Service Bulletin

Service Bulletin: SB407-101; Bell 407 Air Conditioner Compressor Drive Pulley.

Subject: Inspection & Torquing Procedure for the Air Conditioner Compressor Drive Pulley Installation.

Date: 4 March, 1999
28 Sept. 2000, Rev A

Applicability: Bell 407, Equipped with the Air Comm Corporation 407EC-201 Air Conditioner System.

Reference:

1. F.A.A./S.T.C. # SR00222DE, Bell Helicopter 407 Air Conditioning System.
2. Compressor Installation Drawing # 407EC-300

Compliance: Recommended within the next 25 hours of flight time after the receiving this bulletin.

I. Discussion:

It has come to our attention that excessive driveshaft spline wear may occur if the Compressor Drive Pulley is not properly installed.

This wear may occur at the Drive Ring Spline interface. To prevent wear in this area during operation the Drive Pulley must not rotate relative to the thread on the shaft.

As these parts directly interface with the driveshaft assembly, it is imperative that they are installed, maintained, and inspected correctly.

II. Approval:

The technical aspects of this Service Bulletin are FAA / DER approved.

III. Purpose:

The purpose of this bulletin is to expand and clarify the Pulley / Drive Ring installation, and inspection procedures.

IV. Accomplishment Instructions:

INSPECTION:

1. Visually inspect the Compressor Drive Ring (P/N S-3532EC-3) for signs of fretting or wear between the Tail Rotor Driveshaft spline and the Drive Ring assembly.

NOTE

Due to the close proximity of the Flywheel Drive Coupler to the Compressor Drive Ring and Pulley assembly, it is necessary to disassemble the Driveshaft per the Bell 407 Maintenance Manual to do the inspection.

a. If any fretting or wear is noted on the Drive Ring Spline, the Drive Ring (P/N S-3532EC-3) must be replaced, and an inspection of the Tail Rotor Driveshaft Spline should be made to insure that it is within the wear tolerances of the Bell 407 Maintenance Manual.

b. Remove the Compressor Drive Pulley (P/N S-3532EC-1) and inspect the threads on the Tail Rotor Driveshaft to insure that they are within wear tolerances of the Bell 407 Maintenance Manual.

NOTE

Wear of the Compressor Drive Ring Spline and Compressor Drive Pulley Threads is caused by insufficient torque, or improper torquing procedures when installing the Compressor Drive Pulley (P/N S-3532EC-1).

INSTALLATION:

2. Install Compressor Drive Pulley and Drive Ring as follows.

a. Install the Compressor Drive Pulley (P/N S-3532EC-1) on the forward end of the Tail Rotor Driveshaft, thread the pulley tightly against the face of the Driveshaft Hanger Bearing Retainer.

b. Torque Compressor Drive Pulley to 200 – 300 in lbs., using a .257 Dia X .13 Deep Spanner wrench, utilizing one of the four available holes on the pulley body. (See note page 3 of 4).

c. Install the Drive Ring (P/N S-3532EC-3) on the Driveshaft Spline, and slide into place. Align four of the twelve holes provided in the drive ring with the four threaded holes in the Compressor Drive Pulley.

CONTINUED

INSTALLATION CONTINUED:

NOTE

Alignment of the four holes in the Drive Ring to match those in the Compressor Drive Pulley is accomplished by a "trial and error" method of placing the Drive Ring on the Driveshaft spline to check for hole alignment. Several rotations of the Drive Ring may be necessary to achieve the desired hole alignment. If rotation of the Pulley is required to achieve the Drive Ring hole alignment, the pulley torque must be increased. Do not exceed 350 in lbs of torque.

CAUTION

Do not back the torque off the Compressor Drive Pulley to achieve the hole alignment.

d. Once the correct hole alignment is achieved between the Drive Ring and the Compressor Drive Pulley, Install the four retaining Bolts (P/N S-3532EC-10) and Washers (P/N AN960-PD416) torque to 60 – 80 in lbs., and safety the bolts in pairs using .032 safety wire.

NOTE

Safety wire must be routed so that it does not contact the spline or drive coupler.

e. Install Flywheel Drive Coupler, Flywheel and existing Drive Shaft mounting hardware as shown on Page 4 of 4, torque nuts to 150 –180 in lbs.

NOTE

Minimum clearance between the Flywheel Drive Coupler, and the Drive Ring is .050 inch.

V. Weight and Balance:

Not affected.

VI. Manpower:

Approximately 2.0 man-hours will is required to perform part IV steps 1 & 2 of this bulletin. Hours are based on hands on time, and may very due to personnel and facilities available.

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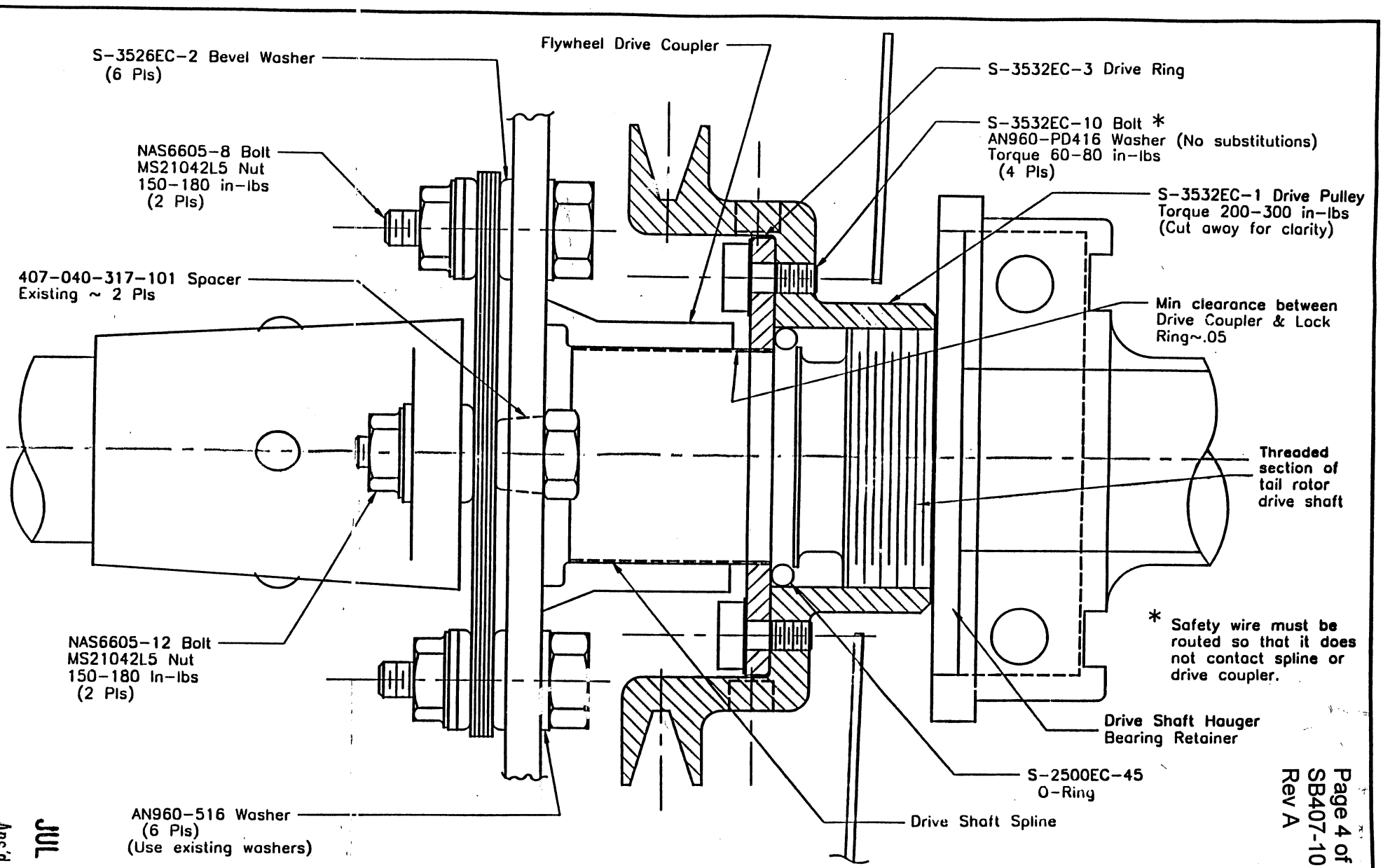

Figure 1 Compressor Drive Pulley Installation Details