

pressure. A momentary fluctuation of hydraulic pressure during operation of the landing gear, wing flaps, and brakes is normal.

### FUEL QUANTITY INDICATOR

A single fuel quantity indicator, located in the center instrument panel, registers the amount of fuel in the fuel system up to 135 U.S. gallons. Although the fuel system capacity is 150.0 to 159.0 U.S. gallons, the quantity of fuel above 135 gallons is not indicated. The face of the fuel quantity indicator is marked in increments of 10 U.S. gallons, with the exception of the 135 gallon high mark. Electrical signals, received from the fuel quantity transmitter located in the center cell, are translated into fuel quantity readings by the indicator. The fuel indicating system is calibrated by adjusting the fuel quantity transmitter as outlined in Section V.

### VOLTAMMETER

A voltammeter for monitoring the output from each generator or alternator is installed in the right instrument panel. Each voltammeter is a dual purpose instrument graduated in increments from zero to 120 amps and from zero to 30 volts. Voltage readings are obtained by pressing the voltage indicator button, in the lower left corner of the instrument. The output of the 50-amp generator, standard on aircraft serial number 1755 thru 3075, will vary from 24 volts, 30 amps to 30 volts, 70 amps (overload), depending upon circuit load and engine rpm. These values should be checked periodically for indications of generator system malfunction.

### CAUTION

Do not allow generator to operate continuously at overload output for more than 5 minutes. Normally generator overload circuit breaker will not break the circuit in a shorter length of time.

A 70 or 100-amp alternator system may be installed on the Model 500S as optional equipment; however, at 3076 and subsequent the 70-amp alternator system is standard. Aircraft equipped with either the 70 or 100-amp alternator do not have overload capabilities but can supply their rated output continuously. The voltammeters are connected to the aircraft bus through ammeter shunts installed in the master power panel. Each voltammeter is protected by three 1-amp fuses located on a fuse block in the master power panel and installed in each wire leading to the instrument.

### OUTSIDE AIR TEMPERATURE INDICATOR

The outside air temperature indicator registers ambient air temperature from -50° to 60°C (-58° to

140°F). It is installed in the upper right corner of the left windshield and incorporates a brass sunshield to reduce the effect of direct sunlight on the temperature reading. The temperature sensing element protrudes through the windshield with the head of the instrument on the inside of the windshield.

### FLAP POSITION INDICATOR

The face of the wing flap position indicator is marked UP, 1/2, and DOWN. Intermediate positions indicate the portion of the full 40 (± 2) degrees that the wing flaps have traveled. The flap indicator transmitter is connected to the master flap sheave by adjustable mechanical linkage. As the sheave moves, the transmitter shaft and arm is rotated to vary the electrical current resistance through the transmitter. The resulting current variations are expressed by the indicator in terms of wing flap travel. The wing flap position indicator can be adjusted by placing the wing flaps in either the full up or full down position, loosening the linkage clamp from the transmitter shaft, and rotating the shaft until the indicator position corresponds with the actual position of the wing flaps. The indicator circuit is supplied with 28-volt dc power through the 5-amp push-to-reset instrument circuit breaker in the circuit breaker panel.

### TRIM TAB POSITION INDICATORS

The rudder and elevator trim tab indicators are contained in a single dual-scale instrument. The left scale of the instrument shows the position of the elevator trim tabs between 30 degrees UP and 30 degrees DOWN. Although the indicator scale is marked to show 30 degrees UP and DOWN, maximum elevator trim tab travel is 2.5 (+2, -0.5) degrees UP and 26 (+2, -0) degrees DOWN. The right scale of the trim tab position indicator shows the position of the rudder trim tab between 30 degrees right and 30 degrees left. Maximum rudder trim tab travel is 26 (+2, -0) degrees to the left or right. Each transmitter is mechanically linked to its respective trim tab actuator tube assembly. As the trim tab is moved, the arm in the transmitter moves to vary the electrical current resistance through the transmitter. The resulting variations in voltage are registered by the respective indicators in terms of trim tab travel. The indicators may be zeroed by adjusting the respective transmitters as outlined in Section VII. The indicating circuits are protected by a 5-amp push-to-reset circuit breaker located in the circuit breaker panel.

### INSTRUMENT REMOVAL AND INSTALLATION

Replacement of certain instruments will be simplified by removing the radio panel, located above instrument panel, then hinging the left or right instrument panel down. Radio panel removal is accomplished by removing five retaining screws, lifting panel outward,