Nomad
SERVICE BULLETIN

STABILISERS - HORIZONTAL STABILISER -
TRIM TAB HINGE REPOSITIONING AND LIMITING
OF TRIM TRAVEL

1. PLANNING INFORMATION

A. Effectivity

Nomad Series aircraft Serial Nos N22S-159 to N22S-165 inclusive, incorporating Mod N663.

NOTE: N22C-069 fitted with horizontal stabiliser S/N GAF 179 has been checked prior to delivery and found acceptable.

B. Reason

An independent audit of manufacturing tooling has indicated a strong likelihood that the trim tab hinge position of horizontal stabilisers on the affected aircraft may be incorrect, leading to a remote possibility of binding and overstress of the trim tab linkage at moderate deflections of the tailplane gust damper, in the stabiliser nose-up direction, when more than 2/3 nose-up pitch trim is set.

This condition is only likely to occur on the ground. It will only occur if: the aircraft does not have the external gust lock fitted, the trim is more than 2/3 nose up and the aircraft is exposed to a gust which drives the stabiliser aft end down, and compresses the gust damper more than 30%.

C. Description

Part 1: The horizontal stabiliser trim tabs and the associated trim tab control linkage are inspected for possible damage.

A locally manufactured placard is installed adjacent to and in front of the pitch trim indicator, limiting trim travel to 5 divisions nose-up whilst on the ground.

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Part 2: Replacement stabiliser trim tab hinges are installed in the correct, more aft position and the placard is removed.

D. Compliance

Part 1: Within the next 10 hours time in service after receipt of this bulletin.

Part 2: At the first 100 hourly inspection (B check) after parts are provided by ASTA.

E. Approval

This Service Bulletin has been approved pursuant to Civil Aviation Regulation 35 and meets Type Certification requirements.

F. Manpower

Part 1: 1/2 manhour.

Part 2: Estimated 8 manhours.

G. Material

Part 1: Manufacture placard locally from suitable material.

Part 2: Parts and labour will be the subject of warranty action via ASTA General Aviation.

H. Tooling - Price and Availability

Not required.

J. Weight and Balance

Refer to Table 1 para 20.

K. References

None.

L. Publications Affected

None.

2. ACCOMPLISHMENT INSTRUCTIONS

A. Part 1: Inspection and Fitting of Limiting Placard

1. Inspect trim tabs for evidence of overtravel and contact with horizontal stabiliser rear spar aft face. In particular inspect trim tab control bracket and attaching rivets around the trim tab push-rod aperture for signs of contact.

2. Remove dorsal fin and inspect vertical push rod connecting trim screw jack to torque shaft for looseness or signs of overload at the taper pins attaching the end fittings to the control rod.

   Inspect also the taper pins attaching the three levers to the torque shaft for looseness or signs of overload.

3. Remove the horizontal stabiliser inboard access panels and inspect the taper pins attaching the end fitting to the control rod for looseness or signs of overload.

4. With full nose down trim applied rotate the horizontal stabiliser trailing edge full up and inspect the taper pins attaching the end fitting to the aft end of the trim tab control rods for looseness or signs of overload.

5. Affix locally made placard with wording

MAXIMUM 5 DIVISIONS OF NOSE-UP TRIM PERMITTED ON GROUND

forward of the trim indicator.

B. Part 2: Replacement of Trim Tab Hinge

Assembly Notes

(a) Use 3.3mm dia. drill for 1/8" dia. rivet holes.

(b) Use 4.1mm dia. drill for 5/32" dia. rivet holes.

(c) Damaged rivet holes may be drilled to accept the next larger size rivet.

(d) Deburr all fastener holes prior to final assembly.

(e) Wet assemble blind rivets using a zinc chromate expoxy-polyamide primer.

(f) Wet assemble faying surfaces using polysulphide rubber compound PR1436-G B-4 or similar suitable alternative.

1. Manufacture both RH and LH trim tab hinges (horizontal stabiliser side only) from MS20001-P9 in accordance with Figure 1.

2. Using a vernier caliper, measure the spanwise distance between the outside edge of the most outboard hinge lug and the inboard edge of the trailing edge skin at BL69.35.

3. Remove RH horizontal stabiliser trim tab (Ref Ch 55-20-00 para 1C).

4. Remove mass balance fairing (Ref Ch 55-20-00 para 1E).

5. Remove rivets attaching existing hinge to the horizontal stabiliser.

6. Remove rivets and anchor nut for trim tab mass balance fairing screw.

7. Remove hinge.

8. Mate half hinge PN 1/N-30-326 Issue 1-SB (manufactured in Step 1) with trim tab half hinge. Insert a new hinge pin PN 1B/N-30-232.

9. Insert hinge between horizontal stabiliser skin panel and the flange of the trailing edge channel.

10. Position hinge in accordance with Figure 2 and the measurement taken in Step 2. The hinge must be positioned so that the centre of the hinge lugs is 0.28 ± 0.010 inch from the rear spar channel.

11. Clamp hinge in the aligned position. Use suitable protection to prevent damage to horizontal stabiliser skin. Use suitable spacers as required.

    NOTE: AFTER CLAMPING AND BEFORE DRILLING, RE-CHECK THE HINGE ALIGNMENT (REF STEP 10).

12. Drill and progressively pin the hinge. Use the skin as a template and start at the inboard end.

13. Rivet hinge to the skin and flange of the trailing edge channel starting at the inboard end. Use rivets CR3213-4-2 and CR3213-4-3 in accordance with Figure 2. If oversize rivets are required, select from CR3243-4-2 and CR3243-4-3.

14. Drill and rivet in position, a new anchor nut for the trim tab mass balance fairing screw (Ref Fig 2).

15. Remove clamps, protection material and spacers.

16. Install mass balance fairing (Ref Ch 55-20-00 para F).

17. Repeat Steps 2 to 16 for the LH horizontal stabiliser trim tab.

18. Touch up horizontal stabiliser surface finish to match original.

19. Re-rig trim tabs (Ref Ch 27-41-00).

20. Carry out a static balance check on horizontal stabiliser Post Mod N663 (Ref SRM Ch 55-10-00 para 3) to the Figures in Table 1.

Table 1 Horizontal Stabiliser Weight Details

	Metric	Imperial
Total Weight	72.1 ± 1.4kg	159 ± 3.09lb
Mass Balance Weight*	8.2 ± 0.43kg	18.08 ± 0.95lb
Total Weight with G228 (Static Discharge Wicks) fitted	72.8 ± 1.4kg	160.54 ± 3.09lb
Mass Balance Weight*	8.2 ± o.43kg	18.08 ± 0.95lb

*Mass Balance Weight includes mass balance weights and all attaching hardware.

21. Remove the placard fitted forward of the trim indicator in Part 1 of this Bulletin.

3. MATERIAL INFORMATION

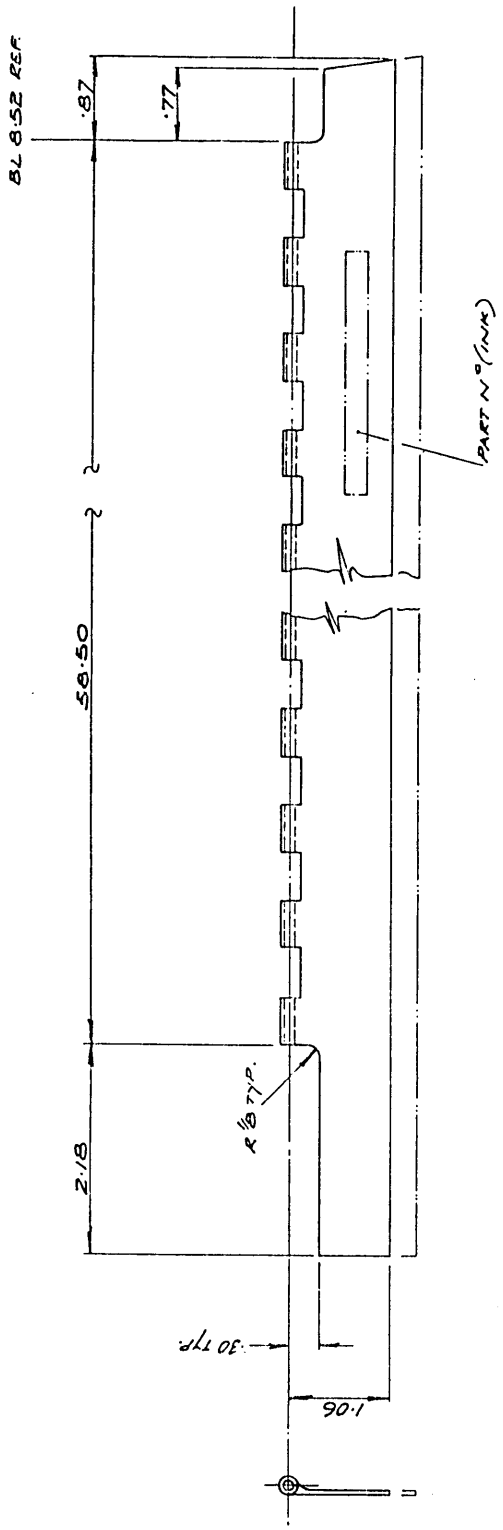
New Part No	Qty	Nomenclature	Old Part No	Instruct/ Disposit
1/N-30-325 ISS1-SB		Hinge		Make from MS20001-P9
1/N-30-326 ISSU1-SB		Hinge		Make from MS20001-P9
CR3213-4-2	A/R	Rivet		
CR3213-4-3	"	Rivet		
CR3243-4-2	"	Rivet (oversize)		
CR3243-4-3	"	Rivet (oversize)		
MS20426AD3-4	"	Rivet		
MS21059-3	"	Anchor Nut		

4. SPECIAL TOOLS AND EQUIPMENT

Not required.

5. RECORDING ACTION

Record compliance with SB ANMD-55-25 Part 1 and Part 2 as applicable in the aircraft records.



NOTES:

1. Hinge made from MS20001-P9 (1 half only required - 64 inches long)
   Alodine and one coat of expoxy prime.

2. Mark P/N using indelible ink as follows:
   LH: 1/N-30-325 ISS1-SB
   RH: 1/N-30-326 ISS1-SB

3. LH side as drawn
   RH side opposite hand

Figure 1 Horizontal Stabiliser Trim Tab Hinge

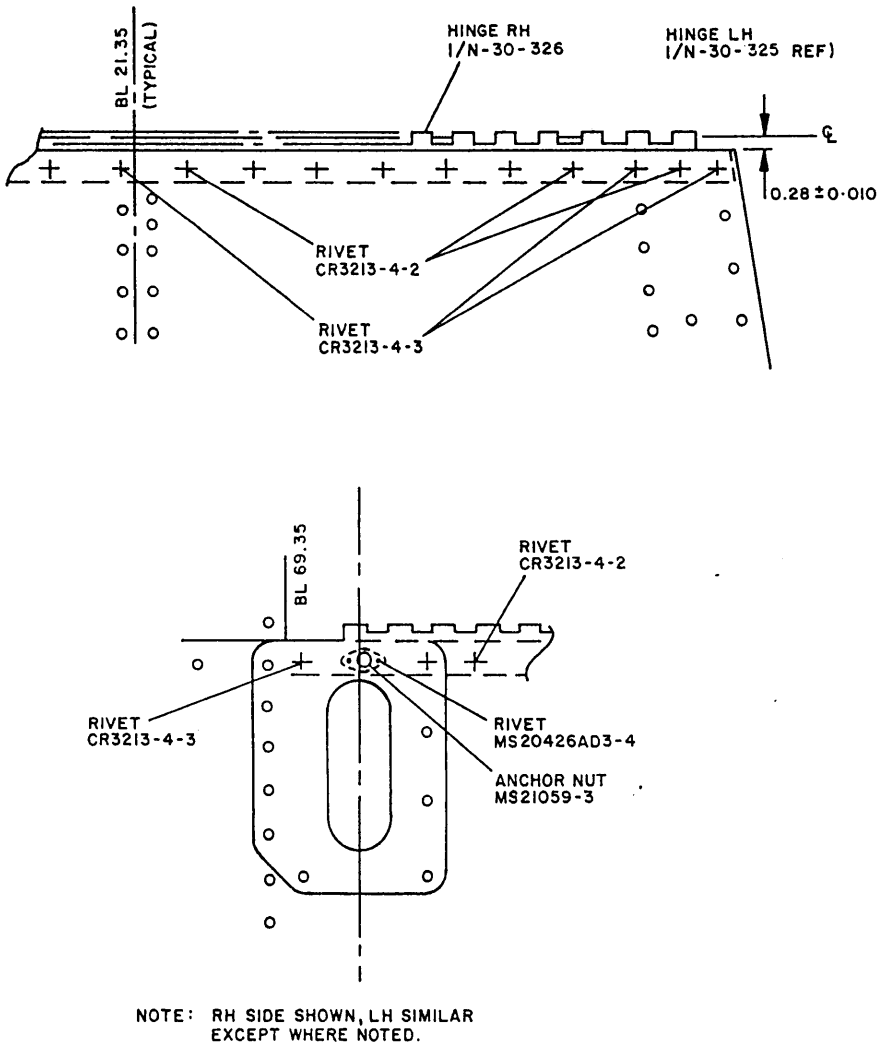


Figure 2 Replacement Trim Tab Hinge Fitment