

### Service Bulletin

- Service Bulletin:** SB EC135-300; Eurocopter EC135 Air Conditioner Compressor Bearing inspection.
- Subject:** Compressor bearing inspection & installation of the EC135-3008-1 Bearing Cover.
- Date:** 30, October 2006, Rev N/C
- Applicability:** Eurocopter Helicopter model EC135 Equipped with the Air Comm Corporation EC135-200 Dual Forward Evaporator Air Conditioning System.
- Reference:**
1. FAA / STC # SR00565DE, Eurocopter Helicopter EC135 Air Conditioning System.
  2. EC135-300 Compressor Installation Drawing.
  3. EC135-302 Compressor Installation Drawing.
  4. EC135-3002 Compressor Mount Assy. Drawing.
  5. EC135-3008 Bearing Cover Drawing
  6. EC135-3010 Bearing Retainer Assy. Drawing.
- Compliance:** Mandatory, within 25 hours of receipt of this bulletin.

**I. Discussion:**

Operators in the field have noted corrosion / rust on the upper bearing assembly of the EC135 air conditioner Compressor Drive Assembly. This corrosion / rust maybe an indication the upper bearing may have experienced contamination from water collecting on the upper exposed surface of the bearing seal.

**II. Approval:**

Technical aspects of this Service Bulletin are FAA / DER approved.

**III. Purpose:**

The purpose of this bulletin is to inspect the upper compressor drive bearing for corrosion / rust, and to install a protective cover over the exposed bearing seal to prevent water intrusion.

**IV. Bill of Materials:**

**Parts to be Installed:**

Item	Part Number	Description	Quantity
1	EC135-3008-1	Bearing Cover	1

**V. Accomplishment Instructions:**

**CAUTION**

It is recommended that the battery and external power be disconnected before starting work.

**NOTE**

It will not be necessary to discharge the refrigerant from the air conditioner system to accomplish this Service Bulletin.

**Removal:**

1. Remove the upper aircraft cowlings to access the air conditioner compressor & mount assembly, which is mounted to the drive pad on the aft side of the main transmission housing.
2. Cut the safety wire that secures the MS509-8 Jam Nut to the EC135-3020-1 Compressor Adjustment Assy., and loosen nut. (See figure 1-1)
3. Loosen the four (4), AN6-21A bolts that secure the base of the EC135-3040-1 Compressor Assembly to the top of the Compressor mount (See figure 1-2)
4. Turn the 412AC-3016-16 Belt Tensioning Bolt counterclockwise to loosen the belt tension. This will allow for the removal of the compressor drive belt. (See figure 1-1)
5. Remove the four (4), AN3-7A bolts & NAS1149F0332P Washers which attach the EC135-3010-2 Bearing Retainer Assy. to the Upper compressor mount assembly. (See figure 1-2)
6. Remove the nine (9), AN3-7A Bolts & NAS1149F0332P Washers from the upper compressor mount assembly. (See figure 1-2)
7. Remove the two (2), MS21042L4 Nuts & NAS1149F0432P Washers from the aft outboard support studs. (See figure 1-2)

**NOTE**

The upper section of the air conditioner compressor & mount can now be carefully lifted up and supported to allow access to the EC135-3010-2 Bearing Retainer Assembly.

**CAUTION**

Support and secure the air conditioner compressor assembly to prevent any damage to the compressor, compressor mount, or aircraft components.

Continued



Removal continued:

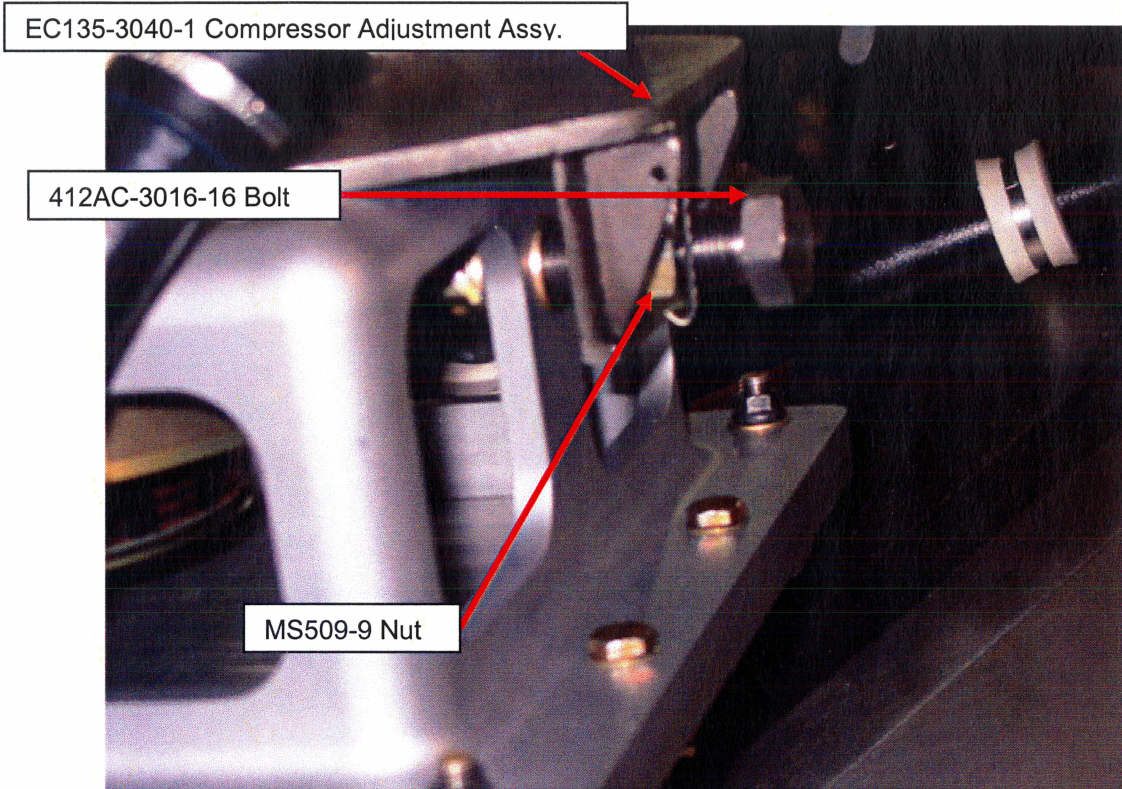


Figure 1-1

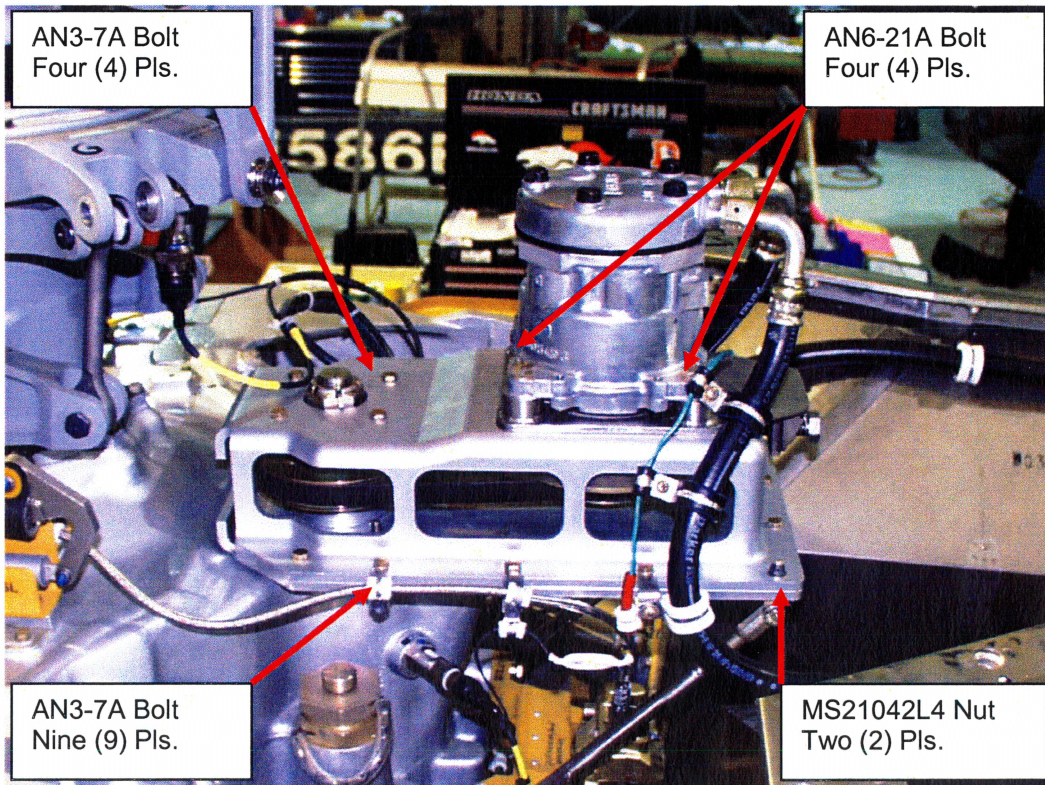


Figure 1-2



**Inspection:**

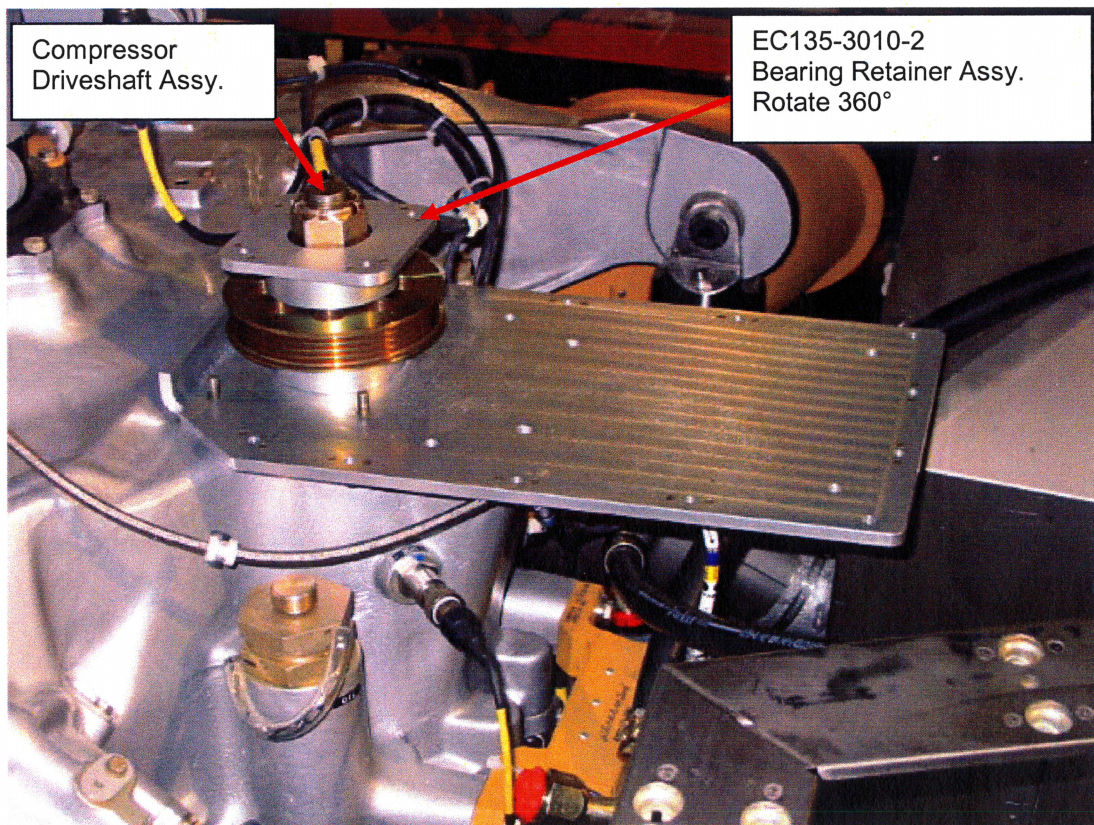
1. Visually inspect the upper and lower surfaces of the EC135-3010-2 Bearing Retainer Assembly for any signs of corrosion or rust on the bearing retainer or the bearing seals. (See figure 2-1)
2. Rotate the EC135-3010-2 Bearing Retainer Assembly 360 degrees around the Compressor Driveshaft Assembly by hand. The bearing should turn smoothly, with no binding noted.

**NOTE**

If **no** corrosion, rust, or binding of the bearing is noted, continue on to Reassembly & Installation section of this Bulletin.

If corrosion, rust, or binding of the bearing is found, the compressor drive bearings must be replaced. Please contact ACC Customer Service for a copy of **Service Bulletin SB EC135-302**, for replacement parts and instructions.

Phone 303-440-4075, Fax 303-440-6355, E-Mail [info@aircommcorp.com](mailto:info@aircommcorp.com)



**Figure 2-1**



### Reassembly & Installation:

1. Reinstall the upper section of the compressor mount back onto the lower section. Insure that the compressor drive belt is installed around the drive pulley prior to continuing with the reassembly of this component.
2. Reinstall the two (2), MS21042L4 Nuts & NAS1149F0432P Washers on the aft outboard support studs, and torque nuts to 30 to 40 inch lbs.
3. Reinstall the nine (9), AN3-7A Bolts & NAS1149F0332P Washers in the upper compressor mount assembly, and torque to 20 to 25 inch lbs.
4. Reinstall the four (4), AN3-7A Bolts, NAS1149F0332P Washers, and the new EC135-3008-1 Bearing Cover on to the upper compressor mount assembly, apply Pro-seal 870 or equivalent to both faying surfaces, and torque to 20 to 25 inch lbs. (See figure 2-2)
5. Reinstall the Compressor drive belt on both the Compressor and Compressor Drive Pulleys, then re-tension the belt using the 412AC-3016-16 bolt. Turning the bolt clockwise to tension the belt.

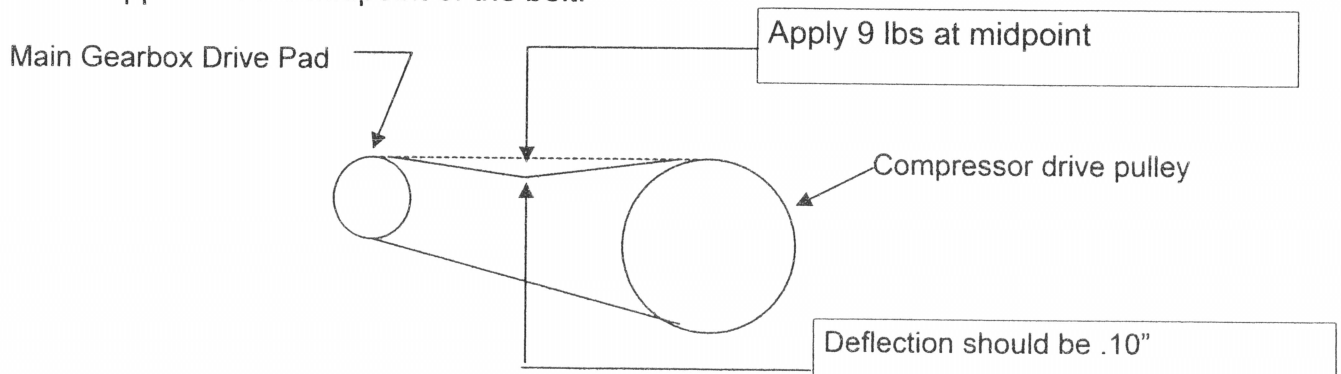
### NOTE

Proper belt tension is important to insure a long belt service life and to avoid excessive loads on the compressor, and bearing assemblies.

- A. The correct belt tension for the belt is 9 lbs. This can be achieved with the aid of a **belt tensioning tool** (Kent-Moore® BT-33-73F Belt Tension Gauge or Equivalent).

(This is the preferred method of obtaining proper belt tensioning)

- B. An alternate method is to observe a .10" belt deflection when 9 lbs of force is applied at the midpoint of the belt.



Continued

Reassembly & Installation continued:

**NOTE**

The belt tension should be checked, and re-adjusted, if necessary after the first two hours of operation for a newly installed belt.

6. Once the belt tension is achieved, torque the four (4), AN6-21A bolts that secure the base of the EC135-3040-1 Compressor Assembly to the top of the Compressor mount, 160 to 190 inch lbs.

7. Torque the MS509-8 Jam Nut 40 - 58 ft. lbs, and re-safety using MS20995C-32 Safety Wire.

8. Reinstall the cowlings I/AW the EC135 Aircraft Maintenance Manual

**Weight and Balance:**

The addition of the EC135-3008-1 Bearing Cover is a negligible amount and should not effect the weight and balance of the aircraft.

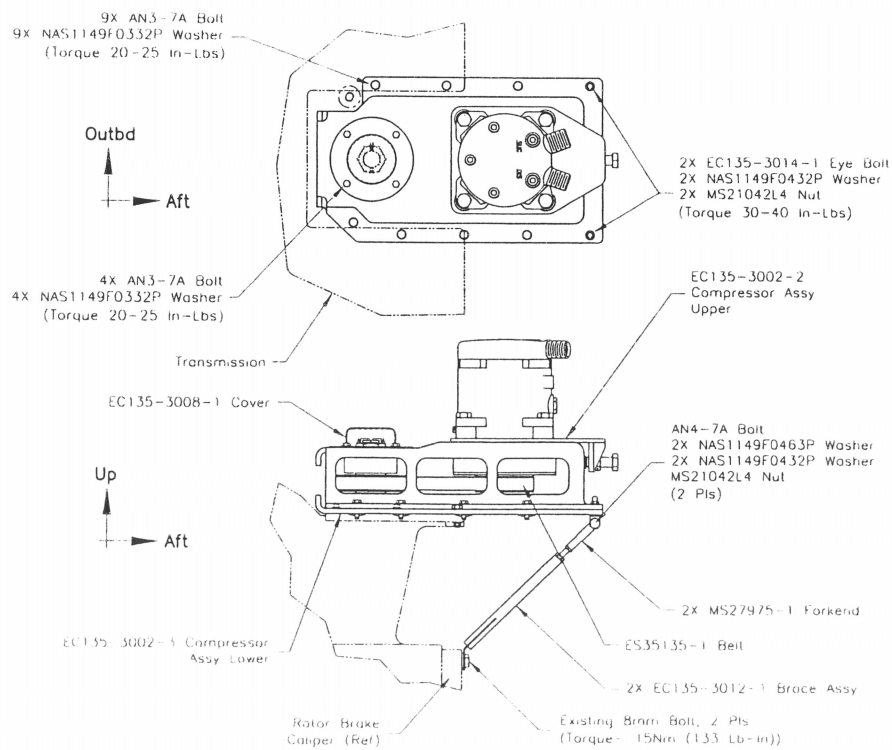


Figure 2-2