



SERVICE LETTER 00034

Date Released: January 21, 2021

Date Effective: January 21, 2021

Subject: Optional B&C Voltage Regulator Installation

Affected Models: RV-12 and RV-12iS with Rotax 912ULS engines

Affected Serial Numbers: All RV-12 and RV-12iS model aircraft with Rotax 912ULS engines

Required Action: Optional installation of EA-XB100-1

Time of Compliance: None

Supersedes Notice: N 18-04-06

Labor Required / SLSA Warranty Allowance: 3.0 Hours (non-inclusive of painting and prep) / None

Level of Certification: SLSA: LSA Repairman Maintenance, A&P
ELSA: Owner (certification not required)

Synopsis:

Ducati and/or Silent Hektik voltage regulators may be optionally replaced with new EA-XB100-1, a cooling duct added to the upper cowl and the mounting location changed to improve regulator cooling and performance. Van's is stocking the EA-XB100-1 regulator as standard equipment going forward.

Materials Required:

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

For Aircraft replacing the Ducati regulator:

- a. Purchase a new part from Van's Aircraft. Part no. 12 REGULATOR KIT-1

For Aircraft replacing the firewall mounted Silent Hektik Regulator, purchase new parts from Van's Aircraft:

- a. Qty 1 Part no. EA-XB100-1
- b. Qty 1 Part no. MS35206-246

c. Qty 1 Part no. AN506-10R9

Method of Compliance:

Step 1: Download from the Van's website or purchase a USB stick from Van's containing the latest revision of RV-12 KAI Section 46.

NOTE: Configure the EA-XB100-1 to match the requirements for your installation. Refer to the documentation provided with the regulator. For Skyview/G3X systems, the LV Warning function should be "OFF".

Step 2: Mount the EA-XB100-1 B&C AVC1 Voltage Regulator to the FF-00123 Regulator Adapter Plate and to the Firewall following RV-12 KAI Page 46-19 (Rev 4 or greater).

NOTE: If you are replacing a firewall mounted Silent Hektik regulator, follow the steps on RV-12 KAI 46-19 (Rev. 4 or greater) to connect the electrical wires to the regulator. Skip to Step 18.

NOTE: D-180 Equipped aircraft that have not upgraded to the firewall-mounted Silent Hektik regulator will not have the pre-existing mount holes in the Firewall Assembly. Use visual cues from the Figures and the duct aim point to approximate location. Match-drill the Firewall using the FF-00123 with the Regulator attached to ensure clearance from the F-1240 attachment screws.

Step 3: Use the provided N 18-04-06 TEMPLATE drawing to cut a NACA opening on the upper left face of the cowling. Remove cowl from aircraft before cutting.

Step 4: Trim the COWL-00011 NACA Scoop to the scribe lines. Position the Scoop for best fit around the NACA opening and aim toward the installed position of the Regulator.

Step 5: Mark the inside surface of the upper cowl around the perimeter of the Scoop when the best position is achieved.

Step 6: Bond the COWL-00011 to the upper cowling using an epoxy floc mixture. A few #40 holes and wax coated clecos work well to hold position and clamp force until the epoxy is cured enough to be "rubbery". See Figure 1.

Set aside in a warm area to cure. The cowl should remain as close to installed contour as possible during the cure.

(Continued on next page)

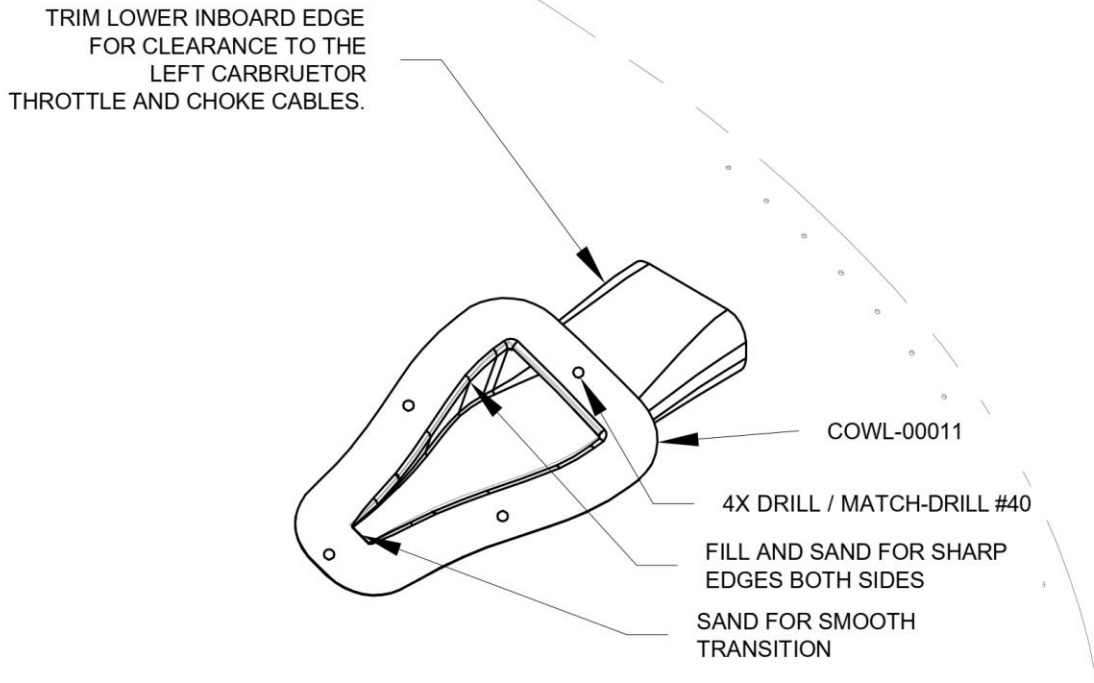


FIGURE 1: BOND DUCT TO COWLING

Step 7: Fill the edges of the COWL-00011 to cowl interface to make a nearly sharp corner along the sides as indicated in Figure 1. Fill and sand to provide a smooth transition from the cowl surface to the duct. Finish and paint as desired.

Step 8: Remove the EFIS screen then the transponder from the transponder tray. For D-180 equipped aircraft remove the F-1240 Upper Forward Fuselage Skin shown in KAI 29A-06 for access. Remove the left mount screw from the transponder tray and discard.

Step 9: Remove the pins from the Ducati regulator connector. See Figure 2. The connector will not be reused in this installation.

(Continued on next page)

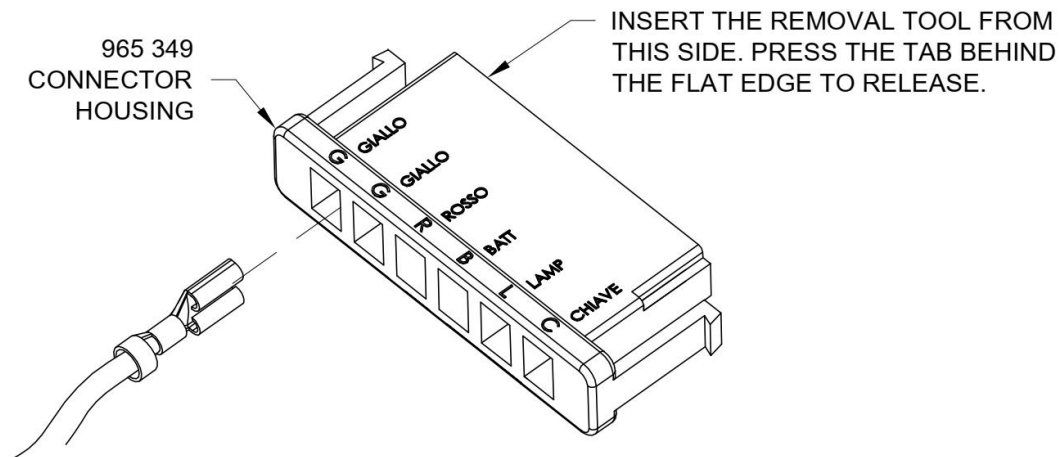


FIGURE 2: REMOVE WIRES FROM CONNECTOR

Step 10: If the regulator was previously installed in the cockpit area, reroute the shielded generator cable (coming from the engine with two yellow wires forking out) to the forward mounting position and reseal the lower firewall penetration. Reroute the WH-P156 (WHT) wire (this wire splits into two, part of the WH-00062 Power Wiring Harness) through the upper firewall penetration grommet shown on Page 45A-04.

Step 11: Leaving as much wire as possible cut the terminals from the ends of both WH-P156 wires.

NOTE: Cover the ends of any bare spade connectors with heat shrink.

Step 12: Add terminals to the ends of the WH-P156 (WHT) wires. These will become P204 and P205. See KAI 46-19 Figure 4.

Step 13: Fabricate the WH-P3068 wire shown in Figure 3 out of 16 AWG (WHT) wire using the wire ends and length shown.

Step 14: Connect the electrical wires to the regulator as shown in Figure 3.

(Continued on next page)

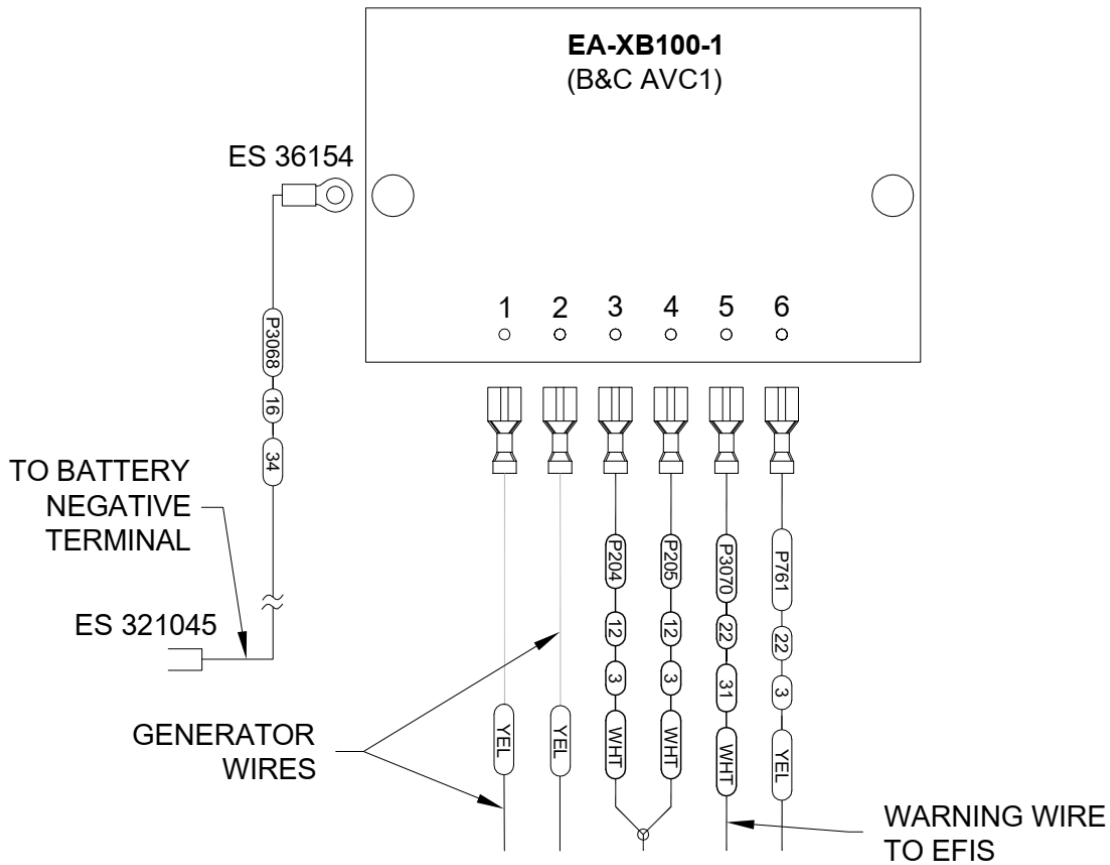


FIGURE 3: DUCATI UPGRADE WIRE CONNECTIONS

Step 15: Connect the WH-P3070 Regulator Warning Wire to the engine monitor. D-180 equipped aircraft do not support this function, discard the WH-P3070 Wire (see the note below for an optional D-180 solution).

NOTE: Optionally for D-180 customers a labeled “VREG WARNING” light may be installed into the panel (location at pilots discretion but the light should be located on the pilot’s half of the panel). Connect a wire from Pin 30 “FUEL PUMP” on the WH-RV12-TUNNEL 37 Pin harness through 5A inline fuse to the positive terminal of the light. Connect the negative terminal of the light to the regulator warning wire. These parts are sold separately from this upgrade kit.

Step 16: Route the WH-P3068 wire with the wire bundle and then along the VA-213 Oil Supply Hose towards the battery. Connect the ring terminal on WH-P3068 to the minus terminal of the battery See Figure 4. Tie-wrap the wires as necessary for support.

(Continued on next page)

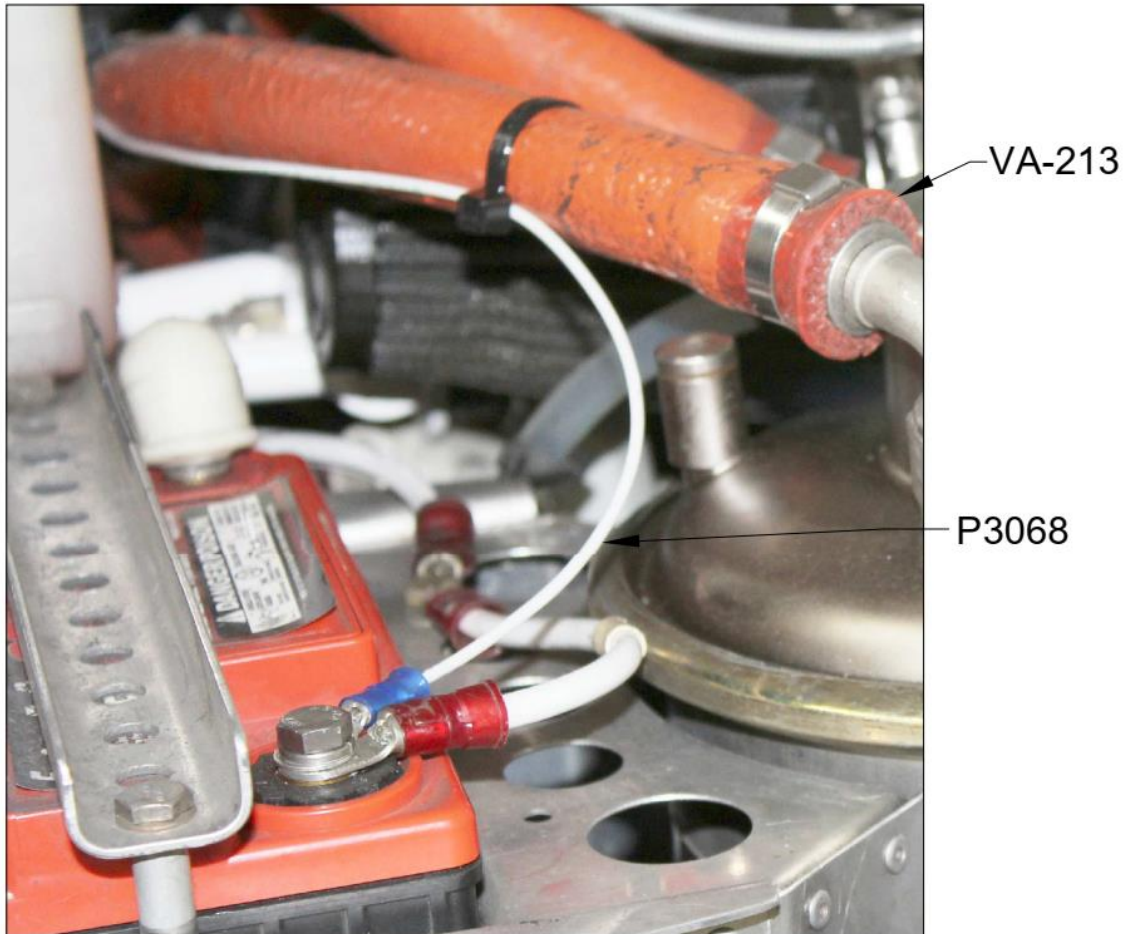


FIGURE 4: ROUTING WH-P3068

Step 17: Test run the engine to confirm proper charging system operation.

D180 Installations: If an optional warning light is installed for the D-180, the voltage regulator can be configured to give a warning for two fault conditions.

1) Overvoltage condition (steady light)

If the generator would fail and cause an overvoltage condition the regulator will shut down automatically and give a steady warning.

Note that with this warning the generator will no longer be charging the battery or supplying power to the main bus. As a result the main bus voltage will drop helping the pilot to realize along with the warning that power is no longer being supplied from the generator.

2) Low Voltage condition (flashing light)

If the voltage falls below the threshold set in the regulator, the regulator will give a flashing warning until the voltage rises above the threshold.

(Continued on next page)

Skyview/G3X Installations: If the generator fails and causes an overvoltage condition the regulator will shut down automatically and give a warning visible in the EFIS.

Note that with this warning, the generator is no longer charging the battery or supplying power to the main bus. As a result, the main bus voltage will drop helping the pilot to realize along with the warning that power is no longer being supplied from the generator.

Step 18: Download or obtain the latest revision of the POH and Flight Training Supplement from Van's Aircraft.

Step 19: Download and install the latest EFIS software and presets using the README files from the Van's Aircraft website.

Step 20: Make a logbook entry indicating compliance with 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. Note the addition of this notification to the bottom of the Maintenance Manual table of contents.

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.

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