Nomad
SERVICE BULLETIN

Reference No. 197

TRANSMITTAL SHEET FOR NOMAD SERVICE BULLETIN

SERVICE BULLETIN NO: NMD-28-18 DATED: 5 February 1990

TITLE: Fuel, Auxiliary Tank, Modified Sealing of the outboard Tank End (Mod N684)

REVISION NO: DATE:

ACTION: Insert Service Bulletin NMD-28-18 into Service Bulletin publication and annotate index accordingly.

REASON: To prevent failure of the anchor nuts during assembly.

REMARKS: This Service Bulletin pertains to all Nomad aircraft fitted with auxiliary fuel tanks in accordance with Customer Option G99, G99M or G99-24.

Nomad
SERVICE BULLETIN

FUEL, AUXILIARY TANK, MODIFIED
SEALING OF THE OUTBOARD TANK END
(MODIFICATION N684)

1. Planning Information

A. Effectivity

All Nomad aircraft fitted with Auxiliary Fuel Tanks in accordance with Customer Option G99, G99M or G99-24.

B. Reason

To prevent failure of the anchor nuts during assembly.

C. Description

The existing neoprene cork gasket is replaced with a fuel resistant sealant on the sealing face of the structure. A coating of PERMATEX Form-a-Gasket is placed between the sealant and the tank end to assist in removal of the tank end.

D. Compliance

It is recommended that this Service Bulletin be carried out during the incorporation of Service Bulletin NMD-28-17.

E. Approval

This modification is approved pursuant to CAR 35 and conforms with type certification requirements.

F. Manpower

Ten manhours plus time required for leakage checks (excluding sealant drying time).

G. Material - Price and Availability

Contact ASTA Customer Spares Group for material/parts price and availability or obtain requirements from approved local sources.

H. Tooling - Price and Availability

None required.

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I. Weight and Balance

Not affected.

J. References

MM - Maintenance Manual Chap 12-10-00, 57-20-00
Customer Option data for G99, G99M or G99-24.

K. Publications Affected

MM - Maintenance Manual for C.O. G99, G99M or G99-24
IPC - Illustrated Parts Catalogue for C.O. G99, G99M or G99-24

2. **Accomplishment Instructions**

A. Remove outboard tank end

(1) Referring to MM Chapter 12-10-00, drain the auxiliary fuel tank and allow to air dry for one hour.

(2) Remove the wing-tip fairing as detailed in MM Chapter 57-20-00.

(3) Loosen the 68 outboard tank end attachment bolts until the bolts have approximately three mm of slack.

NOTE: Check while loosening the attachment bolts that the bolts are not binding in the holes in the tank end. Mark the position on the tank end of any bolts which bind.

(4) Rig a pressure supply system to the wing vent as shown in Figure 2, and, using a nitrogen or air supply, apply a maximum pressure of 0.5 p.s.i., (13.85 inch water) until the tank end separates from the tank.

(5) Remove the 68 bolts and lift the tank end clear.

(6) Remove and discard the neoprene cork gasket.

(7) Using a 05.2 mm drill, drill out any marked holes, from (2) above, in the tank end. Deburr holes and remove all swarf.

(8) Check that the tank end flange is flat to within 0.01 in. measured in any direction over a 6 in. gauge length. If necessary, dress flange to achieve required flatness.

(9) Check that the tank end rib mating surface is flat to within 0.01 in. measured in any direction over a 6 in. gauge length. If necessary, dress end rib to achieve required flatness.

B. Cleaning faying surfaces

(1) Using a plastic scraper and wiper moistened with MEK, remove all traces of previous sealants until the base sheet metal is clean.

(2) Wipe dry before the MEK evaporates.

(3) Touch-up any exposed base metal with Alodine 1200 and allow to dry.

(4) Apply primer, Selley's No. 6 or equivalent, to cleaned surfaces and allow to air dry for 30 to 45 minutes.

NOTE: An alternative primer may be made by mixing 5% by weight of Silane A-1100 (Union Carbide) to an ethanol - distilled water (90:10) solution.

C. Forming the sealant gasket.

NOTE: If the tank end flange is grooved, the groove is to be filled flush with sealant PR1422 B-2 prior to forming the sealant gasket.

(1) Using masking tape, mask off the tank end and auxiliary tank end rib as shown in Figure 1.

(2) Apply release agent FREKOTE 33 or 34 over entire unmasked area of the tank end flange. Allow to dry for a minimum of 30 minutes.

(3) Apply sealant PR1422 B-2 to unmasked area of tank end flange and spread, with a spatula, to a thickness of between 1 and 1.5 mm.

(4) Using a non-metallic rod 4.5mm dia, clean any sealant from the holes.

(5) Fit the tank end to the auxiliary tank end rib, install the 68 bolts using two thick washers, AN960-PD10, under each bolt head. Working in a clockwise direction from the top centre of the tank end, carefully torque tighten every fifth attachment bolt to between 7 - 10 in. lb. until all bolts are tightened.

(6) Cover the wing tip with polythene sheet and allow the sealant to cure. Refer to Table 1 for cure times.

Table 1 - Sealant Cure Time

Temp ^{o}C	Cure time - hrs
15	228
20	144
25	72
30	36
35	18

(7) After the sealant has cured, remove the 68 attachment bolts and carefully free the tank end.

(8) Check that the sealant has transferred to the auxiliary tank end rib and is of uniform thickness.

(9) Remove masking tape and any excess sealant; check that the anchor nuts are free of sealant.

D. Fitting the tank end.

(1) Double wipe the sealant surface and clean all surfaces and attachment bolts with MEK to remove all traces of release agent.

(2) Apply PERMATEX Form-a-Gasket 3D to the sealant gasket on the auxiliary tank end rib. Ensure that the solution does not enter into the anchor nut holes.

(3) Fit the tank end to the auxiliary tank end rib, install the attachment bolts fitting the bonding leads at each tank end corner. Working in a clockwise direction from the top centre of the tank end, carefully torque tighten every fifth attachment bolt to between 10-15 in.lb. until all bolts are tightened.

E. Leak testing the auxiliary tank.

(1) Rig a pressure supply system to the wing vent as shown in Figure 2.

(2) Blank off the syphon breakers, outlets to the engine and crossfeed pipes.

(3) Using clean air or nitrogen, apply a maximum pressure of 0.5 p.s.i. or 13.85 inch water. Check that this pressure is maintained for 10 minutes. If the pressure is not maintained, check for leaks using liquid bubble leak detector. Rectify leaks and repeat pressure test until a satisfactory result is obtained.

CAUTION: USE OF A WATER MANOMETER TO MEASURE PRESSURE IS RECOMMENDED TO PREVENT OVER-PRESSURISATION OF THE TANK.

(4) On completion of the pressure test, remove pressure test rig and blank offs. Refit the wing-tip fairing, refer MM Chapter 57-20-00.

3. Material Information

A. Parts required per aircraft

Part No.	Description	Qty.
PR1422 B-2(MIL-S-8802) Type 1 - Class B2	Sealant and curing agent	As Req'd
Frekote 33 or 34	Release Agent	As Req'd
Selleys No. 6	Primer	As Req'd
No. 3D	Form-a-Gasket (PERMATEX)	As Req'd
No. 250	Masking Tape (3M)	As Req'd
NPN	M.E.K.	As Req'd
NPN	Scotch Brite	AS Req'd
Alodine 1200	Conversion Coating	As Req'd

B. Removed Parts

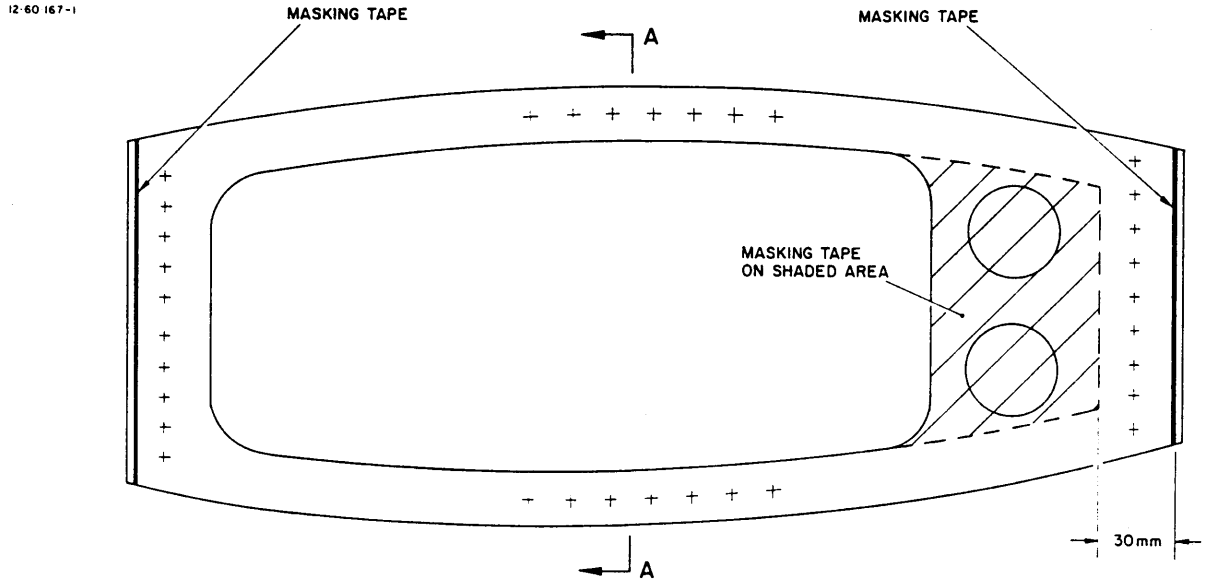
1/N - 20 - 873	Tank End Gasket	Discard

4. Special Tools and Equipment

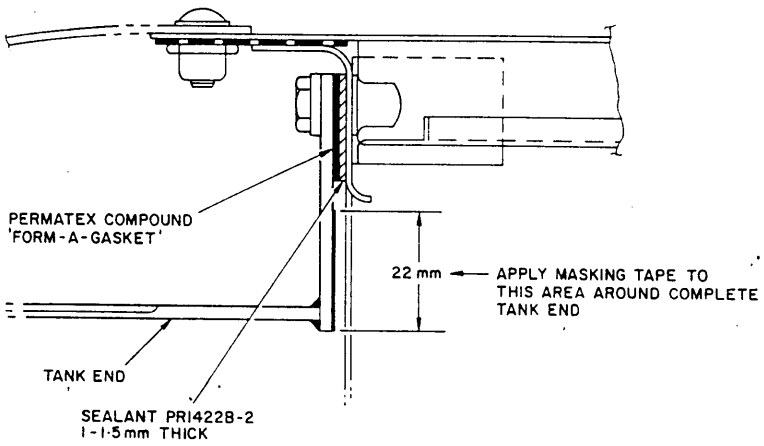
None.

5. Recording Action

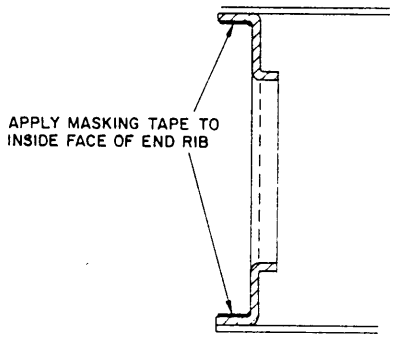
Record compliance with Service Bulletin NMD-28-18 in Airframe Log Book.



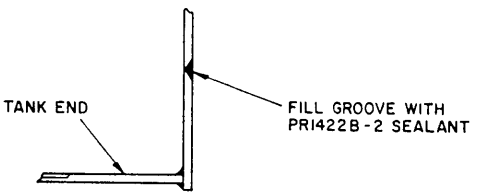
AUXILIARY TANK END RIB



TANK END TO END RIB ASSEMBLY



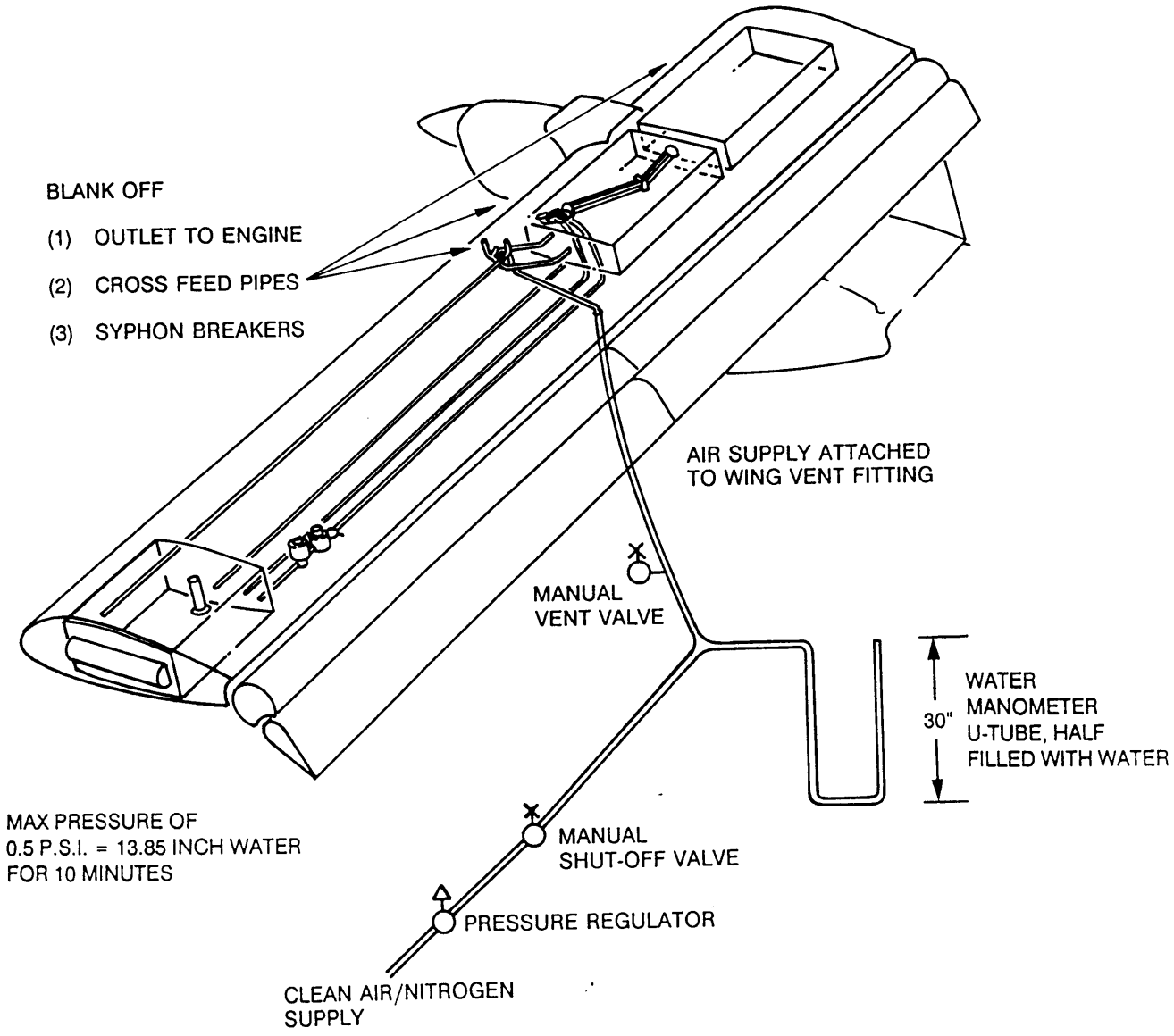
SECTION A-A



ALTERNATIVE TANK END
CONSTRUCTION

Masking and Assembly Details

Figure 1



Leak Testing Rig

Figure 2