



**SUBJ:** Turbine Section - Propulsion Technology LLC Unapproved Repair

*This is information only. Recommendations aren't mandatory.*

## **Introduction**

This Special Airworthiness Information Bulletin (SAIB) alerts you, operators, repair stations, and principal maintenance inspectors of **CFM International CFM56-2, CFM56-3, CFM56-5A, CFM56-5B, CFM56-5C, and CFM56-7B turbofan engines** that Propulsion Technology LLC of Miami, Florida (currently doing business as Propulsion Technologies International of Miami, Florida), might have improperly repaired and returned to service certain critical engine parts. This bulletin identifies the suspect parts by part number (P/N) and serial number (S/N) and recommends disposition of these parts. The airworthiness concern is not an unsafe condition that would warrant airworthiness directive action under Title 14 of the Code of Federal Regulations (14 CFR) part 39.

### **This Revision:**

- Updates the list of parts processed by Propulsion Technology LLC that might not conform to type design.
- Removes duplicate entries from the list of parts.
- Removes parts, which were subsequently inspected/corrected by CFM International or that might be listed in an airworthiness directive, from the list of parts.
- No longer ties parts to specific CFM56 engine models due to the commonality of parts among multiple CFM56 engine models.
- Includes a recommendation for returning parts to service that have zero engine operating time since processing by Propulsion Technology LLC and are listed in this SAIB.

## **Background**

A suspected unapproved parts (SUP) investigation regarding engine parts overhauled by Propulsion Technology LLC, repair station certificate number XZ4R084M, has revealed that repairs on CFM56 life-limited parts hardware did not meet the requirements of the CFM56 engine overhaul manual. Seal tooth plasma coating was inspected and determined to be, in some areas, thicker than the engine overhaul manual limits. The investigation also found seal tooth plasma coating overspray between the seal teeth, which was not permitted by the engine overhaul manual and potential missed cracks during the fluorescent-penetrant inspection.

After processing by Propulsion Technology LLC, the parts listed below might not conform to type design. We are developing inspections with CFM International to determine if the parts conform to type design, as well as developing repair procedures to restore nonconforming parts to type design.

Propulsion Technology LLC returned many of these parts to third-party suppliers and repair stations for subsequent installation. The potential unairworthy condition of these parts was unknown to the third-party suppliers, repair stations, owners, and operators who, in some cases, returned these parts to service. We received the attached list that identifies by P/N and S/N, the suspect parts currently under investigation in the SUP investigation for the CFM56 engine models listed above.

## Recommendations

If parts identified in the following list have **never** been returned to service after processing by Propulsion Technology LLC, reinspect/ repair the parts per the most recent thermal spray repair documented in the engine shop manual (Example - 72-31-08 Repair 1 for CDP seal). Contact CFM International for further information on the type of inspections to be performed. Parts successfully completing reinspection/ repair may be returned to service and operated for the remainder of their published lives.

If parts identified in the following list have been returned to service, remove the parts the next time the engine is inducted into a shop for engine maintenance. The reason we recommend removal of these parts is that the effect on part lives resulting from the weight of extra coating combined with secondary flow and temperature variations and possible spallation, is unknown.

You should contact CFM International for further information to determine part disposition.

## For Further Information Contact

Carlos Fernandes, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: (781) 238-7189; fax: (781) 238-7199; e-mail: [carlos.fernandes@faa.gov](mailto:carlos.fernandes@faa.gov).

P/N	S/N	Description	P/N	S/N	Description
1282M72P05	GWN039E8	HPT Fwd Seal	1589M66G02	GWN000AE	1-2 Spool
1282M72P02	MPOS5338	HPT Fwd Seal	1589M66G02	GWN002FA	1-2 Spool
1282M72P03	GWNK4631	HPT Fwd Seal	1589M66G02	GWN004A3	1-2 Spool
1387M16P03	MPON1759	HPT Fwd Seal	1589M66G02	GWN00525	1-2 Spool
1282M72P05	GWN003LH	HPT Fwd Seal	1589M66G02	GWN00T3T	1-2 Spool
1282M72P05	GWN00997	HPT Fwd Seal	1589M66G02	GWN00V4A	1-2 Spool
1282M72P05	GWN00KYT	HPT Fwd Seal	1589M66G02	GWN014H5	1-2 Spool
1282M72P05	GWN012WN	HPT Fwd Seal	1589M66G02	GWN01C67	1-2 Spool
1282M72P05	GWN016KR	HPT Fwd Seal	1589M66G02	GWN0201W	1-2 Spool
1282M72P05	GWN021HC	HPT Fwd Seal	1589M66G02	GWN0264P	1-2 Spool
1282M72P05	GWN02G4J	HPT Fwd Seal	1589M66G02	GWN033LL	1-2 Spool
1282M72P05	GWN02GFD	HPT Fwd Seal	1589M66G02	GWN03ED1	1-2 Spool
1282M72P05	GWN032T5	HPT Fwd Seal	1589M66G02	GWN03FD5	1-2 Spool
1282M72P05	GWN032TA	HPT Fwd Seal	1589M66G02	GWN03FDD	1-2 Spool
1282M72P05	GWN03503	HPT Fwd Seal	1589M66G02	GWN03MW6	1-2 Spool
1282M72P05	GWN03506	HPT Fwd Seal	1589M66G02	GWN03T85	1-2 Spool
1282M72P05	GWN038RE	HPT Fwd Seal	1589M66G02	GWN040G6	1-2 Spool
1282M72P05	GWN03F4A	HPT Fwd Seal	1589M66G02	GWN040G7	1-2 Spool
1282M72P05	GWN03GH8	HPT Fwd Seal	1589M66G02	GWN045MA	1-2 Spool
1282M72P05	GWN03WF2	HPT Fwd Seal	1589M66G02	GWN04CCW	1-2 Spool
1282M72P05	GWN04168	HPT Fwd Seal	1589M66G02	GWN04K4J	1-2 Spool
1282M72P05	GWN0416E	HPT Fwd Seal	1589M66G02	GWN04KW5	1-2 Spool
1282M72P05	GWN045PG	HPT Fwd Seal	1589M66G02	GWN04PGM	1-2 Spool
1282M72P05	GWN04GLD	HPT Fwd Seal	1589M66G02	GWN04WTL	1-2 Spool
1282M72P05	GWN04J38	HPT Fwd Seal	1589M66G02	GWN05AKG	1-2 Spool
1282M72P05	GWN04J39	HPT Fwd Seal	1589M66G02	GWN05H7D	1-2 Spool
1282M72P05	GWN04PPN	HPT Fwd Seal	1589M66G02	GWNBP200	1-2 Spool
1282M72P05	GWN052GH	HPT Fwd Seal	1589M66G02	GWNBP765	1-2 Spool
1282M72P05	GWN055L7	HPT Fwd Seal	1589M66G02	GWNHL314	1-2 Spool
1282M72P05	GWN056D0	HPT Fwd Seal	1589M66G02	GWNHL943	1-2 Spool
1282M72P05	GWN07GET	HPT Fwd Seal	1589M66G02	GWNHP332	1-2 Spool

P/N	S/N	Description	P/N	S/N	Description
1282M72P05	GWNDT122	HPT Fwd Seal	1589M66G02	GWNHP474	1-2 Spool
1282M72P05	GWNDY677	HPT Fwd Seal	1589M66G02	GWNJM631	1-2 Spool
1282M72P05	GWNGA929	HPT Fwd Seal	1589M66G02	GWNJM728	1-2 Spool
1282M72P05	GWNGE613	HPT Fwd Seal	1589M66G02	GWNJR675	1-2 Spool
1282M72P05	GWNGF343	HPT Fwd Seal	1589M66G02	GWNPU706	1-2 Spool
1282M72P05	GWNGH394	HPT Fwd Seal	1589M66G02	GWNPW545	1-2 Spool
1282M72P05	GWNGJ063	HPT Fwd Seal	1589M66G02	GWNTC748	1-2 Spool
1282M72P05	GWNGJ548	HPT Fwd Seal	1589M66G02	GWNTD397	1-2 Spool
1282M72P05	GWNGJ567	HPT Fwd Seal	1589M66G02	GWNTD860	1-2 Spool
1282M72P05	GWNGK914	HPT Fwd Seal	1589M66G03	GWNDJ412	1-2 Spool
1282M72P05	GWNGK933	HPT Fwd Seal			
1282M72P05	GWNGN848	HPT Fwd Seal	9992M60G06	MPOM1401	1-2 Spool
1282M72P05	GWNGT574	HPT Fwd Seal	9992M60G06	MPOM3369	1-2 Spool
1282M72P05	GWNKF572	HPT Fwd Seal	9992M60G07	MPOR0259	1-2 Spool
1282M72P05	GWNSC522	HPT Fwd Seal	9992M60G07	MPOB1384	1-2 Spool
1282M72P05	GWNSE711	HPT Fwd Seal	9992M60G07	MPOB1911	1-2 Spool
1282M72P05	GWNSE908	HPT Fwd Seal	9992M60G07	MPOB1919	1-2 Spool
1282M72P05	XAE34108	HPT Fwd Seal	9992M60G07	MPOB2310	1-2 Spool
1282M72P05	XAE34228	HPT Fwd Seal	9992M60G07	MPOB2325	1-2 Spool
1282M72P05	XAE34294	HPT Fwd Seal	9992M60G07	MPOB2337	1-2 Spool
1282M72P05	XAE34303	HPT Fwd Seal	9992M60G07	MPOP8088	1-2 Spool
1282M72P05	XAE34390	HPT Fwd Seal	9992M60G07	MPOQ1595	1-2 Spool
1282M72P05	XAE34395	HPT Fwd Seal	9992M60G07	MPOQ2518	1-2 Spool
1282M72P05	XAE34405	HPT Fwd Seal	9992M60G07	MPOR0248	1-2 Spool
1282M72P05	XAE34408	HPT Fwd Seal	9992M60G07	MPOR0279	1-2 Spool
1282M72P05	XAE34436	HPT Fwd Seal	9992M60G07	MPOS4870	1-2 Spool
1282M72P05	XAE34444	HPT Fwd Seal	9992M60G07	MPOS6474	1-2 Spool
			9992M60G07	MPOV1876	1-2 Spool
1319M25P02	GAT4662P	HPC Rear Seal	9992M60G07	MPOV8156	1-2 Spool
1319M25P02	GFF59A6K	HPC Rear Seal	9992M60G07	MPOW7480	1-2 Spool
1319M25P02	GFF59G62	HPC Rear Seal	9992M60G07	MPOW7519	1-2 Spool
1319M25P02	GFF59G9M	HPC Rear Seal	9992M60G07	MPOW7620	1-2 Spool
1319M25P02	GFF59G9P	HPC Rear Seal	9992M60G07	MPOW7681	1-2 Spool
1319M25P02	GFF59HTF	HPC Rear Seal	9992M60G07	MPOW7705	1-2 Spool
1319M25P02	GFF59K50	HPC Rear Seal			
1319M25P02	GFF59K51	HPC Rear Seal	9992M60G07	MPOB1413	1-2 Spool
1319M25P02	GFF59L4F	HPC Rear Seal	9992M60G07	MPOW7488	1-2 Spool
1319M25P02	GFF59M7P	HPC Rear Seal			
1319M25P02	GFF59MTE	HPC Rear Seal	1588M89G03	GWN03J37	4-9 Spool
1319M25P02	GFF59N60	HPC Rear Seal	1588M89G03	GWN03LDF	4-9 Spool
1319M25P02	GFF59N67	HPC Rear Seal			
1319M25P02	GFF59P6T	HPC Rear Seal	9514M71P07	DED24052	HPT Aft Shaft
1319M25P02	GFF59PMC	HPC Rear Seal	9514M71P07	DED24098	HPT Aft Shaft
1319M25P02	GFF59W50	HPC Rear Seal	9514M71P07	TMTKA286	HPT Aft Shaft
1319M25P02	GFF59WL3	HPC Rear Seal	9514M71P07	TMTKA439	HPT Aft Shaft
1319M25P02	GFF5A59L	HPC Rear Seal	9514M71P07	TMTKA502	HPT Aft Shaft
1319M25P02	GFFN9786	HPC Rear Seal	9514M71P07	TMTKA542	HPT Aft Shaft
1319M25P02	GFFR1879	HPC Rear Seal	9514M71P07	TMTKA607	HPT Aft Shaft
1319M25P02	GFFR83RW	HPC Rear Seal	9514M71P07	TMTKA687	HPT Aft Shaft
1319M25P02	GFFR89CL	HPC Rear Seal	9514M71P07	TMTKA766	HPT Aft Shaft
1319M25P02	GFFR8CG08	HPC Rear Seal	9514M71P07	TMTKA848	HPT Aft Shaft
1319M25P02	GFFR8DHY	HPC Rear Seal	9514M71P07	TMTMS017	HPT Aft Shaft
1319M25P02	GFFR8DKP	HPC Rear Seal	9514M71P07	TMTMS066	HPT Aft Shaft
1319M25P02	GFFR8H3G	HPC Rear Seal	9514M71P07	TMTMS095	HPT Aft Shaft
1319M25P02	GFFR8JV7	HPC Rear Seal	9514M71P07	TMTMS289	HPT Aft Shaft

<b>P/N</b>	<b>S/N</b>	<b>Description</b>	<b>P/N</b>	<b>S/N</b>	<b>Description</b>
1319M25P02	GFFR8LE2	HPC Rear Seal	9514M71P07	TMTMS302	HPT Aft Shaft
1319M25P02	GFFR8M6P	HPC Rear Seal	9514M71P07	TMTMS370	HPT Aft Shaft
1319M25P02	GFFR8MRF	HPC Rear Seal	9514M71P07	TMTMS478	HPT Aft Shaft
1319M25P02	GFFR8NM5	HPC Rear Seal	9514M71P07	TMTMS516	HPT Aft Shaft
1319M25P02	GFFR8P6P	HPC Rear Seal	9514M71P07	TMTMS583	HPT Aft Shaft
1319M25P02	GFR8NAE	HPC Rear Seal	9514M71P07	TMTMS640	HPT Aft Shaft
9514M68P01	MPOG1078	HPC Rear Seal	9514M71P07	TMTMS878	HPT Aft Shaft
9514M68P01	MPOG3679	HPC Rear Seal	9514M71P07	TMTMS932	HPT Aft Shaft
9514M68P01	MPON0942	HPC Rear Seal	9514M71P07	TMTMS965	HPT Aft Shaft
9514M68P01	MPOP3890	HPC Rear Seal	9514M71P07	TMTRY035	HPT Aft Shaft
9514M68P01	MPOP5217	HPC Rear Seal	9514M71P07	TMTRY041	HPT Aft Shaft
9514M68P01	MPOP7489	HPC Rear Seal	9514M71P07	TMTRY103	HPT Aft Shaft
9514M68P01	MPOP9675	HPC Rear Seal	9514M71P07	TMTRY311	HPT Aft Shaft
9514M68P01	MPOP9690	HPC Rear Seal	9514M71P07	TMTRY355	HPT Aft Shaft
9514M68P01	MPOQ3511	HPC Rear Seal	9514M71P06	TMTDK092	HPT Aft Shaft
9514M68P01	MPOQ3888	HPC Rear Seal	9514M71P06	TMTDK096	HPT Aft Shaft
			9514M71P07	TMTRY180	HPT Aft Shaft
9514M71P04	APV13118	HPT Aft Shaft	9514M71P07	TMTRY201	HPT Aft Shaft
9514M71P04	APV14791	HPT Aft Shaft	9514M71P07	TNTRY216	HPT Aft Shaft
9514M71P04	APV15273	HPT Aft Shaft			
9514M71P04	DED20032	HPT Aft Shaft	9514M71P04	DED20023	HPT Aft Shaft
9514M71P04	DED20058	HPT Aft Shaft	9514M71P04	GWNKP849	HPT Aft Shaft
9514M71P04	DED20066	HPT Aft Shaft	9514M71P04	GWNV5852	HPT Aft Shaft
9514M71P04	DED20089	HPT Aft Shaft			
9514M71P04	DED20226	HPT Aft Shaft	1498M45P06	TMTKK268	HPT Aft Shaft
9514M71P04	DED20420	HPT Aft Shaft	1498M45P06	TMTKK511	HPT Aft Shaft
9514M71P04	DED20497	HPT Aft Shaft	1498M45P06	TMTKK996	HPT Aft Shaft
9514M71P04	DED20848	HPT Aft Shaft	1498M45P06	TMTNK091	HPT Aft Shaft
9514M71P04	DED20873	HPT Aft Shaft			
9514M71P04	DED21043	HPT Aft Shaft			
9514M71P04	DED21188	HPT Aft Shaft			
9514M71P04	DED21198	HPT Aft Shaft			
9514M71P04	DED21319	HPT Aft Shaft			
9514M71P04	DED21357	HPT Aft Shaft			
9514M71P04	DED21470	HPT Aft Shaft			
9514M71P04	DED21495	HPT Aft Shaft			
9514M71P04	DED21505	HPT Aft Shaft			
9514M71P04	DED22196	HPT Aft Shaft			
9514M71P04	DED22303	HPT Aft Shaft			
9514M71P04	DED22502	HPT Aft Shaft			
9514M71P04	DED22609	HPT Aft Shaft			
9514M71P04	DED22724	HPT Aft Shaft			
9514M71P04	TMTAH010	HPT Aft Shaft			
9514M71P04	TMTAH079	HPT Aft Shaft			
9514M71P04	GWND0454	HPT Aft Shaft			
9514M71P04	GWND0459	HPT Aft Shaft			
9514M71P04	GWND1795	HPT Aft Shaft			
9514M71P04	GWND2983	HPT Aft Shaft			
9514M71P04	GWND2989	HPT Aft Shaft			
9514M71P04	GWND6659	HPT Aft Shaft			
9514M71P04	GWND7978	HPT Aft Shaft			
9514M71P04	GWNH1197	HPT Aft Shaft			
9514M71P04	GWNH3896	HPT Aft Shaft			
9514M71P04	GWNH6048	HPT Aft Shaft			
9514M71P04	GWNH6624	HPT Aft Shaft			

<b>P/N</b>	<b>S/N</b>	<b>Description</b>
9514M71P04	GWNKC613	HPT Aft Shaft
9514M71P04	GWNKH137	HPT Aft Shaft
9514M71P04	GWNL5693	HPT Aft Shaft
9514M71P04	GWNV1543	HPT Aft Shaft
9514M71P04	GWNV2951	HPT Aft Shaft
9514M71P04	GWNV5221	HPT Aft Shaft
9514M71P04	GWNW7296	HPT Aft Shaft
9514M71P04	GWNW7324	HPT Aft Shaft
9514M71P04	GWNW7325	HPT Aft Shaft
9514M71P04	GWNW7337	HPT Aft Shaft
9514M71P07	TMTRY150	HPT Aft Shaft
9514M71P07	DED23380	HPT Aft Shaft
9514M71P07	DED23946	HPT Aft Shaft
9514M71P07	DED23985	HPT Aft Shaft
9514M71P07	DED24013	HPT Aft Shaft
9514M71P07	DED23989	HPT Aft Shaft
1319M15P02	GWMKC508	HPT Aft Shaft
1319M15P02	GWNE7964	HPT Aft Shaft
1319M15P02	GWNKA830	HPT Aft Shaft
1319M15P02	GWNKB376	HPT Aft Shaft
1319M15P02	GWNKE860	HPT Aft Shaft
1319M15P02	GWNKF513	HPT Aft Shaft
1319M15P02	GWNKP175	HPT Aft Shaft
1319M15P02	GWNKP601	HPT Aft Shaft
1319M15P02	GWNKS825	HPT Aft Shaft
1319M15P02	GWNKT828	HPT Aft Shaft
1319M15P02	GWNL7999	HPT Aft Shaft
1319M15P02	GWNV1673	HPT Aft Shaft
1319M15P02	GWNV2449	HPT Aft Shaft
1319M15P02	GWNV2453	HPT Aft Shaft
1319M15P02	GWNV8249	HPT Aft Shaft
1319M15P02	TMTKH019	HPT Aft Shaft
1319M15P02	TMTKH090	HPT Aft Shaft
1319M15P02	TMTKH198	HPT Aft Shaft
1498M45P02	GWNK5081	HPT Aft Shaft
1498M45P02	GWNKG180	HPT Aft Shaft
1498M45P08	TMTKM017	HPT Aft Shaft
1498M45P02	TMTKM265	HPT Aft Shaft

<b>P/N</b>	<b>S/N</b>	<b>Description</b>
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