



# **UNIVAIR AIRCRAFT CORPORATION**

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## **UNIVAIR PIPER STAMPED ALUMINUM RIB Service Letter No. 100 Field Repair Process**

Univair Aircraft Corporation has developed Service Letter No.100 to address the need to establish a field repair method for our PMA'ed / STC'ed stamped replacement Piper ribs.

Previously, Univair has recommended replacing any damaged full length or 3/4 length rib with an entire new rib. However, when only a small portion of the rib needed repair, e.g. the nose section ahead of the front spar, replacing the entire rib was deemed impractical. Therefore, Univair has approved three separate sections (nose, center, and tail) which can be riveted to the original stamped rib in order to return the rib to an airworthy status.

Univair has available for sale all sections, formers, and doublers necessary to repair our Stamped Ribs for Cub, Cruiser, and Short Wing variants of Piper fabric covered wings. Please refer to Service Letter No. 100 for detailed instructions on repairing these ribs.



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## UNIVAIR®

### UNIVAIR AIRCRAFT CORPORATION

Service Letter No. 100

Field Repair Process

October 28, 2004

SUBJECT: Stamped Rib Repair

TO: All Owners and Operators of Piper Aircraft using Univair STC  
Stamped Ribs

MODELS AFFECTED: J-3, J-5C, PA-11, PA-12, PA-14, PA-15, PA-16, PA-17,  
PA-18, PA-20, PA-22, PA-25

This letter outlines the repair of Univair STC'd Stamped Ribs in accordance with the original STC and FAA Advisory Circular AC 43.13-1B. Repairable ribs include all full length ribs and 3/4 length ribs excluding tip ribs and nose ribs. See Figures 1 and 2.

#### Repair of Front Section

Univair Stamped Ribs may be repaired in the front section by using either p/n U1230-10 (left hand flange rib) or U1230-11 (right hand flange rib) and one each U5-142-2, U5-143-2, and U2200-00 doubler.

Doublers are attached with AN470AD4 rivets. Ensure that the flange of the U5-142-2 doubler is at or just below the flange of rib. Note: Corners may be bent down to clear leading edge skin and fabric. When installing U2200-00, two rivets are required through the flange. See Figure 3.

#### Repair of Center Section

Univair Stamped Ribs may be repaired in the center section by using either p/n U1230-12 (left hand flange rib) or U1230-13 (right hand flange rib).

When installing U1230-12, one each U5-142-2, U5-143-2, and U2200-00 doubler is required in the front and one each U1303-01, U5-143-2, and U2200-00 doubler is required in the rear.

When installing U1230-13, one each U5-142-2, U5-143-2, and U2200-00 doubler is required in the front and one each U1303-02, U5-143-2, and U2200-00 doubler is required in the rear.

Doublers are attached with AN470AD4 rivets. Ensure that the flange of the U5-142-2 doubler is at or just below the flange of rib. Note: Corners may be bent down to clear leading edge skin and fabric. When installing U2200-00, U1303-01, or U1303-02, two rivets are required through the flange. See Figures 3, 4, and 5.

### Repair of Tail Section (3/4 Length Ribs)

Univair Stamped Ribs may be repaired in the tail section by using either p/n U1230-14 (left hand flange rib with curved false spar), U1230-15 (right hand flange rib with curved false spar), U1230-16 (left hand flange rib with flat false spar), or U1230-17 (right hand flange rib with flat false spar).

When installing U1230-14 or U1230-16 (left hand flange rib), one each U1303-01, U5-143-2, and U2200-00 doubler is required.

When installing U1230-15 or U1230-17 (right hand flange rib), one each U1303-02, U5-143-2, and U2200-00 doubler is required.

Doublers are attached with AN470AD4 rivets. When installing U2200-00, U1303-01, or U1303-02, two rivets are required through the flange. See Figures 5 and 6.

### Repair of Tail Section (Full Length Ribs)

Univair Stamped Ribs may be repaired in the tail section by using either p/n U1230-18 (left hand flange rib) or U1230-19 (right hand flange rib). These replacement sections are also designed to accommodate any of the closeout ribs by attaching the necessary formers using AN470AD4 rivets, spaced per the original spotwelds. See Figure 7.

When installing U1230-18, one each U1303-01, U5-143-2, and U2200-00 doubler is required.

When installing U1230-19, one each U1303-02, U5-143-2, and U2200-00 doubler is required.

Doublers are attached with AN470AD4 rivets. When installing U2200-00, two rivets are required through the flange. U1230-18 and U1230-19 are installed in the same manner as U1230-14 or U1230-15. See Figures 5 and 6.

When repairing aileron bay closeout ribs, existing formers located on the tail section of the rib will need to be replaced. These can be riveted in place using AN470AD4 rivets in lieu of the original spotwelds. Rivets should be spaced per the original spotwelds. Univair sells the necessary formers. Order part number U1310-00 for the one inch wide curved former or U12881-002 or U12881-003 for the 3/8 inch wide curved former as used on the non-Cruiser series of aircraft. Cruiser series (J-5C, PA-12, PA-14) used a flat style former. Order part number U1308-00 or U1308-01 for these applications. See Figure 7.

### Conclusion

Relocate all fairlead holes. Replace grommets and or fairlead segments as necessary. Replace or re-attach all other original or pre-existing brackets, flanges, stiffeners and/or supports. When recovering wing, use 1/2 inch reinforcing tape under rib cord or pop rivet per STC.

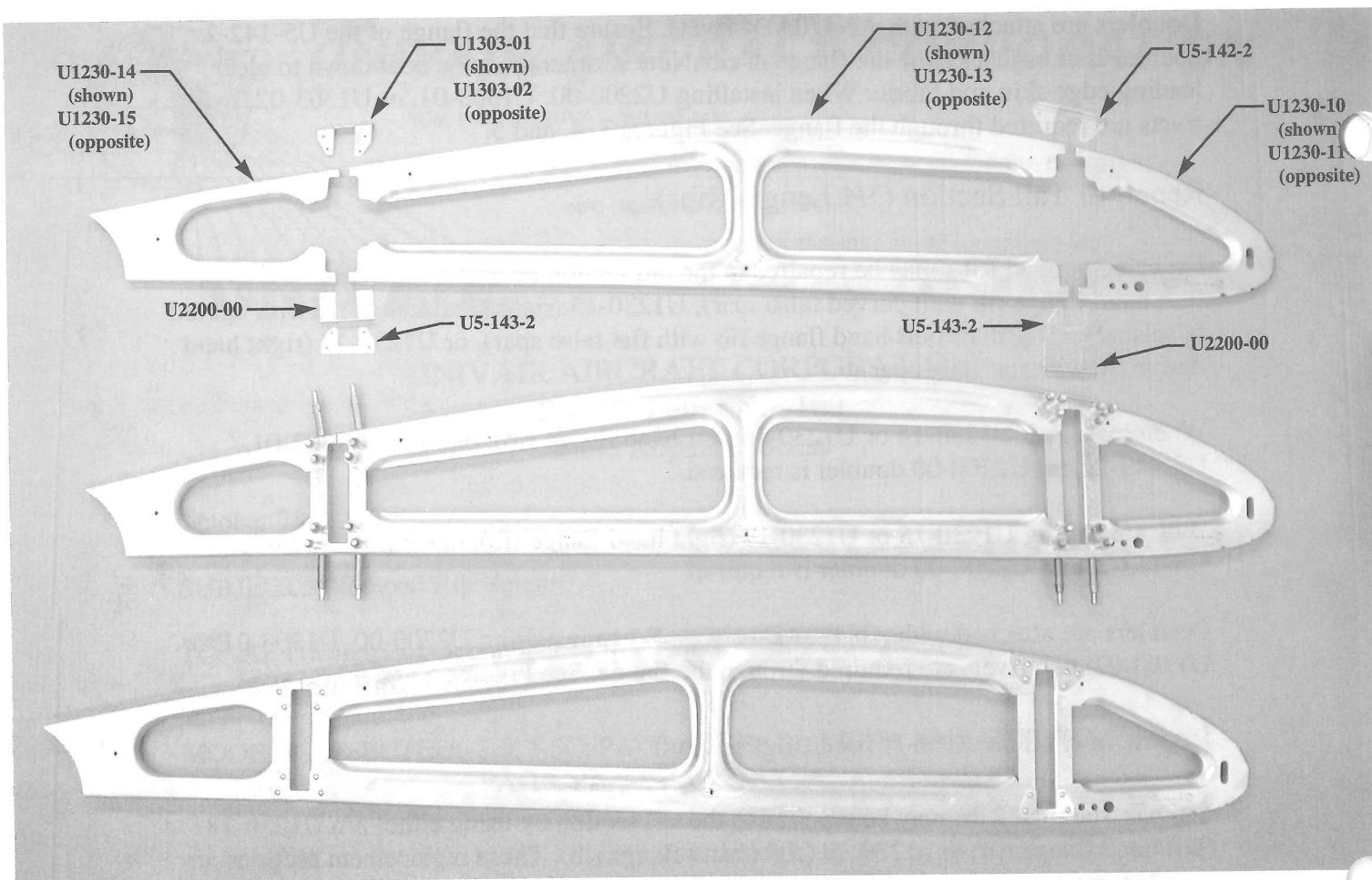


Figure 1

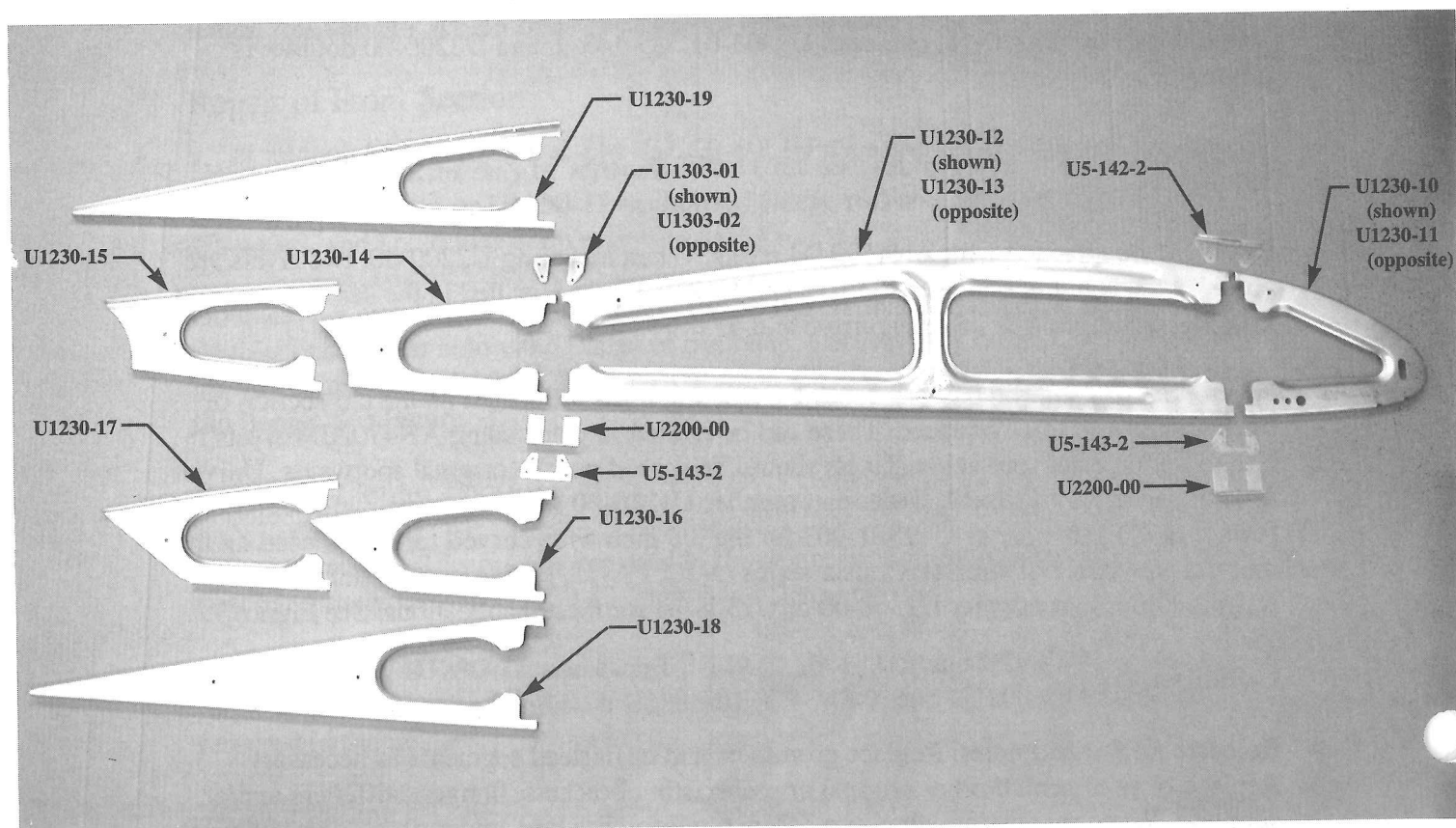
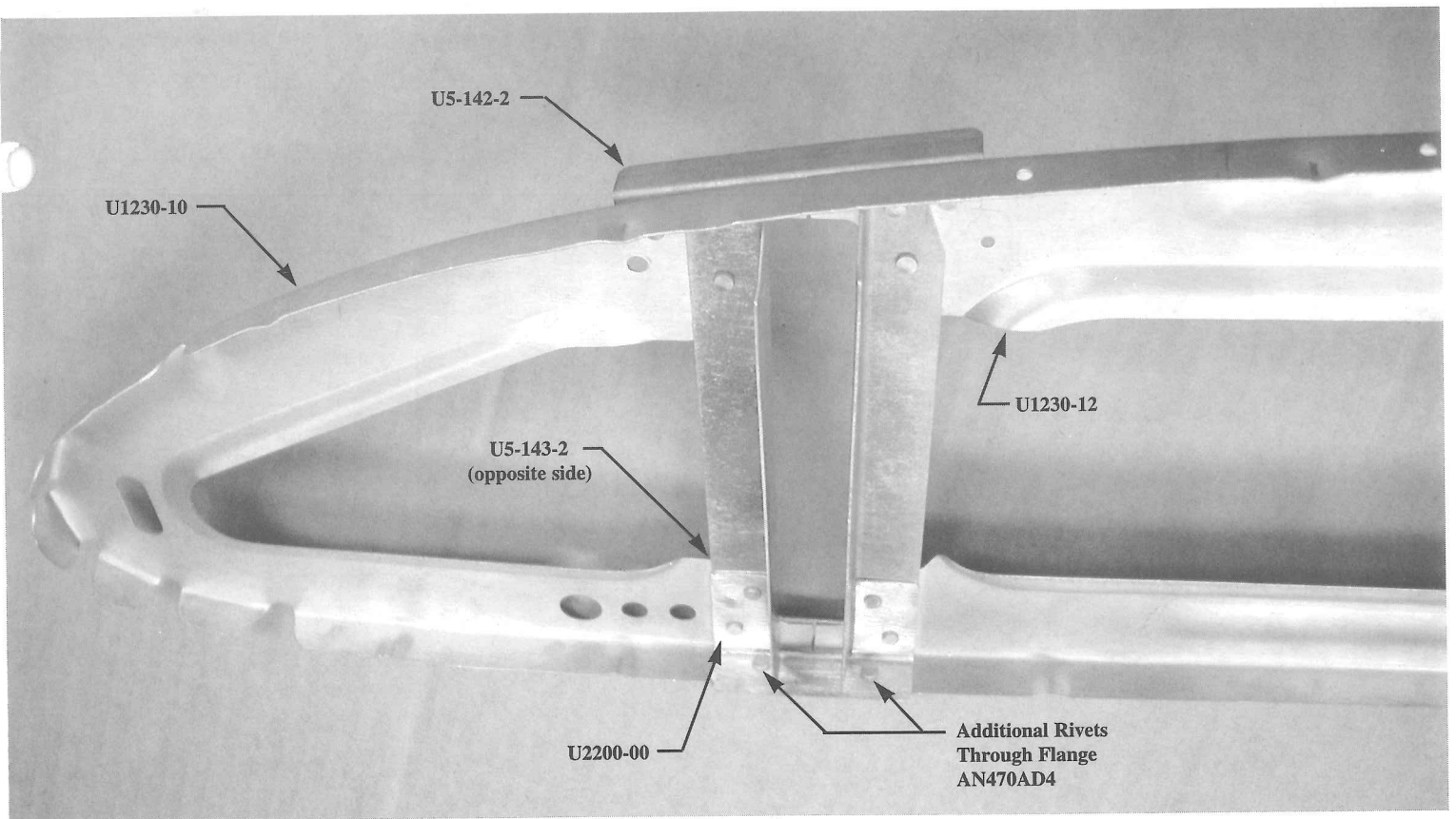
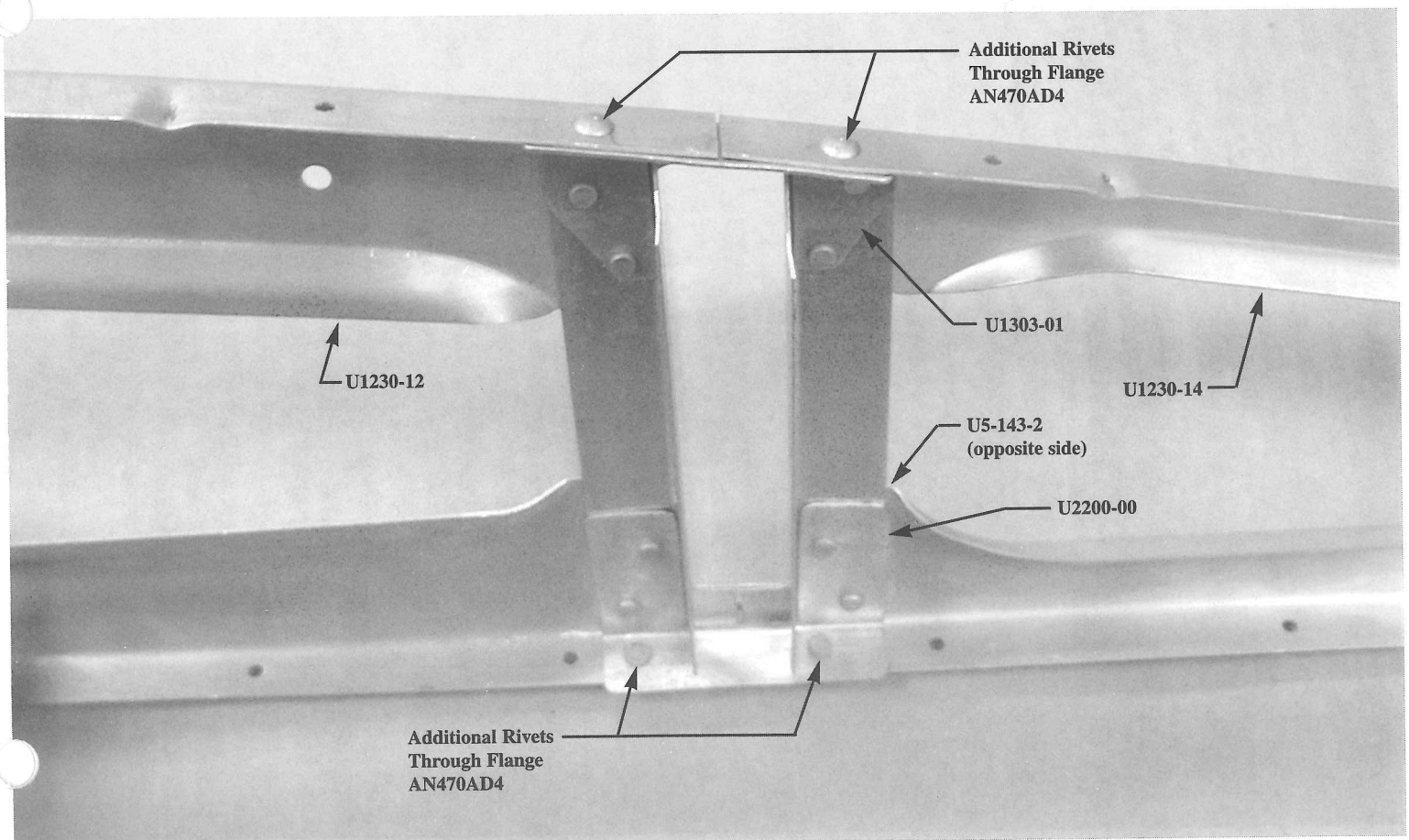


Figure 2

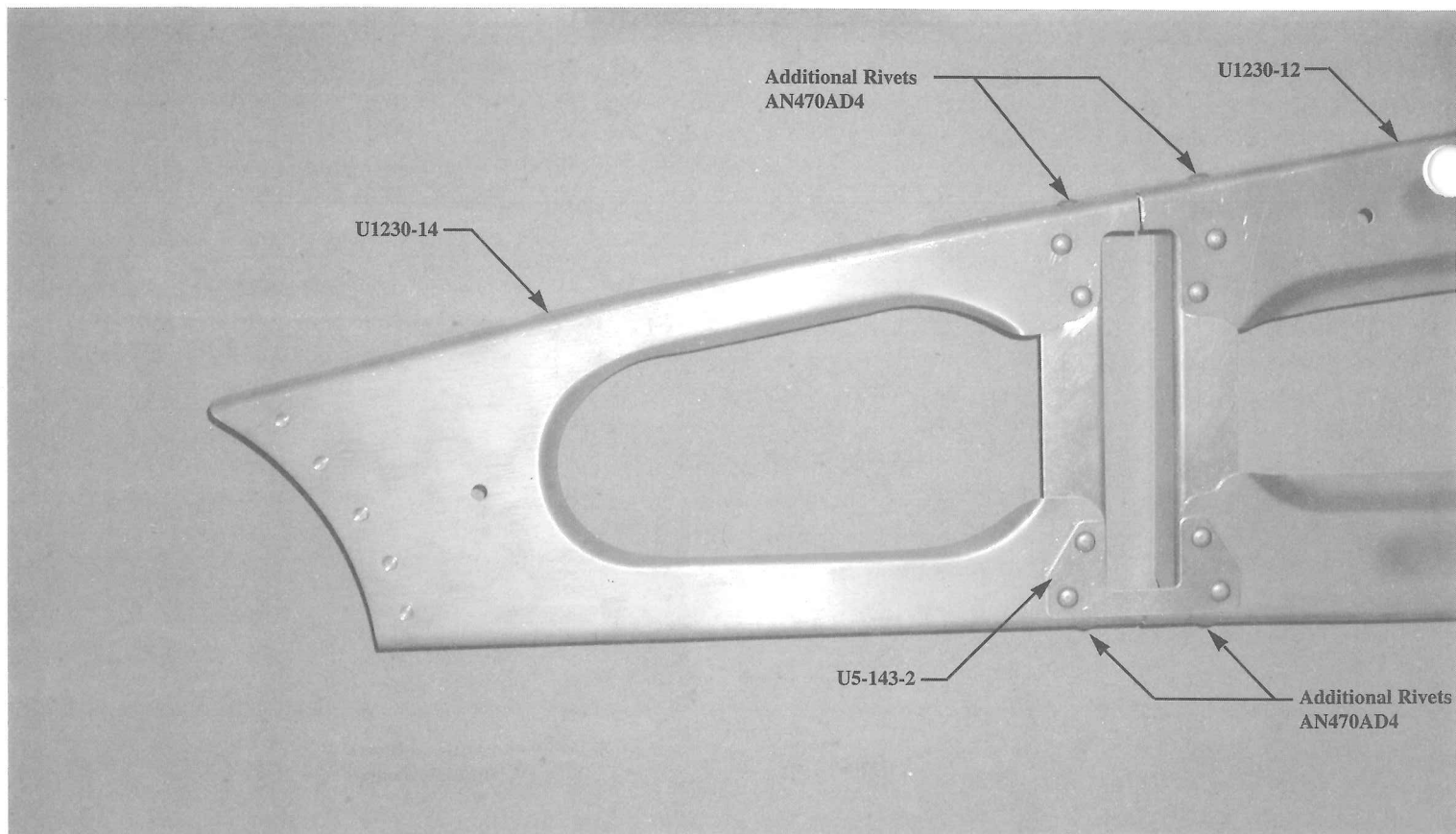


**Figure 3**

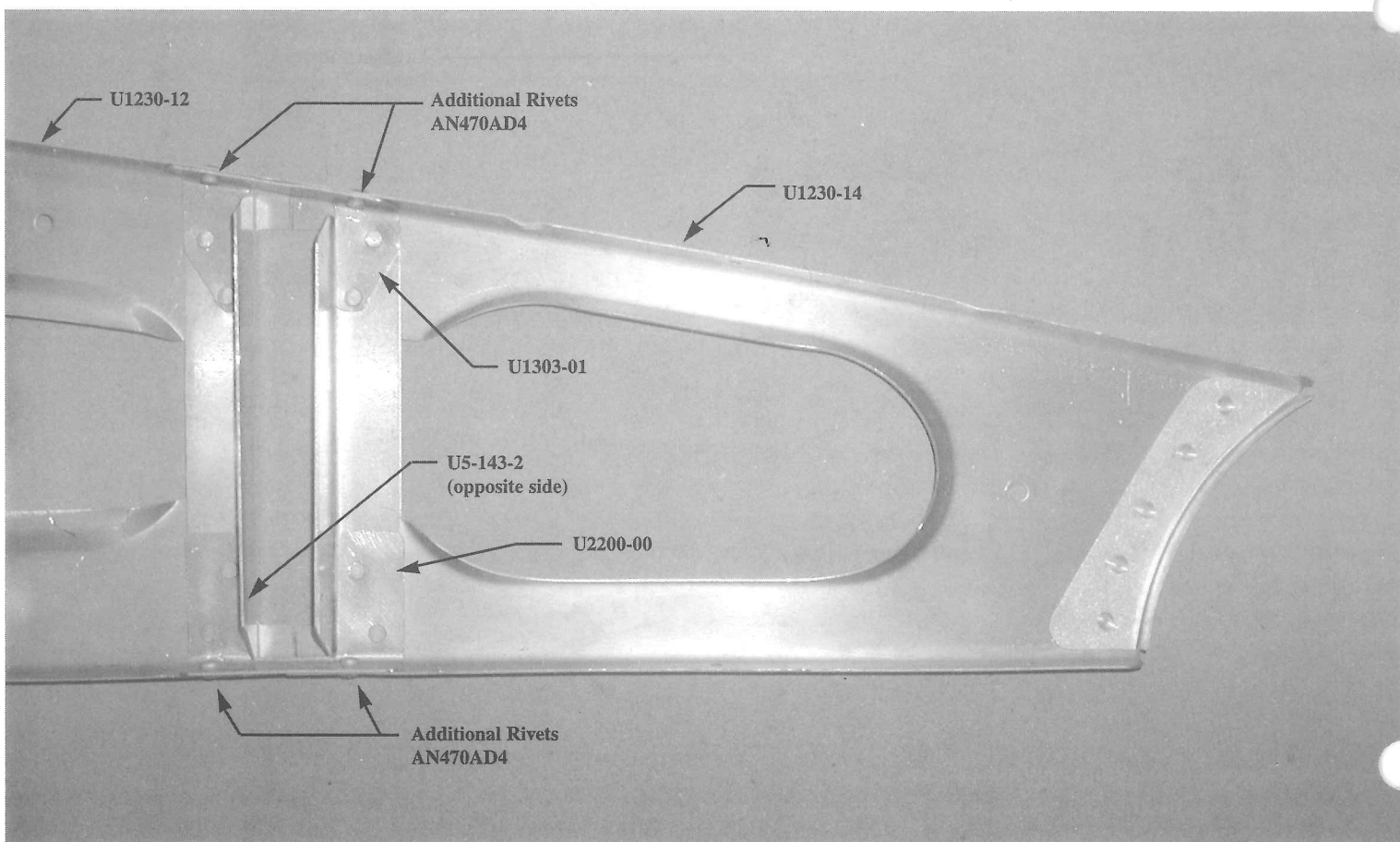


**Figure 4**





**Figure 5**



**Figure 6**

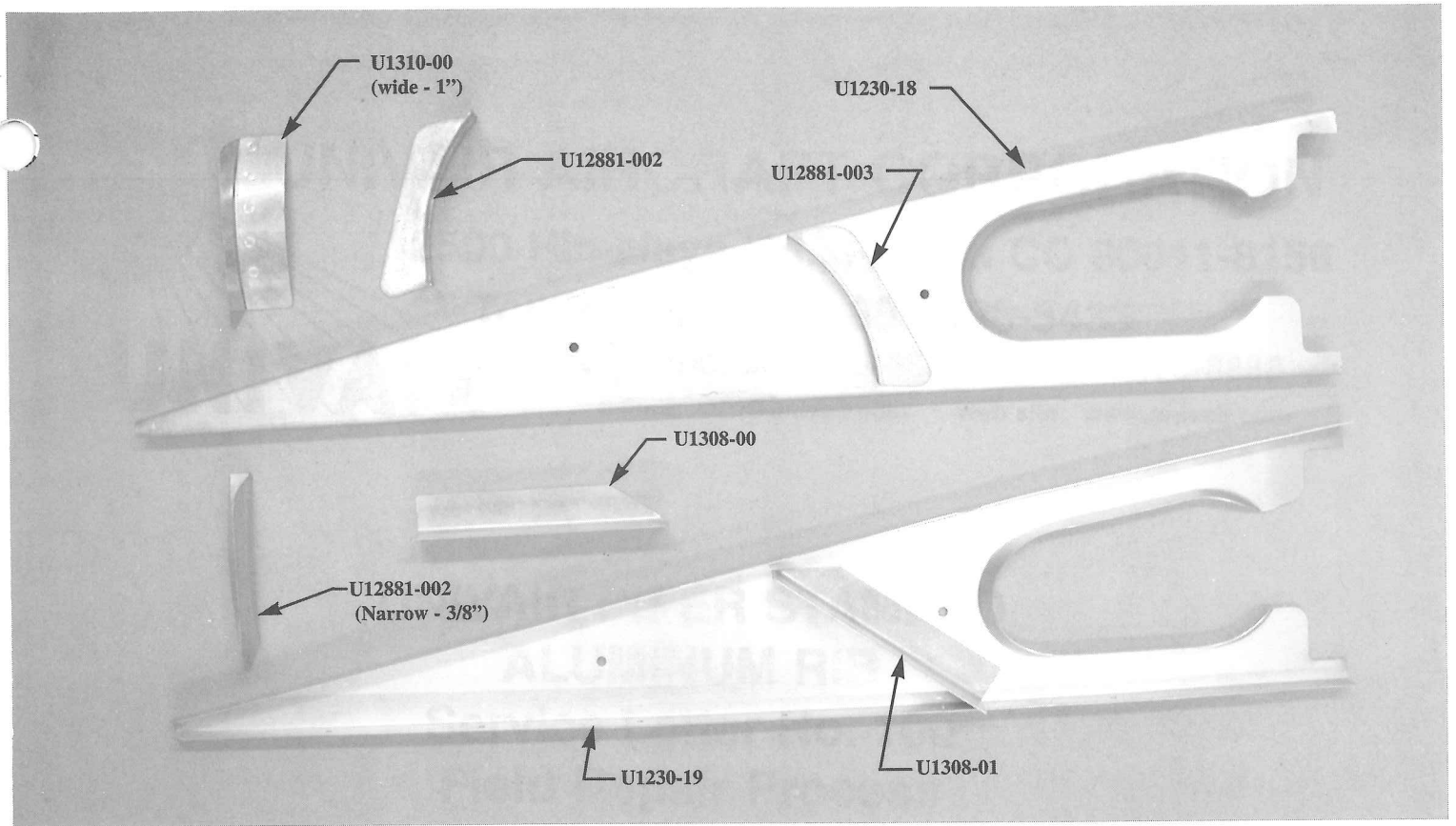


Figure 7