Continued Airworthiness Notification to the International Community

To: Civil Aviation Authorities Date: September 13, 2019

From: Federal Aviation Administration
Aircraft Certification Service
System Oversight Division, AIR-800
2200 South 216th Street
Des Moines, WA 98198

Subject: This message provides information regarding the FAA's continued operational safety activities related to The Boeing Company Model 737 series airplanes, excluding Model 737-100, -200, -200C, -300, -400, and -500 series airplanes. (Model 737-600/700/700C/800/900/900ER (737 NG) and 737-8/9 (737 MAX) airplanes are currently affected.)

Situation description: Boeing has informed the FAA that alteration of thrust reverser upper locking actuators, in accordance with unapproved data in the Boeing Aircraft Maintenance Manual (AMM), could cause a locking mechanism failure of a thrust reverser upper locking actuator to remain undetected. An undetected unlocked thrust reverser upper locking actuator in flight significantly increases the likelihood of an in-flight deployment of the thrust reverser. In-flight thrust reverser deployment in some phases of flight would likely result in a loss of airplane control.

Boeing informed the FAA of the risk that operators could use an existing AMM procedure that was intended for use in rigging a newly installed thrust reverser upper locking actuator to instead alter the function of a worn upper locking actuator's lock indication. That procedure removes material from the upper locking actuator's lock sensor target until the upper locking actuator's unlocked indication (the "REVERSER" light on the flight deck aft overhead panel, which is illuminated when the upper locking actuator is unlocked or when other system failures are detected) is no longer illuminated. However, that procedure does not require a check to verify that the thrust reverser upper locking actuator locking mechanism is operative or that the unlocked indication functions normally after removal of the material. As a result, it is possible that use of this procedure could prevent transmittal of actuator unlocked indications to the flight crew if the locking mechanism has already failed or subsequently fails.

The FAA concurs with Boeing's assessment and safety determination, and plans to issue an immediately adopted rule (IAR) to: 1) require removal of the associated procedures from the Model 737 NG and 737 MAX AMMs, 2) require an initial integrity test, within 90 days, of the thrust reverser upper locking actuator on 737 NG airplanes, 3) require repetitive integrity tests of the thrust reverser locking actuator every 750 flight hours for 737 NG airplanes, and 4) prohibit the installation of a 737 NG actuator on a 737 MAX airplane. (The integrity test is not required on the newer 737 MAX airplane fleet; those airplanes have not been subjected to enough wear to warrant the use by any operator of the sensor target trimming procedure that leads to the upper locking actuator lock indication failure that may exist on 737 NG airplanes.) We may consider a subsequent AD action that will be proposed by NPRM to require eventual replacement of any actuator that has an inoperative lock indication system.

Aircraft/engine make, model, and series: The Boeing Company Model 737 series airplanes, excluding Model 737-100, -200, -200C, -300, -400, and -500 series airplanes. (Model 737-600/700/700C/800/900/900ER (737 NG) and 737-8/9 (737 MAX) airplanes are currently affected.)

U.S.-registered fleet: Approximately 2,039 Model 737 NG airplanes and 110 Model 737 MAX airplanes as of July 15, 2019

Worldwide fleet: Approximately 7,033 Model 737 NG airplanes and 585 Model 737 MAX airplanes as of July 15, 2019

Some major operators: As of July 15, 2019, Model 737 NG and 737 MAX operators worldwide include 9 AIR, Aeroflot – Russian Airlines, Aeromexico, Air Changan Co., Ltd., Air Canada, Air China, Air India Express, Air Italy S.P.A., Alaska Airlines, All Nippon Airways Co., Ltd., American Airlines, Cayman Airways, China Eastern Airlines, China Southern Airlines, China United Airlines, Ltd., Comair Ltd., Copa Airlines, Delta Air Lines, Derivative A/P Prog-USN, Donghai Airlines, Eastar Jet, Enter Air SP.Z.O.O., Ethiopian Airlines Group, Fiji Airways, FlyDubai, Fuzhou Airlines Co., Ltd., Globus Airlines, Gol Linhas Aereas, Hainan Airlines Holding, Hebei Airlines Company, Ltd., Japan Transocean Air, Icelandair, Jeju Air, JET2.COM, Ltd., Jet Airways, Joyair, KLM Royal Dutch Airlines, Kunming Airlines, Lion Air, Lot Polish Airlines, Lucky Air, Nordwind Airlines, MIAT Mongolian Airlines, Norwegian Air International, Norwegian Air Norway, Norwegian Air Sweden, Okay Airways Company, Ltd., Oman Air (SAOC), Pobeda Airlines LLC, Qatar Airways, Royal Air Maroc, Shandong Airlines, Shanghai Airlines, Southwest Airlines, Shenzhen Airlines, Silkair, Smartwings, SpiceJet, Urumqi Air, Pobeda Airlines, LLC, RyanAir, Solaseed Air, Sunwing Airlines Inc., Tassili Airlines, Transavia Airlines, TUI Airways, TUI Fly, TUI Fly Netherlands, TUI Fly Nordic, Turkish Airlines, A.S., United Airlines, Westjet Airlines, and Xiamen Airlines.

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