

FAA: Onboard Wheelchairs & Certification Process

Presented to: DOT ACCESS Committee
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Onboard Wheelchairs

- **OBWs are a DOT requirement, not an FAA req**
- **FAA addresses OBWs as they pertain to occupant safety**
 - Item cannot be hazardous/unreliable
 - It must not cause direct injury, penetrate fuel tanks or lines or cause fire or explosion hazard, or nullify any of the escape facilities provided for use after an emergency landing
 - There must be a means to prevent shifting



Onboard Wheelchairs (cont.)

- **Current DOT Standards:**
 - Equipped with footrests, moveable/removable armrests, restraint system(s), backrest height that permits assistance to passengers in transferring, handles for maneuvering the occupied chair, and wheel locks
 - Designed to be compatible w/maneuvering space, aisle width, and seat height of the aircraft on which it is to be used, and to be pushed, pulled, and turned
- **Nothing to preclude DOT from proposing new performance standards**
- **Proposed changes to DOT performance standards do not require FAA approval**



FAA Certification Process

- **Airplanes and Changes to Airplanes Require FAA Approval**
 - Procedures for obtaining approval are contained in 14CFR part 21
 - Requirements for transport category airplanes are contained in 14CFR part 25
 - Requirements are supplemented by advisory material, policy, orders and technical specification



Design and Production Approval Steps



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Types of Design Approvals

- **Type Certificate (TC)**
 - Part 21 subpart B
 - New airplane (e.g., Airbus A350)
- **Amended Type Certificate (ATC)**
 - Part 21 subpart D
 - Derivative model (e.g., B747-8) or major design change (from pax to cargo a/c, for example)
 - Only issued to the holder of the TC (e.g., Airbus, Boeing, Embraer)
- **Supplemental Type Certificate (STC)**
 - Part 21 subpart E
 - Major change to an existing type design
 - Can be issued to anyone, including the TC holder

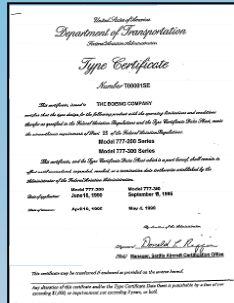


Types of Production Approvals

- **Production Certificate (PC)**
 - Part 21 subpart G, [Order 8120.2F](#)
 - An approval to manufacture duplicate products under an FAA-approved type design
- **Parts Manufacturing Approval (PMA) – joint design and manufacturing approval**
 - Part 21 subpart K, [Order 8110.42C](#), Order 8120.2F
 - Replacement and modification parts (Analogous to 'after-market' parts for automobiles)
 - Three forms of approval
 - Identity via licensing agreement with the design holder
 - Identity by data
 - Test and computation
- **Technical Standard Order Authorization (TSOA) – joint design and manufacturing approval**
 - Part 21 subpart O, [Order 8150.1B](#), Order 8120.2F
 - Approval to manufacture standard parts used on civil aircraft (tires, radios, seats etc)



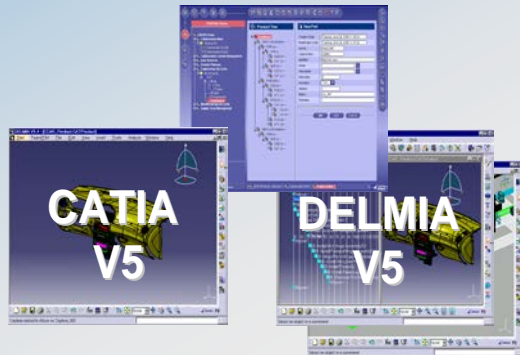
Production Approval Process



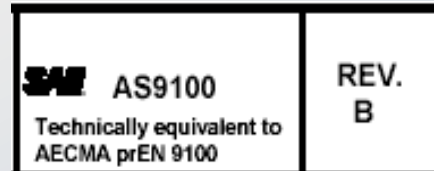
•Type Certificate



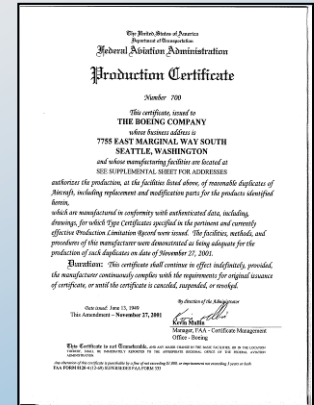
•Inspected Facilities



•Approved Drawing System



•Approved Quality System



•Production Certificate



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Requirements that may be relevant to a lavatory installation

- **Flammability of materials**
- **Fire containment of waste receptacles**
- **Structural crashworthiness**
- **Aisle, cross-aisle and passageway dimensions**
- **Decompression venting provisions**



Project Timing (estimated)

- **Typical Transport Category airplane program takes 5 or more years**
- **Major STC (e.g., installation of a satellite antenna, new galleys, additional FA jumpseats) can take from one to several years**
- **FAA *responds* to requests for approval but does not solicit requests for approval; very much applicant-driven**

