

Where does the Federal Aviation Administration (USA) derive its authority to issue airworthiness directives over Boeing 737?

What is an Airworthiness Directive?

An airworthiness directive (commonly abbreviated as AD) is a notification to owners and operators of certified aircraft that a known safety deficiency with a particular model of aircraft, engine, avionics, or other system exists and must be corrected.

AD's usually result from service difficulty reporting by operators or aircraft accident investigations. AD's are issued either by the national civil aviation authority of the country of aircraft manufacture or of aircraft registration.

A classic example of this is the recent development in the global aviation industry that forced the United States Federal Aviation Administration (FAA) to issue an airworthiness directive to operators of Boeing 737-700, 737-400 and 737-500 planes worldwide, to carry out emergency inspection on them for possible cracks. Thus, the FAA derived its authority to issue such a directive, based on the fact that it is the authority of the country of aircraft manufacture (Boeing planes are owned by the Boeing Company, an American multinational aerospace and defense corporation), in this case, the United States.

The FAA issues AD's by three different processes: (a) Standard AD process: Notice of Proposed Rulemaking (NPRM), followed by a Final Rule, (b) Final Rule and Request for comments, (c) Emergency AD's- issued without time for comment. This is only issued when an unsafe condition exists that requires immediate action by an owner/operator, to rapidly correct an urgent safety of flight situation.

FAA issues an AD when it finds that an unsafe condition exists in the product and the condition is likely to exist or develop in other products of the same type design. The AD specifies inspections that must be carried out, conditions and limitations that must be complied with and any actions that must be taken to resolve an unsafe condition.

When AD's are issued by the country of registration, it is normal practice for them to be coordinated with the civil aviation authority of the country of manufacture, in order to prevent the issuance of conflicting AD's. AD's often contain dates of aircraft flying hours by which compliance must be completed. For example, in the recent development as mentioned above, the US AD applies to 737's which had flown for 30,000

cycles. Once the airplanes clock 30,000 cycles, the inspections will have to be repeated at every 500 cycles, (which is at approximately four months interval) until a crack is found and the plane re-skinned.

AD's may be divided into two categories: (a) Those of an emergency nature requiring immediate compliance prior to further flight; and (b) Those of a less urgent nature requiring compliance within a specified period of time.

Other civil aviation authorities that issue AD's include: (a) Civil Aviation Safety Authority (CASA, Australia), (b) European Aviation Safety Agency, (c) Transport Canada.

If a certified aircraft has outstanding AD's that have not been complied with, the aircraft is not considered airworthy. Thus, it is mandatory for an aircraft operator to comply with an AD.

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