10-4 Pitch Control Assembly

A. Pitch Control - Removal (See Figure 10-12)

(1) Disconnect pitch links from pitch link retainer(13) (2) Remove tail rotor assembly.

(See Section 10-1)

(3) Remove cotter pin, nut, and pivot bolts from pitch control and control brackets. (See Figure 10-13)

NOTE: The stainless steel washers located between control brackets and oilite bushings of pitch control assembly must be saved for reinstallation.

(4) Slide pitch control assembly off of chrome sleeve(2).

NOTE: Seal retainer(3) and seal (4}are damaged on keys each time the pitch control assembly is removed. Install new seal and retainer on reassembly. Normally the seal and the seal retainer are not damaged and can be reinstalled.

(5) Remove keys(1).

B. Pitch Control Disassembly (See Figure 10-12)

(1) Remove seal r etainer(3)and seal (4).

(2) Remove cotter pins(14) from retainer(13).

(3} Place pitch link retainer (13) in small arbor press and press dowel pin (12) through retainer and pitch control bearing(5).

(4) Rotate retainer and repeat on opposite pin.

(5) Gently press pitch control bearing(5) through pitch link retainer(13},wave spring washers(11),and bearing (9).

Use a press tool that exactly fits the bronze pitch control bearing or you will damage the bearing. Heat the bearing housing (7) and pitch change retainer (12) to 230° F with a heat gun before attempting to press the pitch control bearing from the bearing housing and the pitch change retainer.

(6) Remove snap ring(10).

(7) Heat bearing housing(8) and gently tap bearing(9) to remove. (8) Clean parts for inspection.

(9) See pages MM-10-28and MM-10-29for inspection requirements.

D. Pitch Control – Assembly (See Figure 10-12)

(1}Heat bearing housing (7)and install bearing(8).

NOTE: Bearing (8) is installed with slots for removal of inner bearing section facing outboard toward pitch link retainer. These slots are located 90° to pivot arms of bearing housing (7) on installation.

(2) Install snap ring (9) with opening of snap ring in line with pivot arm of bearing housing (7).

(3) Press pitch control bearing (5) through bearing (8) in outboard direction.

(4) Install two wave spring washers (10) on pitch control bearing (5).

(5) While visually aligning dowel pin holes in pitch link retainer (12) with pin holes in pitch control bearing (5), press retainer onto bearing.

Fabricate 2 alignment pins by grinding a bullet taper on the threaded end of 2 AN4-7A bolts to use as alignment pins. Place the bearing housing (7) in a vise with soft jaws and the exposed part of the pitch control bearing (5) facing up.

Heat the pitch change retainer (12) with a heat gun to 230°F with a heat gun. Wearing gloves place the pitch change retainer onto the pitch control bearing while visually aligning the holes (5) and gently tap the alignment bullets into the assembly to align the pitch change retainer (12) with the pitch control bearing (5).

NOTE: If pin holes do not completely line up, gently tap ear of pitch link retainer with plastic mallet until holes do line up.

(6) Press dowel pin (11) into pitch link retainer (12). Rotate retainer and repeat.

NOTE: Seat dowel pins to 0.10 inch below surface of pitch link retainer. Pins must not extend through pitch control bearing (5).

(7) Install cotter pins (13) into pitch link retainer (12).

Install the pitch change assembly onto the tail rotor gearbox output shaft to ensure that it will slide on the chrome shaft without binding. It is common for the bronze pitch control bearing (5) to be slightly distorted on the inside in the area of the pins. If this is the case, use a fine tooth ½ round file to dress the bearing so that it will slide freely.

(8) Install seal (4) into outboard groove of pitch control bearing (5).

E. Pitch Control – Installation (See Figures 10-12 and 10-13)

(1) Slide seal retainer (3) onto chrome sleeve (2).

(2) Slide seal (4) onto sleeve.

(3) Install keys (1) in slots of sleeve (2)

(4) Align keyway in pitch control bearing (5) with keys (1), and slide pitch control assembly onto chrome sleeve.

(5) Install stainless steel washers between bushings and control brackets. (See Figure 10-13)