

# *Nomad*

# ALERT SERVICE BULLETIN

## LH & RH CONTROL COLUMN UNIVERSAL JOINT TAPER PINS INSPECTION AND REPLACEMENT

### 1. PLANNING INFORMATION

#### A. Effectivity:

(1) Aircraft Affected:

All Nomad N22, N22B, N22C, N22S, N24 and N24A Aircraft in which Mod N428 has not been incorporated.

(2) Spares Affected

None.

#### B. Reason

An instance has occurred in service where a taper pin securing the control wheel universal joint to the control column spigot assembly shaft has come loose, resulting in sloppy movement of the control wheel. During ground investigation the pin fell out of its hole.

Occurrence of this condition in flight constitutes a flight safety hazard.

Accomplishment of Part B of this Service Bulletin produces a permanent remedy to this defect.

Improved reliability will result from incorporation of this Service Bulletin.

#### C. Description

Part A of this Service Bulletin initiates an inspection of the LH and RH Control Column Universal Joint Taper Pins.

Part B provides instructions on the modification of each spigot and universal joint for securing by a bolt.

#### D. Compliance

Part A - Before next flight.

Part B - Within 300 airframe hours or three months, whichever is earlier, from the date of this bulletin.

#### E. Approval

The modification detailed herein has been approved pursuant to Civil Aviation Regulation 35 and conforms with Type Certification requirements.

|         |   |   |   |   |
|---------|---|---|---|---|
| Page No | 1 | 2 | 3 | 4 |
| Rev No  | 0 | 0 | 0 | 0 |

# *Nomad*

## ALERT SERVICE BULLETIN

### F. **Manpower**

(1)

- (a) Inspection - 0.5 hour.
- (b) Remove parts - 1.5 hours.
- (c) Drill and ream holes - 2.5 hours.
- (d) Refit parts - 1.5 hours.
- (e) Re-rig aileron control circuit - 0.5 hour.

(2) Assumed status of aircraft is in service.

(3) Elapsed time - 4 hours.

(4) Total manhours - 8 hours.

### G. **Material. Price and Availability**

The materials required are to be obtained from operator's stock or procured from local source (Ref Section 3.).

### H. **Tooling. Price and Availability**

Standard machine shop equipment only is required.

### I. **Weight and Balance**

Negligible effect.

### J. **Electrical Load Data**

Not Affected.

### K. **Software Accomplishment Summary Not affected.**

### L. **References**

- (1) Nomad Maintenance Manual.
- (2) Nomad Illustrated Parts Catalogue.
- (3) Drawing No N-45-1567/8.

### M. **Other Publications Affected**

- (1) Maintenance Manual Chap 27-10-05.
- (2) Illustrated Parts Catalogue Chap 27-40-02.
- (3) Inspection Requirement Manual.

### N. **Family Tree Charts of Modification Relationships Not Applicable.**

# ***Nomad***

## ALERT SERVICE BULLETIN

### 2. ACCOMPLISHMENT INSTRUCTIONS

Refer IPC Chap 27-40-02, Fig 2, Sheet 1, Page 0.

#### A. PART A

- (1) Gain access behind the instrument panel.
- (2) Locate taper pin, item 18.
- (3) Inspect taper pin for looseness or evidence of looseness such as metallic or black deposits at either end of the pin where it enters the end of the universal joint.
- (4) If pin does not appear to be loose re-inspect each 100 hours until incorporation of PART B compliance.
- (5) If pin is loose, rework in accordance with PART B before further flight.
- (6) Repeat steps (1) to (5) on the other Control Column Assembly.

#### B. PART B

- (1) Remove the chain and spigot assembly Ref MM Chap 27-10-05.

##### NOTE

Retain the taper pin removed during removal of the universal joint.

- (2) Inspect the universal Joint for binding, slackness, and torn or damaged cover allowing lubricant to escape. Replace if necessary.
- (3) If original universal joint is serviceable, refit to sprocket shaft and clamp in correct position.

##### NOTE

Taper pin removed at step (1) to position parts correctly.

- (4) Drill and ream through taper pin holes to .2500/.2490 inch diameter. Ensure that bolt is light push fit in hole. Remove swarf and break sharp edges of drilled holes.
- (5) If replacement universal joint is fitted it must be accurately drilled and reamed as follows:
  - (a) Position the spigot shaft, with the universal joint fitted and located by the taper pin, on a vee block with the end face of the universal joint hard up against a reference face of the vee block.
  - (b) Position the vee block on a drill press bed so that the centre line of the taper pin is in line with the centre line of the drill. Secure the vee block and spigot shaft to the drill press bed.
  - (c) Remove the taper pin and universal joint.
  - (d) Position the replacement universal joint on the spigot shaft with its end face hard against the reference face of the vee block. Clamp in place.

# Nomad

## ALERT SERVICE BULLETIN

- (e) Drill and ream the assembly bolt hole to .2500/.2490 inch diameter. Ensure that bolt is light push fit in hole.
  - (f) Remove spigot and universal joint from the drill press.
  - (g) Remove swarf and break sharp edges of drilled holes.
  - (h) Drill and ream hole .2500/.2490 inch diameter in the other end of the universal joint 0.4 inch from the face and in line with the hole previously drilled. The control column assembly may be used as a Jig for drilling.
- (6) Re-assemble spigot assembly and universal joint to the head of the control column using NAS62041-2D bolt, AN960-416 washer and AN320-4 castellated nut. Torque tighten the nut to 5 lb in and secure with MS24665-134 split pin.
- (7) Install Aileron Control Wheel Ref MM Chap 27-10-14.
- (8) Install aileron chain, and rig control circuit Ref MM Chap 27-10-05 Para D.
- (9) Inspect in accordance with MM Chap 27-10-05 Page 202, Para 2.

### WARNING

FOLLOWING ANY OPERATION INVOLVING DISCONNECTION OF THE FLYING CONTROLS, AN INDEPENDENT INSPECTION BY A SUITABLY QUALIFIED PERSON IS REQUIRED.

### 3. MATERIAL INFORMATION

Parts Required Per Aircraft

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

| PN          | Qty | Description      |
|-------------|-----|------------------|
| NAS6204-12D | 2   | Bolt             |
| AN960-416   | 2   | Washer           |
| AN320-4     | 2   | Nut, Castellated |
| MS24665-134 | 2   | Split Pin        |

### 4. RECORDING ACTION

Record compliance with Alert Service Bulletin ANMD-27-39 in the airframe log book.

### NOTE

Previous embodiment of Nomad Mod N428 renders compliance with these instructions unnecessary.