



ENGINE - UNPEENED OR PARTIALLY PEENED 2ND-STAGE HIGH PRESSURE TURBINE WHEEL LIFE LIMIT DECREASE

1. PLANNING INFORMATION

A. Effectivity

(1) Engines

All AE 3007A, AE 3007A1, AE 3007A1/1, AE 3007A1/2, AE3007A1/3, AE 3007A1E, AE 3007A1P and AE 3007A3 engines with the 2nd-stage High Pressure Turbine (HPT) wheel (23069438, 23069592, 23074462, 23074644 or 23075345).

(2) Spares

2nd-stage HPT wheel (23069438, 23069592, 23074462, 23074644 or 23075345).

B. Reason

A crack in the drive shaft fillet of a 2nd-stage HPT wheel was reported during a piece-part inspection at engine overhaul. The affected HPT wheel had not exceeded the Chapter 5 life limit.

The results of the analysis, cyclic testing, and field campaign require Chapter 5 life limit reduction for 2nd-stage HPT wheels that have an unpeened or partially peened drive shaft fillet as identified by part numbers and serial numbers in this service bulletin.

C. Description

The declared engine cycle life limit (Ref. TASK 05-10-00-800-801, MM) for the 2nd-stage HPT wheels with an unpeened or partially peened drive shaft fillet will be reduced. The reduced lives will be effective concurrent with a revision to Chapter 5 of the AE 3007A Series Maintenance Manual scheduled for January 20, 2013. This revision to Chapter 5 will show the Declared Life Limit (DLL) changes.

It is mandatory that these parts be replaced when the DLL has expired. The operator must record both hours and cycles of engine use in the applicable section of the life limited parts record of the engine logbook.

The DLL for life limited components located in the upper right corner of the engine logbook has been deleted. Always refer to TASK 05-10-00-800-801 in the Maintenance Manual for current engine cycle life limit information.

You must include these mandatory limits in your own approved maintenance schedule, if applicable.

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TABLE 1 - 2nd-stage HPT wheel life limits

PART NUMBER	NEW DECLARED LIFE LIMIT (FLIGHT CYCLES)	ENGINE MODEL
23069438	9,500	AE 3007A1, A1/1, A1/2, A1/3, A1P, A3
23069592	9,500 (20,000, NOTE 1)	AE 3007A
23074462	9,500 (20,000, NOTE 2)	AE 3007A1, A1/1, A1/3, A1P, A3
	7,500 (20,000, NOTE 2)	AE 3007A1E
23074644	9,500	AE 3007A1, A1/1, A1/3, A1P, A3
23075345	9,500 (23,000, NOTE 3)	AE 3007A1, A1/1, A1/3, A1P, A3
	9,500 (20,000, NOTE 4)	AE 3007A1/2

NOTE: (1) Some 2nd-stage HPT wheel serial numbers stay at 20,000 DLL. See Table 2.

NOTE: (2) Some 2nd-stage HPT wheel serial numbers stay at 20,000 DLL. See Table 3.

NOTE: (3) Some 2nd-stage HPT wheel serial numbers stay at 23,000 DLL. See Table 4.

NOTE: (4) Some 2nd-stage HPT wheel serial numbers stay at 20,000 DLL. See Table 5.

TABLE 2 - 2nd-stage HPT wheel serial numbers remaining at 20,000 DLL

P/N 23069592 Affected Serial Numbers		
MM503645	MM505029	MM505042
MM503721	MM505032	MM505044
MM503730	MM505033	MM505059
MM503762	MM505035	MM505062
MM504038	MM505038	All S/Ns higher than MM505073

TABLE 3 - 2nd-stage HPT wheel serial numbers remaining at 20,000 DLL

P/N 23074462 Affected Serial Numbers		
MM504890	MM505025	MM505054
MM504963	MM505034	MM505055
MM504990	MM505041	MM505056
MM504995	MM505045	All 'MM' prefix S/Ns higher than
MM505007	MM505046	MM505060
MM505017	MM505048	All S/Ns with 'MW' prefix

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TABLE 4 - 2nd-stage HPT wheel serial numbers remaining at 23,000 DLL

P/N 23075345 Affected Serial Numbers			
MM507646	MM508205	MM508251	MM508322
MM508144	MM508208	MM508264	MM508337
MM508153	MM508211	MM508305	MM508338
MM508176	MM508221	MM508311	MM508382
MM508186	MM508241	MM508319	MM508387
MM508188	MM508248	MM508320	

TABLE 5 - 2nd-stage HPT wheel serial numbers remaining at 20,000 DLL

P/N 23075345 Affected Serial Numbers			
MM507646	MM508205	MM508251	MM508322
MM508144	MM508208	MM508264	MM508337
MM508153	MM508211	MM508305	MM508338
MM508176	MM508221	MM508311	MM508382
MM508186	MM508241	MM508319	MM508387
MM508188	MM508248	MM508320	

D. Approval

Technical aspects are FAA approved.

E. Manpower - Not applicable

F. Compliance

Mandatory. Compliance with this service bulletin is mandatory after receipt of revised Chapter 5 showing the Declared Life Limit (DLL) changes (Ref. Description section, Section C). This service bulletin is associated with a pending FAA Airworthiness Directive (AD) that will mandate reduced life limits for 2nd-stage HPT wheels with an unpeened or partially peened drive shaft fillet.

G. Interchangeability - Not affected

H. Material Availability - Not applicable

I. Tooling - Not applicable

J. Weight and Balance - Not affected

K. Electrical Load Data - Not affected

L. References

- (1) Advance Engineering Memorandum (AEM), CN500016983327.

NOTE: The document above is referenced for the internal use of Rolls-Royce only.

- (2) AE 3007A Series Illustrated Parts Catalog (IPC), CSP33002.
- (3) AE 3007A Series Maintenance Manual (MM), CSP34022.

M. Prerequisites - None

N. Corequisites - None

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2. ACCOMPLISHMENT INSTRUCTIONS

None

3. MATERIAL INFORMATION

A. Configuration Chart - Not applicable

B. Consumable Materials - None

C. Expendable Parts - None

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