REVISION LIST

CHAPTER 14: CENTER CONSOLE

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 shows and "R" to remove the pages.

PAGE(S) AFFECTED	REVISION # & DATE	ACTION	DESCRIPTION
14-1	0/02-15-02	None	Ccurrent revision is correct
14-2	1/09-18-02	R&R	Part # correction
14-3 through 14-7	0/02-15-02	None	Current revision is correct
14-8	1/09-18-02	R&R	Corrected Fig.14:C:1
14-9 through 14-12	0/02-15-02	None	Current revision is correct
14-13	1/09-18-02	R&R	Corrected Fig.14:G:1
14-14	0/02-15-02	None	Current revision is correct
14-2	2/06-30-04	R&R	Added instructions and photo.
14-8	2/06-30-04	R&R	Corrected seat belt alignment piece.
14-12	2/06-30-04	R&R	Added instructions and two photos.
14-1	3/12-15-04	R&R	Updated table of contents with page numbers.
14-1	3/12-15-04	R&R	Updated parts list.
14-6	3/12-15-04	R&R	Added text dexcribing vertical clearance.
14-12	3/12-15-04	R&R	Corrected template by adding measurements.
14-13	3/12-15-04	R&R	Updated rivets.
14-1 thru 14-7	4/09-30-06	R&R	Updated drawings for new center console.
14-10	4/09-30-06	R&R	Removed dump valve cover
14-11 thru 14-14	4/09-30-06	R&R	Updated drawings and photos for new center console.

Chapter 14: Center Console

Contents

1. INTRODUCTION

The center console serves several different functions. It is an arm rest, it supports the seats, it supports the instrument panel, and many others. The fuel selector valve installs in the console. It also contains a glove box. The pages with changes reflect drawings or photos of the new console.

Keep in mind when assembling the cockpit section that as much as possible we are trying to seal from the outside. The center console and the seats are intended (as much as possible) to seal the cockpit from the air that enters the gear well. The barrier from the elements is formed by the seat pan and the center console.

Note:

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

2. PARTS LIST

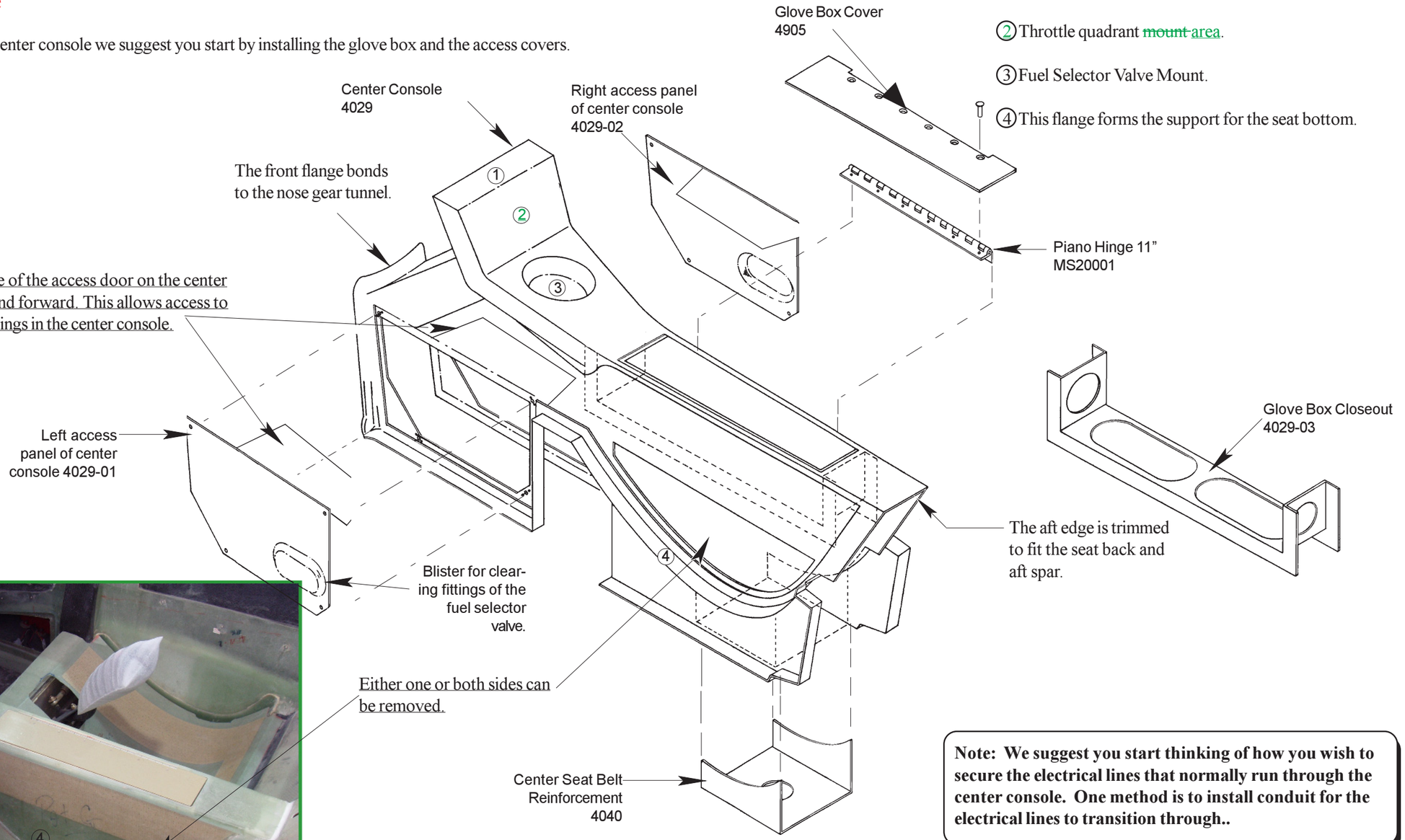
#	PART NO. (P/N)	QTY	DESCRIPTION	OPTIONAL ITEM *(not included with kit)*
CENTER CONSOLE				
1)	4029	1	Center Console	
2)	4029-01	1	Access Panel, Left	
3)	4029-02	1	Access Panel, Right	
4)	4029-03	1	Glove Box Closeout	
5)	4040	1	Center Seat Belt Reinforcement	
6)	4905	1	Glove Box Cover	
7)	MS20001	1’	Hinge, Piano 1’	
8)	K1000-08	3	Nutplate	
9)	AN426A3-4	18	Rivets	
10)	MS24693-S51	3	Screws, Machine	
FORWARD ACCESS PANEL				
1)	K1000-08	8	Nutplate	
2)	AN426A3-5	16	Rivets	
3)	AN525-832-R6	8	Screw, Pan Head	
DUMP VALVE MOUNTING				
1)	4830	1	Guard, Dump Valve Mounting	**Yes
1)	AN837-4D	1	Fitting, Bulkhead	
2)	AN822-4D	1	Fitting, Elbow	
3)	AN826-4D	2	Fitting, Tee	
4)	AN818-4D	2	Nut	
5)	AN924-4D	1	Nut, Check	
6)	AN819-4D	2	Sleeve	
7)	B-42XHF2-BKB	1	Valve, Dump	
8)	AN960-916	1	Washer, Flat	
FUEL SELECTOR VALVE				
1)	3K146	4	Bolt, Allen	**Yes
1)	AN3-3A	4	Bolt, Undrilled	
2)	K1000-3	4	Nutplate	
3)	MSC-34	8	Rivets, Pop	
4)	EFS 25-2-2B-M	1	Valve, Fuel Selector for Lycoming 540	**Yes
5)	EFS25-20D2-4B2M	1	Valve, Fuel Selector for Continental 550	**Yes
6)	AN960-10	4	Washer, flat	

3. CONSTRUCTION PROCEDURE

A. Center Console

Prior to installing the center console we suggest you start by installing the glove box and the access covers.

Center Console Exploded View
Fig 14:A:1



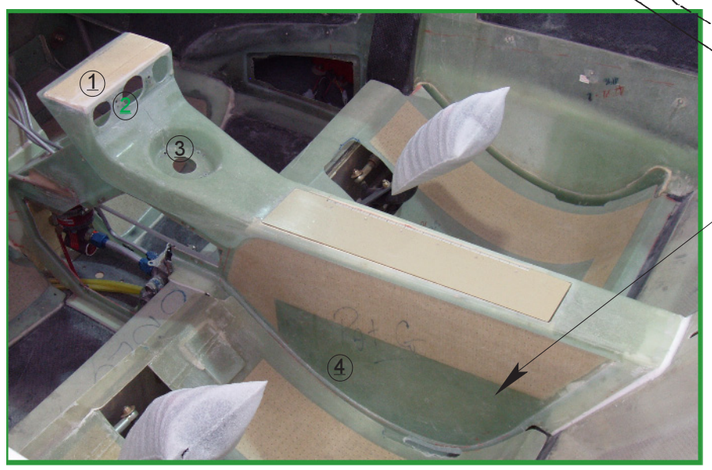
L E G E N D

① The upper horizontal surface supports the instrument panel.

② Throttle quadrant ~~mount~~ area.

③ Fuel Selector Valve Mount.

④ This flange forms the support for the seat bottom.

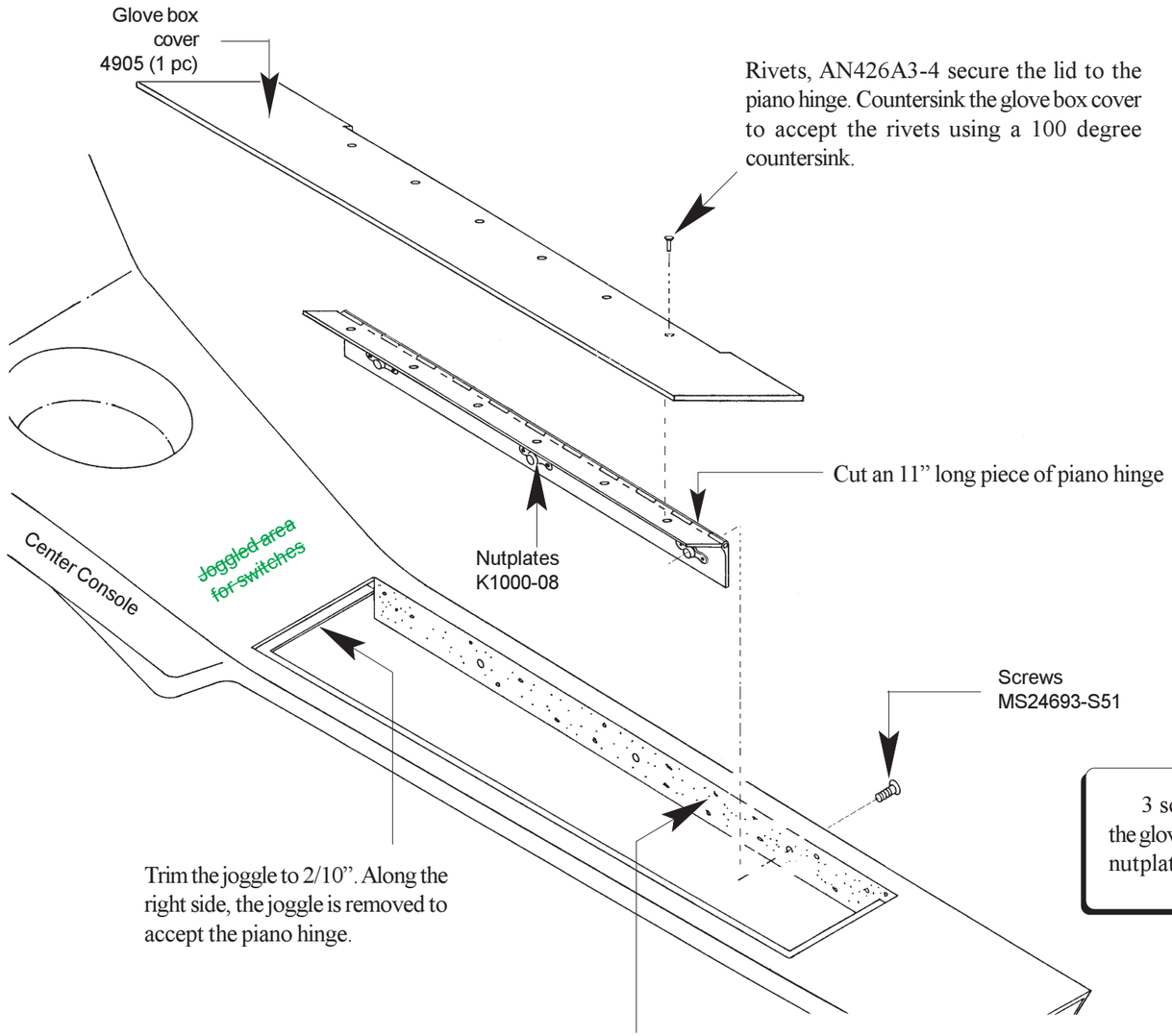


Note: We suggest you start thinking of how you wish to secure the electrical lines that normally run through the center console. One method is to install conduit for the electrical lines to transition through..

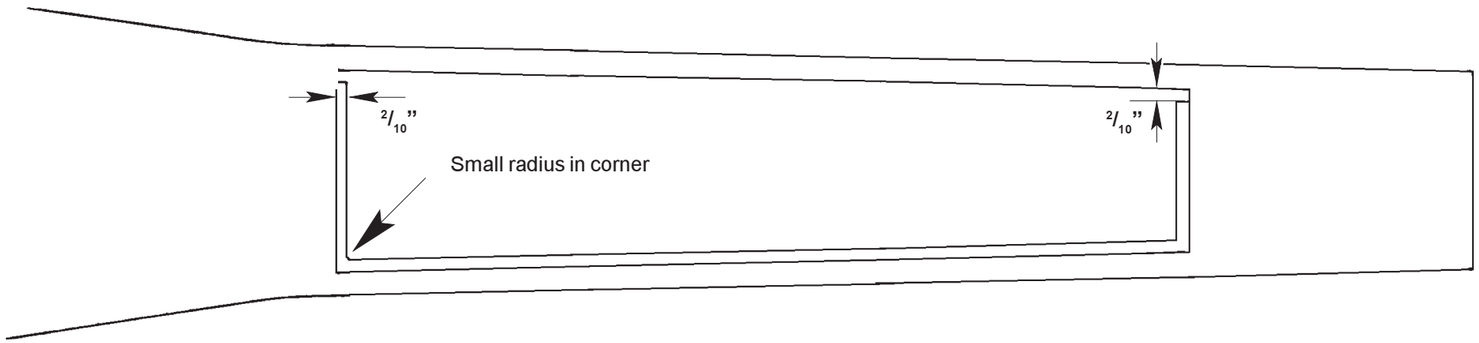
Glove Box Exploded View
Fig. 14:A:2

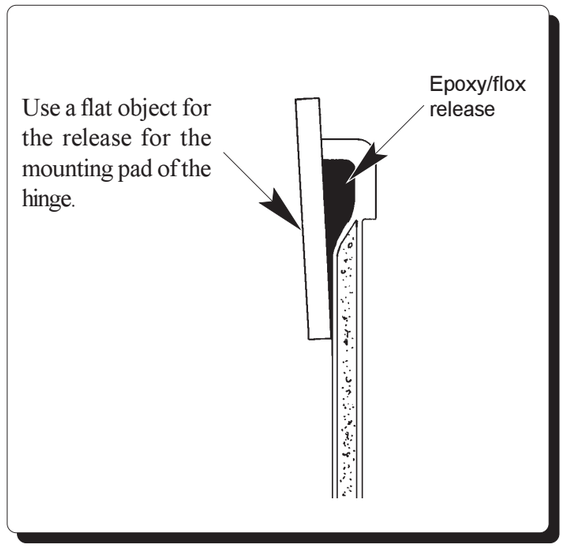
Glove Box

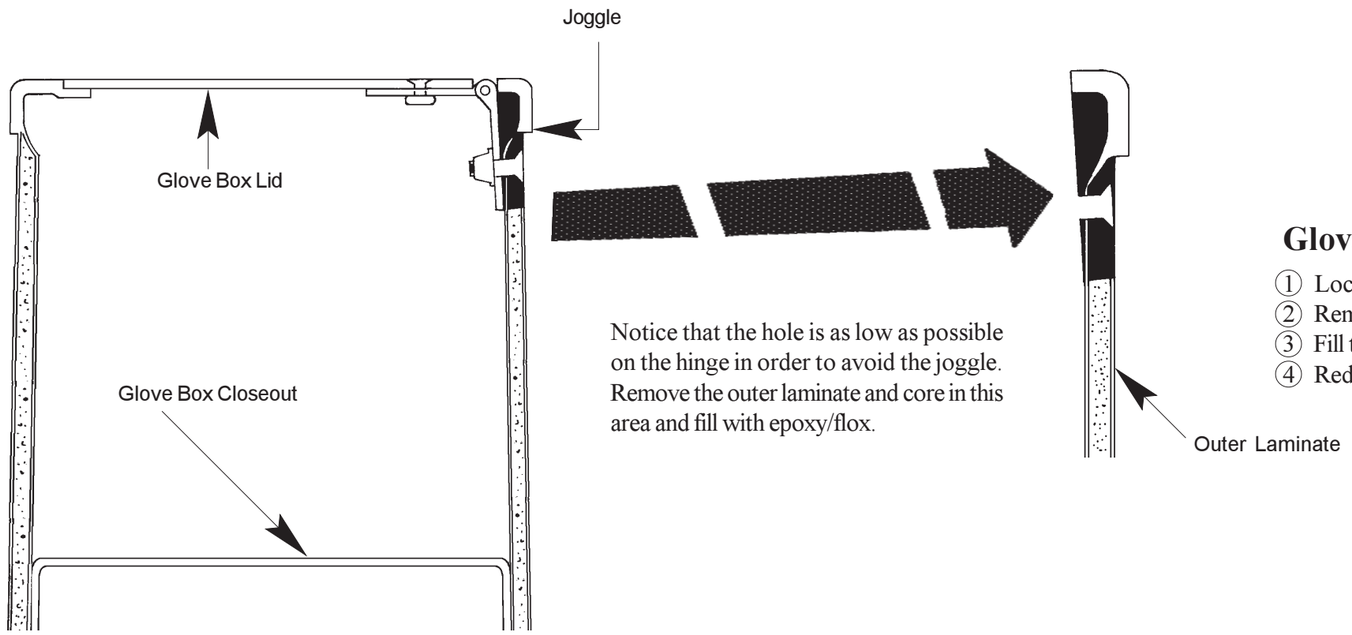
You don't have to install the glove box, however, if there is room, we find it real handy. All parts except the latch are included in the kit. KCI carries a Hartwell latch that works. In selecting a latch, consider how you plan to finish the glove box. Some options are covering the lid with upholstery or a nice wood laminate. Here is your chance to be creative!



Glove Box Cross Sections
Fig. 14:A:3



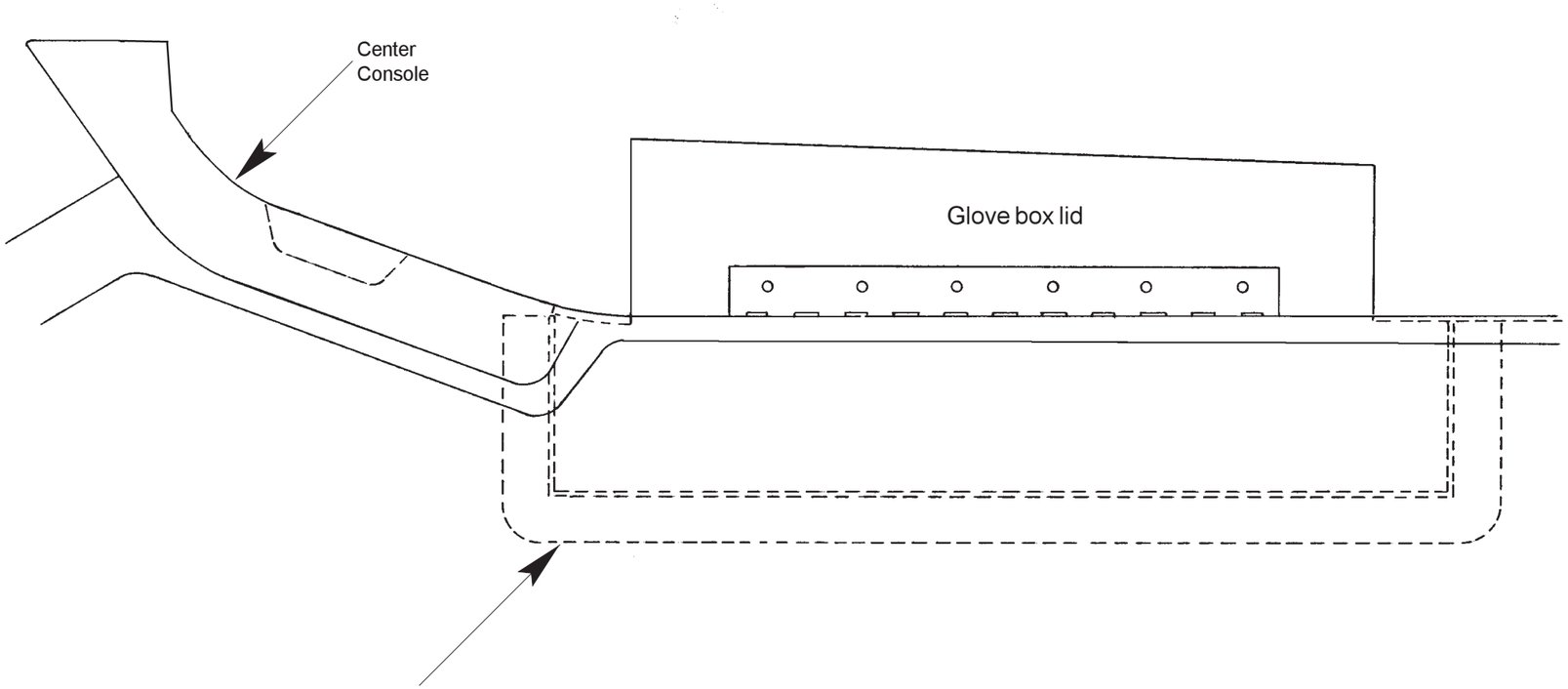




Glove Box Lid

1. Locate and drill the hole.
2. Remove the outer laminate and core around the hole.
3. Fill the section with epoxy/flox.
4. Redrill the hole and countersink for screw.

Glove Box Closeout Installation
Fig. 14:A:4



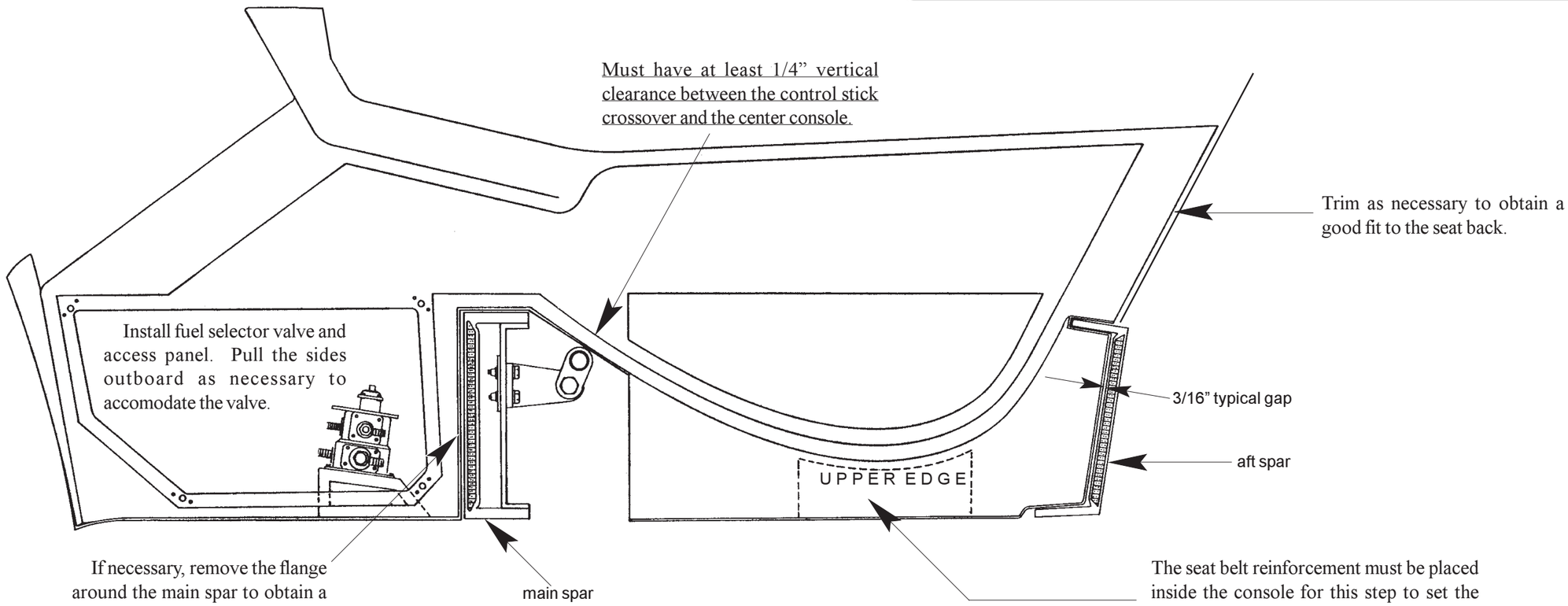
Center the Glove box closeout on the opening. Bond in place using epoxy/flox.

B. Fitting the Center Console

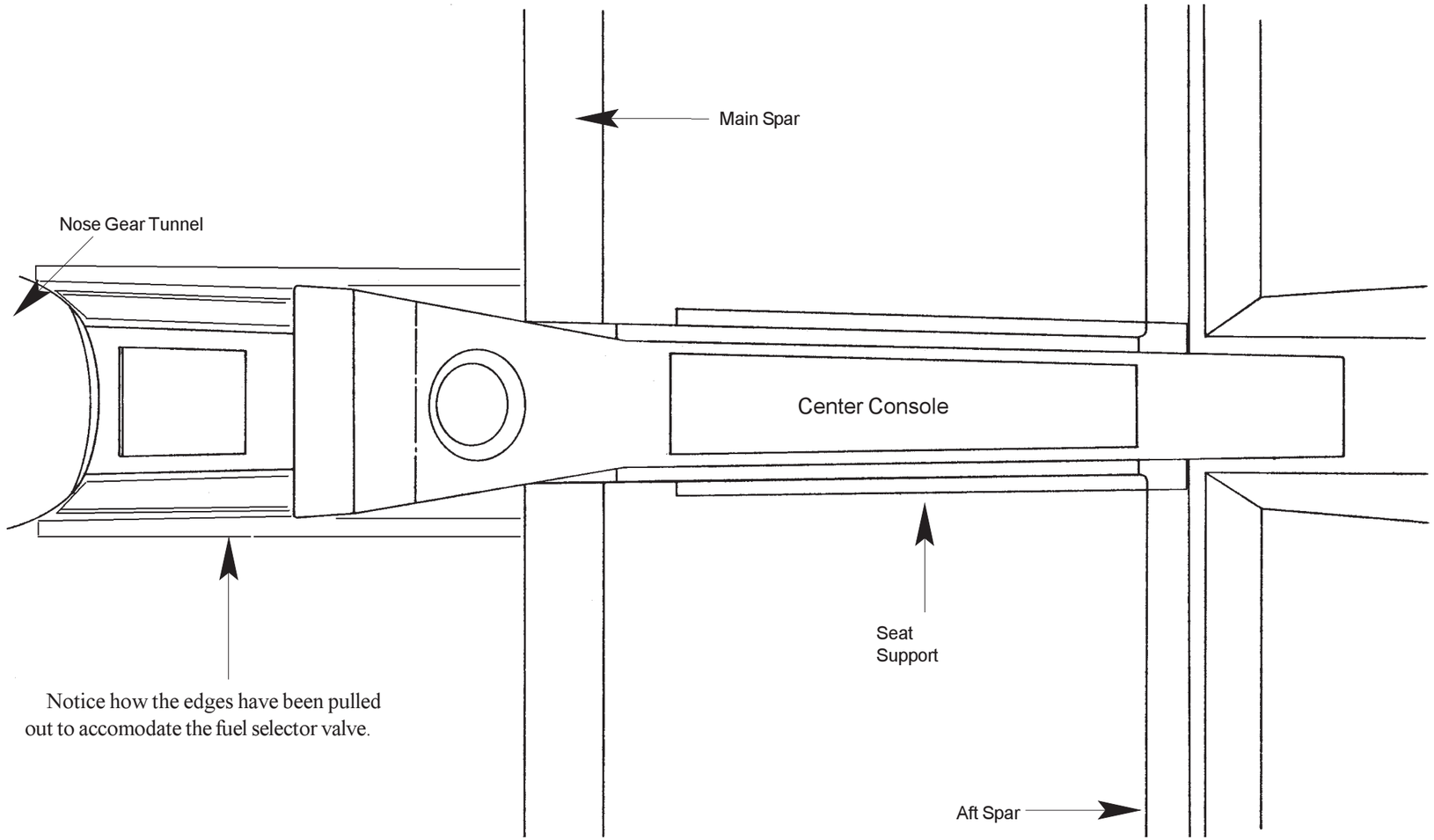
Fitting the center console is a gradual process of installing-removing-trimming (repeat) to get a nice fit. When installing the center console the aft end is installed into the aft spar and then the front is lowered in place. At first it will probably not even fit down in between the spars until some material is trimmed off the aft end where it fits up against the seat back. Carefully trim the center console as you obviously want a nice fit. The center consoles are built with an allowance for variation from aircraft to aircraft. You may see 3/16" gap between the nose gear tunnel and console and a similar amount between the aft end and the aft spar. The fuel selector valve should be mounted for fitting the center console. Also install the access panels. This will insure that the fuel selector valve will fit inside the console.

Fitting Center Console (and Seat Belt Attachment)
Fig. 14:B:1

Note: Remove the hydraulic lines that run through center console for this step.



Fitting Center Console
Fig. 14:B:2



C. Seat Belt Reinforcement

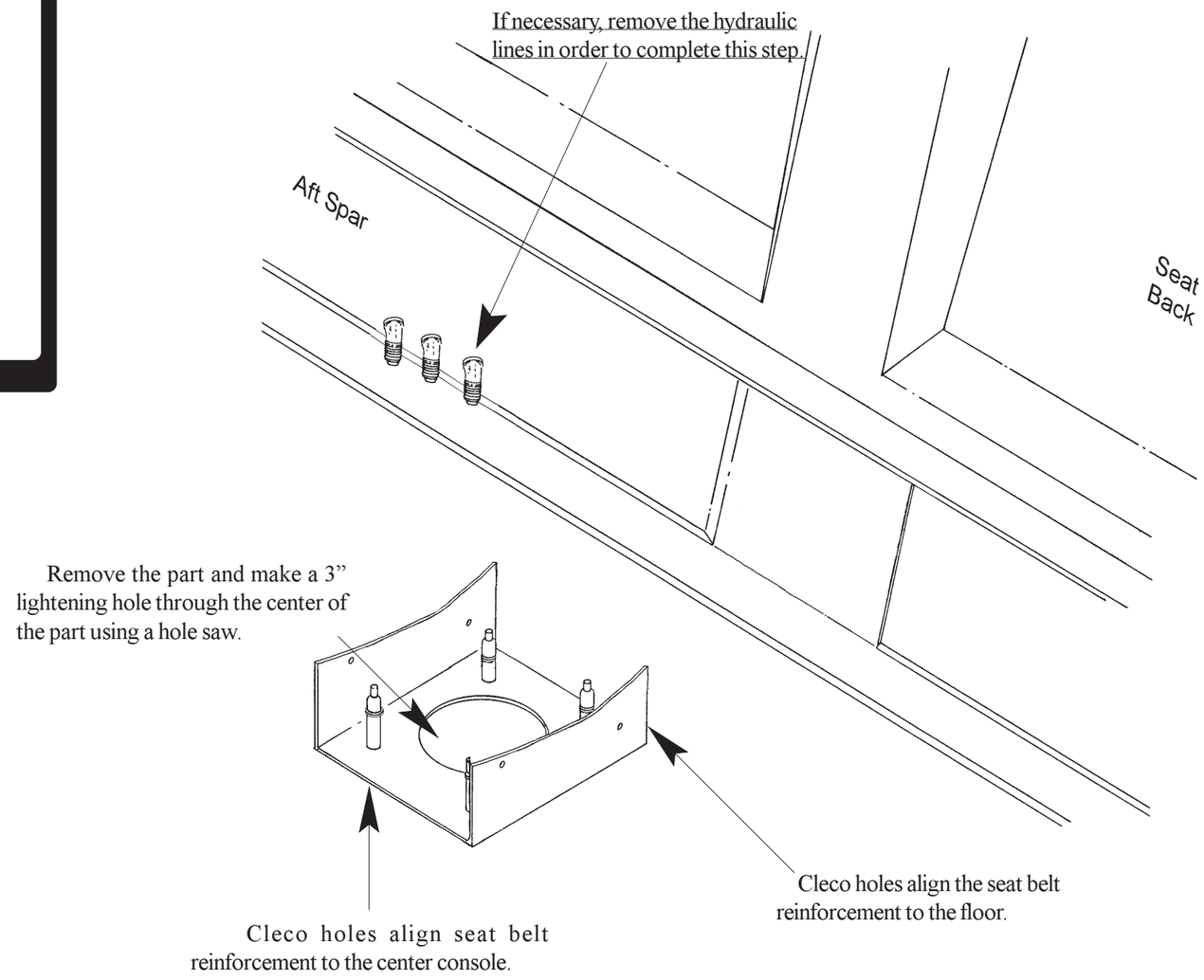
Once the center console and the seat belt reinforcement are aligned:

1. Drill cleco alignment holes through the center console into seat belt reinforcement.

2. Drill cleco holes through the seat belt reinforcement into the floor.

The outboard faces of the seat belt reinforcement will bond to to the center console. Refer to section H.

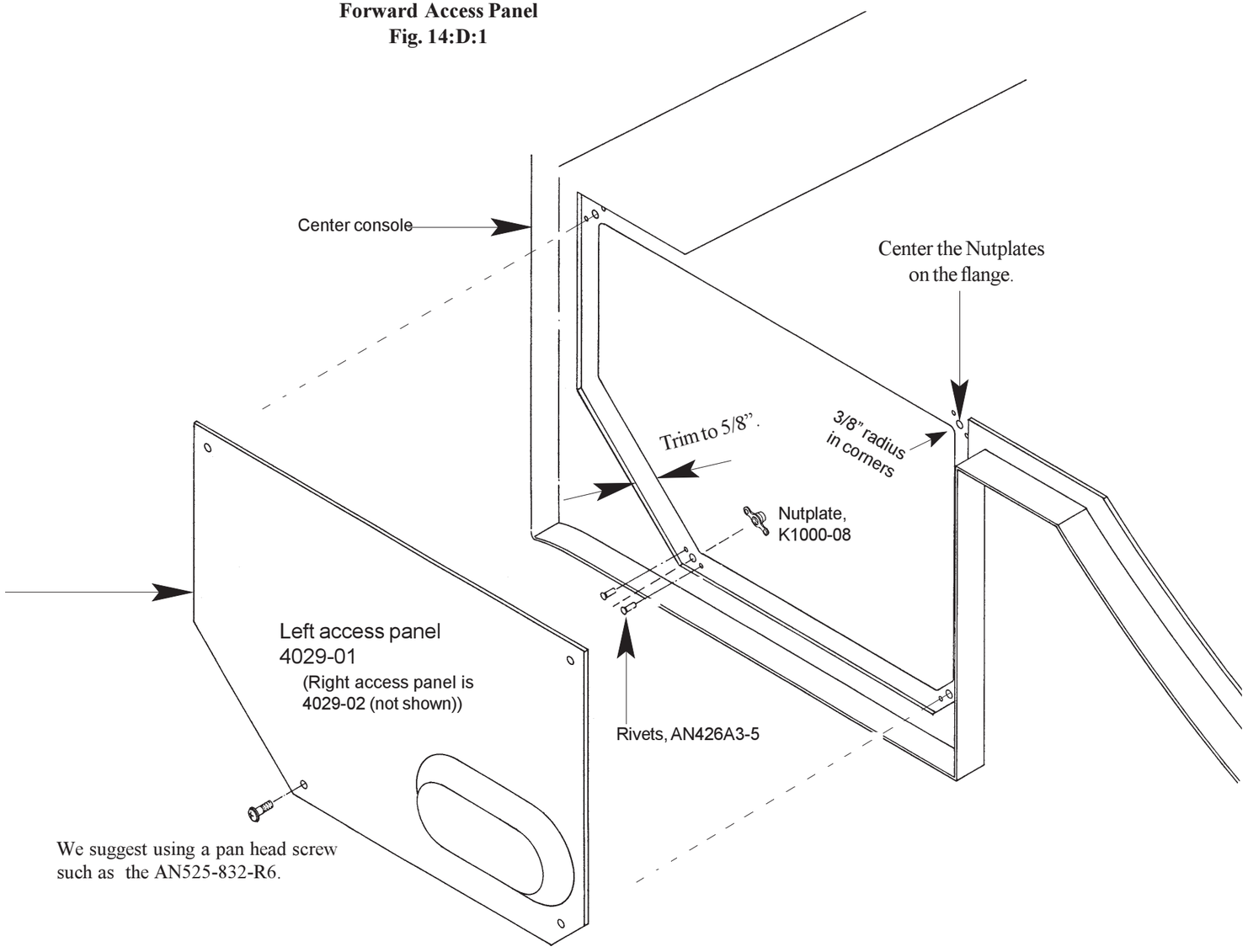
Bonding Seat Belt Reinforcement
Fig. 14:C:1



D. Forward Access Panel

The forward access panel of the center console allows easy access to the fuel boost pump, marker beacon antenna and the fuel selector valve.

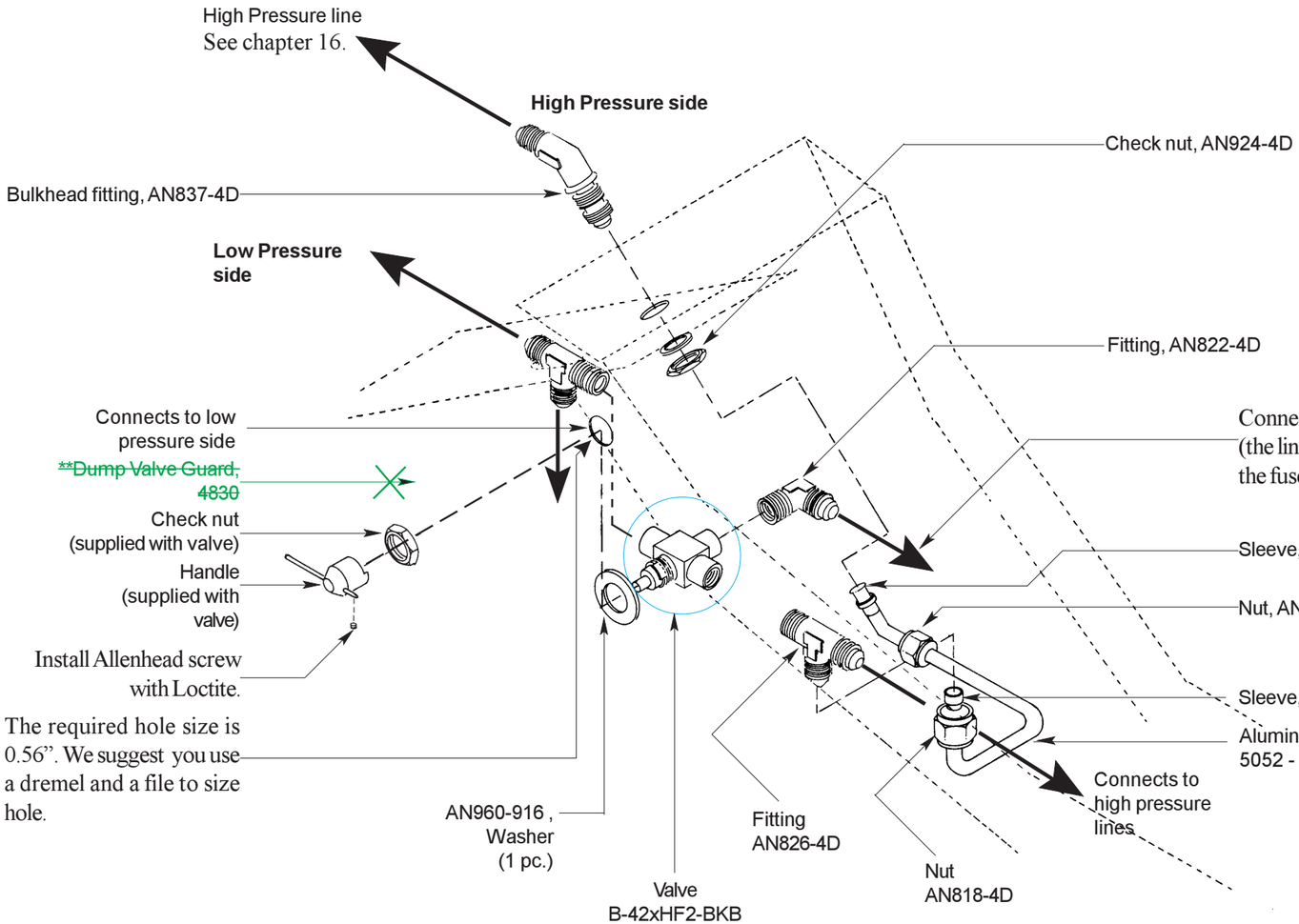
Forward Access Panel
Fig. 14:D:1



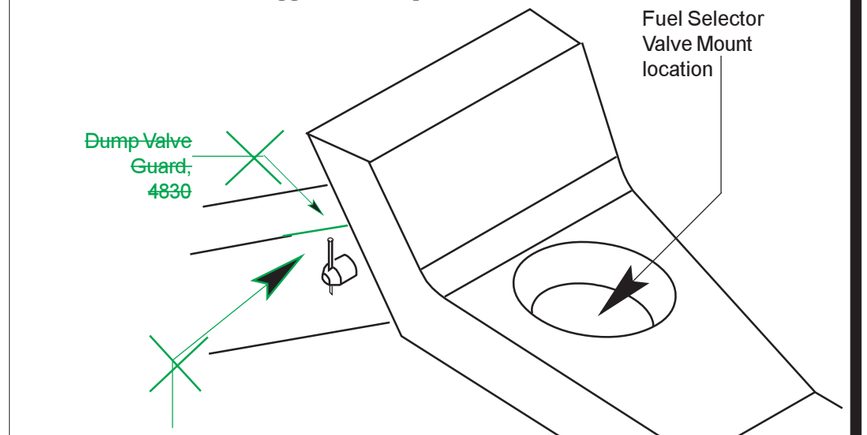
Fit the forward access panel so it fits nicely into the joggle. Exactly how much to trim largely depends on personal preference and how you plan to finish the panel. For example if you plan to wrap the panel with leather, you should trim the panel to get 1/8" clearance all around. You may want to simply trim to an exact fit for now and trim as required later during upholstery.

E. Dump Valve Mounting

Dump Valve Mounting
Fig. 14:E:1

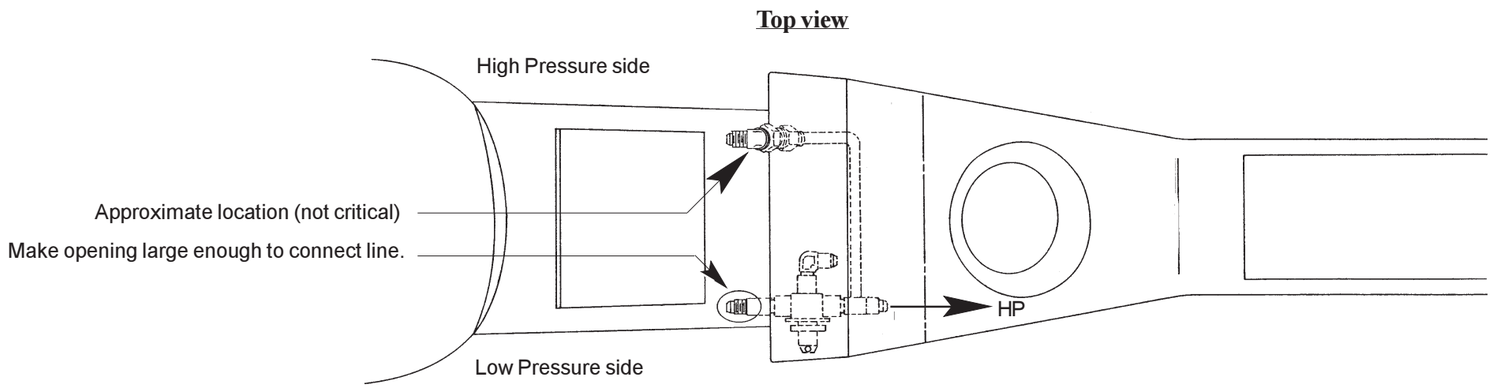


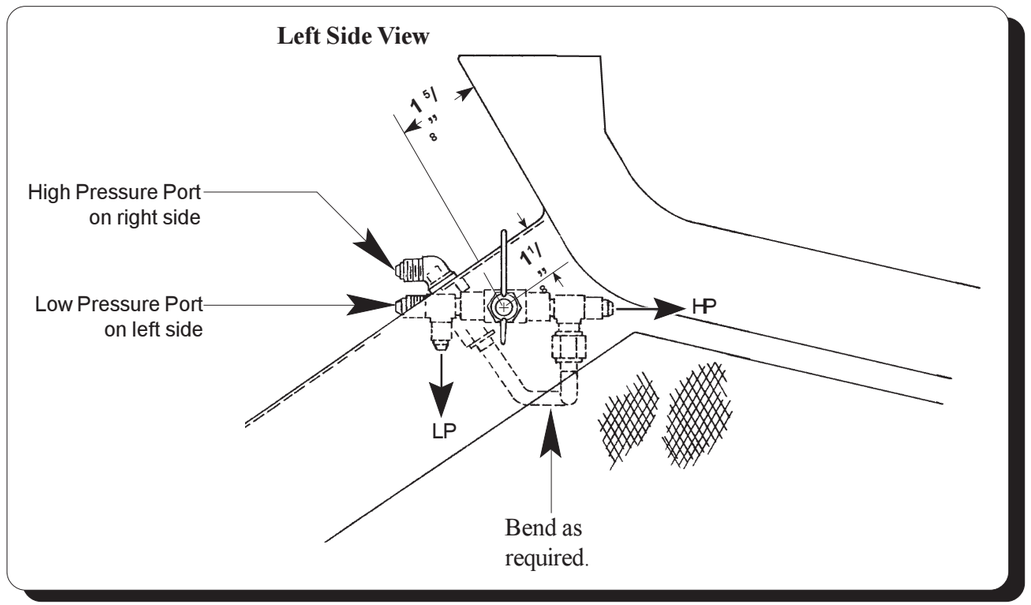
Suggested Dump Valve Guard

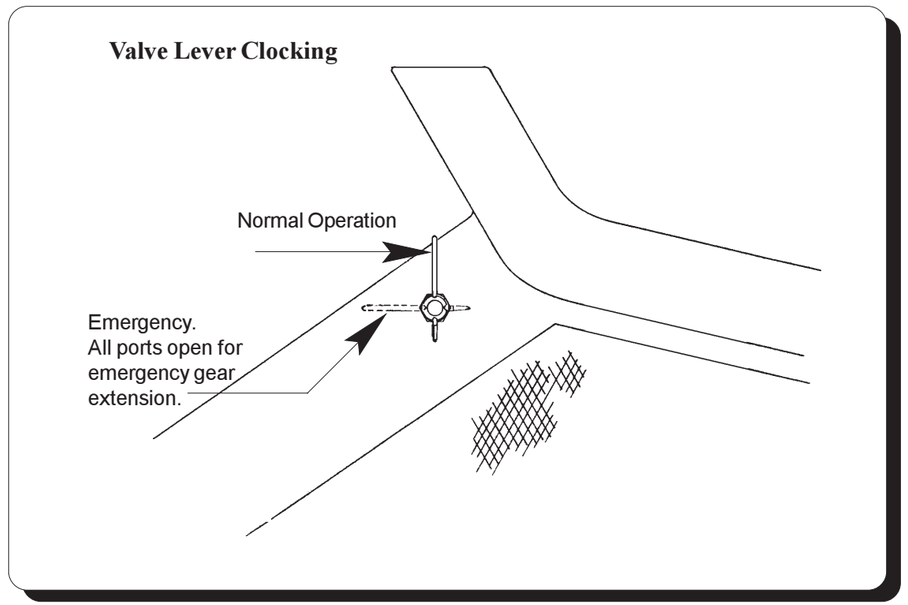


The dump valve mounts in the center console by your right knee. The dump valve allows emergency gear extension by opening all ports. Note that the valve has two positions. It is either all open or all closed. In normal operation, all ports are closed.

Dump Valve Location
Fig. 14:E:2





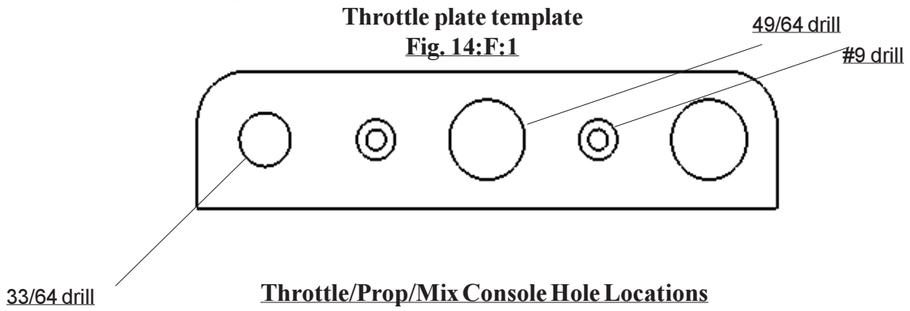


F. Throttle - Prop - Mix

The throttle, propeller and mixture controls mount in the center console.

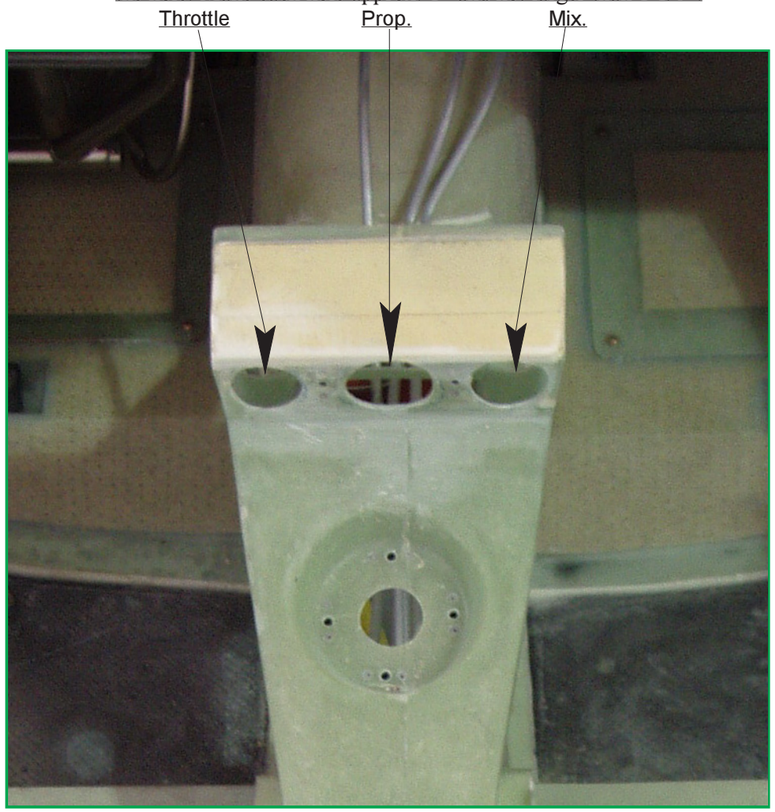
F 1. Create a throttle plate using 1/8" aluminum and the following template.

Throttle plate template
Fig. 14:F:1



Throttle/Prop/Mix Console Hole Locations
Fig. 14:F:1

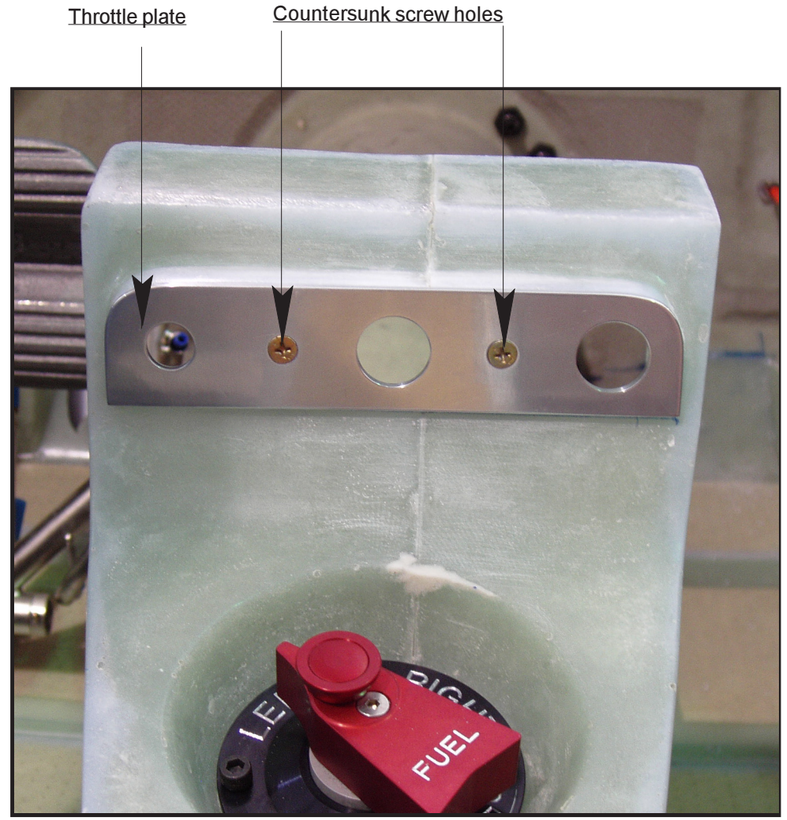
The hole sizes need to be large enough to fit the large nuts on the control rods through the hole. Make each hole approx. 1" and not larger than 1 1/8".



F 2. Drill holes in the center console using the throttle plate you created as a location template. See Figure 14:F:1.

F 3. Install the throttle plate as shown in Figure 14:F:2. Use screws MS24694-S5 to install the throttle plate to the center console.

Installed Throttle Plate
Fig. 14:F:2



G. Fuel Selector Valve Handle

The fuel selector valve handle mounts in the recessed area in the center console. In this section you will install the handle. It is very important that you properly align the handle to the fuel selector.

There are several slightly different variations of the spindle (the tube extending from the handle) but in principle they all work the same. In some of the earlier versions the spindle was not attached to the handle. Later version are attached and the most recent styles have a "U" joint to account for misalignment between the handle and the valve. It is important that you understand how the system works to properly install the handle. If you haven't already done so play with the fuel selector itself and understand its operation. As you turn the selector blow on the different ports to see how it works. Also read the manufacturer's instructions.

G 1. Drill a 5/8" diameter hole centered in the mounting area. Drop the handle into place. Observe how the spindle fits into the selector valve. The spindle should align quite well to the selector valve. If there is a large angular difference between the spindle and the valve use shims (washers) underneath the fuel selector valve to align it better. It may also be necessary to trim the length of the spindle.

NOTE: THE SPINDLE KEY (THE LOWER PORTION OF THE SPINDLE WITH THE GROOVE) MUST INSERT A MINIMUM OF ½" INTO THE FUEL SELECTOR VALVE.

G 2. Disconnect the fuel line at the fuel pickup at each of the two wings.

G 3. Disconnect the fuel line at the gascolator (or anywhere downstream of the fuel selector valve).

G 4. Move the fuel selector to the left position. Note that the fuel selector valve has a positive detent in the LEFT position, in the RIGHT position, and in the OFF position. When the fuel selector valve is operating properly you must be able to positively feel the detent.

G 5. With the fuel selector valve in the left position blow through the fuel line that you disconnected at the left wing. Have a helper check that air is exiting at the gascolator and that there is no air exiting at the right wing.

G 6. Repeat for the right tank.

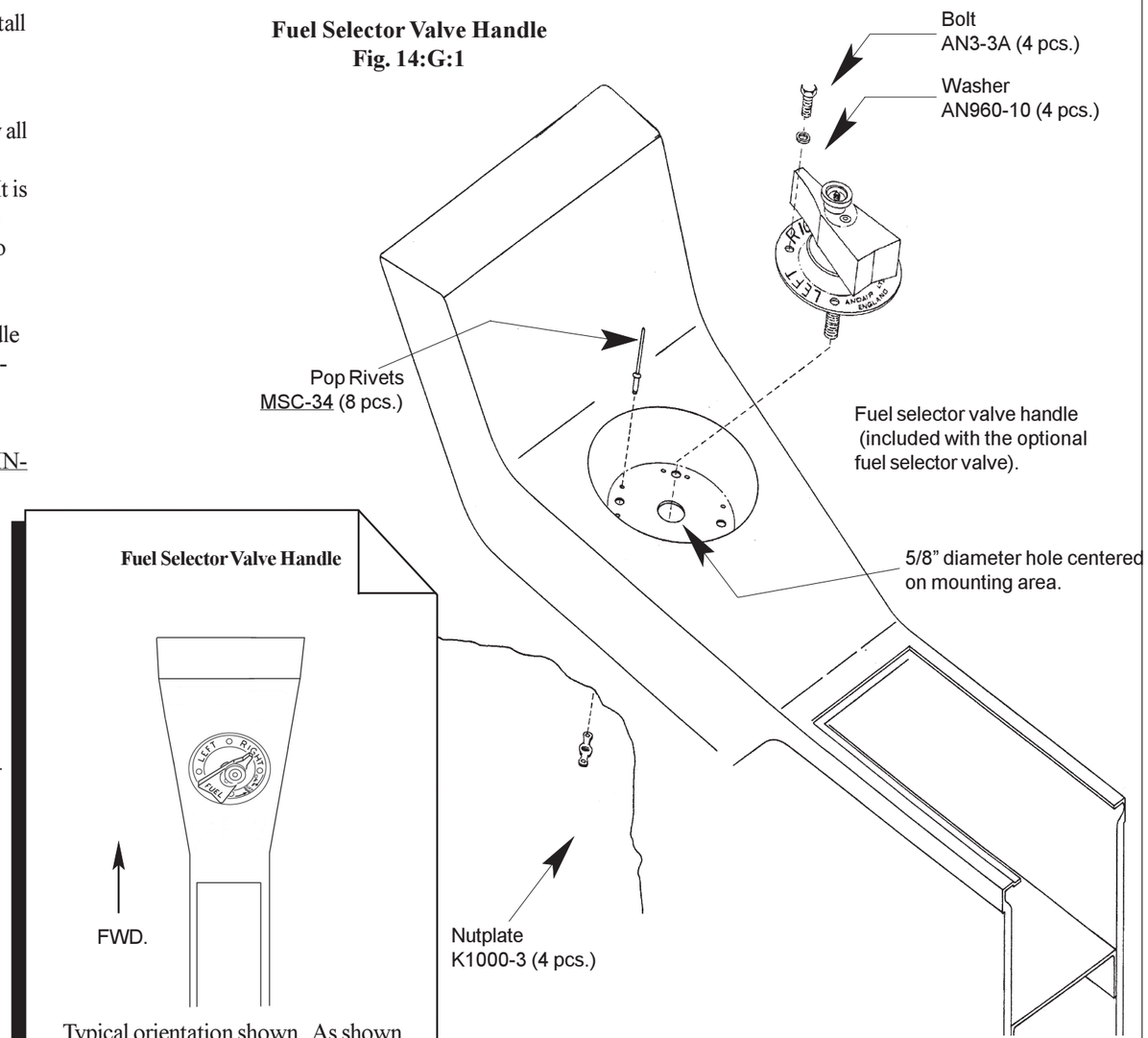
G 7. With the fuel selector valve in the OFF position attempt to blow through the fuel lines from both the LEFT and the RIGHT wing. You should not be able to blow any air through the lines.

G 8. Mount the fuel selector valve handle accordingly.

Depending on the clocking of fuel selector handle to fuel selector the actual orientation of the fuel selector handle may vary. All recent fuel selector valves for both the Lycoming and the Continental are clocked such that the LEFT tank position is 45 deg. off to the left side. The RIGHT tank will be 45 degrees off to the right side. The OFF position will be at approx. 4 o'clock.

RUN THE ENGINE ON THE GROUND WITH THE FUEL SELECTOR VALVE AT HIGH POWER SETTINGS IN BOTH THE LEFT AND THE RIGHT TANK POSITIONS PRIOR TO FLIGHT.

Fuel Selector Valve Handle
Fig. 14:G:1



Typical orientation shown. As shown, the fuel selector valve handle is positioned such that left is 45° to the left and right is 45° to the right.

H. Center Console Bonding

Bond the center console in place using epoxy/flox.

For alignment be sure to use the cleco holes. Note the additional BID reinforcements.

Center Console Bonding
Fig. 14:H:1