GENERAL MOTORS GUIDE-MATIC

Cadillac

DESCRIPTION

Guide-Matic is a semi-automatic device which controls the car headlights in response to light from an approaching car. The system will switch the headlights to lower beam at a distance depending upon the setting of the driver sensitivity control. After the approaching car has passed, headlights will automatically return to upper beam. The system consists of a combination photo-amplifier, power relay, special floor mounted dimmer switch, and a sensitivity control. The photo-amplifier is mounted to the upper grille support. The power relay is mounted on the toeboard just above the dimmer switch. Dimmer switch is mounted in usual position in toeboard. The sensitivity control ring is located directly behind the headlight switch knob.

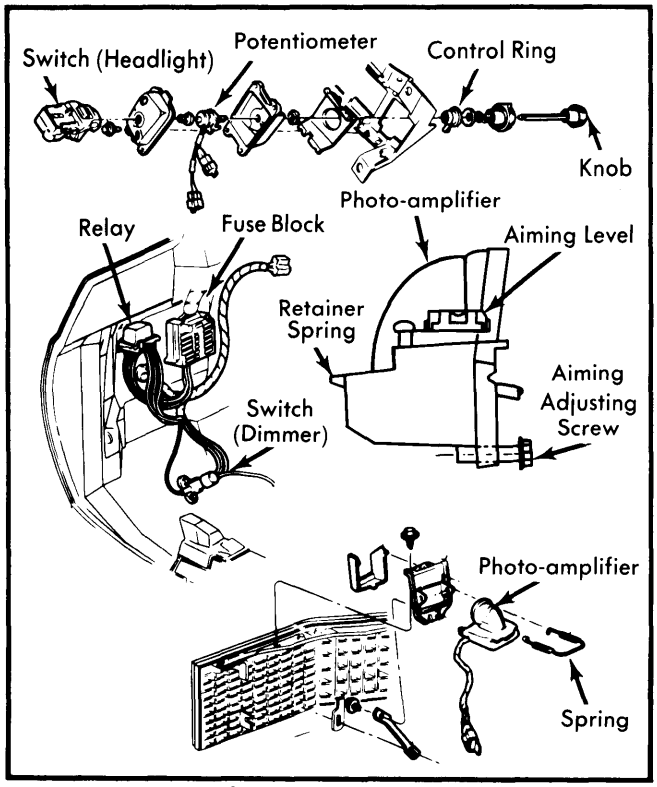

Fig. 1 General Motors Guide-Matic Components

OPERATION

AUTOMATIC

With system on automatic operation, lights will go to low beam whenever daylight, street light, or car light strikes the photocell. Driver may obtain high beam by overriding automatic control with a slight pressure on dimmer switch. Lights will return to automatic control when pressure is removed. Sensitivity is driver controlled by adjusting the control ring behind the headlight switch. Normal automatic operation is obtained with pointer centered between "Off" and "Far" positions. Rotating the ring toward "Far" will increase sensitivity and cause headlights to switch to low beam when approaching car is farther away. Operation of Guide-Matic also be may effected by reflective quality of road surfaces. To obtain furthest usable dimming distance, turn sensitivity control fully clockwise after lights dimmed for approaching car. After car has passed, slowly rotate control counterclockwise until lights just return to high beam.

MANUAL

Rotate sensitivity control counterclockwise aligning pointer with "Off". In this position, unit will provide only high beam with dimmer switch in automatic (or high beam) position. Power relay is now disconnected from the photo-amplifier. High and low beams can then be controlled by normal operation of the dimmer switch.

TESTING

1) Disconnect photo-amplifier "4"-way connector at left side of radiator. Operate engine at fast idle and turn headlights on. Dimmer switch should work normally between high and low beam. Using the wiring harness portion of the connector, insert a jumper wire between the Lt. Blue and Gray wire terminals. Headlights should remain in low beam at both positions of dimmer switch. Remove jumper wire.

2) Leave connector disconnected and turn headlight switch to "Off" Position. Connect an ohmmeter between Dk. Green and Lt. Blue wire terminals in wiring harness connector. Rotate the driver control ring from "Off", clockwise to "Far". Resistance should start at zero ohms, peak at approximately 2,500 ohms then return to approximately 500 ohms. Slightly depress dimmer switch and resistance should drop to zero.

3) If system checks as described, but fails to operate correctly with photo-amplifier connected, replace the photo-amplifier.

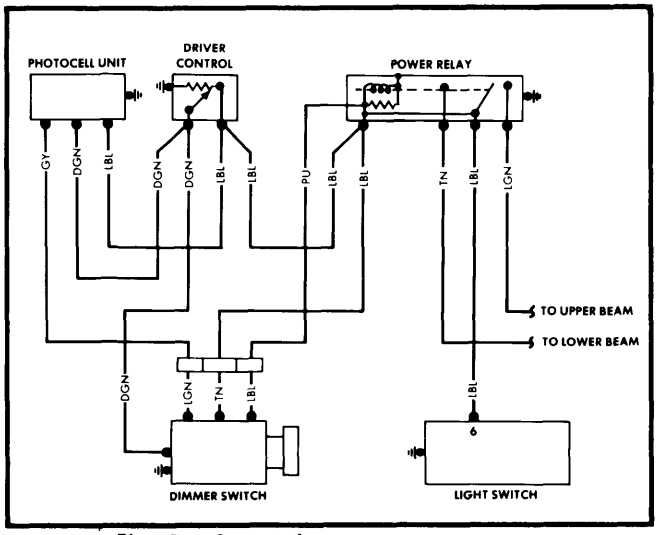

Fig. 2 General Motors Guide-Matic Wiring Diagram

ADJUSTMENT

PHOTO-AMPLIFIER UNIT (VERTICAL AIMING)

Photo-amplifier vertical aiming should be performed with vehicle unloaded, trunk empty except for spare tire, gas tank at least half full, and tires at correct pressure. Locate vehicle on level floor (level within ¼") and rock car sideways to equalize springs. Bubble level assembly is permanently mounted on photo-amplifier unit. With hood raised, adjust vertical aiming screw located on the front of the unit, until bubble is centered in the level. Clean lens if dirty.