

Nomad

SERVICE BULLETIN

NOMAD 24 SERIES AIRCRAFT HIGH IMPACT WINDOWS FITTED TO FWD CABIN WINDOWS AT STA 150.0 (N464)

1. PLANNING INFORMATION

A. Effectivity

(1) Aircraft Affected

All Nomad N24 Series aircraft, except those aircraft fitted with Customer Option G390 or Customer Option G286, whose log books do not already record the embodiment of Mod N464 or compliance with Service Bulletin NMD-25-5.

Pre-certification implementation of the intent of this service bulletin is recorded in the airframe log book as Mod N452.

NOTE

(1) Mod N481 or Service Bulletin NMD-56-4 is a pre-requisite of Service Bulletin NMD-25-5.

(2) Refer to Service Bulletin NMD-25-3 for N24-Series aircraft fitted with Customer Option G390 or Customer option G286.

(2) Spares Affected

Nil.

B. Reason

Existing high impact windows fitted as part of Customer Option G390 have been damaged by ice thrown from the aircraft propellers.

C. Description

The forward outer passenger cabin windows at Sta 150.0 are replaced by windows made of 0.25 inch thick, clear high impact resistant polycarbonate material. The forward inner windows are replaced by windows made of the same material 0.125 inch thick.

D. Compliance

Within 100 hours following receipt of Kit for Aircraft that may operate in an icing environment, otherwise within 200 hours following receipt of Kit.

E. Approval

The modification detailed herein has been approved pursuant to Air Navigation Regulation 40 and conforms with the type certification requirements.

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F. Manpower

6 manhours total.

G. Material, Price and Availability

The parts required to incorporate the modification detailed in this Service Bulletin are available as Kit No. NMD-25-5-1 from the operator's local distributor. Distributors are to place a 'No Charge' purchase order on GAF. through the normal procurement procedure. Purchase orders are to quote the Aircraft Serial Number and Service Bulletin No. NMD-25-5. This Kit will be available ex-factory from May 1983. The 'Free of Charge' offer is available for 90 days from the date of this Bulletin.

H. Tooling, Price and Availability

Ref Figure 1 for templates.

I. Weight and Balance

The following information is to be inserted into:

(1) The Weight and Balance Manual, for aircraft issued with this manual, as Customer Option G390 (MOD N464).

(2) Flight Manual 12-58F, for aircraft not issued with a Weight and Balance Manual, as Customer Option G390 (MOD N464).

(a) Weight and Balance Manual

Weight (kg)	Arm (mm)	Index Units (kg mm/1000)
2.3	3810	8.81

(b) Flight Manual 12.58F

Weight (lb)	Arm (in)	Index Units (lb in/1000)
5.1	150	.77

J. References

Maintenance Manual

Illustrated Parts Catalogue.

K. Publications Affected

Illustrated Parts Catalogue.

Maintenance Manual

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2. ACCOMPLISHMENT INSTRUCTIONS

A. Remove Forward Cabin Windows

- (1) Remove the window lining panel (Ref MM Chap 25-20-00).
- (2) Remove the strip of adhesive tape at the top of the window surround. (This tape seals the joint between the top edges of the surround and the inner window).
- (3) Remove the window blind assembly. (Ref MM Chap 25-20-00).
- (4) Mark the position of the outer window panel on the inner surface of the aircraft skin.
- (5) **(Pre-Mod N481)** Remove the outer window panel and the window surround as an assembly from the fuselage skin by breaking the adhesion of the double sided adhesive gaskets.

(Post Mod N481) Remove the four self-locking nuts, washers and screws holding the retaining brackets at each corner of the window surround and then break the adhesion of the double sided adhesive gaskets. Discard the four screws and self-locking nuts.

- (6) Separate the outer window panel from the window surround. These are adhered together by double sided adhesive gaskets.
- (7) Remove the double sided adhesive gaskets from the fuselage skin/outer window panel mating surfaces and also from the outer window panel/window surround mating surfaces as appropriate. Take care not to remove the position marks made in step (4). Return the inner and outer window panels to store.
- (8) Remove the weather proofing fillet of PR1221 sealing compound from the edges of the window aperture in the fuselage skin.
- (9) Incorporate Service Bulletin NMD-56-4 (Mod N481) before proceeding with the incorporation of this Service Bulletin (NMD-25-5).

B. Install the High Impact Polycarbonate Windows (Ref Figure 2)



ALTHOUGH THE POLYCARBONATE MATERIAL HAS EXCEPTIONALLY HIGH IMPACT STRENGTH, THIS CAN BE DEGRADED BY SHARP SCRATCHES OR NICKS OR BY THE EFFECTS OF CERTAIN SOLVENTS. EXTREME CARE SHOULD BE TAKEN NOT TO DAMAGE THE WINDOWS DURING INSTALLATION.

- (1) Drill out the two rivets attaching the hook bracket PN 1D/N-18-232 to the top of the window surround, remove and discard the hook bracket.
- (2) Locate the new bracket PN 1A/N-18-1204 over the existing rivet holes in the window surround, drill holes in the bracket from the rivet holes in the window surround using a No.30 drill. Remove the bracket from the window surround and deburr the holes. Relocate the bracket on the window surround and rivet up using rivets PN MS20426AD4-4.

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WARNING

DO NOT ALLOW SOLVENTS OR OILS TO COME IN CONTACT WITH THE POLYCARBONATE PANELS AS POLYCARBONATE IS ATTACKED BY ALCOHOL AND HYDROCARBONS, IF NECESSARY, USE WARM SOAPY WATER FOR CLEANING.

- (3) Clean the mating surfaces of the fuselage skin and the window surround with petroleum ether. Ensure that the position marks on the inner surface of the skin (Ref Para 2. Part B. (4)) are not removed. Clean the high impact polycarbonate outer window panels with warm soapy water if required.

NOTE

Clean a small section at a time ensuring that the solvent does not dry on the surface being cleaned.

- (4) When the cleaned surfaces are dry, remove the protective paper from one side of the eight new sections of the Scotchmount double sided adhesive gaskets and adhere them to the inner surface of the fuselage skin around the window aperture.

NOTE

Double sided adhesive gaskets are manufactured from PN 4032 Scotchmount double coated adhesive tape 2 inches wide and 1/32 inch thick using the templates in Figure 1.

- (5) Remove the protective paper from the other side of the gaskets, align the new high impact polycarbonate outer window panel with the position marks on the inner surface of the fuselage skin and apply firm pressure around the edges of the window panel and the window aperture to ensure satisfactory adhesion of the window panel to the fuselage skin.
- (6) Apply a fillet of PR1221B or PR1222B sealing compound around the external joint between the fuselage skin and the outer window panel. The fillet is not to extend more than 1/16 inch beyond the edge of the skin onto the window panel.

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- (7) Clean the internal surface of the outer window panel.
- (8) Secure the window surround to the outer window panel by removing the protective paper from one side of the double sided adhesive gaskets and pressing them firmly in position on the outer face of the window surround. Remove the protective paper from the other side of the adhesive gaskets and then press the window surround firmly into position on the outer window panel, ensuring that good adhesion is obtained. Using the brackets, new screws, washers and new self-locking nuts (Ref Service Bulletin NMD-56-4), secure the window surround and the outer window panel to the fuselage skin. Torque tighten the self-locking nuts to between 12 and 15 pound inches.

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- (9) Ensure that the extruded seal is positioned correctly (butt joint at the top) around the flange of the window surround, to effect a continuous seal between the inner window panel and the window surround.
- (10) Assemble the replacement inner window panel to the roller blind frame so that the six holes in the inner window panel align with those in the roller blind frame assembly. Position the complete assembly to the window surround.
- (11) Ensure that the inner window panel and the roller blind assembly fully engage the hook bracket on top of the window surround.
- (12) Attach the inner window panel and the roller blind frame to the window surround with the six screws and washers removed on disassembly. Torque tighten the screws to between 12 and 15 pound inches.
- (13) Seal the top edge of the joint between the window surround and the inner window panel with Scotchcal No.3655 one inch wide tape or a suitable alternative.
- (14) Refit the window lining panel (Ref MM Chap 25-20-00).

NOTE

Reinforcing angles 1H/N-18-234 and 1J/N-18-234 (fitted to the roller blind frame) may be trimmed back 0.15 inches, if required, to sit flush with the structure surrounding the window aperture in the fuselage skin and the cabin window lining panel may be trimmed by approximately 3/16 inch to suit.

3. MATERIAL INFORMATION

A. Parts Required per Aircraft

- (1) One Kit PN NMD-25-5-1 is required per aircraft.
- (2) Each Kit PN NMD-25-5-1 comprises the following items:

Item PN	Qty	Title
1/N-72-223	2	High Impact Window Panel, Outer
1/N-18-1202	2	High Impact Window Panel, Inner
1A/N-72-191	8	Spacer
1A/N-18-1204	2	Bracket, Hook
MS35207-264	12	Screw, Panhead
MS21083-N3	8	Nut, Self-Locking 10-32 UNF
4032 x 2"	16ft	Scotchmount Tape, Double Coated
3655 X 1"	44in	Scotchcal Tape

- (3) The following items are to be procured from the operator's stock or local sources.

Item PN	Qty	Title
MS20426AD4-4	2	Rivet, 100° Countersunk
PR1222B	AR	Sealing Compound
PR1221B (ALT)	AR	Sealing Compound

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B. Parts Modified and Re-identified by Operator

None.

C. Parts Required to Modify Spares

None.

D. Removed Parts

New Part No	Qty	Description	Instruction/Disposition
1/N-11-558	2	Window Panel, Inner	Retain for Spares
1/N-18-248	2	Window Panel, Outer	Retain for Spares
1D/N-18-232	2	Bracket	Scrap
MS35207-262	8	Screw Pan Head 10-32 UNF	Scrap
MS21083-N3	8	Nut Self-locking	Scrap

4. SPECIAL TOOLS AND EQUIPMENT

None.

5. RECORDING ACTION

Record compliance with Service Bulletin NMD-25-5 in the airframe log book.

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NOTE: MANUFACTURE ALL SECTIONS FROM
MMM'S SCOTCHMOUNT DOUBLE COATED
TAPE 4032

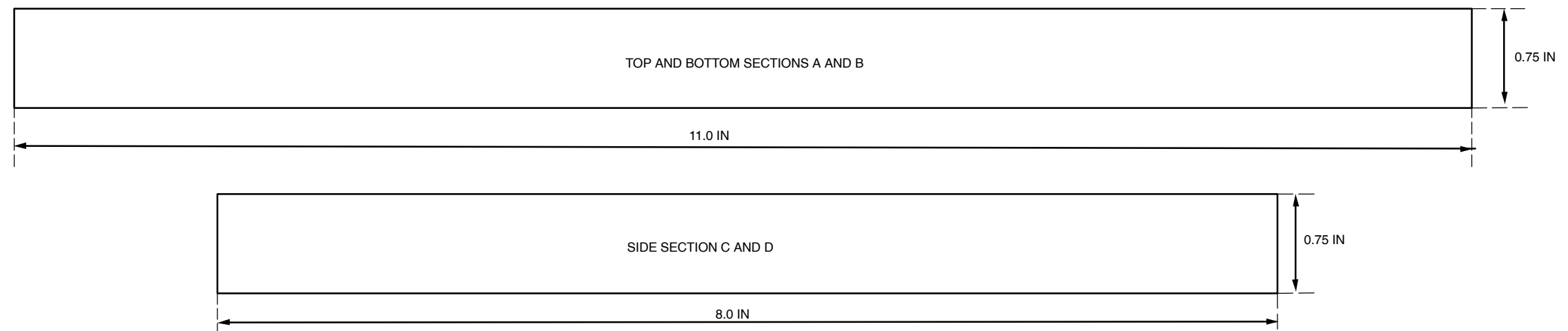
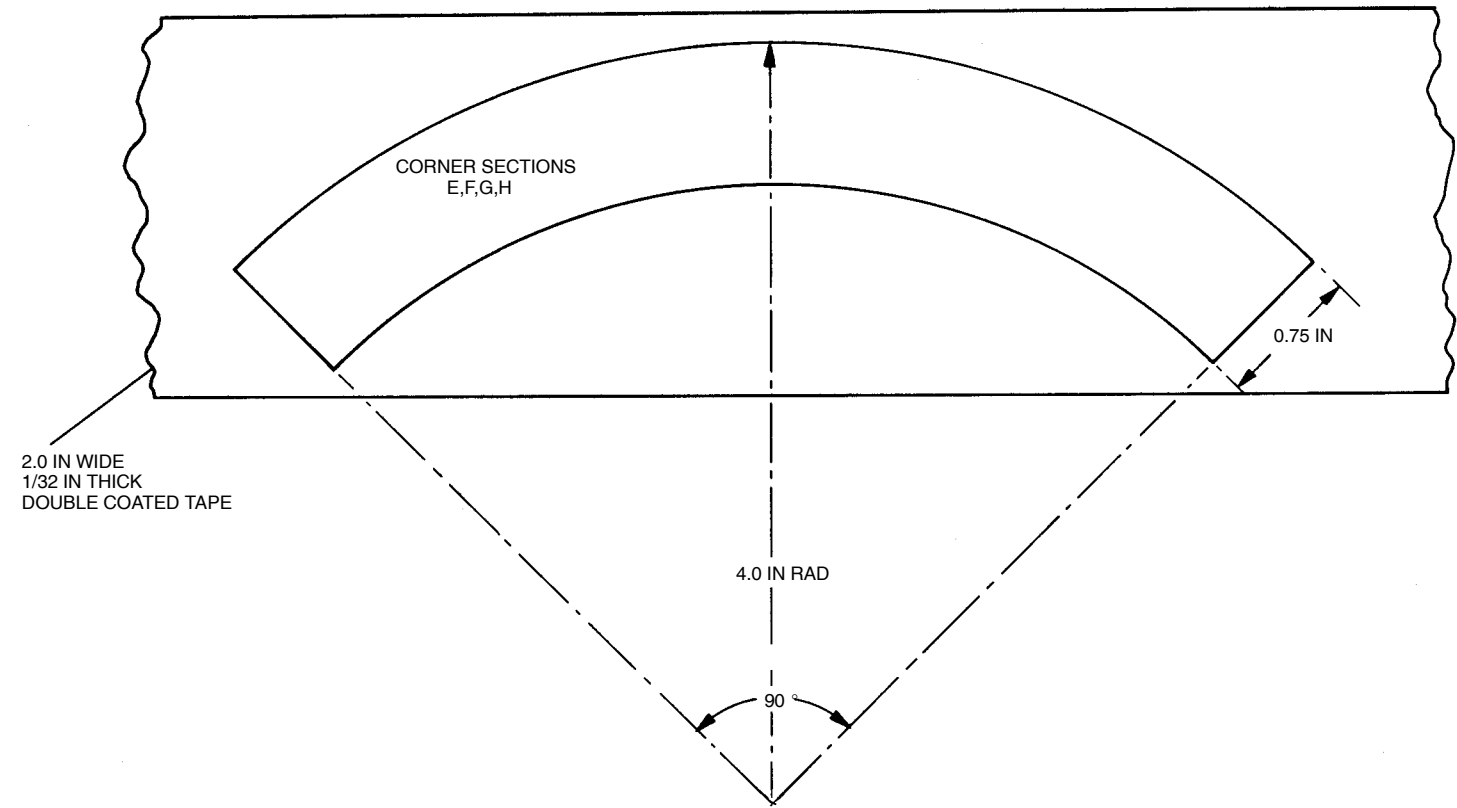


Figure 1 Templates for Manufacture of Cabin Window Gasket

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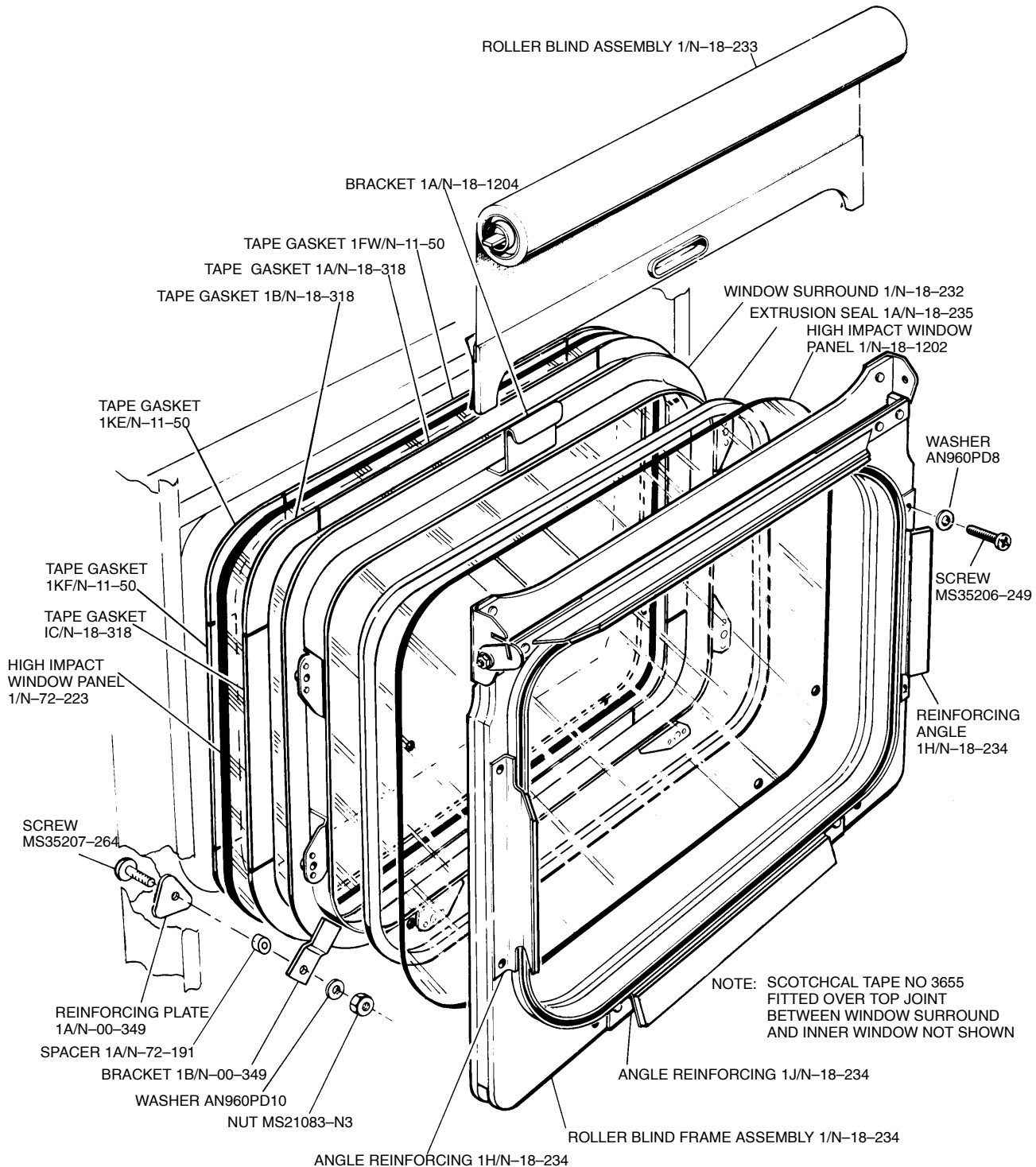


Figure 2 Window Installation