FORD MOTOR CO.

Lincoln Continental, Town Car & Mark VI

DESCRIPTION & OPERATION

The automatic headlight dimmer is a driver-operated device which automatically switches headlights from high to low beam in response to light from oncoming vehicles. Major components of the system are as follows:

Sensor Amplifier – Unit is located behind grille on driver's side of vehicle. Unit combines a light-sensing optical device and transistorized amplifier in one unit. Sensitivity is adjusted at the factory and unit is sealed in epoxy to prevent further adjustment.

Power Relay – Provides heavy duty contacts for switching headlight beams. Relay contains a diode for damping purposes to protect sensor amplifier. Observe proper polarity when connecting relay to prevent diode damage.

Sensitivity Control – Driver sensitivity control is large bezel on the headlight switch. Rotating it clockwise increases sensitivity and headlights will switch when cars are farther away. Counterclockwise rotation decreases sensitivity, allowing approaching cars to come nearer before headlights dim. Full counterclockwise position permits manual operation of headlight beams with column dimmer switch.

Dimmer Switch – The dimmer switch used is a special override type located in the steering column. One position provides low beam operation; the other is automatic operation. Moving the lever half-way between positions allows the driver to flash the high beams.

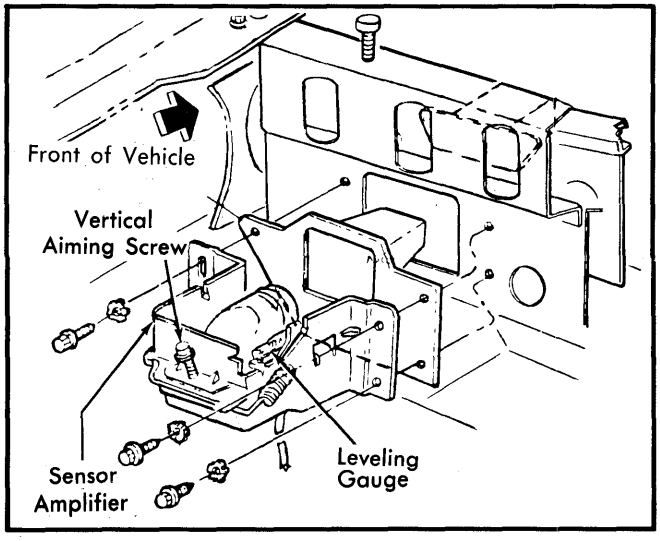

Fig. 1 Sensor-Amplifier Adjustment

ADJUSTMENT

SENSOR-AMPLIFIER VERTICAL AIMING

Sensor Amplifier vertical aiming should be performed with car unloaded, trunk empty, gas tank at least half full, and tire pressure correct. Put car on a level floor and rock vehicle to equalize springs. Adjust vertical aiming screw at rear of the bracket assembly, until the bubble is centered in the level. Always make final adjustment while turning aiming screw clockwise.

NOTE – *Do not tamper with the screw at the end of level.*

TROUBLE SHOOTING

HEADLIGHTS STAY ON LOW BEAMS

Sensor level needs adjustment. Defective sensor amplifier. Defective relay or dimmer switch. Wiring problem.

HEADLIGHTS STAY ON HIGH BEAM

Dirty sensor lens or chamber. Fuse blown. Defective sensor amplifier. Bad relay ground. Defective relay or dimmer switch.

HEADLIGHTS DIM TOO SOON OR LATE

Driver control adjustment. Dirty sensor lens or chamber. Level adjustment. Defective adjustment control. Defective sensor amplifier.

NO MANUAL LOW BEAM OR HIGH BEAM FLASH

Defective dimmer switch. Wiring short.

FUSE BLOWS CONSTANTLY

Defective sensor amplifier. Defective adjustment control. Defective wiring harness.

TESTING

PREPARATION FOR TESTS

The transistorized unit needs no warm-up time. Place car in a lighted area, adjust sensitivity control to a central position, and operate engine at a fast idle to maintain constant voltage.

TEST PROCEDURE

1) Turn headlight switch on. Headlights should remain on low beam in both positions of the dimmer switch. If not, make test A.

2) Place dimmer switch in "AUTOMATIC" position. Slight movement of the lever should override unit and make high beams flash. If not, make test B.

TEST A (FUSE, DIMMER SWITCH, POWER RELAY, AMPLIFIER, DRIVER CONTROL)

1) If headlights remain in high beam for both positions of dimmer switch, remove high/low beam relay from connector. Connect a test lamp between battery and Violet wire of connector. If lamp does not light in both positions, replace relay.

2) If lamp does light in both positions, remove dimmer switch connector. If lamp remains lighted, check for a short in circuit. If lamp goes out, replace dimmer switch.

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3) Disconnect sensor-amplifier cable at in-line connector. Connect voltmeter between ground and White wire terminal. With control fully clockwise and headlights on, meter should read battery voltage. In fully counterclockwise position voltmeter should read 0 volts. If voltage differs, replace control.

4) With headlights on, sensor exposed to light and dimmer switch in automatic position, disconnect sensor cable at in-line connector. If headlights return to low beam, replace sensor-amplifier. If not, replace dimmer switch.

TEST B (OVERRIDE CIRCUIT)

1) Check for loose connection at relay and dimmer switch. Check operation of relay. Check for ground on Black lead to dimmer switch. If ground is okay, replace switch.

2) Place dimmer switch in automatic position and cover sensor with a black cloth. Headlights should switch to upper beam. If not, disconnect sensor-amplifier at in-line connector. Ground Gray wire on male connector. If headlights switch to upper beam, replace sensor-amplifier. If not, replace dimmer switch.

3) Place headlights on automatic low beam. Rotate sensitivity control to full counterclockwise position. Headlights should switch to high beam. If not, check for poor ground at control.

REMOVAL & INSTALLATION

DIMMER SWITCH

Disconnect battery ground cable. Remove steering column shroud and disconnect dimmer switch lever by pulling out of switch with a twisting motion. Peel back foam from switch, remove connectors and screws and remove switch. To install, reverse removal procedure.

POWER RELAY

Disconnect battery cable. Remove pad below steering column. Remove lower cluster lens left side finish moulding. Remove lower left side pad. Remove relay from instrument panel brace and disconnect relay from connector. To install, reverse removal procedure.

SENSOR-AMPLIFIER

Disconnect battery ground cable and wiring harness at rear of sensor assembly. Remove screws and lockwashers, and remove sensor amplifier from vehicle. Ensure sensor lens is clean. To install, reverse removal procedure.

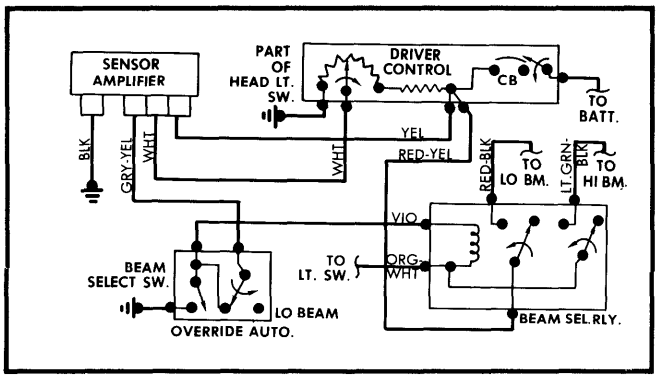

Fig. 2 Headlight Dimmer Wiring Diagram