PART 6 - EDDY CURRENT

MAIN LANDING GEAR UPPER AND LOWER DRAG STRUT FUSE BOLT

1. Purpose

A. To find the longitudinal cracks in the main landing gear top and bottom drag strut attachment bolts (fuse bolts) without the removal of the bolts. See Details I and II in Figure 1. The inspection is started at the bore of the bolt.

B. Service Bulletin Reference: 737-32-1123, Rev 2

2. Equipment

A. Instrument - Eddy current instruments that meet the necessary conditions of this procedure are permitted. The following instrument was used to make this procedure:

(1) MIZ-10A - Zetec, Inc.

B. Probes - Unshielded bolthole probes that can operate at 25 kHz, go down to a depth of 4.5 inches (12 cm) and meet the necessary conditions of this procedure can be used. A reflection-type probe is recommended, See Table 1. The following probe was used to make this procedure:

(1) VM101BR - 1/2 X 6, 10 - 30 kHz -- V.M. Products

C. Reference Standard - Make Reference Standard 380-X as shown in Figure 2. The reference standard must match the bore diameter of the part to be inspected. See Table 1.

NOTE: Refer to Part 1, 51-01-00 for the address information of the vendors who supply the equipment.

3. Prepare for the Inspection

A. Remove the lubrication plug if there is one.

B. Remove the cotter pin from the bolt.

C. Remove all unwanted materials such as dirt and grease from the bolt and visually inspect the bore. Note all scratches, corrosion and/or the areas that look as if there is a crack in the bore.

NOTE: Scratches in the cadmium layer in the bore will cause indications that look like cracks when you do an inspection with the eddy current equipment.

4. Instrument Calibration

A. Set the frequency of the instrument to 25 kHz.

B. Put the probe in the reference standard in an area that does not have a notch. The probe must tightly fit but not where it causes excessive wear on the probe coil.

C. Balance the instrument as specified in the manufacturer's instructions. Set the baseline at 20 percent of full scale.

D. Adjust the lift-off so that the probe-to-part spacing of up to 0.006 inch (approximately two sheets of paper) gives no more than a 5 percent full scale deflection.

E. Adjust the depth of the probe in the hole to get the maximum signal from the reference notch.

F. Adjust the sensitivity of the instrument to give a 50 percent meter deflection when a scan is done slowly over the reference notch with the probe.

NOTE: Notice the usual sharp deflection of the meter caused by the notch.

G. Position the probe again in an area that is not notched. Check the balance and the lift-off. If adjustments are needed, check the sensitivity again.

5. Inspection Procedure

A. Adjust the collar on the probe to set the depth of the penetration into the bore at 0.100 inch.

B. Insert the probe into the pin and balance the instrument.

C. Check the setting of the lift-off again as referred to in Paragraph 4.D.

D. Slowly do a scan of the entire circumference of the hole and note all locations that give a sudden deflection up.

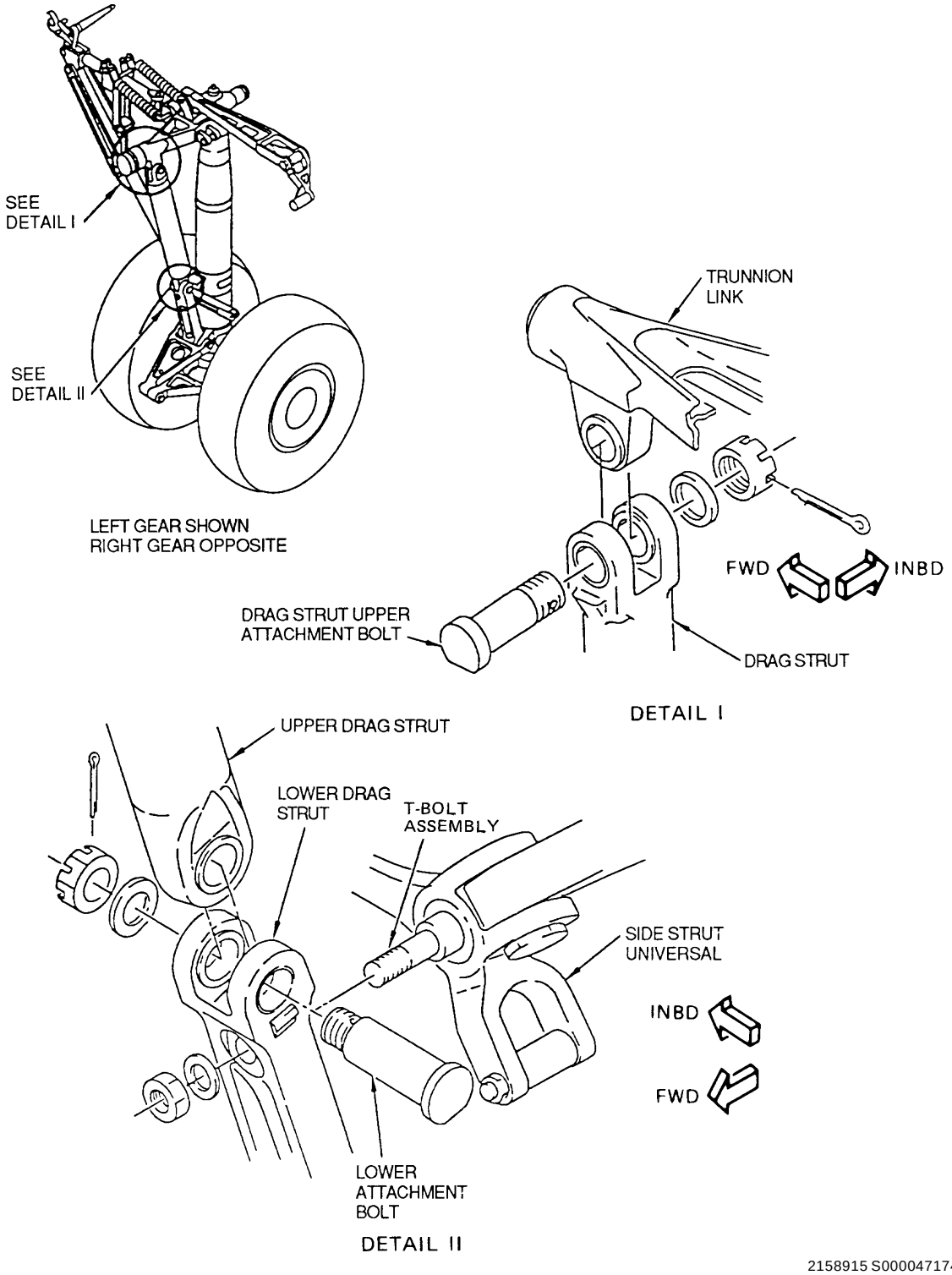
E. Repeat Paragraph 5.B. and Paragraph 5.C. at increments of 0.100 inch depths until the entire bore has been inspected.

6. Inspection Results

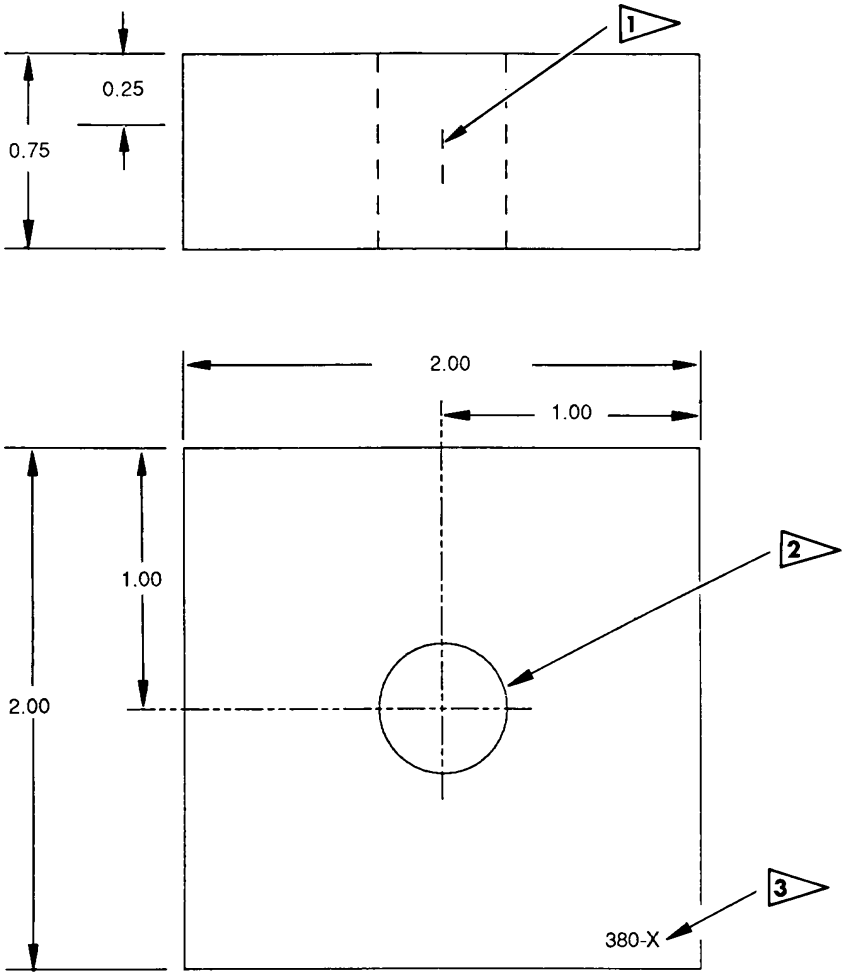
A. Sharp meter indications equal to or greater than the calibration response must be confirmed. To confirm the results, remove the bolt and do a magnetic particle inspection.

Table 1: Fuse Bolt Dimensions

FUSE BOLT PART NO. AND LOCATION	BORE DIAMETER
69-39473-1 (lower)	0.75 inch (PA002 and PA003 only)
69-39473-2 (lower)	0.50 inch
69-39476-5, -8 (upper)	0.87 inch
69-39476-6, -7 (upper)	0.80 inch



Main Landing Gear Drag-Strut Attachment Bolts
Figure 1



NOTES:
- ALL DIMENSIONS IN INCHES
- MATERIAL -- LOW ALLOY STEEL (4330M OR EQUIVALENT)
- ALL TOLERANCES +/- 0.050 EXCEPT WHERE NOTED

1. EDM NOTCH, DEPTH -- 0.030", WIDTH -- 0.007", LENGTH -- 0.250", ALL +/- 0.003"
2. DIAMETER OF HOLE PER TABLE I
3. ETCH OR STEEL STAMP WITH 380-X (DASH NUMBER CORRESPONDS WITH DASH NUMBER OF PART INSPECTED)

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Reference Standard
Figure 2