

# CHAPTER 30 REVISION LIST (Pressurized)



The following list of revisions will allow you to update the Lancair IV 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	Current Rev.#	Action	Description
30-2	PC12	R&R	Edited Fig. 30:i:1.
30-3	PC13	R&R	Added part no.
30-4 thru 30-6	0	None	
30-8 thru 30-13	PC10	R&R	Added part numbers and changed text.
30-13	0	None	
30-14	PC13	R&R	Added part no. to Fig. 30:C:1.



# CHAPTER 30

## BAGGAGE DOOR

### REVISIONS

From time to time, revisions to this assembly manual may be deemed necessary. When such revisions are made, you should immediately replace all outdated pages with the revised pages. Discard the out dated pages. Note that on the lower right corner of each page is a "revision date". Initial printings will have the number "0" printed and the printing date. All subsequent revisions will have the revision number followed by the date of that revision. When such revisions are made, a "table of revisions" page will also be issued. This page (or pages) should be inserted in front of the opening page (this page) of each affected chapter. A new "table of revisions" page will accompany any revision made to a chapter.

### ARROWS

Most drawings will have arrows to show which direction the parts are facing, unless the drawing itself makes that very obvious. "A/CUP" refers to the direction that would be up if the part were installed in a plane sitting in the upright position. In most cases the part shown will be oriented in the same position as the part itself will be placed during that assembly step. However, time goes on and changes are made, so careful attention should be paid to the orientation arrows.

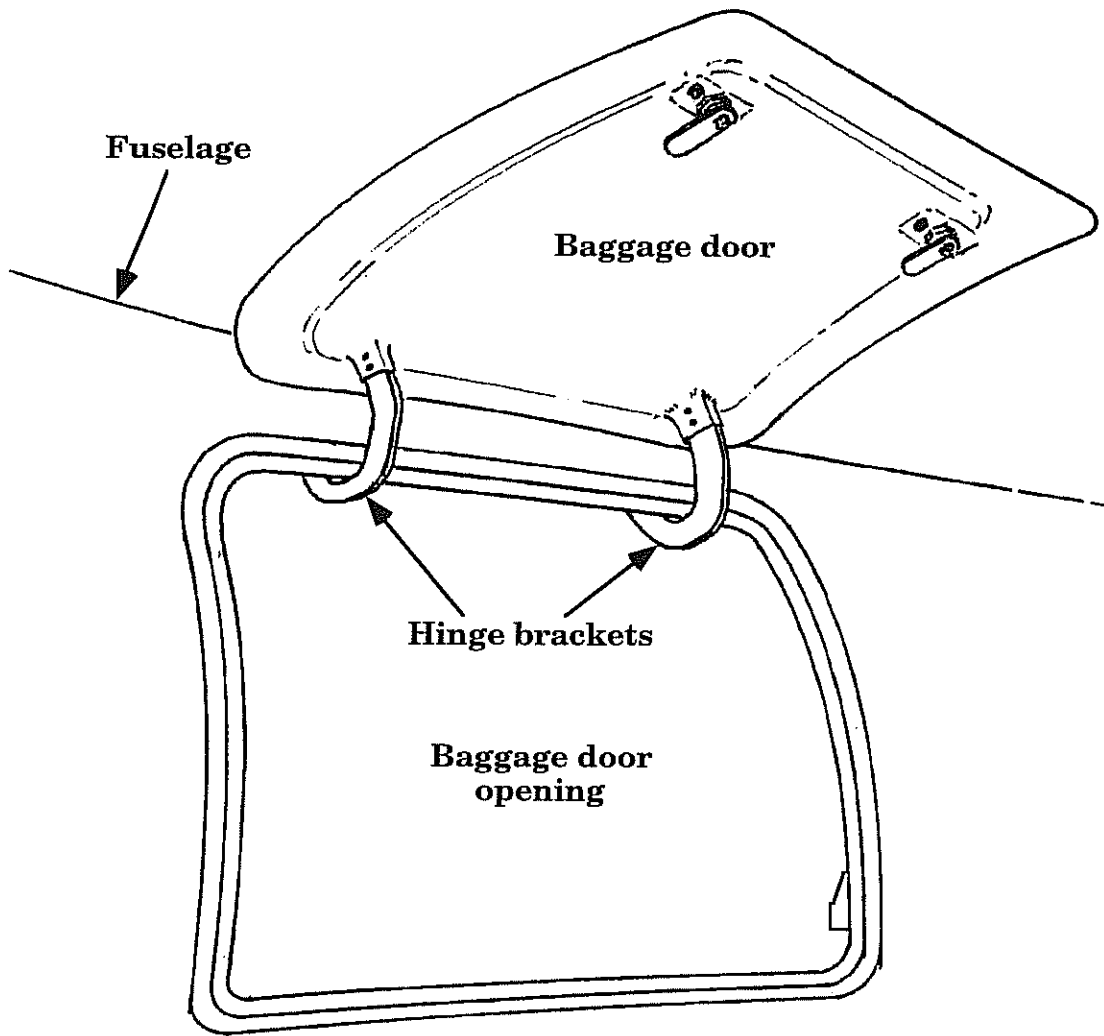
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# 1. INTRODUCTION

The baggage door is hinged by two aluminum brackets with friction created through the use of cupped spring washers within the pivot mechanism. At the bottom of the door, two locks are installed which both secure and lock the door closed.

**Baggage door**  
Figure 30:i:1



## 2. PARTS LIST

- 2 FM347-Rev. A hinge brackets
- 4 AN470AD4-8 rivet
- 4 AN960-4 washer
- 2 AN3-5 bolt
- 8 9713K58 washer, Bellville
- 2 AN310-3 castle nut
- 2 MS24665-132 cotter pin
- 4 MS24694-S7 screw
- 4 AN365-832A locknuts
- 1 346-03 Orkot (for strikers)
- 2 346-02 aluminum pieces (for capture plates)
- 2 346-01 Orkot (for lock mounts)
- 2 DLT-01 lock arm
- 1 DL-01 lock assembly
- 1 DL-02 lock assembly
- 1 PH-125-3x3 phenolic (for hinge mounts)
- 2 Phenolic blocks



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Chapter

REV. PC13/8-26-96

Baggage Door



### 3. CONSTRUCTION PROCEDURE

#### A. FITTING AND HINGING BAGGAGE DOOR

NOTE: The fuselage top should be permanently installed prior to fitting the baggage door.

- A1. Fit the premolded baggage door to the fuselage opening. Lay the door in the appropriate location and sand the door edges down until it fits within the joggle on the fuselage. Notice that there are two joggles around the baggage door area. The baggage door should fit into the shallow, larger circumference joggle. The deeper joggle will be used for a weather seal (see Section C).
- A2. Install the two hinge pivot locations on the fuselage top. These are 1/8" phenolic pieces with 3 BID layed up on each side then drilled (#12 drill) for the two pivot holes. These two phenolic pieces must be aligned parallel with each other. A simple means of insuring the alignment is to use a piece of wood, 10" long with square ends. Clamp or temporarily glue the two phenolic pieces to the ends of the wood alignment tool then set the assembly in position. Use quick set glue to hold the phenolic pieces in place and add the 3 BID to the exterior surfaces. When cured, pop the wood alignment tool off and add the 3 BID to the inner sides of the phenolic. Then drill the #12 holes as shown in Figure 30:A:1, their location is important for proper movement of the hinge/door assembly.

Note: Since core placements can vary slightly, it is sometimes necessary to make a small core cut to clearance area for the phenolic pivot pieces. If so, trim the core back and reseal the area with 2 BID, then install the phenolic pieces.



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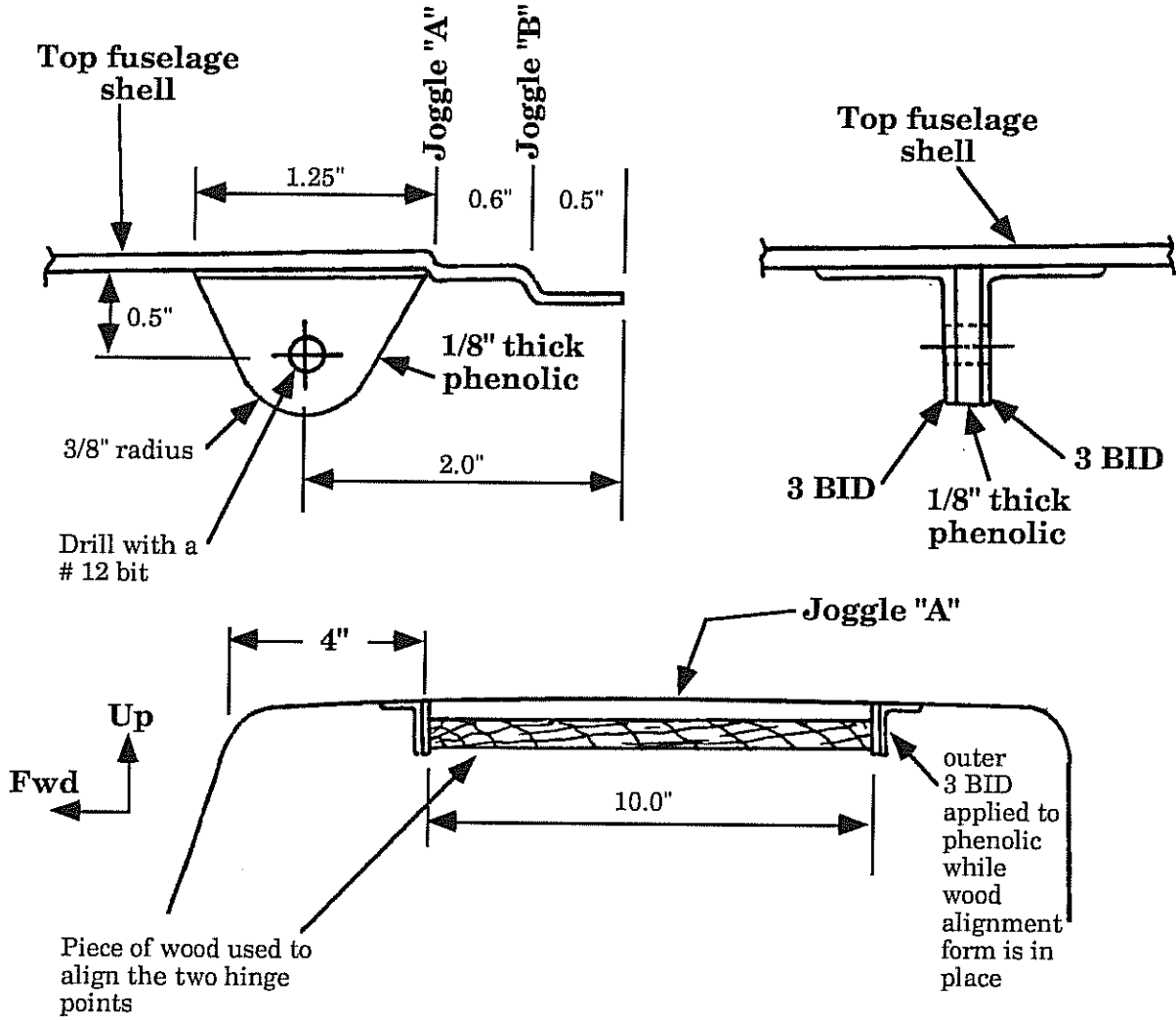
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Baggage Door



# Baggage door pivot points on fuselage

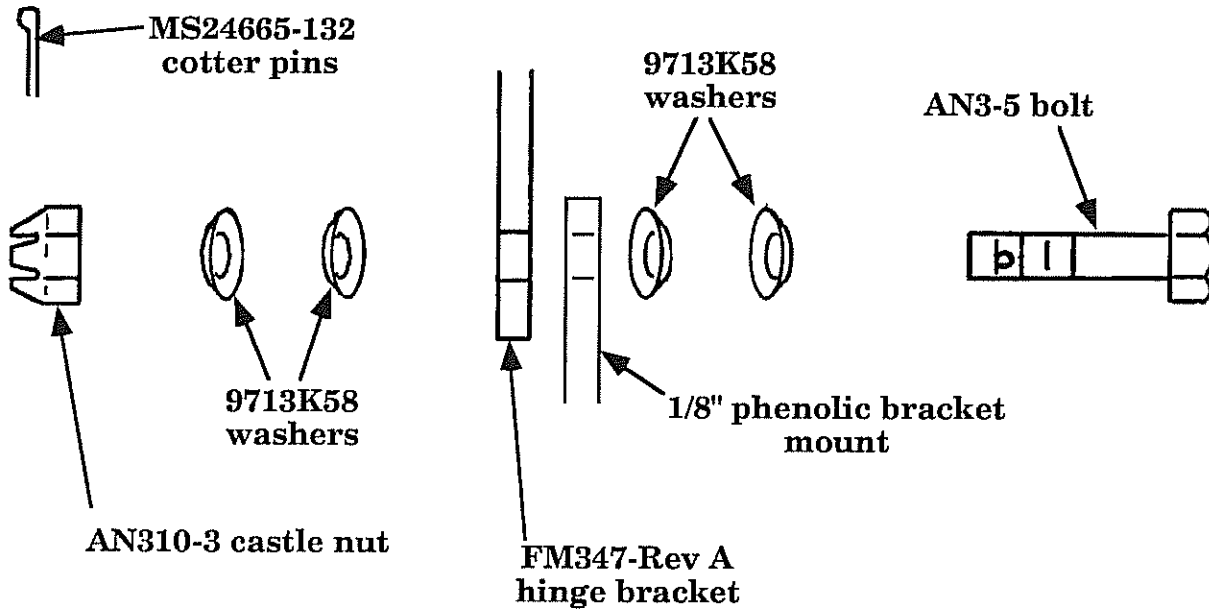
Figure 30:A:1



- A3. Install the hinge pieces (FM347-Rev A) onto the phenolic mounts. They can be installed on either side of the phenolic pivot points. Tension on the pivot bolts, which then compresses the cupped spring washers (9713K58), will easily provide friction to hold the door open. But for now, set a little tension so the the hinge pieces will stay wherever you rotate them to.

### Hinge bracket, pivot assembly

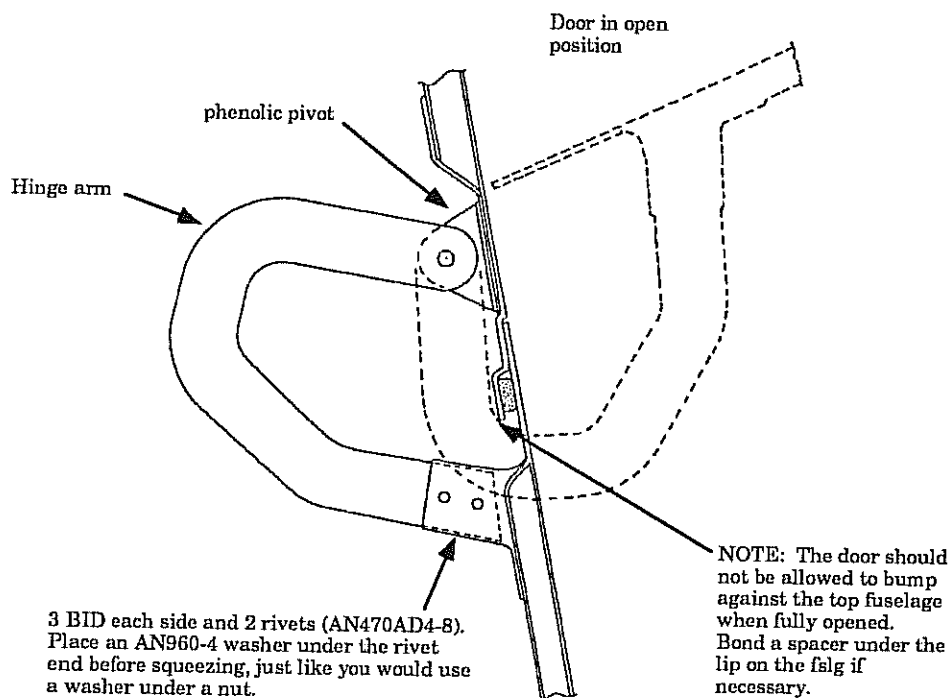
Figure 30:A:2



- A4. Use duct tape to temporarily hold the baggage door in position on the fuselage.
- A5. Align the hinge brackets to the baggage door. From the inside of the aircraft, rotate the aluminum hinge brackets outward until they contact the inner surface of the baggage door.
- A6. Attach the hinge brackets to the baggage door. With their position set, lay 3 BID onto each side of the bracket. Extend the 3 BID about 1" onto the door and up about 3/4" onto the aluminum hinge brackets. Allow to cure then remove the pivot bolts and take the baggage door off, leaving the hinge brackets attached to the door.
- A7. Set two AN470AD4-8 rivets into the hinge brackets to secure to the door. This is a backup and will secure the hinge brackets onto the door.

### Securing hinge brackets to baggage door

Figure 30:A:3



- A8. Sand and smooth the BID as required. This will complete the hinge assembly. When installing the door, tighten the pivot bolts (against the cupped spring washers) to achieve a movement of the door which is smooth and provides adequate friction to hold the door open.



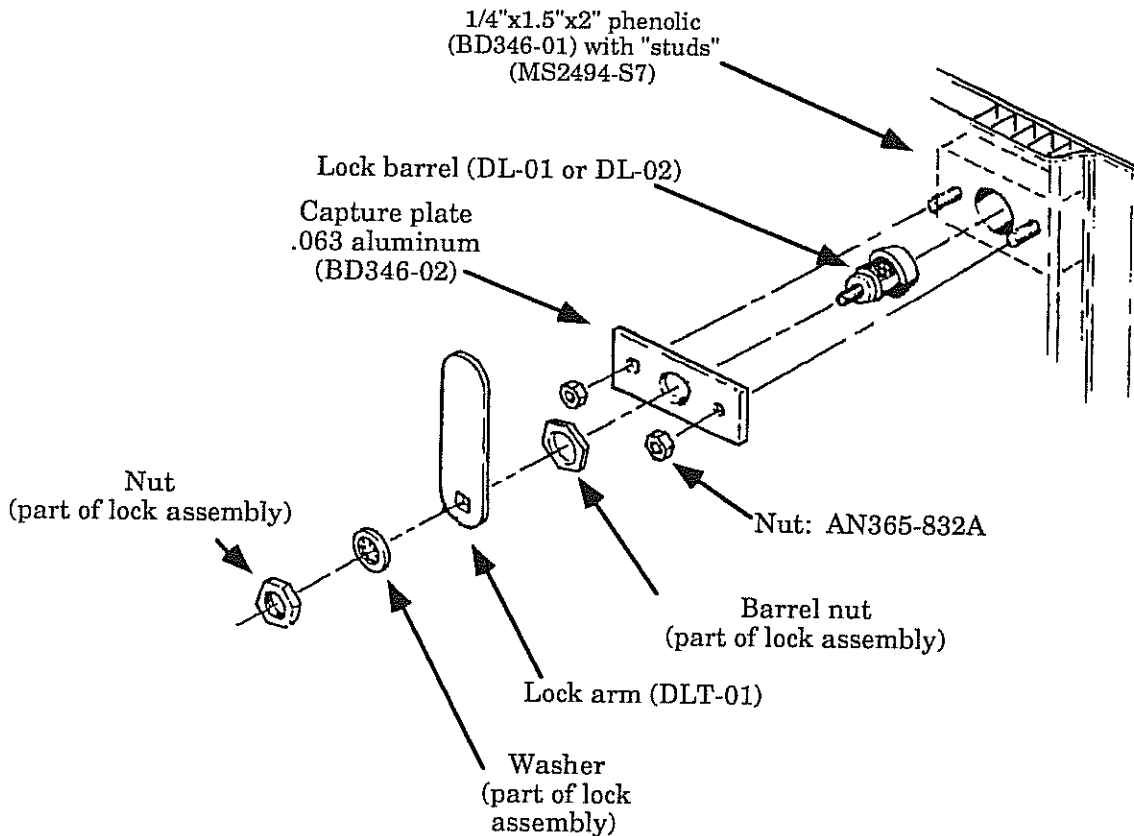
## B. BAGGAGE DOOR LOCKS

The baggage door locks double as the latches. They both pull the door down tight against the seal and lock it at the same time. Notice that there are two types of lock, DL-01 and DL-02. Use the DL-02 as the fwd lock.

- B1. Prepare the baggage door skin for the locks. Locate the proper position for the locks and clear the core away to accept the 1/4" phenolic blocks which will mount the lock barrels.

### Baggage door lock assembly

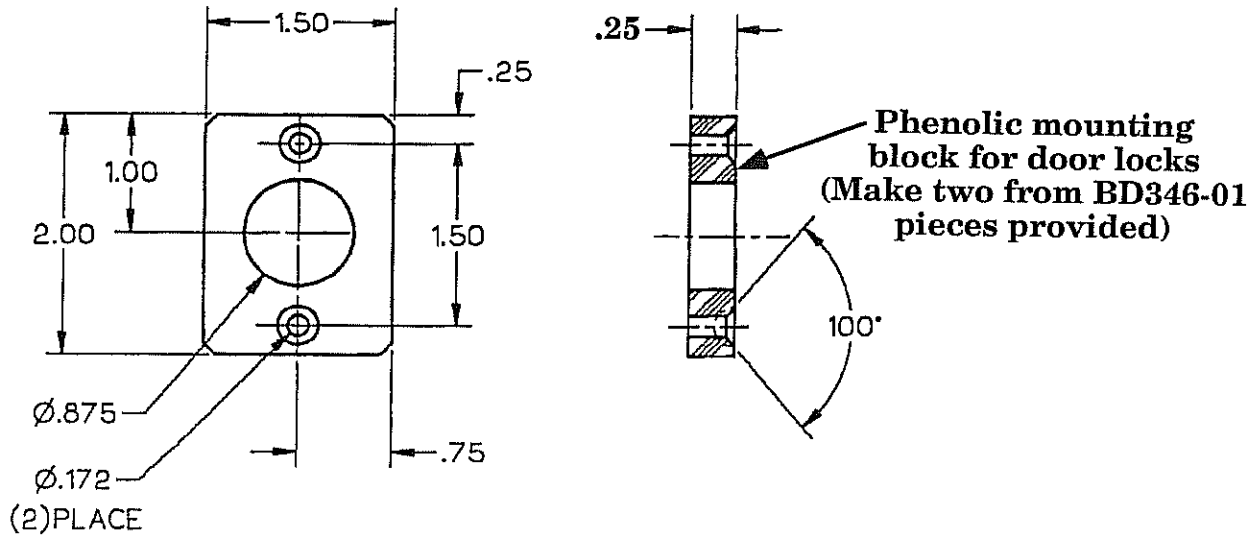
Figure 30:B:1



- B2. Fabricate the mounting blocks for the lock barrels from the 346-01 phenolic pieces provided. These 1/4" phenolic blocks will serve as the primary attachment for the locks. Into each mounting block, two "studs" are set using the standard method of potting machine screws in place with epoxy/flox. With this approach, the locks can be nearly flush fitted and can be removed from the inside as well. A "capture plate" (aluminum) will secure the locks into these phenolic blocks.

**Baggage door lock, phenolic mounting block**

Figure 30:B:2



- B3. Make two capture plates for the locks from the 346-02 aluminum pieces provided. These are simple aluminum plates with three holes. The center hole is made to incorporate two flats which will prevent the lock barrel from rotating. To make this hole, first drill a 5/8" hole and open the two ends as shown. Use the barrel to trial fit the hole as you enlarge it. Then drill the two small holes to align with the "studs" which were inserted into the phenolic block.

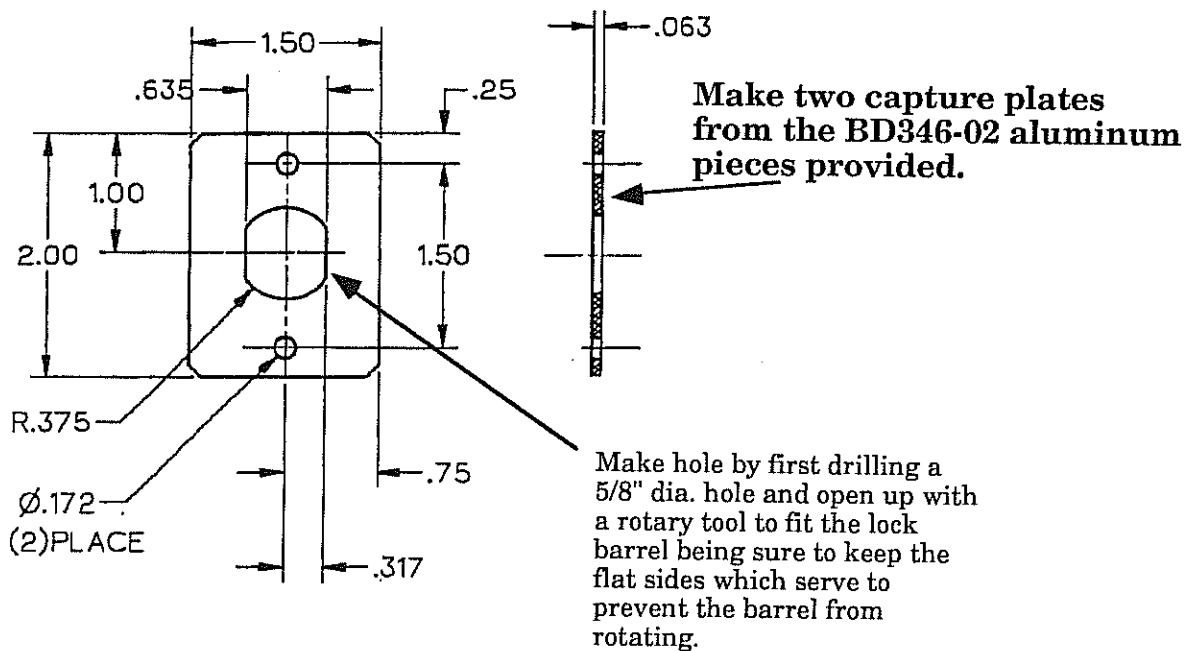
Note hole "flats" orientation:

\*If you want the locks to both "open" in a counterclockwise rotation, then the "flats" should be orientated vertically.

\*\*Orientating the "flats" horizontally will cause the locks to open with a clockwise rotation of the key.

### Lock aluminum capture plate

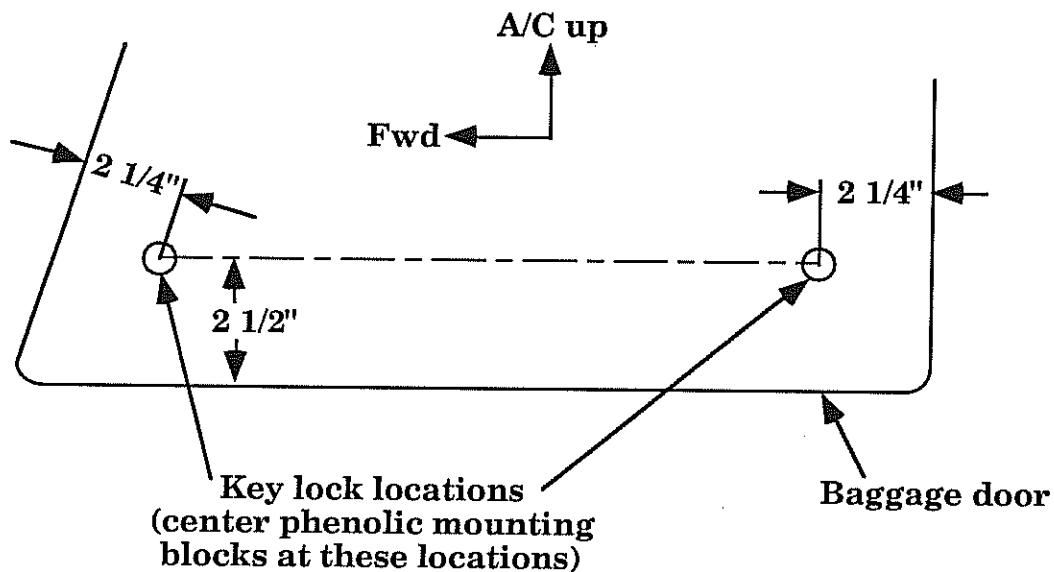
Figure 30:B:3



- B4. Locate and drill for the lock points in the baggage door skin. Refer to Figure 30:B:4. Clean the core away so that the mounting block fits into position against the outer skin of the baggage door.
- B5. Install the phenolic mounting blocks into the door skin. Center the hole in the phenolic with the hole in the door skin. Use epoxy/flox to set the phenolic pieces.

**Door lock locations**

Figure 30:B:4



- B6. Using micro, set the lock barrel (DL-01 or DL-02) in position. Either cover the lock barrel end with release tape or wax it. Then pack some micro around the perimeter of the hole and press the lock barrel into the mounting block and in final position in the door. This will create a micro wedge around the perimeter of the phenolic block and create a custom fit for the tapered portion of the lock barrel.

NOTE: You'll notice that one lock (DL-01) allows you to remove the key in both positions while the other lock (DL-02) only allows for key removal when locked shut. The DL-02 lock should be placed in the fwd position. In this way, you will be less likely to take off with the baggage door fully unlocked since the key would be stuck in the fwd lock (unless it is locked).

- B7. Install the aluminum capture plate. This holds the lock barrel in position.
- B8. Attach the DLT-01 lock arm. Some models of locks require a small bushing be pressed into the arm, if required, press this square type bushing into position in the arm and then attach the arm to the lock barrel.
- B9. Fabricate and position the lock striker. This is a wedge of Orkot that is positioned along the side of the fuselage joggle and made to align with the lock arm. The ramped side of it allows for the lock and lock arm to snug up when closed. This is a bit of a trial fit.

With the baggage door closed, rotate the lock to the closed position and measure the distance (or thickness) required for the striker. It should be about 5/8" - 3/4" but will vary based on your installation.

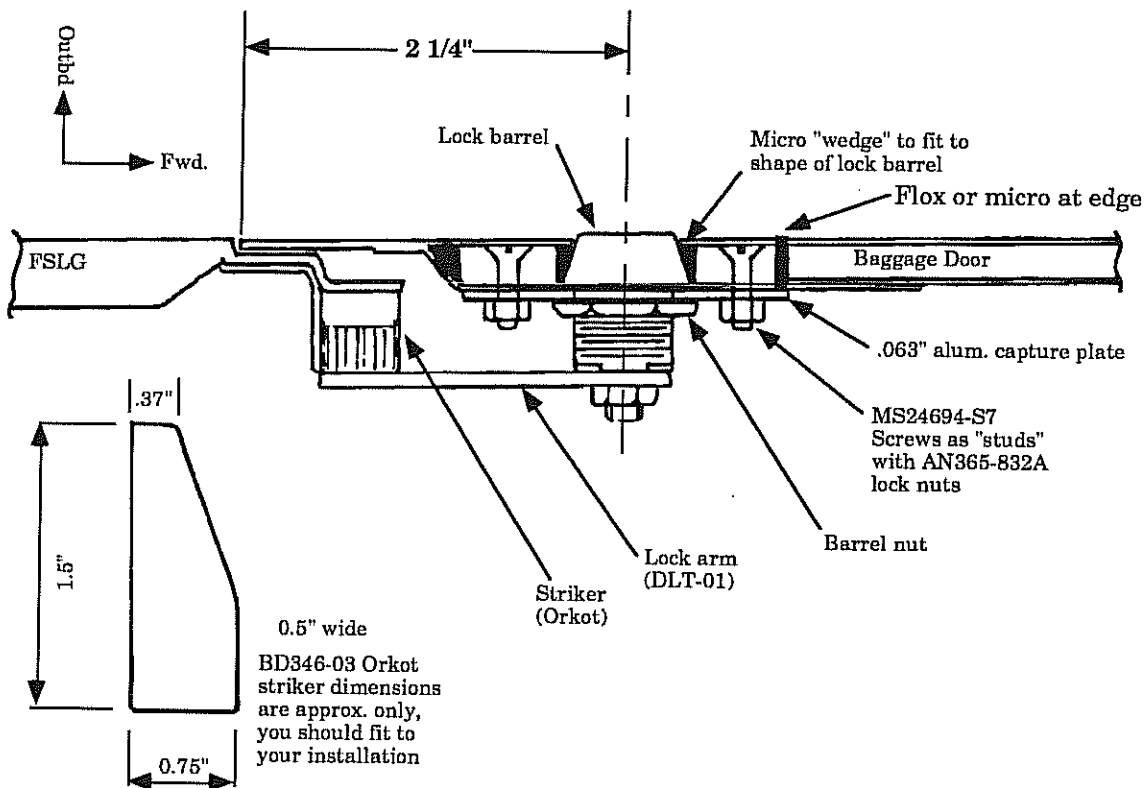
Make your striker pieces approximately like that illustrated, so that the ramp provides a smooth engagement of the lock arm and enables it to snug the baggage door up against the fuselage. Use the BD346-03 Orkot pieces to fabricate the strikers.

With the striker sized and located properly, epoxy it in position and add a 3 BID tape along the side (away from the door) lapping about 1" onto the fuselage. Be sure to scuff the Orkot up with coarse 40 grit sandpaper prior to bonding & taping.

If adjustments are required, you can always sand the Orkot strikers down a little to relax the fit (be sure to finish off with a fine 360 grit to keep it smooth) and/or bend the lock arm to tighten or relax the fit.

# Plastic baggage door strikers

Figure 30:B:5



## C. WEATHER SEAL INSTALLATION

As a final seal, the deeper portion of the joggle at the door can be utilized for installation of any number of typical sponge type seals. The seal material should be approx. 1/4" thick and quite soft. If it were too firm it would make it difficult to close the door fully. We've used 1/4" wide, soft foam which is available in your local hardware store. NOTE: By adding a piece of phenolic block under each hinge arm, the door will stop short of chipping the paint.

### Weather Seal

Figure 30:C:1

