

Nomad

SERVICE BULLETIN

FLIGHT CONTROLS — FLAPS — CONTROL ROD INSPECTION (MODIFICATION N797)

1. PLANNING INFORMATION

A. Effectivity

(1) Aircraft affected:

- (a) **N22 Series** line sequence numbers 1 to 9, 11 to 29, 31, 33, 35, 37, 39 to 41, 43, 45, 47 to 59, 61, 63, 65 to 70, 82 to 88, 90 to 95, 97, 100, 102 to 114, 116, 118, 125, 126, 131 to 134, 137, 138, 141, 143 to 170.
- (b) **N24 Series** line sequence numbers 10, 30, 32, 34, 36, 38, 42, 44, 46, 60, 62, 64, 71 to 81, 89, 96, 98, 99, 101, 115, 117, 119 to 124, 127 to 130, 135, 136, 139, 140, 142.

B. Reason

- (1) Several aircraft have been found with damaged flap control rods following ground wind gusts.
- (2) Reason for Revision 1
Revised to include and clarify inspection and repair criteria for Pre and Post-Mod N797 flap control rod inspection intervals. Part 1 and Part 2 inspection criteria clarified. Part numbers of alloy steel (Post-Mod N797) flap control rods added to Repair and Materials Information.

C. Description

Flap control rods and associated components are to be inspected for evidence of bending and/or damage as a result of ground wind gusts.

D. Compliance

(1) Pre-Mod N797 Flap Control Rod Inspection

The aluminium flap control rods (PN 1/N-45-1138, 1/N-45-1139 and 1/N-45-1140) are to be inspected for evidence of bending or damage until all Pre-Mod rods have been replaced with the full set (3) of the Post-Mod N797 rods.

(a) Part 1A- Initial Inspection.

For those aircraft not already inspected to the requirements of this Service Bulletin, dated 28 October 93, inspection to be carried out within 100 hours Time in Service or 6 calendar months whichever occurs first following receipt of the original issue of this Service Bulletin.

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- (b) Part 1B– Ongoing Inspection.

Subsequent inspections to be carried out at 300 hourly intervals until the Pre-Mod control rods have been replaced with Post-Mod N797 rods.

NOTE

This is additional to 1800 hour inspection detailed in IRM Part 4.

Flap Control Rods PN 1/N–45–1139 and 1/N–45–1140 are subject to IRM Part 3 – Lifer Component Schedule limits.

- (c) Part 2– Special Inspection.

To be carried out prior to the next flight if the flaps have been left down (i.e. not fully retracted onto the stops) and after the aircraft has experienced, or is suspected to have experienced, high flap loading induced by:

- 1 High wind (20 kts or above) anywhere from the rear of the aircraft.
- 2 Propeller or jet wash (from the rear) as a result of nearby aircraft activity.

- (d) Part 3– Repair

To be carried out if unserviceable flap control rods and/or associated components are found whilst performing Part 1 or Part 2 inspections.

NOTE

Pre-Mod N797 control rods cannot be replaced individually. All three rods must be replaced with a full set of three Post-Mod N797 control rods regardless of the number of rods found with damage.

- (2) Post-Mod N797 Flap Control Rod Inspection.
Inspect in accordance with IRM.

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

3 manhours.

G. Materials , Price and Availability

Contact Boeing Aerospace Support – ASTA, Customer Spares for price and availability of parts.

The price of Post-Mod N767 LH & RH Flap Control Rods is discounted on a pro rata basis, relating to the remaining unexpired portion of their specified safe life, as specified in the IRM.

The issue price shall be calculated by Customer Spares staff and quoted at the time of enquiry.

H. Tooling , Price and Availability

None required.

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I. **Weight and Balance**

Negligible.

J. **References**

Maintenance Manual

Illustrated Parts Catalogue

K. **Publications Affected**

Inspection Requirement Manual

Illustrated Parts Catalogue

2. **ACCOMPLISHMENT INSTRUCTIONS**

A. **Part 1– Inspection (Pre–Mod N797 Flap Control Rods)**



ENSURE THERE ARE NO OBSTRUCTIONS IN THE PATH OF THE FLAPS.

- (1) Extend the flaps (Ref MM 27–50–00).



WITH THE FLAPS EXTENDED TAKE CARE TO AVOID FOULING THE FLAPS WHEN OPENING THE MAIN CABIN DOOR. ONLY THE REAR HALF OF THE DOOR CAN BE USED AND PARTICULAR CARE MUST BE TAKEN DURING WINDY OR GUSTY CONDITIONS.

- (2) Make sure aircraft electrical power is switched OFF and the flap circuit breakers are pulled.
- (3) Gain access to flap control rods PN 1/N–45–1138, 1/N–45–1139 and 1/N–45–1140 (Ref Fig 1 and IPC Chap 27–50–02) by removing necessary access panels and trim (Ref MM Chap 27–50–08).
- (4) Inspect the flap control rods and associated components for damage.
- (5) Inspect the control rods for bending using a straight edge along the length of control rod tube.

NOTE

Maximum bow of the control rod should not be greater than 0.04 in for the control rods 1/N–45–1139 & 1/N–45–1140 and 0.055 in for the control rod 1/N–45–1138.

- (6) Inspect the long end fitting PN 1/N–45–1137 of aluminium alloy flap control rods 1/N–45–1139 and 1/N–45–1140 for evidence of local bending.
- (7) Check the flap control rods for serviceability in accordance with MM Chap 27–00–00 Para 2.C.

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- (8) If unserviceable components are detected, repair in accordance with Para 2.C. of this Service Bulletin.

WARNING

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

- (9) Refit all the access panels removed.
- (10) Restore electrical power to the flap control system.
- (11) If rods were removed for inspection, carry out flap control surface rigging checks (Ref MM Chap 27-50-00).
- (12) Retract the flaps.
- (13) Switch OFF electrical power.

B. Part 2 – Special Inspection (Pre-Mod N797 Flap Control Rods)

If the aircraft has been exposed to high flap loading (Ref para 1.D.(1)(c) 1 & 2), regardless of the time since the last scheduled inspection, inspect the flap control rods and associated components prior to the next flight in accordance with Para 2.A. of this Service Bulletin.

C. Part 3 – Repair

CAUTION

ENSURE THERE ARE NO OBSTRUCTIONS IN THE PATH OF THE FLAPS.

- (1) Extend the flaps (Ref Chap 27-50-00).

CAUTION

WITH THE FLAPS EXTENDED TAKE CARE TO AVOID FOULING THE FLAPS WHEN OPENING THE MAIN CABIN DOOR. ONLY THE REAR HALF OF THE DOOR CAN BE USED AND PARTICULAR CARE MUST BE TAKEN DURING WINDY OR GUSTY CONDITIONS.

- (2) Make sure aircraft electrical power is switched OFF and the flap circuit breakers are pulled.
- (3) Support the flap control surfaces.
- (4) Remove and replace the damaged flap control rods in accordance with the Maintenance Manual.

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NOTE

- Flap control rods are NOT field repairable units.
- Pre-Mod N797 control rods cannot be replaced individually. All three rods must be replaced with a full set of three Post-Mod N797 control rods regardless of the number of rods found with damage.
- If a Pre-Mod N797 flap control rod is damaged, replace ALL flap control rods with new alloy steel (Post-Mod N797) flap control rods as follows:

Flap Control Rod	Pre-Mod N797 Part Number	Post-Mod N797 Part Number
Centre	1/N-45-1138	1/N-45-1711
Left Hand	1/N-45-1139	1/N-45-1713
Right Hand	1/N-45-1140	1/N-45-1714

WARNING

ENSURE THAT THE FLAP CONTROL RODS ARE SET TO THE CORRECT RIGGING LENGTH. IF INCORRECTLY ADJUSTED, DAMAGE CAN OCCUR TO CONTROL RODS, ASSOCIATED COMPONENTS AND ADJACENT STRUCTURE.

- (5) Remove the flap control surface supports.
- (6) Restore electrical power to the flap control system.
- (7) Check the flap control surface rigging (Ref MM Chap 27-50-00).

WARNING

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

- (8) Refit all access panels removed.
- (9) Retract the flaps.
- (10) Switch OFF electrical power.

3. MATERIALS INFORMATION

The following parts are required when replacing unserviceable items, quantities per aircraft.

New Part No	Qty	Description	Old Part No	Instruction/Disposition
1/N-45-1711	1	Flap Control Rod (Centre)	1/N-45-1138	Scrap
1/N-45-1713	1	Flap Control Rod (LH)	1/N-45-1139	Scrap
1/N-45-1714	1	Flap Control Rod (RH)	1/N-45-1140	Scrap

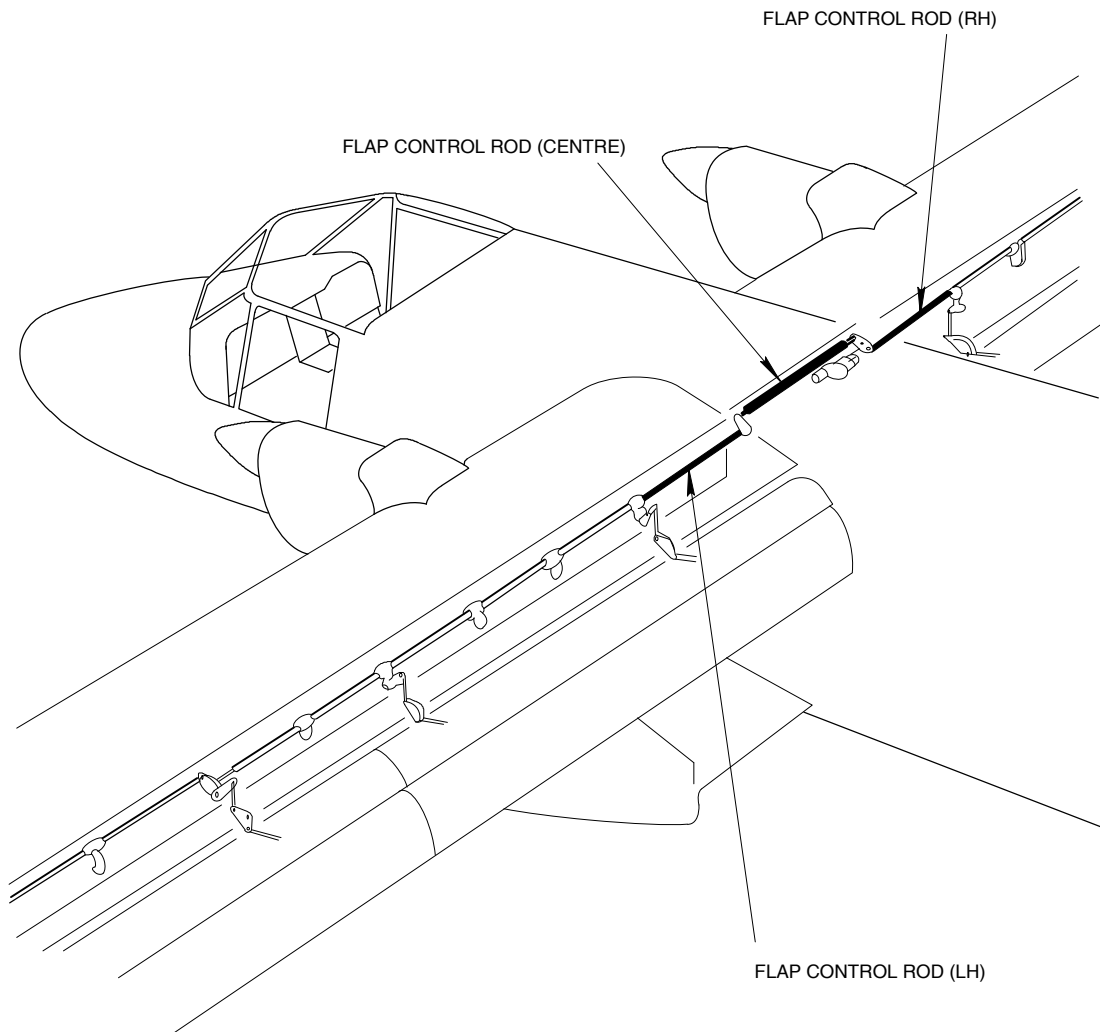
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4. SPECIAL TOOLS AND EQUIPMENT

None.

5. RECORDING ACTION

Record compliance with Service Bulletin NMD-27-43 Revision 1 Para 2 Parts 1, 2 and/or 3 as applicable in the airframe logbook.



Flap Control Rod	Pre-Mod N797 Part Number	Post-Mod N797 Part Number
Centre	1/N-45-1138	1/N-45-1711
Left Hand	1/N-45-1139	1/N-45-1713
Right Hand	1/N-45-1140	1/N-45-1714

Figure 1 Flap Control Rod Locations