

ceptions to this are the optional clock, flight hour recorder, and battery contactor closing (external power) circuits which have fuses mounted adjacent to the battery. Also, the cigar lighter is protected by a manually reset type circuit breaker mounted directly on the back of the lighter behind the instrument panel.

When more than one radio is installed, the radio transmitter relay (which is a part of the radio installation) is protected by the navigation lights circuit breaker labeled NAV LTS. It is important to remember that any malfunction in the navigation lights system which causes the circuit breaker to open will de-activate both the navigation lights and the transmitter relay. In this event, the navigation light switch should be turned off to isolate the circuit; then reset the circuit breaker to re-activate the transmitter relay and permit its usage. Do not turn on the navigation lights switch until the malfunction has been corrected.

## LIGHTING EQUIPMENT.

### EXTERIOR LIGHTING.

Conventional navigation lights are located on the wing tips and top of the rudder. Optional lighting includes a single landing light in the cowl nose cap, a flashing beacon on the top of the vertical fin, a strobe light on each wing tip, and two courtesy lights, one under each wing, just outboard of the cabin door. The courtesy lights are controlled by the dome light switch located on the overhead console. All other exterior lights are controlled by rocker type switches located on the left switch and control panel. The switches are ON in the up position and OFF in the down position.

The flashing beacon should not be used when flying through clouds or overcast; the flashing light reflected from water droplets or particles in the atmosphere, particularly at night, can produce vertigo and loss of orientation.

The two high intensity strobe lights will enhance anti-collision protection. However, the lights should be turned off when taxiing in the vicinity of other aircraft, or during flight through clouds, fog or haze.

### INTERIOR LIGHTING.

Illumination of the instrument panel is provided by red flood lighting in the forward portion of the overhead console. The magnetic compass and radio equipment have integral lighting. A dual rheostat control on the left switch and control panel operates these lights. The inner knob, labeled PANEL, operates the instrument panel and compass lighting. The outer knob, labeled RADIO, controls all radio lighting.

A cabin dome light is located in the overhead console, and is operated by a switch adjacent to the light. To turn the light on, move the switch the right. This will also operate the optional courtesy lights.

An optional map light may be mounted on the bottom of the pilot's control wheel. The light illuminates the lower portion of the cabin, just forward of the pilot and is helpful when checking maps and other flight data during night operations. To operate the light, first turn on the NAV LT Switch, then adjust the map light's intensity with the disk type rheostat control located on the bottom of the control wheel.

A doorpost map light is also offered as optional equipment, and is located at the top of the left forward doorpost. The light contains both red and white bulbs, and may be positioned to illuminate any area desired by the pilot. A switch on the left forward doorpost is labeled RED, OFF, and WHITE. Placing the switch in the top position will provide a red light. In the bottom position, standard white lighting is provided. The center position is OFF.

### WING FLAP SYSTEM

The wing flaps are electrically operated by a flap motor located in the right wing. Flap position is controlled by a switch, labeled WING FLAPS on the lower center portion of the instrument panel. Flap position is shown by an indicator on the lower right portion of the instrument panel below the right control wheel position.

To extend the wing flaps, the flap switch must be depressed and held in the DOWN position until the desired degree of extension is reached. Releasing the switch allows it to return to the center off position. Normal full flap extension in flight will require approximately 9 seconds. After the flaps reach maximum extension or retraction, limit switches will automatically shut off the flap motor.