

# AIRWORTHINESS DIRECTIVES FINAL RULES: 83-03-02 R1

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**AMENDMENT:** 39-4814

**AD NUMBER:** 83-03-02 R1

**SUBJECT HEADING:** ALLISON GAS TURBINE OPERATIONS/DETROIT DIESEL ALLISON (ALLISON) Model 250-C20, -C20B, -C20C (T63- A720), -C20F, -B17, -B17B, -B17C, and -B17D Engines

**ACTION:**

**SUMMARY:**

**DATES:** Effective February 28, 1984.

**ADDRESSES:**

**FOR FURTHER INFORMATION CONTACT:**

**SUPPLEMENTARY INFORMATION:**

**REGULATORY TEXT:** 83-03-02 R1 ALLISON GAS TURBINE OPERATIONS/DETROIT DIESEL ALLISON (ALLISON): Amendment 39-4560 as amended by Amendment 39-4814. Applies to all Model 250-C20, -C20B, -C20C (T63- A720), -C20F, -B17, -B17B, -B17C, and -B17D engines equipped with the following slotted third stage turbine wheels:

| PART NO. | TYPE OF SHROUD    | PART NO. | TYPE OF SHROUD      |
|----------|-------------------|----------|---------------------|
| 6887113  | Full slot         | 6898823  | Crimped full slot   |
| 6888633  | Full slot         | 6899364  | Crimped full slot   |
| 6896863  | Crimped full slot | 6899406  | Crimped center slot |
| 6898551  | Center slot       | 6899415  | Crimped center slot |
| 6898567  | Center slot       | 6899416  | Crimped center slot |
| 6898733  | Center slot       | 6899417  | Crimped center slot |
| 6898743  | Center slot       | 6899418  | Crimped center slot |
| 6898753  | Center slot       | 6899419  | Crimped center slot |
| 6898763  | Center slot       |          |                     |

Accomplish the following to prevent possible engine power loss resulting from partial blade and/or shroud separation of slotted third stage turbine wheels:

1. Compliance required, as indicated, unless already accomplished:

Remove from service and replace affected turbine wheels per the accomplishment instructions provided in Allison Commercial Engine Alert Bulletin CEB-A-1174/1146, Revision 3 dated January 26, 1984, or FAA

approved equivalent, in accordance with the following schedule:

| Wheel Time Since New (TSN) - Hours | Remove  |
|------------------------------------|---|
| 1650 or more                       | Within the next 100 hours time in service.  |
| 1000 or more and less than 1650    | Within the next 400 hours time in service, or prior to exceeding 1750 hours TSN, whichever comes first. |
| More than 500 and less than 1000   | Within the next 600 hours time in service, or prior to exceeding 1500 hours TSN, whichever comes first. |
| 500 or less                        | Within the next 850 hours time in service, or prior to exceeding 1100 hours TSN, whichever comes first. |

2. Compliance required not later than August 12, 1983, unless already accomplished:

a. Placards, markings, or flight manual changes shall be provided to flight crews to avoid sustained operation of all affected engines between 90 and 98 percent N2, except during transients, while maintaining safe flight practices. This restriction also applies to autorotation practice and engine idle during engine-out simulation on multiengine aircraft.

b. During all ground operation of affected turbine wheels installed in 250-C20, -C20B, C20C (T63-A720 engines, the engine N1 speed must be maintained at ground idle, except during transient operations, when performing required operational checks, or in high or gusty wind conditions, or where safety would be adversely affected. Placards, markings, or flight manual changes shall be used to advise flight crews of the ground operating restriction.

c. During all ground operation of affected turbine wheels installed in 250-B17, -B17B, -B17C engines, the engine N2 speed must be maintained below 90 percent N2 r.p.m., except during transient operation, when performing required operational checks or in high or gusty wind conditions, or where safety would be adversely affected. Placards, markings, or flight manual changes shall be used to advise flight crews of the ground operating restriction.

Upon request of the operator, an equivalent means of compliance with the requirements of this AD may be approved by the Manager, Chicago Aircraft Certification Office, FAA, Central Region.

Special flight permits may be issued in accordance with FAR's 21.197 and 21.199 to operate aircraft to a base where compliance with this AD can be accomplished.

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 Allison Gas Turbine Operations, General Motors Corporation, Indianapolis, Indiana 46206-0420. These documents may also be examined at the New England Regional Office, 12 New England Executive Park, Burlington, Massachusetts 01803. A historical file on this AD is maintained by the FAA at the New England Regional Office.

This AD supersedes Amendment 39-3011, 42 FR 43969, AD 77-18-03.

Amendment 39-4560 became effective June 13, 1983.

This Amendment 39-4814 becomes effective February 28, 1984.

## FOOTER: