GOVERNMENT AIRCRAFT FACTORIES

Nomad

SERVICE BULLETIN

Reference No 168

SUBJECT: FITMENT OF IMPROVED NOSEWHEEL FORK (MOD N412)

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 N412 or compliance with this Service Bulletin (NMD-32-18).

(2) Spares Affected

Part No	Title	Recommended Disposition
1/N-41-620 (N22, N22B, N22S & N24)	Nose gear oleo leg	
1/N-41-726 (N24A)	Nose gear oleo leg	Rework as per Para 2
1/N-41-121 (N22, N22B, N22S & N24)	Nose oleo plunger assy	
201/N-41-731 (N24A)	Nose oleo plunger assy	
1/N-41-122	Nose oleo plunger	

B. Reason

Pre-mod N412 - The nosewheel fork attachment bolt is located on the forging flash line and this has resulted in some instances of crack development in service. Post Mod N412 replacement nosewheel forks have the attachment bolt relocated to a more favourable position but this requires rework of the nose oleo plunger in order to fit the modified fork.

C. Description

The existing nosewheel fork is replaced by one with the attachment bolt relocated to a lower position in the attachment collar and with the bolt axis aligned fore and aft. The nosewheel oleo plunger is reworked to suit.

D. Compliance

The modification detailed in this Service Bulletin should be incorporated if a Pre-mod N412 nosewheel fork is replaced with a post Mod N412 fork.

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 not including removal and installation of the nose oleo landing gear.

G. Material, Price and Availability

Material: - Post Mod N412 nosewheel fork P/N 1/N-41-738.
Price: - According to current issue of the GAF Nomad Spares Price List.
Availability: - To be advised on request.

H. Tooling, Price and Availability

N.A.

J. Weight and Balance

Negligible effect.

K. References

MM - Maintenance Manual
CMM - Component Maintenance Manual

L. Publications Affected

MM
IPC
CMM

2. Accomplishment Instructions (Ref Figure 1)

A. Jack up the aircraft (Ref MM 7-00-00).

B. Remove nosewheel from nose gear oleo leg (Ref MM 32-40-61).

C. Remove the nose gear oleo leg (Ref MM 32-20-11).

D. Remove the existing nosewheel attachment fork from the nose gear oleo leg (Ref Type N-41-620, CMM 32-01-02).

E. Rework the oleo plunger as shown on Figure 1.

NOTES: (1) It is considered unnecessary to disassemble the oleo leg beyond removing the fork for this task.

(2) It is recommended that the task be carried out in a jig borer, vertical milling machine, or similar machine capable of precise positioning of the work relative to the spindle. The oleo plunger should be held in a chuck mounted on a dividing head to enable the plunger to be rotated 180 degrees after completing the first hole. The oleo outer casing (body) should be supported on a Vee-block shimmed to the correct height to set the plunger axis parallel to the machine table.

(3) Great care must be taken to avoid chipping or bruising the hard chrome plating on the oleo plunger when holding the oleo leg in the machine and during the subsequent reworking operations.

(4) Prior to drilling the holes the hard chrome plating should be removed from both sides of the plunger in the areas to be drilled, using a tungsten carbide rotary burr, diamond file, or an abrasive stone.

CAUTION: GRINDING USING A HIGH SPEED MOUNTED POINT SHOULD BE AVOIDED BECAUSE OF THE DANGER OF LOCALLY OVERHEATING THE PLUNGER MATERIAL AND INITIATING CRACKING. THE PLUNGER MATERIAL IS 4340 STEEL HEAT TREATED TO 180-200 KSI.

(5) The axis of the new holes should be drilled at right angles to the axis of the existing holes, within the positional tolerance stated. After pilot drilling, the holes should be reamed or bored to final size.

CAUTION: CARE SHOULD BE TAKEN TO DRILL THE HOLES WITHIN THE STATED POSITIONAL TOLERANCE SINCE IT IS IMPORTANT THAT VERTICAL LANDING LOADS BE TAKEN BY DIRECT CONTACT BETWEEN THE PLUNGER END AND THE BOTTOM OF THE SOCKET IN THE FORK, NOT BY THE ATTACHMENT BOLT.

(6) After drilling, carefully debur the edges of the holes and feather any chipped areas in the chrome plating around the holes to avoid future problems when replacement of seals becomes necessary.

F. Refit the Post Mod N412 nosewheel fork P/N 1/N-41-738 to the oleo plunger ensuring that the plunger is fully bottomed in the fork socket and that the bolt can be easily fitted (bolt head facing forward). The use of barium chromate pigmented jointing compound is recommended when fitting the fork to the plunger and on installation of the attachment bolt. Reconnect the torque links and adjust as necessary (Ref Type N-41-620, CMM 32-01-02).

G. Refit the axle and wheel to the nose oleo leg (Ref MM 32-40-61).

H. Refit the nose gear oleo leg to the aircraft (Ref MM 32-20-11).

J. Lower the aircraft to the ground (Ref MM 7-00-00).

3. Material Information

A. Parts Required per Aircraft

Nil

B. Parts Modified and Re-identified by Operator

Original P/N	Title	New P/N
1/N-41-121 (N22, N22B, N22S & N24)	Nose gear oleo plunger assy	2/N-41-121
201/N-41-731 (N24A)	Nose gear oleo plunger assy	202/N-41-731
1/N-41-122	Nose gear oleo plunger	2/N-41-122

C. Parts Required to Modify Spares

1/N-41-738 Nosewheel fork assy.

D. Removed Parts

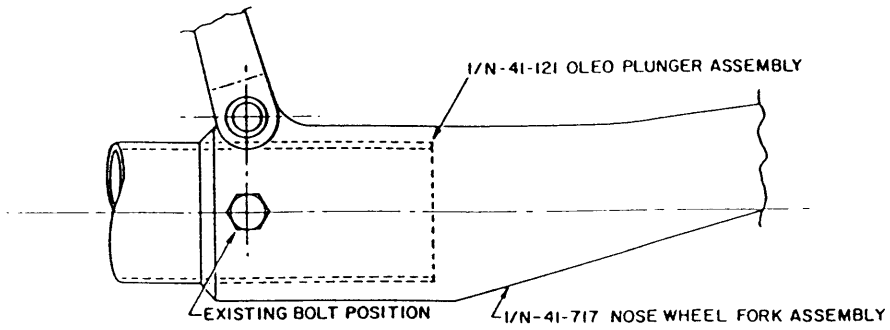
Item P/N	Title	Qty	Recommended Disposition
1/N-41-717	Nosewheel fork assy	1	Scrap

E. Special Tools and Equipment

None

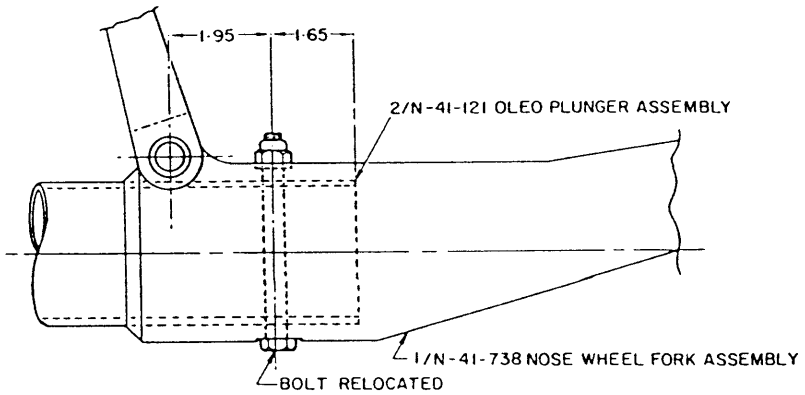
4. Recording Action

Record compliance with Service Bulletin NMD-32-18 in the airframe log book.

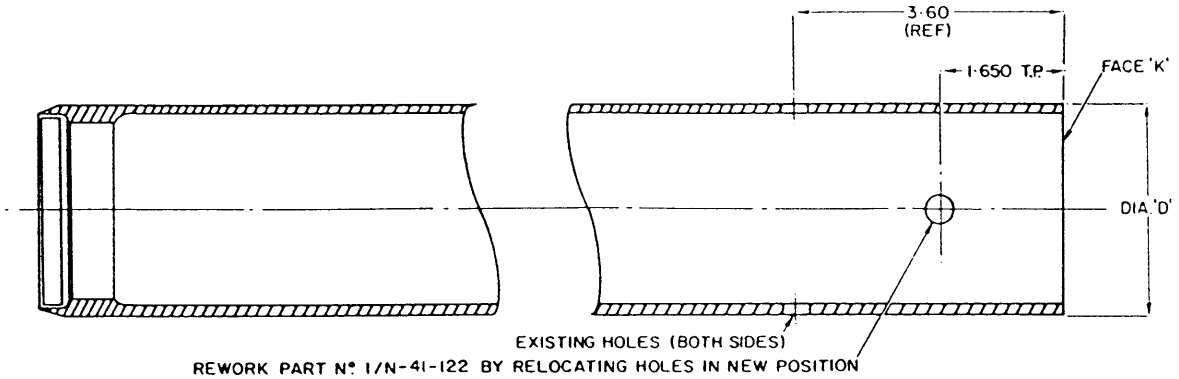


PRE-MOD N412

ALL DIMENSIONS IN INCHES
UNLESS OTHERWISE INDICATED



POST MOD N412



REMOVE CHROME PLATING LOCALLY, 0·25 DIA. MAX., TO PROVIDE PILOT DRILL ACCESS. (REFER PARA 2E(4)).

2. DRILL AND REAM $^{0\cdot3776}_{0\cdot3770}$ DIA. RIGHT THROUGH BOTH SIDES. POSITIONAL TOLERANCE 0·002 DIA. DATUM DIA. 'D' FACE 'K'.

3. EXISTING HOLES ACCEPTABLE.

4. THIS DRAWING SHOWS THE METHOD FOR REWORKING THE DETAIL PART N° 1/N-41-122. EXISTING PLUNGER ASSEMBLIES, PART N° 1/N-41-121 CAN BE REWORKED SIMILARLY WITHOUT DISASSEMBLY.

5 AFTER REWORK, PLUNGER DETAIL PART N° 1/N-41-122 BECOMES PART N° 2/N-41-122 AND PLUNGER ASSEMBLY, PART N° 1/N-41-121 BECOMES PART N° 2/N-41-121.

Rework of Nose Gear Oleo Plunger
Figure 1