2141 ICON Way, Vacaville, CA 95688 - Tel: 707.564.4000 – www.iconaircraft.com

SERVICE BULLETIN

SB-041323-A

ID NUMBER & REVISION:	SB-041323-A
SUBJECT:	ELT Antenna Corrosion
RELEASE DATE:	8 June 2023
EFFECTIVE DATE:	8 June 2023
SUPERSEDES NOTICE:	N/A
AIRCRAFT AFFECTED:	**MAKE & MODEL:** ICON A5
	SERIAL NUMBERS: 00001 – 00185
REQUIRED ACTION:	Perform a one-time inspection of the ELT antenna to identify any corrosion and remove and replace the ELT assembly as necessary.
TIME OF COMPLIANCE:	One time inspection, at the next service interval.
REVISION HISTORY:	**A** Initial Release

LEVEL OF CERTIFICATION	☐	Pilot/Owner	☒	A & P
REQUIRED (any level checked	☐	LSA Repairman – Inspection	☒	Certified Repair Station
can perform task):	☒	LSA Repairman – Maintenance	☒	Manufacturer

PURPOSE:

It has been discovered that there is a potential for corrosion at the base of the ACK E-04 ELT whip antenna on top of the engine cowling. In addition, there is corrosion potential of the BNC connector of the ELT antenna beneath the cowling. When operating in areas of moderate to heavy precipitation, moisture pools at the base of the whip antenna between the plastic and stainless-steel fittings as well as the BNC connector. This moisture allows an opportunity for corrosion to develop. If corrosion becomes severe, then the ELT whip antenna can potentially depart from its mount and strike the propeller, fuselage boom, or tail surfaces. Or severe corrosion can cause the ELT antenna to not properly emit radio signals. The following are inspection and repair guidance to contain the corrosion.

NOTE: In addition to corrosion, the ELT ACK E-04 whip antenna can be damaged if the cowling is improperly stored. When performing any engine maintenance where the cowling must be removed, always store the cowling in an up-right orientation. The ELT ACK E-04 whip antenna should never contact the ground or other surfaces that could strain and bend the antenna.

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ASSEMBLIES AND PARTS:

PART NUMBER	DESCRIPTION	QUANTITY	ALTERNATE	
			PART NUMBER	DESCRIPTION
N/A	Isopropyl Alcohol	A/R		
E-04_8	ACK E-04 406MHz Whip Antenna	1		
ICA015003	Washer, Insulating **(FN003 – See Figure 3)**	1		
ICA015004	Washer, Insulating **(FN002 – See Figure 3)**	1		
Loctite 243	Thread Locker	A/N		
ICA012182	ELT Antenna Ground Plane	1		
CB200	2-Part Acrylic Adhesive	A/N		
N/A	Silicone Rubber Sheet (0.25” Thick)	A/N		
N/A	Aluminum Foil Tape (3M 425)	A/N		

IF APPLICABLE, SERVICE KITS:

KIT NUMBER	CONTENT PARTS	DESCRIPTION	QUANTITY
N/A	N/A	N/A	N/A

INSTRUCTIONS:

It is permissible to disassemble the aircraft as required to permit accessibility, inspection, adjustment, maintenance, and repair in accordance with the latest release of the online ICON Aircraft Maintenance Manual; ICA000833

Inspection

1. Remove the top engine cowling.
    a. ICON Aircraft Maintenance Manual: Remove Engine Cowlings (100497).
2. Inspect the antenna connectors and grounding wires underneath the top cowling (non-painted side) for evidence of corrosion.
    a. See Figure 1 for an example of corrosion.
    b. If there is corrosion, proceed to “Repair – Corrosion” section of this Service Bulletin
    c. If there is no corrosion, proceed to “Logbook Entry”.
3. Inspect the steel wire located on the ACK ELT Whip Antenna, on top of the cowling (painted side) for evidence of corrosion.
    a. See Figure 2 for inspection location.
    b. If there is corrosion, proceed to “Repair – Corrosion” section of this Service Bulletin
    c. If there is no corrosion, proceed to “Logbook Entry”.

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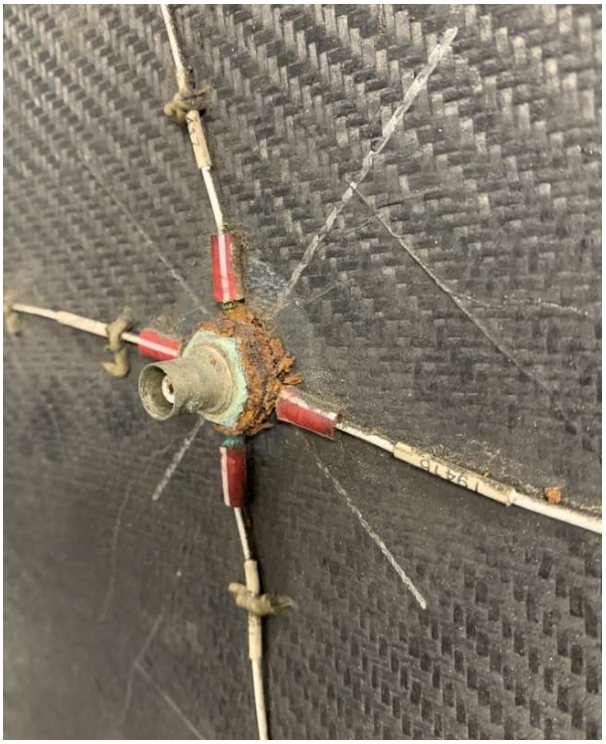

Figure 1 Evidence of Corrosion Underneath the Cowl

Figure 2 Steel Wire at Top of ELT Antenna

Repair

NOTE: If the base of the ACK ELT Whip Antenna and/or the steel wire at the top of the ACK ELT Whip Antenna is corroded, then the entire antenna assembly will have to be removed and replaced.

NOTE: Read repair instructions in their entirety before proceeding with this repair. Any questions regarding interpretation of this disposition shall be forwarded to ICON Aircraft Engineering immediately. Contact ICON Aircraft for additional information as required.

1. If not already performed, remove the top engine cowling.
    a. ICON Aircraft Maintenance Manual: Remove Engine Cowlings (100497).
2. Carefully remove the nut, star washer, and four ground rings of the ELT antenna, underneath the cowling.
    a. Discard the nut and star washer, a new nut and star washer is supplied with the new ACK ELT Whip Antenna.
3. Carefully remove the ELT Antenna.
4. Carefully clean the four ELT grounding rings and wires with isopropyl alcohol.
5. If the grounding rings and/or wires need to be replaced, dis-bond and remove adhesive in accordance with the following instructions:

NOTES

a. All substrate materials must be protected from excessive temperatures (exceeding 200 F) during the application of heat to soften the adhesive material attaching to the fastener. Excessive temperatures can cause dis-bond, delamination, and blistering of composite substrates, resulting in a loss of strength and reliability.
b. Utilize the following methods to prevent temperature damage.
    i. Keep the maximum output air temperature of the heat gun below the threshold of damage temperature of the substrate and any surrounding components (i.e., 200 F)
    ii. Use any available technologies to (infrared, temperature sensitive paint, etc.) monitor the temperature of the nearby substrate during the operation. It should always be below the threshold temperature (i.e., 200 F)
    iii. Mask adjacent components and substrates with thermal barrier (silicone sheet) to minimize heat transfer to unintended areas.

CB200 DIS-BOND and BONDING INSTRUCTIONS:

a. Cut a conformal mask from silicone rubber sheet (0.25“thick) with the following features:
    i. The mask should extend a minimum of 3 inches beyond the original adhesive dollop securing the ELT grounding wires, in all directions.
    ii. In the middle of the mask, minimally cut a suitably sized hole to permit penetration of the original adhesive dollop intended to be heated and removed.
    iii. Drape the mask over the adhesive dollop and secure with Aluminum Foil Tape (3M 425).

b. Use a heat gun tool to heat the bond for removal. Hold the heat gun at a 90-degree inclination to the bond (i.e., perpendicular to the adhesion surface), and position it approximately one inch from the ground wire on the bottom of the cowl. Center the airstream onto the adhesive dollop.
c. Allow the heat gun to dwell above the adhesive dollop for 20 to 30 seconds, initially, and then additional 10 second increments as needed.
d. After heating for the appropriate amount of time, the adhesive will soften adequately so that the ELT ground wires can be carefully released from the bonded area.
e. Using the same methods to heat the remaining adhesive dollops securing the ELT ground wires.
f. Use a scraper to remove all the adhesive material. Be careful not to damage the cowling or ELT ground wires during this operation.
g. Following removal of the ELT ground wires, inspect the cowling for damage. Contact ICON Aircraft if any anomalies are found.

NOTE: ASN 00001 – 00138 originally did not have insulating washers installed. They must be installed by preparing the ACK ELT Whip Antenna hole. Step 5 (below) applies only to **ASN 00001 – 00138.**

5. Change the ELT hole size by drilling a .635+.015/-.009 hole. (***ASN 00001 – 00138 ONLY***)
    a. Deburr the hole as necessary taking care to not break hole edges more than .010”.
6. Using isopropyl alcohol, clean the area around the mounting hole on the outside painted surface and on the inside unpainted surface of the upper engine cowling.
7. Insert the BNC connector of the new ACK ELT Whip Antenna into the mounting hole.
8. Clean the threads of the BNC connector with isopropyl alcohol.
9. Secure the ACK ELT Antenna and ground wires:
    a. Install insulating washers (ICA015003 (FN003) and ICA015004 (FN002)) and ELT ground wires (4 terminals) on lower unpainted side of cowl and secure using star washer and nut as shown in Figure 3.
    b. Ensure that each ring terminal is at a 90° angle from one another.
    c. Ensure the 4x ground wires are 90° from one another as shown in Figure 3.
10. Torque the nut on the BNC connector to 13 – 15 in lbs.
    a. Ensure the ground wire terminals do not rotate.
11. Verify the wires do not exit the connector at sharp angles.
12. Verify the wires are not stressed (exhibit no freedom of movement).
13. Verify the wires are not pinched at connection points or edges near installation.
14. Verify all connectors have their locking features engaged.
15. See Figure 4 for placement of the adhesive and re-bond using CB200 at those locations.
16. Prepare the CB200 in accordance with the manufacturer’s instructions.
    a. Note application time, handling time, and cure time.
17. Apply 8x 0.50” diameter dollops of CB200 at the bonding locations.
18. On the top, painted, side of the cowling, verify the ACK ELT Whip Antenna is installed tightly.

19. Ensure that the ACK ELT Whip Antenna is straight pointing AFT after installation.
    a. See Figures 5, 6, and 7.
20. Using isopropyl alcohol, thoroughly and carefully clean the top of the ACK ELT Whip Antenna:
    a. See Figure 2.
21. Install the top engine cowling.
    a. ICON Aircraft Maintenance Manual: Install Engine Cowlings (100335).
22. Proceed to "Logbook Entry".

Reference Transponder and ELT Antenna Replacement (100141) in the ICON Aircraft Maintenance Manual for further clarification.

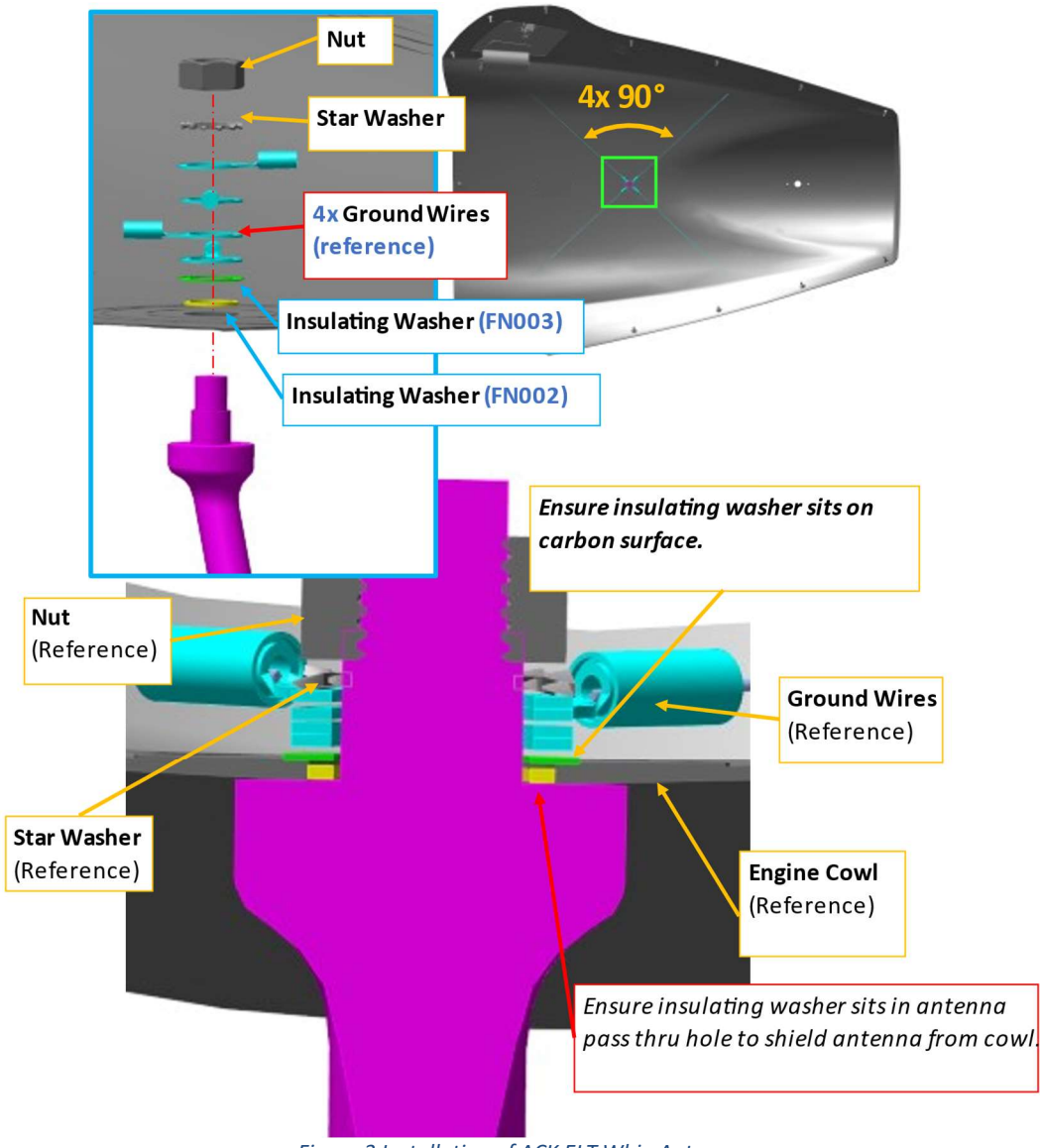

Figure 3 Installation of ACK ELT Whip Antenna

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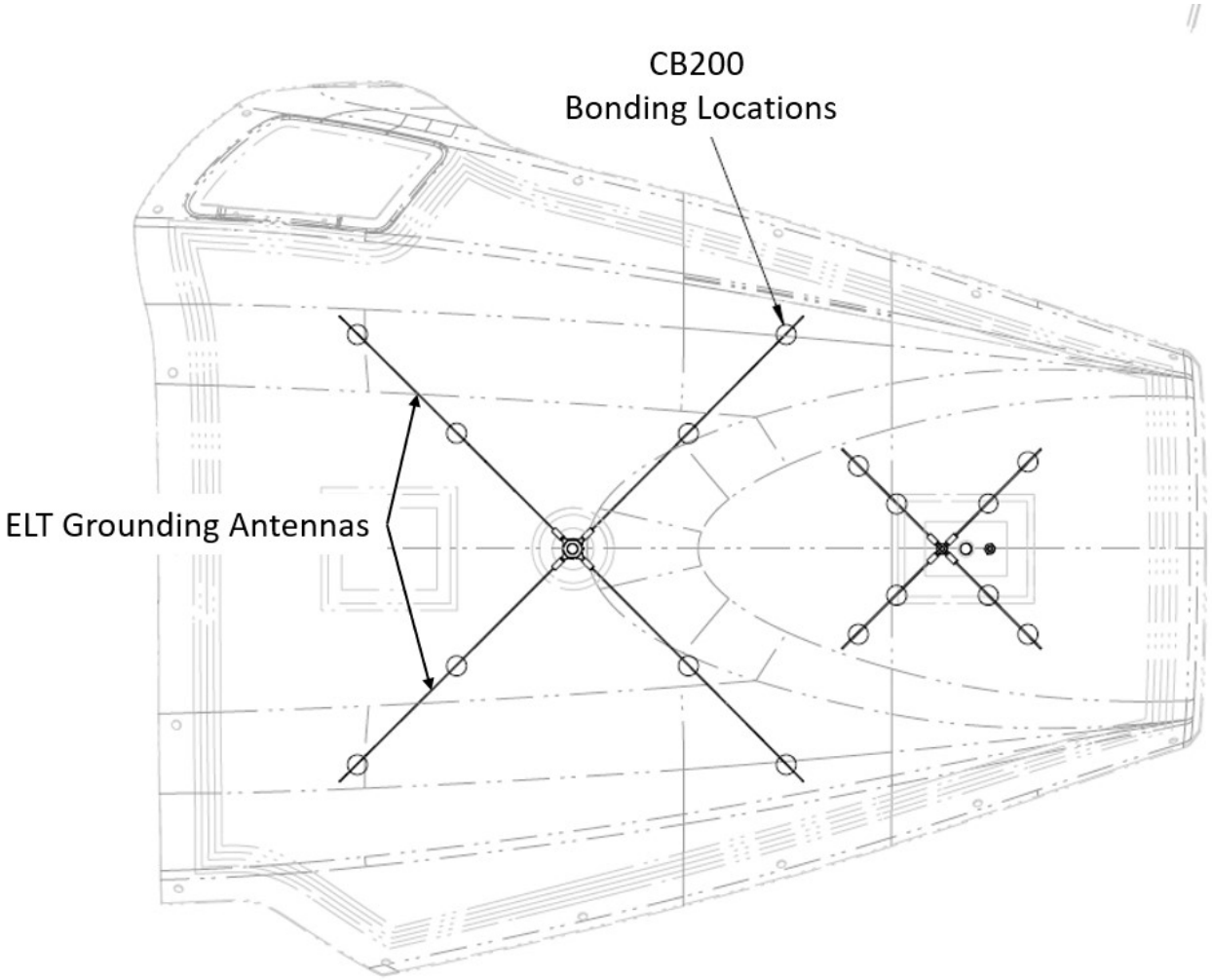

Figure 4 Bottom of Cowling, Bonding Locations

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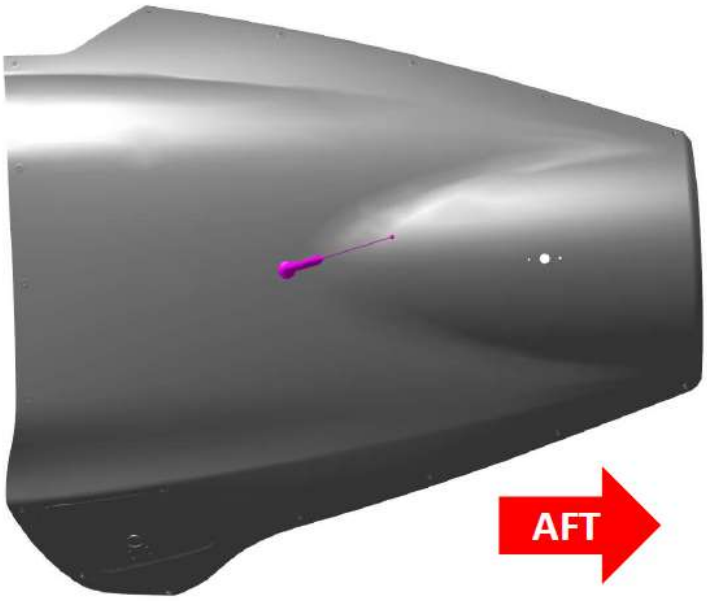

Figure 5 ACK ELT Top View

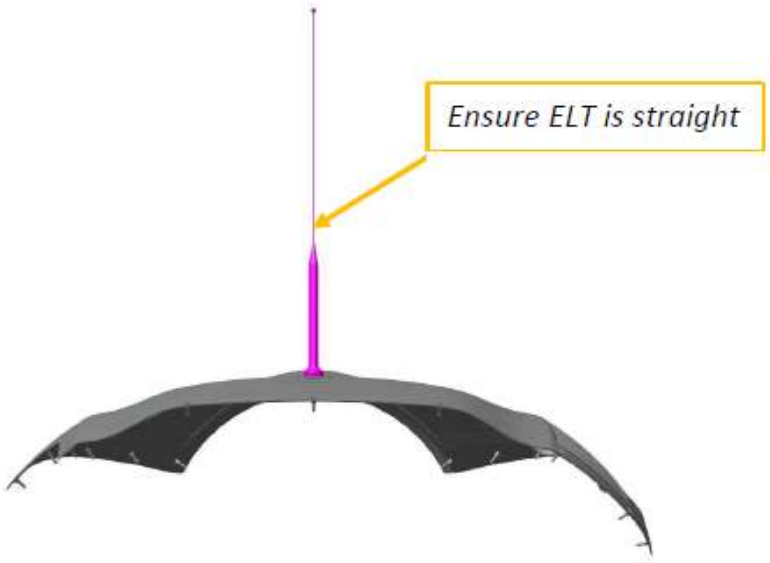

Figure 6 ACK ELT Forward Looking Aft

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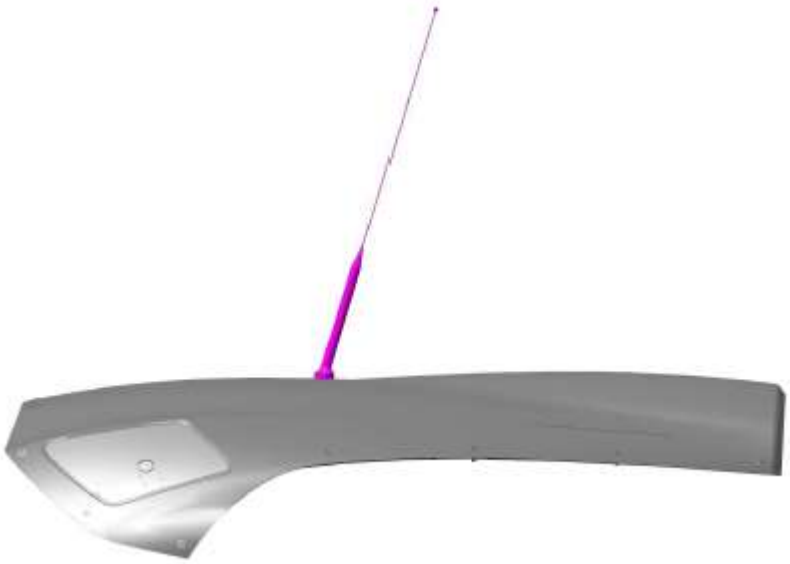

Figure 7 ACK ELT Side View

Logbook Entry:

It is permissible to reassemble the aircraft, as required pursuant to maintenance and repair, in accordance with the latest release of the ICON Aircraft Maintenance Manual, ICA000833.

"I hereby certify the inspection and/or repair has been completed in accordance with Service Bulletin (SB-041323-A, ELT Antenna Corrosion) and all the referenced documents. Potentially unclear procedures have been clarified with ICON Aircraft. (ref. FAA Exemption 10829B)".

If you have questions, comments, or concerns about this Service Bulletin and/or if you are no longer owner/operator of this aircraft, please forward this information to the present owner/operator and notify ICON Aircraft at:

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Vacaville, CA 95688
(855) FLY-ICON or (707) 564-4000
support@iconaircraft.com

Please include the aircraft registration number, serial number, your name, and if known the contact information of the new owner/operator.