AIRWORTHINESS DIRECTIVE

On the effective date specified below, and for the reasons set out in the background section, the CASA delegate whose signature appears below revokes Airworthiness Directive (AD) AD/B737/152 and issues the following AD under subregulation 39.001(1) of CASR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

Boeing 737 Series Aeroplanes

AD/B737/152 Amdt 1 — Centre Fuel Tank - Limitations — 18/2011

Applicability: All Model 737 series aeroplanes.

Requirement: Revise the Limitations Section of the Aircraft Flight Manual (AFM) to include the information detailed in FAA AD 2001-08-24 Amdt 39-12201.

Compliance: Date remains unchanged to that detailed in the original issue of this Directive.

Despite the new AD/B737/152 Amdt 1, an exclusion or an alternate method of compliance that was in force before the coming into effect of AD/B737/152 Amdt 1 continues to be in force.

This Airworthiness Directive becomes effective on 30 September 2011.

Background: On 3 March 2001, a Boeing Model 737-400 series airplane caught fire and burned while parked at a bay at the Don Muang International Airport, Bangkok, Thailand. Although the accident investigation is ongoing and the probable cause of the accident has not been identified, the Government of Thailand, in conjunction with the United States National Transportation Safety Board, has determined that the centre tank exploded shortly after the main fuel tanks of the airplane were refuelled. It appears that the centre tank fuel pumps were operating dry (no fuel passing through them) at the time of the explosion.

This accident is similar to a 1990 centre tank explosion on a Boeing Model 737-300 airplane. The ignition source of that explosion was never identified. The centre tank fuel pumps were operating dry at the time of that explosion.

Extended dry operation of the centre tank fuel pumps, which occurred prior to both incidents, is contrary to the manufacturer's procedures for safe operation of the fuel pumps. Extended dry pump operation can result in overheating and excessive wear of the pump bearings and consequent contact between rotating and nonrotating parts of the pumps. Both overheating of the bearings and contact between rotating and nonrotating parts have the potential to create an ignition source in the form of hot surfaces or sparks. In addition, during dry operation of the pumps, ignition of vapour in a fuel pump can create a flame front that can reach the fuel tank and cause a fuel tank explosion.

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Boeing 737 Series Aeroplanes

AD/B737/152 Amdt 1 (continued)

This Directive is issued to prevent ignition of fuel vapours due to the generation of sparks and a potential ignition source inside the centre tank caused by metal-to-metal contact during dry fuel pump operation, which could result in a fire or explosion of the fuel tank. This Directive requires revising the AFM to prohibit extended dry operation of the centre tank fuel pumps.

This amendment deletes the original text of the AD and incorporates the original FAA AD by reference. This was done to facilitate easier cross referencing to FAA AD 2011-18-03 Amdt 39-16785 which details the terminating action for the requirement of this AD.

The original issue of this AD became effective on 10 May 2001.

Alternative Methods of Compliance for AD 2001-08-24 Amdt 39-12201 that are approved by the FAA are acceptable as a means of compliance against this AD.

Mike Higgins
Delegate of the Civil Aviation Safety Authority

5 September 2011