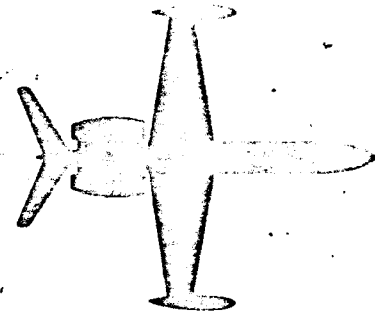


# IAI WESTWIND



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- v. While the test pattern is being written on the screen, press HOLD switch and note that the test pattern progress stops and the display alternates between TEST and HOLD.
- w. Press HOLD switch again and allow test pattern to be fully displayed. Note that the third or center band alternates between red and black at a 1-Hz rate — this is the contour band. The next bands are yellow and the outer bands are green.
- x. Press WX switch and any range switch that gives a reasonable target display; either weather or ground return. If necessary, adjust antenna TILT and INT.
- y. Note that some portion of the display contours (ie, alternates between red and black).
- z. Press NRM switch and note that the contour portion stops alternating and remains red, and NORM is displayed instead of WX.
- aa. Rotate the GAIN switch through all positions from MAX to MIN and note that at each step, in going from MAX to MIN, the number and size of the target(s) decreases. Note also that the display alternates between NORM and GAIN for all GAIN switch positions below MAX.
- ab. Press SBY switch, set AZ switch to OFF, and note that azimuth lines are not displayed.
- ac. Press the MAP switch and note that the display changes colors; the contour areas change to purple (magenta), the yellow remains yellow, and the green changes to blue.
- ad. Press SBY switch. Set TGT ALERT switch to ON and note a small yellow "T" inside a red box on the upper rh side of display.
- ae. If there is a radar target of contour level intensity within 15 degrees of dead ahead and within 60 and 150 nmi, a flashing yellow "TGT" inside a red box should appear on the display in place of the "T". This test can be omitted if no suitable target is available and there is no good reason to suspect a problem in this feature.
- af. Press the OFF switch. Turn aircraft power off as required.

## 2.6 ANTENNA CALIBRATION AND ALIGNMENT PROCEDURE

### 2.6.1 Introduction

The following antenna tests are divided into two sections. Section 2.6.4 covers antenna testing without the antenna calibration/test, test fixture but using the gyro tilt table with the aircraft gyro mounted and extended outside the aircraft.

Section 2.6.5 covers antenna testing with the antenna calibration/test, test fixture described in figures 5-8 and 5-9 and table 5-3 in the maintenance section. The use of the test fixture permits gyro inputs from the gyro externally mounted to the tilt table or from a suitable gyro simulator.

### 2.6.2 Test Equipment Required

The items of test equipment needed to complete this antenna calibration procedure are:

- a. A sensitive ac/dc meter with voltage range up to 125 V ac and with good accuracies near 0 V
- b. A portable dual-trace scope is ideal for some of the null adjustments, but it is not mandatory for most of the steps. On new installations, a scope is necessary to ensure proper phase connection of the pitch and roll gyro inputs.
- c. Adjustment tool, JFD 5284, CPN 024-0458-000, or equivalent
- d. A well-calibrated protractor for angular measurement of the antenna tilt
- e. A gyro tilt table capable of  $\pm 15$ -degree roll and  $\pm 10$ -degree pitch, both accurate to  $\pm 1/8$  degree
- f. The antenna calibration/test, test fixture, as shown in figures 5-8 and 5-9 and table 5-3 in the maintenance section. The time and effort taken to fabricate this test fixture should be beneficial by simplifying the procedures. It allows easy connection and switch control of the gyro simulator inputs and allows tilt control at the antenna location. The latter feature makes it unnecessary to have a second technician available for indicator operation in the cockpit for most of the procedures.

### 2.6.3 Test and Calibration Overview

#### 2.6.3.1 Introduction

The stabilization circuits in the WXR-300 system are capable of maintaining antenna tilt orientation to within  $\pm 0.25$  degree in both tilt and azimuth. Effective utilization of this capability depends on precise alignment of the antenna with the aircraft center line and careful attention to calibration accuracies.

In this procedure it is necessary to supply a 10-degree pitch-up and pitch-down and a 15-degree roll-right and roll-left input to the antenna for stabilization testing. The objective is to calibrate the antenna to the specific characteristics of the installation.

With respect to the input signal, the greatest accuracy in calibration is achieved by removing the gyro from its normal position in the aircraft and installing it on a tilt table. An alternate method is to patch a simulator into the installation to provide the necessary gyro signal. This simulator should match, as closely as possible, the output characteristics of the gyro it is simulating.

Two reference points are used in these tests: 0-degree tilt (pitch) and 0-degree scan (azimuth). Zero tilt is established by aligning the center index mark on the antenna plate mount with an index mark on the coax housing flange (figure 2-19).

**Caution**

Do not forcefully rotate the antenna plate in the tilt plane. Always use the TILT control to adjust the tilt angle.

Zero scan is established by locating index marks on the azimuth spur gear and drive housing (figure 2-19).

**2.6.3.2 Antenna STAB Precheck**

Check antenna STAB circuitry prior to performing antenna testing and alignment. Set STAB switch to ON, adjust both pitch and roll gyro inputs, and note that both have an effect on antenna movement. Set STAB switch OFF, adjust TILT control, and note that the antenna responds. Adjust both pitch and roll gyro inputs and note that there is no effect on antenna movement.

**2.6.4 Antenna Testing and Alignment Without Test Fixture**

**2.6.4.1 Antenna Mounting Test and Alignment**

- a. Adjust the aircraft for 0 roll and pitch. Use a level, not the gyro output.
- b. Power up the avionics circuits on the aircraft.
- c. Check the gyro output; it should be 0 V ac in roll and pitch.
- d. Switch the antenna azimuth scan to OFF.
- e. On the radar indicator or control unit, select TEST mode.
- f. On the indicator or control unit, set the STAB switch to OFF.
- g. Connect the ac meter between antenna plug J1-12 and antenna ground. Adjust the manual TILT on the indicator or control unit for 0 V ac.
- h. Disconnect the ac meter.

- i. Manually rotate the antenna plate dead ahead to the azimuth index mark (see index marks on azimuth spur gear and drive housing, figure 2-19).
- j. At this point the antenna must be at 0 pitch index mark (see index marks on antenna plate mount and on coax housing flanges, figure 2-19). If not, the antenna must be removed for bench alignment.
- k. Measure pitch axis of the antenna plate with the protractor level; it should be 0 degree. If not, shim the antenna mounting.
- l. Rotate the antenna plate in azimuth to the right (aircraft right) 60-degree index mark. With the protractor level, measure the pitch axis and record degrees.
- m. Rotate the antenna plate in azimuth to the left 60-degree index mark. With the protractor level, measure the pitch axis and record degrees.
- n. The right and left pitch angles should be the same. If not, loosen the antenna mounting bolts and rotate the antenna on the aircraft bulkhead for equal angles. The error shall be no greater than 0.250 degree.
- o. Switch the antenna scan switch to ON.

**2.6.4.2 Manual Tilt Knob Adjustment and Manual Tilt Control Phasing Test**

- a. Switch the antenna azimuth scan switch to OFF.
- b. Select TEST mode on the radar indicator or control unit.
- c. Switch the STAB switch to OFF on the indicator or control unit.
- d. With the ac meter, monitor the antenna TILT control voltage at J1-12. Adjust the manual TILT control knob on the indicator or control unit for 0-volt ac output. If the TILT control knob does not indicate 0 tilt, then loosen the setscrews and align to the 0 mark and retighten the setscrews.
- e. Adjust the manual tilt control up and down and repeat step d.
- f. Adjust the manual tilt control up 10 degrees from 0 and note the antenna moves up 10 degrees.
- g. Switch the antenna scan switch to ON and disconnect the ac meter.

**2.6.4.3 Quadrature Adjustment Test**

Two calibration adjustments, PITCH PH and ROLL PH, are provided to compensate for the difference in phase angle of the gyro source with respect to the 115-V ac, 400-Hz reference. These adjustments are located at the top of the chassis. The objective is to achieve a null condition in the tilt drive circuits when

the pitch and roll angular inputs are satisfied. These adjustments are factory set for a null condition while being driven by a standard 8-degree leading source. Experience has shown that many installations deviate from the standard. Therefore, this calibration procedure matches the antenna to the particular gyro source present in the installation. This highlights the desirability of using the aircraft gyro installed on a tilt table as the gyro signal source.

- a. Remove the gyro from the aircraft and mount on the tilt table using the extender cable (figure 2-20).
- b. Switch the antenna scan switch to OFF.
- c. Select TEST mode on the radar indicator or control unit.
- d. Switch the STAB switch to ON, on the indicator or control unit.
- e. Adjust the manual tilt on the indicator or control unit to 0-degree tilt.
- f. Connect the scope across R1 (22-ohm, 3-watt resistor) located on the base of the antenna, just above the connector and close to the drive motor.
- g. Manually rotate the antenna in azimuth to dead ahead (0 azimuth mark).
- h. With the tilt table, adjust the gyro for a 10-degree pitch-up while maintaining 0 roll (the antenna should move down in pitch). Adjust, if necessary, resistor R21 PITCH PHASE for best null across R1.
- i. With the tilt table, adjust the gyro for a 10-degree pitch-down while maintaining 0 roll. The null should be the same as in step h; if not, adjust R21 for equal null between pitch up and down.
- j. Manually rotate the antenna in azimuth to the right (aircraft right) 60-degree azimuth index mark.
- k. Adjust the gyro for a 15-degree left wing down while maintaining 0 pitch (the antenna should move down in pitch). Adjust ROLL PHASE pot R8 for best null across R1.
- l. Adjust the gyro for a 15-degree left wing up while maintaining 0 pitch. The null should be the same as in step k; if not, adjust R8 for equal null between left wing up and down.
- m. Disconnect the scope and proceed to the roll gain adjustment procedure.

#### 2.6.4.4 Roll Gain Adjustment Test

- a. Remove the gyro from the aircraft and mount on the tilt table using the extender cable (figure 2-20).

- b. Switch the antenna scan switch to OFF.
- c. Select TEST mode on the indicator or control unit.
- d. Switch the STAB switch to OFF on the indicator or control unit.
- e. Adjust the manual tilt on the indicator or control unit to 0-degree tilt.
- f. Manually rotate the antenna to the right (aircraft right) to the 60-degree azimuth index mark. Check the pitch angle of the antenna and record the degrees.
- g. Manually rotate the antenna to the left 60-degree azimuth index mark. Check the pitch angle of the antenna and record degrees.
- h. Switch the STAB switch to ON, on the indicator or control unit.
- i. Adjust the gyro for a 15-degree left wing-up output while maintaining 0 pitch output. Ensure the gyro does not precess during adjustments.
- j. Check the antenna for a 13-degree pitch movement down from the degrees recorded in step g. Adjust ROLL GAIN pot R11 if necessary to obtain 13 degrees.
- k. Manually rotate the antenna to the right to the 60-degree azimuth index mark. Ensure the gyro has not precessed. Check the antenna for a 13-degree pitch movement up from the degrees recorded in step f; if not 13 degrees, adjust ROLL GAIN pot R11 for equal errors for azimuth right and left. The maximum error allowable is  $\pm 0.500$  degree for right or left.
- l. Proceed to the pitch gain adjustment procedure.

#### 2.6.4.5 Pitch Gain Adjustment Test

- a. Remove the gyro from the aircraft and mount on the tilt table using the extender cable (figure 2-20).
- b. Switch the antenna scan switch to OFF.
- c. Select TEST mode on the indicator or control unit.
- d. Switch the STAB switch to OFF on the indicator or control unit.
- e. Adjust the manual tilt on the indicator or control unit to 0-degree tilt.
- f. Manually rotate the antenna to 0 azimuth index mark (figure 2-19). Check pitch angle of the antenna and record degrees.
- g. Switch the STAB switch to ON, on the indicator or control unit.
- h. Adjust the gyro for a 10-degree nose-up output while maintaining 0 roll. Ensure the gyro does not precess during adjustment.

- i. Check the antenna for a 10-degree movement down from the degrees recorded in step f; if not 10 degrees, adjust PITCH GAIN pot R24.
- j. Adjust the gyro for a 10-degree nose-down output while maintaining 0 roll. Ensure the gyro does not precess during adjustments.
- k. Check the antenna for a 10-degree movement up from the degrees recorded in step f; if not 10 degrees, adjust PITCH GAIN pot R24 for equal errors for nose up and down. The maximum error allowed is  $\pm 0.500$  degree for up or down.
- l. Switch azimuth scan switch to ON and disconnect all test equipment.
- m. Reinstall the gyro, shimming to be true with aircraft by performing steps 2.6.4 a, b, and c of the antenna mounting procedure.
- k. Measure the pitch axis of the antenna plate with the protractor level; it should be 0 degree. If not, shim the antenna mounting.
- l. Rotate the antenna plate in azimuth to the right (aircraft right) 60-degree index mark. With the protractor level, measure the pitch axis and record degrees.
- m. Rotate the antenna plate in azimuth to the left 60-degree index mark. With the protractor level, measure the pitch axis and record degrees.
- n. The right and left pitch angles should be the same; if not, loosen the antenna mounting bolts and rotate the antenna on the aircraft bulkhead for equal angles. The error shall be no greater than 0.250 degree.
- o. Switch the antenna scan switch to ON.

### **2.6.5 Antenna Testing With Test Fixture**

#### **2.6.5.1 Antenna Mounting Test**

- a. Adjust the aircraft for 0 roll and pitch. Use a level, not the gyro output.
- b. Connect the antenna calibration/test, test fixture described in figures 5-8 and 5-9 and table 5-3 in the maintenance section. Power up the avionic circuits on the aircraft.
- c. Set the GYRO SIMULATOR ROLL and PITCH switches to A/C GYRO. Set the TILT switch to IND. Adjust the manual TILT control knob on the indicator or control unit to reach 0-volt output. If the TILT control knob does not indicate 0 tilt, then loosen the setscrews and align to the 0 mark and retighten the setscrews.
- d. Check the gyro output by rotating the SELECT knob to PITCH or ROLL and read the meter/scope; it should be 0 V ac in roll and pitch.
- e. Switch the antenna azimuth scan to OFF.
- f. On the radar indicator or control unit, select TEST mode.
- g. On the test fixture, set the STAB switch to OFF.
- h. On the test fixture, position the TILT switch to SIM. Using the ac meter, read the voltage with SELECT switch in the TILT position. Rotate the ADJ knob on the test fixture for 0 V ac.
- i. Manually rotate the antenna plate to dead ahead to 0 azimuth index mark (see index marks on azimuth spur gear and drive housing, figure 2-19).
- j. At this point, the antenna must be at the 0 pitch index mark (see index marks on antenna plate mount and on coax housing flanges, figure 2-19). If not, the antenna must be removed for bench alignment.

#### **2.6.5.2 Manual Tilt Knob Adjustment and Manual Tilt Control Phasing Test**

- a. Switch the antenna azimuth scan switch to OFF.
- b. Select TEST mode on the radar indicator or control unit.
- c. Switch the STAB switch to OFF on the test fixture.
- d. On the test fixture, position the TILT switch to IND. Using the ac meter, read the voltage with SELECT switch in the TILT position. Adjust the manual TILT control knob on the indicator or control unit to reach 0-volt output. If the TILT control knob does not indicate 0 tilt, then loosen the setscrews and align to the 0 mark and retighten the setscrews.
- e. Adjust the manual tilt control up and down and repeat step d.
- f. Adjust the manual tilt control up 10 degrees from 0 and note the antenna moves up 10 degrees.
- g. Switch the antenna scan switch to ON.

#### **2.6.5.3 Quadrature Adjustment Test**

Two calibration adjustments, PITCH PH and ROLL PH, are provided to compensate for the difference in phase angle of the gyro source with respect to the 115-V ac, 400-Hz reference. These adjustments are located at the top of the chassis. The objective is to achieve a null condition in the tilt drive circuits when the pitch and roll angular inputs are satisfied. These adjustments are factory set for a null condition while being driven by a standard 8-degree leading source. Experience has shown that many installations deviate from the standard. Therefore, this calibration procedure matches the antenna to the particular

DUNCAN AVIATION



Date 4/27/95

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Department \_\_\_\_\_

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Name CURT CAMPBELL

Department \_\_\_\_\_

Message:

*NO LATER IF ANY QUESTIONS !!*

**DUNCAN AVIATION INC.**  
**WEATHER RADAR STABILIZATION**

**THEORY**

The purpose of radar stabilization is to keep the radar antenna scanning parallel to the horizon as the aircraft changes roll and pitch attitudes. To accomplish this, the radar accepts pitch and roll error signals from the vertical gyro and continuously adjusts the tilt of the antenna as it scans from one side to the other. The flat plate common to all modern radar antennas, forms a narrow pencil beam of microwave energy that is first transmitted by the radar in a very short, high energy pulse. After this very short transmit pulse, the radar receives echos of this RF energy from either ground returns or weather returns, (the primary purpose of airborne radar). Microwave transmissions are 'line of sight'. The higher that the aircraft flies, the greater the distance of ground returns that can be 'painted' by the radar. At 40,000 feet, this distance is approximately 200 miles with level terrain, but can considerably further when there are mountains or especially high level thunderstorms which can be seen past the horizon, up to approximately 300 miles, because of their height of up to 60,000 feet.

Normally the radar tilt is adjusted up until the ground returns just disappear. The 'pencil beam' is actually 7 1/2 degrees for a 12" flat plate and gets wider the further it travels from the antenna. A minute change in tilt can make a



tremendous difference in the amount of ground returns painted. A 1/2 degree roll error, which could be caused by either the gyro or the radar stab, could cause a radar operating on the 100 mile range to paint 40 miles of ground returns on one side and no ground returns on the other.

Each part on the system can have small errors which can be accumulative. The entire system can have a maximum error of 2 degrees. This is why it is so important that the pilot be able to determine the amount of error in his system. (See the test flight check out procedure) The radar antenna itself has a +/- 30 degree tilt limitation. Aircraft maneuvers which call for greater than 30 degrees of compensation will obviously not be completely compensated for. The antenna will run up against its stops.

Stabilization errors can be caused by a number of gyro errors. The gyro might be mounted slightly off in pitch or roll. (Roll errors are always much more noticeable) Aircraft acceleration or deceleration can cause the gyro to precess, as do extended, shallow bank turns. Precession errors can cause a 3-5 degree stab error that can last up to 5 minutes. Precession errors will show up as intermittent ground returns on one side or the other, or first one side and then the other. The errors slowly get smaller after the aircraft is returned to straight and level flight, and the gyro corrects itself.

## RADAR STABILIZATION IN AIRCRAFT FUNCTIONAL CHECKS AND ADJUSTMENTS

The aircraft should be reasonably level, however does not need to be exact. Your hanger floor should work fine if A/C tires are properly inflated, and nose strut is not extended or collapsed. If necessary, A/C can be leveled with floor jacks.

Use a power cart to insure the A/C batteries do not become discharged. Loosen the vertical gyro which provides the information to the radar, usually the pilots.  
**CAUTION!** Be very careful not to allow the gyro to drop even a very small distance as the gyro could be easily damaged! Note the number and position of any shims used to level the gyro. Turn on DC & AC power, and the avionics master if equipped.

Allow time for the vertical gyro flag to pull. The rest of the procedure will work best with two people. Have the other person sit in the cockpit and verify that the proper gyro is loosened. Remove radome to gain access to the radar antenna.

Turn radar to STANDBY and select STAB ON. Turn SCAN SW. on the antenna to OFF if so equipped. Carefully move the antenna to the "dead ahead" position.

Pitch the gyro nose UP (fwd part of gyro tilted up) Verify that the radar antenna tilts DOWN. If the antenna tilts up, then the pitch gyro HI and LO wires may be

reversed.

Move the radar antenna left 60 degrees (toward pilots side) Roll gyro LEFT wing down (pilots side down) and verify that the radar antenna tilts UP. If the antenna tilts down, then the roll gyro HI and LO wires may be reversed. If both pitch and roll are reversed, then it is also possible that the AC reference to the radar is reversed. It is also possible that these conditions could be caused by a defective radar antenna.

Use a prop protractor to check the stabilization gains. Hold the edge of the prop protractor against the radar antenna mounting base or ears. Lock the inner ring of the protractor to 0 degrees. Adjust the outer ring to level the bubble, then lock the outer ring. This sets the 0 degree reference.

Turn the radar stab switch to OFF, and position the radar antenna "dead ahead". Position the prop protractor on the flat plate (See fig. 1) and adjust the TILT control on the radar indicator to level the bubble on the protractor. The tilt control should indicate 0 +/- 2 degrees. NOTE: Some flat plates have protrusions on the face which secure the flat plate together. Be sure to position the prop protractor so it does not rest on these protrusions, as errors will result. Also while holding the prop protractor against the flat plate, maintain a slight down pressure throughout the measurements. This will eliminate errors due to mechanical play in the antenna's gear train.

Move the antenna to the left 60 degrees. (pilot's side) Measure and record the difference (if any) from the 0 degree reference on the inner adjustment scale. (See fig. 2) Now move the radar antenna to the right 60 degrees. Again, measure and record the difference from the 0 degree reference.

Using the pilot's ADI for reference, move the gyro to simulate a 20 degree right roll. (See fig. 3) Use paper towels or cloth to roll the gyro. The towels work well because they won't allow the gyro to drop and they are easily adjustable. Take your time and insure that you are as close as possible to 20 degrees roll and 0 degrees of pitch. Turn the radar stab switch ON. With the radar antenna still in the 60 degree right position, record the change tilt from the 0 degree reference. Now move the radar antenna to the left 60 degree position. Measure and record the difference from the 0 degree reference. (See fig. 2)

Take these readings and subtract them from the 0 degree reference. The result is the stabilization correction. Adjust the roll gain adjustment so that the average of the results is equal to 17 1/2 degrees. If the results are not within 2 degrees of each other, then the radar antenna azimuth resolver needs alignment.

Next, adjust the gyro for a 20 degree pitch up and 0 degree roll. (See fig. 4) Move the antenna to the 'dead ahead' position. Measure the amount of change from the 0 degree reference. This is the stabilization pitch

correction, which should 20 degrees DOWN. Adjust the pitch gain pot if necessary. This completes the stabilization gain adjustments.

Remount the vertical gyro, making sure to return any shims to their original positions. If applicable, turn the scan switch back ON. As soon as the radome, cowls, panels etc. are resecured, the aircraft can be test flown to check the stabilization operation. When remounting the radome, be sure to reconnect any antennas or alcohol deiceing lines. Verify that the antenna is free to sweep normally, both with full up and down tilt, without hanging up on any lines or coaxes.

### TEST FLIGHT CHECKOUT

1.) The aircraft must be test flown over fairly even terrain, with little or no weather targets, as these tests use ground returns to check basic radar performance. Fly to any convenient altitude at or above 10,000 feet. Adjust the tilt to obtain maximum distance of ground returns. The distance in nautical miles should be approximately the square root of the altitude in feet. For example, at 10,000 feet the maximum distance = 100 nmiles. Keep in mind that the altitude used to calculate this distance is the altitude above the terrain, not just what the altimeter reads. The distance of these maximum ground returns should be very close to the calculated distance (within 10%). If it is not, then something is limiting the performance of the radar system (something other than stabilization). Possible problems include: defective radome (the radome is not acting as a transparent window to the microwave signals that the radar transmits and receives), weak radar transmitter or receiver, misadjusted AFC (the receiver is not tuned to the transmitter frequency), defective waveguide (cracked, corroded, pinched, or contaminated with water), defective antenna (physical damage to the face plate or corrosion in the waveguide assy. or rotary joints).

### STABILIZATION CHECKS

2.) While flying straight and level with the stabilization off, tilt the antenna down slightly from the setting of maximum distance ground returns. This should produce a fairly

even band of ground returns whose inner edge is PARALLEL to the range marks. (See fig. A) The display will vary considerably depending on the type of radar, the altitude of the aircraft, and the tilt setting. The important point is that the return is fairly even in width. Visually verify that the aircraft is flying wings level to the horizon. (Do not assume that the vertical gyro is correct.) If the returns are parallel to the range marks, then the antenna is mounted correctly. If the return is not parallel to the range marks, then the antenna is not mounted level in the roll axis. If the display has more ground returns on the right side, (fig. B) then the antenna is mounted with the right side down. If the display has more ground returns on the left side, (fig. C) then the antenna is mounted left side down.

Determine the antenna mounting error as follows: Adjust the tilt control so that the ground returns on the extreme right side of the display are just even with a range mark. Record the tilt setting. Adjust the tilt control until the ground returns on the extreme left side of the display are just even with the same range mark. Record the tilt setting. The difference between the two settings is how much mounting error there is between the 60 degree left and the 60 degree right positions. EXAMPLE: The antenna is mounted with the left side down. (fig. C) The right tilt setting is 2 degrees up and the left tilt setting is 4 degrees up. The difference is 2 degrees or 1 degree on each side. The antenna can be leveled by setting up the 0 degree reference at "dead ahead"

as before, and changing the mounting to raise the right side 1 degree (as measured on the flat plate at the right 60 degree position) and lower the left side 1 degree (as measured on the flat plate at the left 60 degree position).

3.) Once the antenna is mounted correctly per 2.) above, the next flight check is to verify that the gyro is mounted correctly. With the aircraft flying straight and level, and the inner edge of the ground return set up to paint parallel to the edge of a range mark, turn the stab ON. If the ground returns are unchanged, then the gyro is mounted correctly. If the ground returns shift as in fig. B, then the gyro is mounted left side down and should have shims added under the left side of the gyro. If the returns shift as in fig. C, then the right side of the gyro is down and shims should be added under that side. The gyro should be leveled by a qualified facility as the procedure is beyond the scope of this paper.

4.) Once the radar antenna and the gyro are mounted correctly we can finally check the stabilization gains! with the ground returns set up to paint parallel to the edge of a range mark, and stabilization ON, roll the aircraft into a 20 degree right bank. If the stabilization is perfect, then the display will not change. If the display changes as in fig. B, then the stab is under correcting. If the display changes as in fig. C, then the stab is over correcting. On radars with a roll gain pot on the indicator, the stabilization correction can be increased by turning the gain pot CW or decreased by

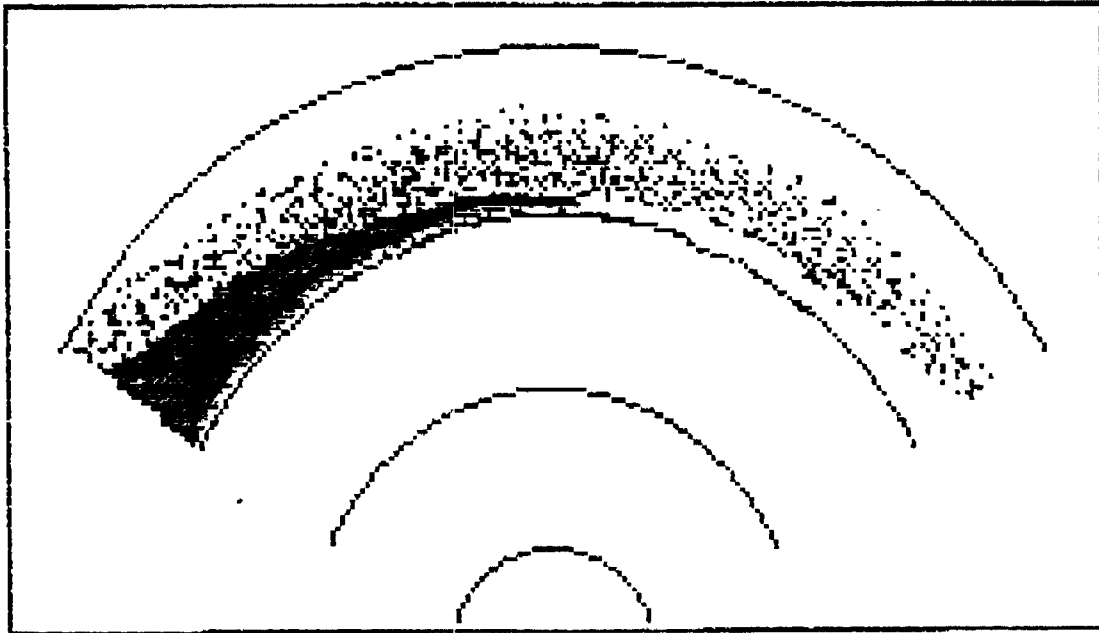


turning the gain pot CCW. On radars without a roll gain adjustment on the indicator, the amount of over or under correction can be determined during flight and readjusted on the ground. To determine the roll error, adjust the tilt to paint the inner edge of the ground returns parallel to and just touching a range mark during straight and level flight. Record the tilt setting. Roll the aircraft to 20 degrees right. Adjust the tilt control so that the inner edge of the extreme right side of the display (60 degrees right) is just touching the same range mark. Record the tilt setting. The difference between the two readings is the amount of over or under correction. EXAMPLE: The display shifts as in fig. B, (the stab is under correcting) The tilt setting is 4 degrees up with the aircraft flying level. With the aircraft rolled 20 degrees right, the tilt setting is 7 degrees up (to bring the extreme right side of returns to just touch the same range mark) The difference is 3 degrees (the amount of under correction) The stab can then be set up in the aircraft or on the bench to correct an additional 3 degrees, (per side).

This paper was written by Steve Williams.

Lead Technician at Duncan Aviation Inc. Lincoln Ne 3/88

# FIGURE C



# FIGURE B



# FIGURE A

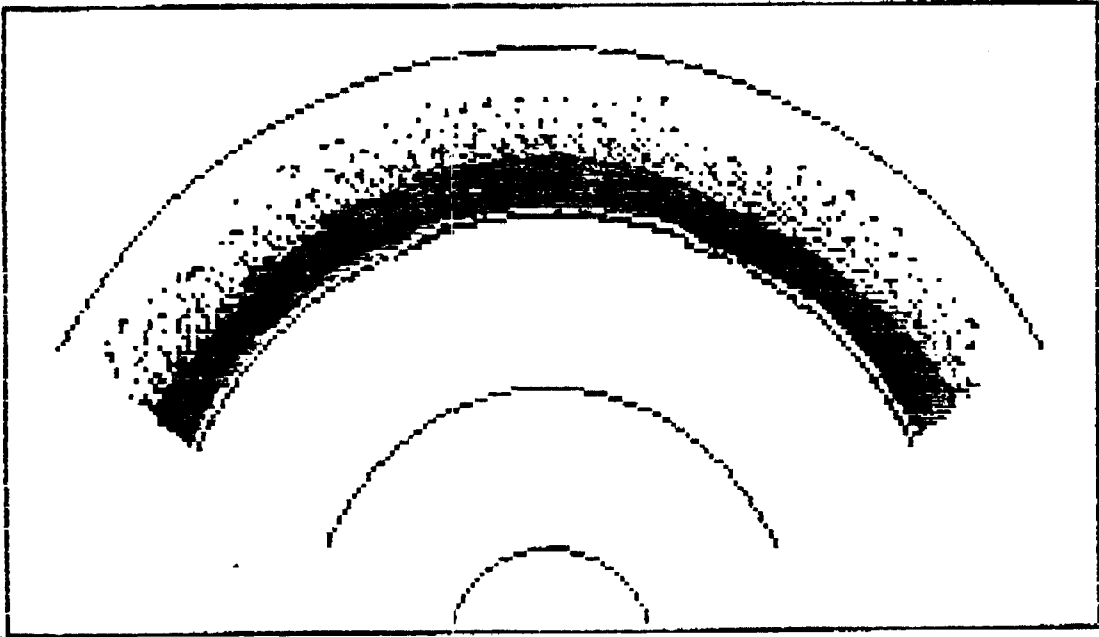


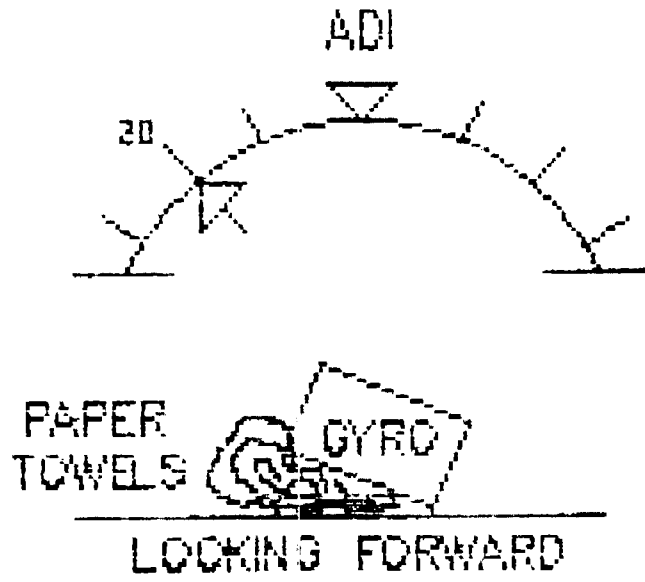
FIGURE 2.

		60 LEFT	0	60 RIGHT
STABILATION OFF	--	+1	0	-1
20 DEGREES RT WING DN	--	-16 1/2	0	+16 1/2
20 DEGREES PITCH UP	--	N/A	- 20	N/A

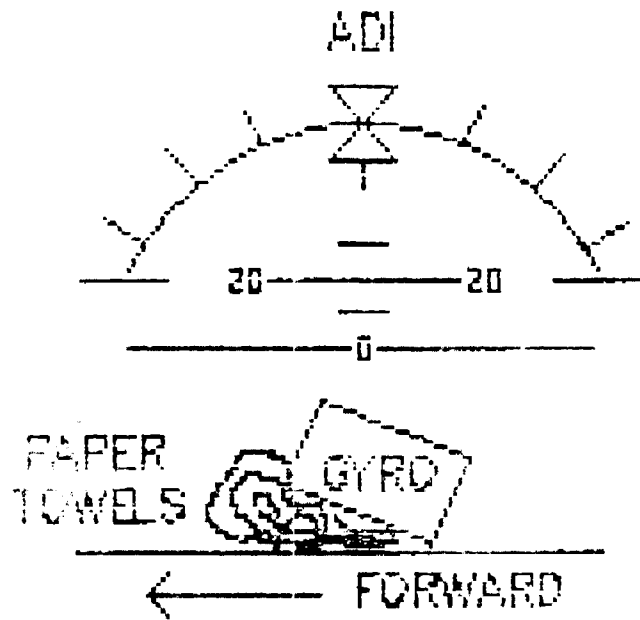
$-16 \frac{1}{2} - (+1) = -17 \frac{1}{2}$

$+16 \frac{1}{2} - (-1) = +17 \frac{1}{2}$

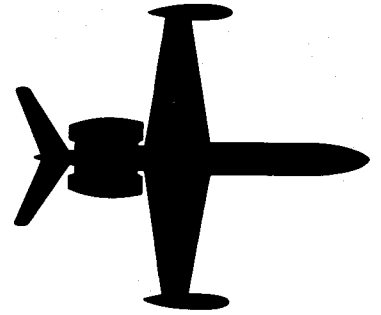
# FIGURE 3



# FIGURE 4



# 1124-WESTWIND



## SERVICE BULLETIN

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OPTIONAL

SERVICE BULLETIN NO. 1124-34-015

May 24, 1985

SUBJECT: VOR/LOC ANTENNA BONDING AND PHASING.

### 1. PLANNING INFORMATION

#### A. EFFECTIVITY

MODEL 1124/1124A WESTWINDS, all serial numbers.

#### B. REASON

To eliminate VOR/LOC raw data scalloping and improve reception.

#### C. COMPLIANCE

Compliance with this Service Bulletin is optional.

#### D. DESCRIPTION

This Service Bulletin describes procedures necessary to install a conductive gasket under VOR/LOC antenna base, ensure proper antenna radiation patterns and provide surface bonding to eliminate precipitation static.

#### E. APPROVAL

The modifications described in this Service Bulletin have been shown to meet applicable ICAA/FAA regulations and are IAI Engineering approved.



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Page 1 of 6



F. MATERIAL

The material required by this Service Bulletin may be obtained through Atlantic Aviation Supply Co., their distributors or may be obtained locally through:

CHOMERICS  
23839 S. Banning Blvd.  
Carson, CA 90745  
Phone: 1-800-221-2879

G. TOOLING

None required.

H. WEIGHT & BALANCE

Not applicable.

I. ELECTRICAL LOAD DATA

Not applicable.

J. REFERENCES

1124/1124A Maintenance Manual, Chapter 34-50-01.

K. PUBLICATIONS AFFECTED

1124/1124A Illustrated Parts Catalog, Chapter 34-50-00.

2. ACCOMPLISHMENT INSTRUCTIONS

A. Remove both VOR/LOC antenna blades, #10 screws (8 places) and #4 screws (4 places through fillet). Tag cables for proper reassembly.

(1) Check data plates for proper P/N DMN4-15-3, both blades must carry the same serial number and one blade a -A, the other a -B. This ensures you have a matched and balanced antenna.

(2) Inspect leading edge of each antenna blade for cracks or separation of erosion plate. Such cracks may permit water to enter blade and create internal corrosion. Obvious repair attempts at leading edge should be considered suspect.

- B. Remove P/N DMU21-2 mounting adapters. Using a wire brush clean the three mounting surfaces of each adapter, and apply Iridite P/N 14-2 or equivalent per vendor instructions.
- (1) Clean and Iridite bottom of counterbored mounting holes.
  - (2) Retain existing sponge gasket. Ensure it is secure between the mounting surfaces using P/N 2216 or equivalent adhesive.
- C. Remove any sealant or body filler found at antenna mounting location. Clean and polish area under mounting adapter and do not remove paint within  $\frac{1}{4}$  inch of inside of mounting adapter outline. Iridite the exposed area.
- D. Clean and Iridite antenna mounting surfaces and counter-sink mounting holes of each antenna blade.
- (1) Remove both end fillets and treat inner and upper surfaces as above.
- E. Remove all access panels on vertical stabilizer and rudder. Clean and polish each panel and surface mounting hole, including outer countersunk holes in panels. Apply Iridite 14-2 to areas exposed by cleaning.
- F. Inspect and repair as required rudder hinge bonding straps and vertical stabilizer bond strap at bottom of vertical stabilizer rear spar.
- (1) Measure across each bond strap (not to attaching bolts), a maximum of 0.1 ohm (normal is 0.01 ohm).
  - (2) Replace bond strap if broken or frayed.
  - (3) Should a poor bond be indicated, remove strap, clean and Iridite attachment area, reassemble and retest.
- G. Reference Figure 1, detail A. This is the top view of the VOR/LOC antenna (upper blade shown RHS).
- (1) Inspect the coaxial cable interconnections between the blades. These cables are of critical length, and must connect as shown: forward connector of each

blade together, and aft connectors together. Inspect blade connectors for a secure connection to the coaxial cable shield braid.

- (a) Re-label connectors at blades as necessary to ensure proper connection.
- (2) Inspect the coaxial "T" forming VOR 1 and VOR 2 downleads for secure shield braid connections and ensure connectors to "T" are in turn secure.

NOTE

Properly assembled connectors will not allow connector body to twist on cable.

- H. Cut Polasheet conductive gasket material to outline of each mounting adapter footprint. Match and cut clearance holes for mounting screws.
- I. Reinstall all access panels.
- J. Reinstall antenna blade mounting adapters, with new gaskets between adapter and vertical stabilizer.
  - (1) Use MS 35333 (-38 or -40) internal tooth lockwashers of proper size under each screwhead prior to installation. Discard original flat washers except those used as spacers between blade and mounting adapter.
  - (2) Fill counterbore with PR-1422 or equivalent sealant upon completion.
- K. Reinstall VOR/LOC antenna blades. Ensure connections are proper.
  - (1) Reinstall fillets with MS 35333-8 washers. Discard original flat washers.
  - (2) Seal screwheads with PR-1422 sealant to prevent corrosion.
- L. Should any decals such as flags or logos, have been applied to sides of vertical stabilizer, remove them. These decals generate static, and will also interfere with VHF and VLF systems installed.

3. BILL OF MATERIAL

<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
A/R	PR-1422	Sealant (Mfg. Pro Seal) or equivalent
A/R	14-2	Iridite, or equivalent
1	07-0802-3012	Gasket material (Mfg. Chomerics)
A/R	2216	Adhesive (Mfg. 3M) or equivalent
8	MS 35333-40	Lockwasher, 1/4" internal tooth
8	MS 35333-38	Lockwasher, #8 internal tooth

4. AIRCRAFT RECORDS

Make the following entry in the aircraft log book:  
 Service Bulletin No. 1124-34-015 dated May 24, 1985,  
 titled "VOR/LOC Antenna Bonding And Phasing," has been  
 accomplished this date \_\_\_\_\_.

END

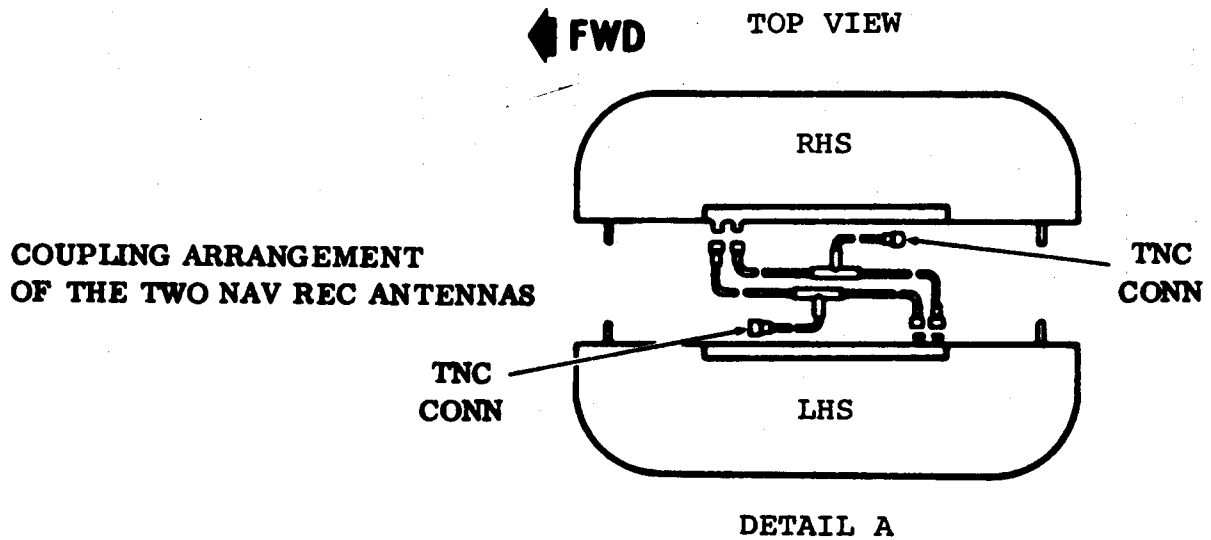
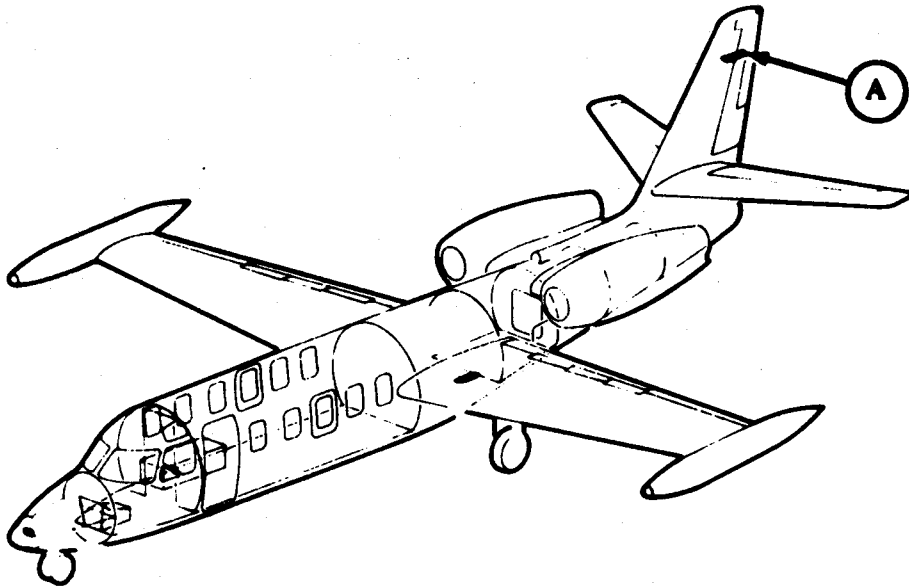


FIGURE 1

# SERVICE PUBLICATIONS revision notice

OPTIONAL

SERVICE BULLETIN NO. 1124-34-015  
Revision No. 1

August 23, 1985

SUBJECT: VOR/LOC ANTENNA BONDING AND PHASING

REASON FOR  
REVISION:

Add text to paragraph 2.A.(1).

2. ACCOMPLISHMENT INSTRUCTIONS:

A.

R  
R  
R  
R  
R

- (1) Check data plates for proper part numbers. Matching the DMN4-15-3 antenna requires utilizing antennas with the same serial number. However, one S/N must end with a -A and the other must have a -B.

R  
R

Antenna matching is not necessary when P/N DMN4-15-3/D is installed.

SB 1124-34-015  
Page 1 of 1



SUBSIDIARY OF ISRAEL AIRCRAFT INDUSTRIES, LTD  
BEN GURION AIRPORT, ISRAEL

*Service Bulletin*

A/C S/N \_\_\_\_\_

*Certificate of Compliance*

PLEASE FILL IN THE REQUIRED DATA BELOW AND RETURN TO:

ISRAEL AIRCRAFT INDUSTRIES INTERNATIONAL, INC.  
P.O. BOX 10086  
WILMINGTON, DE 19850  
ATTN: TECHNICAL PUBLICATIONS

This is to certify that Westwind Serial Number \_\_\_\_\_ has complied with Service Bulletin No. 1124-34-015

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance HOURS: \_\_\_\_\_ /CYCLES: \_\_\_\_\_

Compliance Date \_\_\_\_\_ By \_\_\_\_\_  
Signature

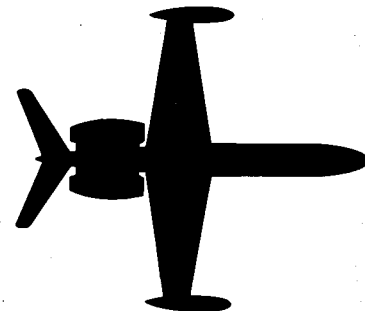
OWNER:

ACCOMPLISHING AGENCY:

_____	_____
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_____	_____

Please describe below any discrepancies found or difficulties encountered during compliance:

\_\_\_\_\_  
\_\_\_\_\_  
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## SERVICE BULLETIN

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### RECOMMENDED

SERVICE BULLETIN NO. 1124-34-023

Decemeber 9, 1985

SUBJECT: NAVIGATION - ELIMINATION OF IMPROPER MACH WARNINGS

#### 1. PLANNING INFORMATION

##### A. EFFECTIVITY

MODEL 1124 WESTWIND, all serial numbers prior to 423.

##### B. REASON

To eliminate misleading signals that cause the Copilot Mach Airspeed indicator to activate the Mach Warning system in normal operating airspeed ranges.

##### C. COMPLIANCE

Compliance with this service bulletin is recommended.

##### D. DESCRIPTION

Shielded wiring is installed between the VMO/MMO TEST switch and the Copilot Mach Airspeed indicator to remove EMI from adjacent cable bundle wiring.

##### E. APPROVAL

This service bulletin has been reviewed by the Israel Civil Aviation Administration (ICAA). The design content conveyed herein complies with the applicable Civil Aviation Regulations and is ICAA approved.



F. MATERIAL

Material necessary to comply with this service bulletin may be procured locally.

G. SPECIAL TOOLS

Not applicable.

H. WEIGHT AND BALANCE

Not applicable.

I. ELECTRICAL LOAD DATA

Not applicable.

J. REFERENCES

1124 Wiring Diagram Manual, Chapter 34-10-04

K. PUBLICATIONS AFFECTED

1124 Wiring Diagram Manual, Chapter 34-10-04.

2. ACCOMPLISHMENT INSTRUCTIONS

- A. Remove copilot's instrument panel to gain access to disconnect plug P/J 20.
- B. Remove, cap and stow wires W75C22 from P250, pin 2 and W86C22 from P250, pin 5.
- C. Install a new #22 AWG twisted-pair shielded wire from P20 to P250:
  - (1) One conductor (new W75B22WH) from P20-G to P250-2.
  - (2) The second conductor (new W86B22BL) from P20-H to P250-5.
  - (3) Connect shields; one end to P20-W, the other end to P250-9 with existing wire #W84A22.
- D. Remove, cap and stow wires W75B22 to J20-G and W86B22 from J20-H.
- E. Lower the forward overhead circuit breaker panel and locate the VMO/MMO TEST switch. Identify for future reference the terminals used for wires W75A22 and W86A22. Remove, cap and stow these wires.

SERVICE BULLETIN NO. 1124-34-023

- F. Install a new #22 AWG twisted-pair shielded wire from J20 to the VMO/MMO switch. Follow existing cable bundles down and across copilot's cockpit sidewall.
- G. Connect the above new shielded wire:
  - (1) One conductor (new W75A22WH) from J20-G to proper VMO/MMO switch terminal #4 with two pole or terminal #1 with one pole.
  - (2) The second conductor (new W86A22) from J20-H to proper VMO/MMO switch terminal #3.
  - (3) Connect shield to J20-W, terminate and insulate shield at VMO/MMO switch.
- H. Install copilot's instrument panel and reassemble aircraft.
  - (1) Perform necessary pitot and static tests to ensure copilot's system integrity.
  - (2) Perform operational tests to all systems disturbed by disassembly.
- I. Return aircraft to service.

3. MATERIAL INFORMATION

<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
A/R	55A1121-22-35	#22 AWG twisted-pair shielded wire (Mfg by RAYCHEM)

4. RECORD COMPLIANCE

- A. Make the following entry in the aircraft log book:

Service Bulletin No. 1124-34-023 dated December 9, 1985 titled "Navigation - Elimination of Improper Mach Warnings" has been accomplished this date \_\_\_\_\_.
- B. Revise the Wiring Diagram Manual to reflect changes accomplished by this service bulletin.

*Service Bulletin*

A/C S/N \_\_\_\_\_

*Certificate of Compliance*

PLEASE FILL IN THE REQUIRED DATA BELOW AND RETURN TO:

ISRAEL AIRCRAFT INDUSTRIES INTERNATIONAL, INC.  
P.O. BOX 10086  
WILMINGTON, DE 19850  
ATTN: TECHNICAL PUBLICATIONS

This is to certify that Westwind Serial Number \_\_\_\_\_ has complied with Service Bulletin No. 1124-34-023

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance HOURS: \_\_\_\_\_ /CYCLES: \_\_\_\_\_

Compliance Date \_\_\_\_\_ By \_\_\_\_\_  
Signature

OWNER:

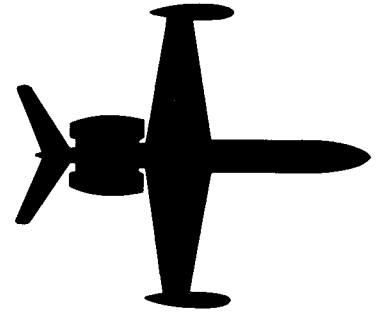
ACCOMPLISHING AGENCY:

\_\_\_\_\_  
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\_\_\_\_\_

Please describe below any discrepancies found or difficulties encountered during compliance:

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# 24-WESTWIND



## SERVICE BULLETIN

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OPTIONAL

SERVICE BULLETIN NO. 1124-34-027

April 18, 1985

SUBJECT: ENABLE GNS-500A SERIES 3B BANK COMMAND OPTION FOR  
FLIGHT DIRECTOR SYSTEM.

1. PLANNING INFORMATION

A. EFFECTIVITY

MODEL 1124A WESTWIND aircraft equipped with Global Series 3B VLF Navigation System, serial numbers 295 through 426.

B. REASON

To allow automatic leg change operation through the coupling of Composite Steering signals from VLF NAV to Autopilot System. Incorporation of this option would eliminate the overshoot of a waypoint and allow more precise tracking of desired track.

C. COMPLIANCE

Compliance with this Service Bulletin is optional.

D. DESCRIPTION

This Service Bulletin contains the information necessary for the addition of roll steering signals to the Autopilot System. Where possible, existing wires (previously capped and stowed) will be used. Specific wire routing is included in this bulletin.



SB 1124-34-027  
Page 1 of 6

E. APPROVAL

The modifications contained in this Service Bulletin has been shown to meet applicable ICAA/FAA regulations and are IAI Engineering approved.

F. MATERIAL

Material required for this Service Bulletin may be obtained locally.

G. TOOLING

None

H. WEIGHT & BALANCE

Not applicable.

I. ELECTRICAL LOAD DATA

Not applicable.

J. REFERENCES

1124A Wiring Diagram Manual:  
Chapter: 34-60-02  
22-10-05  
22-10-02  
34-50-05  
34-50-06  
34-50-18

K. PUBLICATIONS AFFECTED

1124A Wiring Diagram Manual:  
Chapter: 34-06-02  
02-10-05  
22-10-02  
34-50-05  
34-50-06  
34-50-18

2. ACCOMPLISHMENT INSTRUCTIONS

- A. Locate and remove Global RCU P/N 10050-3-3B(X) and OEU P/N 10600-2-2(XX) from mounts. Verify part number of RCU is 10050-3-3BF. If other than -3BF contact Global Navigation Inc., or their service centers for update procedures and/or verification of mod status.
- B. Remove and retain hardware securing mounts to airframe. Position mounts to gain access to rear of RCU and OEU connectors.
- C. Locate wire #2TR4A22R (previously capped and stowed, part of an existing shielded, twisted pair) and insert in pin 21 of RCU connector.
- D. Locate wire #2TR3A22B (previously capped and stowed, part of above shielded, twisted pair) and insert in pin 23 of RCU connector.
  - (1) Ensure shield is grounded at RCU mount.
- E. Locate wire #2TR18A22R (previously capped and stowed, part of an existing shielded, twisted pair) and insert in pin 2 of RCU connector.
  - (1) Ensure shield is grounded at RCU mount.
- F. Locate wire #2TR39A22 (previously capped and stowed) and insert in pin 45 of OEU connector).
  - (1) Ensure shield is grounded at OEU mount.

NOTE

If OEU connector pin 45 has wire #2TR170A22 inserted and connected to T-24 terminal 20 by wire #2TR170C22 (found on later installations, 1124A serial numbers 392 and subs) DO NOT REMOVE. Disregard step K and subsequent reference to wire #TR39D22.

- G. Locate wire #TR4D22R in pin L of D-126P (located approximately STA 264.0 right side). Extract pin, cap and stow wire. Insert new wire #2TR4E22R (part of shielded, twisted pair) in pin L of D-126P.

- H. Locate wire #2TR3D22B in pin M of D-126P. Extract pin, cap and stow wire. Insert new wire #2TR3E22B (second wire from step G above) in pin M of D-126P.
- I. Locate wire #2TR18D22R in pin N of D-126P (part of existing shielded, twisted pair). Extract pin, cap and stow wire. Insert new wire #2TR18E22R (center conductor of shielded, single wire) in pin N of D-126P. Remove, cap and stow wire #2TR17DB22B from pin P of D-261.
- J. Disconnect shields of wires capped and stowed in steps G, H and I. Connect shields of new wires added in steps G, H and I together and insert in pin F of D-126P with remaining existing shields.
- K. Locate wire #2TR39C22 at pin Q of D-261P (located approximately STA 264 right side). Extract pin cap and stow wire. Insert new wire #2TR39D22 in pin Q of D-261P. See Note above.
- L. Route new wires installed in steps G, H and K above along existing cable bundles to T-19 (located approximately STA 257 left side). At T-19, install new wires as follows:
  - (1) Wire #2TR4E22R to terminal #3.
  - (2) Wire #2TR3E22B to terminal #5.
  - (3) Wire #2TR39D22 to terminal #1. See Note above.
  - (4) Shield of shielded pair to terminal #7.
  - (5) Add wire #2TR170D22 from T-24 terminal 20 to T-19 terminal 1 (May already exist from S/N 392).
- M. Route new wire #2TR18E22R installed in step I above, along existing cable bundles to T-162 (located approximately STA 124 left side) and attach to terminal #3. Insulate exposed shield braid.
- N. For 1124A Model aircraft prior to serial number 392, the following wire routing changes need to be accomplished to maintain aircraft wiring conformity for the Distance and Nav Valid flag outputs of Global Series 3B systems.
  - (1) Move wire SW274B24 from T-17 terminal 17 (located approximately STA 255 left side) to T-19 terminal 1. (RNS flag input).

- (2) Move wire UD1R22 from T-17 terminal 17 to T-19 terminal 1. (DME #1 flag input).
- (3) Move wire 2UD1R22 from T-17 terminal 17 to T-19 terminal 1. (DME #2 flag input).
- O. Using hardware removed in step B above, re-install mounts for Global OEU and RCU.
- P. Replace Global OEU and modified RCU firmly in mounts.
- Q. Verify proper operation of Composite Steering using the following procedures:
  - (1) Select VLF2 on pilot and/or co-pilot HSI.
  - (2) Generate airspeed input to Air Data Source of approximately 380 knots.
  - (3) Place VLF in primary (VLF) navigation mode and ensure valid HDG and TAS inputs to system on Nav page 2.
  - (4) Couple VLF to Auto-Pilot System (select Nav mode, both Flight Guidance Panels).
  - (5) Generate groundspeed by updating present position, on Nav page 4, in 5 arc-minute increments in rapid succession. It may take as many as 6 updates to generate a ground speed. Verify groundspeed on Nav page 2.
  - (6) Enter R7.5 miles in SXTX field on Nav page 3. Auto-pilot and Flight Director will indicate right turn.
  - (7) Enter L7.5 miles in SXTX field on Nav page 3. Auto-pilot and Flight Director will indicate left turn.
- R. Reassemble aircraft and return to service.

3. MATERIAL INFORMATION

<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
A/R	MIL 16878D	Wire, #22 AWG, shielded



SERVICE BULLETIN NO. 1124-34-027

<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
A/R	MIL 16878D	Wire, #22 AWG, twisted pair shielded
A/R	MIL 16878D	Wire, #22 AWG
A/R	327654	Terminal, ring torque (Mfg. AMP)
A/R	320559	Butt connector (Mfg. AMP)
A/R	MS 3192A20-20A	Pin, Male

4. RECORD COMPLIANCE

- A. Make the following entry in the aircraft log book:  
Aircraft wiring modified per Service Bulletin No.  
1124-34-027 dated April 18, 1985, titled "Enable GNS-500A  
Series 3B Bank Command Option for Flight Director System."
- B. Modify your Wiring Diagram Manual as required to reflect  
changes performed by this modification.

END

*Service Bulletin*

A/C S/N \_\_\_\_\_

*Certificate of Compliance*

PLEASE FILL IN THE REQUIRED DATA BELOW AND RETURN TO:

ISRAEL AIRCRAFT INDUSTRIES INTERNATIONAL, INC.  
P.O. BOX 10086  
WILMINGTON, DE 19850  
ATTN: TECHNICAL PUBLICATIONS

This is to certify that Westwind Serial Number \_\_\_\_\_ has complied with Service Bulletin No. 1124-34-027

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance HOURS: \_\_\_\_\_ /CYCLES: \_\_\_\_\_

Compliance Date \_\_\_\_\_ By \_\_\_\_\_  
Signature

OWNER:

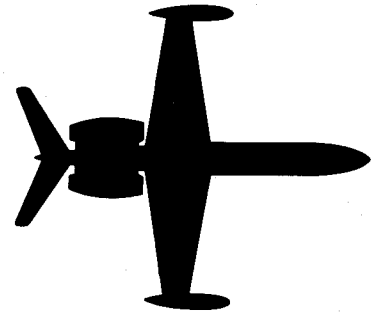
ACCOMPLISHING AGENCY:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Please describe below any discrepancies found or difficulties encountered during compliance:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
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# 1124-WESTWIND



## SERVICE BULLETIN

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OPTIONAL

SERVICE BULLETIN NO. 1124-34-039

July 14, 1986

SUBJECT: NAVIGATION - FPA-80 OPTION IMPROVEMENTS

1. PLANNING INFORMATION

A. EFFECTIVITY

MODEL 1124 WESTWINDS, all serial numbers prior to 413 with FPA-80 option installed.

B. REASON

Elimination of repetitive callouts of the "CHECK BARO ALTITUDE" function of the FPA-80 system.

C. COMPLIANCE

Compliance with this service bulletin is optional.

D. DESCRIPTION

This service bulletin provides instructions to incorporate aircraft wiring changes necessary for accomplishment of this service bulletin.

E. APPROVAL

This service bulletin has been reviewed by the Israel Civil Aviation Administration (ICAA). The design content conveyed herein complies with the applicable Civil Aviation Regulations and is ICAA approved.

F. MATERIAL

The material required for this service bulletin may be procured locally.



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G. TOOLING

None.

H. WEIGHT & BALANCE

Not applicable.

I. ELECTRICAL LOAD DATA

Not applicable.

J. REFERENCES

Model 1124/1124A Wiring Diagram Manual, Chapters  
34-30-05 and 22-10-08.

K. PUBLICATIONS AFFECTED

Model 1124/1124A Wiring Diagram Manual, Chapters  
34-30-05 and 22-10-08.

2. ACCOMPLISHMENT INSTRUCTIONS

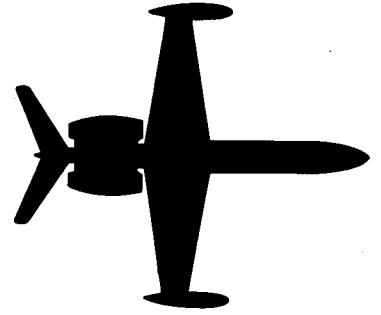
- A. Remove Alt. Preselector unit to gain access to the connector.
- B. Remove wire SA361 from splice at altitude preselector DN27 pin N and wire FD31B. Leave wire FD31B to pin N.
- C. Reconnect wire SA361 by splicing to existing wire FD41A going to DN27-R.
- D. Reassemble connectors, mount Alt. Preselector unit, and perform a complete ground test to ensure system integrity.

3. MATERIAL INFORMATION

<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
A/R	MIL-W-16878D	#22AWG wire

4. RECORD COMPLIANCE

- A. Make the following entry in the aircraft log book:  
Service Bulletin No. 1124-34-039 dated July 14, 1986  
titled "Navigation - FPA-80 Option Improvements" has been  
accomplished this date \_\_\_\_\_.
- B. Revise Wiring Diagram Manual to reflect the changes  
performed by this service bulletin.



## SERVICE BULLETIN

OPTIONAL

SERVICE BULLETIN NO. 1124-23-041

June 14, 1985

SUBJECT: BYPASS OF CTL(XX) CONTROL HEAD VOLUME CONTROLS

### 1. PLANNING INFORMATION

#### A. EFFECTIVITY

- (1) Accomplishment Instructions Part A: Model 1124A WESTWIND S/N 295 through 375 except 349.
- (2) Accomplishment Instructions Part B: Model 1124 WESTWIND S/N 290, 317, 357.

#### B. REASON

To permit proper operation of the 346B-3 audio control center amplifier compression circuits by eliminating the separate system volume controls. All COM/NAV system volume will be controlled by the master speaker/phones volume controls in the Audio Control Panel, to eliminate multiple controls and large changes in received audio levels caused by operating the CTL(XX) at other than maximum volume.

#### C. COMPLIANCE

Compliance with this Service Bulletin is optional.

#### D. DESCRIPTION

This Service Bulletin describes the wiring changes necessary for accomplishment of the reason stated above.

E. APPROVAL

The modification procedures described in this Service Bulletin have been shown to comply with the applicable ICAA/FAA regulations and are IAI Engineering approved.

F. MATERIAL

Material required may be obtained through Atlantic Aviation Supply Company in Wilmington, Delaware or procured locally.

G. TOOLING

None

H. WEIGHT AND BALANCE

Not applicable.

I. ELECTRICAL LOAD DATA

Not applicable

J. REFERENCES

1124/1124A Wiring Diagram Manual Chapters: 23-20-01  
23-20-03  
23-50-03  
34-50-01  
34-50-03

K. PUBLICATIONS AFFECTED

1124/1124A Wiring Diagram Manual Chapters: 23-20-01  
23-20-03  
34-50-01  
34-50-03

2. ACCOMPLISHMENT INSTRUCTIONS

PART A

A. Remove CTL controls as necessary to gain access to connectors.

(1) For COM 1 CTL-20:

(a) Remove jumper from B80J2-10 to splice connecting wires 1RV33D and 1RV33B. Leave these wires connected at splice.

- (b) Remove wire 1RV32D from B80J2-23 and wire 1RV32B from B80J2-13, splice these wires together.
- (2) For COM 2 CTL-20:
- (a) Remove jumper from B81J2-10 to splice connecting wires 2RV33D and 2RV33B. Leave these wires connected at splice.
  - (b) Remove wire 2RV32D from B81J2-23 and wire 1RV32B from B81J2-13, splice these wires together.
- (3) For NAV 1 CTL-30:
- (a) Remove jumper from B85J2-10 to splice connecting wires 1RN25H and 1RN25G. Leave these wires connected at splice.
  - (b) Remove wire 1RN24H from B85J2-23 and wire 1RN24G from B85J2-13, splice these wires together.
- (4) For NAV 2 CTL-30:
- (a) Remove jumper from B86J2-10 to splice connecting wires 2RN25H and 2RN25G. Leave these wires connected at splice.
  - (b) Remove wire 2RN24H from B86J2-23 and wire 2RN24G from B86J2-13, splice these wires together.
- B. Reassemble connectors, install CTL controls, and perform complete COM/NAV operational ground tests to ensure system integrity.

PART B

- A. Remove CTL controls as necessary to gain access to connectors.
- (1) For COM 1 CTL-20:
- (a) Remove jumper from B209J2-10 to splice connecting wires 1RV33B and 2RD33H. Leave these wires connected at splice.

(b) Remove wire 2RD32H from B209J2-23 and wire 1RV32B from B209J2-13, splice these wires together.

(2) For COM 2 CTL-20:

(a) Remove jumper from B221J2-10 to splice connecting wires 2RV33B and 2RV33G. Leave these wires connected at splice.

(b) Remove wire 2RV32B from B221J2-23 and wire 2RV32G from B221J2-13, splice these wires together.

(3) For NAV 1 CTL-30:

(a) Remove jumper from B208J2-10 to splice connecting wires 1RN25A and 1RN25H. Leave these wires connected at splice.

(b) Remove wire 1RN24H from B208J2-23 and wire 1RN24A from B208J2-13, splice these wires together.

(4) For NAV 2 CTL-30:

(a) Remove jumper from B207J2-10 to splice connecting wires 2RN25A and 2RN25H. Leave these wires connected together at splice.

(b) Remove wire 2RN24H from B207J2-23 and wire 2RN24A from B207J2-13, splice these wires together.

B. Reassemble connectors, install CTL controls, and perform complete COM/NAV operational ground tests to ensure system integrity.

3. MATERIAL INFORMATION

<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
A/R	35115	Closed end splice (Mfg. AMP)



4. RECORD COMPLIANCE

- A. Make the following entry in the aircraft log book:  
Service Bulletin No. 1124-23-041, dated June 14, 1985,  
titled Bypass of CTL(XX) Control Head Volume Controls,  
has been accomplished this date \_\_\_\_\_.
- B. Revise Wiring Diagram Manual to reflect the changes  
described by this Service Bulletin.

END

# SERVICE PUBLICATIONS revision notice

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OPTIONAL

SERVICE BULLETIN NO. 1124-34-044  
Revision No. 1

October 7, 1985

SUBJECT: 331A-9G HSI DISTANCE DISPLAY IMPROVEMENTS

REASON FOR  
REVISION: To add to Accomplishment Instructions, Part I,  
Step B(2) and Step C(2).

## 2. Accomplishment Instructions

### PART I

- (a) Add resistor (47K ohm 2 watt) to HSI cable bundle. Splice one lead of resistor to wire at pin 51 and splice other end of resistor to wire at pin 50. Properly insulate resistor leads to prevent shorting.

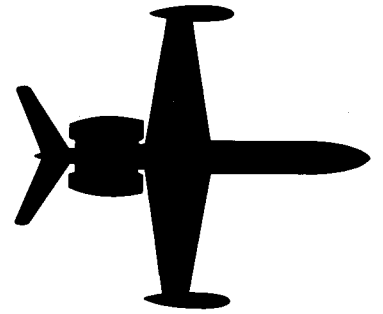
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INTERNATIONAL INC.  
ISRAEL AIRCRAFT INDUSTRIES INTERNATIONAL INC

SUBSIDIARY OF ISRAEL AIRCRAFT INDUSTRIES. LTD.  
BEN GURION AIRPORT, ISRAEL

# **T-24-WESTWIND**



## **SERVICE BULLETIN**

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OPTIONAL

SERVICE BULLETIN NO. 1124-34-044

August 9, 1985

SUBJECT: 331A-9G HSI DISTANCE DISPLAY IMPROVEMENTS

### 1. PLANNING INFORMATION

#### A. EFFECTIVITY

MODEL 1124 WESTWIND, all serial numbers through 411 except 187, 188, 189, 191, 192, 197, 215, 290.

#### B. REASON

To permit pilot and copilot HSI to display VLF distance up to 3,999 miles, and to permit proper HSI display dimming.

#### C. COMPLIANCE

Compliance with this Service Bulletin is optional.

#### D. DESCRIPTION

The 331A-9G HSI status -012 and -019 is changed per Collins 331A-9G Service Bulletin #15 to accept INS distance input. One wire is added and two wires reversed on VLF switch in aircraft for input labeling to the HSI. The circuit components on T-24 are removed and one jumper wire is added to update the display dimming circuitry, if needed.

#### E. APPROVAL

The modifications described in this Service Bulletin are IAI Engineering approved.



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BEN GURION AIRPORT, ISRAEL

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F. MATERIAL

The material required for this Service Bulletin can be obtained through Atlantic Aviation Supply Co., Wilmington, Delaware or purchased locally.

G. TOOLING

None

H. WEIGHT AND BALANCE

Not applicable.

I. ELECTRICAL LOAD DATA

Not applicable.

J. REFERENCES

1124 Wiring Diagram Manual Chapters: 34-50-02  
34-50-04  
34-50-05  
34-50-06  
34-50-14

K. PUBLICATIONS AFFECTED

1124 Wiring Diagram Manual Chapters: 34-50-02  
34-50-04  
34-50-05  
34-50-06  
34-50-14

2. ACCOMPLISHMENT INSTRUCTIONS

PART I.

A. Preliminary test procedures:

- (1) A/C and Avionics power ON.
- (2) VLF power ON and initialization sequence completed, including flight plan selection (leg change). TO/FROM waypoints must exceed 1,000 miles for proper distance check.

NOTE

OEU interface switch #3 must be set to position "C", "D", "E", or "F" in RCU, to enable VLF to output distance information up to 3,999 miles.

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- (3) Couple VLF to pilots HSI and observe DISTANCE readout. If decimal point appears, follow modification procedures in instructions Part B. below.
  - (4) Couple VLF to copilots HSI and observe DISTANCE readout. If decimal point appears, follow modification procedures in instructions Part C.
  - (5) In steps (3) and (4) above, if DISTANCE readout has decimal point while coupled to VLF, a status check of the HSI (331A-9G) is required prior to aircraft wiring modification.
  - (6) Turn VLF OFF. Avionics power and A/C power OFF.
  - (7) Remove pilots and copilots HSI's and check status.
    - (a) Part number ending in -015 conforms to requirement. Proceed to aircraft wiring modification Part B. and/or C. as applicable.
    - (b) Part number ending in -012 or -019 require Collins 331A-9G Service Bulletin #15 for proper operation. Send unit(s) to authorized Collins Service Center for modification. Proceed to aircraft wiring modification Part B. and/or C. as applicable.
- B. Reference WDM #34-50-02 and 34-50-05. Perform aircraft wiring modification as follows for pilots HSI:
- (1) Make accessible connectors for pilots HSI.
  - (2) Remove, cap and stow wire #UD130A22 from pin 51 of pilots HSI connector J-1. Insert new wire #UD130B22 in pin 51, J-1. Route new wire along existing cable bundles through disconnect plug (any spare pin) to S5E (VLF switch) on pilots instrument panel.
  - (3) Gain access to terminals of S5E (VLF switch) and connect new wire from step (2) to terminal #6.
  - (4) Reverse connections to terminals #5 and #7 of switch. Ensure terminal #5 is to airframe ground and terminal #7 is to RL-92 coil, X-2 after wire change.
  - (5) Reassemble pilots instrument panel and proceed to Part C, as required.

C. Reference WDM #34-50-04 and 34-50-06. Perform aircraft wiring modification as follows for copilots HSI:

- (1) Make accessible connectors for copilots HSI.
- (2) Remove, cap and stow wire #2UD130A22 from pin 51 of copilots HSI connector J-1. Insert new wire #2UD130B22 in pin 51, J-1. Route new wire along existing cable bundles through disconnect plug (any spare pin) to S23E (VLF switch) on copilots instrument panel.
- (3) Gain access to terminals of S23E (VLF switch) and connect new wire from step (2) to terminal #6.
- (4) Reverse connections to terminals #5 and #7. Ensure terminal #5 is to airframe ground and terminal #7 is to RL-03 coil, X-2, after wire change.
- (5) Reassemble copilots instrument panel.
- (6) Reinstall 331A-9G HSI's in pilot and copilot instrument panels.
- (7) Perform follow-up inspection as per Part A. "Preliminary test procedures." If decimal point is lit while HSI is coupled to VLF, recheck wiring modification and refer to appropriate equipment troubleshooting procedures.
- (8) Perform check of display dimming function for pilots and copilots HSI.
  - (a) If display does not dim, proceed to Part II.

PART II.

A. Perform operational test of display dimming function for pilots and copilots HSI using DAY/NITE switch on instrument panel.

- (1) If HSI has dim control on frontispiece, DAY/NITE switch has no effect. Use HSI dim control. If it has no effect, a fault exists within the HSI.
- (2) If display does not dim, and HSI does not have dim control on frontispiece, follow procedures, referencing WDM, Chapters 34-50-05, 34-50-06 and 34-50-14.

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- (a) Remove and discard resistor(s) and diode(s) connected to T-24 (located approx. STA 251 left side) terminals #15, #16 and #17.
- (b) Install #22AWG jumper from terminal #15 to terminal #16 on T-24.
- (c) Ensure T-24 terminal #15 is connected to DAY/NITE bus T-156 terminal #11 (located approx. STA 128 left side, A/C 240 subs) or T-35 terminal #11 (located approx. STA 142 right side, A/C prior to 240). On aircraft prior to 240, T-24 may not be used. Check for continuity between HSI J-1 pin 54 and T-35 terminal #11.
  - (1) HSI J1-54 should read 5VDC in "DAY" or "BRIGHT" condition, and approximately 2.5 VDC in "DIM" or "NIGHT" condition.
  - (2) If voltage checks properly as in step (1) above, repair or replace HSI.

3. MATERIAL INFORMATION

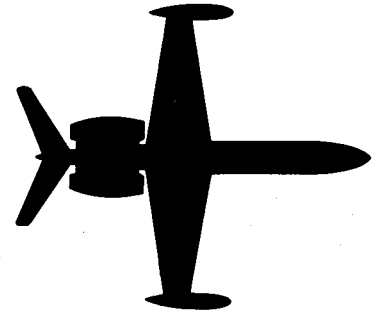
<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
A/R	MIL 16878D	Wire, #22AWG
A/R	327654	Terminal, Ring Tongue (Mfg. AMP)

4. RECORD COMPLIANCE

- A. Make the following entry in the aircraft log book:  
Service Bulletin No. 1124-34-044 dated August 9, 1985 titled "331A-9G HSI Distance Display Improvements, has been accomplished this date \_\_\_\_\_.
- B. Update Wiring Diagram Manual, chapters 34-50-02, 34-40-04, 34-50-05, 34-50-06 and 34-50-14 as required to reflect wiring changes performed.

END

# **1124-WESTWIND**



## **SERVICE BULLETIN**

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RECOMMENDED

SERVICE BULLETIN NO. 1124-34-047

February 6, 1987

SUBJECT: NAVIGATION - STATIC SOURCE IMPROVEMENT FOR COPILOT'S  
ALTIMETER

### 1. PLANNING INFORMATION

#### A. EFFECTIVITY

- (1) MODEL 1124A WESTWINDS, serial numbers 239 and 295 through 392 with (copilot's) encoding altimeter.

#### B. REASON

- (1) To provide an improved, independent, static source for copilot's altimeter.
- (2) To eliminate ATC transponder altitude reporting errors, where the #2 altimeter (copilot's) is an altitude encoding altimeter.

#### C. COMPLIANCE

Compliance with this service bulletin is recommended.

#### D. DESCRIPTION

- (1) This service bulletin describes the procedures necessary to install a second unheated static port system for the copilot's altimeter.



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- (2) This modification is in compliance with AFC 2015 and permits use of the Altimeter Position Correction Charts in the 1124A Flight Manual, Revision 10.

E. APPROVAL

This service bulletin has been reviewed by the Israel Civil Aviation Administration (ICAA). The design content conveyed herein complies with the applicable Civil Aviation Regulations and is ICAA approved.

F. MATERIAL

Material required may be obtained through Atlantic Aviation Supply Company, Wilmington, Delaware, their authorized dealers or may be obtained locally.

G. TOOLING

None required.

H. WEIGHT & BALANCE

Not applicable.

I. ELECTRICAL LOAD DATA

Not applicable.

J. REFERENCES

1124 Maintenance Manual, Chapter 6 (Dimensions) and Chapter 25 (Interior Furnishings).

K. PUBLICATIONS AFFECTED

1124A Aircraft Flight Manual (Ref. AFC 2015)  
1124 Maintenance Manual, Chapter 34  
1124 Illustrated Parts Catalog

2. ACCOMPLISHMENT INSTRUCTIONS

A. Removal of interior furnishings.

- (1) Remove interior from R/H side of aircraft to expose fuselage frames at Y-Station 37.78 to Y-Station 240.25 (cockpit rudder pedal area aft to forward bulkhead of lavatory).

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- (2) Remove interior from L/H side of aircraft to expose fuselage frames at Y-Station 174 to Y-Station 240.25. (Forward frame of escape hatch aft to forward bulkhead of lavatory).
- (3) Remove aft section of headliner to expose fuselage frames at Y-Station 219.05 to Y-Station 240.25.

NOTE

Cornices do not  
need to be removed.

B. Install Alternate Static Port

- (1) Remove soundproofing material below R/H emergency hatch, between frames Y-174 and Y-184.
- (2) Locate Y-Station 181 and mark, locate Z-Station 21.70 (water line) and mark. (Refer to Figure 1.)
- (3) Fabricate a doubler (P/N 5723633-51) from 2024-T3 clad .050 thick aluminum as per dimensions in Figure 1A. Etch doubler and treat with Alodine 1201, finish with epoxy primer.

Cover area between  
frames Y-174 and  
Y-223.75 R/H side  
as necessary to  
catch metal shavings.

- (4) Measure, mark and cut out hole in fuselage at Y-Station 181 and Z-Station 21.70 (R/H side). Use doubler fabricated above (item 3) as a template for rivet holes and static-port retaining screw holes location (Figure 1).
- (5) Drill .250 inch holes for static-port cover as per dimensions in Figure 1. Attach (2 each) nut-plates P/N NAS1473-1/4-28 and spacers P/N CMA71704-45 to inside fuselage skin.
- (6) Countersink rivet and screw holes for port and doubler from the outside of fuselage skin. Countersink .250 holes for static port cover (Figure 1).

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- (7) Cut out .750 diameter holes in R/H side frames at the following Stations:

<u>Y-Sta.</u>	<u>Z-Sta.</u>	<u>Ref. Doubler P/N</u>	<u>Reference</u>
219.05	32.70	CMA71737-503-31	Fig. 1B
210.00	31.70	5723045-67	Fig. 1B
201.75	30.75	CMA71737-503-19	Fig. 1B
194.00	30.00	CMA71737-503-29	Fig. 1C
184.00	Existing	Not applicable	

- (8) Fabricate doublers out of 2024-T3 clad .050 thick aluminum for each frame and install. Refer to Figures 1B and 1C.

NOTE

Etch doublers and treat with Alodine 1201. Finish with epoxy primer.

- (a) Install doubler on fwd side of frame 219.05, picking up existing rivet locations, and install NAS1033-A3 nut-plate on fwd side of frame (Fig. 1B).
- (b) Doubler for frame 194 must be of sufficient length to cover the existing hole at Z-Station 28.20. (See Figure 1C.)
- (c) Install NAS1033-A3 nut-plate on aft side of frames 210.00 and 201.75 (Fig. 1B). (Same as L/H side.)
- (d) Drill doublers as necessary to pick up existing rivet patterns, nut-plates, etc. Add rivets where necessary.
- (9) Coat static port doubler on the side that will be next to fuselage skin with PR1422 sealer or equivalent. Attach doubler to fuselage (inner) skin with rivets (MS20426AD3).
- (10) Install static port P/N 4883050 using laminated shim P/N 5723633-53 between port and doubler. Remove laminations from shim as necessary so outside surface of port is flush with outside skin of fuselage + .010 inch. Secure port with AN507-632R10 screws, AN960-06 washers and MS21042-06 nuts (6 each) (Fig. 1).

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- (11) Apply a coat of PR1422 sealer or equivalent over static port area, covering nut-plates, rivets, nuts and outer diameters of port and doubler.

C. Install static line, left side

- (1) Remove AN929-6 cap from center port of L/H static port, and retain for later use. Use 2 each AN818-6D nuts and AN819-6D sleeves and fabricate a tube from .375 OD X .035W 5052-0 aluminum tubing approximately 8.5 inches long. Bend tube as necessary to align it with the existing hole at Z-Station 29.30 (waterline) at frame Y-184 (refer to Figure 2).
- (2) Attach fabricated tube to center port of static port, attach a reducer (AN919-6D) to the other end of tube (Fig. 2).
- (3) Fabricate a tube from .250 OD X .035W aluminum tubing using 2 each AN818-4D nuts and AN819-4D sleeves. Attach one end to the AN919-6D reducer. Tube must be of sufficient length to be routed aft through existing holes in frames Y-184, 194, 201.74, 210 and approximately 1.5 inches past frame 219.05. Attach a 90° elbow (AN821-4D) to tube end between frame 219.05 and 223.75.

NOTE

If stereo speaker is mounted between frames 210 and 219.05 and interferes with routing of tube assembly, move speaker up approximately 1/4 inch by drilling #10 holes in bracket supporting speaker, and enlarge notch on bracket to clear frame hole.

- (4) Support tube assembly at frames 201.75 and 219.05 with MS21919WDG4 clamps by attaching to existing NAS1033-A3 nut-plates with AN3-4A bolts and AN960PD10L washers.
- (5) Install caterpillar grommet MS21266-4N or equivalent on frames not using DG clamps.

D. Install Static Line, Overhead Section

- (1) Drill a .440-.445 diameter hole in the channel at Z-Station 56.25 (L/H side even with top of cabin windows) between frames 219.05 and 223.75. (Refer to Figure 3.) Install a bulkhead union P/N AN832-4D with 2 each, AN960PD716L washers and 1 each AN924-4D nut.
- (2) Fabricate a tube approximately 21.5 inches long from .250 OD X .035W aluminum tubing with 2 each AN818-4D nuts and AN819-4D sleeves. Bend tube as necessary to route forward and around wing inspection light housing. (Refer to Figure 4.)
- (3) Remove DG clamp holding wing inspection light wires at Z-Station 38.75 and retain (Fig. 4). Route tube fabricated in step 2 through existing hole in channel at Z-Station 38.75 and attach ends to elbow and bulkhead union.
- (4) Clamp wing inspection light wires with clamp removed in Step 3. Support tube with MS21919WDG4 clamp by attaching clamp to existing NAS1033-A3 nut-plate with a AN960PD10L washer and AN3-4A bolt.
- (5) Inspect R/H side channel at Z-Station 56.25 between frames 219.05 and 223.75, for wires routed through pilot hole. If no wires are routed, install union P/N AN832-4D as per instructions in Step 1.
- (6) If wires are routed through channel, locate butt connectors, mark and cut wires at butt connectors. Pull wires out of pilot hole at channel 56.25. Enlarge hole in channel to approximately .5 inch and install a caterpillar grommet MS21266-4N.
- (7)
  - a. Cut a piece of .250 OD X .035W aluminum tubing (approximately 65 inches).
  - b. Flare one end of tube and install AN819-4D and AN818-4D sleeve and nut. Tube will have to be hand-formed to contour of overhead as it is being routed around fuselage.

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- c. Start at L/H side by routing unflared end of tube up and behind cornice next to frame 219.05. Route tube around channel at Z-Station 66.10 assuring it is routed between channel and conditioned air duct (Fig. 5). Aft most panel of cornice may have to be removed to provide visual access to channel at Z-Station 66.10, both sides. Route tube around R/H channel (Z-66.10) in same manner as L/H side (Fig. 5).
- d. Wrap both sides of tube with anti-abrasion tape or equivalent at Z-Station 66.10.
- e. Attach flared end to L/H union at Z-Station 56.25 (Fig. 3).

NOTE

Form tube as necessary to support it with the clamping procedure shown in Figure 5. Do not clamp tube until it has been cut and fabricated to proper shape and length.

- f. If bulkhead union is used in R/H channel Z-Station 56.25, cut tube to proper length, attach end fittings (AN819-4D, AN818-4D sleeve and nut) and connect to union. (Support tube as per Figure 5.)
  - g. If bulkhead union is not used, cut tube approximately 2.5 inches above channel (Z-Station 56.25), attach end fittings and connect to a union P/N AN815-4D. (Support tube as per Figure 5.)
- (8) Fabricate a tube from .375 OD X .035W aluminum tubing approximately 2.5 inches in length using 2 each AN819-6D sleeves and AN818-6D nuts.
  - (9) Bend tube approximately 35° - 40°, connect to center port of R/H static port.
  - (10) Install AN919-6D reducer to other end of tube.

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- (11) Attach Tee P/N AN938-4D to AN919-6D reducer, with center leg of Tee facing aft; attach 2 each AN815-4D unions to other legs of Tee.
- (12) Attach 2 each AN929-4D caps to outer ports of static-pressure port (4883050).
- (13) Fabricate a tube from .250 OD X .035W aluminum tubing (approximately 44.5 inches) using 2 each AN819-4D sleeves and AN818-4D nuts.
- (14) Route tube aft through holes at frames Y-184, 194, 201.75, 210, and 219.05.
- (15) Connect one end of tube to leg facing aft of AN938-4D Tee.
- (16) Attach AN821-4D elbow to end of tube at Y-219.05.
- (17) Support tube at frames Y-201.75 and 219.05 with MS21919WDG4 clamps by attaching to nut-plates using AN3-4A bolts and AN960PD10L washers.
- (18) Install caterpillar grommets MS21266-4N or equivalent in frame holes.
- (19) Fabricate a tube from .250 OD X .035W aluminum tubing long enough to reach from union at Z-Station 56.25, down and around forward side of wing inspection light and connect to elbow between Y-frame 219.05 and 223.75 (Fig. 4). (Refer to L/H side for reference.)
- (20) If electrical wires were routed through channel at Z-Station 56.25 (R/H side), route wires through channel next to tube and connect as before.
- (21) Wrap wires and tube with spiral wrap or equivalent at Z-Station 56.25.
- (22) Support tube and wires with MS21919WDG4 clamps by attaching to existing NAS1033-A3 nut-plates at Z-Station 38.75. Use AN3-4A bolts and AN960PD10L washers (Fig. 4).

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E. Install Static Lines, Right Side

- (1) Cut a length of aluminum tubing, approximately 49 inches.
- (2) Flare one end of tube and install a AN819-4D sleeve and AN818-4D nut.
- (3) Route unflared end from frame Y-174 forward to frame 119.90, passing tube through unused holes in phenolic blocks.
- (4) Bend flared end of tube as necessary to attach to Tee at static-port.
- (5) Install nut and sleeve and flare opposite end of tube. Attach an AN821-4D elbow.
- (6) Fabricate a tube and route forward to next frame following existing tubing. Terminate tube between frame 112.78 and 103.78.
- (7) Attach an AN815-4D union to end of tube.
- (8) Mark phenolic blocks at frames 103.78 and 83.78 where a .250 hole can be drilled.
- (9) Remove phenolic blocks and align and drill .250 holes.
- (10) Fabricate a tube long enough to reach from AN815-4D union at frame 112.78 to cabin deck area past frame 83.78 (follow existing tubing).
- (11) Install phenolic blocks removed and drilled in step 9.
- (12) Attach a Tee P/N AN824-4D to end of tube.
- (13) Attach drain P/N 3723052-505 to lower end of Tee.
- (14) Fabricate a support from 2024-T3 clad .071 thick aluminum (Refer to Figure 6).
- (15) Attach support to frame 44.50 with rivets as shown in Figure 6.
- (16) Install AN832-4D union to support using AN960PD716L washers and AN924-4D nut.



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- (17) Fabricate a tube and connect one end to center leg of Tee where drain is and other end to union at frame 44.50. Route tube with slight angle so drain at frame 83.78 is low spot.
- (18) Support tube to other tubes with MS21919WDG4 clamps using AN3-4A bolts and AN960PD10L washers.

F. Altimeter Connection and Static Test

- (1) Fabricate a flex hose assembly from MIL-H-5593-4 material, long enough to reach from union at frame 44.50 through frame 37.78 and up to copilot's altimeter, using 2 each AN471-4D end fittings.
- (2) Remove tube connected to copilot's altimeter and discard.
- (3) Remove union from the back of the altimeter and install a AN919-6D reducer using a new S0310-906 O-ring.
- (4) Connect flex hose to altimeter.
- (5) Install AN929-6D cap removed in Step C.1. to other end where tube in Step 2 was removed.
- (6) Connect a static tester to system and check for leaks and proper operation (Ref. Chapter 34-10-01, Maintenance Manual).

G. Install soundproofing and interior furnishings.

- (1) Install soundproofing material around R/H static port P/N Y370 (From 3M Company).

NOTE

If cabin temperature sensor is mounted on R/H side where new static port is installed, move sensor housing as necessary to clear static port.

- (2) Install cabin and cockpit interior.

SERVICE BULLETIN NO. 1124-34-047

3. MATERIAL INFORMATION

<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
3 ea.	AN919-6D	Reducer
4 ea.	AN815-4D	Union
3 ea.	AN832-4D	Union
3 ea.	AN924-4D	Nut
6 ea.	AN960-PD716L	Washer
2 ea.	AN929-4D	Cap
1 ea.	AN929-6D	Cap
1 ea.	AN824-4D	Tee
1 ea.	AN938-4D	Tee
20 ea.	AN819-4D	Sleeve
20 ea.	AN818-4D	Nut
4 ea.	AN819-6D	Sleeve
4 ea.	AN818-6D	Nut
3 ea.	AN821-4D	Elbow
2 ea.	AN471-4D	Fitting
4 ea.	NAS1033-A3	Nut-Plate
2 ea.	NAS1473-1/4-28	Nut-Plate
2 ea.	CMA71704-053	Spacer
4 ea.	NAS43DD3-40	Spacer
1 ea.	NAS43DD3-13	Spacer
4 ea.	AN3-11A	Bolt
10 ea.	AN3-4A	Bolt
6 ea.	MS21042-06	Nut
19 ea.	AN960PD10L	Washer
6 ea.	AN507-632R10	Screw
6 ea.	AN906-06	Washer
6 ea.	MS21042-06	Nut
1 ea.	313765-505	Ground Cover
12 ea.	MS21266-4N	Grommet
18 ea.	MS21919WDG4	Clamp
1 ea.	5723633-53	Shim
1 ea.	5723045-65	Doubler
1 ea.	MIL-H-5593-4 40"	Flex Hose
1 ea.	CMA71737-503-13 (Fig. 6)	Support
1 ea.	4883050	Static Press Port
1 ea.	3723052-505	Drain Assy.
1 ea.	Y-370 (3M Co.) .250	12" X 12" Sheet (Soundproofing)
1 ea.	S0310-906	O-ring
A/R	2024-T3 clad .050	Aluminum Sheet
A/R	2024-T3 clad .071	Aluminum 2.5" X 2"
A/R	.375 OD X .035W 5052-0	Aluminum Tubing (12")
A/R	.250 OD X .035W 5052-0	Aluminum Tubing (34 ft.)

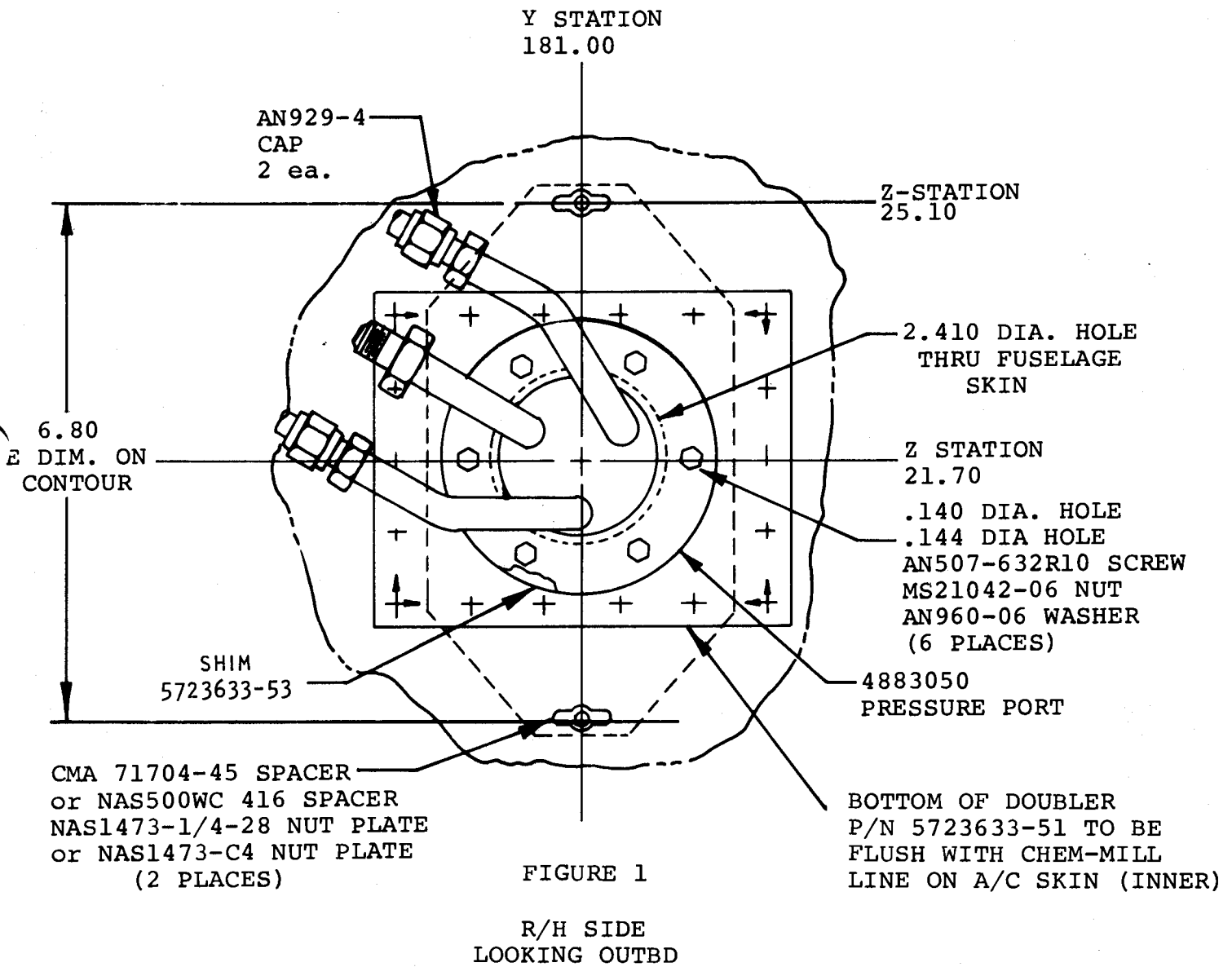
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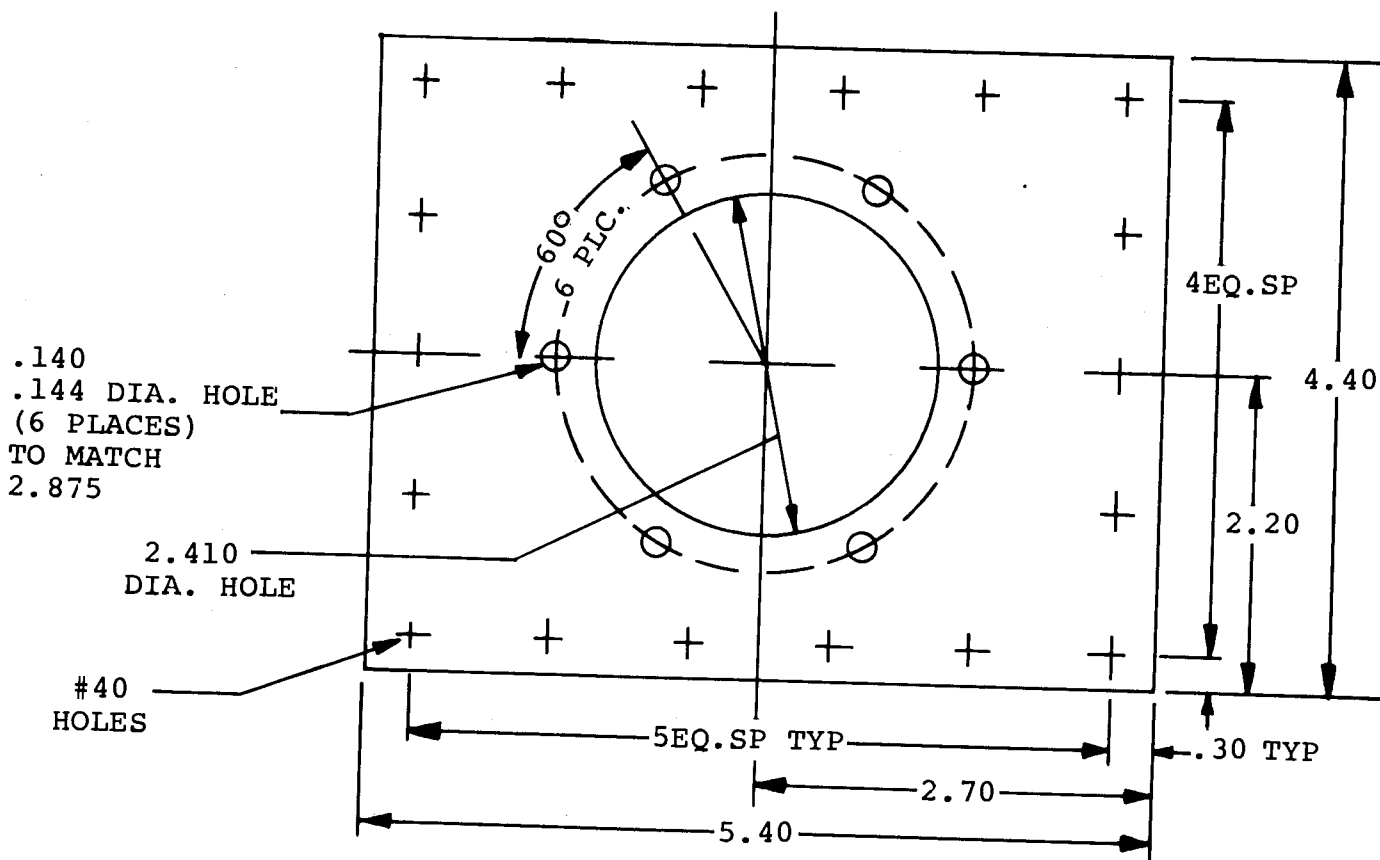
<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
A/R	Spiral Wrap	
A/R	Tie Wraps (plastic) No. 5421	Tape Abrasion Resistant (3M Co.)
1 ea.	5723633-51 (Fig. 1A)	Doubler
1 Pint	PR1422B1/2	Sealer
1	CMA71737-503-31 (Fig. 1B)	Doubler
1	CMA71737-503-29 (Fig. 1C)	Doubler
1	CMA71737-503-19 (Fig. 1B)	Doubler
2	5723045-67 (Fig. 1B)	Doubler
A/R	MS20426AD	Rivets
A/R	MS20470AD	Rivets

4. RECORD COMPLIANCE

Make the following entry in the aircraft log book:

Service Bulletin No. 1124-34-047, dated February 6, 1987, titled "Navigation - Static Source Improvement for Copilot's Altimeter" has been accomplished this date \_\_\_\_\_.





DOUBLER P/N 5723633-51

FIGURE 1A

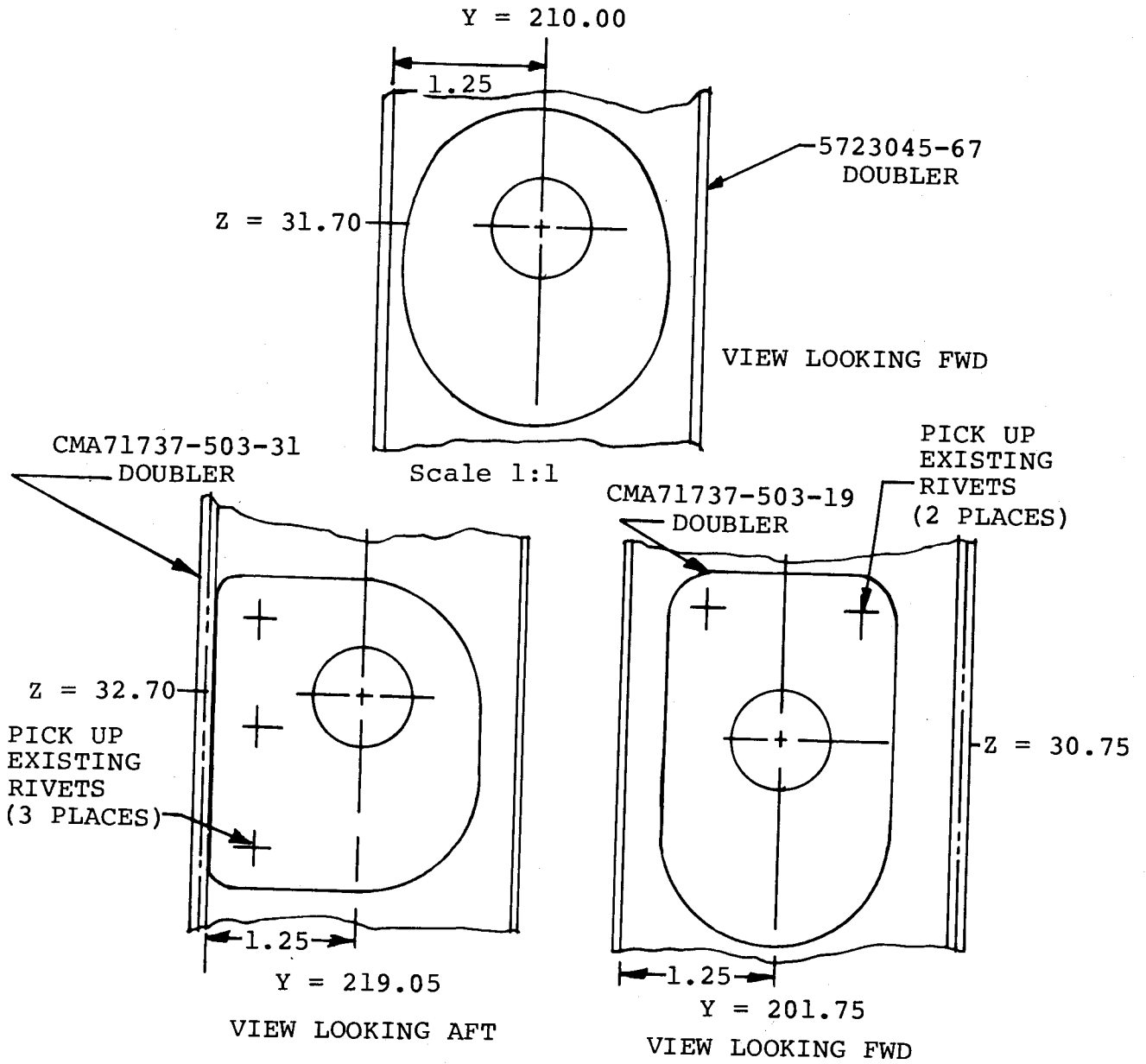
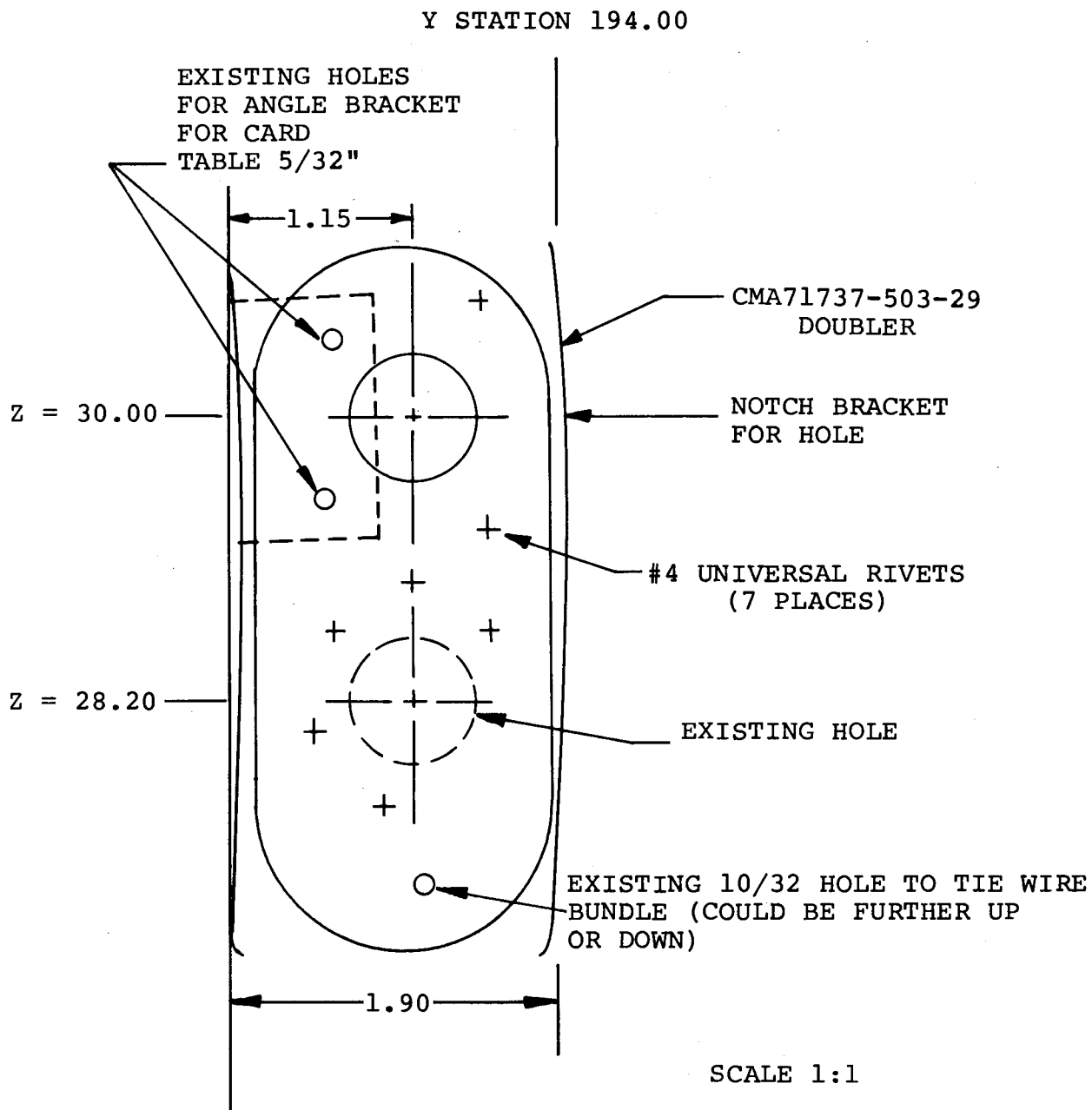


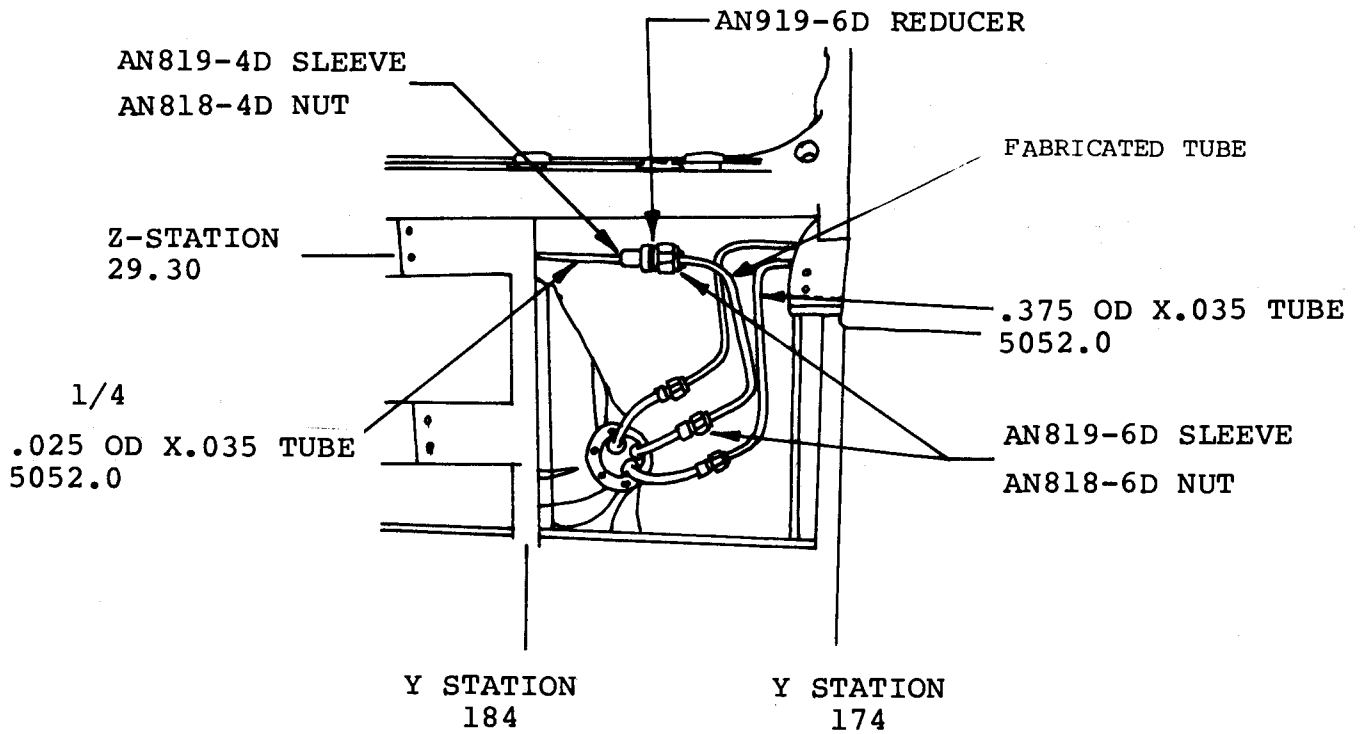
FIGURE 1B



VIEW LOOKING FWD AT STATION 194.00 R/H SIDE

FIGURE 1C

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L/H SIDE

FIGURE 2



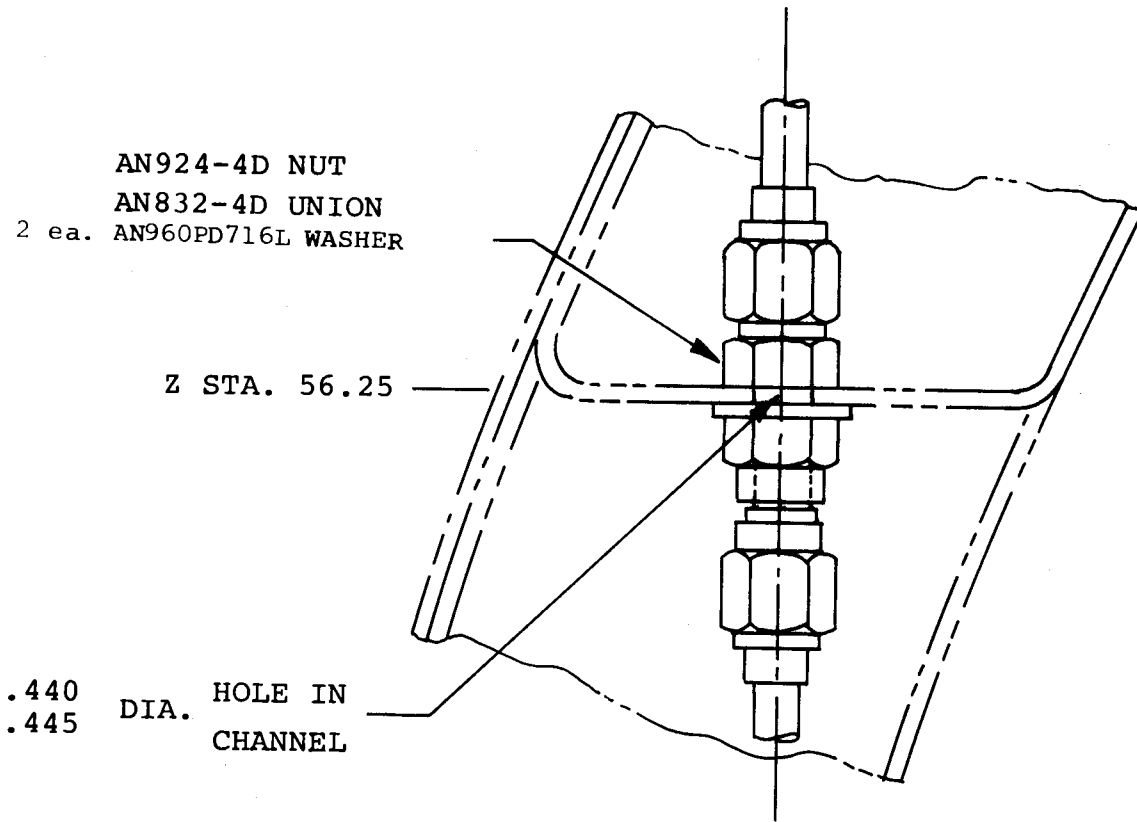


FIGURE 3

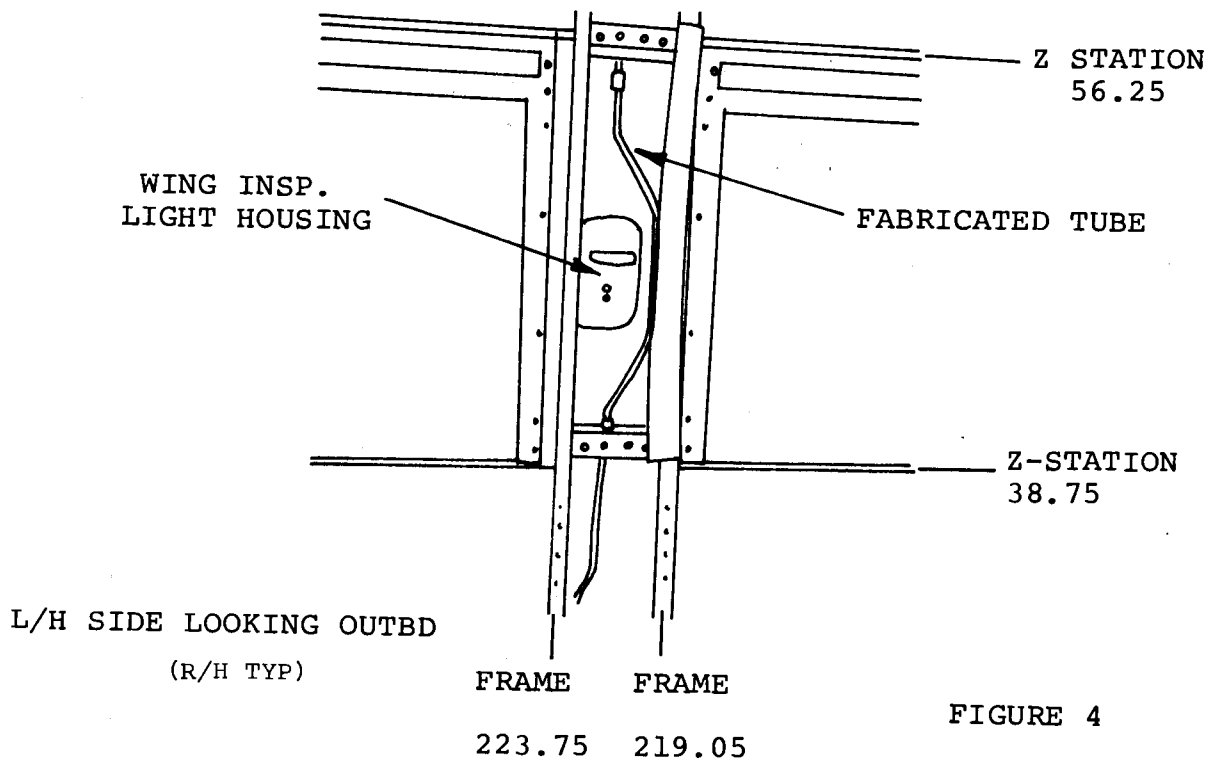
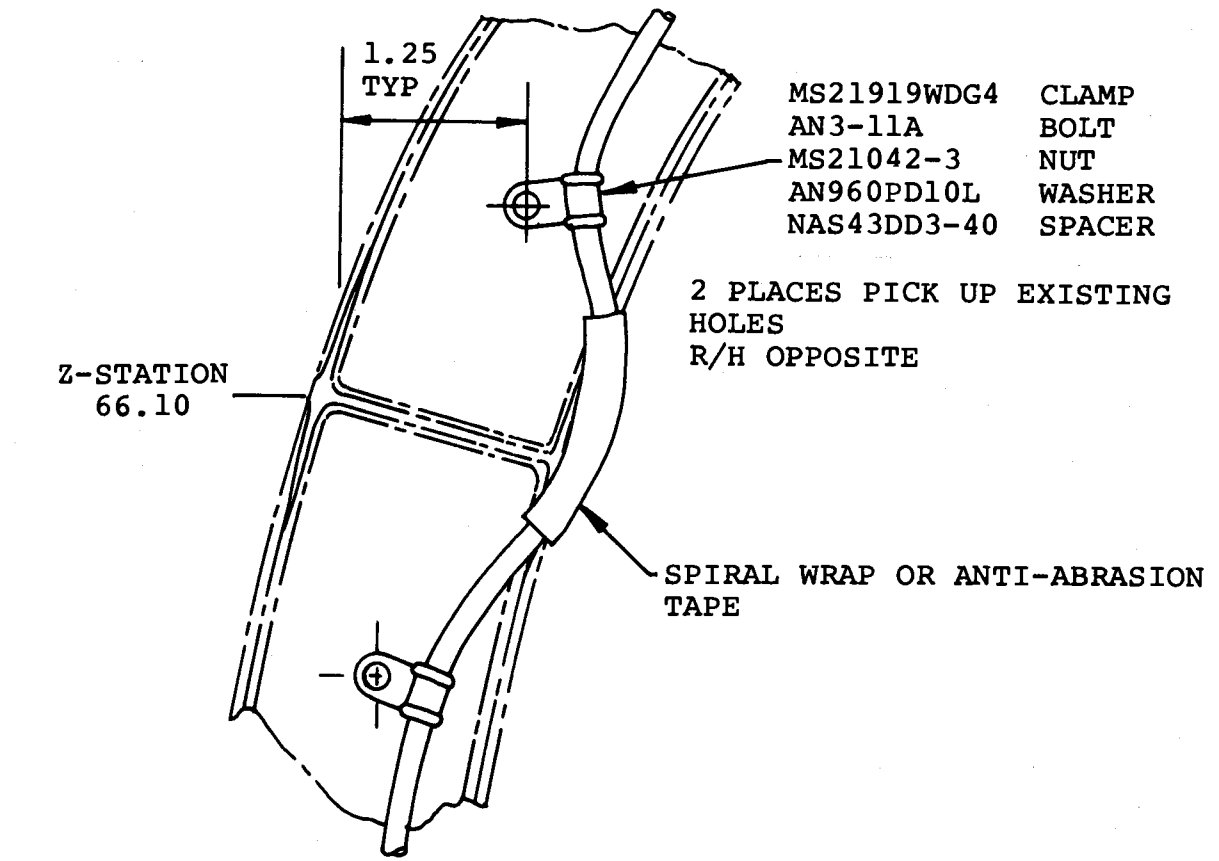


FIGURE 4

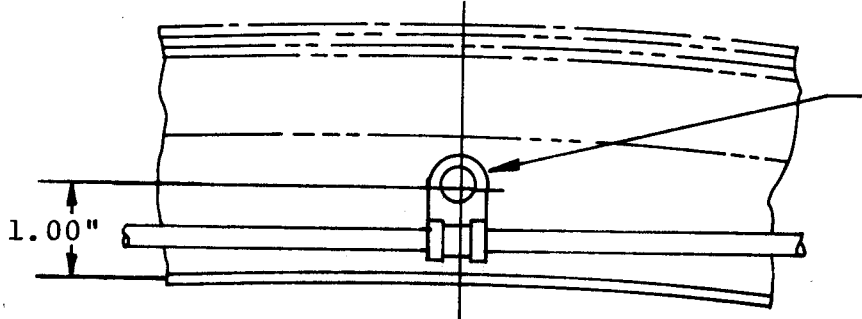
SERVICE BULLETIN NO. 1124-34-047



VIEW LOOKING FWD STA 219.05

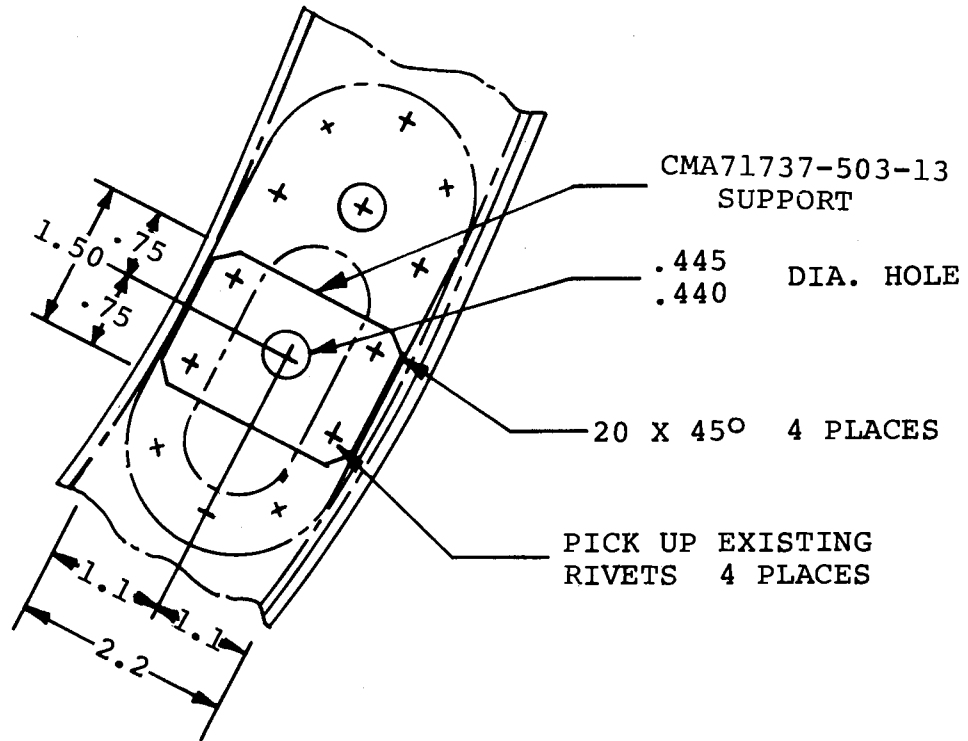
C/L OF A/C

TOP



VIEW LOOKING FWD STA 219.05

FIGURE 5



VIEW LOOKING AFT  
FRAME 44.50

FIGURE 6

# **PARTS AVAILABILITY ALERT**

DUE TO LEAD TIME(S) ENCOUNTERED  
IN PROCURING PARTS REQUIRED FOR  
THE ACCOMPLISHMENT OF THIS  
TECHNICAL PUBLICATION, ALL  
PARTS WILL BE AVAILABLE FROM  
ATLANTIC AVIATION SUPPLY  
COMPANY EIGHT (8) WEEKS AFTER  
RECEIPT OF ORDER.

*Service Bulletin*

A/C S/N \_\_\_\_\_

*Certificate of Compliance*

PLEASE FILL IN THE REQUIRED DATA BELOW AND RETURN TO:

ISRAEL AIRCRAFT INDUSTRIES INTERNATIONAL, INC.  
P.O. BOX 10086  
WILMINGTON, DE 19850  
ATTN: TECHNICAL PUBLICATIONS

This is to certify that Westwind Serial Number \_\_\_\_\_ has complied with Service Bulletin No.

1124-34-047

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance \_\_\_\_\_ /Cycles: \_\_\_\_\_

Compliance Date \_\_\_\_\_ By \_\_\_\_\_  
Signature

OWNER:

ACCOMPLISHING AGENCY:

_____	_____
_____	_____
_____	_____
_____	_____

Please describe below any discrepancies found or difficulties encountered during compliance:

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# SERVICE PUBLICATIONS revision notice

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OPTIONAL

SB NO. 1124-34-048  
Revision No. 1

December 9, 1985

SUBJECT: COLLINS VNI-80 VERTICAL NAVIGATION INDICATOR  
OPERATION IMPROVEMENT

REASON FOR REVISION: To change aircraft effectivity in Part B.

1. PLANNING INFORMATION

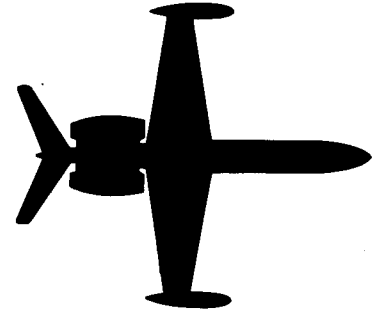
A. EFFECTIVITY

- (2) Accomplishment Instructions Part B: MODEL 1124A WESTWIND, serial numbers 392 through 410.



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BEN GURION AIRPORT, ISRAEL

SB 1124-34-048  
Page 1 of 1



## SERVICE BULLETIN

OPTIONAL

SERVICE BULLETIN NO. 1124-34-048

November 8, 1985

SUBJECT: COLLINS VNI-80 VERTICAL NAVIGATION INDICATOR  
OPERATION IMPROVEMENT

### 1. PLANNING INFORMATION

#### A. EFFECTIVITY

- (1) Accomplishment Instructions Part A: MODEL 1124A WESTWIND, all serial numbers prior to 420.
- (2) Accomplishment Instructions Part B: MODEL 1124A WESTWIND, all serial numbers prior to 412.

#### B. REASON

- (1) Accomplishment Instructions Part A: To enable the Bac Loc logic input to the VNI-80 for proper Bac Loc operation.
- (2) Accomplishment Instructions Part B: To prevent a false "ILS ON" signal when left altimeter circuit breaker is disconnected.

#### C. COMPLIANCE

Compliance with this service bulletin is optional.

#### D. DESCRIPTION

- (1) Accomplishment Instructions Part A: One wire is added from terminal strip T-16 to relay RL-84.
- (2) Accomplishment Instructions Part B: One diode is added to terminal strip T-160.

SB 1124-34-048  
Page 1 of 3



E. APPROVAL

This service bulletin has been reviewed by the Israel Civil Aviation Administration (CAA). The design content conveyed herein complies with the applicable Civil Aviation Regulation and is ICAA approved.

F. MATERIAL

Material required to perform this service bulletin may be obtained from Atlantic Aviation Supply or procured locally.

G. TOOLING

None required

H. WEIGHT & BALANCE

Not affected

I. ELECTRICAL LOAD DATA

Not affected

J. REFERENCES

MODEL 1124/1124A Wiring Diagram Manual, Chapters 34-30-01 and 22-10-05.

K. PUBLICATIONS AFFECTED

MODEL 1124/1124A Wiring Diagram Manual, Chapters 34-30-01 and 22-10-05.

2. ACCOMPLISHMENT INSTRUCTIONS

A. Reference Wiring Diagram Manual, Chapters 34-30-01 and 22-10-05. Perform conformity check prior to accomplish- as follows:

- (1) Remove power from aircraft.
- (2) Gain access to FGC #1, Plug J2, T-16 and receptacle D103 (located near Sta. 269 LHS).
- (3) Check continuity between FGC #1, Plug J2, Pin 16 and receptacle D103, Pin W. Resistance reading should indicate short.



- (a) If indication is short, disregard following step. Proceed to step (4).
- (b) If open condition exists, disconnect wire 1RN619B22 from T16, 15, extend it as required and connect with splice to wire C90A24 that is connected to FGC #1, Plug J2, Pin 16.
- (4) Reassemble aircraft and return to service.
- B. Reference Wiring Diagram Manual, Chapter 34-30-01. Perform visual check and modification as required.
  - (1) Visually inspect terminal strip T-160 for presence of diode between terminals #8 and #9 (located behind copilot ADI on center panel support).
    - (a) If diode present, disregard following steps. If not present, proceed to end.
  - (2) On T-160 locate wire #1RN626C22 at terminal #8 and relocate to terminal #9. Do not disturb other wire at terminal #8.
  - (3) Add diode (1N645) between terminals #8 and #9. Cathode, or banded end, to terminal #8.
  - (4) Reassemble aircraft and return to service.

3. MATERIAL INFORMATION

<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
A/R	MIL 16878D	#24 AWG Wire Terminal Ring Tongue (Mfg. AMP)
A/R	50534	
1	1N645	Diode

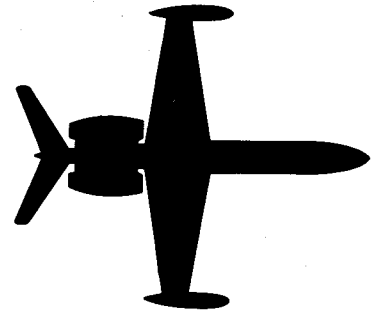
4. RECORD COMPLIANCE

- A. Make the following entry in the aircraft log book:

Service Bulletin No. 1124-34-048 dated November 8, 1985 titled "Collins VNI-80 Vertical Navigation Indicator Operation Improvement" has been accomplished this date \_\_\_\_\_.

- B. Update Wiring Diagram Manual, Chapters 34-30-01 and 22-10-05 to reflect changes incorporated.

# 1124-WESTWIND



## SERVICE BULLETIN

OPTIONAL

SERVICE BULLETIN NO. 1124-34-049

December 2, 1985

SUBJECT: NAVIGATION - RADAR WAVEGUIDE PRESSURIZATION AND  
INSTALLATION OF SILICA GEL CONTAINER ASSEMBLY

### 1. PLANNING INFORMATION

#### A. EFFECTIVITY

MODEL 1124 WESTWIND, all serial numbers prior to 413.  
except 154.

#### B. REASON

To improve radar performance at altitude.

#### NOTE

Aircraft serial number  
223 and subs are equipped  
with a pressurized wave-  
guide. These aircraft  
will need the silica gel  
container, assembly clamps,  
bracket and hoses.

#### C. COMPLIANCE

At the operators discretion.

#### D. DESCRIPTION

Provide cabin pressurization to the radar waveguide by  
installing the necessary plumbing, including the silica  
gel container, between forward pressure bulkhead and the  
waveguide.



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Page 1 of 8

SERVICE BULLETIN NO. 1124-34-049

E. APPROVAL

This service bulletin has been reviewed by the Israel Civil Aviation Administration (ICAA). The design content conveyed herein complies with the applicable Civil Aviation Regulations and is ICAA approved.

F. MATERIAL

Material required may be obtained through Atlantic Aviation Supply Company, Wilmington, Delaware or their authorized representatives.

G. TOOLING

None

H. WEIGHT & BALANCE

Not applicable.

I. ELECTRICAL LOAD DATA

Not applicable.

J. REFERENCES

Sperry Installation Manual on Primus 40 and 400 series weather radar.

Collins Installation Manual on WXR-300 weather radar system.

Bendix Installation Manual RDR-1200 weather radar system.

K. PUBLICATIONS AFFECTED

1124 Illustrated Parts Catalog, Chapter 34-40-00.

1124 Maintenance Manual, Chapter 34-40-01 thru 04, and Chapter 5-20-00.

2. ACCOMPLISHMENT INSTRUCTIONS

A. Reference 1124 Maintenance Manual Chapter 34-40-01 thru 04 and install radar waveguide pressurization system as follows: (Aircraft employing waveguide pressurization system, follow instructions from Step A.(9)).

(1) Remove radome and nose access panels.

- (2) Disconnect waveguide at antenna and install pressure window (Sperry P/N 1715530-1 or Collins P/N 355-0182-030) with O-rings. It may be necessary to install a transition waveguide section with the pressure window. (Sperry P/N 1718105-501). See Figure 1.
- (3) Reconnect waveguide to antenna.
- (4) Disconnect waveguide at radar R/T unit and install pressurization port adapter (Sperry P/N 1718170-501 or Collins P/N 629-8297-001) with O-rings. See Figure 1.
- (5) Reconnect waveguide at adapter.
- (6) Locate position on the forward pressure bulkhead 23.43 inches right of centerline and 3.8 inches up from the shelf in the nose compartment (sta Z30.2) drill .453 to .463 inch diameter hole. (See Figure 3).

CAUTION

Care should be taken in regards to wire bundles and plumbing routed behind bulkhead.

- (7) Clean burrs from hole and install union P/N AN832-D4, back-up ring P/N S0311-904, O-ring P/N S0310-904 and nut P/N AN6289-D4. See detail B, Figure 2.
- (8) Connect hose assembly P/N 359-4D-0359 to union.
- (9) Install silica gel container (Collins P/N 013-1399-010) with bracket (IAI P/N 5863559-67) and clamps at fuselage station 0.0, (See detail A, Figure 2 ) or in line at a convenient maintenance location.
- (10) Route hose installed in Step (8) above to one end of silica gel container. Using clamps and bolts, secure hose to existing shelf nut-plates. Secure both ends of hose with clamps.
- (11) Attach the second length of hose P/N 359-4D-0300 to opposite end of container and route along shelf to radar R/T and connect to pressurization port adapter installed in Step 4. Secure both ends of hose with clamps. Secure hose to existing shelf nut-plates using clamps and bolts.

- (12) Ensure all hose connections are secure.
- (13) Perform leak check of installation as follows:
  - (a) Connect pressure source to union at aft side of pressure bulkhead.
  - (b) Pressurize system to not more than 10 PSI. Close shutoff valve on pressure source.
  - (c) Leak check all hose fittings in nose compartment and correct any leakage.
- (14) Reassemble aircraft and return to service.

3. MATERIAL INFORMATION

<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1 (Note 1)	013-1399-010 (Collins)	Silica Gel Container
1	1718170-501 (Sperry) or	Pressurization Port
	629-8297-001 (Collins)	Adapter.
1	1715530-1 (Sperry) or	Pressure Window
	355-0182-030 (Collins)	
1 (Note 2)	1718105-501 (Sperry)	Transition Wave-
		guide
1	5863559-67 (IAI)	Container Bracket
A/R	MS90064-13	O-Ring
A/R	MS90064-14	O-Ring
1	AN832-D4	Union
1	SO310-904	O-Ring
1	SO311-904	Backup ring
2	AN6289-D4	Nut
2	MS21919DG-24	Clamp
A/R	MS21919DG-7	Clamp
4	AN737TW24	Clamp
A/R	AN3-4A	Bolt
A/R	AN960-PD10L	Washer
A/R	MS21042-3	Nut
1	359-4D-0359	Hose
A/R	MS35333-38	Lockwashers
A/R	MS16995-26	Cap Screws 8-32
1	359-4D-0300	Hose

Note 1: Reference 1124 Service Information Letter 13, Rev. 1, for information on replacement of Silica Gel inserts.

Note 2: Requirement for transition waveguide to be determined upon inspection of existing installation.

4. RECORD COMPLIANCE

Make the following entry in the aircraft log book:

Service Bulletin No. 1124-34-049 dated December 2, 1985 titled "Navigation - Radar Waveguide Pressurization and Installation of Silica Gel Container Assembly" has been accomplished this date \_\_\_\_\_.

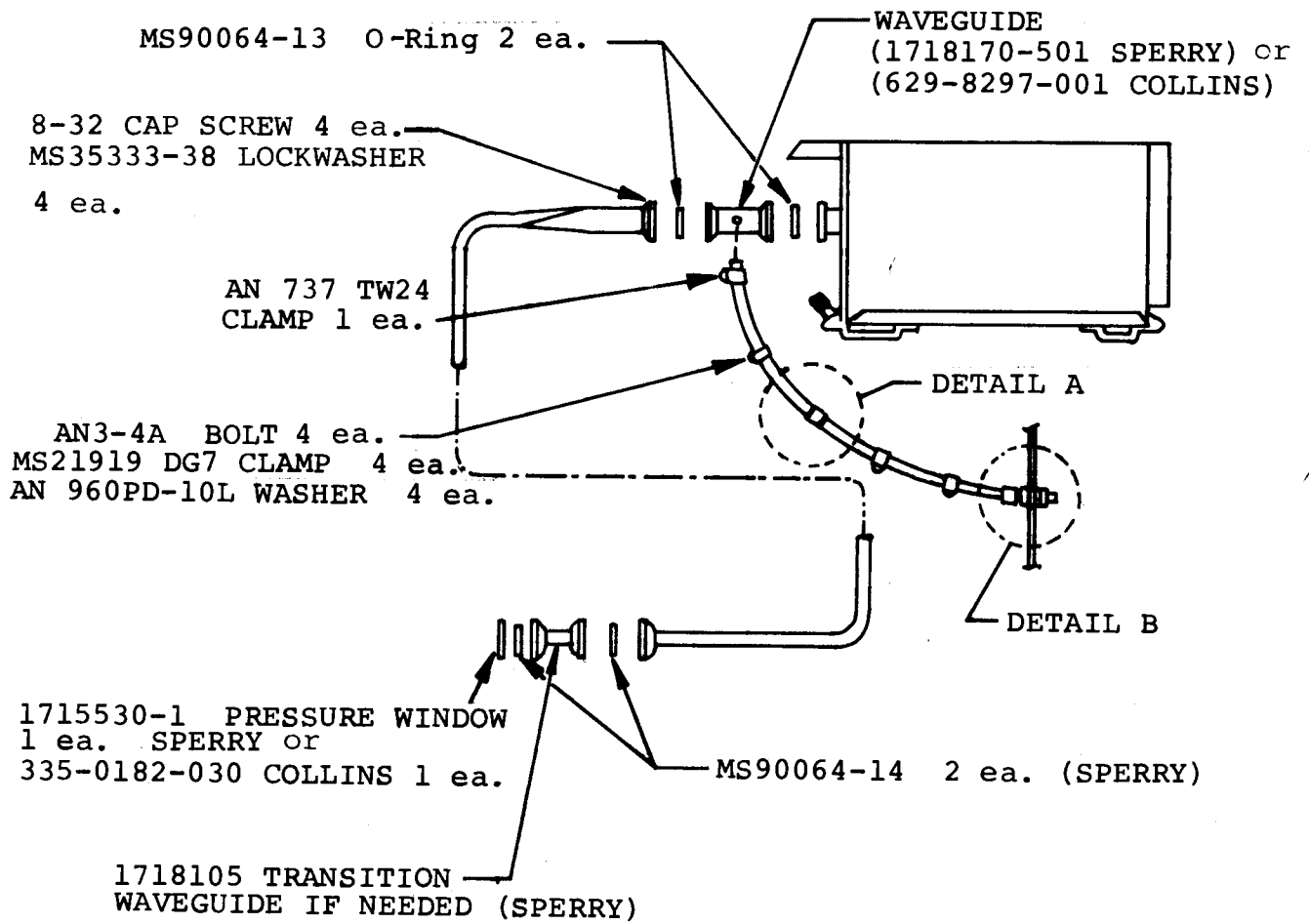


FIGURE 1

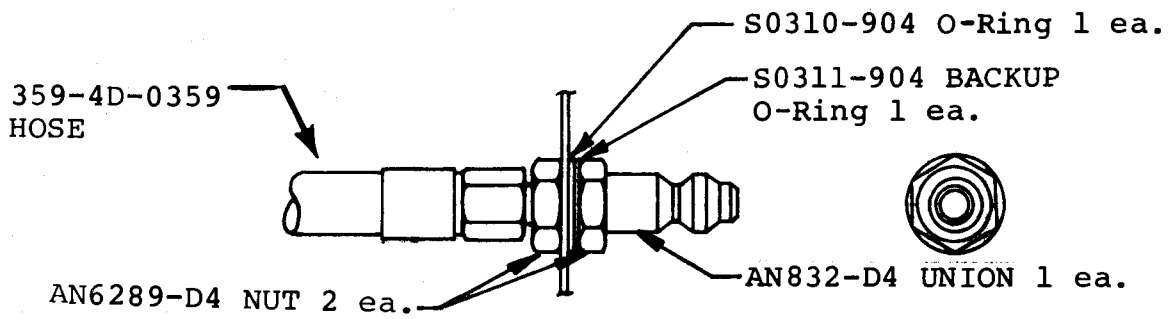
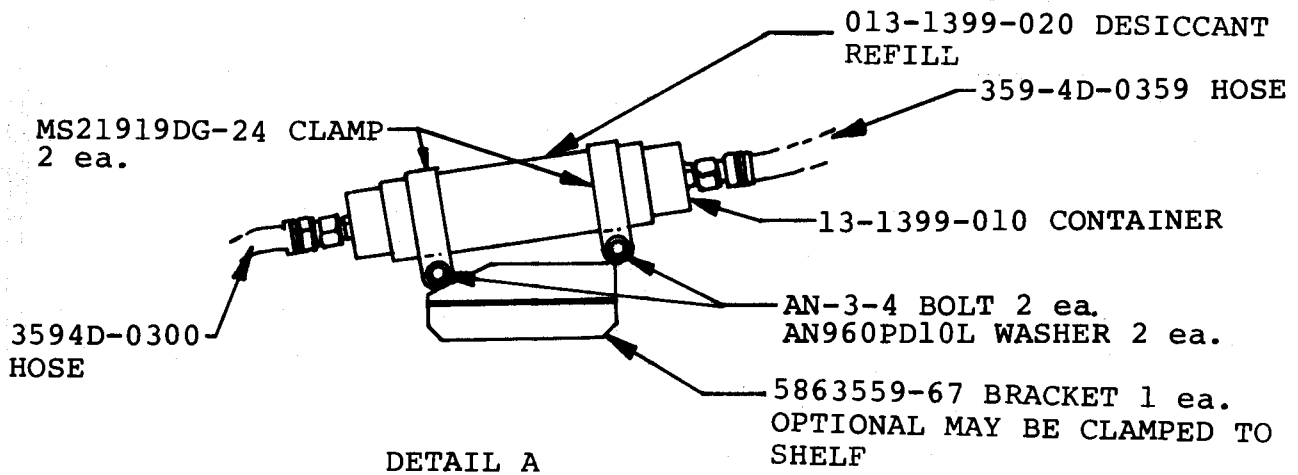
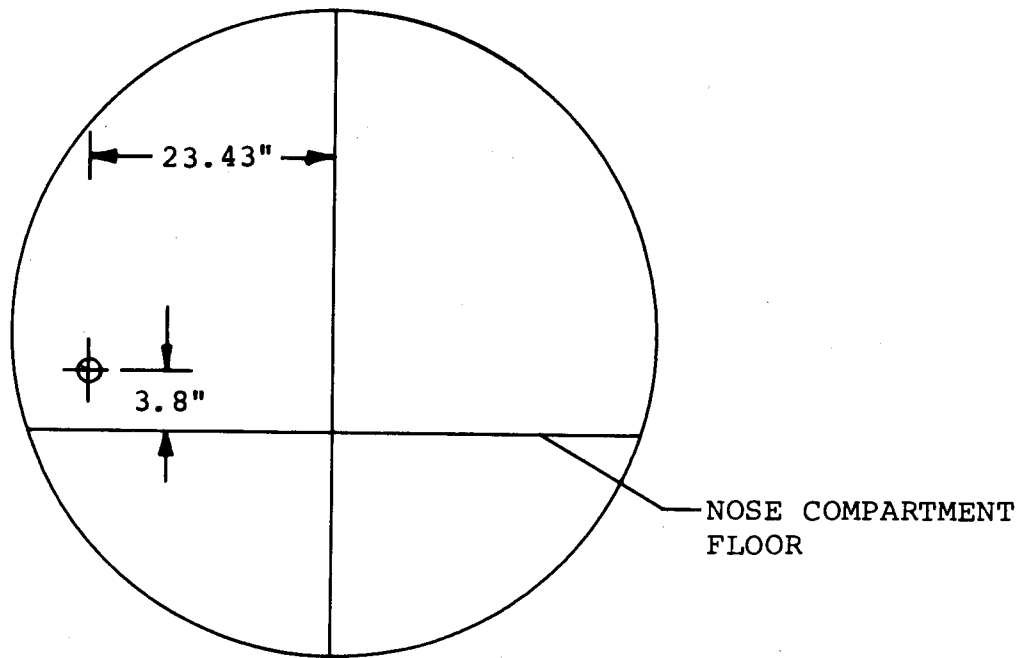


FIGURE 2





FORWARD PRESSURE BULKHEAD LOOKING AFT

FIGURE 3

# Service Bulletin

A/C S/N \_\_\_\_\_

## Certificate of Compliance

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This is to certify that Westwind Serial Number \_\_\_\_\_ has complied with Service Bulletin No. 1124-34-049

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance HOURS: \_\_\_\_\_ /CYCLES: \_\_\_\_\_

Compliance Date \_\_\_\_\_ By \_\_\_\_\_  
Signature

OWNER:

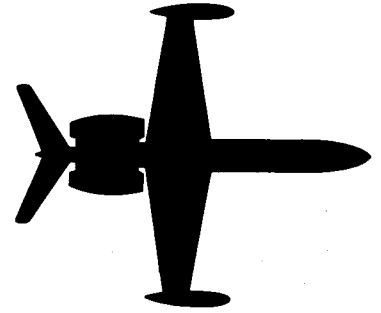
ACCOMPLISHING AGENCY:

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_____	_____
_____	_____
_____	_____

Please describe below any discrepancies found or difficulties encountered during compliance:

\_\_\_\_\_  
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# 1124-WESTWIND



## SERVICE BULLETIN

OPTIONAL

SERVICE BULLETIN 1124-34-053

December 2, 1985

SUBJECT: NAVIGATION - COMPASS AND ADF/RMI SYSTEM IMPROVEMENTS

### 1. PLANNING INFORMATION

#### A. EFFECTIVITY

MODEL 1124/1124A WESTWIND, all serial numbers

#### B. REASON

To eliminate ground loops in the respective synchro systems causing operational and display errors. For a more complete description, refer to Parts B, C and E of Accomplishment Instructions.

#### C. COMPLIANCE

Compliance with this service bulletin is optional.

#### D. DESCRIPTION

Additional ground wires are installed at terminal strips. An advisory is given prior to each part to caution maintenance and inspection personnel of hidden problems and the necessary correction action to be taken should these problems occur.

#### E. APPROVAL

This service bulletin has been reviewed by Israel Civil Aviation Administration (ICAA). The design content conveyed herein complies with the applicable Civil Aviation Regulations and are ICAA approved.

SB 1124-34-053  
Page 1 of 6



SUBSIDIARY OF ISRAEL AIRCRAFT INDUSTRIES, LTD.  
BEN GURION AIRPORT, ISRAEL

F. MATERIAL

The material necessary to perform this service bulletin may be procured locally.

G. TOOLING

None.

H. WEIGHT AND BALANCE

Not applicable.

I. ELECTRICAL LOAD DATA

Not applicable.

J. REFERENCES

1124/1124A Wiring Diagram Manual, Chapters:

34-20-01	34-20-04
34-20-02	34-50-08
34-20-03	34-50-09

1124 Maintenance Manual, Chapters:

34-20-01	34-50-03
----------	----------

K. PUBLICATIONS AFFECTED

1124/1124A Wiring Diagram Manual, Chapters:

34-20-02	34-50-08
34-20-04	34-50-09

2. ACCOMPLISHMENT INSTRUCTIONS

PART A - Preparation: Compass System #1 and #2

- A. Accomplishment of Part B and/or Part C following may result in compass heading errors in the HSI or RMI cards, or both. Prior to accomplishment, position the aircraft to a quadrantal magnetic heading (45°, 135°, 225° or 315°) and record the exact heading displayed by each HSI and RMI.

A separation of the two compass systems may be considered normal when not in flight due to the proximity of large magnetic fields of unequal value near the wing-mounted flux valve transmitters.

- B. Since the pilot HSI and copilot RMI are interconnected to the #1 compass system, they must agree within  $\pm 2^\circ$ . The copilot HSI and pilot RMI are interconnected to the #2 compass and must likewise agree.

An error greater than  $\pm 2^\circ$  between instruments on the same compass may be due to instrument error, or the "ground loops" addressed by Part B and Part C following.

- C. Prior to installing the described ground jumpers connect them temporarily to observe the effect, if any, on the previously recorded headings.

(1) Should the RMI system jumpers create an error larger than  $\pm 2^\circ$  as compared to the HSI (without accompanying HSI displacement), do not install that particular jumper as there will have been an additional ground loop created for your aircraft configuration.

(2) Should the HSI card jumpers create an error in excess of the ability of the compass system compensation to correct (approximately  $\pm 10^\circ$ ), do not install that particular jumper.

- D. Reswing compass system(s) if required to restore the accuracy of each system to within the required  $\pm 2^\circ$ .

(1) Once the flux valve and compensator are properly set, use only brass screws to mount the components and the covering access panels to prevent probable magnetic interference from ferrous screws.

PART B - Compass #1: Reference Wiring Diagram Manual, Chapters 34-20-01 and 34-20-03.

- A. To minimize NCS-31 ground speed and/or VLF wind computation errors, RNS-300 heading reference line noise, and to partially correct AP105/APS80 autopilot heading mode and heading hold submode roll wallow; add a six-inch hard ground to:

(1) S/N 240 and subsequent, terminal strip T155-18 (HSI, RMI, NCS, VLF and Autopilot).

(2) S/N 239 and prior, terminal strip T38-16 (HSI, NCS) and T17-11 (RMI and Autopilot).

PART C - Compass #2: Reference Wiring Diagram Manual, Chapters 34-20-02 and 34-20-04.

- A. To correct improper system ground returns, remove VIR-30A #2 NAV and establish aircraft power. Both RMI/HSI card systems must remain operational. If correction is required, install hard grounds at:
  - (1) S/N 240 and subsequent, T301-1 and T301-2.
  - (2) S/N 239 and prior, T51-1 and T51-2.
  
- B. To minimize VLF wind compensation errors (where #2 compass drives VLF #1 and/or #2) and to partially correct AP105 autopilot heading mode and heading hold submode roll wallow (aircraft equipped with #2 FCS 105 flight director), add a hard ground to:
  - (1) S/N 240 and subsequent, T33-8.
  - (2) S/N 239 and prior, T15-6 or T15-8 as applicable.

PART D - Preparation: ADF (RMI Systems #1 and #2).

- A. Accomplishment of Part E following may result in a change of ADF display quadrantal error accuracy. Such change may increase or decrease accuracy depending upon initial ADF Quadrantal Error Correction installed in the aircraft and the aircraft wiring configuration. Prior to accomplishment, tune the ADF(s) to a strong local station (preferably in the 200 KHz to 400 KHz range) and orient the aircraft to establish an ADF bearing in any of the four quadrants relative to the nose of the aircraft (45°, 135°, 225° or 315° relative). Select all possible ADF bearing displays on each RMI and HSI and record the exact bearings.
  
- B. Any change noted upon installation of the following ground straps will require a minimum of a ground-based Quadrantal Error check; a flight test is recommended. Please refer to Attachment 1 for the Collins ADF-60 QEC procedures. The same procedure may be used for the earlier DF206 systems.
  - (1) Attachment 1 contains strapping requirements for revision of the ADF-60 system QEC.
  - (2) Attachment 2 reflects the alternative 582A-(X) QEC modules for the DF-206 systems. Should a revision to existing QEC be required, it will be necessary to replace this module.

- C. Determine the amount of additional QEC necessary by noting the actual versus the required ADF RMI/HSI bearings exactly at each 45° quadrant relative to the nose of the aircraft.
- (1) For ADF-60 systems, determine the QEC value of existing strapping in the aircraft and remove the straps from the ADF rack connectors. Compute new QEC requirement by determining the difference between the additional QEC needed with the original QEC strapping value. Example:  
  
RMI BRNG 50°, required BRNG 45° = -5° (toward nose). Existing strapping + 14°, net QEC required + 14° - 5° = 9°. Use the 8° strapping requirements to obtain the required ± 3° accuracy.
  - (2) For DF-206 systems, determine by reference to Attachment 2 the QEC value of the existing 582A-(X) module mounted at the 137A6A loop antenna. Compute new QEC requirement by determining the difference between the additional QEC needed with the value of the original 582A-(X). See example above. Replace the original 582A-(X) module as needed.

PART E - ADF Systems: Reference Wiring Diagram Manual, Chapters 34-50-08 and 34-50-09.

- A. To eliminate ADF display wandering and the possibility of a loss of needle reversal at cardinal bearings, especially with all possible ADF displays selected.
- (1) ADF #1 system, add a six-inch hard ground to:
    - (a) S/N 240 and subsequent, terminal strip T31-14.
    - (b) S/N 239 and prior, terminal strip T16-13 and T16-14.
  - (2) ADF #2 system (including provisions), add a six-inch hard ground to:
    - (a) S/N 240 and subsequent, terminal strip T9-3 and T9-6.
    - (b) S/N 239 and prior, terminal strip T15-13 and T15-14.
- B. Perform a Quadrantal Error test, revise QEC as outlined in Part D.

3. MATERIAL INFORMATION

<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
A/R	MIL-W-16878D	#22AWG Wire
A/R	50534	Ring terminal (Mfg. AMP)
A/R	320554	Ring terminal (Mfg. AMP)

4. RECORD COMPLIANCE

A. Make the following entry in the aircraft log book:

Service Bulletin 1124-34-053 dated December 2, 1985 titled "Navigation - Compass and ADF/RMI System Improvements" has been accomplished this date \_\_\_\_\_.

B. Revise appropriate Wiring Diagram Manual chapters to reflect the work performed by this service bulletin.

C. Upon compliance with PART D and/or PART E of this service bulletin, cancel Service Information Letter No. 6 dated June 12, 1981.



*Service Bulletin*

A/C S/N \_\_\_\_\_

*Certificate of Compliance*

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This is to certify that Westwind Serial Number \_\_\_\_\_ has complied with Service Bulletin No. 1124-34-053

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance HOURS: \_\_\_\_\_ /CYCLES: \_\_\_\_\_

Compliance Date \_\_\_\_\_ By \_\_\_\_\_  
Signature

OWNER:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ACCOMPLISHING AGENCY:  
\_\_\_\_\_  
\_\_\_\_\_  
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Please describe below any discrepancies found or difficulties encountered during compliance:

\_\_\_\_\_  
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## 2.5 POSTINSTALLATION TESTS

These tests are to be performed with the ADF-60 system and associated equipment installed in the aircraft.

### Note

Avoid testing the ADF-60 system in the hangar or close to any large metal objects that could induce magnetic interference.

### 2.5.1 Functional Test

- Apply primary power to the ADF-60 system.
- Position mode select switch to ANT. Observe that panel and dial lamps are lit.
- With aircraft audio system being driven by the ADF-60( ) Receiver, check that signals can be received on the following bands:

190 - 279.5 kHz	600 - 899.5 kHz
280 - 399.5 kHz	900 - 1399.5 kHz
400 - 599.5 kHz	1400 - 1749.5 kHz

- Position mode select switch to ADF. Observe that panel and dial lamps remain lit.
- Tune the receiver to several stations, observing that the bearing indicator indicates a bearing suitable for the station received.
- With the receiver tuned to a station frequency, note the bearing indication as reference. Activate the self-test circuit. Pointer should rotate 90 degrees from reference and return to reference when self-test switch is released.

### Note

When the ADF-60 system receives an unusable signal, the RMI indicator will "park" horizontally.

- Start the aircraft engines, if not already running, and other equipment likely to cause electrical interference (rotating beacons, flashing wingtip lights, deicing pumps). Repeat steps a through f, checking that ADF-60 system operation is not impaired by static and noise overriding signals. If operation of the ADF-60 system is impaired by other aircraft equipment, the source of these spurious signals must be shielded and bonded.

### 2.5.1.1. HF Disable Check (Customer Option)

### Note

This check is applicable only to ADF-60A with Service Bulletin 6 installed and ADF-

60B with Service Bulletin 5 installed if the hf disable option is incorporated into the interconnecting wiring.

- Start the aircraft engines if not already running.
- Position the ADF system mode select switch to ADF and tune the receiver to a nearby station that provides a good indication on the bearing indicator.
- Select the hf COMM system on the audio control panel and select a clear frequency on the hf COMM system.
- Start turning the aircraft and note that the bearing indicator continues to point to the tuned station.
- Continue turning the aircraft and key the hf COMM system. Note that the bearing indicator 'freezes' as the compass card continues to rotate.
- Unkey the hf COMM and note that the bearing indicator slews and again points to the tuned station.
- This completes the hf disable check.

### 2.5.2 Quadrantal Error Calibration

Two methods of quadrantal error calibration are described in the following paragraphs. One method is performed with the ADF-60 system installed and the airplane on the ground. Basically this is accomplished by turning the airplane to a series of predetermined headings relative to a suitable ground station and recording the indicated bearings to the station. From this information, the quadrantal error correction can be computed. The location chosen for this method should be clear of buildings, overhead or underground conductors, and other possible reflecting objects. For maximum accuracy, calibration should be done using a frequency between 200 and 400 kHz.

### Note

A ground calibration should always be confirmed by a flight check.

The other method consists of collecting the calibration data during flight and then computing the adjustment that is needed. The following precautions should be taken when performing the calibration procedures:

- Do not attempt calibration during the period from 2 hours before sunset to 2 hours after sunrise. At this time skywaves from distant stations may induce errors.
- During flight, take the readings only when the aircraft is in level flight. Make all turns as smooth as possible to avoid disturbing the directional gyro.

- c. Perform the flight check on a calm day to minimize drift and heading errors.

#### 2.5.2.1 Airborne Calibration

Airborne measurement of quadrantal error requires that the aircraft fly over a fixed point at least 16.1 km (10 miles) from a low-frequency radio station while holding a fixed heading. The most convenient fixed point is an omnirange station. This is because omnirange stations are easily located from the air and their angular position with respect to a low-frequency radio station is available from the radio navigation charts. The selected radio station should be transmitting on a frequency of 200 to 400 kHz, and the surrounding terrain should be flat. Choose a combination of an omnirange and radio station already known to give accurate ADF measurements, if such are available.

Accurate measurements cannot be made unless the aircraft is in level flight attitude. If possible, the calibration should be performed on a calm day to minimize drift and crab-angle problems.

**Note**

ADF measurements can be no more accurate than the magnetic portion of the radio magnetic indicator. A magnetic accuracy of 1 degree is required for high-quality measurements.

The relative bearings to the station for which measurements should be made are given in figure 2-34, column 1. Construct a table as shown in figure 2-34 using the bearings in column 1 but leaving the other columns blank. The figures of column 1 are relative bearings that are applicable to all cases. Use of these bearings is recommended since they are convenient and adequate, but others may be selected if desired.

The other columns represent typical sample values for a particular situation and will be different in each aircraft. Column 2, AIRCRAFT MAGNETIC HEADING, should be calculated prior to the flight and list magnetic headings that should be flown over the calibration point. The bearings of column 2 are obtained by subtracting RELATIVE BEARING TO THE STATION (column 1) from the calibration point to station bearing, which should be obtained from a map. When RELATIVE BEARING TO THE STATION is larger than AIRCRAFT MAGNETIC HEADING, add 360 degrees to AIRCRAFT MAGNETIC HEADING before subtracting. Column 3, figure 2-34, data is taken during the flight. Column 4 is calculated after the flight.

- a. Estimate amount of quadrantal error correction (QEC) required for the installation under test. If previous QEC information is unknown, assume a required QEC (refer to paragraph 2.1.4). Refer to figure 2-38 and strap proper receiver mating connector contacts to obtain estimated QEC.
- b. Fly to the vicinity of the omnirange station or fixed point selected. Position control mode select switch to ADF, and tune the ADF-60( ) to the selected radio station.
- c. Fly over omnirange station (or fixed point) with first aircraft magnetic heading listed in figure 2-34. At the moment aircraft is directly over omnirange station (or fixed point), record indicated magnetic bearing to the station (the bearing on the compass card indicated by the ADF pointer).
- d. Continue to fly straight for a short time; then make a broad turn and fly over omnirange station (or fixed point) with another aircraft magnetic heading. Again, record indicated magnetic bearing to station when directly over the reference point.
- e. Repeat step d for each remaining aircraft magnetic heading. The test pattern should be flown with alternate left and right turns to prevent excessive precession of the gyros. The flight pattern of an aircraft performing this is shown in figure 2-35.
- f. Subtract each INDICATED RADIO MAGNETIC BEARING from AIRCRAFT MAGNETIC HEADING (from the omnistation). Enter results in NET QUADRANTAL ERROR CORRECTION column. Figure 2-34 shows positive NET QEC needed in first quadrant, but the correction may be negative.
- g. Plot a graph of NET QEC against relative bearing to station. Figure 2-36 shows a sample graph using the data from figure 2-34.
- h. Critically examine QEC curve to see if it is reasonably regular and symmetrical. If it is not, check antenna location for aerials, projections near the antenna, and large openings in the fuselage (doors) which could cause irregularities in the rf field. If irregularities cannot be accounted for, repeat calibration using a different station and frequency. If second calibration produces a differently shaped curve, then the installation is questionable and the cause must be sought and eliminated.

**Note**

If the curve begins to the left or right of the vertical NET QEC axis, the ANT-60( ) Antenna is not aligned with the aircraft fore-to-aft axis. If the curve is centered above or below the horizontal relative bearing axis, the ANT-60( ) Antenna is not

(1) RELATIVE BEARING TO THE STATION (SELECTED BEFORE CALIBRATION) (degrees)	(2) AIRCRAFT MAGNETIC HEADING (MAGNETIC BEARING TO STATION FROM CALIBRATION POINT) MINUS (COLUMN 1) (degrees)	(3) INDICATED RADIO MAGNETIC BEARING (READ FROM COMPASS CARD BENEATH ADF POINTER) (degrees)	(4) NET QUADRANTAL ERROR CORRECTION *(MAGNETIC BEARING TO STATION FROM CALIBRATION POINT) MINUS (COLUMN 3) (degrees)
0	*71	71	0
30	41	65	+6
45	26	64	+7
60	11	65	+6
90	341	71	0
120	311	77	-6
135	296	78	-7
150	281	77	-6
180	251	71	0
210	221	65	+6
225	206	64	+7
240	191	65	+6
270	161	71	0
300	131	77	-6
315	116	78	-7
330	101	77	-6

\*Magnetic bearing to station from calibration point is 71 degrees.

Sample Quadrantal Error Table (Airborne Calibration)  
Figure 2-34

aligned with respect to the aircraft fuselage. Refer to figure 2-37.

Any misalignment should be corrected or a noncorrectable residual error will remain after calibration.

- i. Examine the peak values of the QEC curve to determine the amount of quadrantal error correction needed. If the quadrantal error correction curve is positive at relative bearings of 0 to 90 degrees, a greater amount of correction is needed. If the curve is negative at relative bearings of 0 to 90 degrees, the system has too much correction.

Referring to figure 2-36, the peak value of QEC is 7°. This is the required NET QEC of the ADF-60 system as installed in the aircraft.

**Note**

A positive QEC will move the indicated bearing toward the wings. A negative correction moves the indicated bearing toward the fore-to-aft axis of the aircraft.

j. If the result of the test (from preceding step i) is within 3 degrees of the estimated QEC (from step a), then the system is correctly adjusted. If the results differ by more than 3 degrees, remove the strapping on the rear connector. Refer to figure 2-38 and restrap the mating connector contacts to either increase or decrease the original estimate by the amount of QEC indicated by the flight test. (Total QEC equals initial strapping plus derived QEC.)

For sample error correction curve, figure 2-36, an additional 7 degrees of QEC are required. For an initial strapping of 10 degrees, the total required QEC is 17 degrees. Jumper wire connecting 4-8, 12-20 would be removed and 4-16 should be strapped (from figure 2-38).

**Note**

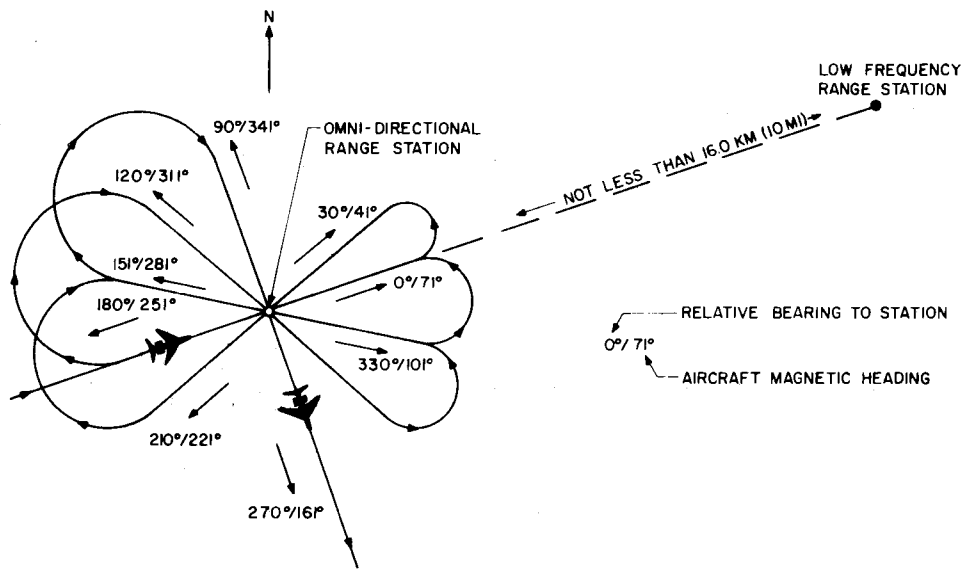
Remember to remove jumpers from previously strapped receiver mating connector contacts prior to strapping to obtain total required QEC (preset QEC plus measured QEC). If total QEC does not correspond with any entry in figure 2-38, strap to within 3 degrees.

**2.5.2.2 Ground Calibration**

Calibration may be performed on the ground using a radio signal transmitted from a known geographic location and turning the aircraft to different relative

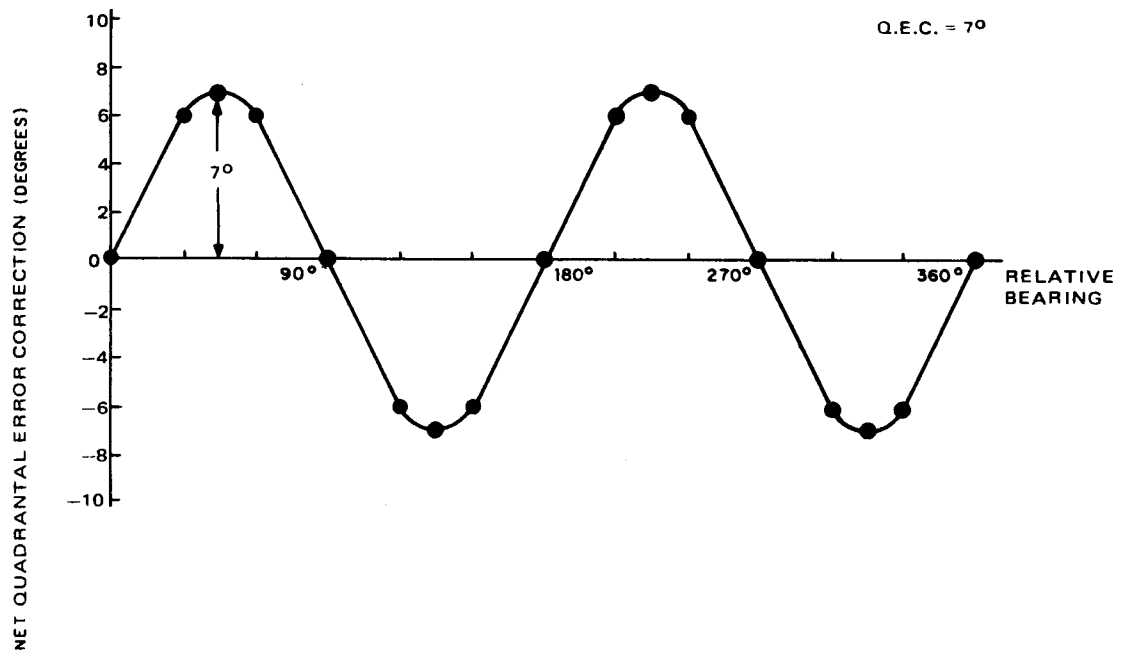
bearings. The bearing to the selected radio station relative to the heading of the aircraft must be accurately established. That angle may be determined using the aircraft compass system (if accurately calibrated) or by using a transit or pelorus sighted on a fixed object. The station selected should provide a strong, clear-channel signal and provide good non-fluctuating bearing indications. A flight check of the ground calibration should be made using the procedures in paragraph 2.5.2.1. Perform the ground calibration as follows:

- a. Locate the aircraft in an area that is clear of buildings, overhead wires, or other possible reflecting objects.
- b. Channel the ADF-60 system to ADF mode and turn the compass system on. Tune in the selected radio station (200 to 400 kHz) and point the aircraft directly toward the station.
- c. Read and record the AIRCRAFT MAGNETIC HEADING and INDICATED RADIO MAGNETIC BEARING in a table similar to figure 2-34.
- d. Turn the aircraft 30 degrees to the left and record the AIRCRAFT MAGNETIC HEADING and INDICATED RADIO MAGNETIC BEARING.
- e. Continue this procedure by turning the aircraft to the left and recording data from each relative bearing listed in column 1 of figure 2-34.
- f. Determine the NET QEC required and adjust the QEC according to the instructions given in paragraphs 2.5.2.1, steps f through j.



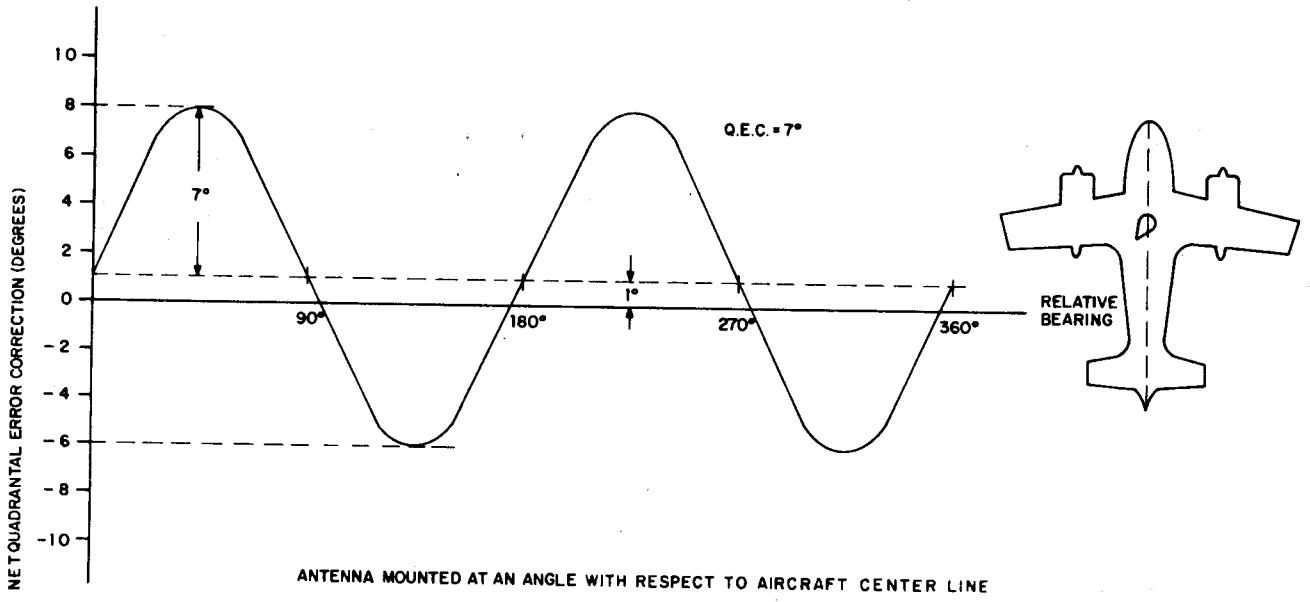
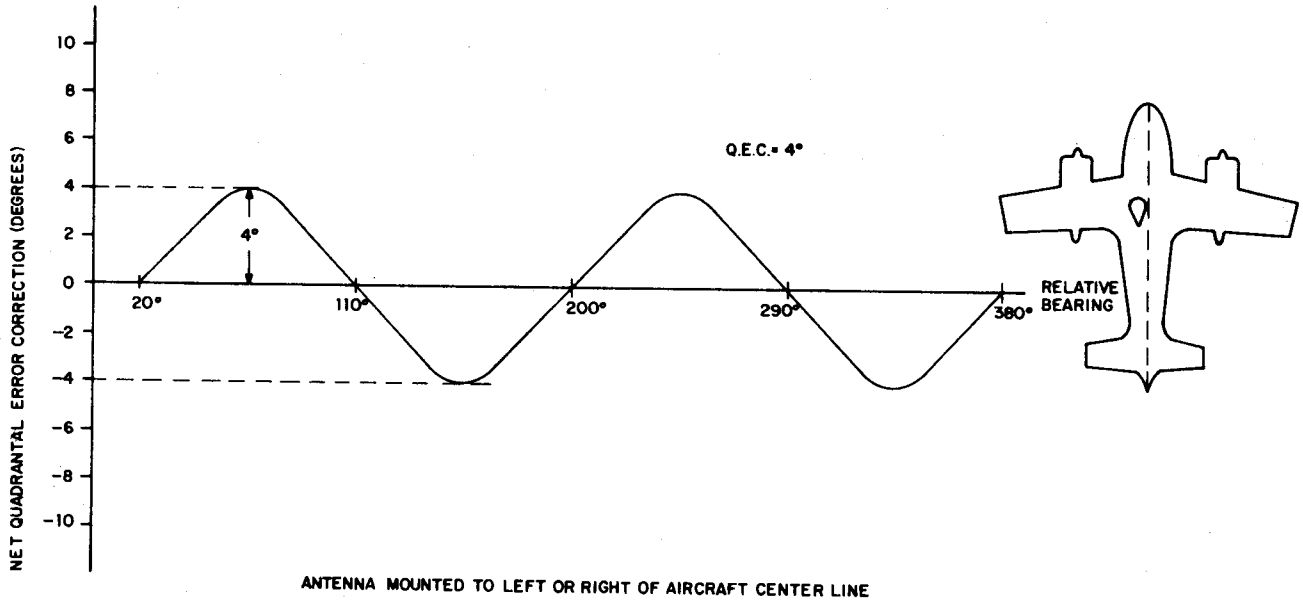
TP5-2132-019

ADF-60 System, Calibration Pattern  
Figure 2-35



TP4-4040-011

Sample Quadrantal Error Correction Curve  
Figure 2-36



TP4-4041-014

Quadrantal Error Correction Curves for Antenna Alignment Errors  
Figure 2-37

③ TOTAL Q.E.C. (DEGREES)	① STRAPPED RECEIVER TERMINALS
19	4-20
17	4-16
14	4-12, 16-20
12	4-12
10	4-8, 12-20
8	4-8, 12-16
7	4-8, 16-20
5	4-8
4	8-20
3	8-16
1	8-12, 16-20
0	8-12
-1	12-20
-3	16-20
-4	NO JUMPERS



ADF-60 ( ) RECEIVER  
REAR CONNECTOR

NOTE:

- ① STRAP MOUNT CONNECTOR CONTACTS TO ACHIEVE REQUIRED Q.E.C..
- ② KEEP JUMPER WIRES LESS THAN 127 MM (5 INCHES) IN LENGTH.
- ③ INCREASING Q.E.C. MOVES THE INDICATED BEARING TOWARD THE WINGS.

TP4-4042-011

Quadrantal Error Adjustment  
Figure 2-38



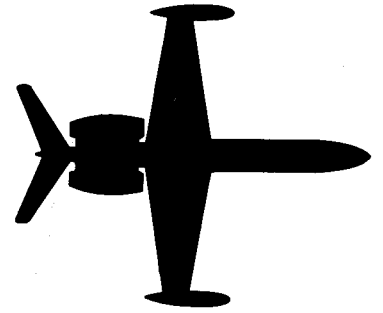
ATTACHMENT 2  
(SB 1124-34-053)

DF-206 QUADRANTAL ERROR CORRECTION

Correction Module Model 582A-( )	QEC Value	*QEC Value with 137A6A Antenna	Collins Part No. 522-XXXX-004
-10N	-10	+ 6	-3181-
- 8N	- 8	+ 8	-3180-
- 6N	- 6	+10	-3179-
- 4N	- 4	+12	-3178-
- 2N	- 2	+14	-3177-
- 0	0	+16	-3176-
- 2	+ 2	+18	-2736-
- 4	+ 4	+20	-2737-
- 6	+ 6	+22	-2738-
- 8	+ 8	+24	-2739-
-10	+10	+26	-2740-
-12	+12	+28	-2741-
-14	+14	+30	-2742-
-16	+16	+32	-2743-
-18	+18	+33	-2744-

\*317A6A Loop Antenna contains +16° QEC built in.

# **1124-WESTWIND**



## **SERVICE BULLETIN**

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### RECOMMENDED

SERVICE BULLETIN NO. 1124-34-055

January 22, 1986

SUBJECT: NAVIGATION - FMS-90/LRN-85 IMPROVEMENTS

#### 1. PLANNING INFORMATION

##### A. EFFECTIVITY:

- (1) Accomplishment Instructions Part A: Model 1124A serial numbers 295 through 352.
- (2) Accomplishment Instructions Part B: Model 1124A serial numbers 392 through 442 except 424 and EFIS equipped aircraft.
- (3) Accomplishment Instructions Part C: Model 1124A serial numbers 353 through 390.
- (4) Accomplishment Instructions Part D: Model 1124A serial numbers 295 through 442. Model 1124 all serial numbers prior to 426 with LRN-85 installed as #1 system.
- (5) Accomplishment Instructions Part E: Models 1124 and 1124A prior to 426 with LRN-85 installed as #2 VLF/NAV system.
- (6) Accomplishment Instructions Part F: Model 1124A serial numbers 295 through 372. Model 1124 serial numbers 284 through 423 with LRN-85 as #1 system installed.

B. REASON

- (1) Accomplishment Instructions Part A: To illuminate FMS "WARN" Annunciator for condition of "VLF" in Approach mode", only when FMS-90 is coupled to the Flight Director and an incompatible mode of operation is selected, while retaining all other FMS "WARN" conditions. This modification eliminates an FMS "WARN" Annunciator except where operationally required.
- (2) Accomplishment Instructions Part B: To correct a wiring error disabling composite steering to flight computer that will create improper flight director tracking of the VLF course, especially after leg changes.
- (3) Accomplishment Instructions Part C: To correct wiring error of VOR #1 flag into FMS-90 to prevent improper V/D mode operation when in "RPT NAV(V/L)#2" on pilots HSI.
- (4) Accomplishment Instructions Part D and E: To modify the shield ground connections of the antenna signal lines for the FMS-90/LRN-85 VLF Systems to improve reception.
- (5) Accomplishment Instructions Part F: To place the Radio Tune Unit (FMS-90 only) and the CRU/CDU on the same ground plane to prevent data lockup due to ground loop noises.

C. COMPLIANCE

Compliance with Parts B and C of this service bulletin is recommended, other Parts A, D, E and F are optional.

D. DESCRIPTION

- (1) Accomplishment Instructions Part A: 4 wires are added in aft avionics bay between existing relays and terminal strips.
- (2) Accomplishment Instructions Part B: One wire is removed from one terminal of T-16 and relocated to adjacent terminal.
- (3) Accomplishment Instructions Part C: One wire removed from T-17 and rerouted to T-7.

- (4) Accomplishment Instructions Parts D and E: Previously capped and stowed wires are put back in use and shields are grounded at the CRU.
- (5) Accomplishment Instructions Part F: A ground wire is added between the Radio Tune Unit (FMS-90 only), the Computer Display Unit and airframe ground.

E. APPROVAL

This service bulletin has been reviewed by the Israel Civil Aviation Administration (ICAA). The design content conveyed herein complies with the applicable Civil Aviation Regulations and is ICAA approved.

F. MATERIAL

The material required for this service bulletin can be obtained through Atlantic Aviation or procured locally.

G. TOOLING

None

H. WEIGHT AND BALANCE

Not applicable

I. ELECTRICAL LOAD DATA

Not affected

J. REFERENCES

Model 1124 Westwind Wiring Diagram Manual, Chapters 34-60-01, 34-60-03 and 34-50-02.

K. PUBLICATIONS AFFECTED

Model 1124 Westwind Wiring Diagram Manual, Chapters 34-60-01, 34-60-03 and 34-50-02.

2. ACCOMPLISHMENT INSTRUCTIONS

- A. Reference WDM Chapter 34-60-01 and revise wiring as follows:

- (1) Add two new #22AWG wires, one from RL85A pin 33 to area of FGC #2 plugs and one wire from RL-85A pin 36 to area of RL-84.

- (2) Remove wire TR-201C from terminal strip T16-2, splice and connect to RL-84B pin 20 with new wire from RL-85A pin 36.
- (3) Add a new #22AWG wire from T16-2 and connect to RL-84B pin 17.
- (4) Splice the new wire from RL-85A pin 33 with existing wire #2C349B24 to FGC #2 plug J-3 pin 13.
- (5) Perform functional test of Flight Director and FMS-90 System. It will be necessary to cancel any existing FMS-90 "WARN" alert prior to these steps:
  - (a) FMS "VLF/VD" switch in VLF position
  - (b) FMS selected on HSI
  - (c) Select APPR mode on the Flight Director control.

Starting with no "WARN" light, the above steps will turn "WARN" on. Selecting "VD" on FMS or deselecting "APPR" will cancel "WARN" light.

B. Reference WDM Chapters 34-60-01 and 34-50-02. Revise wiring as follows:

- (1) Remove wire #TR198D22 from T-16 terminal #7 and relocate to terminal #6 with wire #TR198C22 (in place).
- (2) Verify proper operation of Composite Steering using the following procedures:
  - (A) Select FMS on pilot and/or co-pilot HSI.
  - (B) Place FMS-90 in Simulated Navigation mode as follows:
    - (1) Mode-switch in TEST position.
    - (2) Key in code 1015 (PSW in alphanumeric register).
    - (3) Key in code 1003 (SIM in alphanumeric register).
    - (4) Key in code 1015 (PSW in alphanumeric register).
    - (5) Key in code 1016 (STR in alphanumeric register).
  - (C) Verify valid HDG in NAV mode of operation. Manually enter TAS (350 kts) and GS (300 kts).
  - (D) Couple FMS to Flight Director System, using "NAV" mode.

- (E) Key in parallel track of L7.5 miles. Flight Director will indicate left turn.
  - (F) Key in parallel track of R 7.5 miles. Flight Director will indicate right turn.
- C. Reference WDM Chapters 34-60-01 and 34-50-02. Revise wiring as follows:
- (1) Remove wire #TR185C22 from T-17 terminal #20 and relocate to T-7 terminal #5. Do not disturb other wire segments attached to these terminals.
  - (2) Verify proper operation of FMS coupled to pilot and co-pilot HSI.
- D. Reference WDM Chapter 34-60-01 and Figure 1 attached. Perform the following wire changes.
- (1) Locate and gain access to the FMS-90/LRN-85 Computer Receiver Unit #1 plug DB-136C and make the following changes:
    - (a) Locate wire #TR163A (FMS-90 on Westwind II Aircraft) or #TR139A (LRN-85 a/c 386 Westwind I) or #TR137 (LRN-85 on Westwind I except s/n 386). Insert this wire in pin 'F' of DB-136C.
    - (b) Locate shield of wire in step (a) above and ensure it connects to pin "P" of DB-136C.

NOTE

- In steps (a) and (b) above, these must be the only connections to pins 'F' and 'P' of DB-136C.
- (c) Locate shield of wires inserted in pins 'A' and 'B' of DB-136C and insert shield connection in pin 'N' of DB-136C. There must be no other connections to this shield or pin.
  - (d) Reconnect DB-136C to CRU.
- (2) Make accessible connector to Antenna Coupler Unit plug DB-134A.

- (A) Locate wire segment inserted in pin 'F' of DB-136C (step (1)(a) above) and insert opposite end in pin 'C' of DB-134A. Refer to Figure 1. No other connections to pin 'C' of DB-134A.
- (B) Isolate and insulate shields of wire segments to pins 'A', 'D', and 'B', 'C' of DB-134A. Shields are not connected to ground at this end, or to each other.
- (C) Ground Bonding Strap Installation:  
(Effective all aircraft serial numbers prior to 433).

Remove antenna and coupler. Polish and Iridite (P/N 14-2) all unit and airframe ground attach points. Refer Figure 2, locate existing angle P/N 5873606-21, drill .190-194 diameter hole in angle to form a ground stud.

- (1) Install a 1/2" bond strap P/N 5873606-23 as shown in Figure 2 between ACU mounting bolt and angle new ground stud using AN3-4A bolt, 3 each AN960KD10L Washers, MS35338-43 spring washer and MS21042-3 nut.
  - (2) Reinstall VLF antenna, assuring new screw head and antenna are properly sealed with PR-1422 sealant or equivalent.
  - (3) Reinstall ACU.
- (D) Check VLF for proper VLF/OMEGA signal acquisition.

E. Reference WDM Chapter 34-60-03 and Figure 1 attached. Perform the following wire changes:

- (1) Locate and gain access to the LRN-85 Computer Receiver Unit #2 plug DB-1360C and made the following changes:
  - (a) Locate wire #2TR218A (LRN-85 #2 System on Westwind II) or #2TR172A (LRN-85 #2 System on Westwind I). Insert this wire in pin 'F' of DB-1360C.
  - (b) Locate shield of wire in step (a) above and ensure it connects to pin 'P' of DB-1360C.

NOTE

In steps (a) and (b) above, these must be only connections to pins 'F' and 'P' of DB-1360C.

- (c) Locate shield of wire segments inserted in pins 'A' and 'B' of DB-1360C and insert shield connection in pin 'N' of DB-1360C. There must be no other connections to this shield or pin.
  - (d) Reconnect DB-1360C to CRU.
- (2) Make accessible connector to Antenna Coupler Unit plug DB-1340.
- (a) Locate wire segment inserted in pin 'F' of DB-1360C (Step (1)(a) above) and insert opposite end in pin 'C' of DB-1340. Refer to Figure 1. No other connections to pin 'C' of DB-1340.
  - (b) Isolate and insulate shields of wire segments to pins A, D, B and pin C of DB-1340. Shields are not connected to ground at this end, or to each other.
  - (c) Perform Part D, paragraph (2)(C) and (D).
- F. Reference WDM Chapters 34-60-01 and 34-60-03. Perform the following wiring changes:
- (1) For the FMS-90 system add new ground wire as follows:
    - (a) Locate and gain access to CDU connector DN-40.
    - (b) Add new wire #TR401B20 to pin 'G' of DN-40. Route along existing cable bundle and add to splice with existing wire TR401A20 near the RTU (Radio Tune Unit).
    - (c) Add additional length of wire #20AWG to same splice as in (b) above and connect opposite end to nearest airframe ground terminal.
  - (2) For the LRN-85 systems add new ground wire as follows:
    - (a) Locate and gain access to CDU connector.
    - (b) Add jumper from pin 'G' to 'H' with splice. Add additional length of #20AWG wire from splice to nearest airframe ground terminal.



- (c) Reassemble connectors and check for proper operation of Computer Display Unit.

3. MATERIAL INFORMATION

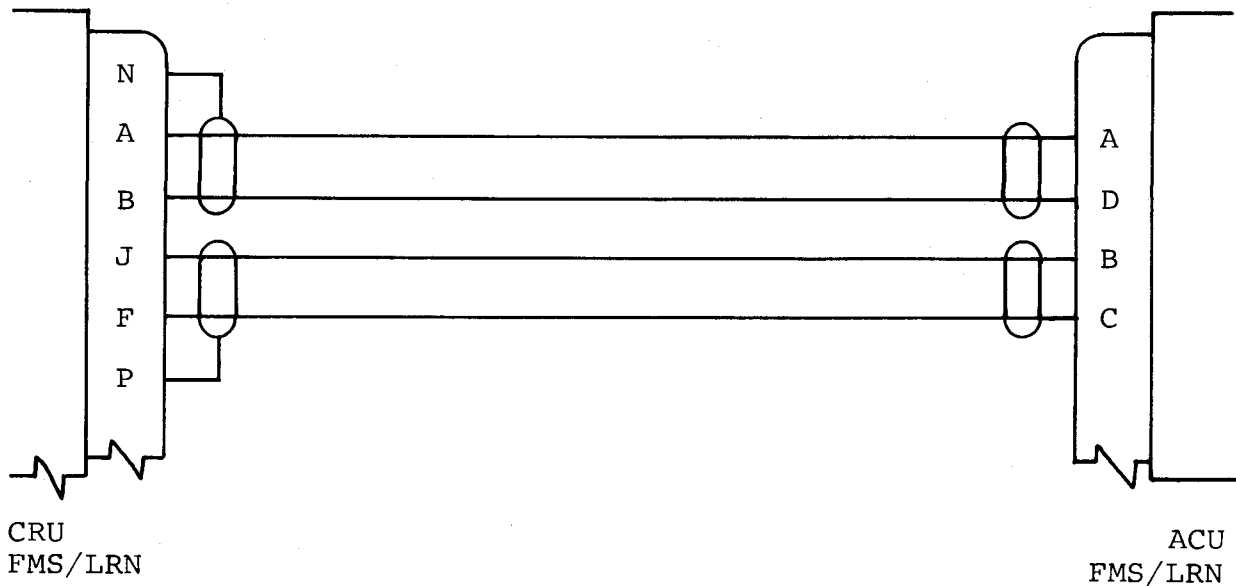
<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
A/R	MIL16878D	Wire, #20AWG
A/R	MIL16878D	Wire, #22AWG
1	873606-23	1232 Braid, 1/2" (Mfg. Alpha)
2	AN3-4A	Bolt
4	AN960KD10L	Washer
2	MS35338-43	Spring Washer
1	MS21042-3	Nut
A/R	14-2	Iridite
A/R	PR-1422	Sealant (or equivalent)

4. RECORD COMPLIANCE

- A. Make the following entry in aircraft log book:

Service Bulletin No. 1124-34-055 dated January 22, 1986 titled "Navigation - FMS-90/LRN-85 Improvements" has been accomplished this date.

- B. Revise 1124 Wiring Diagram Manual Chapters 34-60-01, 34-60-02, 34-60-03 and 34-50-02 as required to reflect the changes performed by this service bulletin.



NOTES

1. Production breakout disconnects not illustrated.
2. Wire segment numbers omitted due to varied configurations.

FIGURE 1

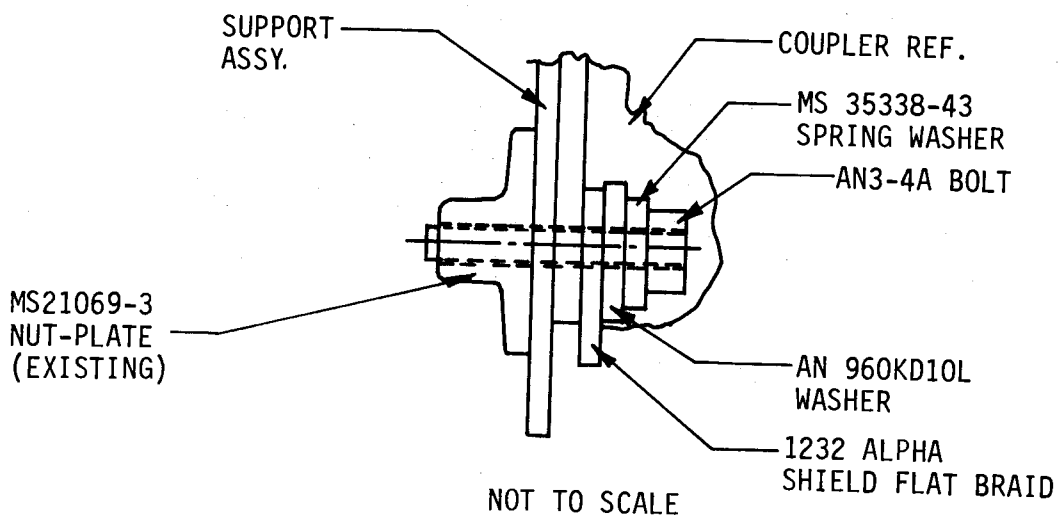
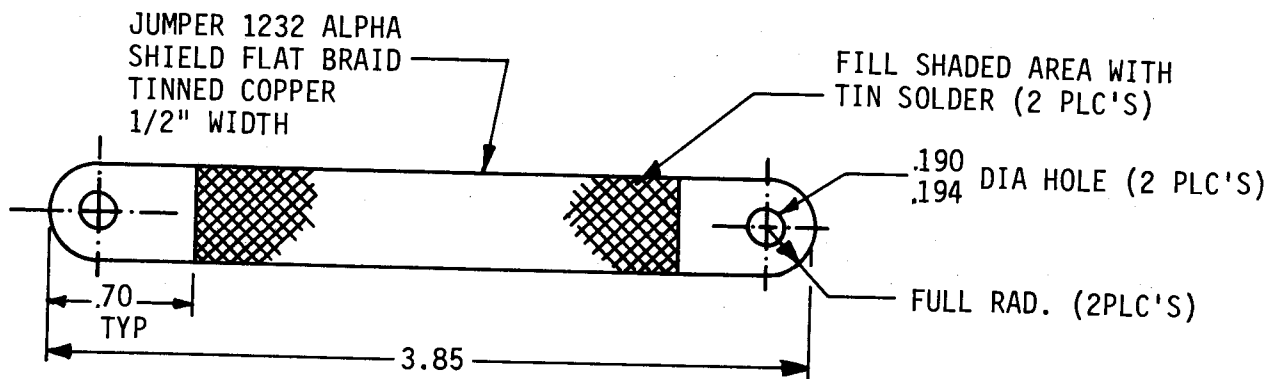


FIGURE #2  
GROUND BONDING STRAP INSTALLATION

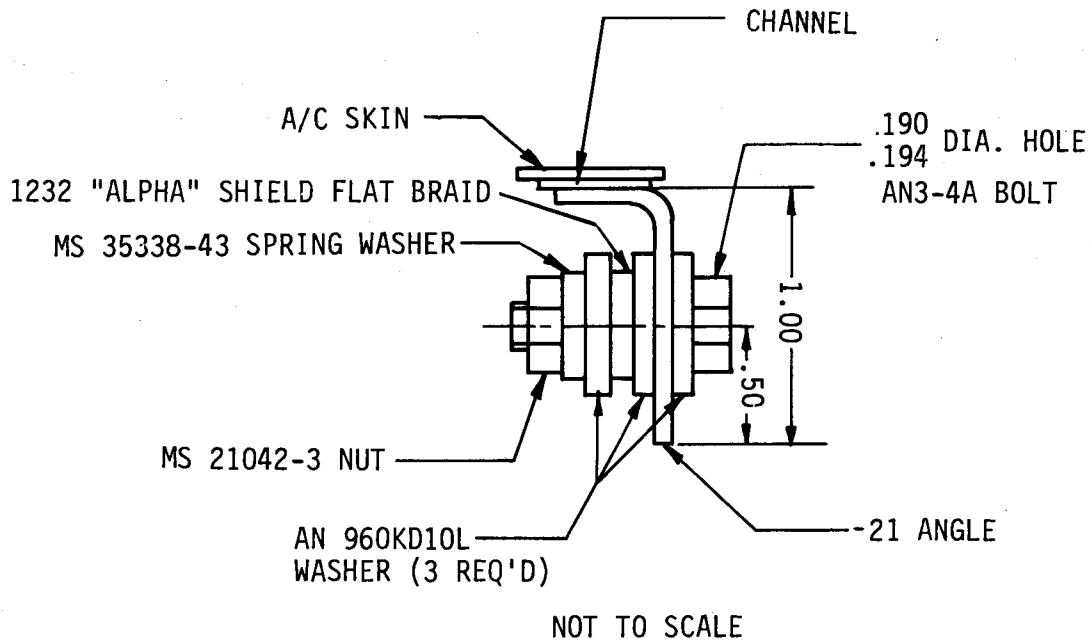


FIGURE 3

1124-34-055

*Service Bulletin*

A/C S/N \_\_\_\_\_

*Certificate of Compliance*

PLEASE FILL IN THE REQUIRED DATA BELOW AND RETURN TO:

ISRAEL AIRCRAFT INDUSTRIES INTERNATIONAL, INC.  
P.O. BOX 10086  
WILMINGTON, DE 19850  
ATTN: TECHNICAL PUBLICATIONS

This is to certify that Westwind Serial Number \_\_\_\_\_ has complied with Service Bulletin No. 1124-34-055

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance HOURS: \_\_\_\_\_ /CYCLES: \_\_\_\_\_

Compliance Date \_\_\_\_\_ By \_\_\_\_\_  
Signature

OWNER:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ACCOMPLISHING AGENCY:  
\_\_\_\_\_  
\_\_\_\_\_  
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Please describe below any discrepancies found or difficulties encountered during compliance:

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# SERVICE PUBLICATIONS revision notice

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OPTIONAL

SERVICE BULLETIN NO. 1124-34-057  
Revision No. 1

January 31, 1986

SUBJECT: NAVIGATION - NCS-31 DISPLAY AND LOGIC POWER SUPPLY  
IMPROVEMENTS

REASON FOR  
REVISION: To correct part numbers in paragraph 3.

### 3. MATERIAL INFORMATION

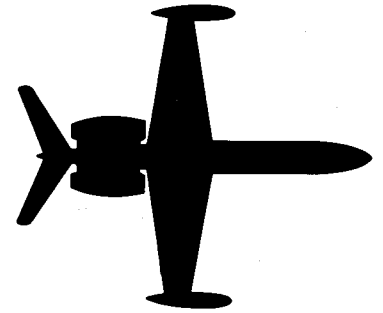
<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
2	KPT06B-14-5S	Connectors or equivalent
A/R	2024-T3 Alclad	Mounting base



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Page 1 of 1

# 1124-WESTWIND



## SERVICE BULLETIN

OPTIONAL

SERVICE BULLETIN NO. 1124-34-057

December 2, 1985

SUBJECT: NAVIGATION - NCS-31 DISPLAY AND LOGIC POWER SUPPLY IMPROVEMENTS

### 1. PLANNING INFORMATION

#### A. EFFECTIVITY

(1) ACCOMPLISHMENT INSTRUCTIONS PART A AND B:

MODEL 1124 WESTWIND, serial numbers 251, 259 and subs with Collins 639U-1 NCS power supply.

(2) ACCOMPLISHMENT INSTRUCTIONS PART C:

MODEL 1124 WESTWIND, serial numbers 187 thru 250, and 252 thru 258 including those with existing LT-52A power supplies.

#### B. REASON

- (1) To reduce display garbling due to power drain during engine start and initial system power up.
- (2) To provide improved logic and lighting voltage source to NCS, especially under low temperature and low bus voltage conditions.
- (3) The NCS-31 system microprocessor has an original vendor operating temperature range of +5° to +141° Fahrenheit. Ambient temperatures approaching the limits of these readings will cause the NCS to power up with garbled displays and cause the keyboard tuning to become erratic.



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It must be recognized that this maximum operating temperature range will become smaller as the micro-processor and associated components age, resulting in a different temperature range creating the problem.

- (a) It is the intent of this service bulletin to minimize the effects of reduced input voltage to the NCS system, by providing adequate power sources.
- (b) The modifications described in this service bulletin will not correct for marginal or improper system operation caused by the NCS microprocessor or internal power supply, which can cause identical symptoms to those addressed by this service bulletin.

C. COMPLIANCE

Compliance with this service bulletin is optional.

D. DESCRIPTION

ACCOMPLISHMENT INSTRUCTIONS PART A:

Add larger gauge parallel paths for logic and display power distribution wires and provide shorter returns. This part should be accomplished prior to Part B, and the system monitored for proper performance.

ACCOMPLISHMENT INSTRUCTIONS PART B:

Replace Collins 639U-1 NCS power supply with two (2) KGS LT-52A power supplies in the event Part A does not completely remedy the problem.

ACCOMPLISHMENT INSTRUCTIONS PART C:

Replace original EMP type PS-274 power supplies with the field repairable KGS type LT-52A.

E. APPROVAL

This service bulletin has been reviewed by the Israel Civil Aviation Administration (ICAA). The design content conveyed herein complies with the applicable Civil Aviation Regulations and is ICAA approved.

F. MATERIAL

The material required for the accomplishment of this service bulletin may be obtained from Atlantic Aviation or from local sources.

G. TOOLING

None

H. WEIGHT & BALANCE

Not applicable.

I. ELECTRICAL LOAD DATA

Not applicable.

J. REFERENCES

1124 Wiring Diagram Manual, Chapters 34-50-12 and 34-50-14.

1124 Service Letter No. WW-2452, dated February 28, 1980.

K. PUBLICATIONS AFFECTED

1124 Wiring Diagram Manual, Chapters 34-50-12 and 34-50-14.

2. ACCOMPLISHMENT INSTRUCTIONS

PART A

Reference Wiring Diagram Manual, Chapters 34-50-12 and 34-50-14 for the below listed procedures.

- (1) Remove all power from aircraft.
- (2) Locate and gain access to NCS-31 lighting and logic power supply, 639U-1 (located at centerline, under floor, between stations 174 and 184).
- (3) At power supply connector DB-206 locate butt splice with wire #RP21A20N (will have four (4) other wires in splice). Cut wire RP21A20N near splice, strip both ends and attach terminals.

- (a) Connect both terminals to nearest convenient airframe ground under center floor. Do not ground to access panel that mounts to the power supply.
- (4) Locate butt splice with wire #RP21A18.
  - (a) Disconnect the wire going to pin "A" from butt splice, at the butt splice.
  - (b) Connect new wire #16 AWG to pin "A" using RP21C16 for wire label.
- (5) At DB206 pin "K" splice new wire #RP29F16 #16 AWG to existing wire #RP29A20 and route to T-156 with wire added in step (4) (b). (T-156 located at station 128 left side.)
- (6) At T-156 connect wire #RP21C16 to terminal 11 and wire #RP29F16 to terminal 15.
- (7) On terminal 9 of T-156 add length of #16 AWG wire and connect opposite end to nearest airframe ground.
- (8) Reference Service Letter WW-2452 for power supply adjustment procedures. It is advisable to set the  $5.0 \pm .1$  VDC logic voltage by measuring at the NCS CDPU plug A, pins 29 or 30, with CDPU plugged in to provide the proper load. Use external power during adjustment procedures, and for the 639U-1 power supply set the voltage using the adjustment internal to the power supply.
- (9) Perform complete functional check of NCS system to include engine start from battery power with NCS ON.
- (10) Reassemble aircraft and return to service, or proceed with Part B of Accomplishment Instructions as desired.

#### ACCOMPLISHMENT INSTRUCTIONS

##### PART B

Reference Wiring Diagram Manual, Chapters 34-50-12 and 34-50-14 for replacement of 639U-1 power supply with 2 each LT-52A power supplies, and follow below listed procedures:

- (1) Remove all power from aircraft.

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- (2) Locate and remove 639U-1 power supply and mounting plate (located on center line, under floor between stations 174 and 184). Discard plate and AN3-17A attaching bolts.
- (3) Modify existing mounting plate angles as shown in Figure #1 to accommodate installation of 2 each KGS LT-52A power supplies and new plate P/N 5863569-3. Install power supplies with AN3-25 bolts.
- (4) Install mount and power supplies to airframe using existing angles and hardware shown on Figure #1 to mount new plate. Label power supplies as B206 and B211 for reference and identification purposes.
- (5) At existing connector DB206, remove wires from pin 'K' and insert in new DB206 pin 'C.'
- (6) Remove twisted pair (wire #RP27(D) 18R and #RP28(D) 18B) from existing DB206 pins 'F' and 'G.' Cap and stow "B" segment of twisted pair.
- (7) Add length of #18AWG wire to wire #RP27(D) 18R using butt splice with #18AWG pigtail at other end of splice.
- (8) Install pigtail wire added in step (7) above in pin 'A' of new DB206 and other added wire in pin 'A' of new DB211.
- (9) Remove wires from pins 'D', 'E', 'L' and 'R' of old DB206.
  - (a) Insert two of removed wires in pin 'B' of DB206 (new) and two in pin 'B' of DB211.
- (10) Remove wires from pins 'A' and 'B' of old DB 206 and install in pin 'C' of DB211. Remove wire RP95A20 from pin 'M' of old DB206 and install in pin 'D' of DB211. Discard old DB206.
- (11) Insert length of #20AWG wire in pin 'D' of DB206. Attach other end of wire to one lead of resistor (5.1K ohm,  $\frac{1}{2}$  watt) using proper sleeving and splice. Attach opposite end of resistor to ground point with wires in step (9) above.
- (12) Reference Service Letter WW-2452 and Part C(8) of this service bulletin for power supply adjustment procedures. Set the 5.0 + .1 Vdc logic voltage by changing the value of the 5.1K Ohm resistor installed in step 11 above.

- (13) Perform functional check of NCS-31 system to include dimming operation.
- (14) Reassemble aircraft and return to service.

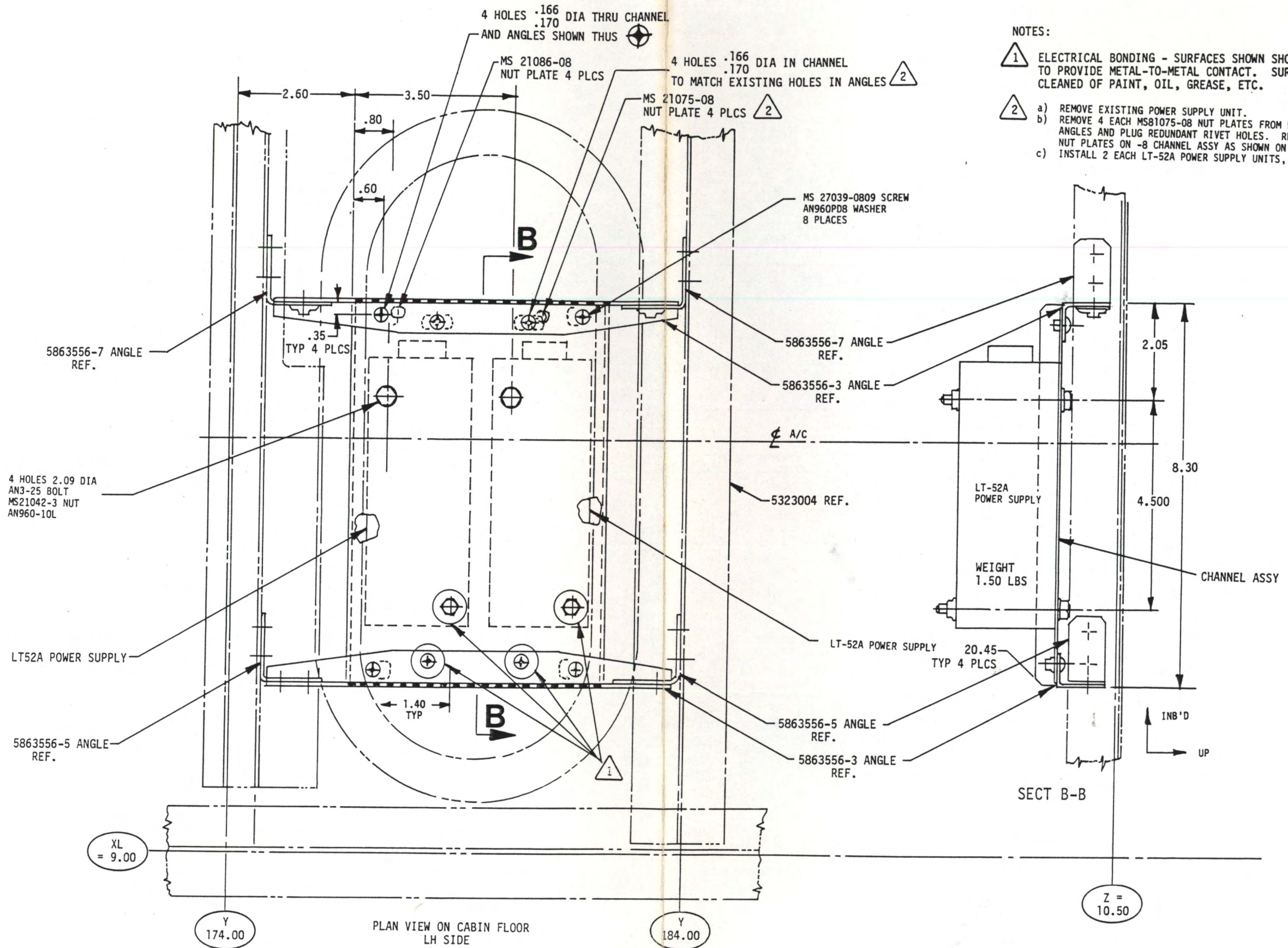
ACCOMPLISHMENT INSTRUCTIONS

PART C

Reference Wiring Diagram Manual, Chapters 34-50-12 and 34-50-14 for replacement of PS-274 power supplies with KGS LT-52A power supplies for the NCS logic and display functions. Follow the below listed procedures:

- (1) Remove all power from aircraft.
- (2) Locate and remove PS-274 power supplies (approximate location between stations 93 and 103 right side in side wall or under divan for older aircraft) and discard the 4 ea. AN3-17A attaching bolts.
- (3) If necessary, remove and modify the mounting plate to accomodate the LT-52A power supplies.
- (4) Reinstall mount with existing hardware and power supplies with new AN3-25 bolts in same position. Connect using existing plugs (physically and electrically the same).
- (5) Install a #16AWG jumper to nearest airframe ground:
  - (a) S/N 187 through 239 from terminal strip T32, lug 10.
  - (b) S/N 240 and subsequent from terminal strip T156-9 or T157-10 as applicable. Refer to 34-50-12 for appropriate ground return for your wiring configuration.
- (6) Add a new #16 AWG wire from DB206 pin C in parallel with existing wire RP29( )20 by the shortest route:
  - (a) S/N 187 through 239 to terminal strip T36-4.
  - (b) S/N 240 and subs to terminal strip T156-15.
- (7) Add a new #16 AWG wire from DB211 pin C in parallel with existing wire RP21( )18 by the shortest route:
  - (a) S/N 187 through 239 to terminal strip T35-11.
  - (b) S/N 240 and subs to terminal strip T156-11.





- NOTES:
- 1 ELECTRICAL BONDING - SURFACES SHOWN SHOULD BE CLEANED TO PROVIDE METAL-TO-METAL CONTACT. SURFACES SHOULD BE CLEANED OF PAINT, OIL, GREASE, ETC.
  - 2 a) REMOVE EXISTING POWER SUPPLY UNIT.  
b) REMOVE 4 EACH MS81075-08 NUT PLATES FROM 5863556-3 ANGLES AND PLUG REDUNDANT RIVET HOLES. REINSTALL NUT PLATES ON -8 CHANNEL ASSY AS SHOWN ON THIS DWG.  
c) INSTALL 2 EACH LT-52A POWER SUPPLY UNITS, AS SHOWN.

POWER SUPPLY INSTALLATION  
FIGURE 1

December 2, 1985

# Service Bulletin

A/C S/N \_\_\_\_\_

## Certificate of Compliance

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ISRAEL AIRCRAFT INDUSTRIES INTERNATIONAL, INC.  
P.O. BOX 10086  
WILMINGTON, DE 19850  
ATTN: TECHNICAL PUBLICATIONS

This is to certify that Westwind Serial Number \_\_\_\_\_ has complied with Service Bulletin No. 1124-34-057

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance HOURS: \_\_\_\_\_ /CYCLES: \_\_\_\_\_

Compliance Date \_\_\_\_\_ By \_\_\_\_\_  
Signature

OWNER:

ACCOMPLISHING AGENCY:

_____	_____
_____	_____
_____	_____
_____	_____

Please describe below any discrepancies found or difficulties encountered during compliance:

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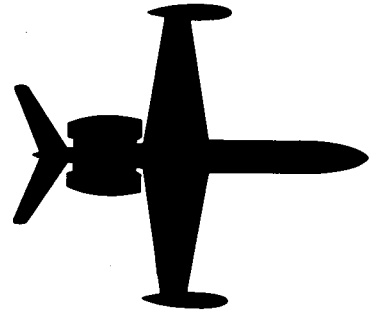
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## **SERVICE BULLETIN**

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OPTIONAL

SERVICE BULLETIN NO. 1124-34-064

May 5, 1986

SUBJECT: NAVIGATION - REPEAT VOR/LOC SWITCHING IMPROVEMENTS

### 1. PLANNING INFORMATION

#### A. EFFECTIVITY

- (1) Accomplishment Instructions PART A:  
Model 1124 Westwind, all serial numbers.  
Model 1124A Westwind, serial numbers 295 through 390.
- (2) Accomplishment Instructions PART B:  
Model 1124A Westwind, serial numbers 295 through 390.

#### B. REASON

- (1) Accomplishment Instructions PART A: To display a VOR/LOC flag in "RPT NAV" modes to alert operator of a possible invalid navigation display when the offside HSI is not displaying VOR/LOC information. A conformity inspection test is included to determine if the aircraft has previously complied with this part.
- (2) Accomplishment Instructions PART B: To disable "NAV TEST" functions when in "RPT NAV" modes to prevent possible Flight Guidance System errors during "NAV TEST." A conformity inspection test is included to determine if the aircraft has previously complied with this part.

#### C. COMPLIANCE

Compliance with this service bulletin is optional.

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D. DESCRIPTION

Two wires are added for PART A and PART B between the HSI transfer relays RL84/RL85 and the RPT NAV relays RL30/RL31.

E. APPROVAL

This service bulletin has been reviewed by the Israel Civil Aviation Administration (ICAA). The design content conveyed herein complies with the applicable Civil Aviation Regulations and is ICAA approved.

F. MATERIAL

Material may be procured locally.

G. TOOLING

None required.

H. WEIGHT AND BALANCE

Not affected.

I. ELECTRICAL LOAD DATA

Not affected.

J. REFERENCES

1124/1124A Wiring Diagram Manual, Chapters:

34-50-01	34-50-03
34-50-02	34-50-04

K. PUBLICATIONS AFFECTED

1124/1124A Wiring Diagram Manual, Chapters:

34-50-01	34-50-03
34-50-02	34-50-04

2. ACCOMPLISHMENT INSTRUCTIONS

PART A

- A. Perform preliminary check of NAV switching. Do not select any flight director modes, and the autopilot must be disengaged. Both sides must be in normal VOR/LOC mode and a valid VOR/LOC signal must be present.

- (1) At pilot position, select "RPT NAV 2," Pilot HSI flag must be retracted. Select Copilot to a VLF mode, Pilot HSI flag is in view.
  - (2) Restore Pilot HSI to Normal VOR/LOC, select Copilot "RPT NAV 1." Copilot HSI flag must be retracted. Select Pilot to VLF mode, Copilot HSI flag is in view.
- B. Conformity with the above tests indicates compliance and no further action is required. Unsatisfactory results will require modification in accordance with the remaining steps (reference Figure 1).
- C. Remove wire 1RN80A22 from RL84B-9 and the jumper wires from RL84B-10 and/or RL84B-11. Splice these wires together.
- (1) This will result in a pilot "RPT NAV 2" annunciation whenever "RPT NAV 2" is depressed, regardless of information displayed on the Pilot HSI. This prevents switching the HSI into a possible invalid operating condition.
- D. Remove wire 2RN48C24 from RL30B-36, splice to new wire 2RN48Z24, route and connect to RL85B-46.
- (1) Aircraft with RL-30 P/N 175096-001, remove wire 2RN48C24 from DRL-30C, pin 24. Splice to new wire 2RN48Z24, route and connect to RL85B-46.
- E. Connect a new wire 2RN48Y24 from RL85B-45 to RL30B-36.
- (1) Connect new wire 2RN48Y24 to DRL-30C, pin 24 from RL85B, pin 45 if step D(1) applies.
- F. Remove wire 1RN48D24 from RL31A-27, splice to new wire 1RN48Z24, route and connect to RL84B-9.
- (1) Aircraft S/N 187-215: Wire No. 1RN48D24 may connect to RL-31B, pin 9. If so, remove and splice to new wire 1RN48Z24, route and connect to RL84B-9. Double check wire number removed.
- G. Connect a new wire 1RN48Y24 from RL84B-10 to RL31A-27.
- (1) Connect new wire 1RN48Y24 from RL84B-10 to RL31B, pin 9 if step F(1) applies.
- H. Repeat Step A for test and inspection.

PART B

- A. Restore Pilot and Copilot HSI to Normal VOR/LOC mode.
  - (1) At pilot position, select "RPT NAV 2" and attempt VIR-30A self-test on #2 NAV CTL-30. Restore Pilot HSI to Normal VOR/LOC.
  - (2) At copilot position, select "RPT NAV 1" and attempt VIR-30A self-test on #1 NAV CTL-30. Restore Copilot HSI to Normal VOR/LOC.
- B. Self-test in Step A must be inoperative, conformity indicates compliance and no further action is required. Should self-test be operational, modify in accordance with the following steps (reference Figure 2).
- C. Remove jumper wire, if any, between T21-19 and T21-18.
- D. Remove wire 1RN4C24 from T21-18, splice to new wire 1RN4Z24, route and connect to RL31A-10.
- E. Add new wire 1RN4Y24 and connect between RL31A-11 and T21-18.
- F. Remove jumper wire, if any, between T17-5 and T16-1.
- G. Add new wire:
  - (1) For dual Flight Director (#2 FGC80) systems:
    - (A) Remove wire 2C113A24 from T16-1, splice to new wire 2C113Z24, route and connect to RL30A-4.
  - (2) For single Flight Director systems:
    - (A) Add new wire 2C113Z24 from T17-5 to RL30A-4.
- H. Add new wire 3C113Y24 from RL30A-5 to T16-1.
- I. Repeat Step A for test and inspection.

3. MATERIAL INFORMATION

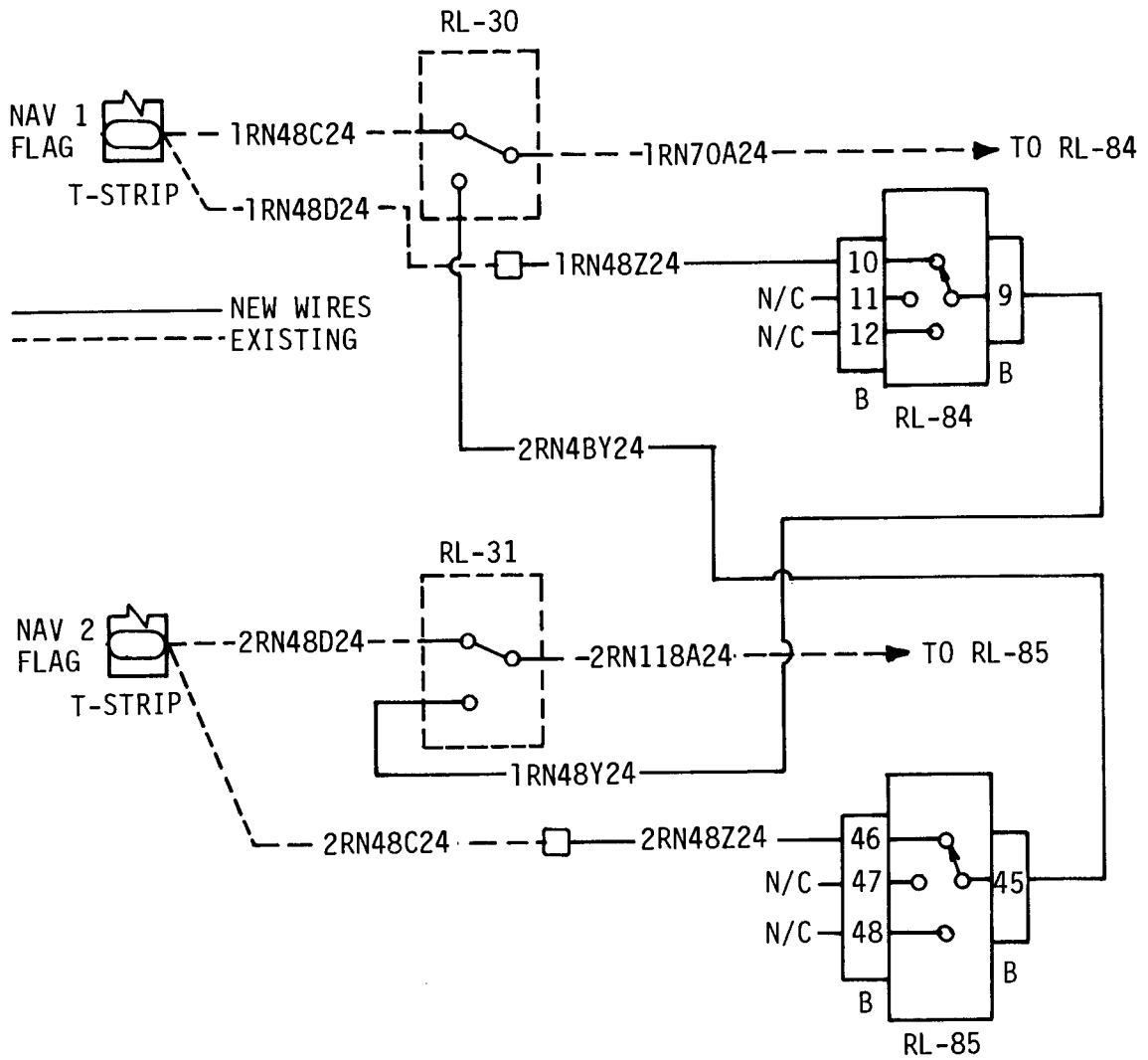
<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
A/R	MIL-W-16878D	#24AWG Wire
A/R	50534	Terminal, Mfg. AMP
A/R	323994	Butt splice, Mfg. AMP

4. RECORD COMPLIANCE

- A. Make the following entry in the aircraft log book:

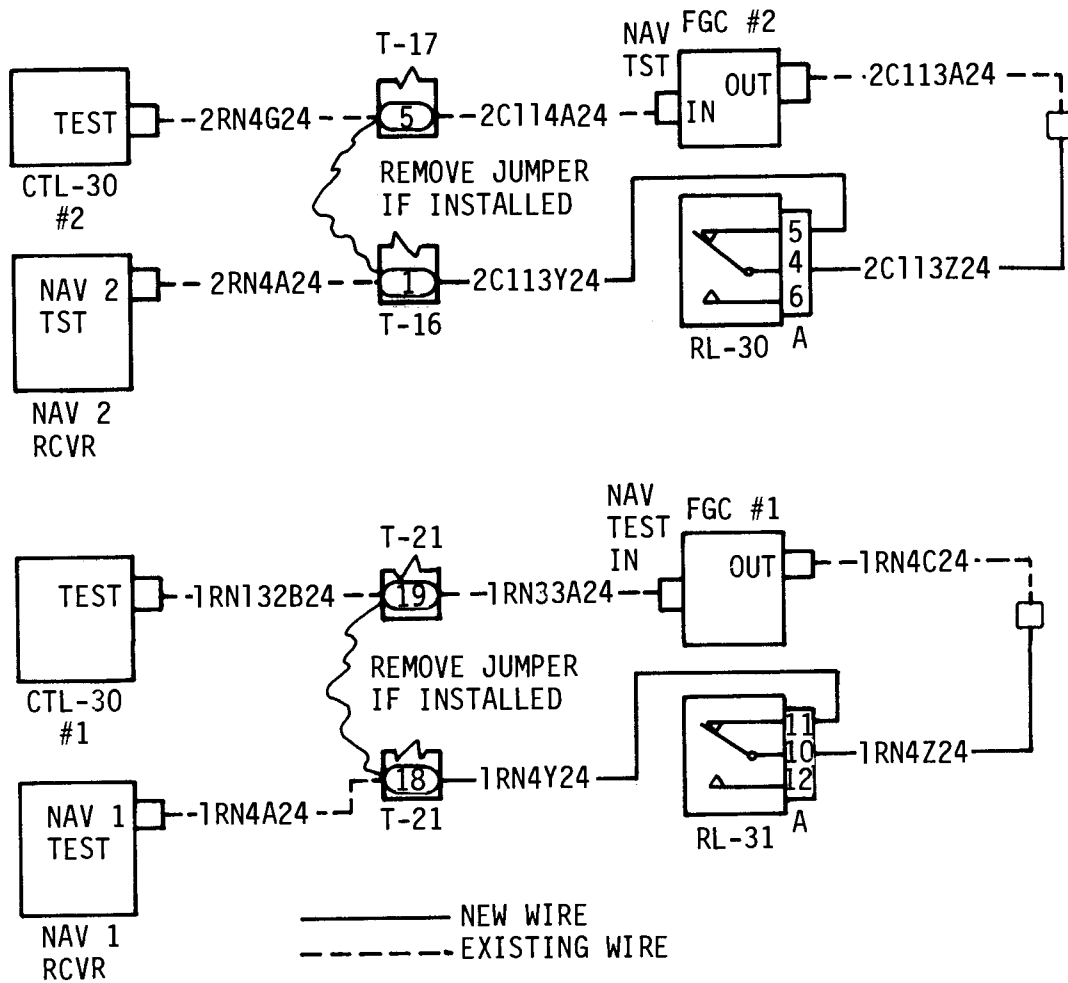
Service Bulletin No. 1124-34-064 dated May 5, 1986  
titled "Navigation - Repeat VOR/LOC Switching  
Improvements" has been accomplished this date \_\_\_\_\_.

- B. Revise 1124/1124A Wiring Diagram Manual as required to  
reflect the changes accomplished by this service  
bulletin.



NAV FLAG SWITCHING

FIGURE 1



NAV TEST LOCK-OUT

FIGURE 2

*Service Bulletin*

A/C S/N \_\_\_\_\_

*Certificate of Compliance*

PLEASE FILL IN THE REQUIRED DATA BELOW AND RETURN TO:

ISRAEL AIRCRAFT INDUSTRIES INTERNATIONAL, INC.  
P.O. BOX 10086  
WILMINGTON, DE 19850  
ATTN: TECHNICAL PUBLICATIONS

This is to certify that Westwind Serial Number \_\_\_\_\_ has complied with Service Bulletin No. 1124-34-064

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance HOURS: \_\_\_\_\_ /CYCLES: \_\_\_\_\_

Compliance Date \_\_\_\_\_ By \_\_\_\_\_  
Signature

OWNER:

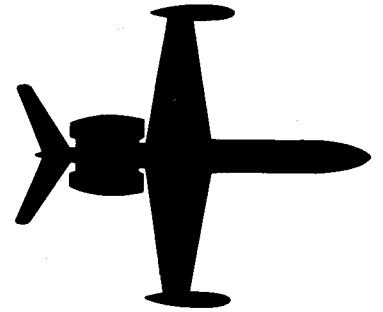
ACCOMPLISHING AGENCY:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Please describe below any discrepancies found or difficulties encountered during compliance:

\_\_\_\_\_  
\_\_\_\_\_  
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# 1124-WESTWIND



## SERVICE BULLETIN

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OPTIONAL

SERVICE BULLETIN NO. 1124-34-067

January 8, 1986

SUBJECT: NAVIGATION - RETROFIT OF COLLINS VERTICAL GYRO(S) AND IMPROVED VERTICAL GYRO MOUNTING

### 1. PLANNING INFORMATION

#### A. EFFECTIVITY

- (1) MODEL 1124 WESTWINDS, all serial numbers featuring nose deck mounted vertical gyro(s).
- (2) MODEL 1124A WESTWINDS, serial numbers 295 through 426 except those aircraft with split gyro installation.

#### B. REASON

- (1) To authorize retrofit of Collins 332D-11A or 332D-11T vertical gyro(s) for Model 1124 aircraft equipped with Sperry VG14 and/or VG-14A units.
- (2) To reduce radar stabilization errors, autopilot roll instability, ADI display errors and the need for aileron/rudder cross trimming by installing an adjustable "skew-plate" mount on Model 1124 aircraft (Collins vertical gyro(s) installation only).
- (3) To improve gyro vibration isolation and "skew-plate" rigidity for Model 1124A aircraft.

#### C. COMPLIANCE

Compliance with this service bulletin is optional.



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BEN GURION AIRPORT, ISRAEL

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D. DESCRIPTION

PART A:

A "skew-plate" vertical gyro mount is installed on the nose deck of Model 1124 aircraft.

Instructions for retrofitting Collins vertical gyro(s) to Model 1124 aircraft equipped with Sperry units are provided.

PART B:

"Skew-plate" clamps and improved gyro mounting stud assemblies are installed in Model 1124A aircraft.

E. APPROVAL

This service bulletin has been reviewed by the Israel Civil Aviation Administration (ICAA). The design content conveyed herein complies with the applicable Civil Aviation Regulations and is ICAA approved.

F. MATERIAL

The material required to accomplish this Service Bulletin may be obtained through Atlantic Aviation Supply Company or their authorized dealers.

G. TOOLING

No special tools are required.

H. WEIGHT & BALANCE DATA

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>UNIT WT (lb)</u>	<u>ARM (in.)</u>
5 863559-53	Base-plate	1.6	-2.3
5 863559-89	Skew-plate(s)	0.8	-2.3
VG-14	Sperry gyro(s)	10.0	-4
VG-14A	Sperry gyro(s)	7.3	-4
332D-11A, -11T	Collins gyro(s)	7.2	-2.3

I. ELECTRICAL LOAD

Not applicable

J. REFERENCES

Service Information Letter No. 1124-22-038 "Vertical Gyro Adjustment Procedure."

Service Information Letter No. 1124-22-039 "Vertical Gyro Improvements."

1124/1124A Maintenance Manual, Chapter 22-01-00.  
1124/1124A Wiring Diagram Manual, Chapters 22-10-02,  
22-10-03, and 34-40-01.

K. PUBLICATIONS AFFECTED

1124/1124A Illustrated Parts Catalog, Chapter 34-20-00 will be revised to reflect the modifications described. 1124/1124A Wiring Diagram Manual, Chapters 22-10-02, 22-10-03, and 34-40-01 will be revised to reflect the modifications described.

2. ACCOMPLISHMENT INSTRUCTIONS

PART A: Model 1124 skew-plate installation and gyro retrofit.

- A. Gain access to the R/H nose deck and remove existing gyro(s).
- B. If Sperry gyro(s) were removed, replace mating connector(s) in aircraft with P/N MS3476L-18-32S (refer to Chart 1 for pin connection information).
- C. Drill out rivets and remove existing gyro mounting Z angles from nose deck structure. Remove any universal head rivets that will prevent the 5 863559-53 plate from laying flat on the nose deck structure. Countersink redundant holes and plug with MS14218AD rivets.
- D. Remove the #2 inverter and oxygen bottle access cover assembly. Trim the outer edges of the oxygen bottle access cover so that it fits properly into the "joggle" provided in the nose deck.
- E. Install P/N 5 863559-53 base-plate, P/N 5 863559-89 skew-plate assembly(s) and P/N 5 863559-103 clamps per Figure 1. Install nut-plates through oxygen bottle access cover or nose deck structure only (not through P/N 5 863559-53 base-plate) using MS14218AD rivets.
- F. Install Collins Vertical gyro(s) P/N 332D-11A or 332D-11T. It is recommended that Collins Service Bulletins 332D-11A/T-22, 24; 332D-11A-23 be accomplished prior to installation. Reference Service Information Letter No. 1124-22-039 "Vertical Gyro Improvements."

- G. Perform system tests per 1124/1124A Maintenance Manual, Chapter 22-01-00 to ensure proper gyro outputs.
- H. Level gyro(s) per Service Information Letter No. 1124-22-038 "Vertical Gyro Adjustment Procedure." Leveling can be accomplished by adding AN960-PD10L washers under the gyro mounts (Figure 1 Section B-B). Grind washer faces as required to achieve proper thickness.
- I. Secure P/N 5 863559-103 clamps. Install MS16562-21 pins. Torque gyro mounting nuts to 4 ft-lbs minimum. Ensure that two full threads protrude through nuts.
- J. Reinstall the #2 Inverter, secure nose deck compartment and return aircraft to service.

PART B: Model 1124A clamp and stud assembly installation.

- A. Gain access to the R/H nose deck and remove gyro(s). It is recommended that Collins Service Bulletins 332D-11A/T-22, 24; 332D-11A-23 be accomplished before reinstallation.
- B. Measure the thickness of the skew-plate(s). If thickness is less than 1/8 inch, remove, discard and order P/N 5 863559-89 skew-plate assembly(s) for later installation (P/N 5 863559-93, 94, 95 stud assemblies will already be installed in skew-plate(s)).

If skew-plate(s) are 1/8 inch in thickness, drill out rivets securing the three stud assemblies per plate and replace them with one each P/N 5 863559-93, 94, 95 per skew-plate using MS20427-4C6 rivets (Figure 1).

- C. Measure thickness of base-plate. If less than 1/8 inch in thickness, discard and replace with P/N 5 863559-53 base-plate.
- D. Remove #2 inverter and oxygen bottle access cover assembly. Trim the outer edges of the access cover so that it fits properly in the "joggle" provided in the nose deck.
- E. Remove any universal head rivets from the nose deck structure that will prevent the P/N 5 863559-53 base-plate from laying flat on the nose deck structure. Countersink redundant holes and plug with MS14218AD rivets. Remove all rivnuts (if any) from nose deck.

- F. Lay out and install P/N MS21075-3 nut-plates per Figure 1 using MS14218AD rivets. Install all nut-plates on bottom of nose deck structure and bottom of oxygen bottle access cover (not on P/N 5 863559-53 base-plate).
- G. Install oxygen bottle access cover base, plate P/N 5 863559-53, skew-plate(s) P/N 5 863559-89, and clamps P/N 5 863559-103. Refer to Figure 1 for hardware information as well as which base-plate holes require countersinking.
- H. Relocate desiccator assembly per Figure 1.
- I. Reinstall gyro(s) and level per Service Information Letter No. 1124-22-038 "Vertical Gyro Adjustment Procedure." Leveling can be accomplished by adding AN960-PD10L washers under the gyro mounts (Figure 1, Section B-B). Grind washer faces as required to achieve proper thickness.
- J. Secure P/N 5 863559-103 clamps. Install MS16562-21 pins. Torque gyro mounting nuts to 4 ft-lbs minimum. Ensure that two full threads protrude through nuts.
- K. Reinstall the #2 Inverter, secure the nose deck compartment and return aircraft to service.

3. MATERIAL INFORMATION

- A. For MODEL 1124 Installation (See Accomplishment Instructions, Part A).

<u>QTY</u> <u>(Single V.G.)</u>	<u>QTY</u> <u>(Dual V.G.)</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
A/R	A/R	5 863559-61	Shim
1	1	5 863559-53	Base-plate
1	2	5 863559-89	Skew-plate assy.
2	4	5 863559-103	Clamp
1	1	5 863559-71	Placard
1	2	332D-11A or 332D-11T	**Gyro (Mfg. Collins)
2	4	*AN3-10A	Bolt
3	6	*AN3-5A	Bolt
7	7	*MS24694-S52	Screw

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8	8	*MS27039-1-10	Screw
16	27	*AN960-10L	Washer
3	6	*AN960-PD10L	Washer (alum.)
3	6	*MS35338-43	Lock washer
3	6	*MS21042-3	Nut
8	11	*MS21075-3	Nut plate
2	4	*MS16562-21	Pin
1	2	*MS3476L-18-32S	Connector
A/R	A/R	*MS14218AD	Rivet

\* May be obtained locally.

\*\*Verify that Collins Service Bulletins 332D-11A/T-22, 24; 332D-11A-23 have been accomplished prior to installation.

B. For MODEL 1124A Installation (see Accomplishment Instructions, Part B).

<u>QTY</u> (Single V.G.)	<u>QTY</u> (Dual V.G.)	<u>PART NO.</u>	<u>DESCRIPTION</u>
2	4	5 863559-103	Clamp
1	2	**5 863559-93	Stud Assy.
1	2	**5 863559-94	Stud Assy.
1	2	**5 863559-95	Stud Assy.
1	1	5 863559-71	Placard
A/R	A/R	5 863559-61	Shim
1	1	5 863559-67	Bracket
2	4	*AN3-10A	Bolt
2	6	*AN960-10L	Washer
2	3	*MS21075-3	Nut-plate
6	12	*MS20427-4C6	Rivet, CSK
2	4	*MS16562-21	Pin
3	6	*AN960-PD10L	Washer (alum)
A/R	A/R	*MS14218AD	Rivet, CSK
1	1	**5 863559-53	Base-plate
1	2	**5 863559-89	Skew-plate

\* May be obtained locally

\*\*Order P/N 5 863559-53 base-plate only if existing plate is less than 1/8 inch thick. Order P/N 5 863559-89 skew-plate(s) only if existing skew-plate(s) are less than 1/8 inch thick (do not order P/N 5 863559-93, 94, 95 stud assemblies in this event).

4. RECORD COMPLIANCE

Make the following entry in the aircraft log book:

Service Bulletin No. 1124-34-067 dated January 8, 1986  
titled "Navigation - Retrofit of Collins Vertical Gyro(s)  
and Improved Vertical Gyro Mounting" has been accomplished  
this date \_\_\_\_\_.

SERVICE BULLETIN NO. 1124-34-067

V.G. #1-DB25 WIRE NUMBER	V. G. #2-DB225 WIRE NUMBER	FROM VG 14/14A	TO 332D11-A/T	NOTES
C52C24R	2C1553B24R	x	A	1
C53C24B	2C1559B24B	y	B	1
C54C24Y	2C1556B24	z	C	
C55G24R	2C1546B24R	p	D	2
C56G24R	2C1549B24R	q	E	2
C57D24Y	3C1552B24Y	r	F	
C58F22	2C1543B2	GG	N	
C801E20	2C11B22	C	G	
C802B20N	-	B	H	3
C802A20N	2C802A20N	L	b	
SW4A22R (or SW33A22R)	-	DD	g	
SW5A22B (or SW34A22B)	-	EE	f	
SW6A22R (or SW35A22R)	-	w	e	
SW7A22B (of SW36A22B)	-	v	d	

NOTES:

- Wiring Diagram Manual Chapter 22-10-02 may show these wires reversed at Vertical Gyro. Sperry VG14/14A pin numbers shown herein are correct.

T  
S

4
- Wiring Diagram Manual Chapter 22-10-03 may show these wires reversed at Vertical Gyro. Sperry VG14/14A pin numbers shown herein are correct.

X  
V

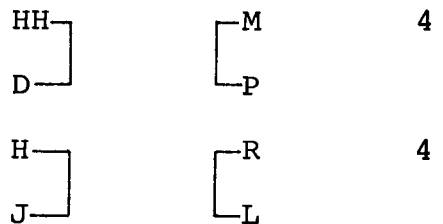
4
- Splice wires C802( ) from VG14/14A at 332D-11A/T and connect to 322D-11A/T pin H and b.

W  
U  
K  
J

4
- Remove jumpers from VG14/14A, install in 332D-11A/T. Add additional jumpers as shown using #22 AWG wire.

a  
Y  
Z

4



PIN CONNECTION INFORMATION  
CHART 1



GENERAL NOTES

1. FINISH: PAINT WITH POLYURETHANE WHITE 17.875 PER MIL-83286
2. ON A/C WHERE VERTICAL GYRO(S) ARE INSTALLED ON ZEE'S P/N 5863559-11, -13, -15 REMOVE THE ZEE'S AND PLUG REDUNDANT RIVET HOLES WITH RIVETS MS14218AD.
3. ALL UNIVERSAL HEAD RIVETS WHICH PREVENT PIN 5 863559-53 PLATE FROM SITTING FLUSH ON NOSE DECK ARE TO BE REPLACED WITH TYPE MS14218AD RIVETS.
4. CLAMPS P/N 5863559-103 MAY BE SHIMMED AS REQUIRED TO ENSURE THAT THEY ARE SQUARE WITH P/N 5863559-53 OR EXISTING PLATE WHEN SKEW PLATE ASSY. P/N 5863559-89 IS CLAMPED.
5. DEGREE MARKS OPTIONAL.
6. ON 1124A AIRCRAFT WHERE LOWER PLATE IS MOUNTED ON NOSE DECK WITH RIVNUTS AND AN3 BOLTS, ALL BOLTS BELOW THE P/N 5863559-89 SKEW PLATE(S) TO BE REPLACED WITH MS24694-S-52 SCREWS. REPLACE RIVNUTS WITH MS21075-3 NUT-PLATES AND MS14218AD RIVETS.
7. DRILL HOLES AND INSTALL MS16562-21 PINS ONLY AFTER FINAL ADJUSTMENT OF VERTICAL GYRO(S).
8. REFER TO SERVICE BULLETIN NO. 1124-34-040 FOR MODEL 1124 INSTALLATION.
9. FOR MODEL 1124A AIRCRAFT THAT FEATURE A BASE PLATE OF THICKNESS LESS THAN 1/8 INCH, REPLACE WITH P/N 5863559-53. FOR MODEL 1124A AIRCRAFT THAT FEATURE SKEW PLATE(S) OF THICKNESS LESS THAN 1/8 INCH, REPLACE WITH P/N 5863559-89 SKEW PLATE ASSEMBLY(S) (INCLUDES 5863559-93, 94, 95 STUD ASSEMBLIES).

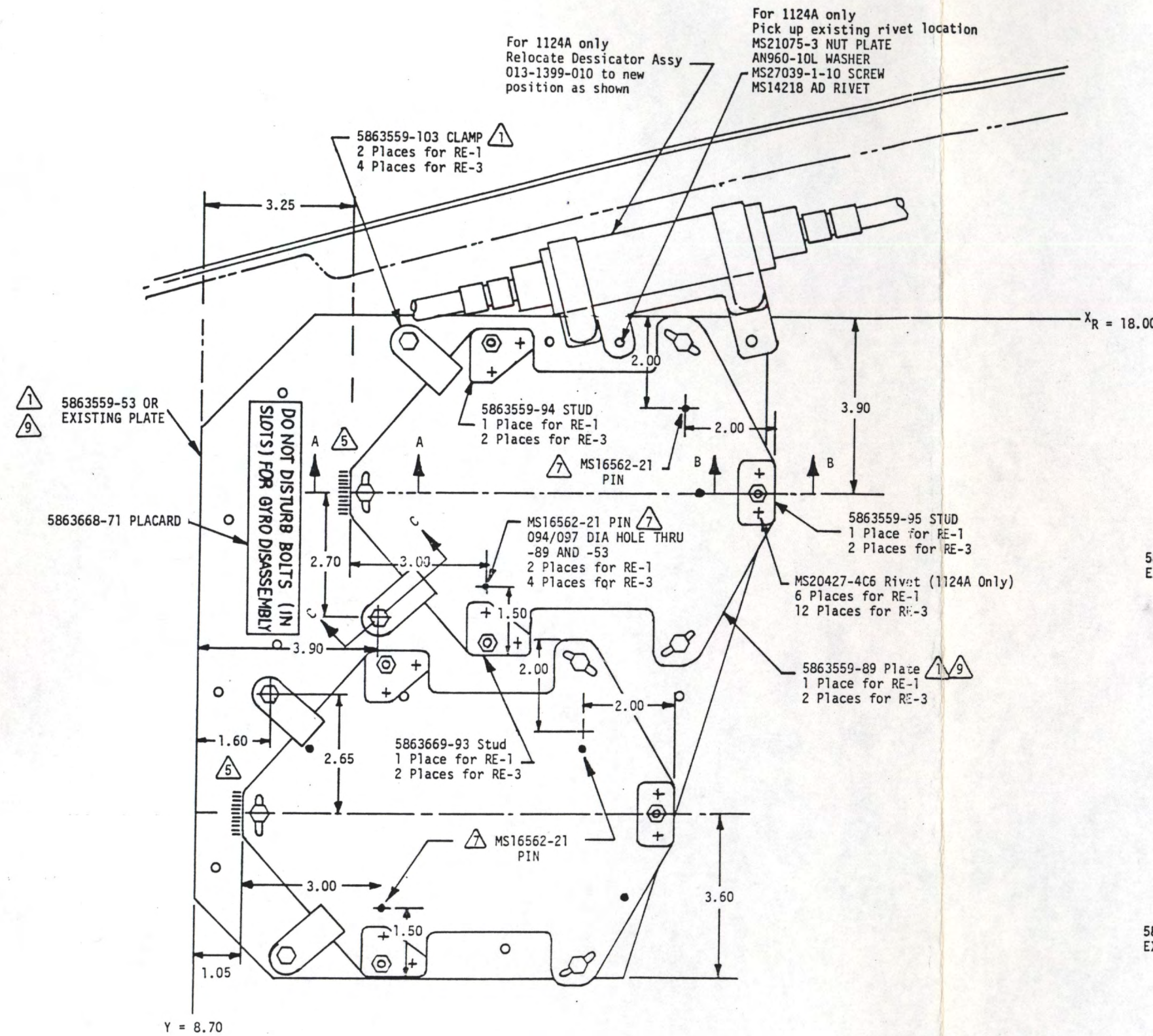
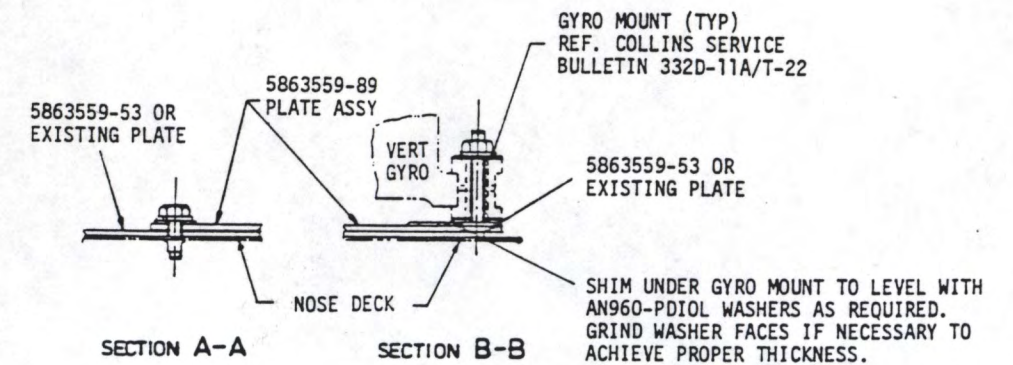
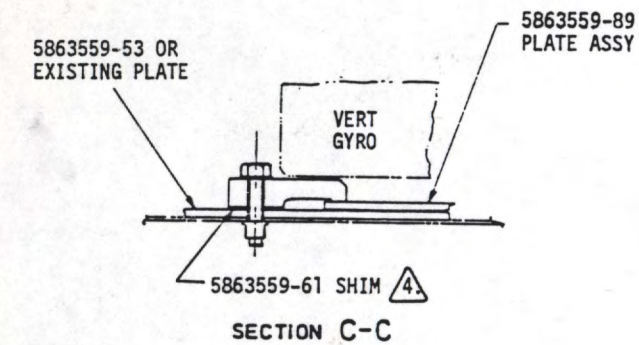


FIGURE 1: VERTICAL GYRO INSTALLATION.  
-RE 1: Single Instl  
-RE 3: Dual Instl. (1 of 2)





HOLE AND FASTENER CODES

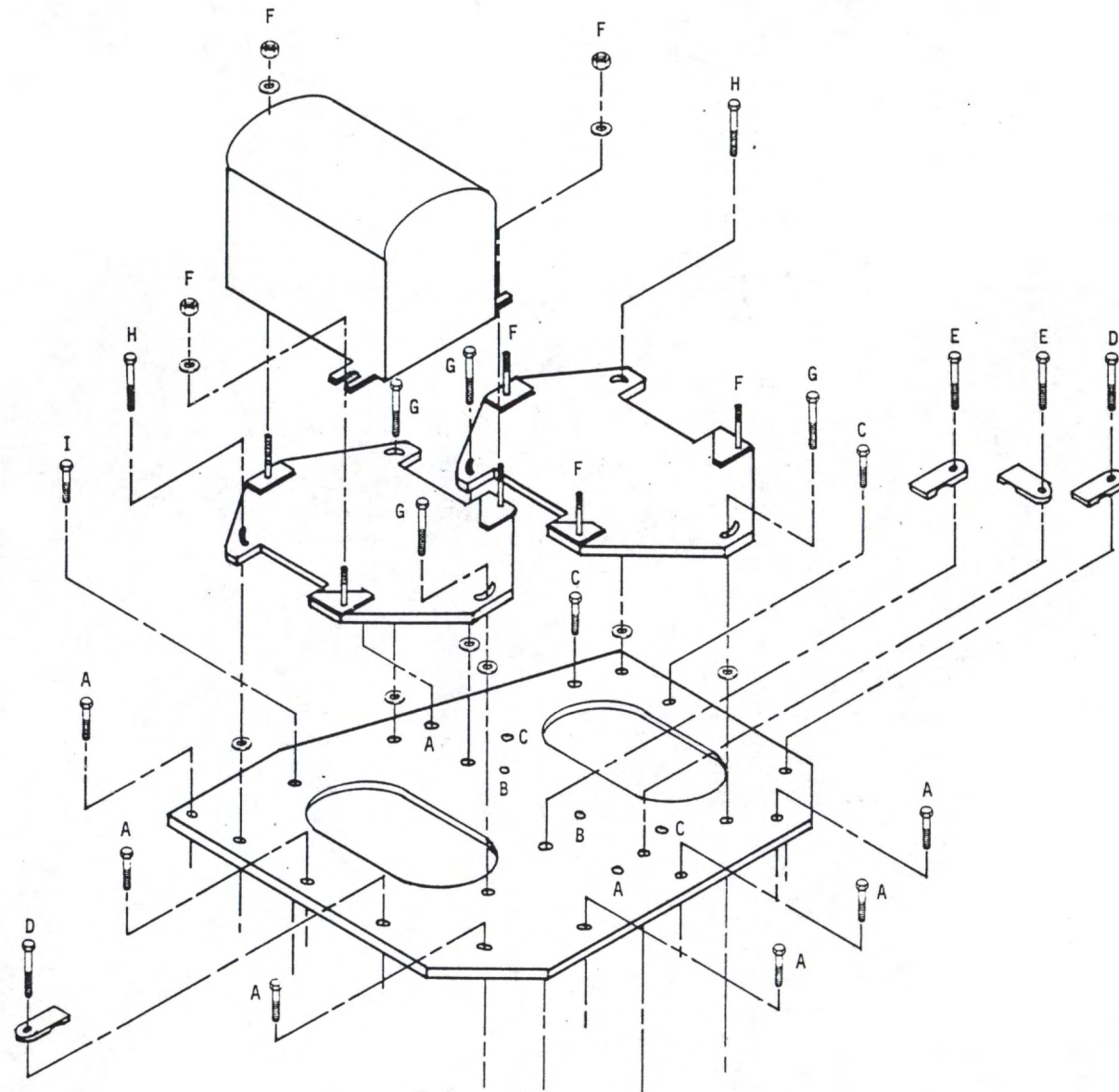
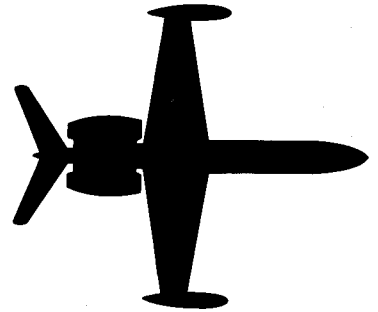


Figure 1  
(2 of 2)

- A. .190 to .194 dia. hole thru 5863559-53 plate only to pick up existing nut-plates. MS27039-1-10 screw, AN960-10L washer (8 places).
- B. .190 to .194 dia. holes CSK .385 to .395 dia. x 100° thru 5863559-53 plate only. Pick up existing nut-plates. MS24694-S52 screws (2 places).
- C. .190 to .194 dia. hole CSK .385 to .395 dia. x 100° thru 5863559-53 plate. MS24694-S52 screws and MS21075-3 nut-plates (4 places).
- D. .190 to .194 dia. holes thru 5863559-53 on existing plate, pick up existing nut-plate location. AN3-10A bolts, AN960-10L washers (1 place for RE-1, 2 places for RE-3).
- E. .190 to .194 dia. holes thru 5863559-53 on existing plate and nose structure. MS21075-3 nut-plate, AN3-5A bolts, MS35338-43 lock washer.
- F. MS21042-3 nut, AN960-10L washer (3 places for RE-1, 6 places for RE-3).
- G. .190 to .194 dia. holes thru 5863559-53 or existing plate and nose deck structure. AN3-5A bolt, MS35338-43 lock washer, AN960-10L washer, MS21075-3 nut-plate (2 places for RE-1, 4 places for RE-3).
- H. .190 to .194 dia. holes thru 5863559-53 or existing plate and nose deck structure. AN3-5A bolt, MS35338-43 lock washer, AN960-10L washer, pick up existing nut-plates (2 places).
- I. .190 to .194 dia. hole CSK .385 to .395 dia. x 100° thru structure and 5863559-53 plate, MS24694-S52 screw, MS21075-3 nut-plate (1 place).

# 1124-WESTWIND



## SERVICE BULLETIN

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OPTIONAL

SERVICE BULLETIN NO. 1124-34-070

January 15, 1986

SUBJECT: NAVIGATION - VLF/OMEGA RECEIVER PERFORMANCE IMPROVEMENT

### 1. PLANNING INFORMATION

#### A. EFFECTIVITY

MODEL 1124/1124A WESTWIND, all serial numbers using "E-Field" antennas for VLF navigation systems.

#### B. REASON

To increase VLF/Omega receiver performance in the presence of high aircraft-generated electrical noise when VLF signal is of a marginal level.

This modification will NOT reduce noise generated by P-static interference.

#### C. COMPLIANCE

Compliance with this service bulletin is optional.

#### D. DESCRIPTION

Replacement of existing VLF/Omega "E-Field" antenna to receiver/computer wiring with cabling containing greatly improved shielding will eliminate aircraft-generated electrical noise from degrading the VLF signals presented to the system for navigation.

#### E. APPROVAL

This service bulletin has been reviewed by the Israel Civil Aviation Administration (ICAA). The design content conveyed herein complies with the applicable Civil Aviation Regulations and is ICAA approved.



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BEN GURION AIRPORT, ISRAEL

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F. MATERIAL

Material required may be obtained through Atlantic Aviation Supply Company, through their authorized dealers or may be procured from: Electronic Cable Specialists, 15722 W. Ryerson Road, New Berlin, WI 53151, telephone: (414) 797-8877.

G. TOOLING

None required.

H. WEIGHT AND BALANCE

Not applicable.

I. ELECTRICAL LOAD DATA

Not affected.

J. REFERENCES

1124/1124A Wiring Diagram Manual, Chapters 34-60-01, 34-60-02 and 34-60-03.

K. PUBLICATIONS AFFECTED

1124/1124A Wiring Diagram Manual, Chapters 34-60-01, 34-60-02 and 34-60-03.

2. ACCOMPLISHMENT INSTRUCTIONS

- A. Reference Wiring Diagram Manual for system desired and Figure 1 attached.
- B. Measure quantity of cabling required prior to order. Cable P/N 462203 for Global GNS-500 or P/N 412204 for Collins LRN/FMS systems (see Figure 1).
- C. Disconnect, cap and stow existing wires and shields at VLF antenna and computer/receiver unit.
- D. Install new cable assembly well clear of any cable bundles presently containing 400 Hz AC or high current drain DC consumer unit wiring. Clamp as needed by physical requirements, at each bulkhead crossing as a minimum.



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- (1) Should it be necessary to run new cabling through the aft pressure vessel bulkhead (STA 269), observe necessary precautions to prevent damage to existing wire bundles and to reseal as required by established procedures to prevent pressure leak.

NOTE

Adding a new hole in the aft pressure bulkhead is forbidden even if it can facilitate cable routing.

- E. Bypass any connectors observed between antenna and receiver/computer, permitting an uninterrupted cable run.
- F. Connect new wiring as shown on Figure 1. Shield grounds must connect as shown.
- G. Ensure antennas are properly bonded. Should rebonding be necessary, apply Iridite to bare metal contact surfaces prior to reassembling and sealing antenna.

3. MATERIAL INFORMATION

<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
A/R	412204 or	Cable assembly (For LRN/FMS)
A/R	462203	Cable assembly (For GNS-500 and Marconi)
A/R	14-2	Iridite
A/R	PRC 1422	Sealant or equivalent

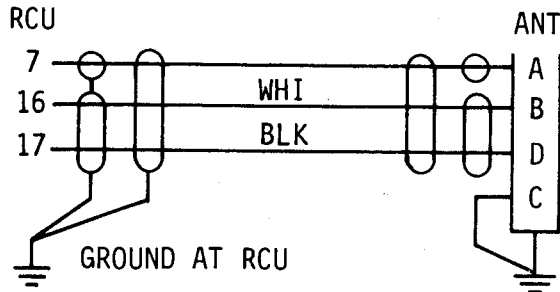
4. RECORD COMPLIANCE

- A. Make the following entry in the aircraft log book:

Service Bulletin No. 1124-34-070 dated January 15, 1986 titled "Navigation - VLF/Omega Receiver Performance Improvement" has been accomplished this date \_\_\_\_\_.

- B. Revise the Wiring Diagram Manual to reflect the changes accomplished by this service bulletin.

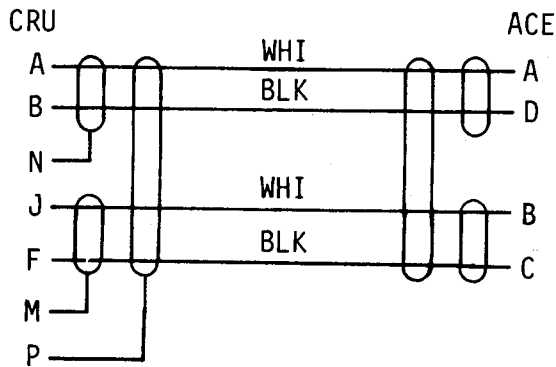
GLOBAL GNS-500 SYSTEMS



WIRE PIN 462203

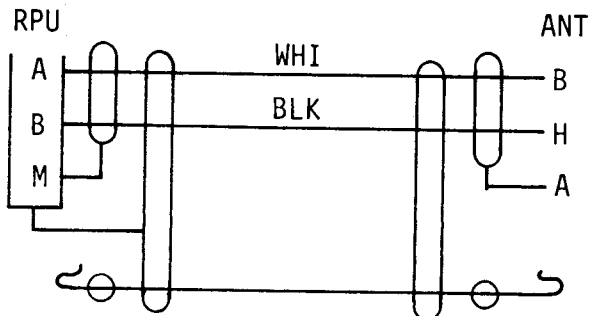
GROUND PIN "C" AND  
CONNECTOR SHELL TO  
SKIN UNDER ANTENNA

COLLINS LRN/FMS SYSTEMS



WIRE P/N 412204

MARCONI SYSTEMS



WIRE P/N 462203

OUTER SHIELD CONNECTED  
TO RPU CONNECTOR SHELL

SINGLE CONDUCTOR SHIELDED  
WIRE IS UNUSED

REFERENCE WIRING MANUAL CHAPTER 34-60  
FOR CONNECTOR IDENTIFICATION

FIGURE 1

*Service Bulletin*

A/C S/N \_\_\_\_\_

*Certificate of Compliance*

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P.O. BOX 10086  
WILMINGTON, DE 19850  
ATTN: TECHNICAL PUBLICATIONS

This is to certify that Westwind Serial Number \_\_\_\_\_ has complied with ~~Service Bulletin~~ ~~Service Bulletin~~ No. 1124-34-070

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance HOURS: \_\_\_\_\_ /CYCLES: \_\_\_\_\_

Compliance Date \_\_\_\_\_ By \_\_\_\_\_  
Signature

OWNER:	ACCOMPLISHING AGENCY:
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Please describe below any discrepancies found or difficulties encountered during compliance:  
\_\_\_\_\_  
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# SERVICE PUBLICATIONS

# revision notice

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RECOMMENDED

SERVICE BULLETIN NO. 1124-34-071  
Revision No. 1

June 30, 1987

SUBJECT: NAVIGATION - COPILOT'S ALTIMETER PART NUMBER CHANGES

REASON FOR REVISION: To change the effectivity in Part A., paragraphs (1)(a) and (b), Accomplishment Instructions.

## 1. PLANNING INFORMATION

### A. EFFECTIVITY

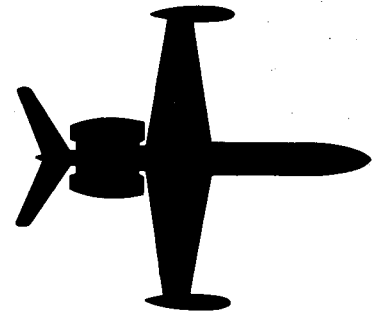
- (1) Accomplishment Instructions Parts A & B:
  - (a) MODEL 1124 WESTWINDS, serial numbers 181 and 211 through 253 when the copilot's altimeter P/N 4883778-1 is replaced with P/N 4883778-501.
  - (b) MODEL 1124 WESTWINDS, serial numbers 254 through 270 already equipped with copilot's altimeter P/N 4883778-501.
- (2) Accomplishment Instructions Part B: MODEL 1124/1124A WESTWINDS, serial numbers 271 and subsequent (reference paragraph 2.B(1)).



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SB 1124-34-071  
Revision No. 1  
Page 1 of 1

# 1124-WESTWIND



## SERVICE BULLETIN

RECOMMENDED

SERVICE BULLETIN NO. 1124-34-071

February 16, 1987

This Service Bulletin No. 1124-34-071 cancels Service Information Letter No. 35 dated May 16, 1983 in its entirety.

SUBJECT: NAVIGATION - COPILOT'S ALTIMETER PART NUMBER CHANGES

### 1. PLANNING INFORMATION

#### A. EFFECTIVITY

(1) Accomplishment Instructions Parts A & B:

(a) MODEL 1124 WESTWINDS, serial number 181 and 211 through 258, when the copilot's altimeter P/N 4883778-1 is replaced with P/N 4883778-501.

(b) MODEL 1124 WESTWINDS, serial numbers 259 through 270 already equipped with copilot's altimeter P/N 4883778-501.

(2) Accomplishment Instructions Part B: MODEL 1124/1124A WESTWINDS, serial numbers 271 and subsequent (reference paragraph 2.B(1)).

#### B. REASON

(1) To permit copilot's altimeter change from Kollsman P/N B44202-10-004 to B44202-10-014 (IAI P/N 4883778-1 to 4883778-501, respectively).

(a) Kollsman P/N B44202-10-004 no longer available.

SB 1124-34-071  
Page 1 of 8



SUBSIDIARY OF ISRAEL AIRCRAFT INDUSTRIES, LTD.  
BEN GURION AIRPORT, ISRAEL



SERVICE BULLETIN NO. 1124-34-071

- (2) To provide a variable potentiometer required to control the altimeter voltage input when equipped with Kollsman Altimeter P/N B44202-10-014 (IAI pin 4883778-501).
- (3) The procedures described herein do not apply to aircraft presently equipped with altimeters of different make or part number than specified above.

C. COMPLIANCE

Compliance with this service bulletin is recommended.

D. DESCRIPTION

- (1) A minor wiring change and the addition of a printed circuit board to provide a regulated vibrator voltage to allow altimeter changeover for 1124 aircraft serial numbers prior to 271.

E. APPROVAL

The service bulletin has been reviewed by the Israel Civil Aviation Administration (ICAA). The design content conveyed herein complies with the applicable Civil Aviation Regulations and is ICAA approved.

F. MATERIAL

Material for this modification may be procured through Atlantic Aviation Supply Company, Wilmington, Delaware.

G. TOOLING

None.

H. WEIGHT AND BALANCE

Not affected.

I. ELECTRICAL LOAD DATA

Not affected.

J. REFERENCES

1124 Wiring Diagram Manual, Chapter 34-20-06.

K. PUBLICATIONS AFFECTED

1124/1124A Wiring Diagram Manual, Chapter 34-20-06.  
1124/1124A Illustrated Parts Catalog, Chapter 39-10-05.  
1124/1124A Maintenance Manual, Chapter 34-10-01.

2. ACCOMPLISHMENT INSTRUCTIONS

PART A:

A. Reference Wiring Diagram Manual, Chapter 34-20-06 and Figures 1, 2 and 3 of this bulletin during modification procedures.

- (1) Remove all power from aircraft.
- (2) Disassemble and remove copilot's instrument panel as required to gain access to annunciator diode boards at rear of instrument panel.
- (3) Remove existing diode board mounting brackets from stand-offs and discard brackets (retain hardware for following steps). Refer to Figure 1.
  - (a) Use brackets P/N 5883775-RE3 and 5883775-RE4 or locally fabricate new mounting brackets from standard and 10139-070-1 stock ALCLAD 2024-T3511 (two required - second (5883775-RE4) bracket opposite of Figure 1 view).
  - (b) Use bracket P/N 5883775-RE5 or locally fabricate hold-down strap from .063 ALCLAD 2024-T6 stock per Figure 1.
- (4) Secure new brackets in place on instrument panel using hardware from step (3) above.
  - (a) Align printed circuit board (PCB) receptacles on mounting brackets as per Figure 2 and mark brackets for drilling of mounting holes. Follow same procedure for pillars used for securing regulator board.
  - (b) Drill holes in brackets and mount PCB receptacles using Loctite on screw threads. Mount pillars in same manner with screws and spring washers as shown on Figure 1.

SERVICE BULLETIN NO. 1124-34-071

- (c) Install new PCB and hold-down strap. Label PCB receptacle as "J226."
- (5) Perform wiring changes per Figure 3.
- (6) Reassemble copilot's instrument panel.

PART B:

B. Test Procedures

- (1) Perform operations check of PCB regulator and altimeter. Check for excessive vibrator noise. If noise is excessive or needle sticking is apparent, check and adjust regulator as follows:
  - (a) Disconnect altimeter connector.
  - (b) Insert a 220 ohm, 2 watt resistor across pins P and M of aircraft cable connector. Measure voltage across the resistor. Read +18 to +20 Vdc across resistor. If voltage reads different, adjust potentiometer on PCB (P/N 4833513-9) at J-226.

NOTE

Vibrator noise level increases as voltage level increases. Sticking needle problems develop at low voltage levels and/or colder ambient temperatures. Aircraft serial number 271 and subsequent have PCB located forward of pilot's windshield temperature control box.

- (2) Perform necessary pilot and static system tests for systems affected by the removal of the instrument panel.
  - (a) If malfunction(s) exist, follow appropriate troubleshooting procedures.
  - (b) Return aircraft to service.

SERVICE BULLETIN NO. 1124-34-071

3. MATERIAL INFORMATION

<u>QTY</u>	<u>NEW PART NUMBER</u>	<u>DESCRIPTION</u>
1	833513-9	Regulator PCB
1	143-015-01-110	PCB Receptacle (Mfg Amphenol)
2	CMA71704-004	Pillar
2	NAS43DD3-8	Spacer
4	MS35206-245	Screw 8-32 x 1/2" L
4	MS35338-42	Spring washer
4	MS21073-06	Nut-plate
2	MS35206-327	Screw
2	MS21042-06	Nut
2	AN960PD-6L	Washer
A/R	MIL-W-16878D	#22AWG wire
1	5883775-RE5	*Hold-down strap
A/R	320559	Butt splice
1	5883775-RE3	*Bracket
1	5883775-RE4	*Bracket
1	5883775-RE6	*Pad

\*These parts may be fabricated locally.

4. RECORD COMPLIANCE

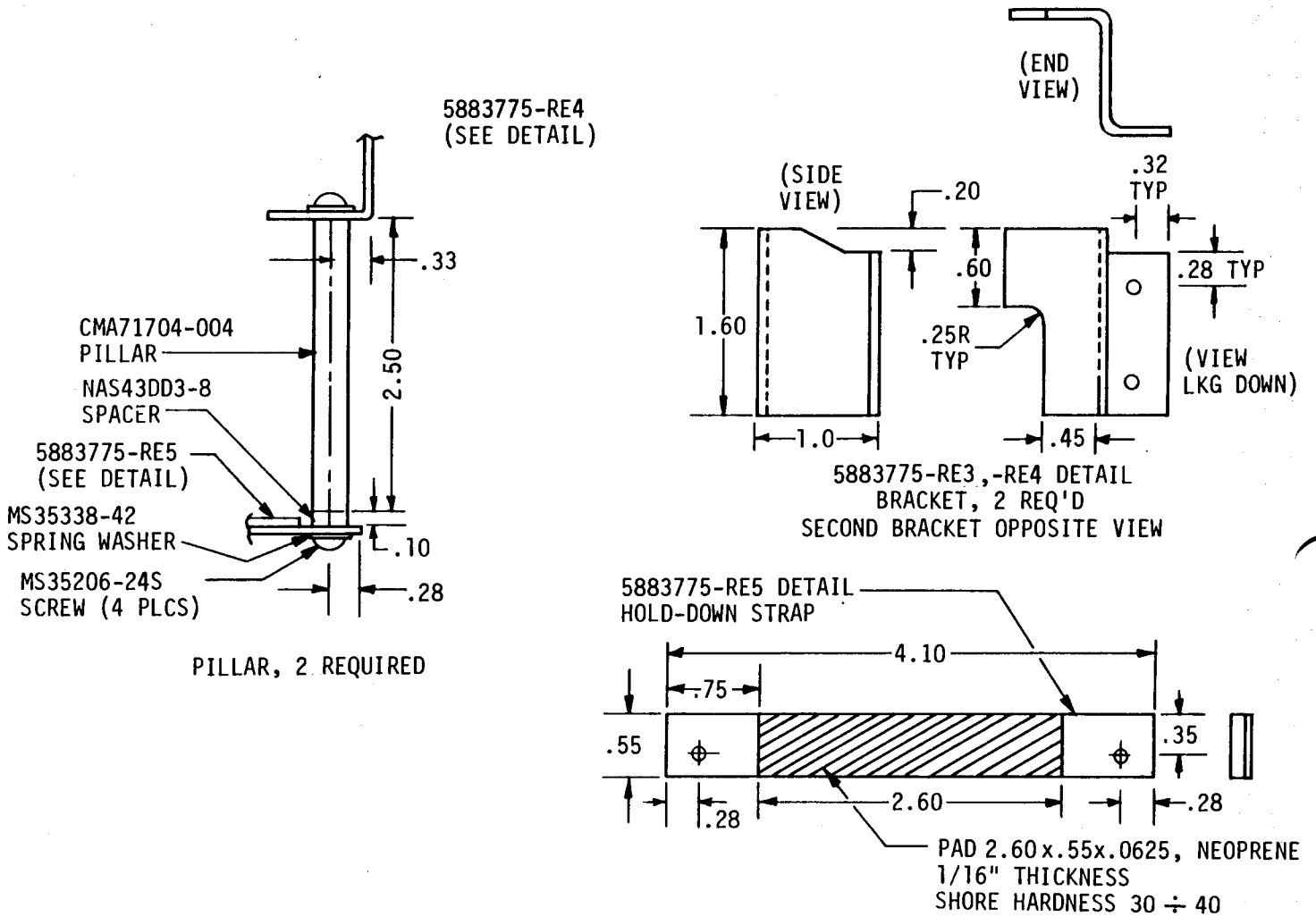
A. Make the following entry in the aircraft log book:

Service Bulletin No. 1124-34-071 dated February 16, 1987 titled "Navigation - Copilot's Altimeter Part Number Changes" accomplished this date \_\_\_\_\_.

B. Make appropriate changes to Wiring Diagram Manual, Chapter 34-20-06 and to the Illustrated Parts Catalog, as appropriate.

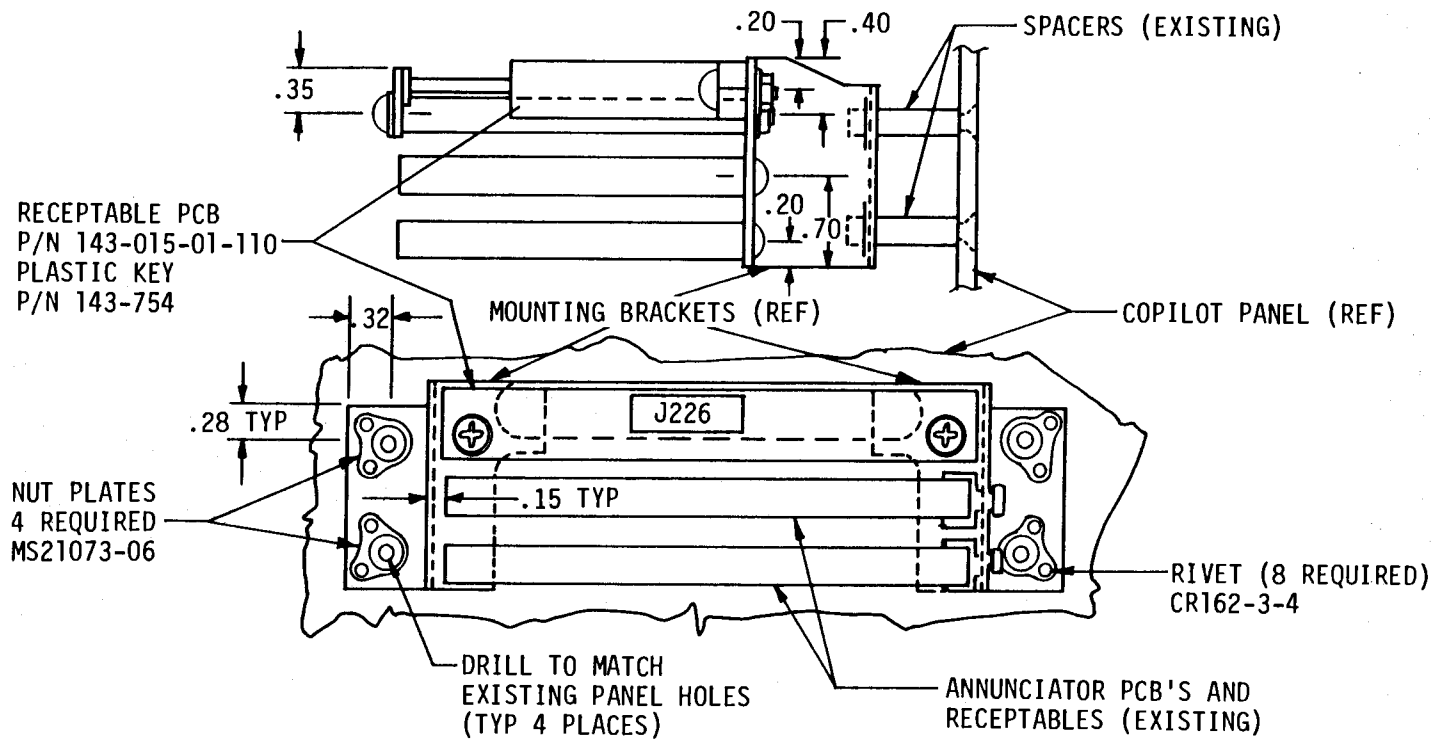
C. Revise Aircraft Serialized Equipment list if required by replacement of altimeter.

SERVICE BULLETIN NO. 1124-34-071



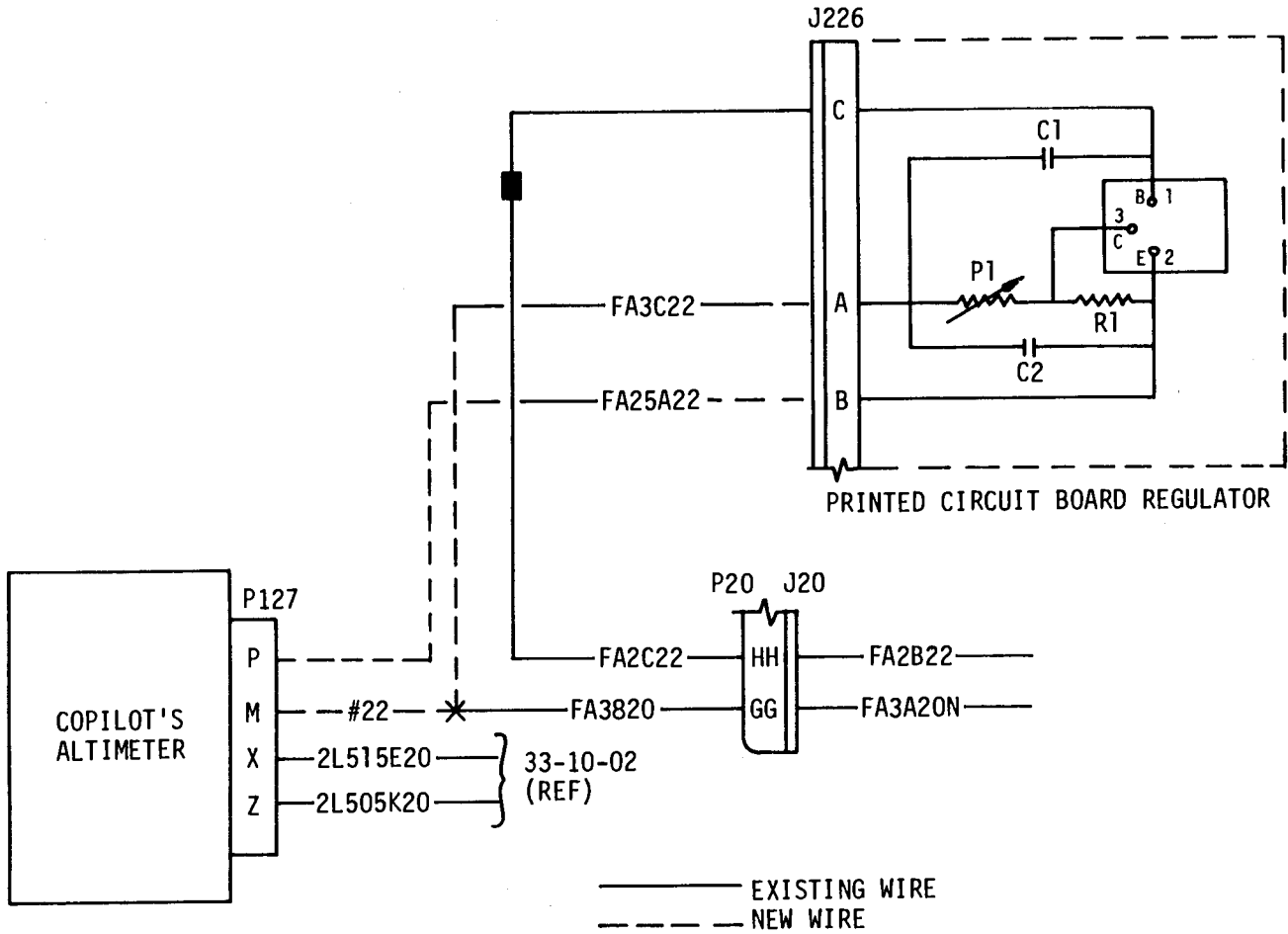
NAVIGATION - COPILOT'S ALTIMETER PART NUMBER CHANGES

Figure 1 of 3



NAVIGATION - COPILOT'S ALTIMETER PART NUMBER CHANGES

Figure 2 of 3



NAVIGATION - COPILOT'S ALTIMETER PART NUMBER CHANGES

Figure 3 of 3

*Service Bulletin*

A/C S/N \_\_\_\_\_

*Certificate of Compliance*

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**1124-34-071**

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Compliance Date \_\_\_\_\_ By \_\_\_\_\_  
Signature

OWNER:

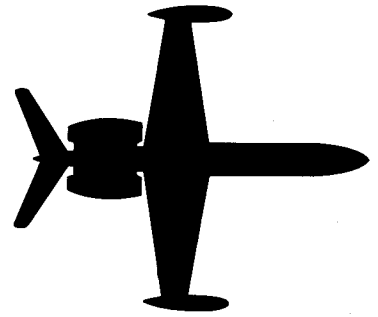
ACCOMPLISHING AGENCY:

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## **SERVICE BULLETIN**

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### **OPTIONAL**

**SERVICE BULLETIN NO. 1124-34-109**

**December 11, 1991**

**SUBJECT: NAVIGATION - STATIC PORT TUBING SLOPE INSPECTION AND CORRECTION**

**1. PLANNING INFORMATION**

**A. EFFECTIVITY**

MODEL 1124A WESTWIND, serial numbers 394 through 422 and 425.

**B. REASON**

To prevent water accumulation in static system.

**C. DESCRIPTION**

This service bulletin describes procedures necessary to inspect the tube attached to the center leg of the R/H independent static source for the proper slope and reroute the tube if necessary.

**D. COMPLIANCE**

Compliance with this service bulletin is optional.

**E. APPROVAL**

This service bulletin has been reviewed by the Civil Aviation Administration of Israel (CAAI). The design content herein complies with the applicable Civil Aviation Regulations and is CAAI approved.

F. MAN-HOUR REQUIREMENTS

The following information is for planning purposes only:

- (1) Estimated man-hours: 16
- (2) Suggested Number of personnel: 2

The above is an estimate only, based on experienced personnel complying with this service bulletin. It is possible, depending on individual experience levels, that additional or fewer man-hours are required to accomplish this bulletin.

G. MATERIAL

<u>QTY.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
3	MS20819-4D	SLEEVE
3	AN818-4D	NUT
1	AN821-4D	ELBOW
A/R	.250 OD X .035W 5052-0	ALUMINUM TUBING
*1	CMA71737-503-31	DOUBLER
*1	CMA71737-503-29	DOUBLER
*1	CMA71737-503-19	DOUBLER
*1	5723045-67	DOUBLER
2	NAS1033-A3	NUTPLATE
A/R	MS21266-4N	GROMMET

\* Doublers may be fabricated locally from .050 inch 2024-T3 Clad. Details in Figures 2 and 3.

Material required may be obtained through Astra Jet Corporation, New Castle, Delaware, or authorized ASTRA/WESTWIND Service Centers.

H. TOOLING

No special tooling required.

I. WEIGHT AND BALANCE

Not applicable.

J. ELECTRICAL LOAD DATA

Not applicable.

K. REFERENCES

1124/1124A Westwind Maintenance Manual, Chapters 25 and 34.

L. PUBLICATIONS AFFECTED

None

2. ACCOMPLISHMENT INSTRUCTIONS

A. Removal of interior furnishings and tube angle inspection.

- (1) Remove interior from right side of aircraft as necessary to expose fuselage frames at Sta. 174 to 240.25. (Forward frame of escape hatch aft to forward bulkhead of lavatory). Refer to 1124/1124A Westwind Maintenance Manual, Chapter 25.
- (2) Inspect static tube routed from static port through frames at Sta. 184 through 219.05 for an upward angle routing. Refer to Figure 1.
- (3) If tube slopes at an upward angle, no further work is required. Install interior items removed in step 2.A.(1) and return aircraft to service. If tube slopes at a downward angle proceed to next step.

B. Reroute right static port tube.

- (1) Disconnect tube at tee fitting adjacent to static port and at elbow fitting between frame Stations 219.05 and 223.75. Refer Figure 1.
- (2) Remove clamps supporting tube and remove tube.

**NOTE:** Cover area between frames at Sta.184 and 223.75 as necessary to catch metal shavings.

- (3) Cut out .750 diameter holes in frames at the following stations. Refer to Figures 1, 2 and 3.

<u>Y-STA.</u>	<u>Z-STA.</u>	<u>REF. DOUBLER P/N</u>	<u>REFERENCE</u>
219.05	32.70	CMA71737-503-31	FIG. 2
210.00	31.70	5723045-67	FIG. 2
201.75	30.75	CMA71737-503-19	FIG. 2
194.00	30.00	CMA71737-503-29	FIG. 3
184.00	EXISTING	NOT APPLICABLE	

- (4) Fabricate doublers out of 2024-T3 clad .050 thick aluminum for each frame and install. Refer to Figure 2 and 3.

**NOTE:** Etch doublers and treat with Alodine 1201. Finish with epoxy primer.

- (a) Install doubler on forward side of frame at Sta. 219.05 picking up existing rivet locations, and install NAS1033-A3 nutplate on forward side of frame. Refer to Figure 2.
  - (b) Doubler for frame at Sta. 194 must be of sufficient length to cover the existing hole at Z station 28.20. Refer to Figure 3.
  - (c) Install NAS1033-A3 nutplate on aft side of frames at Sta. 210.00 and 201.75 for Adel clamp to support tube.
  - (d) Drill doublers as necessary to pick up existing rivet patterns, nutplates, etc. Add rivets where necessary using 6D to 8D spacing and maintaining 2D edge distance.
- (5) Use tube removed in step B.(1) if serviceable or fabricate a tube from .250 OD X .035W aluminum tubing (approximately 44.5 inches) using two each MS20819-4D sleeves and AN818-4D nuts.
- (6) Route tube fabricated in step (5), aft through holes at frames Sta. 184, 194, 201.75 and 219.05, connect to tee at static port.

**NOTE:** If stereo speaker is mounted between frames at Sta. 210 and 219.05 and interferes with routing of tube assembly, move speaker up approximately 1/4 inch by drilling #10 holes in bracket supporting speaker, and enlarge notch on bracket to clear frame hole.

SERVICE BULLETIN NO. 1124-34-109

- (7) Support tube frames at Sta. 201.75, 210.00 and 219.05 with MS21919WDG4 clamps by attaching to nutplates using AN3-4A bolts and AN960PD10L washers.
- (8) Install caterpillar grommets MS21266-4N or equivalent in frame holes not using DG clamps.
- (9) Mark tube routed vertically between frames at Sta. 219.05 and 223.75 to Z-Sta. 56.10 for cutting. Remove clamps supporting tube, disconnect at Z-Sta. 56.10 and remove tube.
- (10) Cut tube, install sleeve and nut, flare tube and install using clamps removed in step 2.B.(9).
- (11) Connect tube to fitting at Z-Sta. 56.10 and use elbow P/N AN821-4D to connect tubes together at Z-Sta. 32.70
- (12) Connect a static tester to system and check for leaks and proper operation. Reference 1124/1124A Westwind Maintenance Manual, Chapter 34-10-01.

C. Install cabin interior.

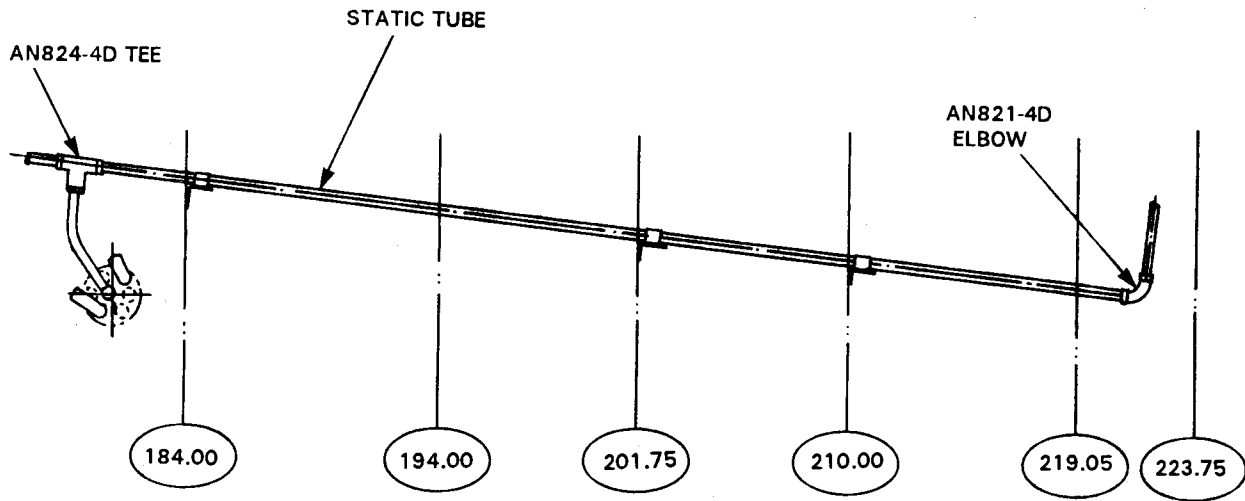
3. RECORD COMPLIANCE

A. Make the following entry in the aircraft log book:

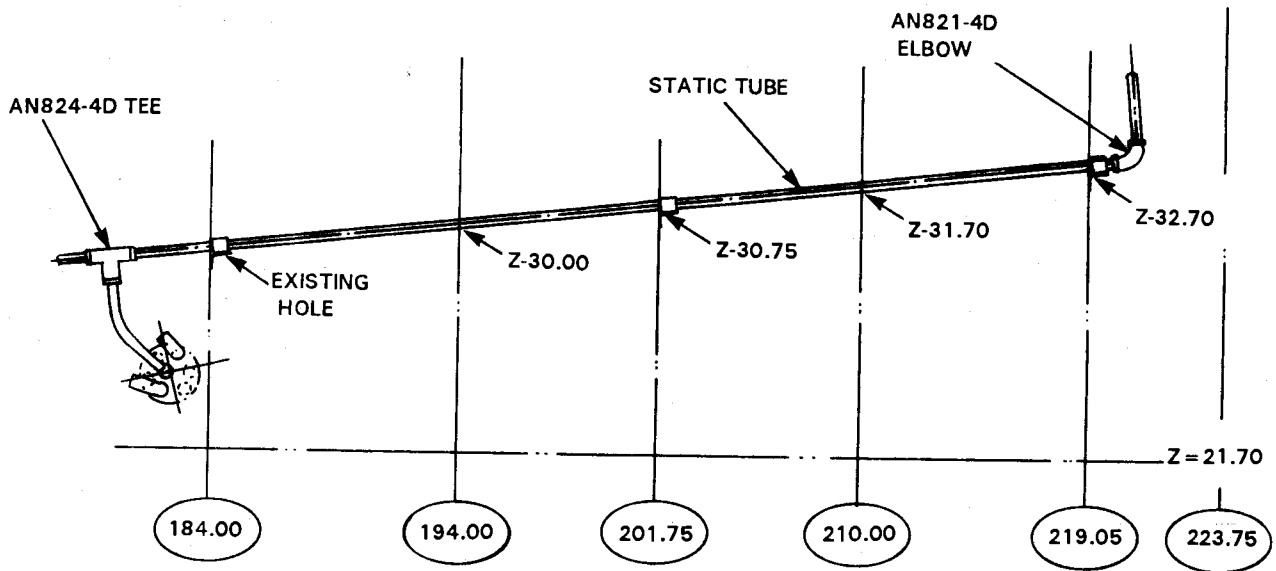
Service Bulletin 1124-34-109 dated December 11, 1991, titled "Navigation - Static Port Tubing Slope Inspection and Correction," has been accomplished this date

\_\_\_\_\_.

B. Complete the attached Certificate of Compliance and return to Astra Jet Corporation in New Castle, Delaware.

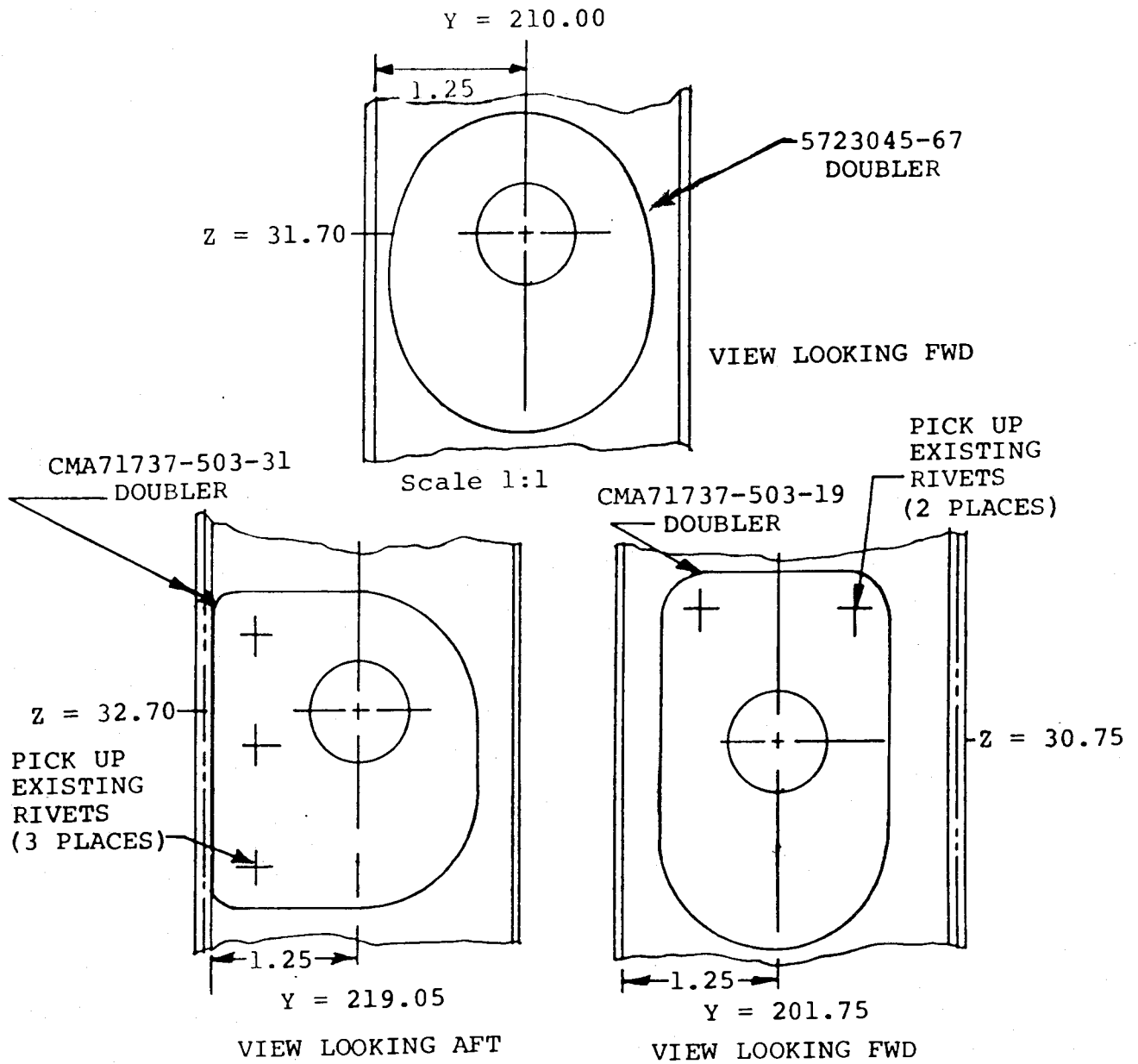


INCORRECT SLOPE



CORRECT SLOPE

VIEW LOOKING OUTB'D R.H.S.  
FIGURE 1

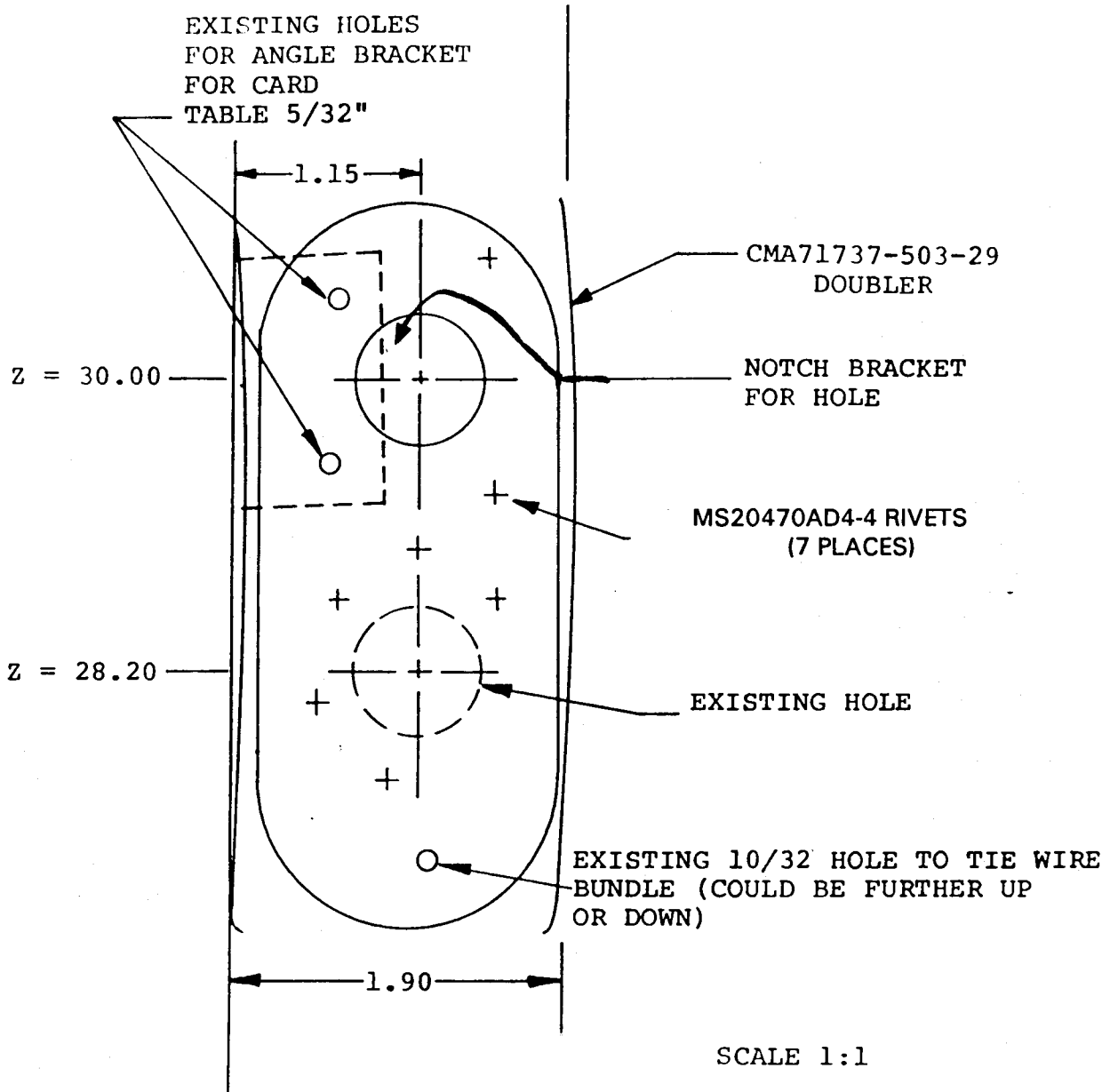


**NOTE:** Add P/N MS20470AD4-4 rivets as necessary at spacing of 6D to 8D maintaining 2D edge distance.

**DOUBLER INSTALLATIONS FRAMES 201.75, 210.00, 219.05  
FIGURE 2**

SERVICE BULLETIN NO. 1124-34-109

Y STATION 194.00



VIEW LOOKING FWD AT STATION  
194.00 R/H SIDE

**NOTE:** Add P/N MS20470AD4-4 rivets as necessary at  
spacing of 6D to 8D maintaining 2D edge distance.

**DOUBLER INSTALLATION FRAME 194.00  
FIGURE 3**



*Service Bulletin*

*Certificate of Compliance*

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Technical Publications  
Astra Jet Corporation  
278 Quigley Boulevard  
New Castle, DE 19720

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Service Bulletin No. 1124-34-109

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance: Hours \_\_\_\_\_ Cycles \_\_\_\_\_

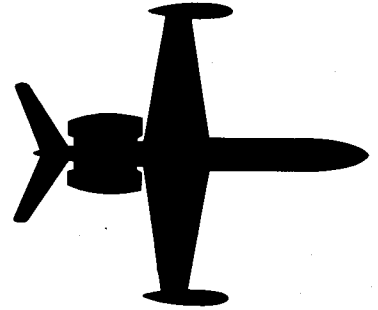
Compliance Date: \_\_\_\_\_ By: \_\_\_\_\_  
Signature

Owner:	Accomplishing Agency:
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_____	_____
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TEAR AT PERFORATION, REMOVE TAPE AT BOTTOM, FOLD, SEAL AND MAIL



## SERVICE BULLETIN

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OPTIONAL

SERVICE BULLETIN NO. 1124-35-077

February 7, 1986

SUBJECT: OXYGEN - CABIN ALTITUDE PRESSURE SWITCH - REMOTE TEST CONNECTION INSTALLATION

1. PLANNING INFORMATION

A. EFFECTIVITY

MODEL 1124/1124A WESTWINDS, all serial numbers.

B. REASON

To provide improved access for cabin altitude pressure switch test by installing a remote test connection.

C. COMPLIANCE

Compliance with this service bulletin is optional.

D. DESCRIPTION

This bulletin requires that a cut-out be made in the side panel, an adapter added to the altitude switch, tubing installed and an elbow installation.

E. APPROVAL

This service bulletin has been reviewed by the Israel Civil Aviation Administration (ICAA). The design content conveyed herein complies with the applicable Civil Aviation Regulations and is ICAA approved.

SB 1124-35-077  
Page 1 of 8



F. MATERIAL

Material required for this service bulletin may be obtained from Atlantic Aviation Supply, Wilmington, Delaware or may be procured locally.

G. TOOLING

No special tooling is required.

H. WEIGHT AND BALANCE

Not applicable.

I. ELECTRICAL LOAD DATA

Not applicable.

J. REFERENCES

1124/1124A Illustrated Parts Catalog, Chapter 35-10-00  
1124/1124A Maintenance Manual, Chapter 35-00-00

K. PUBLICATIONS AFFECTED

1124/1124A Illustrated Parts Catalog, Chapter 35-10-00  
1124/1124A Maintenance Manual, Chapter 35-00-00

2. ACCOMPLISHMENT INSTRUCTIONS

- A. Remove copilot's seat and R/H console side panel to gain access to altitude switch (P/N 101800).
- B. Install AN816-4D adapter in the altitude switch.
- C. Fabricate P/N 5 753004-RE3 angle as per Figure 1.
- D. Locate and install P/N 5 753004-RE3 angle as per Figure 2 using 4 ea. MS20470AD-4-X (length as required).
- E. Install AN833-4D bulkhead elbow with AN924-4D nut on angle.
- F. Fabricate tube assembly (from MS20819-4D sleeves, AN818-4D couplings and  $\frac{1}{4}$ " x .035 wall 5052-0 tube stock) to fit between AN816-4D adapter and AN833-4D elbow and install (references Figures 2 and 3).
- G. Drill a #30 hole in the end of an AN929-4D cap.

SERVICE BULLETIN NO. 1124-35-077

- H. Paint the drilled cap red.
- I. Install the drilled cap on the AN833-4D elbow.
- J. Make a 3.5" x 3.5" cut-out in side panel so as to allow access to remote test port with side panel installed (reference Figures 4 and 5).
- K. Install 4 ea. MS21059-3 nut-plates on side panel to retain access panel (reference Figure 5).
- L. Fabricate 5.5" x 5.5" panel from Royalite or equivalent material .08 or .09 thick (reference Figure 5).
- M. Locate and drill 4 ea. holes to facilitate attachment of access panel to side panel.
- N. Install placard on access panel and install access panel using 4 ea. MS35206-263 screws.
- O. Reinstall side panel and copilot's seat.

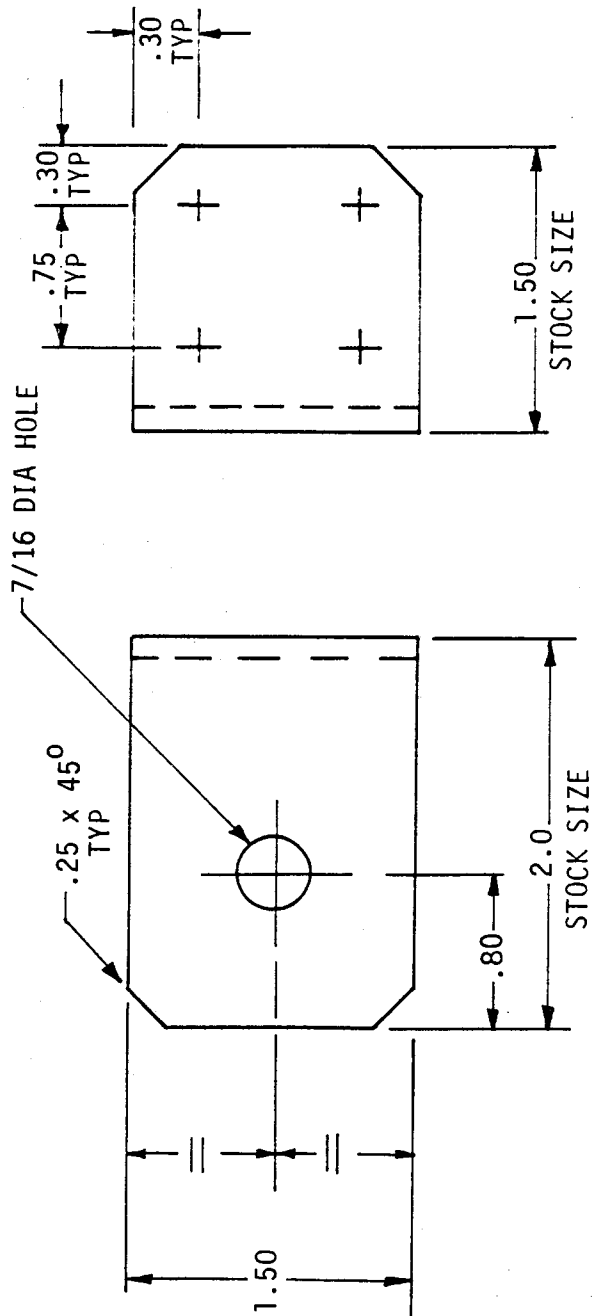
3. MATERIAL INFORMATION

<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
4 ea.	MS35206-263	Screw
4 ea.	MS21059-3	Nut-plate
1 ea.	AN816-4D	Adapter
1 ea.	AN833-4D	Bulkhead Elbow
1 ea.	AN924-4D	Nut
1 ea.	AN929-4D	Cap Assembly
2 ea.	MS20819-4D	Sleeve
2 ea.	AN818-4D	Coupling
A/R	¼" x .035 wall 5052-0	Tube
1 ea.	5 753004-RE3	Angle
1 ea.	5 753004-RE9	Access Cover
1 ea.	5 753004-RE11	Placard

4. RECORD COMPLIANCE

Make the following entry in the aircraft log book:

Service Bulletin No. 1124-35-077 dated February 7, 1986 titled "Oxygen - Cabin Altitude Pressure Switch - Remote Test Connection Installation" has been accomplished this date \_\_\_\_\_.



5 753004-RE3 ANGLE

FIGURE 1

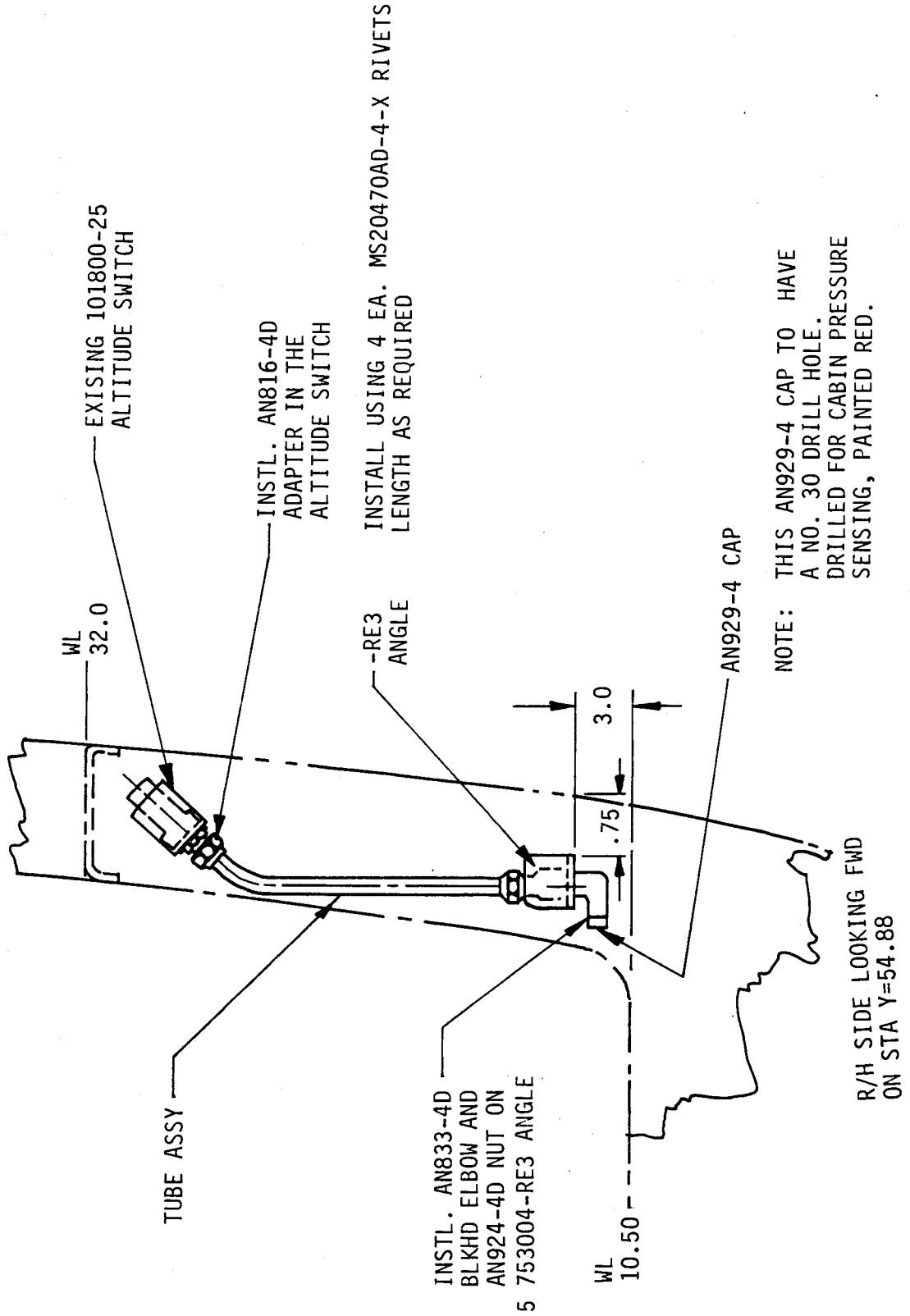
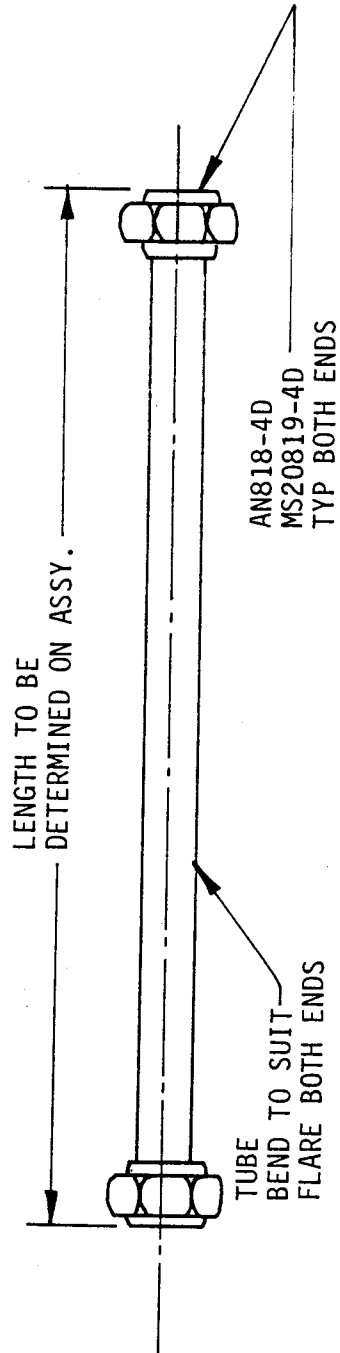
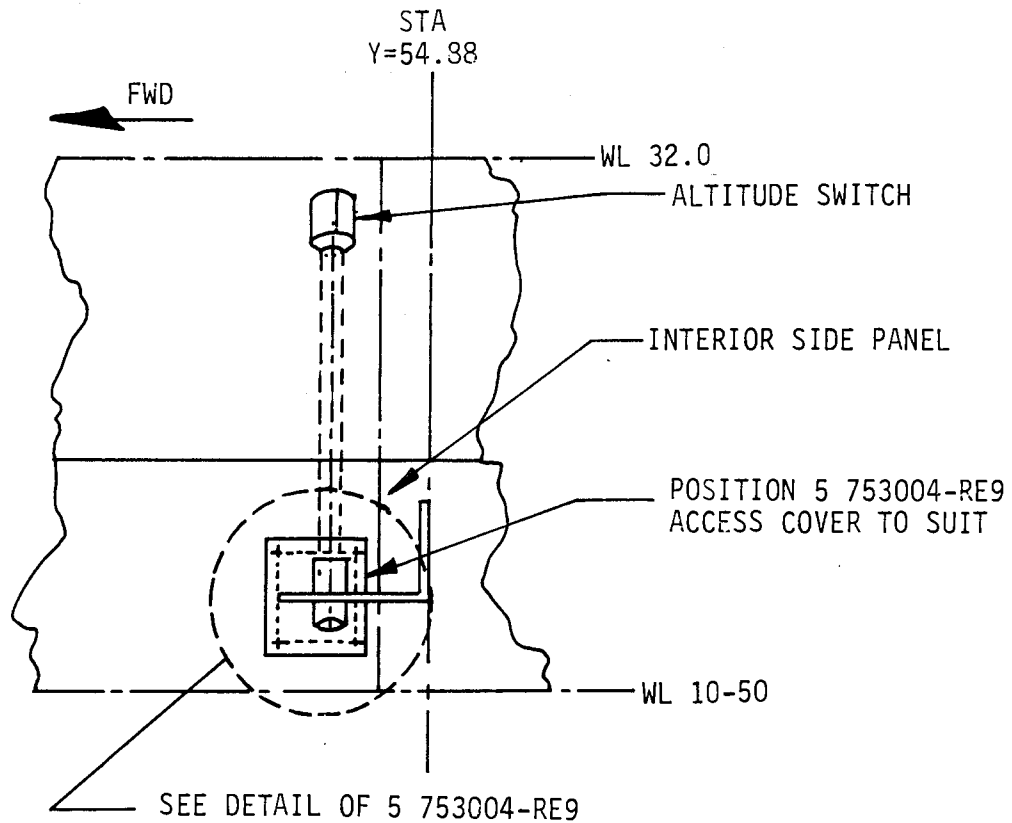


FIGURE 2



5 753004-RE5 TUBE ASSEMBLY

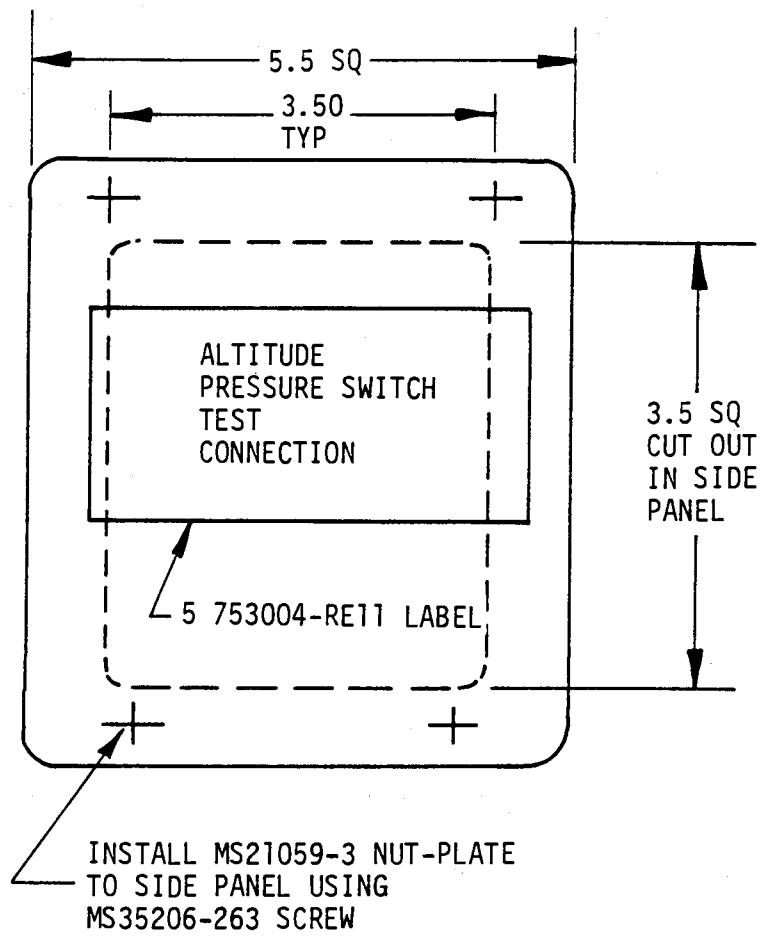
FIGURE 3



VIEW LOOKING OUTBD R/H SIDE

FIGURE 4





DETAIL OF 5 753004-RE9  
ACCESS COVER

FIGURE 5

*Service Bulletin*

A/C S/N \_\_\_\_\_

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This is to certify that Westwind Serial Number \_\_\_\_\_ has complied with Service Bulletin No. 1124-35-077

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance HOURS: \_\_\_\_\_ /CYCLES: \_\_\_\_\_

Compliance Date \_\_\_\_\_ By \_\_\_\_\_  
Signature

OWNER:

ACCOMPLISHING AGENCY:

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\_\_\_\_\_  
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# SERVICE PUBLICATIONS revision notice

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OPTIONAL

SERVICE BULLETIN NO. 1124-39-011  
Revision No.1

June 14, 1985

SUBJECT: OVERHEAD PANEL ACCESS AND ALIGNMENT IMPROVEMENT  
AND/OR RETROFIT.

REASON FOR

REVISION: To change the service bulletin sequence number  
and some wording in paragraph 4. Record  
Compliance.

4. RECORD COMPLIANCE

Make the following entry in the aircraft log book:

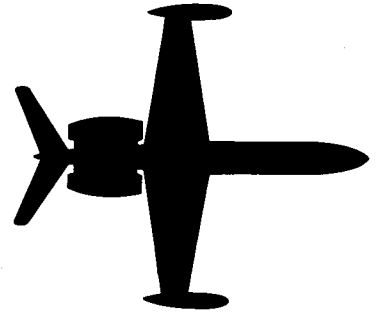
Service Bulletin No. 1124-39-011 dated February 5,  
1985 titled "Overhead Panel Access and Alignment  
Improvement And/Or Retrofit" was accomplished

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SB 1124-39-011  
Page 1 of 1



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BEN GURION AIRPORT, ISRAEL



## SERVICE BULLETIN

OPTIONAL

SERVICE BULLETIN NO. 1124-39-011

February 5, 1985

SUBJECT: OVERHEAD PANEL ACCESS AND ALIGNMENT IMPROVEMENT AND/OR RETROFIT.

1. PLANNING INFORMATION

A. EFFECTIVITY

MODEL 1124 WESTWINDS, all serial numbers prior to 259.

B. REASON

To alleviate the fitting alignment and to ease the opening or closing of the overhead panel. Two reinforcement parts 5883771-11 and -12 are retrofitted to stiffen the overhead panel structure to prevent flexing thereby improving panel alignment.

C. COMPLIANCE

Optional

D. DESCRIPTION

This bulletin adds a reinforcement to stiffen the overhead panel structure.

E. APPROVAL

The modification procedure described in this service bulletin has been shown to comply with the applicable ICAA/FAA regulations and is IAI Engineering approved.

SB 1124-39-011  
Page 1 of 4



F. MATERIAL

Contact Atlantic Aviation Supply Company in Wilmington Delaware or their authorized representatives.

G. TOOLING

Special tools are not required for the modification.

H. WEIGHT & BALANCE

Not applicable.

I. ELECTRICAL LOAD DATA

Not applicable.

J. REFERENCE

MODEL 1124 Maintenance Manual Chapter 39-10-05, page 401.

K. PUBLICATIONS AFFECTED

MODEL 1124 IPC, Chapter 39-10-00, Figure 1, page 0 will be revised to properly identify cockpit panels.

2. ACCOMPLISHMENT INSTRUCTIONS

- (1) Gain access to station Y=75.650 by removing all overhead panel fasteners per 1124 Westwind Maintenance Manual procedure in 39-00-04, page 401.
- (2) Layout and drill appropriate rivet holes per requirements on Figure 1 and Figure 2. Drill rivet holes for a -11 or -12 pattern as required.
- (3) Install rivets (.125 typ.) from forward side of station Y=75.650 and rivet the -11 and -12 parts into place.
- (4) Close the overhead panel per Westwind 1124 Maintenance Manual Section 39-10-05, page 401.

SERVICE BULLETIN NO. 1124-39-011

3. MATERIAL INFORMATION

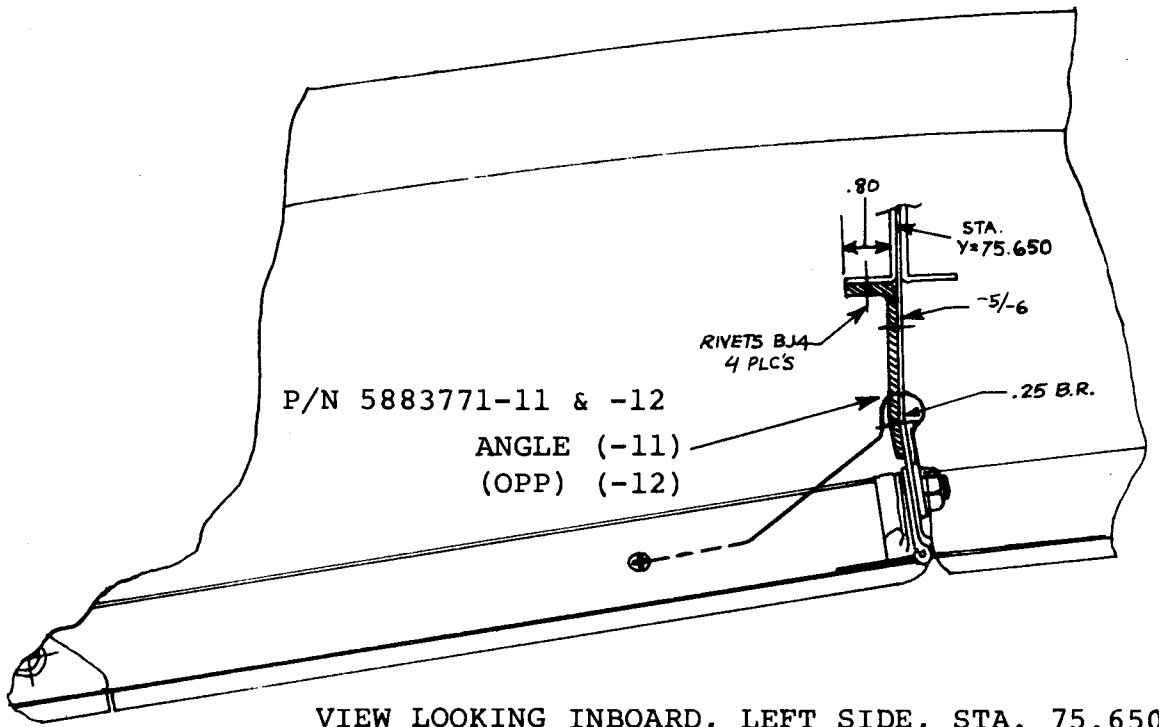
<u>QTY</u>	<u>NEW P/N</u>	<u>DESCRIPTION</u>	<u>OLD P/N</u>
1	5883771-11	Angle (LH)	None
1	5883771-12	Angle (RH)	None
20	MS20470AD4-7	Rivets	None

4. RECORD COMPLIANCE

Make the following entry in the aircraft log book:

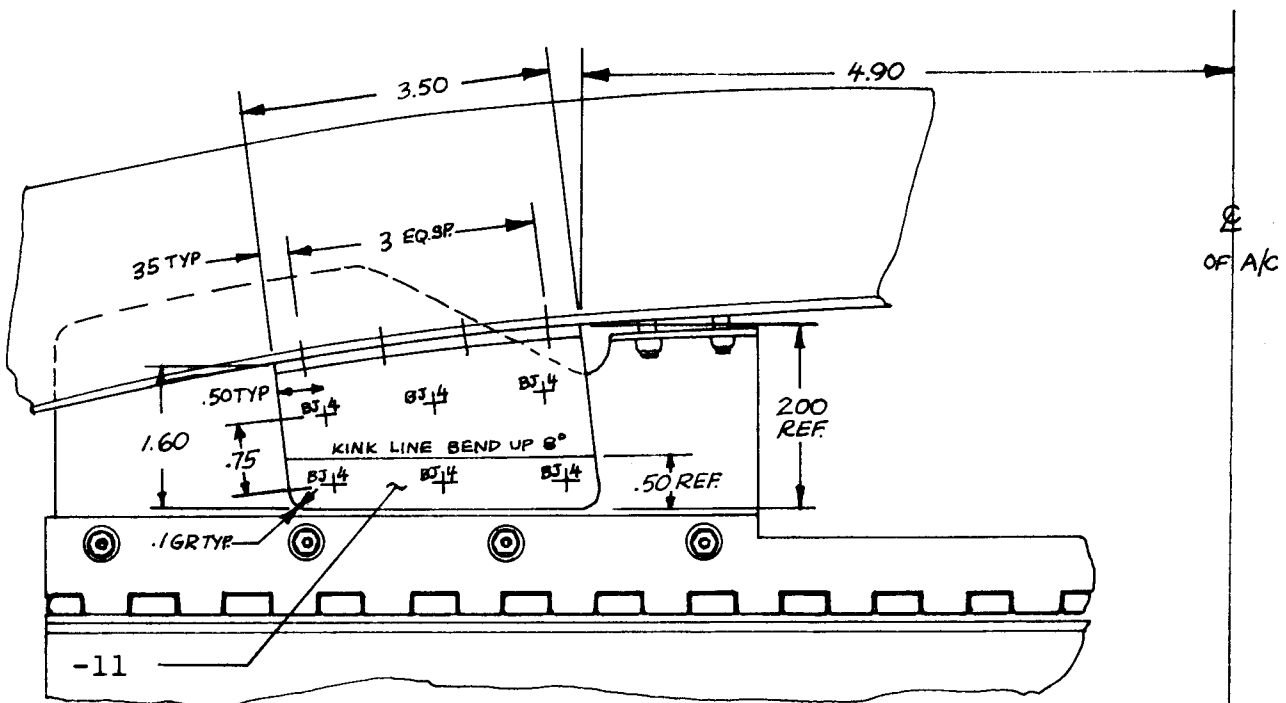
Service Bulletin No. 1124-39-010 dated February 5, 1985  
titled "Overhead Panel Access and Alignment Improvement  
And/Or Retrofit has been accomplished this date \_\_\_\_\_

END



VIEW LOOKING INBOARD, LEFT SIDE, STA. 75.650

FIGURE 1



-12 FOR R.H.S.

(VIEW LOOKING FWD)

LEFT INSTALLATION SHOWN (RH OPPOSITE)

COCKPIT OVERHEAD PANEL

FIGURE 2

*Service Bulletin*

A/C S/N \_\_\_\_\_

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Aircraft Registration No. \_\_\_\_\_

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Compliance Date \_\_\_\_\_ By \_\_\_\_\_  
Signature

OWNER:

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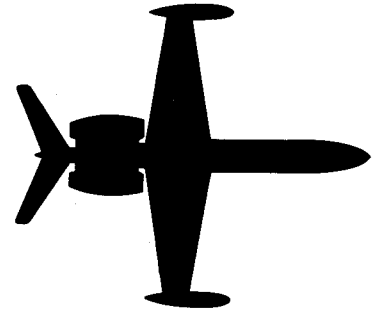
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# 1124-WESTWIND



## SERVICE BULLETIN

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OPTIONAL

SERVICE BULLETIN NO. 1124-52-005

January 4, 1985

SUBJECT: DOORS-IMPROVED MAIN BAGGAGE COMPARTMENT DOOR WARNING SWITCH INSTALLATION

1. PLANNING INFORMATION

A. EFFECTIVITY

MODEL 1124 WESTWIND aircraft, serial numbers 152, 154, 174, 181 and 185 thru 278.

B. REASON

To prevent a false forward fuselage baggage door "unlock" warning indication.

C. COMPLIANCE

At the customer's discretion.

D. DESCRIPTION

This Service Bulletin provides the information necessary to relocate the forward fuselage baggage door unlock light warning microswitch to a different position on the door latch mechanism. The change incorporates a new MS25253-1 microswitch, a JV-26 microswitch rocker, a CMA77203-039 mounting plate bracket (and two spacers) with slotted holes (for switch adjustment) and a newly designed CMA77203-034 locking lever.



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SB 1124-52-005  
Page 1 of 6

E. APPROVAL

The replacement and relocation of improved door warning switch described in this service bulletin have been shown to comply with the applicable ICAA/FAA regulations and are IAI Engineering approved.

F. MATERIAL

Material required may be obtained through Atlantic Aviation Supply Company in Wilmington, Delaware or their authorized representatives.

G. TOOLING

Special tools are not required for this modification.

H. WEIGHT AND BALANCE

Not applicable.

I. ELECTRICAL LOAD DATA

Not applicable.

J. REFERENCES

1124 Maintenance Manual, Chapter 52-30-00.  
1124 IPC, Chapter 52-30-00.

K. PUBLICATIONS AFFECTED

- A. The 1124 Maintenance Manual, Chapter 52-30-00, will be revised to reflect the installation, rigging and checkout of the baggage door latch warning switch.
- B. The 1124 IPC, Chapter 52-30-00, will be revised to include the baggage door latch and warning switch information in this Service Bulletin.

2. ACCOMPLISHMENT INSTRUCTIONS

- A. Turn off the battery and electrical master switches and assure that external power is not applied to aircraft.
- B. Peel back fabric liner from forward baggage door to expose both latch cover plates and secure. Remove the upper and lower latch mechanism cover plates (9 screws each).

- C. Disconnect the two wires from each microswitch and tape exposed terminals. Remove each microswitch from its mounting bracket and discard. Leave in place existing mounting brackets.
- D. Remove old P/N CMA 77203-034 locking lever from each lock tumbler assembly. Drill out the four MS20426AD3-6 rivets that mount the latching assembly to the baggage door skin.
- E. Drill out the two existing rivets in each of the upper latch mechanism hinge blocks.

NOTE

Each upper hinge block should be held in place by the latch hinge pin after removal of the two rivets.

- F. Locate and drill two holes in the new CMA 77203-039 mounting plate as shown in Figure 1.
- G. Before installing the two new mounting plates, insert a CMA 77203-041 spacer in each of the existing counterbored holes in the upper hinge blocks. Install the new CMA 77203-039 mounting plates on the two upper hinge blocks (using existing rivet holes) and rivet in place utilizing MS2042AD4-10 rivets. (See Figure 2).
- H. Reinstall both latch assemblies on the door skin with (4) each MS20426AD3-6 rivets. Shorten P/N JV-26 switch rocker arm to 11/16 inch from rocker pin before mounting on microswitch.
- I. Mount each microswitch and JV-26 switch lever assemblies on each of the new CMA 77203-039 mounting plates and secure with 2 each MS35206-219 screws, 2 each AN960PD4L washers and 2 each MS21083-004 nuts. Reconnect wires to each microswitch. Do not install cover plates at this time.
- J. Place each of the P/N CMA 77203-034 levers in the locked position. Using an ohmmeter adjust each switch down against one locking lever cam until the switch actuates (contacts open).

- K. Close the main baggage compartment door and assure latches are firmly in place. Insert baggage door key in each lock tumbler and place in the "locked" position.
- L. Apply electrical power to the aircraft (battery or APU) and place electrical master switch to the "on" position. Note the baggage door "Unlock" warning light on the cockpit annunciator panel. The warning light should not be illuminated. If the warning light is illuminated, adjust each microswitch until the warning light goes out. This may require bending of the rocker portion of the JV-26 lever. Secure each microswitch.

NOTE

Some "freeplay" exists on the new CMA 77203-034 locking levers. This freeplay must be taken into consideration when adjusting the microswitch and bending the JV-26 rocker lever.

- M. Install each cover plate and secure the baggage door fabric liner.

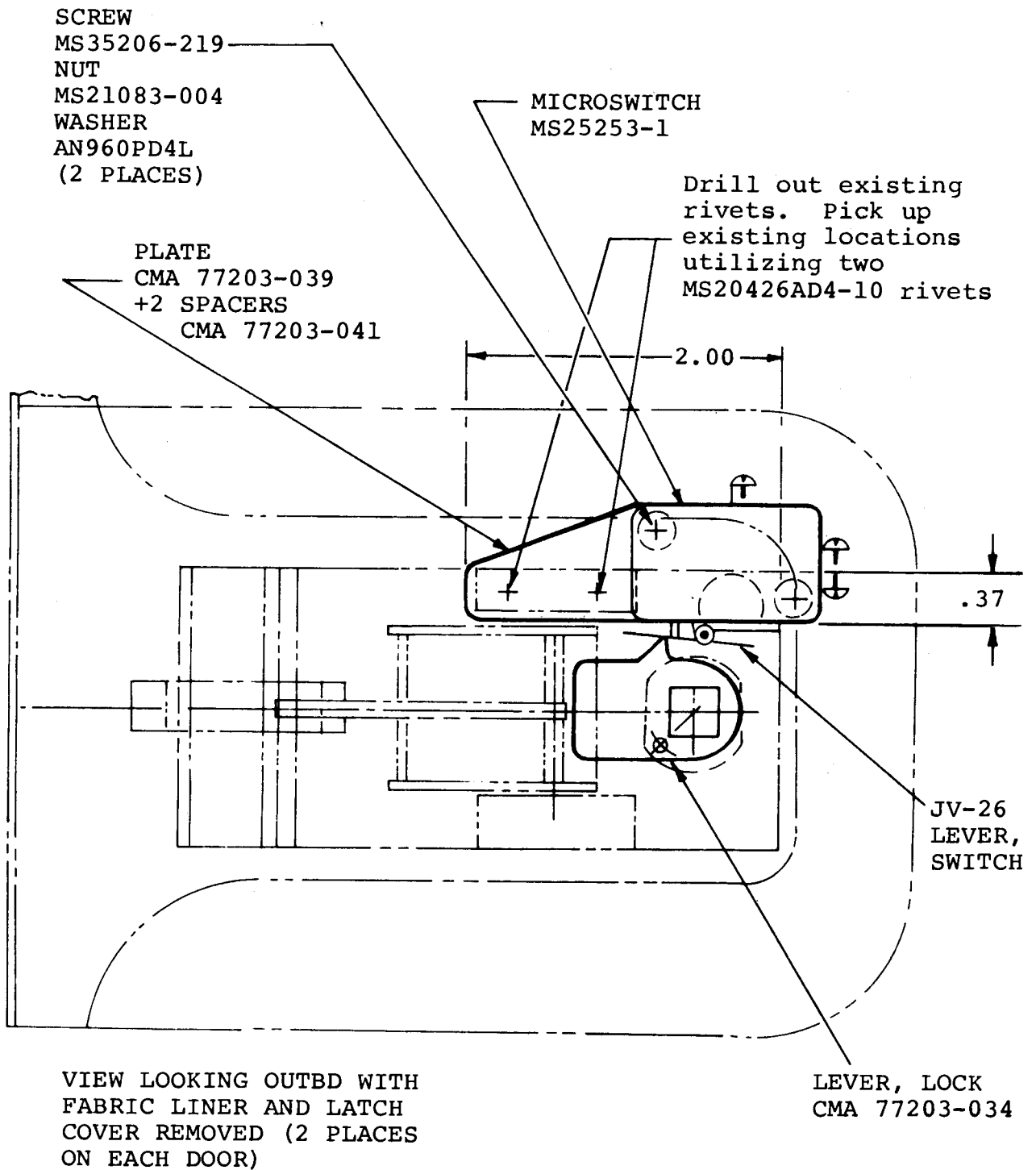
3. MATERIAL INFORMATION

<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
2	MS25253-1	Switch
2	JV-26	Lever, Switch
2	CMA77203-039	Plage
4	CMA77203-041	Spacer
2	CMA77203-034	Lever, lock
4	MS35206-219	Screw
4	MS21082-004	Nut
4	AN960PD4L	Washer
4	MS20426AD4-10	Rivet
8	MS20426AD3-6	Rivet

4. RECORD COMPLIANCE

Make the following entry in the aircraft log book:  
 Service Bulletin No. 1124-52-005, dated January 4, 1985,  
 titled "Doors-Improved Main Baggage Compartment Door Warning  
 Switch Installation," has been accomplished this date \_\_\_\_\_

SERVICE BULLETIN NO. 1124-52-005



NEW MICROSWITCH INSTALLATION

FIGURE 1

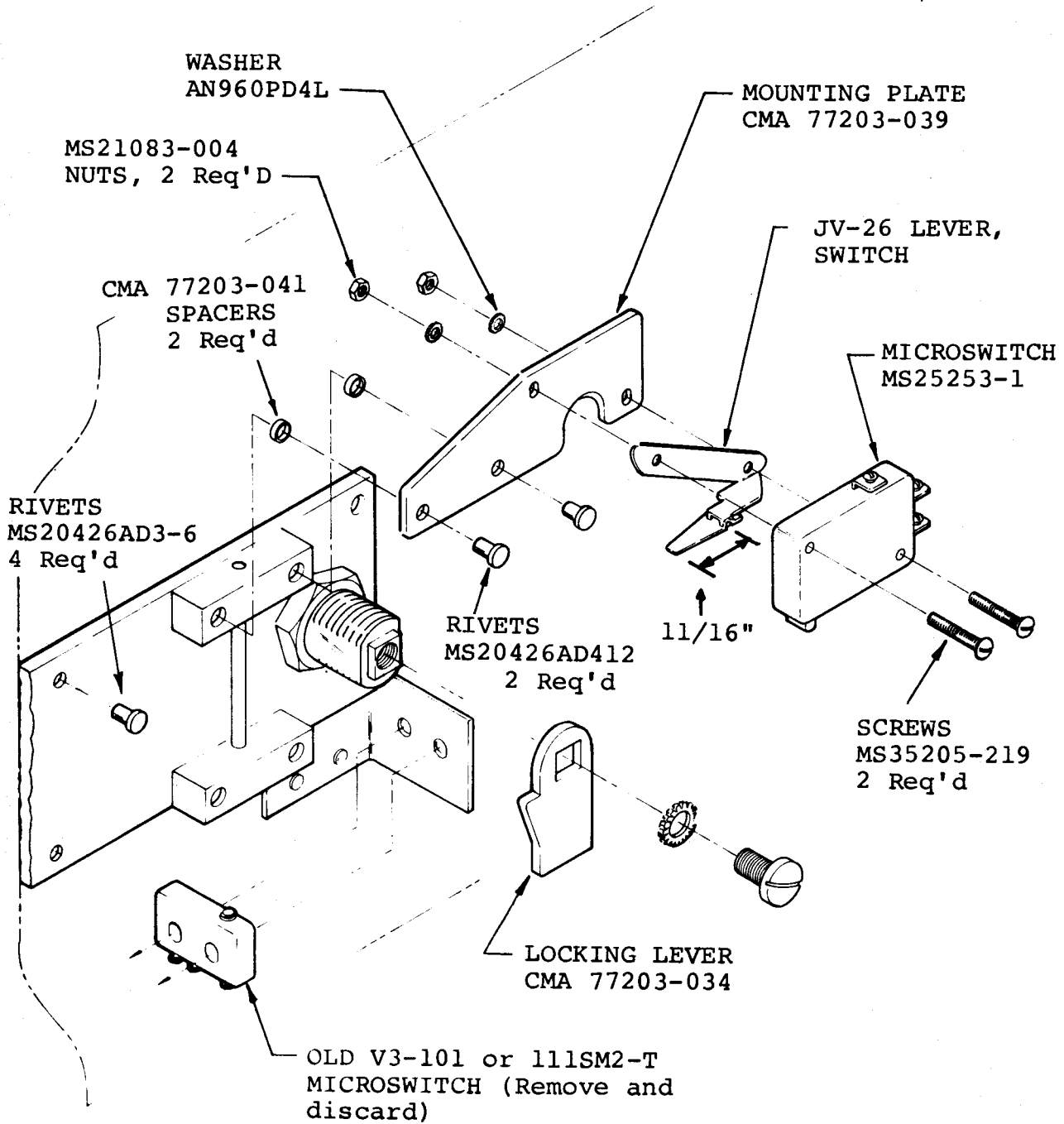


FIGURE 2

*Service Bulletin*

A/C S/N \_\_\_\_\_

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Aircraft Registration No. \_\_\_\_\_

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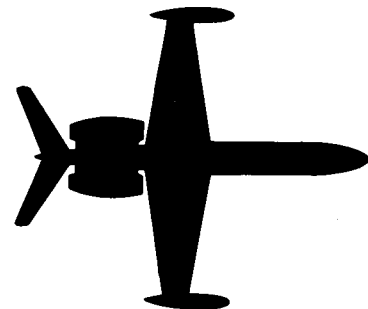
Compliance Date \_\_\_\_\_ By \_\_\_\_\_  
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# 24-WESTWIND



## SERVICE BULLETIN

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OPTIONAL

SERVICE BULLETIN NO. 1124-52-007

January 4, 1985

SUBJECT: MAIN CABIN DOOR LOWER FLAPPER RETRACT SPRING.

### 1. PLANNING INFORMATION

#### A. EFFECTIVITY

MODEL 1124/1124A WESTWINDS, serial numbers 152, 174, 181, 185 thru 387, 389 thru 394.

#### B. REASON

To prevent lower flapper door seal from rubbing on the fuselage door frame.

#### C. COMPLIANCE

Compliance with this Service Bulletin is optional.

#### D. DESCRIPTION

This Service Bulletin describes the steps necessary to install a retract spring on the lower flapper assembly.

#### E. APPROVAL

The procedures described in this Service Bulletin have been shown to comply with the applicable ICAA/FAA regulations and are IAI Engineering approved.



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SB 1124-52-007  
Page 1 of 6



F. MATERIAL

Contact Atlantic Aviation Supply Co., Wilmington, DE or their authorized representatives for parts required to accomplish this modification.

G. TOOLING

None required.

H. WEIGHT & BALANCE

Not applicable.

I. ELECTRICAL LOAD DATA

Not applicable.

J. REFERENCES

1124 Maintenance Manual, Chapter 52-10-00, page 1.  
1124 Illustrated Parts Catalog, Chapter 52-10-00, page 1.  
Figure 1.

K. PUBLICATIONS AFFECTED

The 1124 IPC, and Maintenance Manual, Chapter 52-10-00 will be revised to reflect the installation of the new flapper door parts.

2. ACCOMPLISHMENT INSTRUCTIONS

- A. Remove cabin door interior lining, including ice chest and bar if applicable.
- B. Using the measurements as outlined in Figure 3, locate and cut a hole in bottom door frame.
- C. Secure clip (5333045-191) by riveting (2 pls) to the inner door structure, using the dimension outlined in Figure 2 and Figure 3.

SERVICE BULLETIN NO. 1124-52-007

- D. Drill a .063 diameter hole in the flapper angle to align with the hole cut in the door frame (Step B) Refer to Figure 2 for dimensions.
- E. Attach spring to the clip and flapper angle. Check for sufficient clearance between spring and door structure.
- F. Reinstall cabin door interior which was removed in Step A.

3. MATERIAL INFORMATION

<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1	5333045-191	Clip
1	MS24586-661	Spring
2	NAS1739B4-4	Rivet

4. RECORD COMPLIANCE

Make the following entry in the aircraft log book:

Service Bulletin No. 1124-52-007 dated January 4, 1985, entitled "Main Cabin Door Lower Flapper Retract Spring" has been accomplished on \_\_\_\_\_.

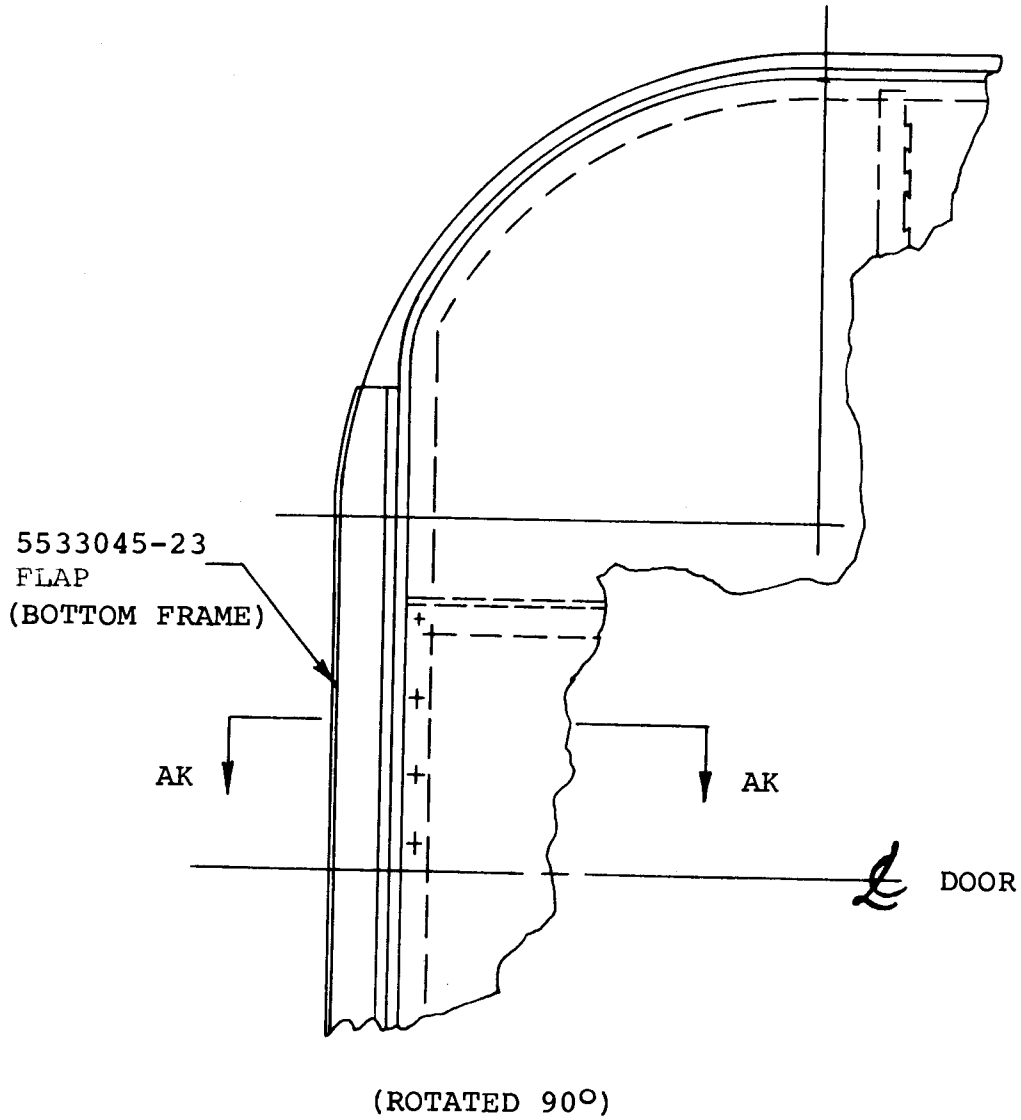


FIGURE 1

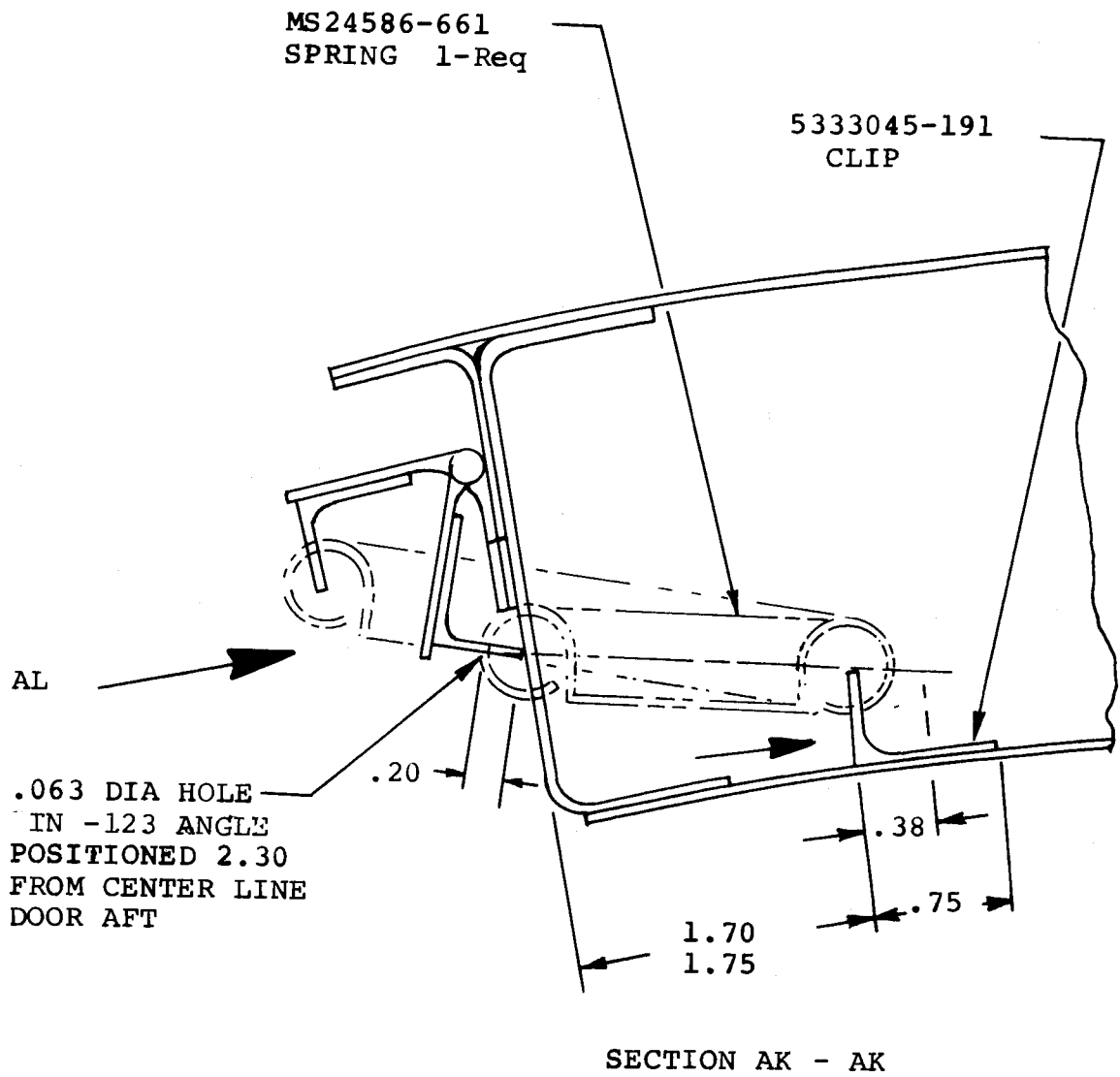
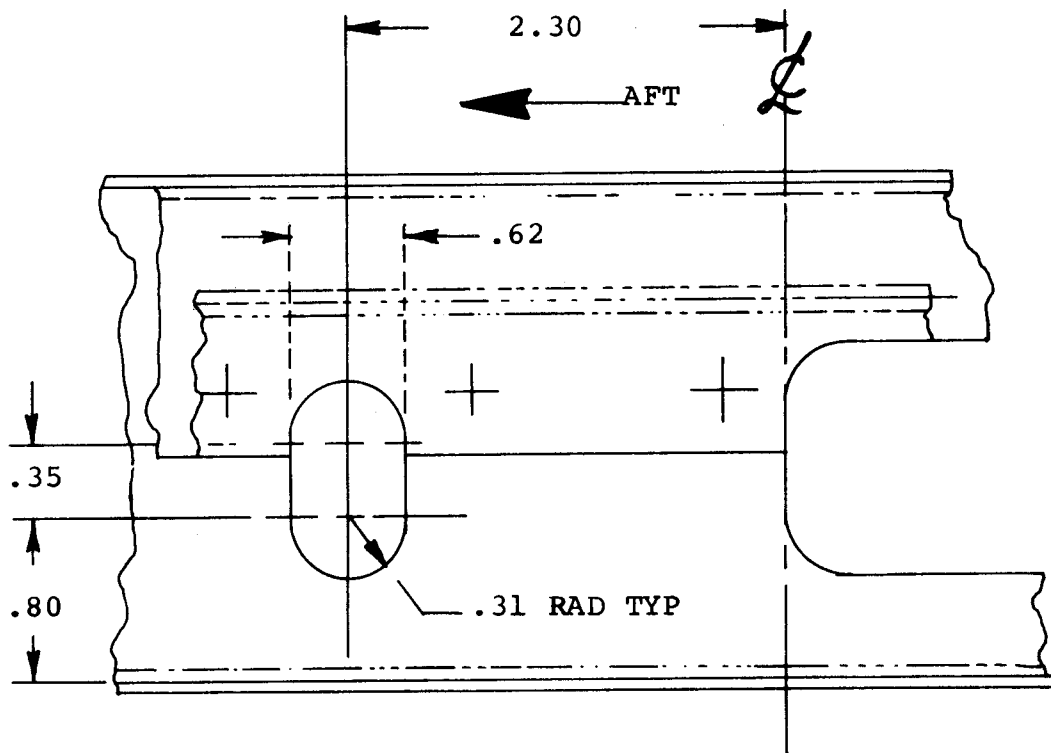


Figure 2



VIEW AL  
Figure 3

*Service Bulletin*

A/C S/N \_\_\_\_\_

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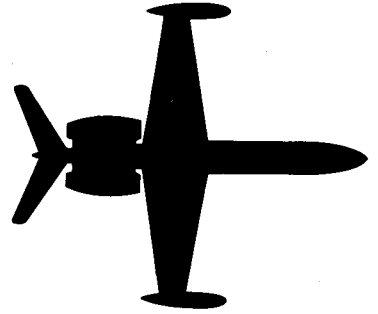
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# 1124-WESTWIND



## SERVICE BULLETIN

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OPTIONAL

SERVICE BULLETIN NO. 1124-52-019A

August 12, 1985

(This Service Bulletin supersedes Service Bulletin No. 1124-52-019, dated May 18, 1985 in its entirety)

SUBJECT: IMPROVED CABIN ENTRANCE DOOR-STAY

1. PLANNING INFORMATION

A. EFFECTIVITY

MODEL 1124/1124A WESTWINDS, all serial numbers prior to 385, except 376.

B. REASON

To provide an improved method of restraining the cabin entrance door in the open position.

C. COMPLIANCE

Compliance with this service bulletin is optional.

D. DESCRIPTION

This service bulletin provides instructions to remove the existing chain and reel installation and replace with a rigid slide-tube assembly.

E. APPROVAL

The modification described in this service bulletin has been shown to comply with the applicable ICAA/FAA regulations and is IAI Engineering approved.



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SB 1124-52-019A  
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F. MATERIAL

Material required may be obtained through Atlantic Aviation Supply Co. or their authorized representatives.

G. SPECIAL TOOLS

None required.

H. WEIGHT & BALANCE

Not applicable.

I. ELECTRICAL LOAD DATA

Not applicable.

J. REFERENCES

1124/1124A MAINTENANCE MANUAL

K. PUBLICATIONS AFFECTED

1124/1124A IPC Chapter 52, will be revised to reflect the new door-stay assembly.

2. ACCOMPLISHMENT INSTRUCTIONS

- A. Remove inside door trim panel.
- B. Remove pilot's seat and cockpit interior trim panel just below DV window.
- C. Move eye-bolt P/N 5123617-15 from its existing location to position shown in Figure 1. Plug old hole with screw removed to install eye-bolt in new location.
- D. Remove chain bushing P/N 5123617-13, reel assembly P/N 5123617-7, and bracket assembly 5123617-5 from entrance door and discard.
- E. Locate doubler P/N 5123617-RE3 per Figure 3 and drill eight #30 (.128 inch dia.) holes.
- F. With doubler secured in place, temporarily locate and drill 1.12 inch dia. hole through door and doubler. Ref. Figure 3.
- G. Slide door-stay assembly into door, locate and drill two #10 (.193 inch dia.) mounting holes.



SERVICE BULLETIN NO. 1124-52-019A

- H. Remove stay assembly, locate nut-plates and drill #40 (.098 inch dia.) holes for mounting nut-plates with four (4) MS20426AD3-6 rivets. Ref. figure 3.
- I. Place packer P/N 5123617-RE5 in hole where chain bushing was removed and drill rivet hole through doubler. Bond packer with EA934 (Hysol) or EC2216 (3M).
- J. Countersink hole in door frame for nut-plate mounting.
- K. Deburr all holes in door structure and on doubler and prime with zinc chromate or epoxy primer.
- L. Rivet doubler and packer in place with MS20426AD4-5 rivets, slide stay assembly into door being sure to slip Adel clamps over tube and secure stay assembly with screws and washers (supplied with door-stay ass'y).
- M. Drill two #10 (.193 inch dia.) holes midway between lightening holes to secure Adel clamps. Ref. Figure 2.
- N. Install two MS21919DG-14 Adel clamps with MS27039-1-13 screws, NAS43DD-20 spacers, two AN960PD10L washers and MS21042-3 nuts, (supplied with door-stay Ass'y).
- O. Reinstall interior components removed in Steps 2.A and 2.B.
- P. Fill space around packer and touch up paint as required. Return aircraft to service.

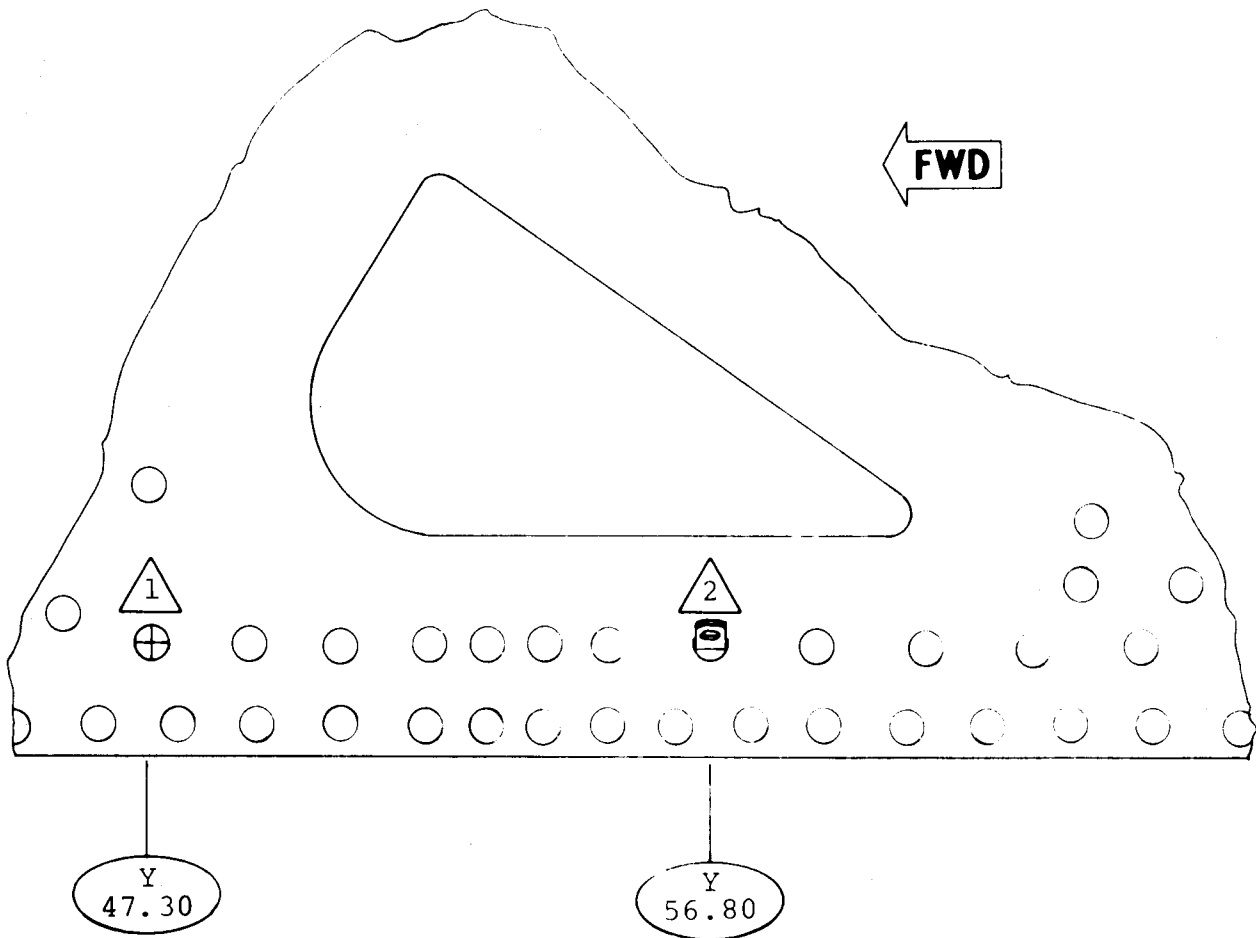
3. MATERIAL INFORMATION

<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1 ea.	5123617-503	Stay assembly
*9 ea.	MS20426AD4-5	Rivets
*4 ea.	MS20426AD3-6	Rivets
*2 ea.	MS21075-3	Nut-plate
1 ea.	MS21055-3	Nut-plate
A/R	EA934 or EC2216	Adhesive

\* May be obtained locally.

4. AIRCRAFT RECORDS

Make the following entry in the airplane log book:  
 Service Bulletin No. 1124-52-019A dated August 12, 1985,  
 titled "Improved Cabin Door Stay," has been accomplished  
 this date \_\_\_\_\_.



VIEW LOOKING AT PILOTS DV WINDOW

1. REMOVE EYE BOLT P/N5123617-15 AND RELOCATE BETWEEN STATION Y-53.00 & Y-56.80 ACCORDING TO MAXIMUM OPEN POSITION. USE ONE OF EXISTING SCREWS LOCATED BETWEEN THESE STATIONS.

2. REMOVE SCREW AND RELOCATE TO STATION Y-47.30 WHERE EYE-BOLT WAS REMOVED

FIGURE 1 DOOR-STAY EYE-BOLT RELOCATION

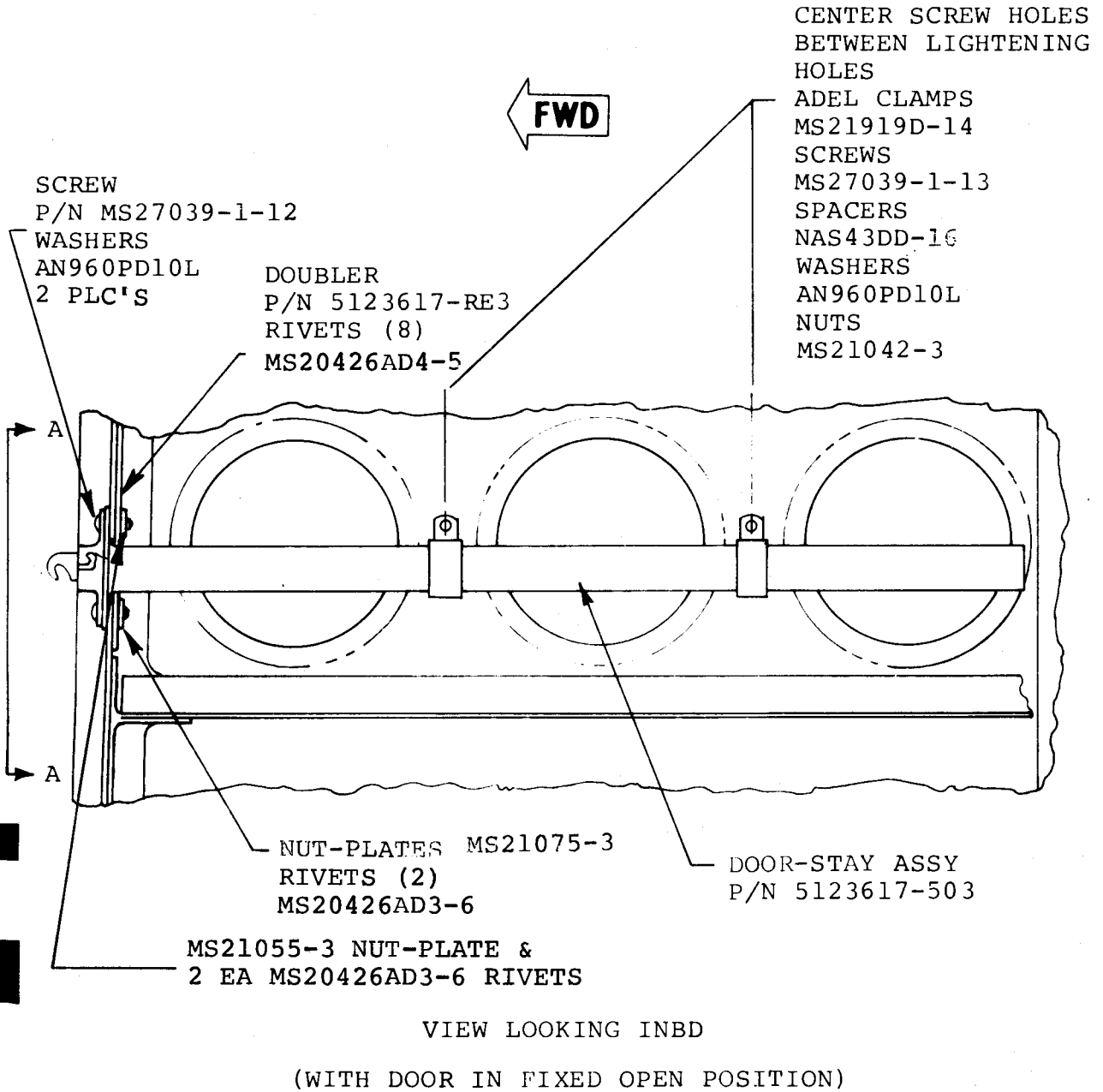
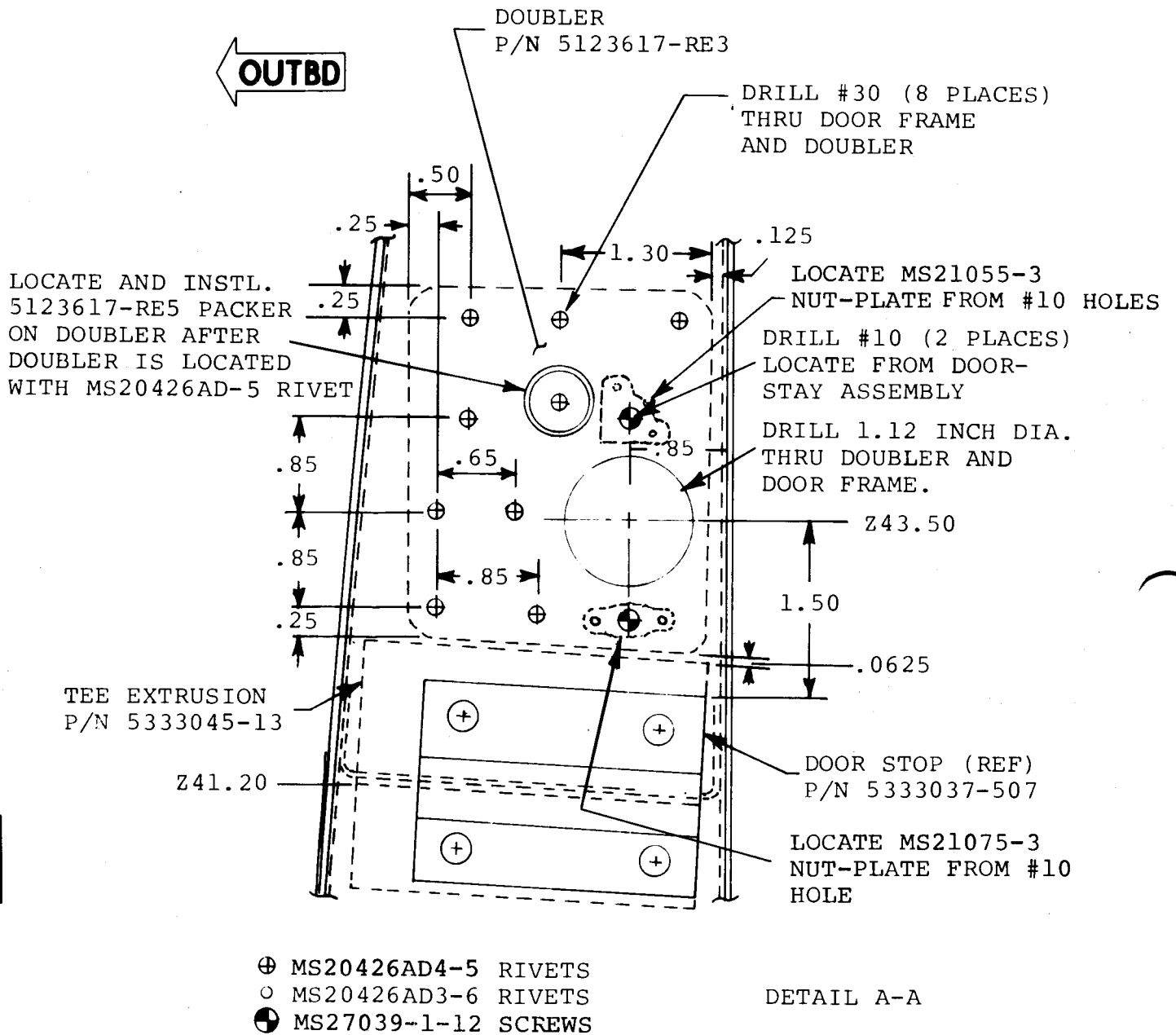


FIGURE 2 DOUBLER AND DOOR-STAY INSTALLATION



VIEW LOOKING AT AFT EDGE OF DOOR

FIGURE 3 DOUBLE AND DOOR-STAY INSTALLATION

# SERVICE PUBLICATIONS revision notice

OPTIONAL

SERVICE BULLETIN NO. 1124-52-037  
Revision No.1

June 14, 1985

SUBJECT: FWD BAGGAGE DOOR - POSITIVE HOLD-OPEN PROVISION

REASON FOR

REVISION: To change five part numbers in paragraph 3.  
Material Information.

### 3. MATERIAL INFORMATION

<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1 ea.	* A01WW 5313687-RE5	Retainer
1 ea.	* A01WW 5313687-RE4	Angle
1 ea.	* A01WW 5313687-RE3	Angle
8 ea.	CR3243-4-5	Cherry Max Rivet
1 ea.	NAS1739-5-4	Blind Rivet
1 ea.	MS17986-326	Lockpin
1 ea.	* A01WW 5313687-RE7	Caution Decal
1 ea.	* A01WW 5313687-RE9	Stowage Decal
1 ea.	CL-73-KA-5	Cable, Nylon (Carr Lane Mfg. Co.)

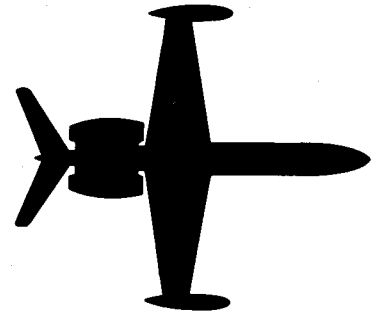
\* These part numbers supersede those reflected in  
Figure 1, 2 and 3.

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Page 1 of 1



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# 1124-WESTWIND



## SERVICE BULLETIN

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OPTIONAL

SERVICE BULLETIN NO. 1124-52-037

May 27, 1985

SUBJECT: FWD BAGGAGE DOOR - POSITIVE HOLD-OPEN PROVISION

1. PLANNING INFORMATION

A. EFFECTIVITY

MODEL 1124/1124A WESTWINDS, all serial numbers prior to 426 except 416, 418, 421 and 423.

B. REASON

To install provisions for positive hold-open of the forward baggage door to ease loading during gusty wind conditions.

C. COMPLIANCE

Optional

D. DESCRIPTION

Two angles are installed on the forward baggage door frame at the upper hinge along with a lock-pin and a lock-pin storage bracket.

E. APPROVAL

The modification described in this Service Bulletin has been shown to comply with the applicable ICAA/FAA regulations and is IAI Engineering approved.



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Page 1 of 7

F. MATERIAL

The material required may be obtained through Atlantic Aviation Supply Company Wilmington, DE or their authorized representatives.

G. TOOLING

None required.

H. WEIGHT & BALANCE

Not applicable

I. ELECTRICAL LOAD DATA

Not applicable

J. REFERENCE

None

K. PUBLICATIONS AFFECTED

None

2. ACCOMPLISHMENT INSTRUCTIONS

- A. Remove both aircraft battery connectors and external DC power to aircraft (if installed).
- B. Locate and remove eight rivets installed immediately above and below cut-out for upper hinge (see figure 1). These rivets may be either solid or blind fasteners.
- C. Using an assistant, observe angle installation on door frame from inside the forward baggage compartment with baggage door closed. Position angles to door frame, mark angles for final fit and trimming that will ensure clearance is adequate to door, door hinge bracketry and bracket hardware. Trim only that material necessary to provide clearance required with door closed.

NOTE

Install angle with one inch leg attached to door frame and 3/4" leg used for lock pin.

- D. After final trimming of both angles, drill .144 (#27) holes picking up existing fastener holes for attachment of angles to door frame with CR 3243-4-5 Cherry Max rivets.
- E. Temporarily install angles to door frame with clecos. Locate center of .1875 hole required for lock-pin installation through upper angle, upper door hinge with door in fully opened position and lower angle (Ref. Figure 3).
- F. Drill .09375 (3/32") pilot hole through both brackets and upper door hinge. Care must be taken to ensure proper alignment is maintained during drilling process.
- G. Remove angles, drill lock pin pilot holes to final size of .1875 (3/16"). Drill upper door hinge lock-pin pilot hole to final size of .1875 (3/16").
- H. Deburr all drilled holes, clean areas to be painted with MEK and apply zinc chromate primer to all bare aluminum surfaces.
- I. Install both angles to door frame using eight CR3243-4-5 Cherry Max fasteners.
- J. Install P/N MS17986-326 lock-pin. Fit of lock-pin through angles and door hinge should be a slip fit. If necessary, lock-pin holes may be reamed slightly to provide the best fit.
- K. Position lock-pin retainer, P/N 5313687-RE5, near upper left hand corner of microswitch access panel. Install channel as shown in Figure 2, picking up existing fasteners.
- L. Attach lock-pin lanyard clip to an existing fastener as shown in figure 2.
- M. Return aircraft to service.



SERVICE BULLETIN NO. 1124-52-037

3. MATERIAL INFORMATION

<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1 ea.	5313687-RE5	Retainer
1 ea.	5313687-RE4	Angle
1 ea.	5313687-RE3	Angle
8 ea.	CR3243-4-5	Cherry Max Rivet
1 ea.	NAS1739-5-4	Blind Rivet
1 ea.	MS17986-326	Lockpin
1 ea.	5313687-RE7	Caution Decal
1 ea.	5313687-RE9	Stowage Decal
1 ea.	CL-73-KA-5	Cable, Nylon (Carr Lane Mfg. Co.)

4. RECORD COMPLIANCE

Make the following entry in the aircraft log book:  
 Service Bulletin No. 1124-52-037, date May 27, 1985, titled  
 "FWD Baggage Door - Positive Hold-Open Provision," has been  
 accomplished this date \_\_\_\_\_.

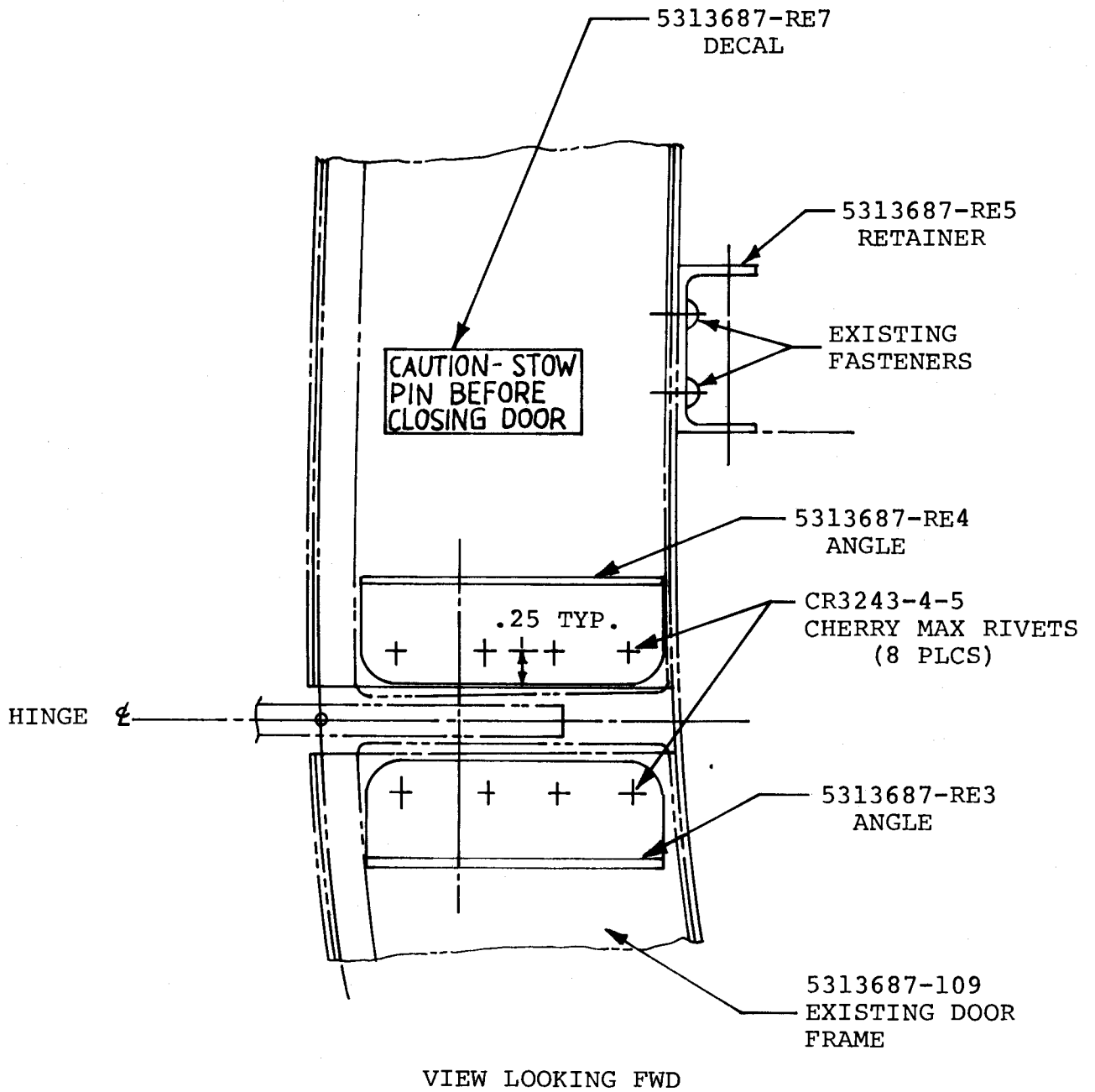


FIGURE 1

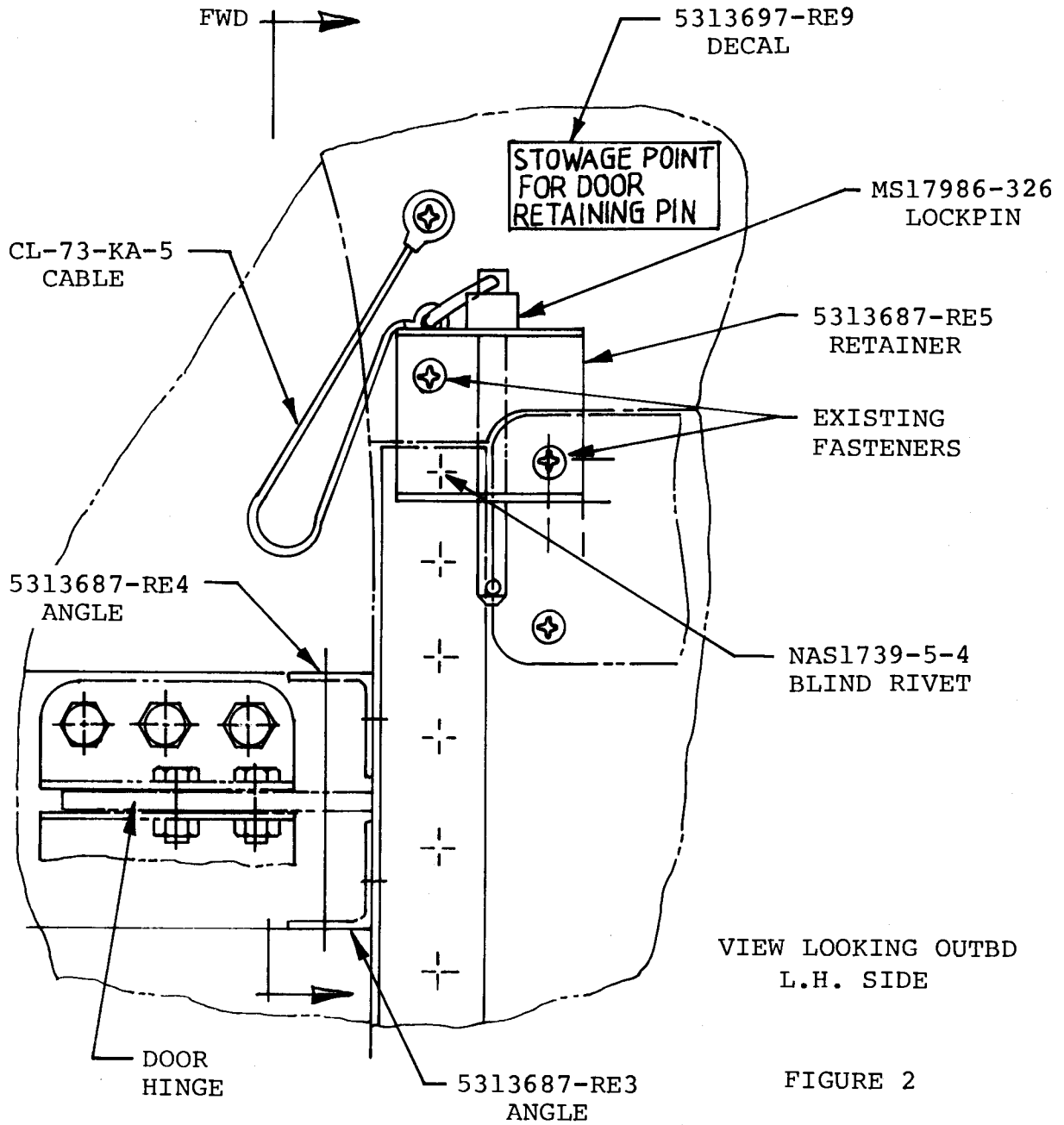
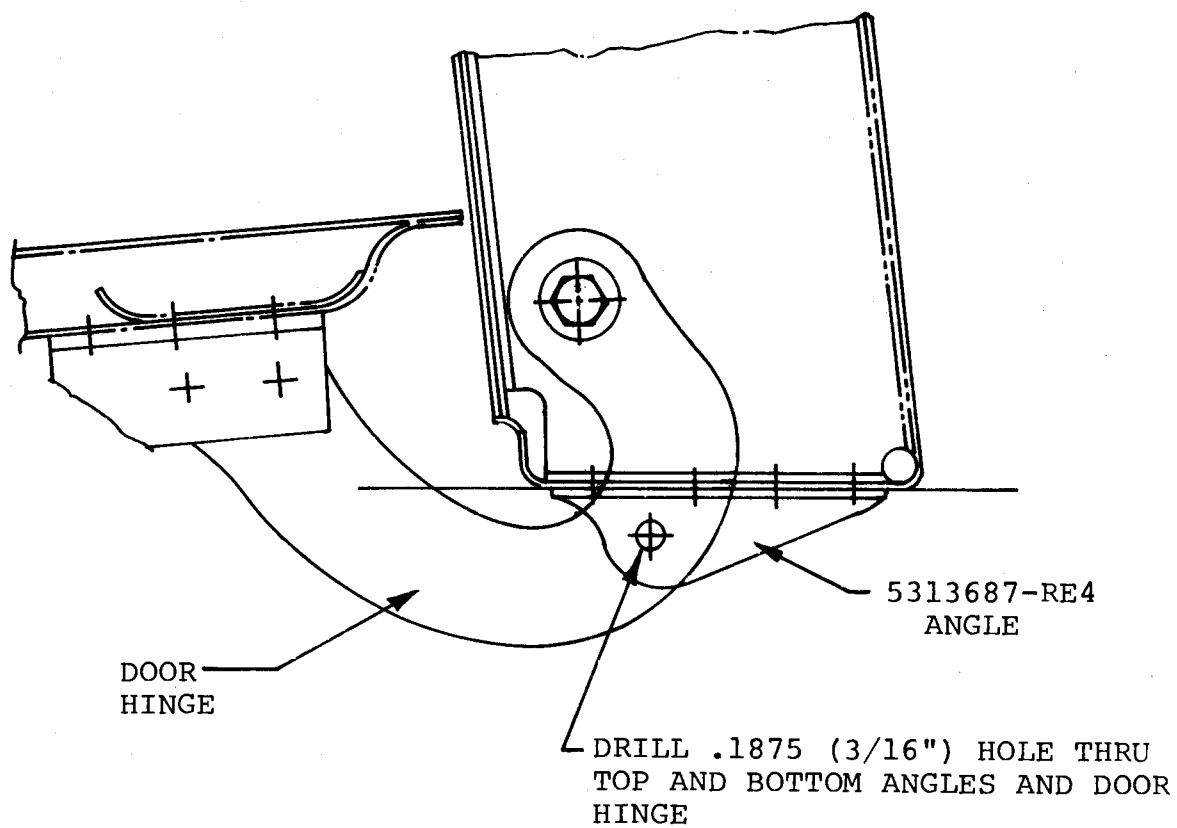
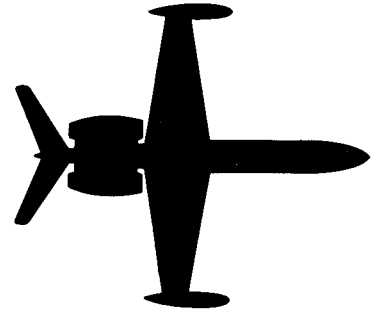


FIGURE 2



VIEW LOOKING DOWN - TOP DOOR HINGE

FIGURE 3



## **SERVICE BULLETIN**

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### **OPTIONAL**

**SERVICE BULLETIN NO. 1124-52-040**

**April 22, 1992**

**SUBJECT: DOORS - DOOR HANDLE WARNING SWITCH INSTALLATION AND IMPROVED DOOR WIRE RETRACT TUBE INSTALLATION (AFC 2068).**

**1. PLANNING INFORMATION**

**A. EFFECTIVITY**

**PART A**

MODEL 1124/1124A WESTWINDS, all serial numbers except 1124 S/N 421 and subsequent and 1124A, S/N 436 and subsequent.

**PART B**

MODEL 1124/1124A WESTWINDS, all serial numbers.

**B. REASON**

**PART A**

To provide an additional warning switch which will provide cockpit indication of cabin door handle rotation.

**PART B**

To install or improve the door wire retract tube installation.

**C. DESCRIPTION**

**PART A** of this service bulletin adds a microswitch to the door handle mechanism that will work in conjunction with the existing cabin door warning system.

**PART B** of this service bulletin provides instruction to install or improve the door wire retract tube installation.

**D. COMPLIANCE**

Compliance with this service bulletin is optional.

**E. APPROVAL**

This service bulletin has been reviewed by the Civil Aviation Administration of Israel (CAAD). The design content herein complies with the applicable Civil Aviation Regulations and is CAAI approved.

**F. MAN-HOUR REQUIREMENTS**

The following information is for planning purposes only:

**PART A**

- (1) Estimated man-hours: 16
- (2) Suggested number of personnel: 1

**PART B**

- (1) Estimated man-hours: 16
- (2) Suggested number of personnel: 1

The above is an estimate only, based on experienced personnel complying with this service bulletin. It is possible, depending on individual experience levels, that additional or fewer man-hours are required to accomplish this bulletin.

**G. MATERIAL**

**PART A**

<u>QTY.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
4	AN364-832	NUT
4	AN525-832-R8	SCREW
8	AN960-8	WASHER
2	MS35206-220	SCREW
6	MS35338-43	WASHER
2	MS20427-M-4-8	RIVET
6	MS21042-3	NUT

SERVICE BULLETIN NO. 1124-52-040

<u>QTY.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
2	MS24665-151	COTTER PIN
4	MS20470AD-4-X	RIVET
2	NAS1096-3-21	SCREW
*1	823676-5	CHANNEL
*1	823676-9	ANGLE
*1	823676-7	ANGLE
*1	823676-8	ANGLE
*1	823676-13	ARM
1	V3-1001	SWITCH
1	JV-26	ACTUATOR
A/R	55A1131-20-396-92	WIRE (RAYCHEM) OR EQUIVALENT

\* Parts for **PART A** may be locally manufactured. Refer to Figures 4 and 5 for part details.

**PART B**

<u>QTY.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1	AN3-12A	BOLT
1	AN970-3	WASHER
5	AN960KD-10	WASHER
2	AN960KD-4	WASHER
1	AN960KD416L	WASHER
1	MS21042-4	NUT
2	MS35649-242	NUT
1	MS35207-281	BOLT
1	MS35207-266	BOLT
2	MS21919DG12	CLAMP
3	MS27039-1-08	BOLT
5	MS21042-3	NUT
2	MS25281-2	CLAMP
A/R	MS35489-134	GROMMET
2	MS35206-217	SCREW
10	MS20470AD-4-X	RIVET
2	MS20470AD-5-X	RIVET
2	MS20470AD-6-X	RIVET
1	NAS43DD3-24	SPACER

<u>QTY.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1	NAS75-3-26	BUSHING
†2	823676-21	ANGLE
†1	823676-25	ANGLE
†1	823676-29	BUNGEE ASSY
†2	823676-33	WIRE ASSY
†2	823676-37	PULLEY
†2	823676-39	ANGLE
†1	823676-43	DOUBLER
†1	823676-45	FILLER
†1	823676-47	GUARD
†1	823676-49	TUBE
A/R	AMP 326878	TERMINAL
A/R	TY523M OR EQUIV.	TY-RAP
A/R	55A1131-20-396-92	WIRE(RA YCHEM) OR EQUIVALENT

† Parts for **PART B** may be locally manufactured. Refer to Figure 11 for part details.

Material required may be obtained through Astra Jet Corporation, New Castle, Delaware, or authorized ASTRA/WESTWIND Service Centers.

#### H. TOOLING

No special tools are required.

#### I. WEIGHT AND BALANCE

Not applicable.

#### J. ELECTRICAL LOAD DATA

Not applicable.

#### K. REFERENCES

1124/1124A Westwind Wiring Manual.  
1124/1124A Westwind Maintenance Manual.



**L. PUBLICATIONS AFFECTED**

1124/1124A Westwind Maintenance Manual, Chapters 52-10-00 and 52-70-00, will be revised to reflect the rigging and checkout procedures of the cabin door handle warning switch.

1124/1124A Westwind Illustrated Parts Catalog, Chapter 52-70-00, has been revised to reflect all parts installed by this service bulletin.

1124/1124A Westwind Wiring Manual, Chapter 33-50-01.

**2. ACCOMPLISHMENT INSTRUCTIONS**

**PART A - Door Handle Warning Switch Installation**

1. Insure that battery and external power switches are off and pull the "DOOR WARN" circuit breaker.
2. Remove interior furnishings from cabin door to facilitate access to door handle mechanism.
3. Refer to chapter 52 in the 1124/1124A Westwind Maintenance Manual and remove the cabin door assembly from the aircraft. Note the quantity and location of any shims which may be installed at the hinge points to aid in reassembly and rigging.
4. Mark the position of the hub crank with relation to the spindle. Disconnect forward and aft rod assemblies from the hub crank. Disconnect the upper and lower control assemblies from the hub crank. Remove bolt securing hub crank to spindle and withdraw spindle from hub crank far enough to facilitate removal of hub crank from door.
5. Install arm P/N 823676-13 to hub crank as illustrated in Figure 1.
6. Install P/N 823676-5 channel and P/N 823676-7 and P/N 823676-8 angles. After fitting and drilling, mount to existing channel as illustrated in Figures 1 and 2.
7. Assemble switch P/N V3-1001, actuator P/N JV-26, and shim to angle P/N 823676-9. Locate the angle/switch assembly to P/N 823676-5 channel as illustrated in Figure 1.
8. Reinstall hub crank to spindle and connect upper and lower control assemblies and the forward and aft rod assemblies to the hub crank, using previously removed hardware.

9. Adjust the switch so that it is actuated when the door handle completes its rotation to the closed position. Allow .010 clearance of actuating arm to switch body so as not to damage the switch. Fore and aft switch adjustment can be made by loosening screws retaining switch to P/N 823676-9 angle. Up and down adjustment can be accomplished with P/N NAS 1096-3-21 screws. Using an ohmmeter, verify electrical adjustment of switch. Insure all switch mounting hardware is secure.

**NOTE:** This switch is installed in parallel with existing door warning circuit and does not cancel existing switch function.

10. On aircraft not equipped with bar lighting, install wire retract tube assembly in accordance with **PART B**.

11. On aircraft equipped with bar lighting, remove existing wires and install new wire using P/N 55A1131-20-396-92 (Raychem) or equivalent wire. Secure new wire in the same manner that the removed wire was secured.

**NOTE:** If desired, the improved wire retract tube assembly described in **PART B**, should be installed before installing door on aircraft.

12. Install cabin door on aircraft. (Reference 1124/1124A Westwind Maintenance Manual, Chapter 52.)

13. Install and connect wiring from door handle warning switch to existing door warning switch circuit as per Figure 3.

14. Isolate bar light wires if installed to prevent short circuit. Apply electrical power to aircraft. Close "DOOR WARN" circuit breaker. Perform operation check of door operating mechanism and "DOOR WARN" system as per 1124/1124A Westwind Maintenance Manual, Chapters 52-10-00 and 52-70-00, Inspection, and check.

15. Re-install interior furnishings on cabin door.

16. Return aircraft to service.

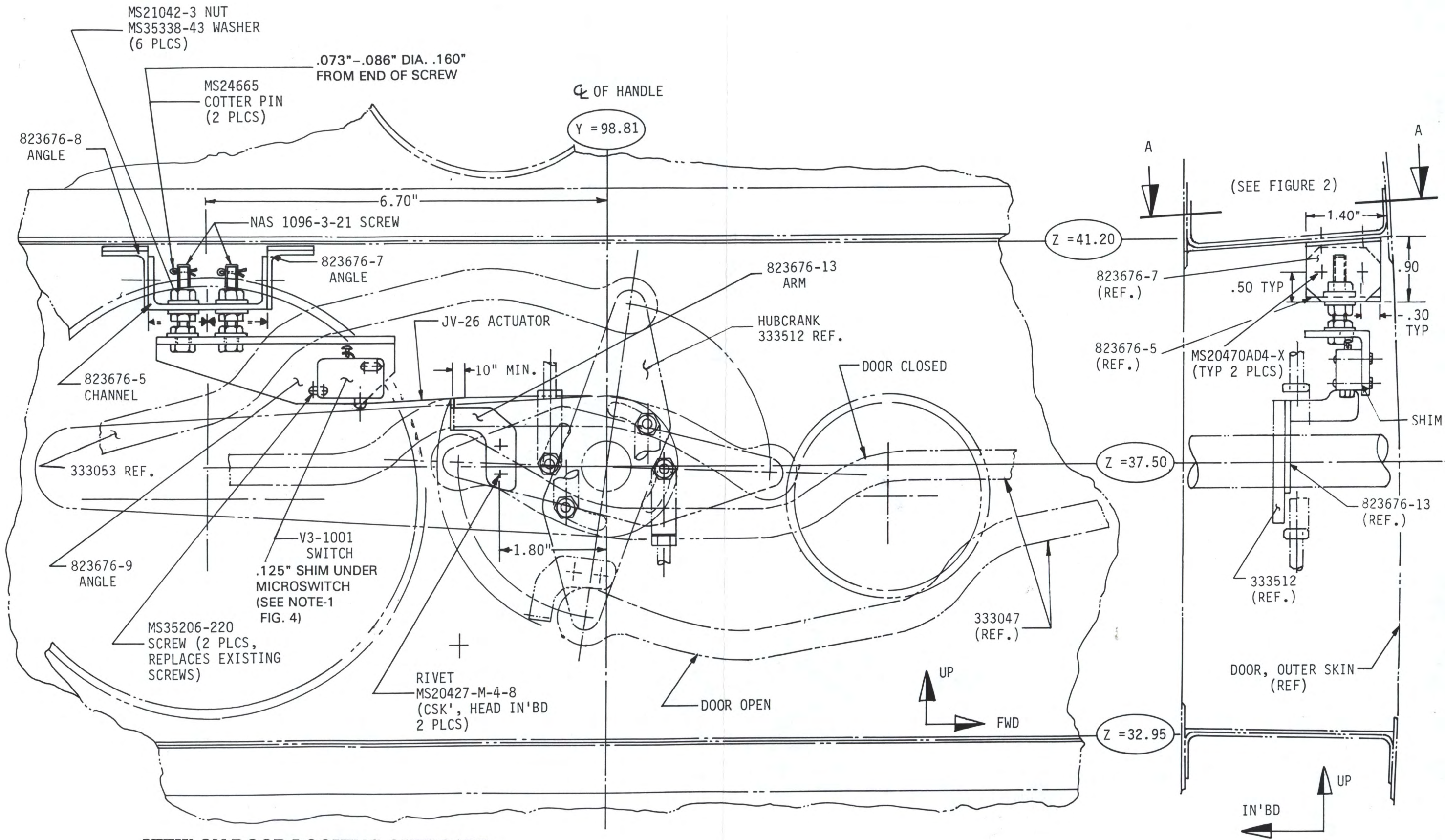
#### **PART B - Improved Door Wire Retract Tube Assembly**

1. Remove cabin door in accordance with **PART A** steps 1, 2 and 3.
2. Remove existing wire retract tube assembly.
3. Install improved wire retract tube assembly in accordance with Figures 6, 7, 8, 9 and 10.

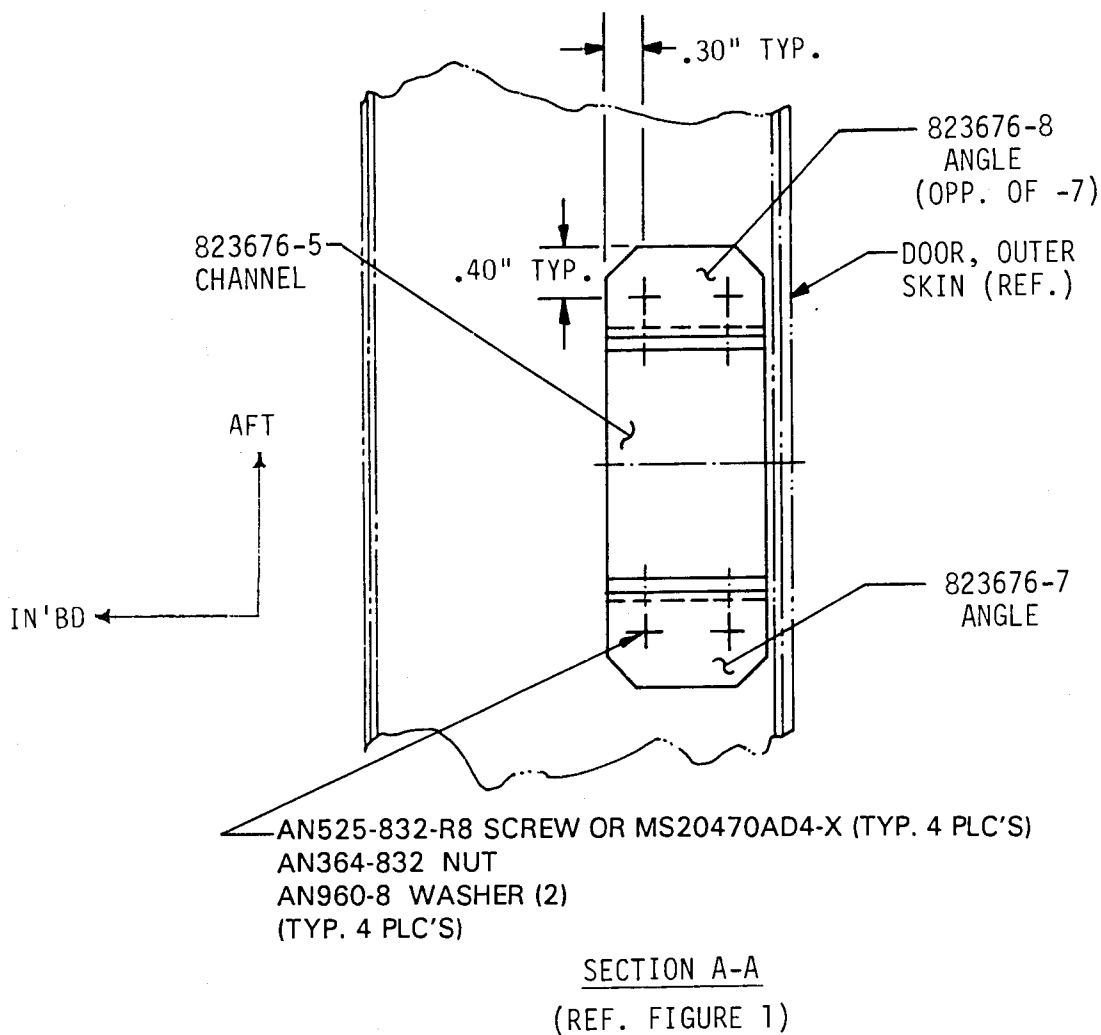
SERVICE BULLETIN NO. 1124-52-040

4. Install cabin door in accordance with **PART A** steps 12, 13, 15 and 16.
3. RECORD COMPLIANCE
    - A. Make the following entry in the aircraft log book:

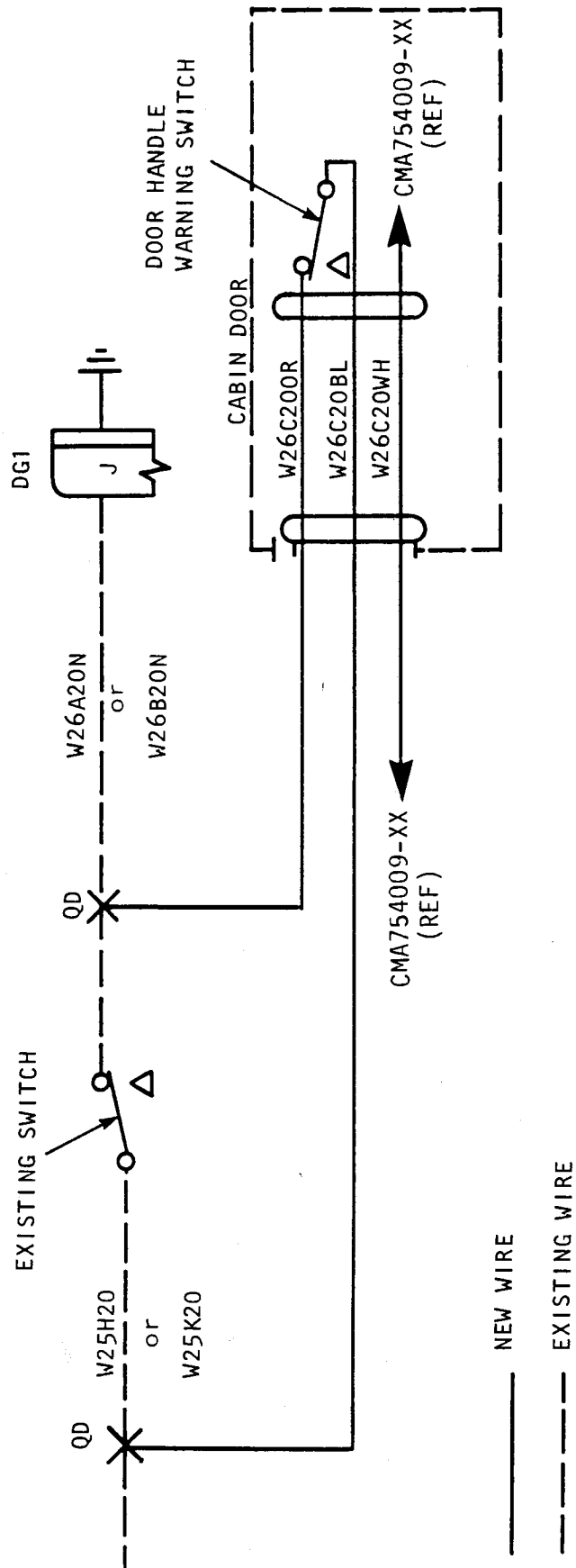
Service Bulletin 1124-52-040, dated April 22, 1992, titled "Doors - Door Handle Warning Switch Installation and Improved Door Wire Retract Tube Installation (AFC 2068)," has been accomplished this date \_\_\_\_\_.
    - B. Revise the 1124/1124A Westwind Wiring Diagram Manual as per Figure 4 of this service bulletin to reflect the changes made by this service bulletin.
    - C. Complete the attached Certificate of Compliance and return to Astra Jet Corporation in Wilmington, Delaware.



VIEW ON DOOR LOOKING OUTBOARD  
FIGURE 1

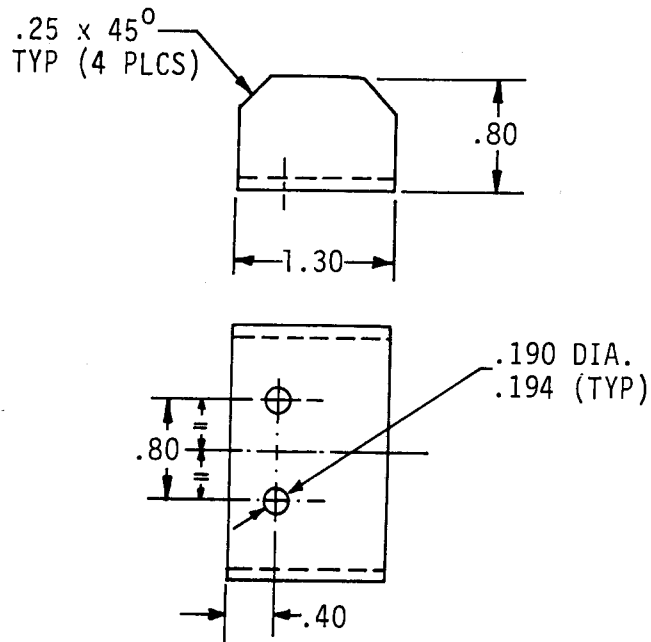


**FIGURE 2**

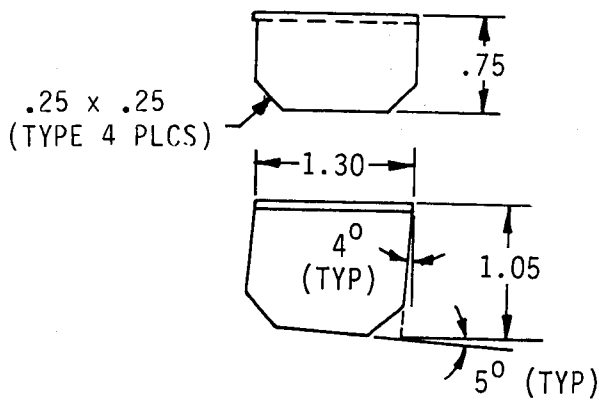


REFERENCE WIRING MANUAL  
CHAPTER 33-50-01

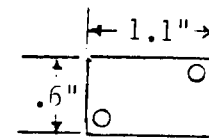
FIGURE 3



DETAIL P/N 823676-5 CHANNEL  
MFG. FROM AND10137-2004 2024-T3511  $\triangle 1$   $\triangle 4$



DETAIL P/N 823676-7 ANGLE  
-8 ANGLE OPPOSITE  
MFG. FROM AND10134-1201 2024-T3511  $\triangle 1$   $\triangle 4$

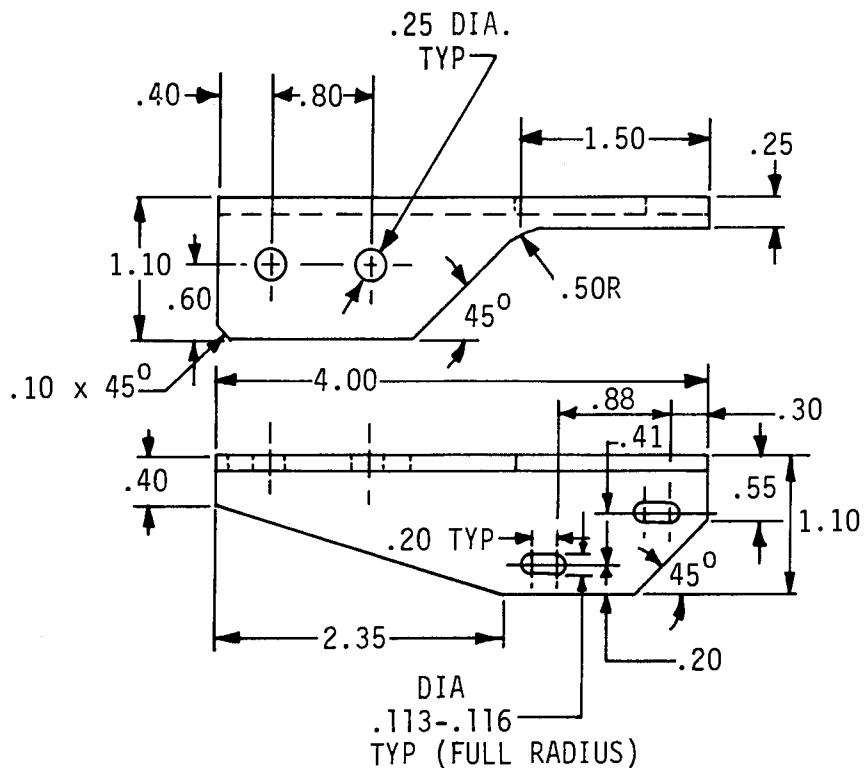


DETAIL SHIM (REF FIGURE 1)  
MFG. FROM .125" 2024-T3  $\triangle 1$

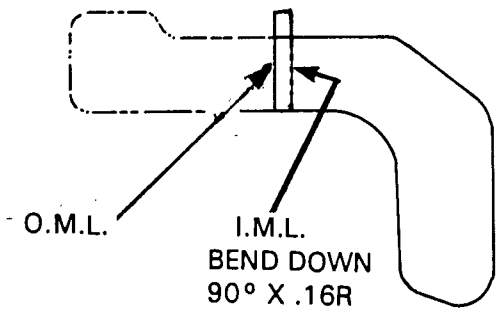
$\triangle 1$  FINISH WITH EPOXY PRIMER

$\triangle 4$  FINISH: CHROMIC ACID ANODIZE PER MIL-A-8625E

**PART DETAILS**  
**FIGURE 4**



DETAIL P/N 823676-9 ANGLE  
 MFG. FROM AND10134-1407 2024-T3511  $\triangle 1$   $\triangle 4$



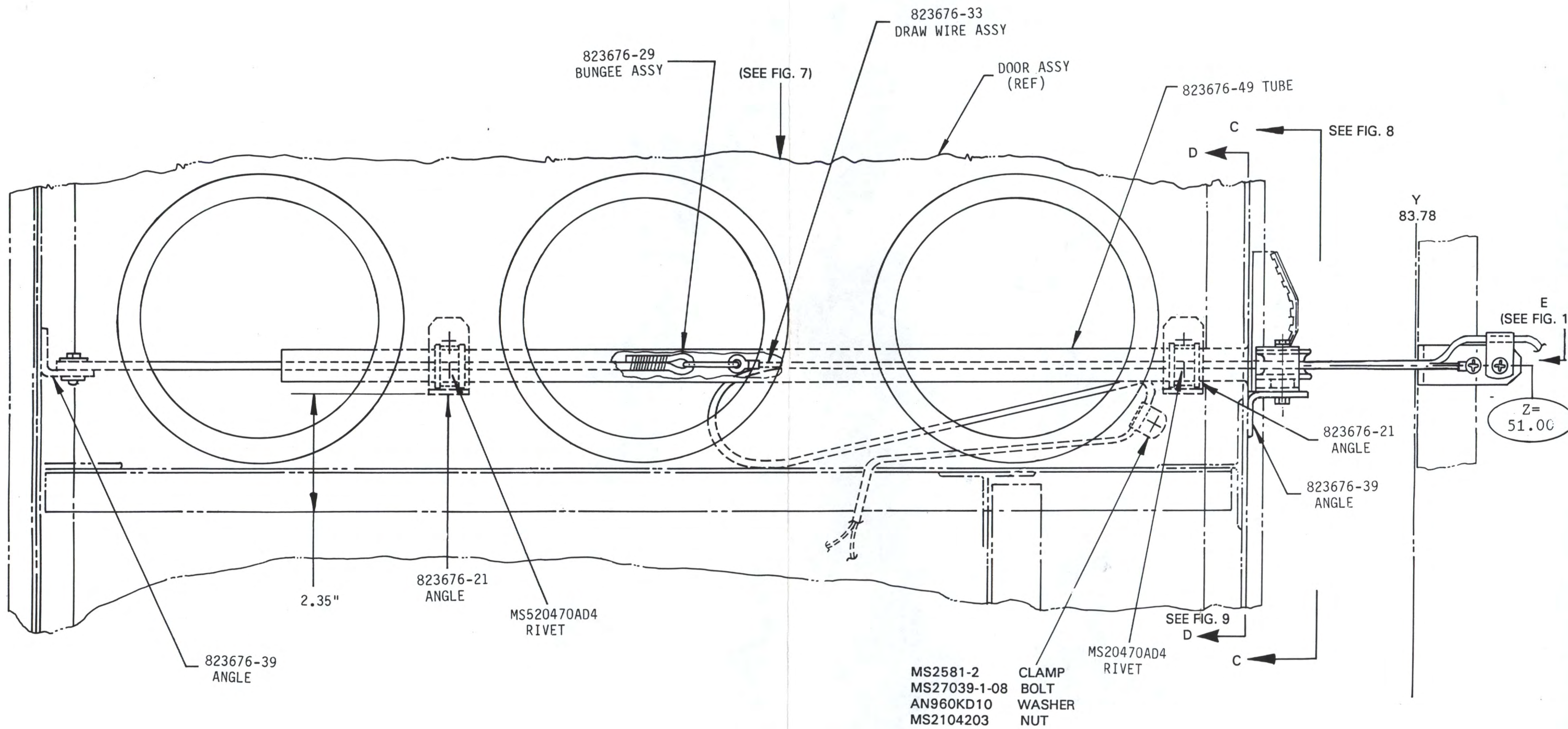
SHOWN ACTUAL SIZE  
 USE AS TEMPLATE

DETAIL P/N 823676-13 ARM  
 MFG. FROM .080" 2024-0 CLAD  $\triangle 1$   
 HEAT TREAT TO T42 AFTER FORMING

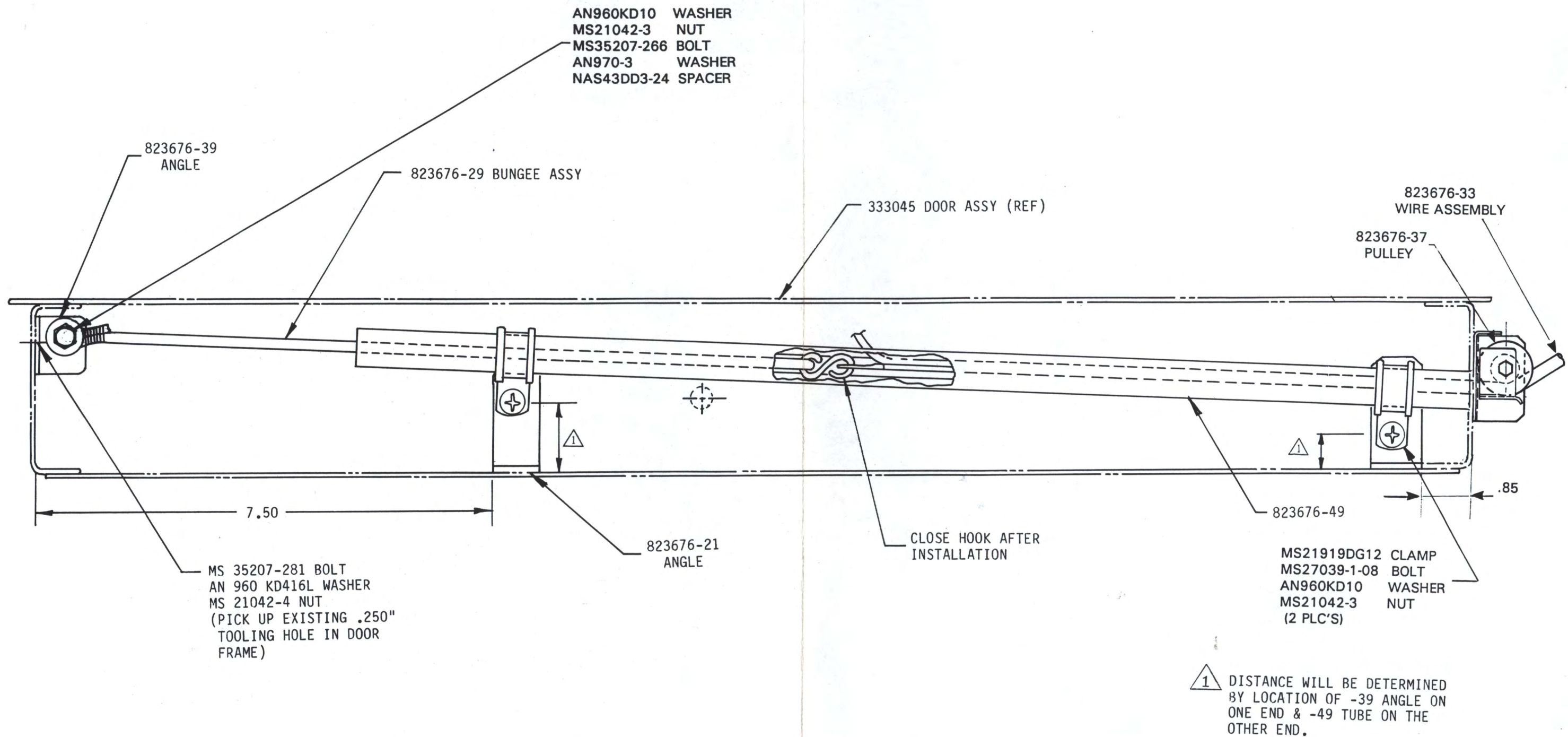
- $\triangle 1$  FINISH WITH EPOXY PRIMER
- $\triangle 4$  FINISH: CHROMIC ACID ANODIZE PER MIL-A-8625E

**PART DETAILS**  
**FIGURE 5**





VIEW LOOKING OUTBOARD  
FIGURE 6



VIEW ON ARROW "B" (Ref Figure 6)  
FIGURE 7

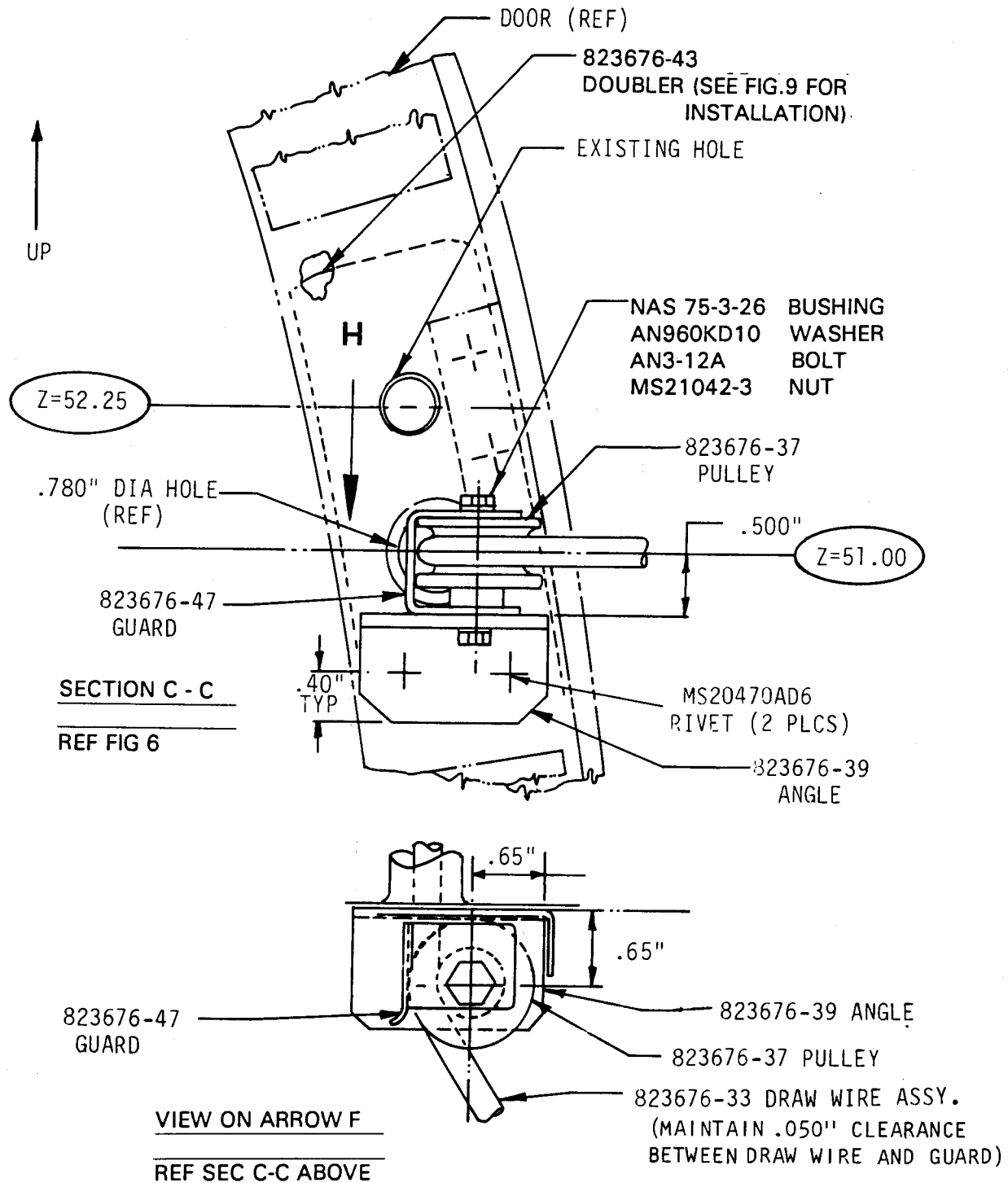
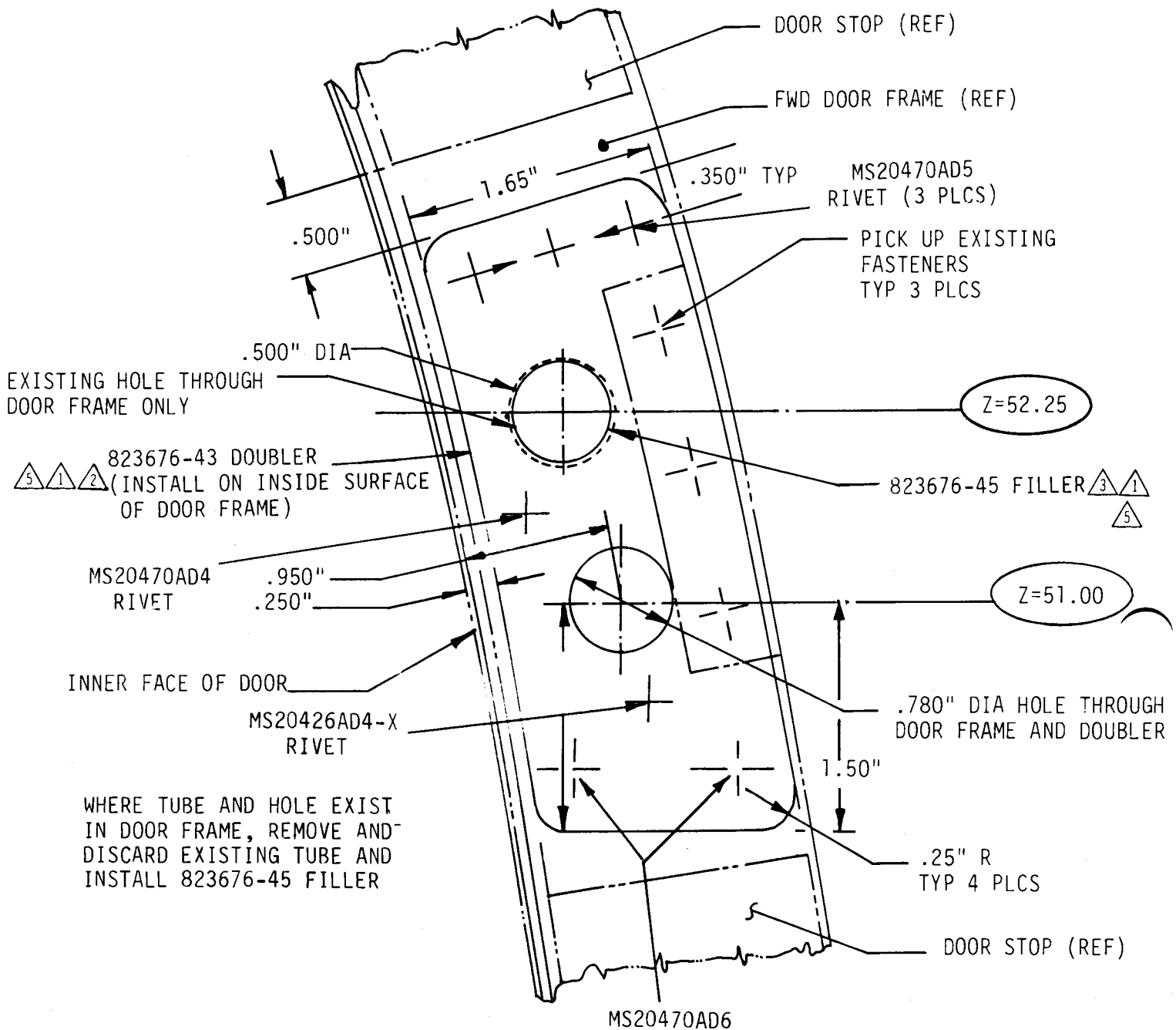


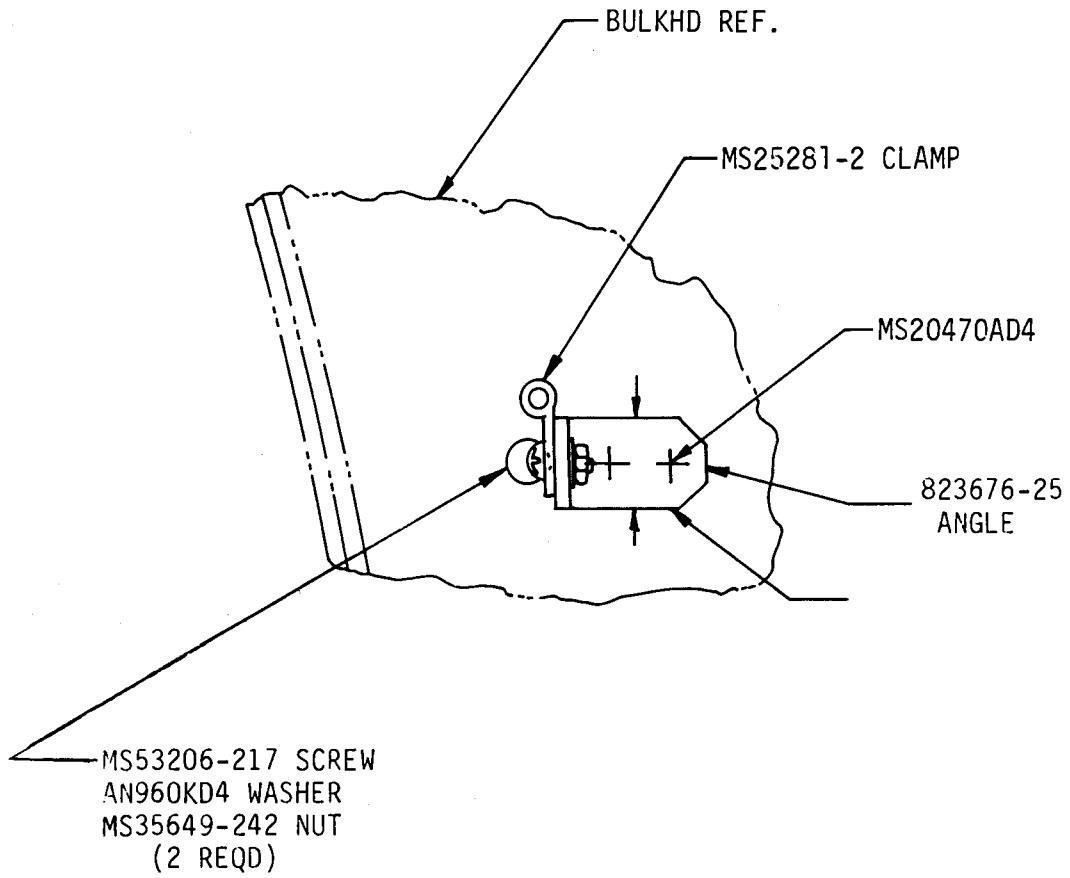
FIGURE 8



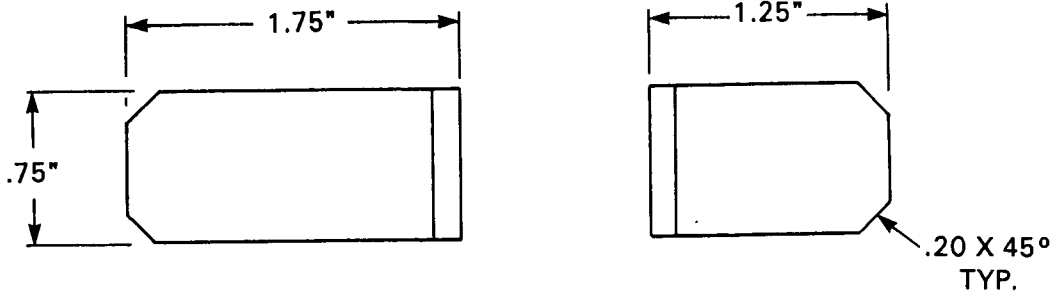


- ① FINISH: EPOXY PRIMER PER MIL-P-23377
- ② P/N 823676-43 DOUBLER - Mfg. from .050" 2024T3 CLAD
- ③ P/N 834676-45 FILLER - Mfg. from .050" 2024T3 CLAD
- ⑤ FINISH: CONVERSION COATING PER MIL-C-5541

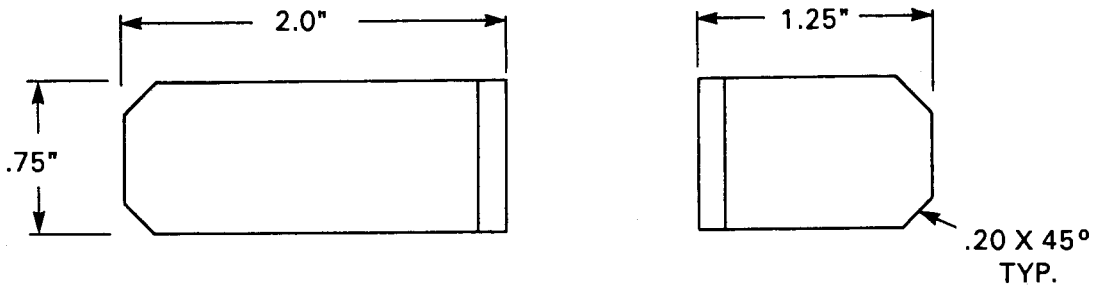
**VIEW D - D (Ref Figure 6)**  
**FIGURE 9**



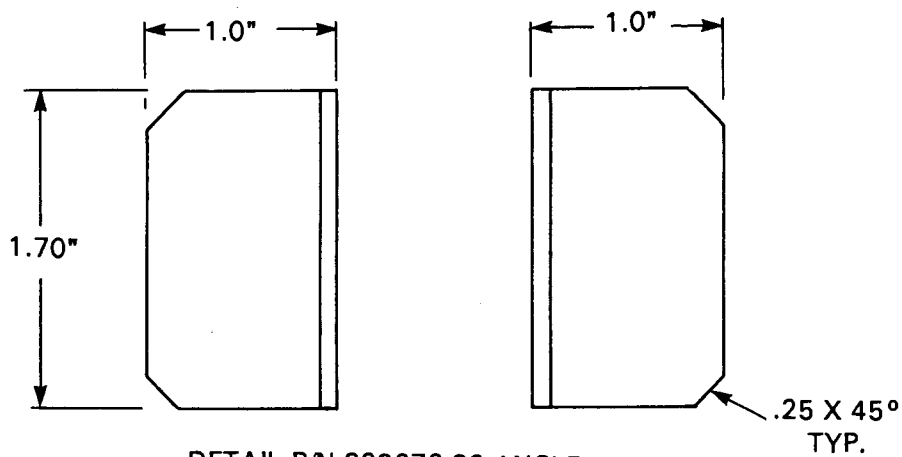
**VIEW ON ARROW "E" (Ref Figure 6)**  
**FIGURE 10**



DETAIL P/N 823676-21 ANGLE  
MFG. FROM AND10134-1602 2024-T3511

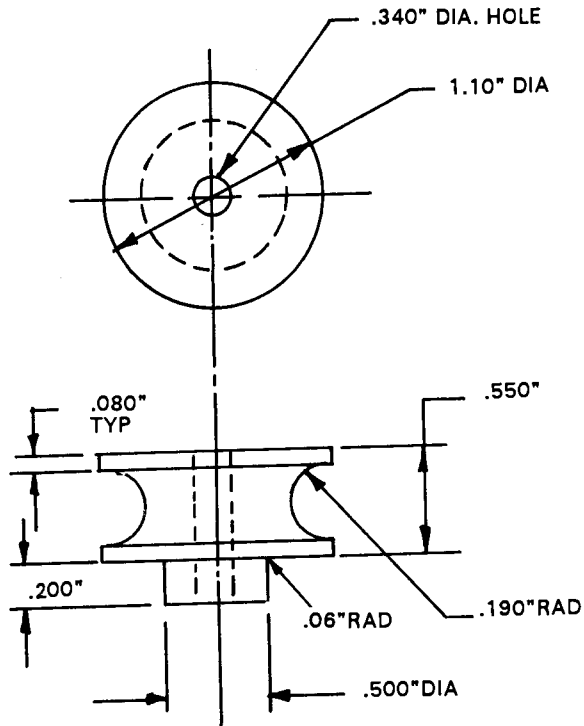


DETAIL P/N 823676-25 ANGLE  
MFG. FROM AND10134-2003 2024-T3511

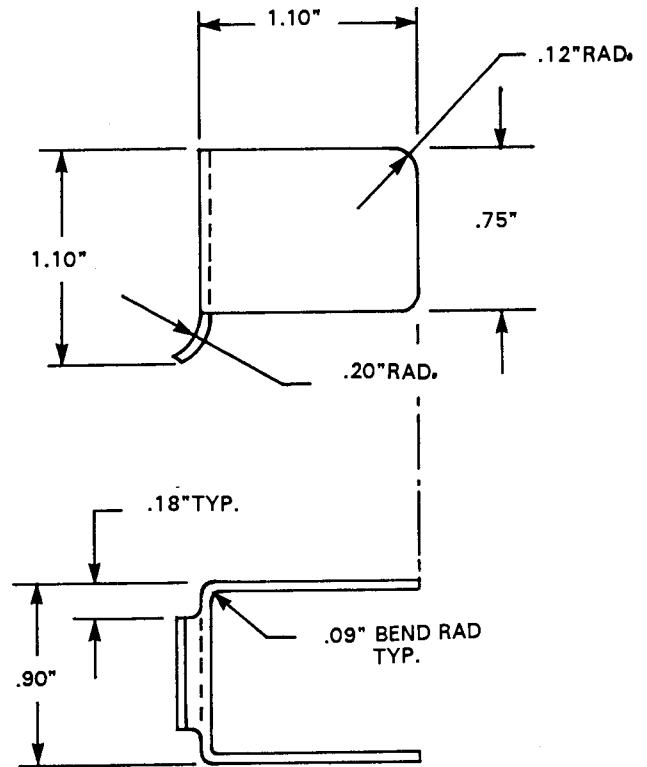


DETAIL P/N 823676-39 ANGLE  
MFG. FROM AND10133-1002 2024-T3511

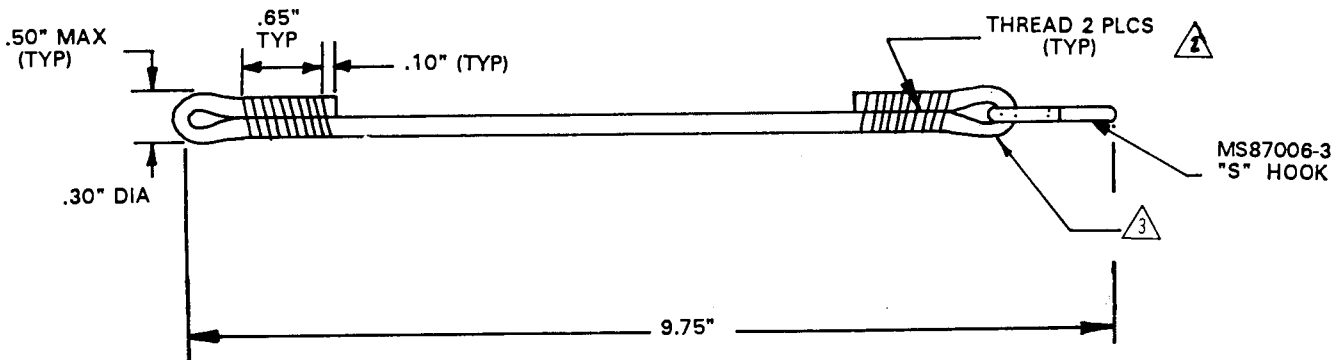
**PART DETAILS**  
**FIGURE 11 (SHEET 1 OF 3)**



DETAIL P/N 823676-37 PULLEY  
MFG. FROM 1.50" DIA  
NYLON 6/6 SPEC. L-P-410 ROD



DETAIL P/N 823676-47 GUARD  
MFG. FROM .050" 2024-0 CLAD  
HEAT TREAT TO T42 AFTER FORMING

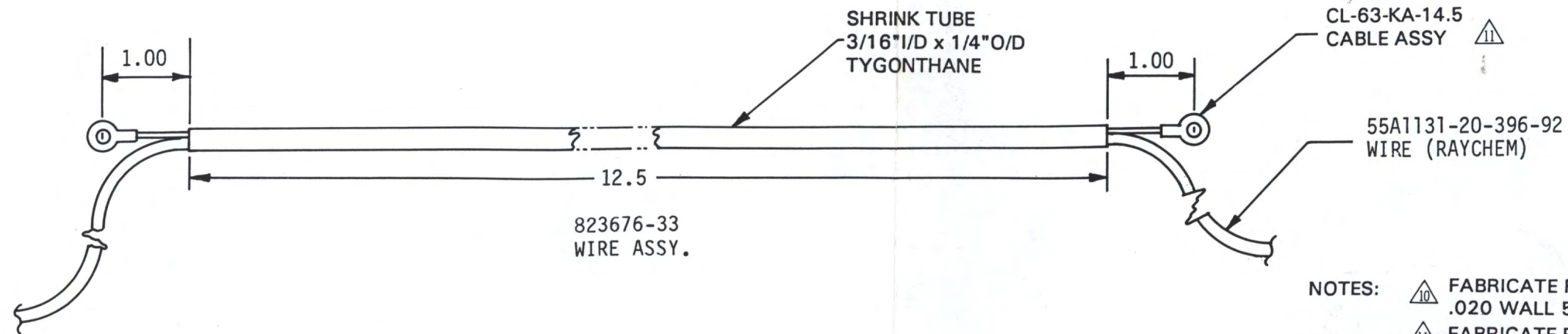
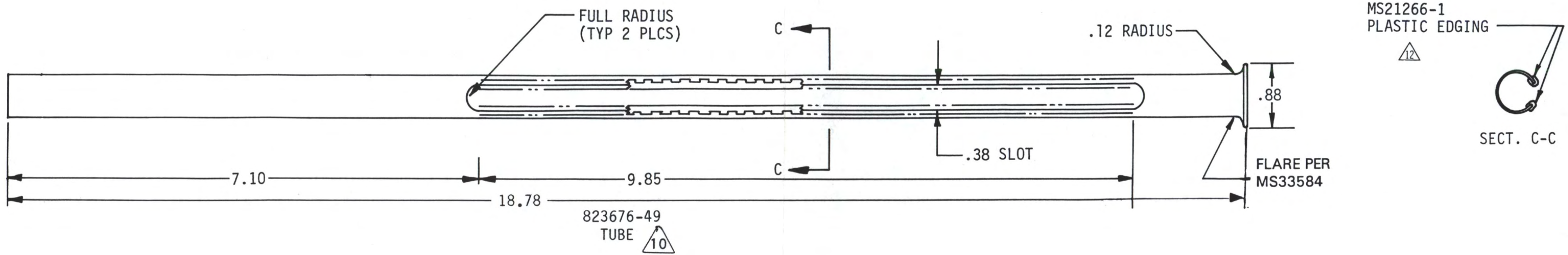


DETAIL P/N 823676-29 BUNGEE ASSEMBLY  
MFG. FROM 3/16" DIA. ELASTIC CORD  
TYPE III MIL-C-5651D

- ① FINISH WITH EPOXY PRIMER PER MIL-P-23377
- ② CLOSE HOOK AFTER ASSEMBLY
- ③ WRAP AND SEAL BUNGEE ENDS USING STANDARD SHOP PRACTICES
- ④ FINISH: CHROMIC ACID ANODIZE PER MIL-A-8625E
- ⑤ FINISH: CONVERSION COATING PER MIL-C-5544

**PART DETAILS**  
**FIGURE 11 (SHEET 2 OF 3)**

DETAILS  
(FOR LOCAL FABRICATION)

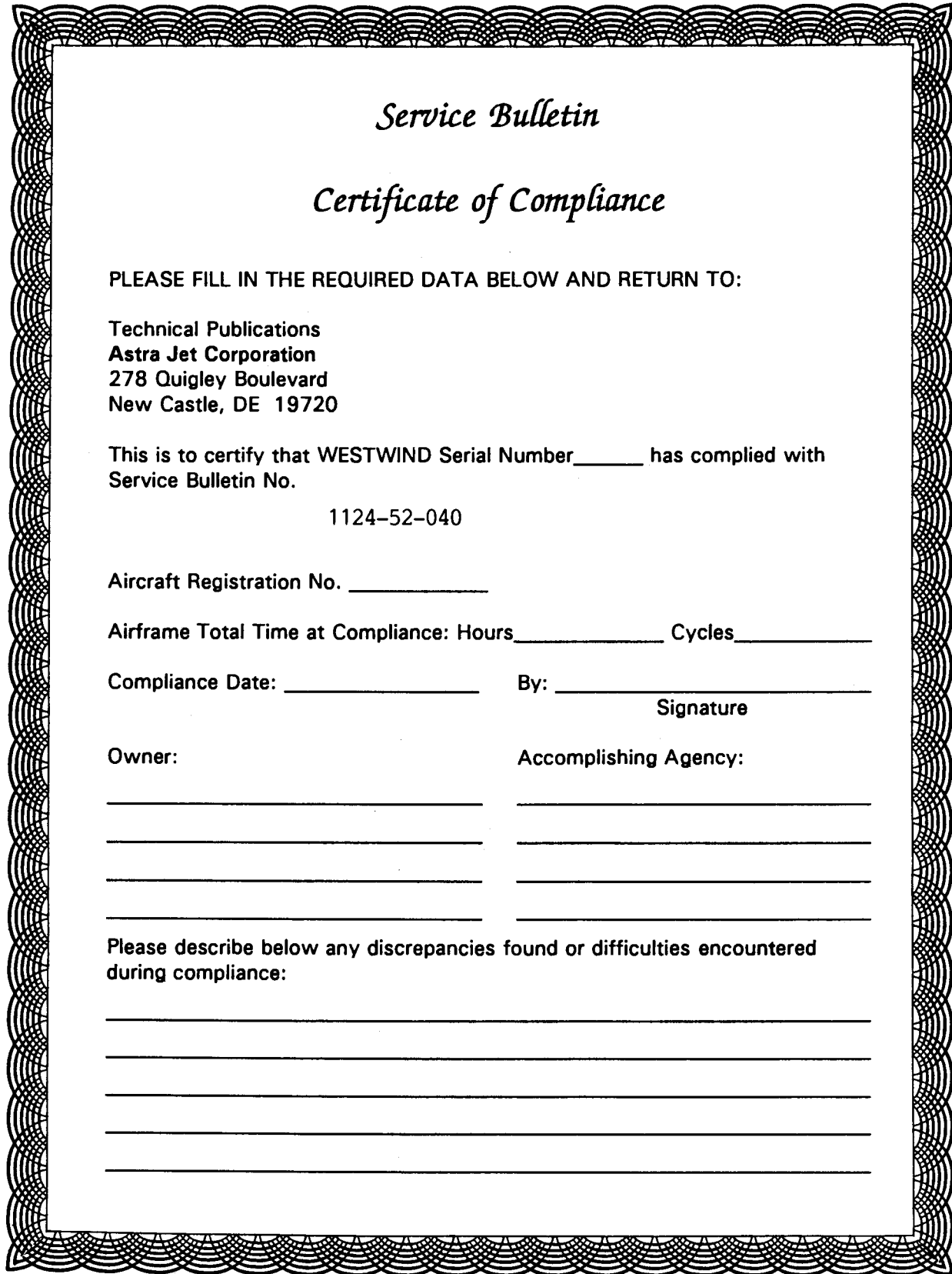


PART DETAILS  
FIGURE 11 (SHEET 3 OF 3)

- NOTES:
- ⑩ FABRICATE FROM .750 OD, .020 WALL 5052-0 FINISH EPOXY PRIMER
  - ⑪ FABRICATE FROM .0625, 7x19 CABLE CRIMP EYES ON ENDS
  - ⑫ BOND WITH E1300L PRESSURE SENSITIVE ADHESIVE



TEAR AT PERFORATION, REMOVE TAPE AT BOTTOM, FOLD, SEAL AND MAIL



*Service Bulletin*

*Certificate of Compliance*

PLEASE FILL IN THE REQUIRED DATA BELOW AND RETURN TO:

Technical Publications  
Astra Jet Corporation  
278 Quigley Boulevard  
New Castle, DE 19720

This is to certify that WESTWIND Serial Number \_\_\_\_\_ has complied with  
Service Bulletin No.

1124-52-040

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance: Hours \_\_\_\_\_ Cycles \_\_\_\_\_

Compliance Date: \_\_\_\_\_

By: \_\_\_\_\_  
Signature

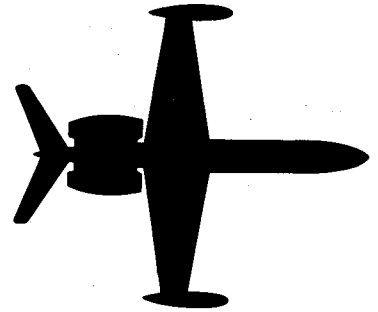
Owner:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Accomplishing Agency:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Please describe below any discrepancies found or difficulties encountered  
during compliance:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# 114-WESTWIND



## SERVICE BULLETIN

OPTIONAL

SERVICE BULLETIN NO. 1124-53-026

April 18, 1985

SUBJECT: CLOSURE OF TAIL CONE VENT HOLES

### 1. PLANNING INFORMATION

#### A. EFFECTIVITY

MODEL 1124/1124A WESTWIND, all serial numbers prior to 426, except 413, 416, 418, 421, 423 and 424.

#### B. REASON

To reduce excessive airflow to electronic equipment.  
To eliminate the collection of rain water and/or moisture in the tail cone area.

#### C. COMPLIANCE

At the operators discretion.

#### D. DESCRIPTION

It has become evident that the vent holes located on the left and right side of the tail cone assembly are not necessary and that they are a source of rain or wash water entry. This service bulletin provides instructions for the approved method of closing these vent holes.

#### E. APPROVAL

The modification procedure described in this service bulletin has been shown to comply with the applicable ICAA/FAA regulations and is IAI Engineering approved.



SUBSIDIARY OF ISRAEL AIRCRAFT INDUSTRIES, LTD.  
BEN GURION AIRPORT, ISRAEL

SB 1124-53-026  
Page 1 of 4

F. MATERIAL

Material required may be obtained through Atlantic Aviation Supply Company, through their authorized dealers or may be locally purchased.

G. TOOLING

None required.

H. WEIGHT & BALANCE

Not applicable.

I. ELECTRICAL LOAD DATA

Not applicable.

J. REFERENCES

None

K. PUBLICATIONS AFFECTED

None

2. ACCOMPLISHMENT INSTRUCTIONS

- A. Remove tail cone assembly from the aircraft in accordance with established maintenance procedures. Disconnect wiring to tail light assembly.
- B. Fabricate two plates per Figure 1 dimensions and material specifications. Drill No. 40 holes in each plate as shown in Figure 1 using standard shop practice for proper spacing and edge distance. Remove burrs from holes, brush Alodine and apply zinc chromate.
- C. Prepare outside surface of tail cone assembly by sanding paint from the vent hole pattern area. Prepare inside surface by cleaning area where plate is to be installed. Remove baffle plate from vent hole area if installed.
- D. Position plates over the vent holes on inside surface of tail cone (Figure 1). Drill #40 holes in tail cone to align with holes in plate. Remove burrs from holes, brush Alodine and apply zinc chromate.

SERVICE BULLETIN NO. 1124-53-026

- E. Fill vent holes with epoxy and sand smooth. Touch up or repaint tail cone assembly as required.
- F. Reconnect tail light wiring and reinstall tail cone assembly.

3. MATERIAL INFORMATION

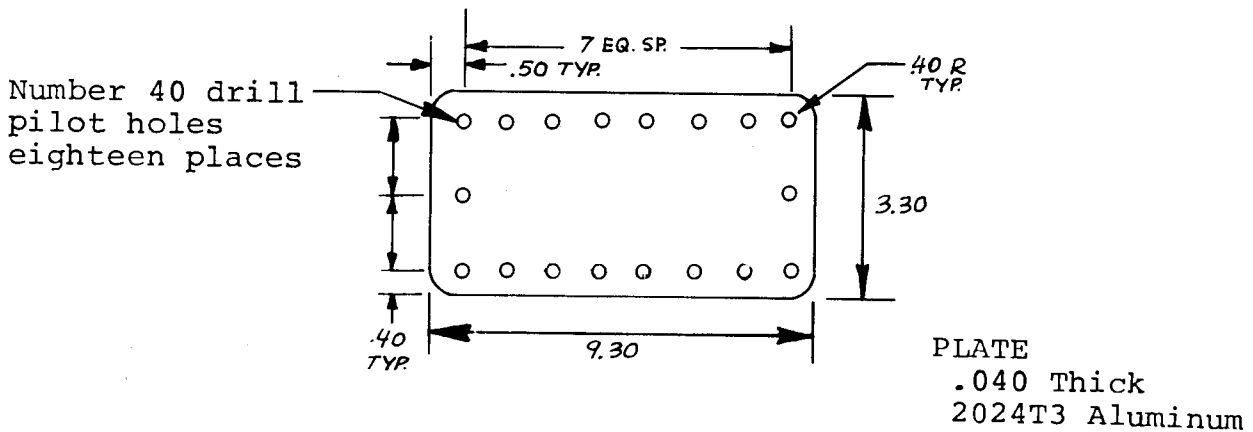
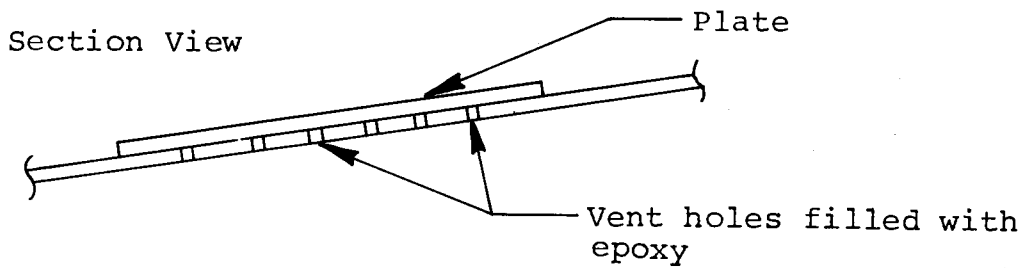
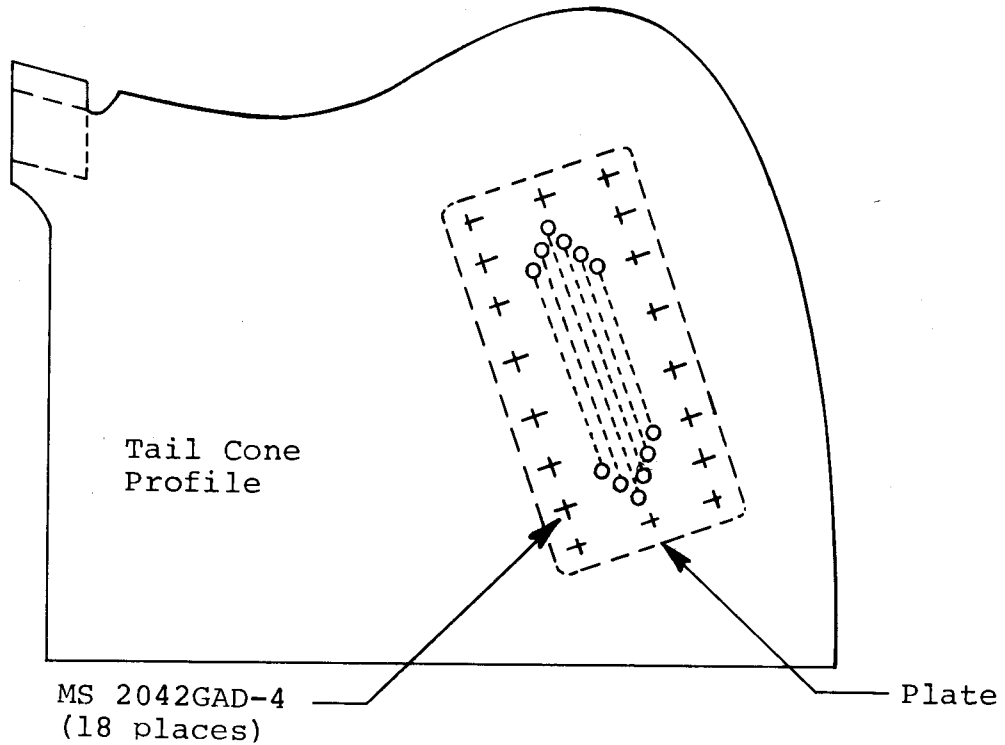
<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
A/R	MS20426AD-3-4	Rivets
2		Plate, (See Fig.1 for details)
1 QT.	No. 01175	Epoxy-White Lightnin' Marson Corp. 130 Crescent Ave. Chelsea, MA 02150  (or equivalent)

4. RECORD COMPLIANCE

Make the following entry in the aircraft log as follows:

Service Bulletin No. 1124-53-026 dated April 18, 1985, titled "Closure of Tail Cone Vent Holes" has been accomplished this date \_\_\_\_\_.

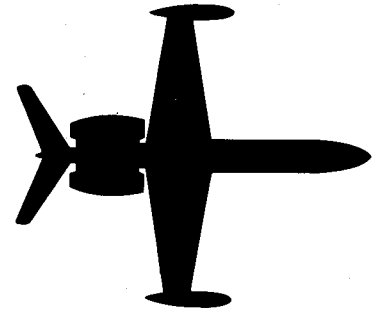
END



CLOSURE OF TAIL CONE VENT HOLES

FIGURE 1

# **24-WESTWIND**



## **SERVICE BULLETIN**

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OPTIONAL

SERVICE BULLETIN NO. 1124-53-068

February 5, 1986

SUBJECT: DOORS - NOSE GEAR TRUNNION ACCESS DOOR INSTALLATION

1. PLANNING INFORMATION

A. EFFECTIVITY

MODEL 1124/1124A WESTWINDS, all serial numbers.

B. REASON

To facilitate access to nose landing gear trunnion grease points.

C. COMPLIANCE

Compliance with this service bulletin is optional.

D. DESCRIPTION

Two access doors are installed on the fuselage L/H and R/H sides in the nose landing gear trunnion area.

E. APPROVAL

This service bulletin has been reviewed by the Israel Civil Aviation Administration (ICAA). The design content conveyed herein complies with the applicable Civil Aviation Regulations and is ICAA approved.

F. MATERIAL

Material required for this service bulletin may be obtained from Atlantic Aviation Supply Company, Wilmington, Delaware or their authorized dealers.



SUBSIDIARY OF ISRAEL AIRCRAFT INDUSTRIES, LTD.  
BEN GURION AIRPORT, ISRAEL

SB 1124-53-068  
Page 1 of 7

G. TOOLING

No special tooling required.

H. WEIGHT AND BALANCE

Not applicable.

I. ELECTRICAL LOAD DATA

Not applicable.

J. REFERENCE

None.

K. PUBLICATIONS AFFECTED

1124 Maintenance Manual  
1124 Illustrated Parts Catalog

2. ACCOMPLISHMENT INSTRUCTIONS

- A. Gain access to nose landing gear area by removing the radome.
- B. Cut access hole in L/H fuselage skin and radius corners. R/H installation typical unless otherwise noted. (Refer to Figure 1.)
- C. Using Figure 1 as a guide, fabricate doublers P/N CMA71518-501-5 out of 2024-0 cond .050 thick clad, doors P/N CMA71518-501-7 and fillers P/N CMA71518-501-9 out of 2024-T3 .050 thick clad; parts shall be true along contour. Doublers to be heat treated 365-385°F for 16 hours to T42. Alodine doublers, fillers and doors. Paint with epoxy primer.
- D. Install doubler, hinge and filler. Hinge pin to be peened before installation. Refer to Figure 1 through 3, picking up existing rivets on forward edge. Using that as a guide for rivet spacing, drill and countersink remaining holes and install MS14218AD4 rivets, using standard shop practices and complete installation.
- E. Install latches on door in two places, drill and countersink holes and install MS20426AD3 rivets. (Refer to Figure 1.)
- F. Install door on hinge assembly, drill and countersink holes and install MS20426AD4 rivets. (Refer to Figure 1.)

SERVICE BULLETIN NO. 1124-53-068

- G. To ensure L/H and R/H sides have proper drainage and to prevent the collection of water, locate and drill 0.25 diameter holes in L/H and R/H fuselage skin at Station Y = 10.80 and Z = 10.05, approximately. Refer to Figure 4 and 1124 Maintenance Manual Chapter 6-00-02, page 5, for station diagram, Alodine holes after drilling.
- H. Install radome and return aircraft to service.

3. MATERIAL INFORMATION

<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
4	H5000-040-064	Latch
2	5823001-33	Hinge Half
2	5823001-31	Hinge Half
2	5823001-23	Hinge Pin
4	MS20426AD4-X	Rivet
44	MS14218AD4-X	Rivet
16	MS20426AD3-X	Rivet

PARTS MAY BE FABRICATED LOCALLY

2	CMA71518-501-9 (.050 thick clad 2024-T3 stock size 0.70 x 1.70)	Filler
2	CMA71518-501-7 (.050 thick clad 2024-T3 stock size 3.50 x 7.00)	Door
2	CMA71518-501-5 (.050 thick clad 2024-0 stock size 5.50 x 8.50) Heat treated to T42.	Doubler

4. RECORD COMPLIANCE

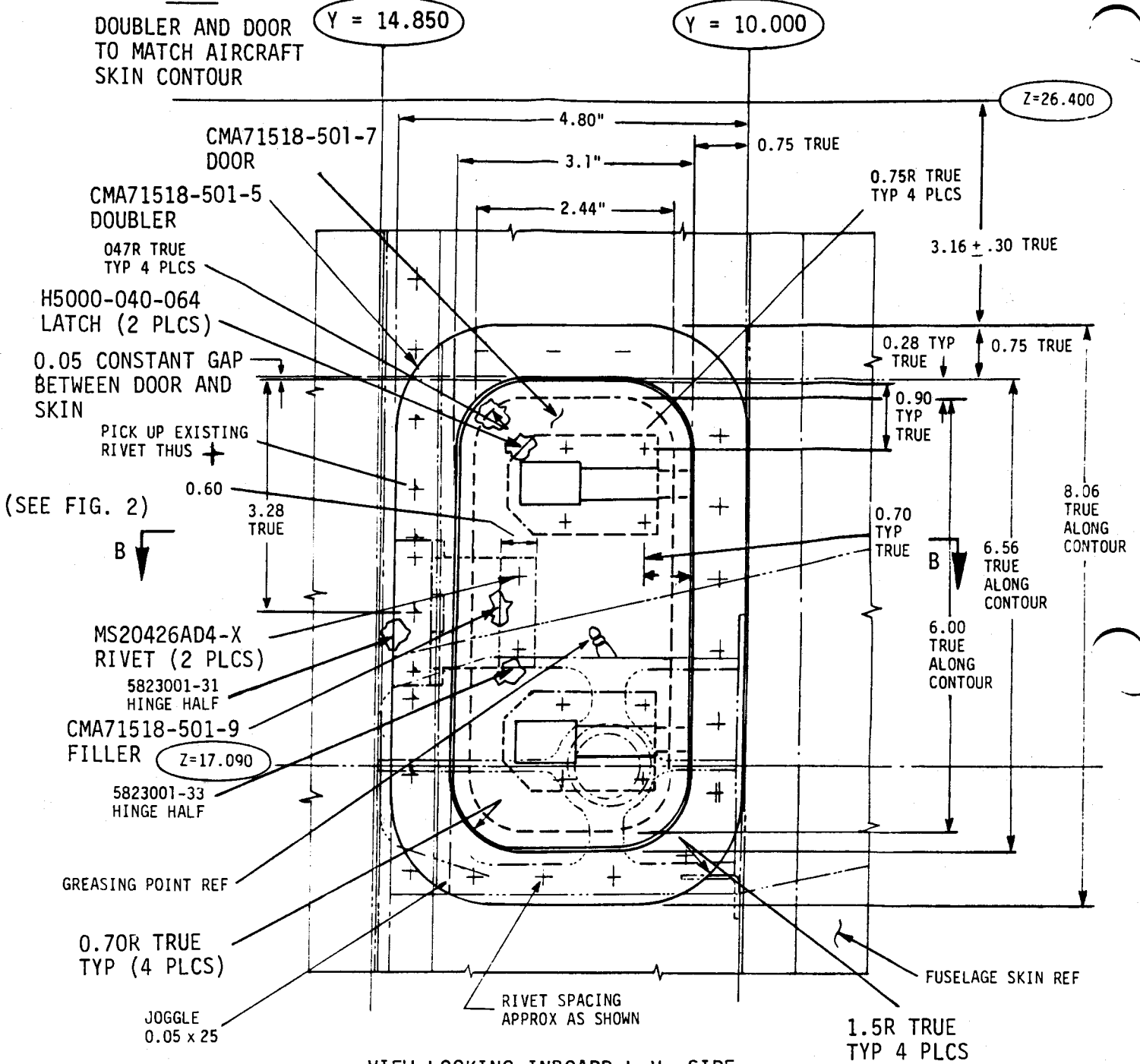
Make the following entry in the aircraft log book:

Service Bulletin No. 1124-53-068 dated February 5, 1986 titled "Doors - Nose Gear Trunnion Access Door Installation" has been accomplished this date \_\_\_\_\_.



**NOTE:**

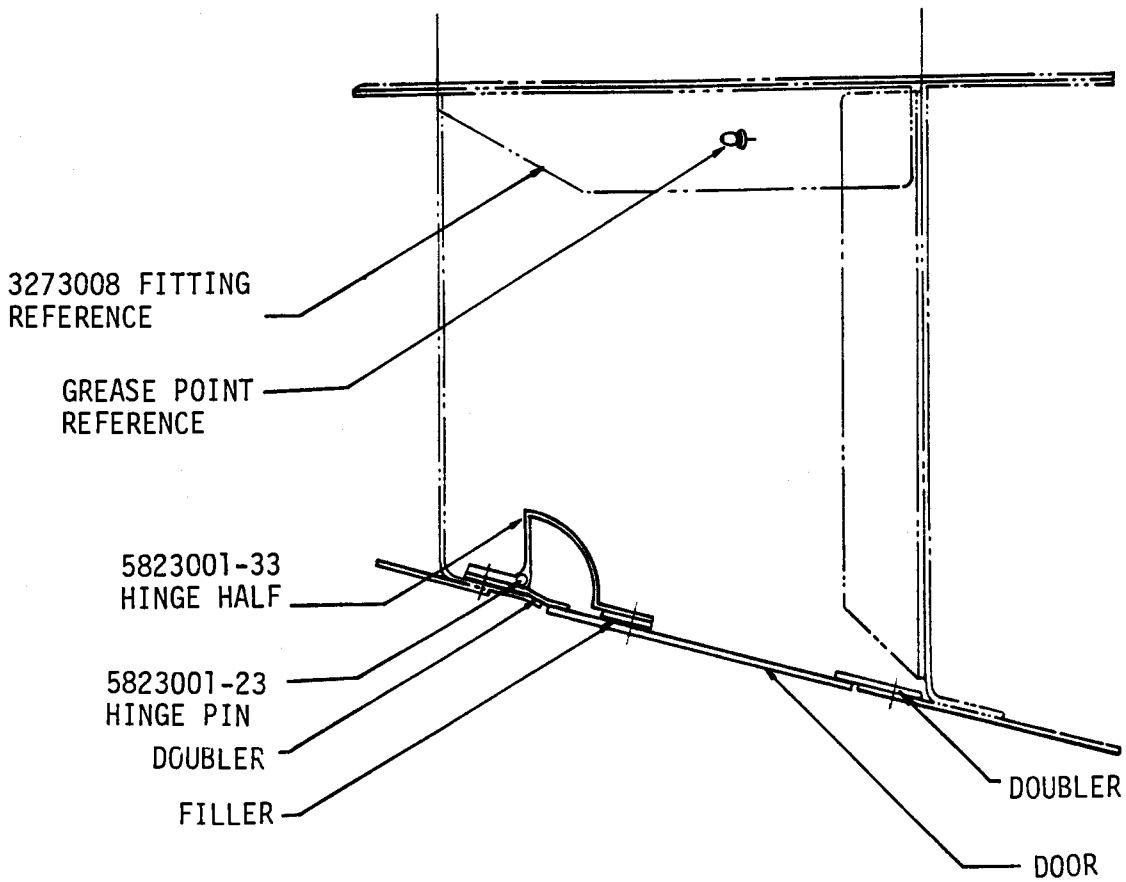
DOUBLER AND DOOR  
TO MATCH AIRCRAFT  
SKIN CONTOUR



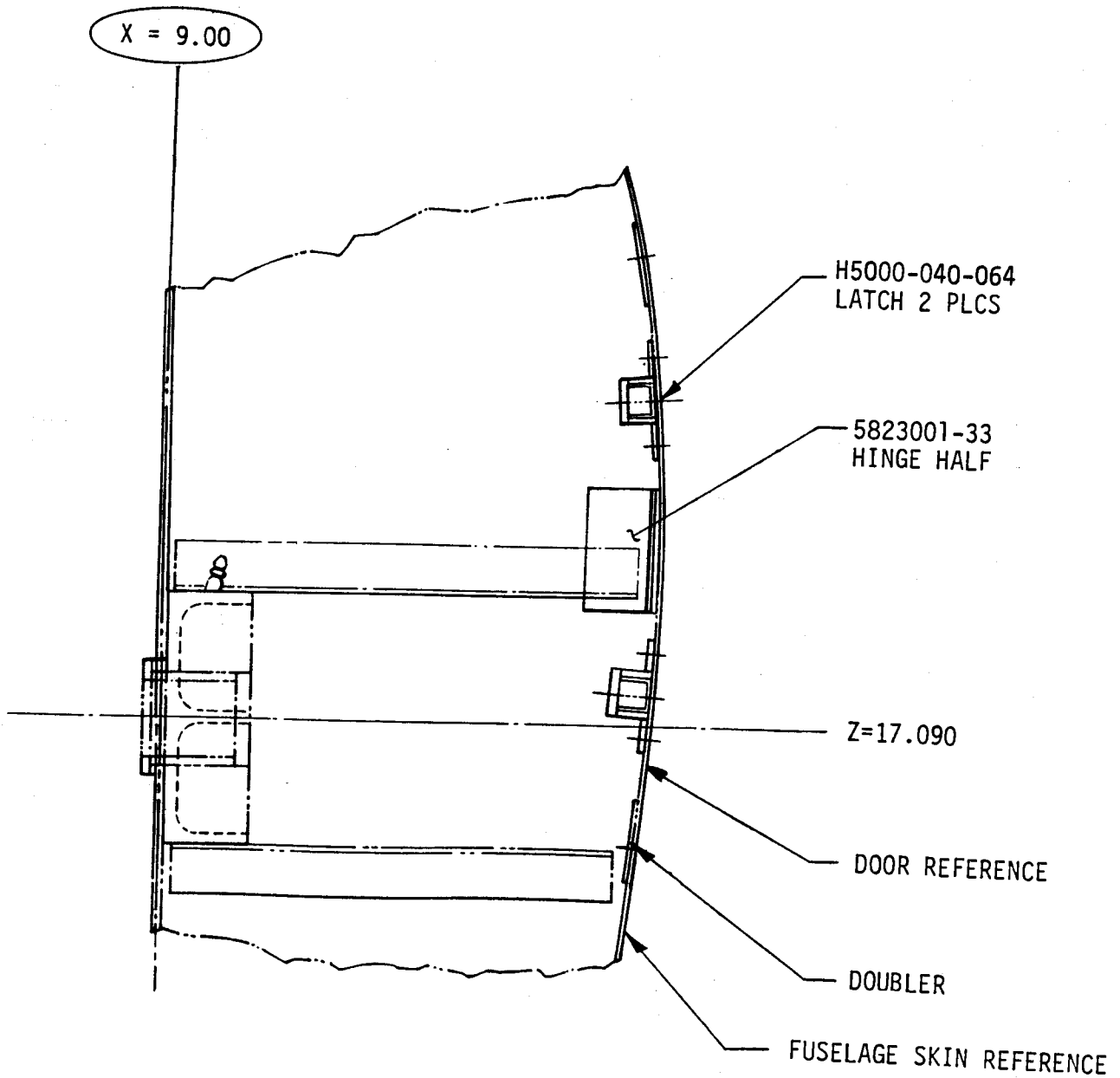
VIEW LOOKING INBOARD L.H. SIDE  
NORMAL TO SKIN

ACCESS DOOR INSTALLATION - LH SHOWN RH OPPOSITE

FIGURE 1



SECTION B-B  
FIGURE 2



VIEW LOOKING AFT ON Y=14.85

FIGURE 3

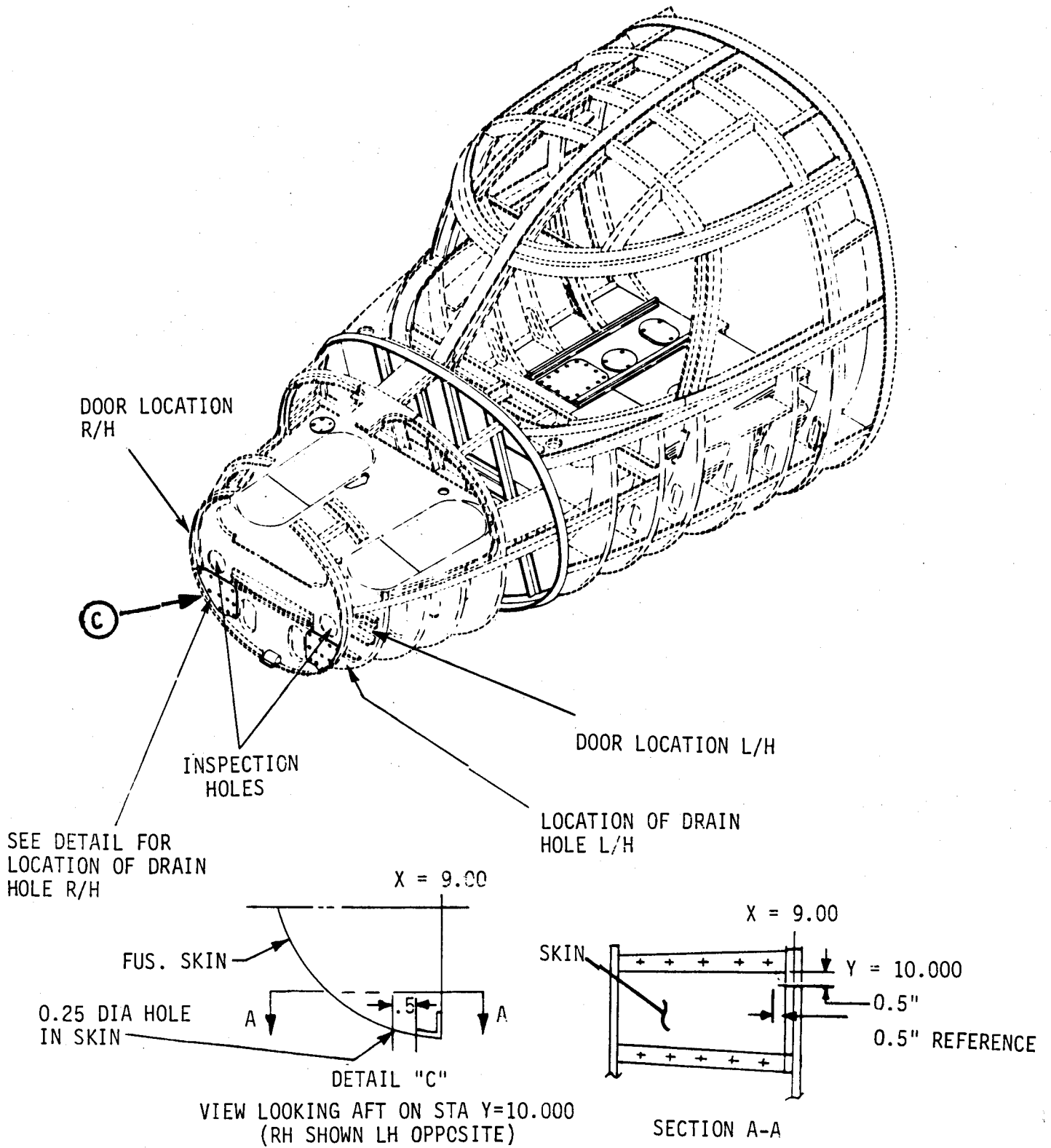


FIGURE 4

February 5, 1986

*Service Bulletin*

A/C S/N \_\_\_\_\_

*Certificate of Compliance*

PLEASE FILL IN THE REQUIRED DATA BELOW AND RETURN TO:

ISRAEL AIRCRAFT INDUSTRIES INTERNATIONAL, INC.  
P.O. BOX 10086  
WILMINGTON, DE 19850  
ATTN: TECHNICAL PUBLICATIONS

This is to certify that Westwind Serial Number \_\_\_\_\_ has complied with Service Bulletin No. 1124-53-068

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance HOURS: \_\_\_\_\_ /CYCLES: \_\_\_\_\_

Compliance Date \_\_\_\_\_ By \_\_\_\_\_  
Signature

OWNER:	ACCOMPLISHING AGENCY:
_____	_____
_____	_____
_____	_____
_____	_____

Please describe below any discrepancies found or difficulties encountered during compliance:

\_\_\_\_\_

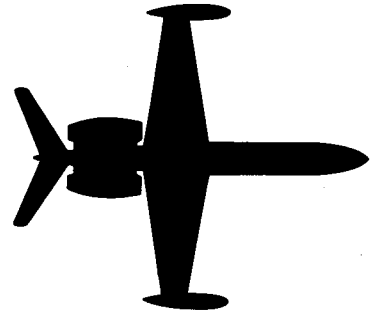
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## **SERVICE BULLETIN**

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### **RECOMMENDED**

**SERVICE BULLETIN NO. 1124-53-101**

**March 7, 1990**

**SUBJECT: FUSELAGE - ENLARGE EXISTING WING ATTACHMENT ACCESS HOLES IN THE AFT PRESSURE BULKHEAD AT FUSELAGE STATION 269.879 FOR STRUCTURAL INSPECTION (AFC 2075).**

**1. PLANNING INFORMATION**

**A. EFFECTIVITY**

Model 1124/1124A Westwind, all serial numbers.

**B. REASON**

To provide access for non-destructive testing of the wing attachment fittings located at the aft pressure bulkhead sta 269.879.

**C. DESCRIPTION**

This service bulletin provides instructions for fabricating the parts and enlarging the four wing attachment fitting access holes to enable access to the fittings for non-destructive testing.

**D. COMPLIANCE**

Compliance is recommended prior to the next scheduled structural non-destructive testing of the wing attachment fittings.

E. APPROVAL

This service bulletin has been reviewed by the Civil Aviation Administration of Israel (CAAI). The design content herein complies with the applicable Civil Aviation Regulations and is CAAI approved.

F. MAN-HOUR REQUIREMENTS

The following information is for planning purposes only:

- (1) Estimated man-hours: 35 hours
- (2) Suggested number of personnel: 2

The above is an estimate only, based on experienced personnel complying with this service bulletin. It is possible, depending on individual experience levels, that additional or fewer man-hours are required to accomplish this bulletin.

G. MATERIAL

<u>QTY.</u>	<u>PARTNUMBER</u>	<u>DESCRIPTION</u>
A/R	.050"2024T3 clad	Aluminum
A/R	Thickness A/R 2024T3 clad	Aluminum (Shim Material)
36	MS21069-L3	Nutplates
4	MS21073-L3	Nutplates
40	MS27039-0808	Screws
40	AN960-D10	Washers
12	CCR274SS3-2	Rivets
68	MS20426AD3	Rivets
A/R	MIL-C-5541	Alodine
A/R		Zinc chromate primer
A/R	PR1422B2	Sealant

The material required to accomplish this service bulletin maybe procured locally.

H. TOOLING

Sheet metal equipment.

I. WEIGHT AND BALANCE

Not applicable.

J. ELECTRICAL LOAD DATA

Not applicable.

K. REFERENCES

1124/1124A Westwind Maintenance Manual.

L. PUBLICATIONS AFFECTED

None.

2. ACCOMPLISHMENT INSTRUCTIONS

**NOTE:** All reworked areas and parts fabricated from 2024T3 clad are to be treated with MIL-C-5541 alodine and coated with zinc chromate primer.

- A. Gain access to the forward side of the aft pressure bulkhead at fuselage station 269.879 by removing the interior furnishings as required. Reference the 1124/1124A Westwind Maintenance Manual, Chapter 25-00-00.
- B. Remove and save the insulating material from the pressure bulkhead as required to gain access to the area to be reworked. Refer to Figure 1.
- C. Locate four existing 2.0" diameter wing attachment access hole covers P/N 313235-69.
  - (1) Remove and discard the four existing covers.
  - (2) Mark a 3.20" diameter circle equi-distant around the four 2.0" diameter holes. Refer to Figure 2.
  - (3) Enlarge the holes to 3.20" diameter. Refer to Figure 2. Smooth the edges and remove all burrs and scratches with #240 grit paper.



SERVICE BULLETIN NO. 1124-53-101

- D. Remove the following rivets from the left and right side of the aft pressure bulkhead and enlarge the existing 16 holes to .190"-.194" diameter according to Figure 2:
- (1) three rivets from left and right rivet row at Z 48" reference.
  - (2) four rivets from left and right rivet row at Z 37.5" reference.
  - (3) one rivet from the left and right angle outboard of the upper access holes at the Z 46" reference.
- E. For aircraft that have doublers on the forward side of the pressure bulkhead above the upper access holes, fabricate two shims, P/Ns 313235-RE5 and -RE6, from 2024T3 clad aluminum, same thickness as the doublers, according to Figures 2 and 3. Install shims and nutplates per the instructions in Figure 2 as follows:
- (1) Clamp the P/Ns 313235-RE5 and -RE6 shims to the pressure bulkhead at their respective upper access holes.
  - (2) Locate and mark rivet and screw holes for the nine MS21069-L3 and one MS21073-L3 nutplates each side.
  - (3) Drill the holes for the nutplate rivets to .093"-.097" diameter and the nutplate screw holes to .190"-.194" diameter.
  - (4) Countersink the rivet holes to 100 degrees.
  - (5) Remove all burrs. Treat reworked areas with alodine and coat with zinc chromate primer.
  - (6) Assemble shims P/Ns 313235-RE5 and -RE6 and nutplates P/Ns MS21069-L3 and MS21073-L3 to the pressure bulkhead with MS20426AD3 rivets and CCR274SS3-2 blind rivets according to Figure 2.
- F. Repeat steps F.(2), (3), (4) and (5) to prepare the lower access holes on all aircraft and the upper access holes on aircraft without doublers for the nutplate installation. Refer to Figure 2.
- (1) Assemble nutplates P/Ns MS21069-L3 and MS21073-L3 to the upper access holes as required with MS20426AD3 rivets and CCR274SS3-2 blind rivets.

SERVICE BULLETIN NO. 1124-53-101

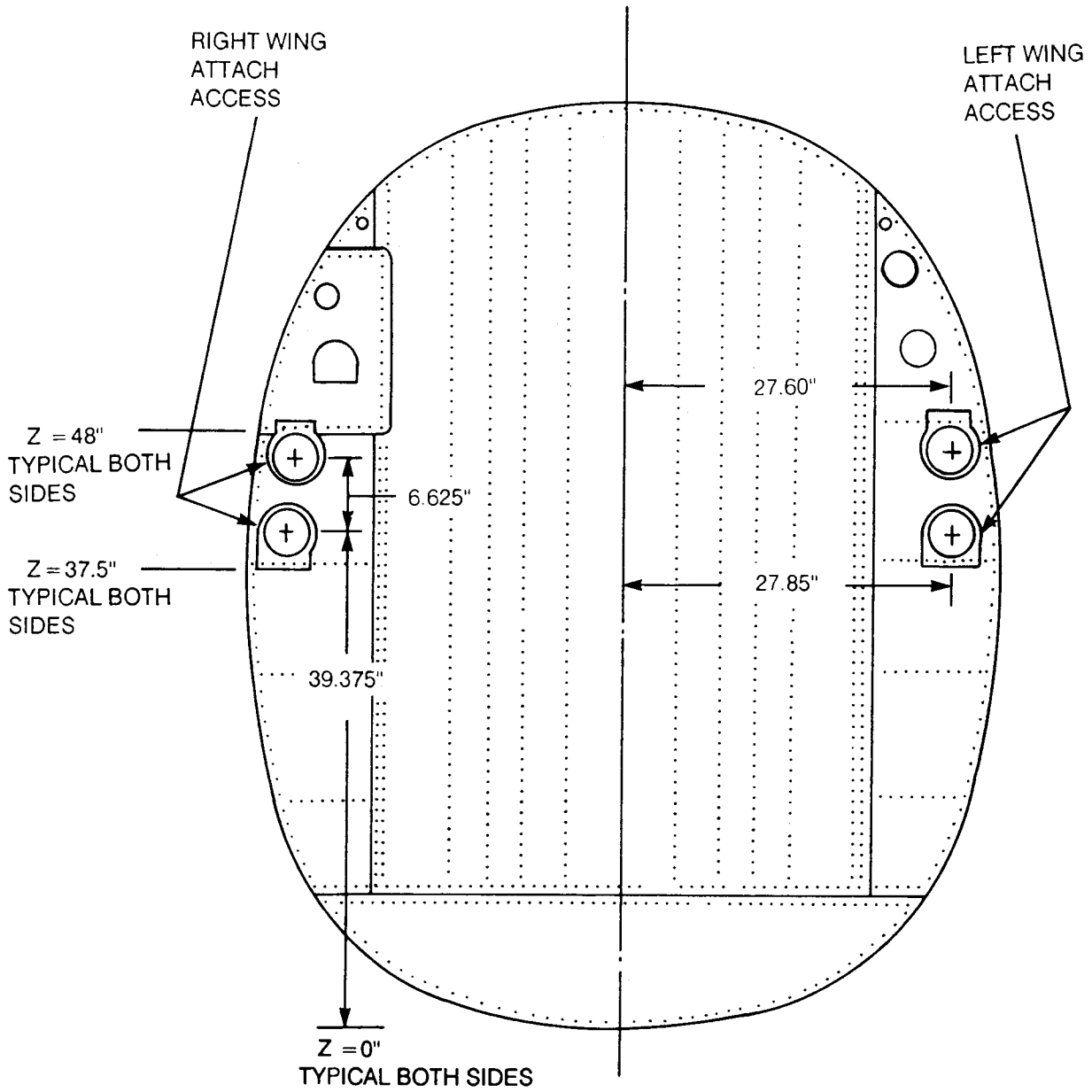
- (2) Assemble nutplates P/Ns MS21069-L3 and MS21073-L3 to the lower access holes of all aircraft with MS20426AD3 rivets.
- G. Fabricate covers P/Ns 313235-RE1, -RE2, -RE3 and -RE4 from .050" 2024T3 clad aluminum. Drill screw attach holes .190"-.194" diameter according to Figures 2 and 3. Smooth all edges, remove all burrs, treat with alodine, and coat with zinc chromate primer.
- H. Install covers with P/N MS27039-0808 screws.
- I. Seal fraying surfaces of shims (if installed), covers and screw heads with PR1422B2.
- J. Install the insulating material that was removed in Step 2.B.
- K. Install the interior furnishings that were removed in Step 2.A. Reference the 1124/1124A Westwind Maintenance Manual.

3. RECORD COMPLIANCE

- A. Make the following entry in the aircraft log book:

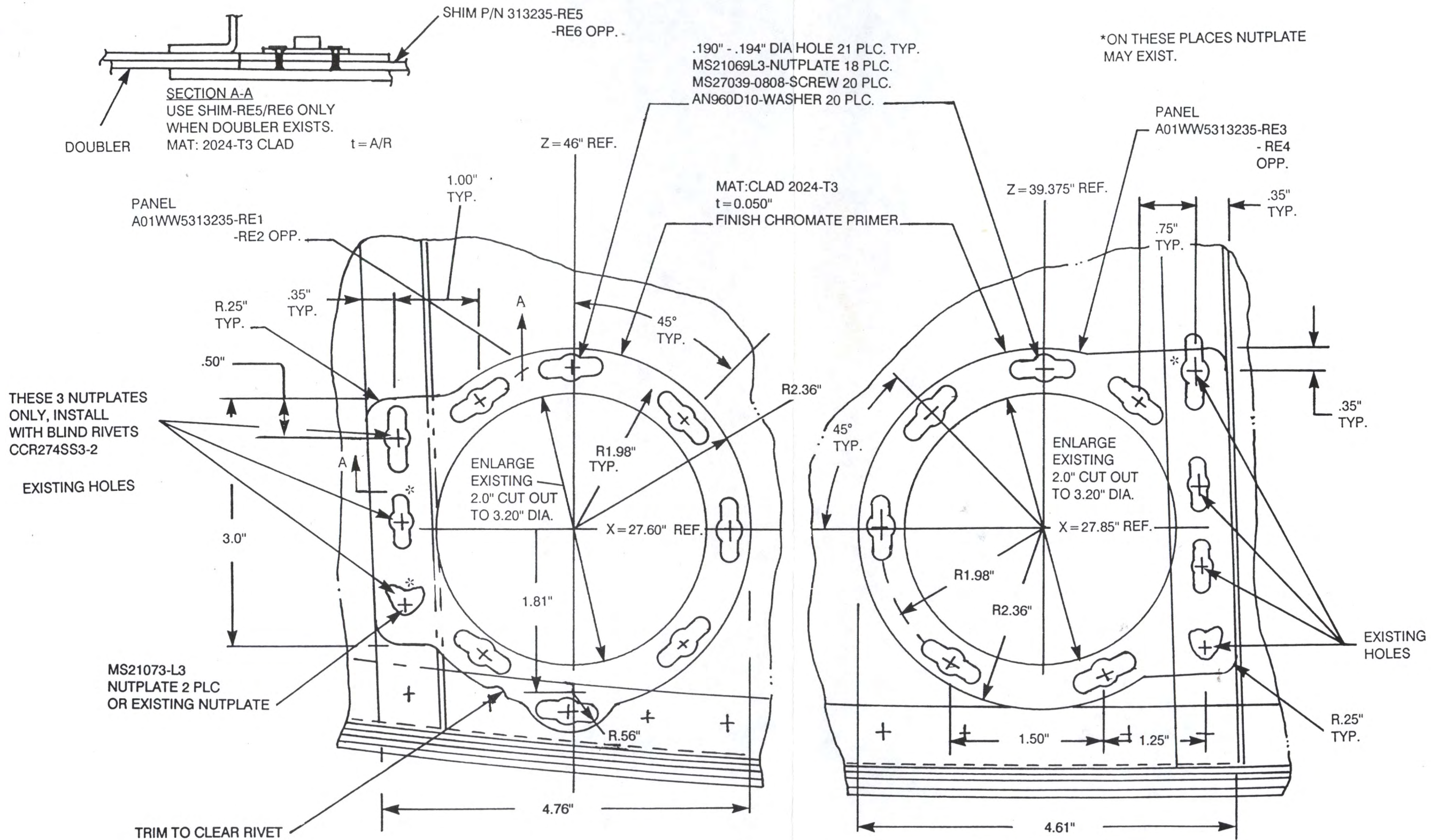
Service Bulletin 1124-53-101, dated March 7, 1990, titled "Fuselage - Enlarge Existing Wing Attachment Access Holes in the Aft Pressure Bulkhead at Fuselage Station 269.879," has been accomplished this date \_\_\_\_\_.

- B. Complete the attached Certificate of Compliance and return to Astra Jet Corporation in Wilmington, Delaware.



AFT PRESSURIZED BULKHEAD ASSEMBLY  
VIEW - LOOKING AFT  
STA 269.879

Figure 1



FWD. WEB, VIEW LOOKING FWD. L/H SIDE, R/H SIDE OPPOSITE

Figure 2

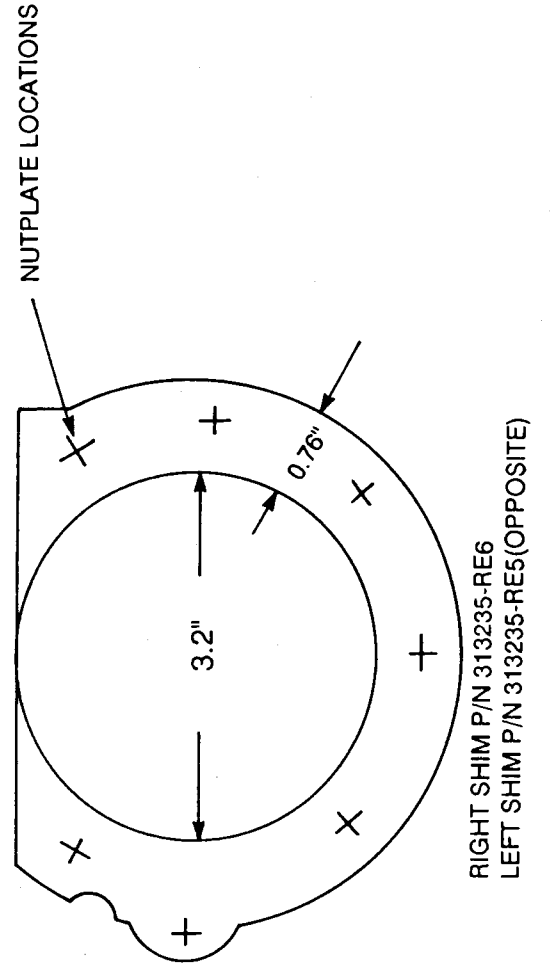
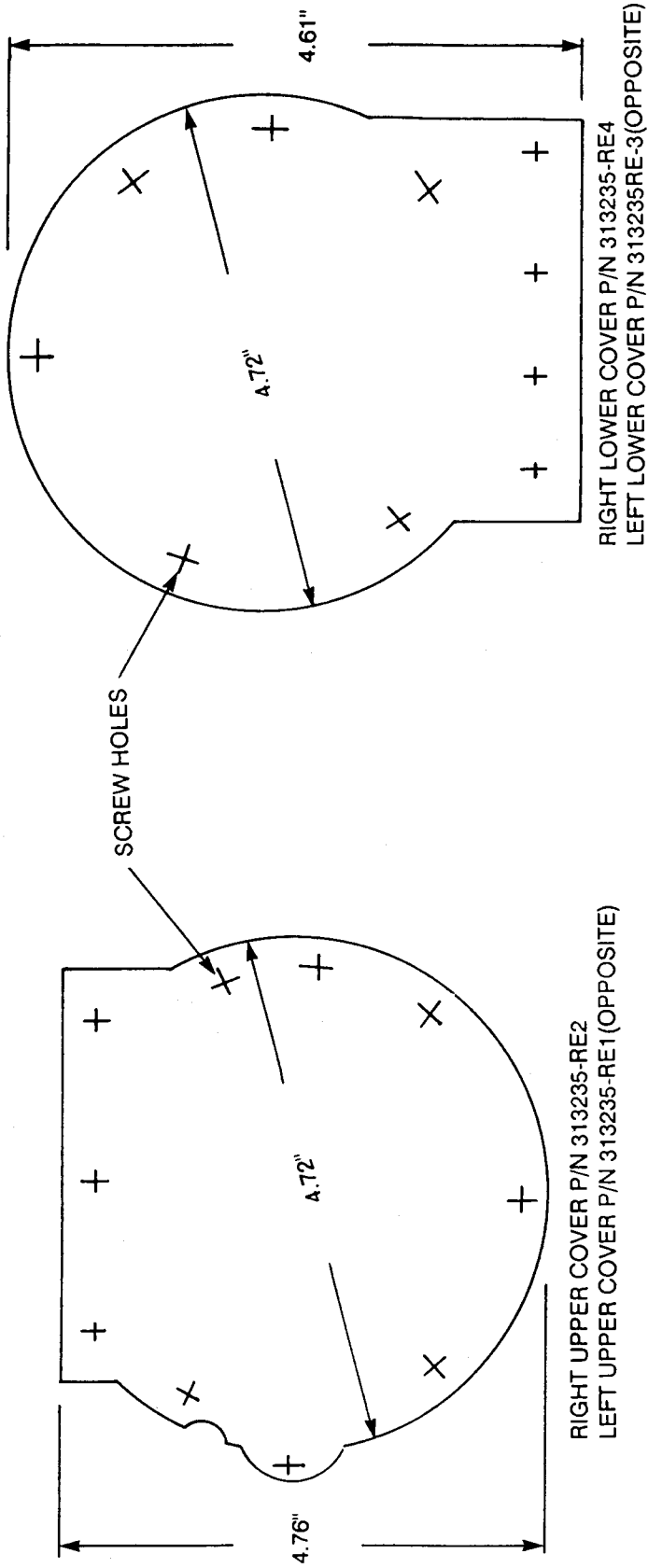


Figure 3

*Service Bulletin*

A/C S/N \_\_\_\_\_

*Certificate of Compliance*

PLEASE FILL IN THE REQUIRED DATA BELOW AND RETURN TO:

ISRAEL AIRCRAFT INDUSTRIES INTERNATIONAL, INC.  
P.O. BOX 10086  
WILMINGTON, DE 19850  
ATTN: TECHNICAL PUBLICATIONS

This is to certify that Westwind Serial Number \_\_\_\_\_ has complied with Service Bulletin No.

1124-53-101

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance HOURS: \_\_\_\_\_ /CYCLES: \_\_\_\_\_

Compliance Date \_\_\_\_\_ By \_\_\_\_\_  
Signature

OWNER:	ACCOMPLISHING AGENCY:
_____	_____
_____	_____
_____	_____
_____	_____

Please describe below any discrepancies found or difficulties encountered during compliance:

\_\_\_\_\_

\_\_\_\_\_

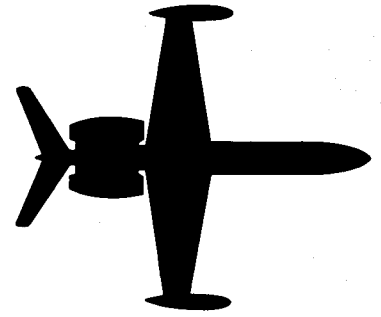
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TEAR AT PERFORATION, REMOVE TAPE AT BOTTOM, FOLD, SEAL AND MAIL



## **SERVICE BULLETIN**

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### **OPTIONAL**

**SERVICE BULLETIN NO. 1124-53-102**

**October 9, 1991**

**SUBJECT: FUSELAGE - DRAIN VALVES INSTALLATION IN THE FUSELAGE LOWER SKIN. (AFC 2076)**

**1. PLANNING INFORMATION**

**A. EFFECTIVITY**

MODEL 1124/1124A WESTWIND, all serial numbers.

**B. REASON**

To provide additional drains in the affected area to ensure proper and positive drainage of any fluid accumulation under the passenger compartment floor.

**C. COMPLIANCE**

The compliance is optional and may be accomplished at the operator's discretion.

**D. DESCRIPTION**

Provides instructions for installing two differential pressure drain valves and doublers.

**E. APPROVAL**

This service bulletin has been reviewed by the Civil Aviation Administration of Israel (CAAI). The design content herein complies with the applicable Civil Aviation Regulations and is CAAI approved.

**F. MAN-HOUR REQUIREMENTS**

The following information is for planning purposes only:

- (1) Estimated man-hours: 24
- (2) Suggested number of personnel: 2

The above is an estimate only, based on experienced personnel complying with this service bulletin. It is possible, depending on individual experience levels, that additional or fewer man-hours are required to accomplish this bulletin.

**G. MATERIAL**

<u>QTY.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
2	V25W784025-003	VALVE - BASIC
2	V25W784025-005	RETAINER
A/R	2024-T3 CLAD	.063" ALUMINUM
4	NAS1739B-5	RIVET
28	MS20426AD-4	RIVET
A/R	PR1422B	SEALANT
A/R	MIL-C-5541	CHROMATE COATING

Material required may be obtained through Astra Jet Corporation, New Castle, Delaware, or authorized ASTRA/WESTWIND Service Centers.

**H. TOOLING**

No special tooling required.

**I. WEIGHT AND BALANCE**

Not applicable.

**J. ELECTRICAL LOAD DATA**

Not applicable.

**K. REFERENCES**

1124/1124A Westwind Maintenance Manual, Chapter 21, pertaining to ground pressurization.



L. PUBLICATIONS AFFECTED

None

2. ACCOMPLISHMENT INSTRUCTIONS

- A. Jack aircraft to provide sufficient ground to fuselage working clearance.
- B. Remove cockpit furnishings and floor to gain access to station 70.5.
- C. Remove cabin or lavatory furnishings and floor to gain access to station 265.0.
- D. Locate and cut out 0.90 inch  $\pm$  .010 diameter holes in the fuselage skin for the two drain valve assemblies of P/N V25W784025-005 retainer and -003 basic valve as follows:
  - (1) Locate the center of the forward hole 5.15 inches forward of station 75.65, and 3.50 inches to the right of the fuselage center line. Refer to Detail "A" of Figures 1 and 2.
  - (2) Locate the center of the aft hole at station 265.0, 0.50 inches to the right of the fuselage center line. Refer to Detail "B" of Figures 1 and 2.
- E. Fabricate two -RE3 doublers from the .063 inch 2024-T3 clad and drill fourteen (14) 0.125 inch and two (2) 0.156 inch diameter rivet holes in each doubler to the dimensions given in Detail "A" and "B" of Figure 2.
- F. Using the doublers as a template, drill fourteen (14) 0.125 inch and two (2) 0.156 inch diameter rivet holes through the fuselage skin at each doubler location. Refer to Figure 1, Details "A", "B", and "C" and Figure 2 Details "A" and "B" for doubler alignment.
- G. Countersink all the rivet holes on the outer surface of the doublers, and the four inner diameter rivet holes on the inner surface of the fuselage skin. Refer to Figure 2 Details "A" and "B".
- H. Drill two .156 inch diameter holes in each drain valve retainer P/N V25W784025-005. Refer to Figure 2 Details "A" and "B".
- I. Clean the surfaces of the doublers with MEK and wipe dry with clean cheese cloth. Coat the surfaces with MIL-C-5541 chromate coating.

SERVICE BULLETIN NO. 1124-53-102

- J. Brush coat the inner surfaces of the doublers with PR1422B sealant. Assemble and rivet the -RE3 doubler and the retainer P/N V25W784025-005 to the fuselage skin. Apply a fillet of PR1422 sealant around the outer diameter of the doubler and remove the excess sealant. Refer to Figure 1 Detail "C", and Figure 2 Details "A" and "B".
  - K. After the sealant has dried, finish the reworked areas with matching paint.
  - L. Assemble valves, P/N V25W784025-003 into the retainers, P/N V25W784025-005.
  - M. Remove aircraft from jacks.
  - N. Pressurize aircraft in accordance with the 1124/1124A Westwind Maintenance Manual and check the drain valves for closure at 2 PSID.
  - O. Install the floor panels and furnishings that were removed in steps 2.B. and 2.C.
3. RECORD COMPLIANCE
- A. Make the following entry in the aircraft log book:  
  
Service Bulletin 1124-53-102 dated October 9, 1991, titled "Fuselage - Drain Valves Installation in the Fuselage Lower Skin (AFC 2076)," has been accomplished this date \_\_\_\_\_.
  - B. Complete the attached Certificate of Compliance and return to Astra Jet Corporation in New Castle, Delaware.

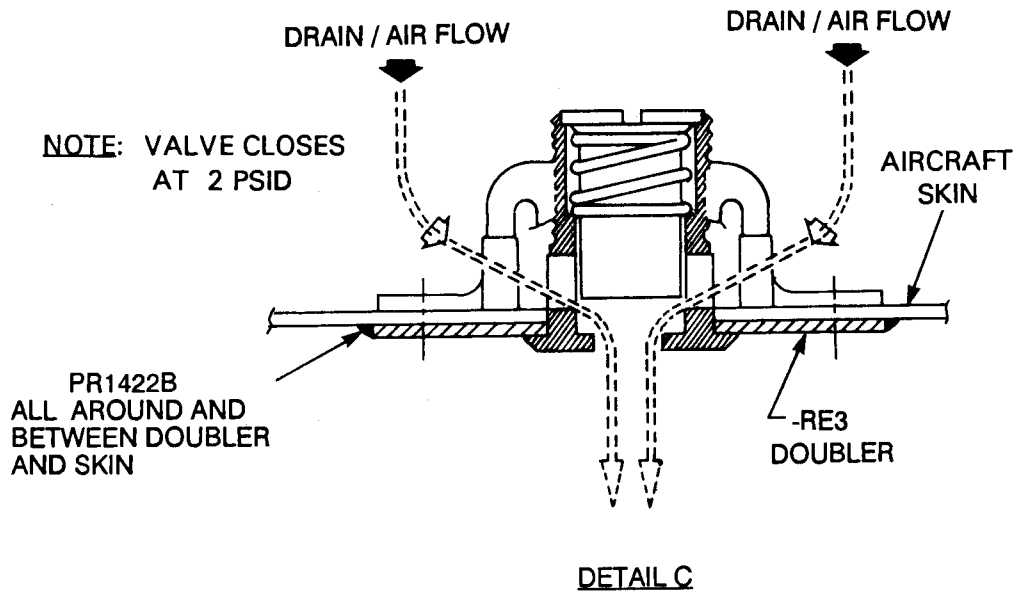
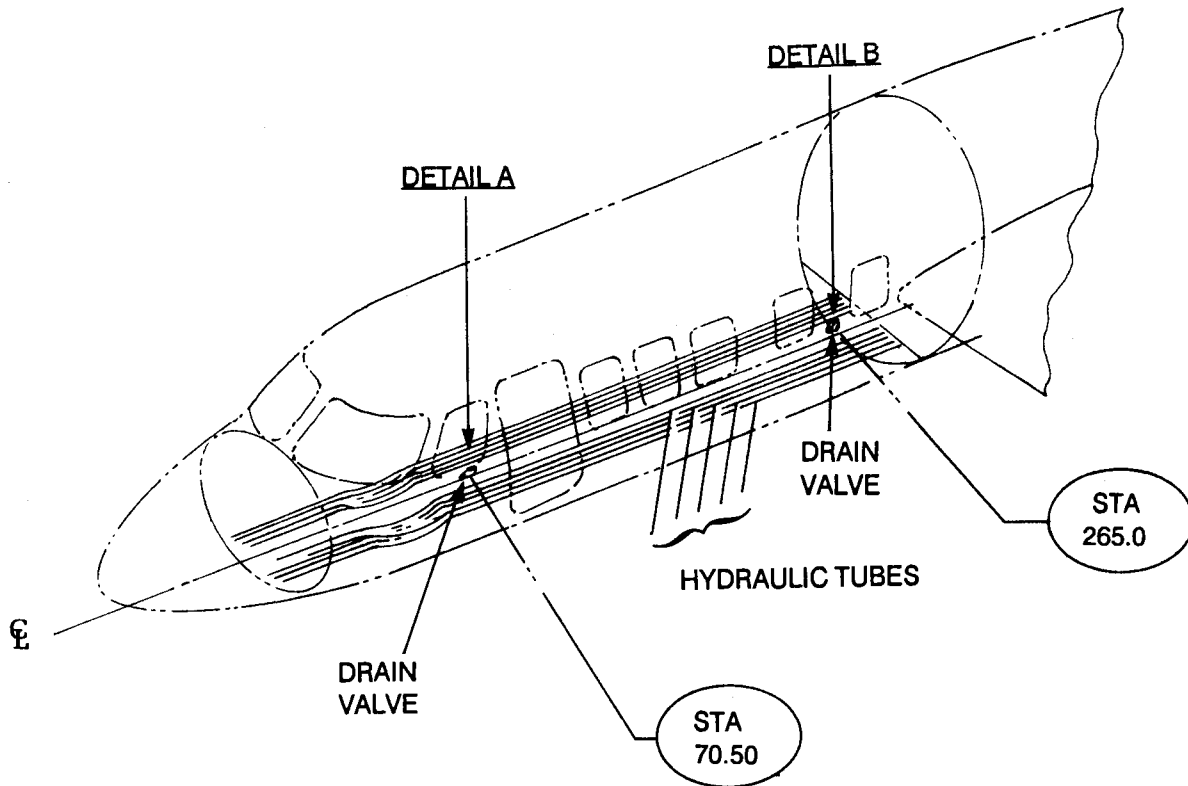


FIGURE 1

SERVICE BULLETIN NO. 1124-53-102

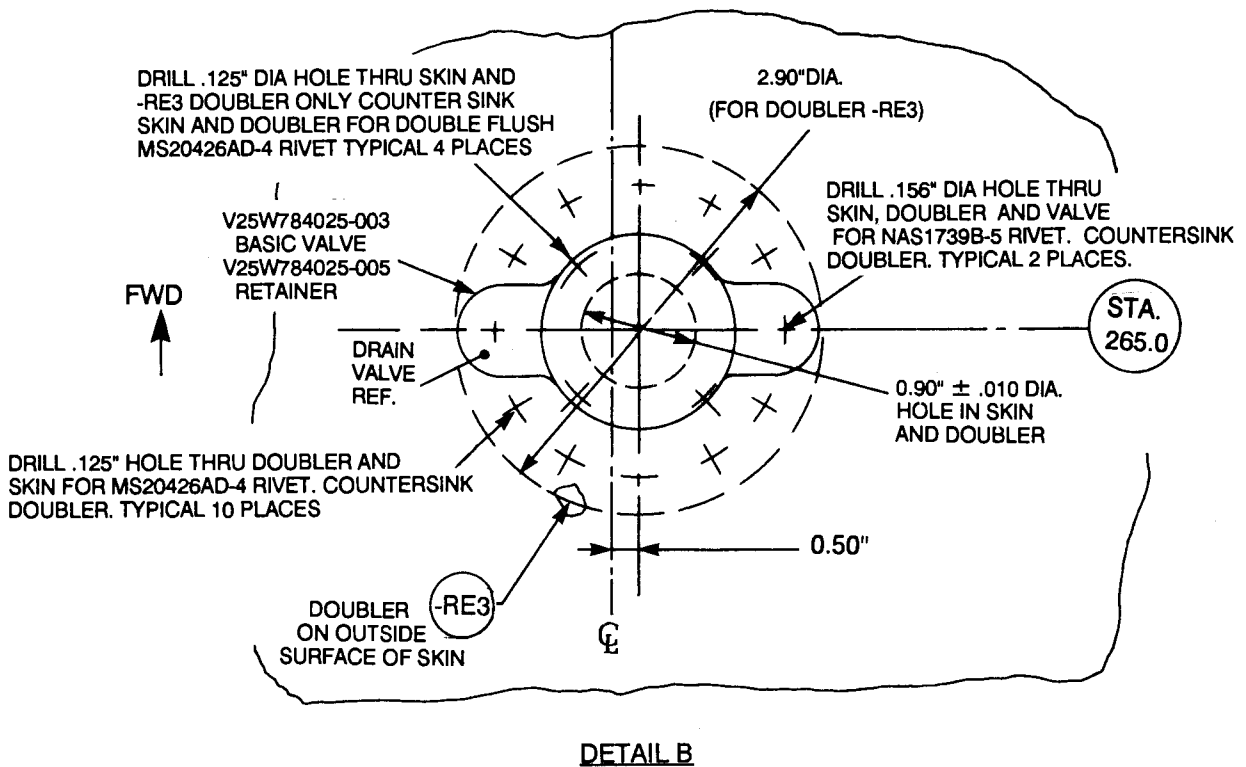
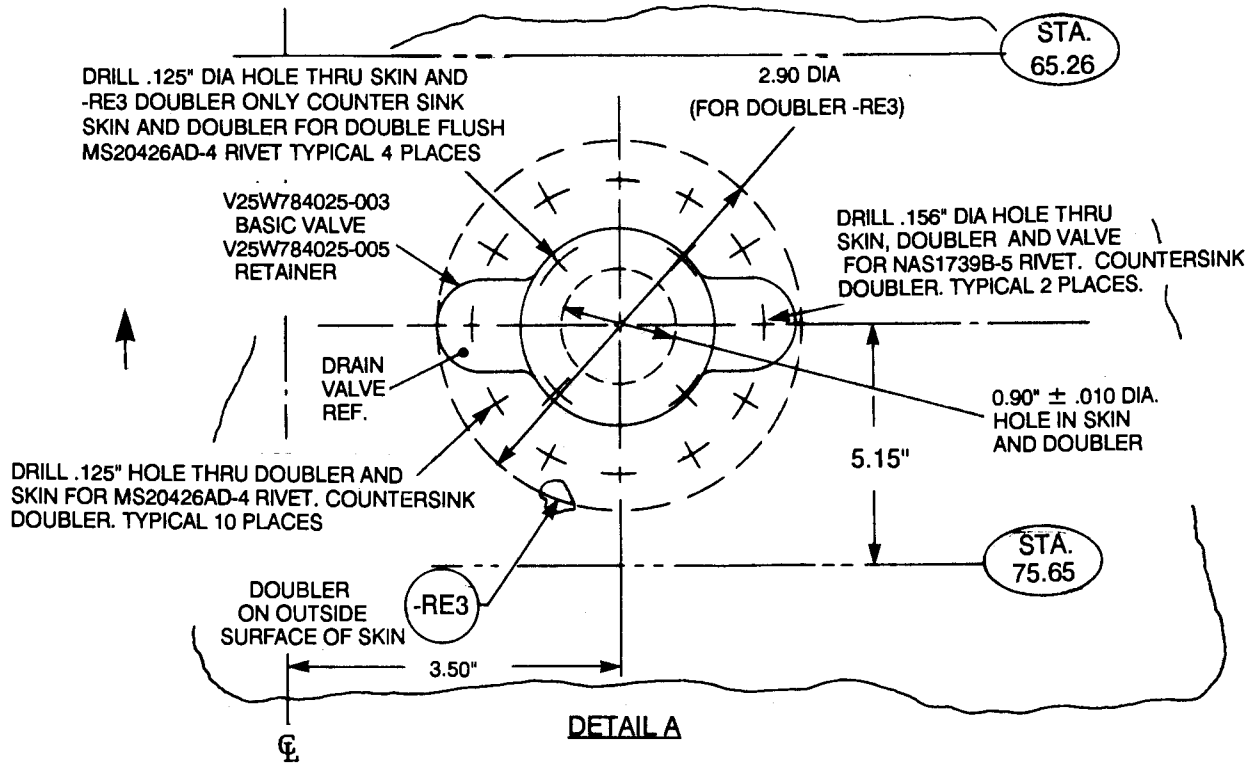


FIGURE 2

TEAR AT PERFORATION, REMOVE TAPE AT BOTTOM, FOLD, SEAL AND MAIL

*Service Bulletin*

*Certificate of Compliance*

PLEASE FILL IN THE REQUIRED DATA BELOW AND RETURN TO:

Technical Publications  
Astra Jet Corporation  
278 Quigley Boulevard  
New Castle, DE 19720

This is to certify that WESTWIND Serial Number \_\_\_\_\_ has complied with  
Service Bulletin No.

1124-53-102

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance: Hours \_\_\_\_\_ Cycles \_\_\_\_\_

Compliance Date: \_\_\_\_\_

By: \_\_\_\_\_  
Signature

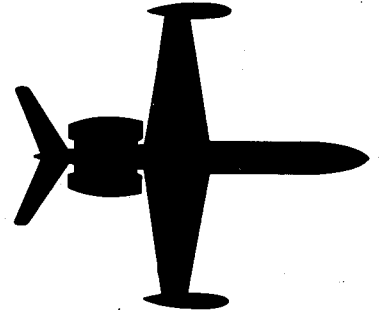
Owner:  
\_\_\_\_\_  
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Accomplishing Agency:  
\_\_\_\_\_  
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Please describe below any discrepancies found or difficulties encountered  
during compliance:

\_\_\_\_\_  
\_\_\_\_\_  
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# **24-WESTWIND**



## **SERVICE BULLETIN**

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### **OPTIONAL**

**SERVICE BULLETIN NO. 1124-54-112**

**October 7, 1992**

**SUBJECT: NACELLES - COWL DOOR CORROSION - INSPECTION, PREVENTION AND REPAIR**

**1. PLANNING INFORMATION**

**A. EFFECTIVITY**

**MODEL 1124/1124A WESTWIND, all serial numbers.**

**B. REASON**

Grumman Aerospace has received reports from various model aircraft operators that corrosion has been found in cowl door skins in the area covered by stainless steel fire shields. Westwind engine cowlings are of similar design to those affected by corrosion.

**C. DESCRIPTION**

Inspect for corrosion, repair and apply preventative coating to inhibit future corrosion.

**D. COMPLIANCE**

Compliance is optional and at the operator's convenience.

**E. APPROVAL**

This service bulletin has been reviewed by the Civil Aviation Administration of Israel (CAAI). The design content herein complies with the applicable Civil Aviation Regulations and is CAAI approved.

F. MAN-HOUR REQUIREMENTS

The following information is for planning purposes only:

- (1) Estimated man-hours: Inspection -8  
Repair - 8 Per Cowl Door
- (2) Suggested number of personnel: 1

The above is an estimate only, based on experienced personnel complying with this service bulletin. It is possible, depending on individual experience levels, that additional or fewer man-hours are required to accomplish this bulletin.

G. MATERIAL

<u>QTY.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
A/R	1124/25-B10300	SKIN/DOUBLER SET
1 pt.	GM41073B2 (PR1741C2)	SEALANT
A/R	NAS1097AD4	RIVET
A/R	1200	ALODINE
A/R		PRIMER, SKYDROL RESISTANT

Material required may be obtained through Astra Jet Corporation, New Castle, Delaware, or authorized ASTRA/WESTWIND Service Centers.

H. TOOLING

No special tooling required.

I. WEIGHT AND BALANCE

Not applicable.

J. ELECTRICAL LOAD DATA

Not applicable.

K. REFERENCES

None

**L. PUBLICATIONS AFFECTED**

None

**2. ACCOMPLISHMENT INSTRUCTIONS**

**PART A - CORROSION INSPECTION AND PREVENTION**

- (1) Remove cowl doors from aircraft and place in a suitable cradle or other device to prevent damage to doors.
- (2) Drill out fasteners attaching outer skin to stringers as far as is necessary to gain access to the inside of the door outer skin, behind the stainless steel fire shield (approximately 12 inches from door edge). Refer to Figure 1.
- (3) Visually inspect for evidence of corrosion of the outer skin.
- (4) If no corrosion is found, proceed to step 2.A (5). If corrosion is found, proceed to Part B.
- (5) Apply P/N GM41073B2 sealant no more than .005 thick to "blind" side of CRES fire shield.
- (6) Reassemble outer skin, and fire shield with P/N NAS1097AD4 rivets. Install rivets wet with PR1422 sealer.
- (7) Paint door.
- (8) Reinstall door on aircraft, check for proper fit.
- (9) Proceed to Record Compliance.

**PART B - CORROSION REPAIR**

- (1) Repair door by splicing a new section of skin.
- (2) Remove stainless steel fire shield and set aside for re-use.
- (3) Pull old skin as far away from substructure as possible to prevent damage to the substructure when cutting away old skin.
- (4) Cut off old skin following a line half way between the second and third rows of rivets. Care should be taken not to damage skin as it will be used as a template to cut new skin section. Refer to Figure 1.



SERVICE BULLETIN NO. 1124-54-112

- (5) Use old skin as a template to mark new skin section from skin/doubler set P/N 1124/25-B10300 (use known offset equal to size of cutting tool to ensure proper fit).
- (6) Cut new skin section.
- (7) Position new skin section and clamp in place.
- (8) Locate doubler and back drill through existing structure and new door skin. Refer to Figure 1.
- (9) Drill 1/8 inch holes in doubler for two rows of P/N NAS1097AD4 rivets.

**CAUTION:** CARE SHOULD BE TAKEN NOT TO DRILL THROUGH RADII OF CHEM-MILLED AREAS OF SKIN.

- (10) Coat external surface of doubler with Alodine 1200 and two coats epoxy primer. Coat internal surface of doubler with Alodine 1200 and two coats primer and .002 thick coat of P/N GM41073B2 sealant. Allow 24 hours to dry.
- (11) Apply P/N GM41073B2 sealant no more than .005 thick to "blind" side of CRES fire shield.
- (12) Rivet together new skin, fire shield and doubler with P/N NAS1097AD4 rivets. Install rivets wet with PR1422 sealer.
- (13) Apply aerodynamic sealer to all external air passage edges of doubler.
- (14) Paint door.
- (15) Reinstall door on aircraft, check for proper fit.

3. RECORD COMPLIANCE

- A. Make the following entry in the aircraft log book:

Service Bulletin 1124-54-112 dated October 7, 1992, titled "Nacelles - Cowl Door Corrosion - Inspection, Prevention and Repair", has been accomplished this date \_\_\_\_\_.

- B. Complete the attached Certificate of Compliance and return to Astra Jet Corporation in New Castle, Delaware.

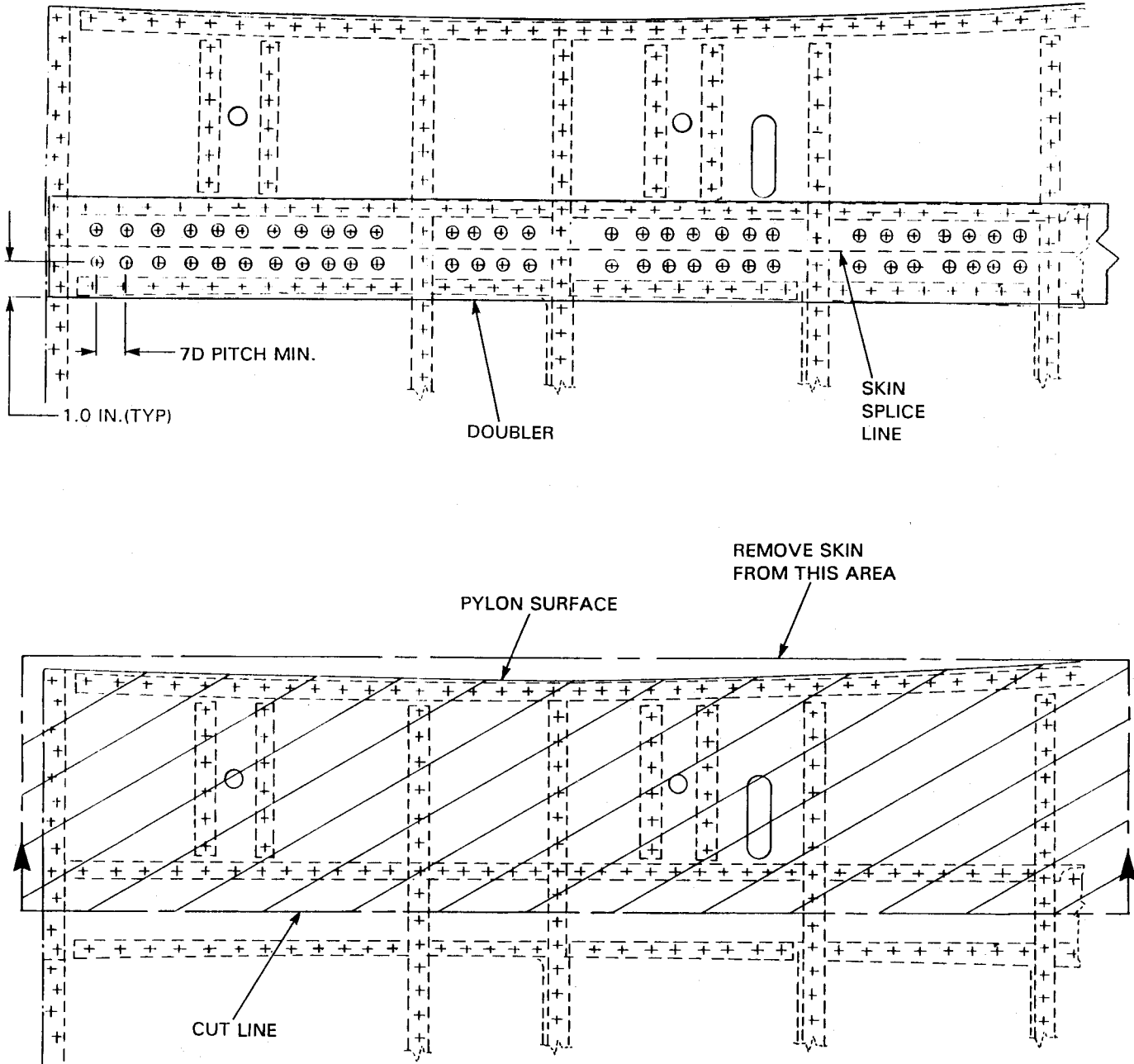


FIGURE 1

*Service Bulletin*

*Certificate of Compliance*

PLEASE FILL IN THE REQUIRED DATA BELOW AND RETURN TO:

Technical Publications  
Astra Jet Corporation  
278 Quigley Boulevard  
New Castle, DE 19720

This is to certify that WESTWIND Serial Number \_\_\_\_\_ has complied with  
Service Bulletin No.

1124-54-112

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance: Hours \_\_\_\_\_ Cycles \_\_\_\_\_

Compliance Date: \_\_\_\_\_

By: \_\_\_\_\_  
Signature

Owner:

Accomplishing Agency:

\_\_\_\_\_  
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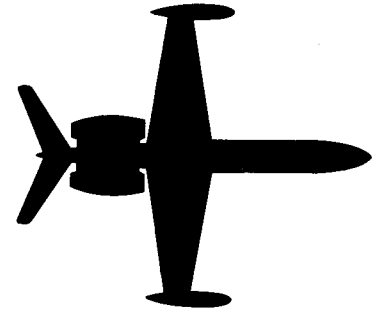
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Please describe below any discrepancies found or difficulties encountered  
during compliance:

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TEAR AT PERFORATION, REMOVE TAPE AT BOTTOM, FOLD, SEAL AND MAIL

# **24-WESTWIND**



## **SERVICE BULLETIN**

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### **RECOMMENDED**

**SERVICE BULLETIN NO. 1124-53-114**

**October 28, 1992**

**SUBJECT: FUSELAGE - FLOOR PANEL INSULATION REMOVAL**

#### **1. PLANNING INFORMATION**

##### **A. EFFECTIVITY**

MODEL 1124/1124A WESTWIND, all serial numbers.

##### **B. REASON**

To eliminate the possibility of floor panel insulation at station 103.78 from coming loose and interfering with the normal operation of the pressurization system outflow valves.

##### **C. DESCRIPTION**

This service bulletin provides instructions for removal of insulation on the bottom of the floor panels located above the outflow valves and installation of C-3201-25 insulation if desired.

##### **D. COMPLIANCE**

It is recommended that this service bulletin be accomplished at the operator's earliest convenience.

##### **E. APPROVAL**

This service bulletin has been reviewed by the Civil Aviation Administration of Israel (CAAI). The design content herein complies with the applicable Civil Aviation Regulations and is CAAI approved.

F. MAN-HOUR REQUIREMENTS

The following information is for planning purposes only:

- (1) Estimated man-hours: 3
- (2) Suggested number of personnel: 1

The above is an estimate only, based on experienced personnel complying with this service bulletin. It is possible, depending on individual experience levels, that additional or fewer man-hours are required to accomplish this bulletin.

G. MATERIAL

<u>QTY.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
A/R	C-3201-25 ALPSA	INSULATION

Material required to accomplish this service bulletin may be procured locally or obtained through Astra Jet Corporation, New Castle, Delaware.

H. TOOLING

No special tooling required.

I. WEIGHT AND BALANCE

Not applicable.

J. ELECTRICAL LOAD DATA

Not applicable.

K. REFERENCES

None

L. PUBLICATIONS AFFECTED

None

2. ACCOMPLISHMENT INSTRUCTIONS

- A. Remove center floor panels at station 103.78 above the pressurization outflow valves.
- B. Inspect the underside of the panels to determine if thin green insulation material is present.
- C. If green insulation material is installed, remove using a plastic scraper.

**NOTE:** Use caution to prevent damage to the corrosion protective coating on the floor panels. If coating is damaged the panel must be treated with Alodine 1201.

- D. Clean floor panels with MEK and allow panels to dry.
- E. Cut C-3201-25 insulation to match floor panel and attach to underside of panel.
- F. Reinstall floor panels.

3. RECORD COMPLIANCE

- A. Make the following entry in the aircraft log book:

Service Bulletin 1124-53-114 dated October 28, 1992, titled "Fuselage - Floor Panel Insulation Removal", has been accomplished this date \_\_\_\_\_.

- B. Complete the attached Certificate of Compliance and return to Astra Jet Corporation in New Castle, Delaware.

*Service Bulletin*

*Certificate of Compliance*

PLEASE FILL IN THE REQUIRED DATA BELOW AND RETURN TO:

Technical Publications  
Astra Jet Corporation  
278 Quigley Boulevard  
New Castle, DE 19720

This is to certify that WESTWIND Serial Number \_\_\_\_\_ has complied with  
Service Bulletin No. 1124-53-114

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance: Hours \_\_\_\_\_ Cycles \_\_\_\_\_

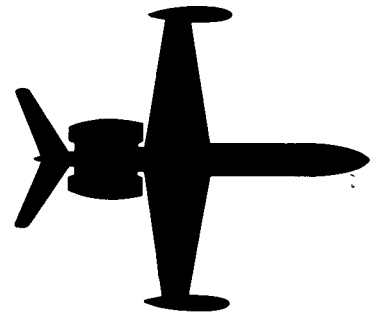
Compliance Date: \_\_\_\_\_ By: \_\_\_\_\_  
Signature

Owner:	Accomplishing Agency:
_____	_____
_____	_____
_____	_____
_____	_____

Please describe below any discrepancies found or difficulties encountered during compliance:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TEAR AT PERFORATION, REMOVE TAPE AT BOTTOM, FOLD, SEAL AND MAIL



### **OPTIONAL**

**SERVICE BULLETIN NO. 1124-53-118**

January 26, 1994

**SUBJECT: FUSELAGE - FRAME REINFORCEMENT REPAIR INSTALLATION**

**1. PLANNING INFORMATION**

**A. EFFECTIVITY**

MODEL 1124/1124A WESTWIND, all serial numbers.

**B. REASON**

To provide a structural repair and reinforcement installation for left and right fuselage sta. 166.25 through 219.05 frames inspected during the Structural Inspection Program.

Compliance with this service bulletin extends repetitive Structural Inspection Program intervals of reinforced frames from 600 hours to 4800 hours.

**C. DESCRIPTION**

Instructions are provided for the installation of repair brackets and straps applicable to left and right fuselage sta. 166.25 through 219.05 frames.

**D. COMPLIANCE**

Compliance is optional and at the operator's convenience.

**E. APPROVAL**

This service bulletin has been reviewed by the Civil Aviation Administration of Israel (CAAI). The design content herein complies with the applicable Civil Aviation Regulations and is CAAI approved.



F. MAN-HOUR REQUIREMENTS

The following information is for planning purposes only:

- (1) Estimated man-hours: 150
- (2) Suggested number of personnel: 2

The above is an estimate only, based on experienced personnel complying with this service bulletin. It is possible, depending on individual experience levels, that additional or fewer man-hours are required to accomplish this bulletin.

G. MATERIAL

<u>QTY.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1	A06-WW5313003	KIT (STA. 174 & 194 FRAMES)
5	A05-WW5313003	KIT (STA. 166, 184, 201, 210 or 219 FRAMES)
A/R	MS20470AD5	RIVET
A/R	MS20426AD4	RIVET
A/R	CR3242-4	RIVET
A/R	CR3243-4	RIVET
A/R	PR1422B2	SEALANT

NOTE: One kit P/N A06-WW5313003 contains required components to repair and reinforce left and right sides of fuselage frames 174 and 194.

One kit P/N A05-WW5313003 contains required components to repair and reinforce left and right sides of one (1) fuselage frame at sta. 166.25, 184.00, 201.75, 210.00 or 219.05.

Each kit P/N A06-WW5313003 or P/N A05-WW5313003 contains blind rivets and bolts required. Additional rivets listed above as required (A/R) are not included in kits.

Refer to Table in Figure 3 for breakdown of kits.

Material required may be obtained through Astra Jet Corporation, New Castle, Delaware, or authorized ASTRA/WESTWIND Service Centers.

H. TOOLING

No special tooling required.

I. WEIGHT AND BALANCE

Overall weight increase and center of gravity change will vary based upon number and station location of kit(s) installed. Installer shall determine weight of kit(s) installed at each location and record for calculating aircraft weight and balance.

J. ELECTRICAL LOAD DATA

Not applicable.

K. REFERENCES

IAI Drawing A06WW5313003 and A05WW5313003.

L. PUBLICATIONS AFFECTED

1124/1124A Westwind Maintenance Manual, Chapter 5-40-01.

2. ACCOMPLISHMENT INSTRUCTIONS

**NOTE:** It is suggested that both left and right sides of affected frame(s) be reinforced concurrently.

**NOTE:** Accomplishment instructions are for sta. 174.00 and 194.00 frames, referencing Figure 1. Refer to Figure 2 for sta. 166.25, 184.00, 201.75 210.00 and 219.05 frames using the same instructions.

A. Remove inboard and outboard seat tracks. Remove fasteners securing floor panels from sta. 149.75 to sta. 223.75 and remove panels.

B. Prior to installation of repair components, all cracks in frames must be stop drilled to .125", deburred and finished with epoxy primer.

C. Place bracket (1) in place on forward side of sta. 174.00 frame and mark existing rivets requiring removal.

**NOTE:** Bracket (1) is installed on forward side of sta. 174.00, 201.75 and 219.05 frames. All other frames, bracket (1) is installed on aft side.

D. Remove marked rivets and transfer rivet locations to bracket (1). Pay particular attention to fit of bracket (1) in radius of flange and web of frame.

SERVICE BULLETIN NO. 1124-53-118

- E. Remove bracket and lay out additional rivet locations in reference to existing rivet holes. Drill pilot holes in bracket as required. Refer to Figure 1.

**NOTE:** Figure 1 is for reference only. Actual rivet pattern may differ. Adjust rivet locations as required to insure proper pitch and edge distance.

- F. Place bracket (1) on frame, secure in place and transfer new holes to frame. Drill rivet holes at transferred locations.

- G. Determine location of angle (3) and remove existing rivets through aircraft skin and frame as required. Transfer these holes to angle (3). Lay out and drill additional rivet holes in angle (3). Refer to Figure 1.

- H. Locate angles (4) and (5) in position and transfer existing holes to angles (4) and (5). Refer to Figure 1.

- I. With all components clamped in position, place filler (7) (sta. 174.00 and 194.00 frames only) and floor panels in position.

- J. Preform strap (2) to match contour of frame. Mark and drill fastener holes. Refer to Figure 1 and 3.

**NOTE:** Insure new fasteners do not interfere with existing structure.

**NOTE:** On sta. 194.00 frame only, include installation of filler (6) to compensate for floor lap joint. Refer to Figure 1.

- K. Remove all parts, deburr and finish with epoxy primer.

- L. Install bracket (1), and angles (3), (4) and (5) with fasteners indicated in Figure 1.

**NOTE:** Coat faying surfaces of angle (3) and frame flange with sealant P/N PR1422B2. Install rivets which pass through aircraft skin wet with sealant P/N PR1422B2.

- M. Install filler (7) (sta. 174.00 and 194.00 frames only), floor panels and strap (2) with fasteners indicated in Figure 3. Use existing type of fasteners, P/N MS20426AD4, CR3242-4 and CR3243, to secure remainder of floor panel.

**NOTE:** Install rivets which pass through aircraft skin wet with sealant P/N PR1422B2.

**NOTE:** Install filler (6), to compensate for floor lap joint, at sta. 194.00 frame only.

SERVICE BULLETIN NO. 1124-53-118

N. Install seat tracks.

**NOTE:** Phenolic spacer under seat track will require notching at each repaired frame location.

3. RECORD COMPLIANCE

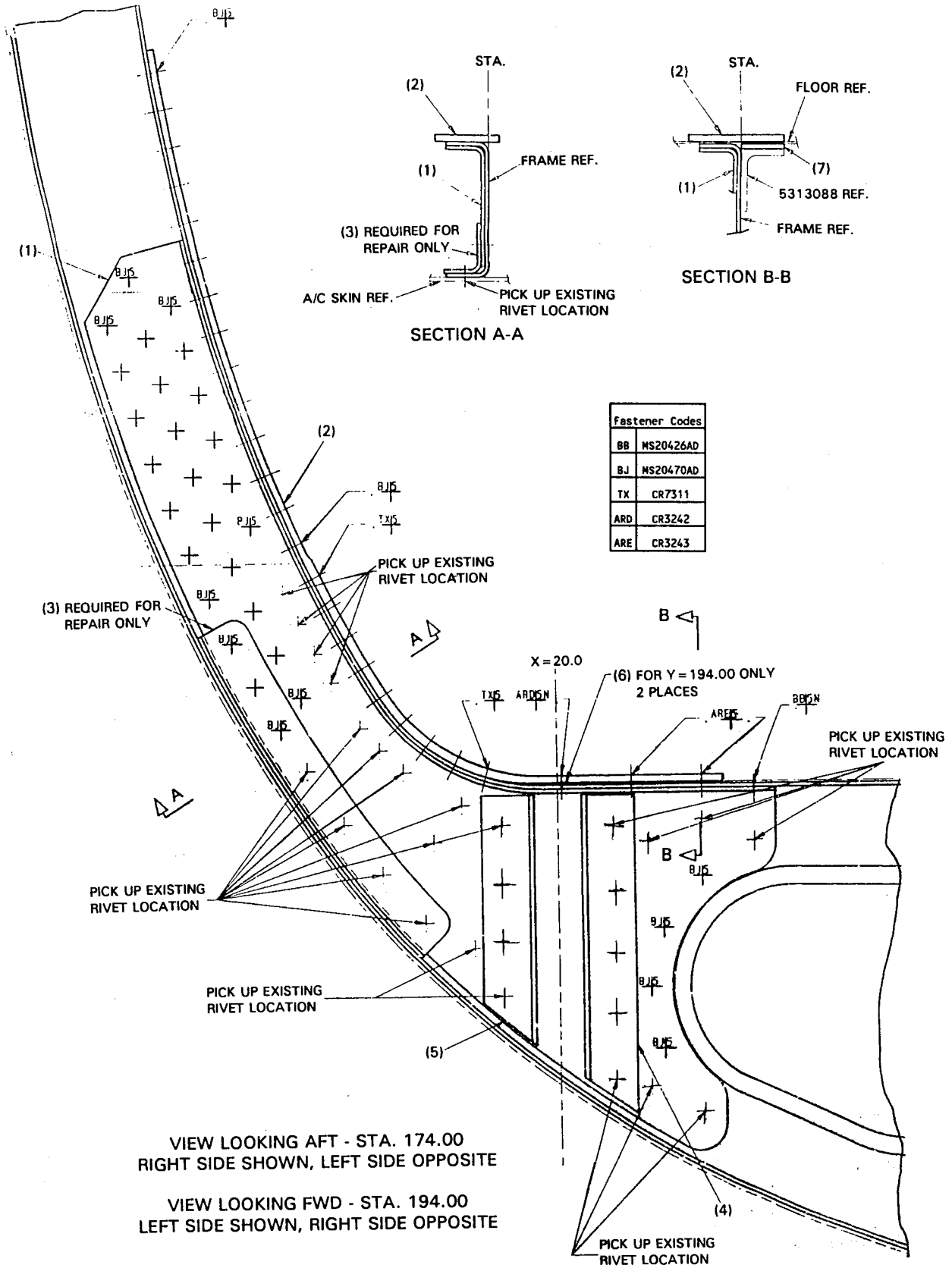
A. Revise aircraft Airplane Flight Manual Weight and Balance.

B. Make the following entry in the aircraft log book:

Service Bulletin 1124-53-118 dated January 26, 1994, titled "Fuselage - Frame Reinforcement Repair Installation", has been accomplished this date \_\_\_\_\_.

C. Complete the attached Certificate of Compliance and return to Astra Jet Corporation in New Castle, Delaware.

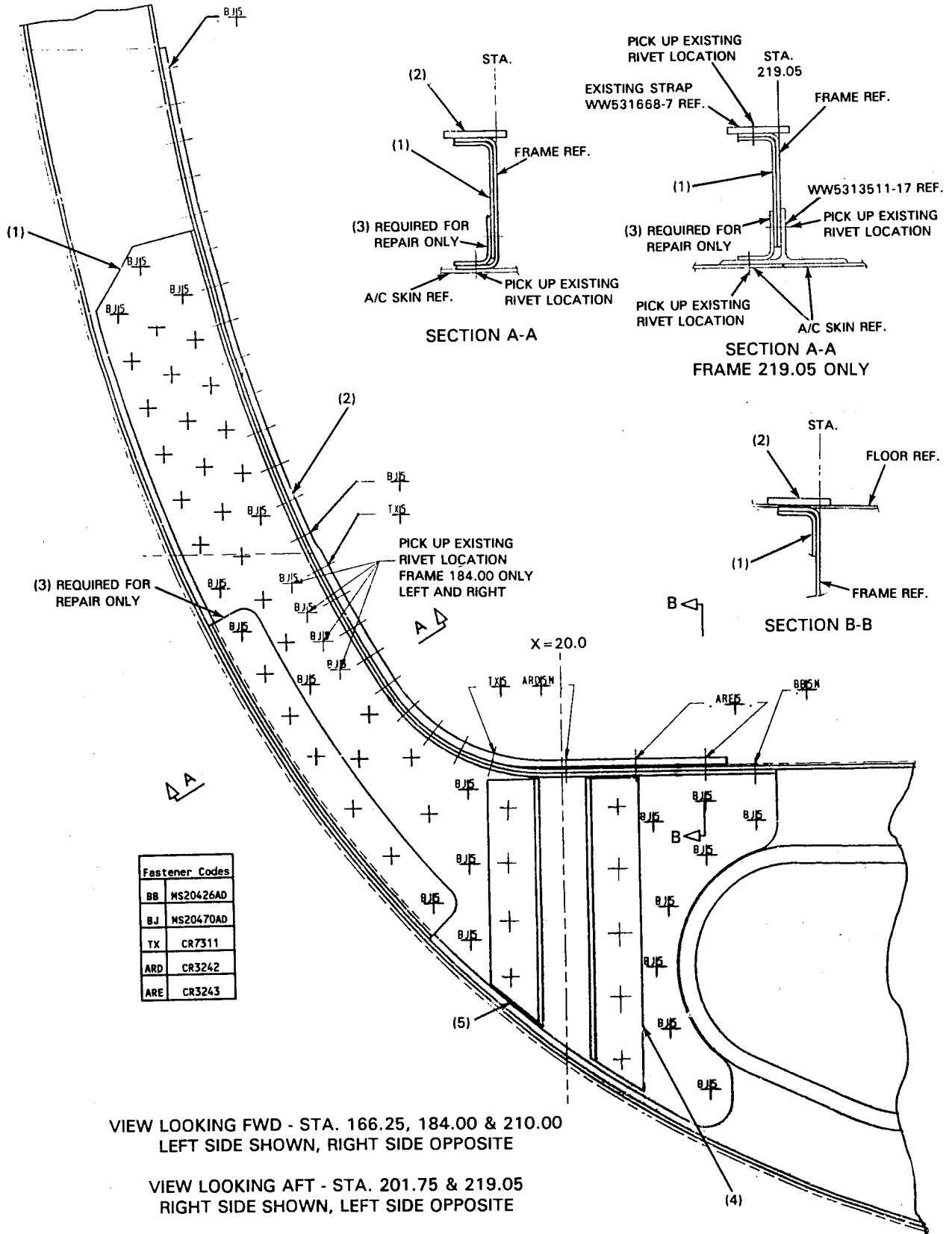
SERVICE BULLETIN NO. 1124-53-118



**NOTE:** Refer to Figure 3 for top view of (2) strap inst'l and part numbers of items (1) - (7).

**FIGURE 1**

SERVICE BULLETIN NO. 1124-53-118



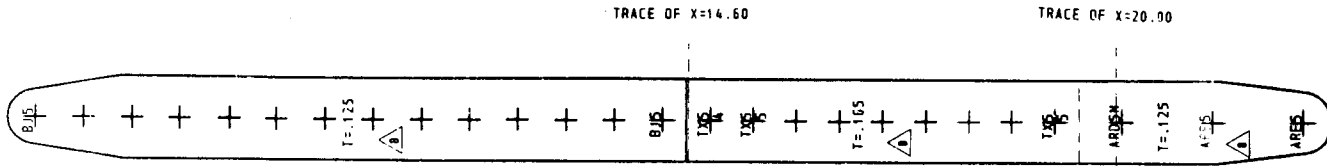
**NOTE:** Refer to Figure 3 for top view of (2) strap inst'l and part numbers of items (1) - (7).

**FIGURE 2**

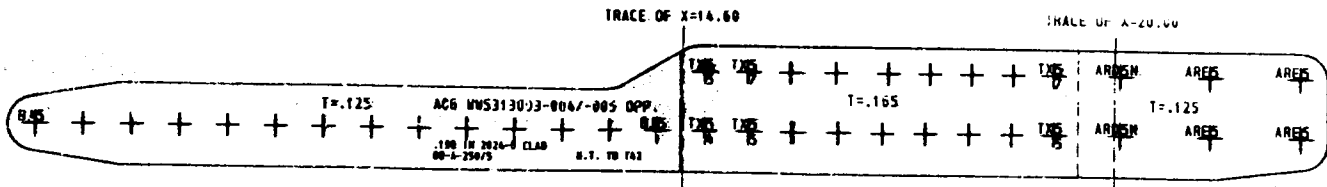
SERVICE BULLETIN NO. 1124-53-118

FRAME ITEM	166.25		174.00		184.00		194.00		201.75		210.00		219.05	
	LH	RH	LH	RH	LH	RH	LH	RH	LH	RH	LH	RH	LH	RH
(1) Bracket A06-WW5313003	-002	-003	-003	-002	-002	-003	-002	-003	-003	-002	-002	-003	-003	-002
(2) Strap A06-WW5313003	---	---	-005	-004	---	---	-004	-005	---	---	---	---	---	---
(2) Strap A05-WW5313003	-002	-002	---	---	-002	-002	---	---	-002	-002	-002	-002	* Exist	* Exist
(3) Angle A06-WW5313003	-008	-009	-009	-008	-008	-009	-008	-009	-009	-008	-008	-009	-009	-008
(4) Angle 5323006	-19	-20	-20	-19	-19	-20	-19	-20	-20	-19	-19	-20	-20	-19
(5) Angle 5323006	-21	-22	-22	-21	-21	-22	-21	-22	-22	-21	-21	-22	-22	-21
(6) Filler A06-WW5313003	---	---	---	---	---	---	-006	-006	---	---	---	---	---	---
(7) Filler 5313011	---	---	-309	-309	---	---	-309	-309	---	---	---	---	---	---

\* P/N WW5313668-7



STA. 166.25, 184.00, 201.75, 210.00 & 219.05 FRAMES



STA. 174.00 & 194.00 FRAMES

**STRAP INTALLATION  
FIGURE 3**

TEAR AT PERFORATION, REMOVE TAPE AT BOTTOM, FOLD, SEAL AND MAIL

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Technical Publications  
Astra Jet Corporation  
77 McCullough Drive, Suite 11  
New Castle, DE 19720

This is to certify that WESTWIND Serial Number \_\_\_\_\_ has complied with  
Service Bulletin No.

**1124-53-118**

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance: Hours \_\_\_\_\_ Cycles \_\_\_\_\_

Compliance Date: \_\_\_\_\_

By: \_\_\_\_\_  
Signature

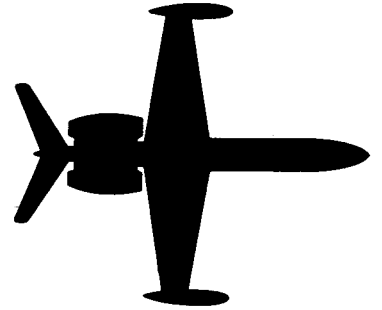
Owner:  
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Accomplishing Agency:  
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Please describe below any discrepancies found or difficulties encountered  
during compliance:

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## **SERVICE BULLETIN**

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### **RECOMMENDED**

**SERVICE BULLETIN NO. 1124-53-123**

September 21, 1994

**SUBJECT: FUSELAGE - DRAINAGE UNDER CABIN DECK**

**1. PLANNING INFORMATION**

**A. EFFECTIVITY**

MODEL 1124/1124A WESTWINDS, all serial numbers.

**B. REASON**

Corrosion has been found under cabin deck on some aircraft.

**C. DESCRIPTION**

This service bulletin provides instructions to inspect structure under cabin deck for blockage of drain paths and over-board drains, outboard of longerons X=9.00 left and right.

**D. COMPLIANCE**

It is recommended that this service bulletin be accomplished at the next 600 hundred hour periodic inspection.

**E. APPROVAL**

This service bulletin has been reviewed by the Civil Aviation Administration of Israel (CAAI). The design content herein complies with the applicable Civil Aviation Regulations and is CAAI approved.

**F. MAN-HOUR REQUIREMENTS**

The following information is for planning purposes only:

- (1) Estimated man-hours: 40
- (2) Suggested number of personnel: 1

The above is an estimate only, based on experienced personnel complying with this service bulletin. It is possible, depending on individual experience levels, that additional or fewer man-hours are required to accomplish this service bulletin.

**NOTE:** Man-hour estimate for inspection time only, i.e. inspect with mirror and light and open/close cabin deck where necessary.

**G. MATERIAL**

<u>QTY.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
A/R	CR3213 (NOM)	CherryMax Rivet
A/R	CR3243 (O/S)	CherryMax Rivet
A/R	MEK	Methyl Ethyl Ketone
A/R		Fluid Resistant Epoxy Primer (Commercial aircraft grade and quality)

Material may be obtained locally, or from authorized ASTRA/WESTWIND Service Centers.

**H. TOOLING**

No special tooling required.

**I. WEIGHT AND BALANCE**

Not applicable

**J. ELECTRICAL LOAD DATA**

Not applicable

**K. REFERENCES**

None

**L. PUBLICATIONS AFFECTED**

None

SERVICE BULLETIN NO. 1124-53-123

2. ACCOMPLISHMENT INSTRUCTIONS

- A. Through access panels in cabin deck, and lightening holes in longerons X=9.00 left and right, from Y=119.00 to Y=259.00, inspect with light and mirror for evidence of debris or sealant in drain path at longeron cap/frame/skin joint. Refer Figure 1.

**NOTE:** Lift and tie cabin deck out of way wherever necessary for inspection.

- B. Carefully remove debris or sealant found in a drain path with appropriate instrument, using caution to avoid damage to longeron cap, frame, or skin. A tool made from phenolic, wedge shaped to match opening is helpful.

**NOTE:** Lift and tie cabin deck out of way wherever necessary for cleaning.

- C. Flush clean with MEK and blow dry with compressed air.
- D. Fluid resistant epoxy prime after cleaning, using caution to avoid blocking drain path with new primer.
- E. At aft pressure bulkhead, Y=269.879, and longeron X=9.00 left and right intersections, locate #29 (.136") drain hole. Lay-out and drill hole through fuselage skin, 1.90 inch outboard of longeron and 4.00 inch forward of pressure bulkhead. Refer Figure 1. Drill through skin only. Adjust hole position if necessary. Alodine and prime drain holes.
- F. Remove all debris, rivets, sealant, etc., and fasten down cabin deck.

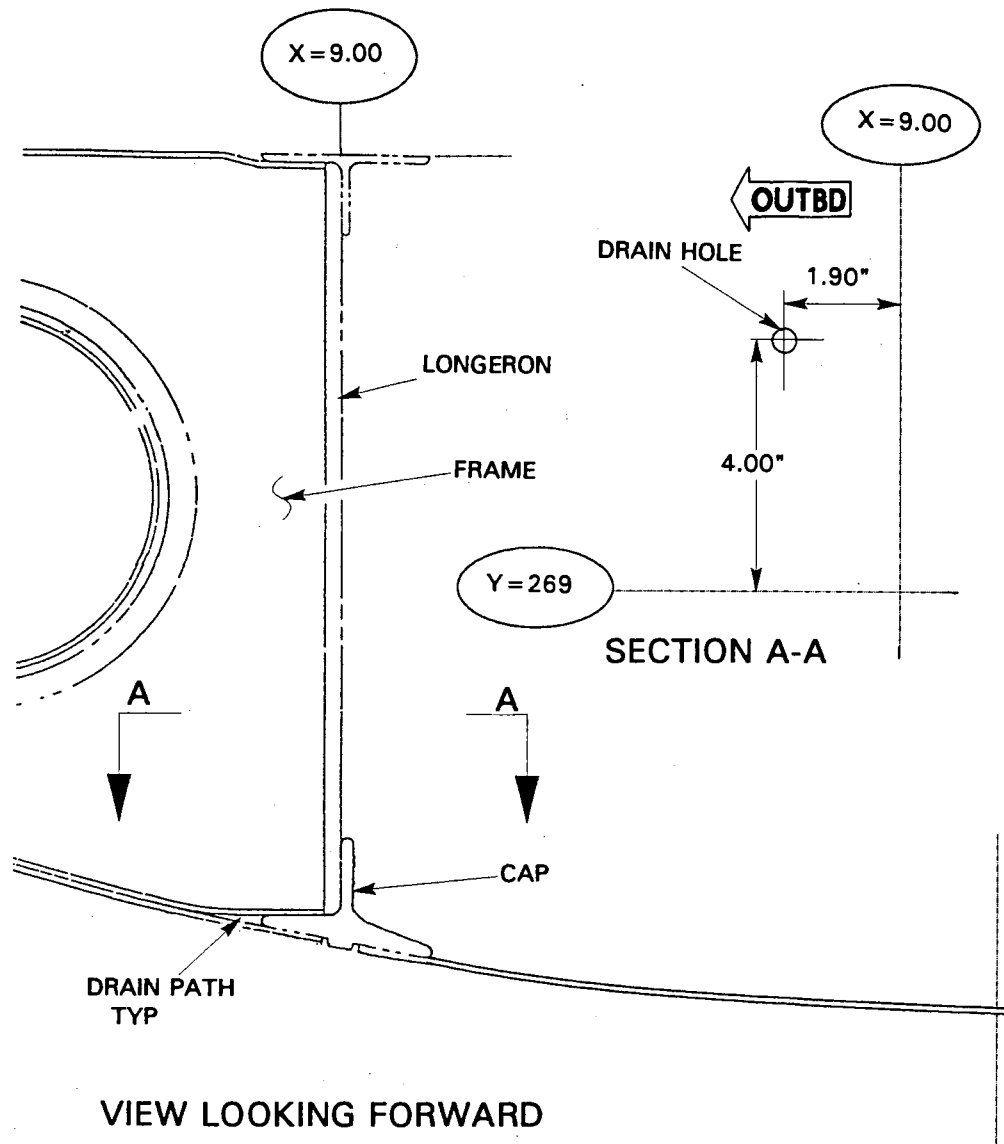
3. RECORD COMPLIANCE

- A. Make the following entry in the aircraft log book:

Service Bulletin No. 1124-53-123 dated September 21, 1994, titled "Fuselage - Drainage Under Cabin Deck", has been accomplished this date

\_\_\_\_\_.

- B. Complete the attached Certificate of Compliance and return to Astra Jet Corporation in New Castle, Delaware.



**FIGURE 1**

TEAR AT PERFORATION, REMOVE TAPE AT BOTTOM, FOLD, SEAL AND MAIL

# Service Bulletin

## Certificate of Compliance

PLEASE FILL IN THE REQUIRED DATA BELOW AND RETURN TO:

Technical Publications  
Astra Jet Corporation  
77 McCullough Drive, Suite 11  
New Castle, DE 19720

This is to certify that WESTWIND Serial Number \_\_\_\_\_ has complied with Service Bulletin No.

### 1124-53-123

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance: Hours \_\_\_\_\_ Cycles \_\_\_\_\_

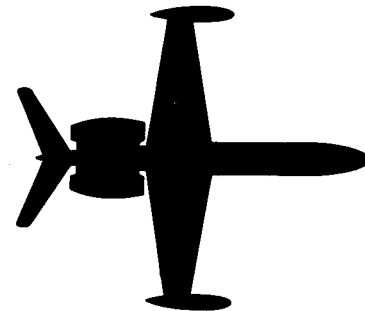
Compliance Date: \_\_\_\_\_ By: \_\_\_\_\_  
Signature

Owner: \_\_\_\_\_ Accomplishing Agency: \_\_\_\_\_  
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Please describe below any discrepancies found or difficulties encountered during compliance:

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# 1124-WESTWIND



## SERVICE BULLETIN

### RECOMMENDED

SERVICE BULLETIN NO. 1124-55-020  
Revision No. 2

August 8, 1988

(This Service Bulletin No. 1124-55-020 Revision No. 2 dated August 8, 1988 supersedes Service Bulletin No. 1124-55-020 dated April 2, 1985 and Revision No. 1 dated June 30, 1986 in its entirety.)

SUBJECT: HORIZONTAL STABILIZER AFT SPAR SPLICE FITTING  
P/N 453005-501 (HINGE ASSEMBLY) INSPECTION

#### 1. PLANNING INFORMATION

##### A. EFFECTIVITY

MODEL Westwind 1124 and 1124A (Westwind I and II), all serial numbers.

##### B. REASON FOR REVISION 2:

Additional analysis has shown that the penetrant inspection of both 600 flight hours for aircraft without scissors and 2400 flight hours for aircraft with scissors, must be replaced by visual inspection every 300 flight hours.

##### C. DESCRIPTION

This service bulletin requires a periodic visual inspection of the hinge assembly for possible cracking of the hinge outer lug.

Both 600 and 2400 flight-hour interval penetrant inspections are cancelled and replaced by a 300 flight-hour visual inspection.



D. COMPLIANCE

Accomplish hinge outer lug inspection within next 300 flight hours and every 300 flight hours thereafter.

NOTE: The 300-hour visual inspection of the outer lugs will be included in the next revision of the Maintenance Manual, Chapter 5 - "Time Limits Maintenance Checks" and is applicable to all aircraft serial numbers.

E. APPROVAL

This Service Bulletin has been reviewed by the Israel Civil Aviation Administration (ICAA), the inspection herein complies with the applicable Civil Aviation Regulation and is ICAA approved.

F. MANHOURS REQUIRED

It is estimated that 1/2 manhour is required to accomplish this inspection. No additional time is required if performed during periodic inspection.

G. MATERIAL

Not applicable.

H. SPECIAL TOOLS

Not applicable.

I. WEIGHT AND BALANCE

Not Applicable.

J. REFERENCES

1124 Maintenance Manual Chapter 55-10-00.

K. PUBLICATIONS AFFECTED

1124 Maintenance Manual will be revised to incorporate the new 300-hour inspection requirement.

2. ACCOMPLISHMENT INSTRUCTIONS

- (1) Remove tail cone and empennage fairings necessary to gain access to the horizontal stabilizer hinge assembly.

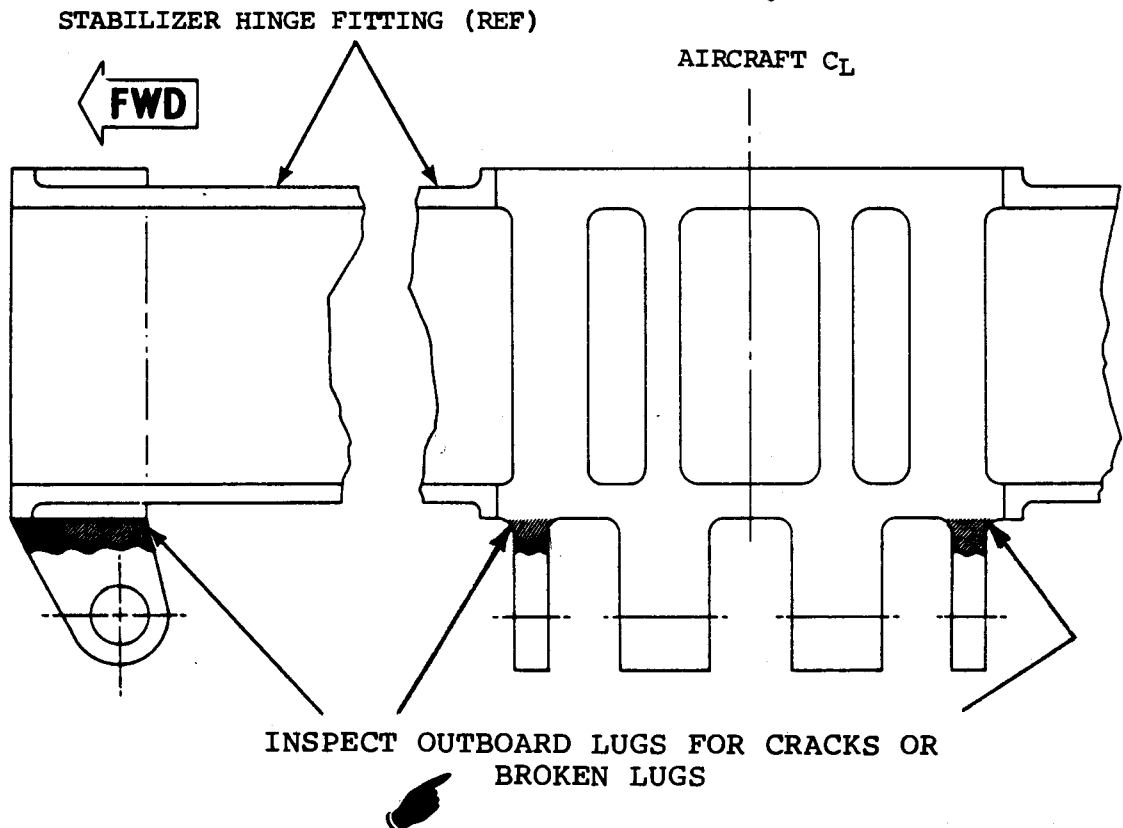
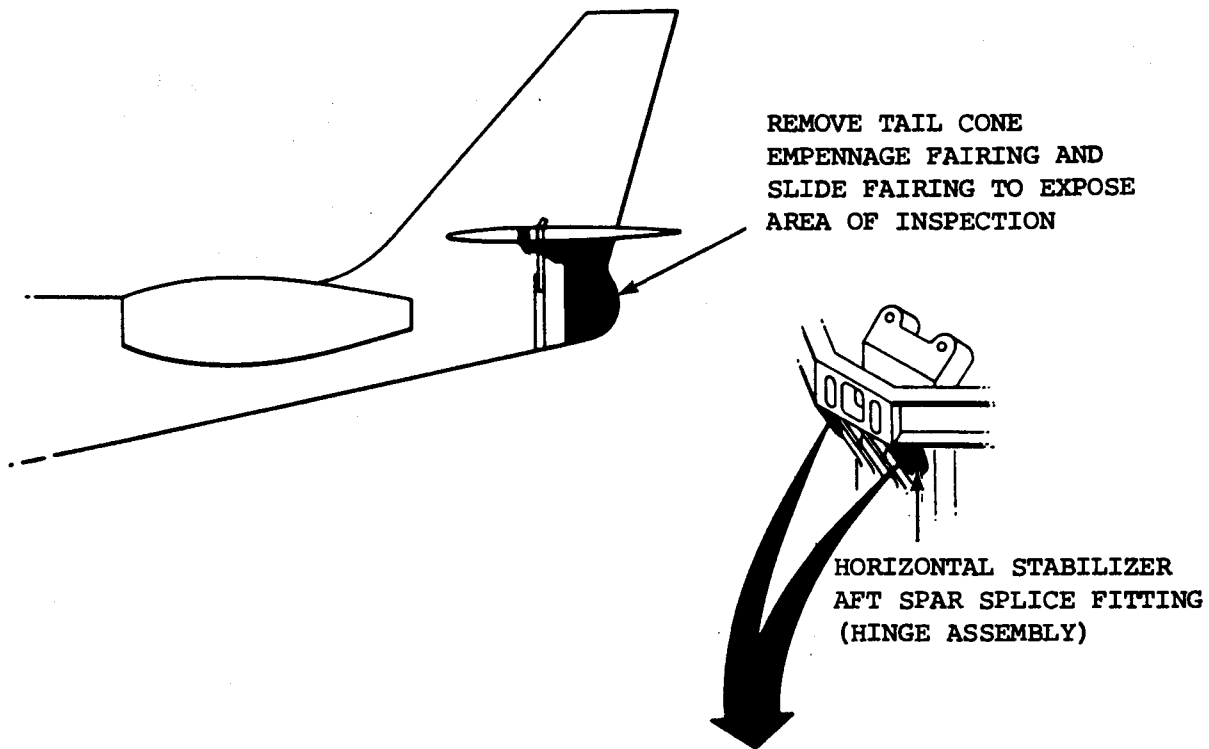
2. ACCOMPLISHMENT INSTRUCTIONS (cont.)

- (2) Inspect outboard lugs (Refer to Figure 1) for cracks with bright light and a 10X magnifying glass, or for broken lugs.
- (3) If a discrepancy is found, refer to Service Bulletin No. 1124-55-021 Revision 3 for replacement or repair of the horizontal stabilizer spar splice.
- (4) Additional information may be obtained by contacting:

Astra Jet Corporation  
P.O. Box 10086  
Wilmington, DE 19850  
U.S.A.

Telephone : (302) 322-7240  
Telex : 704034





*Service Bulletin*

A/C S/N \_\_\_\_\_

*Certificate of Compliance*

PLEASE FILL IN THE REQUIRED DATA BELOW AND RETURN TO:

ISRAEL AIRCRAFT INDUSTRIES INTERNATIONAL, INC.  
P.O. BOX 10086  
WILMINGTON, DE 19850  
ATTN: TECHNICAL PUBLICATIONS

This is to certify that Westwind Serial Number \_\_\_\_\_ has complied with Service Bulletin No. 1124-55-020 Revision No. 2

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance **HOURS:** \_\_\_\_\_ **/CYCLES:** \_\_\_\_\_

Compliance Date \_\_\_\_\_ By \_\_\_\_\_  
Signature

<b>OWNER:</b>	<b>ACCOMPLISHING AGENCY:</b>
_____	_____
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Please describe below any discrepancies found or difficulties encountered during compliance:

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TEAR AT PERFORATION, REMOVE TAPE AT BOTTOM, FOLD, SEAL AND MAIL

# SERVICE PUBLICATIONS revision notice

RECOMMENDED

SERVICE BULLETIN NO. 1124-55-021  
Revision 2

July 11, 1986

SUBJECT: HORIZONTAL STABILIZER ASSEMBLY - INSPECTION  
REPAIR AND IMPROVEMENT (AFC 2037)

REASON FOR REVISION:

- (1) To limit effectivity under paragraph 1A to inclusive aircraft serial numbers.
- (2) Figure 3 is revised to show the removal of the grease fittings and to plug the holes as described in paragraph 2.D.(1.8).

1. PLANNING INFORMATION

A. EFFECTIVITY

MODEL 1124/1124A WESTWINDS, serial numbers 152, 174, 181, 185 through 408, 410 through 412, 414, 415, 417, 419, 420, 422, and 425.

2. ACCOMPLISHMENT INSTRUCTIONS

D. Hinge Assembly Improvement

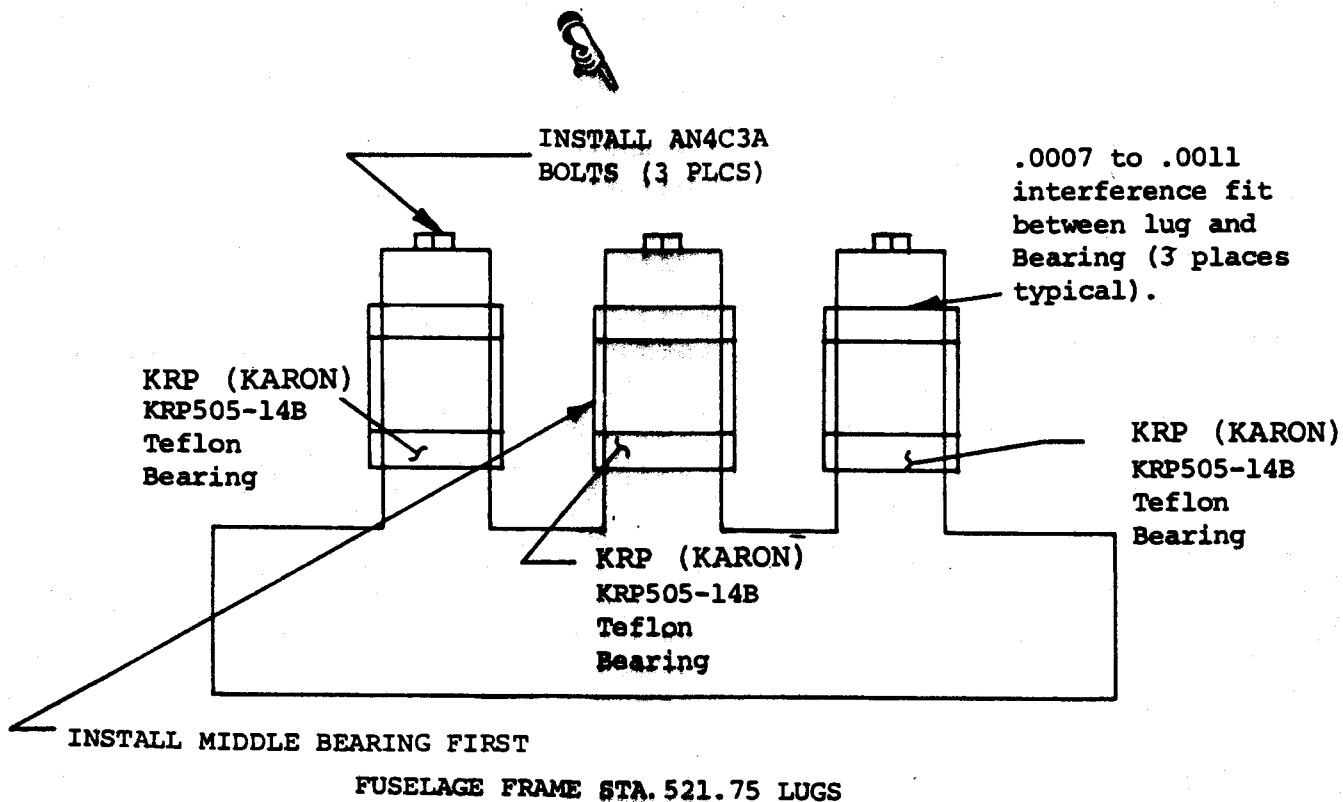
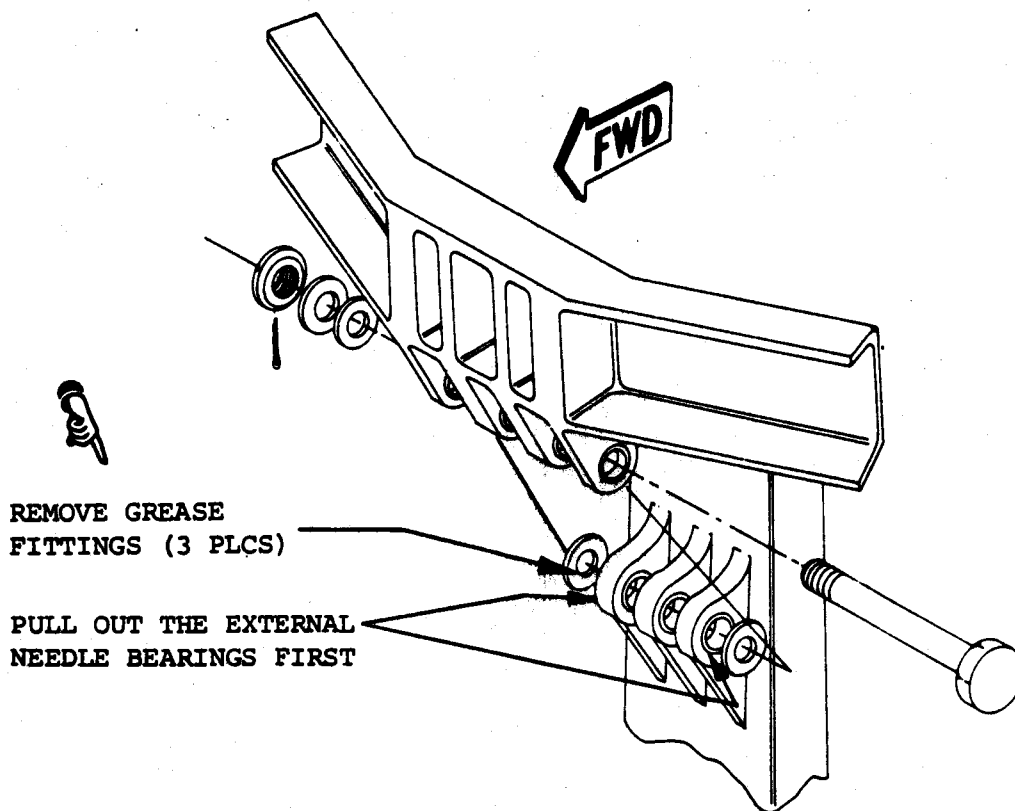
- (4.4) If the above limits a,b,c are met, install 2 each P/N 4453005-11 and P/N 4453005-7 bushings.



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Page 1 of 2

SERVICE BULLETIN NO. 1124-55-021  
Revision No. 2



# SERVICE PUBLICATIONS revision notice

RECOMMENDED

SERVICE BULLETIN NO. 1124-55-021  
Revision No. 1

November 18, 1985

SUBJECT: HORIZONTAL STABILIZER ASSEMBLY - INSPECTION, REPAIR  
AND IMPROVEMENT (AFC 2037)

REASON FOR REVISION: To revise text in the following paragraphs to aid in  
the accomplishment of this service bulletin:

1.G.(2) Special Tools & Fixtures  
2.D.(2.2.2) Prepare surface and flap-peen . . .  
2.D.(4.7) Hone all four . . .  
2.E.(1.22) Locate and mark . . .  
2.E.(1.22) NOTE  
2.E.(1.26) Install lower scissors . . .  
2.F.(1.9) NOTE  
2.G.(1.7) If the total reading . . .  
Figure 11. Page 32 of 34  
Figure 12. Page 33 of 34

1.G.(2) Add the following to SPECIAL TOOLS & FIXTURES:

<u>P/N</u>	<u>DESCRIPTION</u>	<u>QTY</u>
-	Shot-peening equipment or Flap-peening equipment (3M Brand Roto-Peen products) 3M Company "Scotch-Brite" Surface Conditioning Products St. Paul, Minnesota 55101, U.S.A.	A/R
TC330	Flap Assemblies (9/16" x 1 1/4")	A/R
-	Rotary Pneumatic Tool capable of 15,000 RPM	1

Delete the following words:

3M, 9/16 x 1/14 30,000 RPM	Flap-peening wheel Pneumatic Drill	A/R 1
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2.D.(2.2.2) Text of following paragraph revised to read as follows:

(page 11) Prepare surface and flap-peen lug roots using 9/16" x 1 1/4" flap assemblies in accordance with 3M Company instructions (3M Co., "Surface Conditioning Application Notes"), peen to an intensity of 0.008A, coverage 100% as follows: (Refer to Figure 6).

2.D.(4.7) Text revised to read as follows:

(page 14) Hone all four (4) bushings in line using 7/8" Sunnen hone. Break edges after honing (.010R approx.).

2.E.(1.22) Text of this paragraph and NOTE revised to read as follows:

(page 16) Locate and mark the position of the lower scissors fitting on the horizontal stabilizer. Trim top skin of horizontal stabilizer if necessary to ensure that fitting fits tightly against the forward surface of the P/N 4453017 splice assy.

(page 17) NOTE: Lower scissors fitting center line must be parallel to the aircraft center line. If necessary, loosen the two outboard bolts in the upper scissor fitting that were temporarily secured in step (1.6) to allow alignment.

2.E.(1.26) Add text to following paragraph to read as follows:

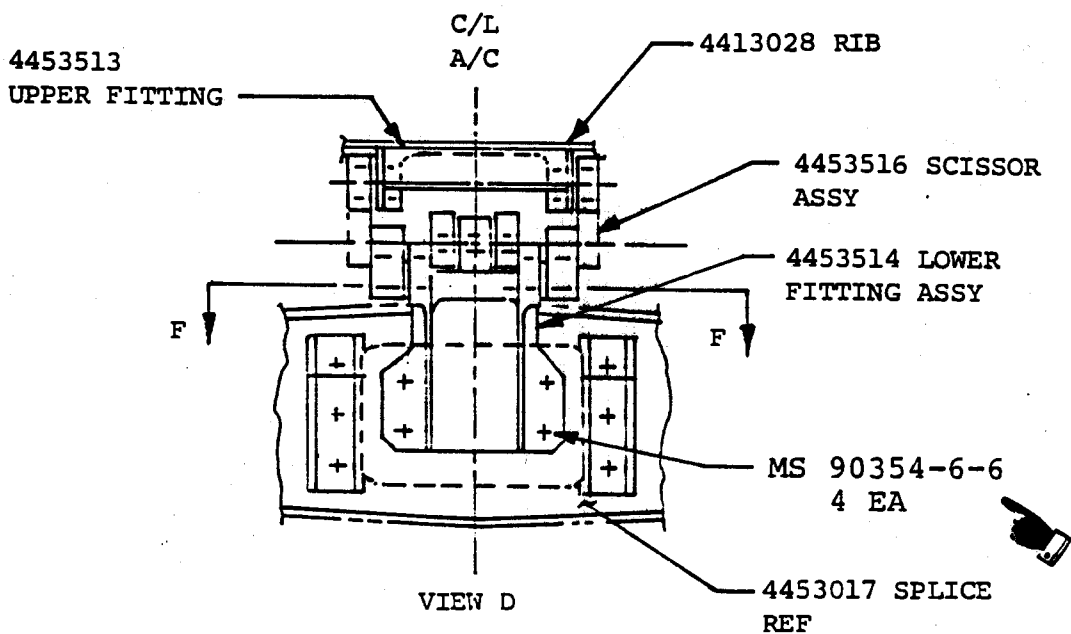
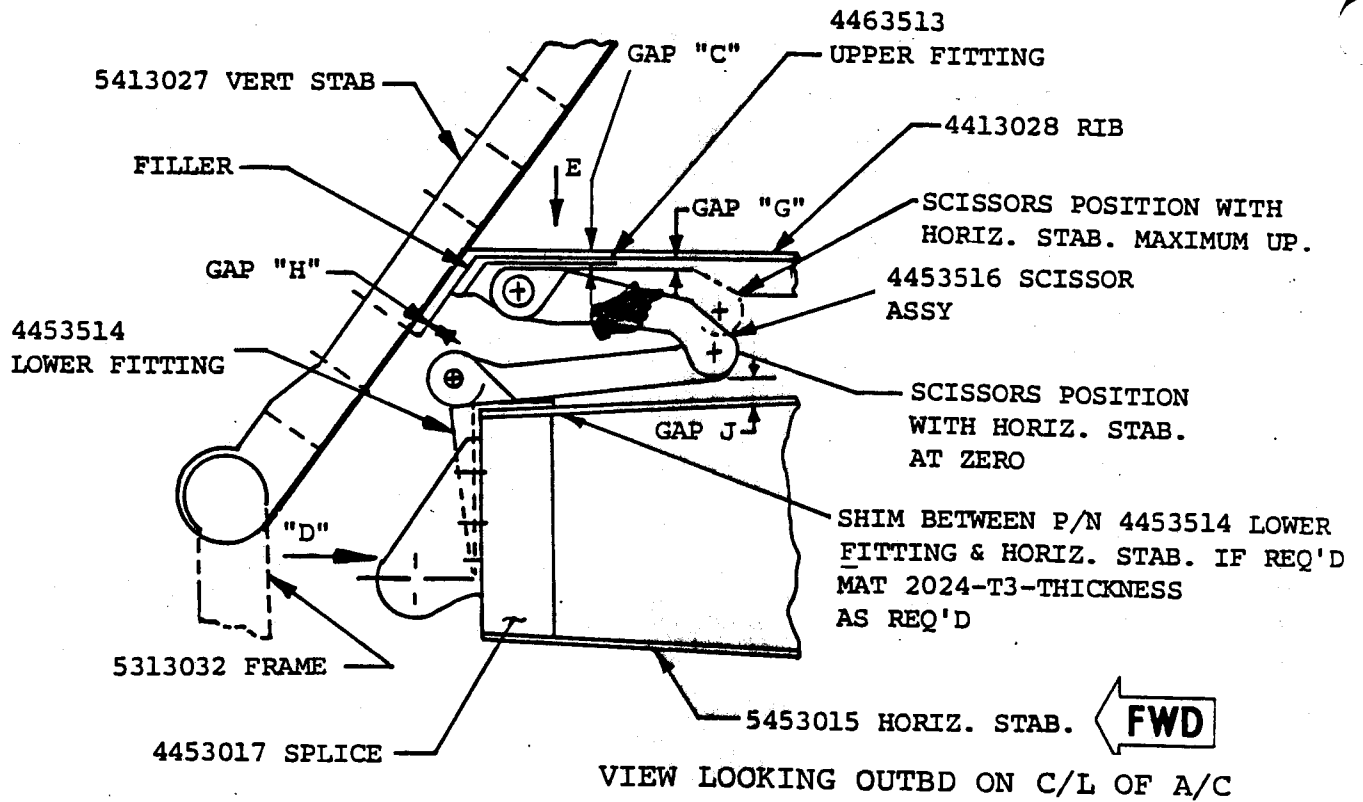
(page 17) Install lower scissors fitting on the horizontal stabilizer per figures 11 and 12. Shim as required between fitting and top surface of the horizontal stabilizer to match the fitting to the contour of the stabilizer skin.

2.F.(1.9) Add text to NOTE to read as follows:

(page 19) NOTE: Tighten upper, lower and center scissor castellated nuts to 55-75 inch-lbs. Center scissor lug bushings must have a side clearance of .003" to .005" after final torque. If necessary, torque on center scissor castellated nut to be reduced to achieve the required side clearance.

2.G.(1.7) Revised text in following paragraph to read as follows:

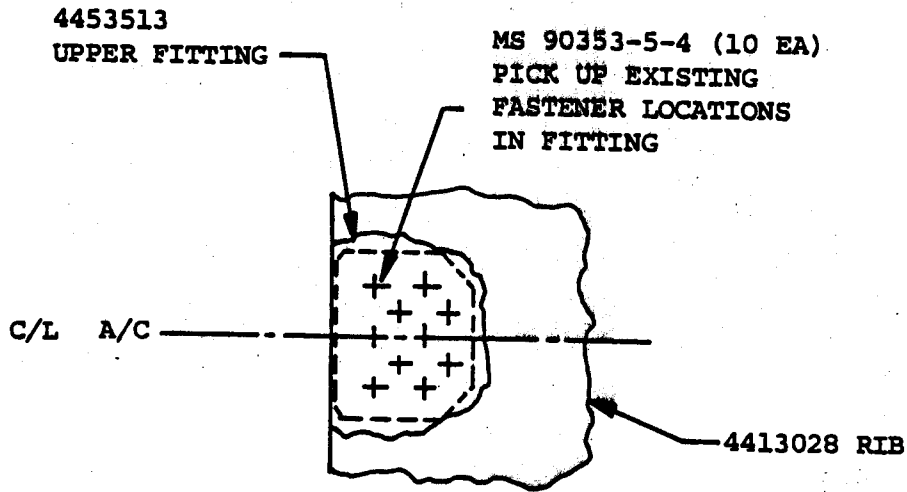
(page 19) If the reading of the dial indicator exceeds 0.010" on either lug, it is recommended to perform the improved installation as per Para. D.



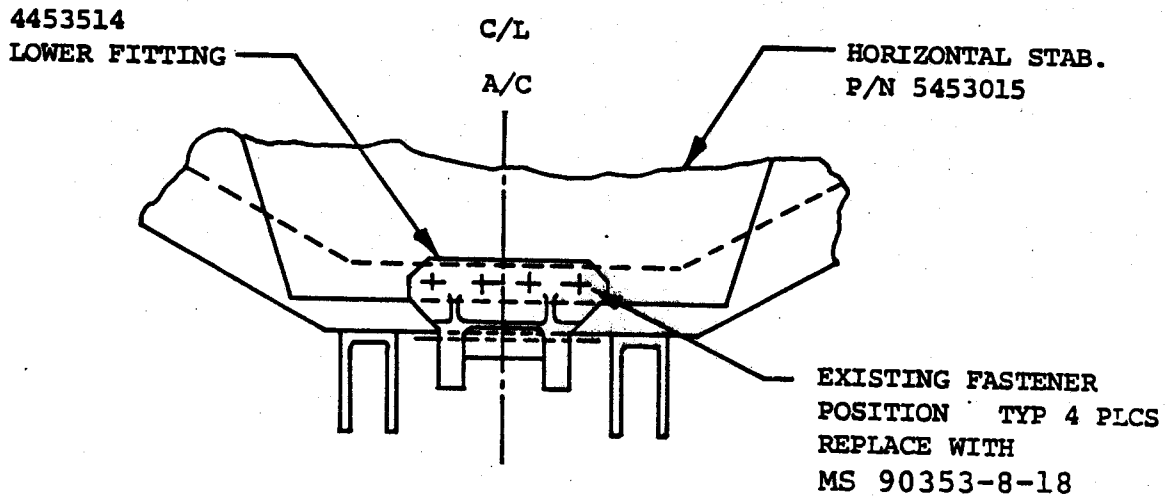
INSTALLATION OF SCISSORS ASSY

FIGURE 11





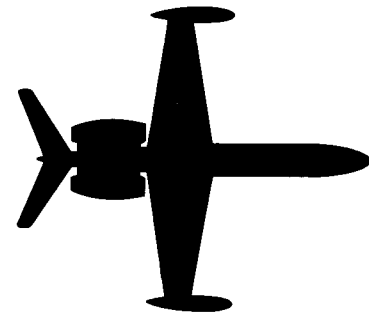
VIEW E  
INSTALLATION OF  
UPPER FITTING



VIEW FF  
INSTALLATION OF  
LOWER FITTING

FIGURE 12

# **24-WESTWIND**



## **SERVICE BULLETIN**

RECOMMENDED

SERVICE BULLETIN NO. 1124-55-021

AUGUST 5, 1985

Service Letter No. WW-2479A dated August 6, 1982 and SB WW-24-14 dated March 21, 1978 are hereby cancelled and replaced by this service bulletin.

**SUBJECT: HORIZONTAL STABILIZER ASSEMBLY - INSPECTION, REPAIR AND IMPROVEMENT (AFC 2037)**

### **1. PLANNING INFORMATION**

#### **A. EFFECTIVITY**

MODEL 1124 and 1124A WESTWIND, all serial numbers.

#### **B. REASON**

Some cracked outer lugs of the Horizontal Stabilizer hinge assembly have occurred in service.

#### **C. COMPLIANCE**

- (1) For D.(1) below, before next flight if inspection instruction per Service Bulletin 1124-55-020 reveals any crack in a hinge lug.
- (2) For D.(2) below, it is recommended that the installation improvements described by this service bulletin be incorporated prior to the accumulation of 2400 hours, or if aircraft total time already exceeds 2400 hours, within 600 flight hours from the effective date of this service bulletin.
- (3) For D.(3) below, it is recommended that the radial and axial play be inspected every 600 hours until the installation improvements per paragraph D.(2) have been completed.
- (4) After accomplishing the installation improvements herein, inspect outer lugs for cracks per SB 1124-55-020 after 600 hours and every 2400 flight hours thereafter.



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D. DESCRIPTION

This service bulletin provides:

- (1) Information for replacement of the Horizontal Stabilizer spar splice, if found cracked during the inspection called for by Service Bulletin 1124-55-020 dated April 2, 1985.
- (2) Instructions to improve installation (AFC 2037).
  - (2.1) Replace bearings.
  - (2.2) Shot-peen the hinge outer lug roots.
  - (2.3) Install new stabilizer hinge pin.
  - (2.4) Install scissors assembly.
- (3) Inspection procedure for radial and axial play.

E. APPROVAL

This service bulletin has been reviewed by the Israel Civil Aviation Administration (ICAA). The inspection and improvements herein comply with the applicable Civil Aviation Regulations and are ICAA approved.

F. WARRANTY POLICY/MATERIAL

- (1) The improvements described herein will require a downtime of approximately one week, and are recommended to be completed at approved Westwind Service Centers only.
- (2) Installation labor and the improvement kits per Part 3.(2) and 3.(3) will be provided at no charge to the first retail purchaser of an aircraft that have not exceeded 2000 flight hours or four (4) years (whichever expires first) as of April 1, 1985.
- (3) Aircraft that do not meet the above criteria will be provided the Part 3.(2) and 3.(3) improvement kits at no charge. Kits are obtainable through approved Westwind Service Centers only.
- (4) The Part 3.(2) and 3.(3) kits are available at no charge until December 31, 1986.

## G. TOOLING

(1) SPECIAL MEASURING TOOLSPreferred Equipment

<u>P/N</u>	<u>DESCRIPTION</u>	<u>QTY</u>
* GR-6121	Sunnen Dial Bore Gage (0.740 to 1.190 inch)	1
* GR-9121	Sunnen Dial Bore Gage (1.180 to 2.000 inch)	1
* CF-502	Sunnen-Setting fixture (0.500 to 2.000 inch)	1
599-7031-3	Brown & Sharpe Dial Indicator (0.0005 in./division)	1
1/16" and 5/64" Radius gages (Templates)		1
	Sandbags (10 lbs. ea)	25

Optional Measuring Equipment

NOTE: Following may be used in lieu of equipment noted above with an \*.

<u>P/N</u>	<u>DESCRIPTION</u>	<u>QTY</u>
599-281-10	Brown & Sharpe Intrimik (.8000"-1.0000")	1
599-281-12	Brown & Sharpe Intrimik (1.0000"-1.2000")	1
599-281-20	Brown & Sharpe Intrimik (1.6000"-2.0000")	1
599-281-880	Brown & Sharpe .8000" Ring gage	1
599-281-1080	Brown & Sharpe 1.0000" Ring gage	1
599-281-1680	Brown & Sharpe 1.6000" Ring gage	1

(2) SPECIAL TOOLS & FIXTURES

<u>P/N</u>	<u>DESCRIPTION</u>	<u>QTY</u>
GGN-150	Sunnen Mandrel Drive	1
3G-P20-875 UB	Sunnen Hone 7/8"	1
3G-P28-1062 VA	Sunnen Hone 1 1/16"	1
3G-P28-1625 WD	Sunnen Hone 1 5/8"	1
P28-J57	Honing stones	A/R
P20-A-69	Honing stones	A/R
-	Fluorescent Penetrant Insp. Kit-(Magnaflux "ZYGLO")	1
-	Honing Oil	A/R
A57QB	Snap On Bearing Puller	1
-	* 175° F Tempil- stik Crayon	1
-	* 194° F Tempil- stik Crayon	1
-	* 200° F Tempil- stik Crayon	1
-	250 WATT infra red lamps	4
-	Shot-peening equipment or Flap-peening equipment	A/R

I. ELECTRICAL LOAD

Not applicable.

J. REFERENCES

1124 Maintenance Manual Chapter 27-40-00, Page 401, and Chapter 55-10-00, Page 2 and 3.  
1124 IPC, Chapter 27-40-00, Page 2 and Chapter 55-00-00, Page 2.

K. PUBLICATIONS AFFECTED

- (1) Service Bulletin No. WW-24-14 dated 3-21-79 and Service Letter No. WW-2479A dated 8-6-82 are cancelled.
- (2) 1124 Maintenance Manual will be revised to incorporate the inspection required (Chap. 5) and the rework procedure. The 1124 IPC, Chapter 55-00-00 and Chapter 27-40-00 will be revised to reflect all new parts utilized in the rework of the Horizontal Stabilizer Hinge Assembly, and the addition of the scissors.
- (3) Airplane Flight Manual Table 8-3 "Basic Weight Change Record" to be updated by operator.

2. ACCOMPLISHMENT INSTRUCTIONS

A. Hinge Assembly Inspection

- (1) Remove tail cone and empennage fairings necessary to gain access to the Horizontal Stabilizer Hinge Assembly. See Figure 1.
- (2) Work out as much grease as possible from the hinge assembly by applying quick movements fore and aft at the tip of the Horizontal Stabilizer. Clean up all grease before taking any measurement.
- (3) Inspect for cracks as per Service Bulletin 1124-55-020.

NOTE

If cracks are found, replace aft spar splice fitting.

If no cracks are found and:

- (4) The aircraft has exceeded 2400 hours, Part 1.D (2) of this service bulletin is to be implemented within the next 600 flight hours after the effective date of this service bulletin.
- (5) Total number of hours is less than 2400, inspect for cracks per Service Bulletin Number 1124-55-020 and axial and radial play per Part 2, Para. G. of this service bulletin.

B. Horizontal Stabilizer repair (if crack is found):

- (1) Removal of Horizontal Stabilizer. See Fig. 1.
  - (1.1) Remove Horizontal Stabilizer and Vertical Stabilizer fairings and tail cone.
  - (1.2) Remove rudder and elevators.
  - (1.3) Remove elevator torque tubes from rear of Horizontal Stabilizer.
  - (1.4) Disconnect wires at rear of Horizontal Stabilizer.
  - (1.5) Disconnect P/N 5753534 Vertical Stabilizer de-ice tube above engine fuel computers.
  - (1.6) Disconnect antenna co-ax cables, and beacon wires.
  - (1.7) Remove dorsal fin.
  - (1.8) Retract Horizontal Stabilizer actuator.

- (1.9) Attach sling to Vertical Stabilizer so that it may be raised straight up.
- (1.10) Remove Vertical Stabilizer attach bolts and remove Vertical Stabilizer.
- (1.11) Extend Horizontal Stabilizer actuator.
- (1.12) Disconnect de-ice lines at Horizontal Stabilizer leading edge.
- (1.13) Attach sling to Horizontal Stabilizer so that it may be lifted straight up.
- (1.14) Place 200 to 250 lbs of sandbags on Horizontal Stabilizer leading edge near fuselage to balance stabilizer.
- (1.15) Remove Horizontal Stabilizer trim actuator upper attach bolts.
- (1.16) Remove cotter pin and nut from hinge pin.
- (1.17) Take up slack on sling so as to remove weight from hinge pin so that it can be moved with light taps of brass hammer. Remove hinge pin.
- (1.18) Lift Horizontal Stabilizer from fuselage and set onto dolly which holds stabilizer in a vertical position, leading edge down.

C. Replacement of Horizontal Stabilizer Aft Spar Splice Fitting P/N 4453005-501-400.

- (1.0) Drill out all fasteners attaching the upper and lower skins to the left or right aft spar caps, plus fasteners attaching spar web to splice fitting P/N 4453005-501, and to the end of each rib. See Figure 2.
- (1.1) Remove spar.
- (1.2) Remove all fasteners attaching other spar up to Horizontal Stabilizer Sta. 82.73. See Figure 2.
- (1.3) Remove six ea. MS20007-38 bolts attaching splice assembly to stabilizer frame.
- (1.4) Spread skin and remove splice fitting.



(1.5) Verify that the outboard lugs of the new splice fitting P/N 4453005-501-400 have been radiused and flap or shot-peened.

(1.6) Drill out the 6 holes for attachment bolts (MS20007-38) to .4370 to .4380 inch in new splice fitting.

NOTE: Holes must be exactly aligned with holes thru stabilizer frame. Old splice fitting may be used as the guide.

(1.7) Slide spar splice into place in Horizontal Stabilizer.

(1.8) Reposition the removed spar.

(1.9) Install the 6 ea. MS20007-38 bolts with MS20002C7 washers. Torque bolts to 450 to 500 in-lbs.

(1.10) Reinstall all fasteners. See Fig. 2 for types and sizes of fasteners.

D. Hinge Assembly Improvement

(1.0) Installation of new (Kamatics) bearings.

(1.1) Locate 2 heat lamps on each side of the airplane, no closer than 5 inches from the outboard bearing lugs.

(1.2) Apply 175° F, 194° F and 200° F Tempilstik marks on each outboard lug and heat the lugs. When the 175° F mark melts, remove heat lamps.

CAUTION

Ensure that heat lamps are removed before the 200° F mark melts. If 200° F is exceeded on any part, contact IAI Inc. for repair procedures.

(1.3) Remove the outboard bearings. (See Fig. 3.) Use Bearing Puller.

- (1.4) Remove middle lug bearing and then pull bearing thru an outboard lug while it is still warm (175° F to 200° F).
- (1.5) Discard all three bearings.
- (1.6) Clean the three bearing lugs and visually inspect for cracks.
- (1.7) Clean attach fitting bores with crocus cloth as necessary. Locally dress any raised material. Remove no more than is absolutely necessary.
- (1.8) Remove the three (3) grease fittings and plug the holes with AN4C3A bolts and AN960C416L washers. Secure bolts in place with Loctite No. 271 or No. 08831.

NOTE: Ensure Loctite covers the entire surface of bolt and mating surfaces.

- (1.9) Inspect the attach fitting bores using the dial bore gage (.0001" per graduation). Check the measuring instrument with a precision ring gage immediately prior to taking measurements. For every 10° F above 70° F subtract .0001" from bore measurements. For every 10° F below 70° F add .0001" to bore measurements.

Limits

For hole dia. see Table 1.

- a. Out of round 0.0003 max.
- b. Taper 0.0005 max.

If any bore is out of limits, it will be necessary to hone all three bearing bores utilizing the 1 5/8" Sunnen hone.

- (1.10) If the limits above are met or can be met by honing, calculate the average bore diameter for each lug. (Maximum reading + minimum reading divided by 2) and select the appropriate bearing part number for each lug from Table 1 in Part 3. Place AOG order.

- (1.11) Pack the three new bearings in dry ice for a minimum of one hour or cool with liquid nitrogen.
- (1.12) Install middle bearing so that it is centered in the lug within 0.002 inch. Lugs may be heated before bearing installation as per Para. D.(1.0).
- (1.13) Install the outboard bearings in their respective lugs to obtain spacing noted in Figure 7. Bearings are to be centered in lugs within 0.005 inch.
- (2.0) Peening of Hinge Lug Roots (shot or flap).
  - (2.1) Shot-Peening.
    - (2.1.1) Drill out rivet adjacent to each outboard hinge lug per Figure 4.
    - (2.1.2) Slide a steel sheet between the hinge and the skin and trim skin to permit access to lug roots (per Figures 4 & 5).
    - (2.1.3) Strip primer from outboard lug roots and area to be radiused and shot-peened. (See Figures 4 & 5).
    - (2.1.4) By hand filing and sanding, dress a 1/16" to 5/64" radius or break-edge (2) places each outboard lug as shown in Figure 5. The radius must be smooth, continuous and circular in cross-section. Scratches, gouges, pits, etc. are not permitted anywhere in the area.
    - (2.1.5) Mask hole for MS90354-6-10 fastener.
    - (2.1.6) As a minimum, glass bead peen the lug roots and break-edges per MIL-S-13165 using size 331 glass beads (corresponds to Metal Improvement Company GP 234). Intensity to be .004" to .007" Almen A.

(2.2) Flap-Peening.

NOTE: Flap-peening may be used as an alternative to shot-peening in conjunction with the following:

- (2.2.1) Prepare for peening per Para. (2.1.1) thru (2.1.5).
- (2.2.2) Prepare surface and flap-peen lug roots using 9/16" x 1 1/4" flap at 30,000 RPM, to an intensity of 0.008A, coverage 100% as follows: (Refer to Figure 6).
- (2.2.3) Before applying flap to the lug,
- a. Test for intensity as follows:
  - b. Use a model of the area which is to be peened, a 0.100" aluminum sheet bent to the above radius.
  - c. As the radius is smaller than the usual for the flap, it will require some practice to achieve the required coverage.
  - d. It will be noticed that the area adjacent to the radius will get the required coverage (allow up to 400%) before the radius gets the full 100% coverage required. Therefore, after the adjacent area gets approximately 400% coverage, mask with aluminum tape.
  - e. It will be noticed that one side of the radius gets better coverage than the other, therefore after masking, reverse the drill direction and turn around the flap. This will enable better access to the radius side that did not get good coverage in the first application of the flap.

- (2.2.4) Clean peened area with MEK.
- (2.2.5) Brush Alodine the flap or shot-peened area and touch up with Zinc Chromate primer.
- (3.0) Inspection of Hinge Bushings
- (3.1) Clean the four (4) bushing bores with crocus cloth as necessary. Locally dress any raised material. Remove no more material than absolutely necessary.
- (3.2) Inspect the bushing bores using the dial bore gage (.0001" per graduation). Check the measuring instrument with a precision ring gage immediately prior to taking measurement.

Limits

- a. Out of round .0005".
- b. Taper .0005".
- c. Average diameter .8743"/.8750".

If the above limits are met, the bushings need not be replaced. If the above limits are exceeded, it will be necessary to replace all four (4) bushings per Para. D.(4.0) below.

Note: If the bushings in Horizontal Stabilizer splice are not replaced, perform axial clearances check per Para. G.

If clearance is less than 0.016 inches, proceed with scissors installation.

If clearance is more than 0.016 inches, fabricate shims, using AN960C-1416L washers to achieve maximum clearance of 0.016 inches. Shimming must be done prior to upper scissors fitting positioning and assembly as per Para. E.(1.9) thru E.(1.11).

- (4.0) Replacement of Hinge Bushings
- (4.1) Loosely wrap aluminum foil around the shot-peened area of the outboard hinge lugs, and utilize heat lamps and the Tempilstiks to heat hinge lugs to 175° F to 200° F.
- (4.2) Remove outer bushings, then the inner bushings.
- (4.3) Clean the lug bores as in D.(3.1) above.
- (4.4) Inspect the lug bores as in D.(3.2) above.

Limits

- a. Out of round 0.001".
- b. Taper 0.001".
- c. Average diameter 1.0608"/1.0618" (permits installation of standard bushings).
- d. Average diameter one or more lugs 1.0619"/1.0750" (requires installation of oversize bushing(s)).

If the above limits a,b,c are met, install 2 each P/N 4453005-11 and P/N 4453007-7 bushings. (See Figure 7). If the above limits a,b,d are met, fabricate one or more oversize bushings per Figure 7 and install. If one or more lug bores exceeds 1.0750", contact IAI for instructions. If limits a or b are not met, all 4 hinge bores must be honed oversize (1.0750" max.) using a 1/16" Sunnen hone. Oversize bushings per Figure 7 will be required.

- (4.5) Apply grease to the 4 hinge bores. Protect the shot-peened area of the hinge by wrapping loosely with aluminum foil. Protect the 2 outboard lugs from overheating by wrapping loosely with aluminum foil. Heat the middle 2 lugs. Install the 2 P/N 4453005-7 bushings in the center lugs so as to obtain spacing noted in Figure 7. Remove the aluminum foil from the outer 2 lugs, allow them to reach temperature and install the 2 P/N 4453005-11 bushings such that they are flush with the outboard face of the lug.

- (4.6) Inspect the gaps between the attach fitting bearings and hinge bushings to ensure that axial clearances will be within specification when the stabilizer is reinstalled in the aircraft. Heat the hinge fitting before attempting to adjust the position of a bushing. (See Figure 7).
- (4.7) Hone all four bushings in line using 7/8" Sunnen hone.

Limits

- a. Out of round .0005".
- b. Taper .0005".
- c. Diameter .8743"/.8750".

NOTE: Hone bushings to the minimum diameter necessary to fit the P/N 2453007-7 pin.

- (4.8) Fit hinge pin with AN960-1416L (Qty. 2) washers installed under the head, thru the bushings to ensure that the pin can be inserted when the stabilizer is reinstalled. Verify that the shank of the 2453007-7 pin does not protrude beyond the end of the bushing. Shank of pin should be set inside of bushing a minimum of 0.016 inch and a maximum of 0.063 inch.

CAUTION

When fitting the pin through the hinge bushings, care is required to avoid galling the bushings. If this occurs, the bushing(s) and pin may require replacement. The bushing bores and pin must be immaculately clean and lubricated with #30 weight oil (not WD-40 or equiv.). The pin must not be rotated nor driven in with more force than is exerted by tapping with a brass hammer.

E. Scissors Installation

- (1.0) Drill out rivets and remove Vertical Stabilizer rib P/N 5413027-81. See Fig. 8.
- (1.1) Refer to Figures 8 and 9. Remove the two outboard AN4 bolts attaching 4413028 rib to forward spar of Vertical Stabilizer. Ream these two holes to 0.2651-0.2671 inch.
- (1.2) Remove center AN4 bolt and ream hole to 0.2651 - 0.2671 inch.
- (1.3) Remove remaining two AN4 bolts.
- (1.4) Drill 5 ea. 0.280" holes in 5413027-247 plate to match holes in spar and rib P/N 4413028. Attach MS21063 L4-9-3 nut channel to -247 plate using 2 ea. MS20426-AD-3-3 rivets.
- (1.5) Install -247 plate including nut channel on forward side of vertical spar. Secure with two each NAS6604-10X bolts thru the outboard holes using MS21042-4 nuts and AN960C416L washers.
- (1.6) Temporarily secure upper scissors attach fitting P/N 4453513 to Vertical Stabilizer using NAS6604-14 bolts thru outboard holes in attach fitting. Center hole is to be left open at this time.
- (1.7) Drill out 4 ea. MS90353-8-15 blind fasteners at leading edge of Horizontal Stabilizer where lower attach fitting will be secured per Figures 11 & 12.
- (1.8) Place the Horizontal Stabilizer on the aircraft such that the fuselage frame and hinge fitting are joined.
- (1.9) If Horizontal Stabilizer hinge bushings were replaced and gaps are as required in Figure 7, proceed per Para. (1.12) below. If not, insert a 0.872 inch dia. drift pin 6.5 inches long tapered on one end (may be made from old hinge pin) thru hinge assembly.
- (1.10) Using feeler gages, measure clearance between the outer bearing and each adjacent bushing. If total clearance exceeds 0.012 inch, fabricate shims (make from AN960C-1416L washers).



- (1.11) Retract drift pin, install shims.
- (1.12) Place the AN960C-1416L washers (Qty. 2) under the P/N 2453007-7 hinge pin head and insert pin pushing out the drift pin.
- Note: Pin, bushing bores, and bearing bores must be clean and lubricated with #30 weight oil.
- (1.13) Alternatively, pack the pin in dry ice for one hour and insert using no lubrication (pin will shrink .001").
- (1.14) Install AO2WW5403001-7 washer and the AN320C-12 nut.
- NOTE: Washer (AO2WW5403001-7) should be installed flush with lug bushings.
- (1.15) Torque the nut to 150 INCH - lbs. Remove the nut and washer and verify that the end of the pin shank is inset from the end of the bushing. Replace washer and nut and torque to 20-30 INCH-lbs. above run on torque.
- (1.16) If a castellation lines up with one of the holes in the hinge pin, install the MS24665-376 cotter pin.
- (1.17) If a castellation does not line up with one of the holes, grind the back face of the nut until one does and install the cotter pin.
- (1.18) Connect Horizontal Stabilizer actuator.
- (1.19) Place Vertical Stabilizer on aircraft and insert bolts thru the fore and aft attach points. Do not install nuts.
- (1.20) Fully retract Horizontal Stabilizer actuator.
- (1.21) Temporarily assemble and attach scissors assembly to the upper fitting on the Vertical Stabilizer, assuring that the scissors assembly moves freely throughout its range.
- (1.22) Locate and mark the position of the lower scissors fitting on the Horizontal Stabilizer.

Note: Lower scissors fitting center line must be parallel to the aircraft center line.

- (1.23) Remove Vertical Stabilizer.
- (1.24) Place approximately 200 lbs. of sandbags on Horizontal Stabilizer leading edge near fuselage to balance Stabilizer.
- (1.25) Disconnect Horizontal Stabilizer actuator and raise leading edge to facilitate installation of lower scissors fitting.

CAUTION: When raising Horizontal Stabilizer leading edge, ensure that bolt heads thru rear spar splice do not contact fuselage banjo fitting.

- (1.26) Install lower scissors fitting on the Horizontal Stabilizer per Figures 11 and 12. Shim as required between fitting and Horizontal Stabilizer. As each fastener is installed, ensure fitting remains aligned as marked and parallel to aircraft center line.
- (1.27) Reconnect the Horizontal Stabilizer actuator.
- (2.0) Scissor Adjustment.
- (2.1) Place Vertical Stabilizer on aircraft and insert bolts thru fore and aft attach points. Do not install nuts.
- (2.2) Fully retract Horizontal Stabilizer actuator.
- (2.3) Loosen the two outboard bolts in the upper scissors fitting that were temporarily secured in Step (1.6), to allow fitting to move. Connect scissors assembly.
- (2.4) Disconnect Horizontal Stabilizer actuator.
- (2.5) Lift Horizontal Stabilizer to its maximum leading edge up position, so that scissors are fully closed. Tighten or loosen bolts attaching upper fitting until GAP "G" in Figure 11 measures 0.063". Measure GAP "H" and manufacture shim or filler of 2024-T3 alum to match upper fitting forward face and to fill GAP "H".

- (2.6) Install filler in GAP "H" and torque outboard bolts to 50 in-lbs.
- (2.7) Repeat Step 2.5 and verify GAP "G" & "H".
- (2.8) Connect Horizontal Stabilizer trim actuator.
- (2.9) Disconnect scissors at center. Slowly extend and retract trim actuator and ensure that scissors can be reassembled without binding throughout travel.

F. Scissors Final Assembly.

- (1.0) Remove Vertical Stabilizer
- (1.1) Measure gap between upper fitting (P/N 4453513) and 4413028 rib (GAP "C") (should be approximately equal to GAP "H"). Manufacture filler to match upper face of 4453513 fitting of 2024-T3 alum to fill GAP "C".
- (1.2) Ream center hole of upper fitting P/N 4453513 to match hole thru forward spar of vertical and rib P/N 4413028 (ream hole to 0.2651 - 0.2671 inch).
- (1.3) Install NAS6604-14X bolt with AN960C416L washer in center hole - do not tighten.
- (1.4) Loosen outboard bolts in upper attach fitting. Insert GAP "C" filler. Install MS90353-5-4 blind fasteners as shown in Figure 12, View E.
- (1.5) Torque NAS6604-14 & -14X bolts to 50 to 70 inch-lbs.
- (1.6) Install 5413027-81 rib in Vertical Stabilizer. See Figures 8 & 9.
- (1.7) Install Vertical Stabilizer. Torque forward attach bolts to 200 - 300 inch-lbs. Torque aft attach bolts as follows:
  - Up to S/N 270 torque: 400-500 inch-lbs.
  - S/N 271-415 torque: 200-400 inch-lbs.
  - S/N 416 & subs torque: 200-300 inch-lbs.
- (1.8) Assure that the center scissor lugs can be engaged without side loads and the bolt easily inserted with the Horizontal Stabilizer in the extreme up, down and 3 intermediate positions.

- (1.9) Connect center scissors, safety castellated nut, and lubricate all points.

Note: Tighten upper, lower and center scissor castellated nuts to 55-75 inch-lbs. Center scissor lug bushings must have a side clearance of .003" to .005" after final torque.

- (1.10) Move the Horizontal Stabilizer slowly up and down to check clearances. Ensure when the Horizontal Stabilizer is in the maximum up position (scissors fully closed), that the gap between the scissors and the Vertical Stabilizer (GAP "G") is 0.05 inch minimum and when the Horizontal Stabilizer is in zero position, that GAP "J" between scissors and Horizontal Stabilizer is 0.20 inch minimum.

- (1.11) Complete installation of Vertical Stabilizer, rudder and elevators.

G. INSPECTION FOR PLAY

- (1.0) Inspection of Splice Assembly for Radial Play.
- (1.1) Clamp a dial indicator (.0005" per division) to the attach fitting so that the plunger is vertical and resting against the bottom of the left hand outboard hinge lug (location 1 in Figure 13).
- (1.2) Gently place 100 lbs. of sandbags on the R.H. stabilizer tip.
- (1.3) Zero dial indicator.
- (1.4) Move all sandbags to the L.H. stabilizer tip.
- (1.5) Record dial indicator reading.
- (1.6) Repeat Steps (1) thru (5) for the R.H. outboard hinge lug.
- (1.7) If the total reading of the dial indicator exceeds 0.010 inch, it is recommended to perform the improved installation as per Para. D.

- (2.0) Inspection of Splice Assembly for Axial Play.
- (2.1) Clamp the dial indicator to the attach fitting so that the plunger is horizontal and resting against the face of one of the outboard hinge lugs (location 2 in Figure 13).
- (2.2) Push horizontally with hand forces on the left and right stabilizer tips alternately, so that the Horizontal Stabilizer moves through its full range of motion.
- (2.3) If axial play is less than .016" the aircraft may be returned to service.
- (2.4) If axial play is between .016" and 0.040", the aircraft may be returned to service, but must be reinspected at 150 flight hour intervals.
- (2.5) If axial play is greater than 0.040 inch, it is recommended to perform the improved installation as per Para. D.
- (3.0) Check Horizontal Stabilizer trim actuator for wear and looseness by shaking Horizontal Stabilizer at the tip and observing following areas:
- (1) Upper and lower attach points.
  - (2) Rod ends.
- If Horizontal Stabilizer hinge assembly is within the above limits, the aircraft may be returned to service.

### 3. MATERIAL INFORMATION

The following parts are required to complete the repairs and improvements described herein and are available only from approved Westwind Service Centers.

(1) Replacement of Horizontal Stabilizer Spar Splice

<u>P/N</u>	<u>DESCRIPTION</u>	<u>QTY</u>
4453005-501-400	Splice Assy.	1
MS20426AD5-8	Rivet	322
MS20426AD6-9	Rivet	8
MS90353-0505	Fastener	52
MS90353-0506	Fastener	8
MS90353-0606	Fastener	8
MS90353-0612	Fastener	2
MS90353-0811	Fastener	32
MS90353-0813	Fastener	2
NAS1738B5-4	Fastener	38
NAS1739B5-6	Fastener	196
NAS1739B5-7	Fastener	20
NAS1466-7	Fastener	20
NAS1466-8	Fastener	4
NAS1466-9	Fastener	8
NAS1080-06	Collar	32

(2) Improvement of hinge assembly.

<u>P/N</u>	<u>DESCRIPTION</u>	<u>QTY</u>
# See Table 1 on Page 22	Bearing	3
* 4453005-5	Bushing (Use as an alternate for Bushing 4453005-11, Bushing 4453005-5 when in need of a longer Bushing.)	A/R
* 4453005-11	Bushing	2
* 4453005-7	Bushing	2
* 2453007-7	Hinge Pin	1
* AN320C-12	Nut (Stainless Steel)	1
* MS24665-376	Cotter Pin	1
* AO2WW 5403001-7	Washer	1
* AN960C-1416L	Washers (For Shimming & under pin head)	6
* AN960C-1216L	Washer	2
MS90354-6-10	Fastener	2
AN4C3A	Bolt	3
AN960C416	Washer	3
No. 08831 or No. 371	Loctite	A/R

# Note that bearings cannot be ordered until the bores of the attach fitting have been measured.

\* These parts are supplied with 4453005-501-400 Spar Splice Assy.

NOTE: Above parts are supplied as Kit No. IAII-55-1A.

(3) Scissors Installation

<u>P/N</u>	<u>DESCRIPTION</u>	<u>QTY</u>
4453516-503	Scissors Assy.	1
5413027-247	Plate	1
NAS6604-14	Bolt	2
NAS6604-14X	Bolt	1
NAS6604-10X	Bolt	2
AN960416L	Washer	5
MS21063 L4-9-3	Nut Channel	1
MS90353-8-18	Fasteners	4
MS90354-6-6	Fasteners	4
MS90353-5-4	Fasteners	10
MS20426AD-5-6	Rivets	26
MS20426AD-3-3	Rivets	2
NAS1466-23	Fasteners	5
NAS1080-6	Collars	5
MS21042-4	Nuts	2
AN960C416L	Washer	3

NOTE: Above parts are supplied as Kit No. IAII 55-1B.

TABLE 1 - BEARING SELECTION

<u>Attach Fitting Bore</u>	<u>Order Bearing P/N</u>	<u>Outer Race diameter</u>
1.6236/1.6238	* KRP-505-14B-01	1.6245/1.6247
1.6239/1.6241	* KRP-505-14B-01-A	1.6248/1.6250
1.6242/1.6244	* KRP-505-14B-01-B	1.6251/1.6253
1.6245/1.6247	* KRP-505-14B-01-C	1.6254/1.6256
1.6248/1.6320	KRP-505-14B-01-X	Specify to achieve .0007/.0011 inter- ference fit.
1.6321/1.7000	Contact IAI International, Inc.	

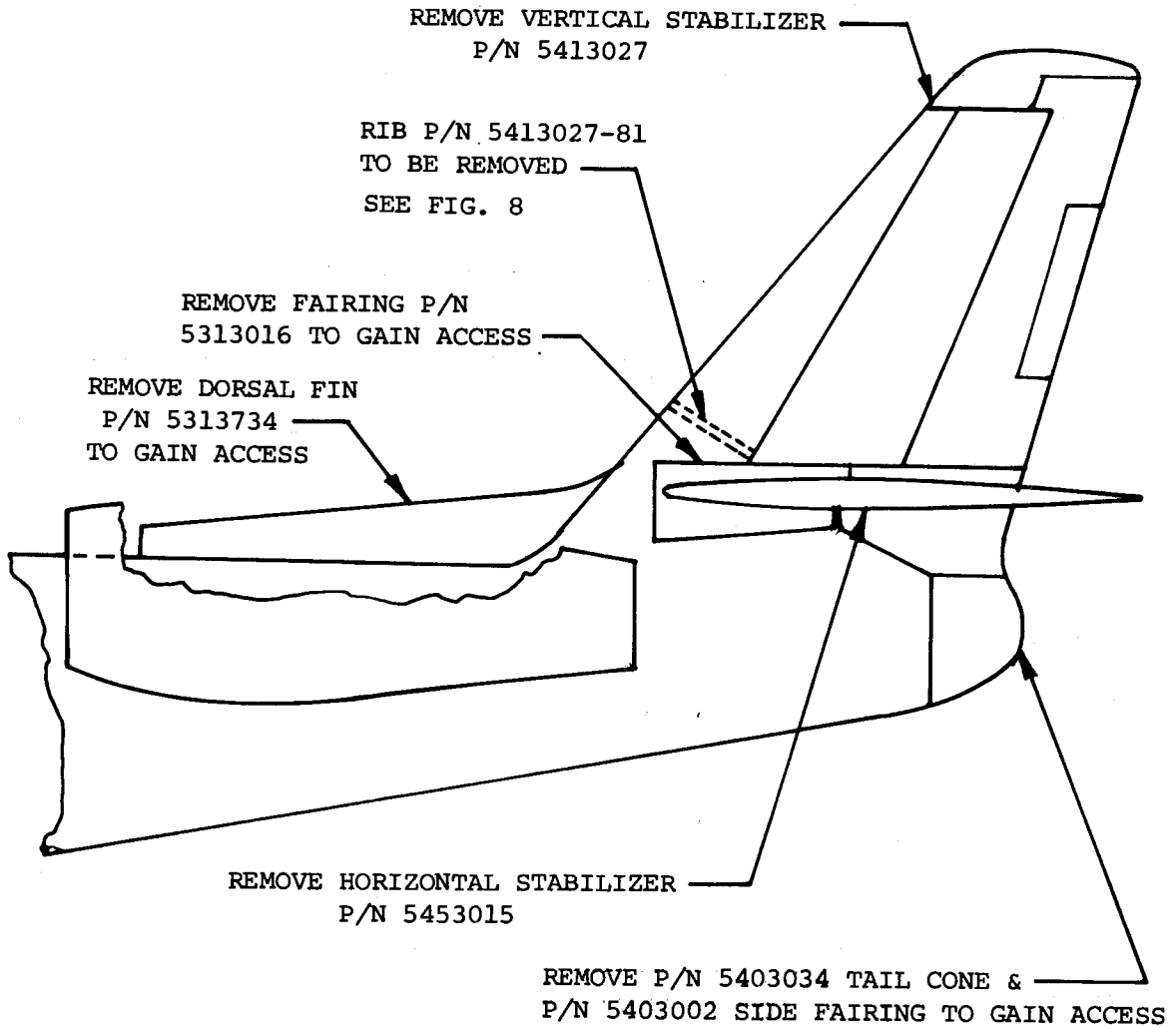
\* Stock item

4. RECORD COMPLIANCE

Make the following entry in the Aircraft Log Book:

Service Bulletin 1124-55-021 dated AUGUST 5, 1985, titled "Horizontal Stabilizer Assembly-Inspection, Repair and Improvement" has been accomplished \_\_\_\_\_ (date) \_\_\_\_\_.

SERVICE BULLETIN NO. 1124-55-021



VIEW SHOWING PARTS TO BE REMOVED FROM A/C

FIGURE 1



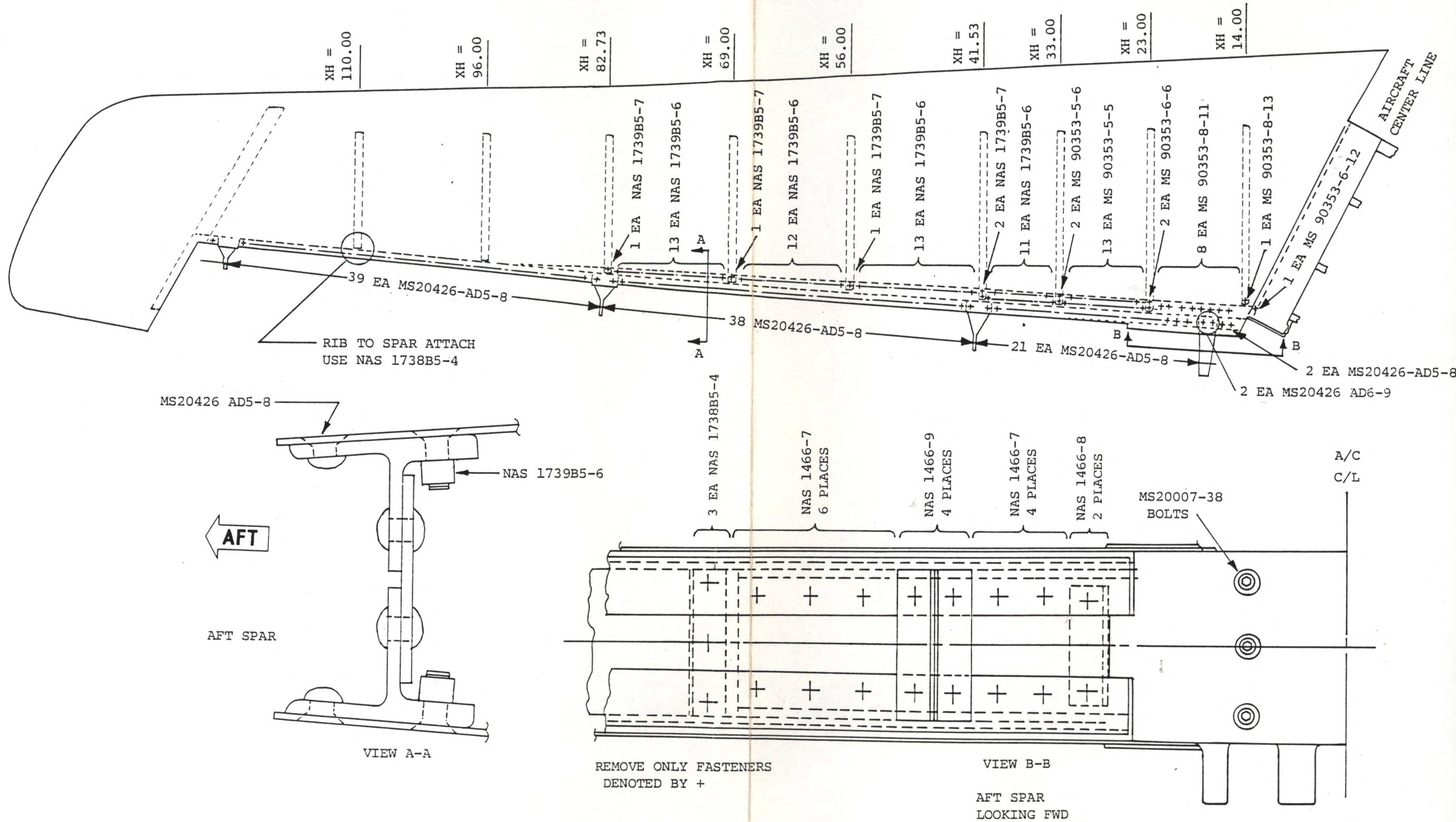
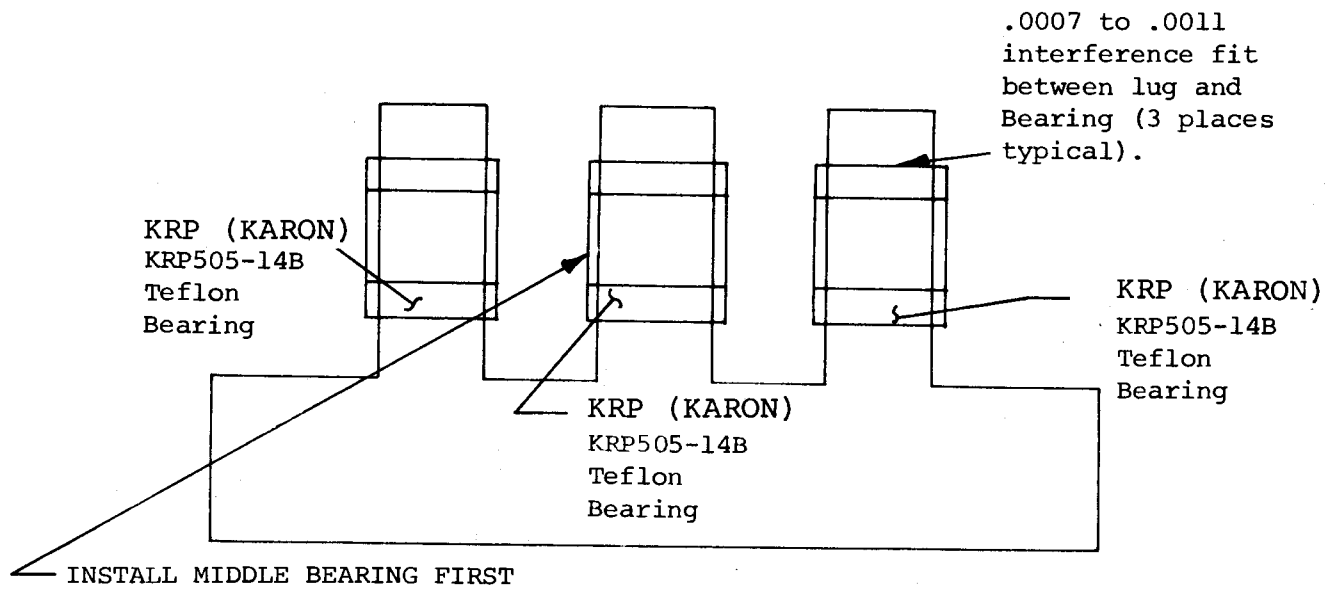
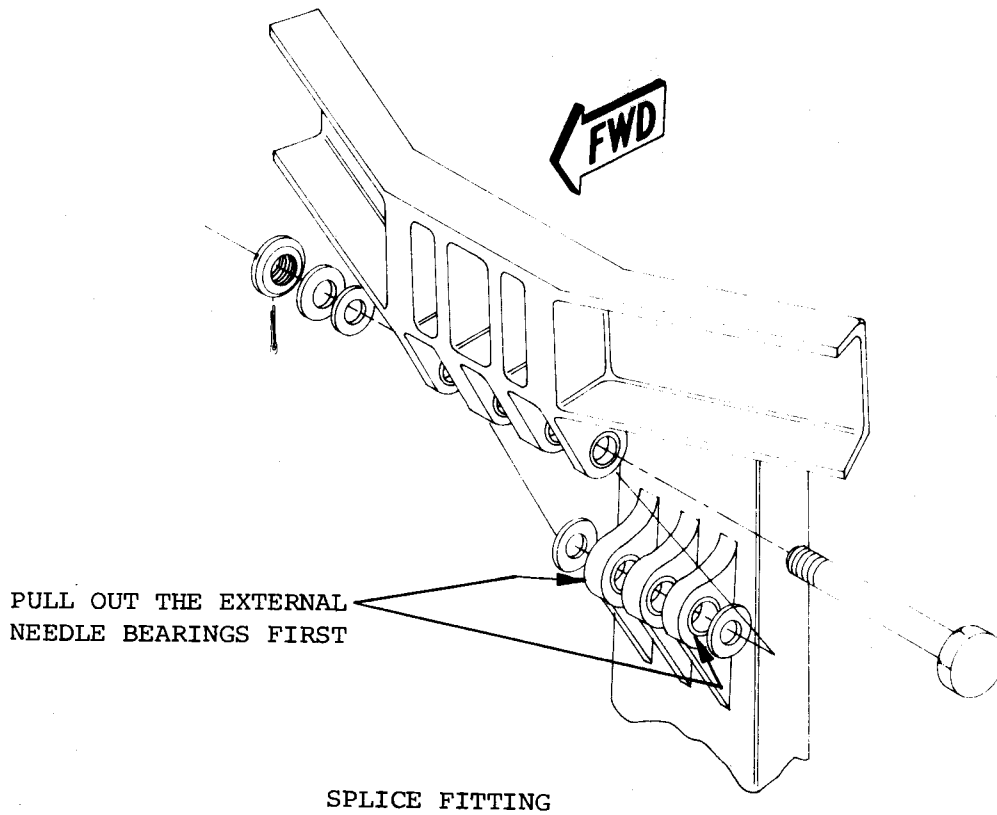


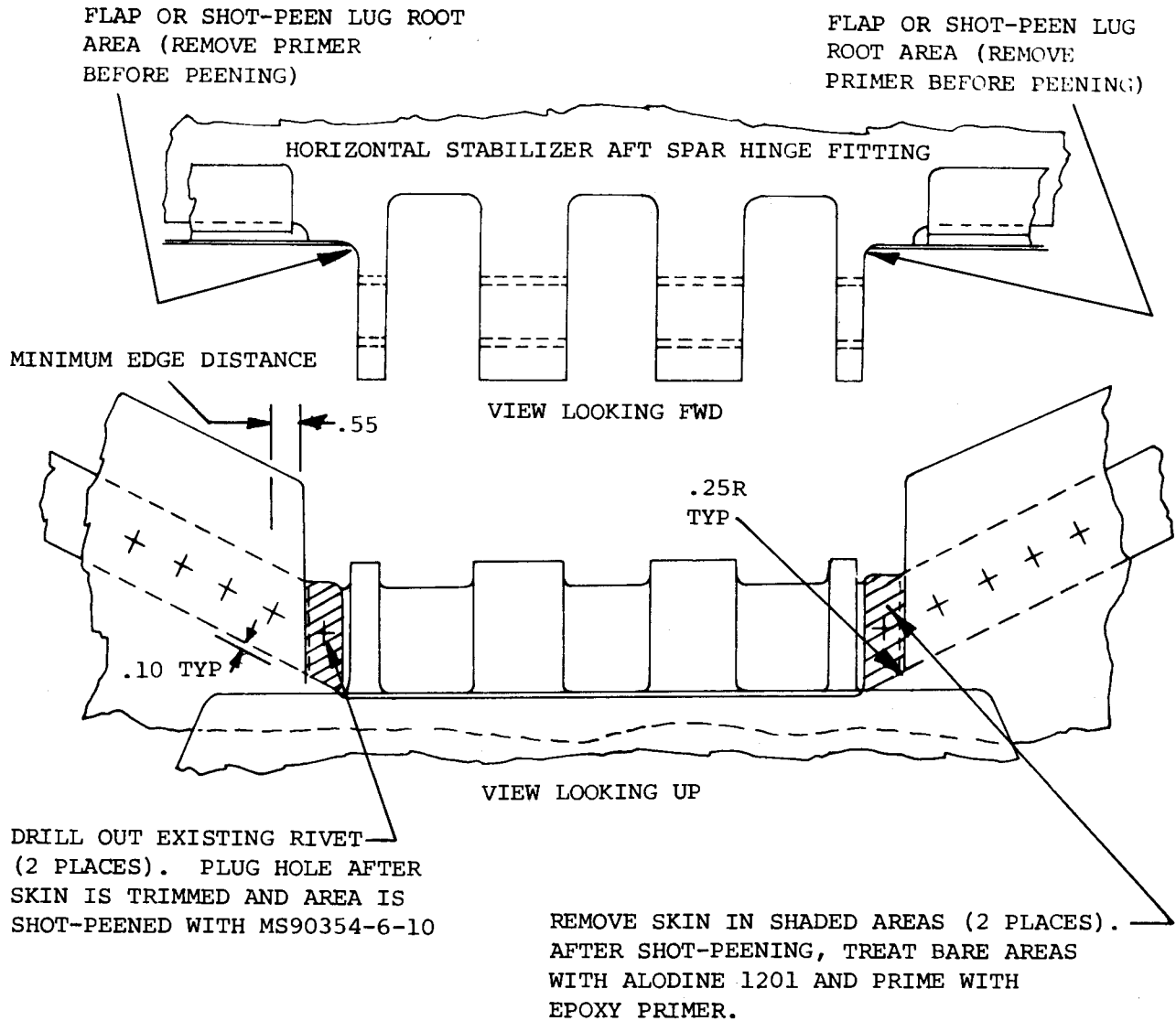
FIGURE 2

August 5, 1985



FUSELAGE FRAME STA. 521.75 LUGS

FIGURE 3



SHOT-PEEN AREA

FIGURE 4

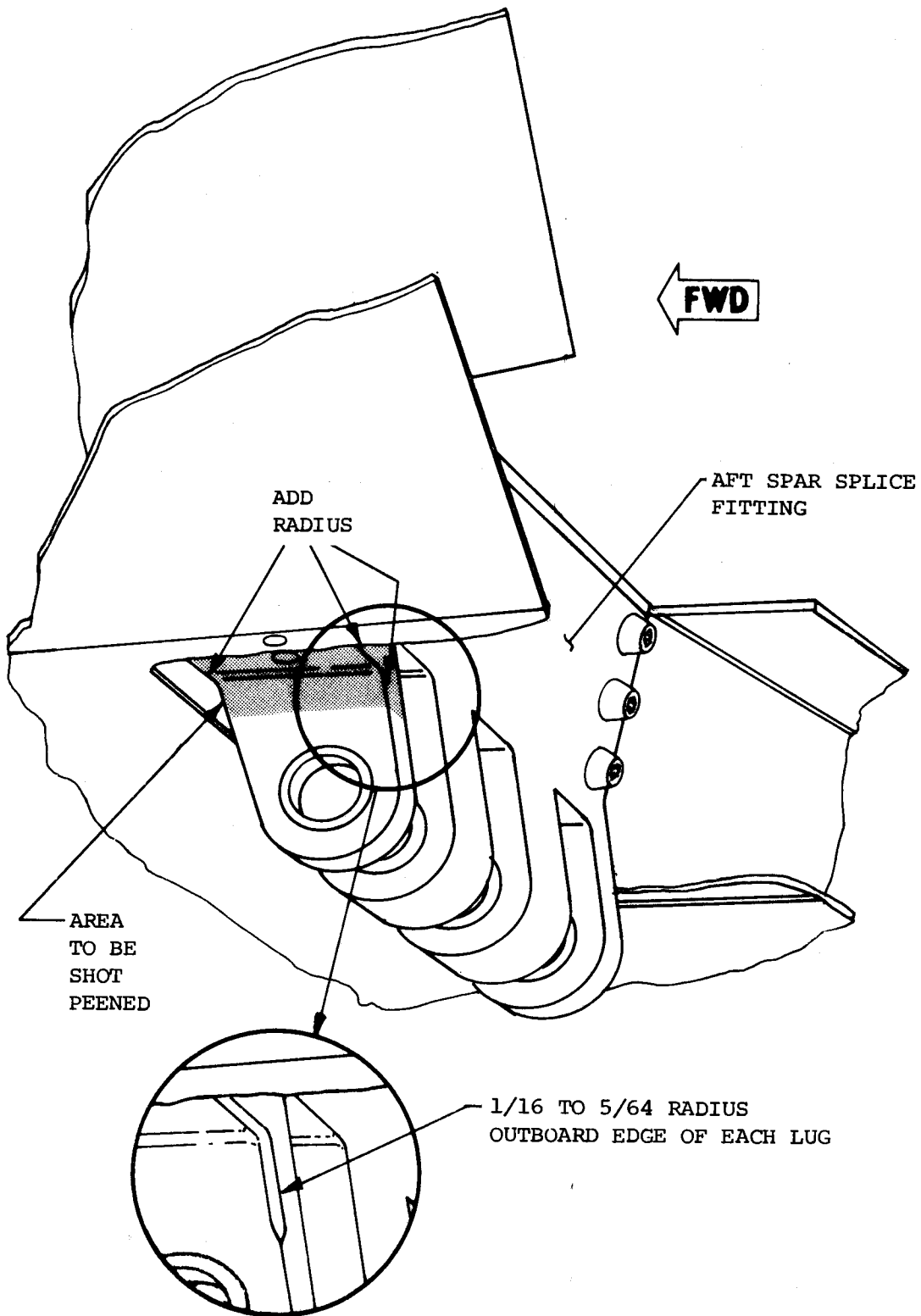
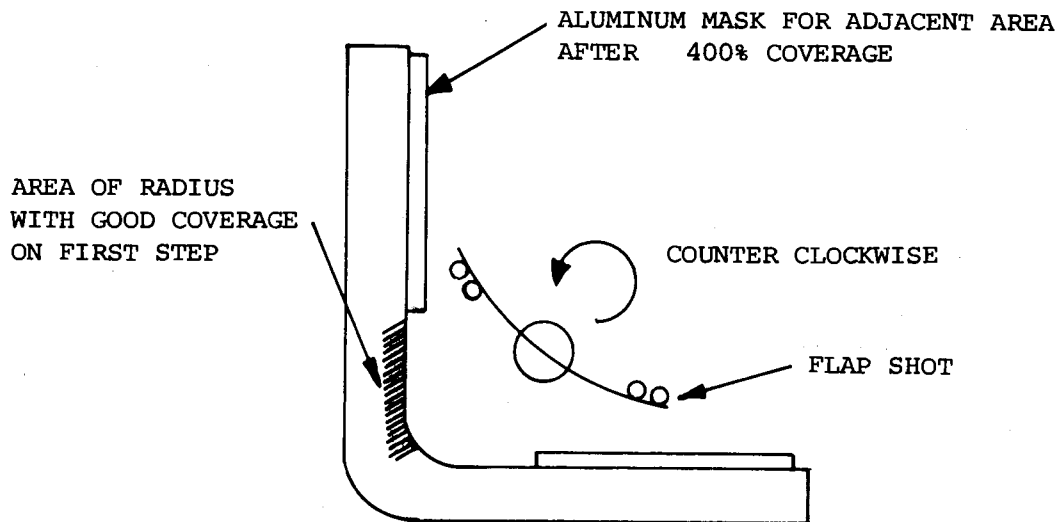


FIGURE 5

STEP 1



STEP 2

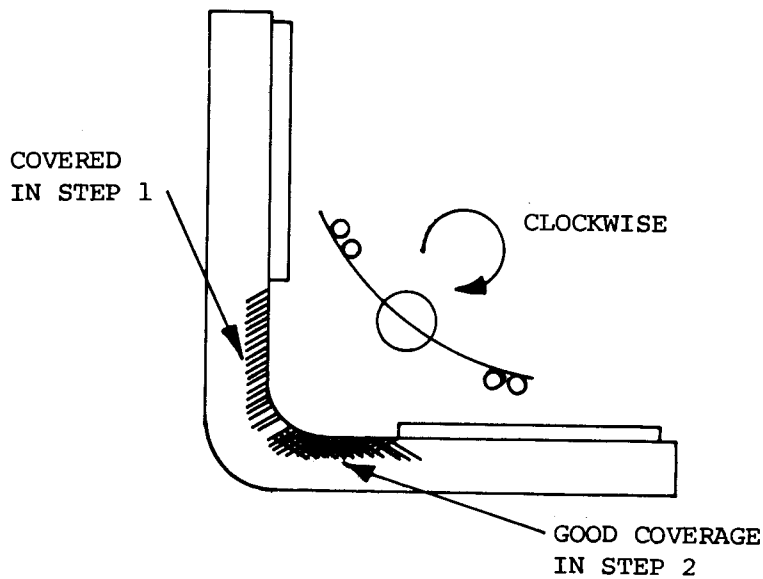
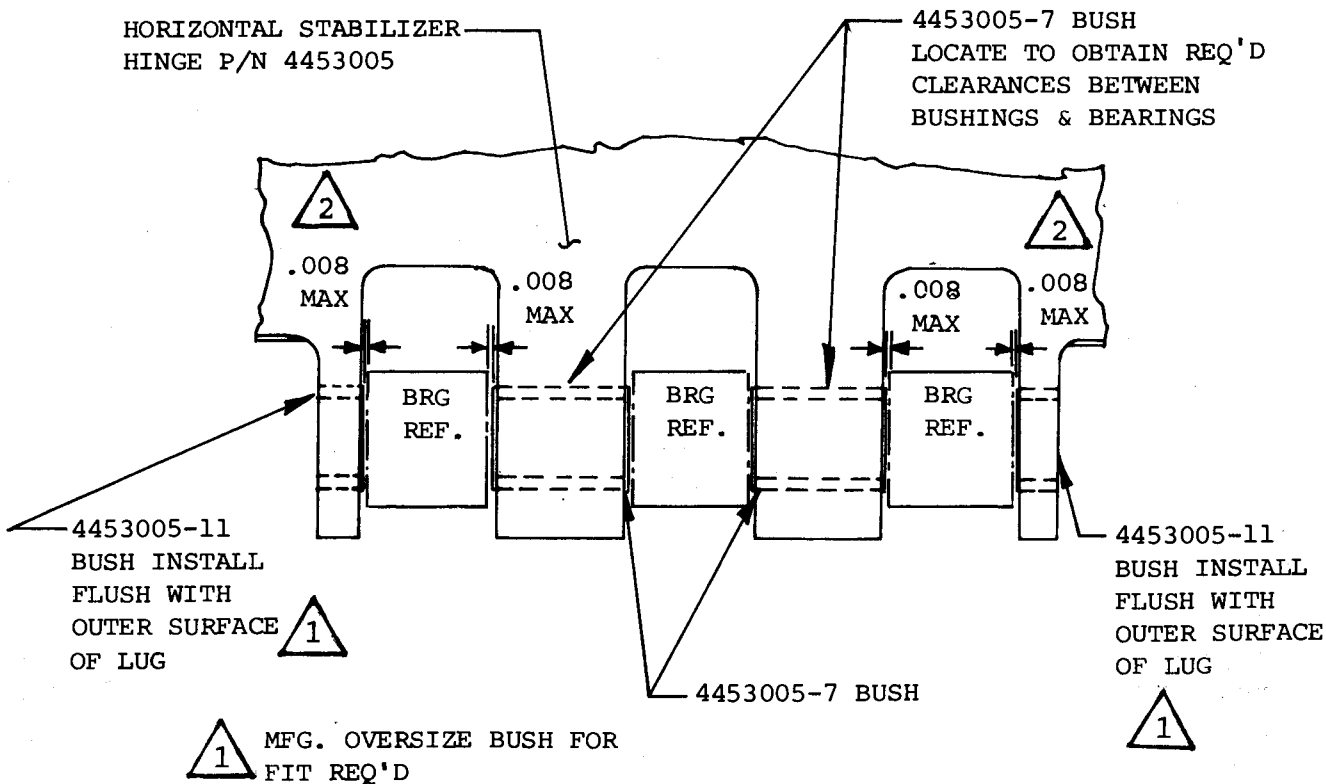
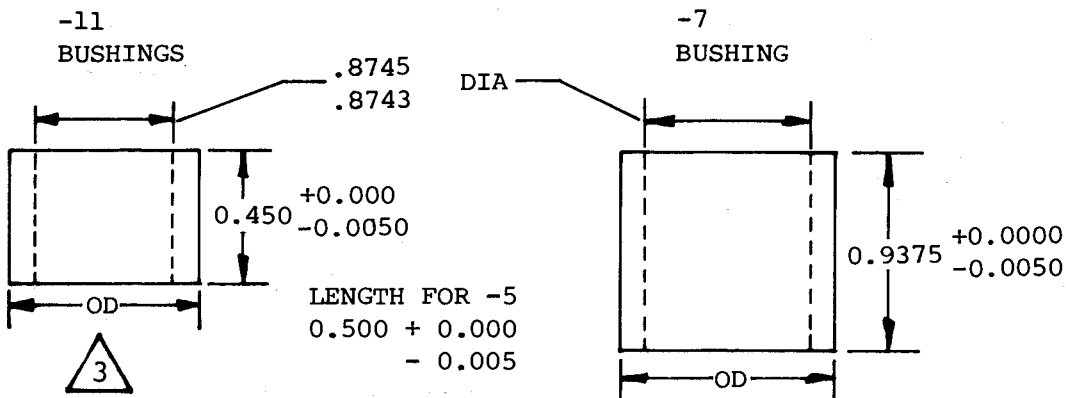


FIGURE 6



2 IF BUSHING 4453005-11 IS TOO SHORT TO ACHIEVE THE GAP, USE BUSHINGS 4453005-5 OR -7 TRIMMED AS REQUIRED.

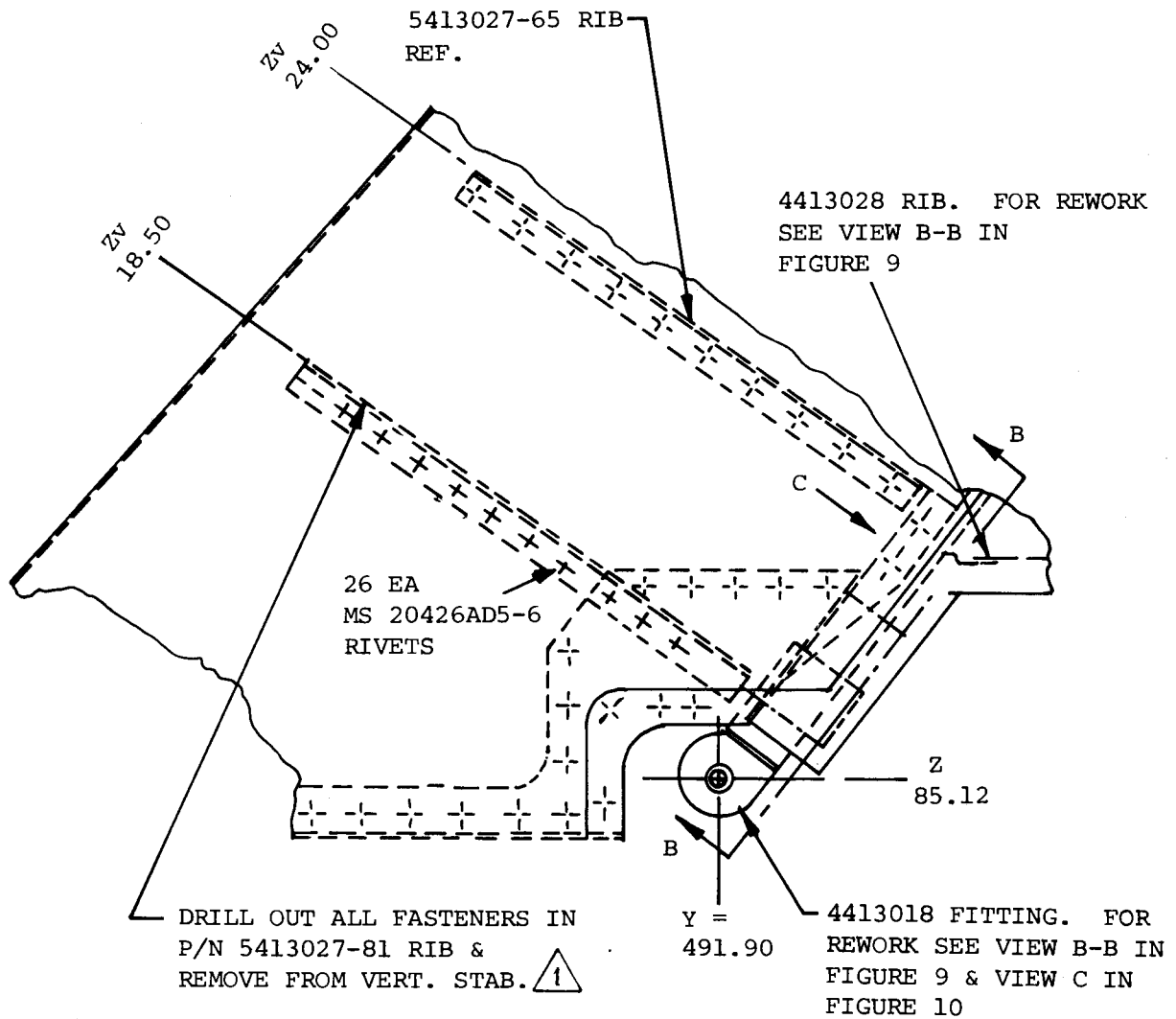
BUSHINGS TO BE MADE FROM ROD 4130 COND F-4



3 FABRICATE OD TO PROVIDE 0.001 TO 0.003 INCH INTERFERENCE FIT

FIGURE 7

PREPARATION FOR INST. OF SCISSOR ASSY



$\triangle 1$  AFTER PLATE P/N 5413027 & NUT CHANNEL MS 21063 L4-9-3 HAVE BEEN INSTALLED, RIB P/N 5413027-81 MUST BE REINSTALLED

FIGURE 8

SERVICE BULLETIN NO. 1124-55-021

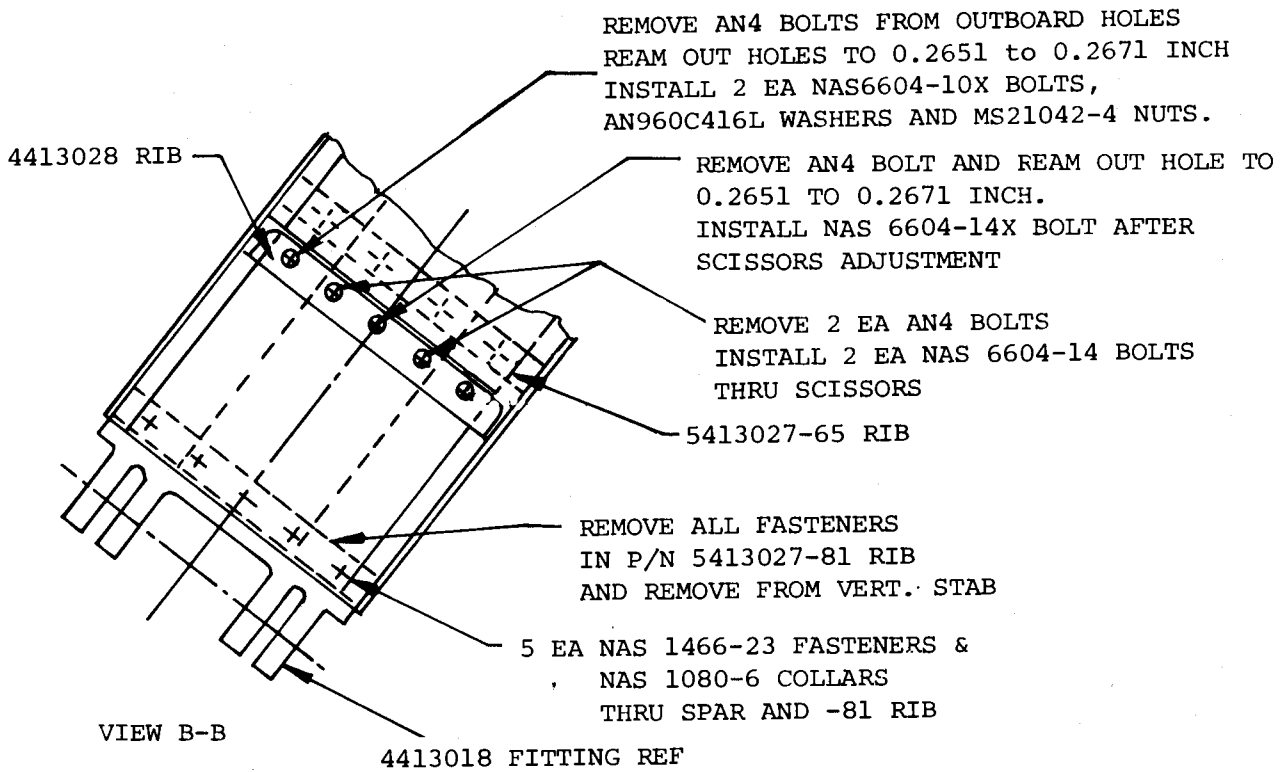


FIGURE 9

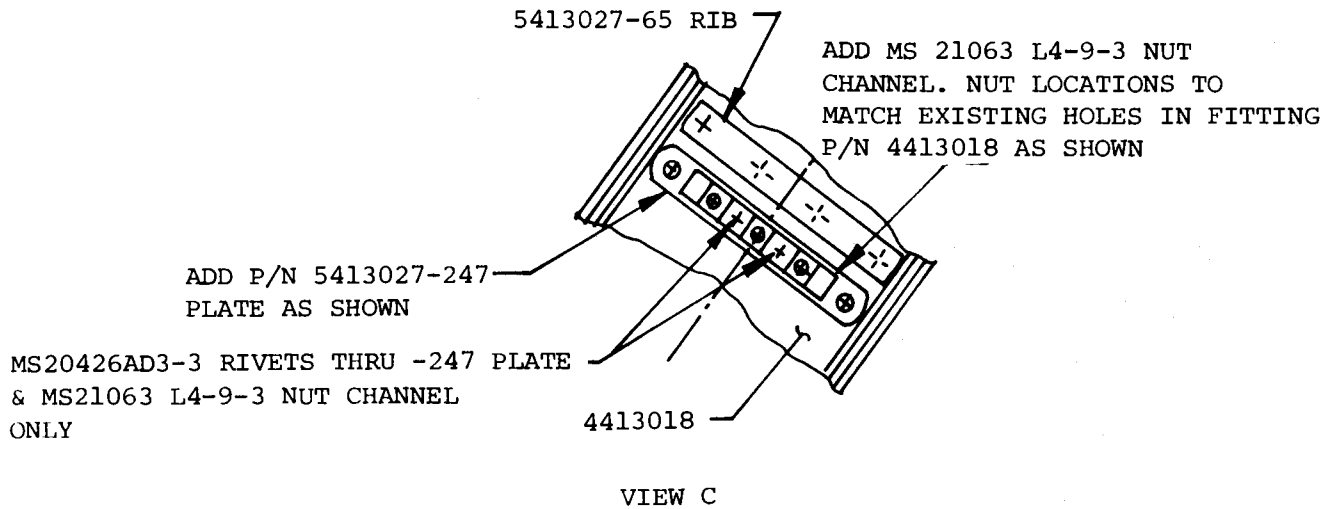
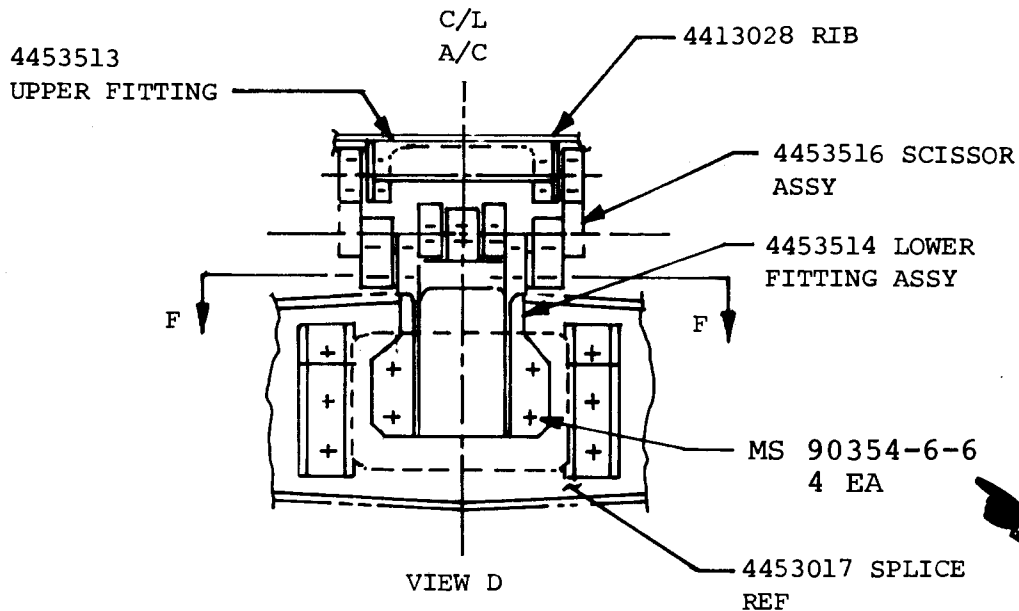
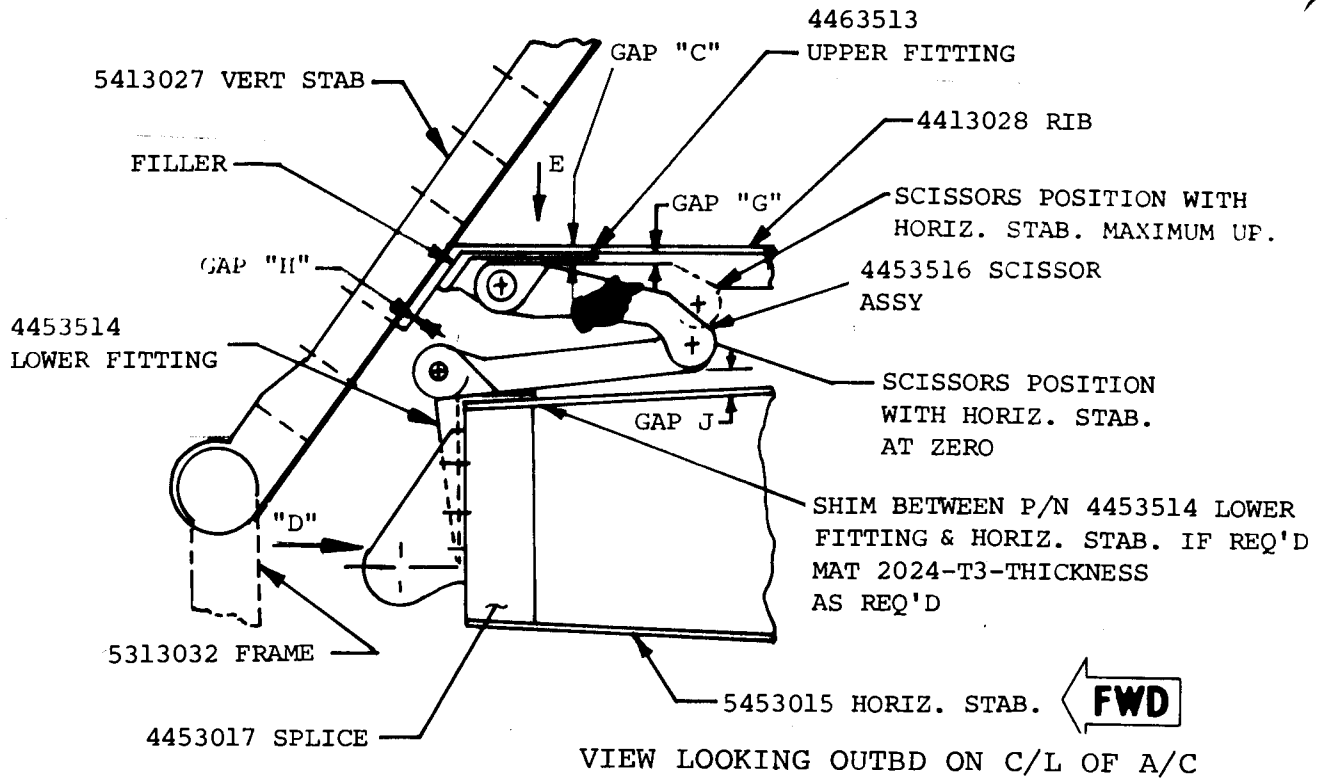


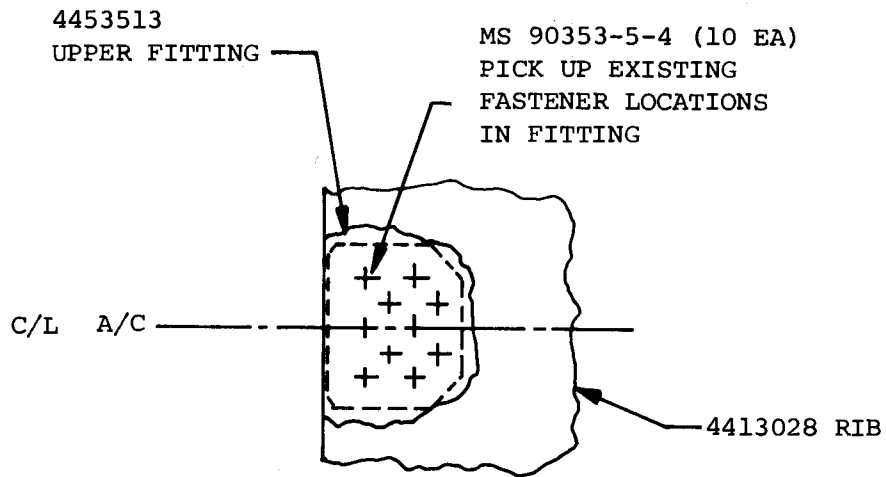
FIGURE 10





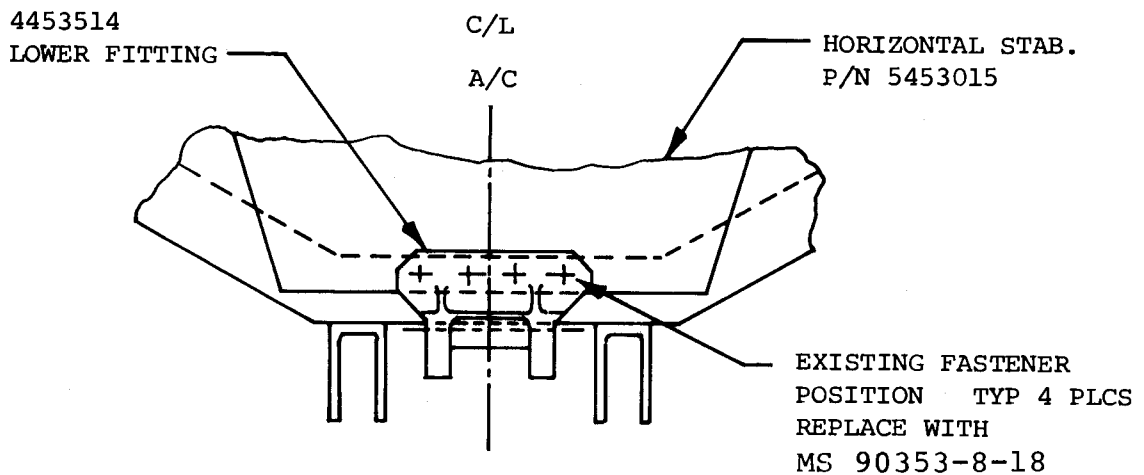
INSTALLATION OF SCISSORS ASSY

FIGURE 11



VIEW E

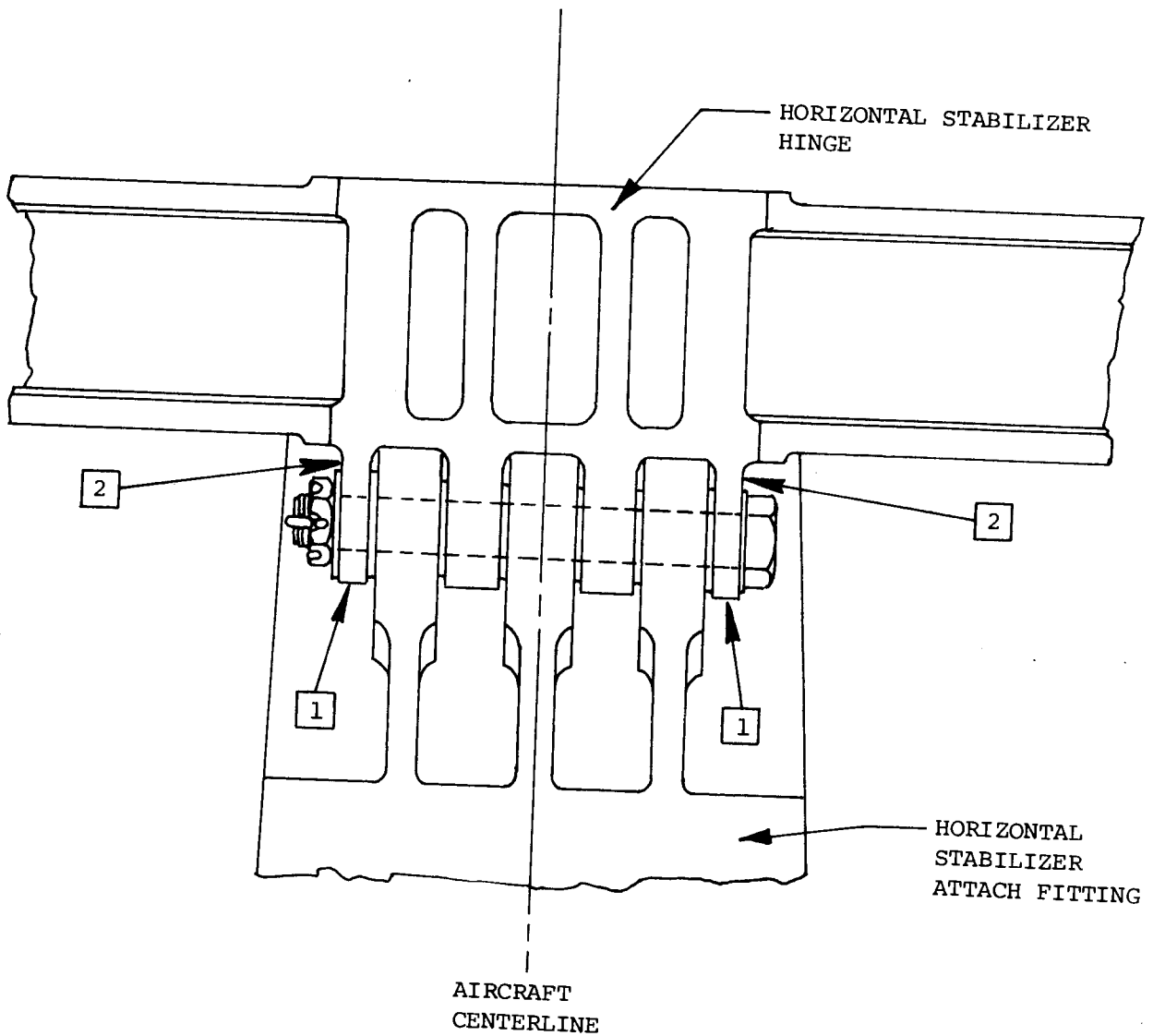
INSTALLATION OF  
UPPER FITTING



VIEW FF

INSTALLATION OF  
LOWER FITTING

FIGURE 12



HORIZONTAL STABILIZER HINGE INSPECTION

FIGURE 13

*Service Bulletin*

A/C S/N \_\_\_\_\_

*Certificate of Compliance*

PLEASE FILL IN THE REQUIRED DATA BELOW AND RETURN TO:

ISRAEL AIRCRAFT INDUSTRIES INTERNATIONAL, INC.  
P.O. BOX 10086  
WILMINGTON, DE 19850  
ATTN: TECHNICAL PUBLICATIONS

This is to certify that Westwind Serial Number \_\_\_\_\_ has complied with Service Bulletin No. 1124-55-021

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance HOURS: \_\_\_\_\_ /CYCLES: \_\_\_\_\_

Compliance Date \_\_\_\_\_ By \_\_\_\_\_  
Signature

OWNER:

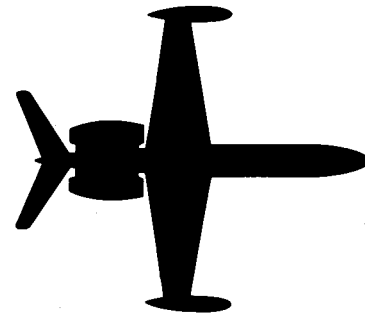
ACCOMPLISHING AGENCY:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Please describe below any discrepancies found or difficulties encountered during compliance:

\_\_\_\_\_  
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# 24-WESTWIND



## SERVICE BULLETIN

RECOMMENDED

SERVICE BULLETIN NO. 1124-55-097

February 3, 1989

SUBJECT: HORIZONTAL STABILIZER SCISSORS ASSY P/N 453516-501  
OR -503 INSPECTION

1. PLANNING INFORMATION

A. EFFECTIVITY

WESTWIND MODELS 1124/1124A - All serial numbers, except aircraft S/N 441.

B. REASON

Several cracked and/or loosened lower fittings of scissors assembly have been detected in service.

C. DESCRIPTION

This service bulletin requires a periodic inspection of the scissors assembly in order to detect cracks or loose fittings.

D. COMPLIANCE

Perform a visual inspection of scissors assembly each 300 flight hours.

NOTE: Chapter 5 of the 1124 series maintenance manual will be revised to reflect the new 300-hour interval.

E. APPROVAL

This service bulletin has been reviewed by the Israel Civil Aviation Administration (ICAA). The inspection

herein complies with the applicable Civil Aviation regulations and is ICAA approved.

F. MAN-HOURS REQUIRED

It is estimated that 1/2 man-hour is required to accomplish this inspection.

G. MATERIAL

Not applicable.

H. SPECIAL TOOLS

Not applicable.

I. WEIGHT AND BALANCE

Not applicable.

J. REFERENCE

1124 Maintenance Manual, Chapter 55-10-00.

K. PUBLICATIONS AFFECTED

1124 Maintenance Manual will be revised to incorporate the 300-hour inspection interval.

2. ACCOMPLISHMENT INSTRUCTION

A. Remove tail cone and empennage fairings necessary to gain access to the scissors assembly.

B. Without scissor removal, visually inspect for cracks at the following locations:

<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>LOCATION</u>	<u>SEE FIG.</u>
453513-501	Fitting, upper	1	1
453514-503	Fitting, lower	2, 3 & 4	2
453508-503, -505	Scissor, upper	5, 6 & 7	3
453509-503	Scissor, lower	8, 9 & 10	4

- C. If cracks are revealed, remove the scissor arms by removing the two bolts (453511-501) and bolt (453510-501).

The aircraft may remain in service. If the aircraft remains in service, inspection of the horizontal stabilizer aft spar splice fitting P/N 453005-501 should be continued according to Service Bulletin No. 1124-55-020.

For reinstallation instructions of the scissors assembly and for procurement of replacement parts, contact Astra Jet Corporation, Wilmington, Delaware.

- D. Inspect lower fitting (P/N 453514-503) for loose rivets or gaps between fitting and horizontal stabilizer skin (see Figure 5).
- E. If looseness and/or gaps between lower fitting and stabilizer skin are found, remove the scissors arms by removing the 2 bolts (P/N 453511-501) and bolt (P/N 453510-501).

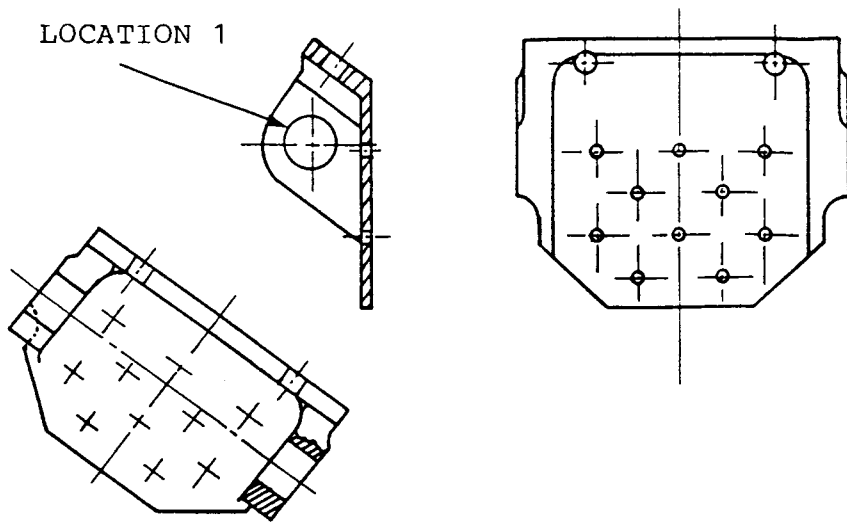
The aircraft may remain in service. If the aircraft remains in service, inspection of the horizontal stabilizer aft spar splice fitting P/N 453005-501 should be continued according to Service Bulletin No. 1124-55-020.

For reinstallation instructions of the scissors assembly and for procurement of replacement parts, contact Astra Jet Corporation, Wilmington, Delaware.

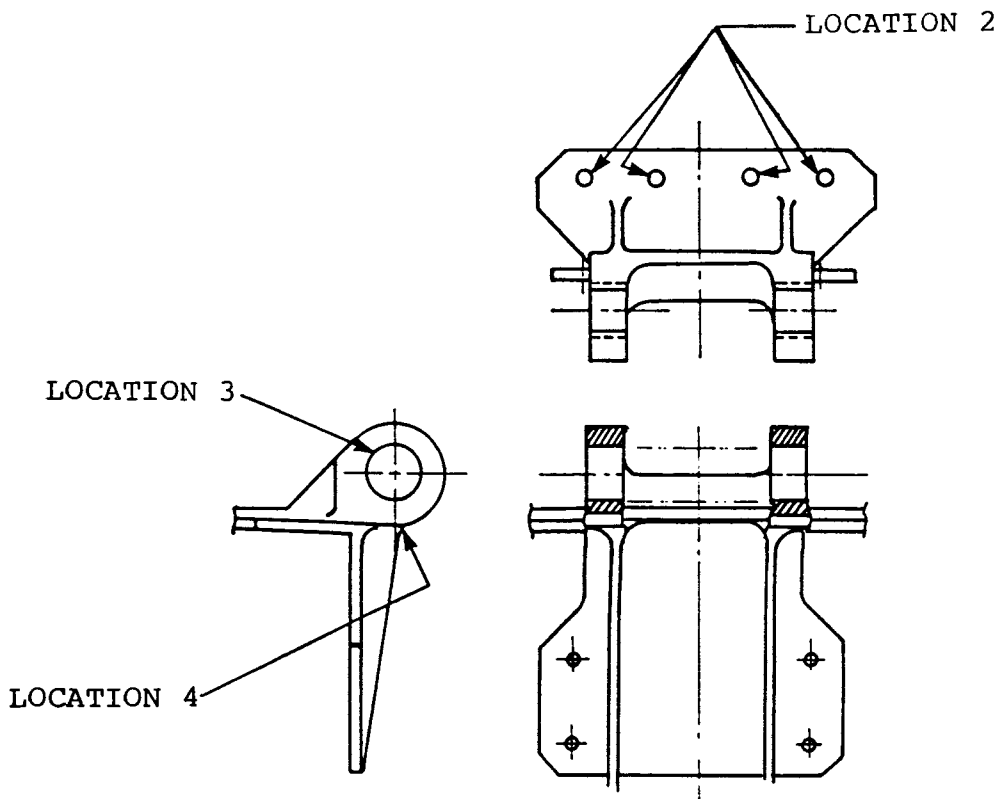
- F. If additional information is needed contact:

ASTRA JET CORPORATION  
P. O. BOX 10086  
WILMINGTON, DE 19850  
U.S.A.

PHONE: (302) 322-7240  
TELEX: 704034

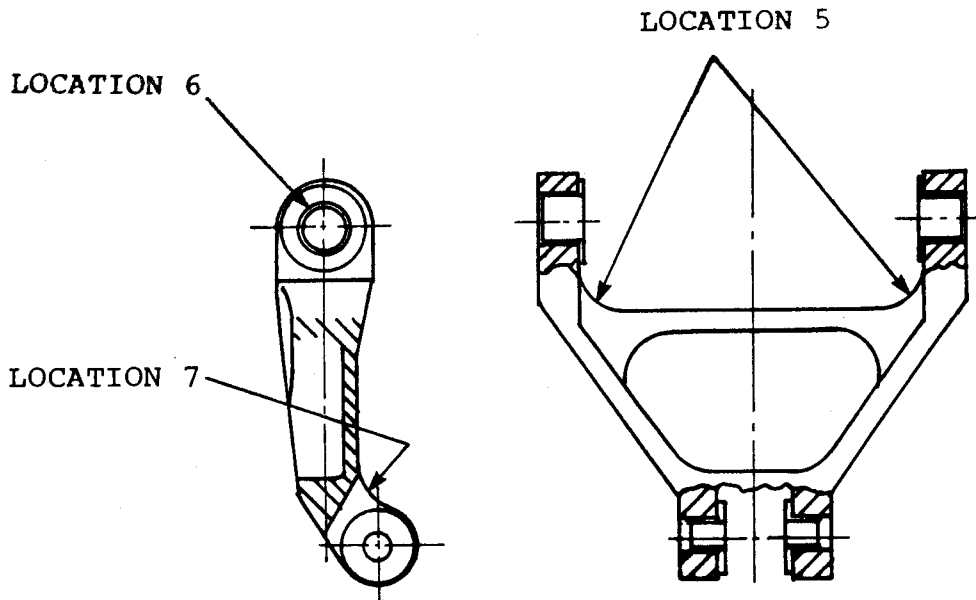


UPPER FITTING P/N 453513-501  
FIGURE 1

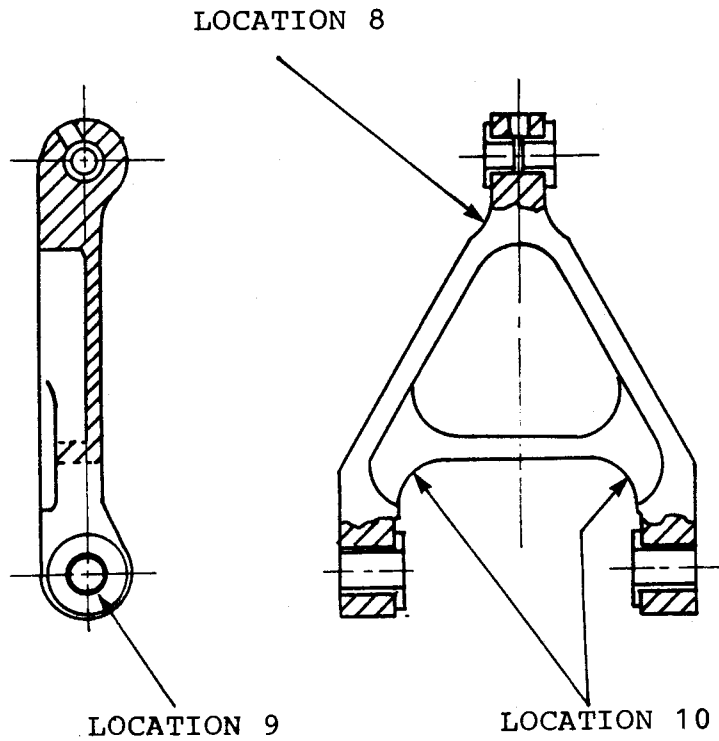


LOWER FITTING P/N 453514-503  
FIGURE 2

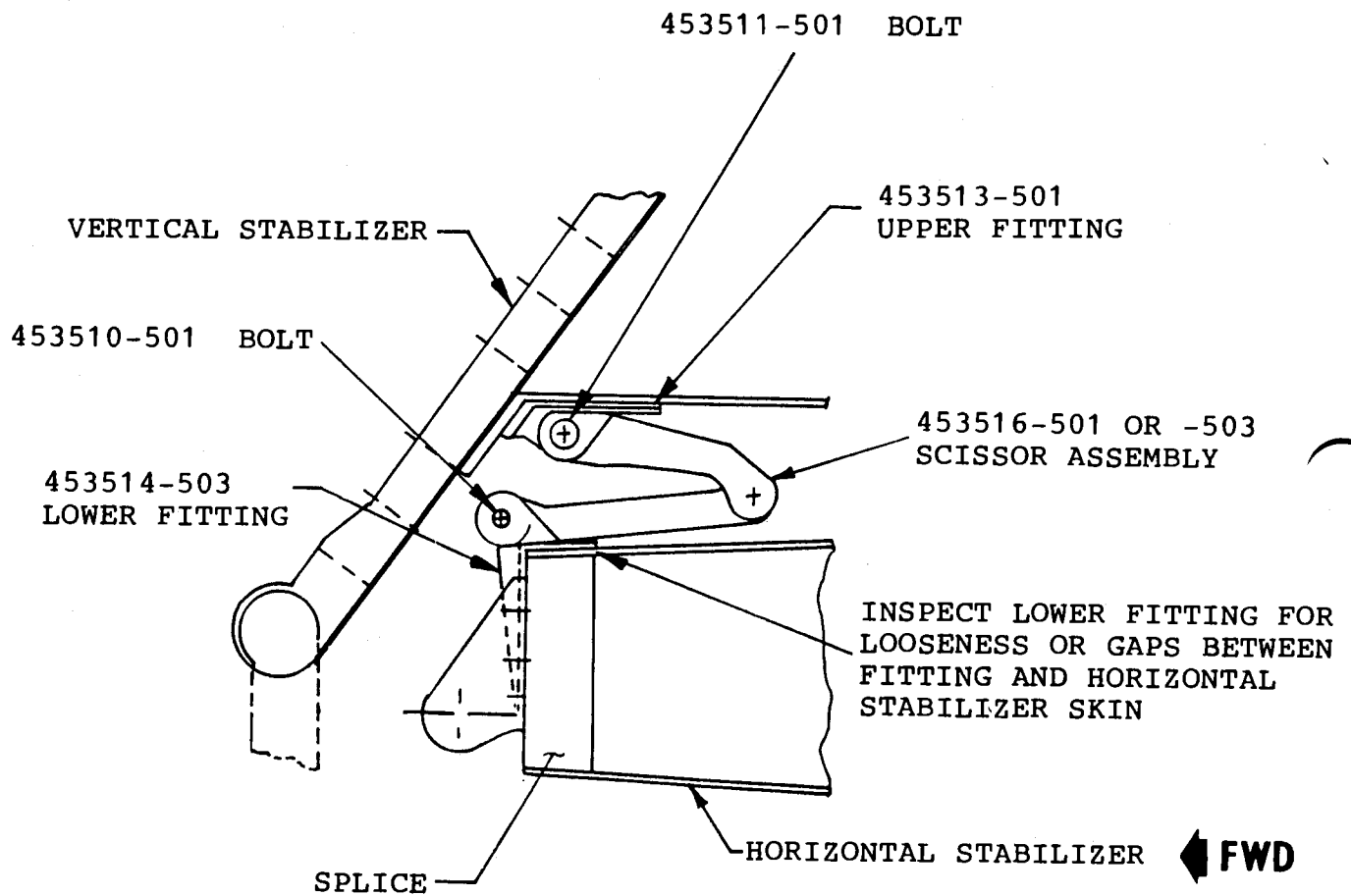




SCISSOR - UPPER P/N 453508-503, -505  
FIGURE 3



SCISSOR - LOWER P/N 453509-503  
FIGURE 4



VIEW LOOKING OUTBOARD ON C/L OF A/C

SCISSORS ASSEMBLY INSTALLATION  
FIGURE 5

*Service Bulletin*

A/C S/N \_\_\_\_\_

*Certificate of Compliance*

PLEASE FILL IN THE REQUIRED DATA BELOW AND RETURN TO:

ISRAEL AIRCRAFT INDUSTRIES INTERNATIONAL, INC.  
P.O. BOX 10086  
WILMINGTON, DE 19850  
ATTN: TECHNICAL PUBLICATIONS

This is to certify that Westwind Serial Number \_\_\_\_\_ has complied  
with Service Bulletin No. SB 1124-55-097

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance HOURS: \_\_\_\_\_ /CYCLES: \_\_\_\_\_

Compliance Date \_\_\_\_\_ By \_\_\_\_\_  
Signature

OWNER:	ACCOMPLISHING AGENCY:
_____	_____
_____	_____
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Please describe below any discrepancies found or difficulties  
encountered during compliance:

\_\_\_\_\_

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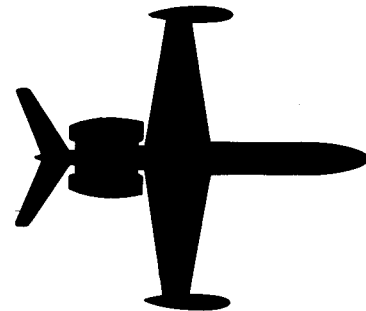
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TEAR AT PERFORATION, REMOVE TAPE AT BOTTOM, FOLD, SEAL AND MAIL



## SERVICE BULLETIN

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### OPTIONAL

SERVICE BULLETIN NO. 1124-55-107

September 28, 1994

**SUBJECT:** STABILIZERS - HORIZONTAL STABILIZER LOWER SCISSOR FITTING REPLACEMENT (AFC 2073)

#### 1. PLANNING INFORMATION

##### A. EFFECTIVITY

MODEL 1124/1124A WESTWINDS, all serial numbers with Service Bulletin No. 1124-55-021 previously complied with (AFC 2037).

**NOTE:** Aircraft serial number 441 and aircraft with P/N 453504-501 fitting assembly installed in accordance with Engineering Order A06 WW5 453015 "NEW" (AFC 2073), are in full compliance with this service bulletin.

##### B. REASON

Reports from the field indicate that some stabilizer lower scissor fittings P/N 453514 have loosened or cracked in service. Reference Service Bulletin No. 1124-55-097.

##### C. DESCRIPTION

This service bulletin provides instructions for the installation of a new combined stabilizer scissor and stabilizer actuator fitting.

##### D. COMPLIANCE

Compliance is optional and at the operator's convenience.

**E. APPROVAL**

This service bulletin has been reviewed by the Civil Aviation Administration of Israel (CAAI). The design content herein complies with the applicable Civil Aviation Regulations and is CAAI approved.

**F. MAN-HOUR REQUIREMENTS**

The following information is for planning purposes only:

- (1) Estimated man-hours: 50
- (2) Suggested number of personnel: 2

The above is an estimate only, based on experienced personnel complying with this service bulletin. It is possible, depending on individual experience levels, that additional or fewer man-hours are required to accomplish this bulletin.

**G. MATERIAL**

<u>QTY.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
*1	453504-501	FITTING ASSEMBLY
*2	453517-003	WASHER
*2	453517-005	WASHER
*2	453517-007	WASHER
*2	453517-009	WASHER
*2	25W357226-005	BUSHING
*1	453522-501	BOLT
*2	NAS336CPA25	BOLT
*2	NAS6708DU19	BOLT
*2	MS14144L8	NUT
*2	MS24665-302	PIN, COTTER
*2	AN960C816	WASHER
A/R	AN960C816L	WASHER
4	MS90353-08 OR -U08	BLIND BOLT
4	MS90354-06 OR -U06	BLIND BOLT
A/R	PR1422 B2 OR EQIV	SEALER
A/R		EPOXY (FLUID RESISTANT) PRIMER

\* Items with asterisk are included in kit P/N 453015 (NEW) scissors kit.

Material required may be obtained through Astra Jet Corporation, New Castle, Delaware, or authorized ASTRA/WESTWIND Service Centers.

H. TOOLING

A special fixture, P/N AMD-1-WW4453504-501 is available on a rental basis from Astra Jet Corporation. This tool is designed to ease picking-up existing holes in the stabilizer forward spar for the new fitting.

Bridge Port or equivalent.

Cobalt Drills.

Carbide Reamers

AMD-1-WW4 453504-501, Fixture Assembly.

I. WEIGHT AND BALANCE

Add 3.7 pounds at an arm of 492.75 inches.

J. ELECTRICAL LOAD DATA

Not applicable.

K. REFERENCES

1124/1124A Westwind Maintenance Manual, Chapters 27-20-00, 27-30-00, 27-40-00, 30-10-00 and 55-30-00.

1124/1124A Westwind Illustrated Parts Catalog, Chapters 55-10-00.

1124 Service Bulletin 1124-55-097.

L. PUBLICATIONS AFFECTED

1124/1124A Westwind Maintenance Manual.

1124/1124A Westwind Illustrated Parts Catalog.

2. ACCOMPLISHMENT INSTRUCTIONS

A. Install tail support stand.

B. Open the following circuit breakers:

(1) HORIZ TRIM - CONTR and OVRD.

(2) RUD - CONTR.

(3) LIGHTS - POS and ANTI COLL.

C. Remove tail cone and fairings, tail cone P/N 313034, empennage P/N 403002, horizontal stabilizer P/N 403004 and horizontal side fairing installation P/N 403016. Refer to Figure 1.

D. Pre - Installation Inspection

- (1) Connect external power to the aircraft.
- (2) Close HORIZ TRIM - CONTR circuit breaker.
- (3) Move the horizontal stabilizer to the maximum leading edge up position. Verify that the gap between the upper scissor and the vertical stabilizer bottom rib (Gap "G") is 0.050 inch minimum. Refer to Figure 2.
- (4) Move the horizontal stabilizer to the zero degree position. Verify that the gap between the scissor assembly and the horizontal stabilizer (Gap "J") is 0.200 inch minimum. Refer to Figure 2.
- (5) Open HORIZ TRIM - CONTR circuit breaker.
- (6) Disconnect external power from the aircraft.

E. Disconnect scissor assembly P/N 453516 from lower scissor fitting P/N 453514 at scissor lower hinge, by removing hinge bolt P/N 453510. Refer to Figure 2. Tie scissor assembly away from horizontal stabilizer. Save washer and nut for re-use.

F. Remove the vertical stabilizer and rudder from the aircraft. Reference 1124/1124A Westwind Maintenance Manual, Chapter 55-30-00.

**NOTE:** There are two (2) screws on each side of the vertical stabilizer leading edge that are covered by the dorsal fin. To locate these screws, lay a straight edge on the exposed screws and measure forward on 2.50 inch centers, starting at the second exposed screw aft of the dorsal fin. Mark and cut .500 inch diameter holes in the dorsal fin and remove the screws. Refer to Figure 1.

G. Preparation for lower scissor fitting, P/N 453504-501 installation.

- (1) Disconnect deicer boot lines.
- (2) Place a wood block between the fuselage banjo fitting and the stabilizer hinge fitting to prevent damage to these parts (fuselage station 521.75).
- (3) Support the stabilizer.
- (4) Disconnect stabilizer actuator by removing cotter pins, nuts, bolts, and washers. Tie actuator assembly away from horizontal stabilizer.
- (5) Remove six (6) each bolts P/N MS20006-34 attaching actuator fittings P/N 453022 to stabilizer forward spar and remove fittings. Reference Westwind Illustrated Parts Catalog, Chapter 55-10-00 Figure 3. Save bolts for re-use.

- (6) Drill out all fasteners attaching lower scissor fitting P/N 453514 to horizontal stabilizer.
- (7) Pilot countersink four (4) holes in doubler, P/N 453015-161 on top of stabilizer. Inspect hole condition. Refer to Figure 2 View "B".
- (8) Clamp-up doubler, P/N 453015-161 and skins, P/N 453015-167, left hand and -168 right hand. Refer to Figure 2 View "B".
- (9) Install four (4) blind bolts, P/N MS90353-08 or -U08, grip as required. If necessary use first standard over size. Fasteners are to be installed wet with sealant P/N PR1422. Refer to Figure 2 View "B".
- (10) Ensure that upper and lower doublers and skins are trimmed flush with vertical plane of the forward spar, P/N 453017, to clear new scissor/actuator fitting, P/N 453504.

H. Lower scissor fitting P/N 453504-501 set up.

- (1) Locate template from special fixture P/N AMD-1-WW-4453504-501 on the forward spar using "L" pin ⑤ in left and right center holes, as shown in Figure 3, View "A". Template ① is indexed to fixture with letter stamp "A".
- (2) Verify that bolts removed in step G. (5) can be installed in the four (4) remaining holes.
- (3) Remove template ① from aircraft.
- (4) Clamp new fitting, P/N 453504-501 as shown in Figure 3, View "B", in fixture ③. Adjust fitting in fixture as follows:
  - (a) Lower edge on stops on fixture.
  - (b) The left and right vertical edges can be shimmed equally between the stops, gaps "A" and "B".
  - (c) Tighten clamping bolts ② and verify that fitting position has not changed, per above requirements.
- (5) Refer to Figure 4, View "A".
  - (a) Insert drill bushing ④ in upper left hand position and drill  $\frac{3}{16}$  inch pilot.
  - (b) Remove bushing and drill hole to  $\frac{23}{64}$  inch.
  - (c) Ream hole to 0.375 inch and install "L" pin ⑤ through fitting and fixture, refer to Figure 4 View "B".



- (6) Repeat the above for lower right hand hole position.
- (7) Drill and ream the four (4) remaining holes.
- (8) Remove fitting from fixture.
- (9) Refer to Figure 4, View "C". Insert center punches 6 in four (4) holes "A" on vertical plane of forward spar between six (6) scissor/actuator fitting attach bolt holes.
- (10) Attach fitting to stabilizer loosely with the six (6) bolts removed in step G. (5).

**NOTE:** If bolts cannot be easily inserted to engage threads with nuts, ream holes as necessary to 0.3755, +.0000, -.0001 inch.

- (11) While holding the fitting against the four (4) punches 6, lightly tap the fitting to mark the position of the four (4) holes.

**CAUTION:** EXCESSIVE FORCE WILL DAMAGE THE CENTER PUNCHES.

- (12) Remove fitting from stabilizer. Drill and ream holes to .199 to .202 inch.
- (13) Spot face center and upper left and right bolt holes .70 inch diameter with a .016 inch radius in cut. Refer to Figure 5, View "A".
- (14) Chamfer the above four (4) holes one hundred degrees (100°) by .060 inches deep. Refer to Figure 5, View "B".
- (15) Counter sink the lower left and right bolt holes one hundred degrees (100°) by .750 inches in diameter. Refer to Figure 5, View "C".
- (16) De-burr all holes and break sharp edges.
- (17) Apply brush cadmium plating to machined areas with standard aero-space methods (fitting material is SAE 4340 steel per AMS 6359, heat treated 160 to 180 KSI).
- (18) Epoxy prime machined areas after plating.

I. Lower scissor fitting P/N 453504-501 installation. Refer to Figure 5.

- (1) Apply a thin coating of sealant, P/N PR1422 to fitting. Attach fitting to stabilizer with four (4) bolts, P/N MS20006-34, wet with sealant.

- (2) Install countersunk bolts P/N NAS336CPA25 wet with sealant in lower holes.
- (3) Torque the six (6) bolts 160 to 190 inch pounds and observe proper squeeze out of sealant around fitting.
- (4) Refer to Figure 5, View "A". Install blind bolts P/N MS90354-06 or -U06, wet with sealant. Select grip as required. If necessary, use first standard over size.
- (5) Attach horizontal stabilizer actuator jacks to the fitting as shown in Figure 6, Detail "B" with bolts P/N NAS6708DU19, nuts P/N MS14144L8, bushings P/N 25W357226-005, washers P/N AN960C816 and -816L as required and cotter pins P/N MS24665-302.
- (6) Connect deicer boot lines.
- (7) Remove wood block and stabilizer support.
- (8) Install vertical stabilizer and rudder. Reference 1124/1124A Westwind Maintenance Manual, Chapter 55-30-00.
- (9) Attach lower scissor, P/N 453509-503 to fitting. Refer to Figure 6.
  - (a) Use a combination of washers ① P/N 453517-003, -005, -007 and -009 to shim gaps as shown, compensating for misalignment of lower scissor and fitting.
  - (b) Adjust gap ② with washers P/N AN960KD816L as required, avoiding clamp-up with bolt P/N 453522. Refer to Figure 6, Detail "A".
  - (c) Torque nut ③ 55 to 75 inch pounds and install cotter pin.
- (10) Lubricate scissor assembly with grease, Aero-Shell No. 7.

J. Post Installation Inspection

- (1) Connect external power to aircraft.
- (2) Close HORIZ TRIM - CONTR circuit breaker.
- (3) Verify that scissor assembly gap "G" and gap "J" are within the limitations called out in step 2.D (3) and (4).
- (4) Perform operational check of the deicer boots. Reference 1124/1124A Westwind Maintenance Manual, Chapter 30-10-00.
- (5) Close HORIZ TRIM - OVRD and RUD - CONTR circuit breakers.

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(6) Perform operational check of rudder and rudder trim, elevators, and horizontal stabilizer. Reference 1124/1124A Westwind Maintenance Manual, Chapters 27-20-00, 27-30-00 and 27-40-00.

(7) Install fairings and tail cone.

**NOTE:** Check for clearance between bolt P/N NAS6708DU-19 and fairing P/N 403016 installation, aircraft serial numbers 427 and subs.

(8) Close circuit breakers LIGHTS - POS and ANTI COLL.

(9) Perform operational check of anti-collision and position light.

(10) Perform operational checks of relevant avionics systems.

(11) Disconnect external power from aircraft.

K. Perform a standard fiberglass repair to holes cut in dorsal fin.

L. Touch up paint as required.

M. Remove tail support stand.

3. RECORD COMPLIANCE

A. Make the following entry in the aircraft log book:

Service Bulletin No. 1124-55-107 dated September 28, 1994, titled "Stabilizers - Horizontal Stabilizer Lower Scissor Fitting Replacement (AFC 2073)", has been accomplished this date \_\_\_\_\_.

B. Update the Airplane Flight Manual "Basic Weight Change Record", section VIII, table 8-3, in accordance with step 1.I, "Weight and Balance".

C. Complete the attached Certificate of Compliance and return to Astra Jet Corporation in New Castle, Delaware.

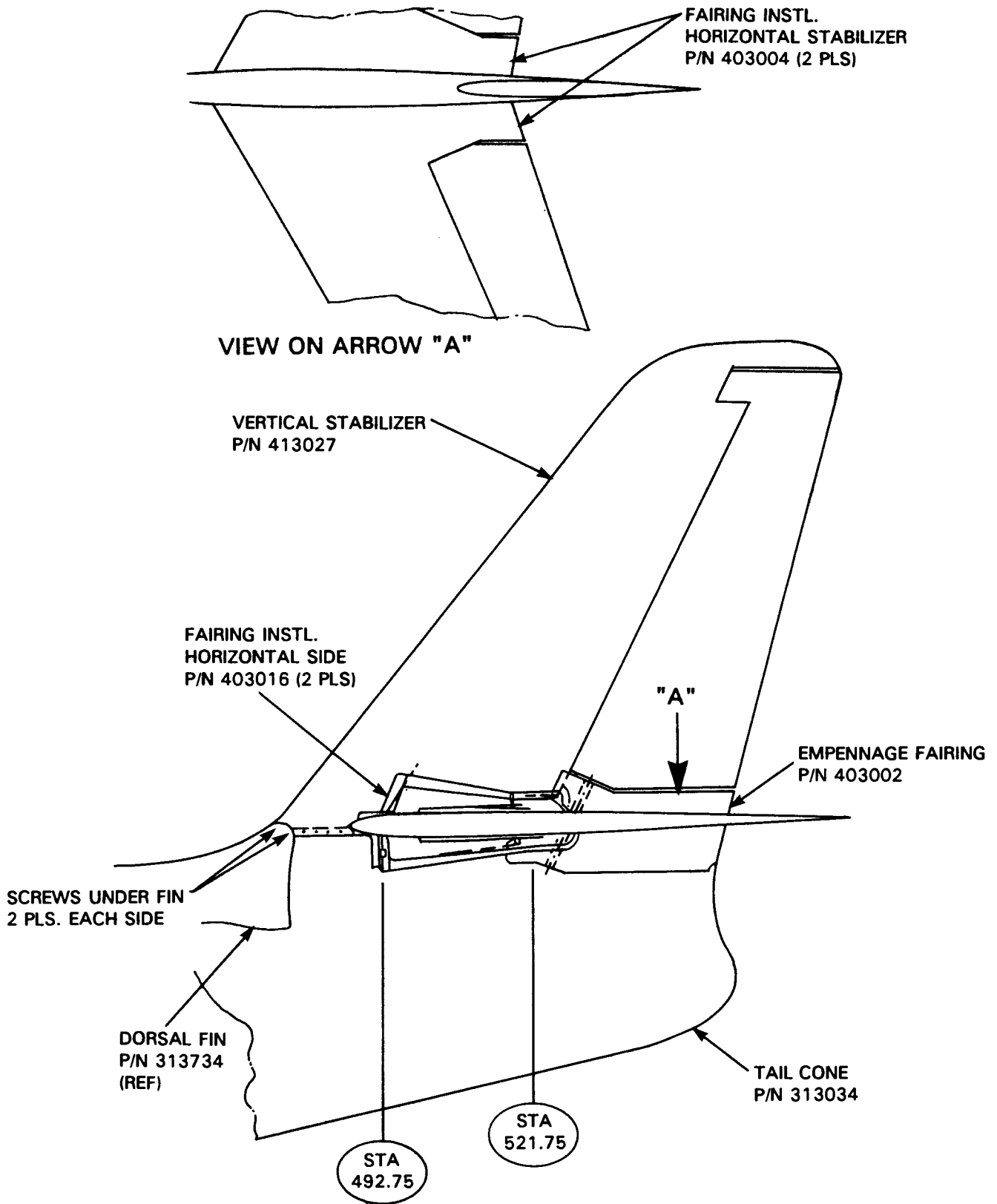
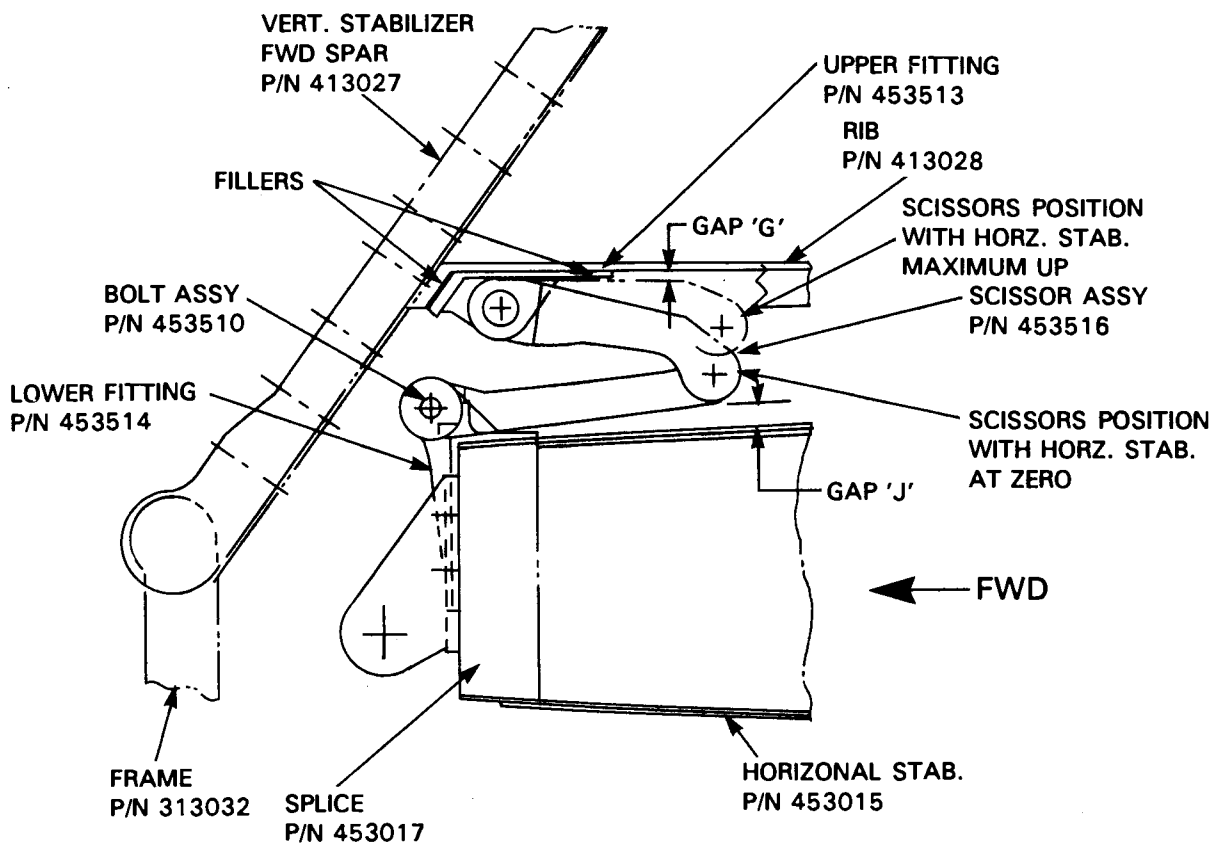
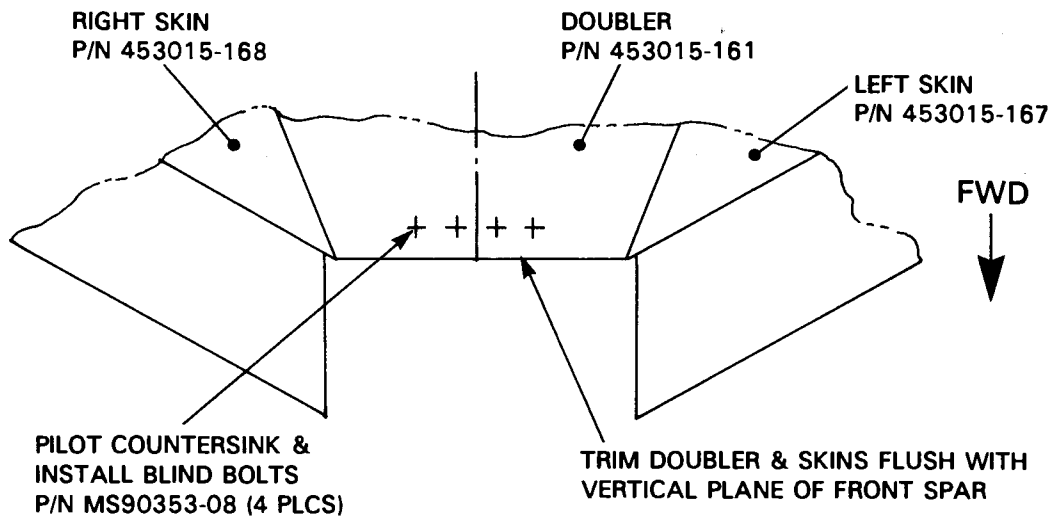


FIGURE 1



LOOKING OUTBOARD ON C/L OF A/C  
VIEW A



LOOKING DOWN ON CENTER OF HORZ. STAB.  
VIEW B

FIGURE 2

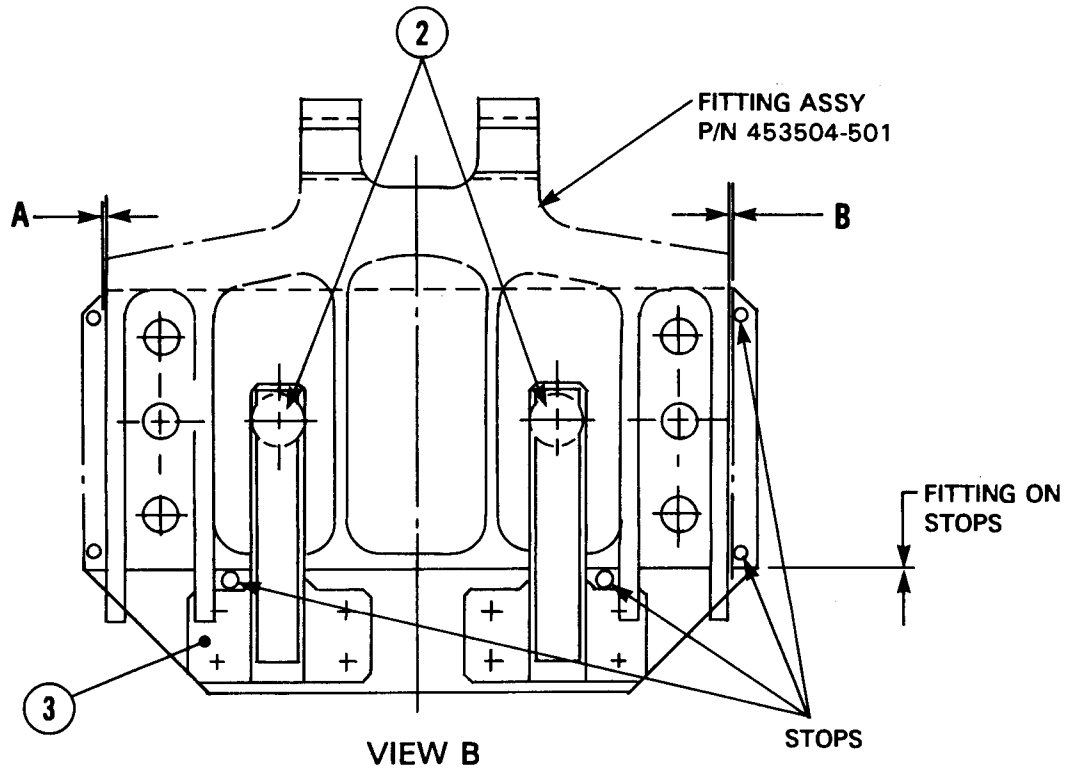
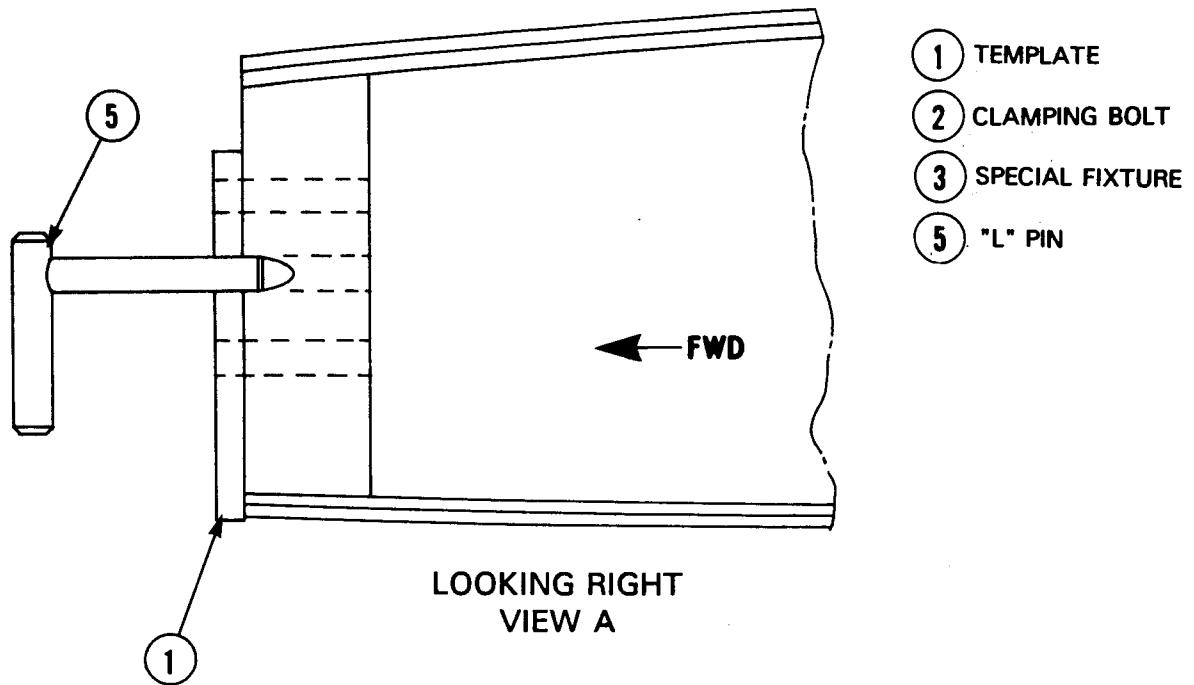
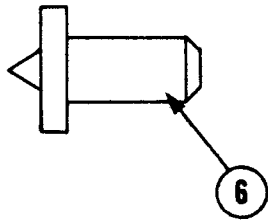
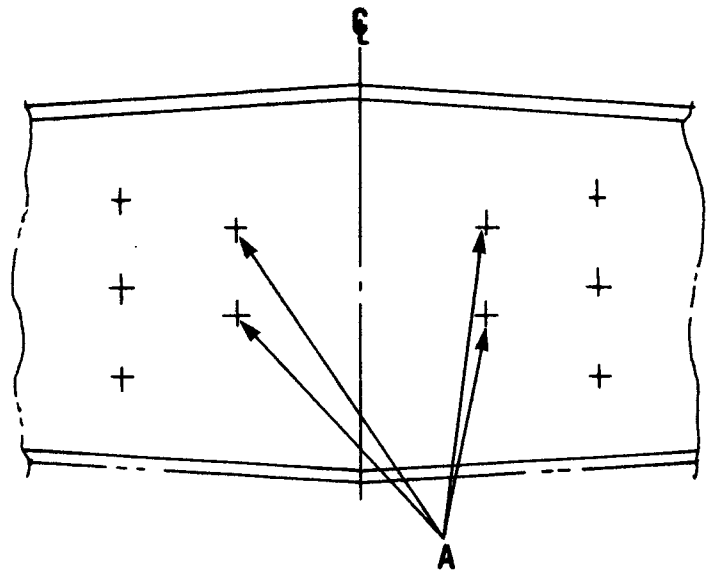


FIGURE 3



- 2 CLAMPING BOLT
- 3 SPECIAL FIXTURE
- 4 DRILL BUSHING
- 5 "L" PIN
- 6 CENTER PUNCHES



VIEW C - LOOKING AFT

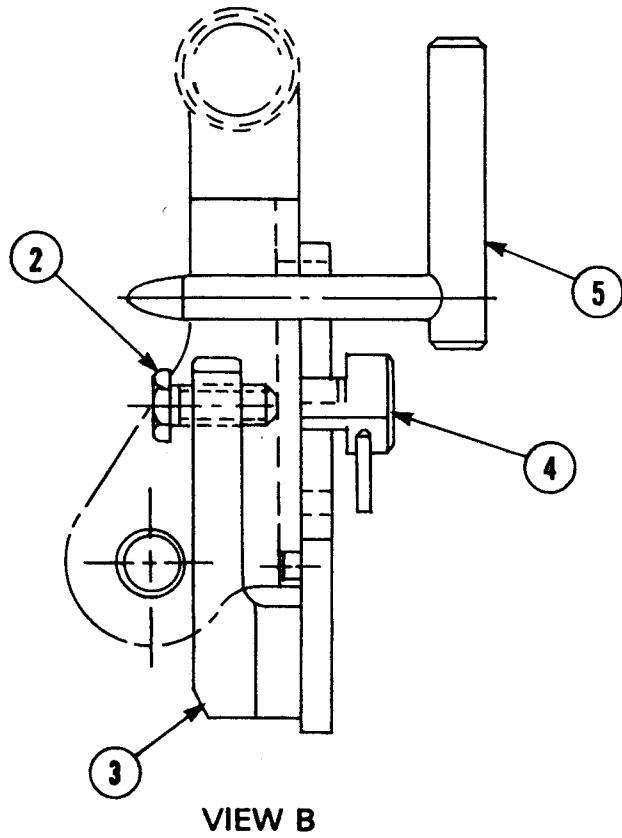
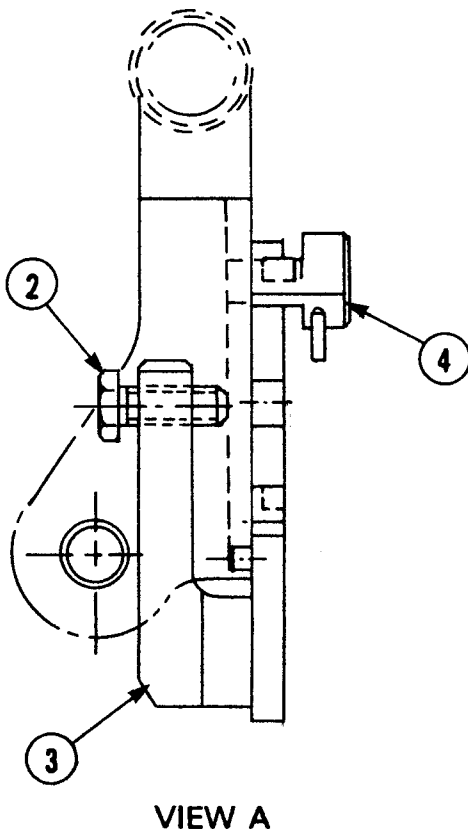
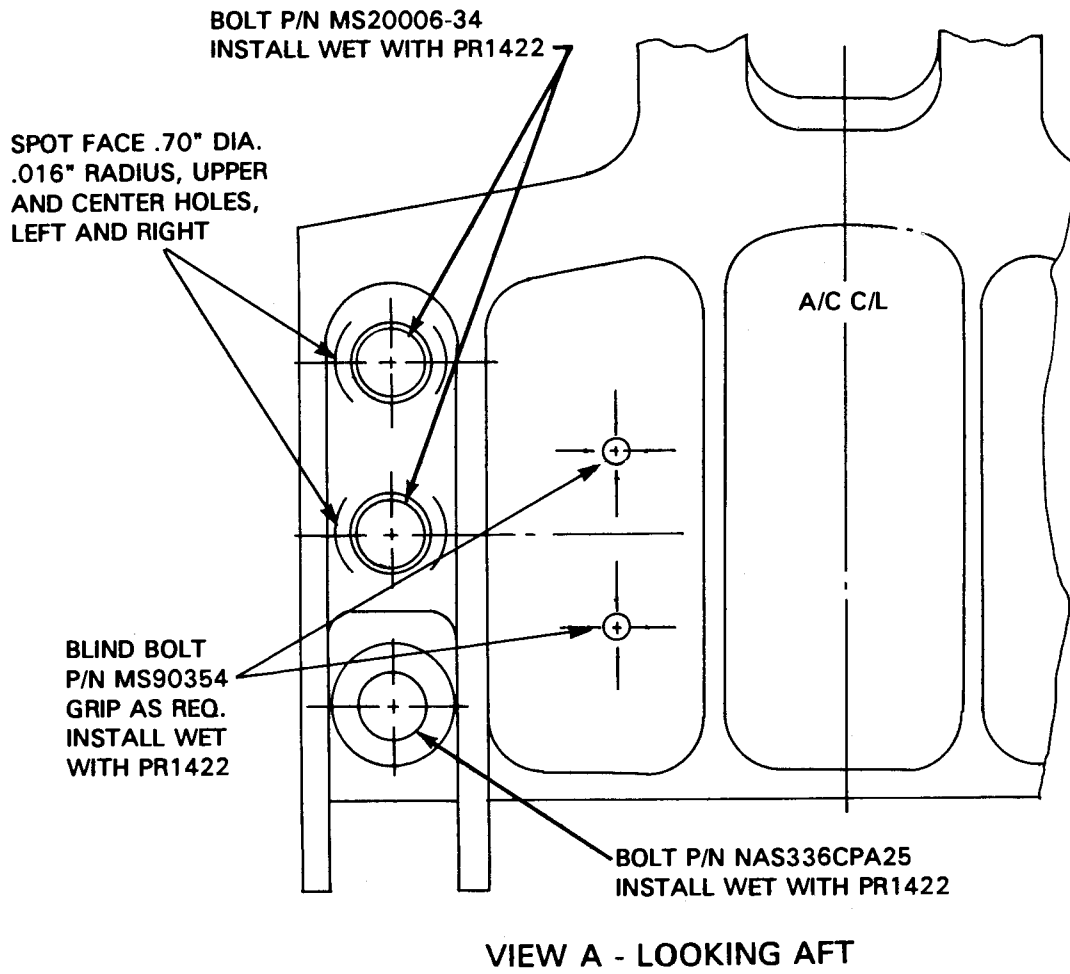
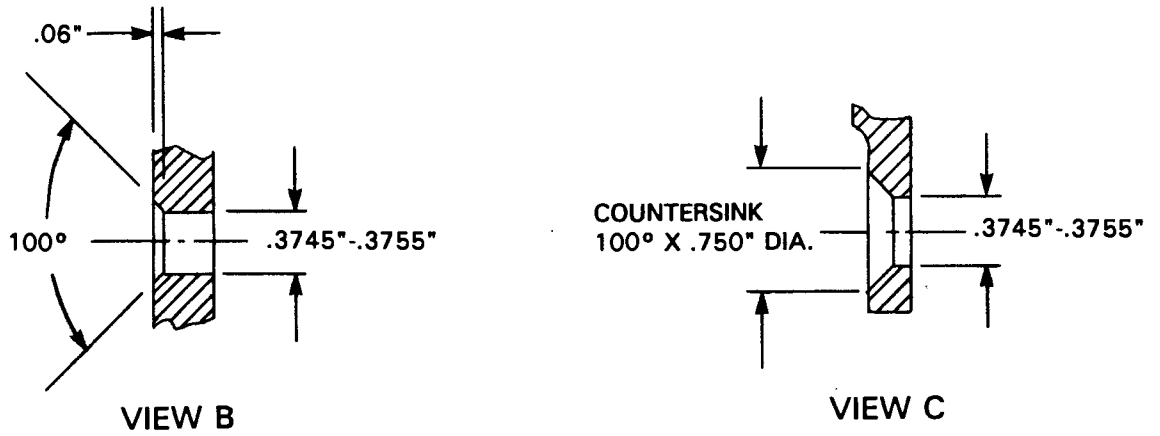


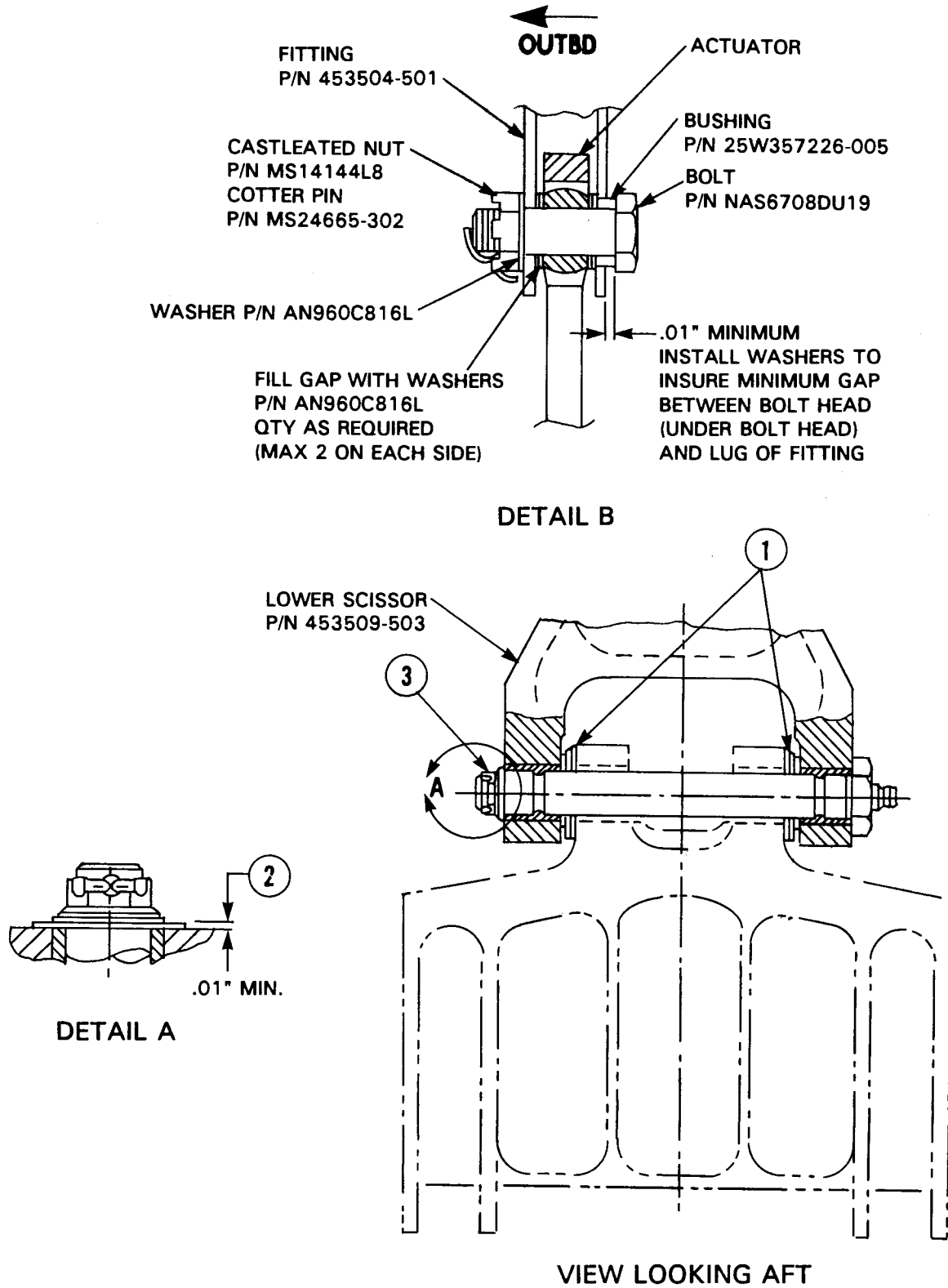
FIGURE 4



**FIGURE 5**



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**FIGURE 6**

TEAR AT PERFORATION, REMOVE TAPE AT BOTTOM, FOLD, SEAL AND MAIL

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**1124-55-107**

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance: Hours \_\_\_\_\_ Cycles \_\_\_\_\_

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By: \_\_\_\_\_

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Owner:

Accomplishing Agency:

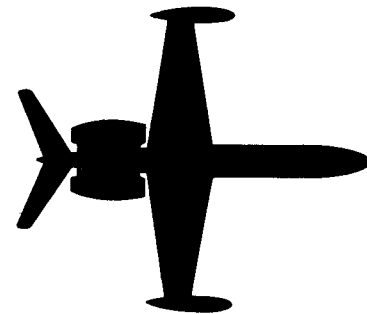
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# **114-WESTWIND**

## **SERVICE BULLETIN**



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### **OPTIONAL**

**SERVICE BULLETIN NO. 1124-55-124**

**July 12, 1995**

**SUBJECT: STABILIZERS - HORIZONTAL STABILIZER UPPER SCISSOR FITTING  
REPLACEMENT (AFC 2097)**

#### **1. PLANNING INFORMATION**

##### **A. EFFECTIVITY**

MODEL 1124/1124A WESTWINDS, all serial numbers with Service Bulletin No. 1124-55-021 previously complied with (AFC 2037).

##### **B. REASON**

Reports from the field indicate some stabilizer upper scissor fittings P/N 453513-501 have loosened or cracked in service. Reference Service Bulletin No. 1124-55-021.

##### **C. DESCRIPTION**

This service bulletin provides instructions for installation of a new upper scissor fitting incorporating improved material and attachment.

##### **D. COMPLIANCE**

Compliance with this service bulletin is optional.

##### **E. APPROVAL**

This service bulletin has been reviewed by the Civil Aviation Administration of Israel (CAAI). The design content herein complies with the applicable Civil Aviation Regulations and is CAAI approved.

**F. MAN-HOUR REQUIREMENTS**

The following information is for planning purposes only:

- (1) Estimated man-hours: 30
- (2) Suggested number of personnel: 2

The above is an estimate only, based on experienced personnel complying with this service bulletin. It is possible, depending on individual experience levels, that additional or fewer man-hours are required to accomplish this bulletin.

**G. MATERIAL**

<u>QTY.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1	453513-503	Scissor Fitting, Upper
12	MS21140U0504	Fastener, Blind
2	NAS6704U14	Bolt
1	NAS6704U14X	Bolt
2	MS21141U0614(NOM)	Fastener, Blind
26	MS20426AD5-6	Rivet
5	NAS1466-23	Pin, Swage Locking
5	NAS1080-6	Collars
2	NAS6708-34	Bolt
2	NAS6709-34H	Bolt
2	MS21045-8	Nut
2	MS21045-9	Nut
A/R	2024-T3	Aluminum, .071"
A/R	PR1422	Sealant

Material required may be obtained through Astra Jet Corporation, New Castle, Delaware, or authorized ASTRA/WESTWIND Service Centers.

**H. TOOLING**

No special tooling required.

**I. WEIGHT AND BALANCE**

Not applicable.

**J. ELECTRICAL LOAD DATA**

Not applicable.

**K. REFERENCES**

1124/1124A Westwind Maintenance Manual, 55-30-00.

**L. PUBLICATIONS AFFECTED**

1124/1124A Westwind Illustrated Parts Catalog, 55-30-00.

**2. ACCOMPLISHMENT INSTRUCTIONS**

**A. Remove tail cone and horizontal/vertical stabilizer fairings.**

**B. Remove upper scissor fitting P/N 453513-501**

- (1) Verify scissor gap "G" is .050 inch minimum and gap "J" is .200 inch minimum. Refer to Figure 1.
- (2) Disconnect upper scissor from upper scissor fitting.
- (3) Remove vertical stabilizer and rudder from aircraft. Reference 1124/1124A Westwind Maintenance Manual, 55-30-00, Removal/Installation.
- (4) Remove fasteners attaching upper scissor fitting to vertical stabilizer bottom rib. Remove three (3) bolts attaching upper scissor fitting to forward spar of vertical stabilizer. Save fillers for re-use.

**NOTE:** Center bolt is over-size (NAS6604-14X), to index fitting in position after scissors adjustment during original installation.

**C. Install upper scissor fitting P/N 453513-503**

- (1) Remove fasteners attaching rib P/N 413027-81 to leading edge skin at  $Z_v = 18.50$  inch and remove lockbolts attaching rib to spar. Remove rib. Refer to Figure 2.

**NOTE:** Existing holes through stabilizer fitting and forward spar may be picked up with transfer punches. Although this method eliminates rib removal, caution must be exercised to achieve correct hole position.

- (2) Remove two (2) fasteners through fitting P/N 413018 and forward spar, (one (1) each left and right of center line) just below bottom rib P/N 413028.

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- (3) Temporarily attach new upper scissor fitting P/N 453513-503 to vertical stabilizer with bolts (over-size in center hole), and fillers from old fitting installation.
  - (4) Mount vertical stabilizer on aircraft.
  - (5) Connect scissor assembly to new fitting.
  - (6) Verify scissor gap "G" is .050 inch minimum and gap "J" is .200 inch minimum. Refer to Figure 1. Re-shim, with aluminum 2024-T3, if necessary to obtain required gaps.
  - (7) Remove vertical stabilizer.
  - (8) Drill new fitting for fasteners. Refer to Figure 3:
    - (a) Pick up existing holes from bottom rib P/N 413028.
    - (b) Locate two (2) new holes through fitting and bottom rib. Maintain minimum .360 inch edge distance and minimum .710 inch hole pitch.

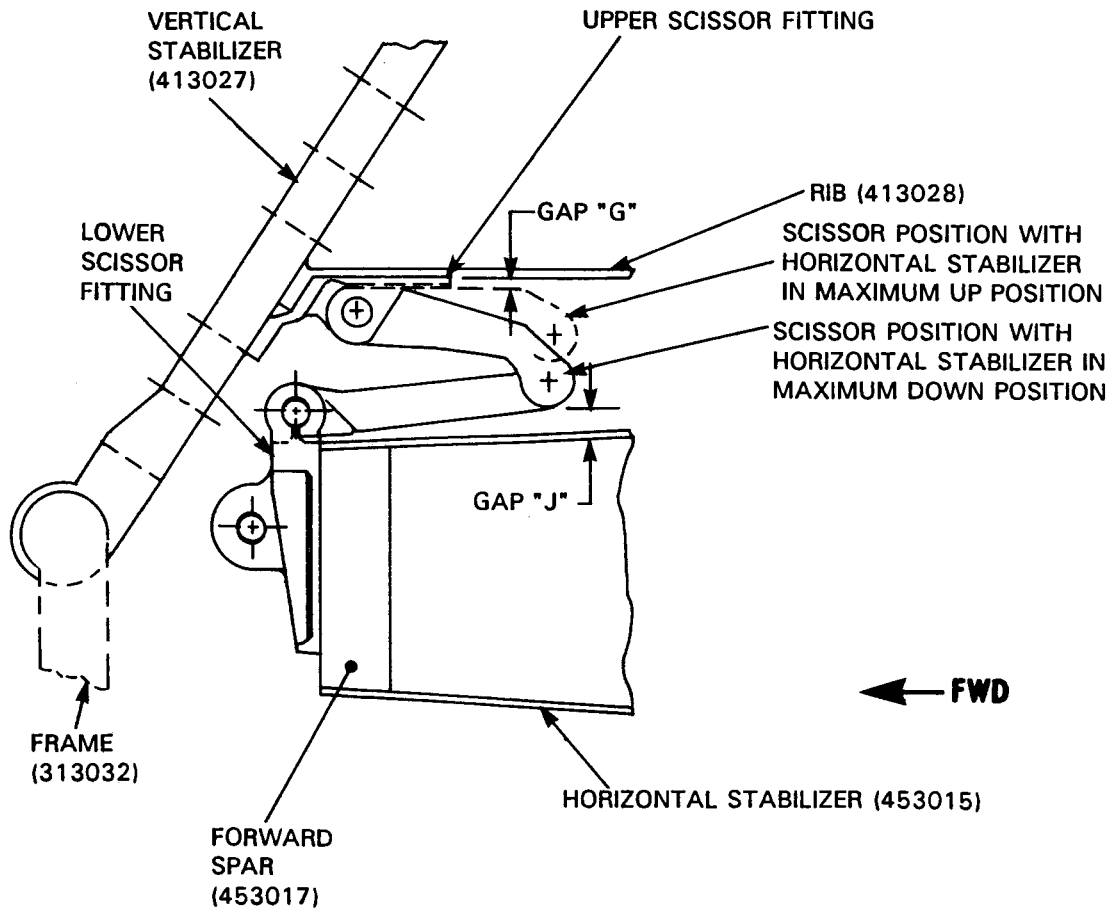
NOTE: Minimums may be reduced if necessary due to radius of new fitting. Refer to Figure 3 for limitations.
    - (c) Pick up existing holes (two (2) places) from fitting P/N 413018 and forward spar for new fitting.
  - (9) Measure gap between new fitting and forward spar. Fabricate filler, aluminum 2024-T3, to suit gap. De-burr all holes in new fitting and filler(s).
  - (10) Alodine, rinse, and epoxy prime filler(s).
  - (11) Install fitting with new fasteners. Refer to Figure 3.
  - (12) Install rib P/N 413027-81. Refer to Figure 2.
  - (13) Install vertical stabilizer with new bolts and nuts; bolts P/N NAS6708-34 and nuts P/N MS21045-8 for forward fitting; bolts P/N NAS6709-34H and nuts P/N MS21045-9 for aft fitting. Reference 1124/1124A Westwind Maintenance Manual, 55-30-00, Removal/Installation.
  - (14) Connect scissor assembly to new upper scissor fitting.
- D. Install horizontal/vertical stabilizer fairings and tail cone.

3. RECORD COMPLIANCE

A. Make the following entry in the aircraft log book:

Service Bulletin No. 1124-55-124, dated July 12, 1995, titled "Stabilizers - Horizontal Stabilizer Upper Scissor Fitting Replacement", has been accomplished this date \_\_\_\_\_.

B. Complete the attached Certificate of Compliance and return to Astra Jet Corporation in New Castle, Delaware.

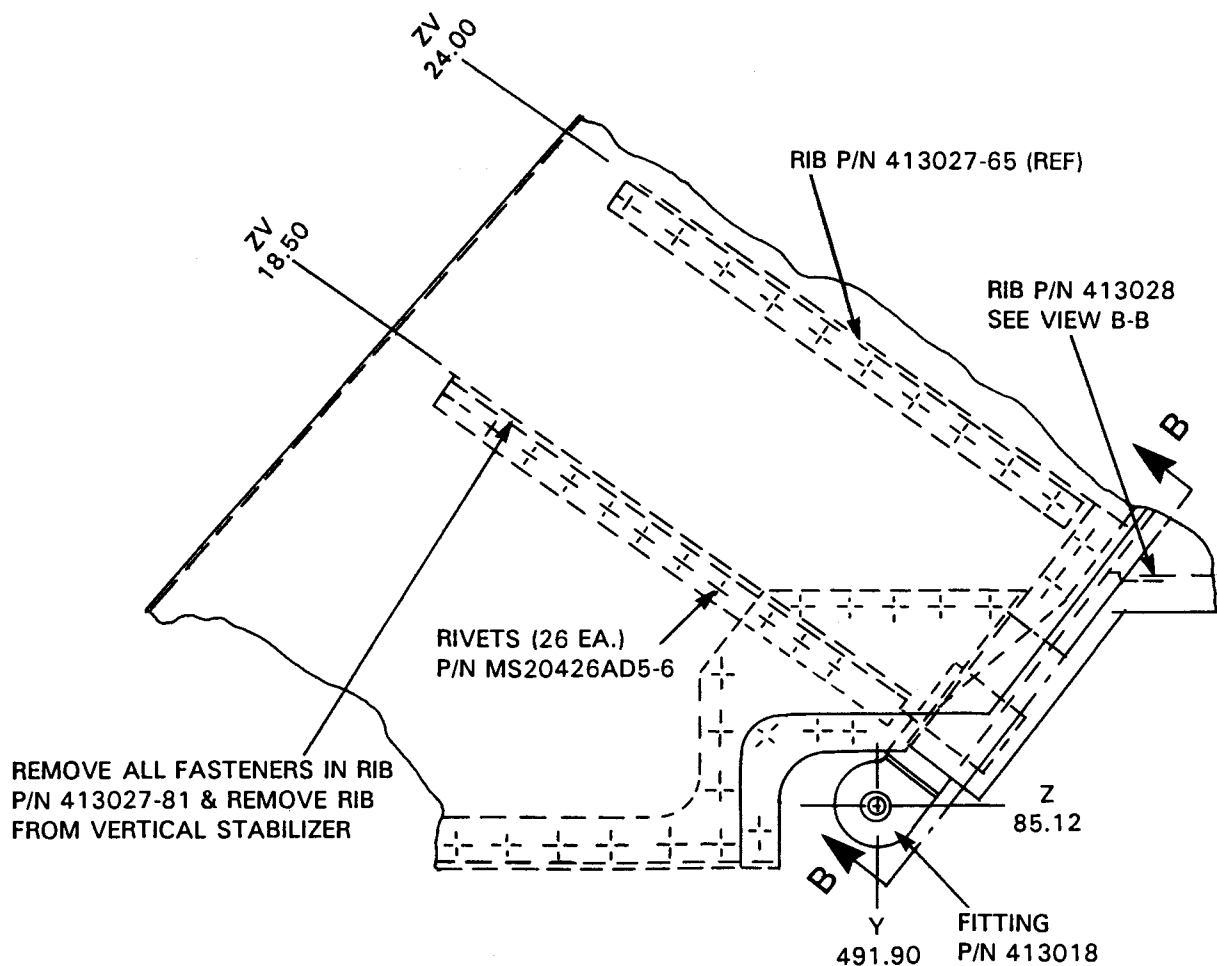


VIEW LOOKING OUTBOARD ON CENTERLINE OF AIRCRAFT

FIGURE 1



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VIEW LOOKING OUTBOARD ON CENTERLINE OF AIRCRAFT

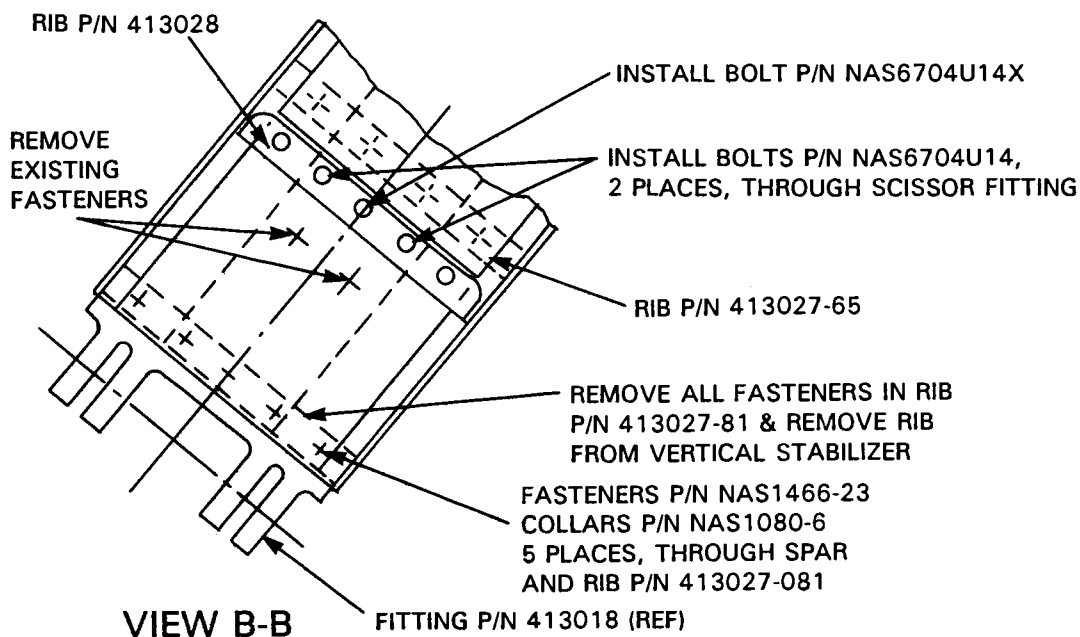


FIGURE 2

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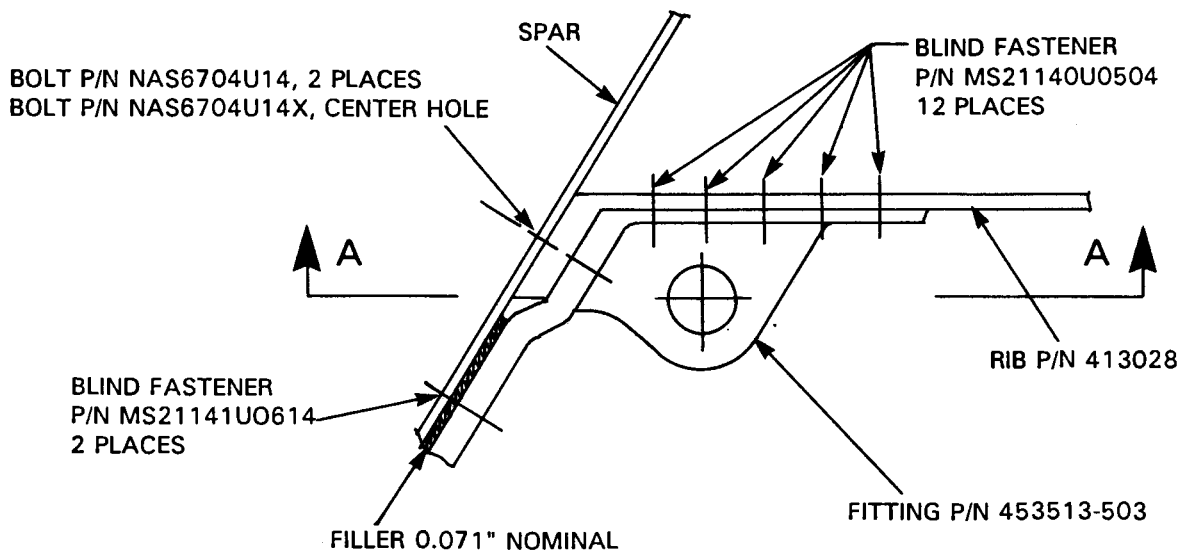
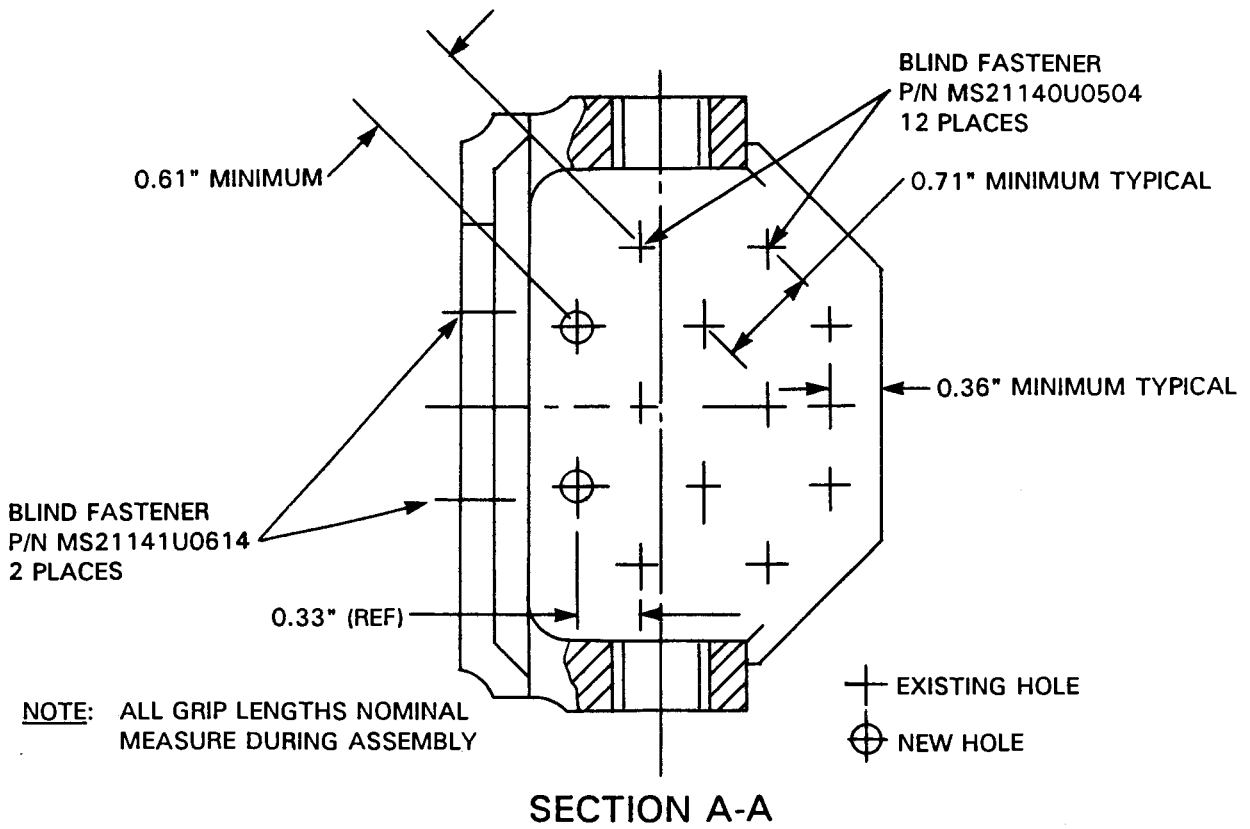


FIGURE 3

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**1124-55-124**

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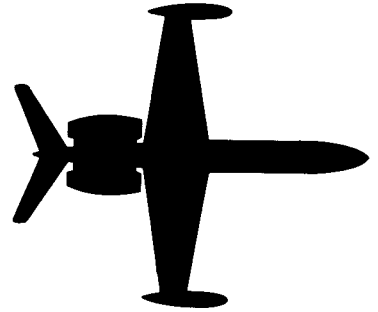
Compliance Date: \_\_\_\_\_ By: \_\_\_\_\_  
Signature

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TEAR AT PERFORATION, REMOVE TAPE AT BOTTOM, FOLD, SEAL AND MAIL



## SERVICE BULLETIN

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OPTIONAL

SERVICE BULLETIN NO. 1124-56-042A

September 10, 1986

This Service Bulletin No. 1124-56-042A dated September 10, 1986 supersedes Service Bulletin No. 1124-56-042 dated August 12, 1985 in its entirety.

SUBJECT: WINDOWS - REPAIR OF THE INNER WINDSHIELD PANEL

### 1. PLANNING INFORMATION

#### A. EFFECTIVITY

MODEL 1124/1124A WESTWINDS, all serial numbers.

#### B. REASON

To provide typical repair method and materials required to repair inner windshield at the windshield heat terminal feed-through locations. This repair is applicable to any of the six terminal locations.

#### C. COMPLIANCE

Compliance with this service bulletin is optional.

#### D. DESCRIPTION

Remove existing feed-through bushing, remove heat-damaged acrylic material, counterbore 1-inch hole through windshield at damage location and install P/N A01WW5343025-RE3, bushing assembly.

SERVICE BULLETIN NO. 1124-56-042A

E. APPROVAL

This service bulletin has been reviewed by the Israel Civil Aviation Administration (ICAA). The design content conveyed herein complies with the applicable Civil Aviation Regulations and is ICAA approved.

F. MATERIAL

Material required for this service bulletin may be obtained from Atlantic Aviation Supply Company, Wilmington, Delaware or their authorized representatives.

G. TOOLING

None.

H. WEIGHT & BALANCE

Not applicable.

I. ELECTRICAL LOAD DATA

Not applicable.

J. REFERENCES

None.

K. PUBLICATIONS AFFECTED

1124/1124A Maintenance Manual, Chapter 56.

2. ACCOMPLISHMENT INSTRUCTIONS

NOTE

The windshield repair procedure provided may be used on windshield heat probe feed-through locations which have suffered localized heat damage due to arcing of the contact at that position.

The repair is approved for areas of affected surface damage one inch in diameter or less.

CAUTION

Repair to damaged areas exceeding one inch diameter is not approved.

SERVICE BULLETIN 1124-56-042A

A. Removal of damaged area and feed-through hole preparation (refer to Figure 1).

- (1) Remove electrical power from aircraft.
- (2) Remove outer windshield panel to access damaged area per instructions in 56-10-01.
- (3) Remove electrical terminal assembly from feed-through.
- (4) Remove brass feed-through bushing.
- (5) Outer surface of inner windshield may be crystallized adjacent to the brass bushing. This crystallization must be removed prior to enlarging the feed-through hole in preparation for installation of the -RE3 bushing assembly.

Remove crystallized acrylic material with an air driven rotary file operated at a low speed. DO NOT OVERHEAT SURROUNDING MATERIAL.

- (6) Drill 1.000" diameter hole to accept -RE3 bushing as follows (drilling is accomplished from the inside):
  - (a) Remove instruments, avionics, instrument panel components and interior furnishings as required for drilling access.
  - (b) Cover areas below work site.
  - (c) Utilize 1.000" counterbore equipped with .375" pilot installed in a portable air drill motor regulated to 400 rpm.
  - (d) Use liberal applications of cooling lubricants during boring.
  - (e) Remove cutting tool frequently to relieve binding of chips and avoid overheating.
  - (f) Outside of windshield panel must be supported with a wood block as counterbore reaches the end of the cut to prevent chipping.
  - (g) After completion of the boring process, clean the hole and surrounding area with Aliphatic Naptha, Type II, TT-N-95.

SERVICE BULLETIN NO. 1124-56-042A

B. Install P/N A01WW5343025-RE3 bushing assembly (Figure 1).

- (1) Assure proper fit of -RE3 bushing into 1.000" hole. Loose fit should be .020".

NOTE

Bushing concentric should not exceed .010 within the 1-inch diameter hole.

- (2) Assure all surfaces to be bonded are free of dirt, grease, oil, etc. Clean surfaces with Aliphatic Naptha, Type II, TT-N-95.

- (3) Install -RE3 bushing using PS-30 acrylic adhesive. Bushing is to be installed with flange of brass insert located on inner side of windshield. Remove excess PS-30 acrylic adhesive.

- (4) Support -RE3 bushing adequately during curing period to prevent any shift.

C. Test bonding of -RE3 bushing.

- (1) Apply 10 psi axial load to bushing.
- (2) Install AN4-5 bolt and AN960-4 washer into inner side of brass insert. Apply 50 inch-pounds torque to -RE3 bushing.

D. Reassembly

- (1) Install outer windshield panel per 56-10-01.
- (2) Install terminal assembly per 56-10-01.
- (3) Install avionics and instrument systems previously removed.
- (4) Perform system tests of windshield heat, avionics and instrument systems as required.
- (5) Return aircraft to service.

3. MATERIAL INFORMATION

<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
A/R	A01WW5343025-RE3	Bushing Assembly
A/R	PS-30	Acrylic Adhesive*

\*NOTE: PS-30 acrylic cement is available from:

Cadillac Plastics & Chemical  
4070 Fulton Industrial Blvd., S.W.  
Atlanta, GA 30336  
(404) 691-0900

4. RECORD COMPLIANCE

Make the following entry in the aircraft log book:

Service Bulletin No. 1124-56-042A dated September 10, 1986  
titled "Inner Windshield Repair" has been accomplished this  
date \_\_\_\_\_ .



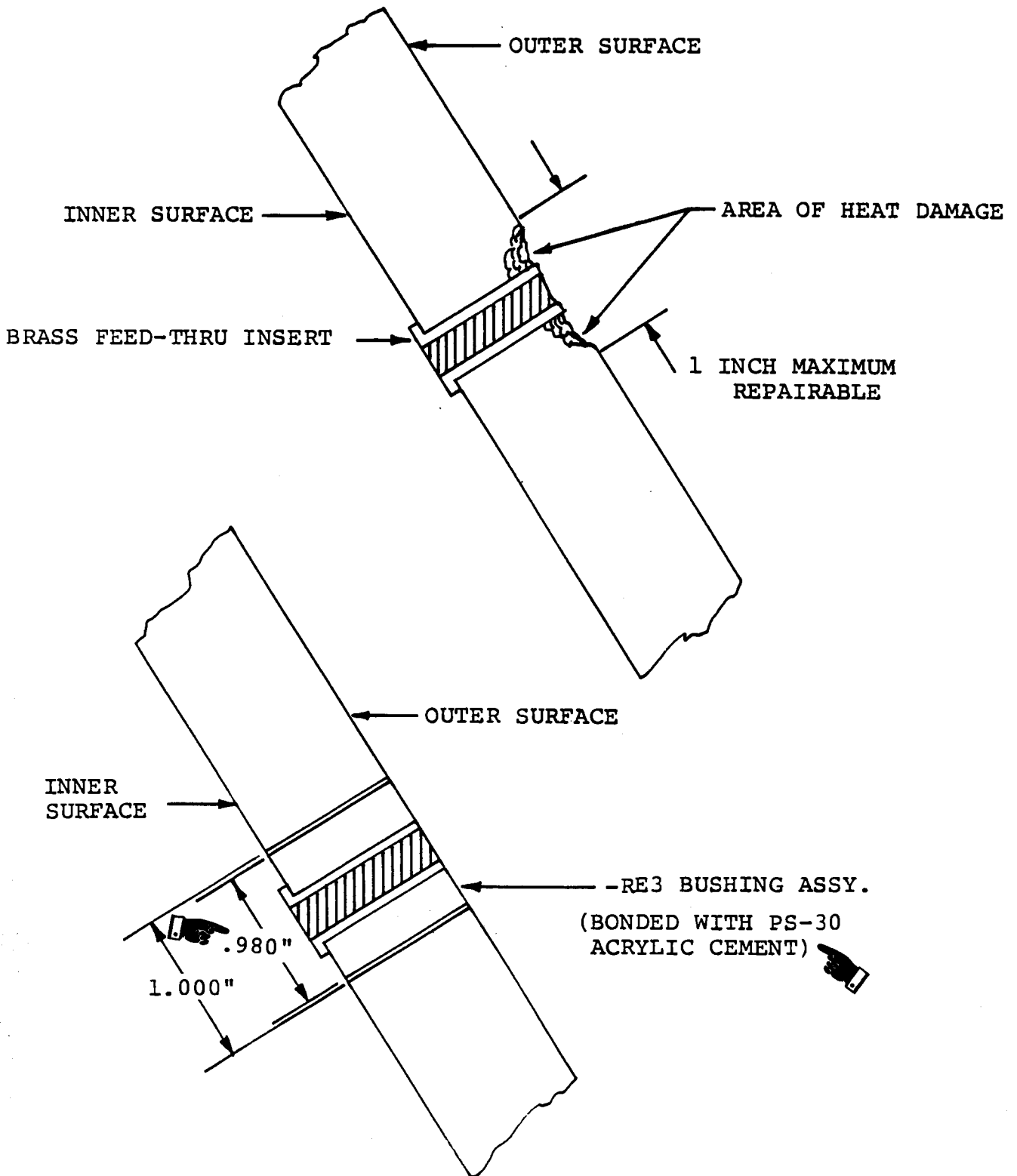


FIGURE 1

*Service Bulletin*

A/C S/N \_\_\_\_\_

*Certificate of Compliance*

PLEASE FILL IN THE REQUIRED DATA BELOW AND RETURN TO:

ISRAEL AIRCRAFT INDUSTRIES INTERNATIONAL, INC.  
P.O. BOX 10086  
WILMINGTON, DE 19850  
ATTN: TECHNICAL PUBLICATIONS

This is to certify that Westwind Serial Number \_\_\_\_\_ has complied with Service Bulletin No.

**1124-56-042A**

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance HOURS: \_\_\_\_\_ /CYCLES: \_\_\_\_\_

Compliance Date \_\_\_\_\_ By \_\_\_\_\_  
Signature

OWNER:

ACCOMPLISHING AGENCY:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

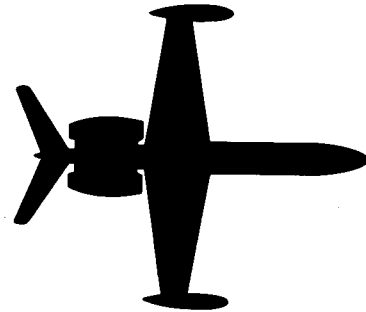
Please describe below any discrepancies found or difficulties encountered during compliance:

\_\_\_\_\_  
\_\_\_\_\_  
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\_\_\_\_\_

# **PARTS AVAILABILITY ALERT**

DUE TO LEAD TIME(S) ENCOUNTERED IN  
PROCURING PARTS REQUIRED FOR THE  
ACCOMPLISHMENT OF THIS OPTIONAL  
TECHNICAL PUBLICATION, ALL PARTS WILL  
NOT BE AVAILABLE FROM ATLANTIC AVIATION  
SUPPLY COMPANY UNTIL \_\_\_\_\_

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## **SERVICE BULLETIN**

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### **OPTIONAL**

SERVICE BULLETIN NO. 1124-56-113

June 22, 1994

SUBJECT: WINDOWS - IMPROVED COCKPIT SIDE WINDOW INSTALLATION

#### **1. PLANNING INFORMATION**

##### **A. EFFECTIVITY**

MODEL 1124/1124A WESTWINDS, all serial numbers.

##### **B. REASON**

Cockpit side windows (outer) have cracked in service at random attach points.

##### **C. DESCRIPTION**

This service bulletin provides instructions to install newly designed cockpit side window assemblies. The new design incorporates features that reduce stress concentration around bolt hole attachments. Assemblies include new fuselage skins to make windows interchangeable, which eliminates drilling operation for future replacement.

##### **D. COMPLIANCE**

Compliance is optional and at the operators' convenience.

##### **E. APPROVAL**

This service bulletin has been reviewed by the Civil Aviation Administration of Israel (CAAI). The design content herein complies with the applicable Civil Aviation Regulations and is CAAI approved.

F. MAN-HOUR REQUIREMENTS

The following information is for planning purposes only:

(1) Estimated man-hours:

Left cockpit side window: 65

Right cockpit side window: 55

(2) Suggested number of personnel: 2

The above is an estimate only, based on experienced personnel complying with this service bulletin. It is possible, depending on individual experience levels, that additional or fewer man-hours are required to accomplish this bulletin.

G. Material

<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1	343017-507-51	LEFT COCKPIT SIDE WINDOW INSTALLATION
1	343003-501-52	RIGHT COCKPIT SIDE WINDOW INSTALLATION
A/R	343031	SEAL, DV WINDOW
A/R	PR1422B	SEALANT (OR EQUIVALENT)
A/R	2024-T3	AL ALLOY SHEET FOR SHIMMING

Material required may be obtained through Astra Jet Corporation, New Castle, Delaware, or authorized ASTRA/WESTWIND Service Centers.

H. TOOLING

No special tooling required.

I. WEIGHT AND BALANCE

Not applicable

J. ELECTRICAL LOAD DATA

Not applicable

K. REFERENCES

1124/1124A Westwind Maintenance Manual, Chapter 53-00-00, 56-00-00, 56-10-03, and 56-10-04.

1124/1124A Westwind Illustrated Parts Catalog, Chapter 56-10-00.

L. PUBLICATIONS AFFECTED

1124/1124A Westwind Maintenance Manual, Chapter 56-10-03 and 56-10-04.  
1124/1124A Westwind Illustrated Parts Catalog, Chapter 56-10-00.

2. ACCOMPLISHMENT INSTRUCTIONS

- A. Support aircraft to extent that structure is stable during drilling operation for side window skin replacement.
- B. Disconnect aircraft batteries.
- C. Placard aircraft: NO ELECTRICAL POWER.

**NOTE:** The following instructions are for left cockpit side window installation, except for direct vision (DV) window installation, right installation procedure is nearly opposite.

**CAUTION:** USE COLD LIGHTING EQUIPMENT ONLY, TO AVOID DAMAGE TO ACRYLICS AND PLASTICS.

- D. Prepare aircraft for window replacement as follows:

- (1) Remove cockpit seats.
- (2) Remove fire warning relay box (under pilot seat) and forward relay box (under co-pilot seat).
- (3) Remove trim, upholstery, and equipment as necessary to access fasteners attaching side window skin to aircraft structure.
- (4) Protect remaining cockpit equipment (consoles, throttle quadrant, instrument panel, windshield inner surface, etc.) from possible damage.
- (5) Inspect DV window installation. Note fit in opening and flushness or mismatch to side window skin for reinstallation. Remove DV window, saving any shim or shims, noting position for possible reuse. Inspect condition of window seal. Replace if damaged.
- (6) Mask off windshield outer surface and fuselage all around side window skin butt joints.
- (7) Carefully remove sealant in butt joints all around edge of side window skin.

**CAUTION:** DO NOT USE METALLIC SCRAPERS OR WHEELS, DAMAGE TO STRUCTURE WILL LIKELY RESULT. USE PHENOLIC OR PLASTIC SCRAPERS AND CORK WHEELS FOR SEALANT REMOVAL.

E. Remove side window and skin as an assembly. Separating window from skin is not necessary.

- (1) Remove top row of fasteners first. Remove remaining fasteners in any convenient sequence. To aid reassembly, map fastener position (for grip length) during disassembly.
- (2) Separate skin from aircraft, beginning with lower aft corner, by carefully forcing a cutting wedge (made from non-metallic material) between skin and structure to break sealant bond.
- (3) Remove all remaining sealant, noting position of any shims. Save shims for possible reuse. Replace damaged shims as necessary during installation of new skin assembly.

F. Temporarily lay up new skin assembly to opening in aircraft structure.

NOTE: All the following work steps are best accomplished, though not required, at room temperature or warmer. Airframe and window temperature should be stabilized.

- (1) Position skin assembly to best match contour of airframe. New skin may not necessarily match contours perfectly, since temperature changes can cause acrylic materials to change shape. Gaps in contour are easily closed during fit, trim and final assembly by tightening fasteners one by one, working toward gap(s).
- (2) From inside aircraft, inspect all around new outer window for clearance from structure. If interference exists, mask to protect new skin along window edge, trim window as necessary to achieve clearance, and restore surface finish, reference 1124/1124A Maintenance Manual, Chapter 56-00-00, Approved Repairs.
- (3) Make from shop pattern paper a template to match old skin edges and window opening. Use template to lay out cut line on new skin.
- (4) After initial trimming, set new window and skin in opening and hold in place. Back drill holes through new skin, beginning with bottom row, working up to but not including top row (nut strip). Clamp skin tightly in place with wing nut clecos, one by one as holes are drilled. If a gap is too great to safely close without damaging hole in structure with a cleco, use bolts P/N AN4-X, washers P/N AN960-416, and nuts P/N AN315-4 (or equivalent).

SERVICE BULLETIN NO. 1124-56-113

- (5) Make a template from .050 inch AL Alloy 2024-0 (or equivalent), to locate top row of holes. Use old window skin for pattern as follows:
  - (a) Back drill and bolt template to old skin in forward, center and aft holes of second row, one by one.
  - (b) Form template to match contour of old skin and back drill top row of holes.
- (6) Bolt template to forward, center, and aft holes of second row on outside of new skin and pilot drill top row with # 30 drill and drill bushing. Use drill stop to prevent damage to nut plates on blind side. Remove template and complete drilling, again using drill stop.
- (7) Clean out holes, install bolts and tighten.
- (8) With new skin clamped tightly in place, inspect gaps in butt joints. Lay out cut line on new skin to achieve .020 to .050 inch gap in butt joints, constant all around. Inspect butt joints all around for flushness. Measure any mismatch, and mark location and thickness, including taper for shims.

NOTE: Allowance must be made for sealant thickness (.010 to .015 inch nominal), during final assembly.

G. Remove new skin assembly for final trimming.

- (1) Trim new skin along cut line as laid out. Remove sharp edges and sharp corners. Chamfer inner surface of new skin edge .050" x 45°.
- (2) Reuse or replace shims as required.
- (3) Install skin assembly with shims and clamp tightly in place all around. Verify gap and flushness requirement of paragraph 2.F.(8). Refit as required.
- (4) After final fit is achieved, countersink all holes with piloted cutter and adjustable stop. Thoroughly clean with MEK and Scotch-Brite type pad all skin surfaces in preparation for sealing. Alodine, rinse, and spot prime bare areas with fluid resistant epoxy primer. Alodine, rinse, and epoxy prime shims.
- (5) Clean and spot prime surfaces of frames all around fuselage opening.

CAUTION: DO NOT ALODINE ANY AREA ON AIRCRAFT STRUCTURE. OXIDATION CAN OCCUR IN JOINTS NOT COMPLETELY RINSED AND NEUTRALIZED.



H. Install new side window and skin assembly.

- (1) Mix sealant P/N PR1422B in accordance with manufacturers' instructions.
- (2) Coat shims (if any) and surfaces of frames all around fuselage opening with sealant. Set shims and new skin assembly in place. Install new fasteners wet with sealant under heads, in any convenient sequence. Torque fasteners 50-70 inch pounds, observing squeeze out of sealant in skin butt joints, and all around skin and frames inside fuselage.
- (3) Squeegee excess sealant from skin all around butt joints and allow to cure. Sand smooth and flush to skin prior to painting.
- (4) Transfer all brackets, supports and angles, etc., from old window assembly to new assembly, installing in same position for proper fit of window reveal and trim.

I. Install DV window.

- (1) Remove DV window hinge upper half P/N 343017-51. Install new hinge half P/N 343017-51 on DV window with new hinge pin and stake both ends.
- (2) Install DV window to achieve same or better fit as in paragraph 2.D.(5). Mismatch tolerance of DV window outer surface to new skin outer surface is + 0.000 - 0.125 inch.
- (3) Leak check DV window as follows:
  - (a) Direct water spray at DV window.
  - (b) Check in cockpit for water penetration.
  - (c) Open DV window and check for water dripping into cockpit from opening.
- (4) If DV window fails leak check, verify seal is not damaged and create a form in place airframe seal around window opening as follows:
  - (a) Secure DV window in open position with hold open stud.
  - (b) Clean inner surfaces of skin and zee angle all around window opening, to provide good sealant bond.
  - (c) Mask outer surface of skin all around window opening.
  - (d) Coat inner surfaces from edge of opening to periphery of seal contact area with liberal amount of sealant P/N PR1422B.

SERVICE BULLETIN NO. 1124-56-113

- (e) Coat window and seal with release agent (petroleum jelly), close and latch window.
- (f) Repeat cleaning, sealant coats, and release agent application, until positive squeeze out is achieved all around window seal on inner surface and outer surface of window.

- J. Finish new installation to match aircraft colors.
- K. Install all removed furnishings and equipment.
- L. Perform operational checks of all systems affected.

3. RECORD COMPLIANCE

- A. Make the following entry in the aircraft log book:

Service Bulletin No. 1124-56-113 dated June 22, 1994, titled "Windows - Improved Cockpit Side Window Installation", has been accomplished this date

\_\_\_\_\_.

- B. Complete the attached Certificate of Compliance and return to Astra Jet Corporation in New Castle, Delaware.

TEAR AT PERFORATION, REMOVE TAPE AT BOTTOM, FOLD, SEAL AND MAIL

*Service Bulletin*

*Certificate of Compliance*

PLEASE FILL IN THE REQUIRED DATA BELOW AND RETURN TO:

Technical Publications  
Astra Jet Corporation  
77 McCullough Drive, Suite 11  
New Castle, DE 19720

This is to certify that WESTWIND Serial Number \_\_\_\_\_ has complied with Service Bulletin No.

**1124-56-113**

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance: Hours \_\_\_\_\_ Cycles \_\_\_\_\_

Compliance Date: \_\_\_\_\_ By: \_\_\_\_\_  
Signature

Owner:	Accomplishing Agency:
_____	_____
_____	_____
_____	_____
_____	_____

Please describe below any discrepancies found or difficulties encountered during compliance:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# SERVICE PUBLICATIONS revision notice

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RECOMMENDED

SERVICE BULLETIN NO. 1124-57-004  
Revision No.1

September 9, 1985

SUBJECT: DRAIN HOLES IN WING TRAILING EDGE STRUCTURE

REASON FOR

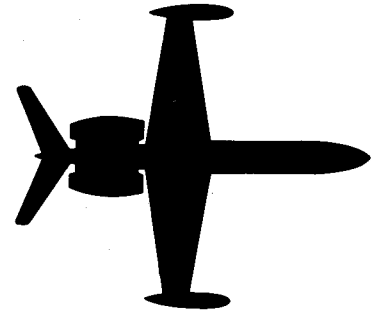
REVISION: To classify this service bulletin as  
Recommended.

SB 1124-57-004  
Page 1 of 1



SUBSIDIARY OF ISRAEL AIRCRAFT INDUSTRIES LTD  
BEN GURION AIRPORT, ISRAEL

# **1124-WESTWIND**



## **SERVICE BULLETIN**

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SERVICE BULLETIN NO. 1124-57-004

April 5, 1985

SUBJECT: DRAIN HOLES IN WING TRAILING EDGE STRUCTURE

### 1. PLANNING INFORMATION

#### A. EFFECTIVITY

MODEL 1124/1124A WESTWINDS, all serial numbers.

#### B. REASON

- (1) To ensure that drain holes in wing trailing edge structure are properly located and are the proper size.
- (2) To ensure that proper drainage exists in the affected area to prevent the collection of water.

#### C. COMPLIANCE

It is recommended that this service bulletin be accomplished no later than the next 150 hour inspection.

#### D. DESCRIPTION

This service bulletin requires an inspection of the wing lower trailing edge structure to determine the condition of existing drain paths and drain holes. It also provides instructions to locate and drill holes through the trailing edge skin that were not drilled during production, and, to drill hole to proper size where only a pilot hole exists.

E. APPROVAL

This service bulletin has been shown to comply with the applicable ICAA/FAA regulations and is IAI Engineering approved.

F. MATERIAL

None required.

G. SPECIAL TOOLS

None required.

H. WEIGHT AND BALANCE

Not applicable.

I. ELECTRICAL LOAD DATA

Not applicable.

J. PUBLICATIONS AFFECTED

None

2. ACCOMPLISHMENT INSTRUCTIONS

NOTE

Refer to attached illustrations (Figures 1-3) for proper location of drain holes.

- A. Apply external electric and hydraulic power to aircraft per aircraft Maintenance Manual. Lower wing flaps to 40° and raise speed brakes and lift dumpers.

CAUTION

Bleed off hydraulic pressure before turning off electric power.

WARNING

Remove electric and hydraulic power for safety of maintenance personnel.

- B. Inspect trailing edge structure to ensure that all openings between ribs and rear spar are clean and free of dirt and debris. Ensure that all drain paths along the entire trailing edge structure are clean and open.
- C. Inspect the lower skin of the trailing edge structure for the presence of three (3) drain holes and that the holes are the proper size.

NOTE

Left and right wings are typical.

If drain holes are in accordance with this service bulletin, no further action is required.

- D. If drain holes are not located, or holes are not the proper size, locate and drill holes using standard shop practices. Alodine holes after drilling.
- E. Secure area and return aircraft to service.

3. MATERIAL INFORMATION

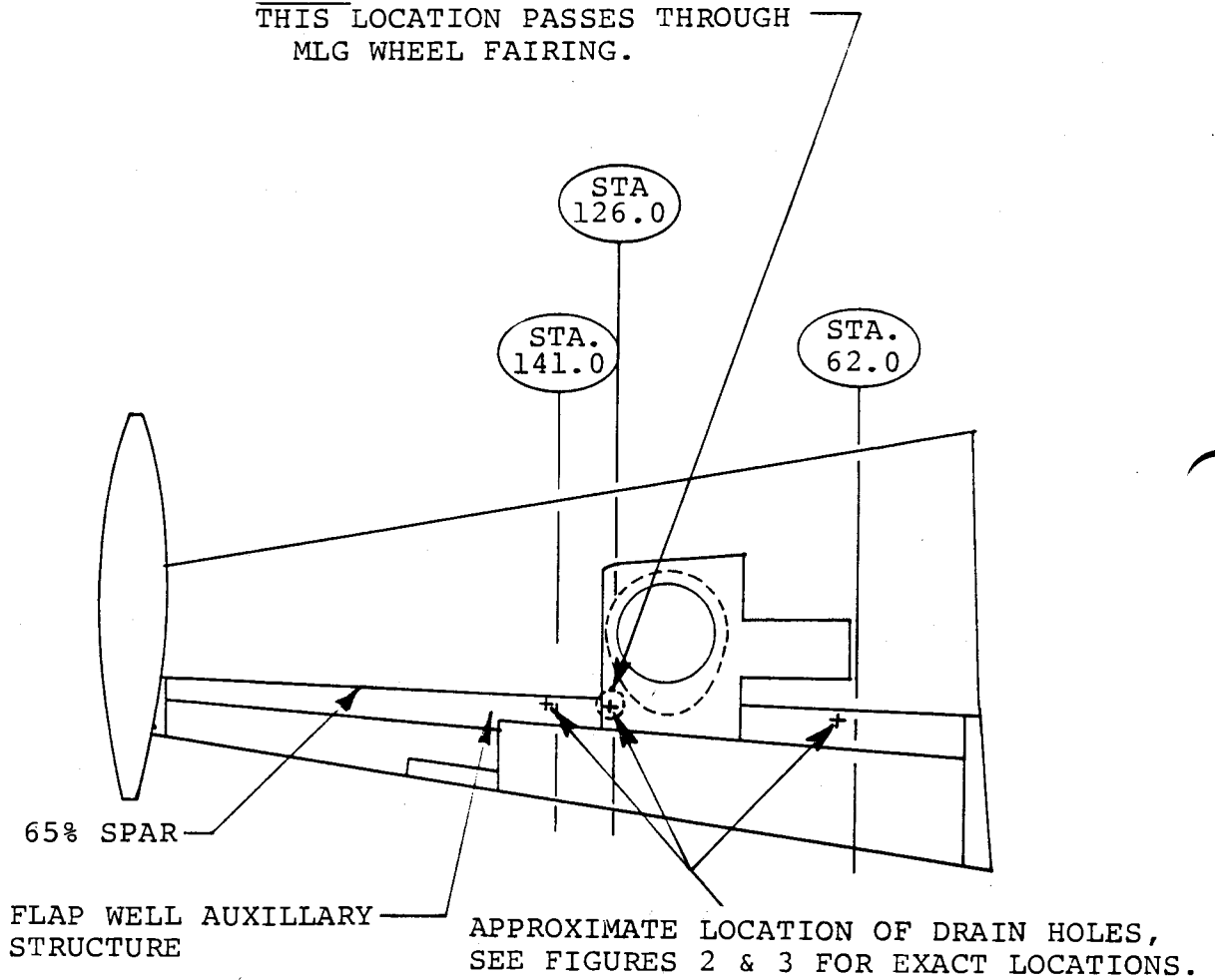
Not applicable.

4. AIRCRAFT RECORDS

Make the following entry in the aircraft log book:  
Service Bulletin No. 1124-57-004 dated April 5, 1985, titled "Drain Holes In Wing Trailing Edge Structure," has been accomplished this date \_\_\_\_\_.

END

NOTE: DRAIN HOLE AT THIS LOCATION PASSES THROUGH MLG WHEEL FAIRING.



APPROXIMATE LOCATION OF DRAIN HOLES, SEE FIGURES 2 & 3 FOR EXACT LOCATIONS.

RIGHT WING SHOWN (LOWER SURFACE)

LEFT WING TYPICAL

FIGURE 1



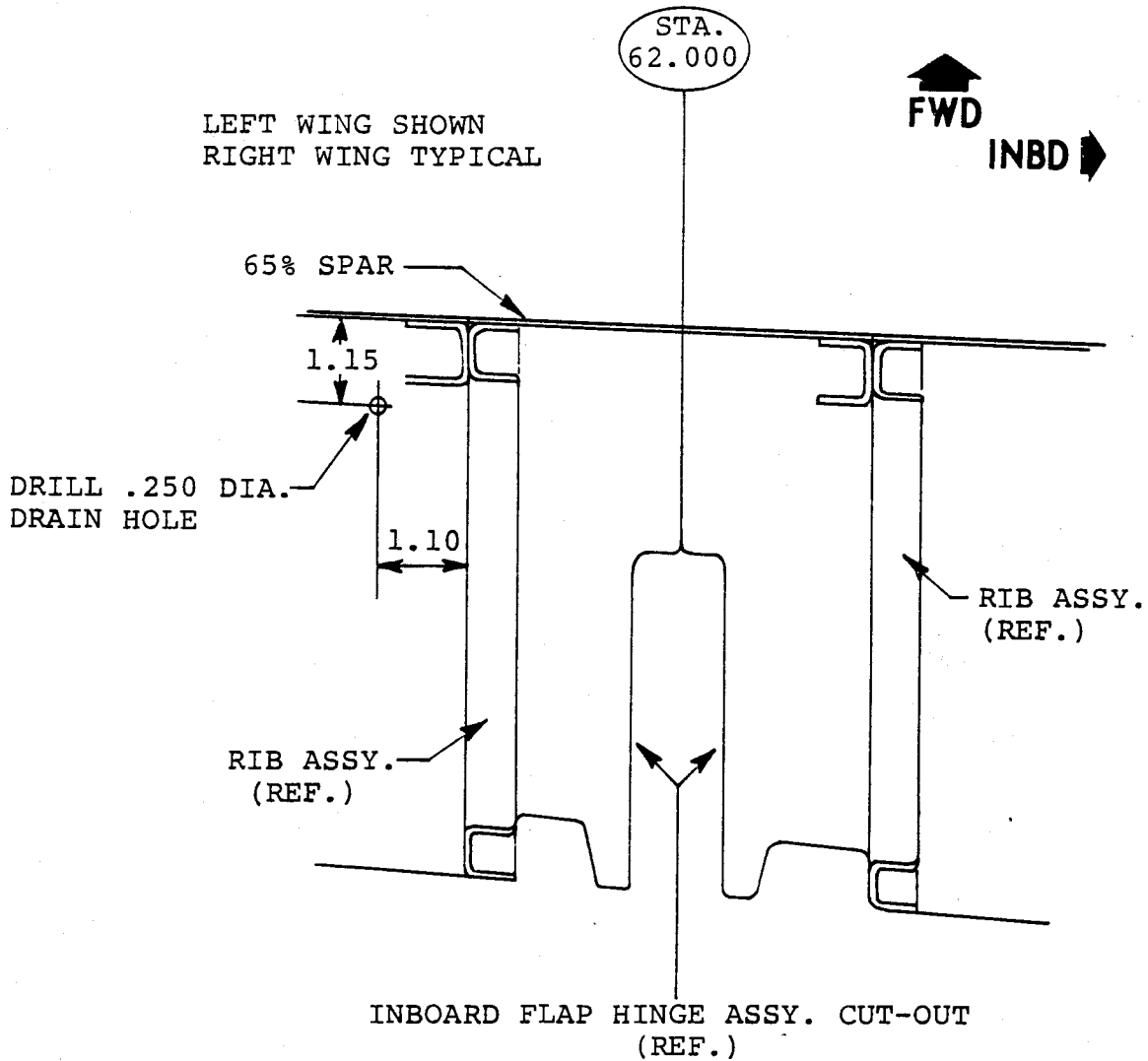


FIGURE 2.

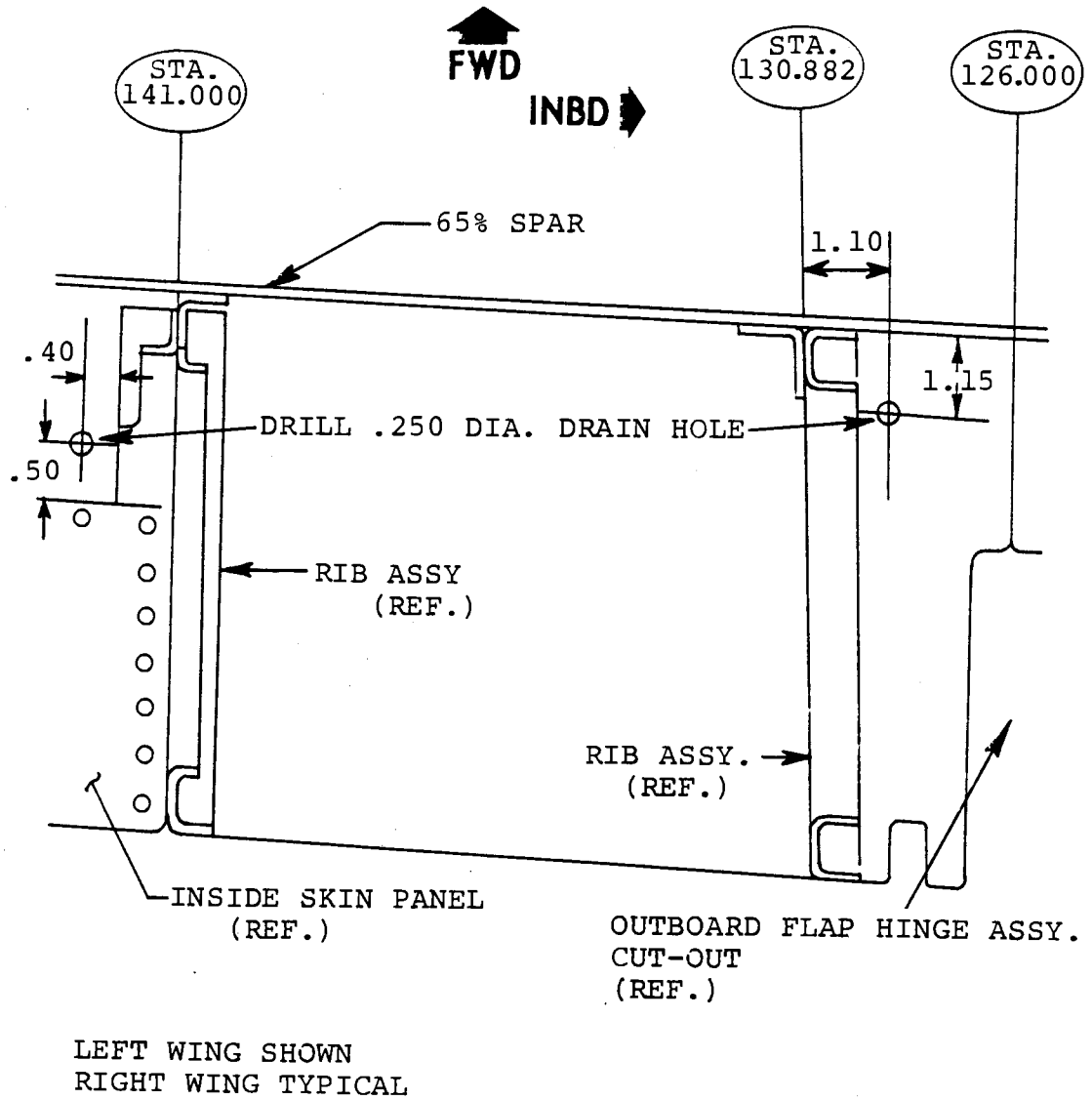


FIGURE 3.

# SERVICE PUBLICATIONS revision notice

RECOMMENDED

SERVICE BULLETIN NO. 1124-57-092  
Revision No. 1

June 30, 1987

SUBJECT: WINGS - FLAP HINGE FASTENERS - INSPECTION/REPLACEMENT

REASON FOR  
REVISION:

To increase the quantity of Jo-bolts or Blind fasteners in Para. 3. Material Information and to add a part number.

### 3. MATERIAL INFORMATION

<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
24*	NAS1671-08L-6	Blind Fastener
	or	
24*	P164A-6 (Alt P/N)	Jo-Bolt
6*	NAS1739B5-5	Rivet

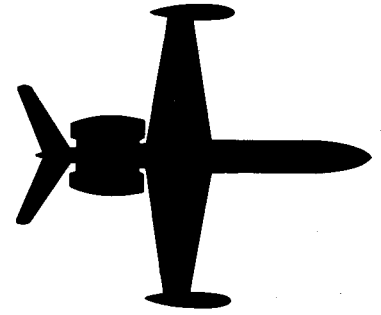
\*Quantities per aircraft.



SUBSIDIARY OF ISRAEL AIRCRAFT INDUSTRIES, LTD.  
BEN GURION AIRPORT, ISRAEL

SB 1124-57-092  
Revision No. 1  
Page 1 of 1

# **1124-WESTWIND**



## **SERVICE BULLETIN**

RECOMMENDED

SERVICE BULLETIN NO. 1124-57-092

April 10, 1987

SUBJECT: WINGS - FLAP HINGE FASTENERS - INSPECTION/REPLACEMENT

### 1. PLANNING INFORMATION

#### A. EFFECTIVITY

MODEL 1124/1124A WESTWIND, all serial numbers.

#### B. REASON

To prevent potential stress corrosion failure of the flap hinge to flap fasteners made from H-11 steel.

#### C. COMPLIANCE

It is recommended that this service bulletin be accomplished within the next 600 flight hours.

#### D. DESCRIPTION

This service bulletin requires an inspection of the outboard wing flap hinge to wing flap attach bolts to determine if H-11 alloy steel bolts have been installed and provides instructions to replace these bolts, if necessary.

#### E. APPROVAL

This service bulletin has been reviewed by the Israel Civil Aviation Administration (ICAA). The inspection and improvements herein comply with the applicable Civil Aviation Regulations and are ICAA approved.

#### F. MATERIAL

Material required may be obtained through Atlantic Aviation Supply Company, Wilmington, Delaware or their authorized representatives.



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Page 1 of 4

SERVICE BULLETIN NO. 1124-57-092

G. SPECIAL TOOLS

Not required.

H. WEIGHT AND BALANCE

Not applicable.

I. ELECTRICAL LOAD DATA

Not applicable.

J. REFERENCES

1124/1124A Maintenance Manual, Chapter 27

1124/1124A Illustrated Parts Catalog, Chapter 57

K. PUBLICATIONS AFFECTED

1124/1124A Illustrated Parts Catalog, Chapter 57

2. ACCOMPLISHMENT INSTRUCTIONS

- A. Extend wing flaps to full down position and disengage flap control circuit breaker.
- B. Remove flaps from aircraft.
- C. Remove outboard and center outboard flap vanes.
- D. Remove fiberglass wheel well fairing from flap.
- E. Remove outboard flap hinge access panels, top and bottom.
- F. Remove 6 each rivets securing each outboard flap hinge access panel leading edge support bracket and remove brackets.
- G. Remove 8 each EWSB-30-4-8 or NAS1104-8W bolts from each outboard flap hinge assembly to flap assembly (see Figure 1).
- H. Remove outboard flap hinge assembly from flap. NOTE: Hinge is assembled to inboard and outboard fittings P/N 193513-1/-2 and is removed as an assembly. Shims may be installed between fittings and flap; note shim position for reassembly.

SERVICE BULLETIN NO. 1124-57-092

- I. Inspect markings on bolt heads of fasteners which assemble fittings P/N 193513-1 and -2 to flap hinge.
- J. If bolts are identified as NAS1106 type bolts, proceed to Step L.
- K. If bolts are identified as EWSB22 type bolts, replace bolts, one at a time, with new replacement bolts P/N BACB30US-6-26 or NAS1106-26W. Torque bolts to 120-150 in-lbs.
- L. Reinstall hinge assembly, with shims (if removed), torque 8 each EWSB-30-4-8 or NAS1104-8W bolts to 50-60 in-lbs.
- M. Reinstall leading edge support brackets using NAS1671-08L-6 or P164A-6 fasteners.
- N. Reinstall hinge covers and wheel well fairings.
- O. Install flaps on aircraft.

3. MATERIAL INFORMATION

<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
8*	BACB30US-6-26	Bolt
	or	
8*	NAS1106-26W	Bolt (alternate)
80*	NAS1739B4-3	Rivet
6*	NAS1739B4-4	Rivet
4*	NAS1739B4-5	Rivet
4*	TLP/K/429BS	Pop Rivet
8*	MS20426B3	Rivet (length as required)
12*	NAS1671-08L-6	Blind Fasteners
	or	
12*	P164A-6 (Alt P/N)	Jo-Bolt

\*Quantities per aircraft.

4. RECORD COMPLIANCE

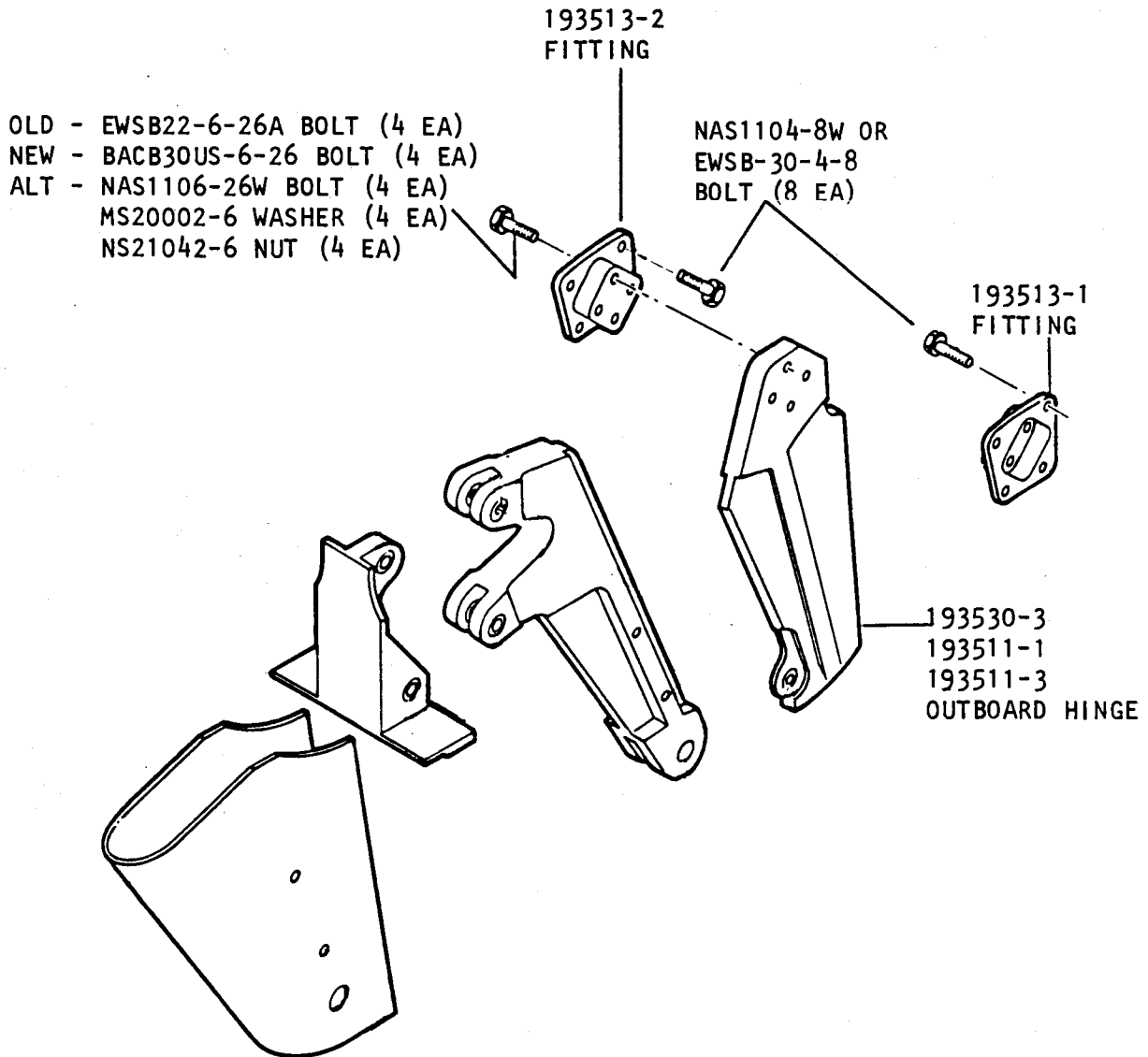
Make the following entry in the aircraft log book:

Service Bulletin No. 1124-57-092 dated April 10, 1987 titled "Wings - Flap Hinge Fasteners - Inspection/Replacement" has been accomplished this date \_\_\_\_\_.

April 10, 1987

SB 1124-57-092  
Page 3 of 4

SERVICE BULLETIN NO. 1124-57-092



WING-TO-FLAP ATTACH FITTING

FIGURE 1

TEAR AT PERFORATION, REMOVE TAPE AT BOTTOM, FOLD, SEAL AND MAIL

*Service Bulletin*

A/C S/N \_\_\_\_\_

*Certificate of Compliance*

PLEASE FILL IN THE REQUIRED DATA BELOW AND RETURN TO:

ISRAEL AIRCRAFT INDUSTRIES INTERNATIONAL, INC.  
P.O. BOX 10086  
WILMINGTON, DE 19850  
ATTN: TECHNICAL PUBLICATIONS

This is to certify that Westwind Serial Number \_\_\_\_\_ has complied with Service Bulletin No.

**1124-57-092**

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance HOURS: \_\_\_\_\_ /CYCLES: \_\_\_\_\_

Compliance Date \_\_\_\_\_ By \_\_\_\_\_  
Signature

OWNER:	ACCOMPLISHING AGENCY:
_____	_____
_____	_____
_____	_____

Please describe below any discrepancies found or difficulties encountered during compliance:

\_\_\_\_\_

\_\_\_\_\_

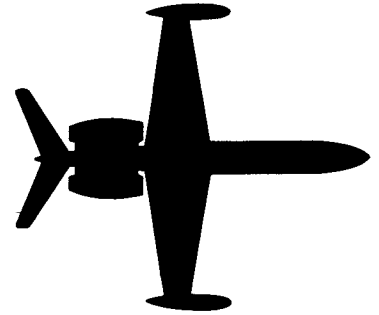
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## **SERVICE BULLETIN**

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### **RECOMMENDED**

**SERVICE BULLETIN NO. 1124-57-126**

**July 26, 1995**

**SUBJECT: WINGS - LEADING EDGE EXTENSION DRAINS**

**1. PLANNING INFORMATION**

**A. EFFECTIVITY**

MODEL 1124 WESTWIND, all serial numbers.

**B. REASON**

Reports from the field indicate corrosion has been found on wing skin and leading edge extension (droop section) during maintenance. In addition, fuel seepage from wing integral fuel tank has caused damage to deicer boots, requiring premature replacement.

**C. DESCRIPTION**

This service bulletin provides instructions to install drain holes in wing leading edge extension skins.

**D. COMPLIANCE**

Compliance is recommended at the operator's earliest convenience.

**E. APPROVAL**

This service bulletin has been reviewed by the Civil Aviation Administration of Israel (CAAI). The design content herein complies with the applicable Civil Aviation Regulations and is CAAI approved.

F. MAN-HOUR REQUIREMENTS

The following is for planning purposes only:

- (1) Estimated man hours: 8
- (2) Suggested number of personnel: 1

The above is an estimate only, based on experienced personnel complying with this service bulletin. It is possible, depending on individual experience levels, that additional or fewer man-hours are required to accomplish this bulletin.

G. MATERIAL

<u>QTY.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
A/R 4	1124-57-126	EPOXY PRIMER PLACARD (SILK SCREEN RENTAL AVAILABLE)
*A/R	MS24694S49	SCREW
*A/R	MS24694S50	SCREW
*A/R	MS24694S52	SCREW

\* AN509-10R7, -10R8, -10R10 are equivalent screws, respectively (old standard).

Material required may be obtained through Astra Jet Corporation, New Castle, Delaware, or authorized ASTRA Service Centers.

H. TOOLING

No special tooling is required.

I. WEIGHT AND BALANCE

Not applicable.

J. ELECTRICAL LOAD DATA

Not applicable.

K. REFERENCES

None.

L. PUBLICATIONS AFFECTED

None.

2. ACCOMPLISHMENT INSTRUCTIONS

- A. Lay-out drain hole locations (2 places) on left and right wings. Refer to Figure 1.
- B. Insert wing skin protector (of suitable material) between wing skin and leading edge extension.

**NOTE:** Remove fasteners from aft edge of leading edge extension, inboard and outboard of wing stations XW = 103.15 and XW = 179.75, as necessary to insert skin protector.

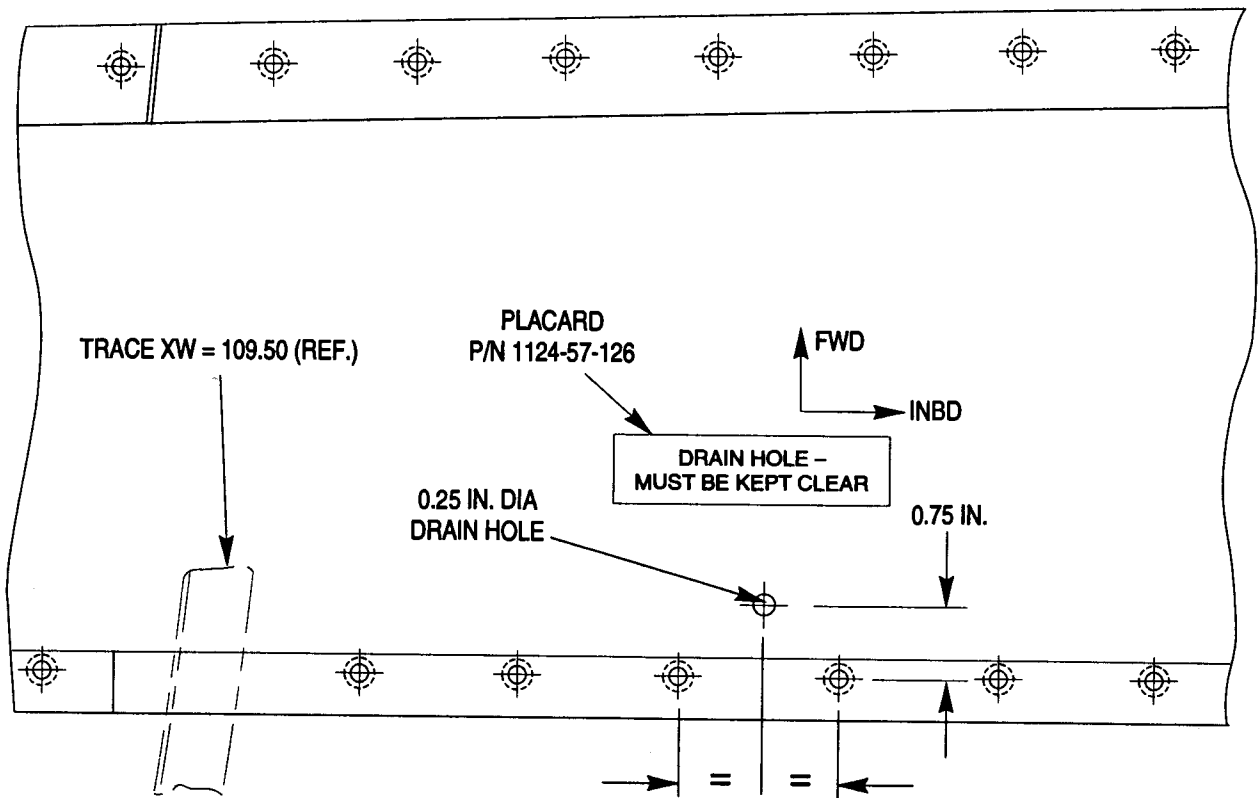
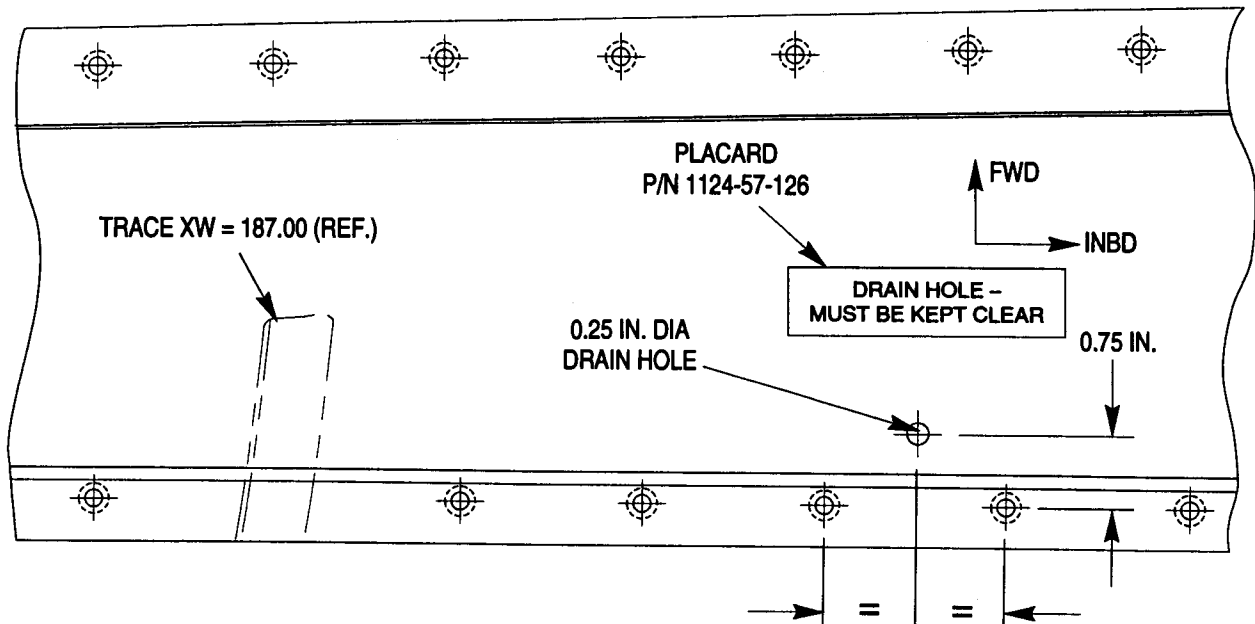
- C. Drill .25 inch drain holes (2 places) in left and right leading edge extensions.
- D. Deburr drain holes, and epoxy prime. Finish coat to match aircraft color.
- E. Remove skin protector. Install removed fasteners.
- F. Install placard P/N 1124-57-126 in area of each drain hole. Refer to Figure 1.

3. RECORD COMPLIANCE

- A. Make the following entry in the aircraft log book:

Service Bulletin No. 1124-57-126, dated July 26, 1995, titled "Wings - Leading Edge Extension Drains", has been accomplished this date \_\_\_\_\_.

- B. Complete the attached Certificate of Compliance and return to Astra Jet Corporation in New Castle, Delaware.



**Wing Leading Edge Extension  
View Looking Up, Right Side, Left Side Opposite  
FIGURE 1**

TEAR AT PERFORATION, REMOVE TAPE AT BOTTOM, FOLD, SEAL AND MAIL

*Service Bulletin*

*Certificate of Compliance*

PLEASE FILL IN THE REQUIRED DATA BELOW AND RETURN TO:

Technical Publications  
Astra Jet Corporation  
77 McCullough Drive, Suite 11  
New Castle, DE 19720

This is to certify that WESTWIND Serial Number \_\_\_\_\_ has complied with  
Service Bulletin No.

**1124-57-126**

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance: Hours \_\_\_\_\_ Cycles \_\_\_\_\_

Compliance Date: \_\_\_\_\_ By: \_\_\_\_\_  
Signature

Owner:	Accomplishing Agency:
_____	_____
_____	_____
_____	_____
_____	_____

Please describe below any discrepancies found or difficulties encountered  
during compliance:

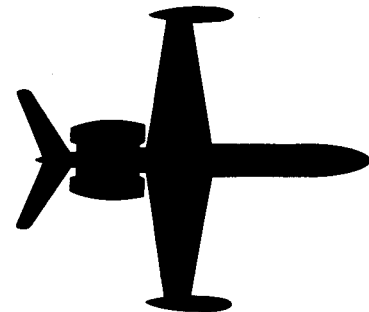
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\_\_\_\_\_

# 24-WESTWIND



## SERVICE BULLETIN

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NO. 1124-71-091

REVISION - 2

June 2, 1989

### TRANSMITTAL SHEET

This sheet transmits Revision 2 to Service Bulletin No. 1124-71-091 dated April 10, 1987, titled, "Powerplant - Forward Engine Mount Fasteners - Inspection/Replacement," (AFC 2065).

#### REASON FOR REVISION:

This service bulletin is revised to:

- (1) Alter its classification from RECOMMENDED to MANDATORY in order to assure the termination of inspection by accomplishing the fasteners replacement.
- (2) The fasteners replacement period was revised from 12 calendar months to "the next engine removal."
- (3) The option for installation of new H-11 fasteners is removed.

NOTE: Equipment modified utilizing the new BAC hardware in accordance with Part II of previous issue of this service bulletin does not require further rework.

This service bulletin is reissued in its entirety to revise compliance under paragraph 1.c. and to incorporate previous revision No. 1 dated Nov. 20, 1987.

Bulletin title is revised to reflect Revision 1. Title page is revised to reflect latest revision date.

This is a COMPLETE REVISION. Pages revised are listed below. The letter "R" in the margin shows where changes are made. Please remove and discard all pages of previous issues and replace with pages of this revision.

SERVICE BULLETIN NO. 1124-71-091

SECTION-1

Paragraph 1.A. EFFECTIVITY is revised to reflect Revision No. 1.

Paragraph 1.C. COMPLIANCE PART 1 is revised to eliminate calendar time limitation and to stipulate bolts replacement at next engine removal.

SECTION-2

Part I, Paragraph E is revised to stipulate corroded fasteners for repeated Part I inspection every 150 flight hours if not replaced.

Part II, Step C(1) is revised to reflect revision No. 1.

Part II, Step C(5)(a) of Revision No. 1 is removed.

SECTION-3

Material information is revised to reflect Revision No. 1.

SECTION-4

RECORD OF COMPLIANCE is revised to reflect Revision No. 1.

Figure 1 is revised to reflect Revision No. 1.

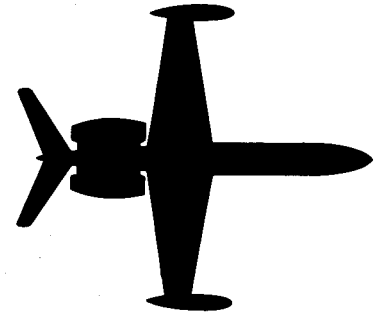
LIST OF EFFECTIVE PAGES:

<u>Page No.</u>	<u>Date</u>	<u>Page No.</u>	<u>Date</u>
1	June 2, 1989	5	June 2, 1989
2	June 2, 1989	6	June 2, 1989
3	June 2, 1989	7	April 10, 1987
4	June 2, 1989	8	April 10, 1987

PREVIOUS ISSUES OF SB 1124-71-091

Initial issue dated Apr. 10, 1987  
Revision 1, dated Nov. 20, 1987

# 24-WESTWIND



## SERVICE BULLETIN

MANDATORY

SERVICE BULLETIN NO. 1124-71-091

April 10, 1987

SUBJECT: POWER PLANT - FORWARD ENGINE MOUNT FASTENERS -  
INSPECTION/REPLACEMENT (AFC 2065).

### 1. PLANNING INFORMATION

#### A. EFFECTIVITY

Model 1124/1124A Westwinds, all serial numbers prior to 441 except 432, 435 and 438.

#### B. REASON

To prevent potential stress corrosion failure of the forward engine mount mounting bolts and nuts made from H-11 steel.

#### C. COMPLIANCE

PART I - Within the next 150 hours for aircraft with more than 600 hours for aircraft with less than 600 hours time in service.

Repeat PART I instructions within maximum intervals of 300 flight hours until compliance with the PART II instructions for replacing the fasteners is accomplished.

PART II - At next engine removal for any reason, including removal for the next engine major periodic inspection.

#### D. DESCRIPTION

PART I of this service bulletin provides inspection procedures for the engine mount attach fasteners.

PART II of this service bulletin provides instructions to replace the engine mount attach fasteners.



E. APPROVAL

This service bulletin has been reviewed by the Israel Civil Aviation Administration (ICAA). The inspection and improvements herein comply with the applicable Civil Aviation Regulations and are ICAA approved.

F. MATERIAL

Material required may be obtained through Atlantic Aviation Supply Company, Wilmington, Delaware, or their authorized representatives.

G. SPECIAL TOOLS

Torque wrench adaptor (see Figure 3).

H. WEIGHT AND BALANCE

Not applicable.

I. ELECTRICAL LOAD DATA

Not applicable.

J. REFERENCES

1124/1124A Maintenance Manual, Chapter 71  
1124/1124A Illustrated Parts Catalog, Chapter 71

K. PUBLICATIONS AFFECTED

1124/1124A Illustrated Parts Catalog, Chapter 71

2. ACCOMPLISHMENT INSTRUCTIONS

PART I: Gain access to fasteners attaching F10A-5-B10555 forward engine mount located at engine station 200.00 (see Figure 1).

- A. Remove access panels on underside of pylon, forward and aft of engine mount assembly. Remove top and bottom engine cowling.
- B. Disconnect P/N 26948-2 Teleflex engine throttle control quick-disconnect.

SERVICE BULLETIN NO. 1124-71-091

- R  
R  
R  
R
- C. Remove P/N F10A5P20230-1 fire extinguisher nozzle.
  - D. Remove bolts securing fireshield to pylon and remove fireshield section to gain access to pylon interior and engine mount hardware.
  - E. Visually inspect bolt heads and nuts for any signs of corrosion. If signs of corrosion are found and the fasteners are not replaced as a result of instructions given in Step F, then repeat Part I inspection every 150 flight hours instead of 300 hours.
  - F. Apply torque of 180-220 in-lbs to the nuts of the 7/16-inch diameter bolts and a torque of 450-500 in-lbs to the nuts of the 9/16-inch diameter bolts. (If necessary, use extension adaptor, Figure 3, or other suitable adaptor.) If bolt or nut movement is observed while applying torque, comply with Part II of this service bulletin before further flight.

NOTE

When using an extension adaptor on a torque wrench, it is necessary to calculate the correct indicated torque.

- G. If corrosion is not detected and movement of bolts or nuts is not observed while applying torque, replace fireshielding inside pylon, connect fire extinguisher nozzle and reconnect engine throttle controls. Replace access panels.
- H. Repeat for other engine forward mount.

PART II

- A. Remove engine. Reference 1124/1124A Maintenance Manual, Chapter 71-00-00.
- B. Remove panels necessary to access forward engine mount fastener nuts. (See PART I, Steps A through D of this service bulletin.)
- C. Remove and replace forward engine mount attach fasteners, one at a time, as follows:
  - (1) Remove and discard old fasteners, bolt, nut, washers under bolt head and nut and PLI washer assy (see Figure 1).
  - (2) Check for surface defects in fastener holes such as corrosion, scratches, nicks or cuts intersecting a part surface.

R  
R

- (3) Nuts, bolts and threads shall be free of all burrs, nicks, dents and sharp edges.
- (4) No lubricant shall be used on the fastener or in the hole.
- (5) Install new bolt in hole with washers per Figure 1.

R  
R  
R  
R

- (6) Install new PLI washer assembly as required and assembled per Figure 2.

NOTE

Do not remove wax coating from inner PLI washer.

- (7) Install new nut.

CAUTION

Never continue to tighten a bolt or nut which has started to cross thread. Scrap bolt and nut if this occurs.

- (8) Torque attaching bolt as follows:

- (a) Tighten nut snug against PLI washer set. (See Detail B, Figure 2.)
- (b) Tighten nut in gradual (1/8 turn maximum) increments. Test outer PLI washer for rotation by inserting a scribe (or equivalent) in perimeter holes. When the outer washer can no long be moved, the desire preload torque has been obtained. (See Details C and D, Figure 2.)

CAUTION

Do not overtighten. If nut is tightened more than 1/8 turn beyond point where outer PLI washer becomes immovable, the entire bolt, nut and washer assembly must be replaced.

- (9) Repeat steps 1 through 8 for remaining fasteners.

- D. Apply tamper-proof sealant, EC-1252, White, to each torqued fastener installation.
  - (1) Clean only those parts to receive sealant with Methyl Ethyl Ketone (MEK).
  - (2) Apply strips of sealant across end of exposed bolt end, down the nut and across the PLI washers so that any turning action will break the stripe seal.
- E. Replace fireshielding inside pylon, connect fire extinguisher nozzle and reconnect engine throttle controls. Replace access panels.
- F. Reinstall engine.
- G. Repeat for other engine forward mount.

3. MATERIAL INFORMATION

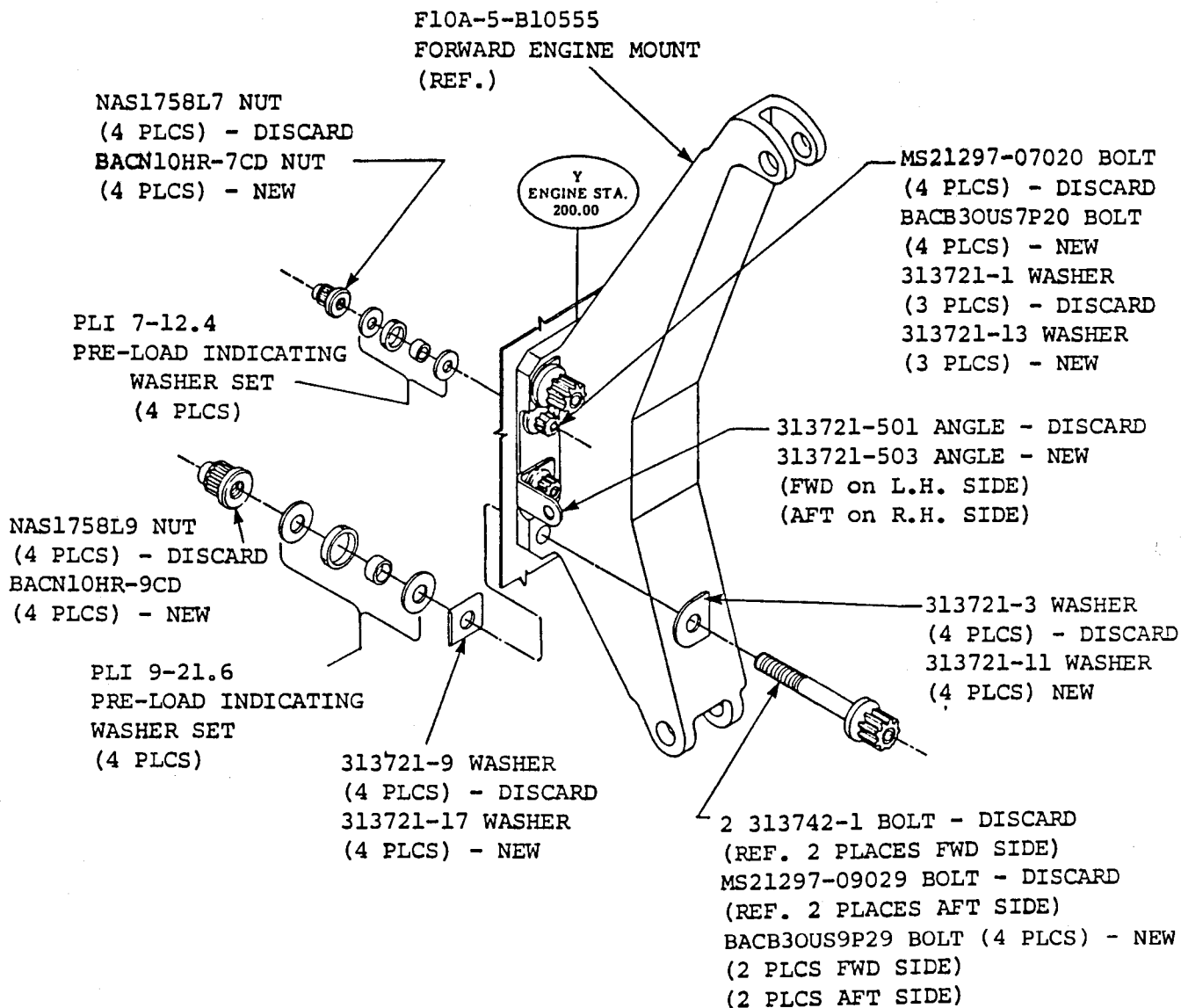
<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
4*	BACB3OUS9P29	Bolt
4*	BACB3OUS7P20	Bolt
4*	313721-11	Washer (under BACB3OUS9P29 BOLT HEAD)
3*	313721-13	Washer (under BACB3OUS7920 BOLT HEAD)
1*	313721-503	Angle (under BACB3OUS7P20 BOLT HEAD)
4*	BACN10HR-9CD	Nut
4*	BACN10HR-7CD	Nut
4*	PLI-9-21.6	Pre-load Indicating Washer Set
4*	PLI-7-12.4	Pre-load Indicating Washer Set
4*	313721-17	Washer (under PLI-9-21.6 Washer Set)

\* Quantities for one engine mount

4. RECORD COMPLIANCE

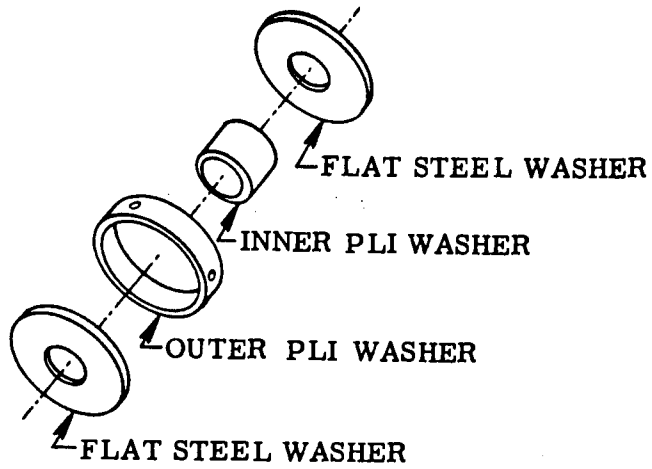
- A. Make the following entry in the aircraft log book:
  - (1) If fasteners inspection complied with Part I, enter: Part I of Service Bulletin No. 1124-71-091, dated April 10, 1987, titled, "Powerplant Forward Engine Mount Fasteners - Inspection," has been accomplished this date \_\_\_\_\_."
  - (2) If fasteners replacement complied with Part II, enter: Part II of Service Bulletin No. 1124-71-091, dated April 10, 1987, Revision No. 2, June 2, 1989, titled, "Powerplant - Forward Engine Mount Fasteners - Replacement," has been accomplished this date \_\_\_\_\_.
- B. Complete the attached certificate of compliance and return to Astra Jet Corporation in Wilmington, Delaware.

SERVICE BULLETIN NO. 1124-71-091

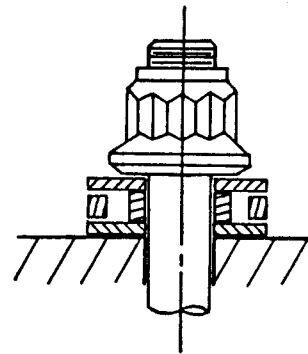


INSTALLATION OF FORWARD ENGINE MOUNT  
ATTACHMENT FASTENERS

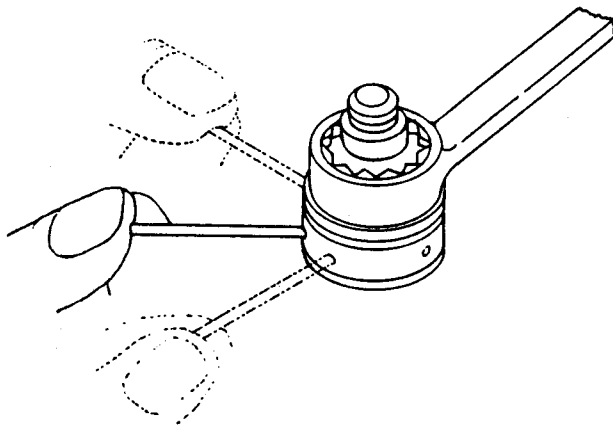
FIGURE 1



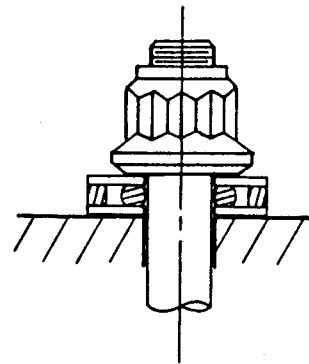
A. TYPICAL PLI WASHER ASSEMBLY



B. INITIAL POSITION OF PLI WASHERS



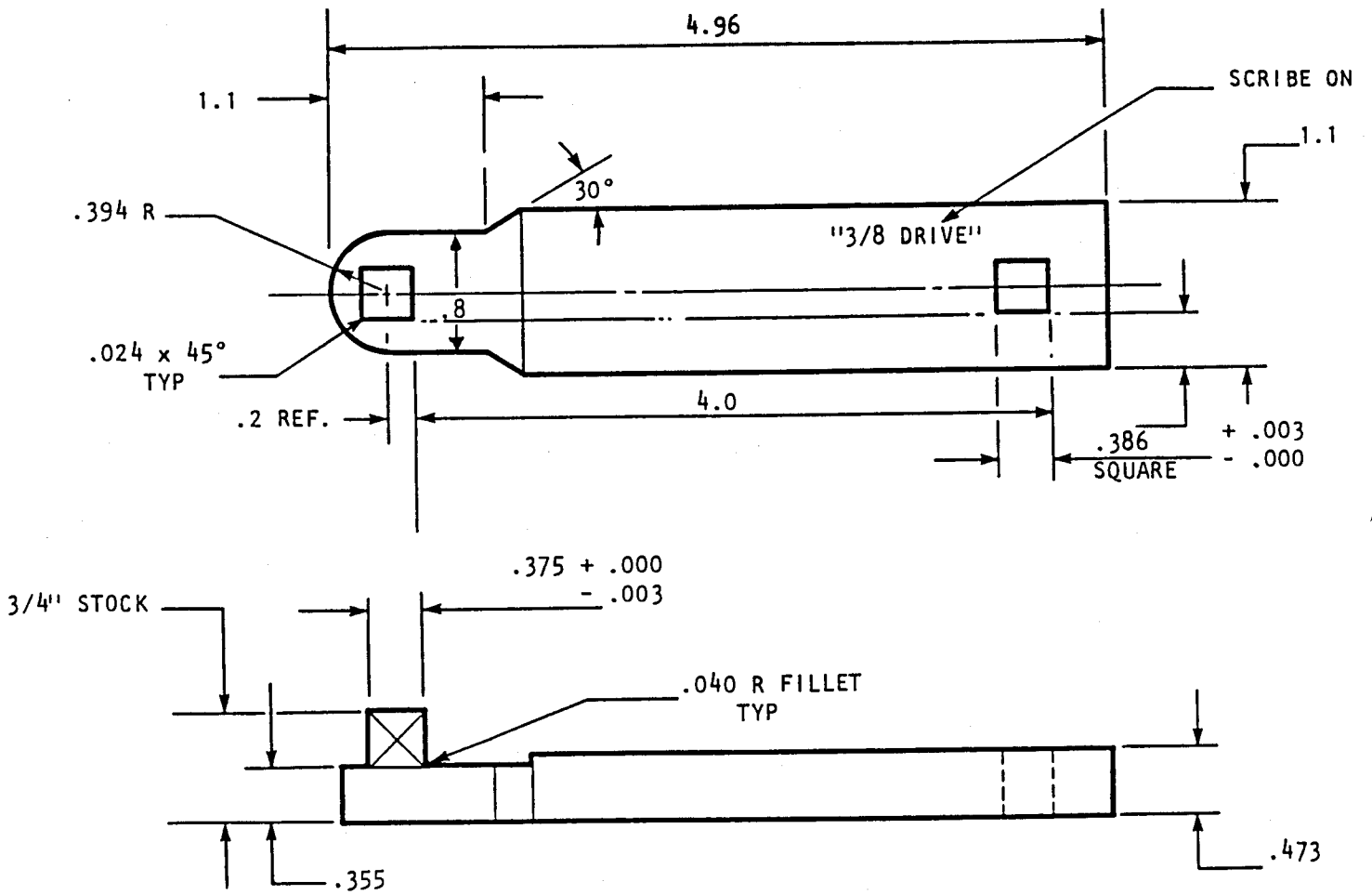
D. TESTING OUTER WASHER FOR MOVEMENT



C. TIGHTENED TO DESIRED PRE-LOAD

INSTALLATION OF PRE-LOAD INDICATING WASHERS UNDER NUTS

FIGURE 2



TORQUE WRENCH ADAPTOR

FIGURE 3

*Service Letter*

A/C S/N \_\_\_\_\_

*Certificate of Compliance*

PLEASE FILL IN THE REQUIRED DATA BELOW AND RETURN TO:

ASTRA JET CORPORATION  
P. O. Box 10086  
Wilmington, DE 19850  
Attn: Technical Publications

This is to certify that Westwind Serial Number \_\_\_\_\_ has complied  
with Service Letter No. 1124-71-091 Rev. 2

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance \_\_\_\_\_

Compliance Date \_\_\_\_\_ By \_\_\_\_\_  
Signature

OWNER:

ACCOMPLISHING AGENCY:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Please describe below any discrepancies found or difficulties  
encountered during compliance:

\_\_\_\_\_  
\_\_\_\_\_  
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\_\_\_\_\_

TEAR AT PERFORATION, REMOVE TAPE AT BOTTOM, FOLD, SEAL AND MAIL



# SERVICE PUBLICATIONS revision notice

SERVICE BULLETIN NO. 1124-71-091  
Revision No. 1

November 20, 1987

R Subject: POWER PLANT - FORWARD ENGINE MOUNT FASTENERS-  
INSPECTION/REPLACEMENT (AFC 2065)

## REASON FOR REVISION:

- 1) To limit aircraft serial numbers effectivety under paragraph 1.A. "PLANNING INFORMATION."
- 2) Washer installed under BACB30US9P29 and BACB30US7P20 bolt heads and PLI-9-21.6 washer set are replaced with new reduced thickness to ascertain allowable bolt thread protrusion.
- 3) Record compliance in aircraft log book in two parts: Part I "Inspection" and Part II "Replacement."

## 1. PLANNING INFORMATION

### A. EFFECTIVITY

R Model 1124/1124A Westwinds, all serial numbers prior  
R to 441 except 432, 435 and 438.

## 2. ACCOMPLISHMENT INSTRUCTIONS

### PART II

R C.(1). Remove and discard old fasteners, bolt, nut,  
R washers under bolt head and nut and PLI washer  
assy (see figure-1).

R C.(5). Install new bolt in hole with washers per Fig. 1.

R (a) New (unused) H-11 steel bolts and nuts may be  
R installed if for any reason the substitute  
R fasteners are not available, subject to  
R the limitations described in Part I compliance  
R of this service bulletin.



INTERNATIONAL INC.  
ISRAEL AIRCRAFT INDUSTRIES INTERNATIONAL INC.

SUBSIDIARY OF ISRAEL AIRCRAFT INDUSTRIES, LTD.  
BEN GURION AIRPORT, ISRAEL

SB 1124-71-091  
Revision No. 1  
Page 1 of 3

SERVICE BULLETIN NO. 1124-71-091

3. MATERIAL INFORMATION

QTY PART NUMBER DESCRIPTION

	4*	BACB30US9P29	Bolt
	4*	BACB30US7P20	Bolt
R	4*	313721-11	Washer (under BACB30US9P29 BOLT HEAD)
R	3*	313721-13	Washer (under BACB30US7P20 BOLT HEAD)
R	1*	313721-503	Angle (under BACB30US7P20 BOLT HEAD)
	4*	BACN10HR-9CD	Nut
	4*	BACN10HR-7CD	Nut
	4*	PLI-9-21.6	Pre-load Indicating Washer Set
	4*	PLI-7-12.4	Pre-load indicating Washer Set
R	4*	313721-17	Washer (under PLI-9-21.6 Washer Set)

\* Quantities for one engine mount

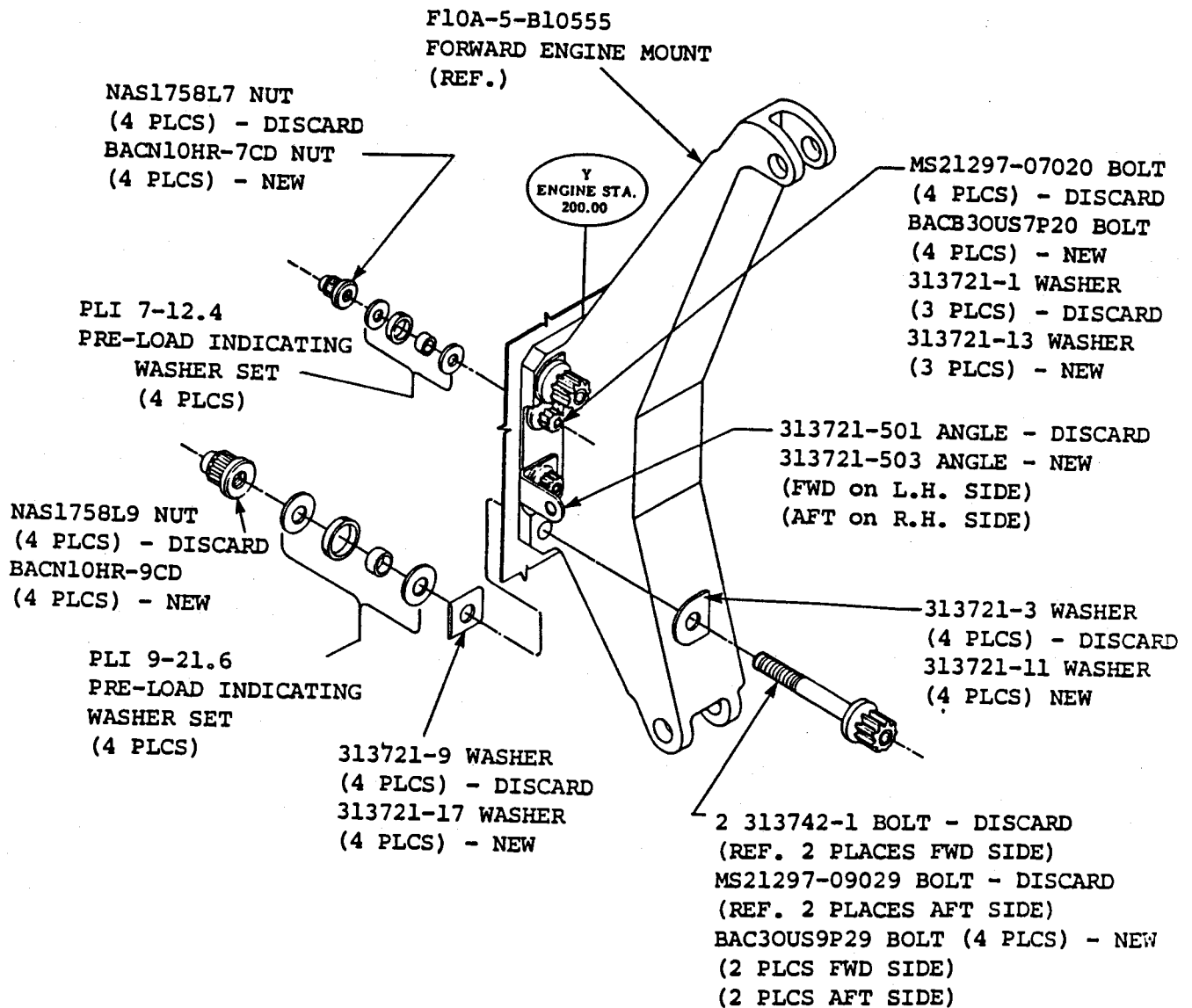
4. RECORD COMPLIANCE

A. Make the following entry in the aircraft log book:

(1) If fasteners inspection complied with Part I enter: Part I of Service Bulletin No. 1124-71-091 dated April 10, 1987 titled "Powerplant Forward Engine Mount Fasteners - Inspection," has been accomplished this date \_\_\_\_\_.

(2) If fasteners replacement complied with Part II enter: Part II of Service Bulletin No. 1124-71-091 dated April 10, 1987, Revision No. 1 November 20, 1987, titled "Powerplant - Forward Engine Mount Fasteners - Replacement," has been accomplished this date \_\_\_\_\_.

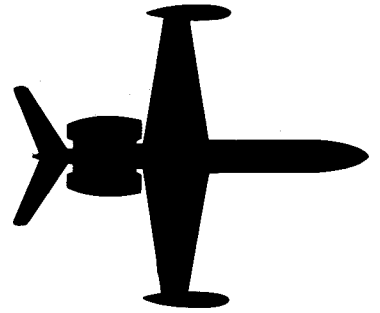
B. Complete the attached certificate of compliance and return to IAII in Wilmington.



INSTALLATION OF FORWARD ENGINE MOUNT  
ATTACHMENT FASTENERS

FIGURE 1

# 24-WESTWIND



## SERVICE BULLETIN

MANDATORY

SERVICE BULLETIN NO. 1124-71-091

April 10, 1987

SUBJECT: POWER PLANT - FORWARD ENGINE MOUNT FASTENERS -  
INSPECTION/REPLACEMENT (AFC 2065).

### 1. PLANNING INFORMATION

#### A. EFFECTIVITY

Model 1124/1124A Westwinds, all serial numbers prior to 441 except 432, 435 and 438.

#### B. REASON

To prevent potential stress corrosion failure of the forward engine mount mounting bolts and nuts made from H-11 steel.

#### C. COMPLIANCE

PART I - Within the next 150 hours for aircraft with more than 600 hours or at 600 hours for aircraft with less than 600 hours time in service.

Repeat PART I instructions within maximum intervals of 300 flight hours until compliance with the PART II instructions for replacing the fasteners is accomplished.

PART II - At next engine removal for any reason, including removal for the next engine major periodic inspection.

#### D. DESCRIPTION

PART I of this service bulletin provides inspection procedures for the engine mount attach fasteners.

PART II of this service bulletin provides instructions to replace the engine mount attach fasteners.

April 10, 1987  
Revision 2, June 2, 1989

SB 1124-71-091  
Page 1 of 8

E. APPROVAL

This service bulletin has been reviewed by the Israel Civil Aviation Administration (ICAA). The inspection and improvements herein comply with the applicable Civil Aviation Regulations and are ICAA approved.

F. MATERIAL

Material required may be obtained through Atlantic Aviation Supply Company, Wilmington, Delaware, or their authorized representatives.

G. SPECIAL TOOLS

Torque wrench adaptor (see Figure 3).

H. WEIGHT AND BALANCE

Not applicable.

I. ELECTRICAL LOAD DATA

Not applicable.

J. REFERENCES

1124/1124A Maintenance Manual, Chapter 71  
1124/1124A Illustrated Parts Catalog, Chapter 71

K. PUBLICATIONS AFFECTED

1124/1124A Illustrated Parts Catalog, Chapter 71

2. ACCOMPLISHMENT INSTRUCTIONS

PART I: Gain access to fasteners attaching F10A-5-B10555 forward engine mount located at engine station 200.00 (see Figure 1).

- A. Remove access panels on underside of pylon, forward and aft of engine mount assembly. Remove top and bottom engine cowling.
- B. Disconnect P/N 26948-2 Teleflex engine throttle control quick-disconnect.

SERVICE BULLETIN NO. 1124-71-091

- B. Disconnect P/N 26948-2 Teleflex engine throttle control quick-disconnect.
- C. Remove P/N F10A5P20230-1 fire extinguisher nozzle.
- D. Remove bolts securing fireshield to pylon and remove fireshield section to gain access to pylon interior and engine mount hardware.
- E. Visually inspect bolt heads and nuts for any signs of corrosion. If corrosion is detected, comply with PART II of this service bulletin before further flight.
- F. Apply torque of 180-220 in-lbs to the nuts of the 7/16 inch diameter bolts and a torque of 450-500 in-lbs to the nuts of the 9/16 inch diameter bolts (if necessary, use extension adaptor, Figure 3, or other suitable adaptor). If bolt or nut movement is observed while applying torque, comply with Part II of this service bulletin before further flight.

NOTE

When using an extension adaptor on a torque wrench, it is necessary to calculate the correct indicated torque.

- G. If corrosion is not detected and movement of bolts or nuts is not observed while applying torque, replace fireshielding inside pylon, connect fire extinguisher nozzle and reconnect engine throttle controls. Replace access panels.
- H. Repeat for other engine forward mount.

PART II

- A. Remove engine. Reference 1124/1124A Maintenance Manual, Chapter 71-00-00.
- B. Remove panels necessary to access forward engine mount fastener nuts. (See PART I, Steps A through D of this service bulletin.)
- C. Remove and replace forward engine mount attach fasteners, one at a time, as follows:

SERVICE BULLETIN NO. 1124-71-091

- (1) Remove old fastener, discard bolt, nut and PLI washer.
- (2) Check for surface defects in fastener holes such as corrosion, scratches, nicks or cuts intersecting a part surface.
- (3) Nuts, bolts and threads shall be free of all burrs, nicks, dents and sharp edges.
- (4) No lubricant shall be used on the fastener or in the hole.
- (5) Install new bolt in hole with washers per Figure 1.
- (6) Install new PLI washer assembly as required and assemble per Figure 2.

NOTE

Do not remove wax coating from inner PLI washer.

- (7) Install new nut.

CAUTION

Never continue to tighten a bolt or nut which has started to cross thread. Scrap bolt and nut if this occurs.

- (8) Torque attaching bolt as follows:
  - (a) Tighten nut snug against PLI washer set. (See Detail B, Figure 2.)
  - (b) Tighten nut in gradual (1/8 turn maximum) increments. Test outer PLI washer for rotation by inserting a scribe (or equivalent) in perimeter holes. When the outer washer can no longer be moved, the desired preload torque has been obtained. (See Details C and D, Figure 2.)

CAUTION

Do not overtighten. If nut is tightened more than 1/8 turn beyond point where outer PLI washer becomes immovable, the entire bolt, nut and washer assembly must be replaced.

SERVICE BULLETIN NO. 1124-71-091

- (9) Repeat steps 1 through 8 for remaining fasteners.
- D. Apply tamper-proof sealant, EC-1252, White, to each torqued fastener installation.
- (1) Clean only those parts to receive sealant with Methyl Ethyl Ketone (MEK).
- (2) Apply stripe of sealant across end of exposed bolt end, down the nut and across the PLI washers so that any turning action will break the stripe seal.
- E. Replace fireshielding inside pylon, connect fire extinguisher nozzle and reconnect engine throttle controls. Replace access panels.
- F. Reinstall engine.
- G. Repeat for other engine forward mount.

3. MATERIAL INFORMATION

<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
4*	BACB30US9P29	Bolt
4*	BACB30US7P20	Bolt
4*	BACN10HR-9CD	Nut
4*	BACN10HR-7CD	Nut
4*	PLI-9-21.6	Pre-load Indicating Washer Set
4*	PLI-7-12.4	Pre-load Indicating Washer Set

\*Quantities for one engine mount.

4. RECORD COMPLIANCE

Make the following entry in the aircraft log book:

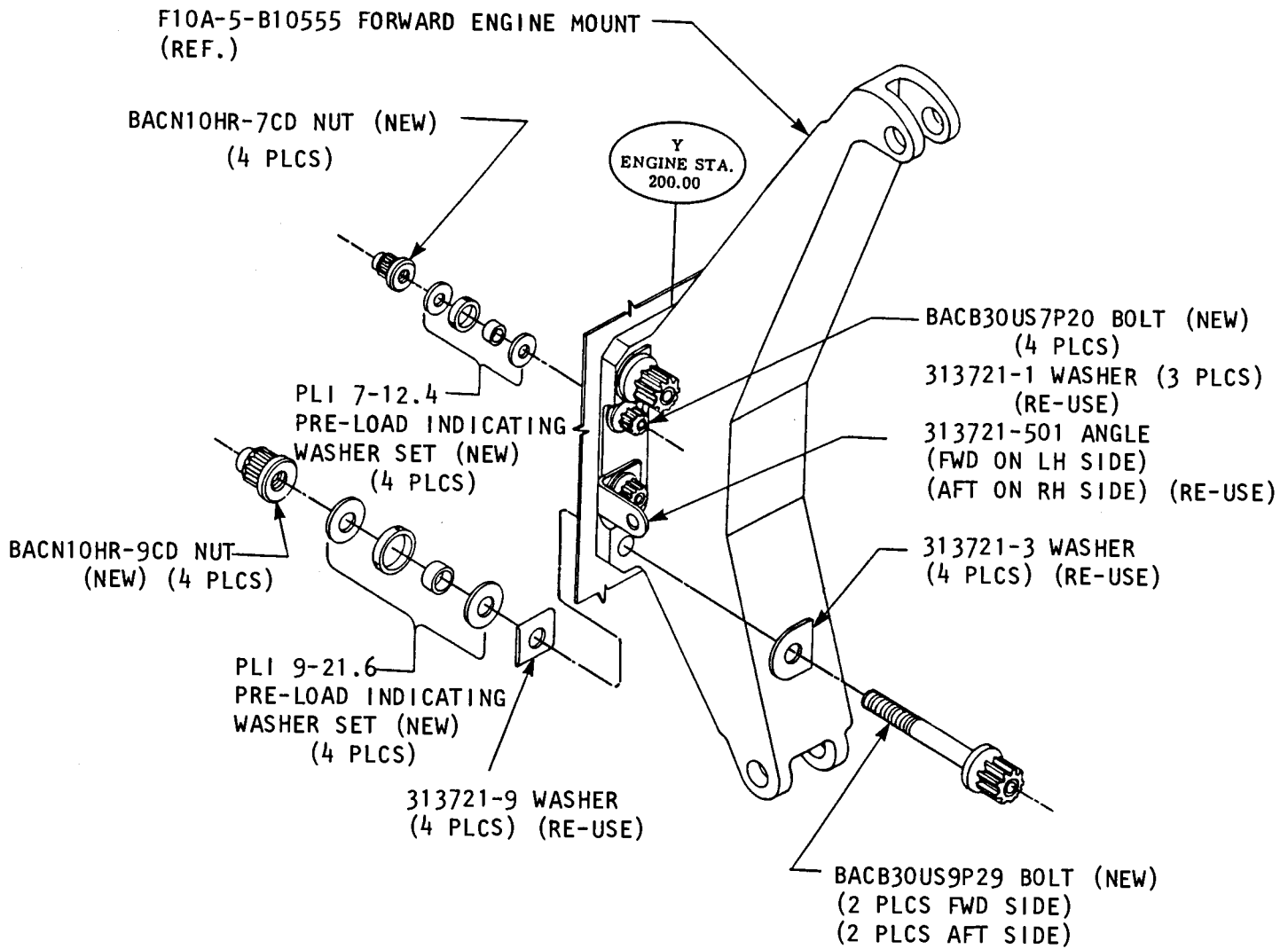
Service Bulletin No. 1124-71-091 dated April 10, 1987 titled "Powerplant - Forward Engine Mount Fasteners - Inspection/Replacement," Part \_\_\_\_\_, has been accomplished this date \_\_\_\_\_.

April 10, 1987

SB 1124-71-091  
Page 5 of 8

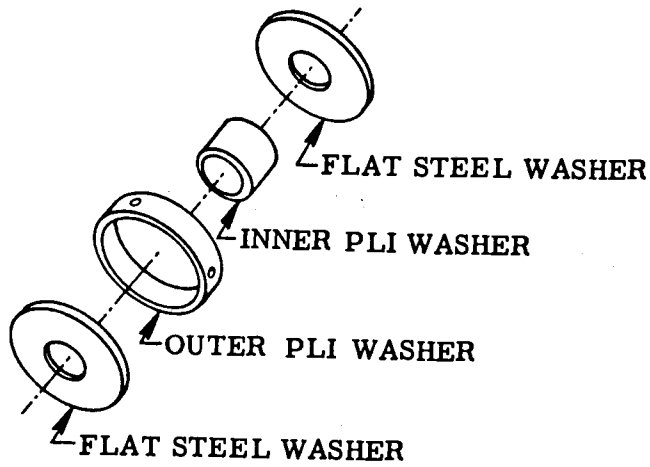


SERVICE BULLETIN NO. 1124-71-091

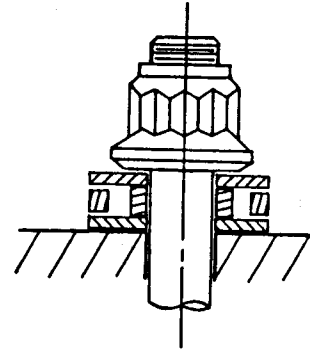


INSTALLATION OF FORWARD ENGINE MOUNT  
ATTACHMENT FASTENERS

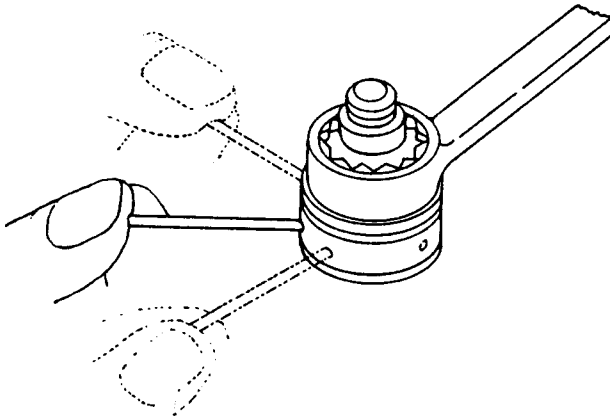
FIGURE 1



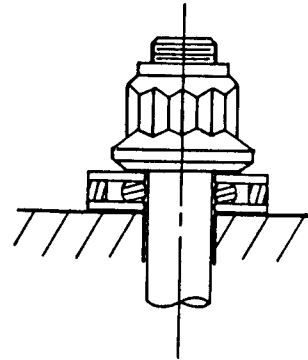
A. TYPICAL PLI WASHER ASSEMBLY



B. INITIAL POSITION OF PLI WASHERS



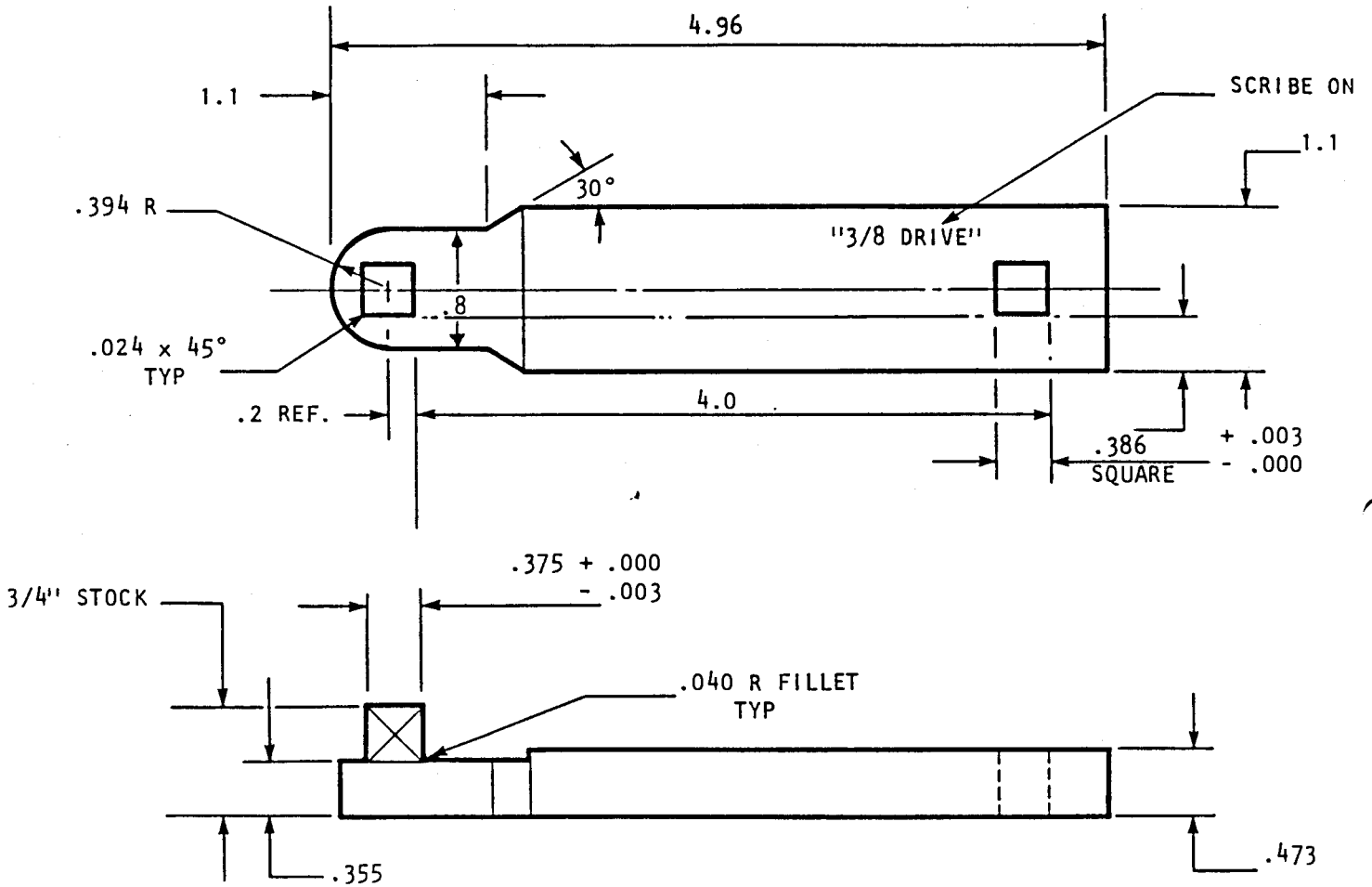
D. TESTING OUTER WASHER FOR MOVEMENT



C. TIGHTENED TO DESIRED PRE-LOAD

INSTALLATION OF PRE-LOAD INDICATING WASHERS UNDER NUTS

FIGURE 2



TORQUE WRENCH ADAPTOR

FIGURE 3

*Service Bulletin*

A/C S/N \_\_\_\_\_

*Certificate of Compliance*

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ISRAEL AIRCRAFT INDUSTRIES INTERNATIONAL, INC.  
P.O. BOX 10086  
WILMINGTON, DE 19850  
ATTN: TECHNICAL PUBLICATIONS

This is to certify that Westwind Serial Number \_\_\_\_\_ has complied  
with Service Bulletin No. **1124-71-091**

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance **HOURS:** \_\_\_\_\_ **/CYCLES:** \_\_\_\_\_

Compliance Date \_\_\_\_\_ By \_\_\_\_\_  
Signature

OWNER:	ACCOMPLISHING AGENCY:
_____	_____
_____	_____
_____	_____

Please describe below any discrepancies found or difficulties  
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Signature

OWNER:

ACCOMPLISHING AGENCY:

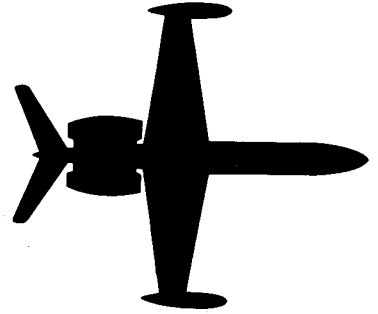
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# **1124-WESTWIND**



## **SERVICE BULLETIN**

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### **OPTIONAL**

**SERVICE BULLETIN NO. 1124-78-111**

**May 27, 1992**

**SUBJECT: EXHAUST - THRUST REVERSER FAULT TEST SWITCH RELIABILITY  
IMPROVEMENT (AFC 2084)**

**1. PLANNING INFORMATION**

**A. EFFECTIVITY**

MODEL 1124/1124A WESTWIND, all serial numbers.

**B. REASON**

To extend the service life of the thrust reverser fault test switch, Staco P/N 30271-18-N or Otto Controls P/N P4-10120-2 as applicable.

**C. DESCRIPTION**

Arc suppression diodes are added across the piggy back solenoid.

**D. COMPLIANCE**

Compliance is optional and at the operator's convenience.

**E. APPROVAL**

This service bulletin has been reviewed by the Civil Aviation Administration of Israel (CAAI). The design content herein complies with the applicable Civil Aviation Regulations and is CAAI approved.

F. MAN-HOUR REQUIREMENTS

The following information is for planning purposes only:

- (1) Estimated man-hours: 4
- (2) Suggested number of personnel: 1

The above is an estimate only, based on experienced personnel complying with this service bulletin. It is possible, depending on individual experience levels, that additional or fewer man-hours are required to accomplish this bulletin.

G. MATERIAL

<u>QTY.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
2	BJE66 ( OR EQUIVALENT)	DIODE (DEUTSCH)
4	327636 (AMP)	STEP DOWN SPLICE
4	1841-1-5620	PIN (DEUTSCH)

Material required may be obtained through Astra Jet Corporation, New Castle, Delaware, or authorized ASTRA/WESTWIND Service Centers.

H. TOOLING

No special tooling required.

I. WEIGHT AND BALANCE

Not applicable.

J. ELECTRICAL LOAD DATA

Not applicable.

K. REFERENCES

- 1124/1124A Westwind Wiring Diagram Manual, Chapter 78-30-01.
- 1124/1124A Westwind Maintenance Manual, Chapter 78-30-00.

L. PUBLICATIONS AFFECTED

- 1124/1124A Westwind Wiring Diagram Manual, Chapter 78-30-01.

2. ACCOMPLISHMENT INSTRUCTIONS

**NOTE:** Reference 1124/1124A Westwind Wiring Diagram Manual, Chapter 78-30-01 and Figure 1.

- A. Gain access to and remove forward relay panel for wiring modification of piggy back solenoid test relay (PBSTR).
- B. Locate jumper wire 155 from PBSTR contacts A1 and B3 connecting to P8 pin small C (C-).
- C. Cut wire 155, add new diode P/N BJE66 cathode (banded end) (with pin) using step down splice.
- D. Locate jumper wire 153 from PBSTR contacts C1 and D3 connecting to P8 pin small I (I-).
- E. Cut wire 153, add new diode P/N BJE66 cathode (banded end) (with pin) using step down splice.
- F. Locate wire 161 from PBSTR coil X2 connecting to P8 pin H. Splice the anode (free, unmarked) ends of both diodes above (with pins) to this wire.
- G. Reassemble forward relay panel.
- H. Perform operational check of thrust reversers. Reference 1124/1124A Westwind Maintenance Manual, Chapter 78-30-00, Maintenance Practices.

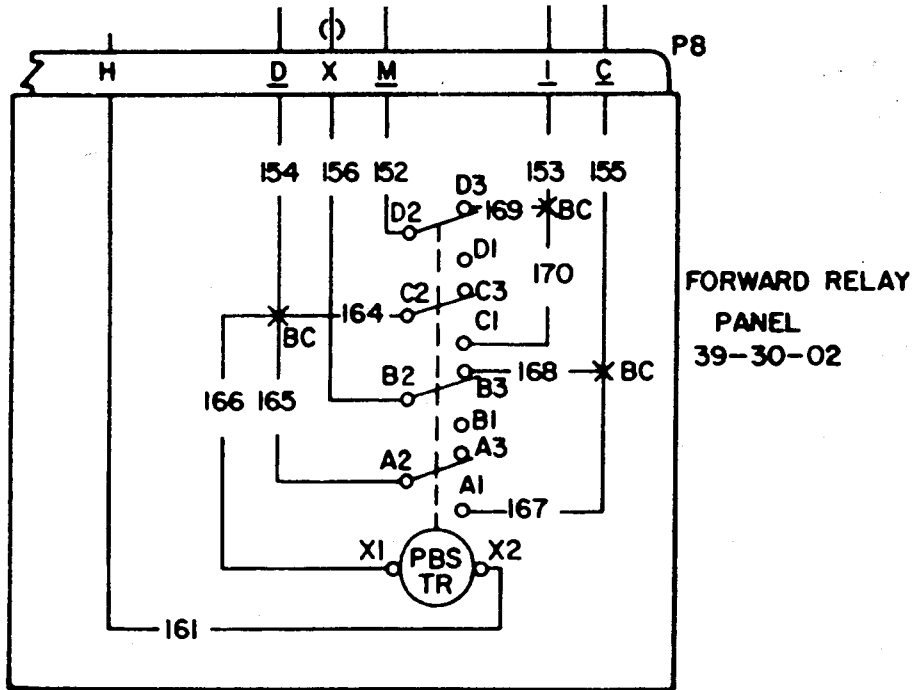
3. RECORD COMPLIANCE

- A. Make the following entry in the aircraft log book:

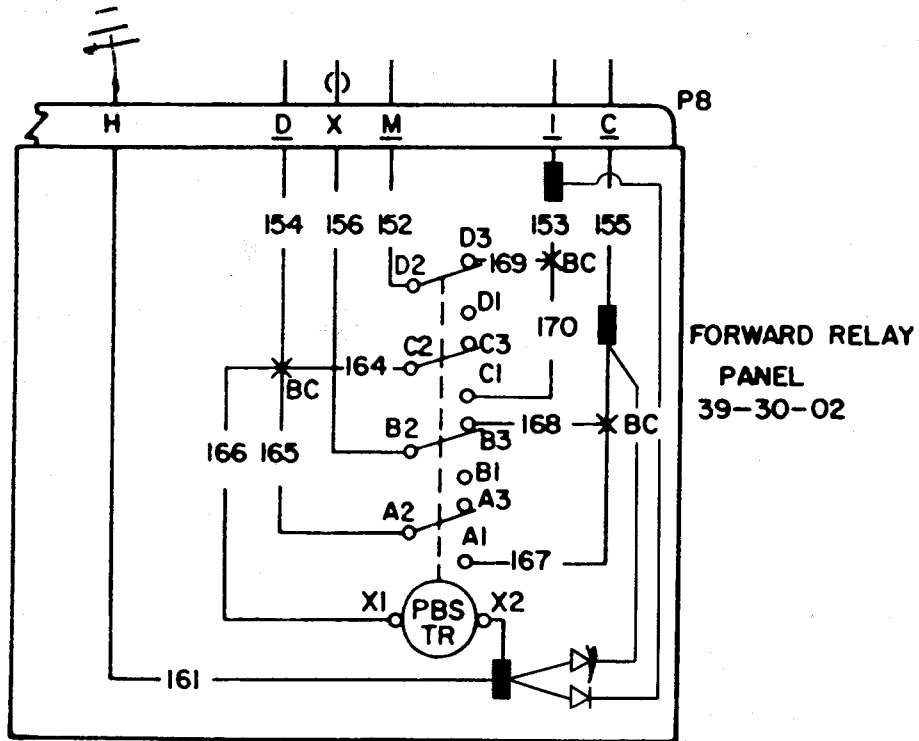
Service Bulletin 1124-78-111 dated May 27, 1992, titled "Exhaust - Thrust Reverser Fault Test Switch Reliability Improvement (AFC 2084)", has been accomplished this date \_\_\_\_\_.

- B. Revise 1124/1124A Westwind Wiring Diagram Manual, Chapter 78-30-01 to reflect changes accomplished by this service bulletin.
- C. Complete the attached Certificate of Compliance and return to Astra Jet Corporation in New Castle, Delaware.





**BEFORE**



**AFTER**

**PIGGY BACK SOLENOID TEST RELAY WIRING  
FIGURE 1**

*Service Bulletin*

*Certificate of Compliance*

PLEASE FILL IN THE REQUIRED DATA BELOW AND RETURN TO:

Technical Publications  
Astra Jet Corporation  
278 Quigley Boulevard  
New Castle, DE 19720

This is to certify that WESTWIND Serial Number \_\_\_\_\_ has complied with  
Service Bulletin No.

1124-78-111

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance: Hours \_\_\_\_\_ Cycles \_\_\_\_\_

Compliance Date: \_\_\_\_\_ By: \_\_\_\_\_

Signature

Owner:

Accomplishing Agency:

_____	_____
_____	_____
_____	_____
_____	_____

Please describe below any discrepancies found or difficulties encountered  
during compliance:

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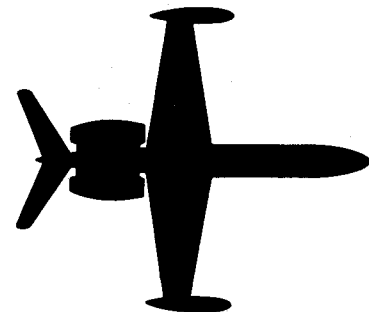
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## SERVICE BULLETIN

RECOMMENDED

SERVICE BULLETIN NO. 1124-79-093

March 14, 1988

SUBJECT: OIL - ENGINE - OIL PRESSURE INDICATION INSTALLATION  
(AFC 2066)

1. PLANNING INFORMATION

A. EFFECTIVITY:

MODEL 1124/1124A WESTWINDS, all serial numbers.

B. REASON

To check for defects (chafing, leakage) in engine oil pressure line, P/N F10A-5-P20228-1, install improved and additional engine oil pressure component brackets and support clamping.

C. COMPLIANCE

PART A: Within next 50 hours and each 50 hours thereafter until Part B is accomplished.

PART B: Within next 150 hours.

D. DESCRIPTION

PART A: Inspection of the engine oil pressure line, P/N F10A-5-P20228-1.

PART B: Installation of improved engine oil pressure transmitter mount bracket, improved engine oil pressure line support bracket and an additional engine oil pressure line support bracket and clamp.

E. APPROVAL

This service bulletin has been reviewed by the Israel Civil Aviation Administration (ICAA). The design content conveyed herein complies with the applicable Civil Aviation Regulations and is ICAA approved.

F. MATERIAL

Material required for this service bulletin may be obtained from Atlantic Aviation Supply, Wilmington, Delaware or their authorized representatives.

G. TOOLING

None

H. WEIGHT AND BALANCE

Not affected.

I. ELECTRICAL LOAD DATA

Not affected.

J. REFERENCES

1124/1124A Illustrated Parts Catalog, Chapters 71-00-00 and 79-30-00.

1124/1124A Maintenance Manual, 79-30-00.

TFE-731 Light Maintenance Manual, 79-10-01, 79-20-07.

K. PUBLICATIONS AFFECTED

1124/1124A Illustrated Parts Catalog, Chapters 71-00-00 and 79-30-00.

1124/1124A Maintenance Manual, Chapters 71-00-01 and 79-30-00.

2. ACCOMPLISHMENT INSTRUCTIONS

A. PART A

- (1) Gain access to engine oil pressure indication system components at lower right side of left and right engines.
- (2) Inspect oil pressure line, P/N F10A-5-P20228-1, for leakage, condition, security, and clearance. Refer to Figure 1.

- (3) Replace leaking, chafed or damaged lines with new unit.
  - (a) Perform leak check as required when oil line is disturbed.
- (4) Reinspect each 50 hours until Part B is accomplished.

B. PART B (Refer to Figures 1 and 2).

NOTE: Workscope is identical for left and right engine installation.

- (1) Gain access as in A.(1).
- (2) Remove P/N F10A-5-P20228-1, oil pressure line.
  - (a) Cap open fluid connections.
- (3) Remove following components:
  - (a) F10A-5-P20255-5 oil pressure transmitter mount bracket.
  - (b) F10A-5-P20255-9 oil line support bracket.
- (4) Install F10A-5-P20255-51 oil pressure transmitter mount bracket.
  - (a) Torque nuts securing transmitter mount bracket to engine oil pump housing (3 ea) to 20 inch-pounds.
- (5) Install F10A-5-P20255-47 oil pressure line support bracket.
  - (a) Torque bolt/nut securing support bracket to oil cooler to 35 inch-pounds.
- (6) Install MS9592-066 bracket to existing mount point of fan bypass duct stiffener as shown in Figure 2. Attach bracket to stiffener using MS35206-245 screw, MS21043-08 nut and AN960-D8L washer.
- (7) Reinstall oil pressure line removed in step B.(2).
- (8) Install clamp, NAS1715C4T on oil pressure line, F10A-5-P20228-1.

- (9) Connect clamp to bracket using MS35206-244 screw, MS21043-08 nut, and AN960-D8L washer.

NOTE

Due to slight dimensional differences in the oil pressure line installation, final alignment between the support bracket and clamp may differ from engine to engine. It may be necessary to utilize an attachment screw of greater length in conjunction with AN960-D8L washers, as required, to achieve proper alignment between the bracket and clamp. Final installation must result in no pre-load forces being applied to the oil pressure line.

- (10) Recheck oil pressure line "B" nuts for proper torque (135-150 inch-pounds).
- (11) Perform leak check during ground engine run-up of oil pressure line installation.
- (12) Service engine oil.
- (13) Return aircraft to service.

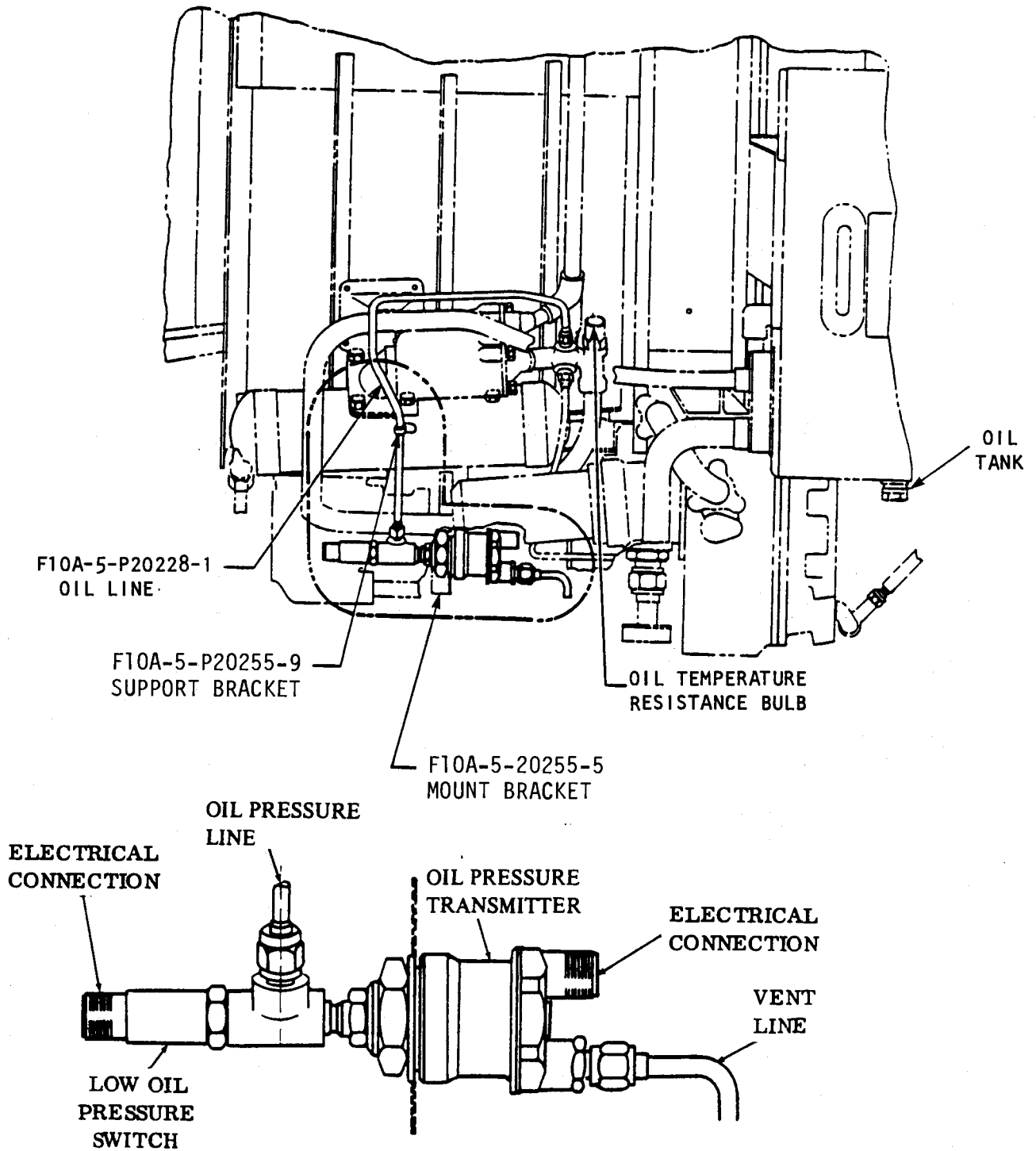
3. MATERIAL INFORMATION

<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
A/R	F10A-5-P20228-1	Oil Line, Pressure Indicating Bracket
2	MS9592-066	Screw
2	MS35206-244	Screw
2	MS35206-245	Nut
4	MS21043-08	Washer
4	AN960-D8L	Clamp
2	NAS1715C4T	Bracket Assembly,
2	F10A-5-P20255-47	Oil line support Bracket Assembly,
2	F10A-5-P20255-51	Transmitter support

4. RECORD COMPLIANCE

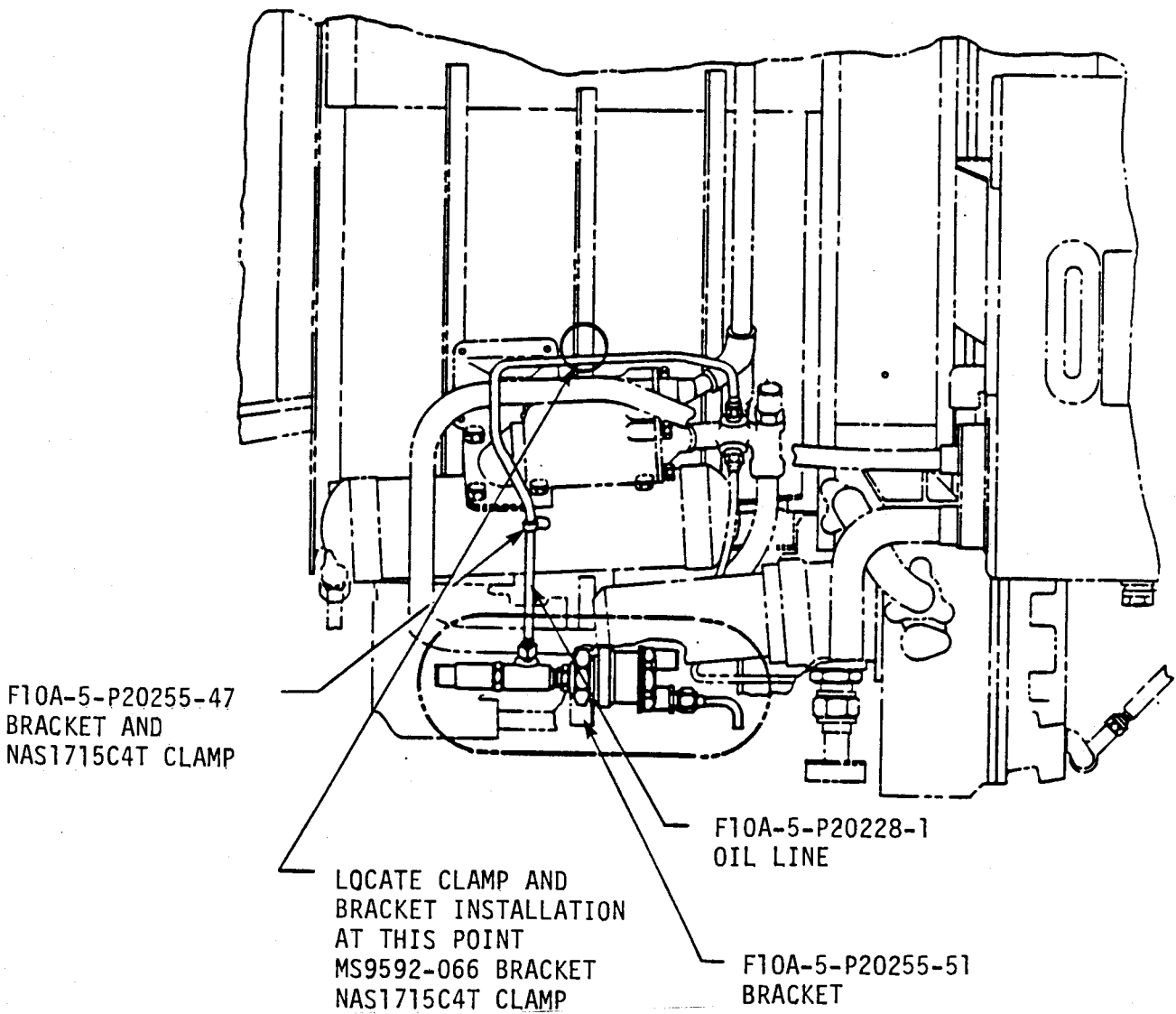
Make the following entry in the aircraft log book:

Service Bulletin No. 1124-79-093 dated March 14, 1988, titled "Oil - Engine - Oil Pressure Indication Installation", has been accomplished this date \_\_\_\_\_.



EXISTING ENGINE OIL PRESSURE SYSTEM INSTALLATION

FIGURE 1



NEW ENGINE OIL LINE INSTALLATION

FIGURE 2



*Service Bulletin*

A/C S/N \_\_\_\_\_

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WILMINGTON, DE 19850  
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This is to certify that Westwind Serial Number \_\_\_\_\_ has complied with Service Bulletin No.

**1124-79-093**

Aircraft Registration No. \_\_\_\_\_

Airframe Total Time at Compliance **HOURS:** \_\_\_\_\_ **/CYCLES:** \_\_\_\_\_

Compliance Date \_\_\_\_\_ By \_\_\_\_\_  
Signature

<b>OWNER:</b>	<b>ACCOMPLISHING AGENCY:</b>
_____	_____
_____	_____
_____	_____

Please describe below any discrepancies found or difficulties encountered during compliance:  
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