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SERVICE BULLETIN

SB-081318 REV A

DATE ISSUED:	9/24/2018
DATE EFFECTIVE:	9/24/2018
SUPERSEDES NOTICE:	N/A
SUBJECT:	Engine fuel hoses insulation and exhaust header heat shields installation
AIRCRAFT AFFECTED:	**MODEL:** ICON A5 **S/N:** 00001-00020
REQUIRED ACTION:	Install insulation on fuel rail cross tube and flexible fuel lines in the engine installation. In addition, install heat shields on the forward exhaust headers.
TIME OF COMPLIANCE:	Next Annual Condition Inspection or 100 hr inspection, from the effective date above.
REVISION HISTORY:	Initial Release.

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 testing it was discovered that the fuel system could be susceptible to partial fuel vaporization if using winter grade fuel in hot conditions followed by a lengthy climb to altitude. Testing found that installing insulation on the fuel lines in the engine bay along with installing heat shields on the forward exhaust headers significantly reduces the chances of encountering fuel vaporization in more extreme conditions or when using winter grade fuel in hot conditions. Compliance with this service bulletin does not eliminate the possibility of vapor lock conditions in extreme cases or with poor fuel grade choice. As such the operator is advised to reference the fuel limitations section of Pilot's Operating Handbook. The purpose of this Service Bulletin is to provide instructions on installing insulation around the fuel rail cross tube and flexible fuel lines, along with the installation of heat shields on the forward exhaust headers.

WARRANTY:

ICON Certified Service Providers: Please submit an invoice for warranty reimbursement for labor on completion of this service bulletin. Please reference service bulletin number SB-081318.

1. 4-man hours of labor for disassembly, install of hardware, and reassembly.

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PARTS LIST:

Part Number	Description	Quantity
ICA011914	INSULATION, SLEEVE, FIBERGLASS	23 in
ICA011907	INSULATION, HOSE, REFLECTIVE	65 in
ICA011969	HEAT SHIELD ASSY, EXHAUST, LHS	1
ICA011970	HEAT SHIELD ASSY, EXHAUST, RHS	1
ICA013354	CLAMP, WORM DRIVE, NORMA TORRO, .35X1.19-1.75, SPRING INSERT	4
S-10311	3M 425 ALUMINUM FOIL 2" TAPE	A/N
TY24MX	CABLE-TIE, NYLON 6-6, 30LB, 5.50, TY-RAP	14
TY29MX	CABLE-TIE, NYLON 6-6, 120LB	8

Instructions:

Special tools, fixtures, or test equipment:

None.

PREPARATION:

1. 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 Aircraft Maintenance Manual, ICA000833.

INSTALLATION:

Insulation on Fuel and Oil Flexible Hoses

1. Fuel rail line Insulation, Figure 1:
    a. Cut 4x lengths of insulation (ICA011914):
        i. Qty: 1 -> 3 ± .25 inches
        ii. Qty: 1 -> 9.75 ± .25 inches
        iii. Qty: 1 -> 8.4 ± .25 inches
        iv. Qty: 1 -> 1.75 ± .25 inches
    b. Cut each piece of insulation axially to split the insulation tube lengthwise. Figure 1.
        i. Wrap fuel lines with insulation and secure with cable ties.
        ii. Wrap insulation lengthwise around the fuel rail, overlapping excess over previous layer(s).
        iii. Insulation may be cut span wise (cross cut) to avoid interference with engine components. Maximum allowable gap in insulation is 2.00 inches.
        iv. Locate cable ties (TY24MX) approximately as shown.
        v. Ensure cable ties are tight and insulation is secure.

2. Fuel Supply and Return Hoses Insulation, Figure 2 & Figure 3:

a. Cut 2x lengths of insulation (ICA011907):
    i. 1x 26.59 ± .25 inches
    ii. 1x 27.46 ± .25 inches
b. Install insulation onto fuel supply and return lines.
c. Route fuel lines as shown. Attach to fittings on engine fuel rails and at firewall bulkhead. Note that fuel lines cross over one another at firewall bulkhead.
d. Torque fuel line B-nuts to 110-130 in-lbs. (4x locations). Apply torque stripe.
e. Cut and install additional lengths of insulation as required to cover exposed fuel line fittings after tightening the fittings. Overlap additional insulation at least 1.00 inch and secure with aluminum tape (S-10311). Ensure insulation completely covers fuel line and fittings at both ends (at fuel rails and firewall bulkhead).

3. Secure Fuel Hoses, Figure 4:
    a. Secure fuel lines to engine mount in the noted locations as shown using large cable ties (TY29MX).
    b. Ensure lines/cables are positioned over previously applied F4 tape on engine mount as shown. If F4 tape is not previously installed wrap the engine mount with F4 tape in the region the hoses will be secured to the engine mount.

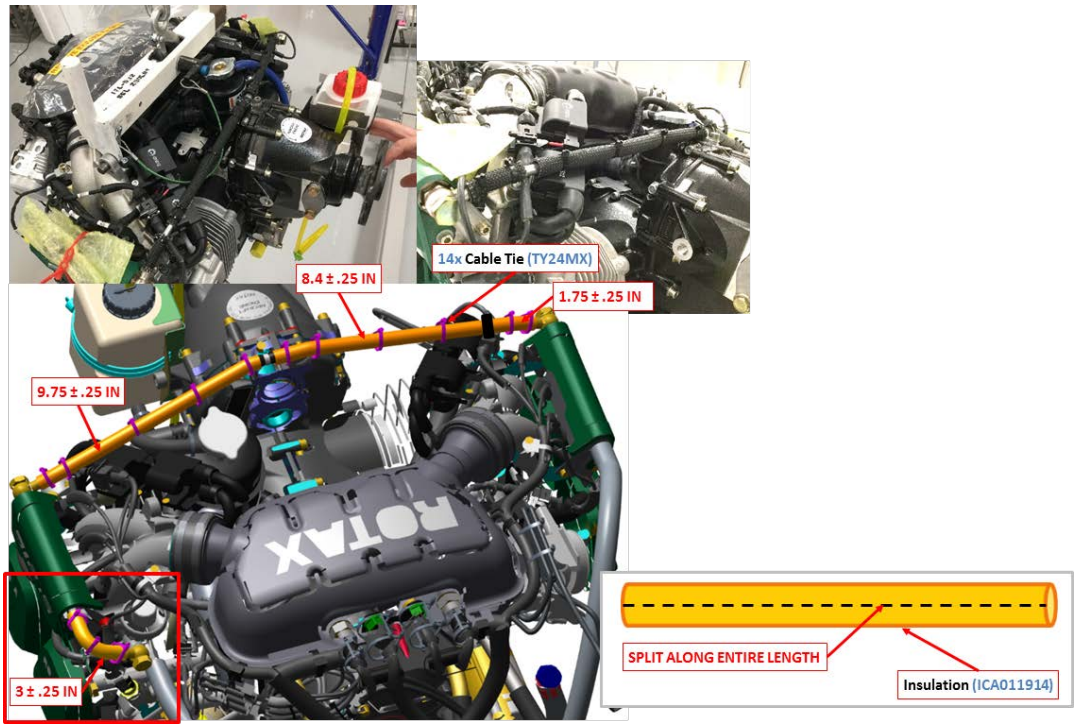

Figure 1: Fuel rail line insulation installation.

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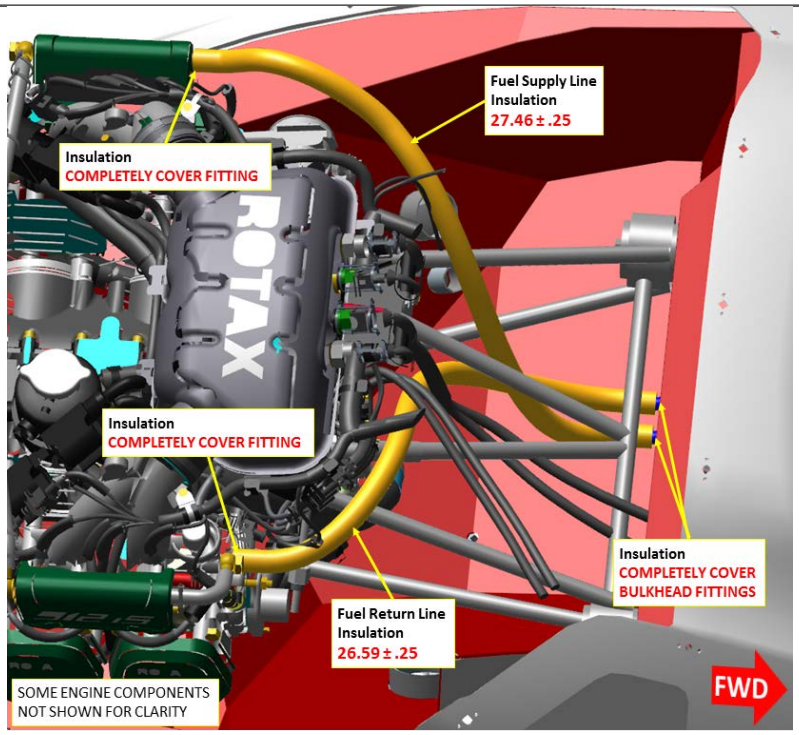

Figure 2: Fuel supply and return line insulation installation

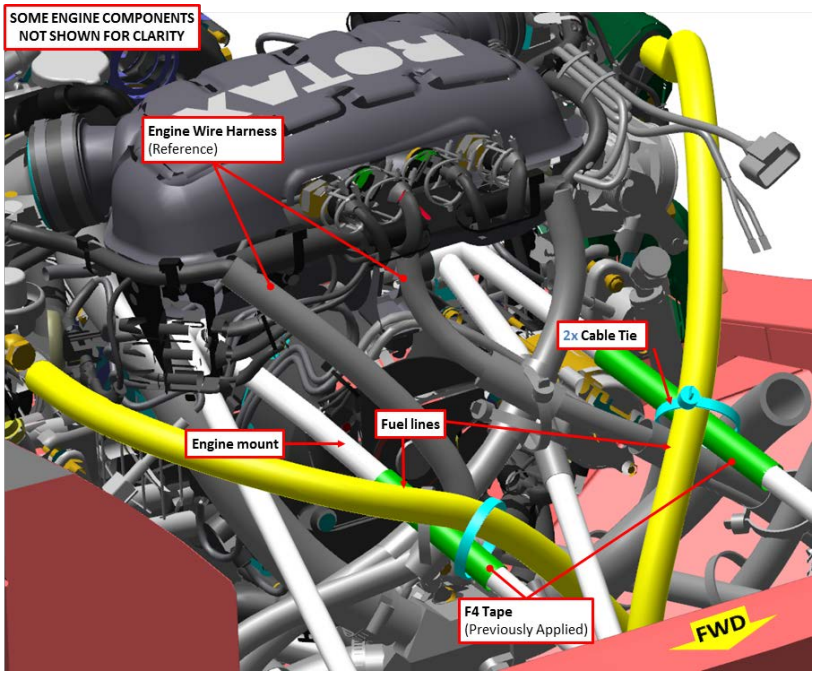

Figure 3: Fuel supply and return line routing

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Installation of Heat Shields on Exhaust Headers

4. Install LH Heat Shield (ICA011969), Figure 4:
    a. Install heat shield onto LH fwd header using 2x clamps (ICA013354) with spring inserts.
    b. Align cutout in heat shield with EGT sensor boss on LH fwd header.
    c. Orient clamp such that the spring insert rests on both heat shield supports.
    d. Allow clamp tail to follow natural curvature. Do not bend clamp tail.
    e. Alternately torque 2x clamps incrementally up to 27-31 inch-lbs. to prevent deflection of heat shield.
5. Install RH Heat Shield (ICA011970), Figure 5:
    a. Install heat shield onto LH fwd header using 2x clamps (ICA013354) with spring inserts.
    b. Align cutout in heat shield with EGT sensor boss on RH fwd header.
    c. Orient clamp such that the spring insert rests on both heat shield supports.
    d. Allow clamp tail to follow natural curvature. Do not bend clamp tail.
    e. Alternately torque 2x clamps incrementally up to 27-31 inch-lbs. to prevent deflection of heat shield.

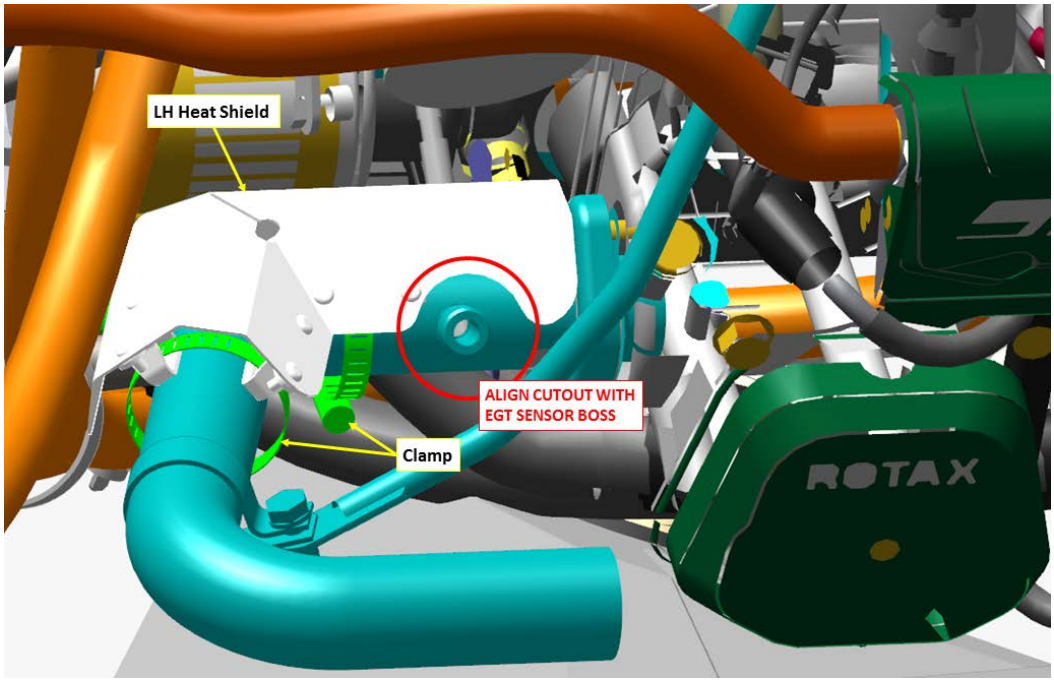

Figure 4: Left forward exhaust header heat shield installation

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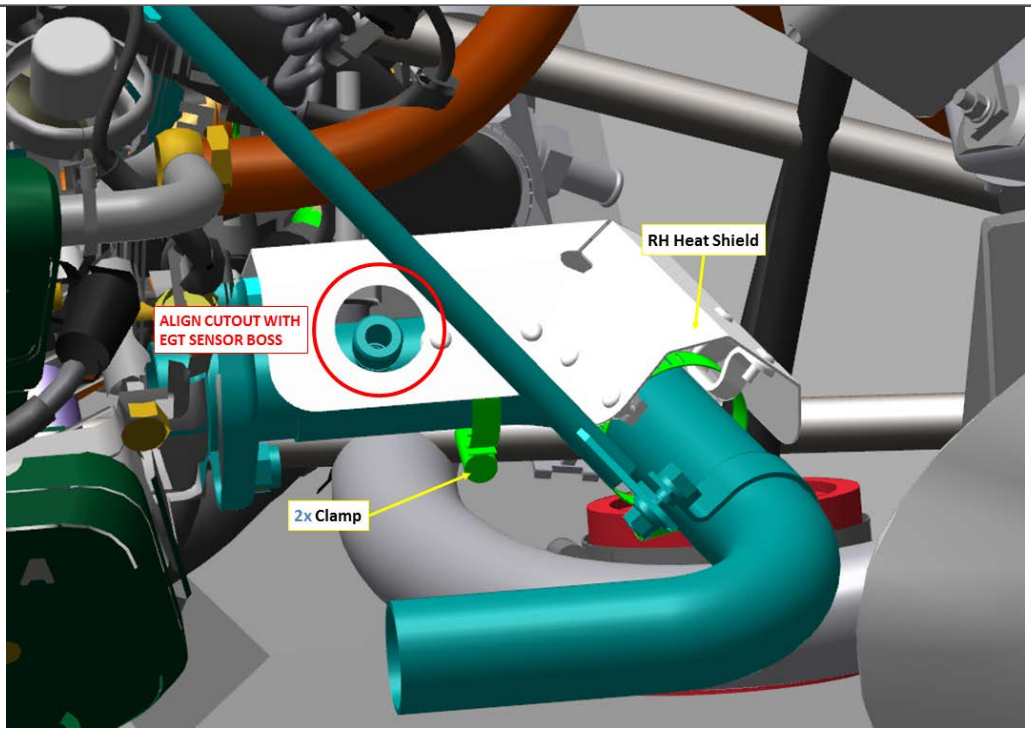

Figure 5: Right forward exhaust header heat shield installation

VERIFICATION:

1. Prior to ground run, run the fuel pumps and inspect all removed fuel fittings for leaks.
2. Ground run the engine, ensure that the engine runs normally prior to return to service.

MAKE THE FOLLOWING LOGBOOK ENTRY:

"Service Bulletin (insert subject bulletin number) has been complied with and installation is reported to ICON Aircraft Customer Support and Service, Ref. FAA Exemption 10829B".

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.

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
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

NAME	TITLE	DATE
Bret Davenport	Flight Sciences Manager	9/24/2018
NAME	TITLE	DATE
NAME	TITLE	DATE