VAN'S AIRCRAFT
TOTAL PERFORMANCE
14401 Keil Road NE, Aurora, Oregon, USA 97002
PHONE 503-678-6545 • FAX 503-678-6560 • www.vansaircraft.com • info@vansaircraft.com
Service Letters and Bulletins: www.vansaircraft.com/public/service.htm

NOTIFICATION 18-07-12

Date Released: July 12, 2018

Date Effective: July 12, 2018

Subject: Change to higher pressure rating aux. fuel pump

Affected Models: RV-12 or RV-12iS aircraft equipped with a Rotax 912 ULS

Required Action: Replace ES 40105 fuel pump with an ES 40135 fuel pump (Facet 40135)

Time of Compliance: None / Optional

Supercedes Notice: N 18-05-11 (Internal to Van's Aircraft)
N 18-05-14 (Beta Test)

Labor Required / SLSA Warranty Allowance: 3.0 Hours (if applicable)

Level of Certification: LSA Repairman Maintenance, A&P (not applicable to E-LSA)

Synopsis:

Some RV-12 Rotax 912ULS equipped aircraft may experience a drop in fuel pressure into the yellow band or red band. Van's Aircraft has been permitted by Rotax to use a pump with a slightly higher operating pressure range than allowed by the Rotax 912 ULS installation manual. Installation of this fuel pump in conjunction with the latest software settings from Van's Aircraft for your EFIS system has eliminated intermittent low fuel pressure indications by raising the pressure slightly.

Method of Compliance:

Step 1: Check for other possible causes of fuel pressure fluctuation.

There are many reasons besides the fuel pump that can cause low fuel pressure. For safety reasons all potential issues should be evaluated before replacing the fuel pump. Fluctuations in fuel pressure can be caused by:

- Debris in the fuel system from a failing hose.
- Debris in fuel lines, fuel manifold block, engine driven fuel pump drain or blocking the gascolator screen.
- The engine driven fuel pump drain extends into the cowling exit air flow (the drain tube is too long, and not installed per the KAI Section 46)

- Fuel type.
- Fuel tank vent blockage.
- Failed or failing fuel pressure sender.
- Failed carb bowl float(s).
- High OAT conditions, possibly in combination with a heat soaked engine compartment (leave the oil door open after shutdown when operating in warm/hot climate conditions).

Step 2: Some older RV-12's were equipped with a VDO type fuel pressure sensor. If you have not done so already, and have pressure issues, replace the VDO sensor with a Kavlico 1/8-27 NPT, 15 PSI P4055-15G-E4A sensor. See the latest revision of KAI Section 45A and 46 available on the RV-12 Service Information Page.

VDO Sensor

Kavlico Sensor

Step 3: For those using the Kavlico sensor, remove the seal at the top of the sensor plug. The sensor is mounted inside the cowling and this seal is not required. While removing this seal will not prevent the pressure drop, it will reduce the magnitude. For detailed information see the Dynon Service Bulletin / Technical Advisory 120414.

Step 4: If using a SkyView avionics system, download and install the latest settings file for your EFIS system from Van's website. Follow the instructions in the provided read-me file. This will update the fuel pressure ranges to match new values agreed upon between Van's Aircraft and Rotax. Garmin systems already use these range values, no update is required.

Step 5: Drain the fuel tank in accordance with RV-12 Maintenance Manual.

Step 6: Remove the F-1229 Baggage Floor Cover (see KAI 33-04) and F-00081 (See KAI 42N-02 Garmin or KAI 42C-11 SkyView).

Older RV-12's must remove the F-1206E Baggage Cover which requires removal of the fuel tank. See the RV-12 Maintenance Manual and KAI Section 37. It is highly recommended that airplanes using the old F-1206E upgrade to split baggage covers using the 12 BAGGAGE UPGRADE KIT available from Van's Aircraft.

Step 7: Disconnect both F-1265 Flaperon Pushrods from the WD-1215L & R Flaperon Torque Arms. See KAI Section 32.

Step 8: Disconnect the red power wire and fuel lines, then remove the ES 40105 Fuel Pump attach bolts. See KAI Section 28 and KAI 31B-11. Slide the pump aft for removal.

Step 9: Remove the connector from the red wire on the new ES 40135 Fuel Pump (leave the wire as long as possible). Install an ES 421-0107 CONNECTOR on the red wire. See KAI 31B-11.

Step 10: Remove the AN816-6-2D Fittings from the ES 40105 Fuel Pump and install them in the new ES 40135 Fuel Pump. Refer to Section 5.27.

Install the pump in the fuselage per KAI 28-02. Secure the black ground wire ring terminal with the right side attachment bolt.

Reconnect the two fuel lines to the fuel pump.

Step 11: Connect the red power wire from the ES 40135 Fuel Pump to the corresponding connector on the fuselage wiring harness. See KAI 31B-11.

Step 12: Add fuel to tank (replace tank if removed in step 6) and leak check all disturbed fuel connections.

Step 13: Reconnect both F-1265 Flaperon Pushrods to the WD-1215L & R Flaperon Torque Arms. See KAI 32-06.

NOTE: If after installation of the new pump the fuel pressure goes above the upper limit, remove and clean the VA-216 Fuel Return Assembly hose. Dirt in the return orifice (located inside the banjo fitting at the fuel manifold block) or return hose between the fuel manifold block and the firewall may cause a significant pressure increase.

Step 14: Start and run the aircraft on the ground. Check for any leaks.

Step 15: Reinstall baggage floor/bulkhead covers.

Step 16: Make a logbook entry indicating compliance with N 18-07-12.

Place a copy of this notification in the back of the maintenance manual for your aircraft. Note the addition of this notification to the bottom of the Maintenance Manual table of contents.

PART NUMBERS

Qty	Part Number	Description
1	ES 40135	Fuel Pump
1	ES 421-0107 CONNECTOR	Spade Connector