Nomad
ALERT SERVICE BULLETIN

FUSELAGE REAR SECTION - STUB FIN - INSPECTION

1. **PLANNING INFORMATION**

A. **Effectivity**

All Nomad N22 series and N24 series aircraft.

B. **Reason**

Ongoing Nomad fatigue tests and operator defect reports received have revealed cracks in the stub fin.

This Service Bulletin is issued to provide information on cracking of the stub fin.

Reason for Revision 1

The Stub Fin structure in the tailplane resonance test has experienced fatigue cracks in various members of the sub-structure as shown in Figure 3.

Reason for Revision 2

An operator has identified a crack at the forward end of the stub fin lower diaphragm. Tailplane resonance testing also indicated possible cracking of the stub fin front corner posts below the stub fin lower diaphragm.

C. **Description**

A detailed visual inspection is to be performed to inspect for cracks in the stub fin as shown in Figures 1, 2, 3, 4 and 5.

D. **Compliance**

(1) Incorporation of this Service Bulletin is MANDATORY.

(2) Inspections for the identified cracks as per revision 2 of this Service Bulletin, are to be carried out at the next 100 hour inspection or within 3 months whichever occurs first following receipt of Service Bulletin ANMD-53-16 Rev 2.

(3) Subsequent inspections are to be carried out at 300 hour intervals or 12 months following the previous inspection, whichever occurs first.

(4) Boeing Aircraft Systems- ASTA is to be notified of the results of the inspection irrespective of whether cracks are found or not found in the areas identified by this Service Bulletin.

Attached at Annex A is a form to assist in the reporting of the inspection results.

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E. **Approval**

The requirement detailed herein has been approved by a person authorised under Civil Aviation Regulation 35 and conforms to the type certification requirements.

The Civil Aviation Authority has been requested to issue an Airworthiness Directive.

F. **Manpower**

4.0 manhours.

G. **Material**

None required.

H. **Tooling**

None required.

I. **Weight and Balance Change**

None.

J. **References**

Maintenance Manual Chap 53-00-00.

K. **Publications Affected**

Inspection Requirement Manual Part 1 and Part 3

2. **ACCOMPLISHMENT INSTRUCTIONS**

WARNING

DO NOT OPERATE THE FLIGHT CONTROLS WITH CONTROL COMPONENTS DISCONNECTED OR WHEN PERSONNEL ARE WORKING IN THE AREA CONCERNED. SERIOUS INJURY TO PERSONNEL OR DAMAGE TO FLIGHT CONTROL COMPONENTS AND STRUCTURE COULD OCCUR.

(1) Remove the cover plate on each side of the upper fin to stub fin attachment fittings (Ref Fig 1).

(2) Remove the inspection cover on the LH side of the stub fin (Ref Fig 1) and retain the attaching fasteners.

(3) Remove the access panel PN 1B/N-12-230 on the RH side of the rear fuselage (Ref Fig 5). (Fit access panel as per SB ANMD-53-15 Rev 2 if not already fitted).

(4) Visually inspect the stub fin rib channels PN 1A/N-12-50 RH and PN 1B/N-12-50 LH forward outboard corner (Ref Fig 1 and Fig 2) for fatigue cracks.

(5) Visually inspect the stub angle PN 1/N-12-86 LH and PN 1/N-12-87 RH for cracking around the rivet holes (Ref Fig 3).

(6) Visually inspect bracket PN 1E/N-12-50 for cracking in the area around the rear of the stub angles both LH and RH sides (Ref Fig 3).

(7) Visually inspect the fin posts PN 1X/N-12-194 and 1Y/N-12-194 for cracking in the area adjoining the stub angles PN 1/N-12-86 LH and PN 1/N-12-87 RH (Ref Fig 3).

(8) Visually inspect the lower Diaphragm for cracking, in the vicinity of the lower end of the vertical stringers and cross channels, and also paying particular attention to the forward end of the stub fin. Check for any interference between forward end of the lower Diaphragm and the angles on the rear face of the stub fin front spar, and report in Annex A (Ref fig 4).

(9) Using a strong light source and a mirror, visually inspect stub fin front corner posts PN 1X/N-12-194 and 1Y/N-12-194 for cracking around the rivet holes just below the stub fin lower diaphragm (Ref Fig 5).

(10) Repair all cracked components by replacement.

NOTE

Where replacement of cracked items is not practical, Boeing Aircraft Systems must be contacted for advice on repair schemes. Repairs shall be required before the next flight.

CAUTION

AFTER ALL MAINTENANCE ACTIVITIES INVOLVING FLYING CONTROLS, OR WHENEVER FLYING CONTROL SERVICING AND ACCESS PANELS ARE REMOVED ENSURE THAT THE AREAS CONCERNED ARE CLEAN AND FREE FROM FOREIGN OBJECTS.

(11) On completion of inspection refit the cover plates, inspection cover and access panel removed in steps (1),(2) and (3) with the original fasteners.

3. **MATERIAL INFORMATION**

Refer to SB ANMD-53-15 Rev 2 Step 3.D. for contents of kit PN 1/N-12-230 which contains the access panel PN 1B/N-12-230.

4. **SPECIAL TOOLS AND EQUIPMENT**

None.

5. **RECORDING ACTION**

Record compliance with Service Bulletin ANMD-53-16 Rev 2 in the Airframe Log Book.

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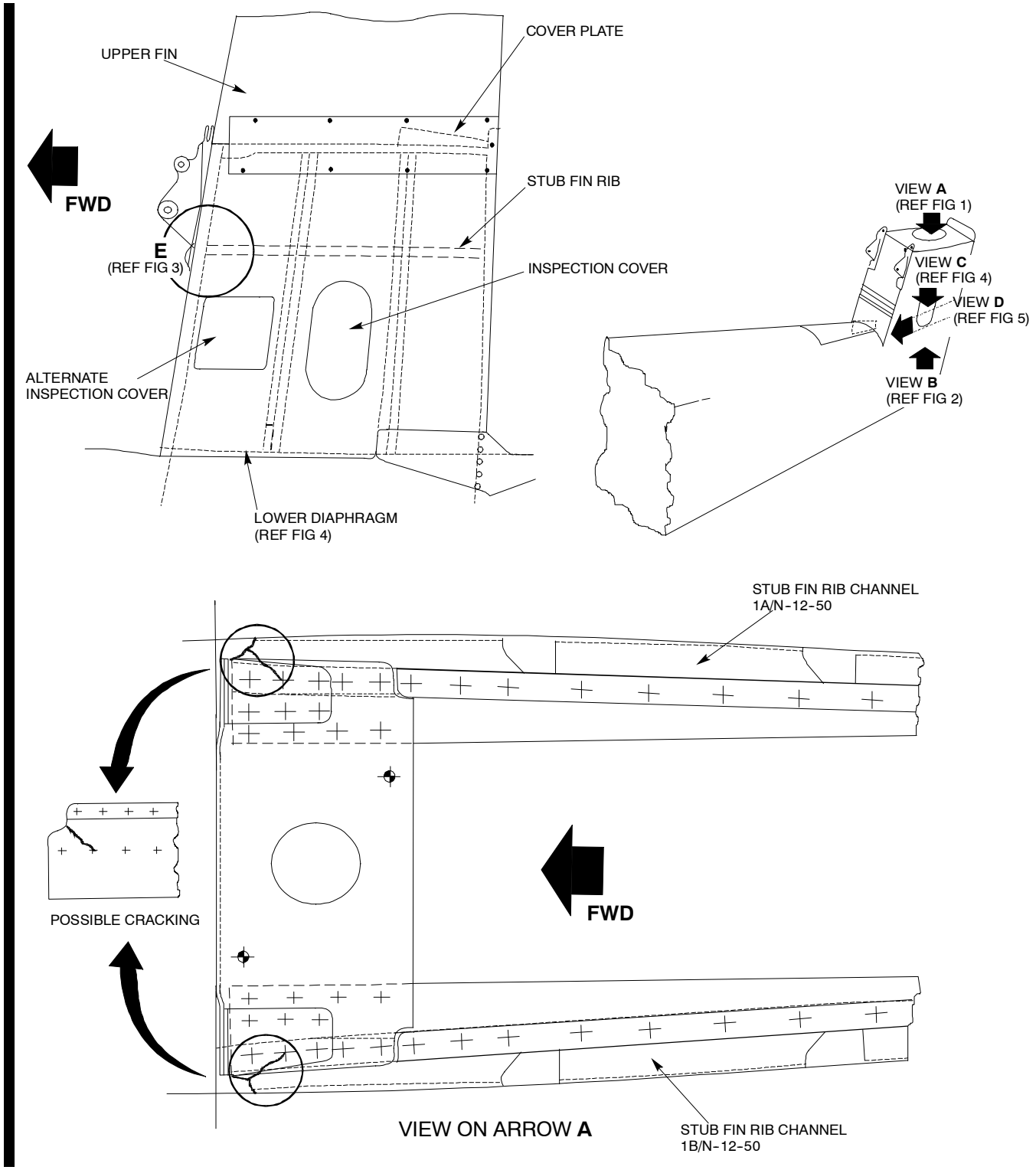
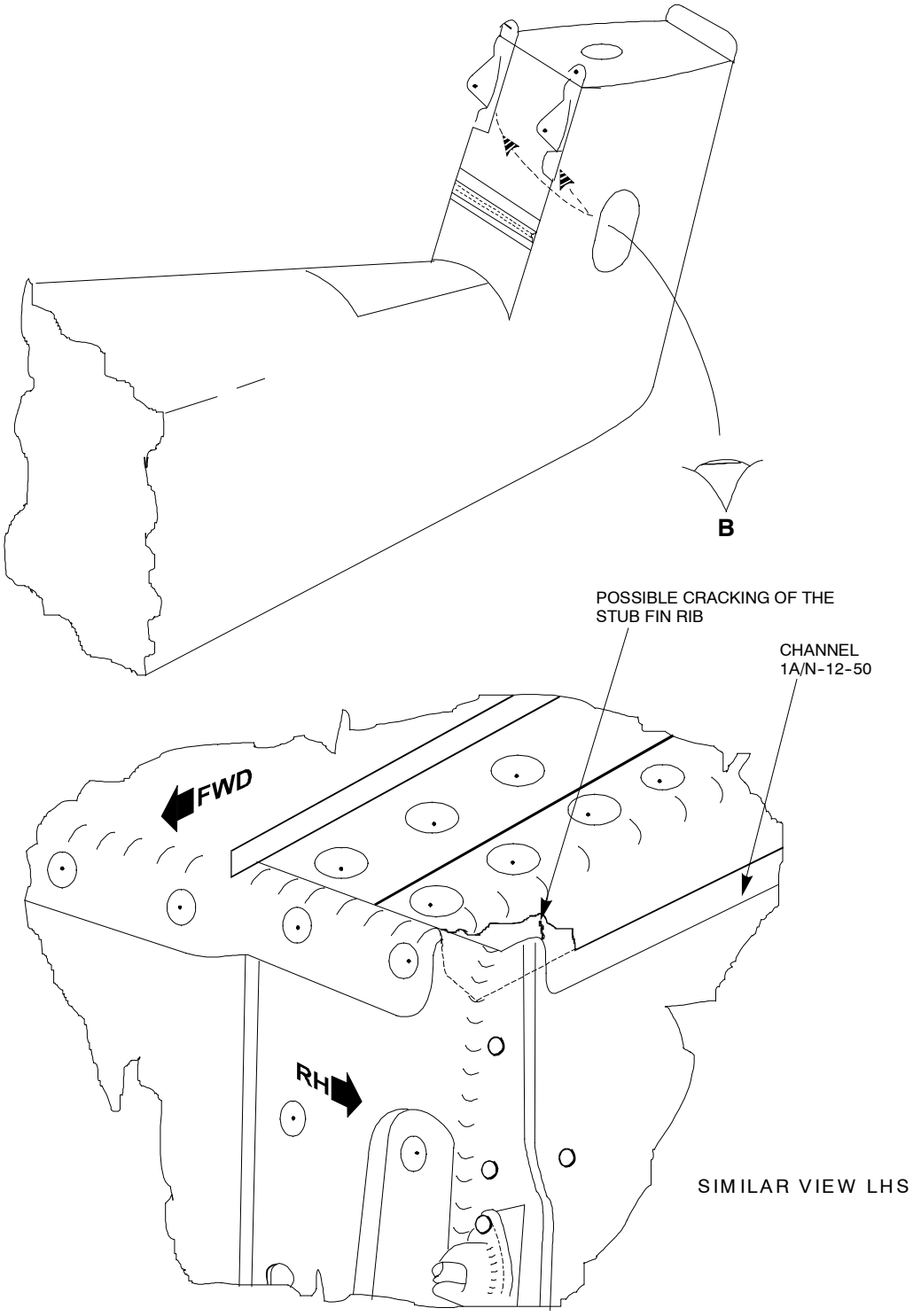


Figure 1 Possible Fatigue Cracking - Stub Fin Rib



VIEW ON ARROW **B**

Figure 2 Possible Fatigue Cracking - Stub Fin Rib

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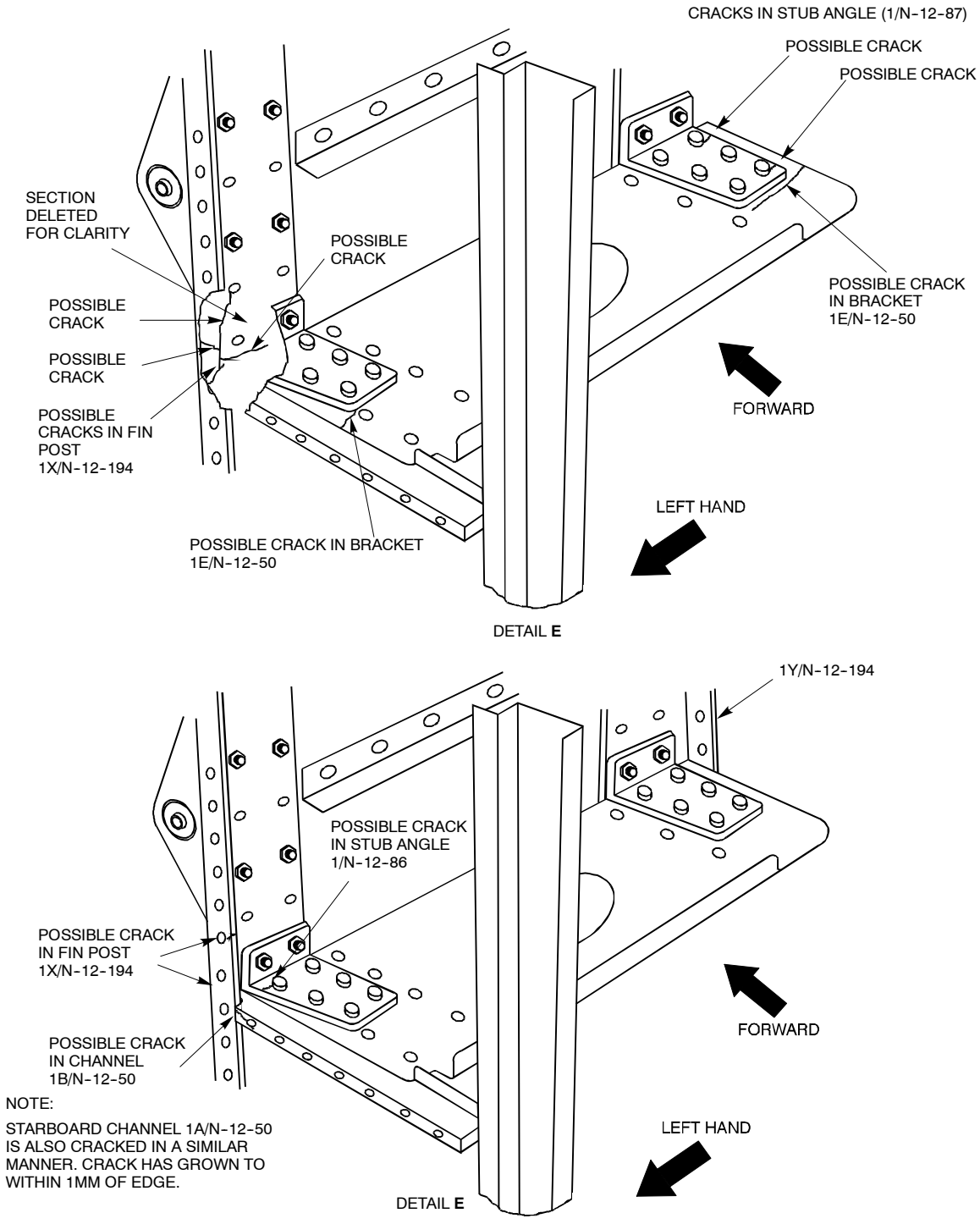

Figure 3 Possible Cracking as Identified on Fatigue Test

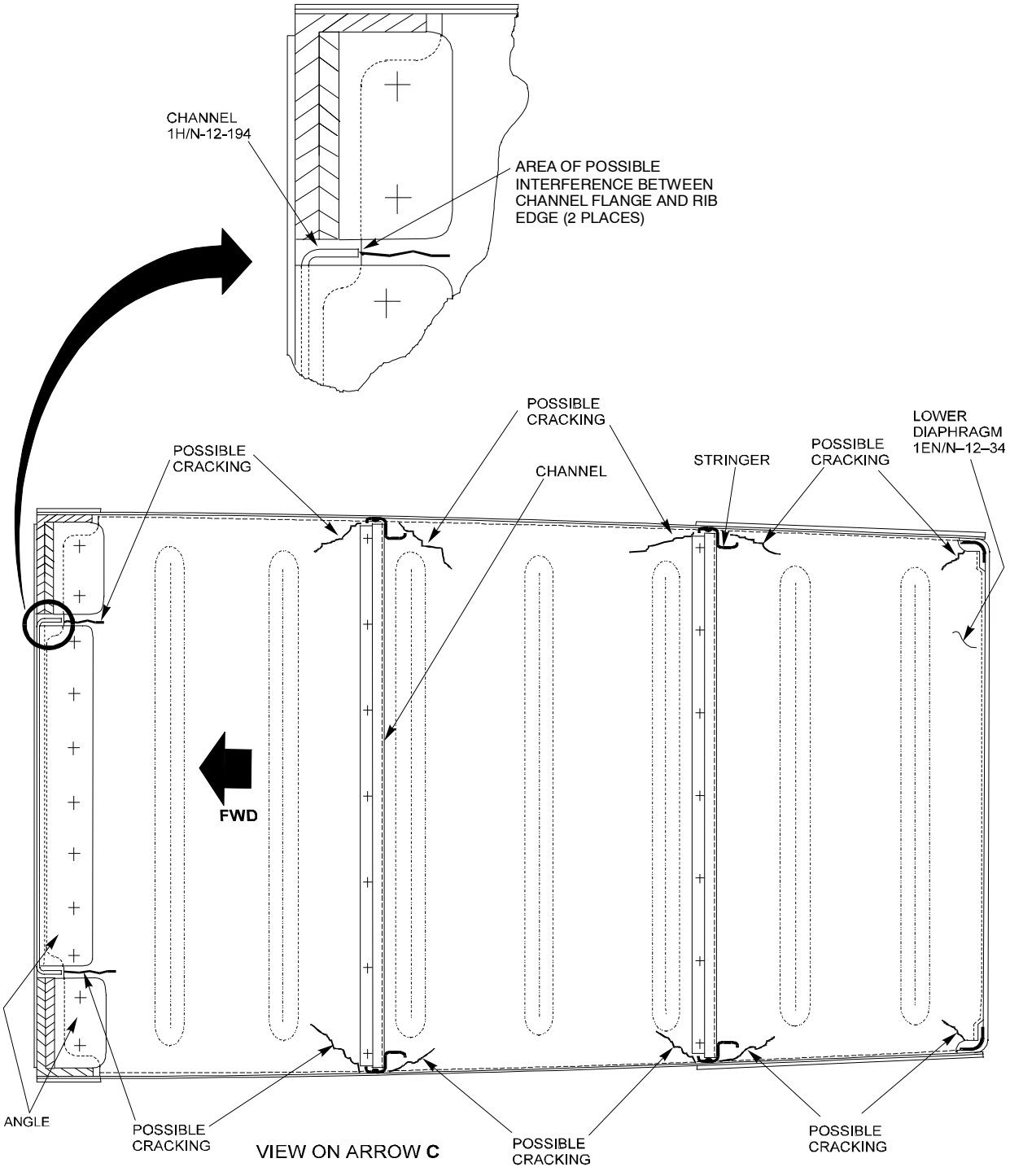

Figure 4 Possible Fatigue Cracking – Lower Diaphragm

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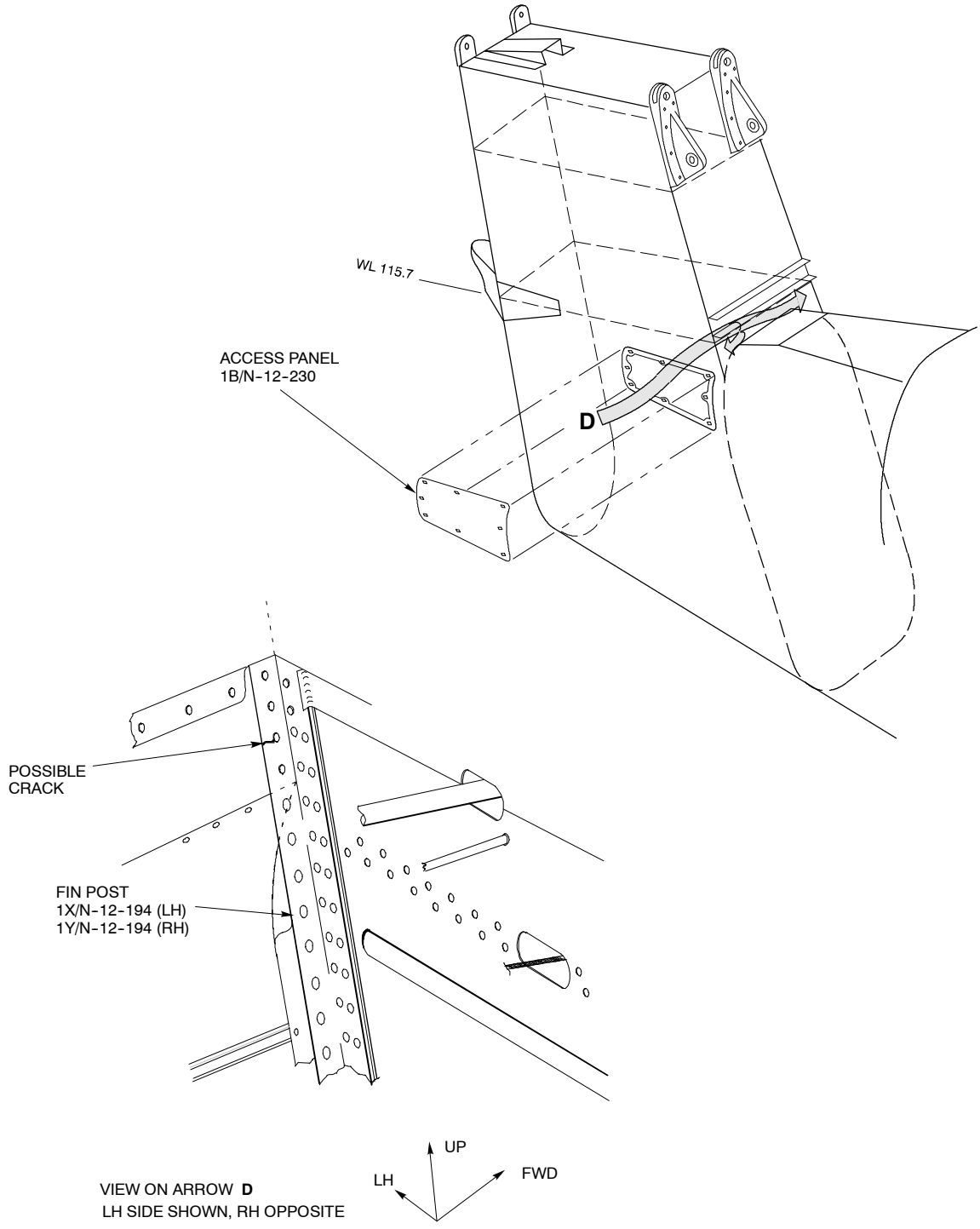

Figure 5 Possible Cracking as Identified on Fatigue Test

TECHNICAL SERVICES MANAGER
BOEING AIRCRAFT SYSTEMS- ASTA
NOMAD SUPPORT
Private Bag No. 4
Beach Road, Lara, Victoria 3212
Australia

ANNEX A

RESULTS OF INSPECTION

Owner/Operator: _____

Aircraft Serial No: _____ Model: _____

Type of Operation: *Commuter/Military/Freight/Surveillance/Medical/Utility * Circle as appropriate

Other (Specify) _____

Total Time in Service: _____

PART	CRACKING YES/NO	DESCRIPTION OF CRACK
LH CHANNEL PN 1B/N-12-50		
RH CHANNEL PN 1A/N-12-50		
LH STUB ANGLE PN 1/N-12-86		
RH STUB ANGLE PN 1/N-12-87		
BRACKET PN 1E/N-12-50		
LH FIN POST PN 1X/N-12-194		
RH FIN POST PN 1Y/N-12-194		
LOWER DIAPHRAGM 1EN/N-12-34		

PART	INTERFERENCE (YES/NO)
CHANNEL PN 1H/N-12-194	

Please provide a sketch of cracks and attach to this form.

Remarks:

Approval Signature: _____

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