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BOLLETTINO TECNICO

The technical content of this document is approved under the authority of DOA nr. EASA.21J.005

139-414 №

DATE December 16, 2015

REV. /

Compliance with this Bulletin is:

OPTIONAL

SUBJECT

BRACKETS NOSE INSTALLATION.

REASON

To provide all necessary instructions on how to replace the brackets in nose compartment.

HELICOPTERS AFFECTED

All AW139 helicopters from S/N 31201 to S/N 31398 and from S/N 41201 to S/N 41293.

All AW139 helicopters from S/N 31400 to S/N 31699 and from S/N 41300 to S/N 41499.

COMPLIANCE

At Customer's option.

DESCRIPTION

In order to improve the operative reliability of the Automatic Flight Control System (AFCS), a dedicated retromod has been developed to allow the installation of new improved structural supports replacing the following existing ones:

An appropriate entry should be made in the aircraft log book upon accomplishment. If ownership of aircraft has changed, please, forward to new owner.

- ✓ Bracket Radio LH/RH assemblies P/N 3G5315A21931 and P/N 3G5315A22031;
- ✓ AHRS Bracket LH/RH P/N 3G5315A25233 and P/N 3G5315A23833;
- ✓ Rear Panel LH P/N 3G5331A23132.

REQUIRED MANPOWER

To comply with this Bollettino Tecnico sixty (60) Maintenance-Man-Hours (MMH) are deemed necessary.

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

WARRANTY

N.A.

REQUIRED MATERIALS

This Bollettino Tecnico is commercially supported by AgustaWestland. Customer is requested to contact the Customer Support & Service Management focal point as per Customer Support and Training Worldwide Directory, online on AW Website (ref. AW Service Information Letter GEN-14-039).

The following materials are required for compliance with this Bollettino Tecnico:

<u>P/N</u>	DESCRIPTION	<u>Q.TY</u>	NOTE
3G5315A21932	Bracket radio LH assy	1	(1)
3G5315A22032	Bracket radio RH assy	1	(2)
3G5315A23751	Angle	1	
3G5315A23834	AHRS bracket assy RH	1	(3)
3G5315A25234	AHRS bracket assy LH	1	(4)
3G5316A90332	Bracket assy	1	
3G5316A90432	Bracket assy	1	
3G5317A19751	Shim	2	
3G5317A19851	Shim	2	
3G5317A20851	Angle	1	
3G5317A24251	Bracket	1	
3G5331A23133	LH rear bonded panel assy	1	

<u>P/N</u>	DESCRIPTION	<u>Q.TY</u>	NOTE
999-5000-30-106	Insert	4	(5)
A467A150A180	50A180 Plate		
A468A001A	Fitting	2	
A594A-B05	T-Block	1	
A594A-D05	Cover	1	
A813A3CM	Insert	10	
AN24-17	Bolt	2	
MS14145-4	Nut	2	
MS21069L3	Anchor nut	18	
MS21072L3	Anchor nut	2	
MS21073L3	Anchor nut	1	
MS24665-170	Cotter pin	2	
MS27039-0838	Screw	2	
MS27039-1-04	Screw	14	
MS27039-1-06	Screw	4	
MS27039-1-08	Screw	19	
NAS1149C0363R	Washer	6	
NAS1149D0332J	Washer	2	
NAS1149D0332K	Washer	53	
NAS1149D0416J	Washer	4	
NAS1802-3-6	Screw	6	
NAS1832-3-3	Insert	4	
NAS1835-3	Insert	12	
NAS43DD3-37N	Spacer	2	
NAS43DD3-70N	Spacer	2	
NAS9301B-4-02	Rivet	3	
MS27039-1-05	Screw	6	
MS27039-1-07	Screw	6	
MS27039-1-09	Screw	4	
MS21069L08	Nut plate	2	
NAS517-3-0	Screw	12	
NAS1832C3-3M	Insert	4	
NAS517-3-3	Screw	6	

<u>P/N</u>	DESCRIPTION	<u>Q.TY</u>	<u>NOTE</u>
A363A01	Ground Stud	1	
ED300GS100	Decal	1	

Moreover the following consumable materials, or equivalent, are necessary to comply with this Bollettino Tecnico:

Spec./AW code number	DESCRIPTION	<u>Q.TY</u>	<u>NOTE</u>
199-05-002 Type II, Class 2 / Code No. 900004603 (MMM-A-132)	Adhesive EA934NA (C054)	AR	Local Supply
MS20426AD3-5	Rivet	0.1 Kg	

NOTES:

- (1) This item will be supplied as productive P/N 3G5315A21932A1.
- (2) This item will be supplied as productive P/N 3G5315A22032A1.
- (3) This item will be supplied as productive P/N 3G5315A23834A1.
- (4) This item will be supplied as productive P/N 3G5315A25234A1.
- (5) P/N AW007TE-30-106 may be supplied as a valid alternative.

SPECIAL TOOLS

N.A.

WEIGHT AND BALANCE CHANGES

N.A.

REFERENCES

- ✓ AW139 Aircraft Maintenance Publication (AMP).
- ✓ AW139 Aircraft Structural Repair Publication (ASRP).
- ✓ AW139 Aircraft Material Data Information (AMDI).

PUBLICATIONS AFFECTED

✓ AW139 Aircraft Maintenance Publication (AMP).

COMPLIANCE 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 reuse.
- b) Shape the cables in order to prevent interference with the structure and the other existing installations, using where necessary suitable lacing cords.
- c) Exercise extreme care during drilling operations to prevent instruments, cables and hoses damage.
- d) After drilling, remove all debris and sharp edges. Apply on bare metal a light film of primer unless the hole is used for ground connection.
- e) During the installation of bonding braids or components requiring grounding, clean the surface structure in order to obtain a good ground contact.
- f) Let adhesive cure at room temperature for at least 24 hours unless otherwise specified.
- g) All lengths are in mm.
- 1. In accordance with AMP DM 39-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.
- In accordance with AMP DM 39-A-52-44-03-00A-541A-A, open the access door 213AL and disconnect the electrical connections.

- 3. In accordance with aircraft configuration and with reference to Figure 1, remove the existing wiring support LH assy P/N 3G5317A04931 or P/N 3G5315A25052 and keep fixing hardware for later reuse.
- 4. In accordance with aircraft configuration and with reference to Figure 1, remove the existing wiring support RH assy P/N 3G5317A05031 or P/N 3G5315A24952 and keep fixing hardware for later reuse.
- 5. In accordance with AMP DM 39-A-23-82-04-00A-520A-A, remove the existing RH modular radio-cabinet.
- 6. In accordance with AMD DM 39-B-34-45-03-00A-520A-K, remove the weather radar transmitter mounting tray
- 7. In accordance with aircraft configuration and AMP 39-B-35-45-02-00A-520A-K or 39-B-34-45-04-00A-520A-k remove weather radar transmitter.
- In accordance with AMP DM 39-A-34-23-05-00A-520A-A, remove the existing RH Attitude and Heading Reference Unit (AHRU2).
- 9. In accordance with AMP DM 39-A-34-23-06-00A-520A-A, remove the existing AHRU2 mounting tray.
- 10. In accordance with AMP DM 39-A-34-23-07-00A-520A-A, remove the AHRU2 calibration PROM.
- 11. In accordance with aircraft configuration and in accordance with the applicable AMP Data Module, remove the existing Auxiliary Battery.
- 12. In accordance with aircraft configuration and in accordance with the applicable AMP Data Module, remove the existing Main Battery.
- 13. In accordance with AMP DM 39-A-23-82-01-00A-520-A, remove the existing LH modular radio-cabinet.
- 14. In accordance with AMP DM 39-A-34-23-02-01-00A-520A-A, remove the existing LH Attitude and Heading Reference Unit (AHRU1).
- 15. In accordance with AMP DM 39-A-34-23-02-00A-520A-A, remove the existing AHRU1 mounting tray.
- 16. In accordance with AMP DM 39-A-34-23-03-00A-520A-A, remove the AHRU1 calibration PROM.
- 17. In accordance with AMP DM 39-N-33-51-01-00A-520A-A, remove the existing emergency-power-supply unit PS13 and related bracket assy. Keep existing hardware for later reuse.

NOTE

Performing steps from 18.1 to 18.8, retain all the existing attaching hardware for later reuse.

- With reference to Figure 1 thru 3, perform the bracket nose installation retromod P/N 3G5306P55211, as described in the following procedure:
 - 18.1 With reference to Figure 1, remove the bracket radio LH assy P/N 3G5315A21931.
 - 18.2 With reference to Figure 1, remove the bracket radio RH assy P/N 3G5315A22031.
 - 18.3 With reference to Figure 1, remove the AHRS LH bracket assy P/N 3G5315A25233.
 - 18.4 With reference to Figure 1, remove the AHRS RH bracket assy P/N 3G5315A23833.
 - 18.5 With reference to Figure 1, remove the MAU LH bracket assy P/N 3G5315A26131.
 - 18.6 With reference to Figure 1, remove the MAU RH bracket assy P/N 3G5315A26331.
 - 18.7 With reference to Figure 1, remove the battery support assy P/N 3G5315A23532. Retain n^o2 tie rods P/N A469A001A285, n^o2 strips P/N 999-0500-95-101, n^o2 bushings P/N 999-0050-36-101, n^o2 washers P/N NAS1070-416 and n^o2 nut plain wings P/N MS35426-14 for later reuse.
 - 18.8 In accordance with aircraft configuration and with reference to Figure 1, remove the LH rear panel P/N 3P5331A53731 or P/N 3G5331A23132.
 - 18.9 With reference to Figure 4 view D, drill n°4 holes Ø 14.25÷14.48.
 - 18.10 With reference to Figure 4 view D, install n°4 inserts P/N A8313A3CM by means of EA934NA adhesive.
 - 18.11 With reference to Figure 3, enlarge n[∞]6 pilot holes to Ø 5.51÷5.64 on bracket radio LH assy P/N 3G5315A21932.
 - 18.12 With reference to Figure 2 and Figure 3 section D-D, install the bracket radio LH assy P/N 3G5315A21932 by means of n°6 screws P/N MS27039-1-04 and n°6 washers P/N NAS1149D0332K.
 - 18.13 With reference to Figure 3, enlarge n^o6 pilot holes to Ø 5.51÷5.64 on

bracket radio RH assy P/N 3G5315A22032.

- 18.14 With reference to Figures 2 and Figure 3 section D-D, install the bracket radio RH assy P/N 3G5315A22032 by means of n°6 screws P/N MS27039-1-04 and n°6 washers P/N NAS1149D0332K.
- 18.15 With reference to Figure 3 view L, install in the indicated position ground stud P/N A363A01.
- 18.16 In accordance with AMP DM 39-A-11-00-01-00A-720A-A and with reference to Figure 3 view L, apply the decal P/N ED300GS100 in an area adjacent to ground stud.
- 18.17 With reference to Figure 4 view C and section R-R, perform n⁶ holes Ø 14.25÷14.38 on the front panel assy P/N 3P5331A54233, in indicate positions.
- 18.18 With reference to Figure 4 view C and section R-R, install n^o6 inserts P/N A8313A3CM by means of adhesive EA934NA.
- 18.19 With reference to Figure 3 section D-D, temporarily locate the AHRS LH bracket assy P/N 3G5315A25234.

<u>NOTE</u>

If any interferences are found between emergency-power-supply unit PS13 and AHRS LH bracket assy, perform step 18.20, otherwise skip to step 18.21.

- 18.20 With reference to Figure 4 view C and section CC-CC, in order to avoid any interference with the AHRS LH bracket assy perform n°4 holes Ø 14.25÷14.38 and install n°4 inserts P/N NAS1832C3-3M with adhesive EA934NA, in a proper upper position on front panel assy P/N 3P5331A54233.
- 18.21 With reference to Figure 4 view C, install bracket assy P/N 3G5316A90332 and P/N 3G5316A90432 by means of the previously removed attaching hardware.
- 18.22 With reference to Figure 3 section D-D, temporarily remove the MRC rear wedge kit P/N 7025494-901 installed on the bracket radio LH assy P/N 3G5315A21932 and retain existing hardware for later reuse.
- 18.23 With reference to Figure 3 section D-D and detail F, temporarily locate the

AHRS LH bracket assy P/N 3G5315A25234 and shim P/N 3G5317A19851 between AHRS LH bracket and bracket radio LH assy.

- 18.24 With reference to Figure 3 section D-D and detail F, enlarge n^o6 pilot holes to Ø 4.90 ÷ 5.03, already present on AHRS LH bracket assy P/N 3G5315A25234.
- 18.25 With reference to Figure 3 section D-D and detail F, install n⁶ anchor nuts P/N MS21069L3 by means of n¹² rivets P/N MS20426AD3 coordinating with previously performed holes on bottom side.
- 18.26 With reference to Figure 2 and Figure 3 view A, section D-D, detail F and Figure 4 section R-R, temporarily locate the AHRS LH bracket assy P/N 3G5315A25234, shims P/N 3G5317A19751 and P/N 3G5317A19851, by means of n[®] screws P/N MS27039-1-08, n[°] screws P/N MS27039-1-09, n[°]10 washers P/N NAS1149D0332K, n[°] bolts P/N NAS1802-3-6 and n[°] washer P/N NAS1149C0363R.
- 18.27 With reference to Figure 2, temporarily locate the wiring support LH assy P/N 3G5317A04931 or P/N 3G5315A25052 and countermark position of n°4 holes.
- 18.28 With reference to Figure 2 and Figure 3 AHRS bracket view from rear, drill $n^{\circ}4$ holes Ø 4.90 ÷ 5.03 in previously marked position.
- 18.29 With reference to Figure 2 and Figure 3 AHRS bracket view from rear, install anchor nut P/N MS21072L3 and n°3 anchor nuts P/N MS21069L3 by means of n°8 rivets P/N MS20426AD3.

NOTE

If required for a proper installation of AHRS LH bracket assy P/N 3G5315A25234 the use of additional aluminium shim is allowed.

A different bolt length is allowed for a proper installation.

Replacement of existing radome bay rivets with NAS1097AD4-X (grip to be defined in accordance with helicopter configuration) is allowed to avoid inteferences with AHRS Bracket.

In case of inteferences with AHRS Bracket relocation of existing stan offs is allowed.

- 18.30 With reference to Figure 2 and Figure 3 view A, section D-D, detail F and Figure 4 section R-R, install the AHRS LH bracket assy P/N 3G5315A25234, shims P/N 3G5317A19751 and P/N 3G5317A19851, by means of n°3 screws P/N NAS517-3-3, n°8 screws P/N MS27039-1-08, n°2 screws P/N MS27039-1-09, n°10 washers P/N NAS1149D0332K, n°3 bolts P/N NAS1802-3-6 and n°3 washer P/N NAS1149C0363R.
- 18.31 With reference to Figure 3 section D-D, install the previously removed MRC rear wedge kit P/N 7025494-901 on the bracket radio LH assy P/N 3G5315A21932, by means of existing hardware.
- 18.32 With reference to Figure 3 section D-D and section G-G, drill n^o2 holes
 Ø 4.27 ÷ 4.39 on the AHRS LH bracket assy P/N 3G5315A25234.
- 18.33 With reference to Figure 3 section G-G, install n°2 nut plates P/N MS21069L08 by means of n°4 rivets P/N MS20426AD3.
- 18.34 With reference to Figure 3 section G-G, install T-Block P/N A594A-B05 and cover P/N A594A-D05 by means of n^o2 spacers P/N NAS44DD3-37N, n^o2 screws P/N MS27039-0838, n^o2 washers P/N NAS1149DN832J and n^o2 spacers P/N NAS43DD3-70N.
- 18.35 With reference to Figure 3 view A and detail H, install bracket P/N 3G5317A24251 in the indicated position, by means of n°3 rivets P/N NAS9301BNS-4-02.
- 18.36 With reference to Figure 3 section D-D, temporarily remove the MRC rear wedge kit P/N 7025494-901 installed on the RH bracket radio assy P/N 3G5315A22032 and retain existing hardware for later reuse.
- 18.37 With reference to Figure 3 section D-D and detail F, temporarily locate the AHRS RH bracket assy P/N 3G5315A23834 and shim P/N 3G5317A19851 between AHRS RH bracket assy and bracket radio RH assy.
- 18.38 With reference to Figure 3 section D-D and Detail F, enlarge n[∞]6 pilot holes to Ø 4.90 ÷ 5.03 already present on AHRS RH bracket assy P/N 3G5315A23834.
- 18.39 With reference to Figure 3 section D-D and Detail F, install n^o6 anchor

nuts P/N MS21069L3 by means of n°12 rivets P/N MS20426AD3 coordinating with previously performed holes on bottom side.

- 18.40 With reference to Figure 2 and Figure 3 view A, section D-D, detail F and Figure 4 section R-R, temporarily locate the AHRS RH bracket assy P/N 3G5315A23834, shims P/N 3G5317A19751 and P/N 3G5317A19851 by means of n[®] screws P/N MS27039-1-08, n[°] screws P/N MS27039-1-09, n[°]10 washers P/N NAS1149D0332K, n[°] bolts P/N NAS1802-3-6 and n[°] washer P/N NAS1149C0363R.
- 18.41 With reference to Figure 2, temporarily locate the wiring support RH assy P/N 3G5317A05031 or P/N 3G5315A24952 and countermark position of n°4 holes.
- 18.42 With reference to Figure 2 and Figure 3 AHRS bracket view from rear, drill $n^{\circ}4$ holes Ø 4.90 ÷ 5.03 in previously marked position.
- 18.43 With reference to Figure 2 and Figure 3 AHRS bracket view from rear, install anchor nut P/N MS21072L3 and n°3 anchor nuts P/N MS21069L3 by means of n°8 rivets P/N MS20426AD3.

<u>NOTE</u>

If required for a proper installation of AHRS RH bracket assy P/N 3G5315A23834 additional aluminium shim is allowed.

A different bolt length is allowed for a proper installation.

Replacement of existing radome bay rivets with NAS1097AD4-X (grip to be defined in accordance with helicopter configuration) is allowed to avoid inteferences with AHRS Bracket.

In case of inteferences with AHRS Bracket relocation of existing stan offs is allowed.

18.44 With reference to Figure 2 and Figure 3 view A, section D-D, detail F and Figure 4 section R-R, install the AHRS RH bracket assy P/N 3G5315A23834, shims P/N 3G5317A19751 and P/N 3G5317A19851 by means of n° 3 screws P/N NAS517-3-3, n°8 screws P/N MS27039-1-08, n°2 screws P/N MS27039-1-09, n°10 washers P/N NAS1149D0332K, n 3 bolts P/N NAS1802-3-6 and n 3 washer P/N NAS1149C0363R.

- 18.45 With reference to Figure 3 section D-D, install the previously removed MRC rear wedge kit P/N 7025494-901 on the bracket radio RH assy P/N 3G5315A22032, by means of existing hardware.
- 18.46 With reference to Figure 2, install LH rear panel P/N 3G5331A23133 by means of existing hardware previously removed.
- 18.47 With reference to Figure 5, drill n° 4 holes Ø 9.50 ÷ 9.60, n°4 holes
 Ø 14.25 ÷ 14.38, n°12 holes Ø 17.42 ÷ 17.55, n°2 holes Ø 11.48 ÷ 11.61 and n°2 hole Ø 2.5 ÷ 2.6 on the LH rear panel P/N 3G5331A23133.

<u>NOTE</u>

Indicated quotes are only for reference, coordinate with existing drainage installation.

- 18.48 With reference to Figure 5 Detail E, perform n^o2 drain line holes Ø 17.
- 18.49 With reference to Figure 5 Detail E, install n° 4 inserts P/N 999-5000-30-106, n°4 inserts P/N NAS1832-3-3 and n°12 inserts P/N NAS1835-3 by means of EA934NA adhesive and n°1 anchor nut P/N MS21073L3.
- 18.50 With reference to Figure 5 detail E, install angle P/N 3G5317A20851 by means of n°2 screws P/N MS27039-1-04 and n°2 washers P/N NAS1149D0332K.
- 18.51 With reference to Figure 5 detail E, install angle P/N 3G5315A23751 by means of n°3 screws P/N MS27039-1-08 and n°3 washers P/N NAS1149D0332K.
- 18.52 With reference to Figure 5 Detail E install n°4 spacer P/N A467A150A180 by means of n°12 screws NAS517-3-0.
- 18.53 With reference to Figure 5 detail E, install n^o2 fittings P/N A468A001A by means of n^o4 screws P/N MS27039-1-06 and n^o4 washers P/N NAS1149D0332K.
- 18.54 With reference to Figure 2, reinstall n^o2 tie rods P/N A469A001A285, n^o2 strips P/N 999-0500-95-101, n^o2 bushings P/N 999-0050-36-101, n^o2 washers P/N NAS1070-416 and n^o2 nut plain wings P/N MS35426-14 previously removed by means of n^o2 bolts AN24-17, n^o4 washers P/N NAS1149D0416J, n^o2 nuts P/N MS14145-4 and n^o2 cotter pin

P/N MS24665-170.

- 19. In accordance with AMP DM 39-N-33-51-01-00A-720A-A, install the emergency-power-supply unit PS13.
- 20. In accordance with AMP DM 39-A-23-82-04-00A-720A-A, install the RH modular radio-cabinet.
- 21. In accordance with AMP DM 39-A-34-23-06-00A-720A-A, install the AHRU2 mounting tray.
- 22. In accordance with AMD DM 39-B-34-45-03-00A-720A-K, install the weather radar transmitter mounting tray

<u>NOTE</u>

To avoid inteferences between weather radar wave guide and AHRS bracket, rework of AHRS bracket is allowed.

- 23. In accordance with aircraft configuration and AMP 39-B-35-45-02-00A-720A-K or 39-B-34-45-04-00A-720A-k install the weather radar transmitter.
- 24. In accordance with AMP DM 39-A-34-23-05-00A-720A-A, install the RH Attitude and Heading Reference Unit (AHRU2).
- 25. In accordance with AMP DM 39-A-34-23-07-00A-720A-A, install the AHRU2 calibration PROM.
- 26. In accordance with AMP DM 39-A-24-32-02-00A-720A-A, install the auxiliary battery.
- 27. In accordance with AMP DM 39-A-23-82-01-00A-720-A, install the LH modular radio-cabinet.
- 28. In accordance with AMP DM 39-A-34-23-02-00A-720A-A, install the AHRU1 mounting tray.
- 29. In accordance with AMP DM 39-A-34-23-02-01-00A-720A-A, install the LH Attitude and Heading Reference Unit (AHRU1).
- 30. In accordance with AMP DM 39-A-34-23-03-00A-720A-A, install the AHRU1 calibration PROM.
- 31. In accordance with aircraft configuration install the wiring support LH assy P/N 3G5317A04931 or 3G5315A25052 previously removed, by means of existing hardware.
- 32. In accordance with aircraft configuration install the wiring support RH assy

P/N 3G5317A05031 or 3G5315A24952 previously removed, by means of existing hardware.

- In accordance with AMP DM 39-A-52-44-03-00A-741A-A, close the access door 213AL.
- 34. In accordance with weight and balance changes, update the Chart A (see Rotorcraft Flight Manual, Part II, section 6).
- 35. Return helicopter to flight configuration and record for compliance with this Bollettino Tecnico on helicopter logbook.













Please send to the following address: AGUSTAWESTLAND S.p.A.		BOLLETTINO TECNICO COMPLIANCE FORM		Date:		
CUSTOMER SUPPORT & SERVICES - ITALY		Number:				
PRODUCT SUPPORT ENGINEERING & LICENSES DEPT. Via Giovanni Agusta, 520 21017 Cascina Costa di Samarate (VA) - ITALY Tel.: +39 0331 225036 Fax: +39 0331 225988		Revision:				
Customer Name and Address:				Telephone:		
				Fax:		
				B.T. Compli	ance Date:	
Helicopter Model	S/N	Total Number		Total Hours	T.S.O.	
Remarks:						
Information:						

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.