

**ENGINE, TURBINE SECTION - INSPECTION OF ROLLS-ROYCE
MODEL 250-C20, C20B, OR C20R/2 3RD-STAGE (23065818) AND
4TH-STAGE (23055944) ENHANCED POWER TURBINE WHEELS****1. PLANNING INFORMATION****A. Effectivity****(1) Engines**

All Rolls-Royce Model 250-C20, C20B, or C20R/2 engines fitted with the Enhanced Power Turbine, 250-C20, C20B, or C20R/2 Turbine Module fitted with the Enhanced Power Turbine, or 3rd-stage turbine wheel (23065818) or 4th-stage turbine wheel (23055944) that is installed and operated in a 250-C20, C20B, or C20R/2 engine installed in an MD 369HE, 369HS, 369HM, 369D, 369E, or 500N aircraft.

(2) Spares - Not affected**B. Reason**

The cause of recent incidents is failure of the 3rd-stage turbine wheel (23065818) or 4th-stage turbine wheel (23055944). Testing and analysis shows operation in the 75-88% N2 speed avoidance range to be the most possible cause. Refer to CEB A-1400 (CEB A-72-4095) Revision 3, dated January 19, 2009 for the speed avoidance range. CEB A-1400 (CEB A-72-4095) caused changes in the applicable MD Helicopters Rotorcraft Flight Manual for Model 369 (500) and 500N (520N) aircraft. A one-time inspection of some 3rd-stage and 4th-stage turbine wheels installed in Rolls-Royce Model 250-C20, C20B, or C20R/2 engines (installed in MD 369 (500) and 500N (520N) aircraft) is necessary. The inspection includes a visual and Non-Destructive Test (NDT) inspection for cracks in all of the turbine blades.

C. Description

This commercial engine bulletin gives you the procedure to do a one time visual inspection and NDT inspection of all applicable 3rd-stage and 4th-stage turbine wheels for cracks in the turbine blades.

D. Approval

Technical aspects are FAA approved.

E. Compliance

Compliance Code 6.

NOTE: Customers are to comply with the conditions given below.

(1) To be complied with at the next 1750 hours overhaul.

F. Interchangeability - Not affected**G. Material Availability**

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NEW P/N	NAME	QTY/ENG
23065818	Turbine Wheel, 3rd-Stage	1
23055944	Turbine Wheel, 4th-Stage	1

H. Tooling – Not applicable

I. Weight and Balance – Not affected

J. Electrical Load Data – Not affected

K. References

- (1) 10W2 Operation and Maintenance Manual, Turboshift Model 250-C20 (OMM).
- (2) CSP 21007 Operation and Maintenance Manual, Turboshift Model 250-C20R (OMM).
- (3) 10W4 Illustrated Parts Catalog, Turboshift Model 250-C20 (IPC).
- (4) CSP 23007 Illustrated Parts Catalog, Turboshift Model 250-C20R (IPC).
- (5) 10W3 Overhaul Manual, Turboshift Model 250-C20 (O/H).
- (6) GTP 5232-3 Overhaul Manual, Turboshift Model 250-C20R (O/H).

L. Other Publications Affected – None

M. Prerequisites – None

2. ACCOMPLISHMENT INSTRUCTIONS

A. Identification of Wheel.

- (1) The part numbers of the 3rd-stage and 4th-stage wheels are recorded in the engine logbook, Turbine Assembly (pink pages), Assembly Record, part V.

B. Remove the engine or turbine module and send to an authorized repair/overhaul facility (Ref. OMM).

REF. FIG. 1

- (1) Remove the 3rd-stage turbine wheel (23065818) and 4th-stage turbine wheel (23055944) (Ref. O/H).
 - (a) Do a fluorescent penetrant inspection and visual inspection (for cracks, nicks, etc.) (Ref. O/H). Monitor the trailing edge of the airfoil near the rim where the fillet engages the trailing edge on the blades as specified in Fig. 1.
- (2) Install new or inspected 3rd-stage turbine wheel (23065818) and 4th-stage turbine wheel (23055944) (Ref. O/H).

C. Install the engine or the turbine (Ref. OMM).

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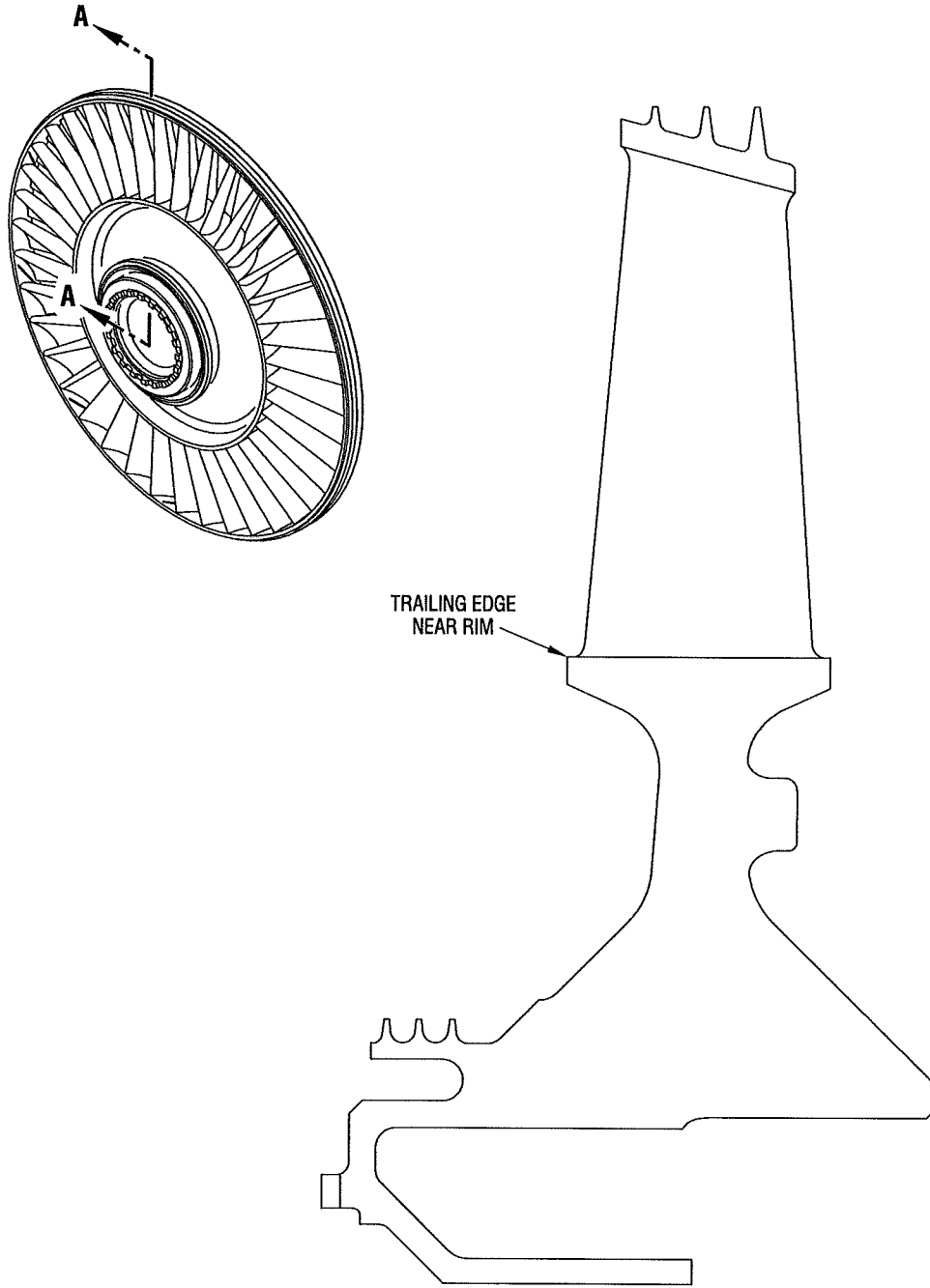
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SECTION A-A

3rd-Stage Turbine Wheel Inspection
FIG. 1

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- D. Record compliance with this commercial engine bulletin in the applicable section of the engine logbook, turbine assembly (pink pages), AD Note Compliance and CEB Modification Record, Part III, and the component record card for the turbine wheels as applicable with the following:

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3. MATERIAL INFORMATION

A. Configuration Chart

- (1) Basis for quantities is per turbine assembly.

NEW P/N	QTY/ ENG	NAME	OLD P/N	QTY/ ENG	INSTRUCTIONS/ DISPOSITION
23065818	1	Turbine Wheel, 3rd-Stage	23065818	1	1,2,3
23055944	1	Turbine Wheel, 4th-Stage	23055944	1	1,2,3

INSTRUCTIONS/DISPOSITION NOTES

1. New or inspected item.
2. Inspect removed item.
3. Return any rejected wheels to Rolls-Royce.

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