector, Duplex	4951949	1AHH2742	Unknown	Unknown	Unknown	Unknown	4951949	1AHH2742	Unknown	Unknown	0.0	0.0
Fuel Manifold, Primary	4951707	04609428-01	20219.9	19365	N/A	N/A	4951707	04609428-01	20221.0	19370	N/A	N/A
Fuel Manifold, Secondary	4951708	05464220-01	20219.9	19365	N/A	N/A	4951708	05464220-01	20221.0	19370	N/A	N/A
Combustor Housing	4506257A	EDA1381C	20219.9	19365	3472.4	2903	4506257A	EDA1381C	20221.0	19370	N/A	N/A
Combustion Chamber	4506280	F05-004	20219.9	19365	N/A	N/A	4506280	F05-004	20221.0	19370	0.0	0.0
Containment Shield	4505111B	11494-14	Unknown	Unknown	Unknown	Unknown	4505111B	11494-14	Unknown	Unknown	N/A	N/A
Back Face Seal	4506289A	NSN	20219.9	19365	3472.4	2903	4506289A	NSN	20221.0	19370	N/A	N/A
Roller Bearing	4951878	16387	3472.4	2903	N/A	N/A	4951878	16387	3473.5	2908	N/A	N/A
Air Inlet Housing	4506256B	M990	20219.9	19365	N/A	N/A	4506256B	M990	20221.0	19370	0.0	0.0
Diffuser Assembly	4506279A	956	20219.9	19365	N/A	N/A	4506279A	956	20221.0	19370	N/A	N/A
Compressor Shroud	4506258B	15553-1	Unknown	Unknown	Unknown	Unknown	4506258B	<b>10123-3</b>	Unknown	Unknown	0.0	0.0
Thrust Ball Bearing	4505404	16391	3472.4	2903	N/A	N/A	4505404	<b>19364</b>	1.1	5	N/A	N/A
Exhaust Duct	4505052C	A121	Unknown	Unknown	Unknown	Unknown	4505052C	A121	Unknown	Unknown	N/A	N/A
Spline Coupling	4505150	CGC511	20219.9	19365	N/A	N/A	4505150	CGC511	20221.0	19370	N/A	N/A
Tie Bolt	4506282	MO756	Unknown	Unknown	Unknown	Unknown	4506282	MO756	Unknown	Unknown	N/A	N/A
Mid Shaft	4506283	V15-M7123	Unknown	Unknown	Unknown	Unknown	4506283	V15-M7123	Unknown	Unknown	N/A	N/A
1st Stage Turbine Nozzle	4506295	1228	20219.9	19365	N/A	N/A	4506295	1228	20221.0	19370	N/A	N/A
2nd Stage Turbine Nozzle	4507549A	3350	Unknown	Unknown	Unknown	Unknown	<b>4520019</b>	3350	Unknown	Unknown	0.0	0.0


*J. D. Young*

Troy D. Young, for Standard Aero (Alliance) Inc. FAA Repair Station No. AE0R215N, 1029 Ross Drive, Maryville TN 37801



1. Approving Civil Aviation Authority/Country FAA/United States		<b>AUTHORIZED RELEASE CERTIFICATE</b> FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG			3. Form Tracking Number ARCUN1265335	
4. Organization Name and Address  <b>Standard Aero</b> Standard Aero (Alliance) Inc. 1029 Ross Drive MARYVILLE, TENNESSEE, UNITED STATES 37801 Repair Station # AE0R215N					5. Work Order/Contract/Invoice Number UN337057	
6. Item	7. Description	8. Part Number	9. Quantity	10. Serial Number	11. Status/Work	
1	AUXILIARY POWER UNIT APS 2300	4505001B	1	HSC-E0823604	REPAIRED	
12. Remarks						
Customer: LLC AIRCOMPANY IKAR Customer PO: RP-0004280			Time since new: 20,221.0 hours and 19,370 cycles. Time since repair: 1.1 hours and 5 cycles.			
Data Memory Module 4505576, s/n 2240 reading at input: 20,219.9 hours and 19,365 cycles. Data Memory Module 4505576, s/n 2240 reading at delivery: 20,221.0 hours and 19,370 cycles.			Inspected, repaired and tested in accordance with Pratt & Whitney Canada Standard Practices Manual HSPS 490001, Revision 5, dated 25 AUG 2015, Engine Manual 4511182, Revision 23, dated 29 APR 2019, Cleaning, Inspection and Repair Manual 4511183, Revision 22, dated 06 MAY 2019, other FAA acceptable data, and all applicable Federal Aviation Administration Regulations. Condition Report and Work Order Summary is submitted electronically and is incorporated by reference.			
Preserved on this date in accordance with 18 month method of Task 49-10-01-530-801 of Pratt & Whitney Canada Engine Manual 4511182, Revision 23, dated 29 APR 2019.						
Standard Aero (Alliance) Inc. 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.145.4894.						
13a. Certifies the items identified above were manufactured in conformity to  <input type="checkbox"/> Approved design data and are in a condition for safe operation. <input type="checkbox"/> Non-approved design data specified in Block 12.			14a. <input checked="" type="checkbox"/> 14 CFR 43.9 Return to Service <input checked="" type="checkbox"/> 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 N/A		13c. Approval/Authorization No. N/A	14b. Authorized Signature 		14c. Approval/Certificate No AE0R215N	
13d. Name (Typed or Printed) N/A		13e. Date (dd/mmm/yyyy) N/A	14d. Name (Typed or Printed) TROY D. YOUNG		14e. Date (dd/mmm/yyyy) 18-Feb-2020	
<b>User/Installer Responsibilities</b>						
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 FAA/United States	<b>AUTHORIZED RELEASE CERTIFICATE</b> FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG	3. Form Tracking Number ARCUN1265337
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4. Organization Name and Address  <b>StandardAero</b> Standard Aero (Alliance) Inc. 1029 Ross Drive MARYVILLE, TENNESSEE, UNITED STATES 37801    Repair Station # AE0R215N	5. Work Order/Contract/Invoice Number UN337057
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6. Item	7. Description	8. Part Number	9. Quantity	10. Serial Number	11. Status/Work
1	POWERHEAD ASSY, AUXILIARY POWER SYSTEM	4505011R	1	0517	REPAIRED

12. Remarks

Customer: LLC AIRCOMPANY IKAR  
Customer PO: RP-0004280

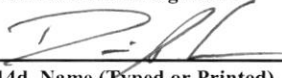
Time since new: 20,219.9 hours and 19,365 cycles.  
Time since repair: 0.0 hours and 0 cycles.

Cleaned, inspected and repaired in accordance with Pratt & Whitney Canada Standard Practices Manual HSPS 490001, Revision 5, dated 25 AUG 2015, Engine Manual 4511182, Revision 23, dated 23 APR 2019, Cleaning, Inspection and Repair Manual 4511183, Revision 22, dated 09 MAY 2019.

Note that module assembly part number was changed from 4505011J to 4505011R as a result of the embodiment of Service Bulletins APS-49-230025, Revision 1, dated 14 DEC 2017 and APS-49-230063, Revision 1, dated 18 JAN 2019.

Standard Aero (Alliance) Inc. 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.145.4894.

13a. Certifies the items identified above were manufactured in conformity to  <input type="checkbox"/> Approved design data and are in a condition for safe operation. <input type="checkbox"/> Non-approved design data specified in Block 12.	14a. <input checked="" type="checkbox"/> 14 CFR 43.9 Return to Service <input checked="" type="checkbox"/> 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.
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13b. Authorized Signature N/A	13c. Approval/Authorization No. N/A	14b. Authorized Signature 	14c. Approval/Certificate No AE0R215N
13d. Name (Typed or Printed) N/A	13e. Date (dd/mmm/yyyy) N/A	14d. Name (Typed or Printed) DENNIS IKNER	14e. Date (dd/mmm/yyyy) 15-Feb-2020

**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 FAA/United States	<b>AUTHORIZED RELEASE CERTIFICATE</b> FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG	3. Form Tracking Number ARCUN1265338
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4. Organization Name and Address  <b>Standard Aero</b> (Alliance) Inc. 1029 Ross Drive MARYVILLE, TENNESSEE, UNITED STATES 37801    Repair Station # AE0R215N	5. Work Order/Contract/Invoice Number UN337057
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6. Item	7. Description	8. Part Number	9. Quantity	10. Serial Number	11. Status/Work
1	GEARBOX ASSY	4505015G	1	0010	REPAIRED

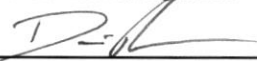
12. Remarks

Customer: LLC AIRCOMPANY IKAR  
Customer PO: RP-0004280

Time since new: 20,219.9 hours and 19,365 cycles.  
Time since repair: 0.0 hours and 0 cycles.

Cleaned, inspected and repaired in accordance with Pratt & Whitney Canada Standard Practices Manual HSPS 490001, Revision 5, dated 25 AUG 2015, Engine Manual 4511182, Revision 23, dated 29 APR 2019, Cleaning, Inspection and Repair Manual 4511183, Revision 22, dated 06 MAY 2019.

Standard Aero (Alliance) Inc. 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.145.4894.

13a. Certifies the items identified above were manufactured in conformity to  <input type="checkbox"/> Approved design data and are in a condition for safe operation. <input type="checkbox"/> Non-approved design data specified in Block 12.	14a. <input checked="" type="checkbox"/> 14 CFR 43.9 Return to Service <input checked="" type="checkbox"/> 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 N/A	13c. Approval/Authorization No. N/A	14b. Authorized Signature 	14c. Approval/Certificate No AE0R215N
13d. Name (Typed or Printed) N/A	13e. Date (dd/mmm/yyyy) N/A	14d. Name (Typed or Printed) DENNIS IKNER	14e. Date (dd/mmm/yyyy) 15-Feb-2020

#### 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 FAA/United States	<b>2. AUTHORIZED RELEASE CERTIFICATE</b> FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG	3. Form Tracking Number ARCUN1265339
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4. Organization Name and Address  <b>Standard Aero (Alliance) Inc.</b> 1029 Ross Drive MARYVILLE, TENNESSEE, UNITED STATES 37801    Repair Station # AE0R215N	5. Work Order/Contract/Invoice Number UN337057
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6. Item	7. Description	8. Part Number	9. Quantity	10. Serial Number	11. Status/Work
1	IMPELLER ASSY, COMPRESSOR	4509329	1	SIF2407	REPAIRED

**12. Remarks**

Customer: LLC AIRCOMPANY IKAR  
Customer PO: RP-0004280

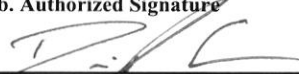
Time since new: 3,472.4 hours and 2,903 cycles.  
Time since repair: 0.0 hours and 0 cycles.

Inspected, repaired and balanced in accordance with Pratt & Whitney Canada Standard Practices Manual HSPS 490001, Revision 5, dated 25 AUG 2015, Engine Manual 4511182, Revision 23, dated 29 APR 2019, and Cleaning, Inspection and Repair Manual 4511183, Revision 22, dated 06 MAY 2019.

Visual, fluorescent penetrant and eddy current inspections were accomplished.

Standard Aero (Alliance) Inc. 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.145.4894.

<b>13a. Certifies the items identified above were manufactured in conformity to</b>  <input type="checkbox"/> Approved design data and are in a condition for safe operation. <input type="checkbox"/> Non-approved design data specified in Block 12.	<b>14a.</b> <input checked="" type="checkbox"/> 14 CFR 43.9 Return to Service <input checked="" type="checkbox"/> 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.
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13b. Authorized Signature N/A	13c. Approval/Authorization No. N/A	14b. Authorized Signature 	14c. Approval/Certificate No AE0R215N
13d. Name (Typed or Printed) N/A	13e. Date (dd/mmm/yyyy) N/A	14d. Name (Typed or Printed) DENNIS IKNER	14e. Date (dd/mmm/yyyy) 15-Feb-2020

**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 Competent Authority/Country Zatwierdzenie właściwego urzędu/ Kraj  <b>Civil Aviation Authority Poland</b> Urząd Lotnictwa Cywilnego Polska	<b>AUTHORISED RELEASE CERTIFICATE</b> <b>POŚWIADCZENIE PRODUKCJI / OBSŁUGI</b> <b>EASA FORM 1</b> <b>FORMULARZ NR 1 EASA</b>	3. Form Tracking Number - Numer Poświadczenia. <b>83974467-000012</b> <b>3506529</b>
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4. Organisation Name and Address: Nazwa i adres organizacji: <b>Hamilton Sundstrand Poland Sp. z o.o.</b> Hetmańska 120 35-078 Rzeszów, Poland	5. Work Order / Contract / Invoice Numer Zamówienia / Kontraktu / Faktury <b>3180956</b> <b>4503759305</b>
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6. Item - L.p. 000012	7. Description - Opis DISC-TURBINE, 1ST STAGE,ASYO	8. Part No - Numer części <b>4520420</b>	9. Qty - Ilość. 2 EA	10. Serial No - Numer seryjny SEE BLOCK 12	11. Status / Work - Status / Czynność NEW
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12. Remarks - Uwagi:

Options - Opcje	Details - Szczegóły	Serial No. - Numer seryjny.	Serial No - Numer seryjny
N/A	4520420	BSM15252	<b>BSM09836</b>
N/A	4520419	BSM15252	
N/A	4520419	BSM09836	

**Certified True Copy of the Original**  
 Qty 1  
 Signature H. Wabara  
 Date 02-07-2020  
**Pratt & Whitney Component Solutions**

When applicable, shelf life is indicated on the item packaging - Gdy dotyczy, okres przydatności do użycia, jest określony na opakowaniu.

13a. Certifies that the items identified above were manufactured in conformity to: Poświadcza się, że elementy podane powyżej zostały wyprodukowane zgodnie z: <input checked="" type="checkbox"/> approved design data and are in a condition for safe operation zatwierdzonymi danymi projektowymi i są w stanie zapewnić bezpieczne użytkowanie <input type="checkbox"/> non - approved design data specified in block 12 nie zatwierdzonymi danymi projektowymi wymienionymi w polu 12	<del>           14a. <input type="checkbox"/> Part - 145.A.50 Release to Service - Poświadczenie wg Part 145.A.50 /  <input type="checkbox"/> Other regulation specified in block 12 - Inne Przepisy określone w polu 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. - Poświadcza się, że jeżeli w polu 12 nie podano innego przepisu, to prace wymienione w polu 11 i opisane w polu 12, zostały wykonane zgodnie z Part - 145 i w odniesieniu do tych czynności dane części są uznane za zdolne do użytkowania.         </del>		
13b. Authorised Signature - Podpis osoby upoważnionej  	13c. Approval / Authorisation Number Nr Certyfikatu / Nr Upoważnienia <b>PL.21G.0029</b>	<del>           14b. Authorised Signature            Podpis osoby upoważnionej            N/A         </del>	<del>           14c. Certificate/Approval Ref. No.            Nr Certyfikatu / Nr Upoważnienia            N/A         </del>
13d. Name Imię i nazwisko <b>L. Kolanski</b>	13e. Date (dd/mmm/yyyy) - Data (dd/mmm/rrrr) <b>05/FEB/2020</b>	<del>           14d. Name - Imię i nazwisko            N/A         </del>	<del>           14e. Date (dd/mmm/yyyy) - Data (dd/mmm/rrrr)            N/A         </del>

EASA Form 1 - Issue 2  
 USER/INSTALLER RESPONSIBILITIES: This certificate does not automatically constitute authority to install the item(s).  
 Where the user/ installer performs work in accordance with regulations 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.

OBOWIĄZKI UŻYTKOWNIKA / INSTALATORA: Niniejsze poświadczenie nie stanowi automatycznego zezwolenia na zainstalowanie elementu.  
 Jeżeli użytkownik/ instalator wykonuje prace zgodnie z przepisami władz zdolności do lotu, innych niż władze zdolności do lotu określone w polu 1, to istotne jest, żeby użytkownik/ instalator dopilnował, żeby jego/jej władze zdolności do lotu zaakceptowały części poświadczone zgodnie z upoważnieniem władz zdolności do lotu wskazanych w polu 1.  
 Poświadczenia z pól 13a i 14a nie stanowią poświadczenia zainstalowania. W każdym przypadku zapisy obsługi statku powietrznego muszą zawierać poświadczenie zabudowy wydane przez użytkownika/ instalatora zgodnie z przepisami krajowymi, zanim statek powietrzny zostanie dopuszczony do lotu.

1. Approving Civil Aviation Authority/Country FAA/United States	<b>2. AUTHORIZED RELEASE CERTIFICATE</b> FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG	3. Form Tracking Number ARCUN1265340
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4. Organization Name and Address  <b>Standard Aero (Alliance) Inc.</b> 1029 Ross Drive MARYVILLE, TENNESSEE, UNITED STATES 37801    Repair Station # AE0R215N	5. Work Order/Contract/Invoice Number UN337057
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6. Item	7. Description	8. Part Number	9. Quantity	10. Serial Number	11. Status/Work
1	WHEEL ASSY, TURBINE 2ND STAGE	4520422	1	BSM15165	INSPECTED

12. Remarks

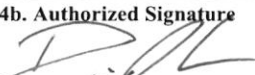
Customer: LLC AIRCOMPANY IKAR  
Customer PO: RP-0004280

Disk time since new: 0.0 hours and 0 cycles.  
Blade set time since new: 0.0 hours and 0 cycles.

Assembled and balanced from a new disk 4520421, s/n BSM15165, 29 each new 4520010 blades, 29 each new 4505039 rivets, and customer's serviceable condition inspected seal runner 4505043, s/n 6487.

All work performed in accordance with Pratt & Whitney Canada Standard Practices Manual HSPS 490001, Revision 5, dated 25 AUG 2015, Engine Manual 4511182, Revision 23, dated 29 APR 2019, and Cleaning, Inspection and Repair Manual 4511183, Revision 22, dated 06 MAY 2019.

Standard Aero (Alliance) Inc. 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.145.4894.

<b>13a. Certifies the items identified above were manufactured in conformity to</b>  <input type="checkbox"/> Approved design data and are in a condition for safe operation. <input type="checkbox"/> Non-approved design data specified in Block 12.	<b>14a.</b> <input checked="" type="checkbox"/> 14 CFR 43.9 Return to Service <input checked="" type="checkbox"/> 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.		
<b>13b. Authorized Signature</b> N/A	<b>13c. Approval/Authorization No.</b> N/A	<b>14b. Authorized Signature</b> 	<b>14c. Approval/Certificate No</b> AE0R215N
<b>13d. Name (Typed or Printed)</b> N/A	<b>13e. Date (dd/mmm/yyyy)</b> N/A	<b>14d. Name (Typed or Printed)</b> DENNIS IKNER	<b>14e. Date (dd/mmm/yyyy)</b> 15-Feb-2020


**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 FAA/United States	<b>2. AUTHORIZED RELEASE CERTIFICATE</b> FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG	3. Form Tracking Number ARCUN1265342
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<b>4. Organization Name and Address</b>  <b>StandardAero</b> Standard Aero (Alliance) Inc. 1029 Ross Drive MARYVILLE, TENNESSEE, UNITED STATES 37801    Repair Station # AE0R215N	5. Work Order/Contract/Invoice Number UN337057
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6. Item	7. Description	8. Part Number	9. Quantity	10. Serial Number	11. Status/Work
1	ANTI-SURGE VALVE	4953195-1	1	2674A	INSPECTED/TESTED

**12. Remarks**

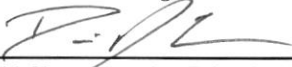
Customer: LLC AIRCOMPANY IKAR  
Customer PO: RP-0004280

Time since new: Unknown hours and Unknown cycles

Cleaned, inspected and tested in accordance with Hamilton Sundstrand Component Maintenance Manual 49-52-13, Revision 4, dated 30 MAY 2019.

Standard Aero (Alliance) Inc. 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.145.4894.

<b>13a. Certifies the items identified above were manufactured in conformity to</b>  <input type="checkbox"/> Approved design data and are in a condition for safe operation. <input type="checkbox"/> Non-approved design data specified in Block 12.	<b>14a.</b> <input checked="" type="checkbox"/> 14 CFR 43.9 Return to Service <input checked="" type="checkbox"/> 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.
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13b. Authorized Signature N/A	13c. Approval/Authorization No. N/A	14b. Authorized Signature 	14c. Approval/Certificate No AE0R215N
13d. Name (Typed or Printed) N/A	13e. Date (dd/mmm/yyyy) N/A	14d. Name (Typed or Printed) DENNIS IKNER	14e. Date (dd/mmm/yyyy) 15-Feb-2020

**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.

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