GOVERNMENT AIRCRAFT FACTORIES

Nomad

Reference No. 14

SERVICE BULLETIN

SUBJECT Main Landing Gear.

EFFECTIVITY Nomad N22 and N22B with the following serial numbers:

N22-2, N22-3M, N22-4, N22B-5M, N22B-6M, N22B-7, N22-8M, N22-9M, N22B-11M, N22B-12M, N22B-13M and N22B-14.

SPARES AFFECTED The following is a composite list of GAF supplied spares affected by this modification. Operators should review their spares stock for existance of any of the following items:

Part No.	Nomenclature	Recommended Disposition
1/N-40-621	Tabwasher	Scrap
1/N-40-617	Tabwasher	Scrap
1/N-40-603	Oleo Assy.	Rework

REASON The following parts may have been assembled with paint on clamped mating surfaces:

(a) Oleo leg pivot fittings 1/N-40-605
(b) Drag link attachment rings 1/N-40-672
(c) Lower torque links 1/N-40-625

Vibration due to landing and taxiing loads may cause the paint between the mating surface to extrude, thus reducing the clamping loads. This reduction in torque loading may permit excessive backlash in the tensional restraint of the main wheel assemblies.

The backlash may result in the failure of the spigots which locate the drag link attachment ring to the oleo leg outer casing.

Experience has shown that if backlash is introduced the tabwashers for the oleo leg pivot fitting and drag link attachment ring may lose their effectiveness and permit slight slackening of their respective nuts.

Service experience indicates that landing gear performance is improved with minimum backlash in the torque link assemblies.

DESCRIPTION This Service Bulletin requires that:

(a) The paint is removed from between the oleo leg pivot fitting and tabwasher mating surfaces, the oleo leg drag link attachment ring and tabwasher mating surfaces, and the torque link assembly mating surfaces.
(b) The existing tabwashers for the oleo leg pivot fitting and the drag link attachment ring are replaced by a new type of tabwasher.
(c) The end float between the torque link assembly and the drag link attachment ring lugs is reduced to zero.

COMPLIANCE At earliest possible opportunity.

MANPOWER Approximately 10 manhours.

MATERIAL Price and Availability.

The parts required to accomplish this modification shall be procured through the operators local distributor. These parts are classified "no charge" and a "no charge" Purchase Order must be placed upon the distributors within 90 days to receive this offer.

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.

TOOLING Price and Availability

The spanners identified in Special Tools (Page 5) are available from GAF on a loan basis.

To avail themselves of this offer, operators are requested to contact their local distributor and arrange convenient incorporation schedules.

Distributors in turn are requested to advise GAF of the requirements for these spanners by means of a "charge freight only" Purchase Order, quoting this Service Bulletin.

WEIGHT AND BALANCE Not applicable.

REFERENCES Nomad I.P.C. - Chapter/Section 32-10
Nomad Maintenance Manual - Chapter/Section 32-10.

PUBLICATIONS AFFECTED Nomad I.P.C.
Nomad Maintenance Manual.

ACCOMPLISHMENT INSTRUCTIONS

1. Remove LH and RH main gear oleo legs (Ref. Maintenance Manual 32-10-11). Discard the leg retaining nut tabwasher (1/N-40-621).

2. At the oleo leg pivot fitting, remove all paint from the top and bottom mating surfaces and from the side faces of the shear lugs.

3. Refer to I.P.C. 32-10-01, Fig. 1 and remove the axle mounting blocks (36) as follows:

   (a) Remove bolt (10) and withdraw upper shaft (6).
   (b) Remove bolt (40) and withdraw the axle mounting block (36) complete with torque link assembly (2A and 15).

4. Refer to I.P.C. 32-10-01, Fig. 1 and remove the drag link attachment ring (31) as follows:

   a. Lift the tabs on the washer (35). Remove the retaining nut (34), using G.A.F. Tool No. 1640-3503, and the tabwasher. Discard tabwasher (1/N-40-617).
   b. Release the drag link attachment ring (31) by tapping lightly on the fore and aft lugs.

5. Disassemble drag links (2A and 15) by removing the lower shaft (18) and pivot bolt (23). Retain associated parts.

6. Remove all paint from the following:

   a. The torque links (2A and 15) mating faces.
   b. The drag link attachment ring (31) upper and lower mating faces, and the sides of the spigots.
   c. The associated mating faces of the oleo leg casing and the retaining nut (34).

7. Inspect the drag link attachment ring (31) spigots for signs of overloading. Ensure all faces are clean for dye penetrant check detection.

8. Check detect the spigots and the adjacent area, using an approved dye penetrant process (e.g. Ardrox, Dyecheck, etc.).

9. If cracks are detected:

   a. Initiate Warranty action on the defective drag link attachment ring 1/N-40-672.
   b. Obtain modified drag link attachment ring assembly 2/N-40-672.

10. Refer to I.P.C. 32-10-01, Fig. 1 and install drag link attachment ring (31) as follows:

    NOTE: Wet assemble drag link attachment ring using Duralac or a suitable equivalent. Ensure Duralac forms a seal to prevent water ingress around locating spigots.

    a. Position the drag link attachment ring on the oleo leg.
    b. Slide the new design tabwasher 1/N-40-865 and the retaining nut (34) up the oleo leg.

    NOTE: The tab of the washer locates between the torque link attachment lugs. It may be necessary to file the edge of the tab to achieve a firm fit in the slot.

    c. Torque load the retaining nut to 2000 lb/in.
    d. Punch the edge of the washer into two convenient slots of the retaining nut. Check that the tab of the washer is flush with the base of the slot and that there is no side play.
    e. Wire lock the drag link attachment ring to the oleo excluder nut (27) (Refer to I.P.C. 32-10-01, Fig. 2).

11. Refer to the I.P.C. 32-10-01, Fig. 1 and install the axle mounting block (36) and the torque links (2A and 15) as follows:

    a. Position the axle mounting block on the oleo leg plunger (2). Install the bolt (40), washer (39) and nut (38). Torque load the bolt to 85 lb/in. Install cotter pin (37).
    b. Attach lower torque link (16) to axle mounting block, using the shaft (18). Install set screws (14), bolt (22), washer (21), nut (20) and cotter pin (19).

        NOTE: Shimming of torque links. To achieve zero play shims should be added until torque link movement is firm. Force required at apex of torque link to achieve movement should be between 0.5 lb. to 2.0 lb.

    c. Attach upper torque link (3) to lower torque link, using pivot bolt (23) and associated parts. Check that there is no end play at the shaft (18) and at the joint between the two torque links (2A and 15). If necessary change the thickness of the shims (29) on the lower torque link.
    d. Attach upper torque link (3) to drag link attachment ring (32), using shaft (6) and associated parts. Check that there is no side play between the drag link attachment ring and the torque link. If necessary change thickness of the shims (29) on the upper torque link.

12. Install LH and RH main gear oleo legs and carry out retraction check (Ref. Maintenance Manual 32-10-11). At step B(4) in 32-10-11 of Maintenance Manual, install new design tabwasher 1/N-40-866.

    NOTE: Wet assemble oleo to oleo leg pivot fitting using Duralac or suitable equivalent. Ensure Duralac forms a seal to prevent water ingress around locating spigots.

MODIFICATION ACTION Modification N58 will incorporate the intent of this Service Bulletin.

MATERIAL INFORMATION:

1. Parts required per Airplane

Quantity	Part No.	Nomenclature
2	1/N-40-866	Tabwasher
2	1/N-40-865	Tabwasher
6	1/N-41-655	Shim

2. Parts required to modify Spares

Quantity	Part No.	Nomenclature
1	1/N-40-865	Tabwasher
3	1/N-41-655	Shim

3. Parts removed

Part No.	Nomenclature	Disposition
1/N-40-621	Tabwasher	Scrap
1/N-40-617	Tabwasher	Scrap
1/N-41-655	Shim	Scrap

SPECIAL TOOLS

(1) Spanner Part No. 1640-3503
(2) Spanner Part No. 1640-3502
(3) Torque Wrench 0-2000 lb/in.