

Service Bulletin: SB A119-306; Agusta A119 Air Conditioner Compressor Drive Belt Change from "Cogged" to Poly-V Belt.

Subject: Removal & Replacement of A119 Air Conditioner Compressor Drive Belt Design Change.

Date: 26 August 2005, Rev D (previous revisions never issued).

Applicability: Agusta A119 Helicopter, Equipped with the Air Comm Corporation A119-204-1 & -2 Air Conditioning Systems.

Serial Numbers: 14006, 14011, 14015, 14018, 14019, 14021, 14022, 14023, 14027, 14028, 14030, 14032, 14033, 14034, 14035, 14036, 14037, 14038, 14039, 14040, 14041, 14043, 14045, 14046, 14050, 14053.

Reference:

1. FAA / STC # SR00463DE, Agusta Helicopter A119 Air Conditioning System.
2. Compressor Installation Drawing # A119-306
3. Drive Pulley Drawing # A119-3042
4. Instructions for Continued Airworthiness A119-206M-1

Compliance: **Mandatory** (within the next **25 hours** of flight after the effective date of (09/02/05) this bulletin and no later than September 23, 2005)

I. Discussion:

This Document provides for the replacement of the existing Compressor, Compressor Drive Pulley, and cog belt with a Poly-V Belt, and Compressor Assembly. The Poly-V belt installation reduces both noise and vibration levels, and is considered to be a major improvement to the integrity of the overall compressor installation. A new compressor safety strap and belt tensioning link will also be installed as a result of the compressor and belt change.

II. Approval:

Technical aspects of this Service Bulletin are FAA approved.

III. Purpose:

The purpose of this bulletin is to Remove, and Replace the air conditioner systems positive (cogged) belt, and pulley design, with a smoother running Poly-V belt design.

With this change the existing compressor, belt, compressor drive pulley, and belt tensioning link are replaced.

IV. Bill of Materials:

Parts to be Removed:

Item	Part Number	Description	Quantity
1.	A119-3010-1 or -2	Compressor Assy.	1
2.	A119-3004-1	Drive Pulley	1
3.	950 5M 09	Drive Belt (Positive / Cogged)	1
4.	NAS6604-9	Bolt	5
5.	NAS1149F0432P	Washer	5
6.	NAS1149F0463P	Washer	5
7.	MS21042L4	Nut	5

Parts to be Installed:

Item	Part Number	Description	Quantity
1.	A119-3042-11	Drive Pulley	1
2.	NAS6604H6	Bolt	5
3.	ES35119-2	Drive Belt (Poly-V)	1
4.	A119-3040-1	Compressor Assy.	1
5.	440-841	#8 O-ring	1
6.	440-842	#10 O-ring	1
7.	35115	Wire Cap	2
8.	A119-3056-1	Safety Strap Assy.	1
9.	S-3018EC-3	Link Assembly	1
10.	A119-206M-1	Instructions for Continued Airworthiness	1

V. Accomplishment Instructions:

Removal

1. Discharge air conditioner system per A119-206M-1, Chapter 5, Servicing.

CAUTION

Refrigeration servicing should be performed by qualified personnel only!

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Continued

Accomplishment Instructions (continued):

Removal

2. Disconnect #8 and #10 refrigerant lines from the ports located on the aft side of the air conditioner compressor body. Remove and discard O-rings from hose fittings. Cap lines to prevent contamination, and oil loss from the system.
3. Cut safety wire, and loosen Jam nuts on compressor belt tensioning link assembly. Turn the barrel section of the link assembly to loosen the compressor belt tension.
4. Disconnect the Compressor clutch wire at the compressor.
5. Disconnect and Cap wires ACCA5A22 & ACCA5B22 connecting to the compressor temperature sensor wires using two each 35115 caps, and secure wires as necessary. (Figure 1.1)

NOTE

The new A119-3040-1 Compressor assembly is not equipped with a temperature sensor, therefore the need to cap and secure wires ACCA5A22 & ACCA5B22 is required to comply with this Service Bulletin.

6. Remove the AN6H-34A Bolt that connects the upper end of the belt tensioning link to the compressor mount assembly. Remove A119-3012-9 sleeve from compressor, and retain parts for reinstallation on new compressor assembly.
7. Remove the lower AN6H-34A Bolt, and S-3501EC-5 Sleeve from the bottom of the compressor assembly, and retain parts for reinstallation on new compressor assembly. Remove and discard the existing belt tension link assy.
8. Remove A119-3010 Compressor from the aircraft.
9. Remove the five (5) NAS6604-9 Bolts, NAS1149F0432P Washers, NAS1149F0463P Washers, and the A119-3004-1 Drive Pulley from the oil cooler driveshaft.
10. Remove the 950 5M 09 Compressor drive belt.

NOTE

Once removed from the aircraft the following parts are to be rendered unusable and scrapped on site: A119-3010-1 or -2 compressor assembly, A119-3004-1 drive pulley, 950 5M 09 drive belt.

Installation / Replacement

1. Install new A119-3042-11 Drive Pulley, NAS6604H6 Bolts, and ES35119-2 Belt on the oil cooler driveshaft / rotor break disc assembly. Torque bolts 75 to 95 in-lbs. Safety wire using .032 safety wire. (Figure 1.2)

Continued

Installation / Replacement (continued):

2. Install new A119-3040-1 Compressor on existing compressor mount assembly, reinstall AN6H-34A Bolt, A119-3056-1 Safety Strap NAS1149F0633P Washers in upper and lower compressor mounting lugs. Reinstall the A119-3012-9 sleeve, and install new S-3018EC-3 belt tensioning link on the upper and lower mounting bolts and torque 110 to 130 in-lbs. (figure 1.3)

CAUTION

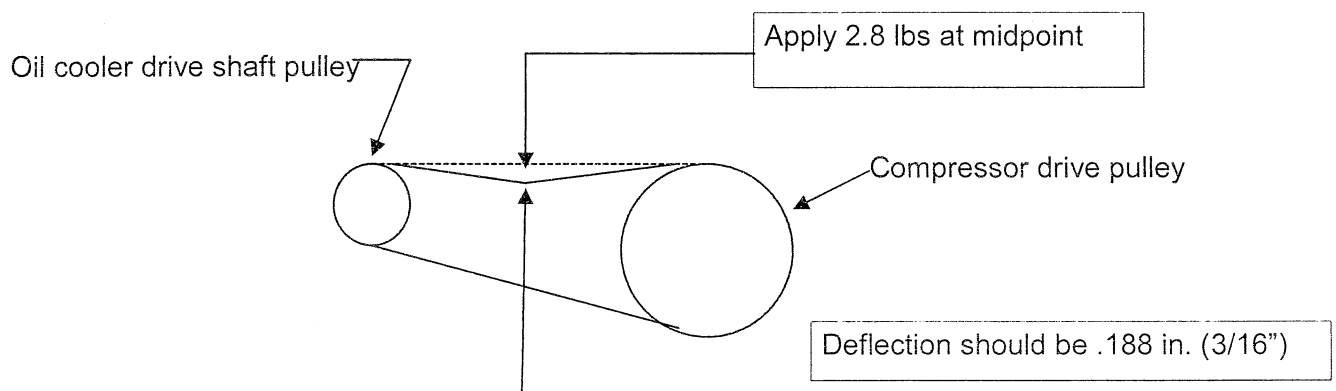
The A119-3056-1 Safety Strap **MUST** be installed exactly as shown in figure 1.3

3. Install new ES35119-2 Belt on the compressor drive and compressor pulleys.
4. Tension the compressor drive belt using the compressor belt tensioning link assembly S-3018EC-3:

NOTE

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

When applying 2.8 lbs. of force to the mid span of the belt the deflection should be .188 inches (3/16")



NOTE

The belt tension should be checked, and re-adjusted, if necessary after the first thirty to sixty minutes of operation for a newly installed belt.

Tighten and safety wire the belt tensioning link jam nuts using .032 safety wire.

NOTE

Belt alignment / adjustments should be made I/A/W Standard Practice, Post Installation – Belt Adjustment Instructions, A119-206M-1, Chapter 6, Page 6-7.

6. Install new O-rings, and reinstall the refrigerant lines to the compressor, charge system in accordance with A119-206M-1, Chapter 5, Servicing.

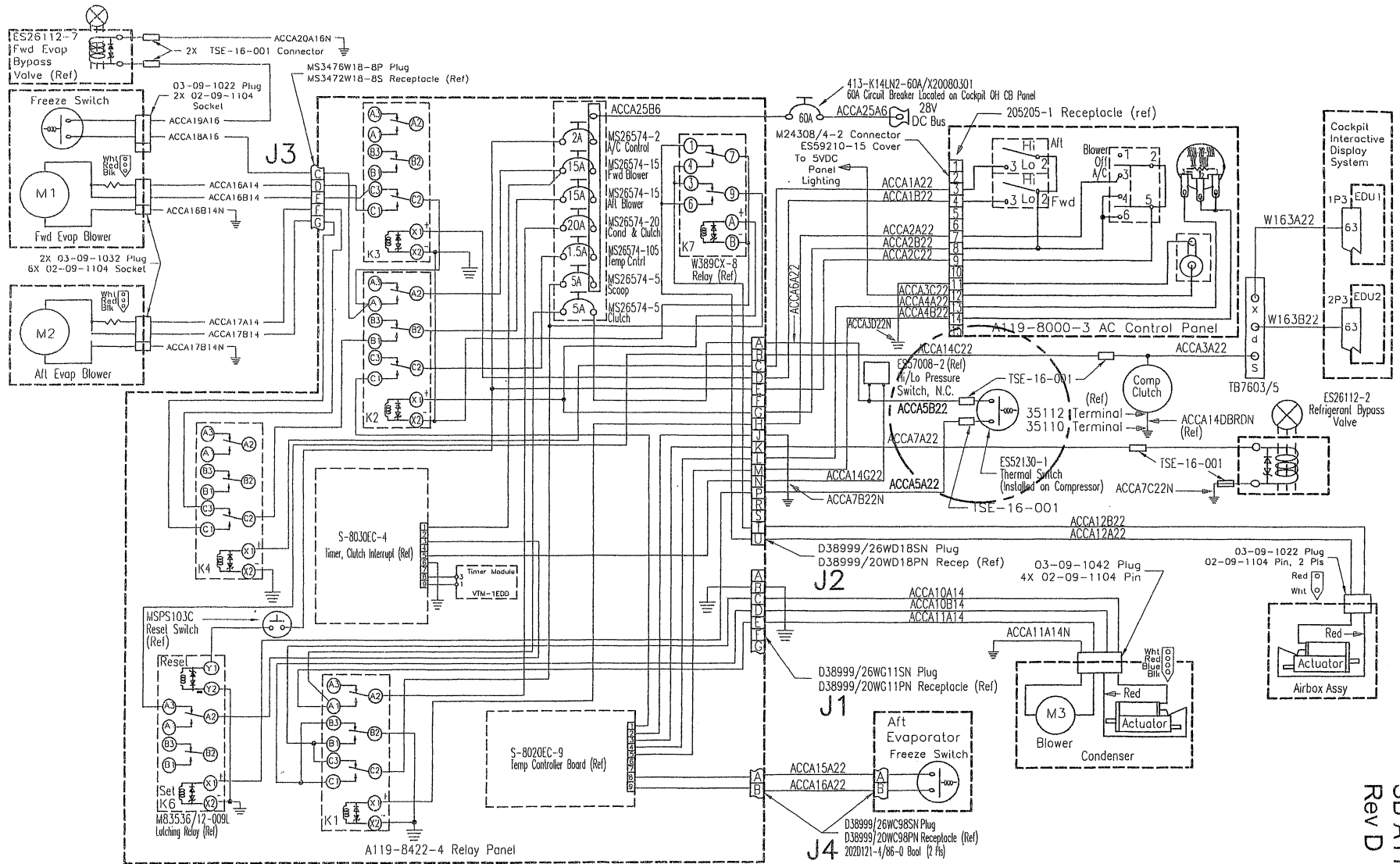


Figure 1.1
Electrical Installation

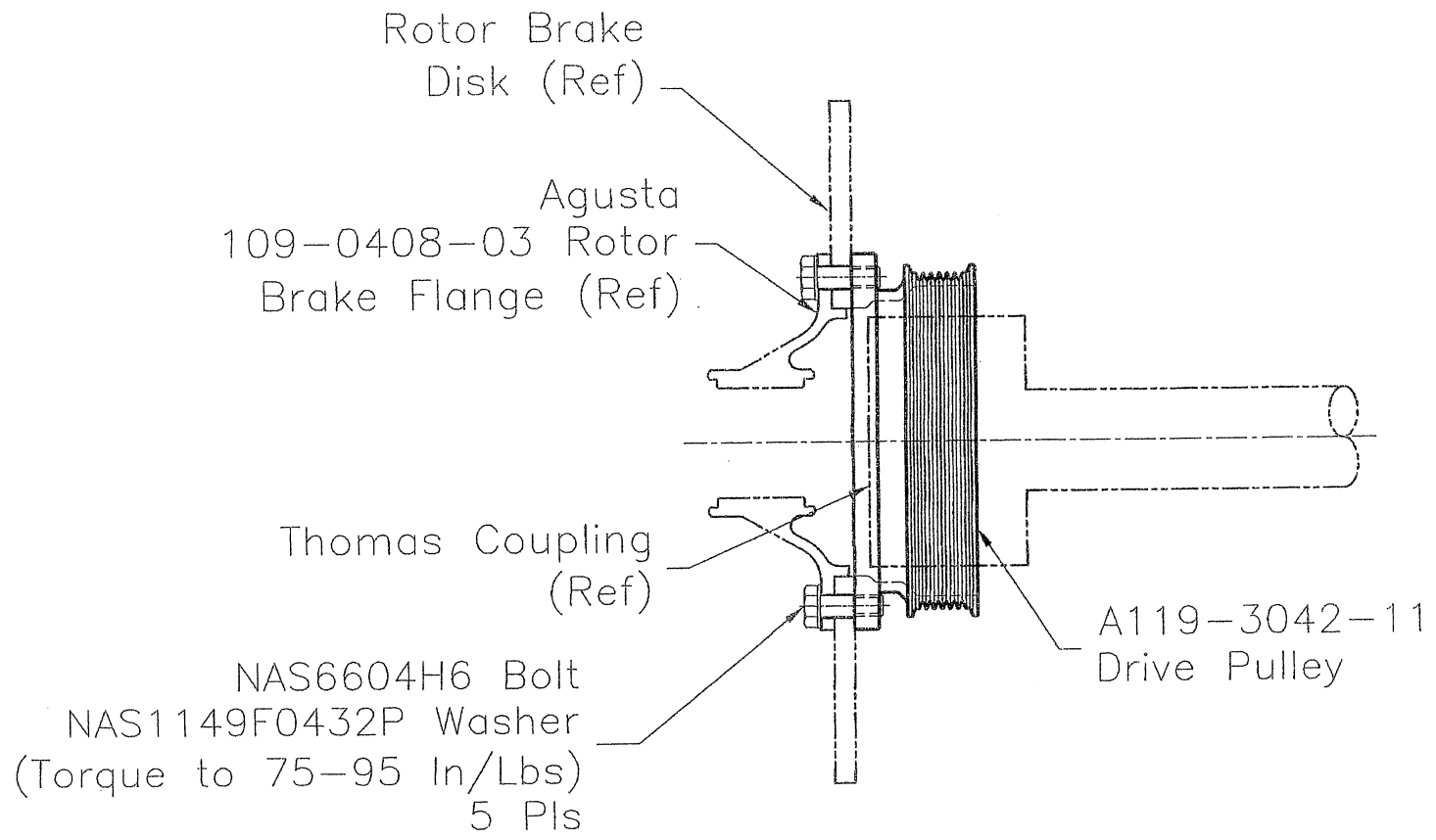
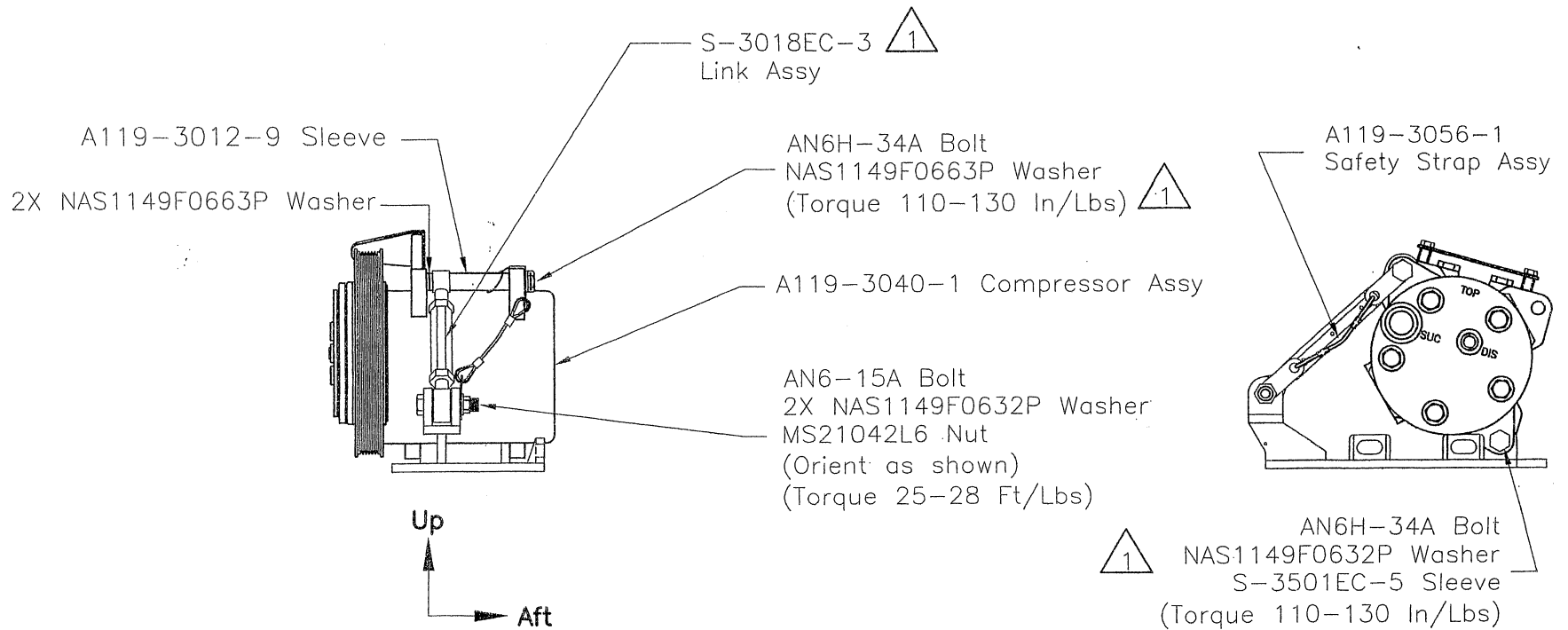


Figure 1.2
Drive Pulley Installation



Safety wire as shown per Mil-P-8564 Para 3.3.7 using MS20995C-32 Safety Wire at final installation

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Figure 1.3
Compressor Installation

NOTICE OF COMPLIANCE

Upon completion of the requirements of this Service Bulletin, this form must be returned to:

Glen Pfankuch
Air Comm Corp
3300 Airport Rd.
Boulder CO. 80301

Phone: 303-440-4075
Fax: 303-440-6355
E-mail: info@aircommcorp.com

Aircraft Serial No.	
Total Time in service	
Date Completed	
Performed by	
Owner/Operator	

Please use the space below to comment on any difficulty you encountered while performing these task.