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TOTAL PERFORMANCE

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SERVICE LETTER 00112 R1

Date Released: September 10, 2025

Date Effective: September 10, 2025

Subject: RV-12iS Optional Cooler Replacement

Affected Models: RV-12iS
SLSA SN 12076-12202
ELSA SHIPPED PRIOR TO 9/30/2025

Required Action: Replace Oil Cooler and Radiator

Time of Compliance: None

Supersedes Notice: None

Labor Required / SLSA Warranty Allowance: N/A

Level of Certification: SLSA: LSA Repairman Maintenance or A&P

Synopsis:
The new radiator and cooler designs improve performance and moves the mounting of the coolers from the engine to the cowling.

Materials Required:
The following materials are required to complete the steps necessary to achieve compliance with this Service Letter.

SL-00112-KIT-A

Optional Materials
The following materials are required if a rivet gun is not available for use.

SL-00112-KIT-B

Method of Compliance:
Step 1: Drain coolant and oil. Remove the EA RV-12iS RADIATOR, EA RV-12iS OIL COOLER, and mounting hardware per KAI 50iS.

Step 2: Machine countersink and rivet K1000-08 and HW-212-12A camlock receptacles to EA-RV-12iS OIL COOLER-1 and EA-RV-12iS RADIATOR-2 as shown in Figure 1.

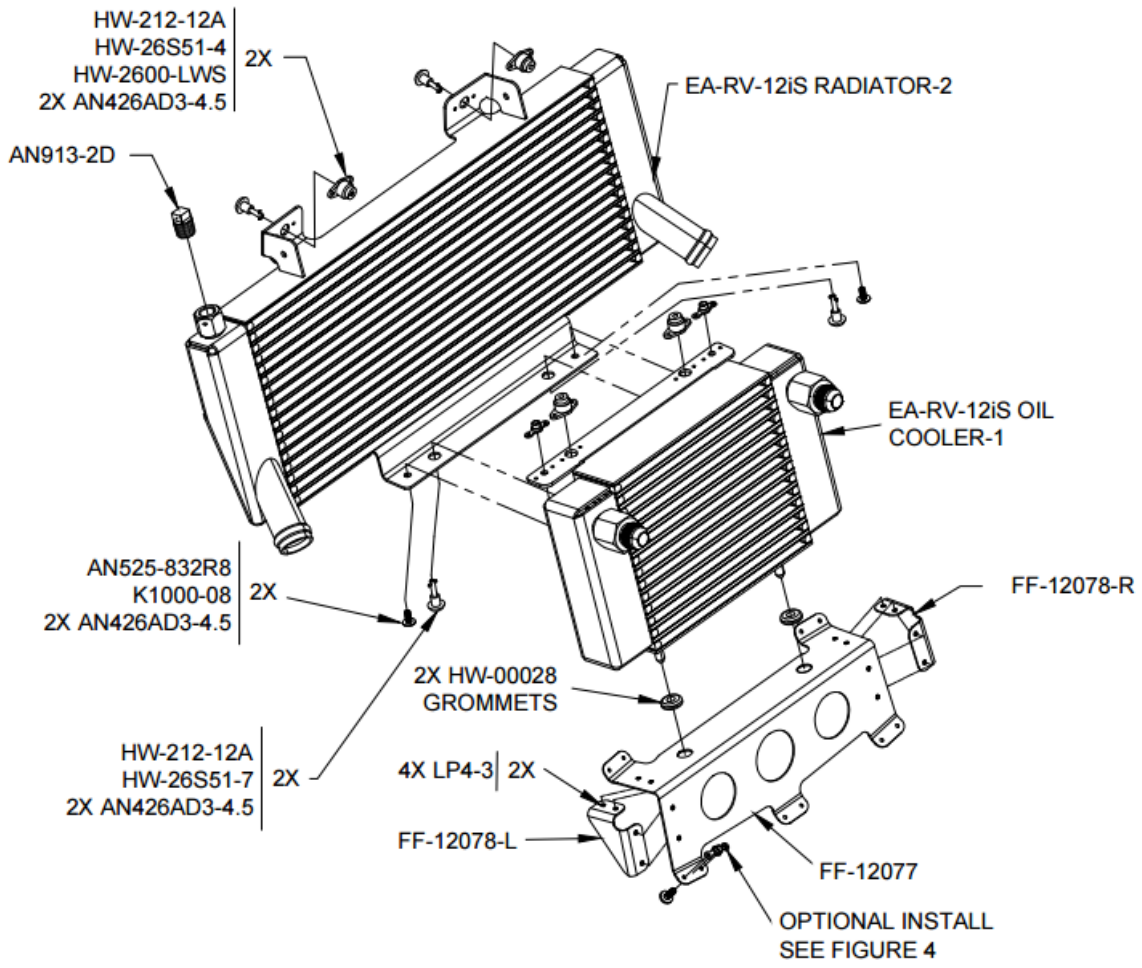

FIGURE 1: Radiator and Oil Cooler Assembly

Step 3: Bolt Oil Cooler and Radiator together using two AN525-832R8 bolts to create Oil Cooler and Radiator Assembly, Figure 1.

Step 4: Install 2x HW-00028 grommets into FF-12077, Figure 1.

Step 5: Install FF-12078-L & -R into FF-12077 using LP4-3 Rivets, Figure 1.

Step 6: Slide FF-12077 onto Oil Cooler pins through grommets until bracket rests against the bottom of Oil Cooler. Final assembly as shown in Figure 2.

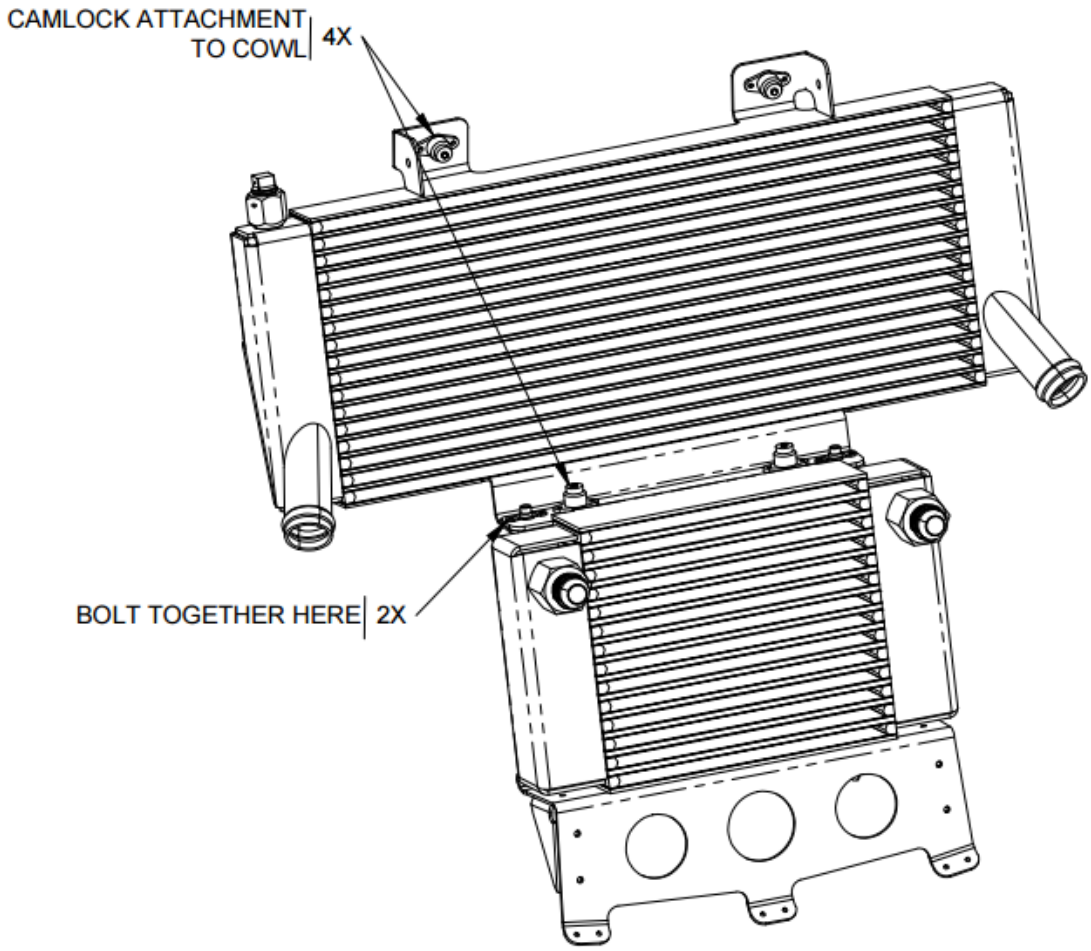

FIGURE 2: Assembled Radiator and Oil Cooler

Step 7: Set Cowl 12iS Bottom on flat surface and stabilize with sandbags or similar.

Step 8: Mark center of cowl openings for the radiator and oil cooler with masking tape or sharpie. See orientation in Figure 3.

Step 9: Mark center of radiator and oil cooler.

Step 10: Place the Radiator and Oil Cooler assembly in the cowling as shown in Figure 3. Align center marks to locate Radiator and Oil Cooler left/right. Face of bracket should sit on cowl as shown in Figure 3. Face of the Radiator and Oil Cooler should sit centered in respective cowl openings up/down. If nutplates are installed for winterization kit, the two interfering with this installation must be removed before proceeding.

NOTE: Opening edges can be trimmed back if needed after radiator and oil cooler assembly installation according to Section 37iS/U-20. Final gap should be a min of 3/8 in.

Step 11: Locate and drill camlock locations in the cowl using the Radiator and Oil Cooler assembly as a guide. One method is to mark locations with a permanent marker through the back of the camlock receptacles in the assembly while it is placed in the cowl, then remove the assembly and drill the holes through the cowl. Another method is to carefully back drill through the four camlock receptacles with a smaller #27 (0.144 in.) drill bit.

Step 12: Remove radiator and oil cooler assembly from cowling.

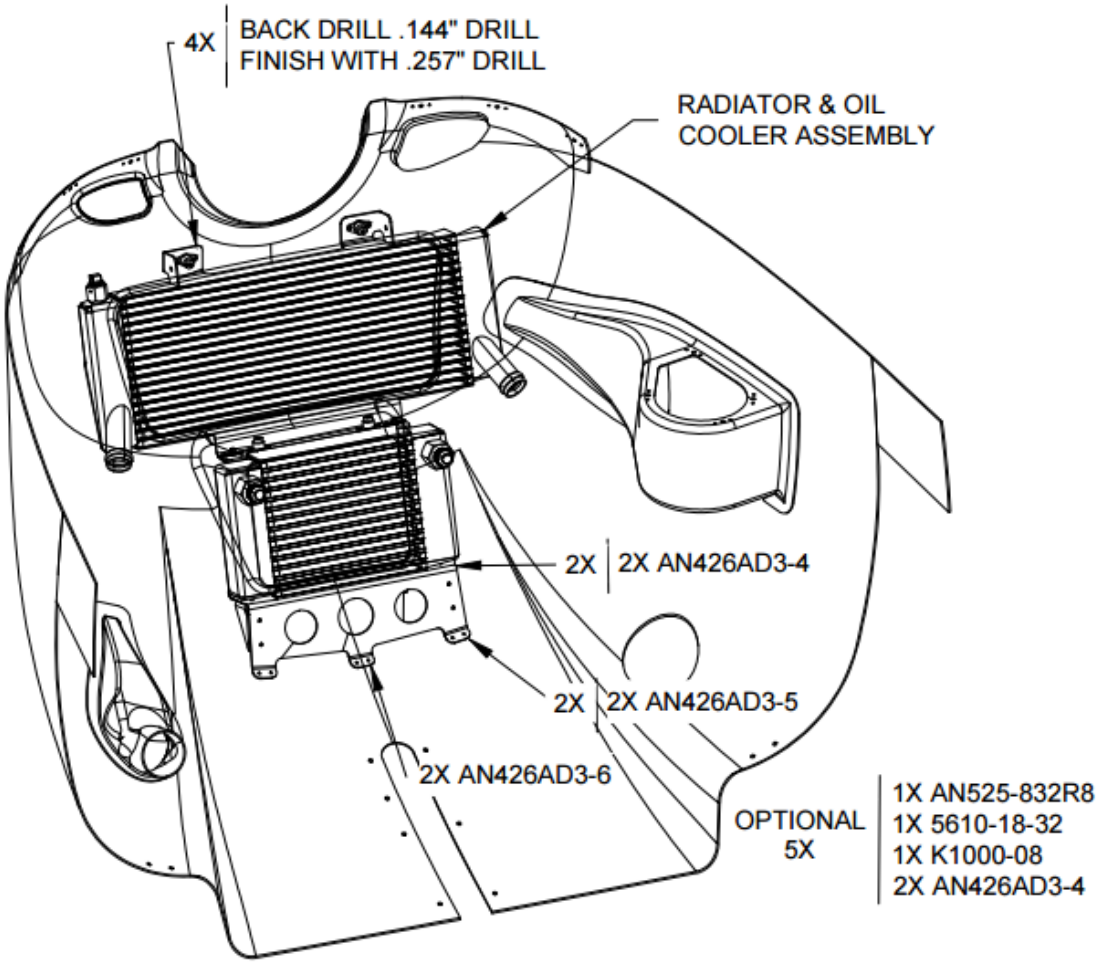

FIGURE 3: Radiator & Cooler Installed in Cowl

Step 13: Final drill camlock locations to using #F (0.257 in.) drill bit through cowl (x4), Figure 3.

Step 14: Reinstall radiator and oil cooler assembly using 2x HW-26S51-4 & 2x HW-26S51-7. Retain HW-26S51-4 camlock studs with 2x HW-2600-LWS retaining washers. HW-26S51-7 cannot be retained with HW-2600-LWS and still be removable, they should be left loose when assembling and disassembling.

NOTE: When setting solid rivets in fiberglass composites, do not fully set the rivets. Make the shop head approximately 1.2 times the hole diameter.

NOTE: If rivet gun is not available for installing AN426 rivets through cowl, lower bracket can instead be installed on cowl by installing K1000-08 nutplates directly into FF-12077. FF-12077 is then installed into cowl by back-drilling #19 holes through cowl and securing with AN525-832R8 & Washer 5610-18-32. See Figure 4.

Step 15: Match-Drill #40 (.098 in.) and machine countersink holes for FF-12077 into cowl. Rivet lower bracket to cowl using hardware as shown in Figure 3. The radiator and cooler assembly is now attached to the cowl.

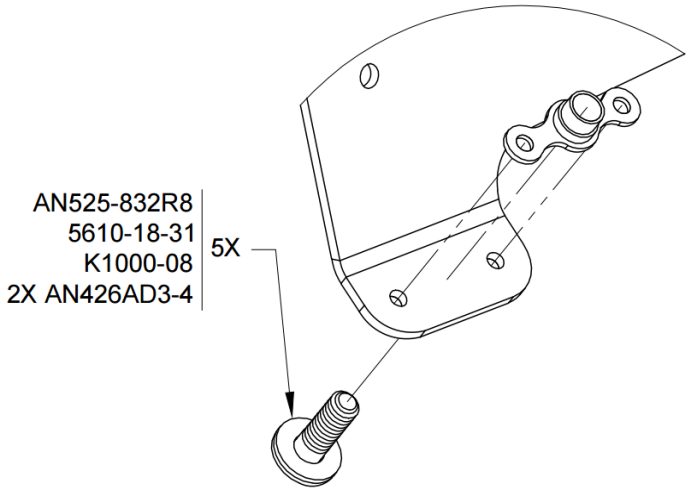

FIGURE 4: Optional Nutplate installation into FF-12077

Step 16: Install 2X FF-12081 to radiator using 2X AN3H-3A and 2X MS21083-N3 as shown in Figure 5. Protect fins on inside face of radiator with a piece of cardboard during installation. The protective piece can be removed once all tubes and hoses are installed.

Step 17: Temporarily install lower cowl (with coolers and radiator) onto aircraft. Install 2x FF-12081 to engine as shown in Figure 5 using 2x SCREW-00007. Torque to 190 in-lb and safety wire.

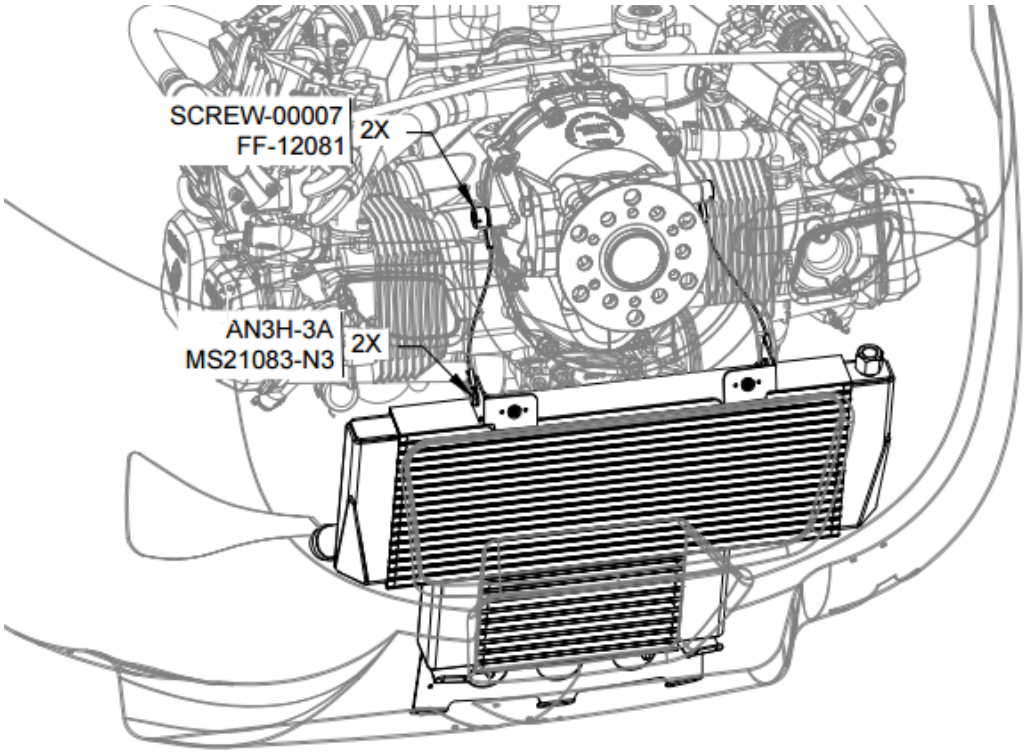

FIGURE 5: Attach Radiator and Cooler to the Engine with FF-12081

Step 18: Disconnect radiator and oil cooler from cowl by unlocking camlock hardware (HW-26S51-4 & HW-26S51-7). Carefully remove cowl from aircraft leaving the radiator and oil cooler attached to the engine by FF-12081.

Step 19: Replace existing 4 in. FF-01241 with new 6 in. lengths of FF-01241-1 where FF-01241-1 attaches to the radiator. Cut 2 x 6 in. length of EA HOSE GATES 24816 to create FF-01241-1.

NOTE: All radiator tubes should be inserted at least 1 in. into their couplers (FF-01241) with 1.25 in. being desirable. Adjust engagement as required to eliminate any pre-load on the radiator tubes.

Step 20: Attach FF-01229-1 Radiator Tube Output and FF-01228-1 Radiator Tube Input to the radiator as shown in Figure 6 & 7 using new FF-01241 and HW-00013.

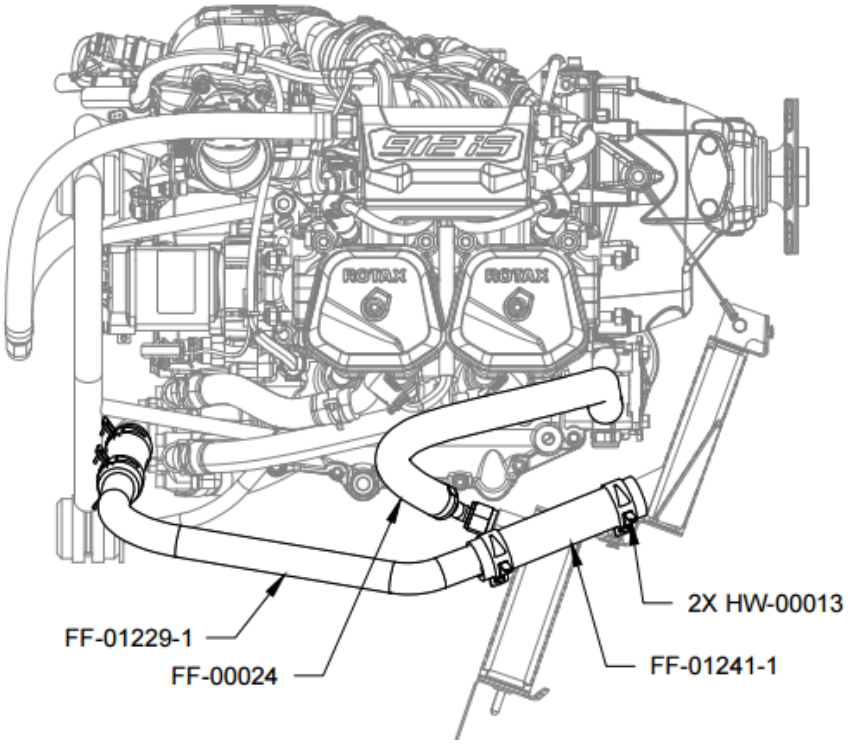

FIGURE 6: Radiator and Oil Cooler Tube and Hose Install – Right Side

Step 21: Attach FF-00023 and FF-00024 to EA-RV-12iS OIL COOLER-1 per Figure 6 & 7. Torque AN8 fittings to 270 in-lb. using a backing wrench on integrated fitting.

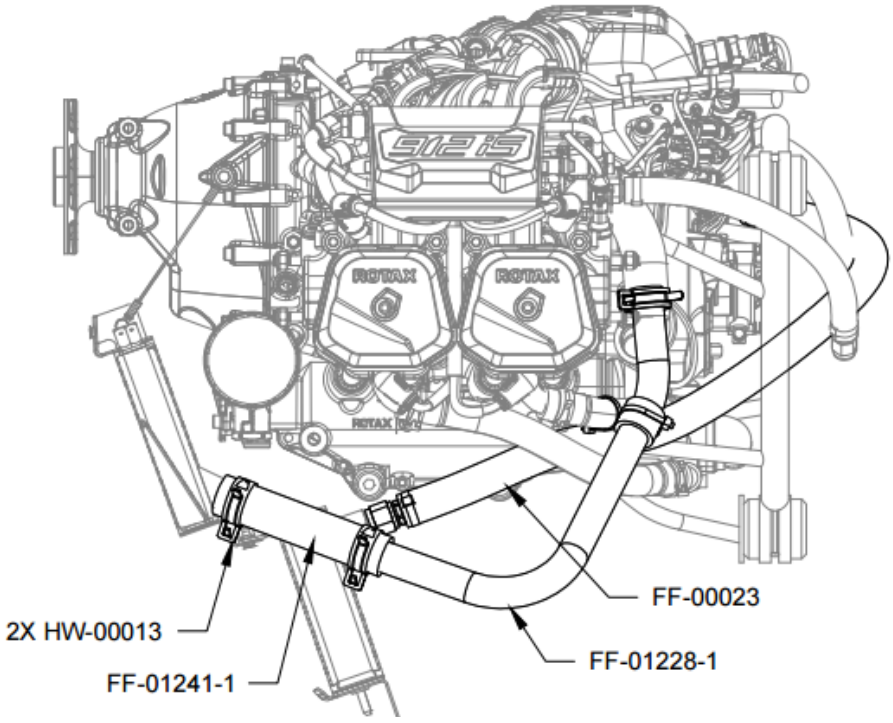

FIGURE 7: Radiator and Oil Cooler Tube and Hose Install – Left Side

Step 22: Fill cooling and oil system according to Rotax MML 912i latest revision Chapter 12-10-00. See Rotax SI-912 i-001 latest revision for selection of suitable operating fluids. See Figure 1 to remove AN913-2D plug temporarily while filling oil system. Ensure that the radiator fills to fill plug height before tightening and safetying the plug. Observe that threads do not get wet before inserting the plug. Check for leaks. Fill oil system in accordance with Rotax SI-912 i-004 latest revision procedure.

Step 23: Check the clearance between EA LV-1 Heat Shield installed on EX-00021-1 Cylinder #1 Exhaust and the forward HW-00013 installed on FF-01229-1. Adjust the clocking of EX-00021-1 as necessary to ensure a minimum 5/16 in. clearance while maintaining a minimum engagement of 1 in. inside both EX-00021-1 slip joints. See Figure 8.

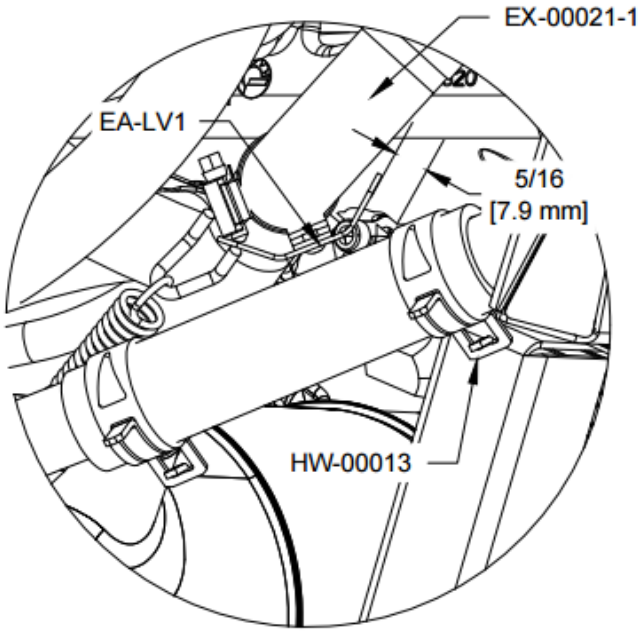

FIGURE 8: Heat Shield Clearance

Step 24: Make a logbook entry indicating compliance with this service document per the requirements of the controlling authority/agency.

Place a copy of this notification in the back of the maintenance manual for your aircraft. Add the name and date of the service information to the Addendum Documents List at the front of the Maintenance Manual.

If you are no longer in possession of this aircraft, please forward this information to the present owner/operator and immediately notify Van's Aircraft, Inc. via email at

registrations@vansaircraft.com. Please include the new owner's contact information and date the aircraft ownership transferred.

Information regarding establishing/transferring aircraft ownership, registration and licensing is available at: https://www.vansaircraft.com/qr/transfer-of-ownership/