

Sektion 2. Utlandstillverkad flygmateriel

TITEL: Utbyte, livstidsbegränsning och modifiering av turbinhjul

GÄLLER: Modellerna TSE 331-3 och TPE 331-1, -2, -3, -5 och -6.

ÅTGÄRD: Inspektera turbindelar med P/N och S/N angivna i bifogad kopia av FAA AD 84-01-04, och i enlighet med GTEC Service Bulletiner (SB) angivna under rubriken underlag.

TID FÖR ÅTGÄRD: Vid antalet cykler angivna i FAA AD 84-01-04.

UNDERLAG: FAA AD 84-01-04.

GTEC Service Bulletiner (SB):
TPE/TSE 331-72-0351, daterad 14 april, 1982
TPE/TSE 331-72-0300, daterad 9 september, 1981
TPE/TSE 331-72-0327, daterad 14 oktober, 1981
TPE/TSE 331-72-0380, daterad 17 november, 1982
TPE/TSE 331-72-0384, daterad 17 november, 1982

REFERENS: FAA AD 84-01-04.

UTGIVNINGS-DATUM: 1993-04-01

LFS: 1993:14

Åtgärd enligt LVD utgör nödvändig förutsättning för ifrågavarande flygmateriels luftvärdighet. Referens BCL M 1.11. Anteckning om åtgärd, som vidtagits i enlighet med LVD, skall införas i teknisk journal för berörd flygmateriel med hänvisning till ifrågavarande LVD-nummer. Angivet underlag refererar till senaste gällande revision/utgåva. LVD utges i luftfartsverkets författningssamlingar LFS.

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The manufacturer's specifications and procedures identified and described in this directive are incorporated herein and made a part hereof pursuant to 5 U.S.C. 552(a). All persons affected by this directive who have not already received these documents from the manufacturer may obtain copies upon request to Garrett Turbine Engine Company, P.O. Box 5217, Phoenix, Arizona 85010. These documents also may be examined at FAA New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, Massachusetts.

This Amendment 39-4761 amends Amendment 39-4488 (47 FR 50462), AD 82-23-03, and supersedes Amendment 39-2116 (40 FR 8939), AD 75-05-12.

Amendment 39-4488 became effective November 15, 1982.

This Amendment 39-4761 becomes effective December 9, 1983.

84-01-04 GARRETT TURBINE ENGINE COMPANY (GTEC, formerly AiResearch Manufacturing Company of Arizona): Amendment 39-4792. Applies to GTEC Engine Models TSE331-3 and TPE331-1, -2, -3, -5, and -6 series engines.

Compliance required as indicated, unless already accomplished.

To reduce the possibility of rapid destruction of the engine turbine, accomplish the following:

(a) Inspect in accordance with the following schedule, P/N 868630-1, -2, -3, -4, and -7 third stage turbine wheels, identified by serial number (S/N) below, in accordance with paragraph 2 of GTEC Service Bulletin (SB) No. TPE/TSE331-72-0351, dated April 14, 1982, or equivalent approved by the Manager, Western Aircraft Certification Field Office. Remove from service, prior to further flight, third stage turbine wheels not meeting the inspection criteria. Third stage turbine wheels meeting the inspection criteria may be continued in service to the life limits of paragraph (d) herein.

WHEEL TOTAL CYCLES

Less than 900

900 or more, and less than 1000

1000 or more, and less than 1200

More than 1200

INSPECT

Before accumulation of 1000 cycles.

Within the next 100 cycles.

Within the next 50 cycles.

Within the next 10 cycles.

NOTES: For purposes of this AD, a cycle is defined as any operating sequence involving an engine start, aircraft takeoff and landing, followed by engine shutdown, and one cycle shall be counted for each such operational sequence.

For purposes of this AD, turbine wheels which comply with paragraph 2 of GTEC SB No. TPE/TSE/331-72-0351 or an equivalent approved by the Manager, Western Aircraft Certification Field Office, must have the SB annotated on the life limited parts log card which is located either with the third stage wheel assembly or with the engine log book.

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Serial Numbers:

0-01345-419	0-01345-1313	0-01345-2372	9-01345-15426
420	1314	2374	15427
421	1315	2375	15428
422	1316	2376	15429
423	1317	2377	15432
424	1318	2378	15433
425	1319	2379	18246
426	1320	2380	18247
428	1321	2381	18248
430	1322	2382	18250
431	1323	2383	18251
432	1324	2384	18252
433	1325	2385	18253
435	1326	2386	18256
436	1328	2387	18258
437	1329	2388	18259
438	1330	2529	18260
439	1331	3106	18262
440	1332	3107	18263
441	1335	3109	18264
442	1336	3110	18265
443	1338	3111	18266
444	2336	3112	18286
446	2337	3113	18287
447	2338	3114	18288
448	2339	3118	18289
449	2340	3119	18302
450	2341	3121	18304
451	2342	3122	18305
452	2343	3123	18310
453	2344	3124	18311
454	2345	3125	18316
455	2346	3126	18317
456	2347	3127	18318
458	2348	3128	18320
459	2349	3129	18321
461	2350	3130	18323
463	2351	3131	18324
1296	2352	3132	18325
1298	2353	3133	18326
1299	2354	3134	18328
1301	2355	3135	18329
1302	2356	3136	18330
1304	2357	3140	18414
1305	2358	3141	18415
1306	2359	3145	
1307	2364	3146	
1308	2365	3147	
1309	2366	3149	
1311	2367	3150	
1312	2369	3152	
	2371	3153	
		3737	

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(b) Remove from service according to the following schedule, P/N 868630-1, -2, -3, -4, and -7 third stage turbine wheels identified by S/N below:

WHEEL TOTAL CYCLES

REMOVE*

Less than 1300.

Before accumulation of 1500 cycles.

1300 or more and less than 2550.

Before accumulation of 2600 cycles or within the next 200 cycles whichever occurs first.

2550 or more.

Within the next 50 cycles.

*No wheel listed below may exceed 1500 total cycles in service after June 1, 1983.

Serial Numbers:

0-01345-18350

0-01345-20025

0-01345-21873

18623

20026

21874

18659

20130

21875

18660

20588

21876

18663

20589

21877

18669

20590

21878

18672

20591

21879

18673

20592

21880

18674

20593

21881

18676

20594

21882

18677

20595

21883

18678

20596

21884

19294

20597

21885

19295

20598

21886

19321

20599

21887

19980

20600

21888

19983

20601

21889

19984

20602

21890

19985

20603

21891

19986

20604

21892

19987

20605

21893

19988

20606

21894

19989

20607

21895

19990

20608

21896

19991

20609

21897

19992

20611

21898

19993

20612

21899

19994

20613

21900

19995

20614

21903

20615

19996

20616

21904

19997

20617

21905

19998

20618

21906

19999

20619

21907

20000

20620

21908

20001

20621

21909

20002

20622

21910

20003

20623

21911



20004	20624	21914
20008	20625	22332
20009	20626	22333
20010	20627	
20011	20628	
20012	20629	
20013	20630	
20014	20631	
20015	30632	
20016	20633	
20017	20634	
20018	20635	
20019	20637	
20020	20779	
20021	21869	
20022	21870	
20023	21871	
20024	21872	

(c) Inspect, prior to accumulating 2600 total wheel cycles, P/N 868630-1, -2, -3, -4, and -7 third stage turbine wheels introduced into service on or after March 24, 1978, and not listed by S/N in paragraph (a) or (b) herein, in accordance with paragraph 2 of GTEC SB No. TPE/TSE/331-72-0351, dated April 14, 1982, or equivalent approved by the Manager, Western Aircraft Certification Field Office. Remove from service prior to further flight third stage turbine wheels not meeting the inspection criteria. Third stage turbine wheels meeting the inspection criteria may be continued in service to the life limits of paragraph (d) herein.

(d) Remove from service the following turbine wheels within the cyclic life limits specified below:

<u>WHEEL STAGE</u>	<u>PART NUMBER</u>	<u>CYCLE LIFE</u>
First	867569-1, -3, -7	5700 cycles
Second	868272-1, -2, -3, -4	5400 cycles
Third	868630-1, -2, -3, -4, -7	3600 cycles
Third	868630-8	4300 cycles
Third	895539-1, -2, -3, -4	2000 cycles

Turbine wheels listed in this paragraph introduced into service prior to March 24, 1978, were not required to have their cyclic lives recorded. As of the effective date of this AD, lives of these wheels shall be converted to cycles by crediting each hour of operation 9 with 1.5 cycles (i.e.: 3500 hrs x 1.5 = 5250 cycles). Actual cycles, if known, may be used in lieu of this conversion. Thereafter, wheel operating life shall be accrued in cycles.

Remove from service in accordance with the following schedule P/N 895539-1, -2, -3, and -4 third stage turbine wheels which exceed the above-listed cyclic limits after converting from hours to cycles:

WHEEL TOTAL CYCLES

2,000 to 3,750

3,751 to 4,500

4,501 to 5,250

REMOVE

Within the next 300 cycles.

Within the next 175 cycles.

Within the next 75 cycles.

Remove from service within the next 300 cycles or 10 months in service, whichever comes first after the effective date of this amendment, P/N 867569-1, -3, -7, P/N 868272-1, -2, -3, -4, and P/N 868630-1, -2, -3, -4, -7 turbine wheels which exceed the above-listed cyclic limits after converting from hours to cycles.

(e) Prior to accumulating an additional 2700 cycles after February 11, 1982, on all affected engines containing P/N 868630-1, -2, -3, or -4 or P/N 895539-1, -2, -3, or -4 third stage turbine wheels, or upon next removal of the third stage turbine wheel, after September 9, 1982, whichever occurs earlier, either:

(1) Remove curvic coupling gasket, P/N 868892-2, located forward of third stage turbine wheel, and replace it with a serviceable P/N 868892-9 curvic coupling gasket or subsequently approved part number gasket as prescribed in paragraph 2 of GTEC SB No. TPE331-72-0300, dated September 9, 1981, or an equivalent approved by the Manager, Western Aircraft Certification Field Office; or,

(2) Replace the third stage turbine wheel with a P/N 868630-7, P/N 868630-8, or an equivalent approved by the Manager, Western Aircraft Certification Field Office.

NOTE: The P/N 868630-1, -2, -3, or -4 turbine wheel may be modified to the P/N 868630-7 third stage turbine wheel design by compliance with instructions provided in GTEC SB No. TPE331-72-0327, dated December 14, 1981, or an equivalent approved by the Manager, Western Aircraft Certification Field Office.

(f) Remove the third stage turbine seal P/N 868259-1 and replace with a serviceable P/N 868259-2 or subsequently approved part number seal as prescribed in paragraph 2 of GTEC SB No. TPE331-72-0380, dated November 17, 1982, or an equivalent approved by the Manager, Western Aircraft Certification Field Office, upon next removal of the third stage turbine wheel from all affected engines after February 1, 1983.

(g) Remove third stage turbine stators P/N 868379-1 from all affected engines and replace with a serviceable P/N 868379-3 or subsequently approved part number stator, as prescribed in paragraph 2 of GTEC SB No. TPE331-72-0384, dated November 17, 1982, or an equivalent approved by the Manager, Western Aircraft Certification Field Office, no later than next removal of the third stage turbine wheel after 2000 hours stator third stage total time, or time since new, or time since overhaul.

NOTE: Operating time and cycles are to be recorded in the Engine Log Book for P/N 868379-3 and subsequent P/N turbine stators.

(h) Special flight permits may be issued in accordance with FAR 21.197 and 21.199 to operate aircraft to a base for the accomplishment of inspections or modifications required by this AD.

(i) Alternative inspections, modifications, or other actions which provide an equivalent level of safety may be used when approved by the Manager, Western Aircraft Certification Field Office, FAA Northwest Mountain Region.

The manufacturer's specifications and procedures identified and described in this directive are incorporated herein and made a part hereof pursuant to 5 U.S.C. 552(a)(1). All persons affected by this directive who have not already received these documents from the manufacturer may obtain copies upon request to Garrett Turbine Engine Company, Attn: Customer Service Engineering,

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