

**Drawing No.: 17-1001**  
**ALT-FLX INSTALLATION INSTRUCTIONS**

**READ AND THOROUGHLY UNDERSTAND ALL OF THE INSTRUCTIONS BEFORE  
BEGINNING INSTALLATION.**

If a FORD DOFF-series (Cessna 611501, 611502, etc. Grumman American DOFF-10300, etc.) Alternator is being replaced; the ALT-FLX will fit using all existing brackets, belt and hardware. Use ALT-FLX-1.

If a Prestolite, Chrysler, Delco or other alternator or a generator is being replaced; new brackets, tension arm and mounting hardware are required, see 17-0000.

If desired, the original alternator regulator may be replaced with a R1224 or R1224B regulator. If a generator is being replaced, the generator regulator must be replaced with a R1224 or R1224B regulator (the R1224B mounts using the same holes as most generator regulators). Remove the original regulator and install the R1224 or R1224B in the same location using the R1224 installation and wiring instructions. For Generator Conversions, wire the R1224 per the GENERATOR CONVERSION section of this document. Ensure that the R1224 or R1224B is set for the voltage matching that of the aircraft's electrical system.

**MULTI-ENGINE INSTALLATIONS:** For proper load-balancing operation, R1224 or R1224B regulators must be installed for each alternator and wired per the R1224 Installation Instructions (12-1001).

**INSTALLING THE ALT-FLX:**

**NOTE**

Reference applicable aircraft/engine maintenance manual and FAA AC43-13-1B for guidance on standard methods and practices for electrical, mechanical, and structural work on the aircraft. Follow all WARNINGS and CAUTIONS noted in the aircraft documentation related to the working being accomplished.

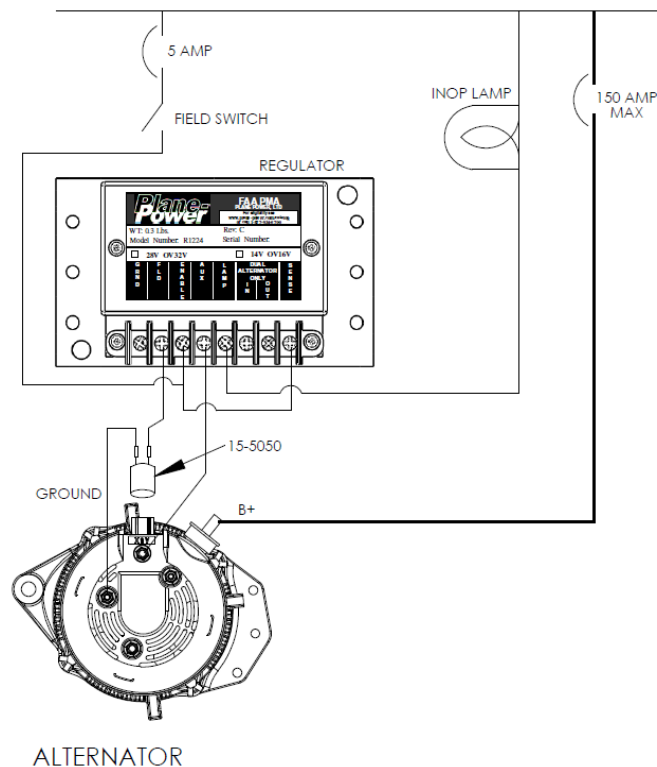
**NOTE**

Electrical lug and splice sizes are given as a reference. Confirm on aircraft actual wire gauge and associated lug or splice before terminating wires.

1. Gain access to the location where the work is to be accomplished.
2. Label then remove wiring from the existing alternator or generator. Remove the alternator.
3. Cut the ring lug off of the wire removed from the F or F1 terminal (Field) of the original alternator or generator. Connect the wire to EITHER white wire from the supplied 15-5050 Wire Harness/Plug using an M7928/5-4 environmental splice.
4. If a second field wire (F2) was removed, connect it to the other white wire from the supplied 15-5050 Wire Harness/Plug using an M7928/5-4 environmental splice. If no separate field wire (F2) was removed,

connect the remaining white wire from the supplied 15-5050 Wire Harness/Plug to the elevated post (ground) on the rear of the ALT-FLX using an M7928/1-42 lug and torque 20-35 in-lbs.

5. If an AUX wire was removed from the original alternator (generators will not have one) connect it to AUX terminal of the ALT-FLX with an M7928/1-43 ring lug. Hold the AUX post with a wrench and torque the AUX post nut to 20-35 in-lbs. If an R1224 or R1224B regulator is being installed and there was not an AUX wire, connect a new wire (minimum 20AWG per MIL-W-22759/16) to the ALT-FLX AUX terminal using a ring lug. Route this wire to the location that the regulator is being installed.
6. If a separate ground wire (- or GND) was removed from the original alternator or generator, reconnect it to the elevated post (ground) on the rear of the ALT-FLX. Hold the ground post with a wrench and torque the ground post nut to 20-35 in-lbs. If it is needed to terminate the wire due to lug size, remove existing lug, and terminate with M7928/1-42 lug.
7. Place the ring lug of the “+” wire (large output wire), and any other wires removed from the output (+) terminal of the original alternator or generator on the M8 output bolt of the ALT-FLX. Torque the M8 nut to 45-50 in-lbs. If currently installed ring lug is not sized for a M8 stud, remove existing lug and terminate with an M7928/1-44 lug. Similarly modify all other existing wires attached to the “+” post of the original alternator or generator.
8. Tension the belt and torque the adjusting bolt to 200 in-lbs and safety with stainless steel 0.032” diameter safety wire. Refer to appropriate engine and airframe service manuals for belt tension and other torque values. Safety wire other drilled mounting bolts.
9. Start the aircraft and check the alternator output for proper operation.
10. Recheck and inspect the entire installation. Complete FAA Form 337, make the appropriate log book entry, update the aircraft equipment list and revise the weight and balance if necessary.



## Generator Conversion

**NOTE: IF AIRCRAFT DOES NOT HAVE A CIRCUIT BREAKER OR CURRENT LIMITING DEVICE IN THE OUTPUT AND REGULATOR INPUT CIRCUIT THEY MUST BE INSTALLED.**

### NOTE

Reference applicable aircraft/engine maintenance manual and FAA AC43-13-1B for guidance on standard methods and practices for electrical, mechanical, and structural work on the aircraft. Follow all WARNINGS and CAUTIONS noted in the aircraft documentation related to the working being accomplished.

### NOTE

Electrical lug and splice sizes are given as a reference. Confirm on aircraft actual wire gauge and associated lug or splice before terminating wires.

### WIRING THE R1224

- 1) If not already in place, install and label an alternator Field switch and a 5 amp fuse or circuit breaker in the panel. Connect the input of the circuit breaker to the positive bus and the output to the ENABLE terminal of the R1224.
- 2) Wire the system as follows, following the R1224 Installation Instructions for additional information:
  - a. **Install a R1224 or R1224B alternator voltage regulator in the same location from which the generator regulator is removed. Ensure regulator voltage setting matches airframe electrical system.**
  - b. Connect the field terminal on the voltage regulator to EITHER white wire from the supplied 15-5050 Wire Harness/Plug using a connector per M7928/1.
  - c. Connect the other white wire from the supplied 15-5050 Wire Harness/Plug to the elevated post (ground) on the rear of the ALT-FLX using a ring lug per M7928/1.
  - d. Hold the ground post with a wrench and torque the ground post nut to 20-35 in-lbs.
  - e. If the aircraft has a "Generator Inoperative" indicator lamp rated at 100mA or less, it may be used. If a lamp is not currently installed or is not compatible, install an appropriate lamp per MS18235 in the panel with placards in view of the pilot. Wire one lead of the lamp to the positive bus and the other to the R1224 LAMP terminal. Use minimum 20AWG wire per MIL-W-22759/16.
  - f. Connect the AUX terminal of the ALT-FLX to the regulator AUX terminal. Use minimum 20AWG wire per MIL-W-22759/16.
  - g. Connect the GND terminal of the regulator to aircraft ground. Use minimum 18AWG wire per MIL-W-22759/16.
  - h. Jumper the regulator SENSE and ENABLE terminals.
  - i. For multi-engine installations, refer to the R1224 Installation Instructions (12-1001) for additional wiring.

- g. Place the ring lug of the “+” wire (large output wire) on the M8 output bolt of the alternator. Torque the M8 nut to 45-50 in-lbs. If currently installed ring lug is not sized for a M8 stud, replace with M8 ring lug per AS7928.
- h. Start the aircraft and check the alternator output for proper operation.
- i. Recheck and inspect the entire installation. Complete FAA Form 337, make a log book entry, update aircraft equipment list, and revise the weight and balance as necessary.

**INSTRUCTIONS FOR CONTINUED AIRWORTHINESS**

**Annual / 100 hour inspections:**

1. Remove drive belt and turn alternator rotor to check condition of bearings for abnormal noise or roughness.
2. Return to HET if problem is detected.

**5 year or 1,000 hour intervals:**

1. Repeat: Annual / 100 hour inspection.
2. Remove field brush assembly and inspect brushes for excess wear. Replace brush assembly if brushes extend less than .250" from edge of brush holder case.