

Appendix G

Suspension and Restoration of the DC-10 Type Certificate:

The Model DC-10 aircraft is covered under Type Certificate No. **A22WE** held by the McDonnell-Douglas Corporation.

On May 28, 1979, 3 days after the accident, the FAA Western Region issued a telegraphic AD which required visual inspection of the inside forward flange of each wing engine pylon aft bulkhead for cracks and inspection or replacement of the bolts at the forward and aft ends of each wing to pylon thrust link assemblies.

On May 29, 1979, the AD was amended to require further inspections of certain engine pylon to wing attachment structure. On June 4, 1979, the May 28 AD was again amended telegraphically to require reinspection of certain Model DC-10 series aircraft which had undergone engine and pylon removal and installation. As a result of the inspections required by the amended AD, the FAA was informed of the existence of cracks in the wing pylon assemblies of mounting assemblies. Therefore, on June 6, 1979, the Administrator issued the following Emergency Order of Suspension which read, in part:

"EMERGENCY ORDER OF SUSPENSION"

Take notice that, upon consideration of all the evidence available, it appears to the Administrator of the Federal Aviation Administration as follows:

1. McDonnell-Douglas Corporation is now and at all times mentioned herein was the holder of Type Certificate No. A22WE for the Douglas DC-10 series aircraft.
2. On or about May 25, 1979, an accident occurred involving a McDonnell-Douglas DC-10 series aircraft at Chicago, Illinois.
3. Subsequent to said accident, on May 28, 1979, the Federal Aviation Administration acting by and through Leon C. Daugherty, Director, Western Region, issued an airworthiness directive applicable to all DC-10 series aircraft.
4. Thereafter, on May 29, 1979, the airworthiness directive was further amended to require additional inspections of the wing mounted engine pylon structure for cracks and integrity of the attachment support unit.
5. Thereafter, on June 4, 1979, the airworthiness directive was further amended to require reinspection of certain DC-10 series aircraft which had undergone engine and pylon removal and reinstallation.
6. As a result of the inspections required by the airworthiness directive, as amended, the FAA continues to be advised of the existence of cracks in the pylon mounting assemblies of certain

aircraft and it appears that the aircraft may not meet the applicable certification criteria of Part 25 of the Federal Aviation Regulations (FAR).

7. Moreover, the preliminary findings of an FAA post audit of the Model DC-10 aircraft type certification data indicates that the wing engine pylon assembly may not comply with the type certification basis set forth in FAR 25.571.

By reason of the foregoing circumstances, the Administrator has reason to believe that the Model DC-10 series aircraft may not meet the requirements of Section 603(a) of the Federal Aviation Act for a Type Certificate in that it may not be of proper design, material, specification, construction, and performance for safe operation, or meet the minimum standards, rules, and regulations prescribed by the Administrator.

Therefore, the Administrator finds that safety in air commerce or air transportation and the public interest require the suspension of the Type Certificate for the Model DC-10 Series aircraft issued to McDonnell-Douglas Corporation until such time as it can be ascertained that the DC-10 aircraft meets the certification criteria of Part 25 of the FAR and is eligible for a Type Certificate.

Furthermore, the Administrator finds that an emergency exists and that safety in air commerce or air transportation requires the immediate effectiveness of this Order.

THEREFORE, IT IS ORDERED, under authority contained in Sections 609 and 1005(a) of the Federal Aviation Act of 1958, as amended, that Type Certificate No. A22WE issued to McDonnell-Douglas Corporation be, and it hereby is, suspended on an emergency basis, said suspension to be effective on the date of this Order and until it is found by the Administrator that the Model DC-10 series aircraft meets the applicable certification criteria of Part 25 of the FAR and is eligible for a type certificate...."

On June 7, 1979, the Chief Counsel of the FAA issued two Orders of Investigation and Demand for Production of Material. The first Order concerned the maintenance and airworthiness procedures relating to the DC-10 and was directed to United States operators of the aircraft. The second Order was directed to McDonnell-Douglas Corporation and concerned the type certification of the Model DC-10 aircraft and other manufacturer related matters.

Specifically, the second Order required that:

- "1. An investigation be conducted of the type certification of the engine-to-wing attachment structure of the McDonnell-Douglas DC-10 series aircraft;

2. To determine whether modification, alteration, maintenance and repair practices and procedures recommended by the manufacturer in the form of Maintenance Manuals, Service Bulletins, or other documents are adequate to assure continued airworthiness of the product pursuant to an Airworthiness Certificate;
3. To determine whether certification practices, procedures and regulations prescribed by the Federal Aviation Administration are adequate to assure the integrity of the engine-to-wing attach structure."

A group of FAA specialists from Headquarters and various regional offices was designated to conduct the McDonnell-Douglas investigation. A fail-safe review team from the Western Region Engineering Division was incorporated into the formal investigation.

The formal investigation was divided into 4 teams dealing with different aspects of the investigation. As a result of these investigations, three reports were presented to the Administrator:

1. Presiding Officer's Report to the Administrator on the Investigation of the McDonnell-Douglas Corporation and the Model DC-10 Aircraft, dated July 9, 1979.
2. Report to the Administrator in the Matter of Maintenance and Airworthiness Procedures concerning the DC-10 aircraft, dated June 25, 1979.
3. Report to the Administrator on Investigation of Compliance of the DC-10 Aircraft Leading Edge Outboard Slat with Type Certification Requirements, under Asymmetrical Slat Conditions, dated July 9, 1979.

After review of these reports, and upon consideration of actions taken by the FAA as a result of these investigations, the Administrator found, with respect to those matters investigated, that the Douglas Model DC-10 met the requirements of Section 603(a)(2) of the FAA Act for issuance of a type certificate in that, in such respects, said aircraft is of proper design, material, specification, construction and performance for safe operation and meets the applicable certification criteria of Part 25 of the Federal Aviation Regulations and is eligible for a type certificate.

Accordingly, on July 13, 1979, the Emergency Order of Suspension of Type Certificate A22WE for the McDonnell-Douglas DC-10 aircraft was terminated.

On July 13, 1979, the FAA also issued several AD's which required inspections of various systems and structures. Compliance with the provisions of these AD's was required "before further flight, after the effective date of this AD." The effective date of the amendments or AD's was July 13, 1979.

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