

Panel Engine Instrument Display System, to HIRF must be established.

It is not possible to precisely define the HIRF to which the airplanes will be exposed in service. There is also uncertainty concerning the effectiveness of airframe shielding for HIRF.

Furthermore, coupling of electromagnetic energy to cockpit-installed equipment through the cockpit window apertures is undefined. Based on surveys and analysis of existing HIRF emitters, an adequate level of protection exists which compliance with the HIRF protection special condition is shown with either paragraph 1 or 2 below:

1. A minimum threat of 100 volts per meter peak electric field strength from 10 KHz to 18 GHz.

a. The threat must be applied to the system elements and their associated wiring harnesses without the benefit of airframe shielding.

b. Demonstration of this level of protection is established through system tests and analysis.

2. A threat external to the airframe of the following field strengths for the frequency ranges indicated:

Frequency	Peak (V/M)	Average (V/M)
10 KHz-100 KHz .....	50	50
100 KHz-500 KHz .....	60	60
500 KHz-2000 KHz .....	70	70
2 MHz-30 MHz .....	200	200
30 MHz-100 MHz .....	30	30
100 MHz-200 MHz .....	150	33
200 MHz-400 MHz .....	70	70
400 MHz-700 MHz .....	4,020	935
700 MHz-1000 MHz .....	1,700	170
1 GHz-2 GHz .....	5,000	990
2 GHz-4 GHz .....	6,680	840
4 GHz-6 GHz .....	6,850	310
6 GHz-8 GHz .....	3,600	670
8 GHz-12 GHz .....	3,500	1,270
12 GHz-18 GHz .....	3,500	360
18 GHz-40 GHz .....	2,100	750

As discussed above, these special conditions are applicable to the Boeing Company Model 747-100 and 747-200 airplanes, modified by B & D Instruments & Avionics, Inc. Should B & D Instruments & Avionics, Inc. apply at a later date for a supplemental type certificate to modify any other model included on Type Certificate No. A20WE to incorporate the same novel or unusual design feature, the special conditions would apply to that model as well, under the provisions of § 21.101(a)(1).

**Conclusion**

This action affects only certain unusual or novel design features on Boeing Company Model 747-100 and 747-200 airplanes, modified by B & D Instruments & Avionics, Inc. It is not a

rule of general applicability and affects only the applicant who applied to the FAA for approval of this feature on this airplane.

The substance of these special conditions has been subjected to the notice and comment procedure in several prior instances and has been derived without substantive change from those previously issued. It is unlikely that prior public comment would result in a significant change from the substance contained herein. For this reason, and because a delay would significantly affect the certification of the airplane, which is imminent, the FAA has determined that prior public notice and comment are unnecessary and impracticable, and good cause exists for adopting these special conditions immediately. Therefore, these special conditions are being made effective upon issuance. The FAA is requesting comments to allow interested persons to submit views that may not have been submitted in response to the prior opportunities for comment described above.

**List of Subjects in 14 CFR Part 25**

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

The authority citation for these special conditions is as follows:

**Authority:** 49 U.S.C. app. 1344, 1348(c), 1352 1354(a), 1355, 1421 through 1431, 1502, 1651(b)(2), 42 U.S.C. 1857f-10, 4321 et seq.; E.O. 11514; and 49 U.S.C. 106(g).

**The Special Conditions**

Accordingly, pursuant to the authority delegated to me by the Administrator, the following special conditions are issued as part of the supplemental type certification basis for the Boeing Company Model 747-100 and 747-200 airplanes, as modified by B & D Instruments & Avionics, Inc:

1. *Protection from Unwanted Effects of High-Intensity Radiated Fields (HIRF).* Each electrical and electronic system that performs critical functions must be designed and installed to ensure that the operation and operational capability of these systems to perform critical functions are not adversely affected when the airplane is exposed to high intensity radiated fields external to the airplane.

2. The following definition applies with respect to this special condition: *Critical Function.* Functions whose failure would contribute to or cause a failure condition that would prevent the continued safe flight and landing of the airplane.

Issued in Renton, Washington, on June 29, 1995.

**Darrell M. Pederson,**

*Acting Manager, Transport Airplane Directorate, Aircraft Certification Service, ANM-100.*

[FR Doc. 95-17589 Filed 7-18-95; 8:45 am]

BILLING CODE 4910-13-M

**14 CFR Part 25**

[Docket No. NM-114; Special Conditions No. 25-ANM-102]

**Special Conditions: Modified McDonnell Douglas Corporation Model DC-10-30 and DC-10-40 Airplane; High Intensity Radiated Fields (HIRF)**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final special conditions; request for comments.

**SUMMARY:** These special conditions are issued for the McDonnell Douglas Corporation Model DC-10-30 and DC-10-40 modified by B & D Instruments & Avionics, Inc., of Valley Center, Kansas. This airplane will be equipped with a Flat Panel Engine Instrument Display that will perform critical functions. The applicable regulations do not contain adequate or appropriate safety standards for the protection of the Flat Panel Engine Instrument Display from the effects of high-intensity radiated fields (HIRF). These special conditions provide the additional safety standards that the Administrator considers necessary to ensure that the critical functions performed by this system are maintained when the airplane is exposed to HIRF.

**DATES:** The effective date of these special conditions is June 29, 1995. Comments must be received on or before September 5, 1995.

**ADDRESSES:** Comments on these final special conditions, request for comments, may be mailed in duplicate to: Federal Aviation Administration, Office of the Assistant Chief Counsel, Attn: Rules Docket (ANM-7), Docket No. NM-114, 1601 Lind Avenue SW., Renton, Washington, 98055-4056; or delivered in duplicate to the Office of the Assistant Chief Counsel at the above address. Comments must be marked "Docket No. NM-114." Comments may be inspected in the Rules Docket weekdays, except Federal holidays, between 7:30 a.m. and 4 p.m.

**FOR FURTHER INFORMATION CONTACT:** Mark Quam, FAA, Standardization Branch, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue SW., Renton, Washington 98055-4056; telephone (206) 227-2145.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

The FAA has determined that good cause exists for making these special conditions effective upon issuance; however, interested persons are invited to submit such written data, views, or arguments as they may desire. Communications should identify the regulatory docket and special conditions number and be submitted in duplicate to the address specified above. All communications received on or before the closing date for comments will be considered by the Administrator. These special conditions may be changed in light of the comments received. All comments submitted will be available in the Rules Docket for examination by interested persons, both before and after the closing date for comments. A report summarizing each substantive public contact with FAA personnel concerning this rulemaking will be filed in the docket. Persons wishing the FAA to acknowledge receipt of their comments submitted in response to this request must submit with those comments a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket No. NM-114." The postcard will be date stamped and returned to the commenter.

**Background**

On April 7, 1995, B & D Instruments & Avionics, Inc., of Valley Center, Kansas, applied for a supplemental type certificate to replace the existing engine instruments (EPR, FF, N1, N2, EGT) with a Flat Panel Display System in the McDonnell Douglas Corporation Model DC-10-30 and DC-10-40. The Model DC-10-30 is a passenger transport category airplane, and is capable of operating to an altitude of 42,000 feet. For all flights, 3 persons (pilot, copilot, flight engineer) are required. The original equipment installed in these airplanes presented the required engine information in the form of analog displays. The proposed modification would replace the existing engine instruments (EPR, FF, N1, N2, EGT) with a digital Flat Panel Engine Instrument Display System. The installation of the Flat Panel Engine Instrument Display System is potentially vulnerable to high-intensity radiated fields (HIRF) external to the airplane.

**Supplemental Type Certification Basis**

Under the provisions of § 21.101 of the Federal Aviation Regulations (FAR), B & D Instruments & Avionics, Inc. must show that the altered McDonnell Douglas Corporation Model DC-10-30

and DC-10-40 airplanes continue to meet the applicable provisions of the regulations incorporated by reference in Type Certificate No. A22WE, or the applicable regulations in effect on the date of application for the change. The regulations incorporated by reference in the type certificate are commonly referred to as the "original type certification basis."

The regulations incorporated by reference in Type Certificate No. A22WE include the following for the McDonnell Douglas Corporation Model DC-10-30 and DC-10-40 airplanes:

Part 25 of the FAR effective February 1, 1965, Amendments 25-1 through 25-22.

In addition, under § 21.101(b)(1), the following sections of the FAR apply to the Flat Panel Engine Instrument Display installation: §§ 25.1301(d), 25.1305 and 25.1322, as amended by Amendment 25-38; and §§ 25.1309, 25.1321 (a), (c), (d), and (e), 25.1331, 25.1337, as amended by Amendment 25-40. These special conditions form an additional part of the supplemental type certification basis.

If the Administrator finds that the applicable airworthiness regulations (i.e., part 25, as amended) do not contain adequate or appropriate safety standards for the McDonnell Douglas Corporation Model DC-10-30 and DC-10-40 airplanes because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16 to establish a level of safety equivalent to that established in the regulations.

Special conditions, as appropriate, are issued in accordance with § 11.49 of the FAR after public notice, as required by §§ 11.28 and 11.29, and become part of the type certification basis in accordance with § 21.101(b)(2).

Special conditions are initially applicable to the model for which they are issued. Should the applicant apply for a supplemental type certificate to modify any other model included on the same type certificate to incorporate the same novel or unusual design feature, the special conditions would also apply to the other model under the provisions of § 21.101(a)(1).

**Discussion**

There is no specific regulation that addresses protection requirements for electrical and electronic systems from high-intensity radiated fields (HIRF). Increased power levels from ground-based radio transmitters, and the growing use of sensitive electrical and electronic systems to command and control airplanes, have made it

necessary to provide adequate protection.

To ensure that a level of safety is achieved equivalent to that intended by the regulations incorporated by reference, special conditions are needed for the modified Boeing Model DC-10-30 and DC-10-40 airplanes that would require that the Flat Panel Engine Instrument Display System be designed and installed to preclude component damage and interruption of function due to the effects of HIRF.

**High-Intensity Radiated Fields (HIRF)**

With the trend toward increased power levels from ground-based transmitters, plus the advent of space and satellite communications, coupled with electronic command and control of the airplane, the immunity of critical digital avionics systems, such as the Flat Panel Engine Instrument Display System, to HIRF must be established.

It is not possible to precisely define the HIRF to which the airplanes will be exposed in service. There is also uncertainty concerning the effectiveness of airframe shielding for HIRF.

Furthermore, coupling of electromagnetic energy to cockpit-installed equipment through the cockpit window apertures is undefined. Based on surveys and analysis of existing HIRF emitters, an adequate level of protection exists when compliance with the HIRF protection special condition is shown with either paragraphs 1 or 2 below:

1. A minimum threat of 100 volts per meter peak electric field strength from 10 KHz to 18 GHz.

a. The threat must be applied to the system elements and their associated wiring harnesses without the benefit of airframe shielding.

b. Demonstration of this level of protection is established through system tests and analysis.

2. A threat external to the airframe of the following field strengths for the frequency ranges indicated:

Frequency	Peak (V/M)	Average (V/M)
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500 KHz-2000 KHz .....	70	70
2 MHz-30 MHz .....	200	200
30 MHz-100 MHz .....	30	30
100 MHz-200 MHz .....	150	33
200 MHz-400 MHz .....	70	70
400 MHz-700 MHz .....	4,020	935
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6 GHz-8 GHz .....	3,600	670
8 GHz-12 GHz .....	3,500	1,270

Frequency	Peak (V/M)	Average (V/M)
12 GHz–18 GHz .....	3,500	360
18 GHz–40 GHz .....	2,100	750

As discussed above, these special conditions are applicable to the McDonnell Douglas Corporation Model DC-10-30 and DC-10-40 airplanes, modified by B & D Instruments & Avionics, Inc. Should B & D Instruments & Avionics, Inc. apply at a later date for a supplemental type certificate to modify any other model included on Type Certificate No. A22WE to incorporate the same novel or unusual design feature, the special conditions would apply to that model as well, under the provisions of § 21.101(a)(1).

**Conclusion**

This action affects only certain unusual or novel design features on McDonnell Douglas Corporation Model DC-10-30 and DC-10-40 airplanes, modified by B&D Instruments & Avionics, Inc. It is not a rule of general applicability and affects only the applicant who applied to the FAA for approval of this feature on this airplane.

The substance of these special conditions has been subjected to the notice and comment procedure in several prior instances and has been derived without substantive change from those previously issued. It is unlikely that prior public comment would result in a significant change from the substance contained herein. For this reason, and because a delay would significantly affect the certification of the airplane, which is imminent, the FAA has determined that prior public notice and comment are unnecessary and impracticable, and good cause exists for adopting these special conditions immediately. Therefore, these special conditions are being made effective upon issuance. The FAA is requesting comments to allow interested persons to submit views that may not have been submitted in response to the prior opportunities for comment described above.

**List of Subjects in 14 CFR Part 25**

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

The authority citation for these special conditions is as follows:

**Authority:** 49 U.S.C. app. 1344, 1348(c), 1352, 1354(a), 1355, 1421 through 1431, 1502, 1651(b)(2), 42 U.S.C. 1857f-10, 4321 et seq.; E.O. 11514; and 49 U.S.C. 106(g).

**The Special Conditions**

Accordingly, pursuant to the authority delegated to me by the

Administrator, the following special conditions are issued as part of the supplemental type certification basis for the McDonnell Douglas Corporation Model DC-10-30 and DC-10-40 airplanes, as modified by B&D Instruments & Avionics, Inc:

1. *Protection From Unwanted Effects of High-Intensity Radiated Fields (HIRF).* Each electrical and electronic system that performs critical functions must be designed and installed to ensure that the operation and operational capability of these systems to perform critical functions are not adversely affected when the airplane is exposed to high intensity radiated fields external to the airplane.

2. The following definition applies with respect to this special condition: *Critical Function.* Functions whose failure would contribute to or cause a failure condition that would prevent the continued safe flight and landing of the airplane.

Issued in Renton, Washington, on June 29, 1995.

**Darrell M. Pederson,**

*Acting Manager, Transport Airplane Directorate, Aircraft Certification Service, ANM-100.*

[FR Doc. 95-17588 Filed 7-18-95; 8:45 am]

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**14 CFR Part 39**

[Docket No. 94-NM-36-AD; Amendment 39-9301; AD 95-14-07]

**Airworthiness Directives; Aerospatiale Model ATR72-100 and -200 Series Airplanes**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule.

**SUMMARY:** This amendment adopts a new airworthiness directive (AD), applicable to certain Model ATR72-100 and -200 series airplanes, that requires a one-time dye penetrant inspection to detect cracking in certain hinge pins of the nose landing gear (NLG), and replacement of cracked pins with crack-free pins. This amendment is prompted by reports of cracking of certain hinge pins in the NLG. The actions specified by this AD are intended to prevent collapse of the NLG due to cracking of the hinge pins.

**DATES:** Effective August 18, 1995.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of August 18, 1995.

**ADDRESSES:** The service information referenced in this AD may be obtained

from Aerospatiale, 316 Route de Bayonne, 31060 Toulouse, Cedex 03, France. This information may be examined at the Federal Aviation Administration (FAA), Transport Airplane Directorate, Rules Docket, 1601 Lind Avenue SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street NW., suite 700, Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Gary Lium, Aerospace Engineer, Standardization Branch, ANM-113, FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington 98055-4056; telephone (206) 227-1112; fax (206) 227-1149.

**SUPPLEMENTARY INFORMATION:** A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD) that is applicable to certain Aerospatiale Model ATR72-100 and -200 series airplanes was published as a supplemental notice of proposed rulemaking (NPRM) in the **Federal Register** on March 22, 1995 (60 FR 15084). That action proposed to require a one-time dye penetrant inspection to detect cracking in certain hinge pins in the nose landing gear (NLG), and replacement of cracked pins with crack-free pins.

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the single comment received.

The commenter supports the proposed rule.

After careful review of the available data, including the comment noted above, the FAA has determined that air safety and the public interest require the adoption of the rule as proposed.

The FAA estimates that 28 airplanes of U.S. registry will be affected by this AD, that it will take approximately 6 work hours per airplane to accomplish the required actions, and that the average labor rate is \$60 per work hour. Based on these figures, the total cost impact of the AD on U.S. operators is estimated to be \$10,080, or \$360 per airplane.

The total cost impact figure discussed above is based on assumptions that no operator has yet accomplished any of the requirements of this AD action, and that no operator would accomplish those actions in the future if this AD were not adopted.

The regulations adopted herein will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.