



**Flight Operation Directive No:** 2021/0001

**Date:** 08/04/2021

**Last Implementation Date:** -

## Flight Operation Directive

<b>Subject:</b>	Boeing 737-8 and 737-9 (MAX) Aeroplanes - Return to Service
<b>Applicability:</b>	This Flight Operational Directive cover foreign air transportation operators to perform commercial air transport aircraft with Boeing 737-8 and 737-9 aeroplanes into, within the Turkish Territory.
<b>Reference Publications:</b>	<ol style="list-style-type: none"><li>1. SHGM UED-2021/0001 dated 1 April 2021.</li><li>2. EASA AD 2021-0039 dated 27 January 2021.</li><li>3. FAA AD 2020-24-02 dated 18 November 2020.</li><li>4. FAA FSB Report for Boeing 737, Revision 17 dated 16 November 2020.</li></ol>
<b>Descriptions:</b>	<p><b>DEFINITIONS:</b> For the purpose of this Flight Operation Directive, the following definitions apply:</p> <p><b>Affected FCC OPS:</b> Flight Control Computer (FCC) Operational Program Software (OPS) P.11.1 (for model 737-8) and P.10.0 (for model 737-9), or earlier FCC OPS.</p> <p><b>Affected MDS DPC OPS:</b> MAX Display System (MDS) Display Processing Computer (DPC) OPS, Block-point (BP) 1.5, or earlier MDS DPC OPS/BP.</p> <p><b>REASON:</b> After two fatal accidents with Boeing 737-8 aeroplanes, Directorate General of Civil Aviation of TURKEY issued official letter dated 12 March 2019, which required operator not to perform commercial air transport operations with Boeing 737-8 or Boeing 737-9 aeroplanes into, within the Turkish Territory.</p> <p>The results of safety investigations conducted by FAA and EASA safety review, have confirmed that;</p> <ul style="list-style-type: none"><li>• With affected FCC OPS installed, a single erroneous high angle-of-attack (AOA) sensor input to the FCC on an affected aeroplane during manual flight with flaps up may prompt the Manoeuvring Characteristics Augmentation System (MCAS) to input incremental nose down trim.</li><li>• In this scenario, the flight crew may be unable to respond appropriately by applying opposing nose-up stabilizer trim, returning the aeroplane to a trimmed state, and by actuating the stab trim cut-out switches,</li><li>• This condition, if not corrected, could lead to a stabilizer position that cannot be fully countered with elevator input, possibly resulting in loss of control of the aeroplane.</li></ul>



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Prompted by those findings, Boeing developed new OPS for FCC and MDS DPC and issued the associated Service Bulletins to provide instructions for OPS in-service installation. Boeing also updated the applicable flight crew training programme(s), introducing new training to ensure pilot understanding of the MCAS functions, the consequences of introducing the new OPS, and the new 'Airspeed unreliable' procedure.

In addition, upon single failure of an AOA sensor during a "Required Navigation Performance - Authorization Required" (RNP-AR) approach, all flight guidance that allows the pilot to guide the aeroplane along the intended flight path is lost, and therefore the crew is left with no means to ensure that the aeroplane's trajectory can be maintained within the tolerated lateral deviation. This condition, if not corrected, may constitute an unsafe condition in case the RNP-AR approach has been implemented because of terrain or obstacle constraints in the vicinity of the airfield.

For the reasons described above, Required Navigation Performance-Authorization Required (RNP-AR) approaches are prohibited until the compatibility activities of the process related to RNP-AR approaches are completed.

In order to ensure safe operation of the affected Boeing 737-8 and 737-9 aeroplanes upon return to service, this Flight Operation Directive requires that pilots perform the return to service (RTS) training, including ground and flight training in a suitable full flight simulator (FFS), prior to operating the affected aeroplanes.

### REQUIRED ACTIONS AND COMPLIANCE TIMES:

Before the first commercial air transport flight performed by Boeing 737-8 and 737-9 aeroplanes, into, within the Turkish Territory, the foreign operators shall:

- (1) Implement all elements contained in Federal Aviation Administration (FAA) AD 2020-24-02, or in EASA AD 2021-0039 or, in SHGM UED-2021/0001 or, where applicable, in an AD issued by the State of Registry that contains the same elements as FAA AD 2020-24-02, or EASA AD 2021-0039, or SHGM UED-2021/0001.
- (2) Ensure all pilots have undergone the RTS training (see Note 1) contained in FAA Flight Standardization Board (FSB) Report for Boeing 737, Revision 17, Appendix 7 (Boeing 737 MAX Special Training for Flight Crews).

Note 1: The content of Appendix 7 of FAA FSB Report for Boeing 737, Revision 17, is equivalent to the RTS training specified in EASA AD 2021-0039 or, in SHGM UED-2021/0001.

Required  
Actions:



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- (3) Ensure FFS used to deliver RTS training to pilots are capable to support the required RTS training elements contained in FAA FSB Report for Boeing 737, Revision 17, Appendix 7 (Boeing 737 MAX Special Training for Flight Crews).

**LIMITATIONS:**

The operators shall not conduct RNP-AR approach operations during flights and shall disseminate appropriate information to crew and operations staff.

**Contact:**

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