



**NOTES.**

R1 Normally open dipped beam relay.

R2 Normally open main beam relay.

R3 Normally closed main beam flash relay.

R4 Normally closed retractor unit timer relay.

Headlight Retractor Unit.

From Mazda MX5.

This unit is a change over relay. It operates as a standard change over relay if receiving power on one connection and as a 5 second timed latching relay if receiving power on another connection. Power is transmitted from a permanent live on common via the two change over connections.

Headlight motor.

From Mazda MX5.

The motor contains its own controls:

A change over relay with the motor connected to common and the changeover connections to permanent live and to ground. A change over switch operated by a cam on the motor.

The wires to the motor are coloured red to the change over switch (initiates 1st 180 deg rotation), yellow to the change over switch (initiates next 180 deg rotation), white/red to permanent live, black to ground and green to instrument panel (not shown in wiring diagram).

(For ease of explanation, red is referred to as 'up' and yellow as 'down' although as far as motor operation is concerned, power to which ever wire is at the currently closed position of the change over switch will generate a full revolution and power to the other wire which is connected to the new closed position will generate another full rotation and so on.)

Double Pole Changeover Switch.

This allows the headlamps to be raised or lowered and left in that position, i.e. for cleaning, maintenance etc. The second pole disables the flash circuit to prevent the main beam relay operating when this switch is thrown. If this switch is in the 'up' position, the headlamps will remain raised regardless of any lighting switch positions.

**OPERATION.**

Moving the lighting knob to sidelamp position lights those lamps as usual.

Moving the lighting knob to headlight position sends power to the column stalk, opens Relays 3 & 4 and powers the headlight motor to the raised position via the Headlamp Retractor Unit. With the stalk lighting control at dipped headlight position, Relay 1 is powered which switches on dipped beam, moving the stalk control to main beam position changes over power to Relay 2 which switches on main beam and releases power to Relay 1 which switches off dipped beam, and vice versa. Moving the stalk control from dipped beam to flash position maintains power to Relay 1 and also powers Relay 2 to switch on main beam for as long as the stalk is held in that position (the flash circuit plays no part since the headlights are already raised). Moving the lighting knob back to sidelight or off position removes power from the column stalk control which releases Relay 1 or Relay 2 dependent on last stalk position, removes power from Relays 3 & 4, enabling the flash circuit, and powers the headlight motor to the lowered position via the Headlamp Retractor Unit.

With the lighting knob in either 'off' or 'sidelight' position, moving the column stalk control to flash position briefly, initiates the timed flash sequence. The motor is powered to the raised position via the Headlight Retractor Unit's timer operation. This timed power output also travels, via the Double Pole Switch and the normally closed Relay 3, to power Relay 2 which switches on main beam. When the timed power output from the Headlight Retractor Unit ends, the motor is powered down, and power is removed from Relay 2 which switches off main beam.