U.S. Department
of Transportation
Federal Aviation Administration

InFO

Information for Operators

InFO 17004
DATE: 2/28/17

Flight Standards Service
Washington, DC

http://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/info

An InFO contains valuable information for operators that should help them meet certain administrative, regulatory, or operational requirements with relatively low urgency or impact on safety.

Subject: Seat Belt Repairs and Alterations

Purpose: This InFO provides clarification on the repair and/or alteration of seat belts assemblies.

Background: The appropriate data and materials are needed to properly repair any part (product or article). In accordance with Title 14 of the Code of Federal Regulations (14 CFR) part 43 § 43.13, the repair must be done in such a manner and use materials of such a quality, that the condition of the aircraft, airframe, aircraft engine, propeller, or appliance worked on will be at least equal to its original condition (with regard to qualities affecting airworthiness). Technical Standard Orders (TSO) such as c22 and c127 set minimum performance standards for safety belts and seating systems but the data required to repair a seat belt goes beyond the criteria provided for in a TSO.

Discussion: The replacement of safety belt (seat berth and shoulder harness) webbing material, frequently referred to as "re-webbing," has become a common industry practice in order to replace defective, damaged, worn, or soiled belt material. This is an acceptable practice when properly accomplished by authorized persons using appropriate materials and data. However, re-webbing of a seat belt that is used on a dynamic seating system poses unique challenges if the Original Equipment Manufacturer (OEM) data and materials are not used.

If any materials are substituted for the original, then there should be an equivalency determination made. Demonstrating that a seat belt, which was not repaired using the original materials and data from the manufacturer, still complies with the airworthiness standards for a dynamic seat assembly, will likely require extensive dynamic testing and/or analysis that could be cost prohibitive. This is because a seat belt is an integral part of a particular seat assembly which has unique design and performance attributes. Seat belts used in dynamic seating systems have even more stringent design and performance requirements that must be met per the dynamic seat regulations in 14 CFR part 23 § 23.562; part 25 § 25.562; part 27 § 27.562 and part 29 § 29.562 (commonly referred to as 2X.562).

In order for the aircraft to remain airworthy, the seat assembly installed must, per § 43.13, have been maintained (installation of a replacement seat belt) in such a way as to make it at least equal to its original condition. In this case the seat belt can be either a new seat belt properly identified by the manufacturer as being eligible for installation or it can be a repaired seat belt. However, if a repaired seat belt is used, it must have been repaired in such a way that assures that the performance of the seat assembly still meets the regulatory requirements of part 43. Proper repair can't be established by simply substantiating that the repaired belt meets the same TSO as the original belt.

Repairs to seat belts will typically be considered major repairs and will therefore require Federal Aviation Administration (FAA) approved data for the repair process. The FAA is in the process of carefully reviewing existing approved repair data, such as repair specifications, as well as carefully scrutinizing any newly submitted repair data for appropriateness and conformity to the required performance criteria.

Recommended Action: Previously approved seat belt repairs may not have ensured compliance to the overall aircraft airworthiness requirements. Therefore, maintenance providers should ensure that any seat belts that are being installed have been repaired using materials and data that were substantiated for the use on the specific seats they are being installed on. If the seat belt is being installed on a dynamic seat assembly, ensure that the repair data being used has been supported by the proper testing and/or analysis to show that the specific requirements for that dynamic seat assembly have been met.

Additional information is contained in AC 21-25B, *Approval of Modified Seating Systems Initially Approved Under a Technical Standard Order*, concerning the approval requirements and considerations to be made when working on components of seating systems.

Contact: Questions or comments regarding this InFO should be directed to the Aircraft Maintenance Division, General Aviation Maintenance Branch, AFS-350 at (202) 267-1675.