Nomad
SERVICE BULLETIN

LIGHT CONTROLS - RUDDER BELLCRANK
INSPECTION FOR LOOSE RIVETS AND REWORK (MOD N686)

1. **PLANNING INFORMATION**

A. **Effectivity**

(1) Aircraft Affected:

All N22 Series and N24 Series aircraft whose log books do not already record the embodiment of Mod N686 or compliance with this Service Bulletin (NMD-27-36).

(2) Spares Affected:

Part Number	Nomenclature	Recommended
1/N-45-1120	Bellcrank Assy	Rework

B. **Reason**

Several instances of working rivets in the rudder bellcrank assembly located at fuselage Stn 71.77 have been reported. Unless rectified, this condition could deteriorate and lead to excessive lost motion and lack of fine control in the rudder circuit, and possibly, in extreme cases, to eventual failure and complete loss of directional control of the aircraft.

When reworked in accordance with this Service Bulletin, the rudder bellcrank will be restored to full integrity and have an extended service life.

C. **Description**

Part 1: The rudder bellcrank PN 1/N-45-1120 is to be inspected for signs of loose rivets.

Part 2: Bellcranks in which loose rivets have been found are to be reworked by replacing three of the six rivets with close tolerance bolts.

D. **Compliance**

Part 1: Within 100 hours TIS following receipt of this Service Bulletin, and thereafter at intervals not exceeding 100 hours TIS, IAW recommendations in the IRM, Airframe B, C and D Inspections.

Part 2: Within 100 hours TIS following the detection of loose rivets in the Bellcrank assembly.

E. **Approval**

The modification detailed herein has been approved pursuant to Civil Aviation Regulation 35 and complies with the type certification requirements.

AEROSPACE TECHNOLOGIES OF AUSTRALIA
A.C.N. 008 622 008
A BOEING AUSTRALIA COMPANY

F. **Manpower**

Part 1: one man for 1/2 hour.

Part 2: one man for 3 hours.

G. **Material - Price and Availability**

Not applicable - refer Para 3.

H. **Tooling - Price and Availability**

None required.

I. **Weight and Balance**

Negligible effect.

J. **References**

Maintenance Manual - Chap 27-20-01, Para 2 and Fig 201

Illustrated Parts Catalogue - Chap 27-20-02, Fig 5

K. **Publications Affected**

Illustrated Parts Catalogue - Chap 27-20-02, Fig 5 Item 21

2. **ACCOMPLISHMENT INSTRUCTIONS**

A. **Part 1 - Inspection of Rudder Bellcrank Assembly**

(1) Inspect the rudder bellcrank assembly PN 1/N-45-1120 located at Stn 71.77 on the right hand side of the fuselage (Ref IPC Chap 27-20-02 Fig 5, Item 21 and MM Chap 27-20-01 Para 2.)

(2) Visually inspect the six rivets attaching the two levers to the central hub for signs of looseness. Looseness is indicated by a black 'haloô of metal oxide particles surrounding the rivet. If any lubricant is present, the black deposit may show as a black streak flowing down the part from the rivet.

(3) If looseness is found, the rework described in Part 2 of this Bulletin should be carried out within the prescribed Compliance time (Para 1.D.).

B. **Part 2 - Rework of Rudder Bellcrank Assembly.**

(1) Remove the rudder bellcrank (Ref MM Chap 27-20-01 Para 1A).

(2) Inspect the rudder bellcrank assembly for any other defects which may require rectification before re-assembly eg. damaged or loose bearings, distortion, corrosion etc. (Ref MM Chap 27-20-01 Para 2A), and rectify as required.

(3) Ensure that the two levers and the hub are correctly aligned by means of a 4.8 mm pin inserted through the rigging pin hole.

AEROSPACE TECHNOLOGIES OF AUSTRALIA
A.C.N. 008 622 008
A BOEING AUSTRALIA COMPANY

(4) Remove three of the six rivets attaching the two levers to the hub (each alternate rivet). Drill and ream the three rivet holes to .2500/.2509 inch diameter.

NOTE

If measuring gauges are unavailable, ream to achieve a light push fit for each bolt.

(5) Install three NAS6204-16 Bolts, with MS21299-C4 Washers under the bolt heads, and with the bolt heads on the side of the longer of the two levers. Secure with MS21083N4 Nuts with AN960KD416 Washers under the nuts. Torque tighten the nuts to 30-40 lb in.

(6) Re-identify the reworked bellcrank in accordance with Para 3.B.

(7) Re-install the bellcrank (Ref MM Chap 27-20-01 Para B).

WARNING

FOLLOWING ANY OPERATION INVOLVING DISCONNECTION OF THE FLYING CONTROLS, AN INDEPENDENT INSPECTION BY A SUITABLY QUALIFIED PERSON IS REQUIRED.

3. MATERIAL INFORMATION

A. Parts Required per Aircraft

The following items are to be obtained from operatorös stock or local sources:

Part Number	Quantity	Nomenclature
NAS 6204-16	3	Bolt, close tolerance
NAS 1104-16 (Alt)		Bolt, close tolerance
NAS 1304-16 (Alt)		Bolt, close tolerance
MS 21083N4	3	Nut, self locking
MS 21299-C4 *	3	Washer, countersunk
AN 960 KD416	3	Washer, flat

* If unavailable an AN960-KD416 (or equivalent) washer reworked to provide a .030 inch x 45°. chamfer on the ID may be used in lieu.

B. Parts Modified and Re-identified by Operator

Original PN	Nomenclature	Reworked PN
1/N-45-1120	Rudder Bellcrank Assy	1/N-451120/NMD-27-36

4. RECORDING ACTION

Record compliance with Service Bulletin NMD-27-36 Part 1 and/or Part 2 (as applicable) in the airframe log book.

AEROSPACE TECHNOLOGIES OF AUSTRALIA
A.C.N. 008 622 008
A BOEING AUSTRALIA COMPANY