AIRWORTHINESS OPERATOR MESSAGE

Date: 28 September 2020

Ref AOM: 2020/13 issue 1

AIRCRAFT MODELS: ATR42

ATA: 27 – 31

SUBJECT: Risk of spurious activation of stall warning system

INSTRUCTIONS FOR CONTINUED AIRWORTHINESS: ☑ **Yes** ☐ **No**

APPLICABILITY

ATR 42-200/-300/-320 all MSN.

REASON

Events of suspicious spurious activation of the stall warning system have been reported to ATR. Such activation can lead to one or a combination of the following:

- Autopilot disconnection,
- Stick pusher activation,
- Stick shaker activation,
- Aural Stall warning (Cricket audio alert),
- Master CAUTION lights flashing amber,
- STICK PUSHER green lights ON,
- FLT CTL amber light on CAP,
- Stick PUSHER/SHAKER pushbutton FAULT amber light illumination,
- Whooler audio alert.

Investigation evidenced that wiring damage on the wire bundle between an AOA probe and the Crew Alerting Computer (CAC) can trigger the above sequence.

To address this potential unsafe condition, ATR has developed a one-time inspection, in Appendix 1.

ACTIONS

ATR requires all concerned operators:

- Within 60 days from AOM publication date: to perform the inspection of the wire bundles as per instructions provided in Appendix 1,
- Within 30 days after the inspection: to provide ATR with a feedback whatever the inspection result is. This feedback shall be done by filling the reporting form attached in Appendix 2 of this AOM.

EASA will release an Airworthiness Directive to mandate application of the above-mentioned actions.

REFERENCE DOCUMENTS

None

ATTACHMENT

- Appendix 1: Inspection instructions of the wire bundles between LH and RH Angle of Attack probes and the CAC
- Appendix 2: Accomplishment report of the inspection

APPROVAL

The technical content of this document is approved under the authority of the DOA ref. EASA.21J.044

D. CAILHOL
ATR Head of Continued Airworthiness
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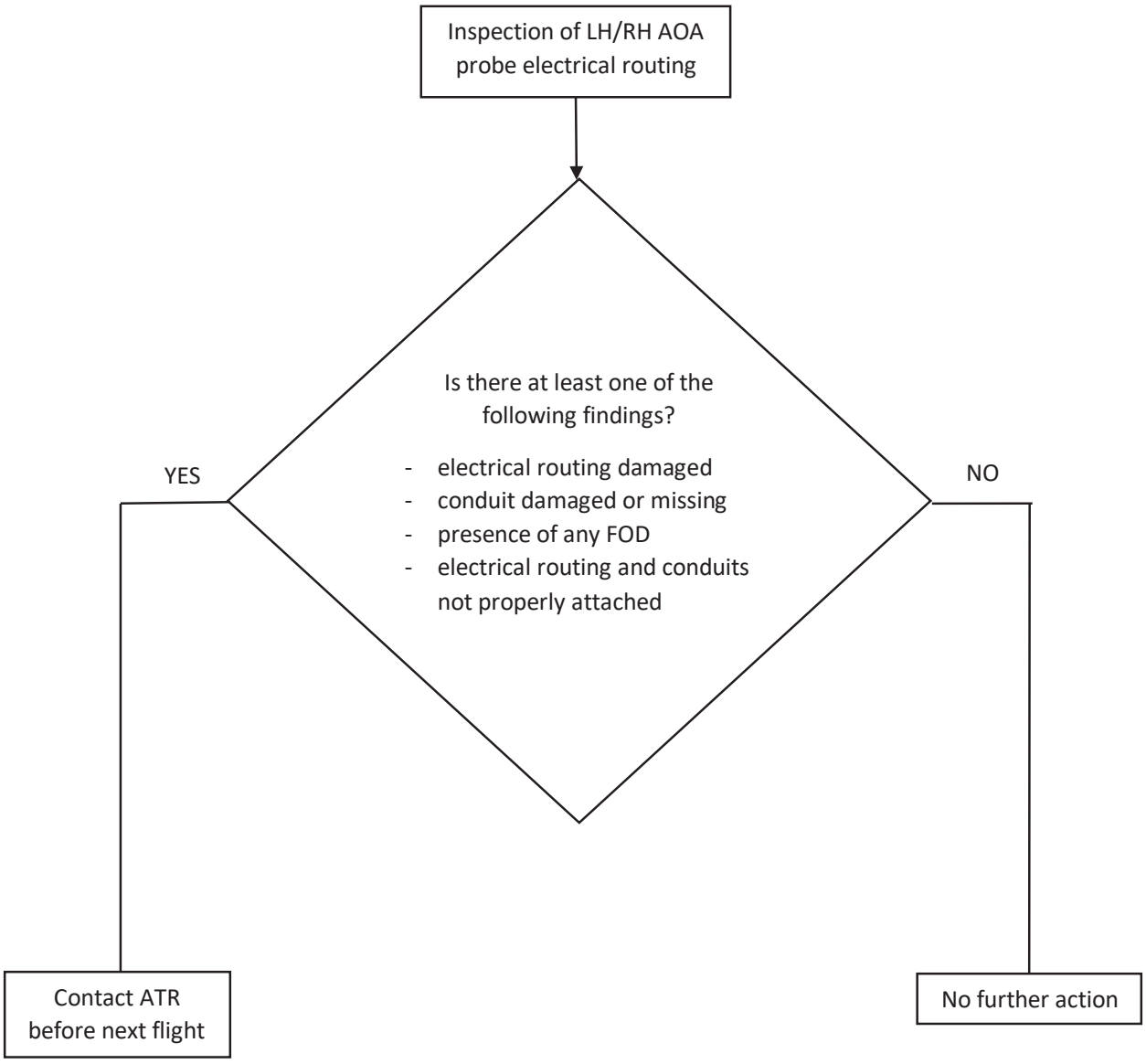
Appendix 1

Wire routing inspection

1. PLANNING INFORMATION

A. INSPECTION FLOWCHART

The following flowchart presents the work to be done in a simplified way, details are described in paragraphs "ACCOMPLISHMENT INSTRUCTIONS".



B. MANPOWER

	Manhours
Mechanic	None
Electrician	10
Total manhours	**10**
Elapsed time (hours)	**5**

The above estimates are only provided for general guidance in operator's modification planning.

NOTE: This inspection assumes that the aircraft has been placed in the appropriate maintenance configuration. The manhours/elapsed time estimates do not include preparation for the inspection, non-productive elapsed time or administrative functions.

C. REFERENCES

The following publications have to be used during accomplishment of this inspection:

MP: ATR-A-24-4X-XX-00ZZZ-561Z-A
ATR-A-24-4X-XX-00ZZZ-761Z-A
ATR-A-25-11-10-00ZZZ-520Z-A
ATR-A-25-11-10-00ZZZ-720Z-A

2. ACCOMPLISHMENT INSTRUCTIONS

A. GENERAL

The following instructions assume that work will be accomplished when the aircraft is in the appropriate maintenance configuration.

B. JOB SET-UP

(1) De-energize the aircraft electrical network and connect the aircraft to ground as per MP ATR-A-24-4X-XX-00ZZZ-561Z-A.

(2) In cockpit, remove captain and first officer seats as per MP ATR-A-25-11-10-00ZZZ-520Z-A.

(3) In cockpit, remove panels 211MZ, 212SZ, 212MZ, 212DW.

(4) In forward cargo compartment, remove panels 222FZ, 222CZ.

C. INSPECTION

NOTE: During accomplishment of this inspection, fill the enclosed Accomplishment Report and send it to the address mentioned on the Accomplishment Report

CAUTION: DURING INSPECTION, MAKE SURE THAT:

- THERE IS NO FOD IN INSPECTED AREAS,
- ELECTRICAL ROUTING AND CONDUITS ARE PROPERLY ATTACHED.

IF THERE IS ANY FOD OR IF ELECTRICAL ROUTING AND CONDUITS ARE NOT PROPERLY ATTACHED, PLEASE CONTACT ATR BEFORE NEXT FLIGHT.

(1) In cockpit, zone 211, inspection of electrical routing of LH AOA probe harness.

(a) Visual inspection of conduit around LH AOA probe harness.

Inspect all the parts listed in the following table.

		INSPECTION		
Item	Description	Part Number	Qty	Figure
1	Conduit	-	A.R.	1, sheet 1 area 1 1, sheet 2
INSPECTION OBJECT: Check the presence and integrity of LH AOA probe harness conduit between connector (FIN7WW-A) and FR9			**RESULT**	**ACTION TO BE PERFORMED**
Is conduit missing or is there damage on the conduit?			YES	Contact ATR before next flight and continue inspection as per paragraph 2.C.(1)(b)
			NO	Inspection as per paragraph 2.C.(1)(b)

(b) Visual inspection of each wires of LH AOA probe harness.

Inspect all the parts listed in the following table.

		INSPECTION		
Item	Description	Part Number	Qty	Figure
2	LH AOA probe harness	-	A.R.	1, sheet 1 area 2 1, sheet 2
INSPECTION OBJECT: Check the integrity of each wires of the LH AOA probe harness between FR8 and FR10.			**RESULT**	**ACTION TO BE PERFORMED**
Is there damage on wires of LH AOA probe harness?			YES	Contact ATR before next flight and continue inspection as per paragraph 2.C.(2)(a)
			NO	Inspection as per paragraph 2.C.(2)(a)

(2) In cockpit, zone 212, inspection of electrical routing of RH AOA probe harness.

(a) Visual inspection of conduit on RH AOA probe harness.

Inspect all the parts listed in the following table.

		INSPECTION		
Item	Description	Part Number	Qty	Figure
3	Conduit	-	A.R.	2, area 1
INSPECTION OBJECT: Check the presence and integrity of RH AOA probe harness conduit between FR9 and below 702VU panel.			**RESULT**	**ACTION TO BE PERFORMED**
Is the conduit missing or is there damage on the conduit?			YES	Contact ATR before next flight and continue inspection as per paragraph 2.C.(2)(b)
			NO	Inspection as per paragraph 2.C.(2)(b)

(b) Visual inspection of each wires of RH AOA probe harness.

Inspect all the parts listed in the following table.

		INSPECTION		
Item	Description	Part Number	Qty	Figure
4	RH AOA probe harness	-	A.R.	2, area 2
INSPECTION OBJECT: Check the integrity of each wires of the RH AOA probe harness between FR7 and FR10.			**RESULT**	**ACTION TO BE PERFORMED**
Is there damage on wires of RH AOA probe harness?			YES	Contact ATR before next flight and continue inspection as per paragraph 2.C.(3)(a)
			NO	Inspection as per paragraph 2.C.(3)(a)

(3) In cockpit, on 93VU shelf, inspection of electrical routing around connectors (FIN 934VC, 934VC-A, 937VC and 937VC-A).

(a) Visual inspection of LH AOA wires connected to connectors (FIN 937VC, 937VC-A).

Inspect all the parts listed in the following table.

		INSPECTION		
Item	Description	Part Number	Qty	Figure
-	Wires	-	A.R.	3
INSPECTION OBJECT: Check the integrity of wires connected to connectors (FIN 937VC and 937VC-A) pins 6, 7 and 11 thru 16.			**RESULT**	**ACTION TO BE PERFORMED**
Is there damage on wires?			YES	Contact ATR before next flight and continue inspection as per paragraph 2.C.(3)(b)
			NO	Inspection as per paragraph 2.C.(3)(b)

(b) Visual inspection of RH AOA wires connected to connectors (FIN 937VC, 937VC-A).

Inspect all the parts listed in the following table.

		INSPECTION		
Item	Description	Part Number	Qty	Figure
-	Wires	-	A.R.	3
INSPECTION OBJECT: Check the integrity of wires connected to connectors (FIN 934VC and 934VC-A) pins 2, 4 and 14 thru 19.			**RESULT**	**ACTION TO BE PERFORMED**
Is there damage on wires?			YES	Contact ATR before next flight and continue inspection as per paragraph 2.C.(4)(a)
			NO	Inspection as per paragraph 2.C.(4)(a)

(4) In cockpit, on 91VU shelf, inspection of electrical routing around connectors (FIN 918VC, 918VC-A, 971VC and 971VC-A).

(a) Visual inspection of LH AOA wires connected to connectors (FIN 971VC, 971VC-A).

Inspect all the parts listed in the following table.

		INSPECTION		
Item	Description	Part Number	Qty	Figure
-	Wires	-	A.R.	3
INSPECTION OBJECT: Check the integrity of wires connected to connectors (FIN 971VC and 971VC-A) pins 6 and 75 thru 77.			**RESULT**	**ACTION TO BE PERFORMED**
Is there damage on wires?			YES	Contact ATR before next flight and continue inspection as per paragraph 2.C.(4)(b)
			NO	Inspection as per paragraph 2.C.(4)(b)

(b) Visual inspection of RH AOA wires connected to connectors (FIN 918VC, 918VC-A).

Inspect all the parts listed in the following table.

		INSPECTION		
Item	Description	Part Number	Qty	Figure
-	Wires	-	A.R.	3
INSPECTION OBJECT: Check the integrity of wires connected to connectors (FIN 918VC and 918VC-A) pins 13 and 53 thru 55.			**RESULT**	**ACTION TO BE PERFORMED**
Is there damage on wires?			YES	Contact ATR before next flight
			NO	Perform paragraph 2.E

D. TESTS

None.

E. CLOSE-UP

(1) In cockpit, re-install panels 211MZ, 212SZ, 212MZ, 212DW.

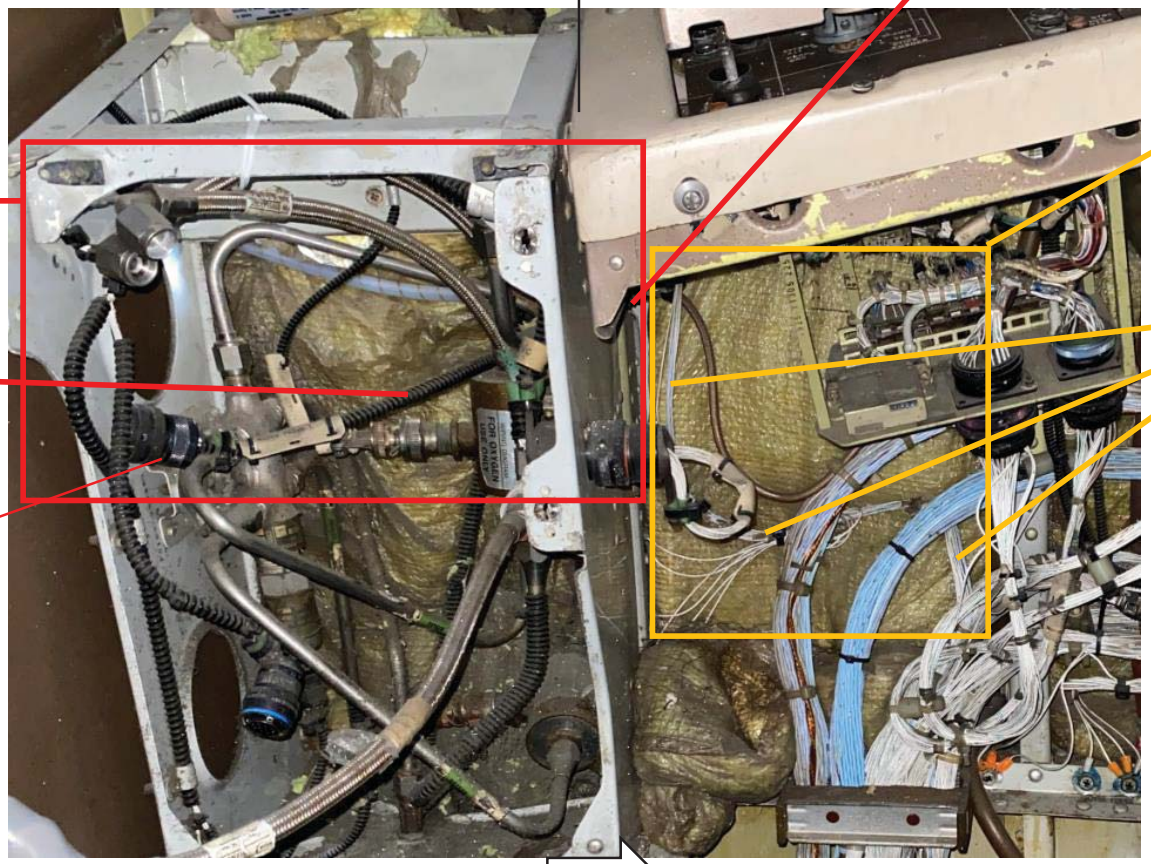
(2) In forward cargo compartment, re-install panels 222FZ, 222CZ.

(3) In cockpit, re-install captain and first officer seats as per MP ATR-A-25-11-10-00ZZZ-720Z-A.

(4) Re-energize the aircraft electrical network and disconnect the aircraft from ground as per MP ATR-A-24-4X-XX-00ZZZ-761Z-A.

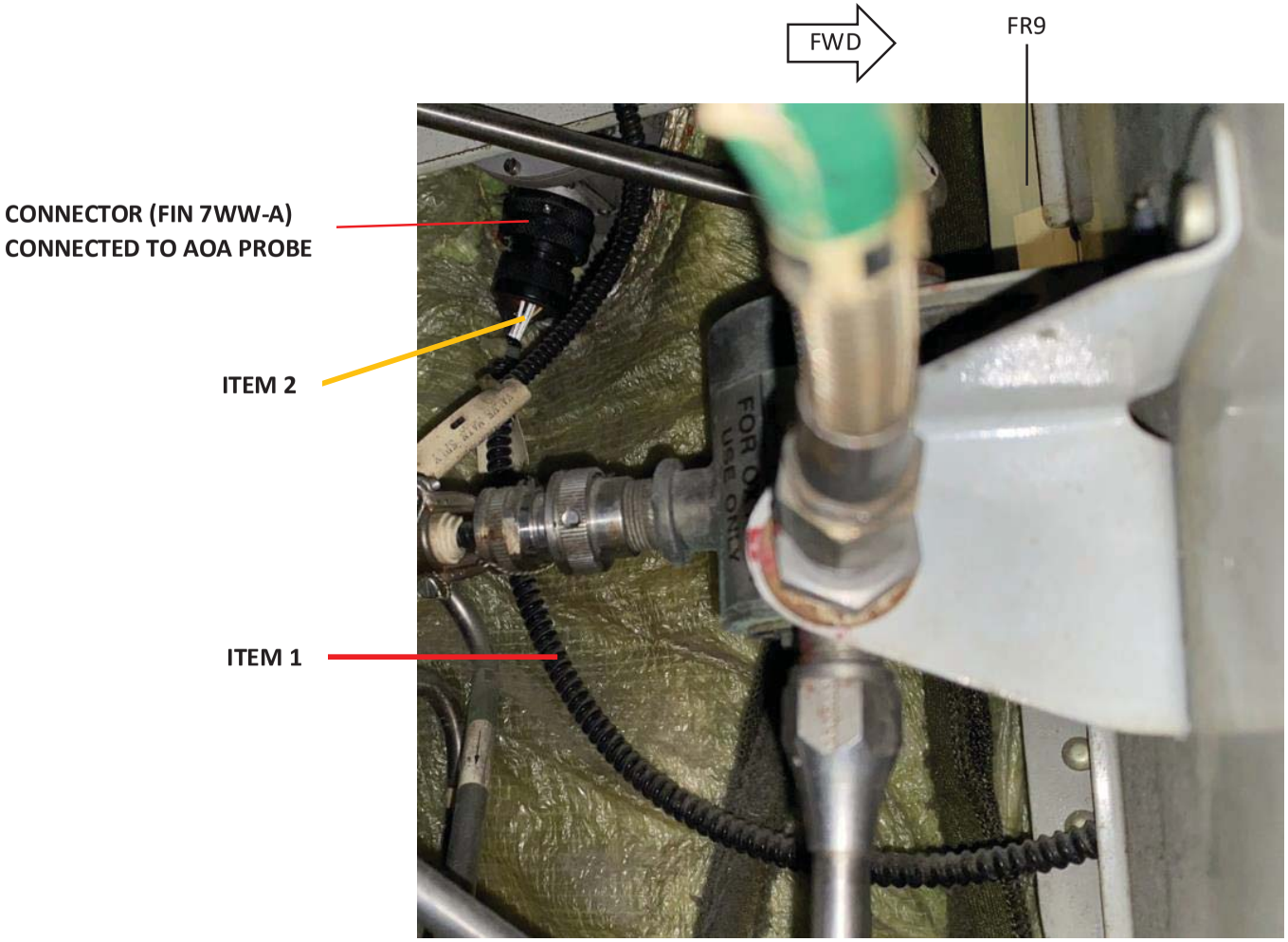
MAIN VIEW

CONNECTOR (FIN 7WW-A) DISCONNECTED FROM AOA PROBE



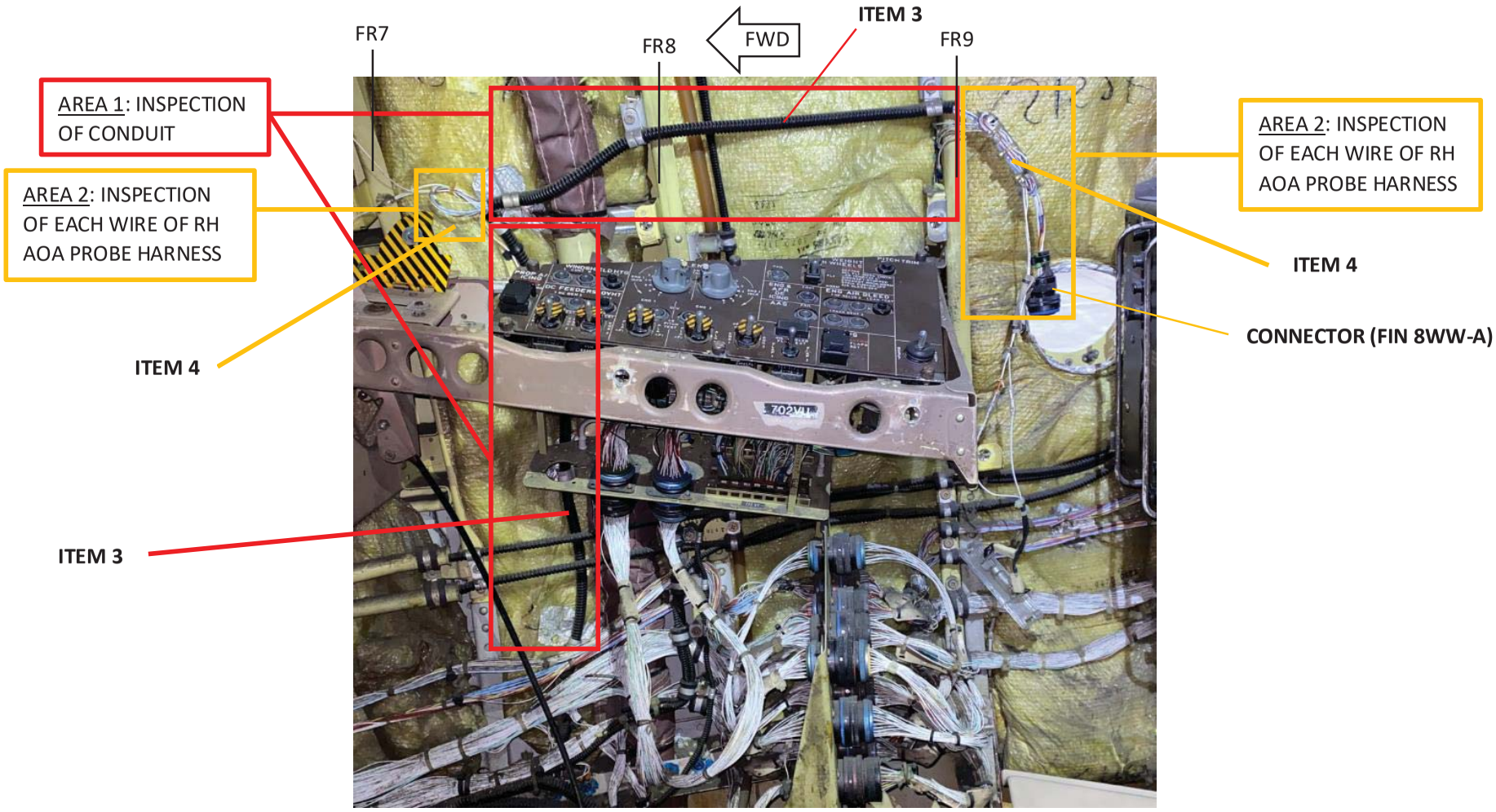
In cockpit, zone 211, inspection of LH AOA probe harness

Figure 1, sheet 1 of 2



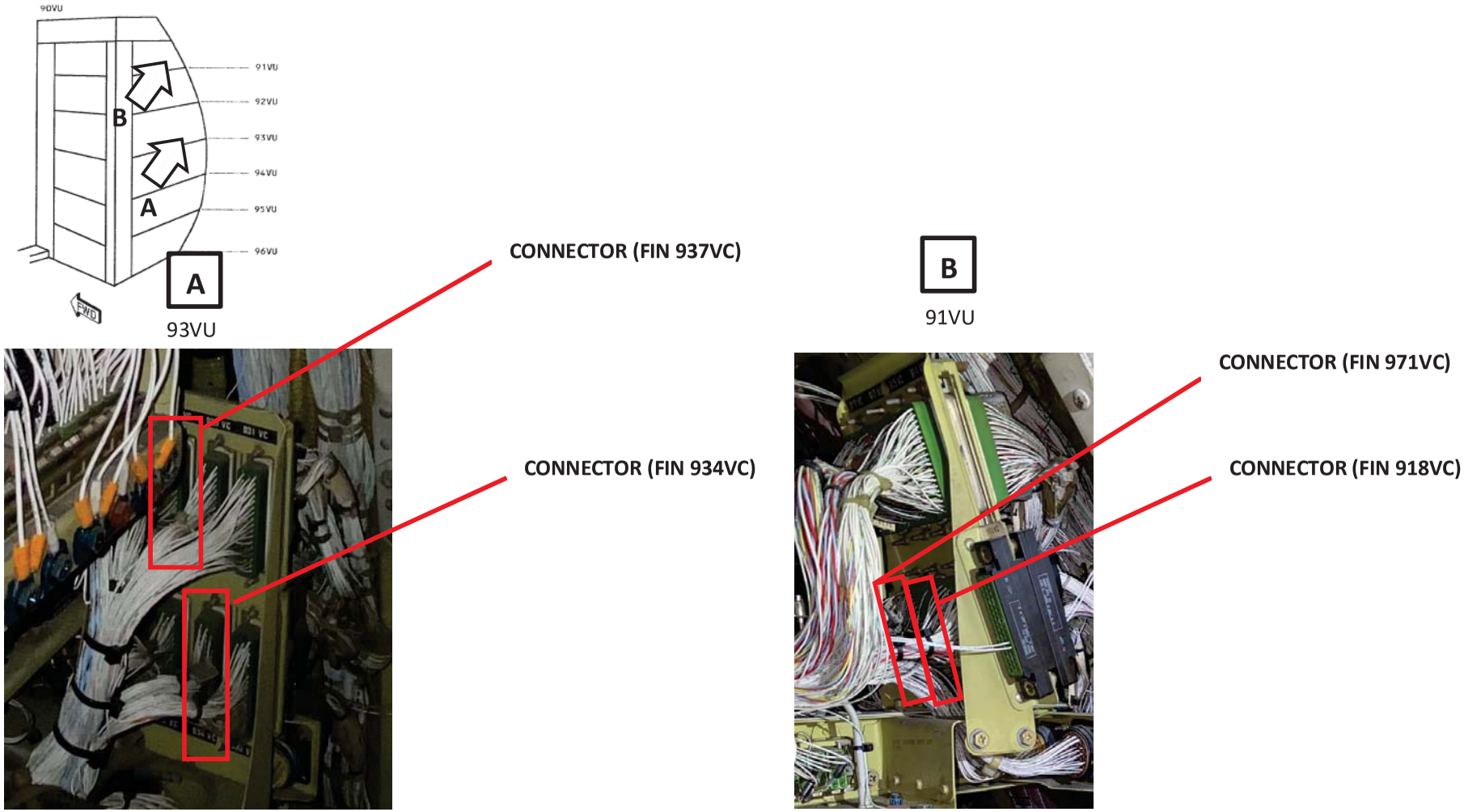
In cockpit, zone 211, inspection of LH AOA probe harness

Figure 1, sheet 2 of 2



In cockpit, zone 212, inspection of RH AOA probe harness

Figure 2



In cockpit, on 91VU and 93VU shelves, inspection of electrical routing on connectors (FIN 934VC, 937VC, 971VC and 918VC)

Figure 3

Appendix 2

Accomplishment report of the inspection

ACCOMPLISHMENT REPORT

Send this report to:

TECHDESK

1 ALLEE PIERRE NADOT 31712
BLAGNAC CEDEX FRANCE

phone : +33 (0)5 62 21 62 21

e-mail : techdesk@atr-aircraft.com

ATRactive : www.atractive.com

Aircraft identification

Aircraft MSN:

Aircraft registration number:

Flight cycles:

Flight hours:

Accomplishment date of this inspection:

Inspection results

Tick (✓) the appropriate box

(1) For LH AOA probe harness

	YES	NO
(a) Is conduit missing?	☐	☐
(b) If the conduit is not missing, is it damaged?	☐	☐
(c) Is there damage on wires between FR8 and FR9?	☐	☐

(2) For RH AOA probe harness

	YES	NO
(a) Is conduit missing?	☐	☐
(b) If the conduit is not missing, is it damaged?	☐	☐
(c) Is there damage on wires between FR8 and FR9?	☐	☐

(3) For connectors on 93VU shelf

	YES	NO
(a) Is there damage on wires connected to 934VC?	☐	☐
(b) Is there damage on wires connected to 934VC-A?	☐	☐
(c) Is there damage on wires connected to 937VC?	☐	☐
(d) Is there damage on wires connected to 937VC-A?	☐	☐

(4) For connectors on 91VU shelf

	YES	NO
(a) Is there damage on wires connected to 918VC?	☐	☐
(b) Is there damage on wires connected to 918VC-A?	☐	☐
(c) Is there damage on wires connected to 971VC?	☐	☐
(d) Is there damage on wires connected to 971VC-A?	☐	☐

Remarks:

_____

_____

_____

_____

_____

_____

Maintenance organisation identification

Maintenance organisation name:

Name & Signature:

Date: