

**NATIONAL FLIGHT SERVICES, INC.  
TPE331 ALERT BULLETIN**

ENGINE - TURBINE SECTION - Replace Third Stage Turbine Stator Assembly

**1. Planning Information**

**A. Effectivity**

This service bulletin is applicable to the following power group assemblies.

Part No.	S/N
3101880-X	All

The above component is used on the following turboprop aircraft engines. This service bulletin is applicable to the following serial numbers indicated.

<u>Part No.</u>	<u>Model No.</u>	<u>S/N</u>	<u>Application</u>
893730-1-1/-2	TPE331-1-100F	All	Pilatus Porter
893400-1-1/-2	TPE331-1-101B	All	Turbo 18/Turboliner
894120-1-1/-2	TPE331-1-101E	All	Jetliner 600 (Dove)
896760-1/-2/-3/-4	TPE331-1-101F	All	Peacemaker
3101850-1	TPE331-1-101Z	All	S2R Turbo Thrush /Turbo Ag Cat
893250-1-1/-2	TPE331-1-151A	All	Mitsubishi MU-2DP/-2F/ -2G
869595-1-1/-2	TPE331-1-151G	All	Merlin IIB
3101260-1/-2	TPE331-1-151K	All	Century Turbo Commander
869480-1-1/-2	TPE331-2-201A	All	Skyvan
894820-1-1/-2	TPE331-2-201C	All	CASA 212
894980-1/-2	TPE331-2UA-203D	All	Goose
894040-1/-2	TPE331-3U-303G	All	Merlin III/IIIA/IV/IVA/Metro
or	or		
895880-1/-2	TPE331-3UW-303G	All	Metro II/Metro IIA
3101800-1	TPE331-3U-303V	All	Century Jetstream III
3102550-1/-2/-3/-4	TPE331-3U-304G	All	Merlin III/IIIA/IV/IVA/ Metro/Metro II/Metro IIA
894870-1 thru -4	TSE331-3U-303N	All	Helitec Corp S55T

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<u>PART NO.</u>	<u>MODEL NO.</u>	<u>PRIOR TO S/N</u>	<u>APPLICATION</u>
896950-1-1/-2/-3 895720-1/-2/-3	TPE331-5-251C TPE331-5-251K	All All	CASA 211-100 Jetprop Commander 690A/690B
3103860-1 3102200-1 3102520-1	TPE331-5-252C TPE331-5-252D TPE331-5-252K	All All All	CASA 212-100 Dornier 228 Jetprop Commander 690A/690B
3101840-1 3102520-2/-3	TPE331-5-252M TPE331-5-254K	All All	Mitsubishi MU-2N-2P Jetprop Commander 690C/690D
895720-4	TPE331-5-255K	All	Jetprop Commander 690/690A/690B
3103330-1 896160-1/-3/-5	TPE331-5A-252D TPE331-6-251M	All All	Dornier 228 Mitsubishi MU-2J/-2K/ -2L/-2M
3101630-1 3101360-2 3103300-1 3101300-2	TPE331-6-252B TPE331-6-253B TPE331-6-252L TPE331-6-252M	All All All All	Beech B100 Beech B100 Merlin IIB Mitsubishi MU-2J/-2K/ -2L/-2M
3103340-1 3102450-1	TPE331-6-252T TPE331-6A-251M	All All	Skyvan Mitsubishi MU-2J/-2K/ -2L/-2M
3101300-3	TPE331-6A-252M	All	Mitsubishi MU-2J/-2K/ -2L/-2M

**1. B. Reason**

- (1) Problem: Third Stage Stators P/N 868379-3 with the inner sheet metal seal support fabricated from (Hastelloy –S-) have been found to cause premature fatigue cracking, which may result in the seal support moving aft and making contact with the third stage turbine wheel. If left uncorrected, this could result in failure of the third stage turbine wheel.
- (2) Action: National Flight Services has established the requirement to replace or rework identified third stage stators at periodic intervals, as specified in Paragraph D, Compliance.

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**C. Description**

This service bulletin provides instructions for the replacement of identified Third Stage Turbine Stator Assembly, Part No. 868379-3 at intervals specified in Paragraph D, Compliance.

**D. Compliance**

Recommended. National Flight Services recommends that identified Third Stage Stator Assembly, Part No. 868379-3 listed in Table 1, be replaced or returned for rework including replacement of the inner sheet metal seal support, with detail fabricated from (Haynes 25) in accordance with the following schedule:

For the purpose of this bulletin, components which do not have known cycles shall be converted to cycles by recording 1.5 cycles for each hour of operation.

3<sup>rd</sup> Stage Stator  
Time in Service  
Since Rework

Replacement Schedule

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Less than 450 Cycles

Prior to accumulating 600 cycles.

450 to 899 Cycles

Within 150 cycles in service after the effective date of this alert bulletin. Not to exceed 950 cycles.

900 or More Cycles

Within 50 cycles in service after the effective date of this alert bulletin.

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NOTE: Third Stage Turbine Stator Assemblies listed in Table 1 shall be re-identified after rework with an "AB" prefix in the Serial Number to designate compliance with this alert bulletin.

NOTE: Upon compliance, 3<sup>rd</sup> Stage Stator inner sheet metal seal support shall be replaced in accordance with service life limit schedule in Garrett Service Bulletin 72-0019 or subsequent revision.

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**E. Approval**

F.A.A. approval has been obtained on technical data contained in this publication that affects the engine type design.

**F. Man Hour Requirements**

No additional man hours are required to accomplish this change when a maintenance action necessitates access to the affected part.

**G. Material – Price and Availability**

A special program is available for this modification, under certain conditions, providing compliance recommendations of paragraph D are met. Information on special program and availability of parts may be obtained at National Flight Services Inc., 10971 E. Airport Services Rd., Swanton, Ohio 43558.

Identified 3<sup>rd</sup> Stage Stators may be forwarded for rework including inner sheet metal seal support replacement to:

National Flight Services, Inc.  
10971 E. Airport Services Rd.  
Swanton, Ohio 43558  
(419) 865-2311

**H. Tooling – Price and Availability**

No special tooling is required except that already listed in publications referenced in paragraph J.

**I. Weight and Balance**

No change.

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**J. Publications References**

The sources of information used in the preparation of this service bulletin include Garrett engineering documentation and the following.

<b>PART/ MODEL NO.</b>	<b>ENGINE OVERHAUL MANUAL</b>	<b>ENGINE MAINTENANCE MANUAL</b>	<b>ILLUSTRATED PARTS CATALOG</b>
TPE331-1-100F	N/A	*72-00-92	72-00-91
TPE331-1-101B	N/A	*72-00-92	72-00-91
TPE331-1-101E	N/A	*72-00-92	72-00-91
TPE331-1-101F	N/A	*72-00-92	72-00-91
TPE331-1-101Z	N/A	*72-00-92	72-00-91
TPE331-1-151A	N/A	*72-00-92	72-00-91
TPE331-1-151G	N/A	*72-00-92	72-00-91
TPE331-1-151K	N/A	*72-00-92	72-00-91
TPE331-2-201A	N/A	*72-00-92	72-00-91
TPE331-2-201C	N/A	*72-00-92	72-00-91
TPE331-2UA-203D	N/A	*72-00-92	72-00-91
TPE331-3U-303G	N/A	*72-00-98	72-00-97
TPE331-3U-303V	N/A	*72-00-98	72-00-97
TPE331-3U-304G	N/A	*72-00-98	72-00-97
TPE331-3UW-303G	N/A	*72-00-98	72-00-97
TSE331-3U-303N	N/A	*72-00-98	72-00-97
TPE331-5-251C	N/A	*72-01-27	72-01-25
TPE331-5-251K	N/A	*72-01-27	72-01-25
TPE331-5-252C	N/A	*72-01-27	72-01-25
TPE331-5-252D	N/A	*72-01-22	72-01-20
TPE331-5-252K	N/A	*72-01-27	72-01-25
TPE331-5-252M	N/A	*72-01-27	72-01-25
TPE331-5-254K	N/A	*72-01-27	72-01-25
TPE331-5-255K	N/A	*72-01-27	72-01-25
TPE331-5A-252D	N/A	*72-01-22	72-01-20
TPE331-6-251M	N/A	*72-01-32	72-01-30
TPE331-6-252B	N/A	*72-01-32	72-01-30
TPE331-6-252L	N/A	*72-01-95	72-01-94
TPE331-6-252M	N/A	*72-01-32	72-01-30
TPE331-6-252T	N/A	*72-01-95	72-01-94
TPE331-6-253B	N/A	*72-01-32	72-01-30
TPE331-6A-251M	N/A	*72-01-32	72-01-30
TPE331-6A-252M	N/A	*72-01-32	72-01-30

**\*\*Affected Chapter/Section/Subject 72-50-07.**

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**1. K. Service Bulletin References**

If installing 868379-3 stator assembly, the following shall be accomplished prior to or concurrent with this service bulletin. The accomplishment instructions outlined in each service bulletin stand alone, therefore compliance with this service bulletin does not indicate compliance with any other service bulletin.

<u>Service Bulletin No.</u>	<u>Service Bulletin Title</u>
A72-0559	Inspect and / or Replace Third Stage Stator Assembly

Compliance with this alert bulletin will no longer be applicable when the equipment has been modified in accordance with the accomplishment instructions outlined in the following Garrett Service Bulletin.

<u>Service Bulletin No.</u>	<u>Service Bulletin Title</u>
72-0745	Replace Third Stage Turbine Stator Assembly P/N 868379-1/-3/-5 with P/N 867559-2

**L. Other Publications Affected**

Same as those listed under paragraph J Publications References.

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**2. Accomplishment Instructions**

NOTE: Publications listed in Section 1 provide applicable disassembly, cleaning, inspection, reassembly, and testing instructions and shall be referred to during the accomplishment of the following instructions.

If a hot section inspection is not being accomplished at the time this Alert Service Bulletin is being complied with, fluorescent penetrant inspection of Third Stage Turbine Wheel, Part No. 868630-8/-9 is not required as part of compliance with this Alert Service Bulletin even though the wheel has been removed.

If installing 868379-3 stator assembly, Service Bulletin A72-0559 shall be accomplished prior to or in conjunction with the following instructions.

**A. Replace Third Stage Turbine Assembly**

NOTE: Return removed part with Life Limited Part Log Card, for rework.

- (1) Remove Third Stage Turbine Stator Assembly, Part No. 868379-3 listed in Table 1, in accordance with Engine Maintenance Manual.

NOTE: Maintain record of accumulated operating hours and cycles on life limited part log card and maintenance record.

- (2) Install serviceable 3<sup>rd</sup> Stage Turbine Stator Assembly, P/N 868379-3 in accordance with Engine Maintenance Manual.
- (3) Reassemble engine in accordance with Engine Maintenance Manual.
- (4) Check and ensure proper operation in accordance with Aircraft Flight Manual and / or appropriate aircraft Flight Manual and / or appropriate aircraft documents.
- (5) Make entry in engine log book noting date of compliance, engine operating time (and serial number of installed component if applicable) and compliance with this alert bulletin (and alert bulletin revision number if applicable).

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**Table 1: Serial Numbers of Third Stage Stators which require rework.**

0-01345-1268	2-08378-164	3-01345-8802
0-01345-14960	2-08378-1773	3-01345-8810
0-01345-1849	2-08378-1779	4-01345-1964
0-01345-21304	2-08378-1813	4-01345-3572
0-01345-3292	2-08378-986	4-01345-5347
0-01345-3339	3-01345-12365	4-01345-5499
0-01345-3446	3-01345-12398	4-01345-5920
0-01345-6817	3-01345-1504	4-01345-6002
0-01345-6823	3-01345-1509	4-01345-6064
0-01345-6825	3-01345-1851	4-01345-6342
0-01345-7822	3-01345-1853	4-01345-6398
0-01345-9368	3-01345-1861	4-01345-6736
0-13488-1508	3-01345-209	4-01345-6739
0-13488-1516	3-01345-21793	4-01345-7283
0-13488-2364	3-01345-2185	4-08378-3139
0-13488-2381	3-01345-2186	4-13488-3273
0-13488-2666	3-01345-2190	4-13488-4590
0-13488-2667	3-01345-2527	4-13488-721
0-13488-2869	3-01345-2533	5-01345-1866
0-13488-2874	3-01345-2701	5-01345-2715
0-13488-2877	3-01345-2893	5-01345-3118
0-13488-4069	3-01345-3387	5-01345-3129
0-13488-4080	3-01345-3615	5-01345-3147
0-13488-4339	3-01345-3798	5-01345-4078
1NF-42690	3-01345-4071	5-01345-4085
1-01345-12406	3-01345-4076	5-01345-4432
1-01345-5556	3-01345-4080	5-01345-4497
1-01345-8631	3-01345-4954	5-01345-4778
1-01345-8640	3-01345-5094	5-01345-4783
1-01345-9365	3-01345-5101	5-01345-8234
1-08378-403	3-01345-5505	5-01345-8807
1-08378-491	3-01345-5517	6-01345-10705
2-01345-1222	3-01345-5764	6-01345-10992
2-01345-1350	3-01345-5781	6-01345-2664
2-01345-1446	3-01345-6150	6-01345-4154
2-01345-1656	3-01345-6158	6-01345-5355
2-01345-1687	3-01345-667	6-01345-8982
2-01345-4601	3-01345-7257	6-01345-8991
2-01345-914	3-01345-7308	6-01345-9834
2-03627-073R	3-01345-7814	6-08378-2511
2-08378-1018	3-01345-7949	7-01345-10015
2-08378-1034	3-01345-7950	7-01345-10791
2-08378-1500	3-01345-7979	7-01345-11239
2-08378-1628	3-01345-8786	7-01345-11259



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**Table 1 (Continued): Serial Numbers of Third Stage Stators which require rework.**

7-01345-12946	8-01345-20288	9Y-2250
7-01345-13852	8-01345-20292	9Y-2344
7-01345-14057	8-01345-20465	9Y-288
7-01345-14077	8-01345-20698	9Y-305
7-01345-14579	8-01345-20722	9Y-3247
7-01345-15652	8-01345-21308	9Y-3391
7-01345-15659	8-01345-21309	9Y-3392
7-01345-15689	8-01345-21939	9Y-830
7-01345-15698	8-01345-22061	9-01345-1395
7-01345-1676	8-01345-3615	9-01345-14286
7-01345-1799	8-01345-7081	9-01345-14847
7-01345-6893	8-01345-7170	9-01345-14848
7-01345-704	8-01345-9857	9-01345-15214
7-01345-7315	8-01345-9861	9-01345-15653
7-01345-7638	8-01345-9887	9-01345-16587
7-01345-7950	8-01345-9894	9-01345-17553
7-01345-8621	8-01345-9895	9-01345-2953
7-01345-8816	8-01345-9897	9-01345-2988
7-01345-8909	8-01345-9937	9-01345-2995
7-01345-9338	8-01345-99412	9-01345-5409
7-01345-9449	8-13488-10517	9-01345-5441
7-01345-9452	8-13488-10531	9-01345-6809
7-08378-274	8-13488-105533	9-01345-8213
7-08378-497	8-13488-11091	9-13488-11245
7-08378-922	8-13488-11099	9-13488-11720
7-13488-3551	8-13488-11113	9-13488-12007
7-13488-4303	8-13488-11246	9-13488-12619
85PR-260	8-13488-1191	9-13488-12862
88PR-395	8-13488-1277	9-13488-14682
8R-0936	8-13488-1279	9-13488-6263
8Y-2172	8-13488-15325	9-13488-6270
8Y-2178	8-13488-2473	9-13488-6274
8Y-2413	8-13488-2477	9-13488-6629
8Y-2422	8-13488-3321	9-13488-6696
8-01345-11675	8-13488-3913	9-13488-8239
8-01345-13500	8-13488-6354	9-13488-8242
8-01345-13544	8-13488-6358	9-13488-9642
8-01345-14010	8-13488-7625	9-13488-9668
8-01345-14583	8-13488-8147	NF11-61890
8-01345-14766	8-13488-8152	NF311-61590
8-01345-16029	8-13488-827	NF32191-2
8-01345-17307	8-13488-836	NF334-71989
8-01345-19597	9Y-221	NFS12991
		NFS13091

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**3. Material Information**

The following parts are required to accomplish the instructions outlined in this service bulletin.

NOTE: Applicable illustrated parts catalogs and spare parts bulletins dated later than the original issue date of this alert bulletin may introduce different parts for installation. Refer to these documents before ordering parts.

Expendable parts discarded in gaining access to the affected area of the equipment are not included.

The following parts are required to accomplish the instructions outlined in this alert bulletin.

<u>NEW P/N</u>	<u>QUANTITY</u>	<u>UNIT LIST PRICE*</u>	<u>KEY WORD</u>	<u>OLD P/N</u>	<u>INSTRUCTIONS-DISPOSITION</u>
868379-3	1		Stator	868379-3 (Serial Numbers as listed in Table 1)	R

Disposition Code R. Replacement part is available on exchange basis.  
Contact National Flight Services, Inc. for details.

**\*See Paragraph 1. G For Details**