
SERVICE BULLETIN**N° 189-160****DATE:** September 6, 2017**REV. :** A - February 16, 2022

TITLE**ATA 34 – TCAS II UPGRADE TO MODEL RC TTR-4100****REVISION LOG**

Revision A has been issued to add, as concurrent requirement for this SB, the compliance with SB189-115 “Kit transponder ADSB-OUT DO-260B installation” for helicopters not already equipped with Kit transponder ADSB-OUT DO-260B P/N 8G3450F00811 or transponder DO-260B P/N 622-9210-551.

Helicopters already compliant with Revision / of this SB do not require any further actions.

1. PLANNING INFORMATION

A. EFFECTIVITY

All AW189 helicopters already equipped with TCAS II transmitter-receiver P/N 822-1294-432 which is part of the kit TCAS II P/N 8G3450F00111 or P/N 8G3450F00411.

B. COMPLIANCE

At Customer's option.

C. CONCURRENT REQUIREMENTS

Compliance with SB189-115 "kit transponder ADSB-OUT DO-260B installation" is required for helicopters not already equipped with kit transponder ADSB-OUT DO-260B P/N 8G3450F00811 or not equipped with transponder DO-260B P/N 622-9210-551.

D. REASON

This Service Bulletin is issued in order to provide the necessary instruction on how to perform the installation of the new TCAS transmitter-receiver model TTR-4100.

E. DESCRIPTION

Leonardo Helicopters Division has developed the dedicated Service Bulletin in order to perform the replacement of the currently installed TCAS II transmitter-receiver P/N 822-1294-432, model TTR-4000, with P/N 822-3075-001, model TTR-4100, by means of the application of retromod P/N 8G3450P01811. The TTR-4100 is lighter, more reliable and consumes less power than its predecessor. The TCAS II system installation changes just for a minor electrical inversion on the transponder interface A429 input port.

F. APPROVAL

The technical content of this Service Bulletin is approved under the authority of DOA nr. EASA.21.J.005. For helicopters registered under other Aviation Authorities, before applying the Service Bulletin, applicable Aviation Authority approval must be checked within Leonardo Helicopters customer portal.

E.A.S.A. states mandatory compliance with inspections, modifications or technical directives and related time of compliance by means of relevant Airworthiness Directives.

If an aircraft listed in the effectivity embodies a modification or repair not LHD certified and affecting the content of this Service Bulletin, it is responsibility of the Owner/Operator to obtain a formal approval by Aviation Authority having jurisdiction on the aircraft, for any adaptation necessary before incorporation of the present Service Bulletin.

G. MANPOWER

To comply with this Service Bulletin twenty-eight (28) Maintenance-Man-Hours (MMH) are deemed necessary.

Maintenance-Man-Hours are based on hands-on time and can change with personnel and facilities available

H. WEIGHT AND BALANCE

WEIGHT (Kg)	ARM (mm)	MOMENT (Kgmm)
		-1.500
LONGITUDINAL BALANCE	956.3	-1434.5
LATERAL BALANCE	-416.8	625.2

I. REFERENCES

1) PUBLICATIONS

<u>DATA MODULE</u>	<u>DESCRIPTION</u>	<u>PART</u>
DM01 89-A-00-20-00-00A-120A-A	Helicopter on ground for a safe maintenance.	N.A.
DM02 89-A-06-41-00-00A-010A-A	Access doors and panels - General data	N.A.
DM03 89-A-34-44-01-00A-520A-A	TCAS receiver-transmitter - Remove procedure	N.A.
DM04 89-A-34-44-01-00A-720A-A	TCAS receiver-transmitter - Install procedure	N.A.
DM05 89-A-34-44-00-00A-320A-A	Traffic alert and collision avoidance system (TCAS) kit – Operation test	N.A.

2) ACRONYMS

DM	Data Module
DOA	Design Organization Approval
EASA	European Aviation Safety Agency
LHD	Leonardo Spa Helicopters

N.A. Not Applicable
P/N Part Number
SB Service Bulletin
S/N Serial Number

3) ANNEX

N.A.

J. PUBLICATIONS AFFECTED

N.A.

K. SOFTWARE ACCOMPLISHMENT SUMMARY

N.A.

2. MATERIAL INFORMATION

A. REQUIRED MATERIALS

1) PARTS

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
1	8G3450P01811		TCAS II MODEL TTR-4100 RETROMOD	REF	.		-
2	822-3075-001		TTR-4100 TCAS II LRU ric-transm	1	..		-

2) CONSUMABLES

Refer also to AMDI for the consumable materials required to comply with the AMP DM referenced in the accomplishment instructions.

3) LOGISTIC MATRIX

N.A.

B. SPECIAL TOOLS

Refer to ITEP for the special tools required to comply with the AMP DM referenced in the accomplishment instructions.

C. INDUSTRY SUPPORT INFORMATION

Product enhancement.

3. ACCOMPLISHMENT INSTRUCTIONS

GENERAL NOTES

- a) Place an identification tag on all components that are re-usable, including the attaching hardware that has been removed to gain access to the modification area and adequately protect them until their later re-use.
 - b) Shape the cables in order to prevent interference with the structure and the other existing installations, using where necessary suitable lacing cords.
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1. In accordance with AMP DM 89-A-00-20-00-00A-120A-A, prepare the helicopter on ground for a safe maintenance. Disconnect the battery, all electrical power sources and/or the external power supply.
 2. In accordance with AMP DM 89-A-06-41-00-00A-010A-A, open the access door 111A.
 3. With reference to Figure 1 and in accordance with AMP DM 89-A-34-44-01-00A-520A-A remove TCAS II transmitter-receiver P/N 822-1294-432.
 4. With reference to Figure 1 wiring diagram BECOMES view, perform the new electrical connections on connector A99P1E.
 5. With reference to Figure 1 and in accordance with AMP DM 89-A-34-44-01-00A-720A-A install TCAS II transmitter-receiver P/N 822-3075-001.
 6. In accordance with applicable steps of AMP 89-A-34-44-00-00A-320A-A perform the receiver-transmitter operation tests.
 7. In accordance with AMP DM 89-A-06-41-00-00A-010A-A, close the access door 111A.
 8. In accordance with weight and balance changes, update the Chart A (see Rotorcraft Flight Manual, Part II, section 6).
 9. Return the helicopter to flight configuration and record for compliance with this Service Bulletin on the helicopter logbook.
 10. Send the attached compliance form to the following mail box:

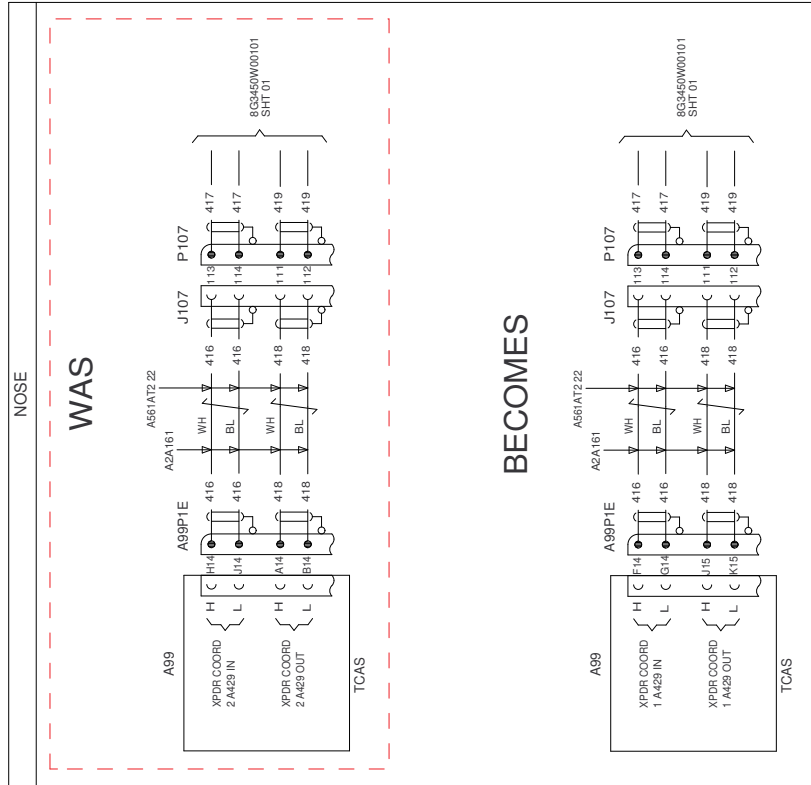
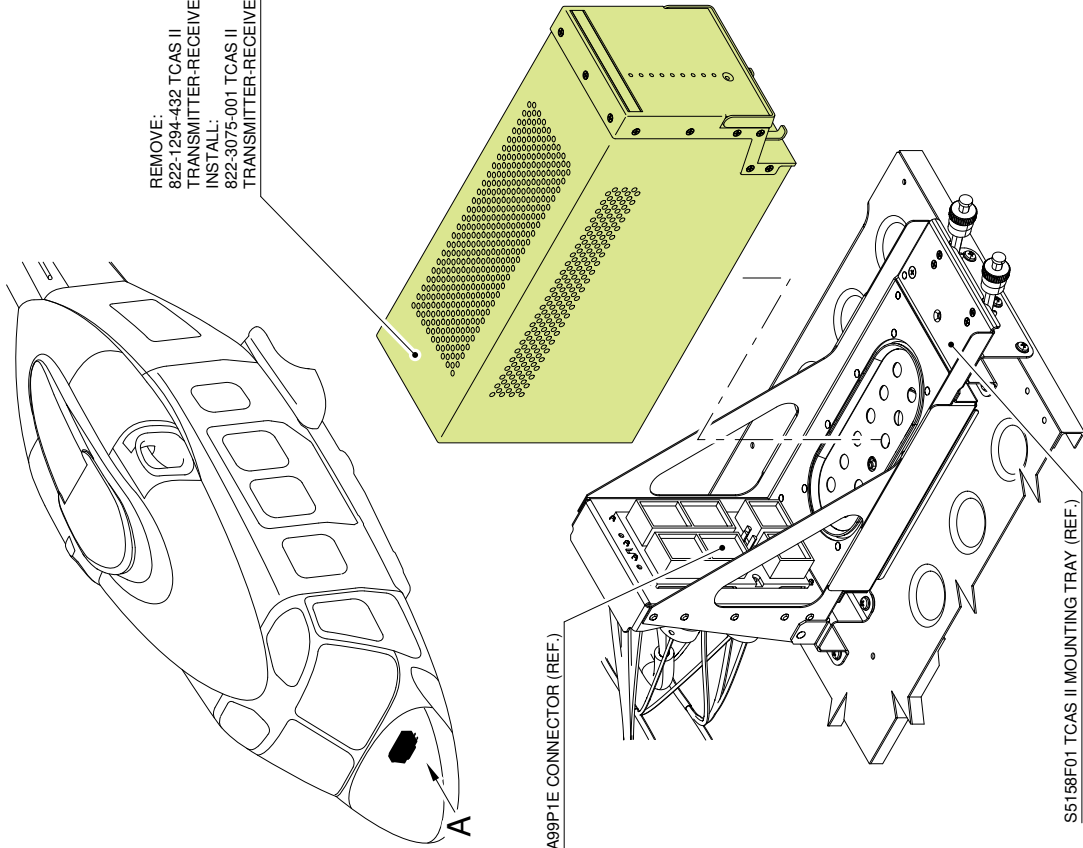
engineering.support.lhd@leonardocompany.com

As an alternative, gain access to My Communications section on Leonardo WebPortal and compile the "Service Bulletin Application Communication".

8G3450P01811
TCAS II MODEL TTR-4100 RETROMOD

1 BEFORE INSTALL THE NEW TCAS II TRANSCIEVER, MODIFY THE ELECTRICAL CONNECTION OF A99P1E CONNECTOR AS SHOWN IN DETAIL B.

1 REMOVE:
822-1294-432 TCAS II TRANSMITTER-RECEIVER (REF.)
INSTALL:
822-3075-001 TCAS II TRANSMITTER-RECEIVER



DETAIL B

VIEW A

Figure 1

Please send to the following address: LEONARDO S.p.A. CUSTOMER SUPPORT & SERVICES - ITALY PRODUCT SUPPORT ENGINEERING & LICENSES DEPT. Via Giovanni Agusta, 520 21017 Cascina Costa di Samarate (VA) - ITALY Tel.: +39 0331 225036 Fax: +39 0331 225988		SERVICE BULLETIN COMPLIANCE FORM		Date:	
		Number:			
		Revision:			
Customer Name and Address:			Telephone:		
			Fax:		
			B.T. Compliance Date:		
Helicopter Model	S/N	Total Number	Total Hours	T.S.O.	
Remarks:					
<p>Information:</p> <p>We request your cooperation in filling this form, in order to keep out statistical data relevant to aircraft configuration up-to-date. The form should be filled in all its parts and sent to the above address or you can communicate the application also via Technical Bulletin Application Communication Section placed in Leonardo AW Customer Portal - MyCommunications Area. We thank you beforehand for the information given.</p>					