

**TITLE**

ELECTRICAL POWER - ALTERNATOR CONTROL UNIT (ACU) AND CONNECTOR OBSOLESCENCE

**EFFECTIVITY**

| <b>MODEL</b> | <b>SERIAL NUMBERS</b>                              |
|--------------|--|
| 152          | 15282032 thru 15286033                             |
| A152         | A1520809 thru A1521049                             |
| F152         | F15201529 thru F15201980                           |
| FA152        | FA1520347 thru FA1520425                           |
| 172N         | 17271035 thru 17274009                             |
| 172P         | 17274010 thru 17276673                             |
| 172Q         | 17275869 thru 17276259                             |
| FR172K       | FR17200631 thru FR17200675                         |
| F172N        | F17201750 thru F17202039                           |
| F172P        | F17202040 thru F17202254                           |
| R172K        | R1722930 thru R1723454                             |
| 180K         | 18053001 thru 18053203                             |
| 182Q         | 18266591, thru 18267301, 18267303 thru<br>18267715 |
| R182/TR182   | R18200584 thru R18202041                           |
| FR182        | FR18200026 thru FR18200070                         |
| A185F        | 18503684 thru 18504448                             |
| U206G/TU206G | T20604650 thru U20607020                           |
| 207A/T207A   | 20700483 thru 20700788                             |
| 210N/T210N   | 21062955 thru 21064897                             |
| 210R/T210R   | 21064898 thru 21065009                             |
| P210N        | P21000151 thru P21000834                           |
| P210R        | P21000835 thru P21000874                           |

**NOTE:** This service document applies only to customers that are replacing the installed Alternator Control Unit (ACU) with the DGR3-5, VR515F-5, and VR515GA-5 ACU's.

**REASON**

The alternator control unit connector is no longer manufactured and replacement is provided.

**NOTE:** This service document applies only to customers that are replacing the installed Alternator Control Unit (ACU) with the DGR3-5, VR515F-5, and VR515GA-5 ACU's.

July 8, 2024

SEB-24-06  
Page 1 of 8

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**DESCRIPTION**

This service document provides parts and instructions to remove and replace the alternator control unit and replace the airplane connector.

**COMPLIANCE**

OPTIONAL. This service kit can be accomplished at the discretion of the owner.

A service document published by Textron Aviation may be recorded as *completed* in an aircraft log only when the following requirements are satisfied:

- 1) The mechanic must complete all of the instructions in the service document, including the intent therein.
- 2) The mechanic must correctly use and install all applicable parts supplied with the service document kit. Only with written authorization from Textron Aviation can substitute parts or rebuilt parts be used to replace new parts.
- 3) The mechanic or airplane owner must use the technical data in the service document only as approved and published.
- 4) The mechanic or airplane owner must apply the information in the service document only to aircraft serial numbers identified in the *Effectivity* section of the document.
- 5) The mechanic or airplane owner must use maintenance practices that are identified as acceptable standard practices in the aviation industry and governmental regulations.

No individual or corporate organization other than Textron Aviation is authorized to make or apply any changes to a Textron Aviation-issued service document or flight manual supplement without prior written consent from Textron Aviation.

Textron Aviation is not responsible for the quality of maintenance performed to comply with this document, unless the maintenance is accomplished at a Textron Aviation-owned Service Center.

**APPROVAL**

Textron Aviation received FAA approval for the technical data in this publication that changes the airplane type design.

**FLIGHT CREW OPERATIONS**

No Changes

**CONSUMABLE MATERIAL**

No specialized consumable materials are required to complete this service document.

**TOOLING**

No specialized tooling is required to complete this service document.

**WEIGHT AND BALANCE INFORMATION**

Negligible

**REFERENCES**

- Cessna Model 150 Series (1969-1976) Service Manual
- Cessna Model 152 Series (1978-1985) Maintenance Manual
- Cessna Model 172 Skyhawk Series (1969-1976) Service Manual
- Cessna Model 172 Series (1977-1986) Service Manual
- Cessna Model 172RG (1980-1985) Service Manual
- Cessna Model FR172 (1968-1976) Service Manual

Cessna Model R172 Series (1977-1981) Service Manual  
Cessna Model 180 and 185 (1969-1980) Service Manual  
Cessna Model 180 and 185 Series (1981-1985) Service Manual  
Cessna Model 182 Series (1969-1976) Service Manual  
Cessna Model 182 and T182 Series (1977-1986) Maintenance Manual  
Cessna Model R182/TR182 (1978-1986) Maintenance Manual  
Cessna Model 206 and T206 Series (1969-1976) Service Manual  
Cessna Model 206 and T206 Series (1977-1986) Service Manual  
Cessna Model 207 and T207 Series (1969-1984) Service Manual  
Cessna Model 210 Centurion Series (1969) Service Manual  
Cessna Model 210 Centurion Series (1970-1976) Service Manual  
Cessna Model 210 and T210 Series (1977-1984) Service Manual  
Cessna Model 210 and T210 Series (1985-1986) Service Manual  
Cessna Model P210 Series (1978-1983) Service Manual  
Cessna Model P210 Series (1985-1986) Service Manual

#### PUBLICATIONS AFFECTED

None.

#### ACCOMPLISHMENT INSTRUCTIONS

1. Prepare the airplane for maintenance.
  - A. Make sure that the airplane is electrically grounded.
  - B. Make sure that all switches are in the OFF/NORM position.
  - C. Disconnect electrical power from the airplane.
    - (1) Disconnect external electrical power.
    - (2) Disconnect the main airplane battery.
  - D. Attach maintenance warning tags to the battery and external power receptacle that have **"DO NOT CONNECT ELECTRICAL POWER - MAINTENANCE IN PROGRESS"** written on them.

**NOTE:** Use the references that follow for the removal and operational procedures of the Alternator Control Unit (ACU).

    - Applicable Service / Maintenance Manuals - Section 16, Electrical Systems - Alternator Control Unit.
2. Remove applicable panels/doors to get access to the ACU. (Refer to applicable Service / Maintenance manuals - Section 11 - Engine.)

**NOTE:** The Alternator Control Unit (ACU) is installed on the forward side of the firewall on some models or is installed on the aft side of the firewall on other models.
3. Disconnect the Alternator Control Unit (ACU) electrical connector from aircraft electrical connector.
4. (Refer to Figure 1, Sheet 1.) Remove and keep the screw that attaches the grounding strap to the Alternator Control Unit (ACU) and aircraft structure.
  - A. Disconnect the grounding strap.
  - B. Record the installed position of the ground strap.

5. Hold the Alternator Control Unit (ACU) and remove the screws that attach the Alternator Control Unit (ACU) to the airplane.
  - A. Keep the screws.
  - B. Remove and discard the Alternator Control Unit (ACU) as per below table.

**NOTE:** Each airplane may have any one of the below ACU P/N.

**Table 1: Alternator Control Unit**

| OLD ALTERNATOR CONTROL UNIT           | NEW ALTERNATOR CONTROL UNIT |
|---------------------------------------|-----------------------------|
| DGR3                                  | DGR3-5                      |
| VR515F                                | VR515F-5                    |
| VR515GA                               | VR515GA-5                   |
| VR515 (Textron P/N C611005-0101)      | DGR3-5                      |
| CSV-2860-1 (Textron P/N C611005-0102) | DGR3-5                      |
| VR515G (Textron P/N C611005-0103)     | DGR3-5                      |

6. (Refer to Figure 2, Sheet 1.) Do the wiring modification as follows:
  - A. Tag and identify each wire with the pin number from the 207575-1 Electrical Connector.
 

**NOTE:** There should be no wire in pin 7.
  - B. Depin the wires from the electrical connector.
  - C. Remove and discard the 207575-1 Electrical Connector from the airplane.
  - D. Re-terminate each wire with 0462-201-20141 Sockets.
  - E. Pin the wires into the pin numbers identified in Step 6.A in the new DTM06-6S Electrical Connector.
 

**NOTE:** DTM06-6S Electrical Connector only has 6 pins.
  - F. Install the WM-6S Wedge Lock.
  - G. Install 0413-204-2005 Sealing Plug in any unused pins in DTM06-6S Electrical Connector.
7. (Refer to Figure 1, Sheet 1.) Install the new Alternator Control Unit (ACU) as per Table 1 to the airplane with the kept screws.
8. Install the grounding strap to the Alternator Control Unit (ACU) and aircraft structure in the recorded position with the kept screw.
 

**NOTE:** The installation location of the ground strap may be different for each ACU. The ground strap from the new ACU needs to be installed in the same location when it was removed.
9. Remove the maintenance warning tags and connect the airplane battery.
10. (Refer to Figure 2, Sheet 1.) Connect the Alternator Control Unit (ACU) Electrical Connector to the DTM06-6S Aircraft Electrical Connector.
11. Install the removed access panels/doors. (Refer to applicable Service / Maintenance manuals - Section 11 - Engine.)
12. Do a "Before Takeoff" engine ground run to verify proper operation of the alternator and ACU. (Refer to the Pilot's Operating Handbook in Section 4 (Normal Procedures) and Section 7 (Systems Description).)
 

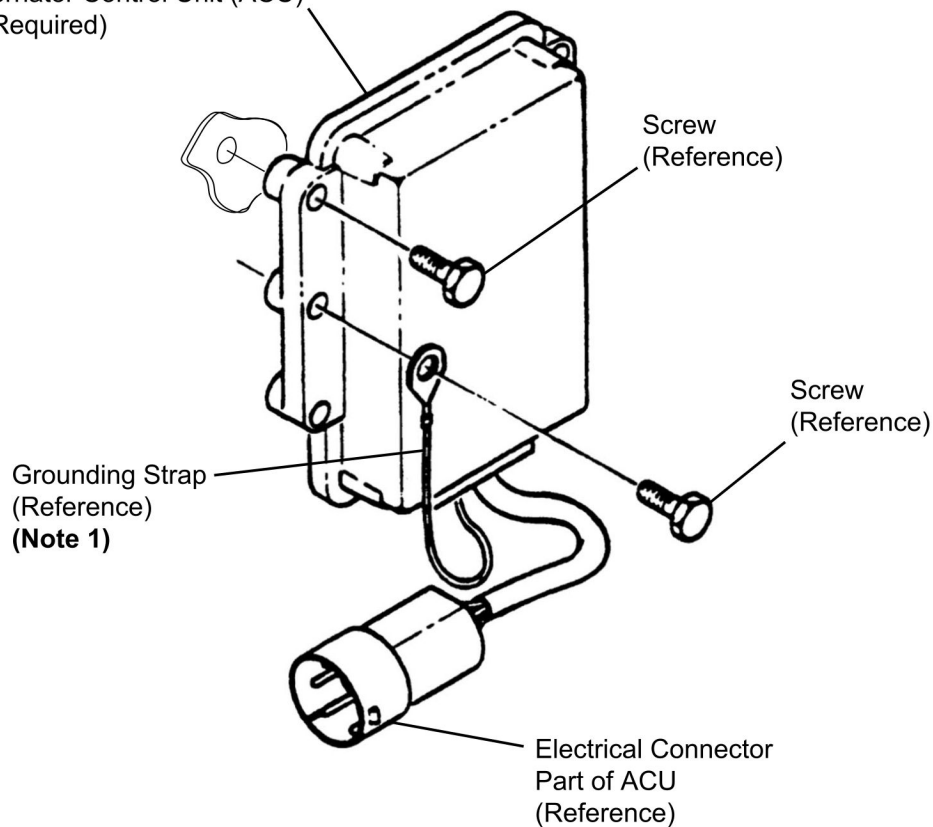
**NOTE:** For DGR3-5 ACU, the low voltage warning light should illuminate at  $24.5 \pm 0.25$  on the ACU for reference.

**NOTE:** For VR515GA-5 and VR515F-5 ACU, the low voltage warning light should illuminate at  $24.5 \pm 0.5$  on the ACU for reference.

13. Make an entry in the airplane logbook that states compliance and method of compliance with this service document.

B22429

DGR3  
VR515F  
VR515GA  
Alternator Control Unit (ACU)  
(Discard)  
DGR3-5  
VR515F-5  
VR515GA-5  
Alternator Control Unit (ACU)  
(1 Required)

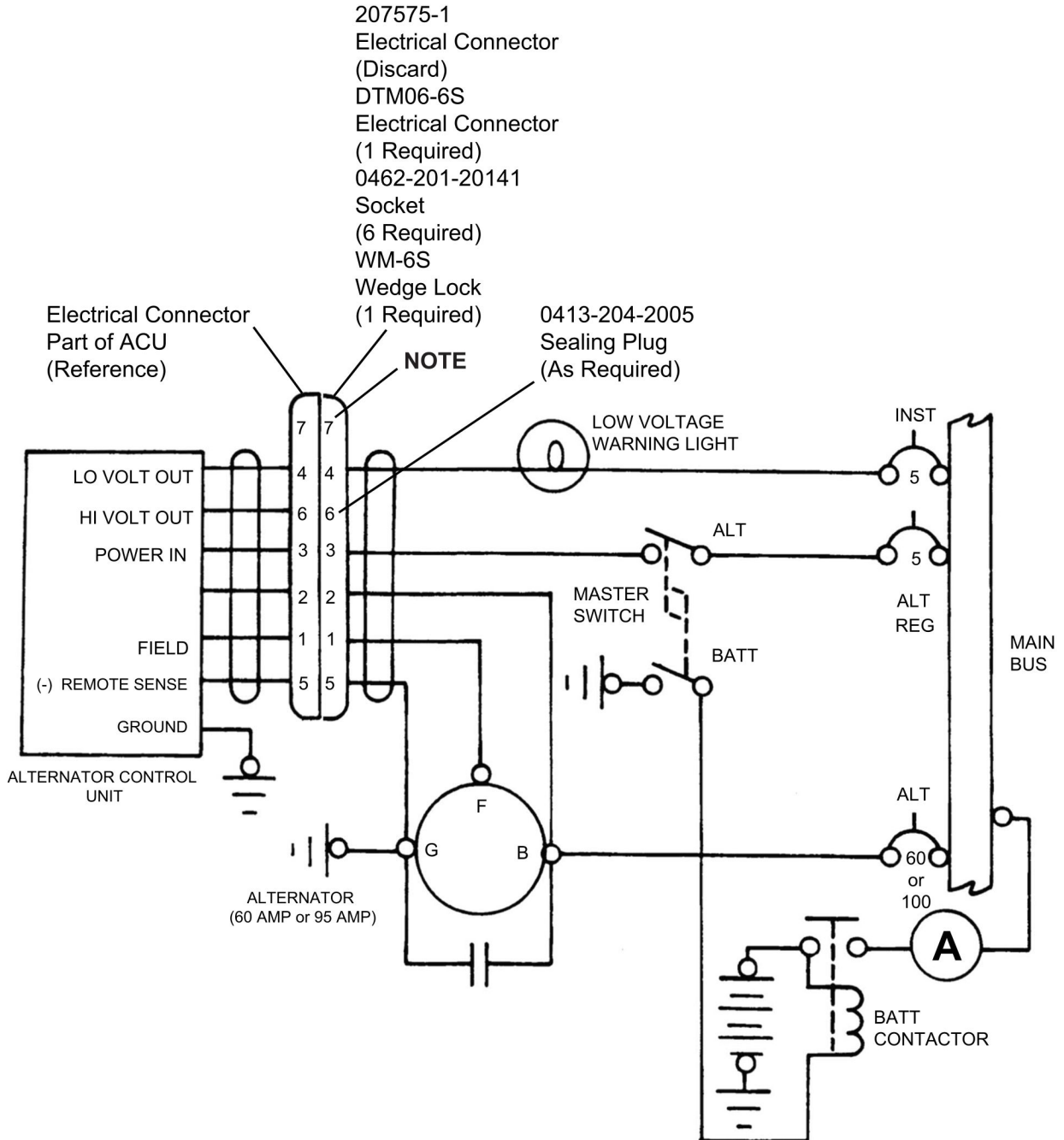


**NOTE:** The Model shown in generic representation of the Alternator Control Unit (ACU). The Alternator Control Unit (ACU) is installed on the forward side of the firewall on some models or is installed on the aft side of the firewall on other models.

**NOTE 1:** The installation location of the ground strap may be different for each ACU. The ground strap from the new ACU needs to be installed in the same location when it was removed.

Figure 1. ACU Installation (Sheet 1)

B22430



**NOTE:** Pin 7 of discarded ACU and discarded ship-side connector are unused. New ACU and ship-side connector only have 6 pins.

Figure 2. ACU Wiring Changes (Sheet 1)

**MATERIAL INFORMATION**

The parts below may be required to complete this service bulletin.

| <b>NEW P/N</b>                  | <b>QUANTITY</b> | <b>KEY WORD</b>         | <b>OLD P/N</b>            | <b>INSTRUCTIONS/<br/>DISPOSITION</b> |
|---------------------------------|-----------------|-------------------------|---------------------------|--------------------------------------|
| 0413-204-2005                   | As Required     | Sealing Plug            | N/A                       | Install                              |
| 0462-201-20141                  | 6               | Socket                  | N/A                       | Install                              |
| DGR3-5<br>VR515F-5<br>VR515GA-5 | 1               | Alternator Control Unit | DGR3<br>VR515F<br>VR515GA | Discard old, Install<br>new.         |
| DTM06-6S                        | 1               | Electrical Connector    | 207575-1                  | Discard old, Install<br>new.         |
| WM-6S                           | 1               | Wedge Lock              | N/A                       | Install                              |

\* Please contact a Textron Aviation Authorized Service Facility for current cost and availability of parts listed in this service document.

For more information, please visit the TAPD Support & Aftermarket Account Management website at <https://ww2.txtav.com/Parts/Promos/TAPD>.

Based on availability and lead times, parts may require advanced scheduling.



**TITLE**

ELECTRICAL POWER - ALTERNATOR CONTROL UNIT (ACU) AND CONNECTOR OBSOLESCENCE

**TO:**

Cessna Models 152, A152, F152, FA152, 172N, 172P, 172Q, FR172K, F172N, F172P, R172K, 180K, 182Q, R182/TR182, FR182, A185F, U206G/TU206G, 207A/T207A, 210N/T210N, 210R/T210R, P210N, P210R Aircraft Owners

**REASON**

The alternator control unit connector is no longer manufactured and replacement is provided.

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**COMPLIANCE**

OPTIONAL. This service kit can be accomplished at the discretion of the owner.

**LABOR HOURS**

For planning purposes only:

| WORK PHASE          | LABOR-HOURS  |
|---------------------|--------------|
| Modification        | As Necessary |
| Test and Inspection | As Necessary |

**MATERIAL AVAILABILITY**

| PART NUMBER                     | AVAILABILITY | COST |
|---------------------------------|--------------|------|
| 0413-204-2005                   | *            | *    |
| 0462-201-20141                  | *            | *    |
| DGR3-5<br>VR515F-5<br>VR515GA-5 | *            | *    |
| DTM06-6S                        | *            | *    |
| WM-6S                           | *            | *    |

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## WARRANTY

None.

**NOTE:** As a convenience, service documents are now available online to all our customers through a simple, free-of-charge registration process. If you would like to sign up, please visit the Customer Access link at [support.txtav](https://support.txtav) to register.