A S T A

Nomad
SERVICE BULLETIN

FUSELAGE — STUB FIN — REPLACEMENT OF PLATE PN 1D/N–12–57 (MOD N759)

1. PLANNING INFORMATION

A. Effectivity

All Nomad N22 and N24 Series aircraft whose log books do not reflect compliance with Service Bulletin ANMD–53–13 Rev 1 or Rev 2.

B. Reason

Inspection of a number of aircraft has revealed the presence of cracks along the forward flange of Plate PN 1D/N–12–57 fitted to the top of the stub fin as part of Rib WL 138.87. This cracking is obscured by Plate 1/N–12–88 and is a result of fretting/fatigue of the plate.

Reason for Revision 2

It is possible for P/N 1D/N–12–57 to display evidence of cracking in less than 1000 hrs TIS.

Reason for Revision 3

Clarification of the location of the new plate 1E/N–12–57, edge distance and hole size requirements.

C. Description

Plate PN 1D/N–12–57 is removed and replaced with a new steel Plate PN 1E/N–12–57.

D. Compliance

(1) Incorporation of Service Bulletin ANMD–53–13 Revision 3 is Mandatory.

(2) Aircraft which have not been fitted with Mod N759 are to incorporate Mod N759 in accordance with Service Bulletin ANMD–53–13 Revision 3 within 100 flight hours of receipt of this Service Bulletin.

E. Approval

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

F. Manpower

22 manhours or

7 manhours when carried out in conjunction with Service Bulletin ANMD–53–12 Rev 2.

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G. **Material — Price and Availability**

The materials required are to be obtained from ASTA Defence and own stock or local sources.

H. **Tooling — Price and Availability**

None

I. **Weight and Balance**

None

J. **References**

SB NMD–53–12

SB NMD–55–5

SB NMD–53–5

Maintenance Manual — Chap 7–00–00, 8–00–00, 27–21–00, 27–21–03, 27–41–00, 27–41–02, 27–41–06, 55–20–00, 55–30–00 and 55–40–00

K. **Publications Affected**

Illustrated Parts Catalogue

2. ACCOMPLISHMENT INSTRUCTIONS

NOTE

It is RECOMMENDED that this Service Bulletin be carried out in conjunction with Service Bulletin ANMD–53–12 Rev 2.

WARNING

DO NOT OPERATE 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.

A. Jack aircraft and level in accordance with MM Chap 7–00–00 and 8–00–00.

B. Place rear fuselage aft support stand under rear frame 420.0 (N22 Series) or 465.0 (N24 Series).

C. Ensure BATTERY switch is at OFF and all external power supplies disconnected from the aircraft, then disconnect any antenna system(s) from the fin assembly (Ref relevant option supplements).

D. Remove dorsal fin (Ref MM Chap 55–30–00).

E. Remove horizontal stabiliser (Ref MM Chap 55–20–00).

F. Remove rudder (Ref Chap 55–40–00).

G. Remove upper fin (Ref MM Chap 55–30–00).

NOTE

All derivetting is to be carried out as follows:

- Drill heads of rivets only and gently chisel off.
- Where possible, separate parts and remove rivet tails using a punch on a workbench.
- For in situ removal, support area adjacent to rivet tail with suitable bucking bar and remove rivet tails using a punch.
- Note the rivet types used.

H. To allow removal of forward top Camlocs, carefully derivet LH and RH stub fin skins as indicated in Figure 1.

I. Carefully ease back stub fin side skins and derivet forward top Camlocs. Remove Camlocs and packer, retain for refitting.

NOTE

The Camlocs have to be removed to allow the removal of the two top bolts of fin/horizontal stabiliser attachment brackets.

J. Refer to Figure 2 for identification of parts. Carefully derivet Rib Assembly WL 138.87 complete with Rib PN 1A/N–12–57, Packer PN 1C/N–12–57, Plate PN 1D/N–12–57, Plate PN 1/N–12–88 and Fin Attachment Channel Assembly. Remove rib assembly.

NOTE

- Identify and retain for later use all items except Plates PN 1D/N–12–57 and PN 1/N–12–88.
- Retain the four bolts, taking careful note of which bolt was in each hole.

K. On a workbench derivet and separate Plate PN 1D/N–12–57, Packer PN 1C/N–12–57 and Plate PN 1/N–12–88. Discard Plates PN 1D/N–12–57 and PN 1/N–12–88.

L. Clean area of metal swarf, remove all rivet tails and inspect all holes for serviceability or elongation.

M. Carefully dress the radius on new Plate PN 2/N–12–88 so that it is a neat fit into radius of new Plate PN 1E/N–12–57. Coat bare metal surfaces with zinc chromate primer.

NOTE

Ensure there are no sharp edges where the radius meets the face of Plate PN 1E/N–12–57 as this may cause fretting.

N. Assemble Rib PN 1A/N–12–57 to stub fin using skin pins along sides and rear.

O. Assemble new Plate PN 1E/N–12–57 and Packer PN 1C/N–12–57 and clamp in position. Ensure that Plate PN 1E/N–12–57 is centrally located on rib and in firm contact with spar boom angles in each forward corner.

NOTE

Align Packer PN 1C/N–12–57 with previously fitted rib and stub fin web.

P. Back drill three centre holes on forward end of rib and pin.

Q. Using a drill bush with an outside diameter to match the diameter of existing holes and 3.5mm inside diameter, back drill the fin/horizontal stabiliser attachment bracket bolt holes in Plate PN 1E/N–12–57.

NOTE

- Illustration of the fin/horizontal stabiliser attachment bracket is shown in SB NMD–53–5.
- Take care not to elongate the bolt holes during back drilling.
- For the outboard bolt hole a minimum hole centre to plate outboard edge distance of 0.185 in is acceptable.

R. Back drill several holes in Plate 1E/N–12–57 from top of rib, pin and then back drill remaining holes and pin.

S. Remove rib assembly, plate and packer. Carefully open up inboard and outboard bolt holes drilled in step Q in accordance with the bolt taken from that hole in step J, as follows:

Bolt Size	Inboard Hole Dia (in)	Outboard Hole Dia
Standard	0.2500/0.2509	0.2500/0.2509 in
1st Oversize X	0.2656/0.2665	0.2656/0.2665 in
2nd Oversize Y	0.2812/0.2821	Not applicable

T. Refit rib assembly to stub fin and pin as in step N.

U. Fit packer and pin three centre holes on forward end of rib. Fit Plates 2/N–12–88 in their correct positions and temporarily clamp using original bolts and washers.

V. Back drill remaining holes through forward end of rib and packer.

W. From inside stub fin, mark Plate PN 1E/N–12–57 with a drill using Plate PN 2/N–12–88 tack rivet holes as a guide.

NOTE

Do not drill through plate at this stage.

X. Remove complete rib assembly from stub fin.

Y. Drill tack rivet holes marked in step W and countersink on forward face of Plate PN 1E/N–12–57. Clean and deburr holes.

Z. On workbench, rivet Plates PN 2/N–12–88 to Plate PN 1E/N–12–57. Wet assemble using pigmented jointing compound.

AA. Assemble and pin rib, plate and packer then rivet Plate PN 1E/N–12–57 to bottom surface of rib only.

AB. Deburr and clean swarf from inside of stub fin and ensure holes are serviceable.

AC. Refit rib assembly to stub fin and pin as in step N. Fit packer and pin in three centre holes on forward end of rib. Wet assemble using pigmented jointing compound.

AD. Reinstall fin/horizontal stabiliser attachment bracket bolts and washers. Torque to 50 to 70 lb in.

AE. Rivet rib assembly to stub fin starting at stub fin web (forward end of rib).

AF. Trim reinforcing strip, where fitted, to clear Camloc rivet.

AG. Refit Camlocs and packers and rivet to rib.

AH. Wet assemble side skins using pigmented jointing compound, pin and rivet starting with LH side skin.

NOTE

Use Cherrymax rivets for refitting of Stub Fin skins only where it is not possible to fit solid rivets.

AI. Refit upper fin (Ref MM Chap 55–30–00).

AJ. Refit rudder (Ref MM Chap 55–40–00).

AK. Check setting of rudder trim control screwjack assembly and chain assembly (Ref MM Chap 27–21–03). If required check rigging (Ref MM Chap 27–21–00).

AL. Install trim control torque shaft assembly (Ref MM Chap 27–41–06).

AM. Fit horizontal stabiliser (Ref MM Chap 55–20–00).

AN. Check setting of horizontal stabiliser trim control screwjack assembly and chain assembly (Ref MM Chap 27–41–02). If required check rigging (Ref MM Chap 27–41–00).

AO. Fit dorsal fin (Ref MM Chap 55–30–00).

AP. Refit any antenna systems, disconnected from the fin assembly at step C. (Ref Relevant Option Supplements).

AQ. Remove stands and lower aircraft (Ref MM Chap 7–00–00 and 8–00–00).

3. MATERIAL INFORMATION

A. Parts required per aircraft.

New Part No	Qty	Description	Old Part No	Instruction/Disposition
Parts to be obtained from ASTA Defence				
1E/N–12–57	1	Plate	1D/N–12–57	Scrap
2/N–12–88	2	Plate	1/N–12–88	Scrap
Parts to be obtained from own stock or local source				
CR3223–4–2	30	Rivet Cherrymax		
MS20426AD3–3	44	Rivet		
MS20426AD3–4	4	Rivet		
MS20426AD3–5	36	Rivet		
MS20426AD3–6	4	Rivet		
MS20426AD3–8	2	Rivet		
MS20470AD4–4	30	Rivet		20 extra rivets required for aircraft with reinforcing strips fitted (Ref SB NMD–55–5 Rev 3)
MS20470AD4–5	2	Rivet		
MS20470AD4–6	7	Rivet		

4. SPECIAL TOOLS AND EQUIPMENT

Drill Bush — outside diameter to suit existing holes and 3.5 mm inside diameter as required for Service Bulletin ANMD–53–12 Rev 2.

5. RECORDING ACTION

Record compliance with Service Bulletin ANMD–53–13 Rev 3 in aircraft logbook.

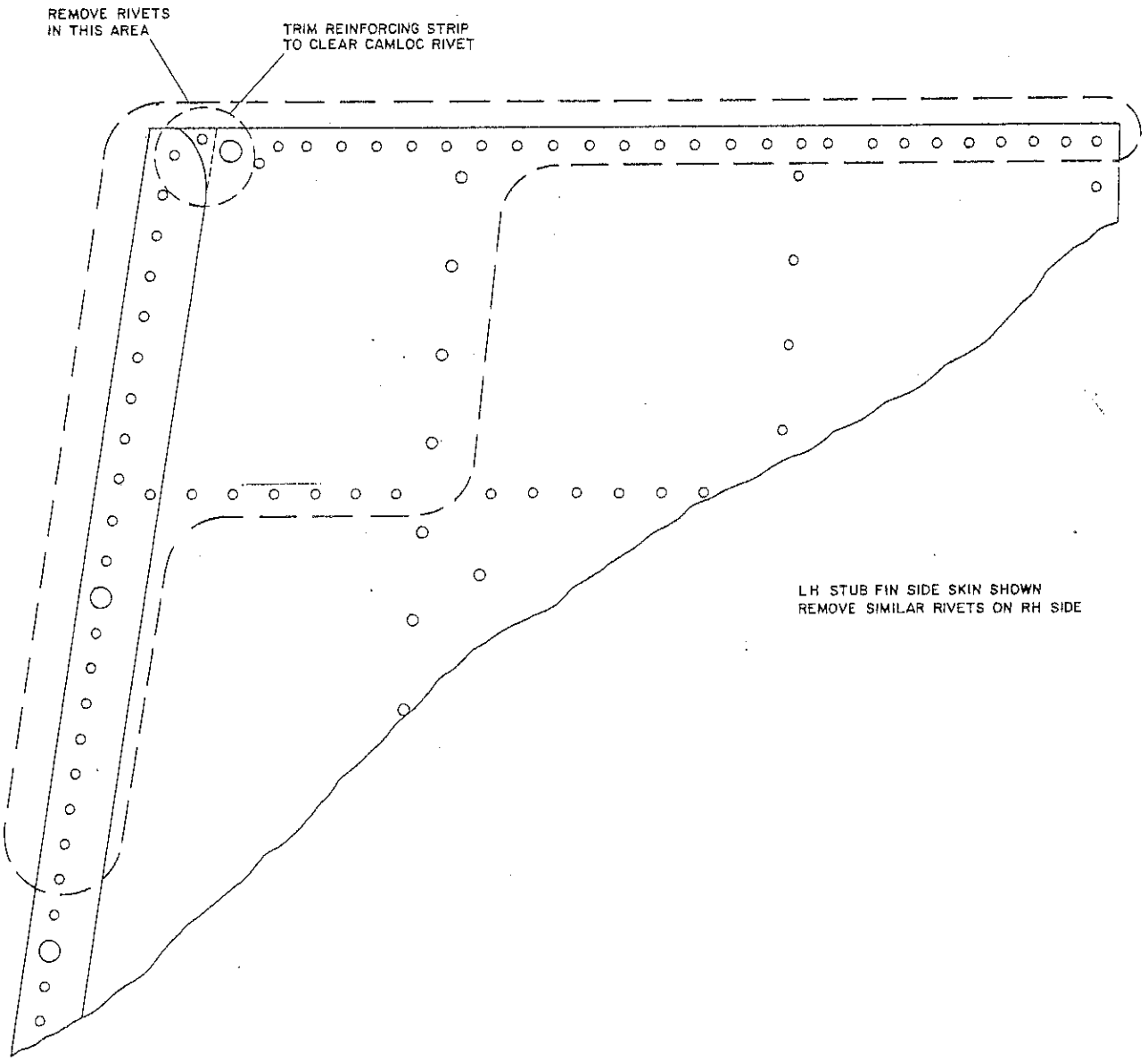

Figure 1 Stub Fin Side Skin Deriveting Pattern

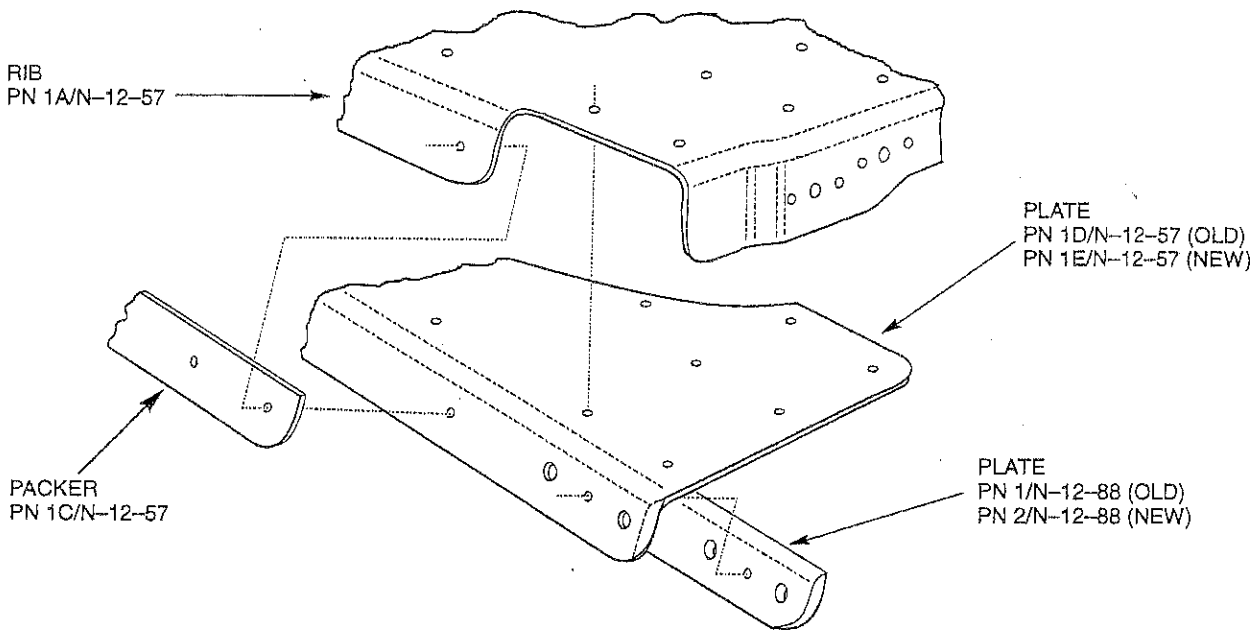

Figure 2 Exploded View of Rib Assembly