



# SERVICE INSTRUCTION

SI-25-02  
Revision 1

**TITLE:** Aft Seats Inertia Reel Harness Installation (Mod 1229)

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

The FBA-2C1 and FBA-2C2 aircraft are equipped with three individual passenger seats which utilize a 4-point harness restraint system. The shoulder belt part of this restraint system attaches to cables in the aft cabin. These shoulder belts are non-retracting. An alternate restraint system has been developed for the rear seats that employ retractable shoulder belts.

This new restraint system uses 3-point harnesses for the outer seats and a 4-point harness for the middle seat. The shoulder belts for both the 3 and 4-point harnesses connect to inertia reels similar to those used in automobiles.

Revision 1 changes include addition of alternative method for installation of mounting provisions for the sash mount. New parts, Q527, and hardware were added.

## **COMPLIANCE:**

Compliance is optional.

## **EFFECTIVITY:**

All aircraft equipped with individual rear seats, standard option 1121, 1160, or 1187.

## **APPROVAL:**

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

## **MANPOWER REQUIREMENTS:**

It is estimated that the modification will take approximately 16 hours. This excludes labor necessary to open and close the aircraft, and work is performed by experienced personnel.

## **SPECIAL TOOLS / EQUIPMENT:**

No special tools required.

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**PARTS LIST (BILL OF MATERIALS):**

**Kit FAC-SI-25-02A Rev 0, (3 Seat Configuration); Cost of kit available upon request.**

<b>QTY</b>	<b>P/N</b>	<b>DESCRIPTION</b>
2	H459	3-Point Harness
1	H461	4-Point Harness
3	H485	Cover (Outside)
3	H487	Cover (Inside)
2	F1297	Side Belt Lug
6	F1275	Clip
2	F1277	Doubler
1	F1279	Stringer Cross Beam
1	F1281	Stringer Reinforcement
1	F1282	Stringer Reinforcement
1	F1283	Centre Reel Mount
2	F1285	Side Reel Mount
1	F1287	Upper Side Clip
1	F1288	Upper Side Clip
1	F1289	Lower Side Clip
1	F1290	Lower Side Clip
1	F1291	Centre Belt Lug
1	F1293	Side Stiffener
1	F1294	Side Stiffener
1	F1295	Skin Doubler
2	Q425	Side Belt Lug Mount
2	Q455	Angle
2	Q527	Mount
2	AN525-416R10	Screw
2	NAS43DD4-45N	Spacer
2	AN525-416R20	Screw
2	AN960-416	Washer
2	MS21047L4	Nut Plate
16	AN3-6A	Bolt
28	AN960-10	Washer
4	AN970-3	Washer
32	MS21042-3	Nut
8	MS24694S51	Screw
12	MS21059L3	Nut Plate
16	AN3-4A	Bolt
36	AN960-10L	Washer
4	AN3-5A	Bolt

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6	MS21059L08	Nut Plate
6	AN525-832R6	Screw

**Kit FAC-SI-25-02B** Rev 0, (2 Seat Configuration); Cost of kit available upon request.

<b>QTY</b>	<b>P/N</b>	<b>DESCRIPTION</b>
2	H459	3-Point Harness
2	H485	Cover (Outside)
2	H487	Cover (Inside)
2	F1297	Side Belt Lug
2	F1285	Side Reel Mount
1	F1287	Upper Side Clip
1	F1288	Upper Side Clip
1	F1289	Lower Side Clip
1	F1290	Lower Side Clip
1	F1293	Side Stiffener
1	F1294	Side Stiffener
2	Q425	Side Belt Lug Mount
2	Q455	Angle
2	Q527	Mount
2	AN525-416R10	Screw
2	NAS43DD4-45N	Spacer
2	AN525-416R20	Screw
2	AN960-416	Washer
2	MS21047L4	Nut Plate
16	AN3-6A	Bolt
28	AN960-10	Washer
4	AN970-3	Washer
32	MS21042-3	Nut
8	MS24694S51	Screw
8	MS21059L3	Nut Plate
16	AN3-4A	Bolt
32	AN960-10L	Washer
4	MS21059L08	Nut Plate
4	AN525-832R6	Screw

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## **WEIGHT & BALANCE:**

This modification has a negligible effect on weight and balance.

## **DRAWINGS/MANUALS:**

Maintenance Manual (MM) Chapter 25, 53  
M400-S07 Flight Manual Supplement (FMS)

## **IMPLEMENTATION INSTRUCTIONS:**

### **KIT FAC-SI-25-02A, (3-Seat Configuration)**

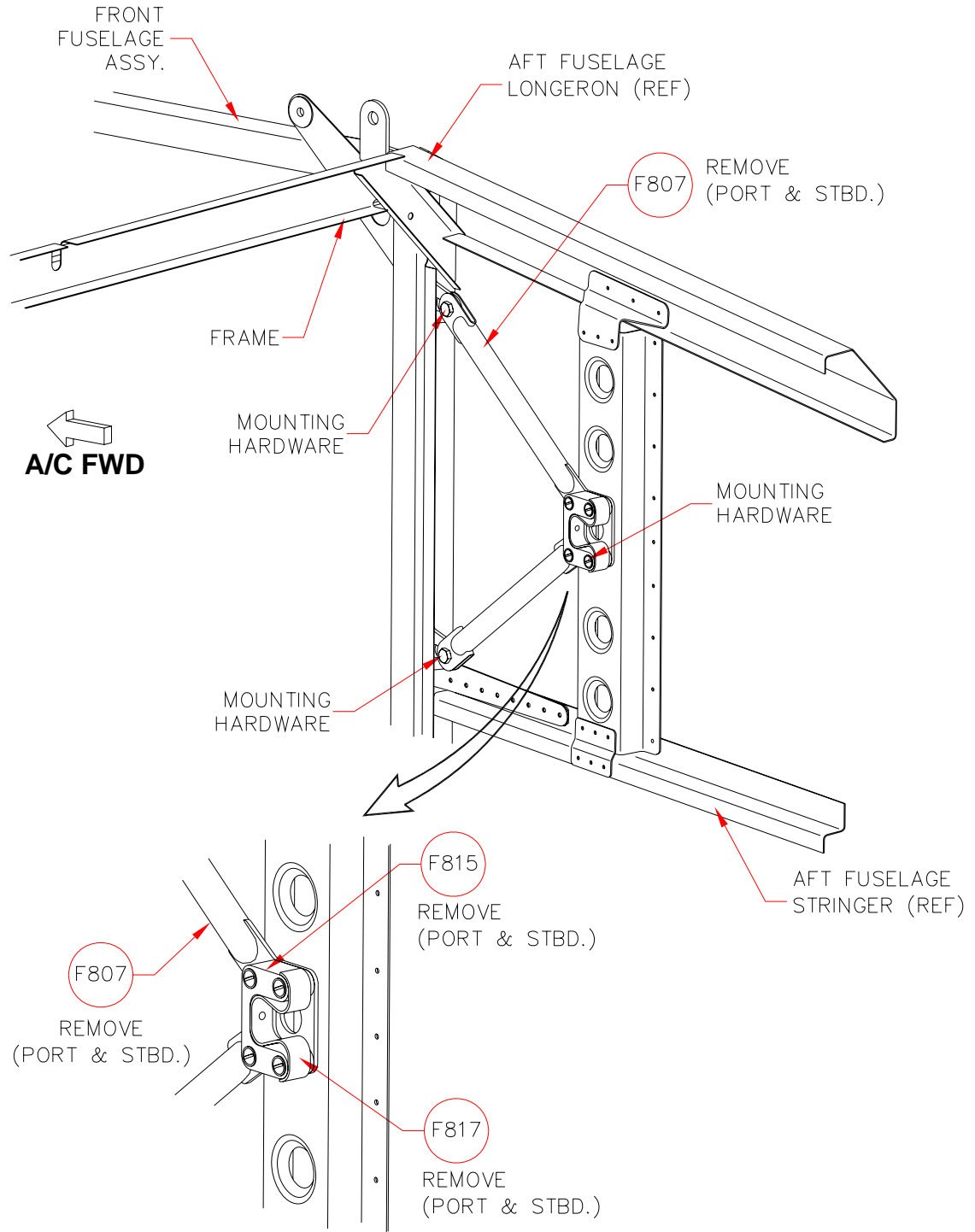
1. Remove passenger seats from aircraft – Ref. MM Section 25-24.  
Note: passenger harness is also removed at the same time.
2. Detach seat belt harnesses from each seat (only lap belts are attached to the seat).  
Temporarily reinstall mounting hardware back into the seat. Do not tighten hardware as it will be used for installation of the new harness system.
3. Remove cable system used to attach the shoulder belts to structure from aircraft – Ref. MM Figure 25-25-01.
4. Remove side cargo interior panels (port and stbd.) – Ref. MM Figure 25-80-02. Retain hardware.
5. Remove ceiling interior panel – Ref. MM Figure 25-80-02. Retain hardware.
6. Remove the insulation from both, cargo compartment sides and ceiling.
7. Remove passenger floor, – Ref. MM Chapter 53-20-02. Retain all part and hardware.
8. Remove 4 centre seat rails, shims, and sheet metal brackets under seat rails. Retain all hardware.
9. Remove F807 Brace Assembly, F815 Spring Housing, and F817 Spring (port and stbd.) – see Figure 1. Parts and hardware are not required for new installation.
10. Locate Q455 Angles (included in the FAC-SI-25-02A Kit) on F651 and F657 seat track channels - see Figure 2.
11. Drill eight 'Drill #11' holes in F651 and F657 channels using pilot holes in Q455 angles.
12. Touch-up exposed metal with paint, wait until dry, and install hardware indicated on Figure 2.
13. Install harness provisions/hard points per Figure 3, 4, and 5.  
Note that Figure 4A and 4B show two methods for mounting provisions of the sash mount, F1297. Either method is acceptable and only one of these methods should be used.
14. Reinstall the insulation. Modify as required to accept the new harness provisions.
15. Modify the side and ceiling interior panels to accept installation of the new inertia reels.
16. Install modified side and ceiling interior panels.
17. Reinstall seat tracks, shims, and sheet metal brackets under seat rails.
18. Reinstall passenger floor – Ref. MM Chapter 53-20-02.

19. Rivet MS21047L06 nut plates to outboard flange of H487 Cover with MS20426AD3 or NAS1097AD3 rivets- refer to Figure 6. Two nut plates per cover.
20. Install H459 and H461 inertia reel harnesses in conjunction with H487 Inside Covers, as shown in Figure 6.
21. Install H485 Outside Covers with AN525-832R6 or equivalent screws as shown in Figure 7 and 8.
22. Perform function check on inertia reel mechanisms and seat belts.

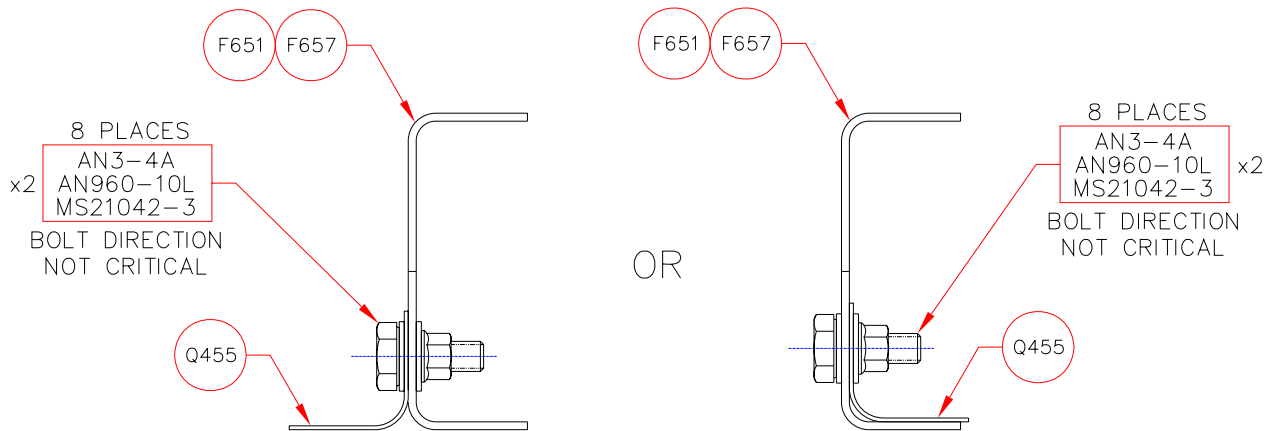
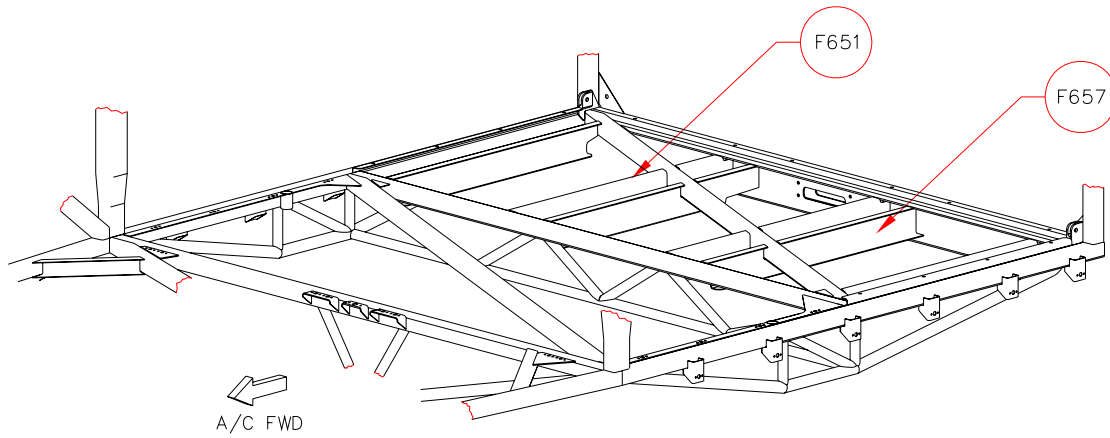
### **KIT FAC-SI-25-02B**

1. Remove passenger seats from aircraft – Ref. MM Section 25-24.  
Note: passenger harness is also removed at the same time.
2. Detach seat belt harnesses from each seat (only lap belts are attached to the seat).  
Temporarily reinstall mounting hardware back into the seat. Do not tighten hardware as it will be used for installation of the new harness system.
3. Remove cable system used to attach the shoulder belts to structure from aircraft – Ref. MM Figure 25-25-01.
4. Remove side cargo interior panels (port and stbd.) – Ref. MM Figure 25-80-02. Retain hardware.
5. Remove the insulation from cargo compartment sides.
6. Remove passenger floor, – Ref. MM Chapter 53-20-02. Retain all part and hardware.
7. Remove 4 centre seat rails, shims, and sheet metal brackets under seat rails. Retain all hardware.
8. Remove F807 Brace Assembly, F815 Spring Housing, and F817 Spring (port and stbd.) – see Figure 1. Parts and hardware are not required for new installation.
9. Locate Q455 Angles (included in the FAC-SI-25-02B Kit) on F651 and F657 seat track channels - see Figure 2.
10. Drill eight 'Drill #11' holes in F651 and F657 channels using pilot holes in Q455 angles.
11. Touch-up exposed metal with paint, wait until dry, and install hardware indicated on Figure 2.
12. Install harness provisions/hard points per Figure 4.  
Note that Figure 4A and 4B show two methods for mounting provisions of the sash mount, F1297. Either method is acceptable and only one of these methods should be used.
13. Reinstall the insulation. Modify as required to accept the new harness provisions.
14. Modify the side interior panels to accept installation of the new inertia reels.
15. Install modified side interior panels.
16. Reinstall seat tracks, shims, and sheet metal brackets under seat rails.
17. Reinstall passenger floor – Ref. MM Chapter 53-20-02.
18. Rivet MS21047L06 nut plates to outboard flange of H487 Cover with MS20426AD3 or NAS1097AD3 rivets- refer to Figure 6. Two nut plates per cover.
19. Install H459 inertia reel harnesses in conjunction with H487 Inside Covers, as shown in Figure 6.

20. Install H485 Outside Covers with AN525-832R6 or equivalent screws as shown in Figure 7.
21. Perform function check on inertia reel mechanisms and seat belts.



**Figure 1**



**Figure 2**



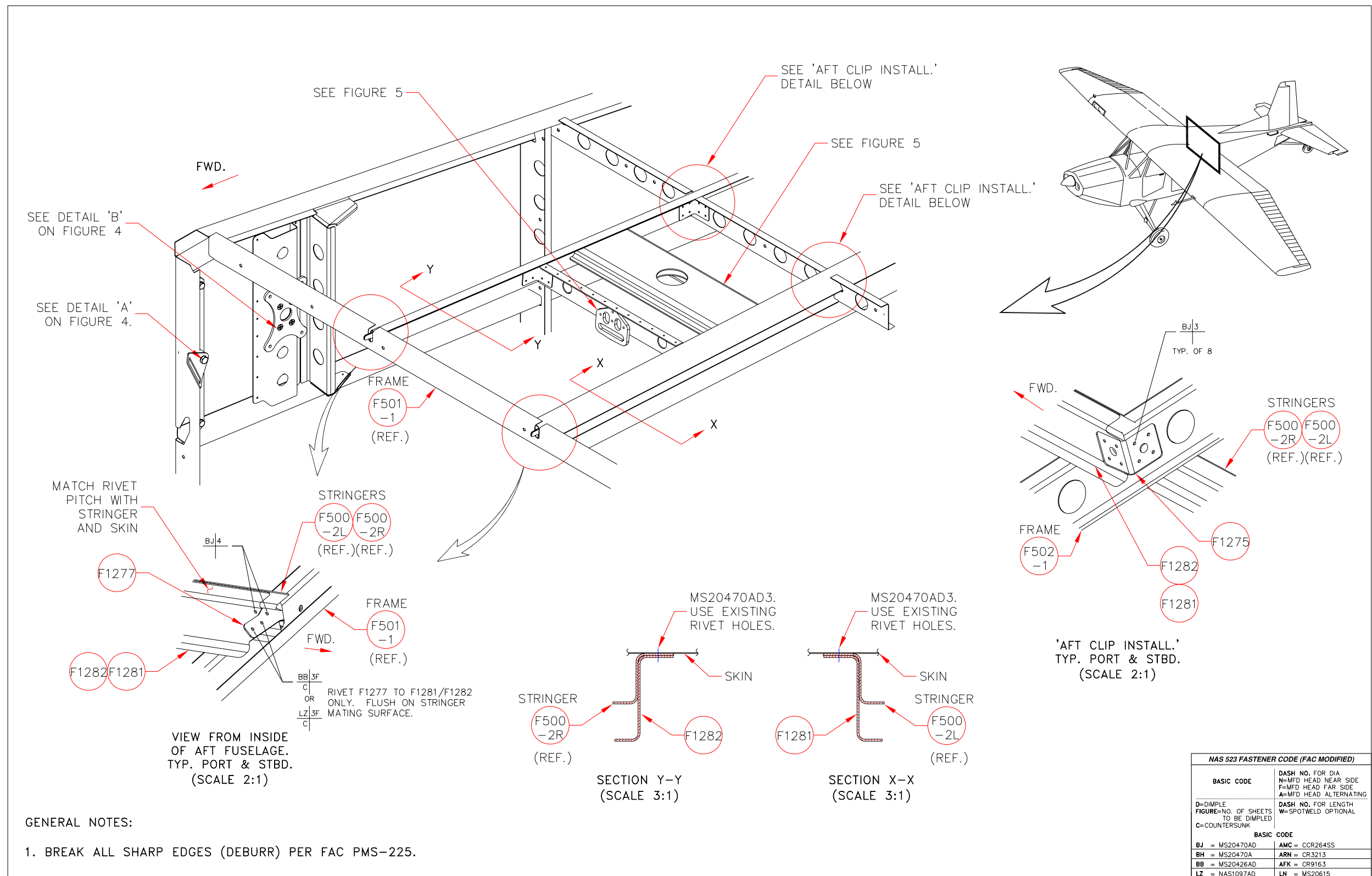


Figure 3

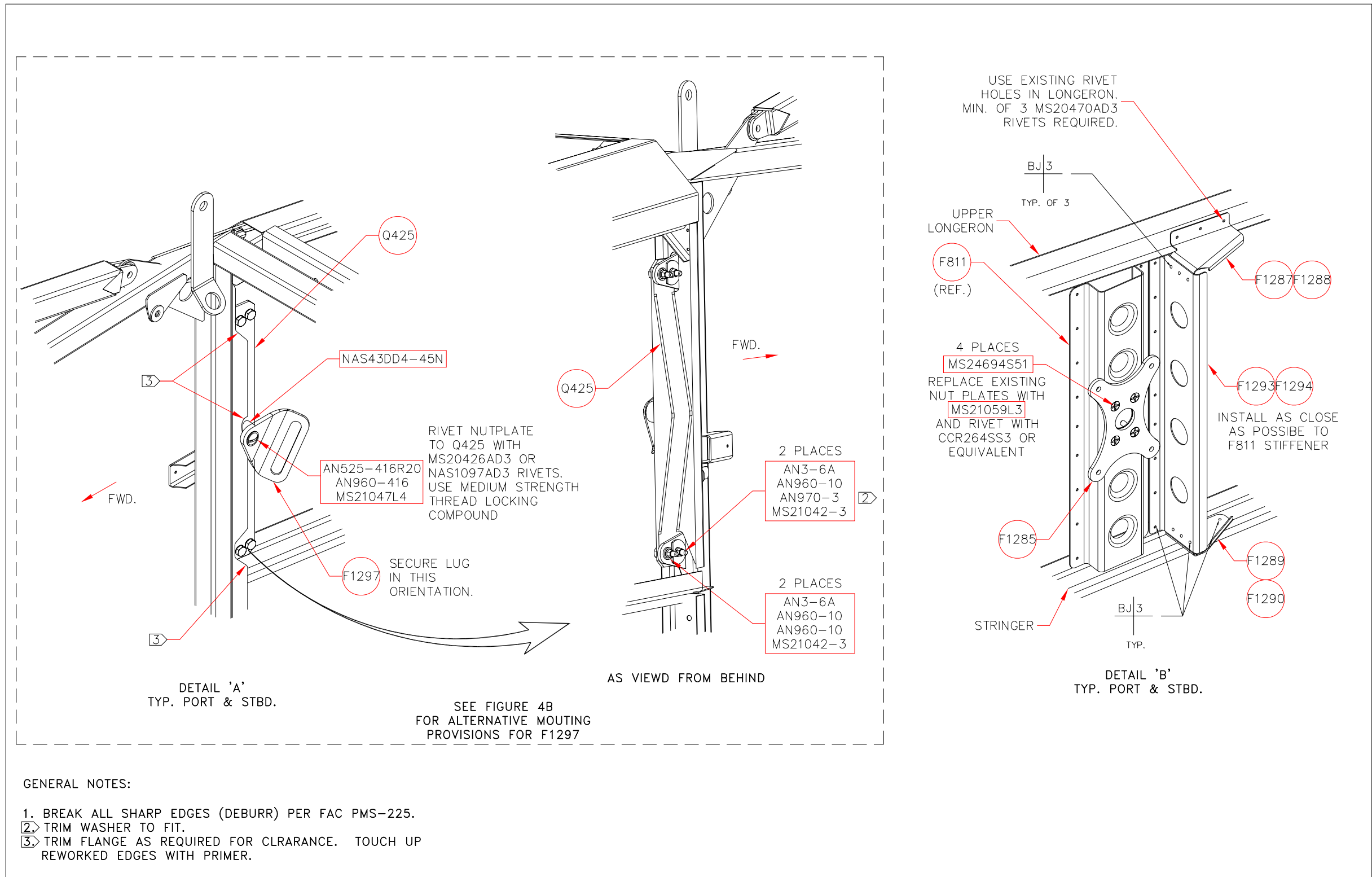


Figure 4A

THIS FIGURE SHOWS AN ALTERNATIVE INSTALLATION FOR MOUNTING PROVISIONS OF THE SASH MOUNT. THIS INSTALLATION ELIMINATES THE NECESSITY OF FASTENING Q425 CHANNELS.

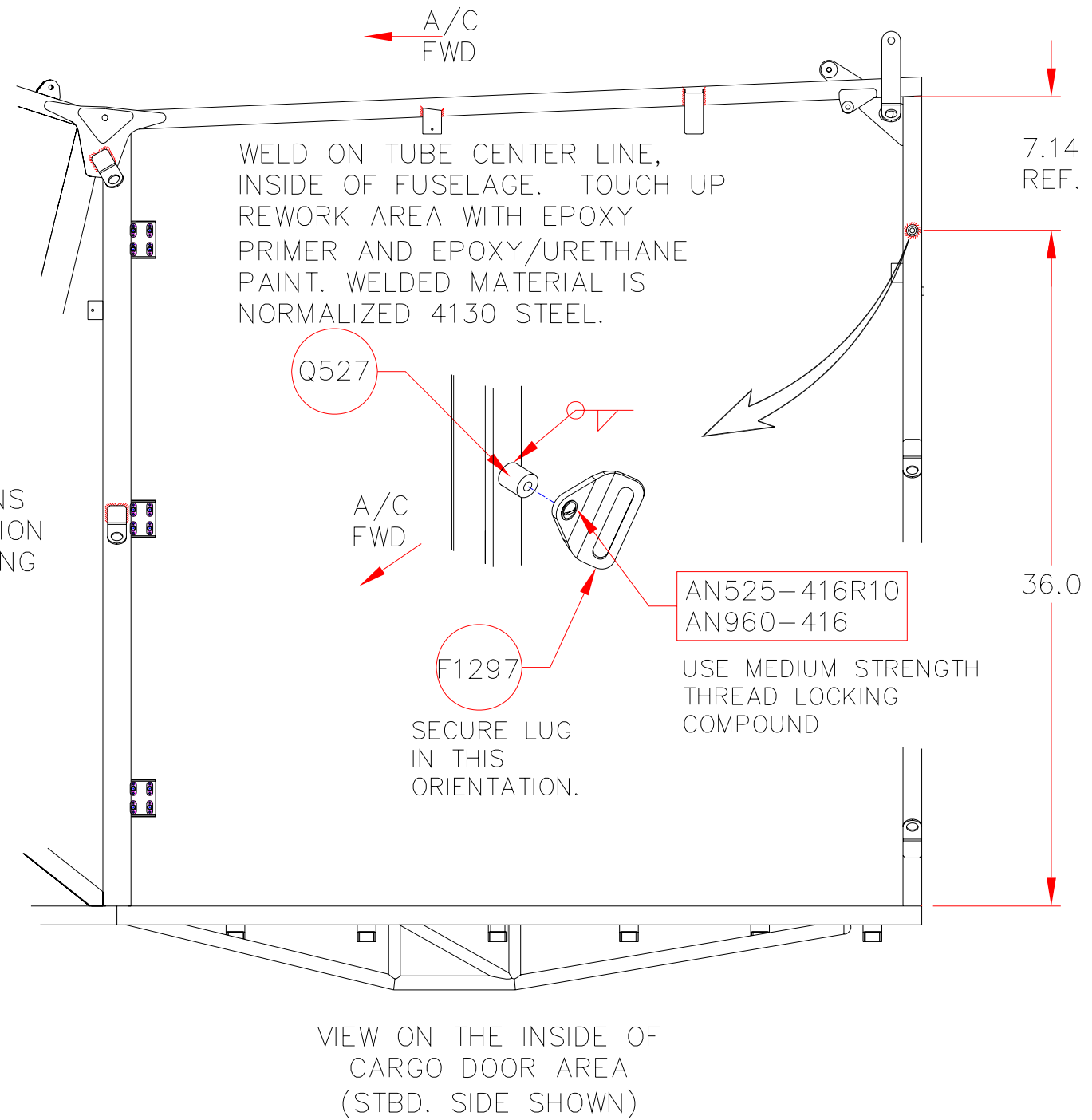


Figure 4B

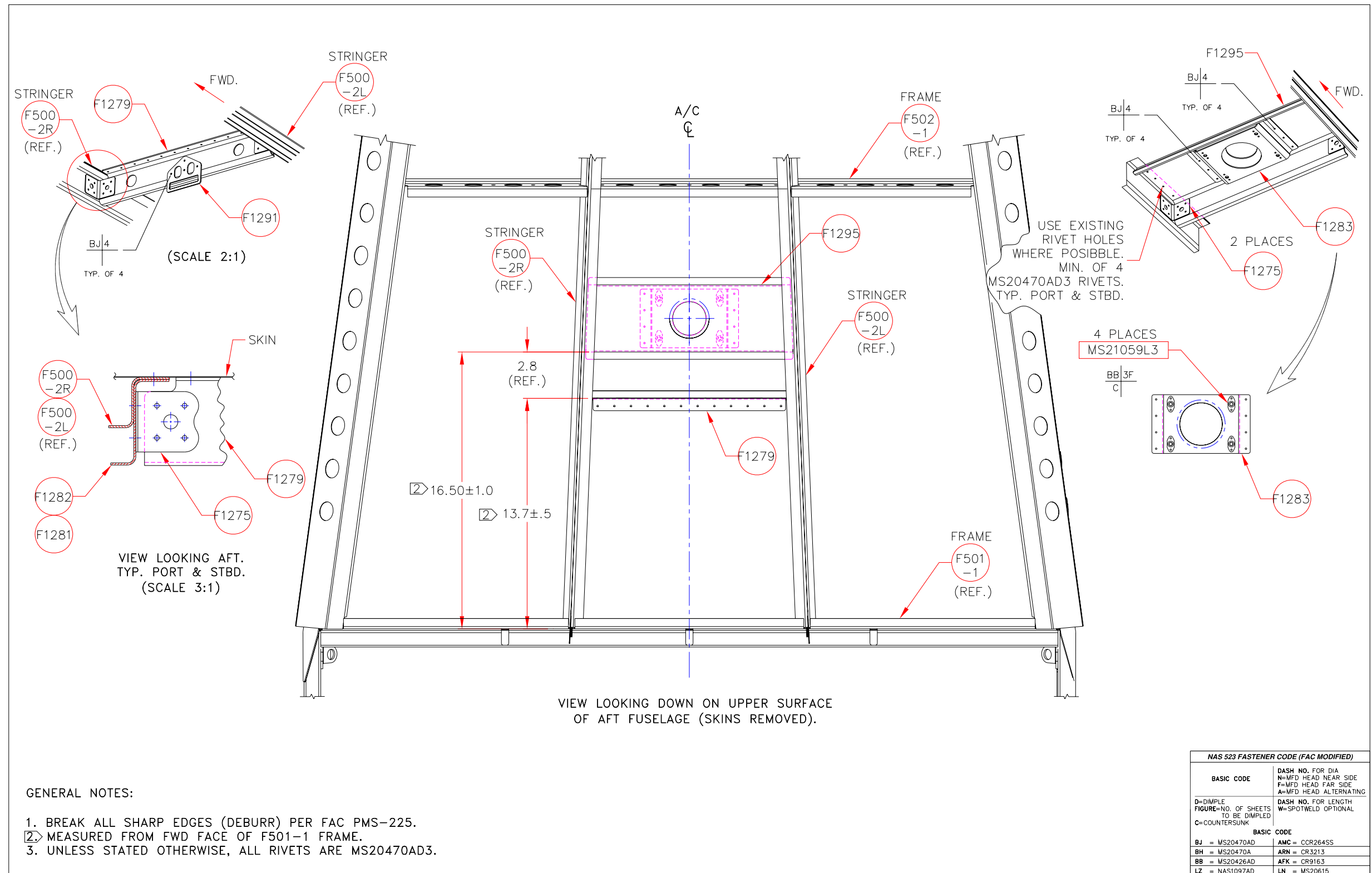
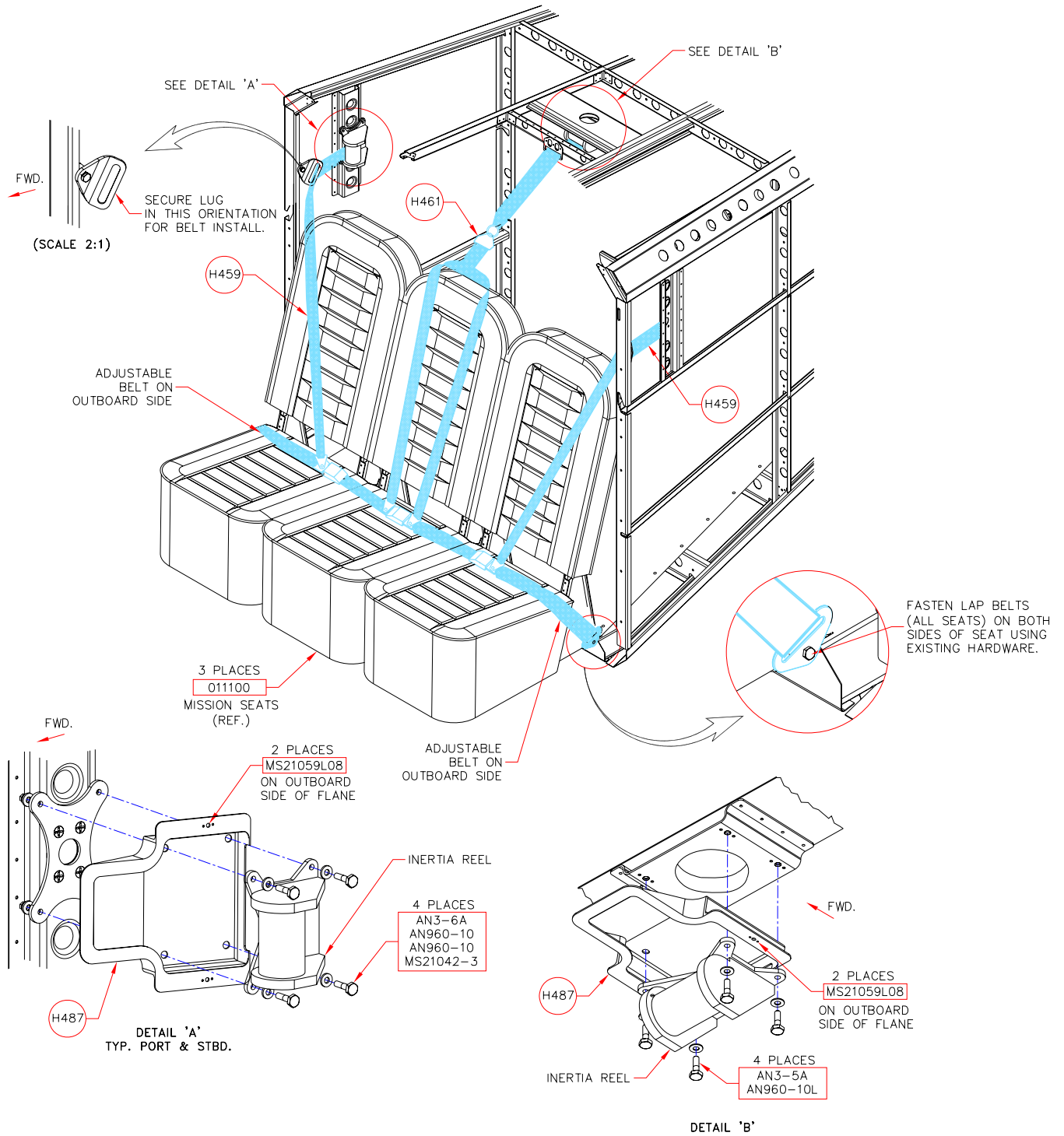


Figure 5



**Figure 6**

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**Figure 7**



**Figure 8**

**LOG BOOK CERTIFICATION:**

Complete an entry in the log book stating “SI-25-02 Rev 1, Kit A (3 Harnesses) or Kit B (2 Harnesses), Aft Seats Inertia Reel Harness Installation completed”.

Complete the enclosed letter of confirmation and return via Fax or mail to FAC after implementation of service instruction.