

# WORK ORDER



To: GALAXY AEROSPACE (M) SDN. BHD.

**Address:** Lot 11-14, MRO Centre, Malaysia  
International Aerospace Centre, SAAS Airport,  
Subang  
Malaysia

**Attention:** Mr. Syafrul Yamani  
Engineering Manager  
syafrul@galaxy aerospace.my

**Work Order Number:** 2023-14973

**Work Pack Reference:** 9M-BOE-14973

**Date Issued:** 17/03/2023

**A/C Registration / SN:** 9M-BOE/49045

**Sheet:** 1 of 1

**Description:**

Item	Description/Task/Inspection	Reference	Man Hours
1	FLIGHT CONTROL ADJUSTMENT DUE TO OPERATIONAL REQUIREMENT	89-A-22-11-19-00A-271A-A 89-A-67-21-00-00A271B-A	2.0 (PLEASE ADVISE)

**Remark/Notes:**

1. State this Work Order reference on your Work Package. Should there is any additional job/defect (unless specified in the work package) the maintenance organization must notify GAM Continuing Airworthiness Manager prior to proceed with rectification.
2. Work must be carried out in accordance with approved data and perform by qualified personnel/ approved LAE from the maintenance organization.
3. Parts used must be written in Parts Report Form and accompanied by ARC, Serviceable Label or equivalent document.
4. Test report, parameter reading or any supporting data must be attached with the worksheet if applicable.
5. The maintenance organization shall be responsible for any damages made on the aircraft/ components during maintenance.
6. Softcopy of completed Work Package shall be submitted or as mutual agreed and GAM Continuing Airworthiness Manager must be informed once the aircraft is Release to Service.
7. Completed Work Package (original) must be submitted to GAM Continuing Airworthiness Manager office within 3 days of date of completion.

I hereby declare that an approved and up to date maintenance data has been referred for the issuance of this work order.

Thank you.  
Best Regards,

Zaty Nadhira Mohamed Zuhari  
Continuing Airworthiness Management Manager  
Email: zaty@galaxy aerospace.my



CLIENT/OWNER: <b>JABATAN BOMBA DAN PENYELAMAT MALAYSIA</b>	SERIAL NO.	HOURS	LDG/CYCLE	WORKPACK NO:	<b>9M-BOE-14973</b>
AIRCRAFT TYPE: <b>AW189</b>	AIRCRAFT: <b>49045</b>	<b>1261:57</b>	<b>2559</b>	WORK/INSP/DESC:	<b>FLIGHT CONTROL</b>
REGISTRATION: <b>9M-BOE</b>	#1 ENGINE: <b>780235</b>	<b>1091:19</b>	-	AERONET JOB NO.:	<b>2023-14973</b>
BASE/FACILITY: <b>MIA T</b>	#2 ENGINE: <b>780220</b>	<b>1261:57</b>	-	AJL REF NO.:	<b>001386</b>
DATE IN: <b>28.3.23</b> OUT: <b>28.3.23</b>			NG / N1	NF / N2	SHEET: <b>1 OF 1</b>

Reason for raising: FLIGHT CONTROL ADJUSTMENT DUE TO OPERATIONAL REQUIREMENT TO BE CARRIED OUT I.A.W. AW189 IETP 23RD ISSUE 2022-07-15 UPDATED 2022-11-16 TO THE ALL-LATEST ISSUE/ REVISION/UPDATES. AMP NO. JBPM/CAMO/AMP/AW189 ISSUE 3 REV. 1. APU DT13-01 MAINT MANUAL ISSUE 006 DATE 2020-09-30. EMM CT7-2E1, REV. 5, 30/06/2022	Raised by and date: CAMO; Mohd Haffiz Ismail 17/03/2023	Other requirements/information: NIL
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List of scheduled inspection and all work carried out under this workpack including individual reference			DATE INSPECTION COMPLETED	Master Signature Schedule		
NO.	INSPECTION / WORK	WORKSHEET REF		NAME	SIGNATURE	APP/STAMP
1	FLIGHT CONTROL ADJUSTMENT DUE TO OPERATIONAL REQUIREMENT	14973-001	28.3.2023	MUHAMMAD		
				ZULFIKA		8042

**PART 145 - AMO RELEASE STATEMENT** **AMO/2016/02**  
THIS IS TO CERTIFY THAT ALL WORK LISTED ABOVE HAS BEEN INSPECTED AND ACCOMPLISHED IN ACCORDANCE WITH CONTRACTED AMO EXPOSITION AND PROCEDURE LATEST REVISION, AND

\* OEM PUBLICATION/REVISION AS PER REASON FOR RAISING ABOVE  
 \* IF DIFFERENT FROM ABOVE. OEM PUBLICATION/REVISION.....  
.....  
.....

\* TICK  WHERE APPLICABLE

NAME	<b>MUHAMMAD</b>
SIGN & APPROVAL	
FIRM	<b>GAM</b>
DATE	<b>28.3.23</b>

**PART M - CAMO ACCEPTANCE STATEMENT**

THIS IS TO CERTIFY THAT THE ABOVE MENTIONED WORK PACKAGE HAS BEEN REVIEWED, CHECKED FOR COMPLETION AND UPDATED IN THE MAINTENANCE SOFTWARE.

NAME	SIGN & APPROVAL	DATE
<b>THAVAMALAR A/P KUMARAVELU</b>		<b>31/3/2023</b>
<b>CAMO Planner</b>		
<b>Galaxy Aerospace (M) Sdn Bhd</b>		
<b>(1040262-D)</b>		



CLIENT/OWNER: JABATAN BOMBA DAN PENYELAMAT MALAYSIA	SERIAL NO.	HOURS	LDG/CYCLE	WORKSHEET NO:	14973-001
AIRCRAFT TYPE: AW189	AIRCRAFT: 49045	REFER WORKPACK		WORK/INSP/DESC:	FLIGHT CONTROL
REGISTRATION: 9M-BOE	#1 ENGINE: 780235	REFER WORKPACK		WORKPACK REF:	9M-BOE-14973
BASE/FACILITY: <b>MAT</b>	#2 ENGINE: 780220	REFER WORKPACK		AJL REF NO.:	REFER WORKPACK
E IN: REFER WORKPACK OUT: REFER WORKPACK			NG / N1	NF / N2	SHEET: 1 OF 1

Reason for raising: FLIGHT CONTROL ADJUSTMENT DUE TO OPERATIONAL REQUIREMENT TO BE CARRIED OUT I.A.W. AW189 IETP 23RD ISSUE 2022-07-15 UPDATED 2022-11-16 TO THE ALL-LATEST ISSUE/ REVISION/UPDATES. AMP NO. JBPM/CAMO/AMP/AW189 ISSUE 3 REV. 1. APU DT13-01 MAINT MANUAL ISSUE 006 DATE 2020-09-30. EMM CT7-2E1, REV. 5, 30/06/2022	Raised by and date: CAMO; Mohd Haffiz Ismail 17/03/2023	Other requirements/information: NIL
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Item	Description	Technician	* Eng. CRS	Date
1	TO ADJUST THE TAIL ROTOR CONTROL SYSTEM REFERENCE : 89-A-67-21-00-00A271B-A REMARKS : CARRIED OUT. FOUND SATISFACTORY.	<i>J. J. J.</i> 8042	<i>M. M. M.</i> 	28.3.23
2	TO ADJUST YAW TRIM ACTUATOR REFERENCE : 89-A-22-11-19-00A-271A-A REMARKS : CARRIED OUT. FOUND SATISFACTORY. REFER TO YAW TRIM ANGLE VALUE RECORD.	<i>J. J. J.</i> 8042	<i>M. M. M.</i> 	28.3.23

\* Certifies that the work specified above, except as otherwise specified, was carried out in accordance with CAA Malaysia Requirements and in respect to that work the aircraft / aircraft component is considered ready for release to service. **AMO/2016/02**

\* Certifies that the work specified above, except as otherwise specified, was carried out in accordance with \_\_\_\_\_ and in respect to that work the aircraft / aircraft component is considered ready for release to service.

TICK  WHERE APPLICABLE

NO.	DATE	BY	CHECKED	DATE	BY	CHECKED	DATE	BY	CHECKED	DATE	BY	CHECKED	DATE	BY	CHECKED	DATE	BY



Table with columns: CLIENT/OWNER, AIRCRAFT TYPE, REGISTRATION, WORKSHEET NO, SERIAL NO, HOURS, LDG/CYCLE, WORK/INSP/DESC, WORKPACK REF, AJL REF NO, SHEET.

REASON FOR RAISING: FLIGHT CONTROL ADJUSTMENT DUE TO OPERATIONAL REQUIREMENT TO BE CARRIED OUT I.A.W. AW189 IETP 23RD ISSUE 2022-07-15 UPDATED 2022-11-16 TO THE ALL-LATEST ISSUE/ REVISION/UPDATES. AMP NO.JBPM/CAMO/AMP/AW189 ISSUE 3 REV. 1. APU DT13-01 MAINT MANUAL ISSUE 006 DATE 2020-09-30. EMM CT7-2E1, REV. 5, 30/06/2022

Main table with columns: Item, Part No, Description, Serial Number (Off, On), Qty, Position, Reason, Lifer Item Information, Release Reference. The table is mostly empty with a diagonal line drawn across it.

NAME: MUHAMMAD, FIRM: GAM, SIGN & APPROVAL: [Signature], DATE: 28.3.23

\*Certifies that the work specified above, except as otherwise specified, was carried out in accordance with CAA Malaysia Requirements and in respect to that work the aircraft / aircraft component is considered ready for release to service. AMO/2016/02

Table with columns: ITEM NO, QTY, UNIT, PART NO, DESCRIPTION, SERIAL NO, HOURS, LDG/CYCLE, WORK/INSP/DESC, WORKPACK REF, AJL REF NO, SHEET.



<b>Aircraft Serial No:</b>	49045	<b>Work Pack No:</b>	9M-BOE-14973
<b>Aircraft Type:</b>	AW189	<b>DESC:</b>	FLIGHT CONTROL
<b>Aircraft Reg:</b>	9M-BOE	<b>PAGE:</b>	1 Of 1

Description	Part No	Serial Number	Worksheet Ref No. / Item No.	Calibration Due Date
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ATTACHMENT OF WORKPACK REF : 9M-BDE-14973-001  
ITEM 2.

## Yaw trim actuator – Adjust

### Table of contents

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## References

Table 1 References

Data module	Title
89-A-00-20-00-00A-120A-A	Helicopter safety – Pre-operation (make helicopter safe for maintenance)
89-A-06-30-00-00A-010A-A	Zones and areas – General data
89-A-06-41-00-00A-010A-A	Access doors and panels – General data
89-A-12-41-00-00A-510A-A	External electrical power – Disconnect procedure
89-A-12-41-00-00A-730A-A	External electrical power – Connect procedure
89-A-12-42-00-00A-510A-A	External hydraulic power – Disconnect procedure
89-A-12-42-00-00A-730A-A	External hydraulic power – Connect procedure
89-A-22-11-20-00A-520A-A	Yaw trim rod – Remove procedure
89-A-22-11-20-00A-720A-A	Yaw trim rod – Install procedure
89-A-22-11-21-00A-520A-A	Yaw trim lever – Remove procedure
89-A-22-11-21-00A-720A-A	Yaw trim lever – Install procedure
89-A-67-00-00-00A-271A-A	Rotor flight controls - Control rods – Adjust
89-A-67-00-00-00A-520A-A	



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Nomenclature	Identification No.	Qty
None		

## Spares

*Table 7 Spares*

Nomenclature	Identification No.	Qty
None		

## Safety conditions

### WARNING

**Be careful when you operate the flight controls. Make sure that the flight controls are clear. An injury to persons and/or damage to the equipment can occur.**

### CAUTION

**During this maintenance task, get a second person to help you in the procedure.**

### **Procedure**

- 1 Before you do the adjustment of the roll trim actuator, make sure that the mixing and tail rotor control systems are correctly adjusted. Refer to 89-A-67-13-00-00A-271A-A and 89-A-67-21-00-00A-271A-A.
- 2 Set the external electrical power to on.
- 3 Adjust the operating pressure of the hydraulic test bench to 207 bar (3000 psi).
- 4 Operate the hydraulic test bench and pressurize the Number 1 and Number 2 main-hydraulic systems.
- 5 Print a copy of the yaw trim angle value record. Refer to Fig 2.
- 6 Get access to the cockpit.
- 7 On the Number 1 multifunction display (MFD1) (1, Fig 1) push the T7 bezel key. Then, push the B8 bezel key until the "AFCS ATP" page is in view on the pilot MFD1 (1).
- 8 On the Number 2 multifunction display (MFD2) (2), push the T7 bezel key. Then, push the B8 bezel key until the "AFCS PFT" page is in view on the MFD2 (2).
- 9 Get access to the yaw trim actuator (7) through the access panel 122A.
- 10 Remove the parts that attach the yaw trim lever (6) to the yaw trim actuator (7). Refer to the applicable steps of Data Module 89-A-22-11-21-00A-520A-A.
- 11 Move away the yaw trim lever (6) with the yaw trim rod (5) from the yaw trim actuator (7).
- 12 Remove the parts that attach the yaw trim lever (6) to the adjustable end of the yaw trim rod (5). Refer to the applicable steps of Data Module 89-A-22-11-20-00A-520A-A.
- 13



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Remove the yaw trim lever (6) from the yaw trim rod (5). Then, put the yaw trim lever (6) in its position on the yaw trim actuator (7).

**Note**

Do not tighten the nut and install the cotter pin at this time.

- 14 Temporarily install the parts that attach the yaw trim lever (6) to the yaw trim actuator (7). Refer to the applicable steps of Data Module 89-A-22-11-21-00A-720A-A.
- 15 Install the applicable rigging pin to lock the copilot pedal set. Refer to 89-A-67-00-00-00A-720A-A.
- 16 Get access to the Number 1 Electronic Control Display Unit (ECDU 1) (4) in the cockpit.
- 17 Do the selection of the AFCS page on the ECDU 1 (4) as follows:
  - 17.1 Push the MNT button.
  - 17.2 Push at the same time the line-selection keys (13) and (12).
  - 17.3 Push the buttons that follow in sequence:
    - 1 The MENU button
    - 2 The AFCS line-selection key.
  - 17.4 Make sure that the AFCS page is in view on the ECDU 1 (4).
- 18 On the AFCS page, make sure that the green C/Y PTR indication is set CLUTCHED.
- 19 Push the C/Y PTR line-selection key (11) one time.
- 20 Make sure that the white C/Y PTR indication is set to DECLUTCHED.
- 21 Turn the yaw trim lever (6) until the YAW TRIM RSLV 1 and 2 indications on the AFCS ATP page show a value of  $45^{\circ} \pm 1^{\circ}$ .
- 22 On the AFCS page, push the C/Y PTR line-selection key (11) one time.
- 23 Make sure that the green C/Y PTR indication is set CLUTCHED.
- 24 Adjust the length of the yaw trim rod (5) as necessary to connect it to the yaw trim lever (6). Refer to 89-A-67-00-00-00A-271A-A.
- 25 Put the adjustable end of the yaw trim rod (5) in its position on the yaw trim lever (6).
- 26 Temporarily attach the adjustable end of the yaw trim rod (5) to the yaw trim lever (6) with the related bolt and nut.
- 27 Remove the rigging pin from the copilot pedal set. Refer to 89-A-67-00-00-00A-520A-A.
- 28 Record the YAW TRIM RSLV 1 and 2 values on the YAW TRIM ANGLE VALUE RECORD.
- 29 On the AFCS page, push the C/Y PTR line-selection key (11) one time. Then make sure that the green C/Y PTR indication is set to DECLUTCHED.
- 30 Operate and hold the right pedal of the pedal set (3) fully forward.
- 31 Get access to the bellcrank Y8-Y9 (9) on the bottom aft side of the vertical fin.
- 32



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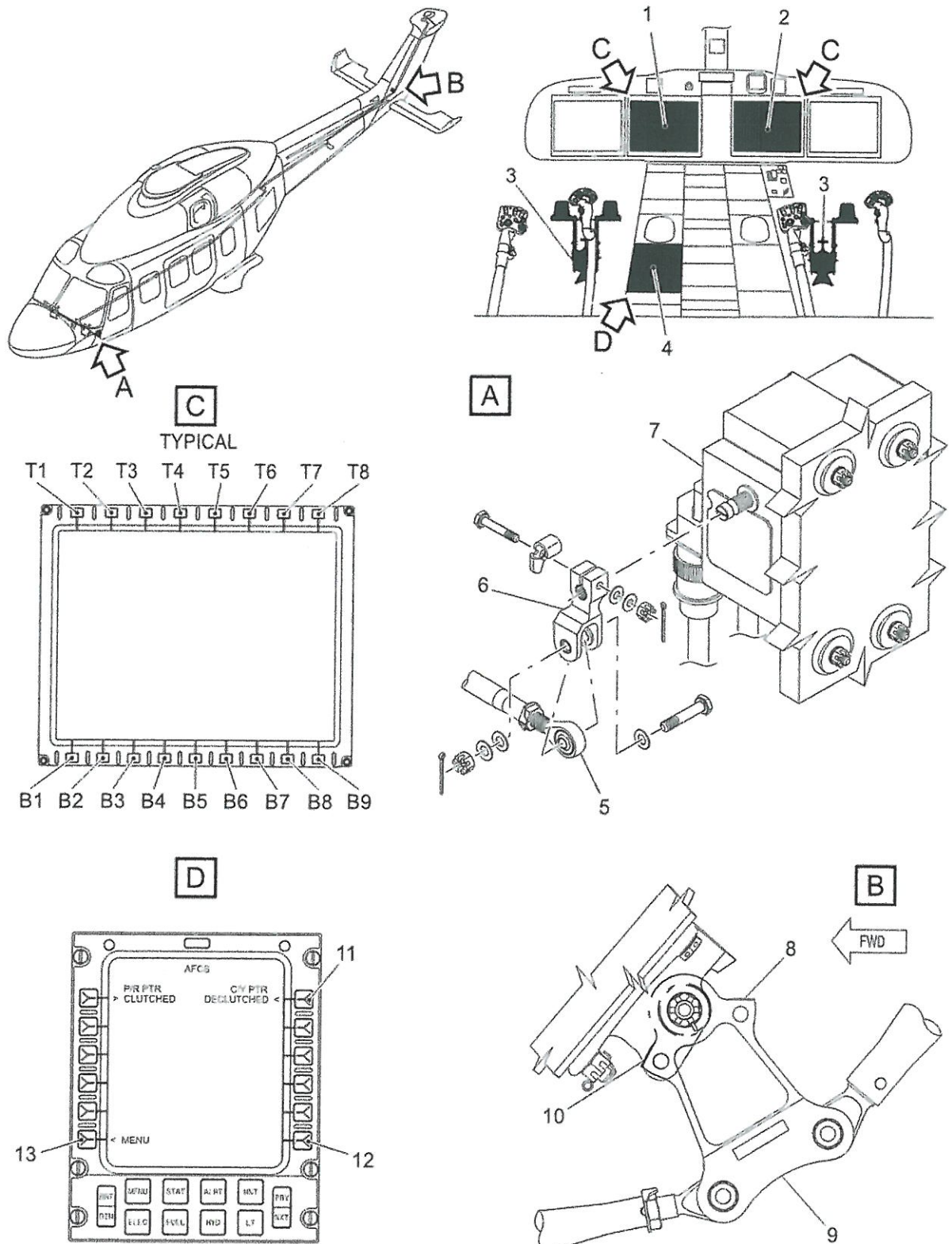
- On the bellcrank Y8-Y9 (9), make sure that the fixed stop B (10) is fully engaged. To do this, use a thin piece of paper.
- 33 On the AFCS ATP page, make sure that the YAW TRIM RSLV 1 and 2 indications show a value of  $17,5^{\circ} \pm 2^{\circ}$ .
- 34 Record the YAW TRIM RSLV 1 and 2 values on the YAW TRIM ANGLE VALUE RECORD.
- 35 Operate and hold the left pedal of the pedal set (3) fully forward.
- 36 On the bellcrank Y8-Y9 (9), make sure that the fixed stop A (8) is fully engaged. To do this, use a thin piece of paper.
- 37 On the AFCS ATP page, make sure that the YAW TRIM RSLV 1 and 2 indications show a value of  $71,5^{\circ} \pm 2^{\circ}$ .
- 38 Record the YAW TRIM RSLV 1 and 2 values on the YAW TRIM ANGLE VALUE RECORD.
- 39 Remove the adjustable end of the yaw trim rod (5) from the yaw trim lever (6) with the related bolt and nut.
- 40 Move away the adjustable end of the yaw trim rod (5) from the yaw trim lever (6).
- 41 Remove the parts that attach the yaw trim lever (6) to the yaw trim actuator (7). Refer to the applicable steps of Data Module 89-A-22-11-21-00A-520A-A.
- 42 Remove the yaw trim lever (6) from the yaw trim actuator (7). Then, put the yaw trim lever (6) in its position on the adjustable end of the yaw trim rod (5).
- 43 Install the parts that attach the yaw trim lever (6) to the adjustable end of the yaw trim rod (5). Refer to the applicable steps of Data Module 89-A-22-11-20-00A-720A-A.
- 44 Put the yaw trim lever (6) with the yaw trim rod (5) in its position on the yaw trim actuator (7).
- 45 Install the parts that attach the yaw trim lever (6) to the yaw trim actuator (7). Refer to the applicable steps of Data Module 89-A-22-11-21-00A-720A-A.
- 46 Decrease the operating pressure of the hydraulic test bench to zero. Then, set the hydraulic test bench to off.
- 47 Set the external electrical power to off.

### ***Requirements after job completion***

- 1 Remove all the tools and the other items from the work area. Make sure that the work area is clean.
- 2 Disconnect the external hydraulic power from the Number 1 and Number 2 main-hydraulic systems. Refer to 89-A-12-42-00-00A-510A-A.
- 3 Disconnect the external electrical power from the helicopter. Refer to 89-A-12-41-00-00A-510A-A.
- 4 Install the access panels 122A, 321A and 322A. Refer to 89-A-06-41-00-00A-010A-A.



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Figure 1 Yaw trim actuator - Adjust

*[Signature]*  


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YAW TRIM ANGLE VALUE RECORD

A/C SERIES	AW189 / 9m-BOE	DATE	28/3/2023
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YAW TRIM ANGLE VALUE CHECK			
Control Travel pedal position	TRIM RSLV Required	TRIM RSLV 1 Measured	TRIM RSLV 2 Measured
Pinned at the copilot pedal assy	45° ± 1°	44.9	45.1
Right pedal fully Forward	17.5° ± 2°	16.4	16.3
Left pedal fully Forward	71.5° ± 2°	71.2	71.5

REFER TO WORKPACK 9m-BOE-14973-001, ITEM NO 2.

*[Handwritten Signature]*  


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ICN-89-A-221119-G-00001-04805-A-001-01

Figure 2 Yaw trim angle value record