

*Nomad*

SERVICE BULLETIN

SUBJECT: IMPROVED AIR FLOW THROUGH OIL COOLER (MODIFICATION N359)

1. Planning Information

A. Effectivity

(1) Aircraft Affected

All Nomad N22-Series and N24-Series aircraft whose log books do not already record the embodiment of Mod N359 or compliance with Service Bulletin NMD-71-7.

Pre-certification implementation of the intent of this service bulletin is recorded in the airframe log book as Mod N359.

(2) Spares Affected

<u>Item P/N</u>	<u>Title</u>	<u>Recommended Disposition</u>
1/N-50-50	Rear Duct Assembly	Rework (Ref Para 2.C)
1/N-50-327 (Pre-) Mod N28)) or)	Upper Cowl Assembly	Rework (Ref Para 2.E)
2/N-50-327 (Post) Mod N28))		

B. Reason

To increase the air flow through the oil cooler.

C. Description

A larger rear duct assembly is fitted to the oil cooler and an additional fairing is fitted to the upper cowl.

D. Compliance

It is recommended that this service bulletin be incorporated, particularly for aircraft operating in high ambient temperatures.

E. Approval

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

F. Manpower

Four manhours.

G. Material - Price and Availability

The parts required to incorporate the modification detailed in this Service Bulletin are available as Kit No. NMD-71-7-1 from the operator's local distributor. Distributors are to place a purchase order on G.A.F. through the normal procurement procedure. Purchase orders are to quote the Aircraft Serial No. and Service Bulletin No. NMD-71-7. This kit will be available ex-factory from April, 1982 at \$841.00 each. The price remains effective for 120 days from the date of this Bulletin.

NOTE: Kit NMD-71-7-1 contains sufficient numbers of each item to enable both LH and RH assemblies to be modified.

H. Tooling - Price and Availability

None required.

J. Weight and Balance

Negligible effect.

K. References

MM - Maintenance Manual
IPC - Illustrated Parts Catalogue

L. Publications Affected

Illustrated Parts Catalogue

2. Accomplishment Instructions

A. Remove the upper cowl (Ref MM 71-10-00).

B. Remove the rear duct assembly (Ref IPC 79-00-00, Fig 1, Sheet 2, Item 33) and discard the self-locking nuts.

C. Rework the rear duct assembly (P/N 1/N-50-50) (Ref Figure 1).

(1) Drill out the rivet securing the bracket P/N 1E/N-50-50 to the rear duct tray P/N 1/N-50-52.

- (2) Cut away the top section of the rear duct assembly including the angle P/N 1B/N-50-50 and the bracket P/N 1E/N-50-50.
 - (3) Clamp left hand and right hand gussets, P/N 1A/N-50-452 and P/N 1B/N-50-452 in position. Drill and rivet gussets to the sides of the rear duct assembly using rivets P/N MS20470AD4-4. Ensure that the rivet heads are on the inside of the assembly.
 - (4) Clamp the new top skin P/N 1/N-50-453 in position. Drill and rivet top skin to the left hand and right hand gussets using rivets P/N MS 20470AD4-4. Ensure that the rivet heads are on the inside of the assembly
 - (5) Clamp brackets P/N 1/N-50-454 in position and drill and rivet using rivets P/N MS20470AD4-4. Ensure that the rivet heads are on the inside of the assembly.
 - (6) Insert rivet P/N MS 20470AD4-4 in rear duct tray to replace that removed in step (1).
 - (7) Drill four 5 mm diameter holes in upper flange to suit oil cooler.
 - (8) Re-identify the rear duct assembly as P/N 2/N-50-50.
- D. Clean off old sealing compound from mating surfaces of oil cooler and reworked rear duct assembly. Pack mating surfaces of oil cooler and reworked rear duct assembly with sealing compound. Fit reworked rear duct assembly to oil cooler and torque tighten new self-locking nuts to between 20 and 25 lb inches.
- E. Rework upper cowl (P/N 1/N-50-327 or 2/N-50-327) (Ref Figures 2 and 3).
- (1) Cut out the area of the oil cooler fairing shown in Figure 2.
 - (2) Crush or remove core for a distance of 0.25 inches from the cut edge and seal with a mixture of 100 parts by weight Araldite MY750, 10 parts by weight phenolic microballoons and 10 parts by weight hardener HY950 (Ref Figure 2).
 - (3) Drill out rivets marked A and B on Figure 3.
 - (4) Wet assemble rear air cooler fairing P/N 1/N-50-466 to oil cooler fairing using a mixture of an equal volume of Araldite AW106 and hardener HV953U.
 - (5) Using a No. 30 drill (0.1285 inches dia, 3.26 mm dia), back drill the new rear air cooler fairing using existing rivet holes in upper cowl stiffeners as a guide.

(6) Rivet new rear air cooler fairing to oil cooler fairing at positions marked A and B on Figure 3 using rivets P/N MS20470AD4-6 and Cherry rivets P/N MS20600AD4-7, respectively.

(7) Re-identify the upper cowl to 1/N-50-327/NMD-71-7 for Pre-Mod N28 upper cowls and 2/N-50-327/NMD-71-7 for Post Mod N28 upper cowls.

F. Refit the upper cowl (Ref MM 71-10-00) using new split pins P/N MS24665-300.

3. Material Information

A. Parts Required Per Aircraft

(1) One kit P/N NMD-71-7-1 only is required to modify both engine oil cooling systems.

(2) Each kit P/N NMD-71-7-1 comprises the following items:

<u>Item P/N</u>	<u>Title</u>	<u>Qty</u>
1A/N-50-452	Gusset, left hand	2
1B/N-50-452	Gusset, right hand	2
1/N-50-453	Top skin	2
1/N-50-454	Bracket	4
MS20470AD4-4	Rivet	74
1/N-50-466	Rear oil cooler fairing	2
MS20470AD4-6	Rivet	28
MS20600AD4-7	Rivet, Cherry	8

(3) The following items are to be obtained from the operator's stock or local sources:

<u>Item P/N</u>	<u>Title</u>	<u>Qty</u>
MS21042L3	Self-locking nut	24
MS24665-300	Split pin	4
-	Araldite MY750 (Ciba-Geigy)	A/R
-	Hardener HY950 (Ciba-Geigy)	A/R
-	Phenolic Microballoons (Union Carbide or Any Source)	A/R
-	Araldite AW106 (Ciba-Geigy)	A/R
-	Hardener HV953U (Ciba-Geigy)	A/R
-	Sealing Compound Proseal 700 (Essex Chemical Corp. USA)	A/R
-	Silastic RTV731 (Dow Corning)	Alt

B. Parts Modified and Re-identified by the Operator

<u>Item P/N</u>	<u>Title</u>	<u>New Item P/N</u>
1/N-50-50	Rear Duct Assembly	2/N-50-50
1/N-50-327 (Pre-Mod N28)) or)	Upper Cowl Assembly	1/N-50-327/NMD-71-7
2/N-50-327 (Post Mod N28))		2/N-50-327/NMD-71-7

C. Parts Required to Modify Spares

Ref Para 3A.

D. Removed Parts per Engine Cooling System

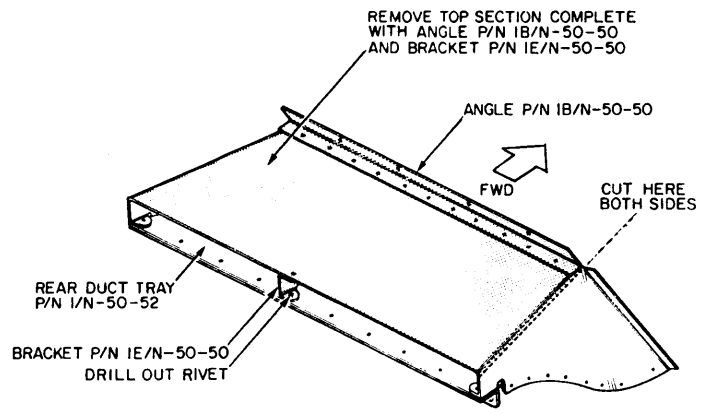
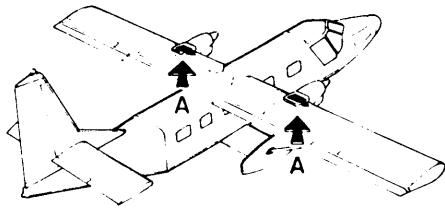
None.

E. Special Tools and Equipment Required

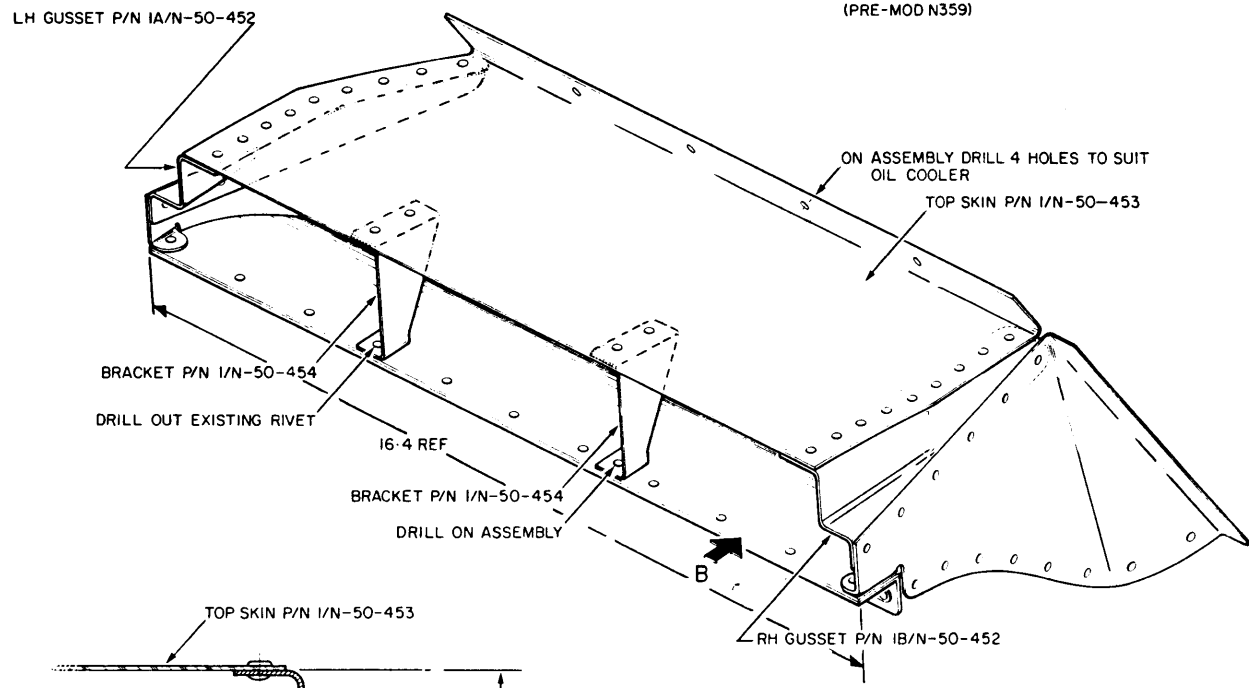
None.

4. Recording Action

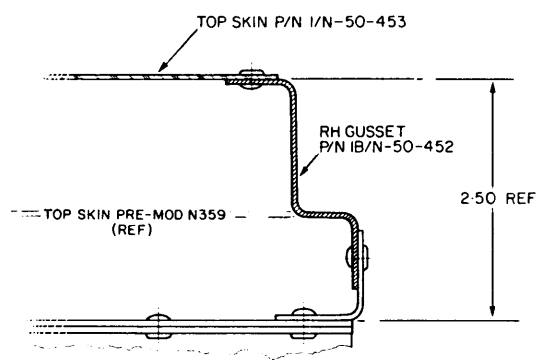
Record compliance with S/B NMD-71-7 in the airframe log book.



DETAIL A
(PRE-MOD N359)



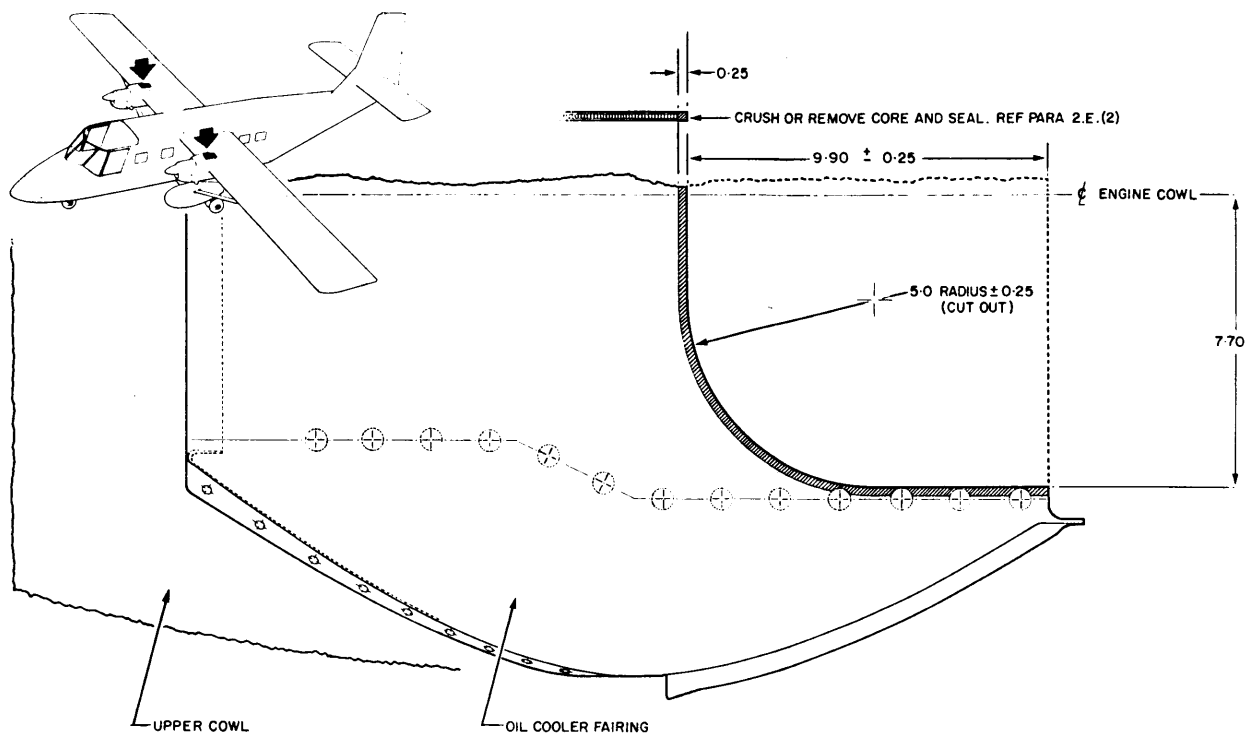
DETAIL A
(POST MOD N359)



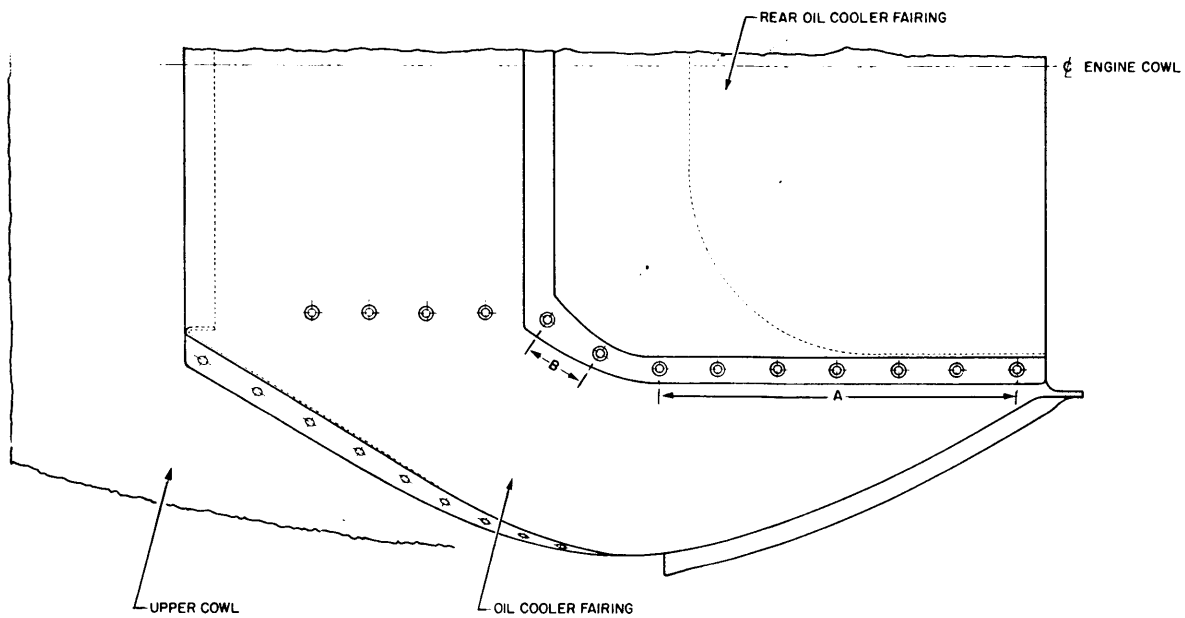
DETAIL B

ALL DIMENSIONS IN INCHES

Rework of Rear Duct Assembly
Figure 1



Rework of Upper Cowl
Figure 2



ALL DIMENSIONS IN INCHES

Rear Oil Cooler Fairing-
Position of Rivet Holes
Figure 3