

Service Information Letter

The technical content of this letter is FAA Approved

Letter No. A-125 Rev. A

Issue Date: Feb. 6, 2008

ES-6000 & ES-7000 SERIES ALTERNATOR TERMINAL CONNECTION INSTRUCTIONS

REASON FOR REVISION: To revise torque in step 4 and revise instruction in step 9.

INTRODUCTION:

It has come to the attention of Kelly Aerospace Power Systems that some guidance is needed when connecting aircraft or rotorcraft electrical wiring to the ES-6000 & ES-7000 series alternators. This is based on reports of loose battery (B) and field (F1) terminals. Overtightening or improper tightening may contribute to the condition or further maladies.

This Service Information Letter is being issued to provide basic information for proper installation technique and hardware torque for the electrical connections on alternator. It also calls out proper hardware stack for the power (B) and field (F1) terminals.

COMPLIANCE:

At the owner's or operator's discretion to coincide with the next regularly scheduled maintenance event or annual inspection and any time the alternator has been replaced or installed.

AFFECTIVITY:

Any aircraft, rotorcraft, or engine utilizing Kelly Aerospace Power Systems ES-6000 or ES-7000 series alternators.

PROCEDURE:

CAUTION:

Do not depend on this Service Bulletin for gaining access to the aircraft, rotorcraft, or engine. This will require that you use the applicable manufacturers maintenance manuals or service instructions. In addition, any preflight or inflight operational checks require use of the appropriate AFM or POH.

CAUTION:

The connection of the electrical wiring to the alternator may require additional or specific instructions, use the applicable manufacturers maintenance manuals or service instructions in conjunction with this Service Information Letter.

1. Remove all electrical power from the aircraft before beginning work. Assure that the aircraft battery has been disconnected and that no external power is hooked up.
2. Remove the engine cowl to gain access to the alternator. Utilizing the applicable aircraft, rotorcraft and/or engine manufacturers maintenance manuals or service instructions

3. Locate the field terminal "F1" (orange insulator). Remove hardware and insulator. Inspect the insulator for cracks or signs of "mushrooming" on the bottom. Replace insulator if damaged.
4. Install the orange insulator (1) and two flat washers (2). Install cupped nut (3) and torque to 5 - 10 inch-pound. (0.56 - 1.12 N-m) Refer to Figure 1.
5. Install flat washer (4), aircraft field "F1" terminal (5) and flat washer (6). Install cupped nut (7) and torque to 20 - 25 inch-pound. (2.26 - 2.83 N-m) **It is imperative that the bottom cupped nut be held in place while the top cupped nut is being torqued to prevent damage or under torque. (Use a wrench of no more than .25 in. thickness on bottom nut.)** Refer to Figure 1.

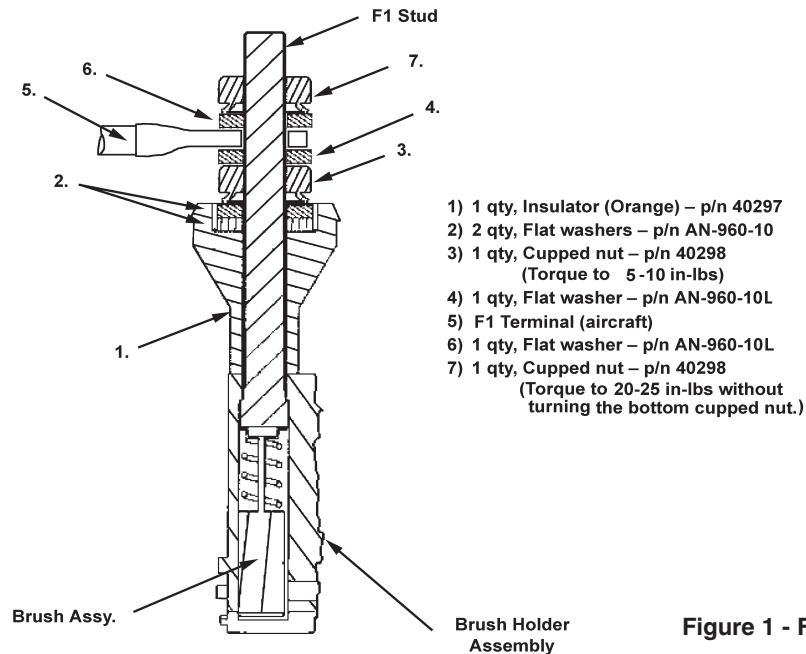


Figure 1 - F1 Terminal

6. Locate the output terminal "B" (red insulator). Remove hardware and insulator. Inspect the insulator for cracks or signs of "mushrooming" on the bottom. Replace insulator if damaged.
7. Install the red insulator (1) and two flat washers (2). Install cupped nut (3) and torque to 15 - 20 inch-pound. (1.69 - 2.26 N-m) Refer to Figure 2.
8. Install flat washer (4), aircraft output "B" terminal (5) and flat washer (6). Install cupped nut (7) and torque to 50 - 60 inch-pound. (5.65 - 6.78 N-m) **It is imperative that the bottom cupped nut be held in place while the top cupped nut is being torqued to prevent damage or under torque. (Use a wrench of no more than .25 in. thickness on bottom nut.)** Refer to Figure 2.

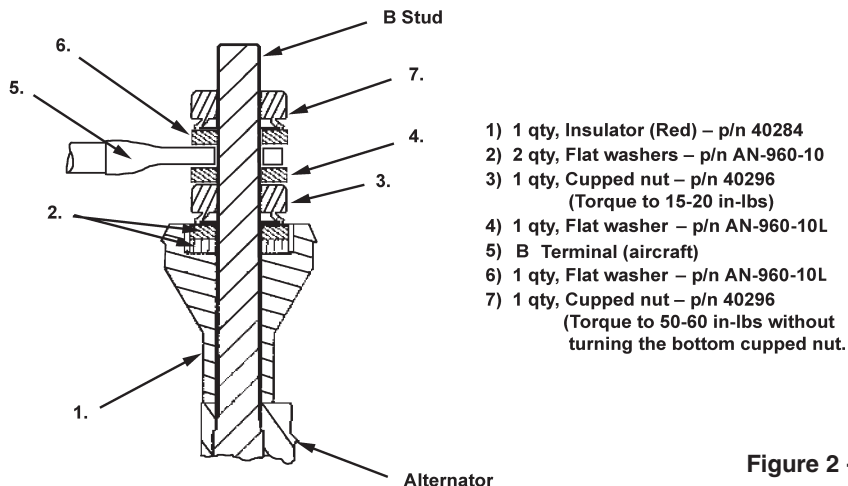


Figure 2 - B Terminal

9. Locate the auxiliary terminal "aux" (if used). It is not necessary to check the aux stud bottom nut unless found loose. If loose remove all hardware and check insulating shoulder washers for damage and replace as required. This will require removing the aft cover to access the aux terminal bolt. This may be done by removing the second nut (and electrical terminal if connected) on the "B" terminal and loosening the first nut on the "B" terminal. Remove the three bolts holding the cover on as shown below. Re-install as removed, the auxiliary terminal bolt, jumper wire electrical terminal, insulating shoulder washers, washer, and nut. Torque bottom nut to 10 -15 inch-pound. (1.12 - 1.69 N-m) while securely holding the aux bolt. (Be sure the internal aux wire remains connected between the insulating shoulder washer and bolt). Reinstall cover making sure that no contact is made with the aux terminal and cover. Torque cover bolts to 10 -15 inch-pound. (1.12 - 1.69 N-m) If cover was removed, repeat steps 7 and 8. Refer to Figure 3.
10. Install aircraft aux terminal wire and nut P/N 40427. Torque nut to 15 - 20 inch-pound. (1.69 - 2.26 N-m) ***It is imperative that the bottom nut be held in place while the top nut is being torqued to prevent damage or under torque. (Use a wrench of no more than .25 in. thickness on bottom nut.)***

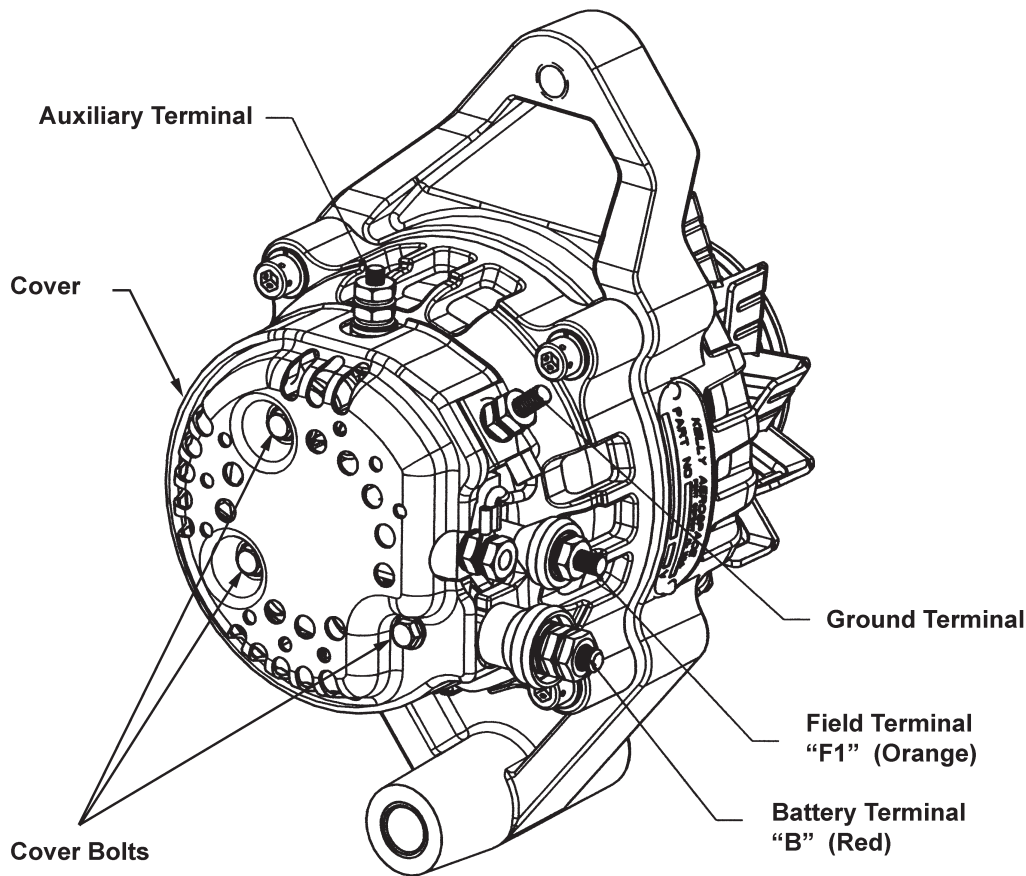


Figure 3 - Terminal Locations

11. Locate the ground terminal. It is not necessary to check the ground stud bottom nut unless found loose. If loose, assure there is no damage and torque bottom nut to 25 - 35 inch-pound. (2.83 - 3.95 N-m) Refer to Figure 3.
12. Install aircraft ground terminal wire and nut P/N 40298. Torque nut to 25 - 35 inch-pound. (2.83 - 3.95 N-m). ***It is imperative that the bottom nut be held in place while the top nut is being torqued to prevent damage or under torque. (Use a wrench of no more than .25 in. thickness on bottom nut.)***

RETURN TO SERVICE:

1. With the alternator properly connected, the aircraft may now be prepared for return to service.
2. Utilizing the applicable aircraft, rotorcraft and/or engine manufacturers maintenance manuals, install any portion of the aircraft removed to gain access.
3. Upon successful completion of this Service Information Letter, make an appropriate log book entry of compliance.

PARTS REQUIRED:

As required, up to, one (1) each, insulator, orange, part number 40297
one (1) each, insulator, red, part number 40284
four (4) each, flat washer, part number AN-960-10
four (4) each, flat washer, part number AN-960-10L
two (2) each, cupped nut, part number 40298
two (2) each, cupped nut, part number 40296.

If needed, up to, two (2) each, shoulder washer, insulating, part number 40428 (aux terminal)
one (1) each, bolt, part number 4339-1
one (1) each, flat washer, part number 40429
two (2) each, nut, part number 40427, (ground terminal)
one (1) each, nut, part number 40298.

(See your local authorized Kelly Aerospace Power Systems Distributor for parts price and availability.)

WARRANTY STATEMENT:

The sole warranty applicable to this service publication is related to the terms and conditions in the aircraft, rotorcraft, or engine manufacturers Limited Warranty Policy. This publication does not imply or state any responsibility for the workmanship of any person or entity performing work or maintenance on the alternator, engine, rotorcraft, or aircraft. All claims for warranty must be forwarded to the applicable manufacturer per the requirements contained in their Limited Warranty policies and procedures.

CONTACT INFORMATION:

If you have any questions concerning the instructions in this service bulletin, please contact Kelly Aerospace Power Systems Technical Support at 888-461-6077.

Questions concerning aircraft, rotorcraft, or engine service or operation must be forwarded to the applicable manufacturer of that product.