

American Champion Aircraft Corp.  
Rochester, WI 53167

Service Letter: 417 (page 1 of 2) Revision C

Date: May 6, 1998

Title: Installation of Inspection Covers for Wood Spar Inspection

Applicable Models: All Model 7's, 8's and 11's with wood spar wings  
[Model 8KCAB has special instructions, contained herein.]

Description: This service letter details the installation of various inspection holes to inspect critical areas of wood wing spars, as defined in Service Letter 406.

Installation: The bulk of the Service Letter 406 inspection can be accomplished through inspection holes on the bottom of the wing. Extra inspection holes may have to be installed to check all of the areas of concern.

To install a standard fabric inspection hole on the bottom side of the wing, first locate the center of the hole to be cut. The holes for front spar inspection should be located so as to be centered approximately 14 inches aft of the leading edge [Model 8KCAB should be 16 inches], and centered between ribs. The holes for rear spar inspection should be located so as to be centered approximately 34 inches aft of the leading edge [Model 8KCAB should be 36 inches], and centered between ribs. Clean and sand the surface affected down to the primer. Using compatible fabric glue, glue a 1-617 reinforcement ring into place followed by a 1-268-1 fabric patch over the top. Allow the glue to dry before cutting. Lightly iron the area, if necessary. Paint the area as necessary and cut out the inspection hole. Cover with 3-639 cover or equivalent after inspection.

To install two fabric holes on top of the wing that are cut and then patched after inspection, first locate a 2" square hole with rounded corners that butts up to the leading edge skin as close to both ends of the spar doubler as possible. On all models except for the 8KCAB, this will butt up against a rib. Prepare the area for a cut and repair per AC 43.13-1A. Cut the hole, and inspect per Service Letter 406. Repair the hole per the unstitched (doped-on) section of AC 43.13-1A. This can be done for repeat or one time inspection.

To install optional removable covers for repeat inspection of the top of the front spar, two inspection holes and covers may be installed on the top side of the wing per Figure 1. Locate the positions of the 1-10019 acetate rings per the figure. Clean and sand the affected area down to the primer. Glue down the 1-10019 acetate rings and 1-2444-4 fabric patches with compatible fabric glue. Allow the glue to dry before cutting. Lightly iron the area, if necessary. Remove the fabric inside the ring. If deemed necessary for further inspection, the section of leading edge skin inside the acetate ring may be removed as well.

**Note:** Care must be taken so as not to damage the Spar, Leading Edge Skin, or Acetate Ring.

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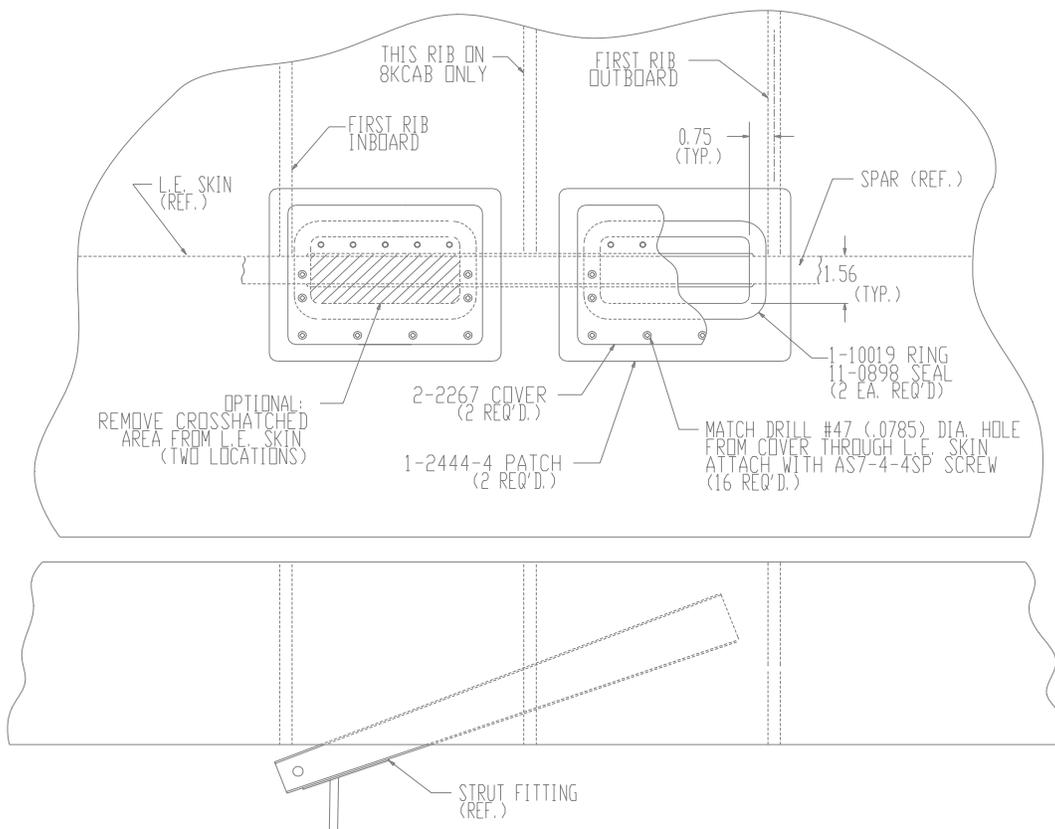
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(continued) After inspection per service letter 406, paint covers and area as necessary. Install the 11-0898 rubber seal over the top of the acetate ring with a 3M™ 08008 weatherstrip adhesive or equivalent. While the adhesive is curing, weigh down the ring to make it as flush as possible. The 2-2267 covers can be installed by sliding the retaining tab under the acetate ring as far aft as possible. Using the cover as a guide, carefully match drill #47 pilot holes for the AS7-4-4 blunt screws

**CAUTION: DO NOT DRILL INTO THE SPAR!**

Debur the holes; reinstall the cover and attach the cover to the leading edge skin with eight AS7-4-4 blunt sheet metal screws. Optionally, the four leading edge screws in each cover can be replaced with CR3213-4-1 Cherry Rivets by first match drilling with a #30 drill.

**Note:** When drilling holes or installing screws, temporarily place a steel sheet metal shield over the spar area being worked on. Make the shield such that it is removable through the inspection hole on the bottom of the wing. A bend put into the shield will prevent it from falling onto the nose rib side of the spar. Remember to remove after inspection



**Figure 1 Cover Installation**