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SERVICE BULLETIN

SB-061517 REV C

DATE ISSUED: 6/23/2017
DATE EFFECTIVE: 6/23/2017
SUPERSEDES NOTICE: SB-061517-A/B
SUBJECT: Elevator Control Horn and Push tube rod end jam nut interference and elevator push tube modification
AIRCRAFT AFFECTED: **MODEL:** ICON A5
S/N: 00001, 00003 – 00020
REQUIRED ACTION:
1) Replace elevator push tube with new modified push tube
2) Inspect and correct as necessary light contact/interference between the elevator control horn and elevator push tube jam nut.
TIME OF COMPLIANCE: Prior to next flight

PURPOSE:

ICON is committed to designing, manufacturing, delivering, and supporting a high quality Light Sport Aircraft, providing a level of safety well beyond expectations. During routine inspection of the aircraft, it was discovered that elevator push tube jam nut contacts the elevator pitch horn during normal range of motion of the elevator example shown in figure 1 and 2. Also, the forked end of the elevator push tube was found out of dimensional tolerancing error. This led to an excessive gap between the end of the elevator push tube and pitch sector bearing and when the rod end bolt was installed, there was an unacceptable preloading condition occurred.

Although there have been no instances of this interference or preloading condition causing restrictions in the elevator or abnormal elevator operation due to these issues to date, ICON Aircraft is implementing a solution to correct this to an updated configuration. This Service Bulletin provides instructions for Continued Airworthiness.

WARRANTY:

N/A

PARTS LIST:

PART	DESCRIPTION	QTY
ICA001860	Control Horn Elevator	1 (A/N)
MS24694C54	Screw, Mach, FLH, 6LOBE, CRES, 10-32 X .750 X .313	2 (A/N)
MS24694C56	Screw, Mach, Flat CSK HD 10-32X .4375	1 (A/N)
ICA002021	PUSH TUBE, ELEVATOR	1 (A/N)
ICA012054	PUSH TUBE, ELEVATOR (NEWER)	1 (A/N)



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NAS77C3-011	BUSHING, FLNGD, UNLINED, CRES, .190X.110	1
AN316C4R	NUT, JAM, HEX, CRES, .250-28RH	1 (A/N)
AN3C11A	BOLT, MACH, CRES, 10-32X.750	1 (A/N)
AN3C7A	BOLT, MACH, CRES, 10-32X.500	1 (A/N)
NAS1149C0332R	WASHER, FLAT, CRES, .203X.032, PSVT	1 (A/N)
NAS1149C0363R	WASHER, FLAT, CRES, .188X.063, PSVT	2 (A/N)
MS21043-3	NUT, SLFLKG, RDC HEX, CRES, 10-32	1 (A/N)
CN609CR3P	NUT PLATE, TWO LUG, ADH BND, .190-32	1 (A/N)
MS27640-3A	BEARING, BALL, AFR AFB, HD, .190X.625X.245	1 (A/N)
EA9394	ADHESIVE, EPOXY PASTE, HYSOL	As Needed
CB200	ADHESIVE, ACRYLIC STRUCTURAL, 2 PART, CLICK BOND	As Needed
Torque Strip	Torque Stripe	As Needed
Tef-Gel	Anticorrosion/Lubricant TIKAL	As Needed
Loctite 7471	Activator	As Needed
Loctite 603	Retaining Compound, Cylindrical Bonding	As Needed

INSTRUCTIONS:

1. Visually inspect the elevator control horn to push rod connection point. If the rod end jam nut contacts the control horn at any time through the range of motion, as shown in Figure 1, replacement of the elevator control horn is required. Figures 2 and 3 show acceptable and unacceptable installations respectively.

Task Specific Training:

All tasks are to be performed by an ICON Aircraft, Inc. trained mechanic with an A&P Certificate.

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Figure 1: Interference between elevator control horn and elevator push rod jam nut

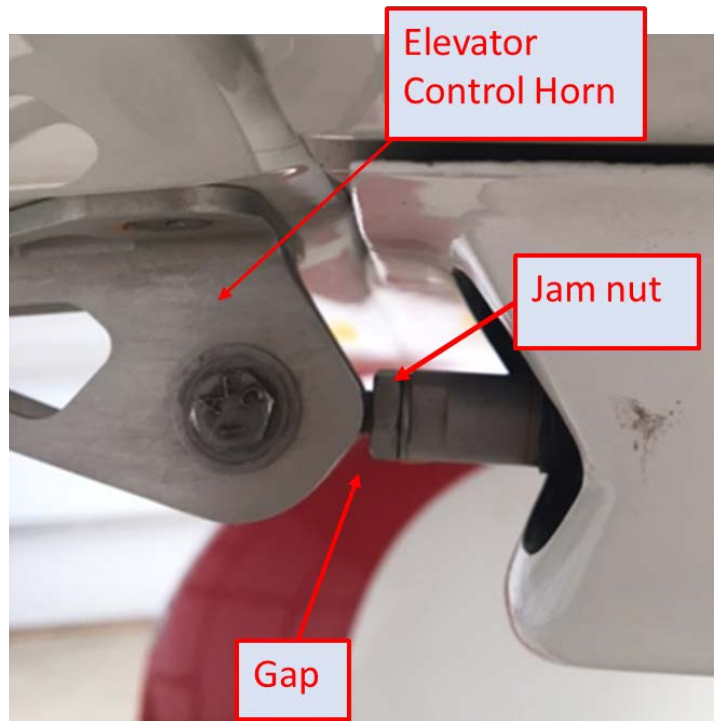


Figure 2: Acceptable installation

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Figure 3: Not acceptable installation

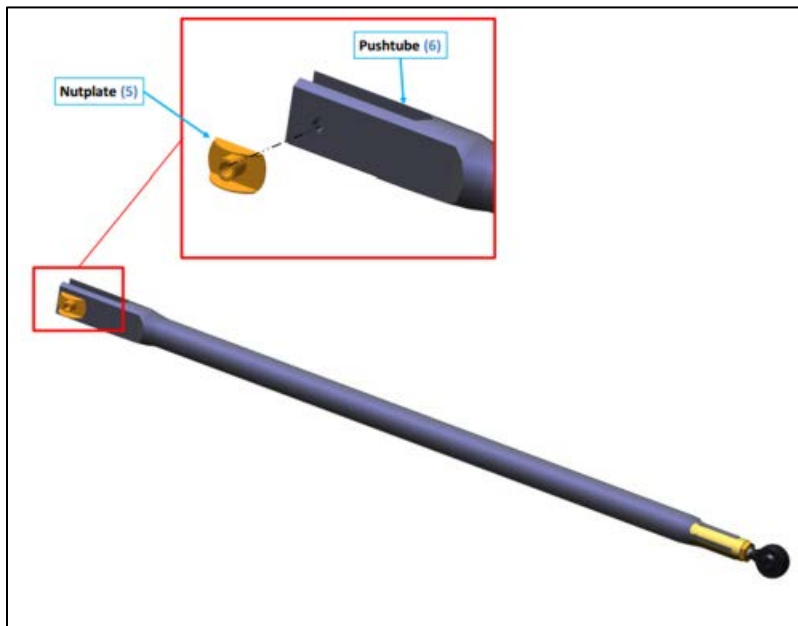


Figure 4: Nutplate to Push Tube

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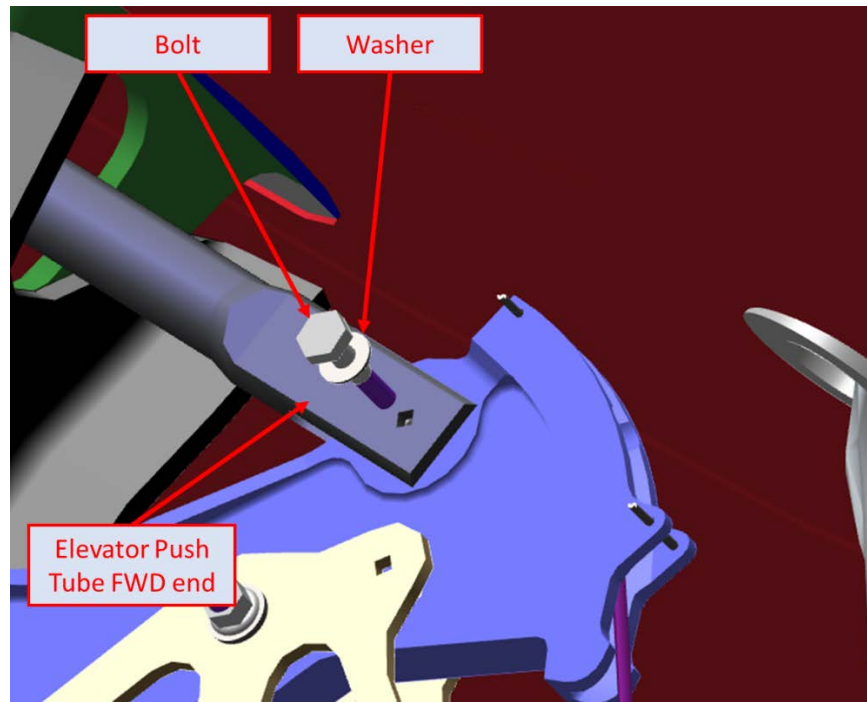
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Figure 5: Push tube to Pitch Control inside the tail

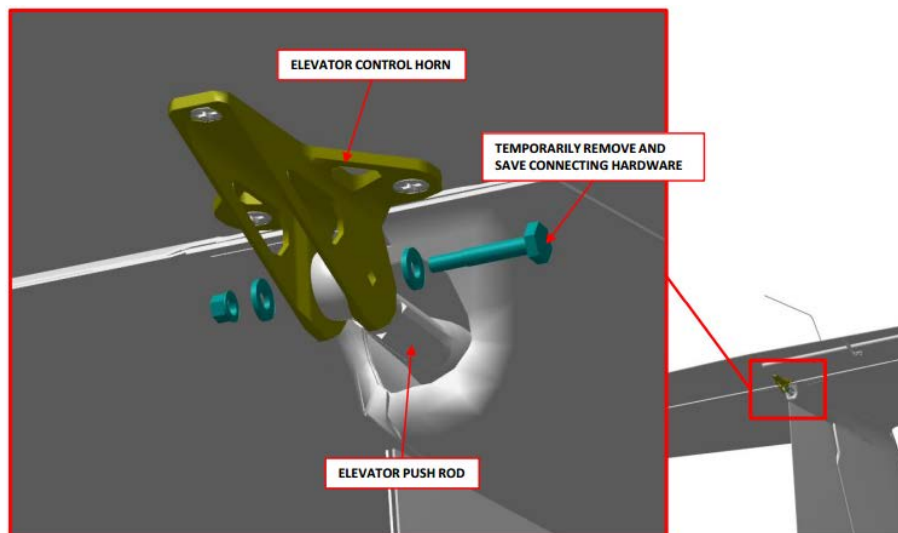


Figure 6: Control Horn to Push Tube

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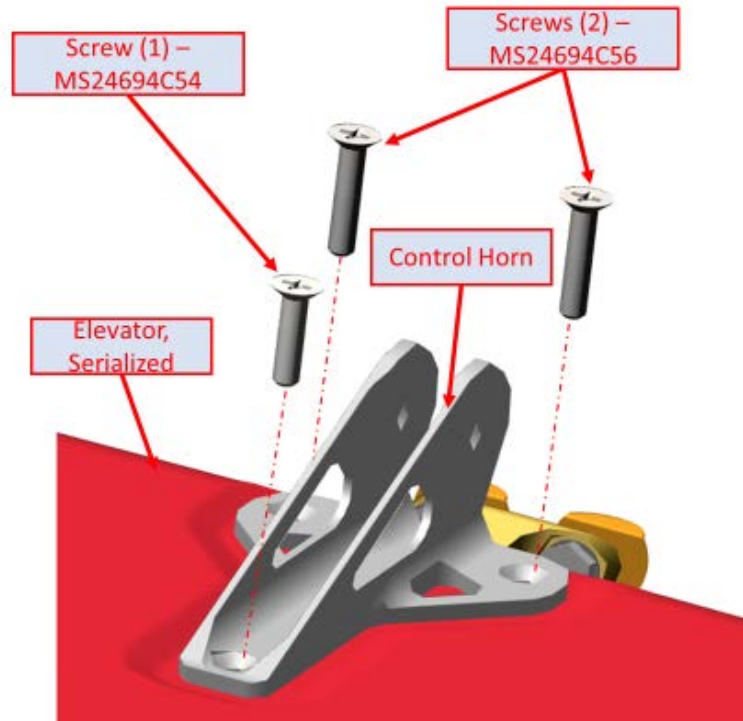
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Figure 7: Control Horn Removal/Installation

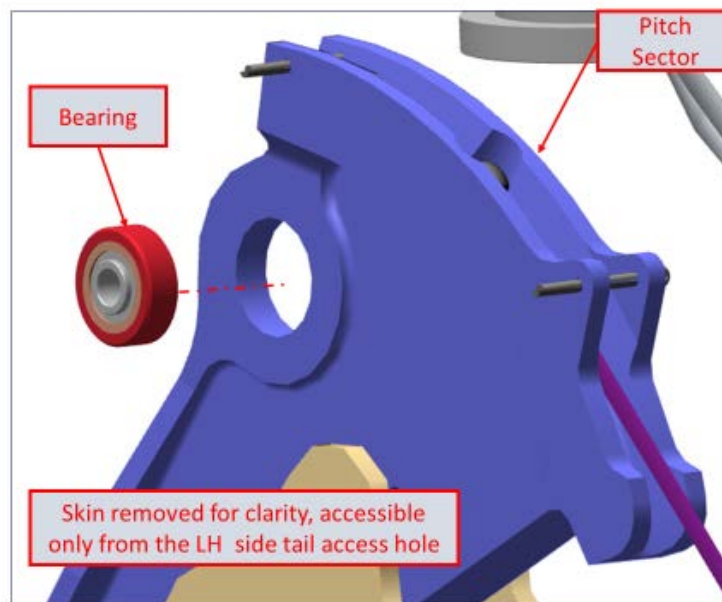


Figure 8: Bearing on Pitch Sector to Control Tube



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Removal Instructions:

1. Remove aft plastic plug on left side of the horizontal/vertical tail to access the aft pitch sector assembly, Figure 5.
2. Disconnect elevator push tube at control horn and aft pitch sector and retain the hardware, Figure 5 and 6.
3. Remove elevator push tube and discard.
4. If the elevator control horn is damaged then remove elevator control horn and discard, Figure 7.
5. Using finger pressure, press on the bearing as if to slide the bearing out of the pitch sector. If bearing is loose on the pitch sector, carefully remove the bearing and discard, Figure 8.

Installation Instructions:

NOTE: If part number ICA002021 is ordered then proceed to modification instructions step 1 through step 4. If part number ICA012054 is ordered then proceed to installation step 8.

1. Heat the elevator push tube (ICA002021) to 120° F for one hour.
2. Note the bushing orientation prior to removal and press existing push tube bushing out of the flanges. Ensure the push rod is supported such that the pressing action does not load the push tube. Discard the bushing.
3. Bond bushing (NAS77C3-011) to push tube flanges in the same orientation as the removed bushing using Hysol EA9394. Prep the inside surface of the push tube at the bond joint by lightly sanding with 100-grit sandpaper and clean with isopropyl alcohol. Follow manufacturer's recommendations for preparation, application, cleanup, and curing.
4. Bond CN609CR3P to one outboard flange surface using CB200. Prep the outside surface of the push tube at the nut plate by lightly sanding with 100-grit sandpaper and clean with isopropyl alcohol. Follow manufacturer's recommendations for preparation, application, cleanup, and curing, Figure 4.
5. If the bearing from pitch sector was removed, clean bearing and matting surface with isopropyl alcohol and let it dry.
6. Using activator (Loctite 7471) and Loctite 603, place bearing carefully into pitch sector and ensure the bearing is centered in the pitch sector, Figure 8.
7. Allow to cure. Follow manufacturer's recommendations for preparation, application, cleanup, and curing.
8. Install the elevator push tube in the tail with retained bolt (AN3C7A) and washer (NAS1149C0332R). Apply Tef-Gel to bolt threads. Torque to 26 inch-lbs. and apply torque stripe, Figure 5.
9. Press plastic plug back into the horizontal/vertical tail.



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10. Replace the existing jam nut with AN316C4R. If present, remove and discard any washer found between the jam nut and the aluminum fitting in the push tube.
11. If the elevator control horn was removed due to damage then install as per step 9 otherwise proceed to elevator rigging instructions.
12. Install elevator control horn (ICA001860) onto elevator using 3x screws (MS24694C54 & MS24694C56). Apply Tef-Gel to screw threads, Figure 7.
13. Torque fasteners to 26 inch-lbs., and apply torque stripe.

Elevator Rigging Instructions:

1. Align the Trailing Edge (TE) of the elevator with the TE of the horizontal tail (HT) tip. This is a neutral starting position.
2. Place the digital protractor on the top of the elevator and zero the digital protractor while the elevator is in its neutral position.
3. Ask a helper to move the stick in the cockpit full aft and hold it, place the elevator TE up to approximately $19^{\circ} \pm 1^{\circ}$. Adjust rod end in or out as necessary so that attachment bolt can be inserted through elevator control horn. Repeat this process until $19^{\circ} \pm 1^{\circ}$ TE up is achieved.
4. Check TE down to $21^{\circ} \pm 2^{\circ}$.
5. Final install the elevator push tube into elevator control horn with retained bolt (AN3C11A), 2x washers (NAS1149C0363R) and nut (MS21043-3). Apply Tef-Gel to bolt threads.
6. Torque to 20 inch-lbs. and apply torque stripe.
7. Set the jam nut (AN316C4R) to lock the adjustment. Torque to 35 inch-lbs. Apply torque stripe.
8. Ensure that there is no rubbing, binding, or any signs of interference while the elevator is moved throughout its entire range of motions.
9. Re-verify upward and downward deflection of the elevator as per measurement in step 3 and step 4. If the findings are out of measurement, contact ICON Owner Support for further instructions.

MAKE THE FOLLOWING LOGBOOK ENTRY:

"Service Bulletin SB-061517 Rev C has been complied with and reported to ICON Aircraft Owner Support".

If you need assistance relocating your A5 to your home base or temporary storage arrangements, please contact ICON Aircraft and ask for Customer Service and Support.



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If you are no longer in possession of this aircraft, please forward this information to the present owner/operator and notify ICON Aircraft, Owners Center at:

ICON Aircraft
2141 ICON Way
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.



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SERVICE BULLETIN APPROVAL

A handwritten signature in black ink, appearing to read "Bret Davenport", written over a small rectangular box.

Bret Davenport

Compliance/CS&S Engineering

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