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LSA MAJOR REPAIR AND/OR ALTERATION (MRA)

HEADLINE BLOCK

Internal Job #: 00005046

ID Number & Revision Level:	MRA00769-C		
Document Title:	Corrosion Inhibitor Application		
Revision History & Date:	A	Initial Release	2/4/2020
	B	Revised MRA template form ICA009723 from Rev E to Rev F	2/13/2020
	C	Added new application locations	11/19/2020
Description of Repair or Alteration:			
Instructions to apply corrosion inhibitor at various locations of the aircraft to prevent acceleration of corrosion. This MRA may be referenced to inspect and reapply inhibitors during future maintenance interventions.			
NOTE: Any external documents referenced on this form should include revision level, issue date and title as appropriate.			

BLOCK 1 – AIRCRAFT INFORMATION

Make:	ICON	Model:	A5
Serial Number:	00140	Nationality and Registration Marks:	USA, N639BA

BLOCK 2 – OWNER INFORMATION

Name on aircraft registration:	ICON AIRCRAFT, INC.
Address on aircraft registration:	2141 ICON Way Vacaville, CA 95688-8766

BLOCK 3 - AIRCRAFT DATA

	Manufacturer	Model	Total Time Since New	Total Time Since Overhaul
Airframe:	ICON	A5	10.0	—
Powerplant:	Rotax	912iS	10.0	—
Propeller:	Sensenich	3B0R5-L68C	10.0	—

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BLOCK 4 - MRA APPROVAL

'The aircraft OEM confirms the aircraft being repaired or altered still meets the requirements of the applicable ASTM design and performance specification subsequent to completion of the repair or alteration specified in the MRA'.

Applicable ASTM Design and Performance Specification Revision Level:	F2245-16C
Name(s):	Dexter Manalili, Flight Ops Mx Supervisor VCB
Date:	6/14/21
Title and Signature:	
DocuSigned by: Dexter Manalili 0647EA303381412...	Dexter Manalili Flight Ops Mx Supervisor, VCB

BLOCK 5 - CONFORMITY STATEMENT—RETURN TO SERVICE

Level of Certification Required (any level checked can perform task)

- ☐ Pilot/Owner
- ☐ LSA Repairman—Inspection
- ☒ LSA Repairman—Maintenance
- ☒ A&P
- ☒ Certified Repair Station
- ☒ Manufacturer
- ☐ Named Individual

Additional training required

- ☐ Task Specific (see Block 7)

'I hereby certify the repair and/or alteration has been completed in accordance with this MRA and all the referenced documents. Potentially unclear procedures have been clarified with the Aircraft OEM. No issues were observed that might hinder return to service.'

Certificate Holder's Information

Name:	Christopher Mack
Address:	2141 ICON Way Vacaville, CA 95688
Certificate Type & Number:	A+P 3842790
Date:	7-22-2021
Signature:	

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BLOCK 6 – AIRCRAFT CONFIGURATION PREREQUISITES

'This MRA is only valid for the aircraft identified, when the configuration conforms to the following definitions. Any listed documents must be complied with prior to conduction this MRA.'

Preceding Documents:

ID	Rev	Issue Date	Title
N/A			

Other:

N/A

BLOCK 7 - PREPARATION

Information on task specific training (if any):

N/A

Removal of existing assemblies, subassemblies, or detail parts:

CM 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. Application of corrosion inhibitor will require the removal of the following components-
   a. LH/RH Instrument Panel Tops
   b. Pilot and Copilot floorboards
   c. Pilot and Copilot seat backs
   d. Baggage floor panels
   e. Baggage panel inspection panel
   f. Water rudder access panel
   g. Air rudder access panel

CM 2. Remove air rudder in accordance with maintenance manual.

CM 3. Remove upper air rudder pivot bracket/hinge and hardware. Replace hardware if corroded. See figure 1.

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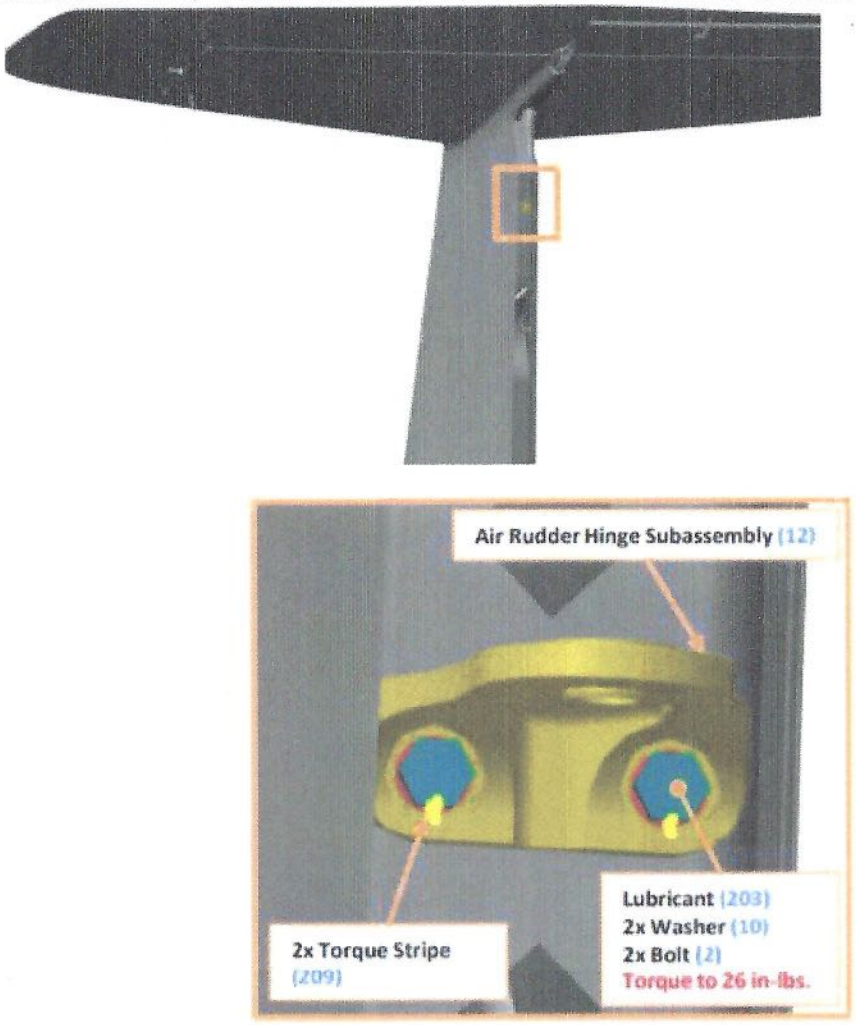

Figure 1

CM 4. Remove air rudder torque plate and hardware. Replace hardware if corroded. See figure 2.

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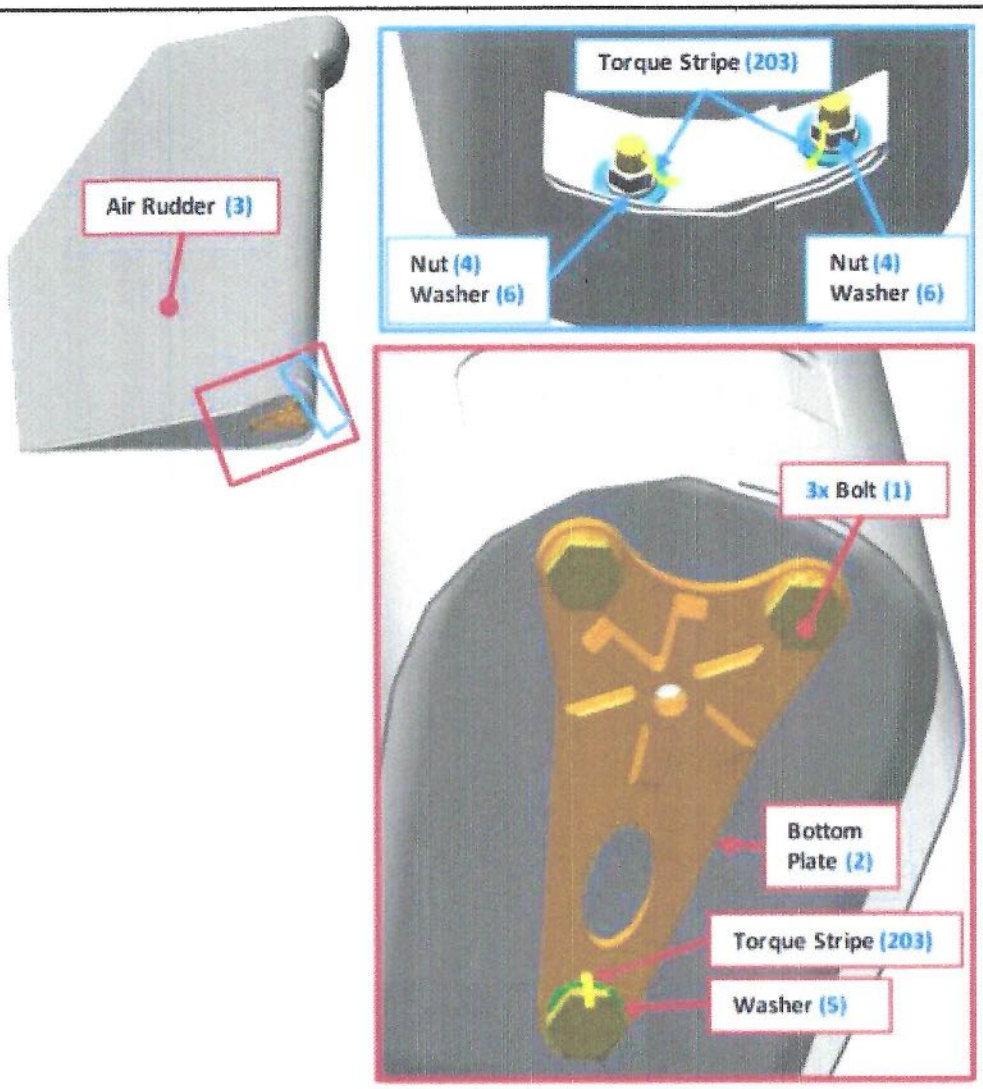

Figure 2

Instructions:
N/A
Cleaning procedures:
Clean noted areas with isopropyl alcohol prior to inhibitor application.
Priming, painting, or the application of other special treatments:
N/A
Preparation consumable and bulk materials list:

Part Number	Description	Quantity	Alternate

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			Part Number	Description
TT-I-735A, or Equivalent	Isopropyl Alcohol	As Required		

References:

ID	Rev	Issue Date	Title
ICA000833	C4	5/28/2020	Maintenance Manual, A5

BLOCK 8 - ACCOMPLISHMENT INSTRUCTIONS

Consumable and bulk materials list:

Part Number	Description	Quantity	Alternate	
			Part Number	Description
ICA012078	Anticorrosion/Lubricant/Tef-Gel	As Required		
ICA011740	Torque Seal	As Required		
ACF-50	Anti-Corrosion Lubricant Compound	As Required		
ICA012983	Dielectric Grease	As Required	Or Equivalent	
Black Bear Par-al-Ketone	Corrosion Preventative Coating	As Required		
Corrosion X HD	Corrosion X HD	As Required		
Yamalube Marine Grease	Marine Grease	As Required	Or Equivalent	

Assemblies, Subassemblies, Parts and Components:

Part Number	Description	Quantity	Alternate	
			Part Number	Description

If applicable, Service Kits:

Kit Number	Content Parts	Description	Quantity

Special tools, fixtures, or test equipment:

It is permissible to create and use tools and fixtures as required to properly carry out the instructions presented within this MRA so long as they do not cause any damage to the aircraft or create any deviation of the aircraft from its intended design.

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Installation and Assembly Instructions:

Air Rudder Pivot Bracket and Torque Plate

CM 1. Clean bottom of the removed air rudder and air rudder torque plate with isopropyl alcohol and let it dry.

CM 2. Clean air rudder pivot bracket components with isopropyl alcohol and air dry prior to bonding.

CM 3. Apply a thin coat of Tef-Gel to the air rudder torque plate to air rudder mating surfaces prior to installation.

CM 4. Apply a thin coat of Tef-Gel to upper air rudder bracket and components to vertical tail spar mating surfaces prior to installation.

CM 5. Wet install upper air rudder hinge subassembly onto vertical tail spar using lubricant with 2x bolts (AN3C6A) and 2x washers (NAS1149C0332R), see Figure 3.

CM 6. Torque bolts to 26 inch-lb. Apply torque stripe.

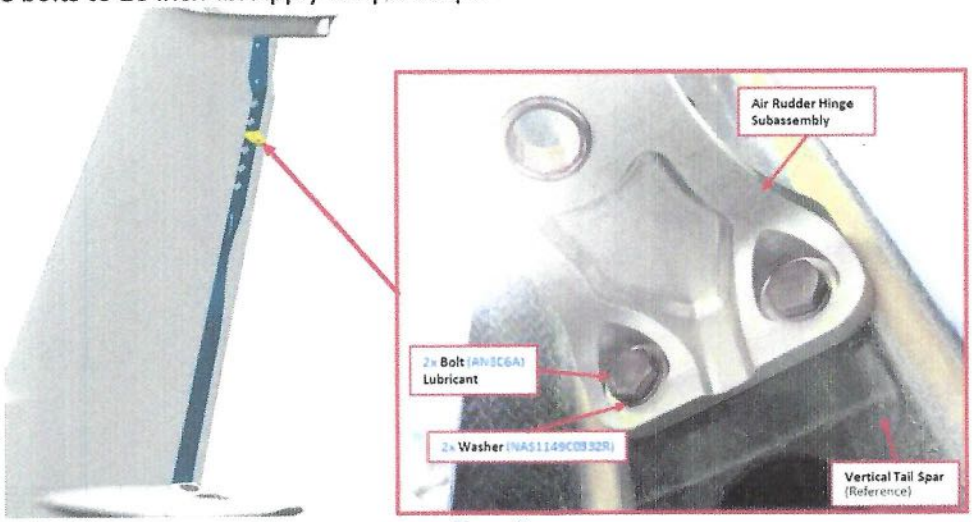

Figure 3

CM 7. Wet install the ICA007682 bottom plate on the removed air rudder using 3x bolts AN3C5A, 2x washers NAS1149C0363R and 1x washer NAS1149C0332R as shown in Figure 5.

CM 8. Wet install 2x nuts (MS21043-3) and 2x washers (NAS1149C0363R) as shown in Figure 5.

CM 9. Torque fasteners and apply torque stripe:

a. 2x bolts with nuts: 20 inch-lb.
b. 1x bolt into nutplate: 26 inch-lb.

CM 10. Remove any excess Tef-Gel that may be been squeezed out from around the part and/or around the fasteners.

CM 11. Apply Par-al-Ketone to the following locations prior to reinstalling air rudder-

a. Aft HT to VT securing hardware and safety wire, see figure 4B
b. Upper air rudder pivot hinge and hardware (do not get inhibitor on pivot bearing), see Figure 3.

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c. Static port connectors
d. Air rudder bellcrank nut, see figure 4C
e. Air rudder torque plate, see figure 4A

CM 12. Apply Tef-Gel to the mating teeth of the air rudder torque plate and the air rudder bellcrank, see figure 4A and 4C.

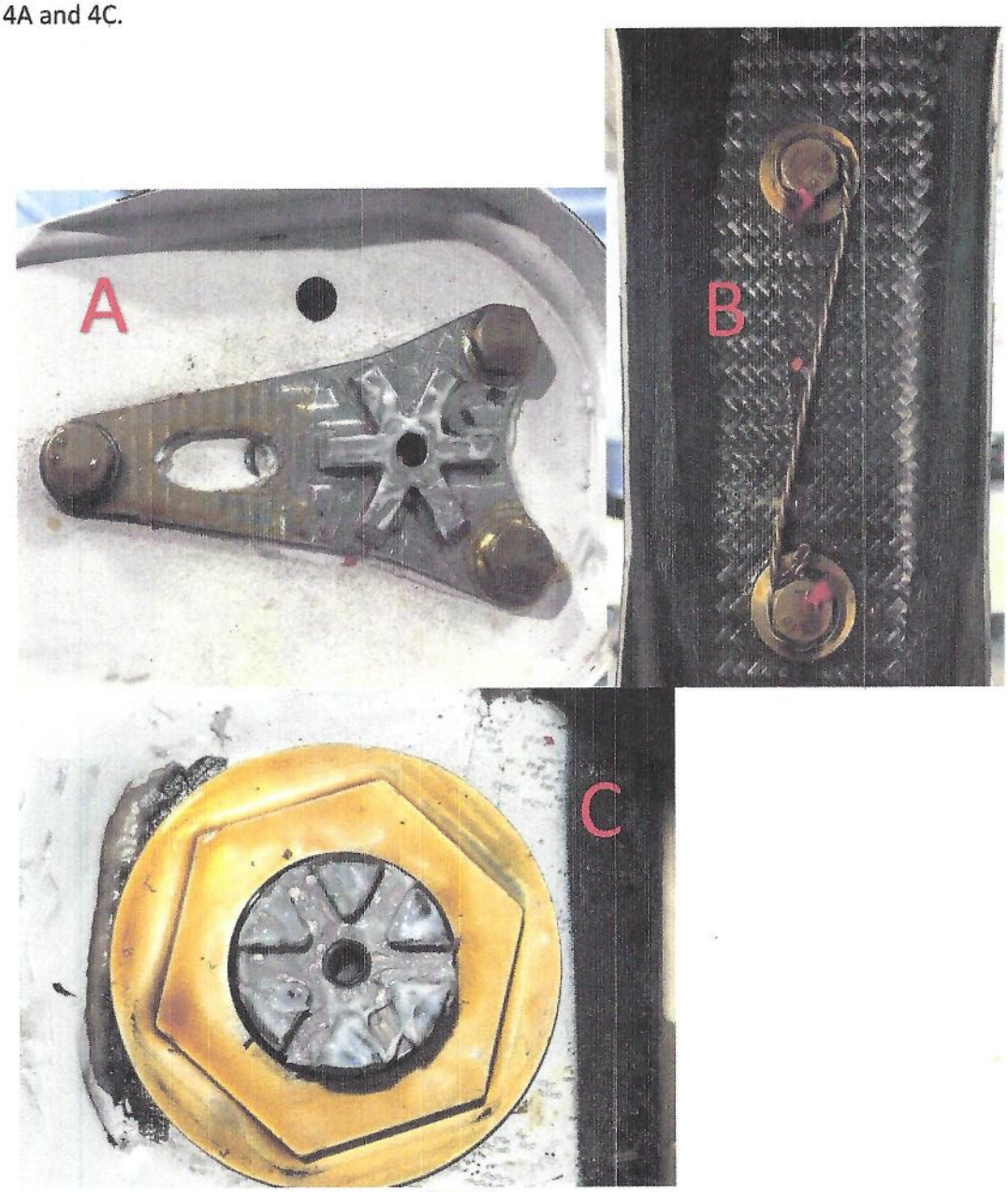

Figure 4

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CM 13. Install Air Rudder in accordance with Maintenance Manual

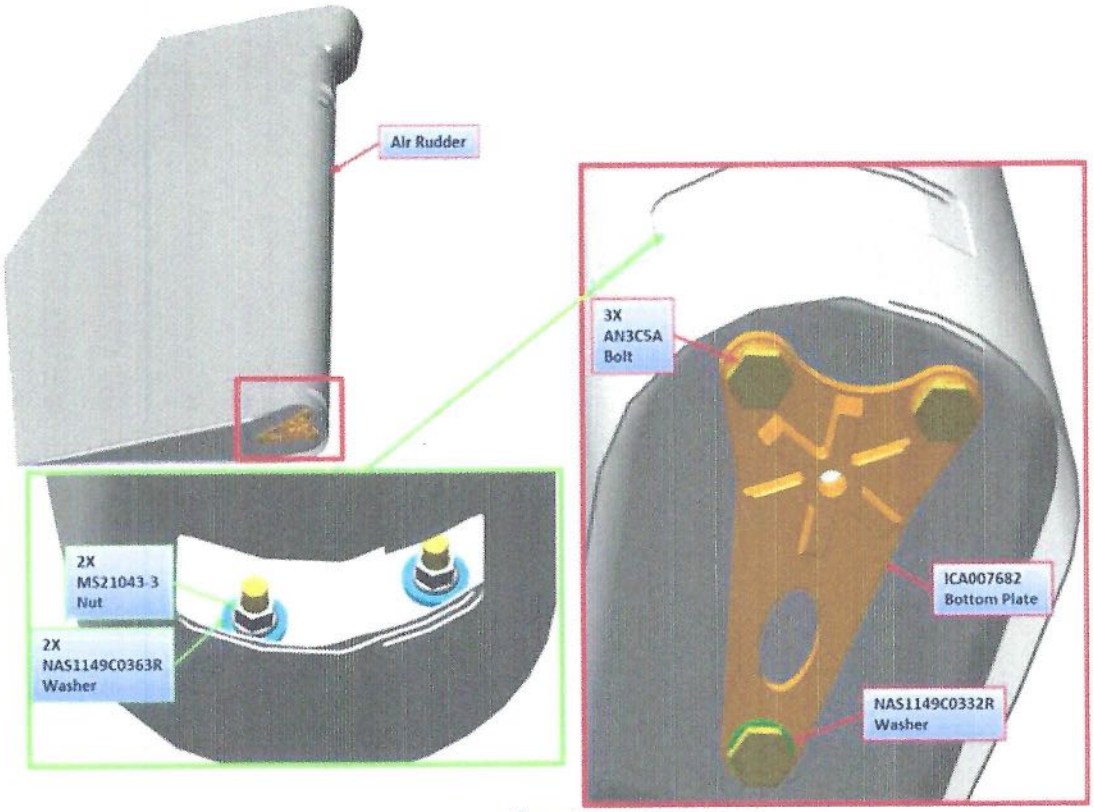

Figure 5

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Corrosion Inhibitor Application

1. Using the checklist below, apply the applicable inhibitor to the indicated location.

ACF-50/Dielectric Grease
Par-al-ketone
Corrosion X HD
Marine Grease

NLG

- ✓ Wheel half bolts
- ✓ Wheel to fork securing hardware
- ✓ Fork to leg securing hardware
- ✓ Cam follower bracket and hardware
- ✓ Cam follower strut bracket and hardware
- ✓ Drag link bracket and hardware
- ✓ FWD NLG door to leg securing hardware
- ✓ Aft NLG door attach hardware
- ✓ Aft NLG door rod ends
- ✓ Aft NLG door retract hardware
- ✓ NLG actuator to bellcrank securing hardware
- ✓ NLG actuator mounting bracket hardware
- ✓ NLG Actuator to mounting bracket hardware

RH MLG

- ✓ RH wheel half bolts
- ✓ RH Inboard Caliper body/Brake pad plate mating face
- ✓ RH Outboard Caliper body/Brake pad plate mating face
- ✓ RH Axle to leg securing hardware
- ✓ RH Brake line
- ✓ RH Banjo bolt
- ✓ RH Seawing tip attach hardware

LH MLG

- ✓ LH wheel half bolts
- ✓ LH Inboard Caliper body/Brake pad plate mating face
- ✓ LH Outboard Caliper body/Brake pad plate mating face
- ✓ LH Axle to leg securing hardware
- ✓ LH Brake line
- ✓ LH Banjo bolt
- ✓ LH Seawing tip attach hardware

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Pilot Side Cockpit

- ✓ Pilot side canopy hinge plate hardware
- ✓ Pilot pedal cables (portions that don't run through S tubes)
    - Note- For 1.2 aircraft (ASN21 and up) it may be helpful to remove the black forward pedal closeout panel by removing the single screw between the master cylinders. When complete, reinstall panel and screw, torque to 7-10 in lbs.
- ✓ Pilot brake line to master cylinder B nuts
- ✓ Pilot master cylinder attach hardware
- ✓ Pilot master cylinder rod ends
- ✓ Pilot pedal cables (portion that does run through S tubes)
- ✓ Pilot pedal rail attach hardware
- ✓ Pilot side pedal slide rails (portions that don't come in contact with pedal slide bushings- approximately 1" of forward and aft ends)
- N/A Pilot side aft NLG aft gooseneck hinge to NLG box securing hardware
- ✓ Pilot pedal cable turnbuckles and rod ends
- ✓ Ignition switch connections
- ✓ Parking brake line B nuts
- ✓ Pilot side lower roll cables (near pitch torque tube)/pulley hardware/pulley bracket hardware
- ✓ Pilot side yaw torque tubes (use ELT access door for non-visible portions)
- ✓ Pilot side aft yaw cable turnbuckle
- ✓ Pilot side yaw secondary stop

Copilot Side Cockpit

- ✓ Battery/Master solenoid connections
- ✓ Heater Solenoid
- ✓ Copilot side canopy hinge plate hardware
- ✓ Copilot pedal cables (portions that don't run through S tubes)
    - Note- For 1.2 aircraft (ASN21 and up) it may be helpful to remove the black forward pedal closeout panel by removing the single screw between the master cylinders. When complete, reinstall panel and screw, torque to 7-10 in lbs.
- ✓ Copilot brake line to master cylinder B nuts
- ✓ Copilot master cylinder attach hardware
- ✓ Copilot master cylinder rod ends
- ✓ Copilot pedal cables (portion that does run through S tubes)
- ✓ Copilot pedal rail attach hardware
- ✓ Copilot side pedal slide rails (portions that don't come in contact with pedal slide bushings- approximately 1" of forward and aft ends)
- N/A Copilot side aft NLG aft gooseneck hinge to NLG box securing hardware
- ✓ Copilot pedal cable turnbuckles and rod ends
- ✓ Copilot side lower roll cables (near pitch torque tube)/pulley hardware/pulley bracket hardware
- ✓ Copilot side yaw torque tubes (use ELT access door for non-visible portions)
- ✓ Copilot side aft yaw cable turnbuckle
- ✓ Copilot side yaw secondary stop

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Baggage area

- Fuel tank fuel level sensor securing hardware
- Fuel pickup line plate (rotomolded style tank)
- Fuel tank filler neck plate to tank securing hardware (bladder style tank)
- Copilot side aft window roll cables
- Pilot side aft window roll cables
- Headphone jacks
- Overhead console potentiometer knobs

Between Bulkheads

- RH MLG Leg trunnion to bulkhead securing hardware
- LH MLG Leg trunnion to bulkhead securing hardware
- MLG actuator to trunnion/bellcrank securing hardware
- Pivot pin to bellcrank securing hardware
- Brake lines

Propeller

- Spinner weights/attach screws
- Prop to prop extension securing hardware

Tail

- Elevator push rod end
- Pushrod to elevator horn securing hardware
- Pitch trim pushrod clevis and pin
- Wing hang pins
- Air rudder bellcrank
- Water rudder to air rudder pushrod rod ends
- Tail tie down hardware
- Water rudder bellcrank/upper bearing hardware
- Water rudder binding post

Wings/Canopy

- Outside canopy handle
- Flap pins
- Flap pushrod rod ends
- Aileron rod ends
- Aileron hinge to wing securing hardware

2. Install removed components in accordance with maintenance manual.
3. Any deviation or replacement of assembly or component not described in the maintenance manual will require a separate MRA, please contact ICON Engineering for further instructions.

References:

ID	Rev	Issue Date	Title
ICA000833	C4	5/28/2020	Maintenance Manual, A5

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New weight and balance required?

☐ Yes ☒ No

BLOCK 9 - VERIFICATION

Ground procedures:

N/A

Flight procedures:

N/A

Other Documentation/information:

Ensure logbook entry of MRA completion.

References:

ID	Rev	Issue Date	Title
N/A			

BLOCK 10 - ENGINEERING DATA

Substantiation Information:

N/A

System descriptions:

N/A

System Schematics:

N/A

Block Diagrams:

N/A

Wiring Harness Diagrams and/or local manufacture instructions:

N/A

References:

ID	Rev	Issue Date	Title
N/A			

BLOCK 11 - OPERATING INSTRUCTIONS

'If specified below, the following shall be added to, or revised in, the POH for the specific aircraft to which this MRA applies. The POH Record of Revisions page shall note the date and description of the changes that were incorporated into the POH.'

☐ Yes ☒ No

Changes to airworthiness limitations:

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N/A

Changes to operating instructions:

N/A

POH Supplement:

ID	Rev	Issue Date	Title
N/A			

Reference to POH sections that are rendered obsolete due to this MRA:

N/A

BLOCK 12 - INSTRUCTIONS FOR INSPECTION AND MAINTENANCE PROCEDURES

'The following shall be added to, or revised in, the Maintenance Manual for the specific aircraft to which this MRA applies. This MRA shall be placed in the back of the Maintenance manual for the specific aircraft to which this MRA applies. The Maintenance Manual Record of Revisions page shall note the date and description of the changes that were incorporated into the Maintenance Manual.'

To comply with the statement above, please place this MRA into the aircraft records which is the equivalent to placing it in the back of the Maintenance Manual, in accordance with F2483-18e1, Section 9.4.

Include the following statement as an aircraft logbook entry with signature and date:

'I hereby certify the alteration has been completed in accordance with MRA00769-C (Corrosion Inhibitor Application) and all the referenced documents. Potentially unclear procedures were clarified with the Aircraft OEM. No issues were observed that might hinder return to service, Ref FAA Exemption 10829B.'

Additional logbook entries:

N/A

Maintenance Manual Supplement:

ID	Rev	Issue Date	Title
N/A			

Servicing information:

N/A

Scheduled inspections and maintenance information:

N/A

Troubleshooting information:

N/A

Removal and installation information:

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N/A

Special Instructions:

N/A