

ADVANCE NOTICE OF REVISION

(This notice **supplements** all earlier notices)

Section II: Tools and Techniques.

Page 76: In the control cable tensioning section, a recommendation of 10-15lbs under the maximum tension (rigging load in pounds) will be specified.

Page 101-104: Reference numbers for the primers used on the finish of interior and exterior composite parts will be provided. The exterior white primer used on the Sportsman is a Duratec 1794-005. The interior gray primer is Duratec 1799-005. The Zolatone finish is Zolatone 20-64 Gray Stone.

Section IV: Stabilizer Assembly

Page 28: Future runs of the 302-00001-01 skins will come with a 4.45" diameter access hole for inspecting the alignment pins. You may choose to install this access hole if your skins are without it. The hole is positioned on A/C centerline and 8.25 inches forward of the lower trailing edge of the skin. The 201-33001-01 and 201-33002-01 cover and backup ring will be used. Refer to the installation procedure in Step 67 and 68 in the Systems section of the manual. Use (4) K1000-08 and (4) AN526-R86 screws to secure the cover.

Section V: Elevator Assembly

Pages 99: A Note will be added to this page telling the customer to check the trailing edge fit between the two surfaces. If the trim tab needs to be moved forward, it is acceptable to trim/sand off approximately 1/16" from the hinge halves to allow the hinge to nest deeper inside the rear elevator spar.


Section VI: Wing Assembly

Page 3: Part number 602-06001-01/02 should be 602-06001-**03/04**

Page 43: The following will be added to Figure 18: Transfer the rivet pattern on BL69 to the adjoining rib. You should have the skins riveted to both of these ribs on the upper and lower surfaces.

Section VII: Aileron and Flap Assembly

Page 11-14: The inboard hinge bracket [9] will eventually become a 201-15005-03 part number which is slightly different in shape from the -01 part. The 5/16" dimensions from the

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sides to the 6 rivet holes should be adjusted to 3/8" to better clear the inside fillet. Additionally, the 6 rivets (forward of the hinge bolts) shown in Figure 9, are no longer needed.

Section VIII: Fuselage Assembly

Page 82: The third paragraph in Step 43 will be revised as follows: Begin by marking a water line around the vertical fin that measures 59" above the trailing edge joggle, which is water line 156.38. Using a long sanding block, sand as necessary in the directions shown in Figure 49 to make the shell edges parallel and even with this water line.

The first sentence in the first note will be deleted: ~~Remove as little material from the shells as possible, but be sure that you at least get rid of any mold lip, as described earlier in this section.~~

Page 86: The note on the top of the page and the first paragraph should both reference Figure 52, not 51.


Page 111: Figure 72 is not full size and the full size note will be removed from the description. All the dimensions are correct.

Page 112: The following sentence will be added at the end of the first paragraph in Step 61: By rotating the aileron left and right, you can verify if the stop plate is centered correctly on the weldment. It should contact the bulkhead at approximately the same rotation point.

Page 121: The sentence in the last paragraph in Step 68 will be changed to: "When satisfied, remove the brackets from Bulkhead C and drill each marked location on the angles with a #30 bit. Then, reinstall the bracket assembly and drill through both the bracket and Bulkhead C with a #10 bit.

Page 125: The following comment will be added after the first sentence: There is no reason why the elevator control stop cannot be made now and assembled with the bellcrank and bracket assembly.

Page 165: The fasteners in the note at the bottom of the page will be changed to AN509-10R16 from the AN507-10R16. There is not a need to change these fasteners over to AN509-10R16 if you have already installed the AN507-10R16. The change is made to keep all these fasteners used on the fuselage attach brackets of a common type.

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Section IX: Systems Installation

Page 2: The [44] cable retainer strap should be 600-00001-02, not 600-00001-01.

Page 23: In the third paragraph, you should drill #10 diameter holes and not 1/4" diameter for the control bracket hardware.

Page 36: The last sentence in Step 7 will be revised to: This pivot tube centerline should be approximately 5" aft of the aft face of the 5/8" diameter firewall tubes.

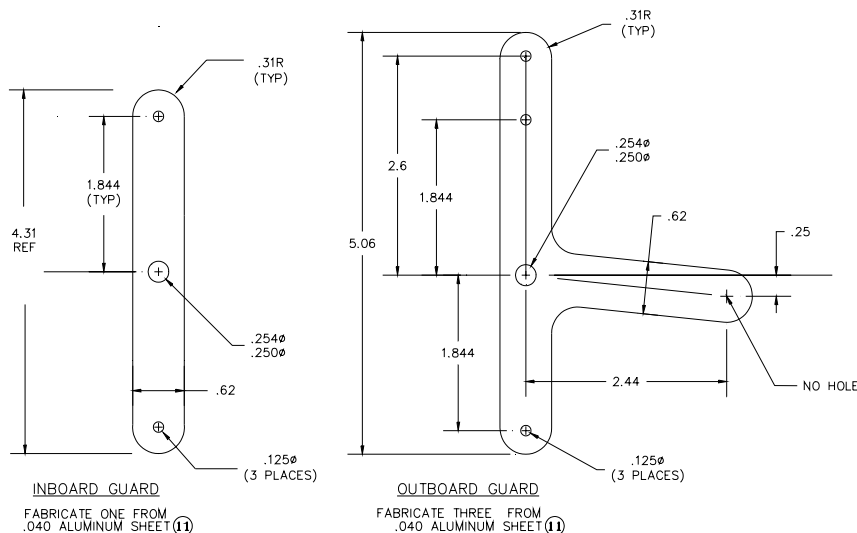
Page 42: The reference to a #10 bit in the first sentence will be changed to a #12 bit, which is slightly smaller in diameter.

Page 44-46: In kits delivered after September 2005, self locking nuts have been welded to the inside of the control stick mounting brackets on the cage. This makes it much easier to install the control assembly. The AN960-10 washers and the AN365-1032A nuts are not needed on those cages. The two tabs on control yoke may need to be bent inboard toward the nylon bearing blocks should any lateral play exist. This will cause a loose or sloppy feel to the aileron control.

Page 52: The square tube in the picture will be identified as [51] 1/2" square aluminum tube.

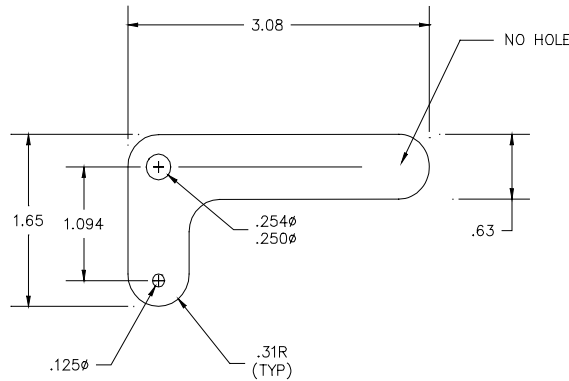
Page 53: Early cages had some variation between the bushings and tabs for the forward pulley group. A few cages may need longer bolts, namely an AN4-56 and AN4-47. The forward left pulley in figure 23 will be labeled as "elevator reversing pulley", the small center pulley is the "left rudder cable pulley" and the far right pulley is the "flap reversing pulley".

Page 54: The first sentence will change to make (3) outboard pulley guards. The sentence 'The second hole at 2.60" on the third pulley guard can be trimmed off as shown in the left side of Figure 23' will be added to the first paragraph.



The 1-27/32 dimension in the note will be changed to 1.844 for consistence with the figure. The shapes of the guards have changed and Figure 24 will be revised as follows:

Page 55: The top figure in Figure 25 will be deleted and the reference to this cable guard in the paragraph will be revised. (If you have already made your pulley guards per the steps defined in Revision A, the guards are acceptable. These newer revised guards are oriented a little better in the pulley cluster.) Figure 25 will be revised as shown:



RUDDER CABLE GUIDE PULLEY GUARD


FABRICATE TWO FROM
.040 ALUMINUM SHEET (11)

Page 56-58: The reference to "drill this up up to 1/4" diameter" in the first paragraph will be changed to "drill to 1/4" diameter". A general procedure note of how to drill the holes in the square tube will be as follows. Mark a centerline on the 1/2" square tube. Using a drill press, drill a 1/4" diameter hole on end located 1-1/4" in from the end. Insert the forward pulley bolt through the cage bushing and then through the tube and across to the other bushing. Install the AN4-45 bolt through the tabs on the cage. Swing the tube up until it contacts the AN-45 bolt and mark this location on the tube. (Note: the bolt path would actually be an arc centered about the AN4-53 bolt, so the projected contact point with the centerline of the 1/2" tube will be slightly aft of this mark by about .015".) Use a drill press to drill this hole. It is also OK to open these holes up to .265 diameter if necessary. Set the tube back in the cage (off to one side of the aft center tab and install both bolts. Use the tab to drill the tube at this location.

With regards to pulley cable retainers, the stiffer the retainer is, the more clearance you may allow between the retainer the edge of the pulley. Cotter pins and the welded brackets are your stiffest kinds. The aluminum straps should be held closer since the thin aluminum strap may deflect more that others.

Page 79-80: In Step 21, the following note will be added to the end of the first paragraph; "Note: Do not worry that the cables do not meet the rudder arms on the same angular plane." The note on the bottom of page 80 should refer to Step 7 and not step 8

Page 100-102: If you plan on folding the wings on the Sportsman, the lower trailing edge of the wing strut will need to be cut back more to clear the side of the composite fuselage. These dimensions can vary somewhat between aircraft. The two dimensions given in Figure 54 on page 102 will be changed to 4-1/2" and 1-5/8". When folding the wings for the first time take note of the clearance between the strut and the fuselage.

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Page 140: In the second paragraph, the reference to (these are the pulleys in Figure 36) will be changed to Figures 32, 34 & 35.

Page 154-165: After doing numerous cable installations and the rigging of flight controls at the Customer Assembly Center, we are confident that the left and right aileron secondary cables and the left and right aileron crossover cables can be pre-assembled prior to installation in the aircraft. You should read pages 154-165 to become familiar with the installation. The dimensions given are from the end of the threads on the swaged threaded studs to the center of the clevis pin shown in Figure 91. Refer to the tools and technique section of the manual for fabricating cable assemblies.

618-01014-01 LH Aileron Crossover: 139-1/8"

618-01015-01 RH Aileron Crossover: 155-13/16

618-01013-01 LH Aileron Secondary: 177-13/16

618-01013-02 RH Aileron Secondary: 176-1/8 (made from the second 618-01013-01 cable)


Page 166: A hint will be added to the end of Step 46 giving the builder options for securing the guide blocks to the ribs. Hint: If necessary, counterbore the back side of the guide where the tail of the rivet will be if you find your rivets are not long enough. If you do not want to rivet them, you can also use cotterpins to hold them in position or use some #6 or #8 screws to secure the guides to the ribs.

Page 173: When drilling the sump holes in your lower skins as described in Step 51 and Figure 97, be sure to measure the location of the sump as you slide it in the wing. The sump location can vary from tank to tank and from installation to installation. Do not assume the dimensions shown in Figure 97 fit your tanks without checking first.

Page 199: Step 63 will be expanded to include the following: If you need to raise (or realign) the level of the filler neck in order to get a better clearance fit between the standard fuel cap (tractor style) and the skin, you can gently pull up on the filler neck or fashion a slide hammer to gently pry up on the fuel tank threaded boss. Attempt to achieve a minimum 1/16" clearance between the bottom of the cap and the skin.

Page 201: There was a variation in the manufacturing of the auxiliary tanks that moved the two sump locations **forward** 1/2" from those shown in Figure 114. You should verify your tank sump locations before drilling. Tanks delivered after the Spring of 2005 should use (but verify) 12-9/16 and 3-5/8 in lieu of the 12-1/16 and 3-5/16 dimensions shown in Figure 114.

Page 202: The nutplate location in Step 66 will be changed to 2-1/4" in from the skin edge. Drill out the existing rivet at this location (third rivet in from the skin edge; BL 26.25), and open up the hole with a #11 bit. Do not worry about the dimple in the skin. Install the K1000-3 as described.

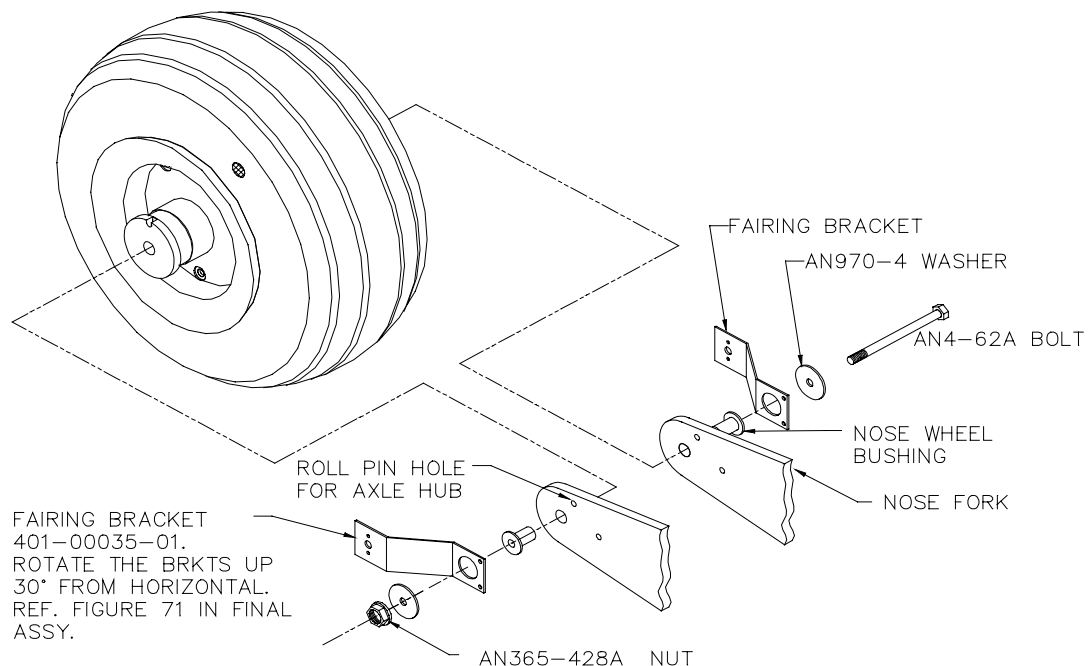
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Page 221-222: Reference to the seven degree clocking will be revised to better define what it is you are trying to achieve. The narrow two holes (identified at the one and eleven o'clock position on the brake flange) should be centered about the gear leg. Achieve this by inserting two 3/8" bolts through these holes and let the shank of the bolt center the flange about the gear leg. Keep these bolts installed during the drilling process. This applies for either the FT or TD gear. As long as you are set up for drilling, you may want to drill the cotter pin hole in the end of the axle as defined on page 232. Use a #21 drill instead of the #30 bit.

Page 272-277: In the Brake System Plumbing section, (10) 032-00310-01 Brake Line Inserts will be included in future kits. These inserts help prevent the ferrule from getting crooked and causing leaks. The small metal sleeve stiffens and supports the brake line internally and keeps the ferrule straight because it has a flat, flared end. It also keeps the brake line from collapsing. An additional (6) are required for dual brake installations.

Page 244-246: A new method will be used to install the nose wheel pant to the nose wheel fork, which has made the installation easier. This will require a longer axle bolt AN4-62A, two brackets 401-00035-01 and two AN970-4 washers. These will be included in later kits. Step 85 will be reworded to install the two brackets and larger washer. The bracket is oriented on the nose fork with the aft end up 30 degrees to horizontal per Figure 71 in Final Assembly. Drill one 1/8

diameter hole through each bracket and into the nose fork arms. Install (1) 1/8" diameter x 1/2" roll pin 450-0070-002 in each bracket. Figure 138 will be revised as follows:



Page 247: The last sentence should refer to AN960-416 steel washers, not AN960PD416.

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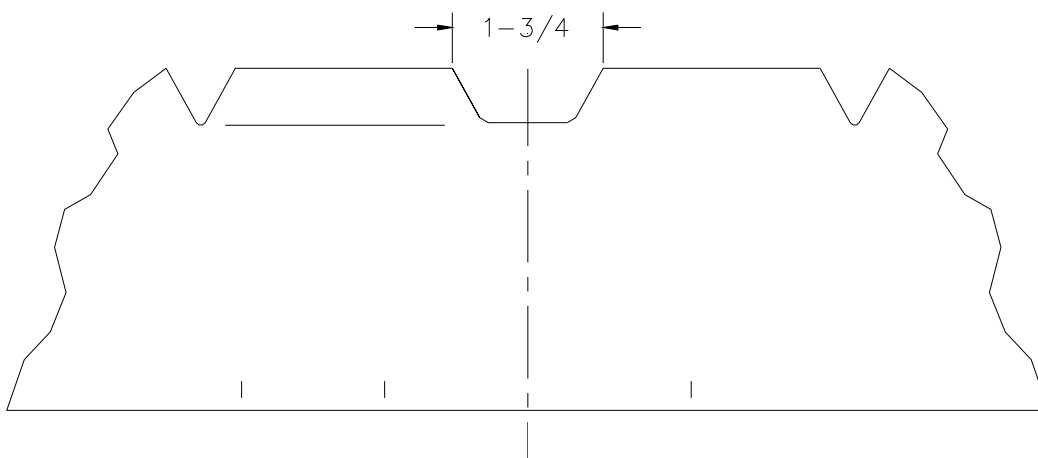
Page 285: Two MS21919WDG10 Adel clamps will be added to the list to be used on the upper part of the tank.

Page 286: Very few fuel lines are visible within the cabin and the following sentence will be added: The fuel lines shown in figure 165 are the only fuel lines visible within the cabin. You may want to paint these lines cage gray prior to final installation.

Section X: Final Assembly


Page 1: Key number 24 will become part number 101-14003-03, Window, Baggage door.

Page 21: The upper and lower flanges in Figure 3 will be changed to include a 1-3/4" wide notch located on the centerline as shown in the figure below. This notch allows for a better fit around the top center engine mount washer and bushing.



Page 33, the following options will be added/revise in the options table.:

<u>Sportsman Option</u>	<u>Part Number</u>
Induction System, O-360	922-07050-01 922-07000-01
Induction System, IO-360	922-07100-01
Engine Controls Bracket, IO-360 / IO-390	922-08500-01
Pre-fabricated door dogs	940-07100-01
Stainless Steel Braided Brake Line Upgrade	991-03000-201

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Page 62: Figure 27 will show the addition of (1) NAS42DD8-43 clamp-up spacer, which is to be inserted between the two cage tabs where the forward end of the inboard seat track attaches. This will prevent the tabs from being bent and damaged in the event the AN4-32A bolt is over tightened.

Page 102-106: For those main wheel pants which are marked with a suggested trim line, care must be taken when trimming around the brake caliper depending whether or not you have rotated your brake mounting flange as shown in Figure 123 in the Systems Section of your manual. The trim marking templates were set up for a wheel pant where the brake flange had not been rotated the 7 degrees per Figure 123 in the Systems Section. If the trim lines are used for an installation where the brake flange is rotated, then the wheel pant will be mounted with a nose high attitude.


Page 113: The first paragraph in Step 51 will be revised to read as follows: Go back to the tail and sight from a position approximately 18" outboard from the centerline and 18" down from the stabilizer lower skin. We had the stabilizer in place and used rib positions as a reference. If the stab isn't installed, simply place a straight board in its place and make a couple of sight marks equally spaced to each side.

Page 133: The NAS43DD4-39 spacer identified should be a NAS43DD4-50 as specified in Section VIII, page 122.

Page 136-139: Step 65 will be revised to provide a simpler installation for the aft attach point on the nose wheel pant. It can be difficult to locate and install the nutplate on the nose fork. There have been cases where the tire valve stem will interfere with the nutplate at this location. For this reason we have designed a new attach bracket that attaches to the axle bolt and extends aft picking up the wheel pant aft of the axle.

The two brackets (401-00035-01) will be supplied in the later kits. Reference also the Systems Section, pages 244-246 of this ANOR. Use the same method of locating a blind hole shown in Figure 71.1 only locate the middle of the flat part of the bracket where it will be fixed to the nose wheel pant. When you have aligned the nose wheel pant as described in this step, then drill through the pant and the bracket with a #11 bit. Once drilled, install a MF5000-3 floating nutplate. Laminate a small 3 layer reinforcement patch for countersink depth over the inside of the pant at this location. Redrill and countersink for a #10 screw. The pant is secured to this bracket using AN507-10R8 screws.

The aft fairing spacers described in Step 65 may be omitted. If there exist too much space between the bracket and the wheel pant, a structural fill may be applied to the inside of the pant to obtain a better fit.

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Figure 71 will be revised as shown:

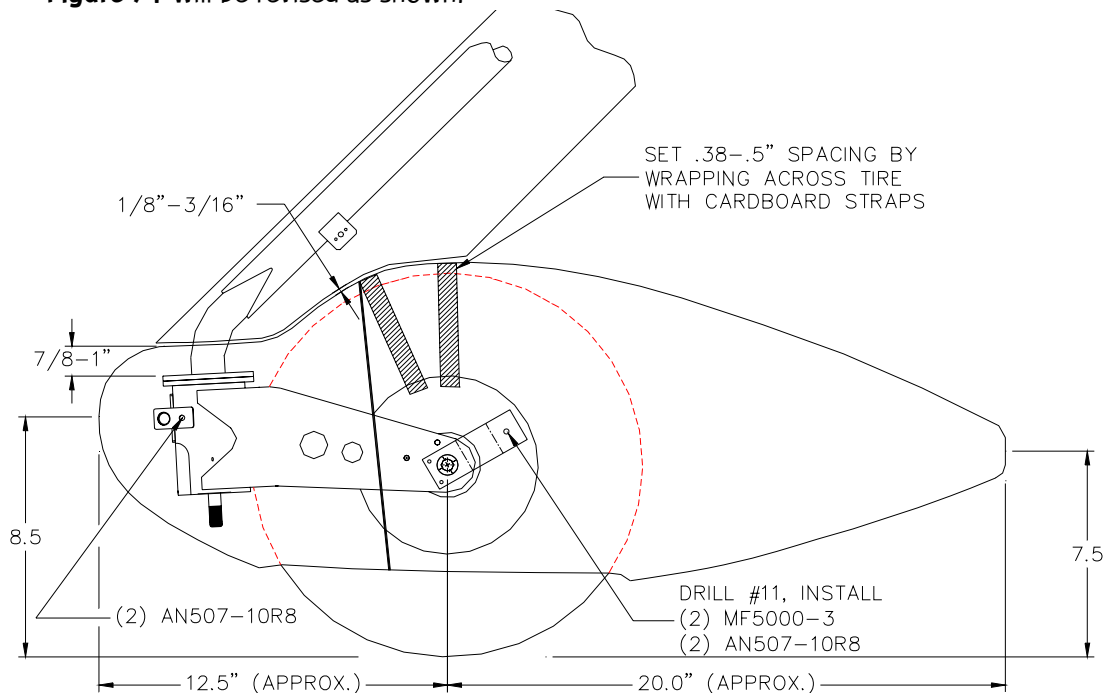
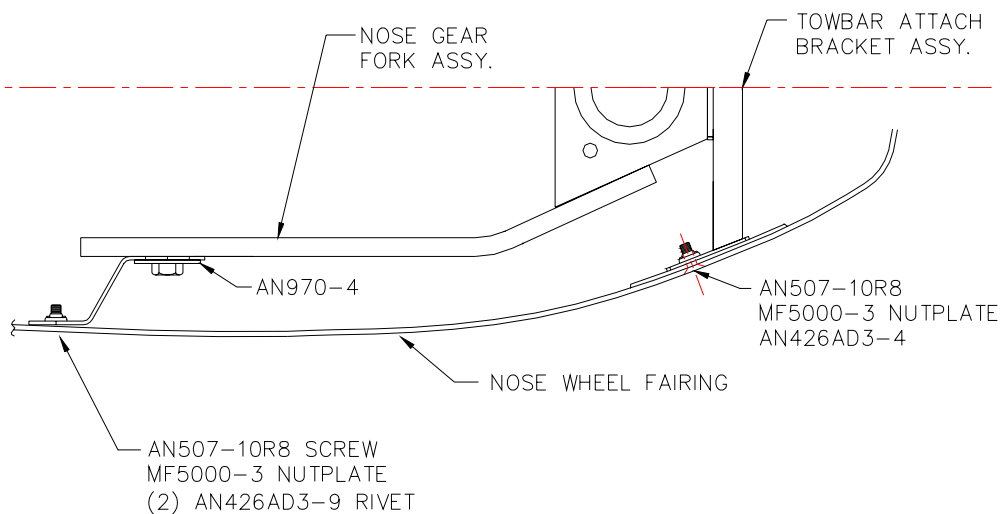



Figure 71.2 will be deleted.

Figure 72 will be revised to show the bracket installed on the nose fork.



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Page 155: Step 76 will be expanded to include the following information:

If you need to raise (or realign) the level of the filler neck in order to get a better clearance fit between the standard fuel cap (tractor style) and the skin, you can gently pull up on the filler neck or fashion a slide hammer to lift up on the fuel tank threaded boss. Attempt to achieve a minimum 1/16" clearance between the cap and the skin.

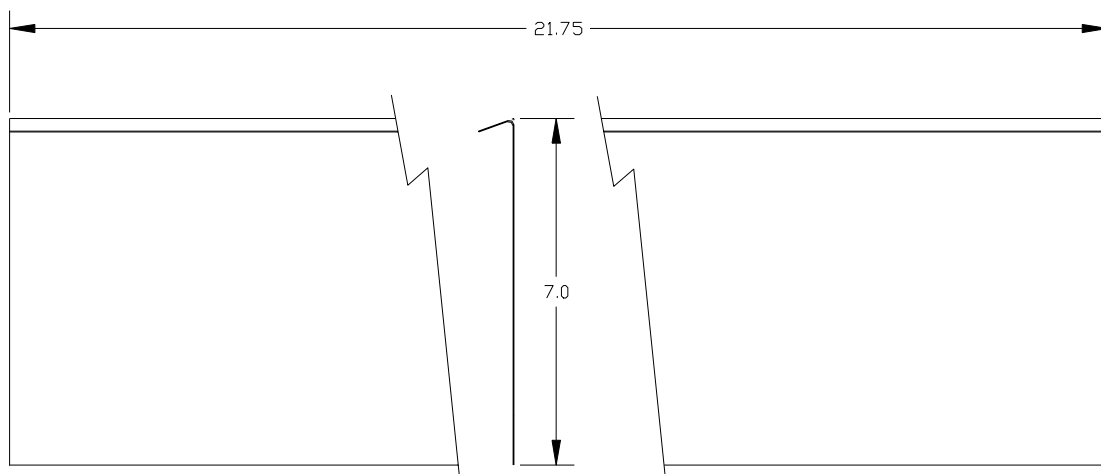
Page 157-167: An optional method of installing the trailing edge skins will be provided, and these pages will be expanded.

Page 157: The note on the top of page 157 will be changed to read as follows:

The following several steps can be accomplished with the wing in or out of the jig, at your convenience. Our experience is that most of these procedures are probably easier if the wing is upside down and supported on a table. There are two methods of installing the cove skins on the fuselage. One is to rivet the rivet the cove skins to the wing as has been traditionally done. The second method, which is used at our Customer Assembly Center, involves using a structural adhesive to bond the trailing edge doublers to the skins and using only a few rivets at the end of each cove skin. This second method is described as an optional method.

Figures 80-83 will be added to the instructions, which define the layout and trimming of all the cove skins.

The last sentence in the third paragraph will be changed to read as follows: The aft tab on the flap cove ribs may also be removed if necessary as shown in Figure 85. Revision A mistakenly mentioned the center tab.



INBOARD FLAP COVE SKIN
MAKE (2)

Figure 80: Inboard flap cove skins

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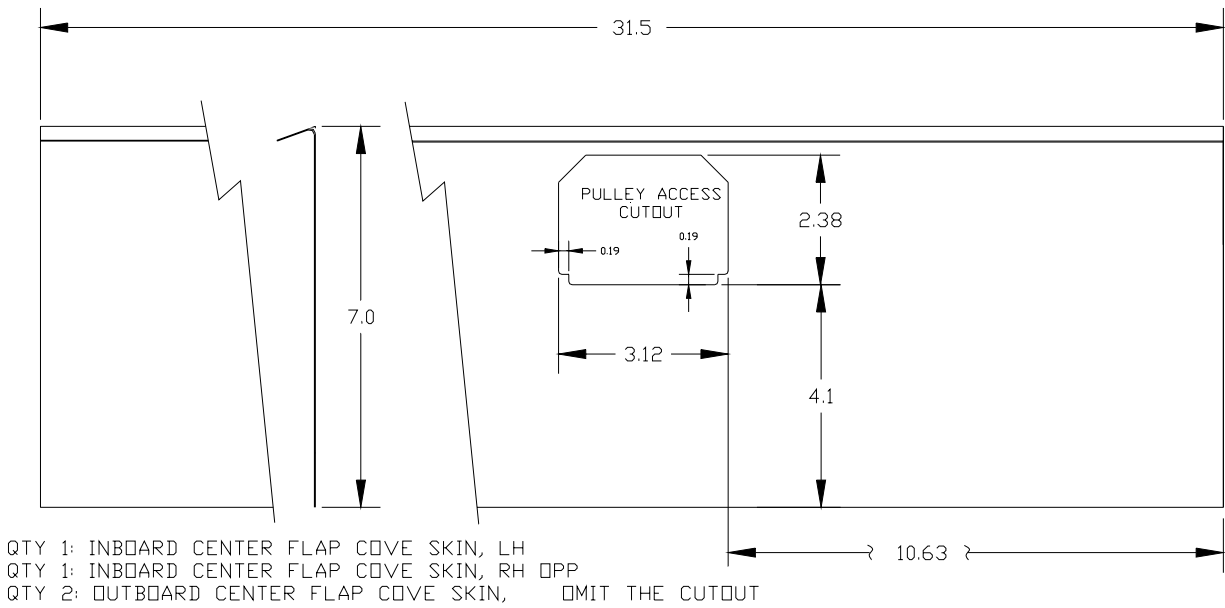


Figure 81: Center flap cove skins

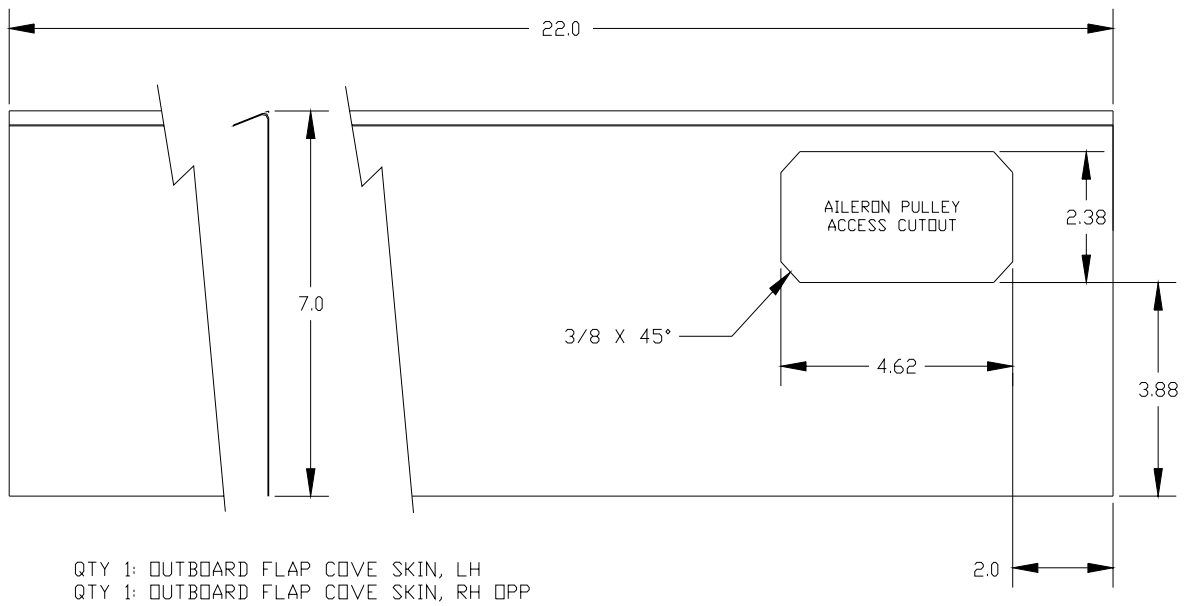


Figure 82: Outboard flap cove skins

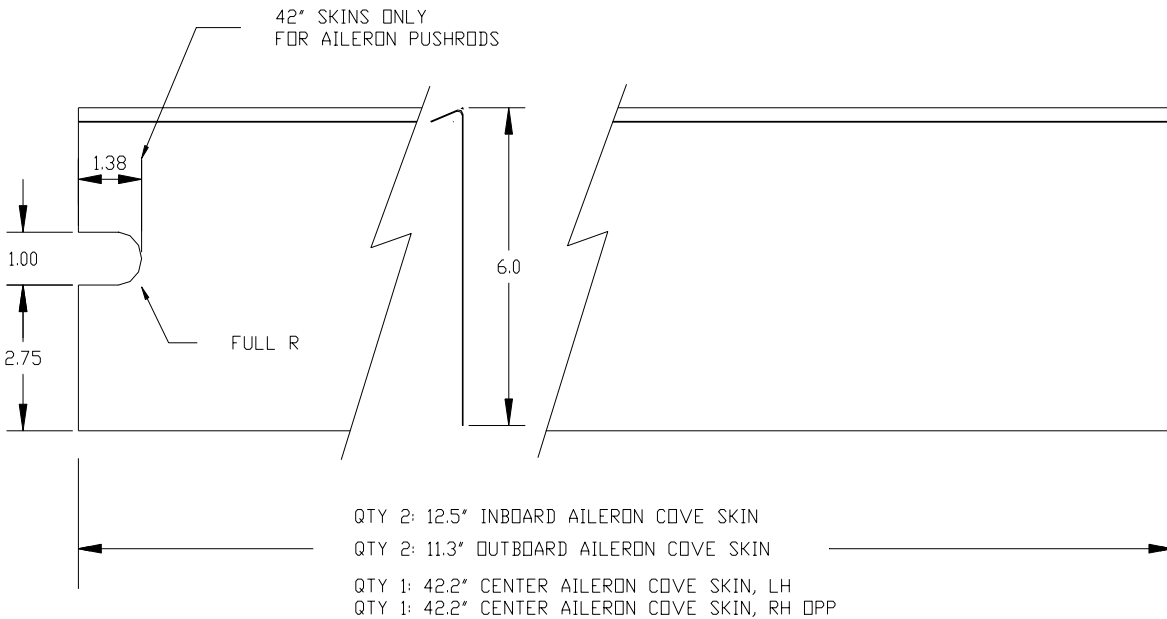
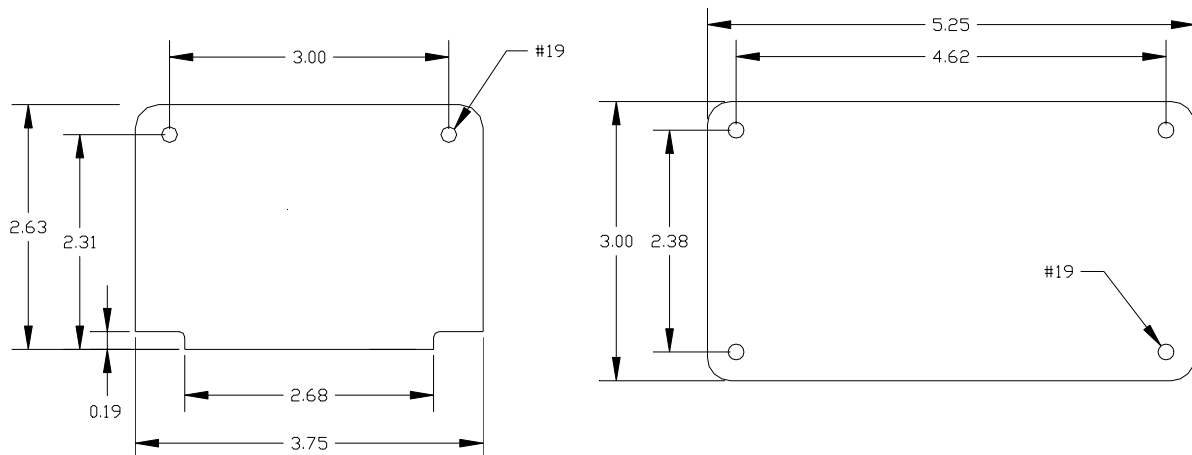


Figure 83: Aileron cove skins

Page 160: Step 79.1 will be added describing the fabrication of the cove access hole covers. Hardware for the covers is already included in your kit. The covers can be made from any .016, .020 or .025 aluminum and are used for the inboard and outboard flap cove skin pulley cutouts. Secure the covers using (12) 450-0211-081 nutclips and (12) AN526-8R6 pan head screws.



The following will be added to Step 80: It is acceptable to trim the aft end of the cove rib to within 2*d from the last skin rivet if it interferes with the doubler. Alternatively, you may sand down the width of the doubler at the location of the rib if necessary.

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The following page and Step will be added:

Page 161.1: Step 80.1: Alternative Method to Bond the Cove Skins to the Wing

After many wing installations, we have found that very small variations in the flap track installation, (even using assembly jigs that set the flap track angles and spacing) can make the flaps tight in the cove. One of the cove rib tabs that is particularly tight is the first tab forward of the trailing edge (the highest one when the wing is in flight attitude.) If this tab is removed, it allows more clearance. Also, we have discovered that a bonded trailing edge, rather than a riveted one, will make for a cleaner installation. You still rivet the lower skin to the cove skin and the first rib tab to the cove skin. We have found the Loctite product H3151 Structural Adhesive P/N 83015 to be an excellent adhesive for the trailing edge. You will need a mixing gun P/N 98472 and some mixing tips.


With the wing upside down on the table, install the flaps and deploy them in and out to see if there are any tight spots that should be addressed. Remove the tab on the cove rib if necessary. The lower trailing edge skin may need to be trimmed as well to provide for an even flap clearance.

Position and fit the cove skins and trailing edge doublers as described in Steps 80 and 81. Make sure you push the lower formed corner of the skin as far forward as possible, which will allow for more rivet room. Drill the lower skin trailing edge and the cove rib tabs, but do not drill the upper skin trailing edge rivets.

Prepare the cove skins for riveting by deburring any drilled holes. Prepare the surfaces for bonding by scuffing up all the bonding surfaces with 36 grit sand paper, and then cleaning with acetone. The bonding surfaces are the inside of the upper skin, both sides of the doubler, and the inside trailing surface of the cove skin.

You will need to clamp the skins and the doublers together with two long straight edges. For best results, these need to be stiff enough to provide a clamping pressure between any c-clamps used to hold the two together. Angle stock or some other stiff and straight bar is preferred. With the wing upside down, the weight of the clamps and bar cannot be too great, otherwise it may pull the bonding edges too far from the desired location. Remember though, the flap clearance is tight, so some deflection (~1/16") of the entire upper skin trailing edge in the upward direction is advised.

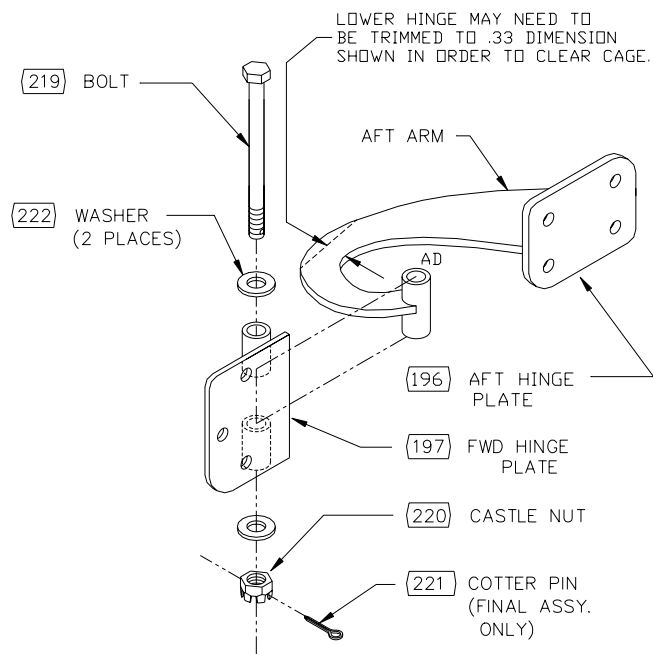
The Loctite has a 35 minute working life and a 3 hour cure at 70 degrees. Lay a small zig zag bead on one of the surfaces, and Cleco the lower skin edges together as well as any of the rib tabs. Insert the trailing edge doubler between the skins and clamp together. After the adhesive has cured, remove the clamps. Then drill one 3/32" rivet hole thru the upper skin and cove skin on the end of each cove skin. This will act as a rip stop. Countersink from the bottom and insert one flush rivet with the head inside the cove and the tail on the upper surface. Squeeze these rivets, don't drive them.

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Page 168: Because the hose clamp is a tight fit on this hose, the last paragraph in Step 83 will be revised as follows: Slide a **7/32"-5/8" hose clamp [99]** over the aluminum elbow, and then push the hose over the elbow nipple as far as it will go (i.e., all the way to the shoulder of the fitting, as shown in the cross-sectional view of Figure 91). Position the hose clamp roughly 5/8" from the end of the hose and tighten it. The lower end of this hose is inserted over the fitting in the header tank.

Page 220: A note will be added stating to use AN507-10R7 screws for the installation of the door hinges into the Shur-lok nuts.

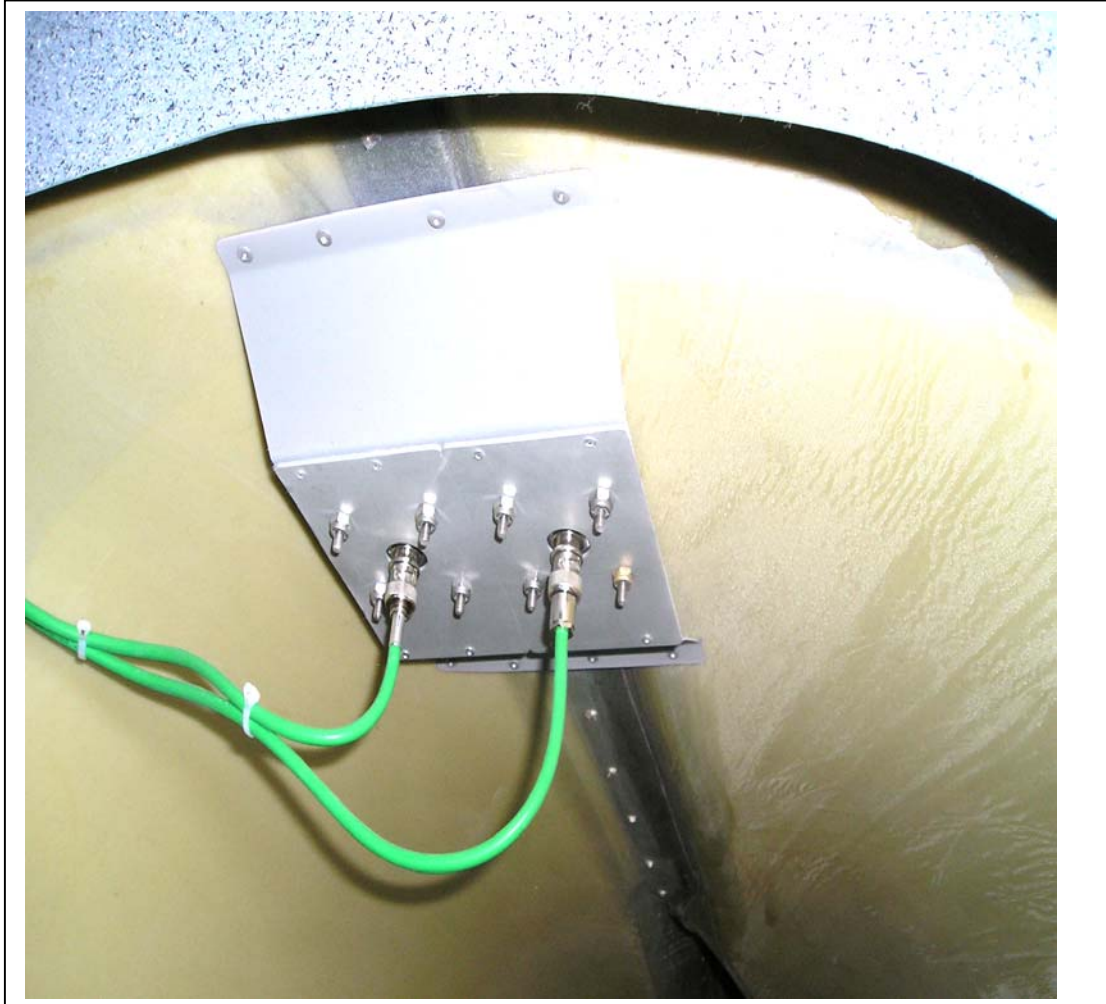
Page 239-242: The lower baggage door hinge has very little clearance to the cage tube. It is acceptable to relieve the arm of the lower hinge in this area as shown in the revised Figure 132 below.



Page 242: A note will be added to the second paragraph stating: Drill the #10 holes perpendicular to the composite shell surface, not perpendicular to the hinge plate. This will ensure that the countersunk screws will be flush to the surface. The hardware used for this installation is also (4) AN509-10R8, (6) AN509-10R10 and (4) AN509-10R11 screws. If you mis-align a screw, it is permissible to slot the holes in the hinge plate slightly to get the screw head flush with the outer surface.


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Page 268: An optional location for the GPS antenna will be given in Step 138. This location is right behind the Bulkhead A on the upper underside of the fuselage shell.




Page 287: A warning note will be added to the window installation regarding Silpruf silicone contamination on the exterior of the plane. You should be sure to tape and paper off any area where you might place your hands while installing the windows. Once silicone transfers from the hands to the exterior, it is very difficult to remove completely and will cause fish-eye problems during painting. We recommend PPG 330 Wax and Grease Remover. Wipe down the contaminated area with a Scotchbrite pad and clean rags two or three times.

In the Window Installation Section, a Baggage Door Window 101-14003-03 will replace the left quarter window 101-14003-01.

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