



CLASS II

# SERVICE INSTRUCTIONS

19, 23, 24

No. 0874, Rev. I  
ATA Code 24-00

Kit No. 23-3006-1 S

**SUBJECT:** ELECTRICAL POWER - REPLACEMENT OF VOLTAGE REGULATOR AND OVERVOLTAGE RELAY

**SYNOPSIS OF CHANGE:** Changed to include airplanes previously covered by Service Instructions No. 0085-241, Rev. I. These Service Instructions supersede and cancel Service Instructions No. 0085-241, Rev. I.

**EFFECTIVITY:** PART I

BEECHCRAFT A23-19 and 19A, serials MB-1 through MB-346;  
A23, A23A and B23, serials M-555 through M-1139;  
A23-24, serials MA-1 through MA-332.

PART II

BEECHCRAFT 19A and M19A, serials MB-347 through MB-480;  
B23, serials M-1140 through M-1284;  
A23-24, serials MA-333 through MA-363.

PART III

BEECHCRAFT B19, serials MB-481 through MB-520;  
B19 Sport 150, serials MB-521 through MB-840;  
C23, serials M-1285 through M-1361;  
C23 Sundowner 180, serials M-1362 through M-1929;  
A24, serials MA-364 through MA-368;  
A24R, serials MC-2 through MC-95;  
A24R, B24R and C24R Sierra 200, serials MC-96 through MC-487.

**REASON:** To provide a replacement voltage regulator and overvoltage relay for the existing parts which are no longer available.

**COMPLIANCE:** When replacement of the voltage regulator or the overvoltage relay becomes necessary.

**DESCRIPTION:** The existing voltage regulator and overvoltage relay are removed and replaced with a new voltage regulator and overvoltage relay which are contained in Kit No. 23-3006-1 S.

**APPROVAL:** FAA Approved - DOA CE-2.

AW 1100  
477 II  
R 579 II

1 of 6

CLASS II

II

Beech Aircraft Corporation issues service information for the benefit of owners and fixed base operators in the form of three classes of Service Instructions. CLASS I (Red Border) are changes, inspections, and modifications that could affect safety. The factory considers compliance mandatory. CLASS II (Green Border) covers changes, modifications, improvements or inspections the factory feels will benefit the owner and although highly recommended, they are not considered mandatory compliance, unless specified at the time of issuance. Class I and II are mailed to:

- (a) BEECHCRAFT Aero or Aviation Centers and International Distributors and Dealers
- (b) Owners of record on the FAA Registration list and the

BEECHCRAFT International Owner Notification Service List.  
(c) Those having a publications subscription.

CLASS III (No Border) covers changes which are optional, maintenance aids, product improvement kits and miscellaneous service information. Compliance is at the owner or operator's prerogative. Copies of Class III are distributed per a and c above. Information on Owner Notification Service or Subscriptions can be obtained through any BEECHCRAFT Aero or Aviation Center, International Distributor and Dealer, or the Factory. As Service Instructions are issued, temporary notation in the index should be made until the index is revised. Warranty will be allowed only when specifically defined in the Service Instructions and in accordance with Beech Warranty Policy.

98-34238L



Member of GAMA  
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**Service Instructions No. 0874, Rev. I**

**MANPOWER:** The following Information is for planning purposes only:

**PART I and PART II**

Estimated man-hours: 6 hours.  
Suggested number of men: 1 man.

**PART III**

Estimated man-hours: 4 hours.  
Suggested number of men: 1 man.

**MATERIAL:** The parts required to replace one voltage regulator and one overvoltage relay are contained in Kit No. 23-3006-1 S. This kit may be ordered through BEEHCRAFT Aero or Aviation Centers and International Distributors and Dealers. The value of the kit required to incorporate these Service Instructions on one airplane is to be advised. Price, when issued, will be subject to change without notice. Beech Aircraft Corporation expressly reserves the right to supersede, cancel and/or declare obsolete any kits or publications that may be referenced in these Service Instructions without prior notice.

**NOTE**

Kit No. 23-3006-1 S contains one each P/N B00267-2 voltage regulator, P/N B00339 overvoltage relay and installation components required. Beech Aircraft Corporation recommends that both units be replaced simultaneously when replacement of either the voltage regulator or overvoltage relay becomes necessary.

**WARRANTY:** BEEHCRAFT Warranty on a new airplane is 180 days from delivery or 180 days from the date noted on the Owner Warranty Card. Warranty credit for parts and labor to the extent noted under MATERIAL and MANPOWER will be allowed on BEEHCRAFTS within warranty at the time these Service Instructions are released.

All warranty reimbursements are handled through franchised BEEHCRAFT outlets. Owners and operators may arrange with these outlets to perform the work and submit the standard Beech Aircraft Corporation warranty claim form to the Commercial Service Department, Beech Aircraft Corporation, Wichita, Kansas 67201.

**SPECIAL TOOLS:** None.

**WEIGHT AND BALANCE:** None.

**REFERENCES:** BEEHCRAFT 19, 23 and 24 Shop Manual, P/N 169-590015F or subsequent, Section 4.

**PUBLICATIONS AFFECTED:** It is recommended that a note to "See Service Instructions No. 0874, Rev. I" be made in the following:

BEEHCRAFT 19, 23 and 24 Shop Manual copies, P/N 169-590015F or subsequent, Section 4.

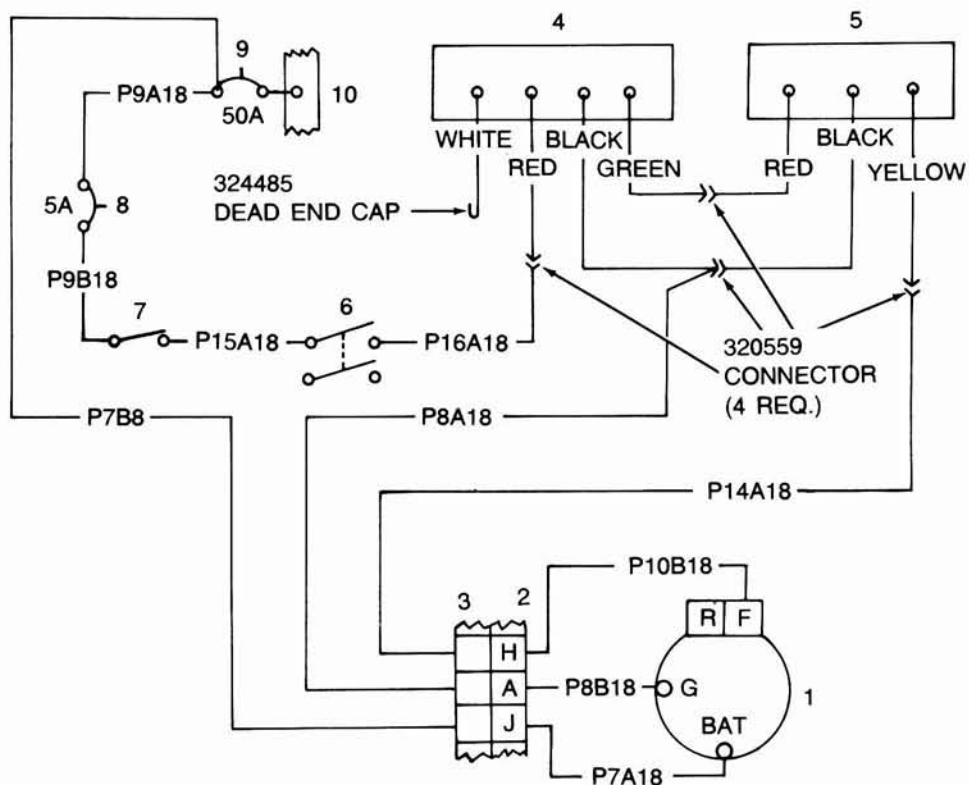
BEEHCRAFT 19, 23 and 24 Parts Catalog copies, P/N 169-590012I or subsequent, Figures 241A, 241B, 241C, 241D and 241E.

**ACCOMPLISHMENT INSTRUCTIONS:** The voltage regulator and overvoltage relay may be replaced in the following manner:

**NOTE**

Refer to the BEEHCRAFT 19, 23 and 24 Shop Manual, Section 4.

1. Turn off and/or disconnect all electrical power and disconnect the battery.
2. Disconnect the wiring from the existing voltage regulator and the overvoltage relay on the aft side of the engine firewall. Remove the mounting hardware and remove the regulator and relay. Retain all attaching hardware.
3. Ream the mounting holes in the base of the new P/N B00339 overvoltage relay to 3/16-inch diameter.
4. Cut the existing wire terminals from the ends of the wires on the new overvoltage relay.
5. Install the new voltage regulator and overvoltage relay on the firewall with the existing attaching hardware.
6. On airplanes listed under PART I of the EFFECTIVITY section, refer to Figure 1 and complete the following:



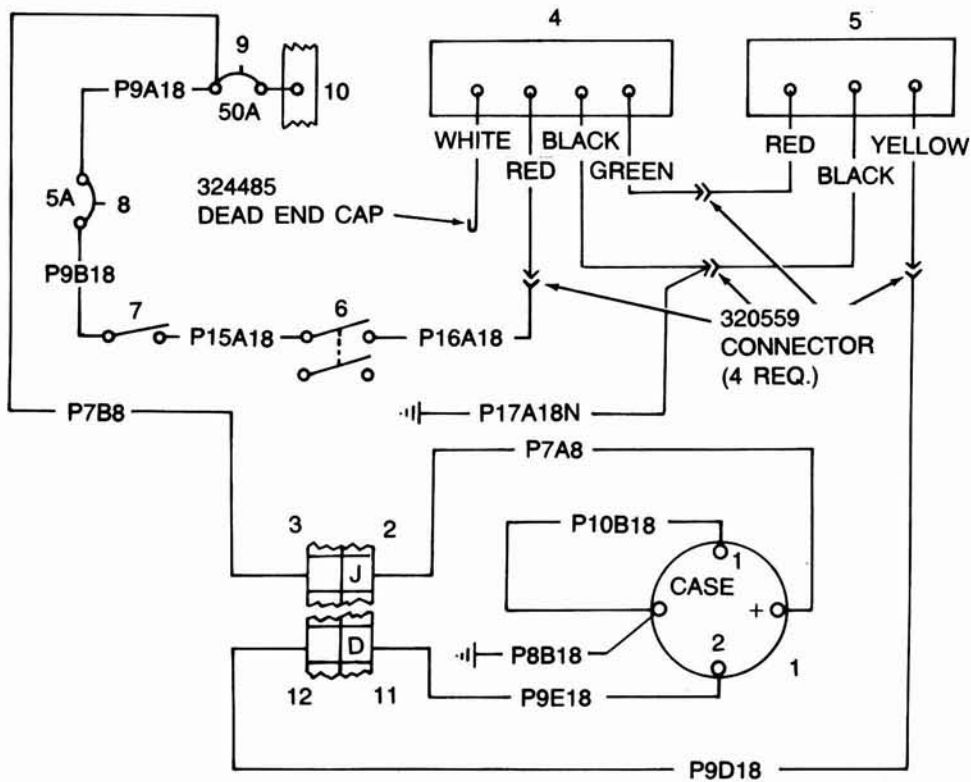
- |                        |                             |
|------------------------|-----------------------------|
| 1. ALTERNATOR          | 6. BATTERY SWITCH           |
| 2. FIREWALL PLUG       | 7. ALTERNATOR SWITCH        |
| 3. FIREWALL RECEPTACLE | 8. CIRCUIT BREAKER (5 AMP)  |
| 4. OVERVOLTAGE RELAY   | 9. CIRCUIT BREAKER (50 AMP) |
| 5. VOLTAGE REGULATOR   | 10. BUS BAR                 |

FIGURE 1

- a. Connect the green wire from the overvoltage relay to the red wire from the voltage regulator using a P/N 320559 connector.
- b. Connect the black wire from the overvoltage relay, the black wire from the voltage regulator and wire P8A18 together with a P/N 320559 connector.
- c. Remove wire P16A18 from pin H on the firewall receptacle. Reroute the wire as required and connect wire P16A18 to the red wire from the overvoltage relay using a P/N 320559 connector.

- d. Connect wire P14A18 to the yellow wire from the voltage regulator using a P/N 320559 connector.
- e. Remove the other end of wire P14A18 from the alternator switch. Reroute the wire as required and connect wire P14A18 to pin H on the firewall receptacle.
- f. Reroute as required and connect wire P9B18 to the alternator switch using a P/N MS25036-102 terminal.
- g. Remove and discard wire P9C18.
- h. Install a P/N 324485 dead end cap to the white wire from the overvoltage relay and stow the wire.

7. On airplanes listed under PART II of the EFFECTIVITY section, refer to Figure 2 and complete the following:



- |                                |                                 |
|--------------------------------|---------------------------------|
| 1. ALTERNATOR                  | 7. ALTERNATOR SWITCH            |
| 2. FIREWALL PLUG (LARGE)       | 8. CIRCUIT BREAKER (5 AMP)      |
| 3. FIREWALL RECEPTACLE (LARGE) | 9. CIRCUIT BREAKER (50 AMP)     |
| 4. OVERVOLTAGE RELAY           | 10. BUS BAR                     |
| 5. VOLTAGE REGULATOR           | 11. FIREWALL PLUG (SMALL)       |
| 6. BATTERY SWITCH              | 12. FIREWALL RECEPTACLE (SMALL) |

FIGURE 2

- a. Connect the green wire from the overvoltage relay to the red wire from the voltage regulator using a P/N 320559 connector.
- b. Install a P/N MS25036-103 terminal on one end of the 4-foot section of wire contained in the kit. Identify this wire as P17A18N and attach the terminal to one of the ground terminals on the RH side of the instrument subpanel.
- c. Route wire P17A18N as required and connect the other end to the black wires from the overvoltage relay and the voltage regulator using a P/N 320559 connector.

- d. Remove wire P16A18 from pin H on the firewall receptacle (large). Reroute the wire as required and connect wire P16A18 to the red wire from the overvoltage relay using a P/N 320559 connector.
- e. Connect wire P9D18 to the yellow wire from the voltage regulator using a P/N 320559 connector.
- f. Route as required and connect wire P9B18 to the alternator switch using a P/N MS25036-102 terminal.
- g. Remove wire P10B18 from pin H on the firewall plug (large). Using a P/N MS25036-150 terminal, connect wire P10B18 to the case of the alternator with wire P8B18.
- h. Remove wire P8B18 from pin A on the firewall plug (large). Using a P/N MS25036-150 terminal, attach wire P8B18 to a ground on the engine.
- i. Remove and discard wires P9C18, P8A18 and P14A18.
- j. Install a P/N 324485 dead end cap on the white wire from the overvoltage relay and stow the wire.

8. On airplanes listed under PART III of the EFFECTIVITY section, refer to Figure 3 and complete the following:

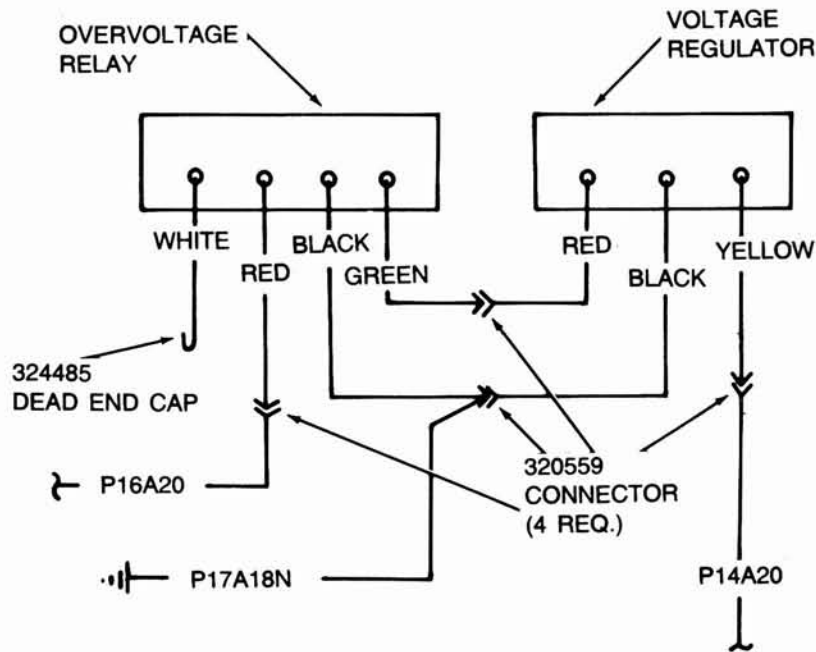


FIGURE 3

- a. Connect the green wire from the overvoltage relay to the red wire from the voltage regulator using a P/N 320559 connector.
- b. Install a P/N MS25036-103 terminal on one end of the 4-foot section of wire contained in the kit. Identify this wire as P17A18N and attach the terminal to one of the ground terminals on the RH side of the instrument subpanel.
- c. Route wire P17A18N as required and connect the other end to the black wires from the overvoltage relay and the voltage regulator using a P/N 320559 connector.
- d. Connect wire P16A20 to the red wire from the overvoltage relay using a P/N 320559 connector.
- e. Connect wire P14A20 to the yellow wire from the voltage regulator using a P/N 320559 connector.

**Service Instructions No. 0874, Rev. I**

f. Install a P/N 324485 dead end cap on the white wire from the overvoltage relay and stow the wire.

9. Reconnect the battery and reinstall any equipment or access panels which were removed to accomplish these Service Instructions.

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**RECORD COMPLIANCE:**

Upon completion of these Service Instructions, make an appropriate maintenance record entry, specifying the kit identification number and the kit serial number. It is recommended that the parts list contained in the kit be filed for future reference until the listing of parts has been incorporated into the Parts Catalog.