

GENERAL MOTORS — FIREBIRD

DESCRIPTION

Firebird headlight door assemblies are electrically operated. Headlight doors can be opened or closed by the light switch. Components include a fuse block, isolation relay, actuators and actuator relays. Fuse block is located behind left side of the instrument panel. Isolation relay is located on a support behind right headlights. Actuators and relays are located on each side behind headlight assemblies.

OPERATION

Circuit Operation — Voltage is applied at all times to light switch terminal C and through tail fuse to light switch terminal A. Voltage is also applied at all times through fusible link D to left actuator relay and through fusible link E to right actuator relay.

NOTE — The following description of current flow applies to the left side of this circuit. Similar current flow takes place to operate the right headlight door. Also note that if the light switch is moved from "OFF" to "PARK", the headlight doors will remain closed. If the light switch is moved from "HEAD" to "PARK", the headlight doors will remain open.

Opening Doors — When the light switch is moved to "HEAD", current flows through the light switch, Yellow wire, terminal 2 of the isolation relay and the relay coil to ground. The isolation relay contacts move to the "OPEN" position. Current then flows through the internal diode, the isolation relay contacts, Pink wires and the left actuator relay coil to ground.

The left actuator relay contacts move to the "OPEN" position. This allows current to flow through fusible link D, the Red/White wire, the left actuator relay contacts, the left actuator motor Green wire, and back through the Gray wire and terminal 6 of the left actuator relay to ground. The motor opens the headlight door. When the headlight door is fully open, the left actuator contacts move to the opened position. Current to the motor is cut off by opening the current path through the Gray wire.

Closing Doors — When the light switch is moved from "HEAD" to "PARK" or "OFF", current no longer flows through isolation relay coil terminal 2. The contacts of the isolation relay and left and right actuator relays move to their closed positions.

With the light switch in "OFF", current flows through the tail fuse, terminal A of the light switch, White wire, isolation relay contacts, Orange wire, White wire, left actuator motor, Green wire and the left actuator relay contacts to ground. The motor closes the headlight door. When the headlight door is fully closed, the left actuator contacts move to the closed position. Current to the motor is cut off by opening the current path through the White wire.

TROUBLE SHOOTING

NOTE — See appropriate General Motors Chassis Wiring Diagrams in WIRING DIAGRAMS Section for system wiring diagram.

NOTE — Disconnect actuator plugs before any adjustment of headlight door linkage is attempted.

HEADLIGHT DOOR STOPS PARTLY OPEN OR PARTLY CLOSED

Check door linkage for binding or damage.

CAUTION — If linkage is disconnected for adjustment, be sure to reconnect linkage before operating headlights.

BOTH HEADLIGHT DOORS STAY CLOSED WHEN HEADLIGHTS ARE TURNED ON

Check that the high beam indicator comes on when the light switch is turned to "HEAD" position and dimmer switch is operated. If indicator doesn't come on, check light switch, the Yellow wire and the feed to the light switch. If indicator comes on, unscrew 2 isolation relay mounting screws and check for voltage at the isolation relay Yellow wire with the light switch in the "HEAD" position. If no voltage appeared, check and repair the Yellow wire. If voltage appeared, check for voltage between isolation relay Yellow wire and Black wire. If no voltage appeared, check and repair the Black wire from the isolation relay to ground.

HEADLIGHT DOORS STAY OPEN AND HEADLIGHTS STAY ON WHEN LIGHT SWITCH IS MOVED TO "OFF"

Move light switch to "PARK" position. If headlights turn off and headlight doors close, replace the isolation relay.

BOTH HEADLIGHT DOORS STAY OPEN BUT HEADLIGHTS GO OUT WHEN LIGHT SWITCH IS "OFF" POSITION

Check light switch and tail fuse by operating the parking lights. If the tail fuse is blown, set switch to "OFF" position and replace fuse. If the doors close, move light switch to "HEAD" position and quickly return it to "OFF". If the doors don't close, replace the isolation relay.

If light switch and tail fuse are okay, unscrew the 2 isolation relay mounting screws and check for battery voltage at isolation relay White wire. If there is no voltage, check and repair White wire.

ONE HEADLIGHT DOOR STAYS CLOSED WITH HEADLIGHTS ON

Check if headlight door moves when the light switch is moved from "OFF" to "HEAD" and back to "OFF". If slight motion occurs, check door linkage for binding or damage. If no motion occurs, set light switch to "HEAD" and check for battery voltage at the left or right actuator relay Green wire.

If voltage was present, check for battery voltage between the actuator relay Green wire and Gray wire. If voltage appeared, replace the actuator. If no voltage appeared, replace the left or right actuator relay.

If no voltage was present, check for battery voltage at the actuator Pink wire. If no voltage, check and repair the Pink wire. If voltage appeared, check for battery voltage between the actuator relay Pink wire and Black wire. If voltage appeared, replace the actuator relay. If no voltage, check and repair the Black wire between the actuator relay and ground.