

REVISION LIST

CHAPTER 11: HORIZONTAL TAIL INSTALLATION

The following list of revisions will allow you to update the Legacy construction manual chapter listed above.

Under the “Action” column, “R&R” directs you to remove and replace the pages affected by the revision. “Add” directs you to insert the pages shown and “R” to remove the pages.

PAGE(S) AFFECTED	REVISION # & DATE	ACTION	DESCRIPTION
11-1 through 11-5	0/02-15-02	R&R	Current revision is correct
11-1	3/12-15-04	R&R	Updated table of contents with page numbers.

Chapter 11: Horizontal Tail Installation

Contents

- 1. INTRODUCTION 11-1
- 2. PARTS LIST 11-1
- 3. CONSTRUCTION PROCEDURES 11-2
 - A. Bonding the Horizontal Stabilizer 11-2
 - Trimming the Left Vertical Skin 11-2
 - Proper Horizontal Stabilizer Installation during Bonding 11-3
 - B. Vertical Web Installation 11-5

1. INTRODUCTION

2. PARTS LIST

#	PART NO. (P/N)	QTY	DESCRIPTION	OPTIONAL ITEM <i>(not included with kit)</i>
1)	4049	1	Vertical bulkhead	

Note:

Optional Parts available through :
 (*) Lancair Avionics
 (**) Kit Components, Inc.



11-1	Chapter 11	REV.	3/12-15-04
HORIZONTAL TAIL INSTALLATION			

3. CONSTRUCTION PROCEDURES

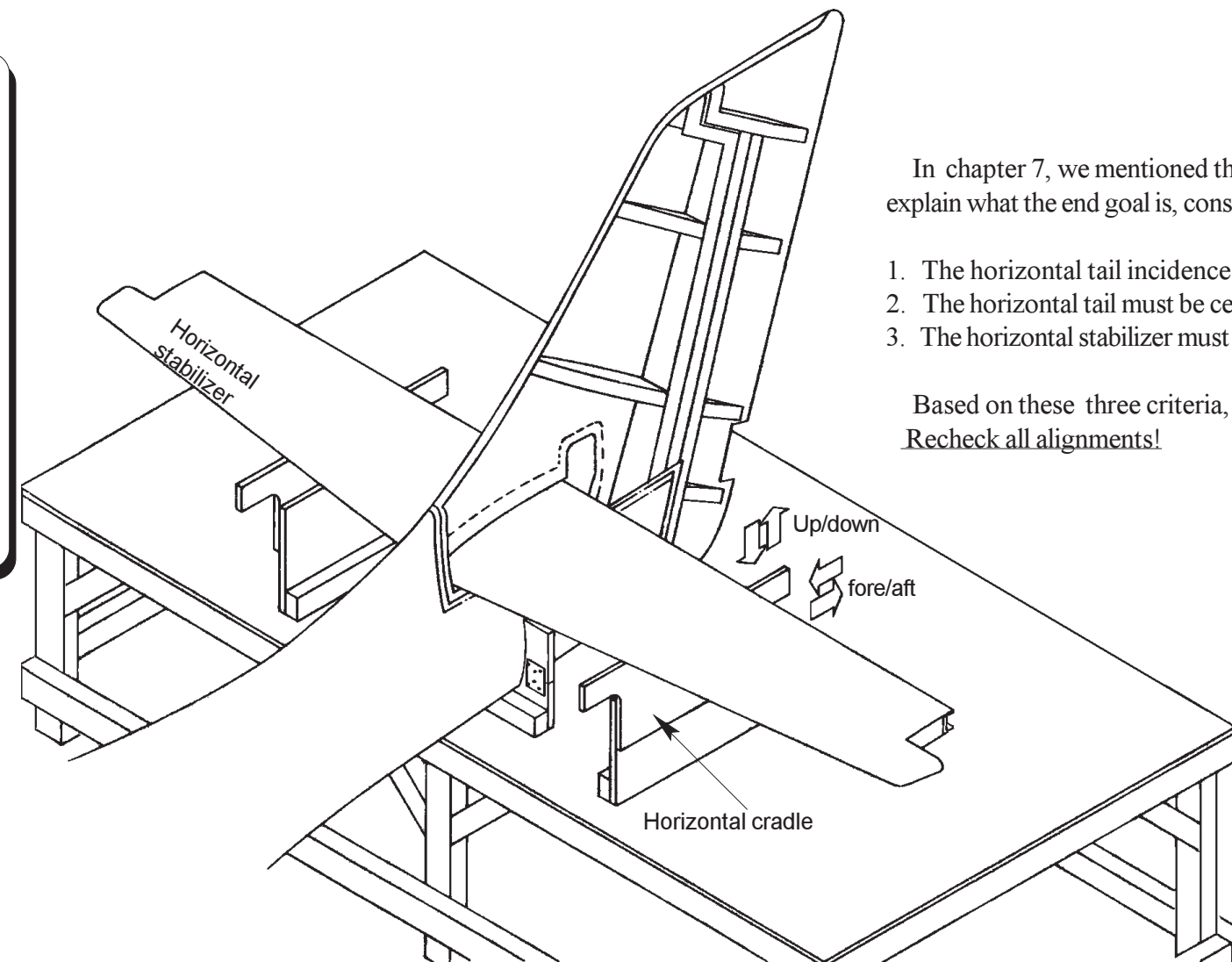
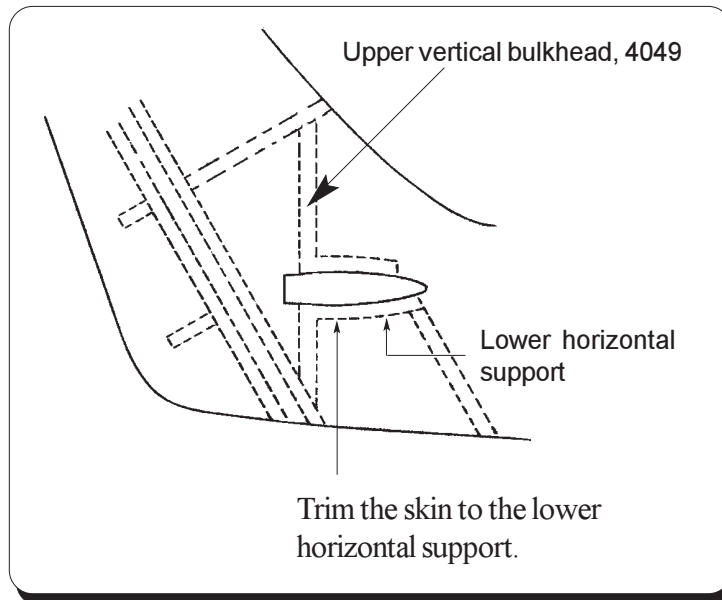
Horizontal Tail Alignment

Fig. 11:A:1

A. Bonding the Horizontal Stabilizer

Trimming the Left Vertical Skin

Trim the remainder to fit the horizontal tail. This is a gradual trim and fit process using the horizontal tail. The ideal gap between the vertical and horizontal should be between 0.05" and 1/8".



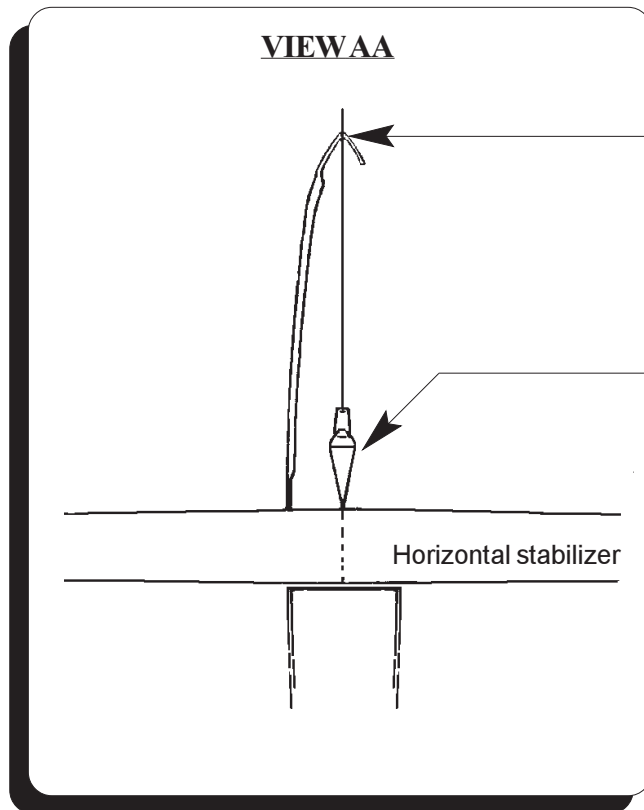
In chapter 7, we mentioned that the horizontal cradles are final aligned in this chapter. To explain what the end goal is, consider the following requirements:

1. The horizontal tail incidence is -0.6° to -0.3° . Also refer to chapter 7.
2. The horizontal tail must be centered.
3. The horizontal stabilizer must fit the lower horizontal support. Visually check this.

Based on these three criteria, adjust the horizontal cradles as necessary.
Recheck all alignments!

WARNING: BE SURE TO ESTABLISH WHICH SIDE IS UP AND DOWN FOR THE HORIZONTAL STABILIZER! ONE EASY WAY TO IDENTIFY THE BOTTOM IS TO LOCATE THE DRAIN HOLE IN THE BOTTOM SKIN.

Centering Horizontal Tail
Fig. 11:A:2

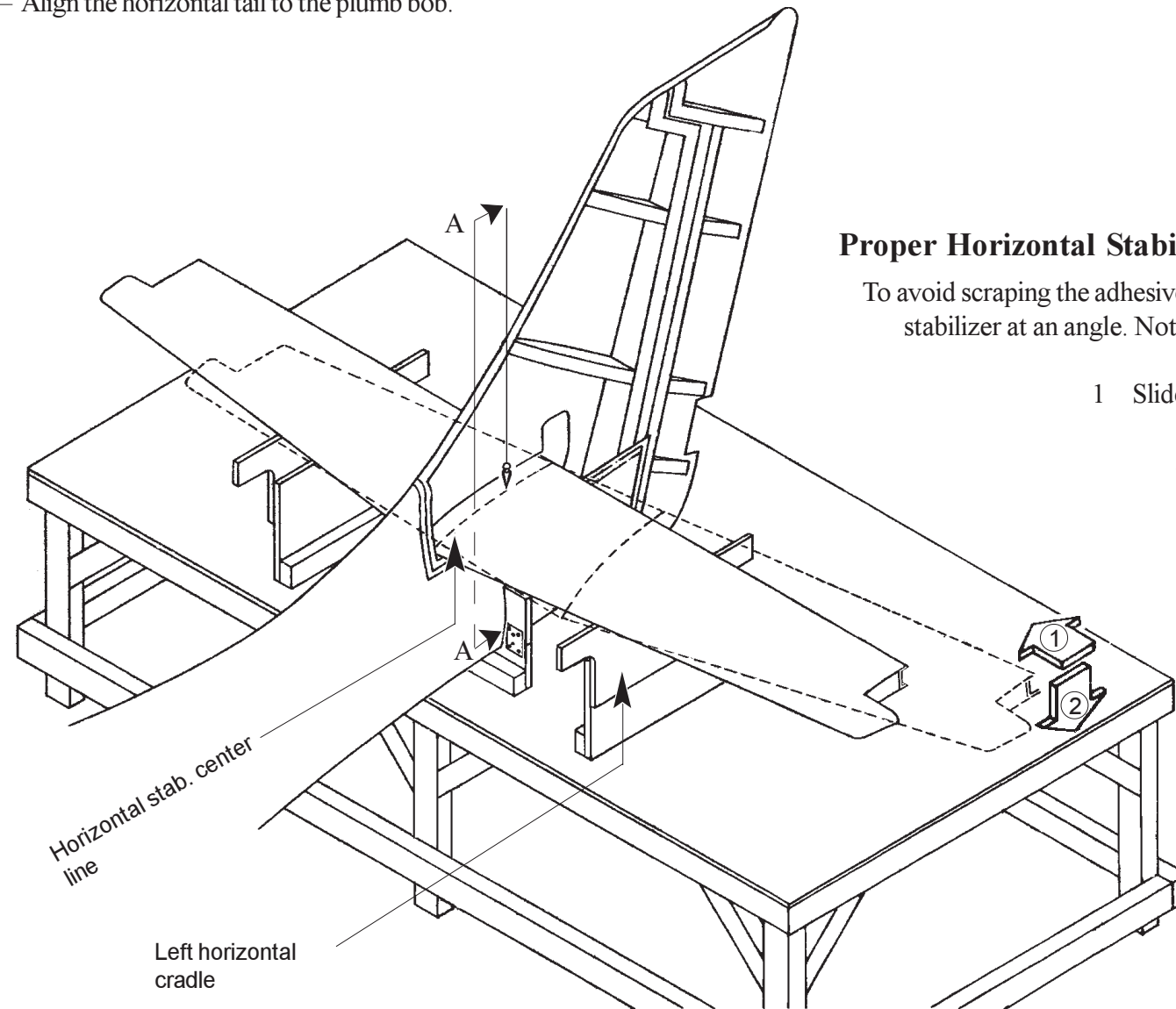


Drill a 1/16" dia hole through the center of the joggle for the plumb bob.

Align the horizontal tail to the plumb bob.

Horizontal Stabilizer Center Line

To properly center the horizontal stabilizer, you need an accurate center line. We suggest that you use the center hinge and transfer a center line onto the upper skin.



Proper Horizontal Stabilizer Installation during Bonding

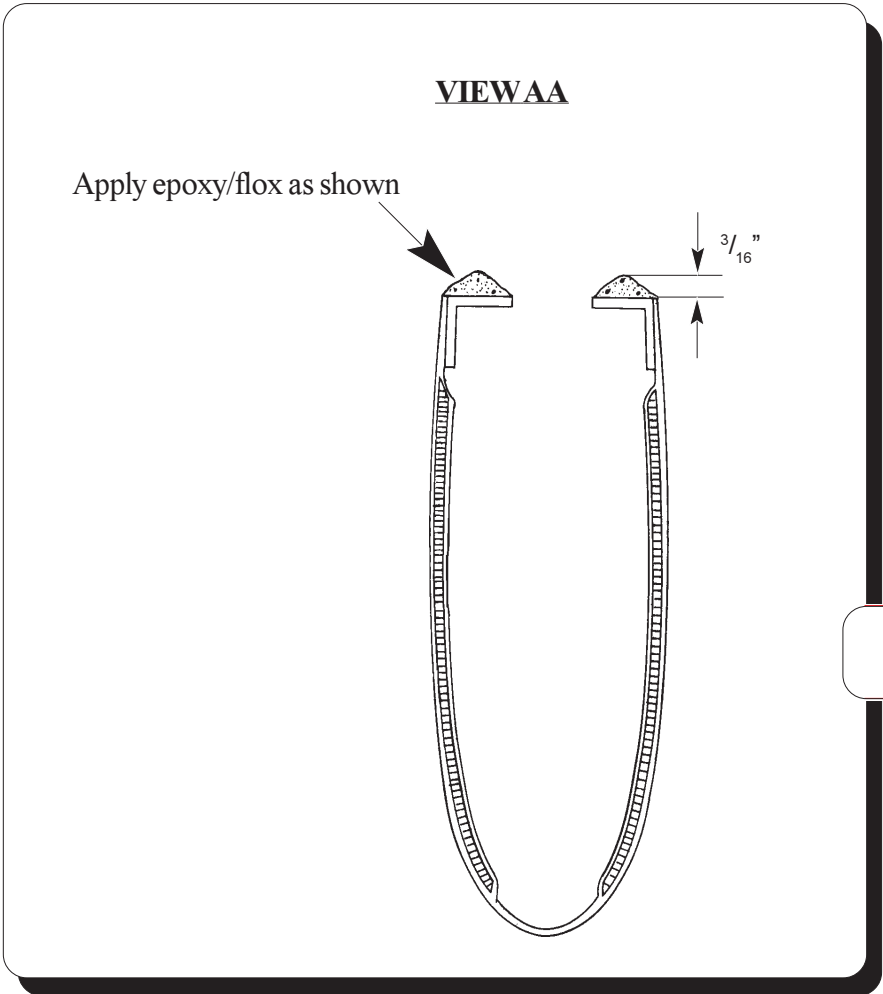
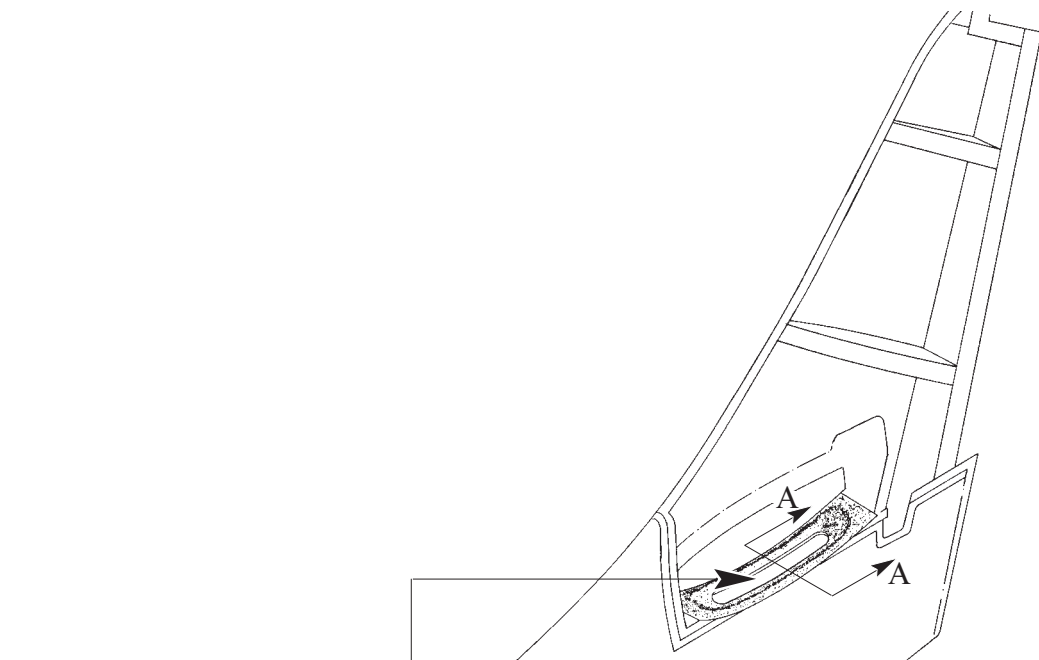
To avoid scraping the adhesive off during bonding, it is important to install the horizontal stabilizer at an angle. Note that the right cradle is removed during the step.

- 1 Slide the horizontal at an angle.
- 2 Lower in place and align.

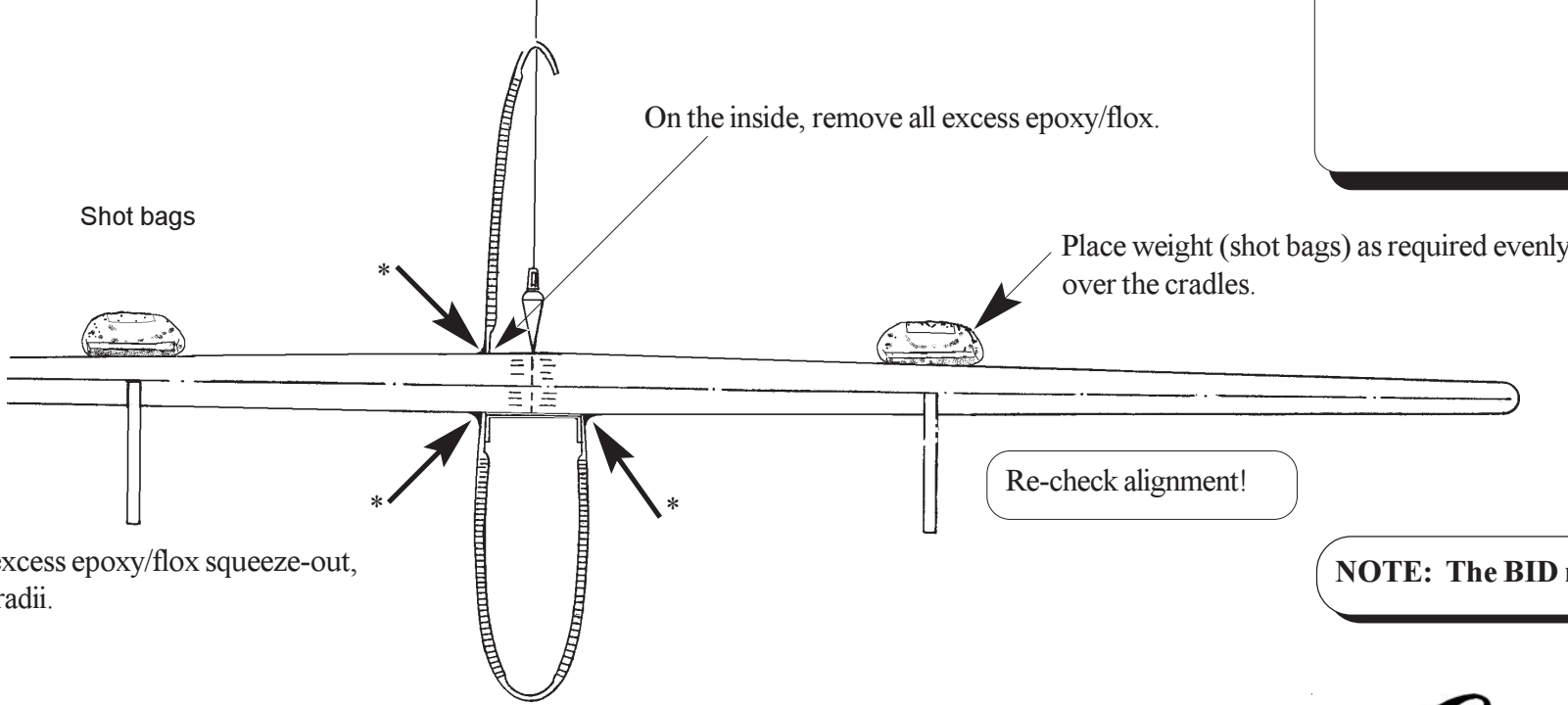
PRACTICE BEFORE BONDING!!!

The right horizontal cradle is temporarily removed during horizontal stabilizer installation. We suggest that you use bolts with wing nuts for easy installation during bonding.

Bonding Horizontal Stab
Fig. 11:A:3



One step closer...

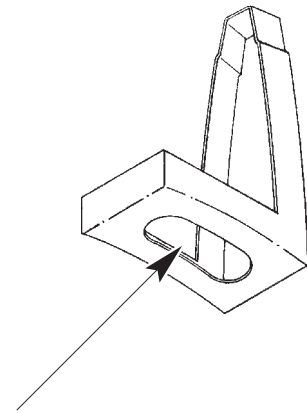


* From the excess epoxy/flox squeeze-out, form 1/8" radii.

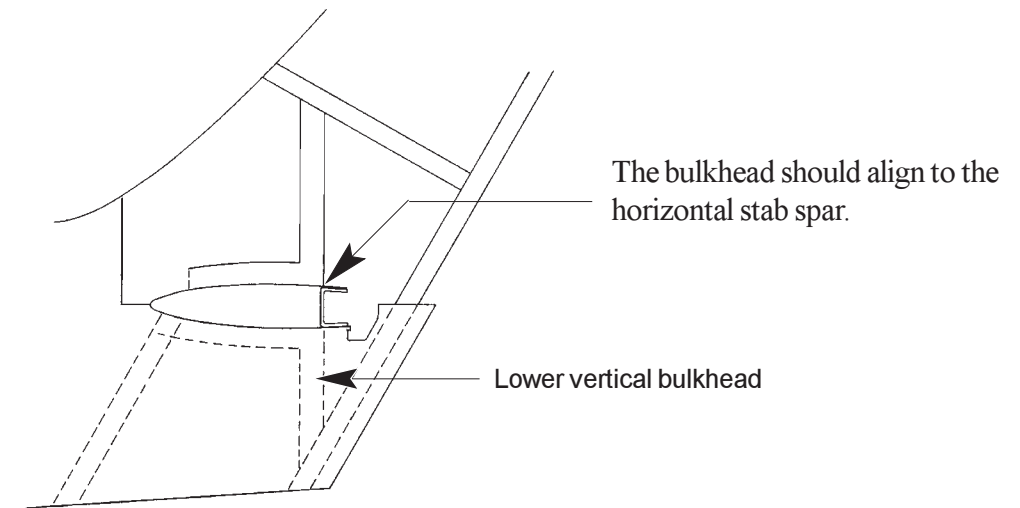
NOTE: The BID reinforcements for the horizontal stabilizer are completed in chapter 12:E.

B. Vertical Web Installation

Upper Vertical Bulkhead Installation
Fig. 11:B:1



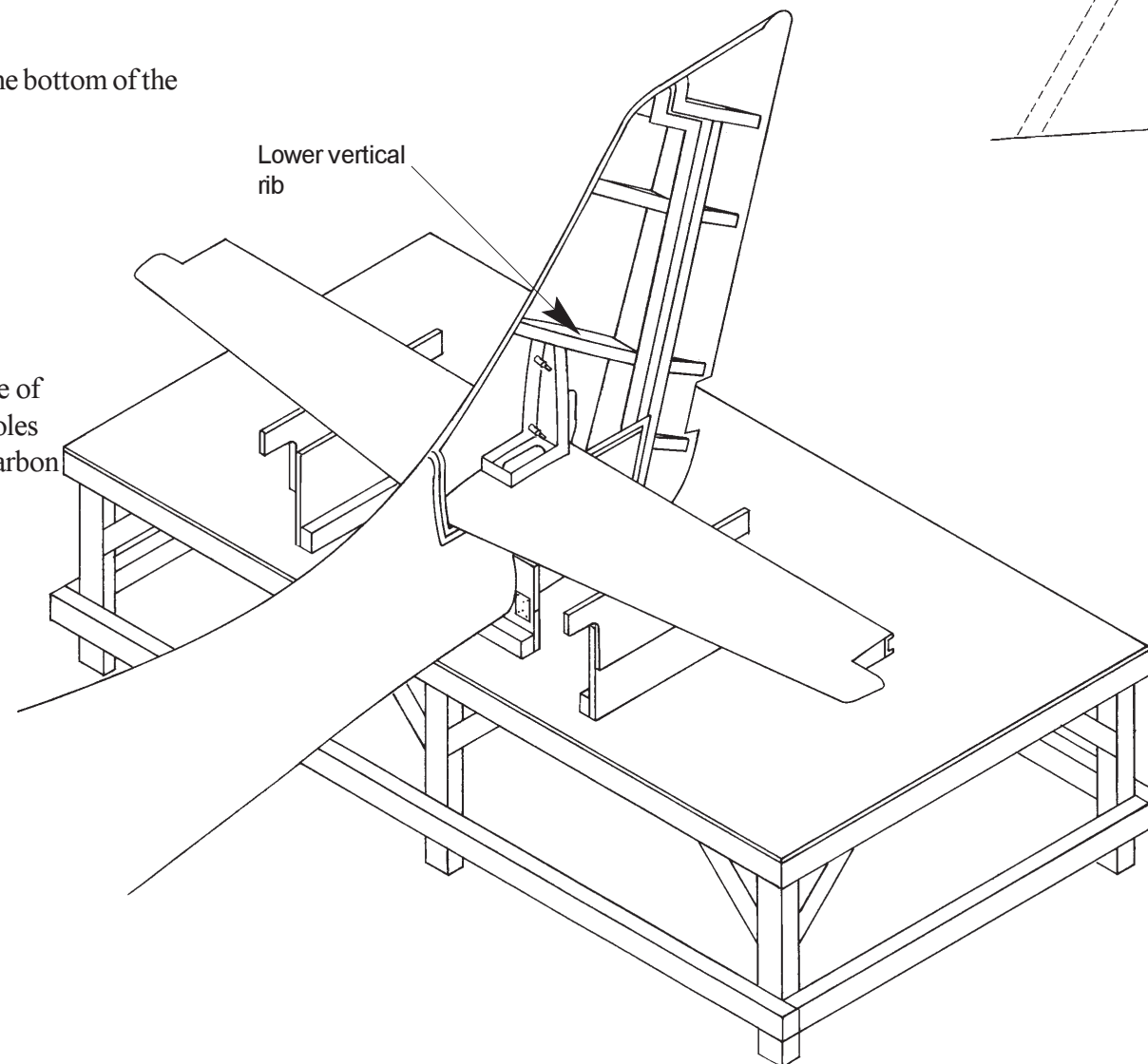
B 1. Trim the lightening hole to the scribe line. In the bottom of the vertical bulkhead P/N 4049.



The bulkhead should align to the horizontal stab spar.

Lower vertical bulkhead

Align as explained and use a couple of clecoes drilled into vertical. Don't drill any holes into the horizontal as there is unidirectional carbon fiber in the horizontal.



Lower vertical rib

Bulkhead Alignment

1. Align to horizontal stab.
2. It should fit nicely into the lower vertical rib.
3. Install as close as possible to the right vertical skin (keep the bond to a minimal thickness).

B 2. Bond using epoxy/flox.