Nomad
SERVICE BULLETIN

WINGS — STRUTS — UPPER STRUT FITTING
BOLT INSPECTION, LINE REAMING AND REPLACEMENT

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.

(2) Spares affected

(a) All spare wing struts with installed Upper Strut Fittings.

B. **Reason**

(1) Alert Service Bulletin ANMD-57-12 introduced a threshold life, line reaming and bolt replacement if required and on-going inspections for the wing upper strut fitting based on fatigue test data. Subsequent further fatigue analysis data shows that this threshold and subsequent inspection periods may be increased under certain conditions.

(2) At the same time it is intended to cancel Alert Service Bulletin ANMD-57-12 and incorporate all inspection requirements into the Inspection Requirements Manual and any subsequent reaming requirements into the Maintenance Manual. Further, the field replacement procedure contained in Alert Service Bulletin ANMD-57-12 will be incorporated into the Structural Repair Manual.

(3) The conditions that will enable the new threshold and inspection intervals to be introduced are that all upper strut fitting bolt holes are to be line reamed and this is the purpose of this Service Bulletin.

C. **Description**

(1) Wing struts are to be inspected to determine if the holes through the upper strut fitting (USF) have been line-reamed.

(2) All USF holes with standard size bolts are to be considered as not having been line-reamed and are to be line-reamed and fitted with oversize bolts. The exception is for wing strut assembly P/N 203/N-20-1010, which is known to have line-reamed holes and fitted with standard size bolts.

D. **Compliance**

(1) Compliance is mandatory.

(2) Inspection and modification must be carried out within 100 hours or 3 months of receipt of this Service Bulletin.

(3) There is no ongoing action required by this Service Bulletin.

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.

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F. **Manpower**

(1) Inspection – 12 manhours.

(2) Bolt replacement – 12 manhours (2 people – 6 hours each).

G. **Materials, Price and Availability**

Contact ASTA, Nomad Support for price and availability.

H. **Tooling, Price and Availability**

(1) Special line reamer P/N 1/N–88–267 (1st oversize) is available for purchase or lease from ASTA, Nomad Support. Price is available on application, or

(2) The special line reamer may be locally manufactured as per Figure 1.

I. **Weight and Balance**

None.

J. **References**

MM 20–30–00

IPC 57–40–01

K. **Publications Affected**

None

2. **ACCOMPLISHMENT INSTRUCTIONS**

A. **Inspection**

(1) For each strut, remove screws and washers securing the LH and RH Wing Strut lower fairings and position them so that Identification plate Part Number SD340 is visible and check strut Part Number. If it is 203/N–20–1010, no further action is required. Refit the lower fairings.

(2) If the strut is not identified by the Part Numbers in (1) check the Part Number on the head of each of the 6 bolts securing the Upper End Fitting (Part Number 1/N–20–643) to the strut. If it is NAS6205–xxDX or DY (1st or 2nd oversize), no further action is required for that bolt.

(3) All standard size bolts Part Number NAS6205–xxD or NAS1105–xx must be replaced.

(4) If any other bolt Part Number is encountered, contact ASTA.

B. **BOLT REPLACEMENT**

CAUTION

REMOVE ONLY ONE BOLT AT A TIME, REPLACING EACH BOLT BEFORE REMOVING THE NEXT, TAKING CARE NOT TO DISPLACE SHIMS.

(1) Remove and discard the bolt. If it is peened (Pre-Mod N654 configuration), remove by grinding off the end.

(2) Eddy current inspect the hole in accordance with IRM part 4, Para 12(2). If a crack is detected in the wing strut upper end fitting, it must be replaced. If a crack is found in the strut extrusion, contact ASTA.

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(3) Carefully line ream the hole to 1st oversize, with special line reamer Part Number 1/N-88-267 (Ref Fig.1).

NOTES

- Use a suitable lubricant when reaming. Remove the reamer every 4 to 6 turns to remove cuttings from the flutes and apply lubricant.
- If inserting the line reamer pilot into the far side of the hole is difficult due to hole misalignment, correct by using a normal hand reamer of the same size as the existing hole.

(4) Check the hole diameter; the requirement is 0.3281/0.3290. Visually inspect the surface of the hole, to ensure there is no remaining ovalness, scoring, fretting or corrosion.

(5) Ream the associated washers to the same size.

(6) Wet assemble new bolt and torque to 30-35 lb-in to allow cotter pin to be installed. See MM Chap 20-30-00 for materials for wet assembly.

(7) Install cotter pin.

(8) If the strut Part Number on the identification plate is not 1/N-20-1027 (for Mod N654A (strut extrusion thickness 2.70 in.)) or 1/N-20-1028 (for Mod N654B (strut extrusion thickness 2.86 in.)), remove the existing identification plate and install a new plate Part Number SD340 to re-identify the strut as 1/N-20-1027 Mod N654A or 1/N-20-1028 Mod N654B as appropriate.

3. **MATERIAL INFORMATION**

A. **Parts Required per Aircraft**

The following parts are required for each aircraft and are available from Boeing Aircraft Systems - ASTA, Nomad Support.

New Part No	Qty	Description	Old Part No	Remarks
Pre- or Post-Mod N654A Aircraft				
NAS6205-44DX	A/R	BOLT, Close Tolerance, 1st O/size	NAS1105-44 NAS6205-44D	Scrap Scrap
Pre- or Post-Mod N654B Aircraft				
NAS6205-46DX	A/R	BOLT, Close Tolerance, 1st O/size	NAS1105-46 NAS6205-46D	Scrap Scrap
Common Parts				
MS20002C5	12	WASHER, CSK		
AN960KD516	A/R	WASHER, Flat	AN960-516	Scrap
AN960KD516L	A/R	WASHER, Flat, Thin	AN960-516L	Scrap
MS17826-5	12	NUT, Self-locking, Castellated		
MS24665-136	12	PIN, Cotter (Split)		
SD340	2	Identification Plate	SD340	

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4. **SPECIAL TOOLS AND EQUIPMENT**

A. The following special tools and equipment are required:

(1) Special Line Reamer Part Number 1/N-88-267 (Ref Fig 1).

5. **RECORDING ACTION**

Record compliance with Service Bulletin NMD-57-19 in the Airframe Log Book.

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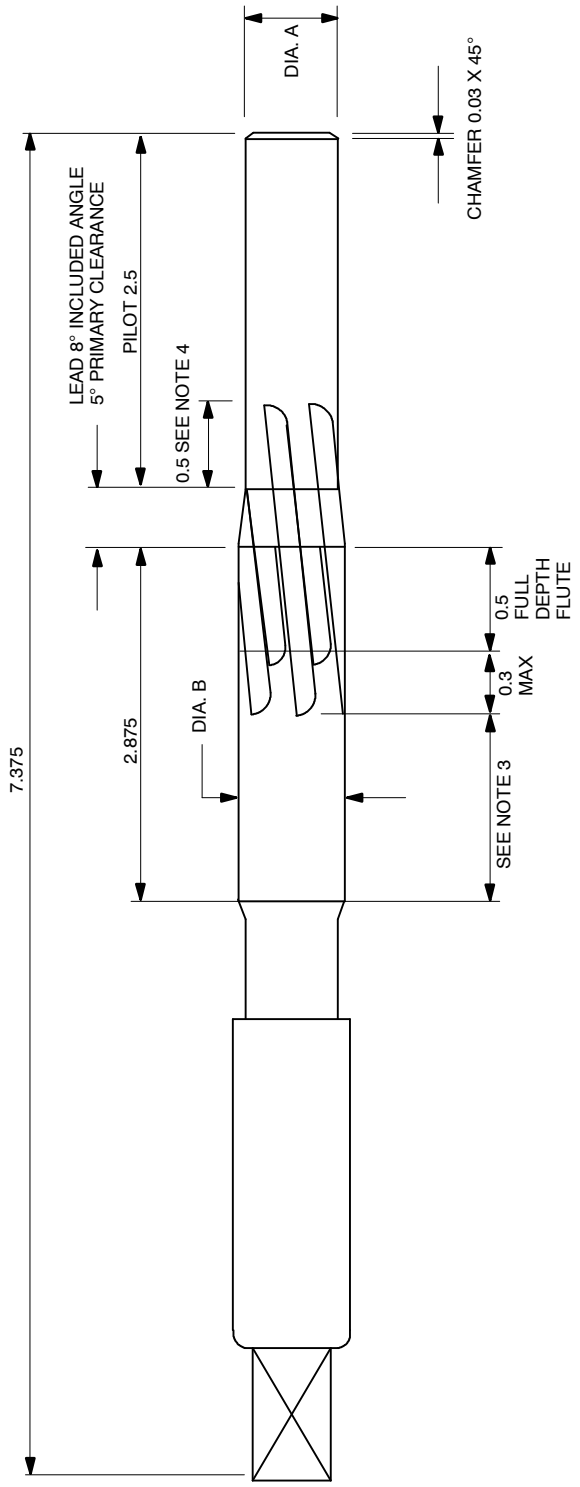

	PART NO	DIA. A	DIA. B	PILOT HOLE DIA.	FINISHED HOLE DIA.
FIRST OVERSIZE	1/N-88-267	0.3125/0.3123	0.3281/0.3284	5/16 H8 (SEE NOTE 2)	0.3281/0.3290 H8 (SEE NOTE 2)

NOTES:

1. EXCEPT AS SHOWN, REAMER IS A HELICAL FLUTED (6 FLUTES) HAND REAMER MADE FROM HIGH SPEED STEEL – COMMERCIAL TO ANSI B 94.2–1964.
2. FOLLOWING GRINDING, A TRIAL HOLE IN QQ-A-225/6 T 851 MATERIAL (PREVIOUSLY PILOT REAMED – REFER TABLE) IS TO BE REAMED USING SUITABLE LUBRICANT. FINISHED HOLE DIAMETER IS TO BE AS PER TABLE AND AT LEAST THREE FLUTES MUST BE SHARING THE CUTTING. REAMER TO BE RE-GROUND OR STONED UNTIL THESE CONDITIONS ARE MET.
3. FLUTES NOT REQUIRED OVER THIS LENGTH. BACK TAPER NOT TO EXCEED LIMITS OF TOLERANCE ON DIA.
4. NO CUTTING EDGES OVER THIS LENGTH.

Figure 6 Special Line Reamer — Strut Upper End Fitting

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