

Air Comm Corporation
1575 w. 124th Ave.
Westminster, CO 80301
Document No. A119-1
Revision 8

Supplement to Agusta RFMs for
Models Agusta A119 & AW119 MkII
When modified with the
Cabin Air Conditioning System
STC No. SR00463DE

AIR COMM CORPORATION
1575 W. 124th AVENUE
WESTMINSTER, CO 80234

FAA APPROVED
ROTORCRAFT FLIGHT MANUAL SUPPLEMENT
to the
Approved Rotorcraft Flight Manuals for
AGUSTA MODELS A119 & AW119 MKII
CABIN AIR CONDITIONING SYSTEM

Document No. A119-1

Aircraft Serial No.: _____ Aircraft Reg. No. _____

This supplement must be attached to the appropriate Approved Rotorcraft Flight Manual when the rotorcraft has been modified by the installation of Air Comm Corporation's Cabin Air Conditioning System in accordance with STC No. SR00463DE.

The information in this document supplements or supersedes the basic flight manual only in the items contained herein. For limitations, procedures and performance information not contained in this supplement, consult the basic flight manual.

Approved: S. J. Lang. Bluhm Date: January 14, 2015
Manager, Flight Test Branch, ANM-160L
Federal Aviation Administration
Los Angeles Aircraft Certification Office
Transport Airplane Directorate

Original FAA Approval: January 11, 2002

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Log of Revisions			
Pgs	Rev	Change Description	FAA Approval
	0	Original	Dave Grossman Date: 01/11/02 Denver Aircraft Cert. Office
1, 2, 3, 4	1	Added clutch timer and thermal switch	<u>G. Shaw</u> : 4/12/02 Denver Aircraft Cert. Office
2, 4, 6	2	Added Interactive Display System interface for comp clutch	Dave Grossman Date: 12/17/03 Denver Aircraft Cert. Office
4, 7, 8	3	Changed to Poly v belt. Removed clutch timer and thermal switch	Melissa Sandow Date: 7/14/05 Denver Aircraft Cert. Office
1-10	4	Added AW119 MKII model callout.	Melissa Sandow Date: 11/28/07 Denver Aircraft Cert. Office
2, 3, 5, 6, 7, & 8	5	"Dual blower" was "retractable scoop/blower." Updated Fig.1, Relay Panel Fig, & Amp draw.	<u>[Signature]</u> Date: 9/24/08 Denver Aircraft Cert. Office
1-10	6	Incorporated performance improvement changes on pages 3, 5, 7, & 8, and revised supplement format.	<u>Robert F. Cohen, for</u> Date: 6/11/2009 Mgr, Flight Test Br, ANM-160L FAA, Los Angeles ACO Transport Airplane Directorate
1-12	7	Reformatted entire document to current section requirements (rev bars omitted for this change). Updated cockpit A/C Control Panel and Relay Panel. Added further info regarding IDS.	<u>Hien Tong</u> Date: 8/7/13 Mgr, Flight Test Br, ANM-160L FAA, Los Angeles ACO Transport Airplane Directorate
1-12	8	Reformat to current standard. Added note to bottom of revision block. Page 11 – update total A/C electrical load to 51.4 amps.	<u>S. J. Lang. Bluhm</u> Mgr, Flight Test Br, ANM-160L FAA Los Angeles ACO Transport Airplane Directorate Date: January 14, 2015

Note: When this supplement is revised, the complete supplement is reissued.

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SECTION 1 SYSTEM DESCRIPTION

The A119 air conditioner is a vapor cycle system which includes the following components:

- Compressor
- Condenser
- Forward Mounted Evaporator
- Aft Mounted Evaporator
- Plumbing System
- Electrical System

The compressor is belt driven through an electric clutch by a sheave mounted to the oil cooler blower shaft.

The condenser, mounted below the baggage floor, features a blower assembly and a separate heat exchanger to reject system heat overboard.

The forward evaporator is mounted on the left side of the instrument panel console. Conditioned air is delivered to the crew by means of air ducts, mounted to the sides of the instrument panel console. An optional RH mounted blower may be installed.

The aft evaporator assembly is mounted above the cabin top and is enclosed by the transmission cowling. Cabin return air is ducted to the evaporator through a cutout in the cockpit closeout panel at fuselage station 2050. Conditioned air is pumped to the existing headliner ducting through the existing fresh air inlet in the cabin top.

An electric actuator controlled airbox is provided to control the flow of conditioned and fresh air. When the air conditioner is in the ON or BLOWER mode, the fresh air inlet is closed.

The compressor installation incorporates a poly-v type drive belt and is driven by a sheave mounted to the oil cooler blower shaft.

A high pressure switch will disengage the compressor clutch if high compressor discharge pressures occur. The system re-engages when the discharge pressure reduces by 100 psi.

The cockpit-mounted air conditioner control panel is located in the forward right side of the overhead aircraft switch panel. A COMP ON light, located on the upper main instrument panel, provides a visual status of compressor operation. For aircraft equipped with an Interactive Display System (IDS), compressor engagement is displayed on the IDS as a green "ECS ON" annunciation

In addition, the control panel includes a temperature control knob. Temperature control is achieved by means of a refrigerant bypass valve, thus eliminating compressor cycling.

The system control features AC-OFF-BLR functions incorporated on a single "three position" switch. Two additional "two position" switches are provided for HI and LO blower selection for the forward and rear evaporators. The forward and aft evaporators can be operated independently of each other in the high or low blower positions.

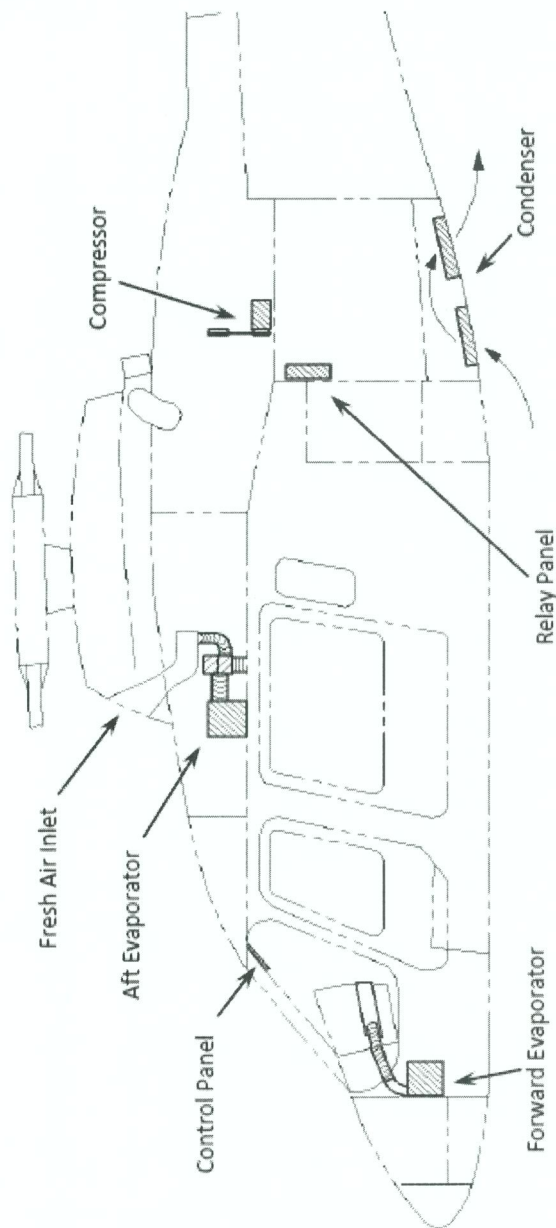
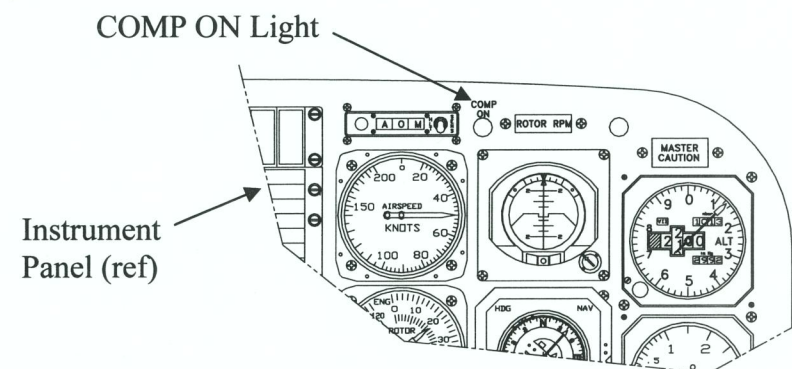
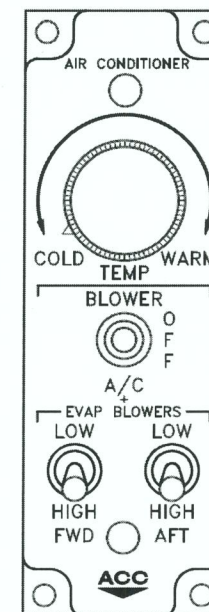


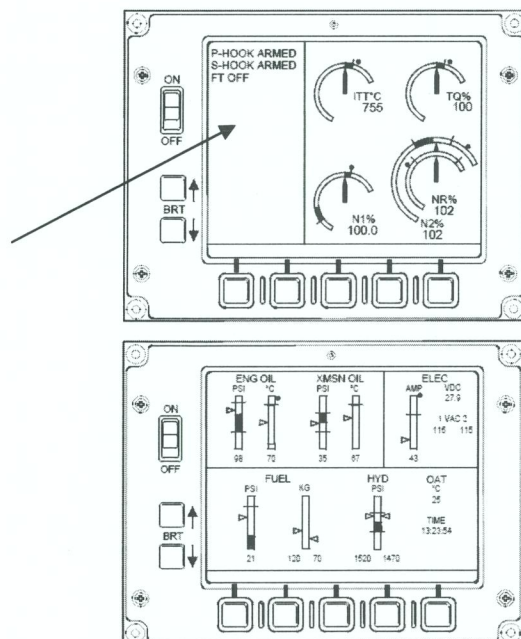
Figure 1 General Arrangement, Cabin Air Conditioner

Control Panel Located in
cockpit overhead switch
panel.

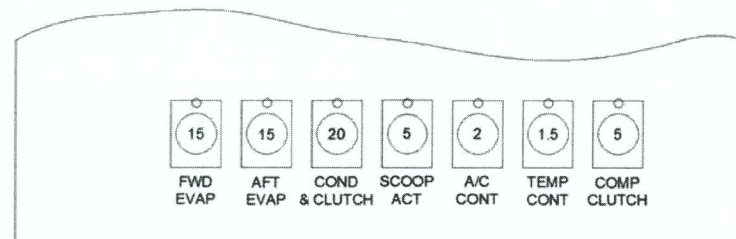


A separate COMP ON light is installed on the instrument panel as shown for aircraft that are not equipped with an Interactive Display System.

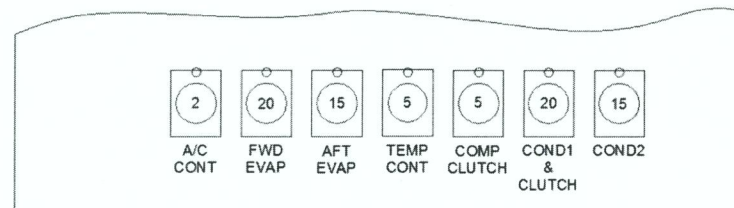
For Aircraft equipped with an Interactive Display System (IDS), an “ECS ON” advisory appears in the CAS message area below the Warnings and Cautions.



“ECS ON” advisory on IDS



Located on forward panel of baggage compartment
(Retractable Condenser Scoop Configuration)



Located on forward panel of baggage compartment
(Dual Condenser Blower Configuration)

SECTION 2 OPERATING LIMITATIONS

PLACARDS AND MARKINGS

MAG COMPASS DEVIATION
MAY BE EXCESSIVE WITH
AIR COND OR BLOWER ON

Located at center line on lower edge of instrument panel

SECTION 3 EMERGENCY PROCEDURES

A/C – BLR – OFF Switch - OFF

Operate switch to OFF for any of the following emergencies:

Engine Failure
Engine Overtemperature
Generator Failure

MALFUNCTION PROCEDURES

If outlet air is not cool, turn A/C – BLR – OFF switch to OFF or BLR to preclude damage to the compressor.

SECTION 4 NORMAL PROCEDURES

PREFLIGHT CHECK (EXTERIOR)

Compressor – check security
Compressor Drive Belt – Check tension and general condition
Compressor Belt Shield – Check security
Condenser – Check security

ENGINE PRESTART CHECK

A/C – BLR – OFF Switch - OFF

BEFORE TAKEOFF

A/C – BLR – OFF Switch – As desired
EVAP BLOWERS HI/LO Switch – As desired

IN FLIGHT OPERATIONS

A/C – BLR – OFF Switch – As desired
EVAP BLOWERS HI/LO Switch – As desired

NOTE

Total air conditioning system electrical load is
51.4 amps. Monitor amps. (Dual Condenser Blowers)

SECTION 5 PERFORMANCE DATA

When the A/C is operating, the performance data in the basic flight manual should be reduced as shown below:

Rate of Climb Degradation

Reduce the rate of climb in the basic Flight Manual by the amount shown below:

R/C Reduction:.....48 ft / min (14.6 m / min)

Hover Ceiling In Ground Effect and Out of Ground Effect

Add 54 lb (24.5 kg) to the actual IGE/OGE hover gross weight for takeoff power or maximum continuous power when entering the chart to determine hover ceiling.