



# SERVICE INSTRUCTION

SI-31-01  
Revision 1

**TITLE: Angled Radios Panel Installation**

## **SUBJECT / REASON / DESCRIPTION:**

Installation of angled right panel to improve pilot visibility of installed avionics equipment and engine condition monitoring panel.

Revision 1 corrects/changes some hardware callouts in the Kit BoM. MS21047L06 becomes MS21047-06. AN960-06 becomes AN960-6L. MS21083-06 becomes MS21083-N06.

## **COMPLIANCE:**

Compliance is optional.

## **EFFECTIVITY:**

Serial 40 thru 49 and 52  
Aircraft 53 and onwards have this Service Instruction embodied at manufacture

## **APPROVAL:**

This modification has been approved by FAC Engineering and TCCA where applicable.

## **MANPOWER REQUIREMENTS:**

It is estimated that the modification will take approximately 8-16 hours. The total time will vary depending on the types and numbers of radios installed. This excludes labor necessary to open and close the aircraft, and work is performed by experienced personnel.

## **SPECIAL TOOLS / EQUIPMENT:**

Not applicable

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### **Found Aircraft Canada Inc.**

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## PARTS LIST (BILL OF MATERIALS):

Kit FAC-SI-31-01 Rev 1

Qty	Part Number	Description	Notes
1	X303	Right Panel	
1	X313	Closing Fairing	
1	X331	Clip	
1	F965	Clip	
1	X305	Radio Rail	Match Drilled To X303
1	X307	Radio Rail	Match Drilled To X303
2	X743	Clip I/B Radio Rail	
2	X745	Clip O/B Radio Rail	
1	X747	Blanking Plate	
4	MS21047-06	Nut Plate	
4	MS35214-25	Screw	
4	AN960-6L	Washer	
4	MS21083-N06	Nut	
1	MS21047L3K	Nut Plate	
4	MS21059-3	Nut Plate	
5	AN525-10R7	Screw	

### WEIGHT & BALANCE:

Negligible change to weight and balance

### DRAWINGS/MANUALS:

Maintenance Manual FAC2-M200, Installation Manuals of pre-existing radio installations

### IMPLEMENTATION INSTRUCTIONS:

#### Battery – Disconnect

#### **WARNING:**

**FAILURE TO DISCONNECT AND SECURE THE BATTERY GROUND COULD RESULT IN DAMAGE TO THE AIRCRAFT, ITS SYSTEMS OR INJURY TO SERVICE PERSONNEL**

1. Gain Access to, and disconnect the ground wire (#50) from the battery in accordance with MM section 24-30-01.

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### Existing Panel Removal

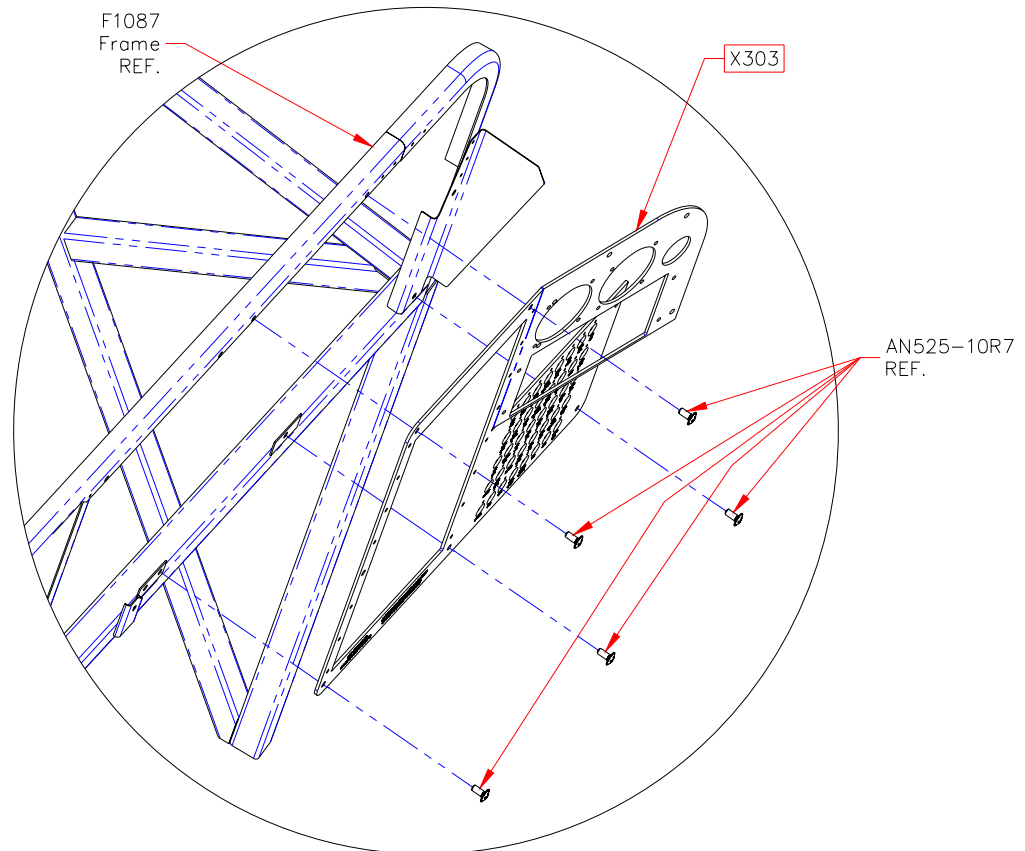
**Note:** Secure and label any hardware removed in the following steps as it will be required in later reassembly.

1. Remove the nut and internal locking washer from each of the installed circuit breakers.
2. Reach behind the panel and disconnect the circular connector of the instrument cluster.
3. Remove the four black instrument screws securing the instrument cluster to the panel and carefully withdraw the cluster out from behind the panel.
4. Reach behind the panel and disconnect the circular connector of the Fuel Flow instrument
5. Remove the four black instrument screws securing the Fuel Flow Gauge to the panel and carefully withdraw the instrument out from behind the panel.
6. Remove all radios from their mounting trays, (observe any precautions given by the manufactures installation manuals).
7. Remove all other optional instruments from the panel, (example: GEM610 Engine Monitor or LC-2 Clock, etc.).
8. Remove any blanking panels currently installed.
9. Remove the seven AN525 screws securing the panel to the frame.
10. The panel is now free to move aft, as this is done gently push the circuit breakers forward to release them fully from the panel. This will result in sufficient access to disconnect the wires from 12V.d.c. power socket. Remove the large thumb nut from the back of the 12V.d.c. socket and then the socket itself.
11. Remove the blanking plugs from the unused circuit breaker locations.
12. At this point only the installed radio trays should remain attached. These may be removed with the panel if the harnesses can be disconnected from the trays. The associated antennas must also be disconnected. Alternatively, the mounting trays may be mechanically disconnected from the radio rails. This approach means that the trays will be reattached to the new radio rails inside the aircraft making for a difficult job if more then one or two radios are installed.

### X313 Closing Fairing Installation

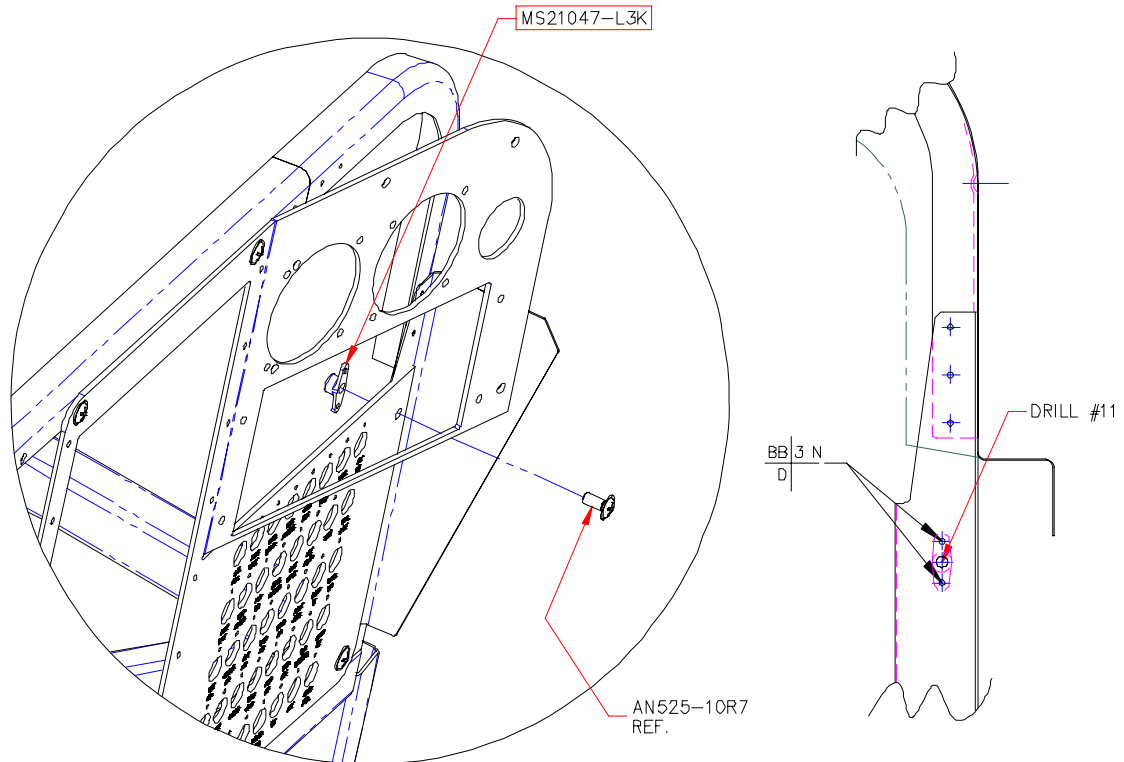
**Note:** The angled portion of the new right panel is supported by a closing fairing, X313. This fiberglass fairing requires slight trimming to fit properly. Complete the following procedure before reinstalling any of the panel components.

1. Install the new panel with the screws indicated in Figure 1



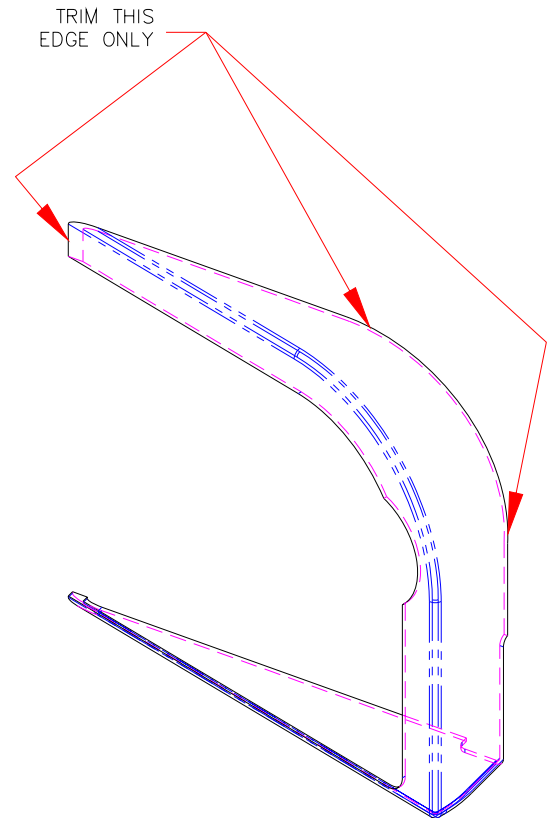
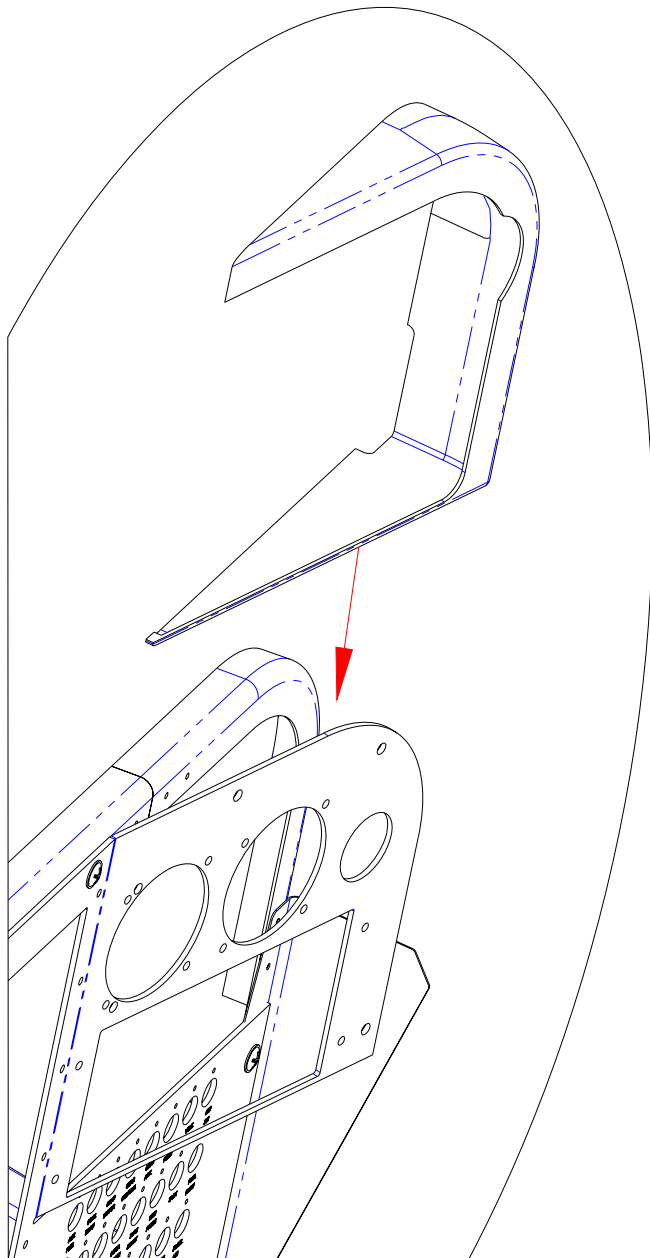
**FIGURE 1**

2. Back mark and drill the hole required to install the indicated nutplate per Figure 2

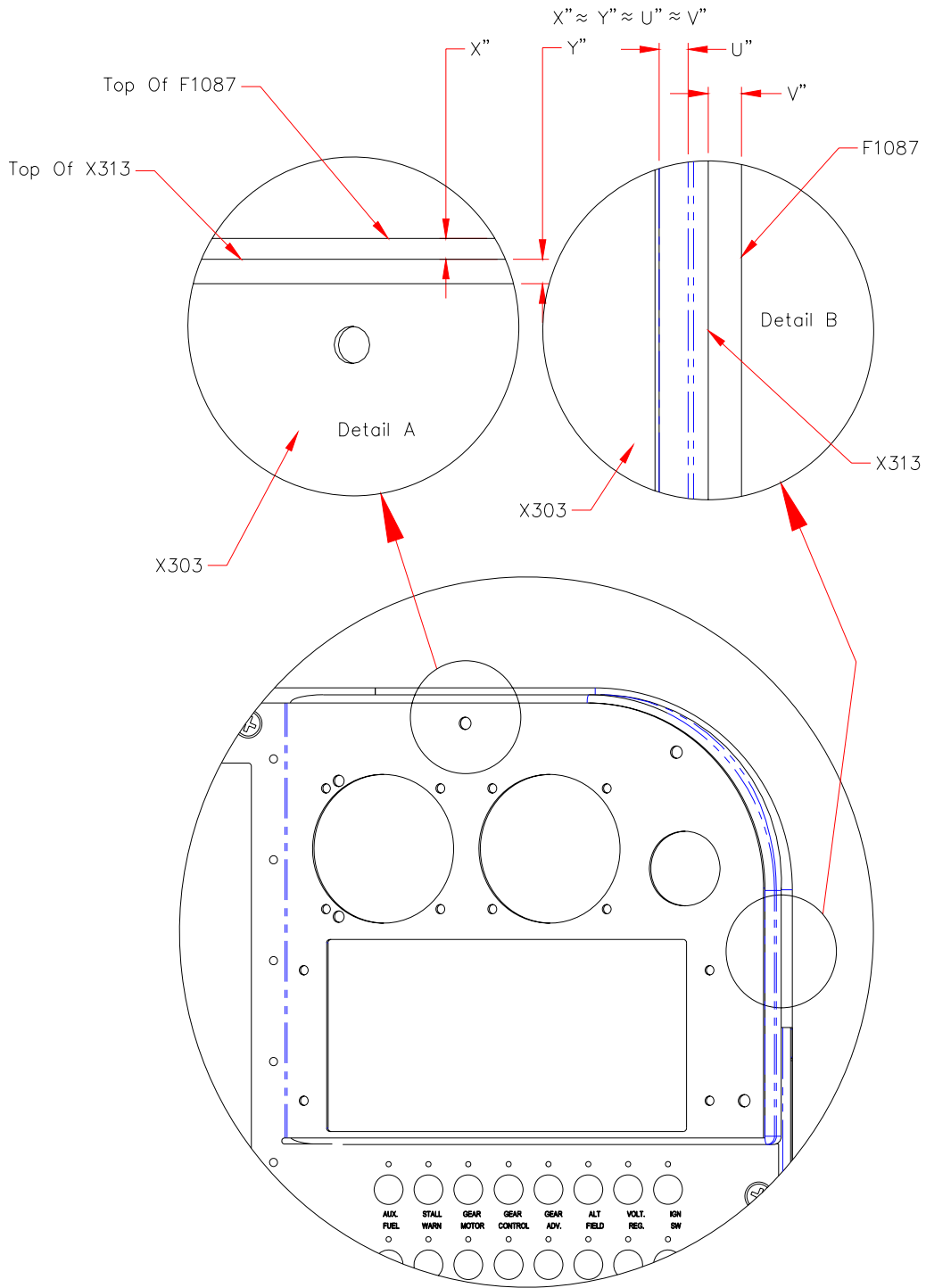


**FIGURE 2**

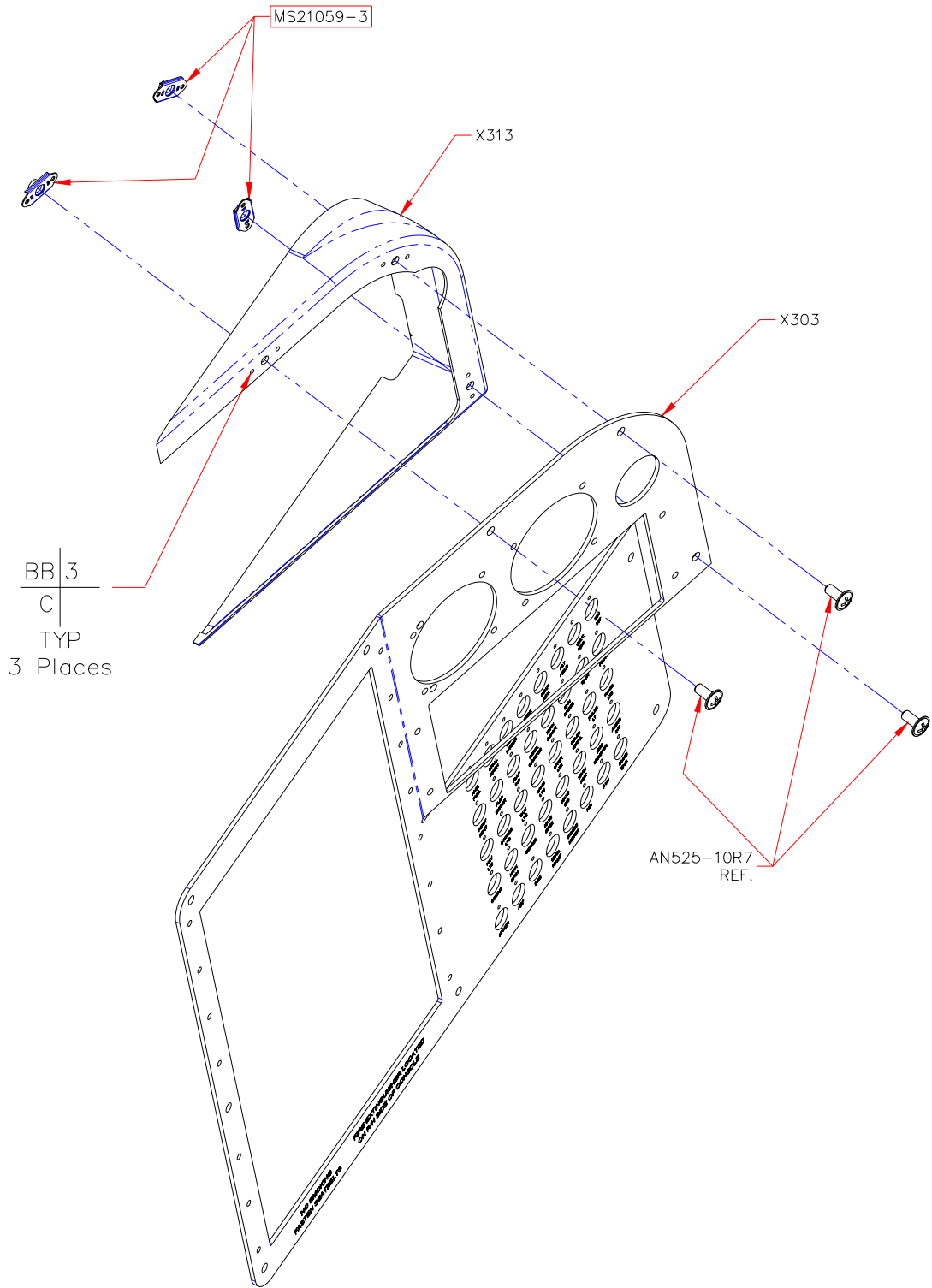
3. The X313 Closing Fairing may now be fitted between the X303 panel and frame, see Figure 3. Note, only the forward edge will require trimming.
4. With reference to Figure 4 note the relative spacing between the edge of the X303 panel, the X313 fairing and the outer edge of the frame. Trim the fairing edge indicated to achieve this result.
5. Once fitted, back mark, drill off and install the indicated nutplates per Figure 5.
6. Next install the X331 retaining clip per Figure 6. Note, the short leg of the clip is intended to wedge between the X303 panel and the frame. The clip is only meant to prevent unwanted vibration in the upper corner of the panel.
7. With reference to Figure 7 locate F965 clip as indicated and back mark the nutplate hole onto the X313 fairing. Drill off this hole. (Note, the nutplate must first be installed onto the F965 clip. Center this nutplate on the indicated flange of F965. See Figure 8)
8. Having mounted clip F965 to X313 fairing the mounting holes for the attachment rivets may now be match drilled to the frame per Figure 8. Rivet the clip to the frame.



**FIGURE 3**

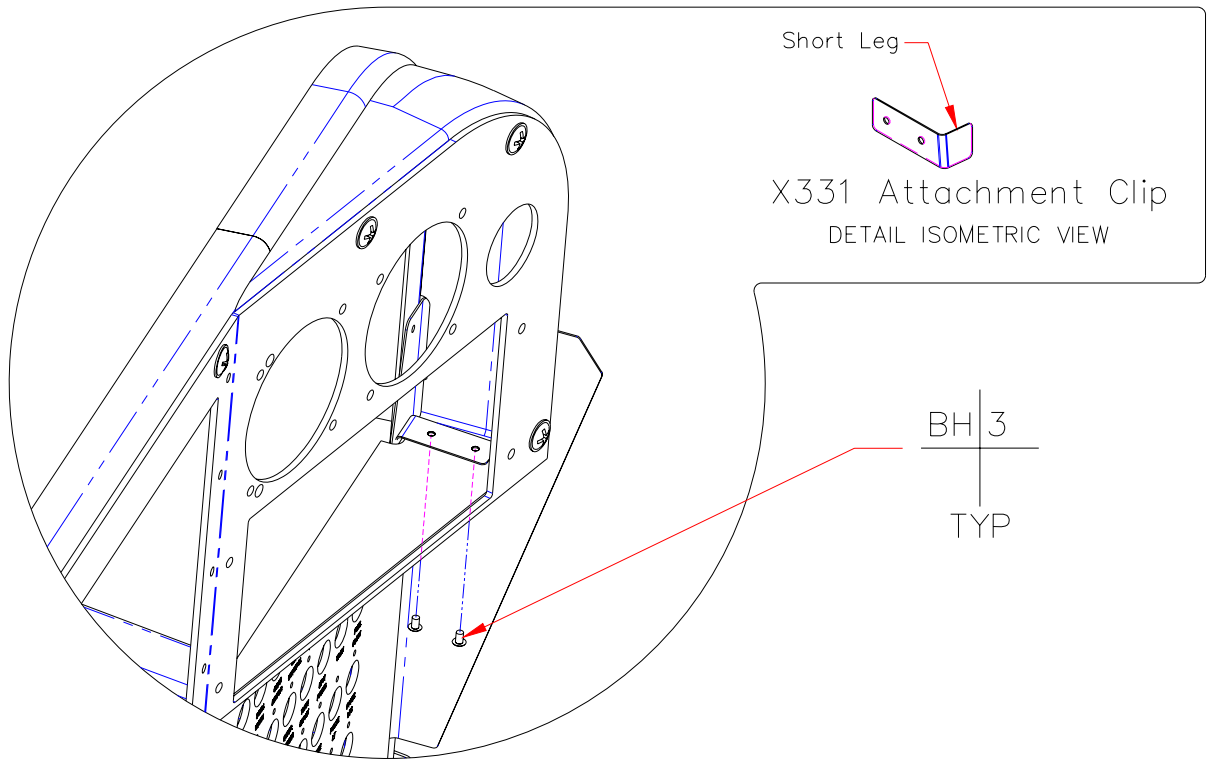


**FIGURE 4**

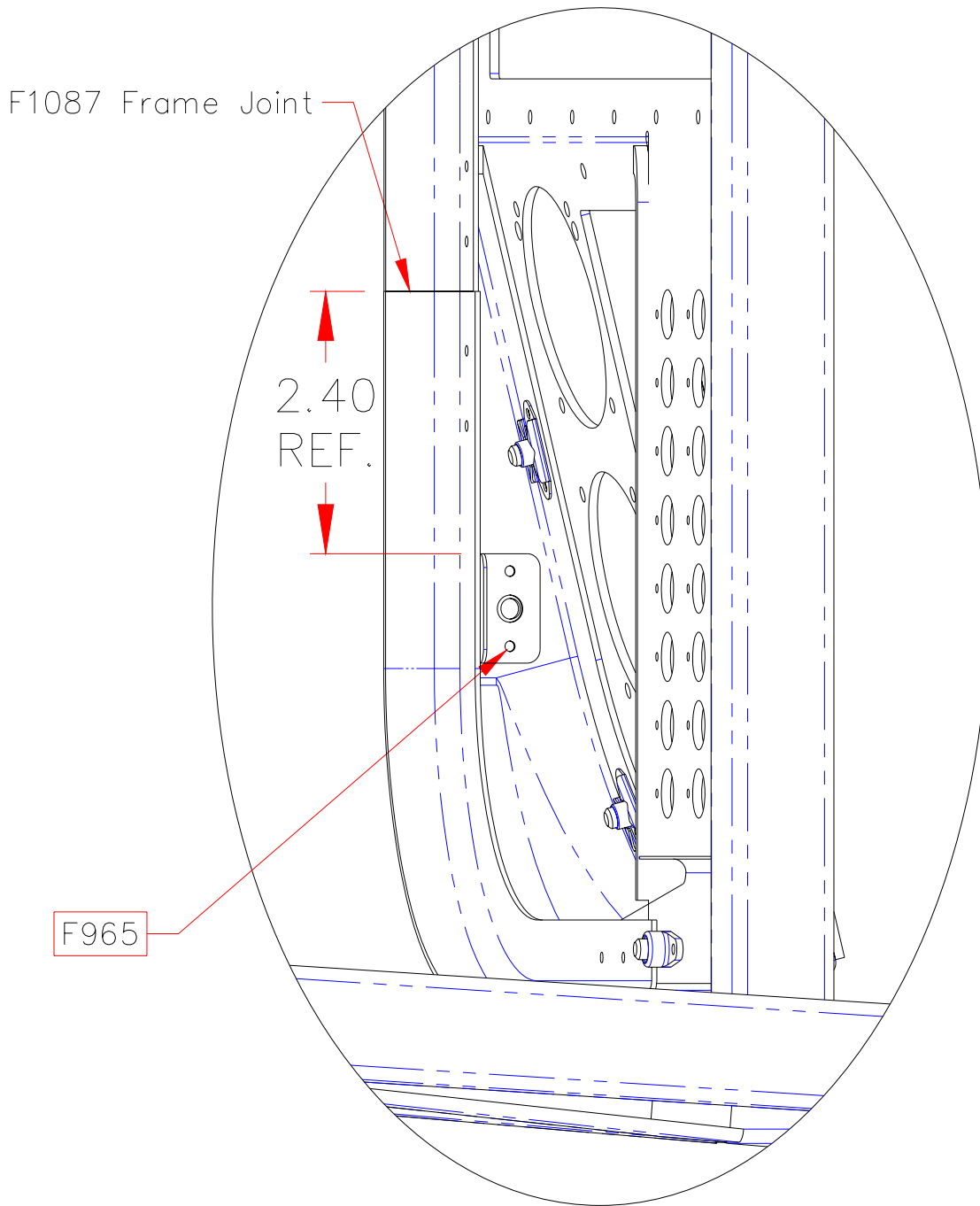


**FIGURE 5**

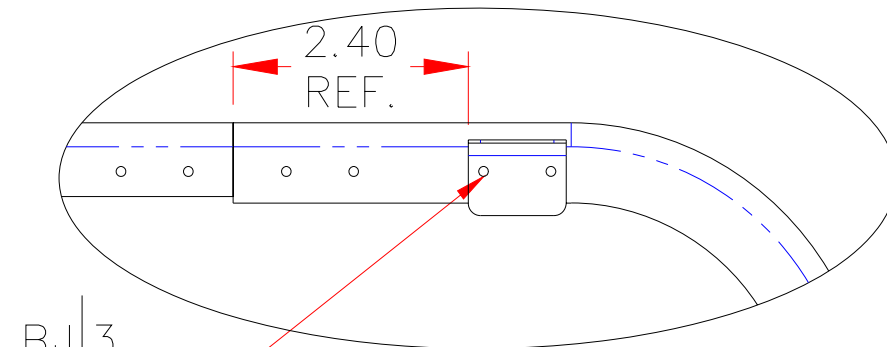




**FIGURE 6**

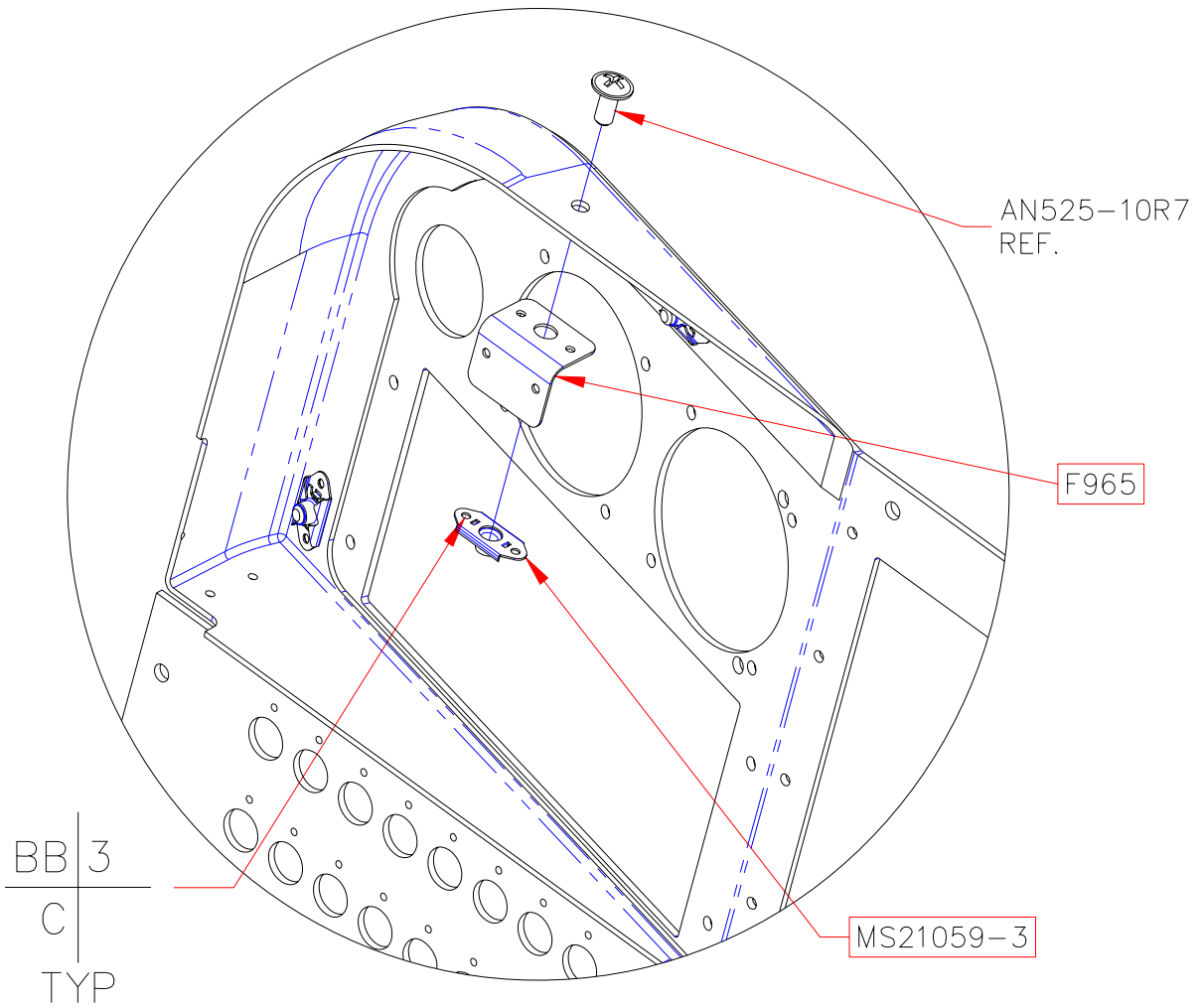


**FIGURE 7**



BJ 3  
TYP

Detail C  
F965 Clip Attachment  
View Looking Forward



BB 3  
C  
TYP

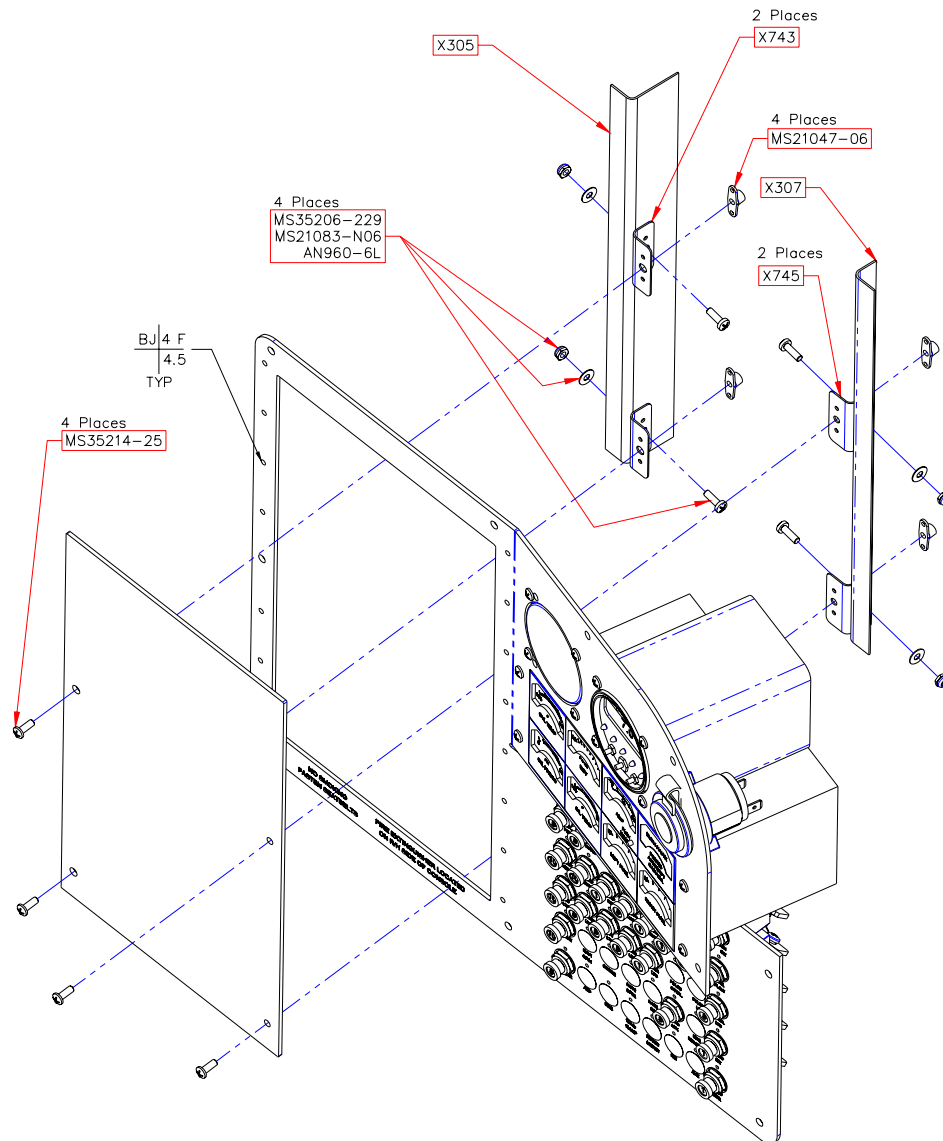
**FIGURE 8**

Notes On The Angled Radio Stack

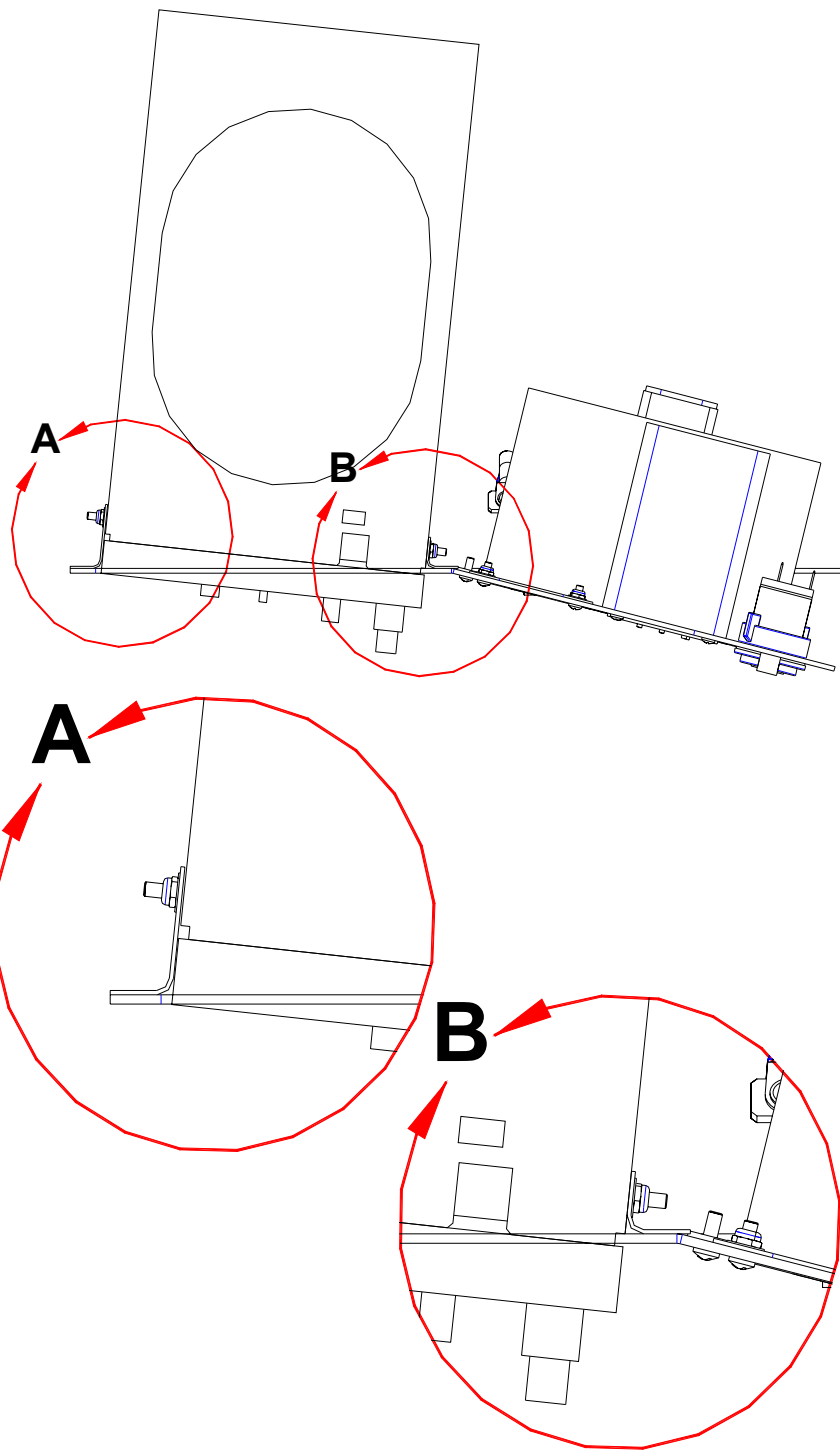
The new panel has an angled radio stack providing 6° of slant toward the pilot. Figure 9 shows the typical installation of the X747 Blanking Plate. X747 is designed to have even gaps at its edges, (approximately 0.02"). X747 may be trimmed to length depending on the number of radios being installed. Note, if the total height of X747 becomes less than 3.5" then only two X765 brackets are required to mount it. When this occurs be certain to stagger the mounting screws to prevent rotation of the blanking plate.

Figure 10 shows a top view of a typical radio installed.

Whatever the final mechanical arrangement of devices the installer should refer to the manufactures installation manuals for final test and certification.



**FIGURE 9**



**FIGURE 10**

### Final Assembly

1. Having completed all mechanical preparations the technician may now reassemble the panel components. All items should be reinstalled per their removal.
2. Reconnect the battery ground wire #50 and secure battery cover in accordance with MM section 24-30-01. Close cowls.
3. Note: Before engaging the “Master Switch”, disengage all circuit breakers. Then once the “Master Switch” is “on” reset the circuit breakers one at a time verifying the operation of each appliance as it is powered.
4. Perform a function check of all engine instruments and operating systems as outlined in the Pilot Operating Handbook, section 4, page 4-14. Operate aircraft an adequate amount of time to verify correct operation of the oil temperature, oil pressure, EGT and CHT indication systems..
5. Perform a function check all avionic and additional equipment installations in accordance with the manufactures installation and operation manuals.

### **LOG BOOK CERTIFICATION:**

- 1) Update the Log Book to read: “Service Instruction SI-31-01 Angled Radio Panel Installation completed”. In addition the Log Book should state any additional equipment which requires post installation checking, communications transceivers, GPS, VOR, etc, as having been checked per the relevant section of their individual installation manuals.
- 2) “Complete the enclosed letter of confirmation and return via Fax or mail to FAC after implementation of service instruction.