

# AIRWORTHINESS DIRECTIVES FINAL RULES: 82-24-05

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**AMENDMENT:** 39-4498

**AD NUMBER:** 82-24-05

**SUBJECT HEADING:** DETROIT DIESEL ALLISON Model 250 Series Engines

**ACTION:**

**SUMMARY:**

**DATES:** Effective November 26, 1982.

**ADDRESSES:**

**FOR FURTHER INFORMATION CONTACT:**

**SUPPLEMENTARY INFORMATION:**

**REGULATORY TEXT:** 82-24-05 DETROIT DIESEL ALLISON: Amendment 39-4498. Applies to all Detroit Diesel Allison (DDA) Model 250 series engines equipped with Bendix fuel control assemblies and power turbine governor assemblies containing or suspected of containing P/N 2526146 bushing assemblies with a nylon ball bearing separator.

NOTE: Assemblies listed in the appendix to this AD have steel ball bearing separators.

Compliance required, as indicated, unless already accomplished.

To prevent possible engine power loss, autoacceleration, overspeeding, or power turbine governor instability/malfunctioning caused by failure of P/N 2526146 bushing assemblies with a nylon ball bearing separator installed in Bendix fuel control assemblies and power turbine governor assemblies, accomplish the following:

(a) Before further flight, remove from service affected Bendix fuel control assembly and power turbine governor assembly that exhibit one or more of the following symptoms that cannot be corrected by following the maintenance procedures in the appropriate DDA Operations and Maintenance Manual and, where applicable, install assemblies that have steel ball bearing separators:

Fuel Control Assembly Symptoms

N1 fluctuation

Autoacceleration or overspeed

Inability to obtain maximum power or N1 limiting

Inability to adjust/set idle speed or excessive flight idle

Power Turbine Governor Symptoms

Governor instability

Excessive droop which cannot be cured by correct control system rigging

NOTE: Above symptoms manifested by fuel control assemblies or power turbine governor assemblies which incorporate steel ball bearing separators should be corrected using appropriate DDA Operations and

Maintenance Manual procedures.

(b) Inspect in accordance with Paragraph (c) affected Bendix fuel control assemblies and power turbine governor assemblies within the hours time in service specified in the following schedule or before October 16, 1983, whichever occurs first:

Time in Service (Hours) of Fuel Control or Power Turbine Governor Since New or Last Overhaul	Inspect Within The Following Time (Hours) In Service
Less than 300	100
300 or more and less than 600	50
600 or more and less than 900	150
900 or more and less than 1200	200
More than 1200	250

(c) Inspect in accordance with the applicable DDA Commercial Engine Alert Bulletin, or later FAA- approved revision, listed below to determine whether the P/N 2526146 bushing assembly with a nylon ball bearing separator is installed:

Engine Model	Bulletin No., dated October 15, 1982
250-C18	CEB-A-229
250-C20, -C20B, -C20F, -C20J	CEB-A-1206
250-B15G	CEB-A-99
250-B17, -B17B, -B17C	CEB-A-1166
250-C28B, -28C	CEB-A-73-2026
250-C30, -C30P, -C30S	CEB-A-73-3021

(d) If a bushing assembly containing a nylon ball bearing separator is identified during inspection required by Paragraph (c), replace the bushing assembly with a serviceable assembly having a steel ball bearing separator. Reidentify serviceable fuel control assemblies or power turbine governor assemblies, after inspection, in accordance with the applicable DDA service bulletin.

(e) Special flight permits may be issued in accordance with FARs 21.197 and 21.199 to operate aircraft to a base where compliance with this AD can be accomplished.

(f) Upon request of an operator, the Manager, Chicago Aircraft Certification Office, FAA, Central Region, may adjust the compliance time specified in this AD provided such requests are made through an FAA maintenance inspector, and the request contains substantiating data to justify the request for that operator.

(g) 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.

This amendment becomes effective November 26, 1982.

#### AD 82-24-05 APPENDIX

All Bendix fuel control assemblies and power turbine governor assemblies installed in DDA Model 250 series engines are suspected of containing nylon ball bearing separators, except the following assemblies all of which have steel ball bearing separators:

1. Units identified by the letter "K" marked on the fuel control assemblies or power turbine governor assemblies identification plate in the "less issues" (LI) block.
2. The following fuel control assemblies and power turbine governor assemblies which have acceptable New Hampshire Ball Bearing (NHBB) bushing assemblies and are NOT marked with letter "K."

Model	Bendix Part No.	DDA Part No.	DDA Model	Unit Serial No.
Fuel Control Assemblies:				
DP-N2	2524644-18	23001794	250-C20B/F/J	336103 and subsequent
DP-P2	2524654-15	23001796	250-B17B/C	336036 and subsequent
DP-T3	2524738-20	23001797	250-C28B/C	334078 and subsequent
DP-V1	2524854-1	23004537	250-C30P	336051 and subsequent
DP-V1	2524745-17	23001798	250-C30/S	334132 and subsequent
Power Turbine Governor Assemblies:				
AL-AA1	2524667-8	23005492	250-C20/B/F	29288 and subsequent
AL-AA1	2524769-7	23005493	250-C20B/J	29367 and subsequent
AL-AC1	2524677-6	23005494	250-C28B/C	27511 and subsequent
AL-AD1	2524692-5	23006268	250-C30/P/S	28914 and subsequent

3. Fuel control assemblies and power turbine governor assemblies manufactured prior to November 7, 1979, provided that they have NOT been overhauled or have NOT had P/N 2526146 bushing assembly replaced since that date. The following listed fuel control assemblies and power turbine governor assemblies were manufactured prior to November 7, 1979:

Model	Bendix Part No.	Engine Model	All Serial Numbers Including and Prior To
Fuel Control Assemblies:			
DP-D3	2524463	250-C18	323884
DP-D3	2524527	250-C18	326174
DP-M1	2524384	250-B15G	319258
DP-N1	2524552	250-C20	320894
DP-N2	2524644	250-C20B, C20F, C20J	327936
DP-P1	2524558	250-B17	319575
DP-P2	2524654	250-B17B	327892
DP-P2	2524661	250-B17B, B17C	317461
DP-T3	2524738	250-C28B, C28C	328100
DP-V1	2524745	250-C30, C30S	326387
Power Turbine Governor Assemblies:			

AL-AA1	2524553	250-C20/B/F	18010
AL-AA1	2524667	250-C20/B/F	22797
AL-AA1	2524706	250-C20/B/J	20218
AL-AA1	2524769	250-C20/B/J	22921
AL-AC1	2524677	250-C28B, C28C	23097
AL-AD1	2524692	250-C30, C30P, C30S	21897

**FOOTER:**