

Service Bulletin 69 Rev A

Subject: Seat Belt Anchor Points for Sportsman and Glastar Aircraft and Shoulder Harness Anchor Points for Glastar Aircraft

Applicability: All Glastar and Sportsman Aircraft

Issue: Lap belt anchor points need to be moved aft to meet FAA Advisory Circular AC21-34 recommendations for optimum lap belt angle on Sportsman and Glastar aircraft. Shoulder harness anchor points need to be moved lower to meet FAA Advisory Circular AC21-34 recommendations on Glastar aircraft.

Compliance Time: This service bulletin is mandatory since it involves a possible improvement to a safety feature in the event of an accident. We urge owners of completed Glastar and Sportsman aircraft to complete the retrofit as soon as practical, but no later than the next annual condition inspection.

Discussion and Background Information:

FAA Advisory Circular AC21-34 Shoulder Harness - Seat Belt Installations provides information and guidance for installation of shoulder harness and safety belt restraint systems. AC21-34 recommends that lap belt anchor points mount so as to maintain an angular range of 45° - 55° for all seat range positions. (See Figure 1 on page 2.) In addition, AC21-34 recommends that shoulder harness anchor points mount so as to maintain an angular range of -5° to +30° for all seat range positions. (See Figure 2 on the page 3.)

Changes Between SB69 and SB69 Rev A:

Since issuing SB69, it was discovered that Glastar shoulder harness upper attach points are not within the suggested angles of -5° to +30° of shoulder height. Thus, a shoulder harness cross bar retrofit kit (p/n 930-07300-201) was created to move these attach points to within the suggested range.


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Figure 1

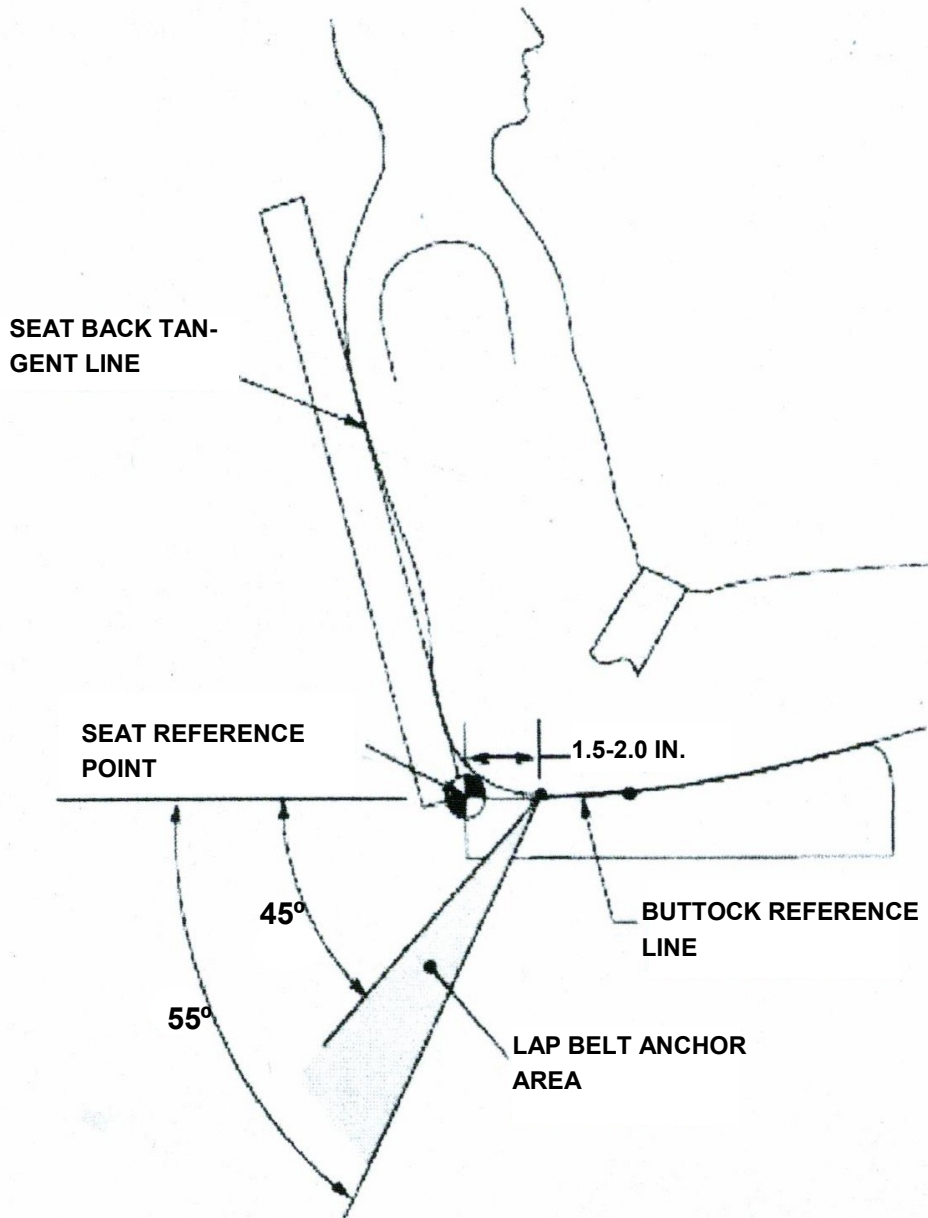
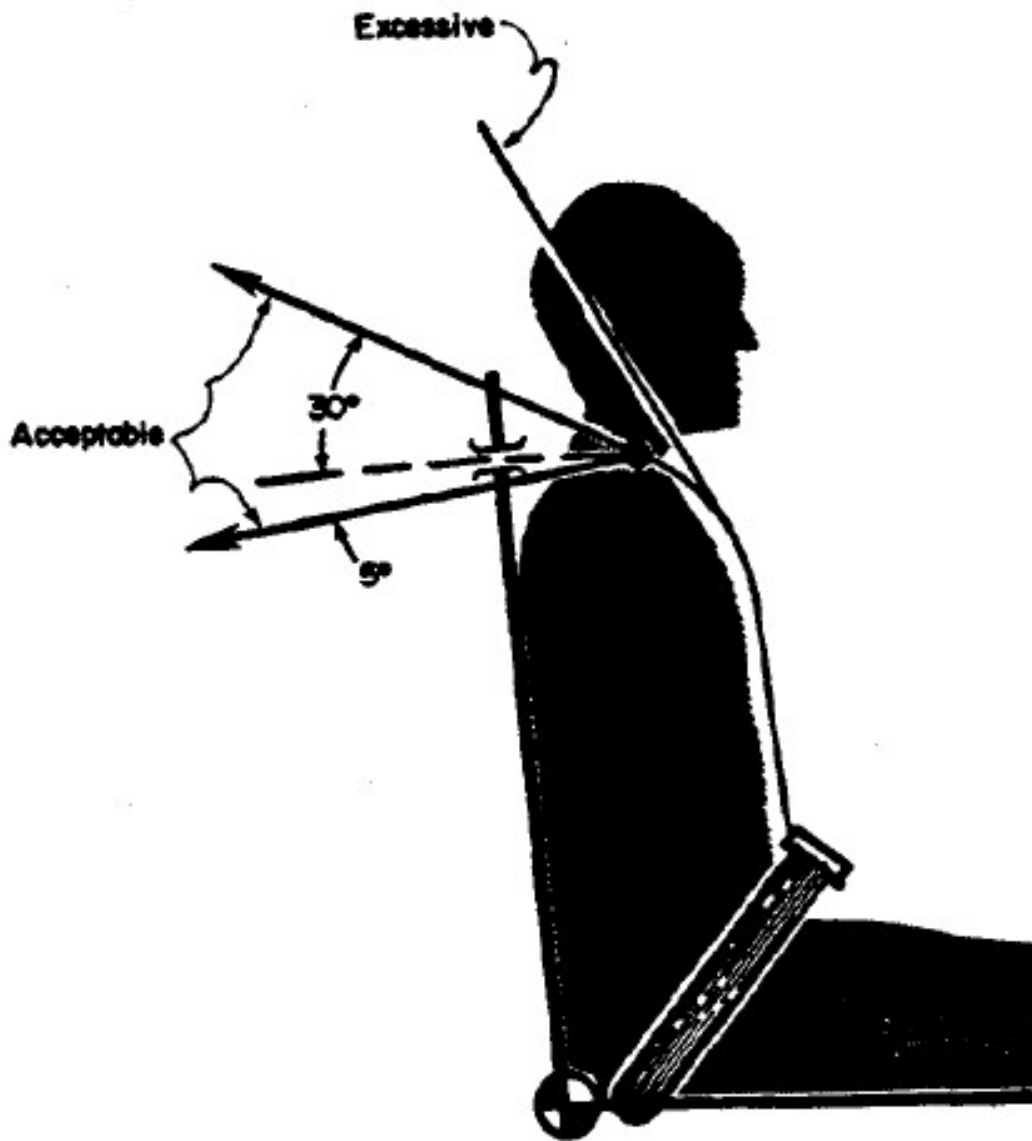


Figure 2



When SB69 was originally issued, a welded cage modification kit was issued (p/n 930-07200-101/-201) which would move the seat belt attach points to within the suggested range. Based on feedback from the builder community that many owners would not comply with a welded modification, Glasair Aviation developed (with assistance from the building community) a clamp-up attach point retrofit option (p/n 930-07300-101) as an optional path to the original welded retrofit. Either the welded cage retrofit option (p/n 930-07200-101/-201), or the clamp-up retrofit option (p/n 930-07300-101), are acceptable solutions to comply with this service bulletin.

In conjunction with the development of a clamp-up retrofit option, seat belt extension links were developed to eliminate the necessity of purchasing longer belts.

A warning has been added to the welded attach point instructions to require builders to disconnect the battery and grounds from avionics equipment prior to welding.

Service Bulletin Details:

As currently configured, the Glastar / Sportsman lap belt anchors can fall outside of the recommended angular range, especially when the seat backs are in the mid to aft locations. (See photos in appendix.)

To bring Glastar / Sportsman lap belt anchor points to within the suggested angular range, Glasair Aviation recently relocated the lap belt anchor points on production cage assemblies.

For existing Glastar / Sportsman aircraft, Glasair Aviation has developed two Retrofit Options to re-locate the lap belt anchor points to new production specifications.

Retrofit Option #1: Clamp-up anchor points


Retrofit Option #2: Welded anchor points

Extension straps or new, longer seat belts are required to match the new anchor point locations.

Retrofit Option #1: Clamp-up anchor points

Detailed step-by-step instructions are provided with the Retrofit Kit along with all necessary parts and hardware. A copy of the Retrofit instructions can be viewed on our website at <http://www.glasairaviation.com/advisglastar.html>

Note: The retrofit process requires disassembly of the seats, seat pans and installation of new anchor points. We estimate it will take 6 to 8 hours to complete the retrofit process.

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Retrofit Option #2 Welded anchor points

Detailed step-by-step instructions are provided with the Retrofit Kit along with all necessary parts and hardware. A copy of the Retrofit instructions can be viewed on our website at <http://www.glasairaviation.com/advisglastar.html>


Note: The retrofit process requires disassembly of the seats, seat pans and control cable turnbuckles and welding of new anchor points. We estimate it will take 6 – 10 hours to complete the retrofit process. For an experienced owner familiar with disassembly and re-assembly of the seats, seat pans and control cable turnbuckles, budget a minimum of 2 – 3 hours to disassemble the parts and prepare the cage with powder coat removal. Budget 1 – 2 hours for an experienced welder (assuming you are standing by to help position and tack the assemblies in place) to complete the required welding. Budget an additional 3 – 4 hours to prime, paint and re-assemble the components.

For existing Glastar / Sportsman owners who wish to have the retrofit performed at the factory, Glasair Aviation has set up a 1 day turn-around retrofit service. This service will be offered on a reserved, scheduled, advance notice basis only. If you are interested in having the retrofit performed at the factory, please call Technical Support at 360-435-8536 for pricing and scheduling.

For those customers who want to perform the retrofit themselves, please note that the welding of the new anchor points to the cage assembly must be done with a TIG-welder. MIG welding of the anchor points is not recommended as the small size of these welds would be difficult to accomplish and MIG typically produces a colder weld fusion than TIG. (All Glasair Aviation welds on Glastar and Sportsman cages are done with the TIG welding process.) We highly recommend that you find someone experienced in TIG welding to accomplish these welds as they present a challenge to accomplish in the confined space of the cockpit.

Shoulder Harness Cross Bar Retrofit Kit (Glastar Only)

The cross bar retrofit kit lowers the attach points for shoulder harness anchor points in Glastar aircraft. Detailed step-by-step instructions are provided with the Retrofit Kit along with all necessary parts and hardware. A copy of the Retrofit instructions can be viewed on our website at <http://www.glasairaviation.com/advisglastar.html>

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To be in compliance with this Service Bulletin you must install the appropriate Lap Belt Anchor Point Retrofit Kit and, if required, the appropriate Seatbelt or Seatbelt Modification Kit.

Lap Belt Anchor Point Retrofit Kit options are as follows:

Clamp-up Lap Belt Anchor Point Retrofit Kit (all Sportsman and Glastar models):
p/n 930-07300-101 \$249.00*

Shoulder Harness Cross Bar Retrofit Kit (Glastar models):
p/n 930-07300-201 \$199.00*

Welded Lap Belt Anchor Point Retrofit Kit ('05 - Current, internal pushrod door latch):
p/n 930-07200-101 \$100.00*

Welded Lap Belt Anchor Point Retrofit Kit (pre '05, external pushrod door latch):
p/n 930-07200-201 \$100.00*

The following seat belt options are for builders who would prefer to replace their seatbelts instead of installing the extension links.

For the Sportsman:

Seat Belt (LH): p/n 803-00690-01 and Seat Belt (RH): p/n 803-00690-02 \$179.00* each



For the Glastar:

Seat Belt/Shoulder Harness: p/n 803-00630-01 quantity 2 required if you do not already have seat belts and shoulder harnesses \$225.00* each



Seat Belt: p/n 803-00629-101 quantity 2 required if you already have Glastar seat belts/shoulder harnesses \$125.00* each. (The existing shoulder harness is re-usable.)



For Sportsman and Glastar:

Inertia Reel (three point) Seat Belt Installation Kit: p/n 930-7200-301 (includes 2 seatbelt/inertia reels) \$595.00*



(Both Sportsman and Glastar aircraft can be equipped with inertial reel seat belts if the optional steps of welding the brackets in place are completed per the Anchor Point Retrofit Kit. Inertia reel belts do not have Sportsman / Glastar patches sewn on.)

* Prices are subject to change without notice.

Appendix



Current configuration:
Seat-back in forward position



Retrofit (New) configuration:
Seat-back in forward position



Current configuration:
Seat-back in mid-position



Retrofit (New) configuration:
Seat-back in mid-position



Current configuration:
Seat-back in aft position



Retrofit (new) configuration:
Seat-back in aft position