SERVICE BULLETIN

SUBJECT: REDESIGNED OIL STOP COCK (MOD N376) - IMPROVED OIL STOP COCK (OPTION G240 AND G240-24) FOR FITMENT OF ENGINE NACELLE LOWER FRONT FAIRING (POST MOD N374)

1. Planning Information

A. Effectivity

(1) Aircraft Affected

All aircraft fitted with Option G240 (Nomad N22 Series) or G240-24 (Nomad N24 Series) and without Modification N376 embodied.

Pre-certification implementation of the intent of this service bulletin is recorded in the airframe log book as Mod N376.

(2) Spares Affected

Nil.

B. Reason

To introduce improved performance oil stop cocks and to provide clearance between the stop cock installations and the engine nacelle lower front fairing (Post Mod N374).

C. Description

The redesigned stop cock inlet connection screws into the LH outlet port (viewed looking forward) of the saddle type oil tank. A modified balance pipe connects a universal elbow at the RH tank outlet to the inlet port of the cock. A bleeder plug, to facilitate draining the tank is also fitted to the RH tank outlet. The oil temperature bulb previously fitted at the RH tank outlet is now fitted to the redesigned stop cock.

D. Compliance

Installation of the redesigned stop cock (Ref Para 2) must be accomplished prior to the installation of the revised engine anti-icing system (Ref S/B NMD-71-6).

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 kit required to accomplish this service bulletin comprises two parts. Part A supplied by GAF on a "no charge" basis and Part B comprised of parts salvaged from the aircraft during the accomplishment of this service bulletin. The kit comprising Part A Part Number NMD-79-5-1 is classified "no charge" and a "no charge" purchase order must be placed with the distributor. Distributors are to place a "no charge" purchase order on GAF through the normal procurement method. Purchase orders are to quote the service bulletin number and the aircraft serial number.

H. Tooling, Price and Availability

Nil.

J. Weight and Balance

Negligible effect on aircraft balance.

K. Reference

M.M. - Maintenance Manual
I.P.C. - Illustrated Parts Catalogue
Option G240 or G240-24 I.P.C. Supplement Figure 1 Sheet 2.

L. Publications Affected

Nil.

2. Accomplishment Instructions (Ref Figure 1 and 2 and Option G240 and G240-24 I.P.C. Supplement, Figure 1, Sheet 2)

WARNING: INCORPORATION OF THESE INSTRUCTIONS REQUIRES WORKING IN THE VICINITY OF THE PROPELLERS. ENSURE THAT THE AIRCRAFT ELECTRICAL POWER SUPPLIES (BATTERY AND/OR EXTERNAL POWER) ARE DISCONNECTED.

(1) Remove the engine nacelle lower front fairing (Ref M.M. 71-10-00).

(2) Drain the saddle type oil tank as follows:

(a) Place a suitable clean receptacle below the tank RH outlet (viewed looking forward).

(b) Disconnect the electrical connector from the oil temperature bulb, remove and discard the oil temperature bulb and gasket (Ref Option G240 or G240-24 IPC Supplement, Figure 1, Sheet 2, items 61 and 62) and drain the oil into the receptacle.

(c) When draining is complete remove the receptacle containing the oil clear of the aircraft.

(3) Disconnect the flexible control cable from the oil stop cock and discard the cotter pin, washer and clevis pin (Ref Option G240 or G240-24 IPC Supplement, Figure 1, Sheet 2, items 45, 46 and 47).

(4) Slacken the clevis locknut at the stop cock end of the flexible control cable. Remove the clevis and locknut, retain the locknut and discard the clevis (Ref Option G240 or G240-24 IPC Supplement, Figure 1, Sheet 2, items 44 and 43).

(5) Drill out the two AGS2050-424BS rivets attaching the cable support angle to the oil tank LH support bracket and remove the forward locknut of the control cable and the cable support angle from the cable. Retain the locknut and discard the support angle P/N 2/N-50-411.

(6) Remove the two clamps (Ref Option G240 or G240-24 IPC Supplement, Figure 1, Sheet 2, item 41) securing the flexible control cable to the upper sill of the nacelle LH side plate. Retain one clamp and discard the other clamp. Refit the clamps attaching hardware ensuring that the engine wiring harness is securely clamped to the underside of the upper sill at these two positions.

(7) Remove the oil hose assembly, 90 deg flared tube elbow, locking nut and preformed packing (Ref Option G240 or G240-24 IPC Supplement, Figure 1, Sheet 2, items 48, 49, 50 and 51) from between the oil stop cock and the engine accessories gearbox. Retain the locking nut and discard the oil hose assembly, 90 deg flared tube elbow and the preformed packing.

(8) Remove the oil stop cock, locking nut and preformed packing from the oil tank LH outlet (Ref Option G240 or G240-24 IPC Supplement, Figure 1, Sheet 2, items 52, 53 and 54). Retain the locking nut and discard the oil stop cock and preformed packing.

(9) Remove and discard the hollow bolt, LH universal elbow, gaskets and preformed packings (Ref Option G240 or G240-24 IPC Supplement Items 60, 55, 56, 59 and 57 respectively) and pipe assembly (Ref IPC 79-10-00, Figure 1, items 8). Retain universal elbow fitted at oil tank RH outlet.

(10) Assemble the locking nut (Ref step 8), preformed packing and special gasket (Ref Option G240 or G240-24 IPC Supplement, Figure 1, Sheet 2, item 75) to the new oil stop cock assembly. Ensure that the countersunk face of the gasket is next to the preformed packing and that the locking nut is screwed well down on the lower threaded section.

(11) Screw the stop cock into the oil tank LH outlet (viewed looking forward) until the preformed packing and special gasket are correctly positioned between the threads of the oil stop cock, and that the balance pipe inlet port of the stop cock is aligned with the tank RH outlet. Do not tighten the oil stop cock locking nut until after the balance pipe is fitted to the universal elbow at the tank RH outlet (Ref step 13).

(12) Fit a preformed packing to each end of the balance pipe and insert the cranked end of the pipe into the balance pipe inlet port of the stop cock (Ref Option G240 or G240-24 IPC Supplement, Figure 1, Sheet 2, items 84, 85 and 75 respectively).

(13) Fit the universal elbow (Ref step 9) onto the free end of the balance pipe. Place a gasket on the top and bottom faces of the universal elbow and insert the hollow bolt through the assembly (Ref Option G240 or G240-24 IPC Supplement, Figure 1, Sheet 2, items 79, 80 and 81). Secure the universal elbow and gaskets by screwing the hollow bolt into the oil tank RH outlet. Ensure that the universal elbow, balance pipe and oil top cock balance pipe inlet port are aligned then torque tighten the hollow bolt and the oil stop cock locking nut to between 100 and 130 lb inches.

(14) Fit a preformed packing onto the bleeder plug (Ref Option G240 or G240-24 IPC Supplement, Figure 1, Sheet 2, items 82 and 83) and screw the bleeder plug into the hollow bolt at the oil tank RH outlet. Torque tighten the bleeder plug to between 100 and 130 lb inches.

(15) Screw the oil temperature bulb complete with gasket (Ref Option G240 or G240-24, Figure 1, Sheet 2 item 86) into the oil stop cock and torque tighten the bulb to between 80 and 100 lb inches.

(16) Set the stop cock lever to OFF, replenish the oil tank (Ref MM 12-10-00) and check for oil seepage from the oil tank LH and RH outlets and newly installed parts.

(17) Position a suitable clean receptacle under the stop cock, move the stop cock lever briefly to ON then back to OFF. Check that there is a free flow of oil from the stop cock outlet port whilst the lever is at ON. Re-check for oil seepage after the lever is set to OFF.

(18) Reposition the N1 tachogenerator and reorientate the oil scavenge hose (engine accessories gearbox to oil cooler) to the positions shown in Figure 3. When refitting the tachogenerator in its new position discard the existing gasket and fit a new gasket (Ref IPC 79-10-01 Figure item 6). Torque tighten the tachogenerator attaching nuts to between 50 and 70 lb in.

NOTE: The repositioning of the N1 tachogenerator is necessary to provide clearance for the fitting of the oil inlet hose assembly and 45° flared tube elbow to the engine accessories gearbox. The reorientation of the oil scavenge hose becomes necessary to provide clearance between the hose and the N1 tachogenerator in its new position.

(19) Assemble the locking nut (Ref step 7) and preformed packing onto the 45° flared tube elbow (Ref Option G240 or G240-24 IPC Supplement, Figure 1, Sheet 2, items 74 and 72) and screw the elbow into the engine accessories gearbox as far as possible. Do not tighten the locking nut.

(20) Connect the angled end of the oil hose assembly (Ref Option G240 or G240-24 IPC Supplement, Figure 1, Sheet 2, item 71) to the oil stop

cock outlet port and then the other end of the oil hose assembly to the 45° flared tube elbow. Rotate the elbow to obtain the best run for the oil hose then torque tighten the elbow locking nut to between 200 and 350 lb inches. Torque tighten both ends of the oil hose assembly to between 200 and 350 lb inches.

(21) Assemble the flexible control cable support bracket (Ref Option G240 or G240-24 IPC Supplement, Figure 1, Sheet 2, item 87) and the cable forward locking nut onto the cable.

(22) Assemble the locknut (Ref step 4) and new rod end P/N Sealmaster AR-3 (alt Aurora AW3 or AW-3W) to the flexible control cable free end but do not tighten locknut until rod end is connected to the oil stop cock lever.

(23) Set the associated oil stop cock shut-off control lever on the overhead console to OFF and connect the flexible control cable rod end to the stop cock as shown in Figure 1. Ensure that the threaded end of the control cable is in safety, for example, threaded end of the control cable visible through the safety hole in the rod end or at least .3 inches engagement of threaded end of the control cable if no safety hole is provided in the rod end.

(24) Determine the optimum position of the cable support bracket to give satisfactory operation of the stop cock, clamp the bracket to the upper stay of the oil tank LH support bracket (Ref IPC 79-10-00, Figure 1, item 21) with two hose clamps (Ref Option G240 or G240-24 IPC Supplement, Figure 1, Sheet 2, item 88) and tighten the flexible cable locking nuts against the support bracket.

(25) Clamp the flexible control cable to the LH side of the nacelle as shown in Figure 2, using clamp (Ref step 6) and bolt (Ref Option G240 or G240-24 IPC Supplement, Figure 1, Sheet 2, item 65). The bolt screws into a right-angled anchor nut P/N ESNA 52LHA-71-4-02 (alt BOOTS TB05951032-1) which is attached by two rivets P/N MS20470AD4-4 to the nacelle structure.

(26) Operate the shut-off control lever in the overhead console and check that the lever moves freely to each selected position and that the stop cock lever moves to the corresponding position. Leave the shut-off control lever in the ON position.

(27) Re-route the anti-icing oil temperature bulb wire E30C18 and plug, with the engine wiring harness down the LH side of the nacelle, using nylon cordage P/N WN25 for looming as required.

(28) Connect the oil temperature bulb electrical power supply plug to the oil temperature bulb.

(29) Refit the engine nacelle lower and upper front fairings (Ref MM 71-10-00).

(30) Restore the aircraft electrical power supply as necessary and check that the oil temperature indicating system operates satisfactory (Ref MM 79-30-00).

NOTE: When this service bulletin has been complied with, drainage of the oil tank is achieved by removing the bleeder plug.

3. Material Information

The kit of parts required for the accomplishment of this service bulletin comprises two parts. Part A which is supplied free of charge by GAF through the operators local distributor, and Part B which comprises parts salvaged from the aircraft during the accomplishment of this service bulletin (Ref Para 2).

A. Parts Required Per Each Oil Stop Cock Installation

(1) Part A Kit P/N NMD-79-5-1.

Nomenclature	Part Number	Quantity
Preformed Packing	NAS 617-10	2
Special Gasket	1/N-50-437	1
Oil Stop Cock Assembly	1/N-50-432	1
Preformed Packing	MS29561-114	2
Balance Pipe	1/N-50-439	1
Gasket	AN901-10A	2
Hollow Bolt	1/N-50-92	1
Preformed Packing	NAS617-6	1
Bleeder Plug	MS24391-J6 -K6) alt -S6)	1
Oil Temperature Bulb	MS28034-3	1
Gasket, Type X	MS9134-01	1
45° Flared Tube Elbow	AN837-10D	1
Oil Hose Assembly	624139-10D0107	1
Cable Support Bracket	1/N-50-457	1
Rod End	Sealmaster AR-3 Aurora AW3 or AW-3W alt	1
Bolt	NAS1103-10D	1
Spring Washer	MS35338-43	2
Nut	AN310-3	1
Cotter Pin	MS24665-151	1
Hose Clamp	AN737TW26	2
Bolt	AN3-3A	1
Right-angled Anchor Nut	ESNA 52LHA-71-4-02 BOOTS TB05951032-1 alt	1
Rivet	MS20470AD4-4	2
Nylon Cordage	WN25	AR

(2) Part B Kit (Parts Salvaged from aircraft)

Nomenclature	Part Number	Quantity
Self-locking Nut	AN315-3R	1
Clamp	MS29119DG4	1
Locking Nut	AN924-10D	1
Locking Nut	AN924-10S	1
Universal Elbow	1/N-50-87	1

B. Removed Parts Per Each Oil Stop Cock Installation

Nomenclature	Part Number	Qty	Recommended Disposition
Oil Temperature Bulb	MS28034-1	1	Return to Store
Annular Gasket	MS35769-11	1	Scrap
Clevis	AN665-21R	1	Scrap
Cotter Pin	MS24665-151	1	Scrap
Flat Washer	AN960-10L	1	Scrap
Clevis Pin	MS20392-2C11	1	Scrap
Cable Support Angle	2/N-50-411	1	Scrap
Clamp	MS21919DG4	1	Scrap
Oil Hose Assembly	624100-10D0214	1	Scrap
90° Flared Tube Elbow	MS24394D10	1	Scrap
Preformed Packing	NAS617-10	2	Scrap
Oil Stop Cock Assembly	1/N-50-401	1	Scrap
Hollow Bolt	1/N-50-91	1	Scrap
Universal Elbow	1/N-50-410	1	Scrap
Gasket	AN901-10A	3	Scrap
Preformed Packing	MS29561-114	2	Scrap
Gasket, Type X	MS9134-01	1	Scrap

D. Parts Required to Modify Spares

Nil.

E. Special Tools and Equipment Required

None.

4. Recording Action

Record compliance with S/B NMD-79-5 in the airframe logbook.

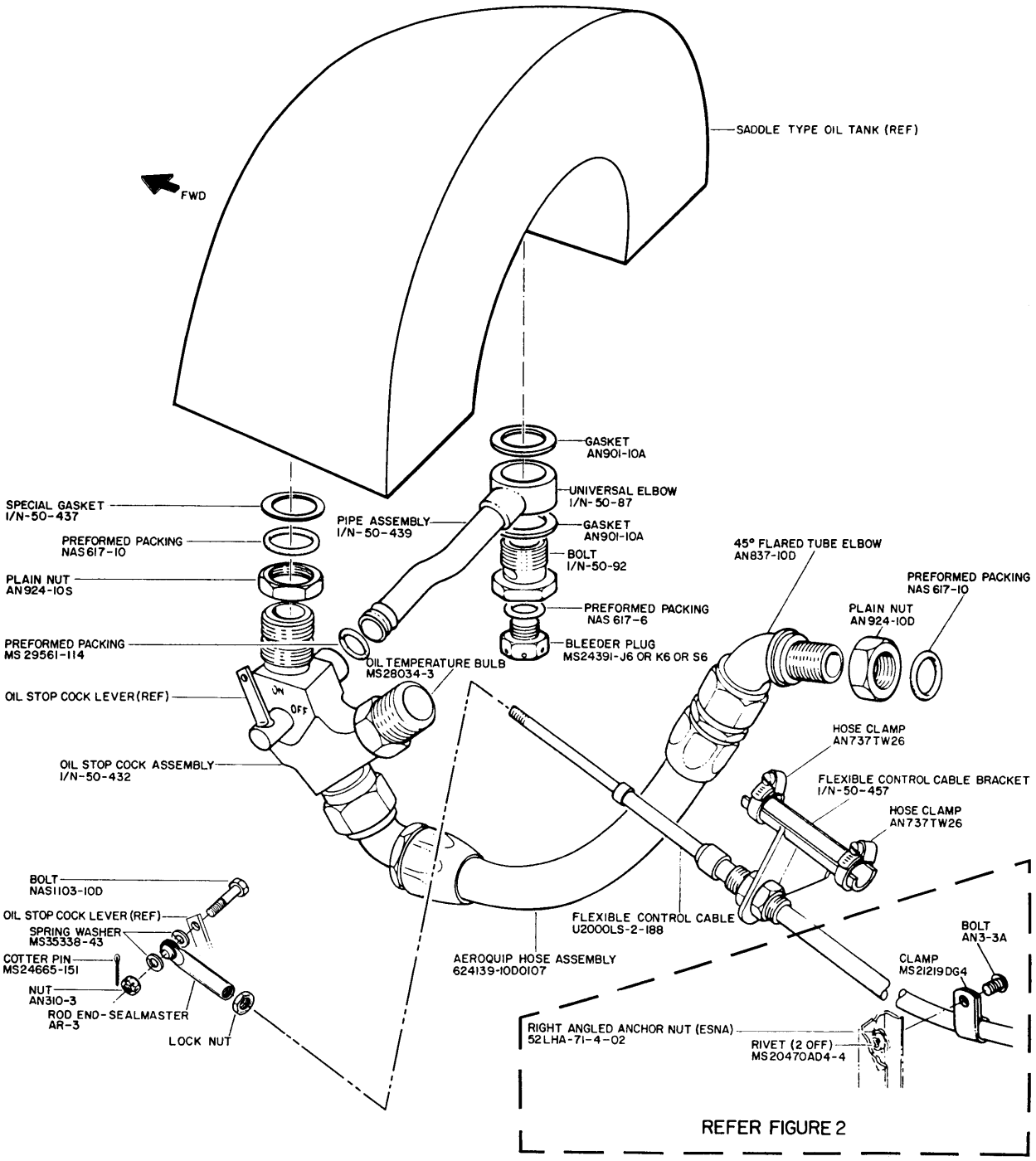
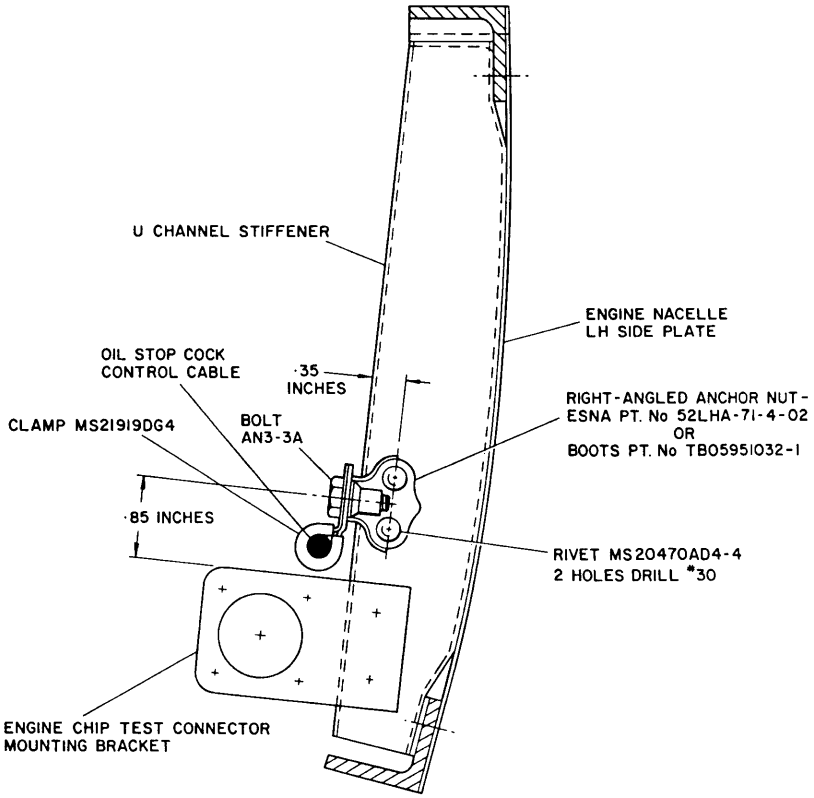
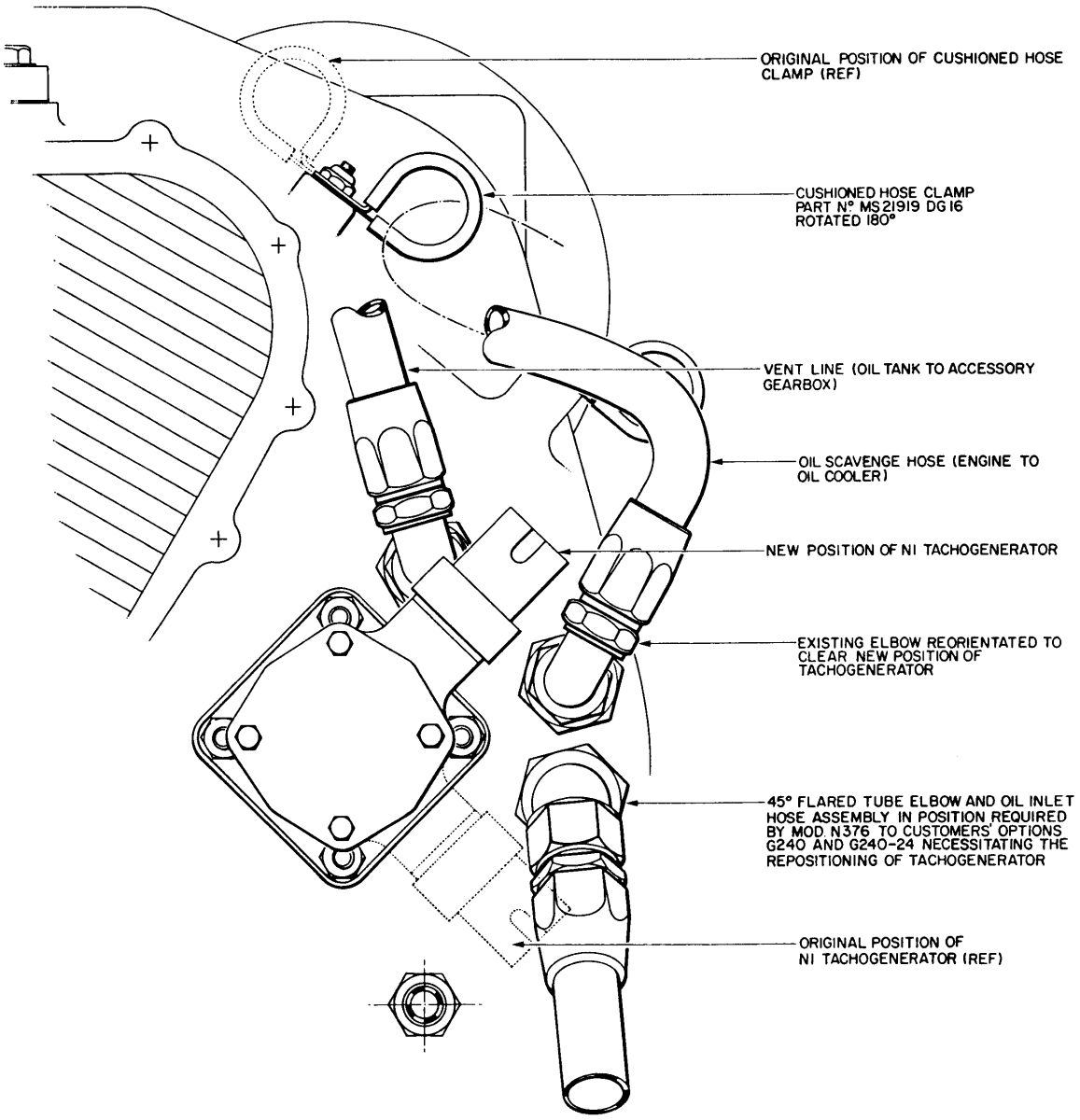

SADDLE TYPE OIL TANK (REF)
FWD
GASKET AN901-10A
UNIVERSAL ELBOW I/N-50-87
GASKET AN901-10A
BOLT I/N-50-92
PREFORMED PACKING NAS 617-6
BLEEDER PLUG MS24391-J6 OR K6 OR S6
SPECIAL GASKET I/N-50-437
PREFORMED PACKING NAS 617-10
PLAIN NUT AN924-10S
PREFORMED PACKING MS 29561-114
PIPE ASSEMBLY I/N-50-439
OIL TEMPERATURE BULB MS28034-3
OIL STOP COCK LEVER (REF)
ON
OFF
OIL STOP COCK ASSEMBLY I/N-50-432
45° FLARED TUBE ELBOW AN837-10D
PREFORMED PACKING NAS 617-10
PLAIN NUT AN924-10D
HOSE CLAMP AN737TW26
FLEXIBLE CONTROL CABLE BRACKET I/N-50-457
HOSE CLAMP AN737TW26
BOLT NAS1103-10D
OIL STOP COCK LEVER (REF)
SPRING WASHER MS35338-43
COTTER PIN MS24665-151
NUT AN310-3
ROD END-SEALMASTER AR-3
LOCK NUT
FLEXIBLE CONTROL CABLE U2000LS-2-188
AEROQUIP HOSE ASSEMBLY 624139-10D0107
BOLT AN3-3A
CLAMP MS21219DG4
RIGHT ANGLED ANCHOR NUT (ESNA) 52LHA-71-4-02
RIVET (2 OFF) MS20470AD4-4
REFER FIGURE 2

Figure 1



Installation of Oil Stop Cock Control Cable Clamp - Scrap View
Figure 2



Engine Front Elevation
Figure 3