FLIGHT CONTROLS — STRENGTHENING OF RUDDER PULLEY MOUNTING BRACKET AT STA 74.52 (MOD N816)

1. PLANNING INFORMATION

A. Effectivity

(1) All Nomad N22 series and N24 series aircraft whose Log Books do not record the embodiment of Mod N816 or compliance with Service Bulletin NMD–27–48.

NOTE

Mod N630 or Service Bulletin NMD–27–33 is prerequisite or is to be concurrently fitted with this mod.

(2) Spares Affected

None

B. Reason

To strengthen the mounting of the rudder pulley mounting bracket at Sta 74.52 (Ref MM 27–20–01 Fig 201) and to increase stiffness of the rudder control system.

C. Description

A diaphragm 0.032 in thick is replaced by 0.050 in thick diaphragm and the rivets attaching the flange bush are replaced by 5/32 in dia fasteners.

D. Compliance

(1) The compliance requirements of this Service Bulletin are mandatory.

(2) Rework to be carried out prior to/or at the next 300 hourly inspection.

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.

F. Manpower

Approximately 8.0 manhours.

G. Material – Price and availability

Parts required to incorporate this Service Bulletin are available free of charge upon request to Customer Services – ASTA Defence (Logistics).

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H. Tooling

None required

I. Weight and Balance Change

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None

J. **References**

Maintenance Manual	Chap 6–00–00, 7–00–00, 25–10–00, 27–20–00 and 27–20–01
Illustrated Parts Catalogue	Chap 27–20–02

K. **Publications Affected**

Maintenance Manual

Illustrated Parts Catalogue

2. **ACCOMPLISHMENT INSTRUCTIONS**

(1) Jack the aircraft (Ref MM 7–00–00).

WARNING

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

(2) Gain access to the flight control (rudder control) elements (Ref MM 27–20–00) by removing the RH seat, RH forward floor and the RH flying controls access panel (Ref MM 25–10–00 and 6–00–00). Disconnect the rudder pedal pivot arm control rods at the pivot arm end (Ref MM 27–20–01 Fig 201).

(3) Slacken the aft rudder cable at its turnbuckle sufficiently to enable the pulley located at Sta 74.52 to be removed (Ref MM 27–20–01 Fig 201).

(4) Remove the pulley mounting bolt, washer and the pulley (Ref IPC 27–20–02 Fig 5 items 33, 34 and 28 respectively).

(5) Drill out the three 1/8 in dia rivets securing the flanged bush PN 1/N–10–1429 to the rear pulley mounting diaphragm PN 1/N–10–594 and remove the flanged bush and the cable guard (Ref Fig 1).

(6) Drill out the rivets securing the rear pulley mounting diaphragm to the aircraft structure and remove the diaphragm. Deburr rivet holes in the aircraft structure.

NOTE

The removed rear pulley mounting diaphragm PN 1/N–10–594 is to be scrapped.

(7) Position the new rear pulley mounting diaphragm PN 1A/N–10–1576 and packers PN 1B/N–10–1576 and 1C/N–10–1576 by matching the rivet holes. Open up holes to 0.132/0.129 in dia, deburr and rivet to the aircraft structure using the replacement cherrymax rivets PN CR3223–4–02 and PN CR3223–4–03 (Ref Fig 1).

(8) Open up the three holes on the flanged bush, diaphragm and one hole on the cable guard to 0.164/0.160 in dia and deburr. Open up countersinking in the flanged bush and cable guard to 0.289/0.283 in dia X100° and deburr.

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(9) Bond the shim PN 1D/N –10–1576 to the counterbored end of the flanged bush with epoxy adhesive PN AW106/HV953U mixed in accordance to the manufacturers instructions.

(10) Insert the shaft of the flanged bush through the hole of the new rear pulley mounting diaphragm and push forward until the counterbored end of the flanged bush is firmly seated on the spigot of the flanged bush riveted to the forward pulley mounting diaphragm.

(11) Measure the gap between the flange face and the rear diaphragm using a feeler gauge.

(12) Peel off the required amount of shim to equal the gap dimension.

(13) Assemble the flanged bush into its installed position (Ref step 8) with the cable guard on the spigot of the bush. Align the rivet holes of the flanged bush and cable guard with the three rivet holes in the new rear pulley mounting diaphragm PN 1A/N–10–1576 and rivet using 100 deg countersunk flush head rivets PN CR3522–5–04 and PN CR3522–5–05 (Ref fig 1).

NOTE

The rivets are to be wet assembled using barium chromate jointing compound.

(14) Check the pulley for serviceability. If unserviceable replace with a new or serviceable item.

(15) Place the aft rudder cable around the pulley and position within the pins of the cable guard for installation of the pulley mounting bolt.

(16) Secure the pulley in position with the pulley mounting bolt ensuring that the retained washer (Ref step 2) is located under the head of the bolt. Torque tighten the bolt to between 100 and 140 lb in.

(17) Tension the aft rudder cable (Ref MM 27–20–00)

CAUTION

ENSURE THAT THE RUDDER CONTROL SYSTEM IS FREE FROM OBSTRUCTION.

(18) Reconnect rudder pedal pivot arm control rods disconnected at step (2) (Ref MM Chap 27–20–01 Fig 201).

(19) Check the rigging of the rudder control including breakout checks (Ref MM 27–20–00).

(20) Refit RH crew seat and any removed access panels and trim.

(21) Lower the aircraft and remove jacks.

(3) **MATERIALS INFORMATION**

A. **Parts required per Aircraft**

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New Part No	Qty	Description	Old Part No	Instruction/Disposition
1A/N–10–1576	1	Diaphragm	1/N–10–594	Scrap
CR3522–5–05	1	Rivet, Cherrymax	CR3212–4–4	Scrap
CR3522–5–04	2	Rivet, Cherrymax	CR3212–4–4	Scrap
CR3223–4–03	5	Rivet, Cherrymax	MS20470AD4–4	Scrap
CR3223–4–02	15	Rivet, Cherrymax	MS20470AD4–4	Scrap
1B/N–10–1576	1	Packer		
1C/N–10–1576	1	Packer		
1D/N–10–1576	1	Shim		

B. **Materials required from local sources**

Obtain the following from local sources:

Barium Chromate Jointing Compound (Alternative Epoxy Primer)

AW106/HV953U Epoxy Adhesive (Alternative Commercial 5 mins Epoxy Araldite)

(4) **SPECIAL TOOLS AND EQUIPMENT**

None

(5) **RECORDING ACTION**

Record compliance with Service Bulletin NMD–27–48 in the Airframe Log Book.

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