## 1969-74 CHRYSLER CORP. SAFEGUARD SENTINEL

Chrysler & Imperial

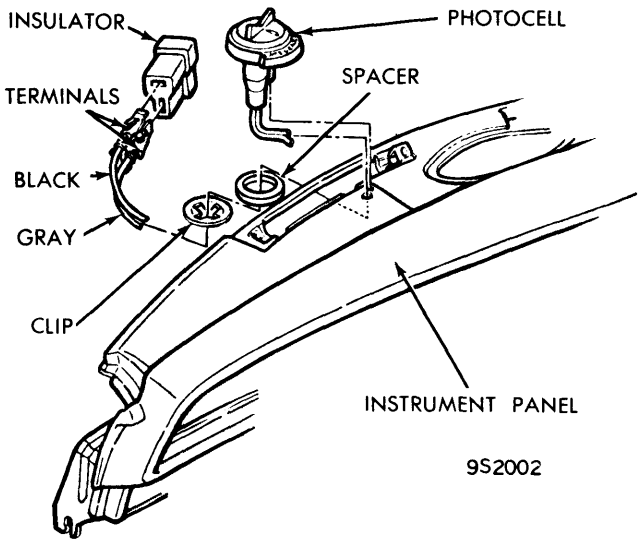
### DESCRIPTION

This unit is an electronic device which automatically controls on-off operation of the headlights, tail lights, and instrument panel lights. System consists of a light sensitive photocell on top of instrument panel, an amplifier unit, a variable time-delay switch, and a master control switch. Circuit protection is as follows: During automatic operation, system is protected by a circuit breaker in amplifier. During manual operation, system is protected by headlight switch circuit breaker.

### OPERATION

#### AUTOMATIC

1) With time-delay control ON, ignition switch ON, and regular headlight switch OFF, photocell is responsive to amount of daylight and will automatically turn on the headlights when daylight decreases to point where headlights are required for safe driving. Driver adjustment of time when headlights turn on is provided by rotating cap on top of photocell between "Early" and "Late". *CAUTION - Do not rotate cap so far that light through window in cap is blocked off from cell.* Circuit is designed so that lights will not go on or off with sudden changes in lighting such as passing under bright lights or going through tunnels.




SAFEGUARD SENTINEL PHOTOCELL ASSEMBLY

2) A variable time delay control switch permits the driver to select a delay period of from 2 or 3 seconds to 1 or 3 minutes for the headlights to go off after the ignition switch is turned off. On Chrysler, additional lighting at the rear of the car is provided by the unit turning on the back-up lights when the headlight switch is turned on and the ignition switch is off (these lights will go off when ignition switch turned on). When the ignition switch is turned off, all lights will go off automatically at the end of the time-delay period selected by the driver.

#### MANUAL

For manual operation, operate regular headlight switch normally with time delay control switch off (knob pulled out). *NOTE* - Malfunction in Safeguard Sentinal circuit will not interfere with manual operation if switch off.

### TESTING & DIAGNOSIS

*PRELIMINARY CHECKS* - Make sure time-delay control is not in the off position. Make sure photocell is not obstructed by clutter on instrument panel. Make sure standard headlight switch is OFF. Make sure lighting system operates correctly manually, and that fuses are not blown.

*CAUTION* - Time delay control switch acts as a ground for entire system and must be properly grounded. If system does not perform properly, check by connecting a jumper wire from switch knob to good ground on body. If system then operates properly, remove switch bezel and clean paint from panel so that a good contact will be made when bezel installed.

#### PHOTOCELL

1) Cover photocell with black cloth, start engine, and turn on system. If lights do not light within a few seconds, uncouple multiple connector at amplifier, then remove gray wire from connector to body wiring and recouple connector. If lights light, replace photocell and reinstall gray wire.

2) If lights fail to turn off automatically with adequate outside lighting, shine a bright light into photocell window and rotate cap to centered position between "Early" and "Late". If lights turn off normally, cap may have been rotated so far that light through window in cap was blocked off. If lights remain on, check photocell by connecting jumper wire from gray wire to black wire at amplifier to complete photocell circuit. If lights now turn off, replace photocell.

#### TIME CONTROL SWITCH

1) Be sure switch has a good ground (use jumper wire to ground switch). If photocell test is positive, and lights do not turn off automatically after ignition is turned off, jump the yellow wire to light green wire at switch. If lights turn off, replace switch.

2) If lights turn off immediately after ignition is turned off (no time delay), check tail light fuse and check switch for short.

#### AMPLIFIER

1) If lights do not turn on automatically, and photocell and switch tests are positive, remove amplifier from heater plenum chamber flange and disconnect multiple connector. Connect a jumper wire from red wire to light blue wire in connector on body wiring side. If lights now turn on, replace amplifier.

2) If lights do not turn off automatically, and photocell and switch tests are positive, disconnect multiple connector at amplifier. If lights now go off, replace amplifier.

3) If lights fail to turn off automatically when ignition is turned off, or lights turn off immediately regardless of time control setting on switch, check system with amplifier known to be good. If lights operate properly, replace original amplifier.

### TROUBLE SHOOTING

#### LIGHTS DO NOT GO ON AUTOMATICALLY

Loose connections, poorly grounded time control switch or faulty switch, faulty photocell or amplifier.

## 1969-74 CHRYSLER CORP. SAFEGUARD SENTINEL (Cont.)

### LIGHTS DO NOT TURN OFF AUTOMATICALLY

Photocell covered by clutter on instrument panel, loose connections in photocell or faulty photocell, faulty amplifier.

### LIGHTS TURN OFF IMMEDIATELY WHEN IGNITION TURNED OFF

Tail light fuse blown, faulty time control switch, short-circuit between Yellow wire and Light Green wire at time control switch, faulty amplifier.

### LIGHTS STAY ON TOO LONG AFTER IGNITION TURNED OFF

Loose connection in Yellow wire or Light Green wire of time control switch, faulty time control switch or amplifier.

### BACK-UP LIGHTS DO NOT LIGHT

Loose connections, defective circuit breaker on windshield wiper, faulty amplifier.

### BACK-UP LIGHTS OPERATE MANUALLY BUT NOT DURING TIME DELAY PERIOD

Faulty amplifier.

### REMOVAL & INSTALLATION

### CONTROL SWITCH

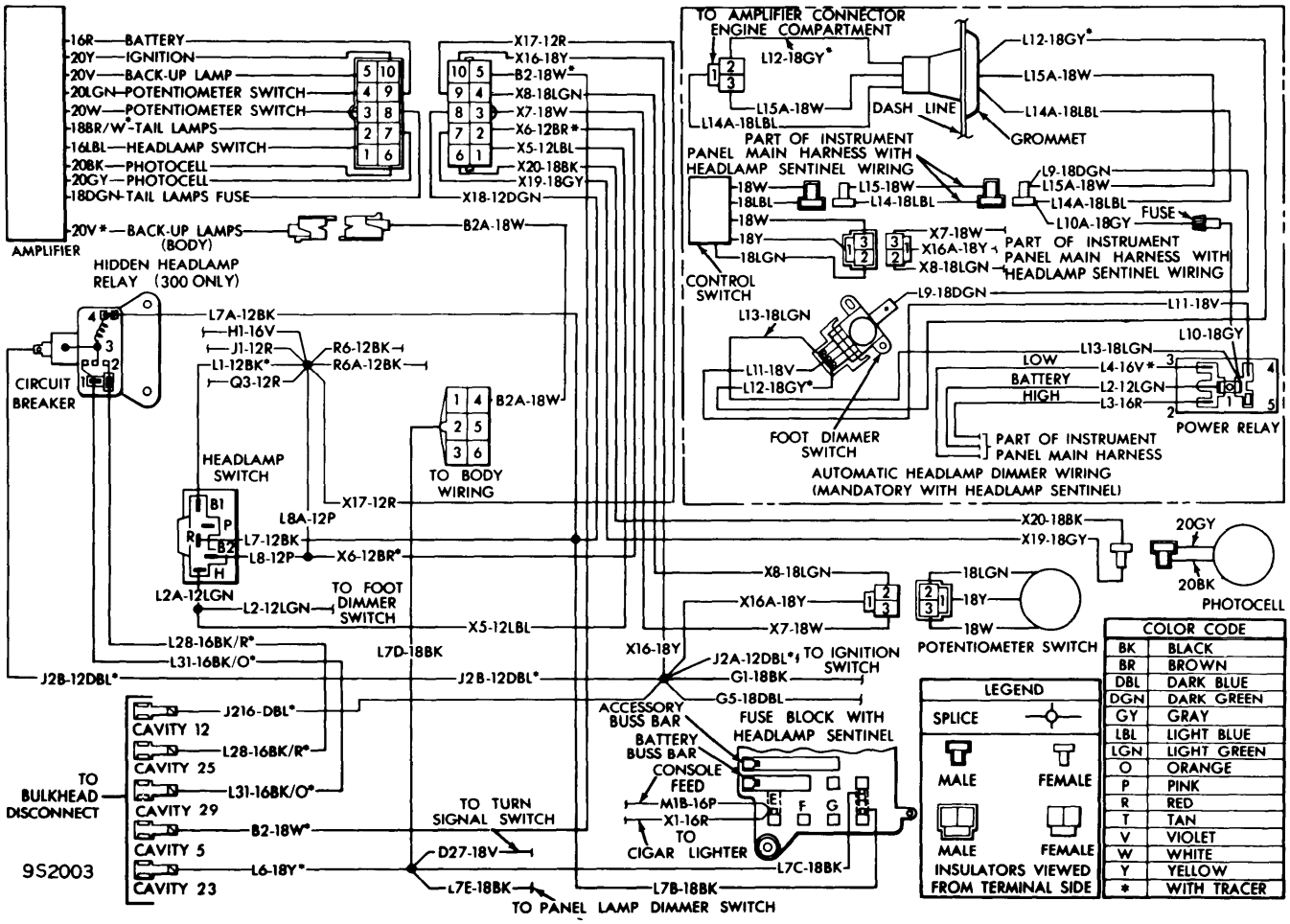
*See Switches, Gauges, Speedometer on car model Tune-Up pages (1969-72) and in Electrical Section (1973).* After instrument cluster bezel has been removed, rotate switch knob until setscrew is visible, loosen setscrew and remove knob. Remove bezel nut and remove switch.

### PHOTOCELL

Disconnect battery, remove steering column cover and left spot cooler hose from distribution duct. From under instrument panel, disconnect photocell connector, remove clip from photocell base with a small screwdriver, pull photocell up through mounting hole, cut wires and remove.

### AMPLIFIER

Remove nuts holding amplifier bracket to right fresh air vent flange and lower the assembly, disconnect wiring connector. Separate amplifier from bracket by removing two self-tapping screws.




SAFEGUARD SENTINEL WIRING DIAGRAM