FUSELAGE - BS 955 BULKHEAD - INNER CHORD INSPECTION

1. Purpose

A. Use this procedure to examine the inner chord at the BS 955 bulkhead for cracks. The inner chord is examined in the areas where the seat track support fittings are attached to it between stringers S-20 and S-21, on the left and right sides of the airplane.

B. MPD Appendix B DTR Check Form Reference:

(1) ITEM 53-50-I13B

2. Equipment

A. General

(1) Use equipment that can be calibrated on the reference standard as specified in Paragraph 4.

(2) See Part 1, 51-01-00 for data about the equipment manufacturers.

B. Instrument

(1) A Staveley Sonic-136 instrument was used to help prepare this procedure.

C. Transducer

(1) It is necessary to use a transducer that can operate at 5 MHz and can put a 45 degree shear wave in aluminum.

(2) A Staveley Sensors transducer, part number 57A3064 was used to help prepare this procedure.

D. Reference Standard

(1) Use reference standard NDT628 as shown in Figure 2.

E. Couplant

(1) Use a couplant that will not damage the airplane structure.

3. Preparation for Inspection

A. Find the inspection areas shown in Figure 1.

B. Remove the floor panels to access the seat track support fittings.

C. Make sure the area the transducer will touch (the edge of the inner chord) is clean and smooth.

4. Calibration

A. Connect the transducer to the instrument and set the instrument frequency to 5 MHz.

B. Put couplant on the transducer and the reference standard at transducer position 1 (Figure 3).

NOTE: Make sure the reference standard is correctly aligned. The location of the probe, in relation to the reference standard number, NDT628 and the holes, must be as shown in Figure 3.

C. With the transducer at position 1, point the sound to the hole without an EDM notch. See Figure 3.

D. Set the initial pulse at 0% of full-screen width and move the transducer to get a signal from the hole.

E. Move the transducer back and forward and from side to side to get a maximum signal from the hole.

F. Adjust the maximum signal to 45% of full-screen width. See Figure 4, Detail A.

G. Use the gain control to adjust the signal to full-screen height. See Figure 4, Detail A.

H. Put the transducer at position 2 on the reference standard (Figure 3) and move the transducer to get a signal from the hole with a notch.

I. Move the transducer along the edge of the reference standard in the direction of the hole and monitor the instrument screen display to see that the hole signal decreases as the notch signal gets larger. See Figure 4, Details B and C.

J. Move the transducer to position 3 (Figure 3) and monitor the signals from the hole without a notch. The signal must be at approximately 70% of full-screen width as shown in Figure 4, Detail D.

NOTE: The holes at transducer positions 3 and 4 are farther from the edge of the reference standard, and thus the transducer, than the holes at transducer positions 1 and 2. This causes the signals to occur at different width locations along the instrument screen display. See Figure 4, Screens D, E and F.

K. Put the transducer at position 4 on the reference standard (Figure 3) and move the transducer to get a signal from the hole and the notch. See Figure 4, Details E and F.

5. Inspection Procedure

A. Put couplant and the transducer on the forward edge of the inner chord. Position the transducer so the sound will go up the inner chord to the lower inspection fastener hole. See Figure 1.

B. Move the transducer to get the maximum signal from the lower fastener hole. Adjust the signal to full-screen height. The signal will occur at approximately 45% of full-screen width. See Figure 4, Detail A.

NOTE: It can be necessary to add gain to get a signal of full-screen height. If you cannot get a good signal from a fastener hole, try a different transducer of the same frequency and angle. If you change transducers, you must do the calibration again.

C. Do a scan from side to side and back and forward to look for crack signals from the hole. Move the transducer as necessary to make sure the sound transmits the length of the holes. During the inspection:

(1) Look for crack signals that come out of the hole signals and are almost the same as the signals shown in Figure 4, Details B and C. Signals between 40% and 60% of full-screen width and more than 50% of full-screen height are possible crack indications.

NOTE: If two signals come into view and move up and down together, it is possible that the ultrasound has transmitted into the fastener. See Figure 5.

D. Do a scan up the inner chord to the upper inspection hole and do the inspection on the upper inspection hole as specified in Paragraph 5.C.

E. Turn the transducer in the opposite direction. Move the transducer down the edge of the inner chord to do a scan of the fastener holes from the opposite direction.

F. Put couplant and the transducer on the aft edge of the inner chord. Position the transducer so the sound will go up the inner chord to the lower inspection fastener hole. See Figure 1.

G. Move the transducer to get the maximum signal from the lower fastener hole. Adjust the signal to full-screen height. The signal must be almost the same as the signal shown in Figure 4, Detail D.

NOTE: It can be necessary to add more gain to get a signal of full-screen height because this hole is farther from the transducer than the forward holes.

H. Do a scan from side to side and back and forward to look for crack signals from the hole. Move the transducer as necessary to make sure the sound transmits the length of the holes. During the inspection:

(1) Look for crack signals that come out of the hole signals and are almost the same as the signals shown in Figure 4, Details E and F. Signals between 60% and 80% of full-screen width and more than 50% of full-screen height are possible crack indications.

NOTE: If two signals come into view and move up and down together, it is possible that the ultrasound has transmitted into the fastener. See Figure 5.

I. Do a scan up the inner chord to the upper inspection hole and do the inspection on the upper inspection hole as specified in Paragraph 5.H.

J. Turn the transducer in the opposite direction. Move the transducer down the edge of the inner chord to do a scan of the fastener holes from the opposite direction.

6. Inspection Results

A. Look for signals that are the same as the notch signals from the reference standard.

NOTE: The reflective surface of a crack can be larger than the reflective surface of a hole, so that crack signals can go higher than the full-screen height.

B. Crack signals will occur to the right of the hole signal.

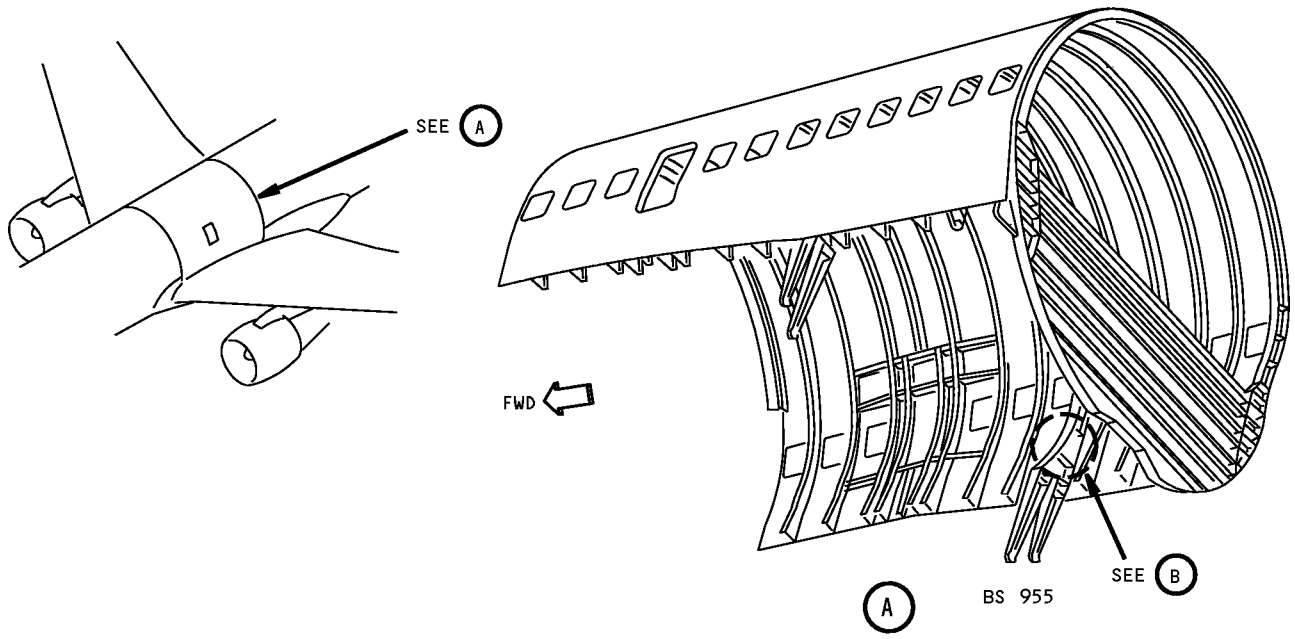
C. As you move the transducer from the hole to a crack signal, make sure that the two signals do not move up and down together. If it is a crack signal, the crack signal will increase while the hole signal decreases.

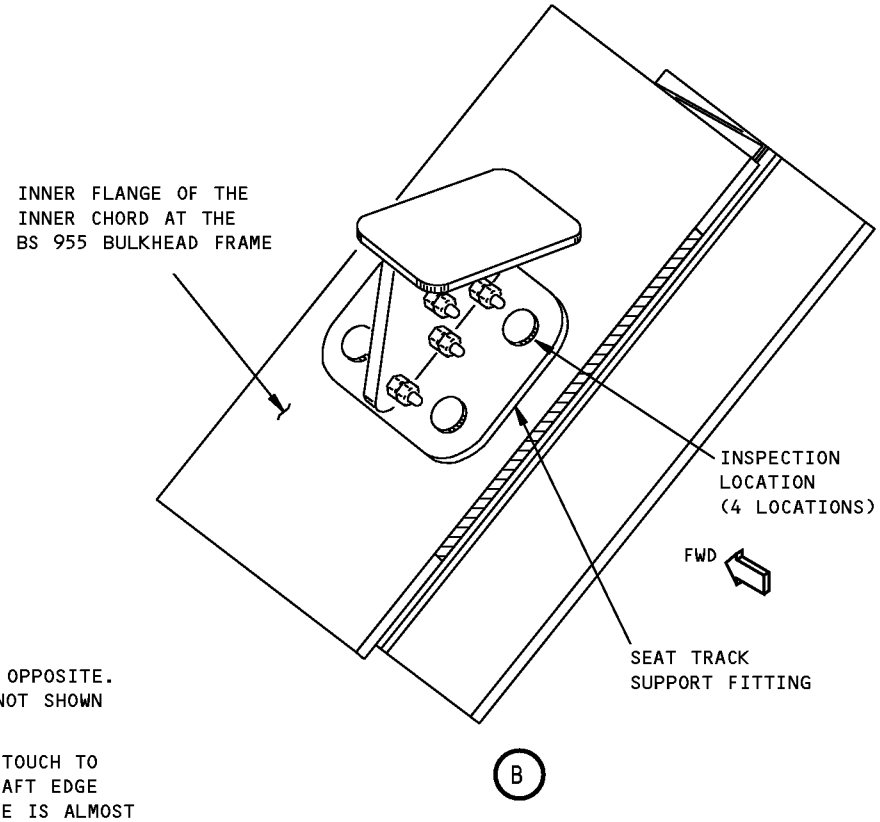
NOTE: If two signals come into view and move up and down together, it is possible the ultrasound has transmitted into the fastener. See Figure 5.

D. Ultrasonic signals almost the same as those shown in Figure 4, Details B, C, E and F, are crack indications and must be examined some more as follows:

(1) Remove the fastener and examine the bolt hole for cracks with eddy current as specified in Part 6, 51-00-16.

E. If you have questions about an ultrasonic signal, make a hard copy of the screen signal and give it to your Boeing Field Service representative for help in analysis.



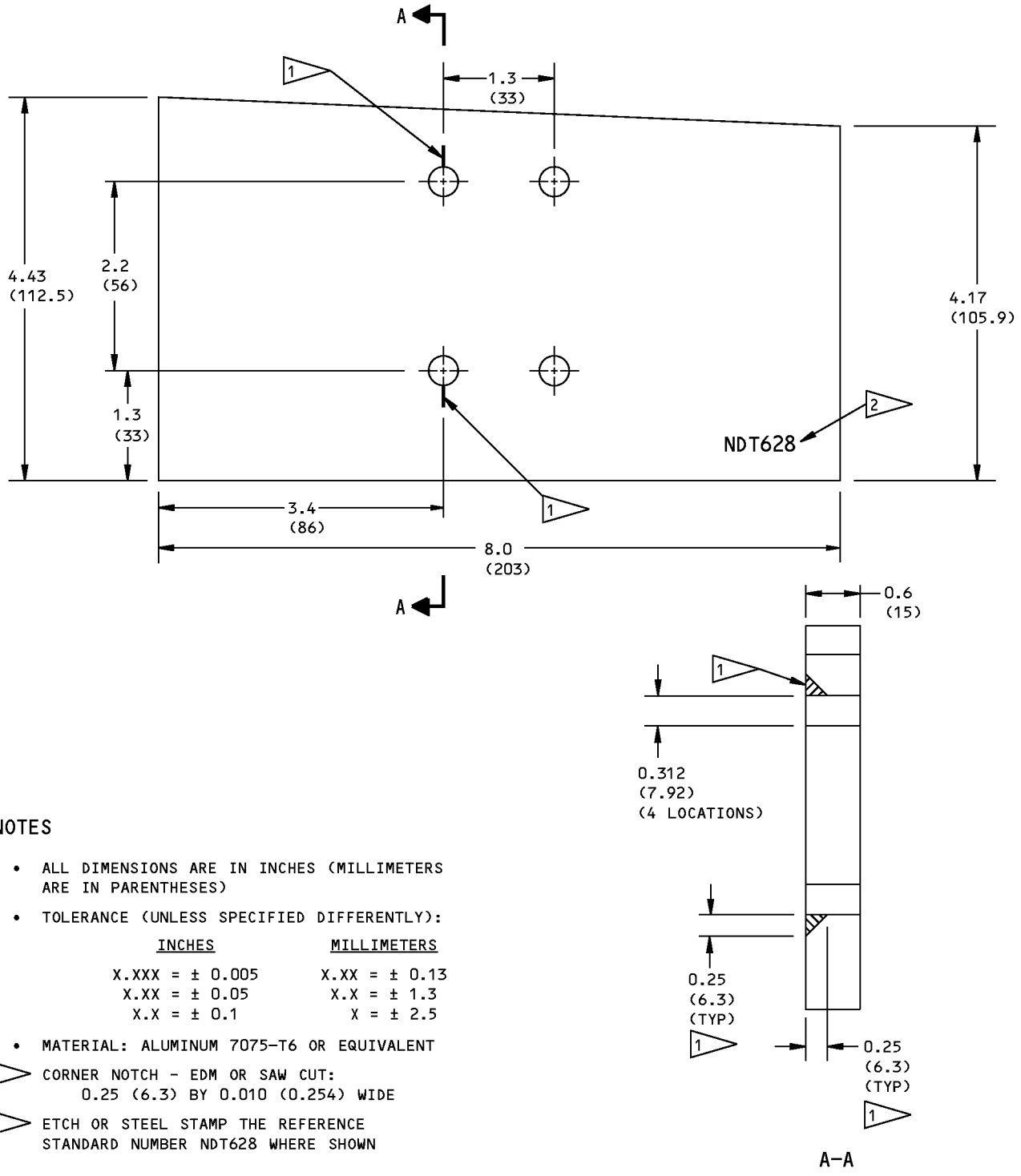


NOTES

- RIGHT SIDE SHOWN, LEFT SIDE OPPOSITE. SEAT TRACK AND FLOOR PANELS NOT SHOWN

AREA THE TRANSDUCER WILL TOUCH TO DO THIS INSPECTION. THE AFT EDGE IS SHOWN, THE FORWARD EDGE IS ALMOST THE SAME

Inspection Location
Figure 1



NOTES

- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS ARE IN PARENTHESES)
- TOLERANCE (UNLESS SPECIFIED DIFFERENTLY):

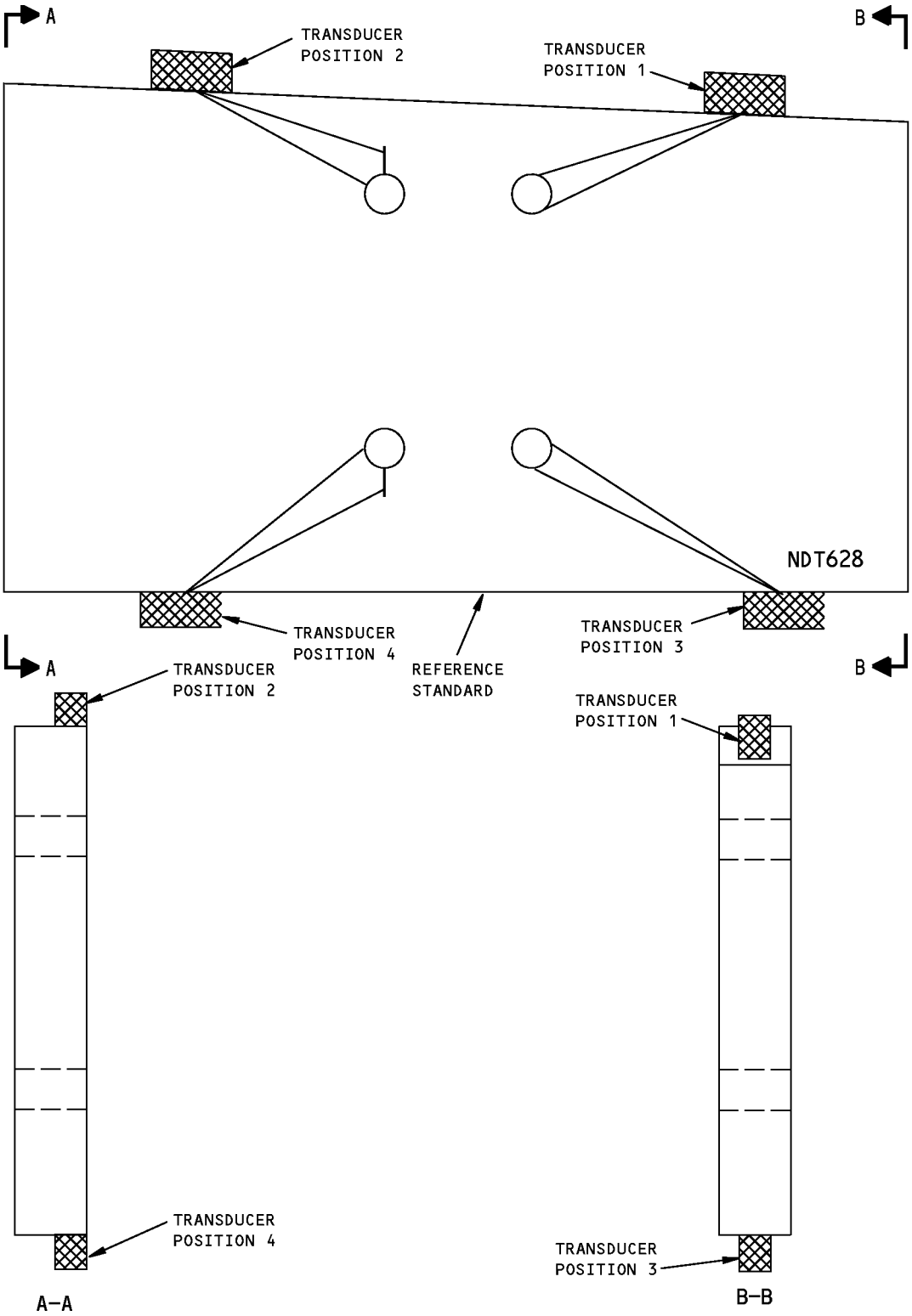
INCHES	MILLIMETERS
X.XXX = ± 0.005	X.XX = ± 0.13
X.XX = ± 0.05	X.X = ± 1.3
X.X = ± 0.1	X = ± 2.5

- MATERIAL: ALUMINUM 7075-T6 OR EQUIVALENT

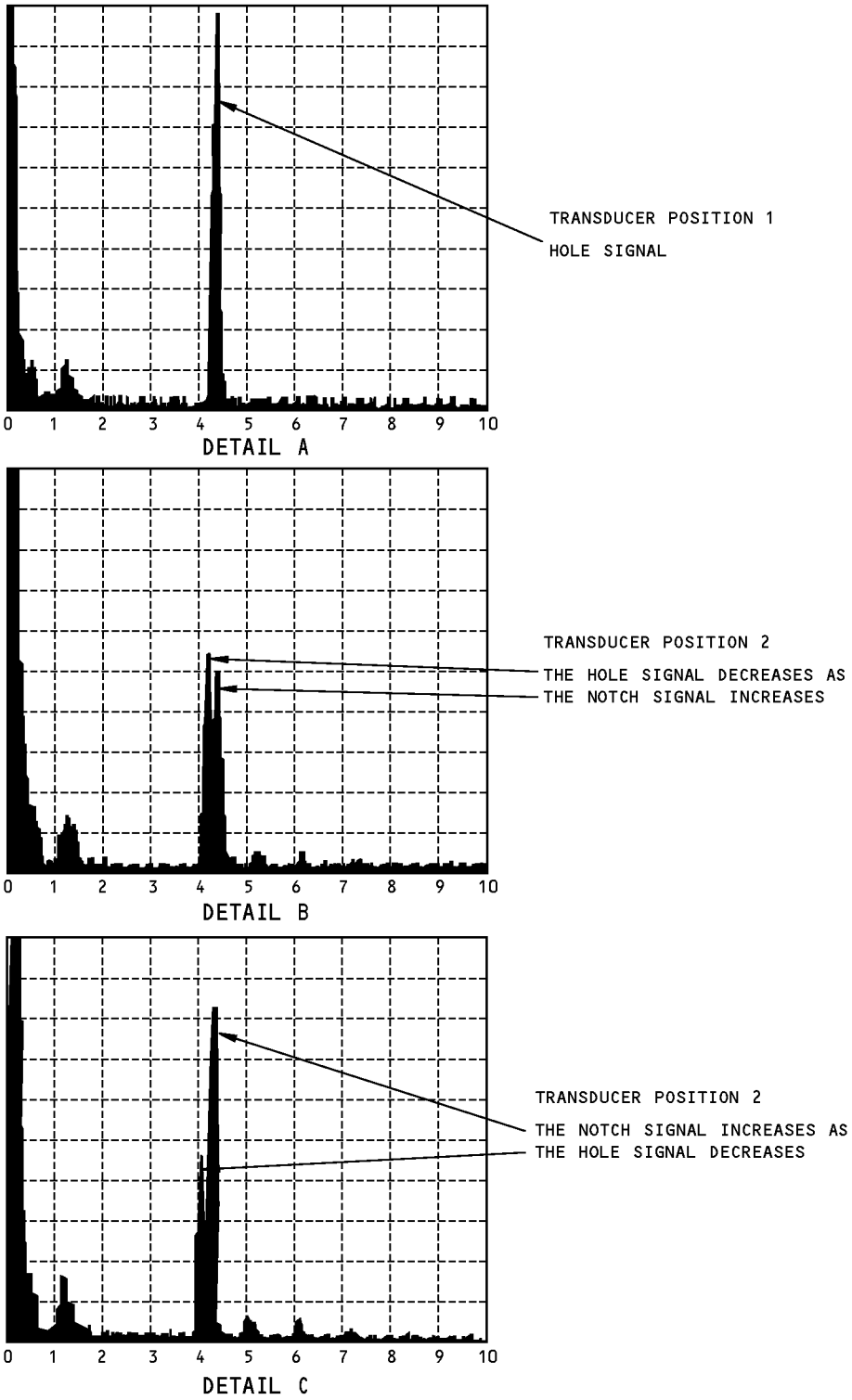
1 CORNER NOTCH - EDM OR SAW CUT: 0.25 (6.3) BY 0.010 (0.254) WIDE

2 ETCH OR STEEL STAMP THE REFERENCE STANDARD NUMBER NDT628 WHERE SHOWN

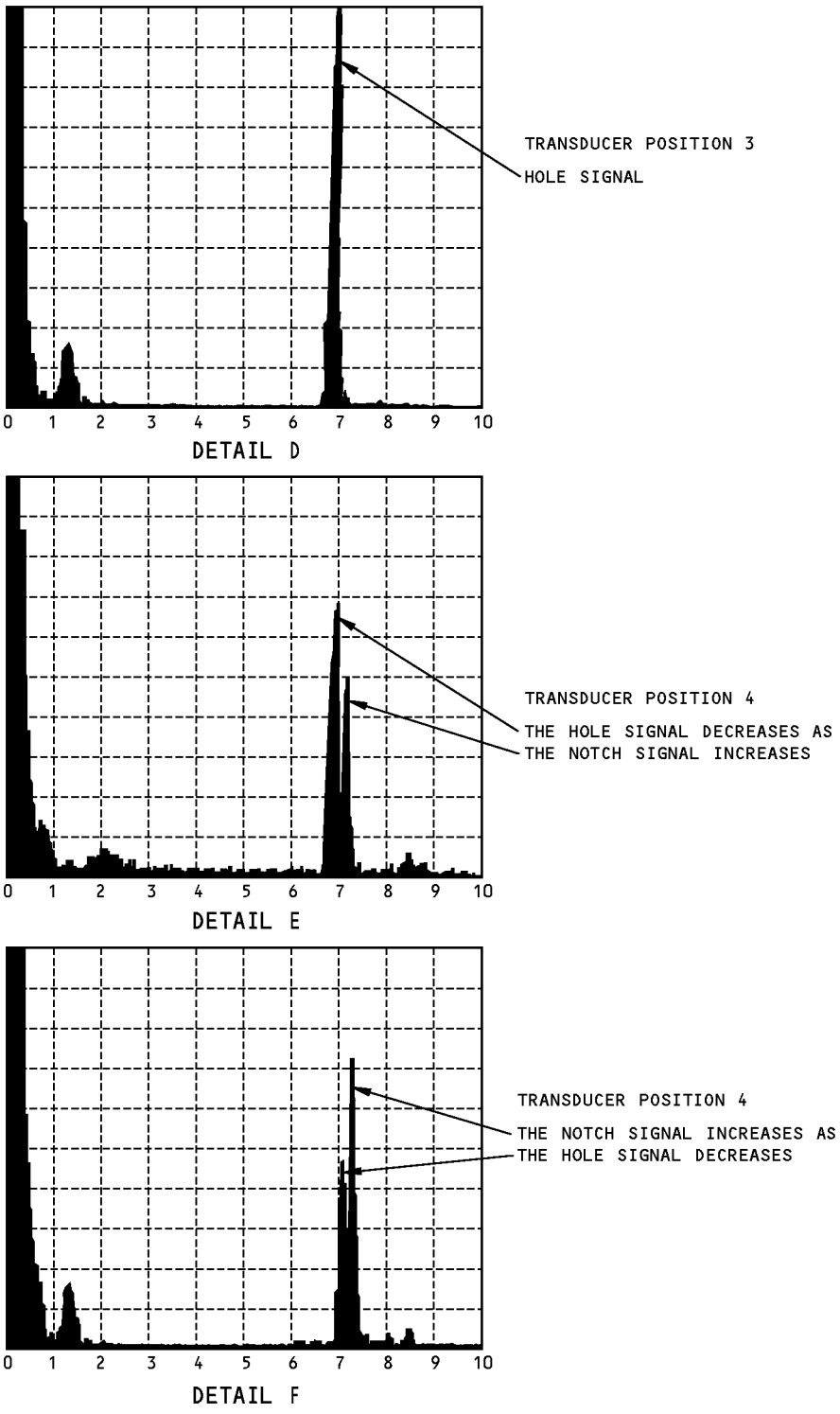
Reference Standard NDT628
Figure 2



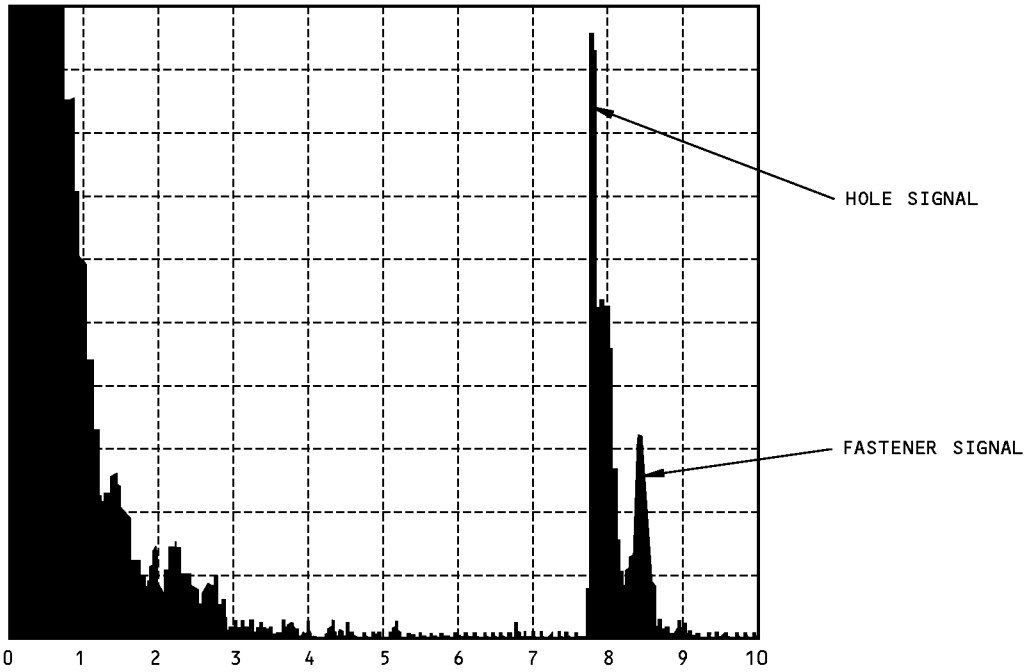
Transducer Calibration Positions
Figure 3



Instrument Screen Displays
Figure 4 (Sheet 1 of 2)



Instrument Screen Displays
Figure 4 (Sheet 2 of 2)



NOTES

IF TWO SIGNALS COME INTO VIEW AND MOVE UP AND DOWN TOGETHER WHEN THE TRANSDUCER MOVES BY THE FASTENER HOLE, IT IS POSSIBLE THAT SOUND HAS TRANSMITTED INTO THE FASTENER. SOUND CAN TRANSMIT INTO THE FASTENER WHEN THERE IS A TIGHT FIT OF THE FASTENER IN THE HOLE. THE RELATION OF A CRACK SIGNAL TO A HOLE SIGNAL IS DIFFERENT IN THAT, AS THE CRACK SIGNAL INCREASES OR DECREASES, THE HOLE SIGNAL WILL DO THE OPPOSITE.

Screen Display Example of Sound that has Transmitted into the Fastener
Figure 5

FUSELAGE - BULKHEAD CHORD AT BS 1065

1. Purpose

A. Use this procedure to examine areas of the bulkhead chord at BS 1065 for cracks. The bulkhead chord is in the aft wheel well. The areas between the fasteners of the stringer splice attachment fittings, from stringers 29 thru 34 (on the left and right sides of the airplane), are the areas of the bulkhead chord that are examined. See Figure 1.

B. It is also necessary to do the HFEC procedure, Part 6, 53-50-02, to satisfactorily complete MPD Appendix B DTR Check Form Item 53-50-I14C.

C. MPD Appendix B DTR Check Form Reference:

(1) ITEM 53-50-I14C

2. Equipment

A. General

(1) Use equipment that can be calibrated on the reference standard as specified in Paragraph 4.

(2) See Part 1, 51-01-00 for data about the equipment manufacturers.

B. Instrument - A Staveley Sonic-136 instrument was used to help prepare this procedure.

C. Transducer - It is necessary to use a subminiature transducer with a top mounted connector that operates at 5 MHz and can put a 45 degree shear wave in aluminum.

(1) An NDT Engineering, Search Unit Systems transducer, part number SUSM 545AT, was used to help prepare this procedure.

D. Reference Standard - Make or order reference standard NDT642 as shown in Figure 2.

3. Preparation for Inspection

A. Remove the floorboards in the aft cargo hold as necessary to access the inspection area shown in Figure 1.

B. Remove sealant from around the stringer splice attachment fittings in the areas where the transducer will touch the chord. See Figure 1.

NOTE: It can be necessary to remove the finish from the area the transducer touches if ultrasound does not transmit into the part.

4. Instrument Calibration

A. Connect the transducer to the instrument.

B. Put couplant on the reference standard in the general areas of transducer position 1 (TP1) thru TP5 shown in Figure 3.

C. Put the transducer at transducer position 1 (TP1), (Figure 3) and get a signal from the hole. Do not let the transducer go across the scribe line on the reference standard.

NOTE: The scribe lines show the location of the stringer splice attachment fitting on the airplane.

D. Set the initial pulse to 0% of full screen width (Figure 4, Detail A).

E. Adjust the hole signal so it is at 30% of full screen width and is 100% of full screen height. See Figure 4, Detail A.

F. Put the transducer at TP2 (Figure 3) and get a signal from the hole.

G. Move the transducer to TP3 and monitor the signal that occurs from the EDM notch. See Figure 4, Detail B.

H. Put the transducer at TP4 (Figure 3) and monitor the signal from the far hole.

NOTE: Two signals can occur from the hole. One signal is from the top of the hole and one signal is from the bottom of the hole. See Figure 4, Detail C.

I. Move the transducer to get a maximum signal from the hole and adjust the maximum signal to 100% full screen height. See Figure 4, Detail C.

J. Turn the transducer to TP5 as shown in Figure 3 and monitor the signal that occurs from the EDM notch and the hole. See Figure 4, Detail D.

NOTE: The EDM notch signal will occur at approximately the same position as the hole signal but the signal will be larger than full screen height.

NOTE: Two signals will occur from the notch. One signal is from the top of the notch and one signal is from the bottom of the notch. See Figure 4, Detail D.

5. Inspection Procedure

A. Find the stringer splice attachment fitting at a stringer S-29 (Figure 1).

B. Put couplant on the bulkhead chord in the inspection area adjacent to the stringer splice attachment fitting.

C. Put the transducer on the bulkhead chord near the low side of the fitting. Point the transducer so the sound transmits to one of the near fastener holes.

NOTE: If you cannot get a satisfactory signal from the fastener hole, remove the finish from the area the transducer touches.

D. Move the transducer to get a maximum signal from the hole and adjust the instrument gain so this signal is at 100% of full screen height.

E. Turn the transducer to do a scan for cracks of the area between the forward and the aft hole. Look for signals almost the same as the signals you got from the EDM notch in the reference standard.

F. Move the transducer to the other near hole and do Paragraph 5.C. thru Paragraph 5.E. again.

G. Point the transducer so the sound transmits to one of the far fastener holes.

NOTE: If you cannot get a satisfactory signal from the fastener hole, remove the finish from the area the transducer touches.

H. Move the transducer to get a maximum signal from the hole and adjust the instrument gain so this signal is at 100% of full screen height.

I. Turn the transducer to do a scan for cracks of the area between the forward middle fastener hole and the aft middle fastener hole. Look for signals almost the same as the signals you got from the EDM notch in the reference standard.

J. Move the transducer to the other far hole and do Paragraph 5.G. thru Paragraph 5.I. again.

K. Move the transducer to the upper side of the fitting and do Paragraph 5.C. thru Paragraph 5.F. This completes the inspection between the six fastener holes at stringer S-29.

NOTE: On the upper side of stringer S-29 there is a pad-up area that makes it necessary for the transducer to be put a larger distance from the fitting. This will move the signals from the fastener holes from 30% to 40% of full screen width and cause crack signals to occur at approximately 50% of full screen width.

L. Do Paragraph 5.A. thru Paragraph 5.K. on the fittings at S-30 and S-33. See Figure 1.

M. Examine the bulkhead chord for cracks at the stringer splice attachment fittings of stringers S-31, S-32 and S-34 as follows (Figure 1):

(1) Put couplant on the bulkhead chord in the inspection area adjacent to one side of the stringer splice attachment fitting. Couplant is only necessary on one side of the fitting.

(2) Point the transducer so the sound transmits to one of the inspection fastener holes.

(3) Move the transducer to get a maximum signal from the hole and adjust the instrument gain so the signal is at 100% full screen height.

(4) Turn the transducer to do a scan for cracks between the two inspection fasteners.

(5) Look for signals almost the same as the signals you got from the EDM notch in the reference standard. If you get a crack indication, examine the area again from the opposite side of the fitting to see if you also get a crack signal from the opposite side.

(6) Move the transducer to the other inspection fastener hole and do Paragraph 5.M.(2) thru Paragraph 5.M.(5) again.

N. Do Paragraph 5.A. thru Paragraph 5.M. on the other side of the airplane.

6. Inspection Results

A. Look for cracks that go between the fastener holes in the stringer splice attachment fittings.

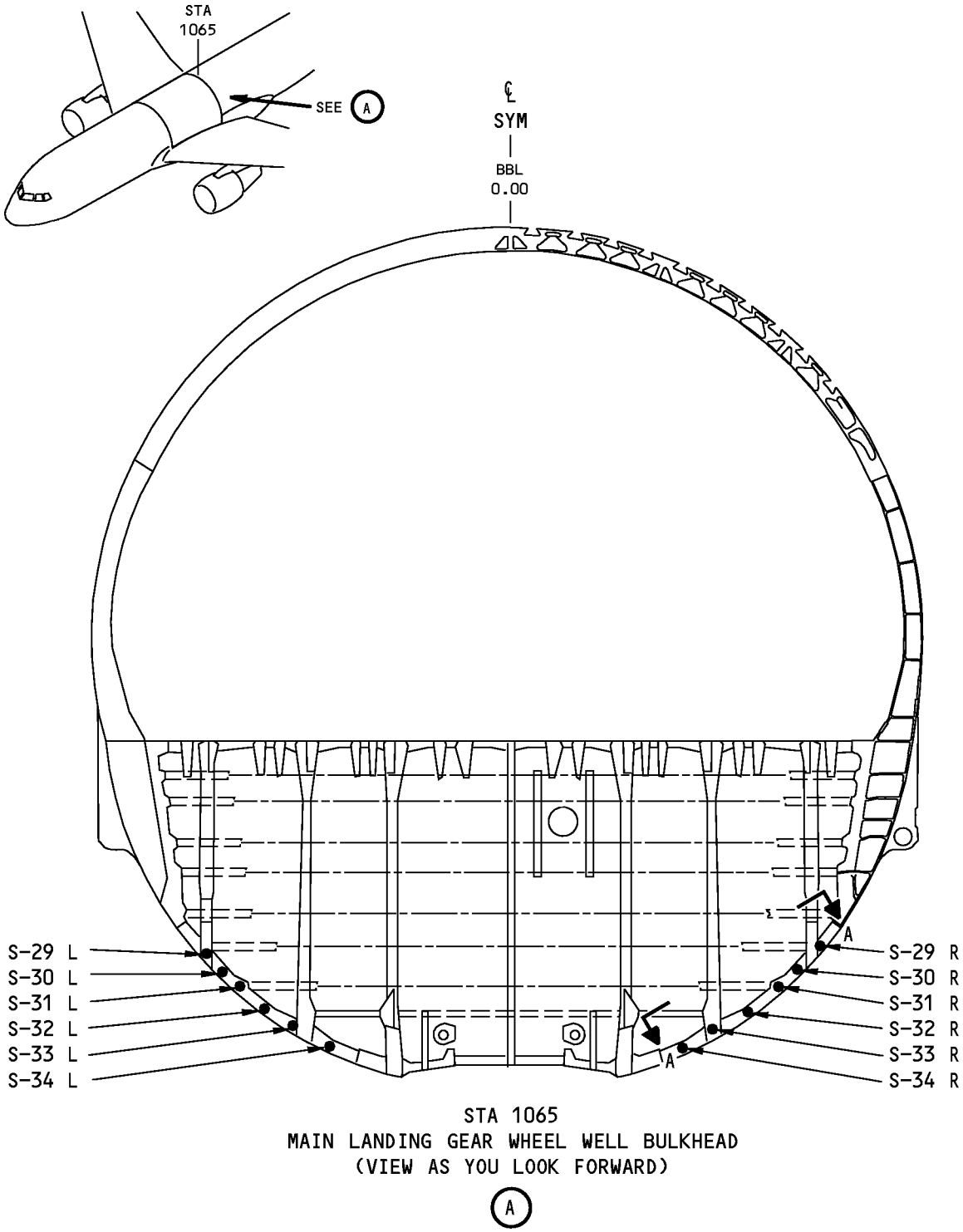
B. If the signal from the hole stays on the screen display when you do the scan from the forward fastener hole to the aft fastener hole, this is a crack indication.

C. Crack signals will occur between 70% and 90% of full screen width and will be larger than 100% of full screen height.

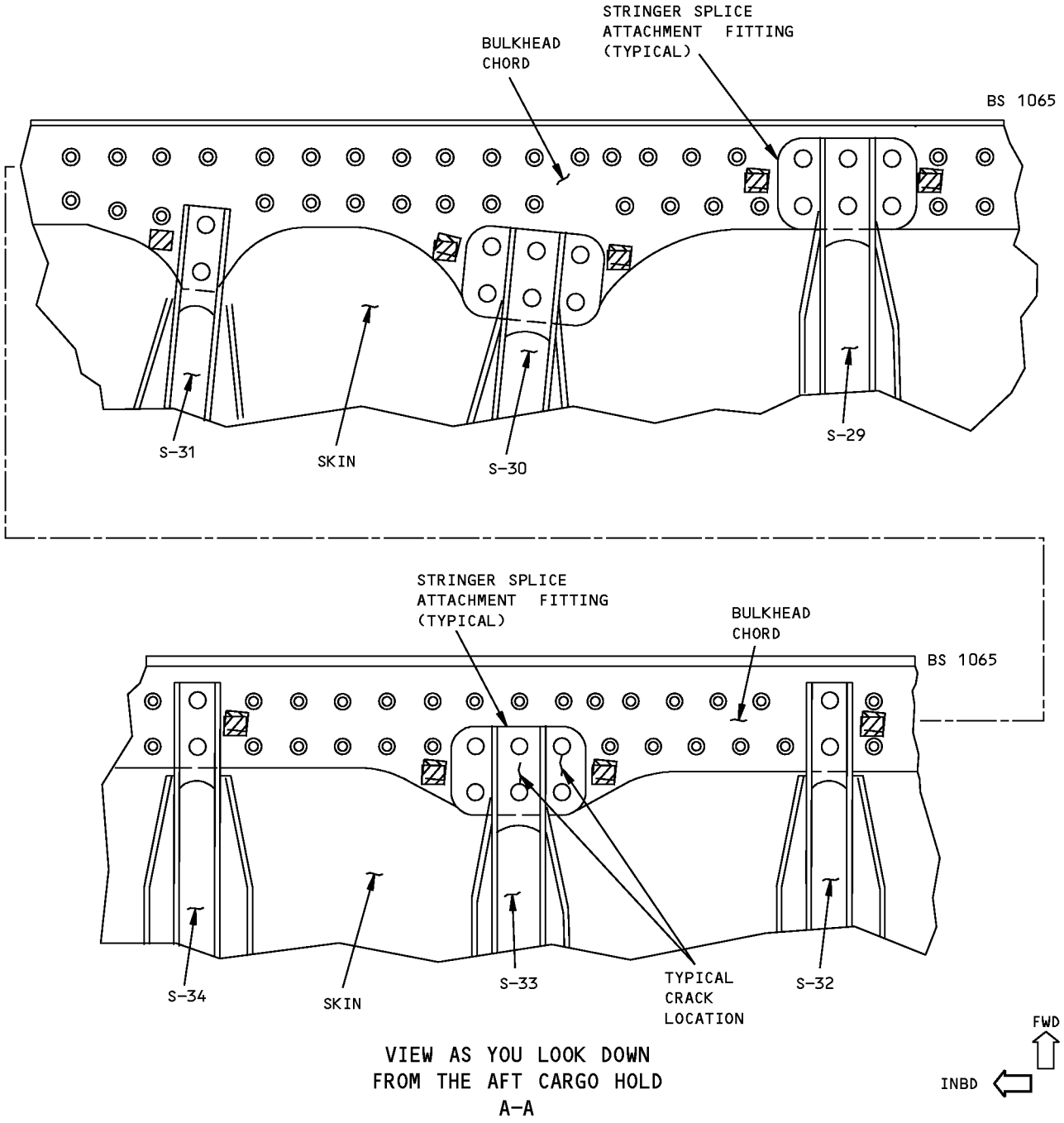
D. A signal that is almost the same as the signal you got from the EDM notch in the reference standard is a crack indication.

E. If you get a crack indication, examine the area again from the opposite side of the fitting to see if the crack signal occurs again.

F. Remove a fastener and do a bolt hole inspection to make sure there is a crack.



Inspection Locations
Figure 1 (Sheet 1 of 2)



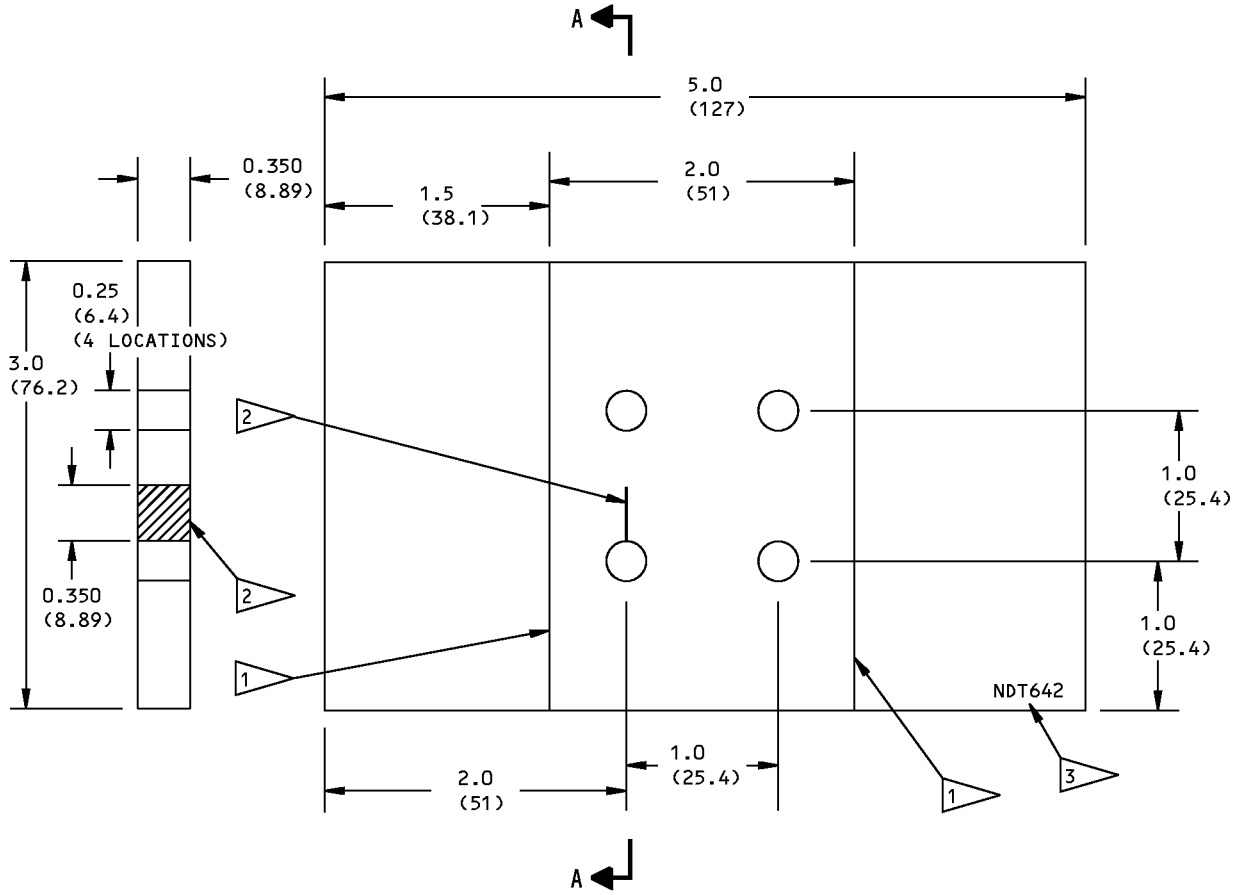
VIEW AS YOU LOOK DOWN
FROM THE AFT CARGO HOLD
A-A

NOTES

- SOME STRUCTURE IS NOT SHOWN
- THE RIGHT SIDE IS SHOWN;
  THE LEFT SIDE IS OPPOSITE

▨ TRANSDUCER LOCATIONS

Inspection Locations
Figure 1 (Sheet 2 of 2)



NOTES

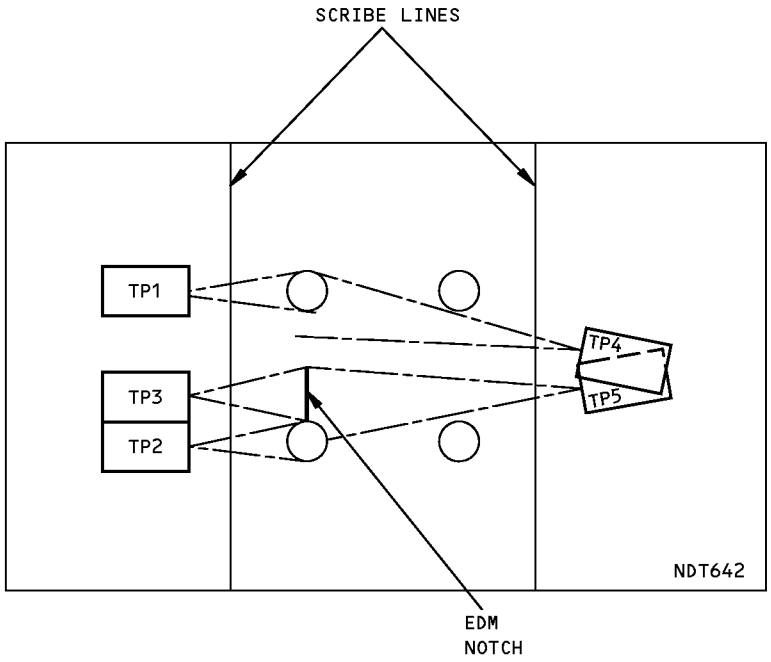
- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS ARE IN PARENTHESES)
- TOLERANCE (UNLESS SPECIFIED DIFFERENTLY):

INCHES	MILLIMETERS
X.XX = ± 0.05	X.X = ± 1.3
X.X = ± 0.1	X = ± 2.5

- MATERIAL: ALUMINUM 7075-T6 OR EQUIVALENT

1. MAKE SCRIBE LINES WHERE SHOWN
2. EDM OR SAW CUT: 0.010 (0.26) WIDE
3. MAKE A MARK TO IDENTIFY THE REFERENCE STANDARD NUMBER NDT642 AT THIS LOCATION

Reference Standard NDT642
Figure 2

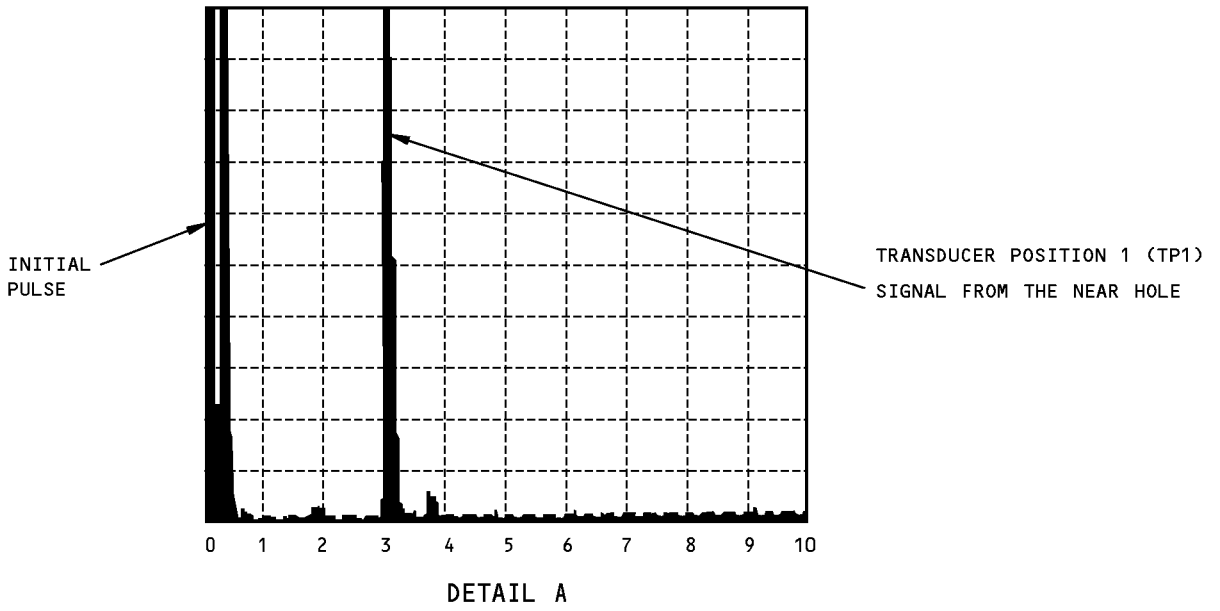


TP TRANSDUCER POSITION

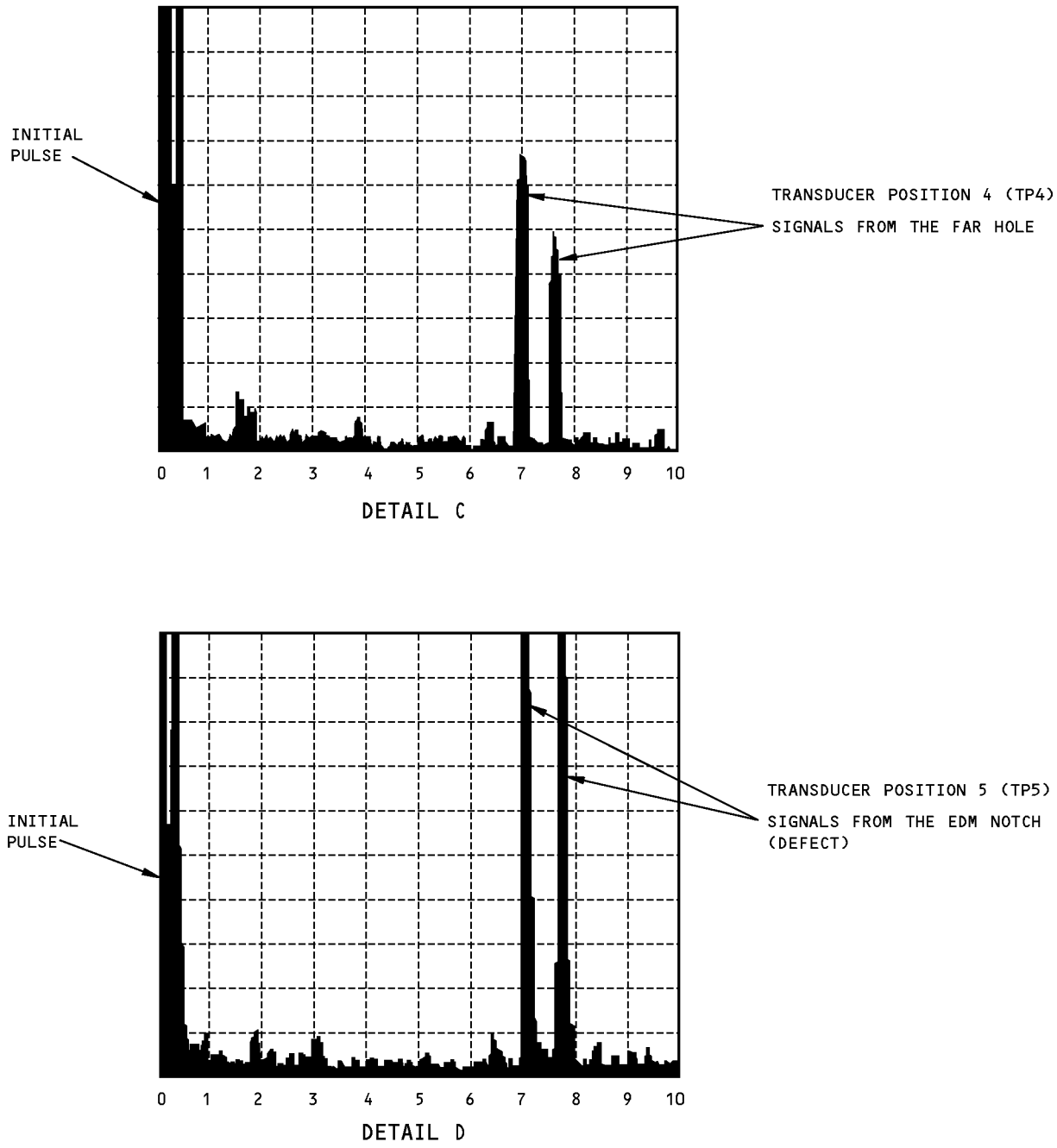
NOTES

- THE TRANSDUCER MUST NOT GO ACROSS THE SCRIBE LINES

Transducer Calibration Positions
Figure 3



Instrument Screen Displays
Figure 4 (Sheet 1 of 2)



Instrument Screen Displays
Figure 4 (Sheet 2 of 2)

FUSELAGE - BULKHEAD CHORD SPLICES AT BS 1065

1. Purpose

A. Use this procedure to help examine the chord splice areas of the bulkhead chord at BS 1065 for cracks. Body Station 1065 is at the aft end of the aft wheel well bulkhead and the inspection is done from inside the aft cargo hold area. The splice areas are near stringers S-28 (left and right), and stringers S-35 (left and right). Refer to Figure 1 for the stringer locations.

B. It is also necessary to do a HFEC inspection of the splice areas as shown in Figure 2. Use general surface eddy current procedure Part 6, 51-00-19, to do the HFEC inspection.

C. MPD DTR Check Form Reference:

(1) ITEM 53-50-I14B

2. Equipment

NOTE: Refer to Part 1, 51-01-00, for data about the equipment manufacturers.

A. General

(1) Use equipment that can be calibrated on the reference standard as specified in Paragraph 4.

(2) Refer to Part 1, 51-04-00, for more data about ultrasonic inspection.

B. Instrument

(1) Use an ultrasonic instrument that:

(a) Can do pulse echo inspection.

(b) Operates in a frequency range of 4 to 6 MHz.

(2) The instruments that follow were used to help prepare this procedure.

(a) Masterscan 340; Sonatest, Inc.

C. Transducer

(1) Use a transducer that has these properties:

(a) Operates at 5 MHz.

(b) Puts a refracted shear wave of approximately 45 degrees into aluminum.

(c) Has a side mounted connector.

(2) The transducer that follows was used to help prepare this procedure.

(a) SUSM 545AT; NDT Engineering Corp

D. Reference Standard

(1) See Figure 2 for data about the reference standard.

NOTE: This reference standard is also used with Part 4, 53-50-02.

3. Preparation for Inspection

A. Remove the floorboards in the aft cargo hold, as necessary, to access the inspection areas shown in Figure 1.

B. Clean the inspection areas where the transducer will touch the chord. See Figure 1.

NOTE: It can be necessary to remove the finish from the area the transducer touches if ultrasound does not transmit into the part.

C. Get reference standard NDT642 and add the two lines shown in Figure 3, flagnote 1, with a permanent-ink pen. Tape (or a material almost the same as tape) can also be put on the reference standard at these two lines to make sure the correct lines are used during the inspection. Refer to Figure 3, flagnote 3.

4. Instrument Calibration

A. Connect the transducer to the instrument.

B. Put couplant on the reference standard in the general areas of transducer position 1 (TP1) thru TP5 shown in Figure 3.

C. Put the transducer at transducer position 1 (TP1), (Figure 3) and get a maximum signal from the hole. Do not let the transducer go across the marked lines on the reference standard.

NOTE: The marked lines show the location of the chord splice fitting on the airplane.

D. Adjust the initial pulse signal to 0% of full screen width (FSW) and the hole signal at 50% of FSW and 50% of full screen height (FSH). See Figure 4, Detail A.

E. Put the transducer at TP2 (Figure 3) and get a signal from the reference notch. This signal will come into view at approximately 85% of FSW. If necessary, adjust the gain to set the signal at 80% of FSH. See Figure 4, Detail B.

NOTE: Two signals can occur from the hole. One signal is from the top of the hole and one signal is from the bottom of the hole. Use the signal identified by flagnote 1 for the calibration. This condition can occur at other transducer positions.

F. Move the transducer to TP3 and get a signal from the near hole. This signal will come into view at approximately 37% of FSW and the signal will be near or above 100% of FSH. See Figure 4, Detail C.

G. Move the transducer to TP4 and monitor the signal that occurs from the reference notch. This signal will come into view at approximately 39% of FSW and will be more than 100% of FSH. See Figure 4, Detail D.

H. Turn the transducer to TP5 as shown in Figure 3 and monitor the signal that occurs from the reference notch and the hole. The reference notch signal will occur at a larger FSW value than the signal from the hole. But the difference in FSW is small and it is necessary to look carefully at the signals and monitor the hole signal to see a decrease in FSH of the hole signal as the signal from the reference notch increases in FSH.

I. Add 6 dB gain.

5. Inspection Procedure

A. Find the bulkhead chord splice locations on the airplane. See Figure 1.

B. Put couplant on the transducer inspection surface of the bulkhead chord. See Figure 1.

C. Make a scan of the inspection areas as shown in Figure 1 (Sheet 2) for the chord splices at stringers S-27 to S-28 (left and right side of the airplane locations), and Figure 1 (Sheet 3) for the chord splices at stringers S-34 to S-35 (left and right side of the airplane locations).

NOTE: If you cannot get a satisfactory signal from the fastener hole, remove the paint from the area the transducer touches. Do not damage the metal surface during paint removal.

D. Look for signals that are almost the same as the signals that occurred during calibration. The crack signals can be smaller or larger in FSH than the signals that occurred during calibration.

NOTE: The instrument gain will be adjusted for the evaluation of near fastener holes as specified in Paragraph 6.A. If necessary, 6 dB can be removed during the examination of near holes if there is too much noise signals. Do not remove gain to examine the far holes. If gain is removed, make sure the gain is added again to examine the far hole locations.

E. Refer to Paragraph 6. to evaluate all crack-type signals.

6. Inspection Results

A. To evaluate crack signals that occur at the near holes, do the steps that follow:

(1) Put couplant and then the transducer on the reference standard at transducer position TP4 and get a maximum signal from the reference notch.

(2) Adjust the gain to set the signal from the reference notch at 80% of FSH.

(3) Add 6 dB.

(4) Examine all near holes where crack signals occurred.

(5) Refer to Paragraph 6.C. to Paragraph 6.G. to make an analysis of all crack-type signals.

B. To evaluate crack signals that occur at the far holes, refer to Paragraph 6.C. to Paragraph 6.G.

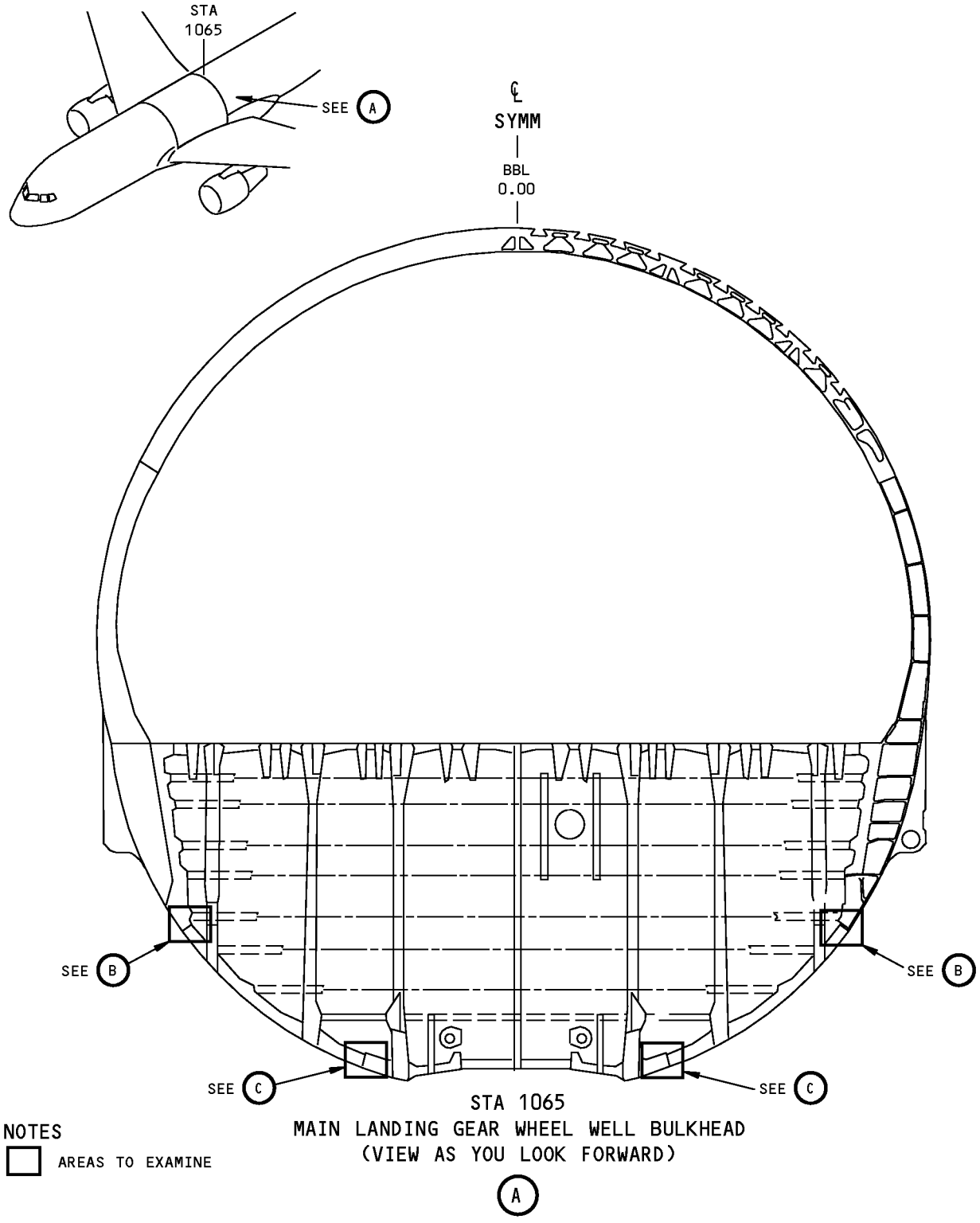
C. Signals that occur just after the hole signal and are equal to or more than 40% of FSH are possible cracks signals.

D. If the signal from the hole stays on the screen display when you do the scan from the forward fastener hole to the aft fastener hole, this is a crack indication.

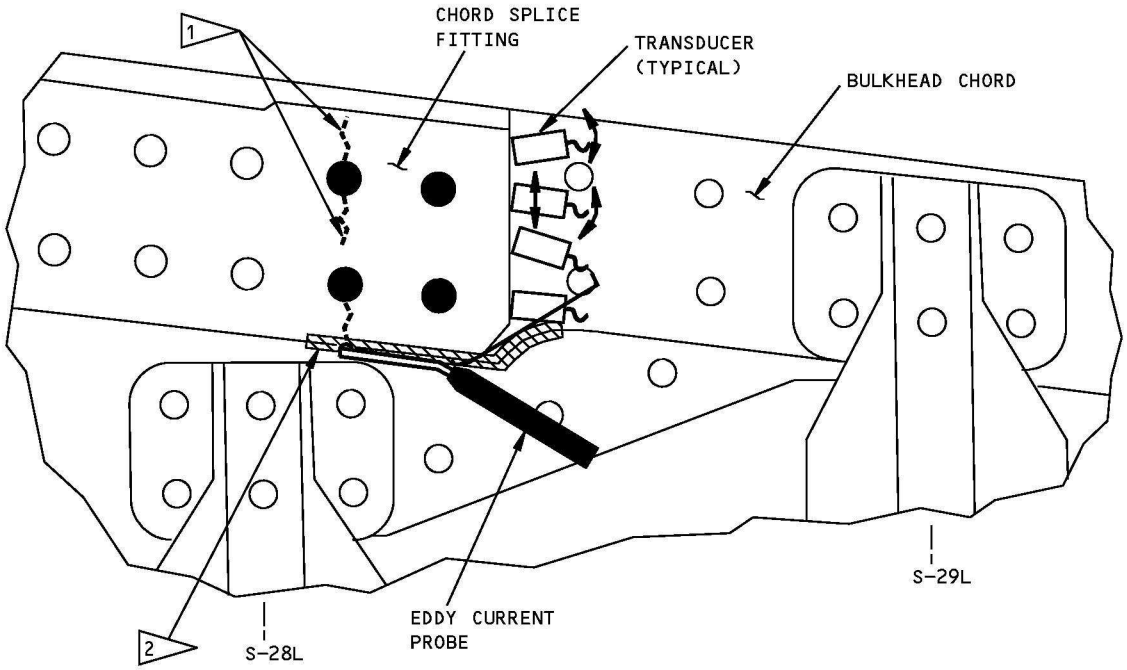
E. Look for cracks that go between the fastener holes or to the edge of the bulkhead chord.

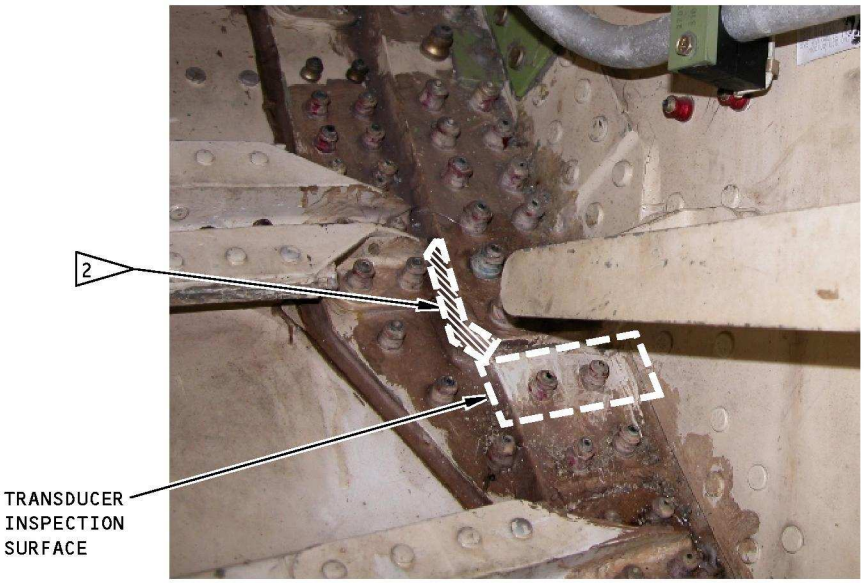
F. A signal that is almost the same as the signal you got from the EDM notch in the reference standard is a possible crack indication.

G. To make sure crack indications are from cracks, remove the fastener and do an open-hole eddy current inspection. Refer to Part 6, 51-00-16, for this inspection.



Inspection Locations
Figure 1 (Sheet 1 of 3)

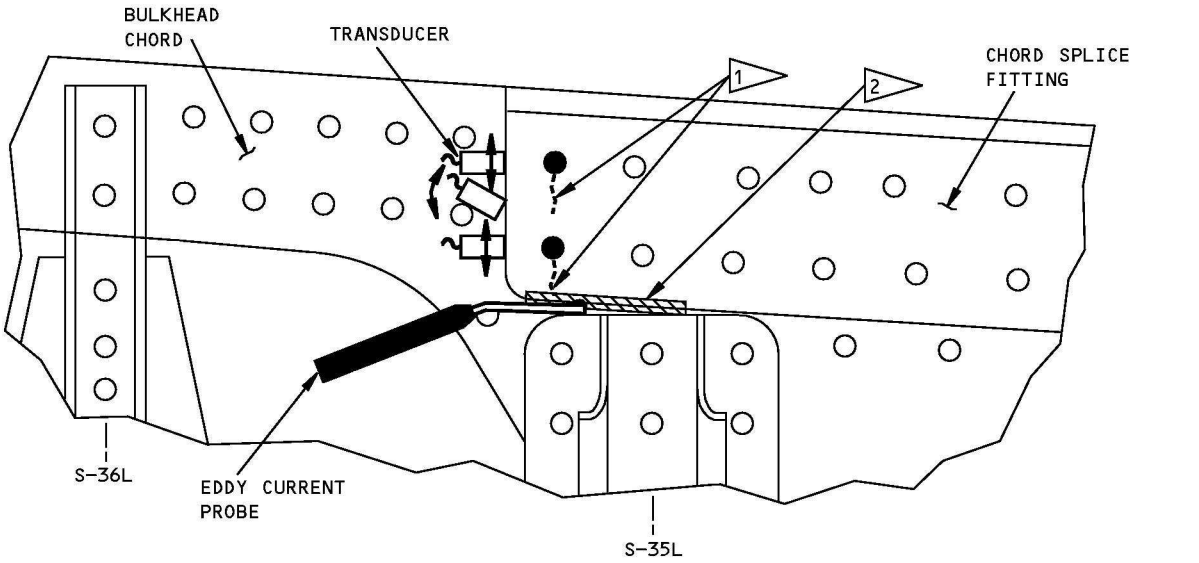


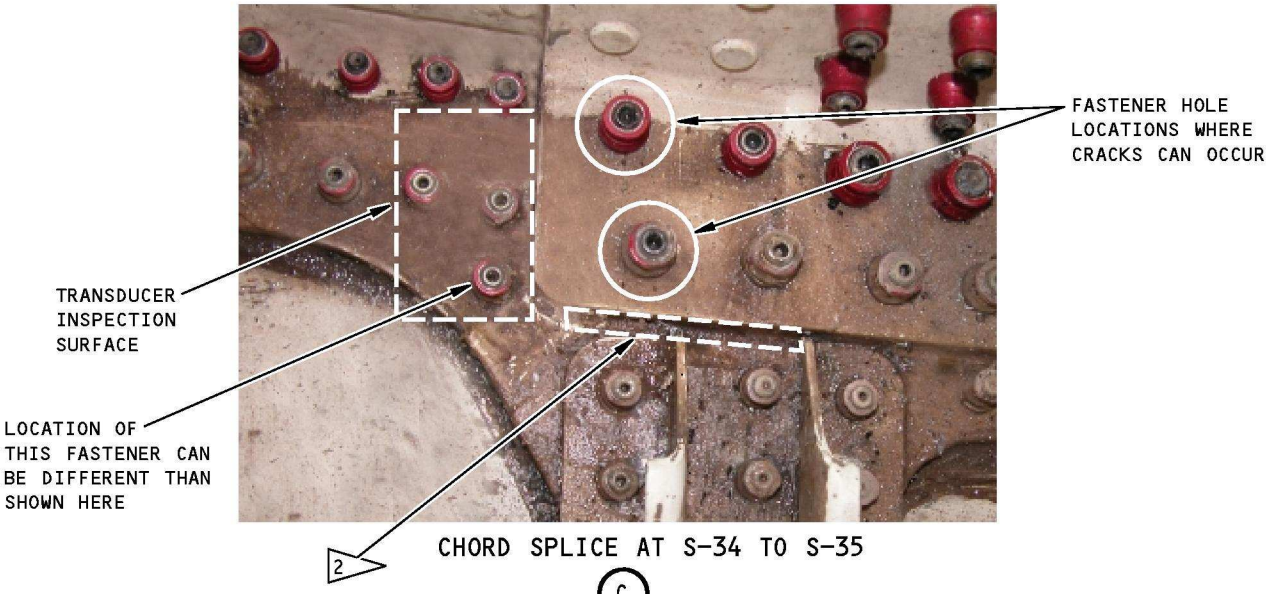


CHORD SPLICE AT S-27 TO S-28

B

Inspection Locations
Figure 1 (Sheet 2 of 3)





CHORD SPLICE AT S-34 TO S-35

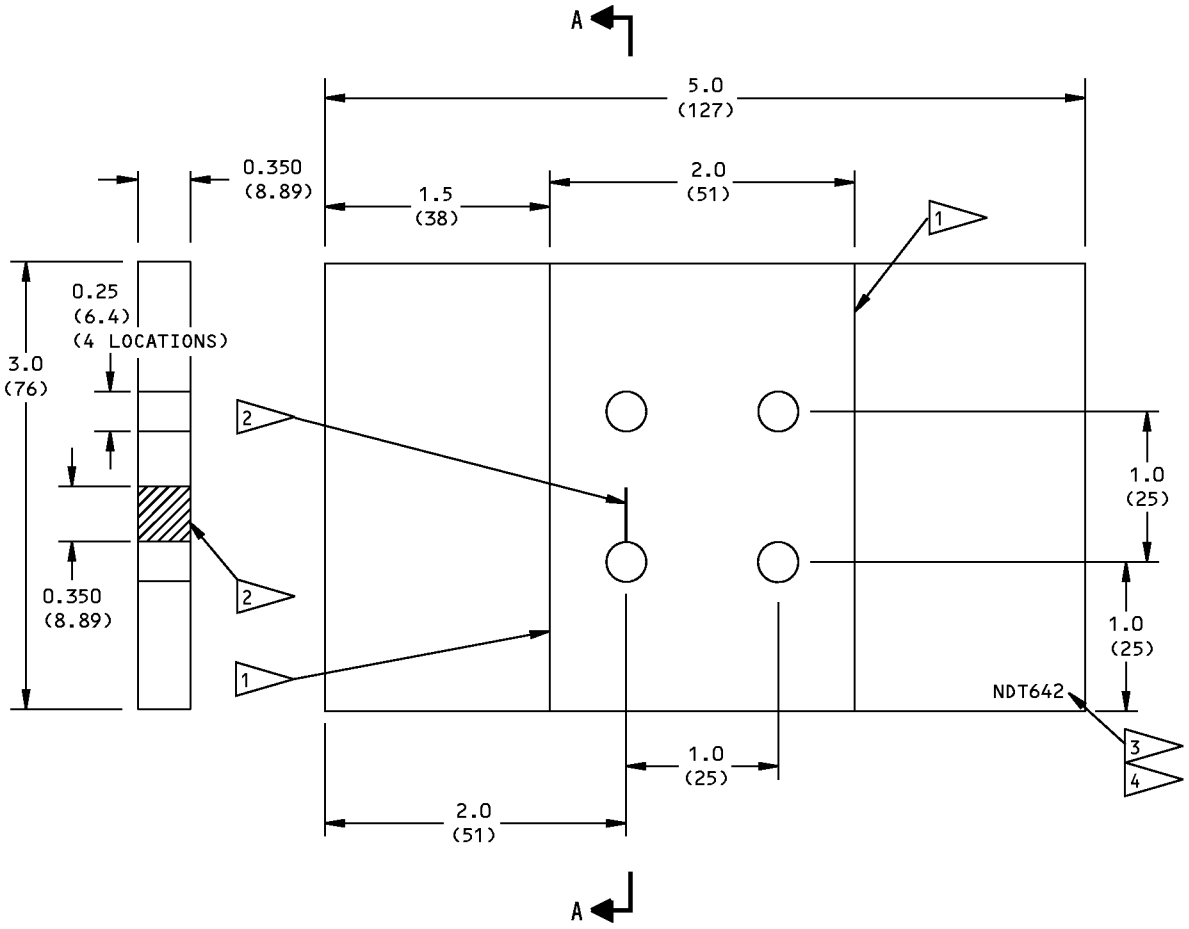
C

NOTES:

- EXAMPLE OF TRANSDUCER LOCATIONS USED TO EXAMINE THE INSPECTION FASTENER LOCATIONS.
- FASTENER HOLE LOCATIONS WHERE CRACKS CAN OCCUR. THESE HOLES ARE EXAMINED IN THIS INSPECTION.
- SOME STRUCTURE IS NOT SHOWN IN THE PLAN VIEW ABOVE.
- THE LEFT SIDE OF THE AIRPLANE IS SHOWN; THE RIGHT SIDE OF THE AIRPLANE MUST ALSO BE EXAMINED.

1. THE DIRECTION THAT CRACKS CAN OCCUR. CRACKS CAN OCCUR IN THE BULKHEAD CHORD THAT IS HIDDEN FROM VIEW BY THE BULKHEAD SPLICE FITTING.
2. A SURFACE EDDY CURRENT INSPECTION IS ALSO NECESSARY. USE THE GENERAL PROCEDURE, PART 6, 51-00-19, "ALUMINUM PART SURFACE INSPECTION", TO EXAMINE THIS AREA. MAKE A SCAN ALONG THE EDGE OF THE BULKHEAD CHORD AT THE LOCATION SHOWN. A FLAT OR SMALL DIAMETER RIGHT-ANGLE PROBE CAN BE NECESSARY BECAUSE OF LIMITED ACCESS AT S-28. A GOOD PROBE TO USE IS MMTF9003-60FX, MADE BY THE NDT ENGINEERING CORPORATION

Inspection Locations
Figure 1 (Sheet 3 of 3)



NOTES

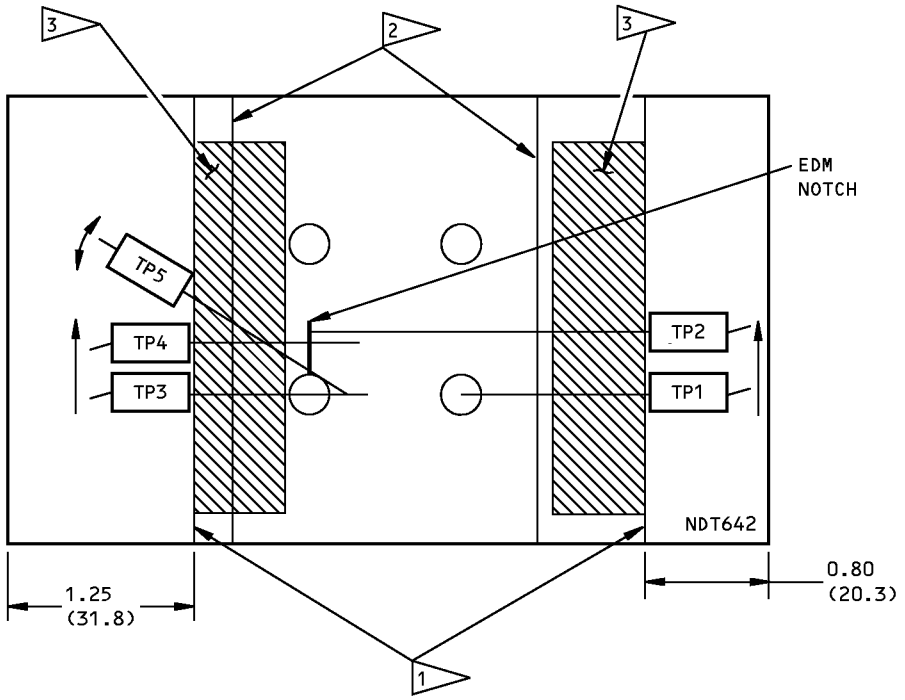
- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS ARE IN PARENTHESES)
- TOLERANCE (UNLESS SPECIFIED DIFFERENTLY):

INCHES	MILLIMETERS
X.XX = ± 0.05	X.X = ± 1.3
X.X = ± 0.1	X = ± 2.5

- MATERIAL: ALUMINUM 7075-T6 OR EQUIVALENT

1. MAKE SCRIBE LINES WHERE SHOWN
2. EDM OR SAW CUT: 0.010 (0.26) WIDE
3. MAKE A MARK TO IDENTIFY THE REFERENCE STANDARD NUMBER NDT642 AT THIS LOCATION
4. THIS REFERENCE STANDARD IS USED WITH PART 4, 53-50-02

Reference Standard NDT642
Figure 2



NOTES

- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS ARE IN PARENTHESES)
- THE TRANSDUCER MUST NOT GO ACROSS THE SCRIBE LINES IDENTIFIED BY FLAGNOTE 1.
- TOLERANCE: INCHES= ±0.025
  MILLIMETERS= ±0.5

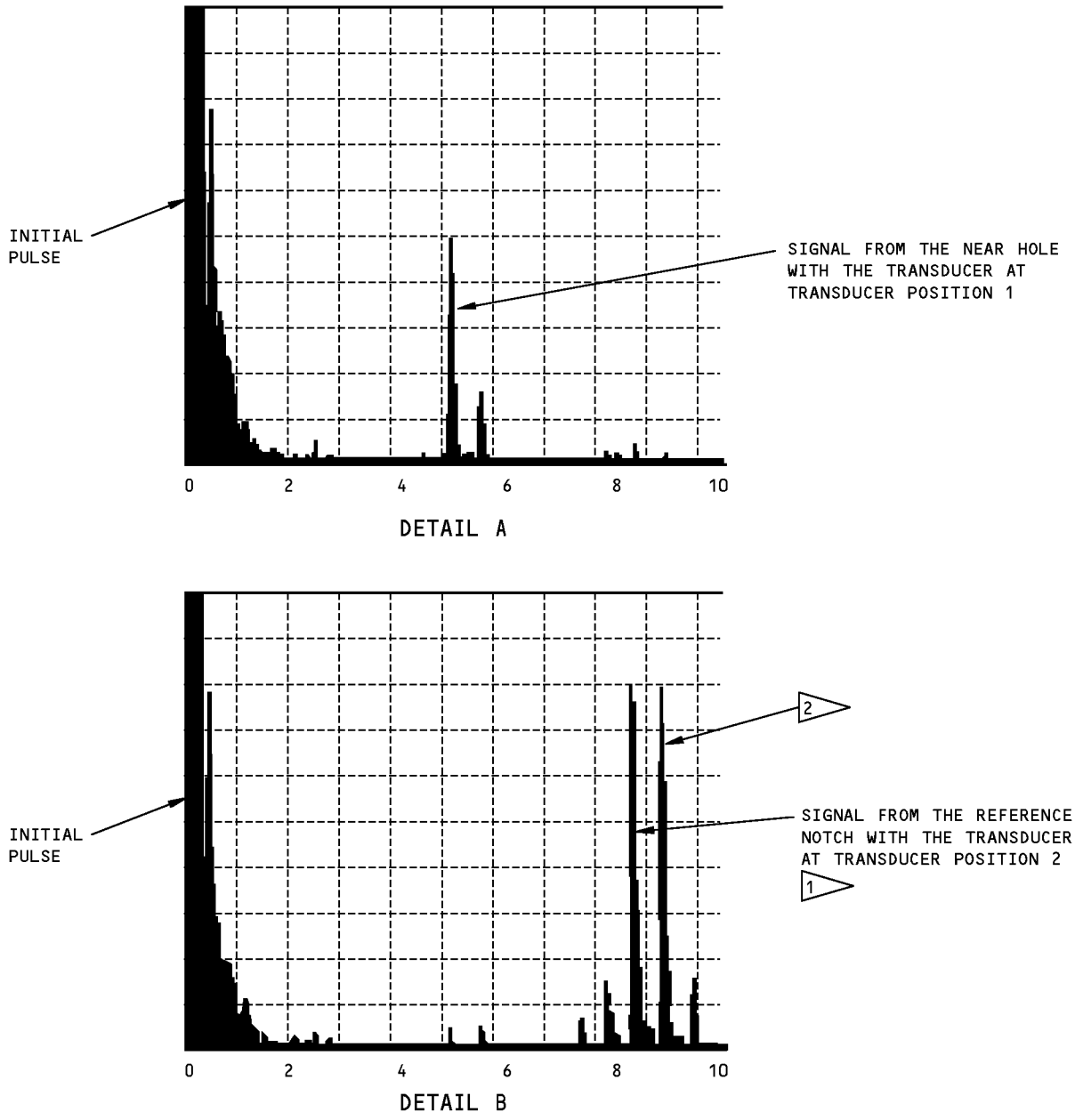
TP TRANSDUCER POSITION

1 USE A PERMANENT-INK PEN TO ADD THESE LINES TO THE REFERENCE STANDARD FOR THE INSPECTION. DO NOT SCRATCH THESE LINES INTO THE REFERENCE STANDARD BECAUSE THEY CAN CAUSE INTERFERENCE SIGNALS WHEN THIS REFERENCE STANDARD IS USED WITH PART 4, 53-50-02.

2 DO NOT USE THESE SCRIBE LINES DURING THE INSTRUMENT CALIBRATION.

3 TAPE (OR A MATERIAL THAT IS ALMOST THE SAME AS TAPE) CAN BE USED TO MAKE SURE THE CORRECT LINES ARE USED DURING CALIBRATION.

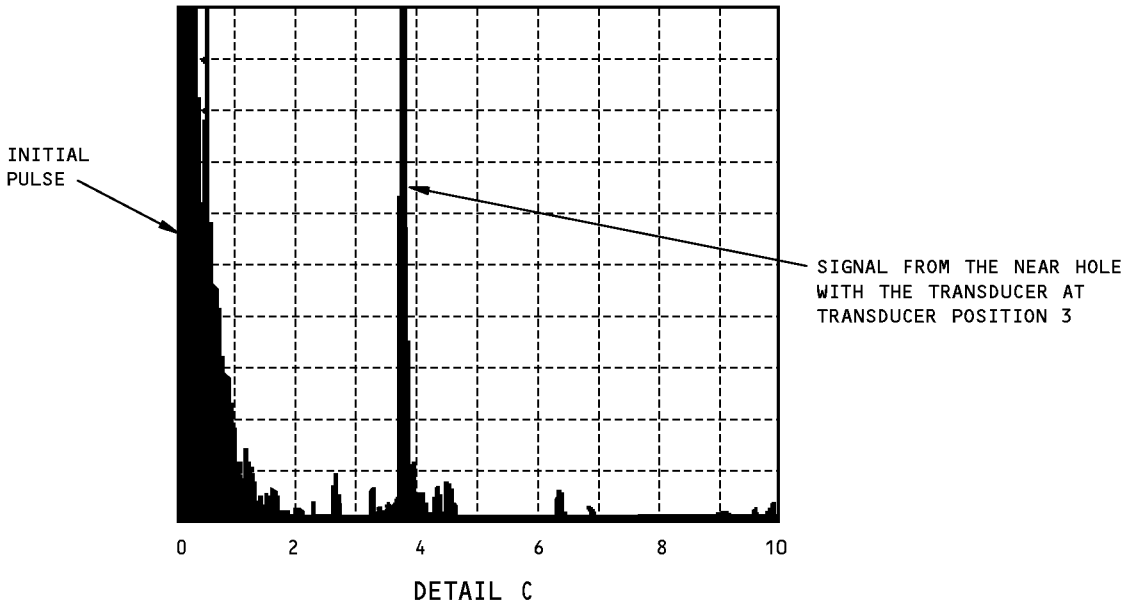
Transducer Calibration Positions
Figure 3



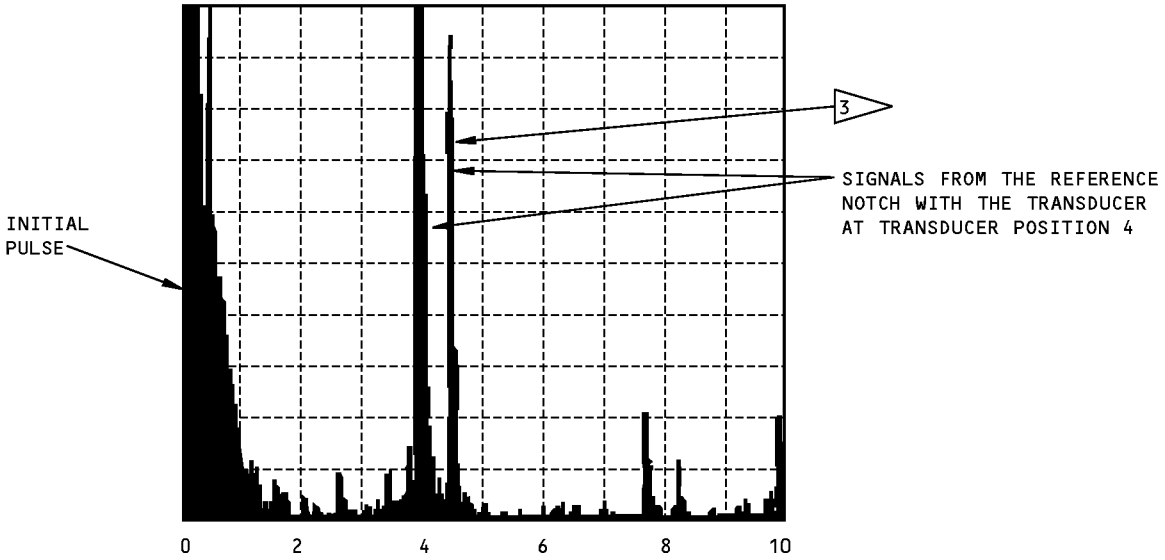
NOTES:

1. THE REFERENCE NOTCH SIGNAL WILL NOT BE AT A MAXIMUM WITH THE TRANSDUCER AT TRANSDUCER POSITION 1.
2. A SIGNAL FROM THE OPPOSITE EDGE OF THE REFERENCE NOTCH. DO NOT USE THIS SIGNAL DURING CALIBRATION.

Instrument Screen Displays
Figure 4 (Sheet 1 of 2)



DETAIL C



DETAIL D

NOTES:

3 A SIGNAL FROM THE OPPOSITE EDGE OF THE REFERENCE NOTCH.

Instrument Screen Displays
Figure 4 (Sheet 2 of 2)

EMERGENCY EXIT CUTOUTS

1. Purpose

A. To find cracks at specific locations in the frames and sills at the emergency exit cutouts.

B. This procedure was prepared for the Maintenance Planning Data (MPD) DTR Check Form Items that follow.

(1) 53-50-I06B, -I06D, -I06F – ''Single Emergency Exit Cutout''. See Figure 1.

(2) 53-50-I22B, -I22D, -I25G – ''Dual Emergency Exit Cutout''. See Figure 2.

(3) 53-50-I25B, -I25D, -I25G – ''Single Aft Emergency Exit Cutout''. See Figure 3.

2. Equipment

A. General

(1) Use ultrasonic equipment that can be calibrated as specified in this procedure.

(2) Refer to Part 1, 51-01-00, for data about the equipment manufacturers.

B. Instrument

(1) Use an ultrasonic instrument that:

(a) Operates between 4 and 6 MHz in the pulse echo mode.

(2) The instruments that follow were used to help prepare this procedure.

(a) USN 60; Krautkramer Branson

(b) Sonic 1200; Staveley Instruments, Inc.

C. Transducer

(1) Use a transducer that:

(a) Operates at a frequency of approximately 5 MHz.

(b) Causes a 70 degree shear wave to occur in aluminum.

(c) Has a maximum length of 0.75 inch (19 mm).

(d) Has a maximum width of 0.38 inch (9.5 mm).

(2) The transducer that follows was used to help prepare this procedure.

(a) 57A3065, Type SMZ; Staveley Sensors

D. Reference Standard

(1) Use reference standard NDT693. See Figure 4 for data about the reference standard.

E. Couplant

(1) Use an ultrasonic couplant that will not damage the airplane structure.

3. Preparation for Inspection

A. Identify the inspection areas shown in Figure 1 thru Figure 3, as applicable.

B. Remove wall panels and insulation blankets, as necessary, to get access to all inspection areas.

4. Instrument Calibration

NOTE: This procedure examines structure of more than one thickness but uses a reference standard of only one thickness. This is acceptable because we can get the minimum sensitivity level that is necessary for each different thickness from the one reference standard (NDT693). The screen display will look almost the same for the different part thicknesses.

A. Set the instrument frequency in the 4 to 6 MHz range.

B. Put couplant on the reference standard at transducer position TP1 as shown in Figure 5.

C. Put the transducer on the reference standard at TP1 and get a maximum signal from the fastener hole. Make sure the transducer does not go across the scribe line.

D. Adjust the delay and range controls so that the initial pulse signal is at 0 percent of full screen width (FSW) and the signal from the fastener hole is at approximately 60 percent of FSW. See Figure 5, Detail I.

E. Slowly turn the transducer in the direction of the reference notch as shown by transducer position TP2 in Figure 5. See that the signal from the reference notch comes into view to the right of the hole signal and increases in height as the signal from the hole decreases in height. The reference notch signal will occur at approximately 65 percent of full screen width.

F. Adjust the gain to set the maximum signal from the notch at 80 percent of full screen height (FSH). See Figure 5, Detail II.

G. Now turn the transducer so the signal from the hole and the notch are shown on the screen. Identify the differences between these signals.

H. Add 6 dB and make a record of the gain used for reference during this inspection.

5. Inspection Procedure

A. Put couplant on the inspection surface. See Figure 6 for the details of this inspection.

B. Put the transducer on the inspection surface and adjust the transducer-to-fastener distance so that the maximum signal from the fastener hole is at approximately 60% of FSW. If this is not possible, then use the minimum transducer-to-fastener distance that is possible.

NOTE: It is possible to receive little or no signal from a fastener hole if most of the sound transfers into the fastener because of a tight fit. If this occurs, add gain as necessary to get the signal from the fastener hole at approximately 40% of FSH. Remember to put the gain back to the level it was before you examine a different fastener hole.

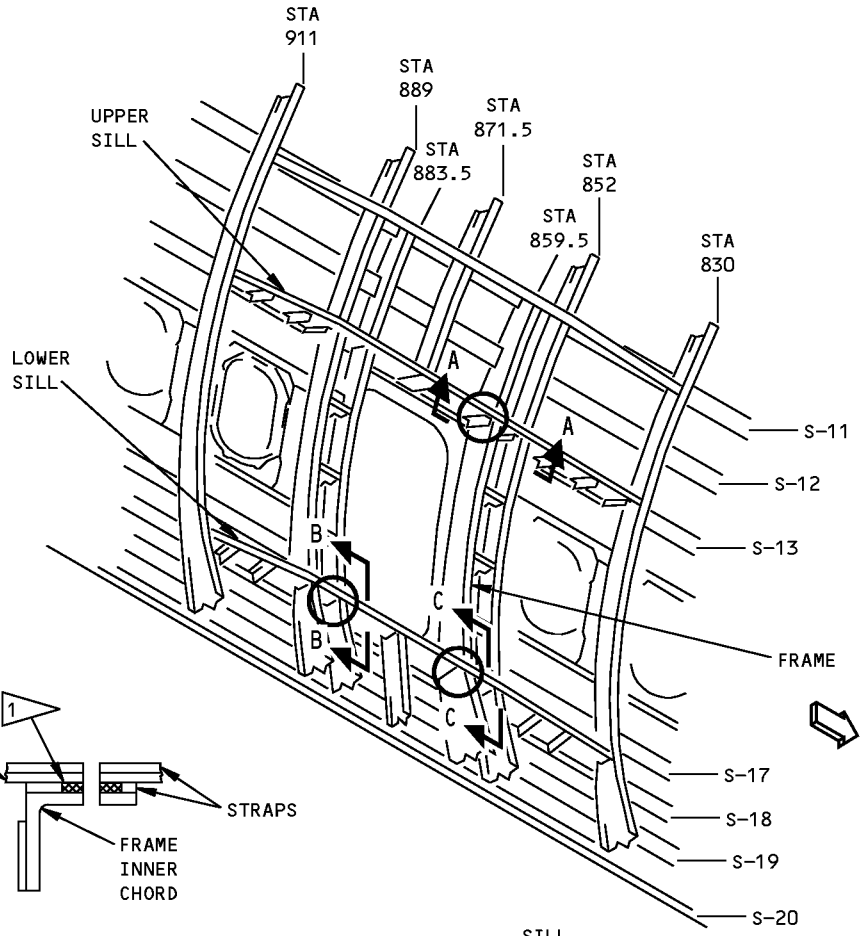
C. Slowly turn the transducer to point the sound beam to one side of the fastener hole until the fastener hole signal decreases to 0% of FSH and then do the same to the other side of the fastener hole. Carefully monitor the signal from the fastener hole. Look for a crack signal to come into view to the right of the fastener hole signal as it decreases in full screen height. Refer to the reference standard for an example of how a crack signal will come into view. Figure 6 identifies alternative procedures to examine fastener holes.

D. Do Paragraph 5.A. thru Paragraph 5.C. at all fastener locations identified in Figure 1 thru Figure 3, as applicable.

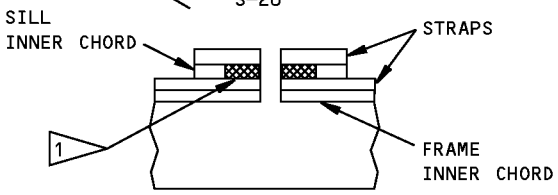
6. Inspection Results

A. Signals that are 40 percent (or more) of FSH that occur after the hole signal are possible crack indications. Compare the crack signal to the signal you get from the notch in the reference standard to be sure it is a crack signal.

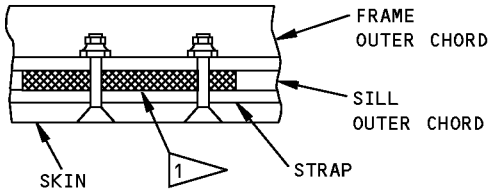
B. To make sure that a signal is from a crack, remove the fastener and do an open-hole eddy current inspection as specified in Part 6, 51-00-16.



FRAME INNER CHORD AT
THE SILL INTERSECTION (-106B)
A-A



SILL INNER CHORD AT
THE FRAME INTERSECTION (-106D)
B-B



SILL OUTER CHORD AT
THE FRAME INTERSECTION (-106F)
C-C

NOTES:

INSPECTION AREAS

1 EXPECTED DIRECTION OF CRACK GROWTH

- THE INSPECTION AREAS ARE IDENTIFIED IN MPD APPENDIX B DTR CHECK FORM ITEMS 53-50-106B, 53-50-106D, AND 53-50-106F. THE AREAS TO EXAMINE ARE AS FOLLOWS:

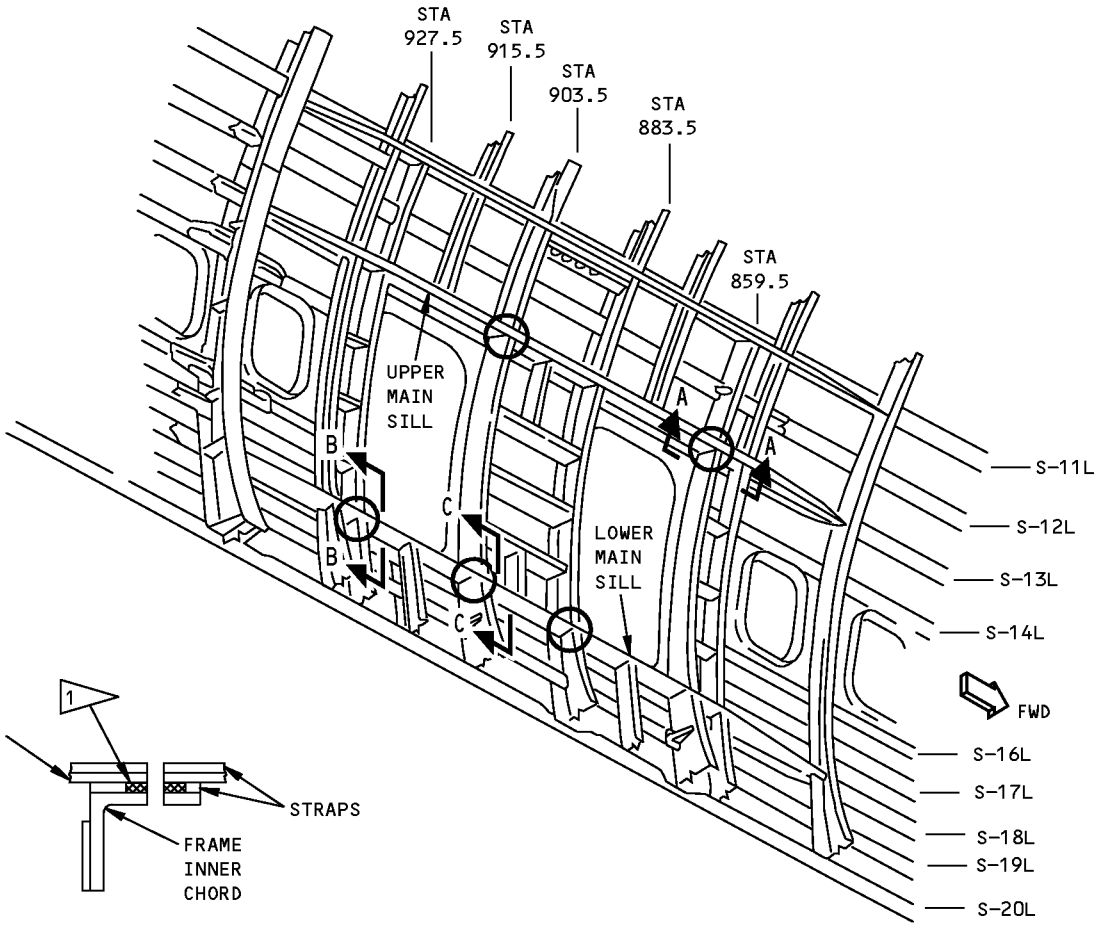
  53-50-106B: UPPER SILL AT BS 859.5, LOWER SILL AT BS 859.5 AND BS 883.5

  53-50-106D: UPPER SILL AT BS 859.5, LOWER SILL AT BS 859.5 AND BS 883.5

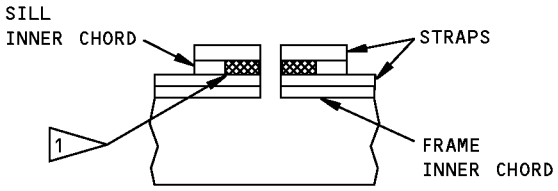
  53-50-106F: UPPER SILL AT BS 859.5, LOWER SILL AT BS 883.5

- SEE FIGURE 6 FOR THE INSPECTION DETAILS

Inspection Locations for a Single Emergency Exit Cutout
Figure 1



FRAME INNER CHORD AT
THE SILL INTERSECTION (-I22B)
A-A



SILL INNER CHORD AT
THE FRAME INTERSECTION (-I22D)
B-B

NOTES:

INSPECTION AREAS

1 EXPECTED DIRECTION OF CRACK GROWTH

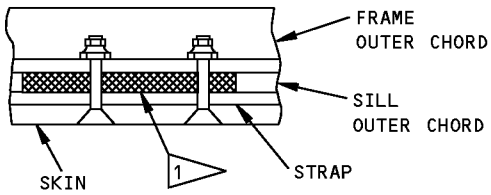
- THE INSPECTION AREAS ARE IDENTIFIED IN MPD APPENDIX B DTR CHECK FORM ITEMS 53-50-I22B, 53-50-I22D, AND 53-50-I22G. THE AREAS TO EXAMINE ARE AS FOLLOWS:

  53-50-I22B: UPPER SILL AT BS 859.5 AND BS 903.5, LOWER SILL AT BS 883.5, BS 903.5, AND BS 927.5

  53-50-I22D: UPPER SILL AT BS 859.5 AND BS 903.5, LOWER SILL AT BS 883.5, BS 903.5, AND BS 927.5

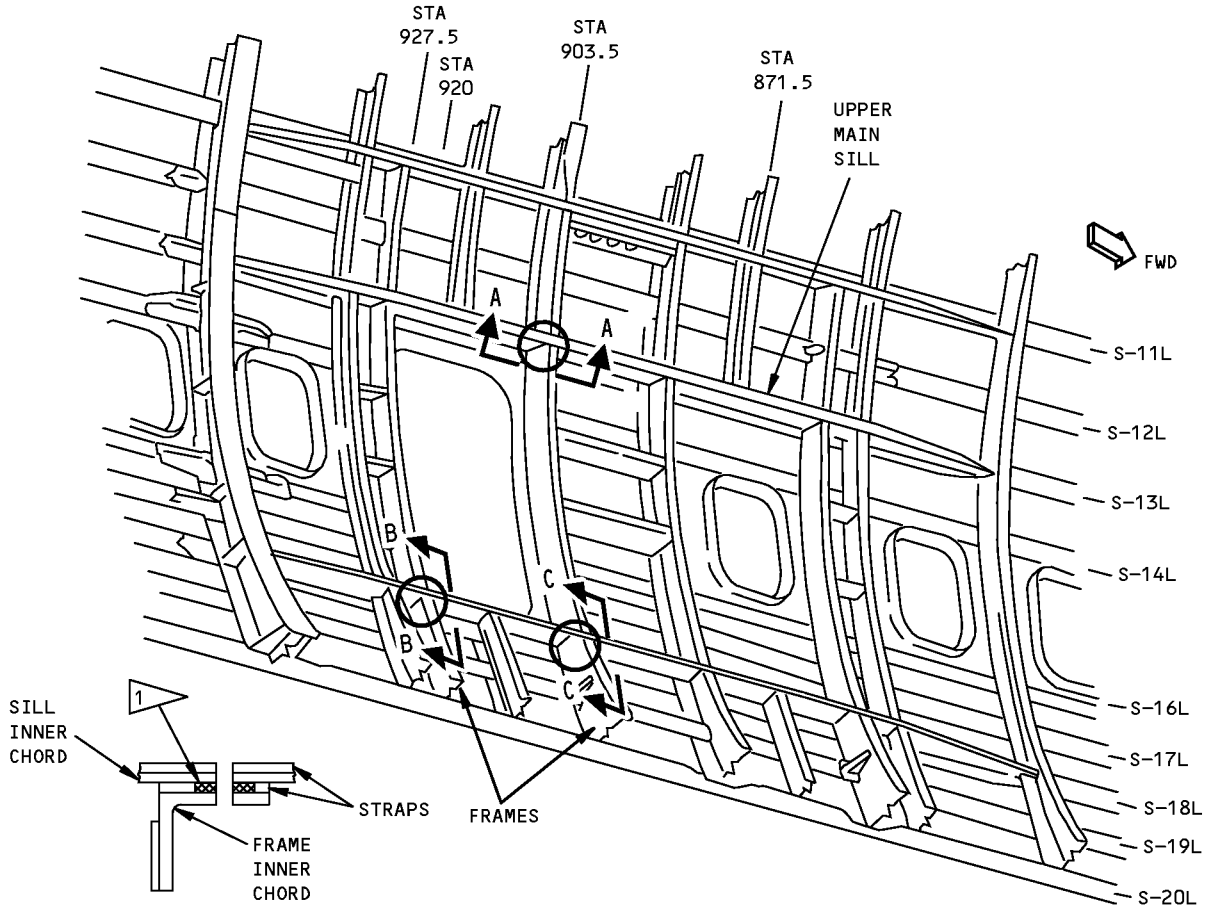
  53-50-I22G: UPPER SILL AT BS 859.5 AND BS 903.5, LOWER SILL AT BS 883.5 AND BS 927.5

- SEE FIGURE 6 FOR THE INSPECTION DETAILS



SILL OUTER CHORD AT
THE FRAME INTERSECTION (-I22G)
C-C

Inspection Locations for Dual Emergency Exit Cutouts
Figure 2



FRAME INNER CHORD AT
THE SILL INTERSECTION (-I25B)
A-A

NOTES:

INSPECTION AREAS

1 EXPECTED DIRECTION OF CRACK GROWTH

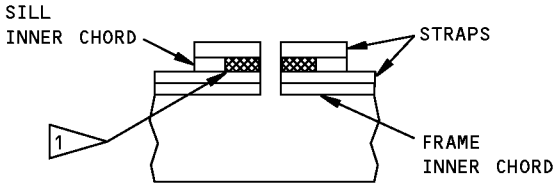
- THE INSPECTION AREAS ARE IDENTIFIED IN MPD APPENDIX B DTR CHECK FORM ITEMS 53-50-I25B, 53-50-I25D, AND 53-50-I25G. THE AREAS TO EXAMINE ARE AS FOLLOWS:

  53-50-I25B: UPPER SILL AT BS 903.5, LOWER SILL AT BS 903.5 AND BS 927.5

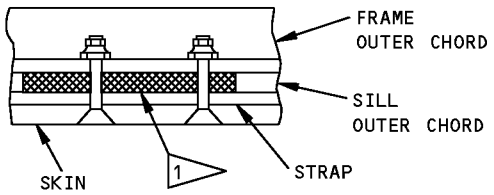
  53-50-I25D: UPPER SILL AT BS 903.5, LOWER SILL AT BS 903.5 AND BS 927.5

  53-50-I25G: UPPER SILL AT BS 903.5, LOWER SILL AT BS 927.5

- SEE FIGURE 6 FOR THE INSPECTION DETAILS

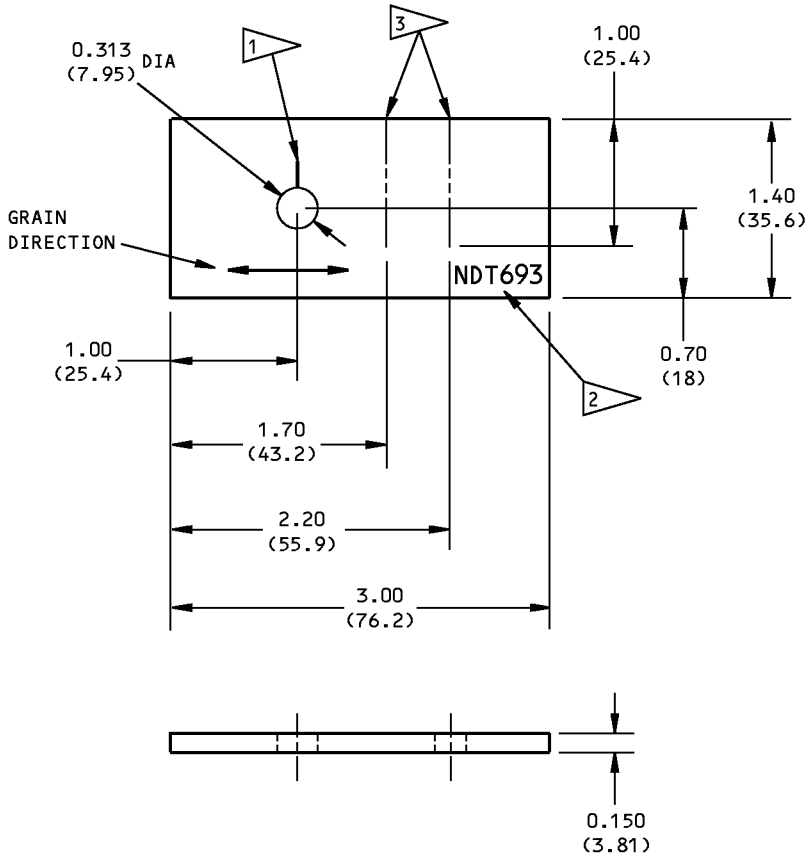


SILL INNER CHORD AT
THE FRAME INTERSECTION (-I25D)
B-B



SILL OUTER CHORD AT
THE FRAME INTERSECTION (-I25G)
C-C

Inspection Locations for a Single Aft Emergency Exit Cutout
Figure 3



NOTES:

- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS ARE IN PARENTHESES).
- TOLERANCES (UNLESS SPECIFIED DIFFERENTLY):

INCHES	MILLIMETERS
X.XXX = ±0.005	X.XX = ±0.10
X.XX = ±0.025	X.X = ±0.5
X.X = ±0.050	X = ±1

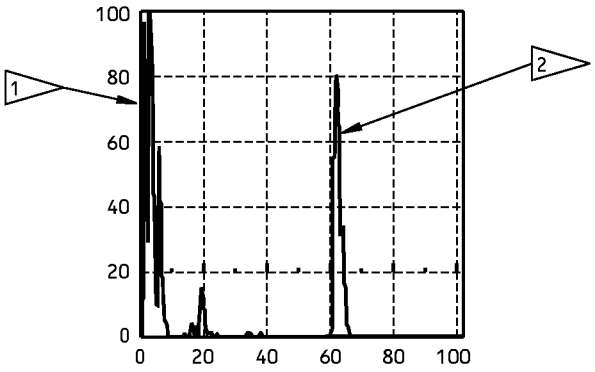
- SURFACE ROUGHNESS = 125 Ra OR BETTER
- MATERIAL: 2024 OR 7075-T6 ALUMINUM

1> EDM THROUGH NOTCH: 0.20 (5.08) LONG X 0.007 (0.18) WIDE (±0.002 (±0.05))

2> ETCH OR STAMP THE REFERENCE STANDARD NUMBER AT APPROXIMATELY THIS LOCATION.

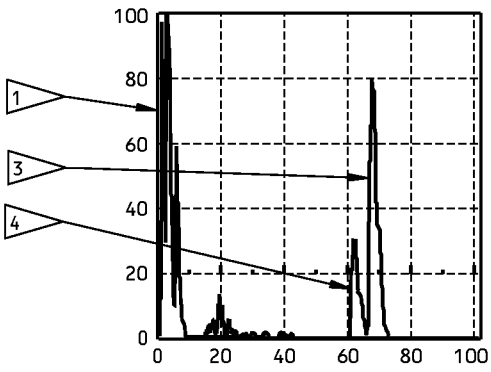
3> SCRIBE A LINE 0.005 TO 0.010 (0.13 TO 0.25) DEEP.

Reference Standard NDT693
Figure 4



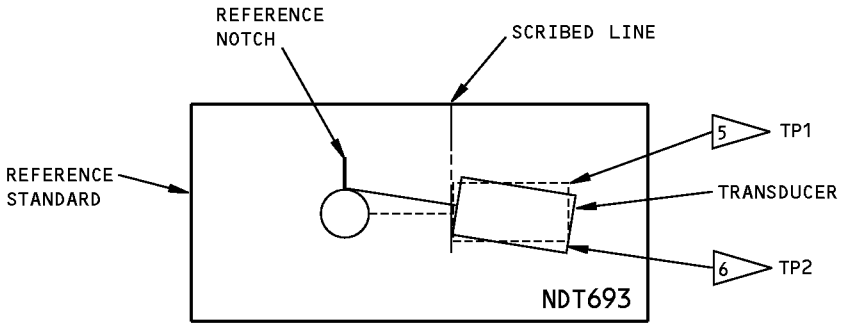
SET THE INITIAL PULSE SIGNAL AT 0% OF FULL SCREEN WIDTH (FSW) AND THE SIGNAL FROM THE HOLE AT 60% OF FSW

DETAIL I



SIGNAL FROM THE REFERENCE NOTCH

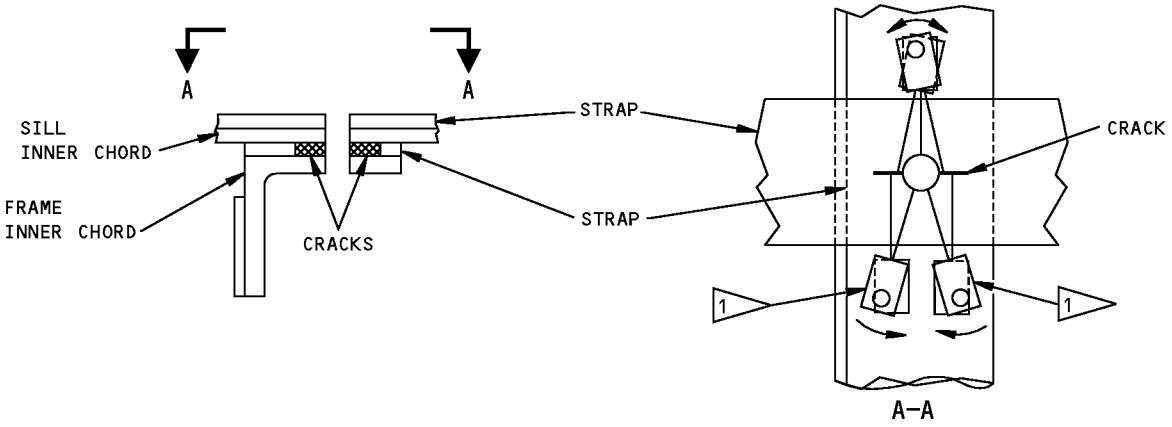
DETAIL II



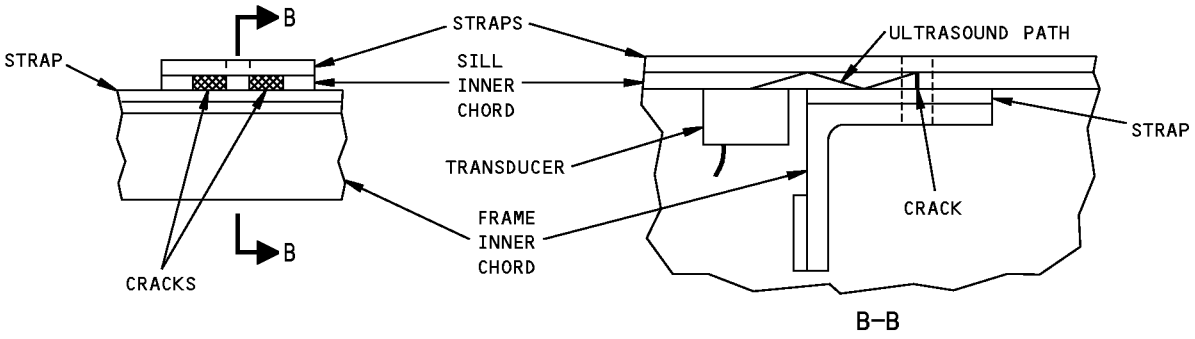
NOTES:

1. INITIAL PULSE SIGNAL
2. SIGNAL FROM THE HOLE WITH THE TRANSDUCER AT TP1
3. SIGNAL FROM THE REFERENCE NOTCH WITH THE TRANSDUCER AT TP2
4. WHILE THE TRANSDUCER IS TURNED FROM TP1 TO TP2, SEE THAT THE HOLE SIGNAL DECREASES AS THE SIGNAL FROM THE REFERENCE NOTCH INCREASES.
5. MOVE THE TRANSDUCER TO GET A MAXIMUM SIGNAL FROM THE HOLE. MAKE SURE THE TRANSDUCER DOES NOT GO ACROSS THE SCRIBE LINE.
6. SLOWLY TURN THE TRANSDUCER IN THE DIRECTION OF THE REFERENCE NOTCH. SEE THAT THE SIGNAL COMES INTO VIEW TO THE RIGHT OF THE HOLE SIGNAL AND INCREASES IN FULL SCREEN HEIGHT (FSH) AS THE SIGNAL FROM THE HOLE DECREASES IN FSH.

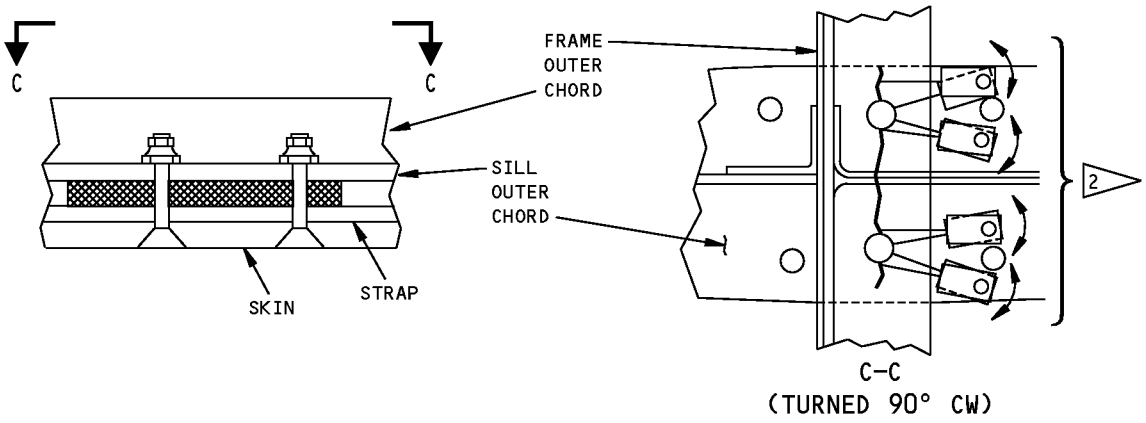
Instrument Calibration
Figure 5



FRAME INNER CHORD AT THE SILL INTERSECTION



SILL INNER CHORD AT THE FRAME INTERSECTION



SILL OUTER CHORD AT THE FRAME INTERSECTION

1 THIS IS AN ALTERNATIVE PROCEDURE TO EXAMINE A FASTENER HOLE. IF THIS PROCEDURE IS USED, MAKE SURE TO EXAMINE THE FASTENER HOLE FROM EACH SIDE OF THE FASTENER.

2 AT SOME LOCATIONS IT IS NECESSARY TO EXAMINE A FASTENER HOLE AS SHOWN HERE. MAKE SURE TO EXAMINE THE FASTENER HOLE FROM EACH SIDE OF THE FASTENER. IF NECESSARY, EXAMINE THE FASTENER HOLE FROM THE OPPOSITE DIRECTION.

Inspection Details
Figure 6

FAILSAFE STRAP OF THE REAR SPAR BULKHEAD AT BS 955

1. Purpose

A. Use this procedure to examine the failsafe strap of the rear spar bulkhead at BS 955 for cracks. See Figure 1 for the inspection area.

B. Service Bulletin reference: 767-53A0100

2. Equipment

NOTE: Refer to Part 1, 51-01-00 for data about the equipment manufacturers.

A. General

(1) Use inspection equipment that can be calibrated on the reference standard as specified in Paragraph 4.

B. Instrument

(1) Use an ultrasonic instrument that:

(a) Can do pulse echo inspection

(b) Operates at 5 MHz or a frequency range that includes 5 MHz.

(2) The instrument that follows was used to help prepare this procedure.

(a) USN60; Krautkramer, Inc.

C. Transducers

(1) Use a 5 MHz transducer with an end mounted, microdot connector that puts a 70° refracted shear wave in aluminum. The transducer case dimensions are approximately 0.67 inch (17.0 mm) long by 0.26 inch (6.6 mm) wide by 0.33 inch (8.3 mm) high. The transducer that follows was used to help prepare this procedure.

(a) Part number 389-021-980; made by Krautkramer, Inc.

NOTE: It will be necessary to attach sandpaper to the top and sides of the transducer case so that you can hold the transducer to the failsafe strap.

D. Reference Standard

(1) Use reference standard NDT679. See Figure 3 for data about the reference standard.

E. Connectors and Extensions

(1) There are two procedures to turn the transducer to examine each side of the fastener hole because of small access to the inspection area.

(a) Procedure 1 - The transducer is turned with the transducer connector and microdot cable.

(b) Procedure 2 - The transducer is turned with the help of a flexible transducer extension.

NOTE: Inspectors with large hands can use these extensions to help do the inspections.

(2) If you use Procedure 1, you must use a short microdot connector that connects to the transducer. The part number is CBNM-6 and it is made by NDT Engineering.

NOTE: A short connector is necessary to turn the transducer to examine the aft side of the fastener hole.

(3) If you use Procedure 2, you must use two flexible extensions to help turn the transducer. The extensions that follow were used to help prepare this procedure:

(a) To examine the left failsafe strap, use a right angle transducer microdot connector attached to a flexible shaft extension that is approximately 8.0 inches (203 mm) long. The part number is AMF-MR-8FX and is made by NDT Engineering. See Figure 6.

(b) To examine the right failsafe strap, use a straight microdot connector attached to a flexible shaft extension that is approximately 10 inches (254 mm) long. The part number is AMF-M-10FX and it is made by NDT Engineering. See Figure 7.

NOTE: These flexible shaft extensions will have to be bent by you to go around hydraulic lines and adjacent structure.

3. Preparation for Inspection

A. Find the inspection areas on the airplane. See Figure 1 and Figure 5.

B. Get access to the inspection area.

C. Remove dirt, grease and sealant from the inspection areas that the transducer will touch.

D. Visually examine the inspection area for paint chips or unusual marks. Sand the paint chipped areas with fine grit sandpaper.

E. Remove a hydraulic line bracket and move the top two lines a short distance in the left main landing gear wheel well area, adjacent to BS 955, to get access to the inspection area. See Figure 2.

4. Instrument Calibration

A. Calibration for the failsafe strap inspection.

NOTE: If you use the transducer extensions to examine the fastener holes you must use the extension to calibrate the instruments. This is necessary so that the inspector will know how to turn the transducer to examine the forward and aft sides of the fastener hole. Bend the flexible extension to the approximate angles necessary to get to the inspection areas on the airplane before you calibrate your instrument.

(1) Connect the transducer to the instrument and set the instrument frequency to 5 MHz, or the nearest set frequency range to 5 MHz.

(2) Set the vertical gate to 25% of full screen height (FSH). See Figure 4, Screen Display 1.

(3) Put couplant on the reference standard at Transducer Position 1. See Figure 4, Detail I.

(4) Put a piece of material adjacent to the straight side of the reference standard. Make sure the material is higher than the reference standard so the transducer cannot go across the edge of the reference standard. See Figure 4, Detail I.

NOTE: The material placed adjacent to the reference standard simulates structure on the airplane. This will help you to put the transducer in the correct position to make sure you can examine the AFT side of the fastener hole.

(5) Put the transducer sound exit point approximately 0.7 inch (18 mm) from the hole on the reference standard at transducer position 1 and move the transducer to get a signal from the hole. Make sure the transducer is on the opposite side of the scribe line from the hole. See Figure 4, flagnotes 1 and 4.

(6) Adjust the instrument controls to put the initial pulse at 0% of full screen width (FSW) and the hole signal at 70% of FSW. See Figure 4, Screen Display 1.

(7) Adjust the instrument gain to put the maximum signal from the reference standard hole at 100% of FSH. See Figure 4, Screen Display 1.

(8) Turn the transducer to get a signal from the far notch. The notch signal will be at approximately 80% of FSW. See Figure 4, flagnote 2, and Screen Display 2.

(9) Adjust the gain to put the notch signal at 90% of FSH.

(10) Turn the transducer to the opposite side of the fastener hole and get a signal from the near notch. The signal from this notch must be at 100% of FSH or more. See Figure 4, flagnote 3, and Screen Display 3.

5. Inspection Procedure

A. Refer to Figure 1 and Figure 5, Figure 6, and Figure 7 (as applicable) to identify the inspection area to be examined on the airplanes.

NOTE: The inspection is shown without the transducer extension in Figure 5.

NOTE: The inspection procedure with the transducer extension is Figure 6 (left side) and Figure 7 (right side).

(1) Calibrate the instrument as specified in Paragraph 4.

(2) Increase the instrument gain 25 db.

NOTE: The instrument gain needs to be increased because of paint on the failsafe strap.

(3) Put a sufficient quantity of couplant on the inspection area that the transducer will touch. See Figure 5.

NOTE: Because there is small access to the inspection area, you can get couplant on the inspection surface as follows: Put couplant on the transducer and then put the transducer on the inspection area.

(4) Put the transducer on the failsafe strap and move the transducer up until it touches the closeout panel stiffener that covers the failsafe strap.

(5) Move the transducer down from the closeout panel stiffener so you can turn the transducer to examine each side of the fastener hole. Get a signal from the fastener hole. You will have to put your finger on the top of the transducer to hold the transducer to the failsafe strap. See Figure 5.

NOTE: If it is possible, put the transducer at the same location on the strap as you did on the reference standard in Paragraph 4.A.(5).

(6) Move the transducer to and from the hole to put the signal from the hole at 70% of FSW on the instrument screen display. Do not adjust the instrument range control to put the signal from the hole at 70% of FSW.

(a) Cracks can occur in front of the hole. Cracks in front of the hole are nearer to the transducer and will cause a signal to occur that is larger than the typical signal from a hole.

(7) Adjust the gain to get a 100% of FSH signal from the fastener hole.

(8) Turn the transducer to examine the forward and aft sides of the fastener hole. See Figure 5, flagnote 1 or Figure 6 and Figure 7 (as applicable).

NOTE: If you do not use the extensions you will have to turn the connector end of the transducer connector and cable with your opposite hand.

(9) Make a record of all locations that cause indications that are 25% (or more) of FSH at approximately 75 to 90% of FSW.

(a) If a crack occurs in front of the fastener hole, the crack signal can be between approximately 40 and 70% of FSW. When you turn the transducer, the signal from the crack will increase or decrease in amplitude at approximately the same FSW on the screen display.

(10) Do Paragraph 5.A.(1) thru Paragraph 5.A.(9) again on the failsafe strap on the opposite side of the airplane.

6. Inspection Results

A. A signal that occurs at 75 to 90% of FSW on the screen display and is 25% of FSH, or more, is a possible crack.

(1) Compare the signals that occurred during the inspection to the signals you got from the reference standard notch during calibration.

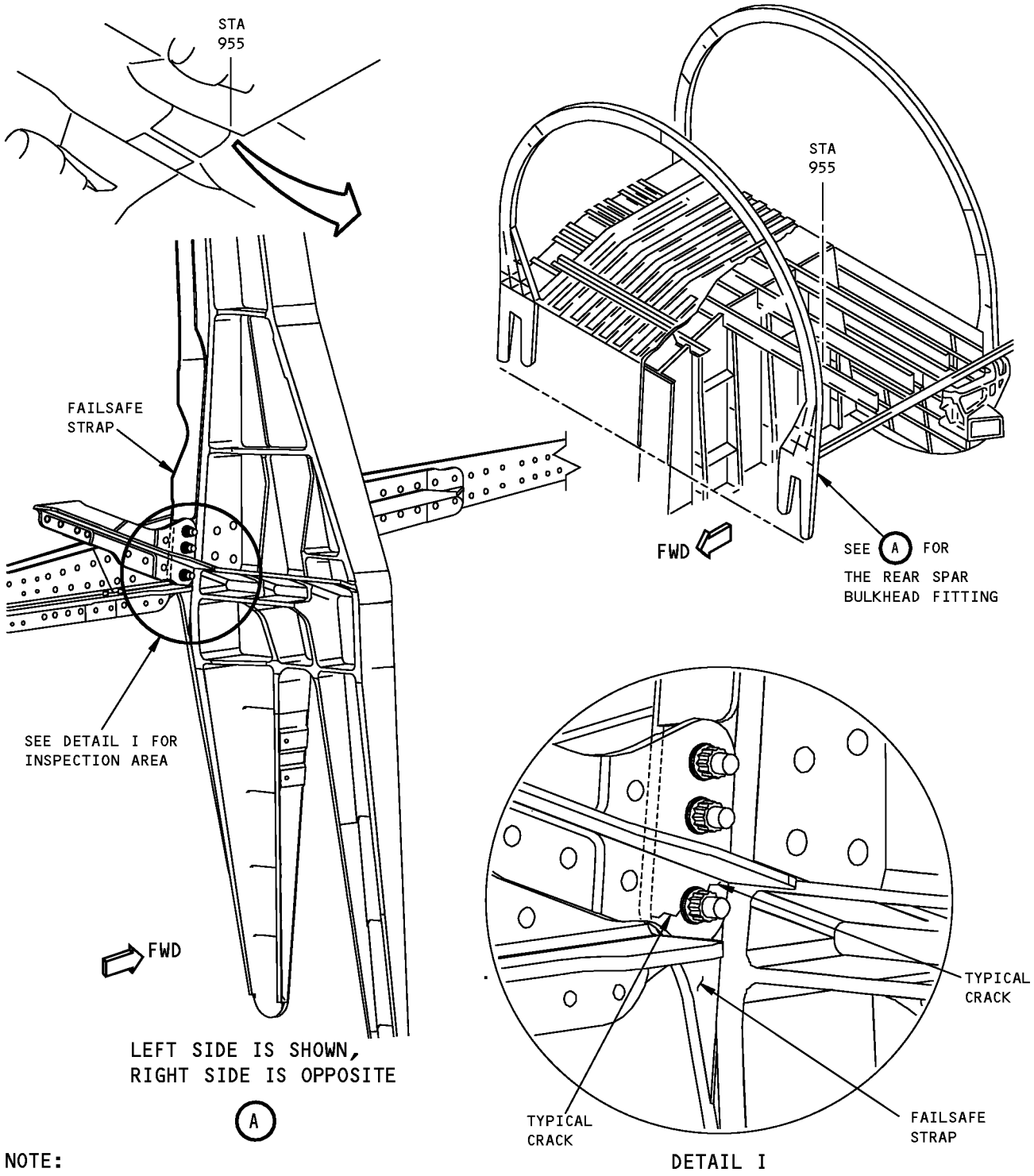
B. The inspection conditions that follow can change the location of the crack signal on the instrument screen display.

(1) It is possible to put the transducer on the failsafe strap and get a signal from a crack and move the transducer to put that signal at 70% of FSW. If you did not know the signal was from a crack, the hole signal will be at approximately 60% of FSW when you turn the transducer to the hole.

(2) If a crack occurs in front of the fastener hole, the crack signal can be between approximately 40 and 70% of FSW. When you turn the transducer the signal from the crack will either increase or decrease in amplitude at approximately the same FSW on the screen display.

C. Do an open fastener hole inspection as specified in Part 6, 51-00-04, Part 6, 51-00-11, or Part 6, 51-00-16 to make sure you have a crack.

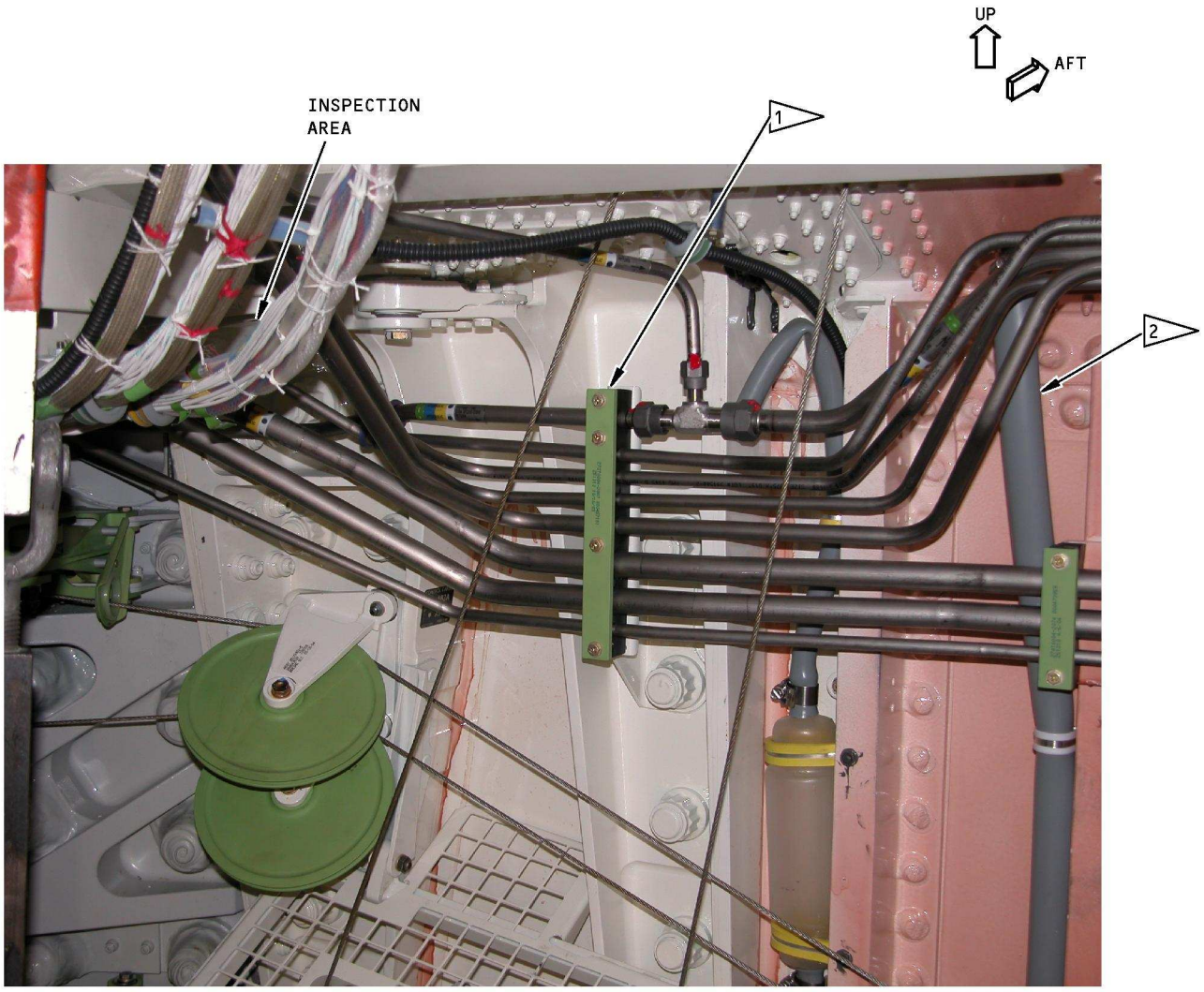
(1) You will not get a crack signal when you do a eddy current open hole inspection if the crack is before the fastener hole and does not connect to the fastener hole.



NOTE:

- EXAMINE THE FAILSAFE STRAP FOR CRACKS IN THE FORWARD AND AFT DIRECTIONS

Failsafe Strap Inspection Area
Figure 1



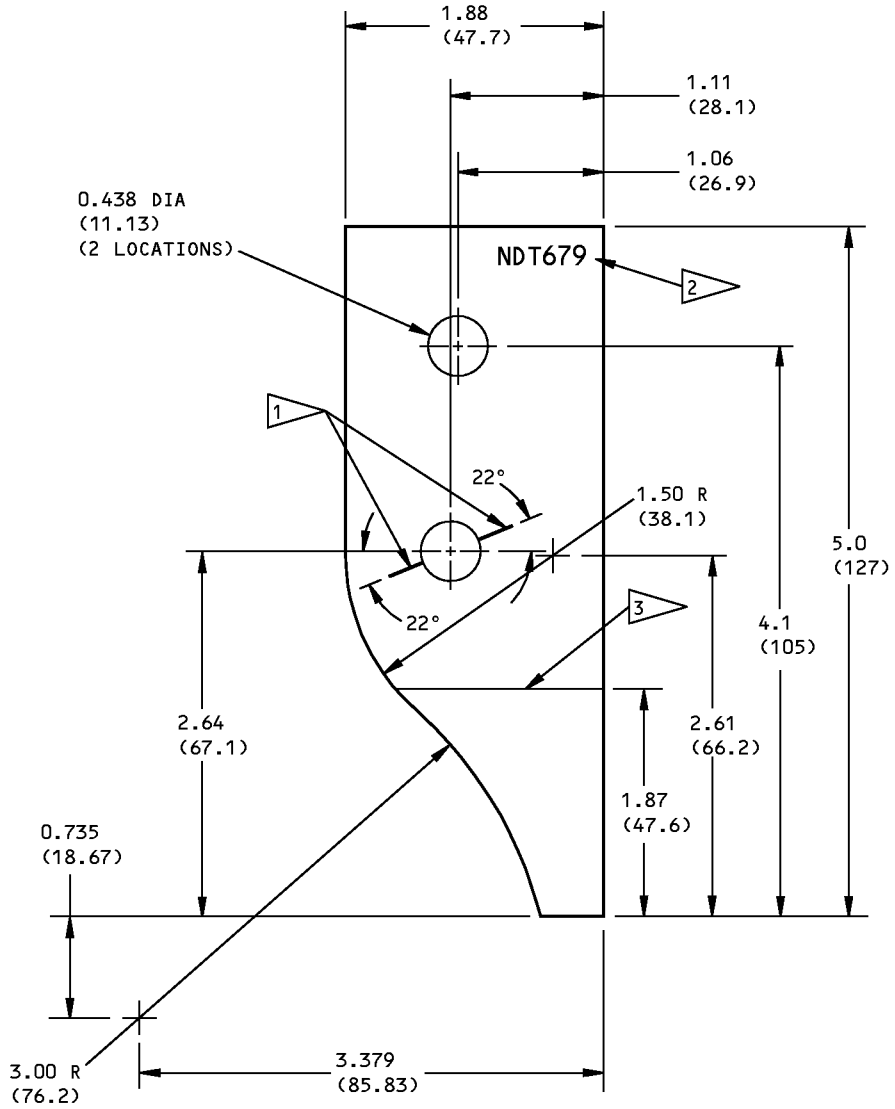
NOTES:

- LEFT SIDE IS SHOWN

1 REMOVE THE HYDRAULIC LINE BRACKET AND MOVE THE TOP TWO LINES A SHORT DISTANCE TO GET ACCESS TO THE INSPECTION AREA.

2 PUT YOUR ARM THROUGH HERE SO THAT YOU CAN PUT YOUR FINGER ON THE TOP OF THE TRANSDUCER.

Access to the Left STA 955 Failsafe Strap
Figure 2



NOTES

- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS ARE IN PARENTHESES)
- TOLERANCE (UNLESS SPECIFIED DIFFERENTLY):

INCHES	MILLIMETERS
X.XXX = ± 0.005	X.XX = ± 0.10
X.XX = ± 0.025	X.X = ± 0.5
X.X = ± 0.050	X = ± 1

- MATERIAL: 0.30 (7.6) THICK 2024-T3XX,-T4 OPTIONAL: 7075-T735, 7075-T6
- SURFACE ROUGHNESS: 63 Ra OR BETTER

1. EDM NOTCH OR SAWCUT: 0.25 LONG (6.4) X 0.020 (0.51) WIDE MAXIMUM. THROUGH THE THICKNESS OF THE REFERENCE STANDARD.
2. ETCH OR STAMP THE REFERENCE STANDARD NUMBER NDT679 AT APPROXIMATELY THIS LOCATION
3. SCRIBE LINE: 0.003 TO 0.005 (0.08 TO 0.13) DEEP

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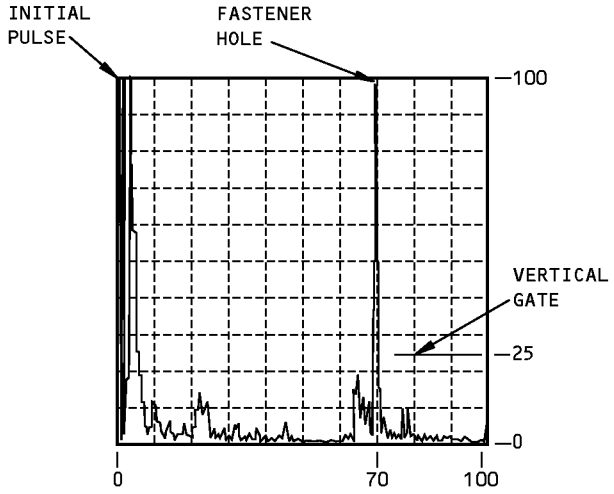
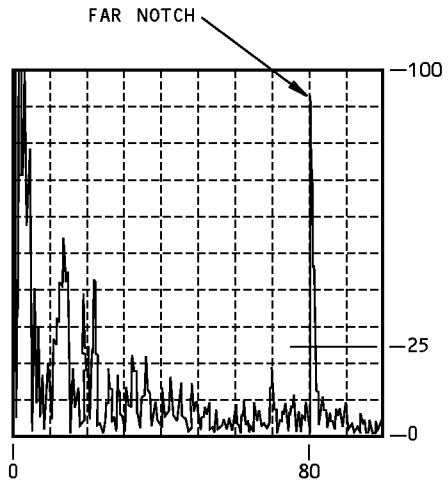
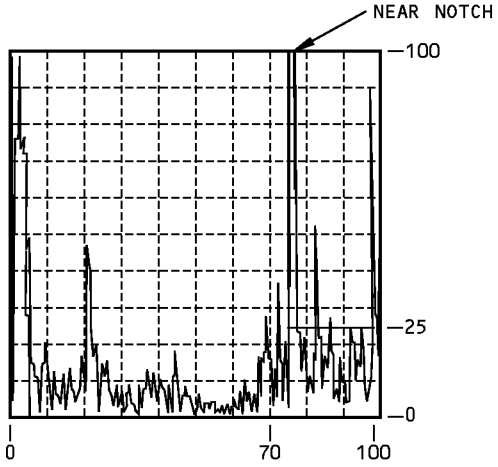
Reference Standard NDT679
Figure 3



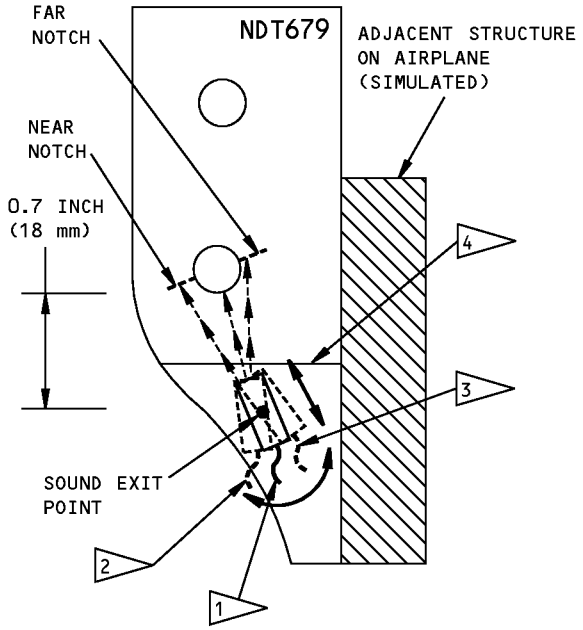
SCREEN DISPLAY 1



SCREEN DISPLAY 2



SCREEN DISPLAY 3



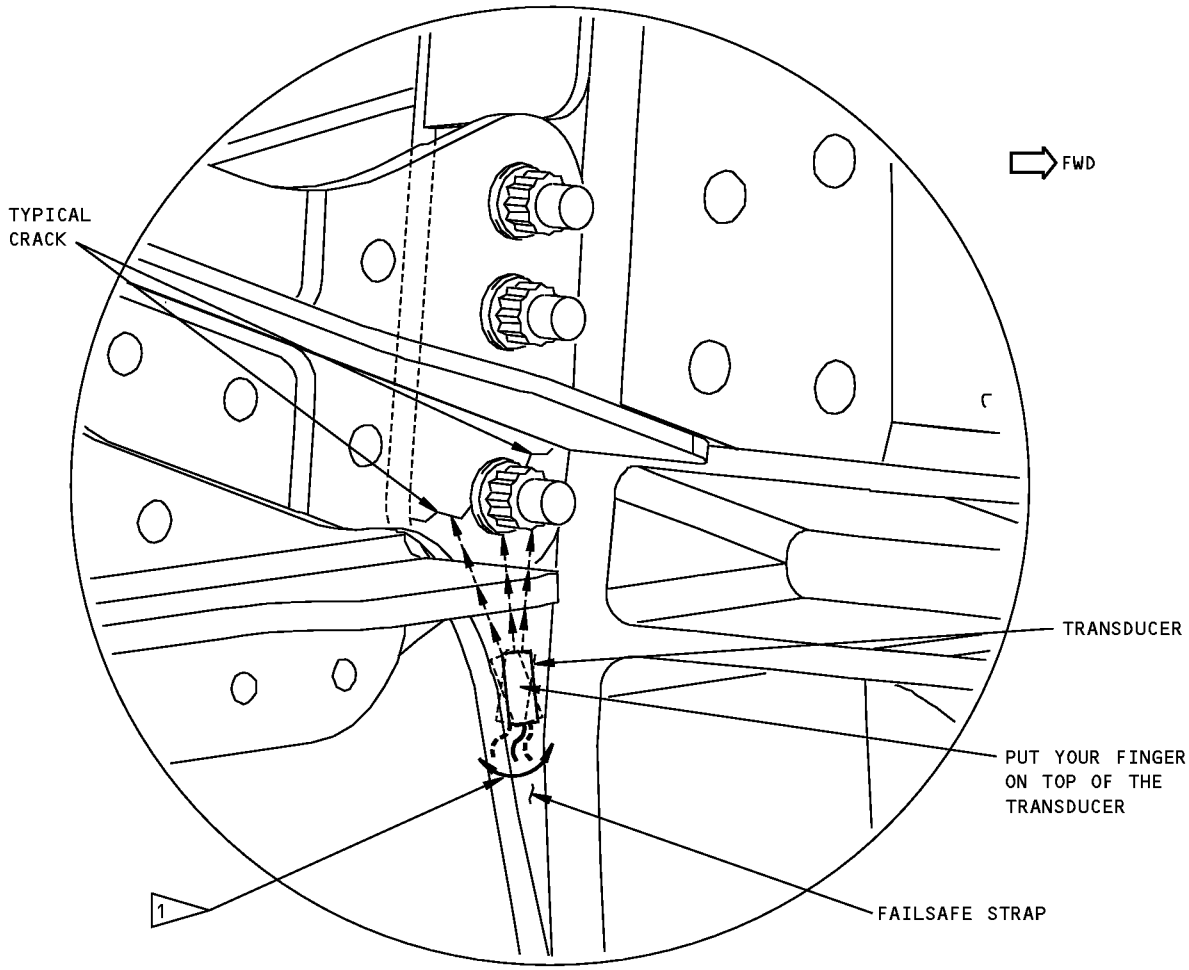
DETAIL I

NOTES

- SOUND BEAM ---►---►---►

1. TRANSDUCER POSITION 1 - PUT THE TRANSDUCER ON THE REFERENCE STANDARD SO THAT THE TRANSDUCER SOUND EXIT POINT IS AT THE APPROXIMATE DISTANCE SHOWN FROM THE FASTENER HOLE.
2. TRANSDUCER POSITION 2 - MOVE THE TRANSDUCER SO THAT THE SOUND BEAM IS POINTED AT THE FAR NOTCH.
3. MOVE THE TRANSDUCER SO THAT THE SOUND BEAM POINTS AT THE NEAR NOTCH. MAKE SURE THE CONNECTOR AND CABLE DO NOT TOUCH THE SIMULATED STRUCTURE ADJACENT TO THE SIDE OF THE REFERENCE STANDARD.
4. SCRIBE LINE - ADJACENT STRUCTURE EDGE ON TOP OF THE FAILSAFE STRAP

Instrument Screen Display for Reference Standard NDT679
Figure 4

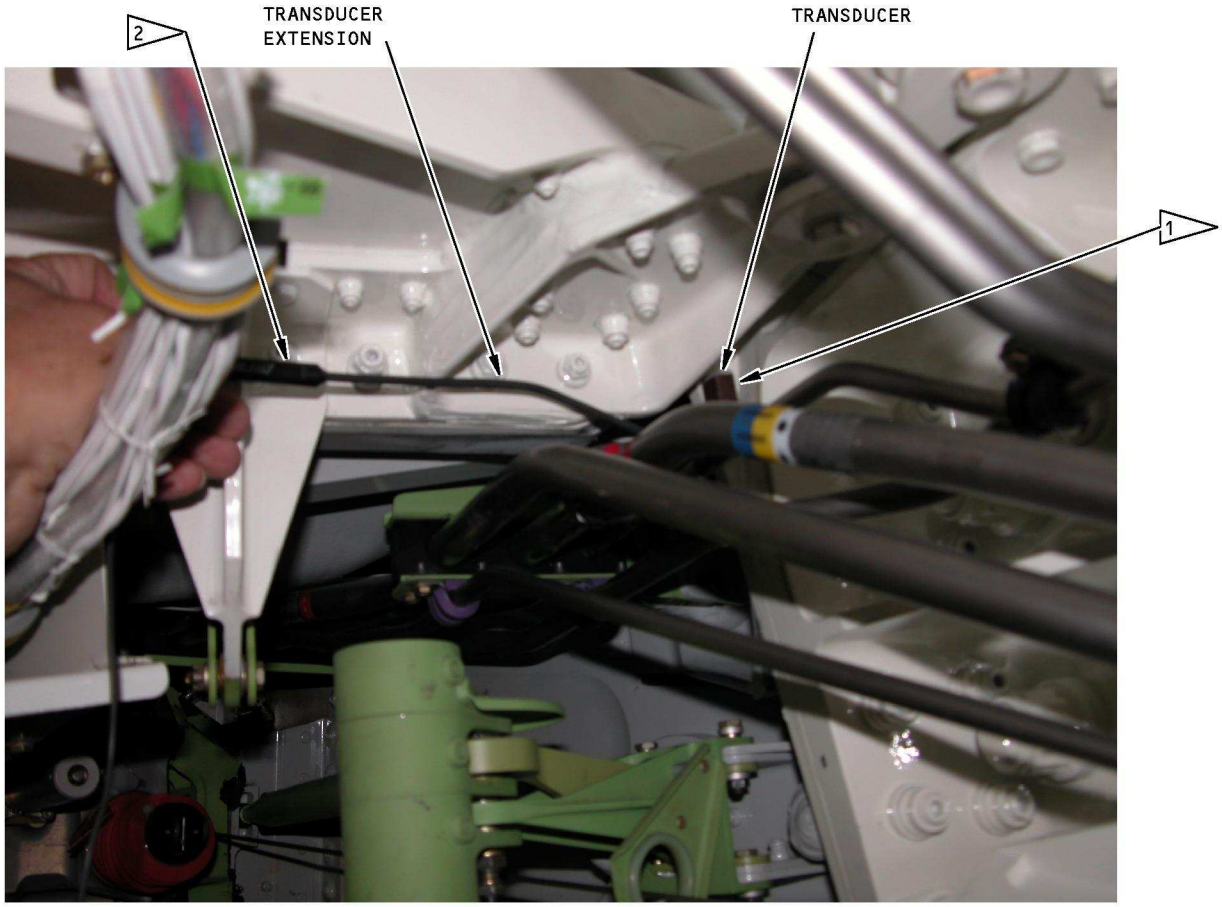


NOTES:

- THE LEFT SIDE IS SHOWN, THE RIGHT SIDE IS OPPOSITE
- PUT THE TRANSDUCER ON THE INBOARD SIDE OF THE FAILSAFE STRAP

1 TURN THE CABLE END OF THE TRANSDUCER FORWARD AND AFT TO EXAMINE EACH SIDE OF THE FASTENER HOLE.

Typical Transducer Position on the Failsafe Strap
Figure 5



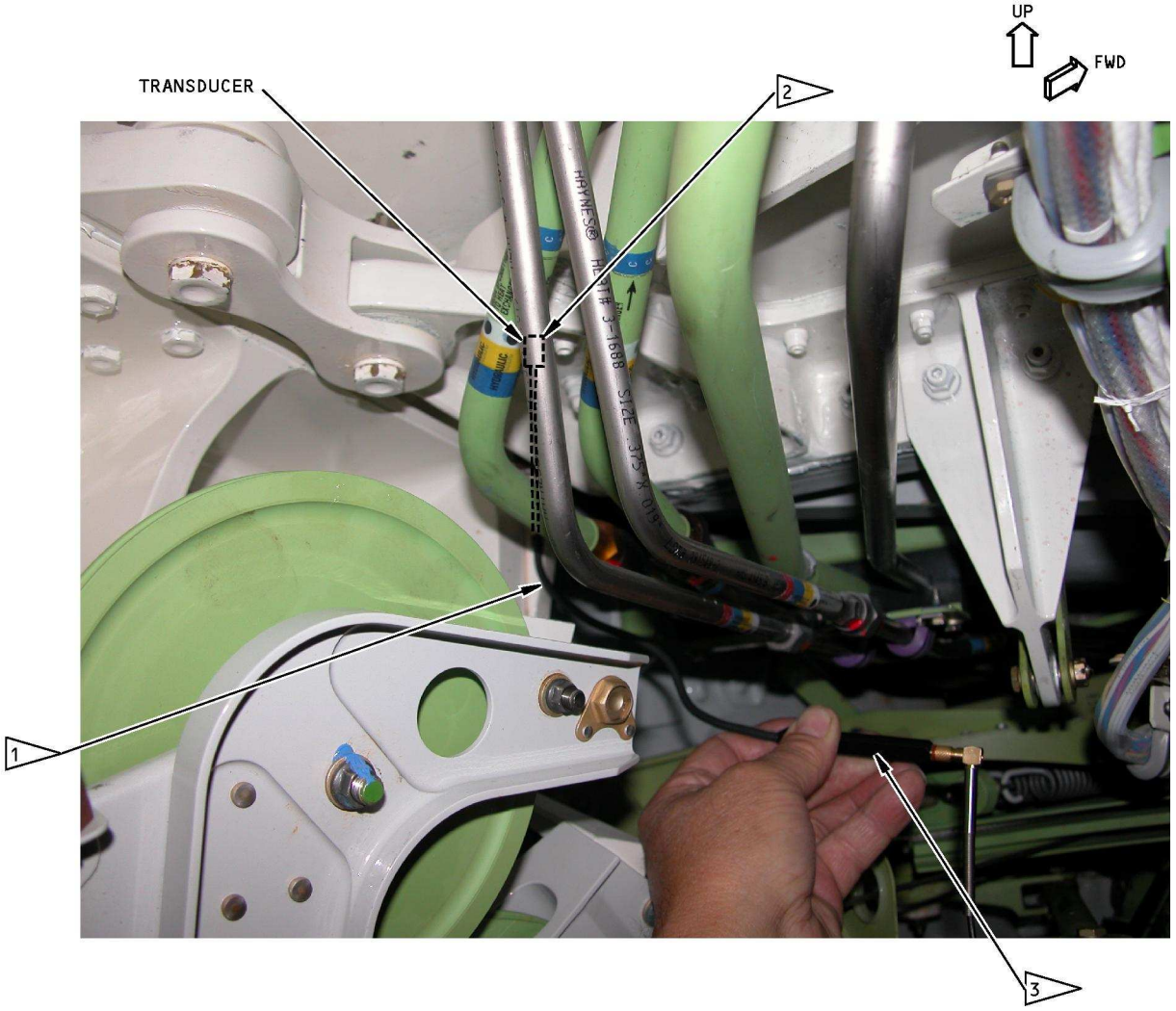
NOTES:

- USE THE RIGHT ANGLE EXTENSION CONNECTOR TO EXAMINE THE LEFT FAILSAFE STRAP

1 PUT YOUR FINGER ON THE TOP OF THE TRANSDUCER TO HOLD IT TO THE STRAP

2 MOVE THE TRANSDUCER EXTENSION UP AND DOWN TO EXAMINE THE FORWARD AND AFT SIDES OF THE FASTENER HOLE.

Left Failsafe Strap Inspection Area Examined with a Transducer Extension
Figure 6



NOTES:

- USE THE STRAIGHT EXTENSION CONNECTOR TO EXAMINE THE RIGHT SIDE FAILSAFE STRAP

1. BEND THE TRANSDUCER EXTENSION TO PUT THE TRANSDUCER ON THE STRAP. THE TRANSDUCER IS BEHIND THE HYDRAULIC LINE AND ADJACENT STRUCTURE.
2. PUT YOUR FINGER ON THE TOP OF THE TRANSDUCER TO HOLD IT TO THE STRAP
3. MOVE THE TRANSDUCER EXTENSION FORWARD AND AFT TO EXAMINE THE FORWARD AND AFT SIDES OF THE FASTENER HOLE.

Right Failsafe Strap Inspection Area Examined with a Transducer Extension
Figure 7