

GLASTAR SERVICE BULLETIN 3

MANDATORY

Subject: Wing Attach Holes in Aft Spars


Applicability: GlaStar wing kits shipped from 7/28/95 through 8/11/95 with the following kit serial numbers:

5003 5012 5016 5021 5028 5031 5036 5043 5051 5072
5008 5014 5017 5022 5029 5032 5037 5044 5055 5076
5011 5015 5019 5026 5030 5034 5038 5048 5060

Discussion: The wing attach holes in the **aft spars** were located about .050" too far inboard in the wing kits referenced above. This condition can easily be remedied by using different procedures to reinforce the aft spar roots than described in Step 7 in "SECTION VI: WING ASSEMBLY" in your *GlaStar Assembly Manual*.

Required Action: Instead of using the large, wing attach hole in the spar to position the spar root doublers, as described in Step 7 of the WING ASSEMBLY section, use the root rib rivet holes to set the positions of the doublers, and then use the wing attach holes in the doublers to ream the wing attach hole in the spar, shifting its center to the correct location. This will result in a slightly oblong hole in the spar, which is acceptable. The hole will be enlarged to a nearly circular shape when it is reamed to final size for the bushing. There is adequate bearing strength in the front-side and rear-side root doublers to support the bushing even though the spar hole does not contact the bushing on one side.

Refer to the illustrations in Step 7 of the Wing Assembly section to clarify the procedures described on the following pages.

	REVISION:	DATE: 8/25/95	PAGE: 1 of 4
---	-----------	------------------	-----------------

- A) Lay the **aft spar** [52] on a table with the aft side up. Position the **front-side aft spar root doubler** [54] and then the **rear-side aft spar root doubler** [57] on the **aft** side of the aft spar; Cleco the two doublers to the spar, using the pre-drilled root rib mounting holes in both parts. (In the rear-side doubler, these are the upper and lower of the five holes in the third vertical row from the wing attach hole. In the front-side doubler, these are the two holes closest to the wing attach hole.)
- B) Use the pilot holes in the rear-side doubler to drill the remaining twenty-one **#40** holes through the doubler/spar assembly (all the holes except for the holes with the two Clecos). Insert Clecos and 3/32" rivets in the holes as you go.



Note The Clecos do a good job of clamping parts together, but the rivets actually do a better job of maintaining alignment, so use some of both. (Don't drive the rivets, just drop them into place.)

- C) Check the alignment of the wing attach holes in the doublers with the wing attach hole in the spar. The hole in the spar will be offset in the spanwise direction from the holes in the doublers, as shown in Figure 1. Use a small round file to carefully file the **outboard side** of the hole in the **spar** until it almost matches the holes in the doublers. The idea here is to remove just enough of the hole in the spar so that a straight reamer can be run through the hole with minimal resistance. Try not to touch the holes in the doublers with the file, but don't worry if you do; any file marks will be removed when the holes are reamed to final size.
- D) Using the wing attach holes in the **doublers** as a guide, run a 1/2" straight reamer through the assembly to clean up the hole in the spar. Use a drill press for this operation, if you have one; if not, be careful to hold the reamer perpendicular to the spar. Remove the root doublers and deburr all of the holes in all of the parts.

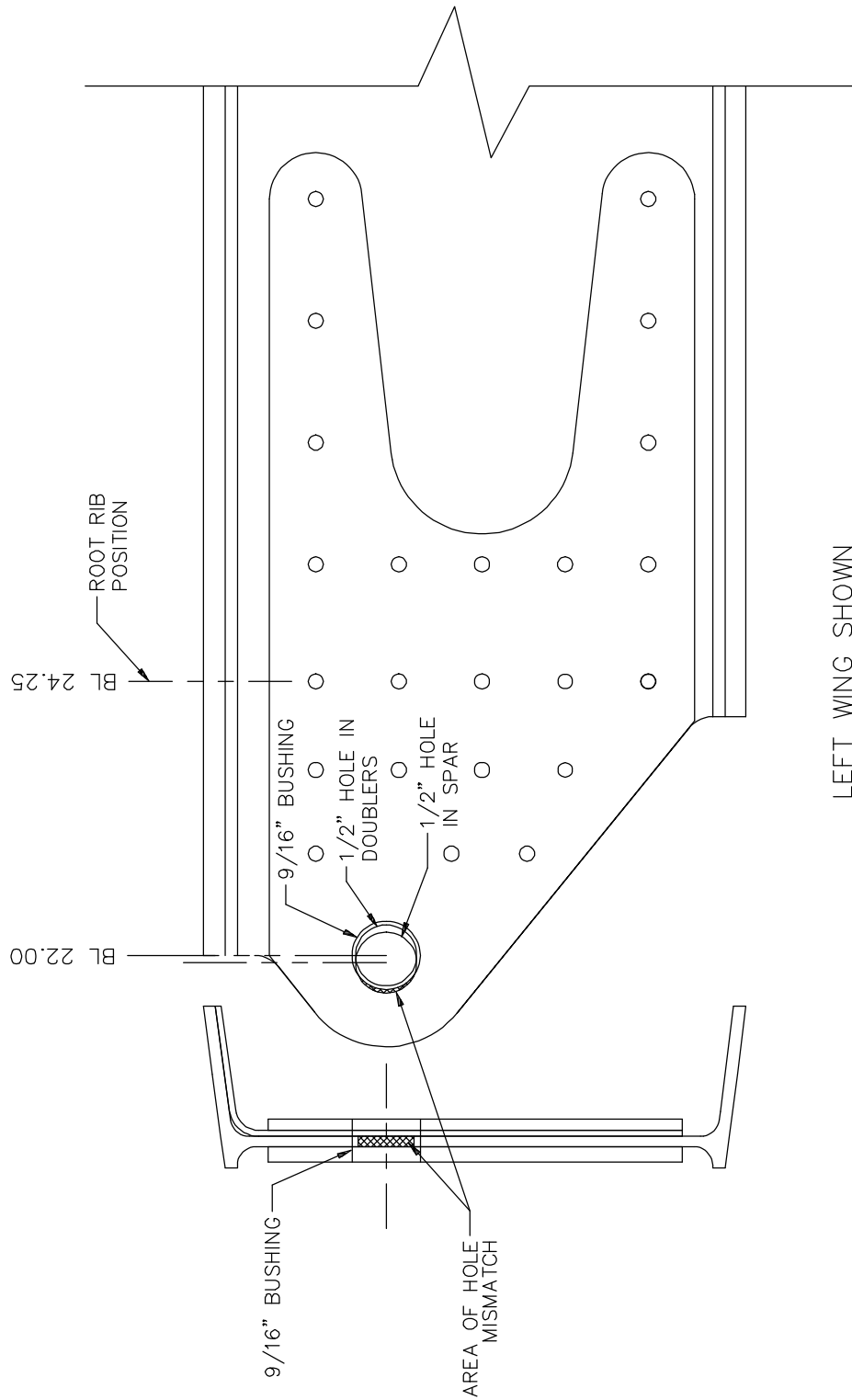



Figure 1: Hole Misalignment in Aft Spar

	REVISION:	DATE: 8/25/95	PAGE: 3 of 4
---	-----------	------------------	-----------------

- E) Position the **aft spar root doubler angle** [55] against the **forward** side of the aft spar web, as shown in Figure 14 of the WING ASSEMBLY section. Clamp the doubler angle tightly to the underside of the spar's upper flange and to the front face of the spar web, while aligning the hole in the doubler angle as closely as possible with the **newly enlarged portion** of the wing attach hole in the spar, which was reamed in Step D, above. If you are unable to insert a 1/2" drill bit through the wing attach hole in the doubler angle and the enlarged portion of the hole in the spar, use procedures similar to those described in Steps C and D, above, to bring the hole in the **angle** into alignment with the hole in the spar. Be careful not to further enlarge or elongate the hole in the spar.
- F) Insert a 1/2" drill bit through the wing attach hole in the spar/doubler angle assembly to maintain alignment. (Make sure the 1/2" alignment bit goes through the **newly enlarged portion** of the hole in the spar.) Use the #40 holes in the spar drilled in Step A as guides to drill **#40** holes through the doubler angle (twenty-three holes, total). Cleco as you go. When finished drilling, disassemble and deburr the holes in the doubler angle.
- G) Cleco the rear-side root doubler to the aft side of the aft spar; Cleco the doubler angle and the front-side root doubler to the forward side of the aft spar. The spar root reinforcements are now at the same stage of completion as at the end of Step 7C in the WING ASSEMBLY section of your *Assembly Manual*. Finish drilling the aft spar root reinforcements, as described in Steps 7D and 7E in the Wing Assembly section, using a 1/2" drill bit through the **new location** of the wing attach hole for alignment. Then, proceed with the rest of the Wing Assembly procedures, as described in the *Assembly Manual*.