

## STANDBY ELECTRICAL SYSTEM - DESCRIPTION AND OPERATION

### 1. Description

- A. An optional standby electrical system may be installed. The standby electrical system is designed to automatically supply power to the main buses if the system voltage drops below a preset level.
- B. The standby electrical system consists of the following components:
  - (1) Alternator - A belt-driven, 95-amp alternator, operated at 75-amp capacity, is mounted at the rear of the engine and utilizes a rear engine accessory pad to drive the alternator.
  - (2) Alternator Control Unit (ACU) - An alternator control unit is mounted forward of the left circuit breaker panel to control the system. Field excitation to the alternator control unit is supplied through diode logic from a circuit breaker in the standby alternator relay assembly or the KEEP ALIVE NO. 2 circuit breaker on the electrical power relay box.
  - (3) Relay Assembly - A standby alternator relay assembly is mounted on the upper left forward side of the firewall
  - (4) Switches - Two switches are installed on the left sidewall switch panel. The switches are two position toggle switches, labeled ON/OFF/STBY PWR, and a guarded two-position toggle type breaker/switch, labeled AVIONICS STBY PWR. The guard covering the avionics standby power switch must be lifted to select the ON position.
  - (5) Circuit Protection - Circuit protection and isolation are provided by two circuit breakers labeled STBY PWR. These circuit breakers are located on the left circuit breaker panel.
  - (6) Monitoring Lights - System operation is monitored by two amber lights labeled STBY ELECT PWR ON and STBY ELECT PWR INOP, located in the annunciator panel. Total amperage supplied from the standby electrical system can be monitored on the airplane volt-ammeter with the selector switch in the ALT position.

### 2. Operation

- A. To operate the standby electrical system, follow the starting procedures in the Pilot's Operating Handbook and FAA approved Airplane Flight Manual. When engine is started, place the ON/OFF/STBY PWR switch to the ON position. The system is now engaged to automatically supply the electrical load if the bus voltage drops below a preset level. Anytime the STBY ELECT PWR ON light in the annunciator panel illuminates, the standby electrical system is supplying power to the main buses. If the drop in voltage is temporary, such as just after engine start, the STBY ELECT PWR ON light will go out, indicating that system voltage is normal and the main generating system is carrying all the load. If the STBY ELECT PWR ON light illuminates continuously, it would indicate a malfunction in the main generating system has occurred, and steps should be initiated to isolate the problem. If the STBY ELECT PWR INOP light is illuminated, the standby alternator is inoperative.
- B. The ON/OFF/STBY PWR switch should be placed in the OFF position when the airplane is not in use, to remove the ACU drain from the battery. The annunciator panel will remain ON with the master switch OFF until the STBY PWR switch is turned OFF.