

Aircraft Certification Service
Continuously Improving Aviation Safety



**Federal Aviation
Administration**

Installation Guidelines

- Select OEM, TSO, PMA, or other established industry standard harnesses.
- Ensure proper geometry, fit, and determine the effect on egress
- Install using AN, MS, NAS or other acceptable aircraft hardware
- Perform a check to ensure all components function properly
- Complete record entries as required:

FAA Form 337

Logbook Entry

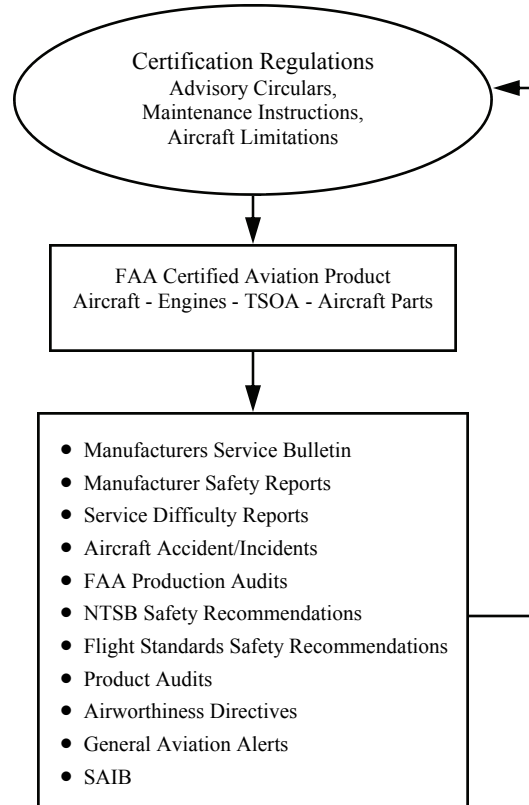
Weight and Balance

Equipment List



Reference

- FAA Advisory Circular AC43.13-2B Chapter 9, Shoulder Harness Installations



**Federal Aviation
Administration**

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**Shoulder
Harness
Installation**



Shoulder Harness Installation

The Federal Aviation Administration (FAA) Aircraft Certification Service utilizes a data-driven safety approach to enhance Continued Operational Safety (COS). The FAA proactively evaluates aircraft operational safety through evaluation of aircraft accidents, incidents, and safety recommendations.



The Alaska Fatal and Serious Injury Working Group, after studying all fatal and serious injury accidents in the last 5 years determined that installation and use of Shoulder harnesses had the potential to save 22 lives in Alaska.

Background

The importance of the shoulder harness during an aircraft mishap is generally overlooked. Though the lap belt system is a key part of the aircraft personal restraint system, the shoulder harness is one of the best life insurance policies you can have in the airplane.

Many accidents that involve fatalities have been evaluated and deemed survivable because the crash forces were not high enough to be fatal had the occupants been wearing shoulder harnesses. Further evaluation of these incidents determined that it was abrupt encounters with flight controls, the instrument panel, or other airplane structures that caused the injury/fatality. The use of shoulder harnesses has been shown to prevent fatalities or reduce the severity of injuries.



A study of accidents specific to the Alaska Region was recently performed and the data was compiled. This study showed many of our region's accidents resulting in fatalities could have been reduced. The loss of life or injuries could have been prevented if shoulder harnesses were installed in the particular aircraft noted in the study.

Shoulder Harness Installation Facts

Shoulder harness installations are grouped into two categories:

- Major Alterations
- Minor Alterations.

Minor Alterations involve installing the equipment onto the airframe without altering any structure. The aircraft can be returned to service by the authorized mechanic by completing a maintenance

record entry. Examples of these types of installations are clamped fittings or wire loops around tubes in the fuselage.

Major Alterations involve a physical change to the aircraft structure in order to accommodate the installation of the harnesses. This type of alteration must be done by using approved data with an FAA Form 337, a Supplemental Type Certificate (STC), a Field Approval, or Manufacturers Data (ie. Service Kits or Instructions for Harness Retrofit) with an FAA Form 337.

Other Considerations

It is equally important to consider more than just the front seat passengers when installing the harnesses. There have been incidents where the shoulder harness was installed for the front seat occupants but the use of only a lap belt in the back seat resulted in a fatality or serious injury.

