Boeing 737 MAX Airplanes Must be Thoroughly Inspected to Ensure Passenger Safety

WASHINGTON, DC, UNITED STATES, June 4, 2024 /EINPresswire.com/ -- The Foundation for Aviation Safety recommends DOT Secretary Buttigieg and FAA Administrator Whitaker immediately order all Boeing 737 MAX airplanes into a comprehensive inspection program as part of a phased grounding effort. The grounding must include detailed inspections of all aircraft systems especially the airplane's Electrical Wiring Interconnection System (EWIS) along with a detailed repair plan. This is in response to a thorough assessment by the Foundation of the dangerous issues affecting MAX airplanes. The entire fleet of MAX airplanes came from the same Boeing factory where serious production quality failures are well documented.

Boeing delivered its 1,500th MAX airplane to Ryanair in April. Two thirds of the MAX fleet is located at foreign carriers. According to Airfleets.net and Boeing's commercial delivery website, Boeing has delivered 485 MAX airplanes to U.S. carriers. Southwest Airlines has 209 MAX airplanes out of a total fleet size of 822. United Airlines has 163 MAX airplanes out of 953. American Airlines has 59 MAX airplanes out of 965. Alaska has 54 MAX airplanes out of 235.

Grounding 10% of an airline's fleet at a time would rationally sustain air travel. Airlines will complain, but this seems reasonable when you consider how such a grounding would look like in terms of numbers of actual airplanes affected at a time:

- Southwest Airlines 2.6% (10% of 209=21 and 21/822 = 2.6%)
- United Airlines 1.7%
- American Airlines <1%
- Alaska Airlines 2%

The Alaska Airlines accident is a glaring example of a "latent defect" and unsafe condition that can surface anytime in the MAX fleet. While the FAA publicly stated the agency conducted a comprehensive safety review of MAX airplanes during the 20-month grounding that occurred after the two MAX accidents, the continual stream of failed manufacturing and noncompliant

engineering designs show the review was seriously flawed and incomplete.

Airworthiness Directives (ADs) & Notice of Proposed Rulemaking (NPRMs)
Airworthiness Directives are legally enforceable regulations issued by the FAA in accordance with the Code of Federal Regulations to correct an unsafe condition in an aircraft. A Notice of Proposed Rulemaking is the official document that announces and explains the FAA's plan to address a problem or accomplish a goal.

The Foundation has compiled a list of FAA ADs and NPRMs resulting from unsafe conditions, design non-compliances, manufacturing defects, NASA safety reports, and FAA service difficulty reports (SDRs) involving MAX airplanes. The ever growing list provides overwhelming evidence that the MAX fleet must be meticulously inspected, and proactive action must be taken to address each identified deficiency.

For example, a simple nine hour inspection could eliminate one of the existing catastrophic threats of uncommanded rolls of MAX aircraft. An uncommanded roll is a very dangerous situation because uncommanded means it occurs without the knowledge or control of the pilot. MAX airplanes have experienced these events and the rolling has been attributed to improperly installed electrical wiring at the Boeing factory that is now chaffing causing inadvertent activation of the spoilers. Chaffing of electrical wires can also lead to other serious emergencies such as smoke & fumes, fires, and explosions. The FAA issued a non-urgent NPRM rather than mandating an immediate inspection, allowing three more years of operation with this known potentially catastrophic failure condition.

Manufacturing Defects & Safety Reports Involving Aircraft Systems Malfunctions
Design related unsafe conditions and inflight emergencies appeared almost immediately after the MAX returned to service in the United States. First, faulty electrical bonding and grounding, followed by a “bad batch” of stabilizer trim motors. Just last month there was another emergency landing of a 737 MAX airplane (United Airlines) due to another electrical stab trim motor failure. The stab trim motor moves the horizontal stabilizer located at the tail of the airplane that controls the pitch of the airplane.

Since 2020, on the design side, we’ve seen FAA identify unsafe conditions for the engines, the engine anti-ice system, and the standby power control unit. On the manufacturing side, FAA has also identified unsafe conditions for engine anti-ice (EAI) exhaust duct fasteners, compromised sealant adhesion within the center fuel tank, and loose bolts in the rudder assembly. Other structural defects were identified, with no plan to identify and fix them if they had already left the factory (pressure bulkhead, vertical stabilizer attach fittings, etc.).

In-service we have seen a wide range of other disturbing aircraft system malfunctions involving anti-ice, flight management computers, autopilot, autothrottle, engines, hydraulics, pressurization, speed trim, weather radar, brakes, emergency lighting, and auxiliary power units.

Alaska Airlines Flight 1282, Boeing's Safety Culture, & Failed FAA Production Audit
Manufacturing defects have been identified as a causal factor in the Alaska Airlines blowout accident. Since the Alaska accident, a federally directed panel of aviation safety experts characterized Boeing's Safety Culture as "inadequate and confusing" (Expert Panel Report).

This expert panel added that Boeing has "a lack of awareness of safety-related metrics at all levels of the organization; employees had difficulty distinguishing the differences among various measuring methods, their purpose, and outcomes". Boeing also failed a FAA Production Audit. All indicators point to a broken production environment that threatens public safety.

Action Needed
On March 8, 2024, members of the Foundation met with FAA Administrator Whitaker and DOT Deputy Secretary Trottenberg. We identified 35 specific regulatory oversight problems and offered specific recommendations for each problem. Unfortunately, at this point, three months later it appears the DOT and FAA have ignored all 35 recommendations.

The FAA ordered Boeing to provide a 90 day plan to improve manufacturing quality. However, what is the FAA's plan to improve regulatory oversight of Boeing's manufacturing operations? The FAA's own audits and AD actions show non-compliant airplanes are continuing to be produced and delivered.

Detailed inspections take time and cost money, but they can also save lives.

The Foundation for Aviation Safety
www.foundationforaviationsafety.org

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