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Murphy Aircraft Mfg. Ltd.

WORLD HEADQUARTERS

Unit #1 - 8155 Aitken Rd.
Chilliwack, British Columbia
Canada V2R 4H5
ph. (604) 792 5855
f. (604) 792 7006
e-mail: mursales@murphyair.com

Service Bulletin 110520Reb

Urgency: Medium

Re. Rebel Trim Tab Horn Attachment.

Concerns raised with in the technical department, after a coincidental field inspection of a recently completed. but older Rebel Kit have led to the attached bulletin. It has been decided to reissue in bulletin format a copy of section 6.1 of the current Rebel manual. This section deals with the installation and assembly of the elevator trim and trim tab horn. Older Rebels of lesser gross weight and power had only one elevator trim horn, which was considered sufficient for the application and speed range of the lighter Rebels. Many of the older Rebels are now being brought on line with larger engines and gross weight limitations. In the interests of safety it is felt that the trim systems of these older units should be brought up to the newer requirements. Owners and builders who require a second trim horn can order this from the shipping dept.

Technical Services Department

6.1 Skin Layout

The trim is on the left elevator half.

- 1) Complete the left elevator half to the end of the elevator assembly.
- 2) Mark out the skins as in figure 1.
- 3) Drill a #11 hole at the inside corner of the lines both top and bottom.
- 4) Cut the trim skin off.

NOTE: Don't try to cut along the lines. Make a first cut through the center of the scrap material then trim to final size. The scrap area is between the elevator line and trim skin line. Use a hacksaw to cut through the trailing edge section. See step 5a for trimming of the bottom of the trim skin.

6.2 Rib and Spar Install

- 1) Cut the center rib, outboard rib and two extra ribs in your trim kit into two sections as in Figure 2.
- 2) The bottom of the trim skin can be trimmed to final size by putting the angled trim spar (EL-33) in place, drilling through from the top skin and clecoing in place. The skin can then be trimmed along the bottom of the trim spar. Figure 6.2.2.

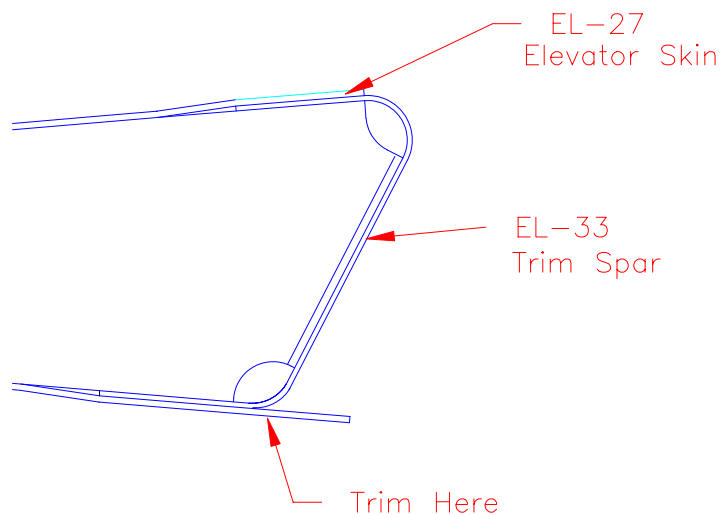


Figure 6.2.2

- 3) Position, drill and cleco the new section in place as in Figure 6.2.3.

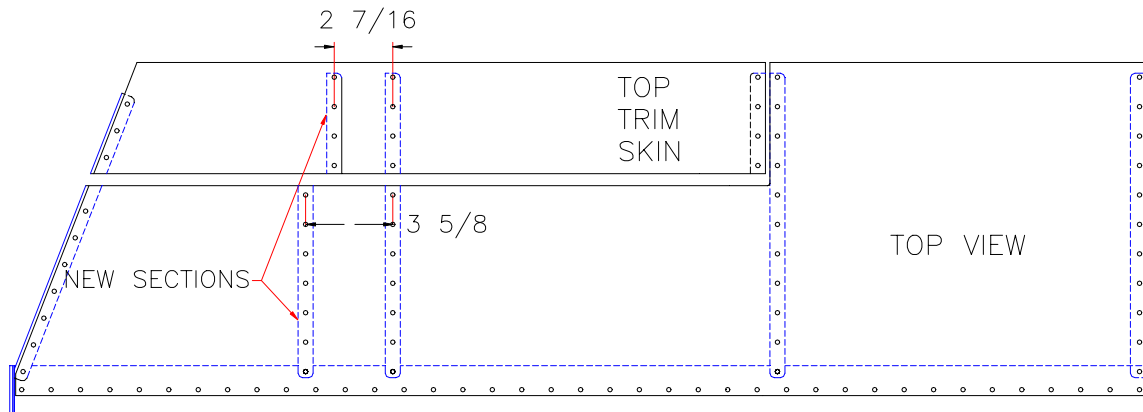


Figure 6.2.3

4) Cut the two trim spars (EL-33 and EL-34) to length and position in place. Small angles can be made up from ST-40 material to attach spars to ribs as in figure 6.2.4. (See stab section)

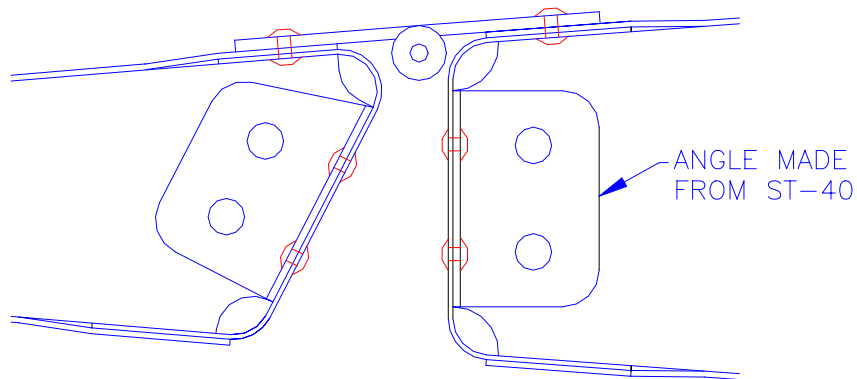


Figure 6.2.4

5) Cut hinge material to length, position and drill #30 holes as in Figure 6.2.5.

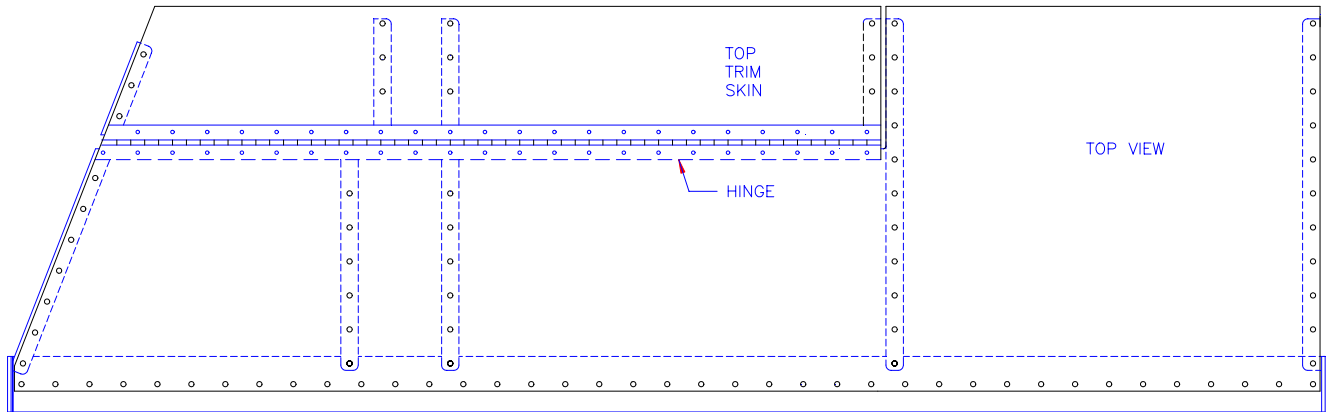


Figure 6.2.5

6.3 Servo Mount

- 1) Mount the servo and backing plate (EL-35) with 1/8" rivets (RV-1410) as in figure 6.3.1. Use the holes in the servo as drill guides.
- 2) Cut a hole in the bottom of the skin between the two ribs just large enough for the servo to fit through. Figure 6.3.1.

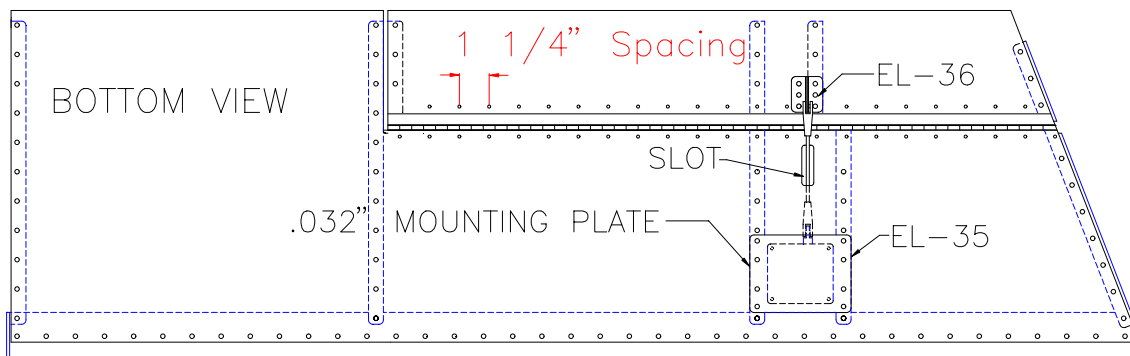


Figure 6.3.1

- 3) Lay out the trim horns as in Figure 6.3.2. Offer the push rod fork up to the trim horn before drilling the fork location holes to check the edge distance. Also the horn will need

“scalloping” around the chosen mounting hole to allow full travel of the fork. Attach the horns (EL-36R & EL-36L) together with RV-1410 rivets.

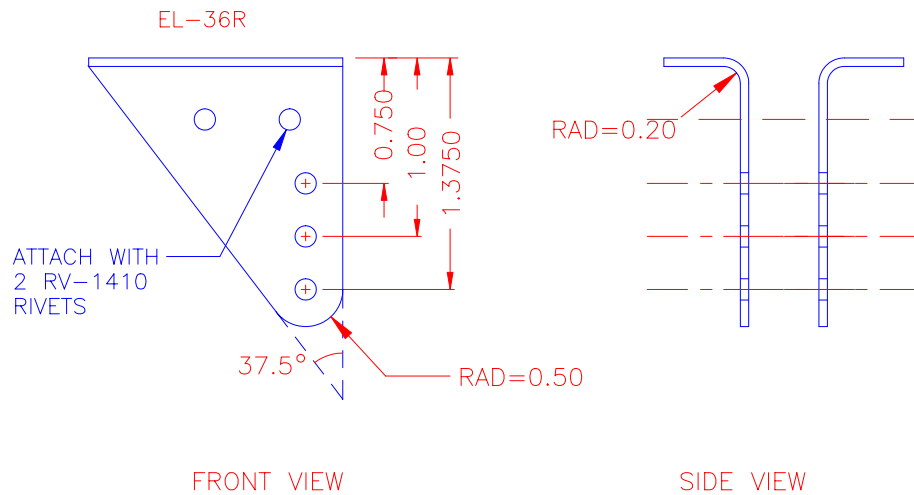


Figure 6.3.2

4) Position the trim horns on the bottom of the trim tab as in Figure 6. Drill and cleco in place.

5) Cut a slot in the bottom of the skin large enough to provide full movement of the servo push-pull rod. Figure 6.3.2 and Figure 6.3.3.

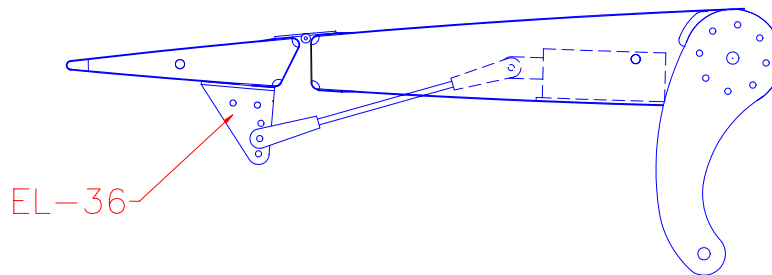


Figure 6.3.3

6) Adjust servo rod for neutral trim when the servo is at midpoint of its travel. You can check travel on the servo by connecting to any 12 volt battery.

7) Disassemble, debur, chromate and rivet together the same as with the right elevator half. Rivet the hinge to the trim and elevator with 1/8” rivets (RV-1410). Rivet the EL-35 to the Elevator with 1/8” rivets.

8) The servo wires should exit the elevator through the root rib, behind the elevator horn.