HUGHES SERVICE INFORMATION NOTICE

NOTICE NO. N-60.1*
DATE Feb. 20, 1969

*Supersedes Service Information Notice N-60, dated Oct. 24, 1968

SUBJECT: BALANCE WEIGHT ASSEMBLY INSTALLATION - LOW TIP SPEED TAIL ROTOR

MODELS AFFECTED: All 269 Series Helicopters equipped with low tip speed tail rotor assembly (P/N269A6034)

TIME OF COMPLIANCE: At owners and operators discretion

PREFACE:

The information given in this Service Information Notice lists a procedure for installation of a weight assembly (Kit No. M10030) to (1) provide a convenient method for fine balance adjustment of the low tip speed tail rotor, and (2) ensure vibration-free tail rotor operation.

Reference

269A/A-1TH-55A Handbook of Maintenance Instructions, Revised 1 June 1968
269B Handbook of Maintenance Instructions, Revised 1 July 1968

PARTS LIST

Nomenclature	Part No.	Qty.	Mfgr.
Kit, Installation - Weight Assy Re: Low Tip Speed Rotor Balance	M10030	1	HTC-AD
Washer, Key	HS1551-275	1	Commercial

FORM NO. 9578A HTC AD REV 11-67

Tools & Equipment

Gun, rivet	Commercial
Wrench, torque - 100 in. -lbs., range minimum	Commercial
Fastener - Cleco, or equivalent	Commercial
Grinder, portable or sandpaper	Commercial

Materials

Gloves, lint-free	Commercial
Cloth, lint-free	Commercial
Sodium dichromate	Commercial
Acid - sulphuric (Sp. G. 1.84)	Commercial

PROCEDURE

a. Remove cotter pin, nut, washers and bolt at pivot point of tail rotor bellcrank assembly, so that bellcrank arm drops away from bearing in lower surface of pitch control assembly.

b. Pull beaded end of boot out of groove at inboard end of pitch control assembly.

c. Straighten tabs on key washer; loosen nut and slide tail rotor outward on shaft to remove blade stop and phenolic spacer; remove nut.

d. Remove and discard key washer.

CAUTION

Key washer may not be reused.

e. Slide tail rotor assembly off shaft, while holding hand or small pan under shaft to catch split ring assembly. If split ring halves do not fall out, remove them from shaft groove.

f. Remove bolts, nuts, cupped and plain washers securing pitch control links to tail rotor blade control horns.

CAUTION

An out-of-balance condition of the tail rotor assembly may result if the order of the bolt, nut, washer combination is not maintained. During bench handling, do not allow blade pitch travel on hub to exceed pitch limitations in Figure 1. Rotating the blades to excessive pitch angles may result in undetected damage to tension-torsion strap assembly.

g. Procure or mix chromate etch solution as follows:

sodium dichromate	26.6 ounces
sulphuric acid	1.0 ounce
water to make	1.0 gallon

h. Apply chromate etch solution to cadmium surface of tail rotor hub where -5 and -7 brackets are to be bonded (Refer to Figure 2); thoroughly rinse etched surface with clear water; air dry and wipe off with clean, lint-free cloth.

CAUTION

Do not allow etch to come into direct contact with body. Immediately flood skin area with water, if contact is made. Also, mask nameplate area; do not allow etch to contact tail rotor blades or teflon-lined bearings.

i. Apply primer to hub and bracket faying surfaces only; air dry for 30 minutes at room temperature.

NOTE

Check that parts are free from dirt, grease, oil, grit, etc., before application of primer and adhesive. Use clean gloved hands. Mask off areas that are to remain unpainted.

j. Mix adhesive 1-to-1 with catalyst; apply to hub and bracket faying surfaces in uniform layer.

NOTE

Do not apply adhesive to bracket ears.

k. Position and install -5 and -7 brackets on hub with rivet holes aligned exactly, secure assembly with Cleco fastener or equivalent; air dry for 8 hours at room temperature or 2 hours at 160°F.

NOTE

When positioning brackets on hub, align to center left of flapping action bolt, per Figure 2.

l. Install rivets to secure brackets and remove fasteners.

NOTE

Before installing rivets, insert -9 shims as required to meet dimensions per Detail C, thus permitting proper seating of brackets over hub.

m. Install M10007-5 weight to nut plate; position weight so that it is centered on bracket assembly; torque bolt to 50-70 in.-lbs.

NOTE

Install P/N AN960-416 washers as required to keep bolt from bottoming out.

n. Reinstall pitch control links in reverse order of removal; maintain original nut, washers, bolt combination as noted in step f.

o. Install tail rotor assembly, per HMI.

NOTE

Before reinstalling spacer, rework spacer by sanding off 0.032 in. from present thickness of outboard side of spacer (See Detail B, Figure 2)

p. Check tail rotor weight assembly installation for discrepancies.

q. Balance the tail rotor assembly, per instructions in HMI.

Weight & Balance Data

ADD:

0.21 lbs.	at	272 in. arm

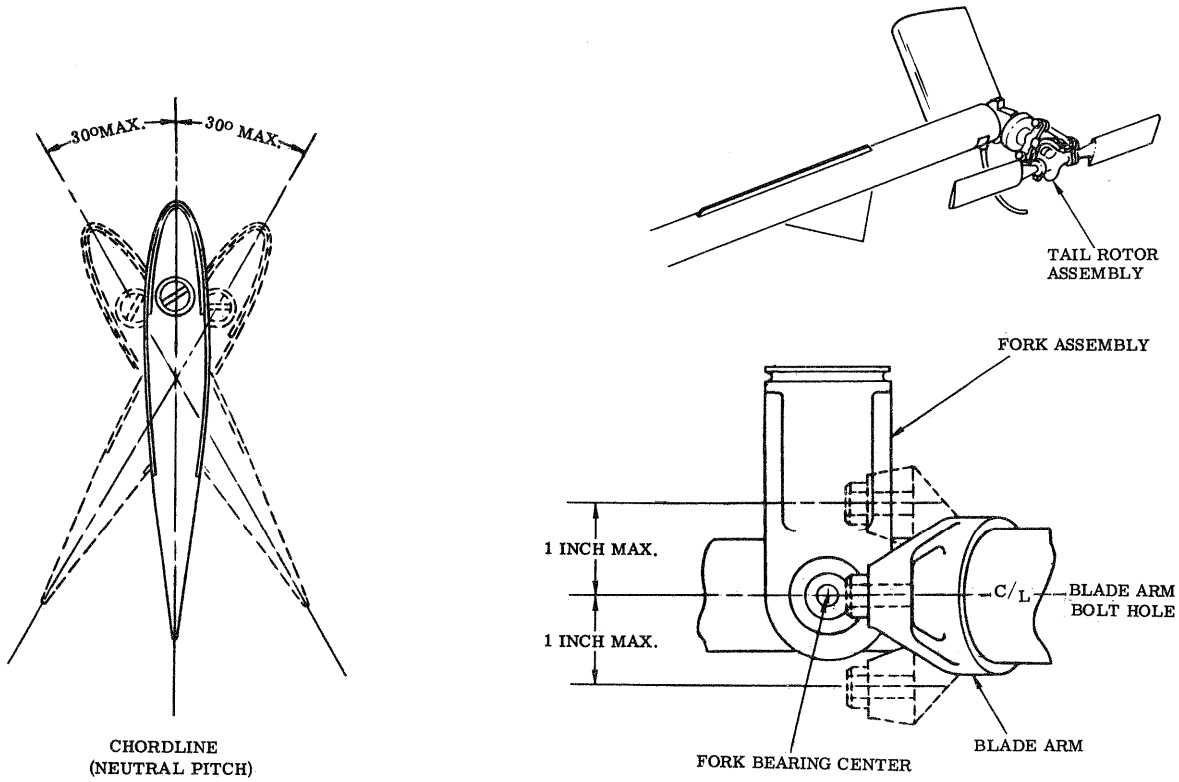

FIGURE 1. BLADE PITCH TRAVEL LIMITATIONS FOR BENCH HANDLING

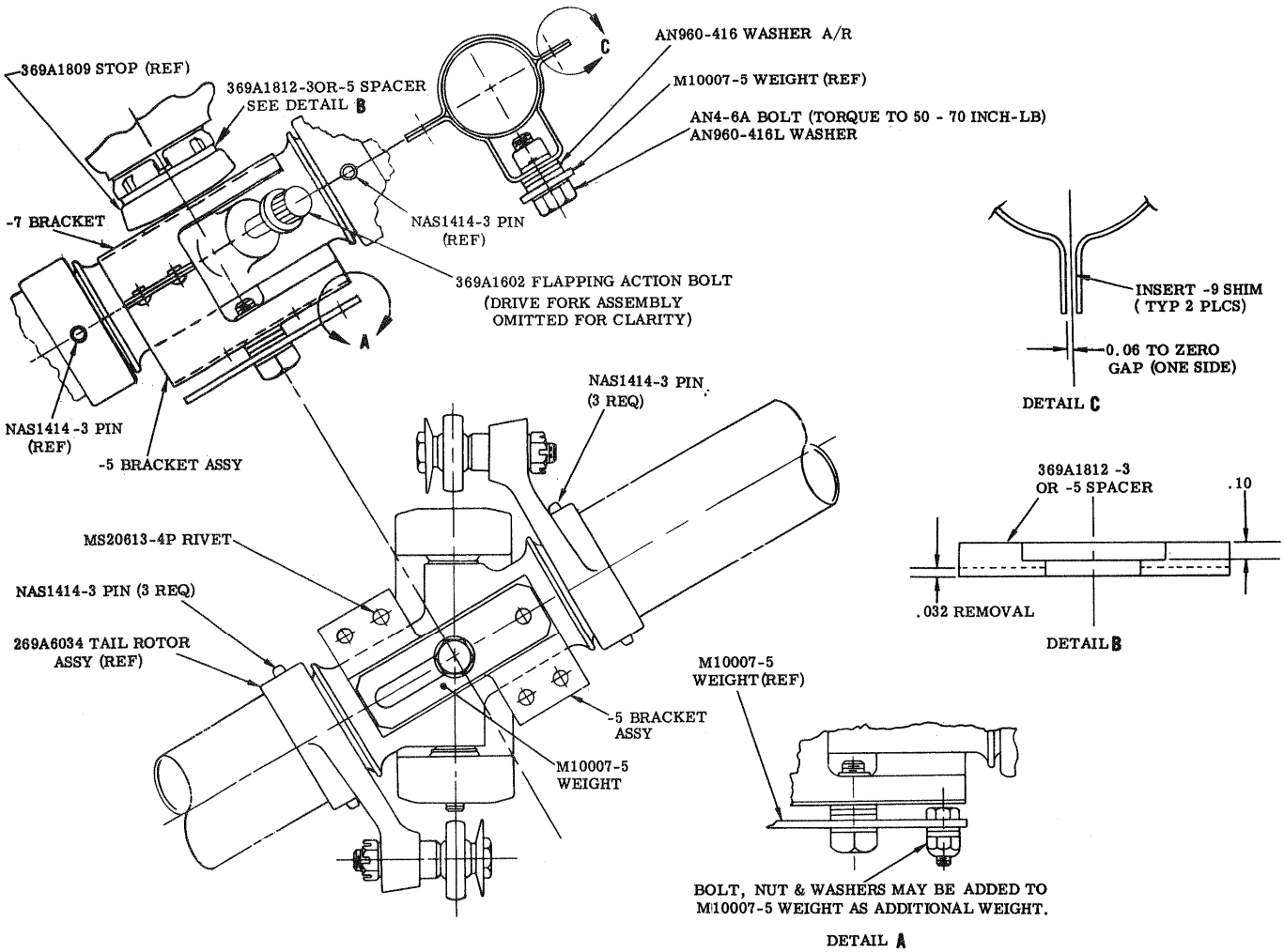

FIGURE 2. WEIGHT AND BALANCE ASSEMBLY, LOW TIP SPEED TAIL ROTOR