Windshield Wiper System Electrical Circuit

It is not practical to show all of the electrical circuits used on windshield wiper systems. ***Figure 34–15*** shows a complete circuit with a *pulse wiper system*. The operation of the pulse system is as follows:

1. Voltage is available when the ignition switch is on ACCY (accessory) or RUN.
2. When the wiper/washer switch is in the PULSE position, voltage is applied to the PNK and GRY wires on the wiper/washer motor module.
3. Voltage is now applied to the solid state control board. Voltage from the control board is sent out and to the coil inside the park relay. The coil pulls the switch to the left.
4. Another voltage from the control board is sent through the park relay switch, through the YEL wire, to run the wiper motor.
5. The park relay switch is held closed by the mechanical arm until the wipers have completed their sweep. The circuit is then opened, and the wipers remain parked until the control board again applies a pulse voltage to the park relay.
6. The length of delay time between sweeps is controlled by the 1.2 megohm *pulse delay variable resistor* in the wiper/washer switch. The time delay is adjustable from zero to 25 seconds on this circuit.

The LO speed operates as follows:

1. In the LO position, the wiper switch supplies voltage to the DK GRN wire as well as the PNK and GRY wires.
2. The park relay is again energized.
3. Battery voltage is applied continuously to the relay contacts and to the wiper motor. The wiper motor runs continuously at a low speed.

The HI speed operates as follows:

1. Battery voltage is applied directly to the wiper motor through the PPL wire.
2. Voltage is also applied to the DK GRN and the GRY wires to energize the park relay.
3. When turned OFF, the wipers complete the last sweep and park.

The washer operates as follows:

1. When the washer switch is held on for less than 1 second, voltage is applied to the control board through the PNK and GRY wires.
2. The control board turns on the washer motor for approximately 2 1/2 seconds.
3. The voltage on the GRY wire also operates the park relay.
4. The control board also turns on the wiper motor for about 6 seconds.

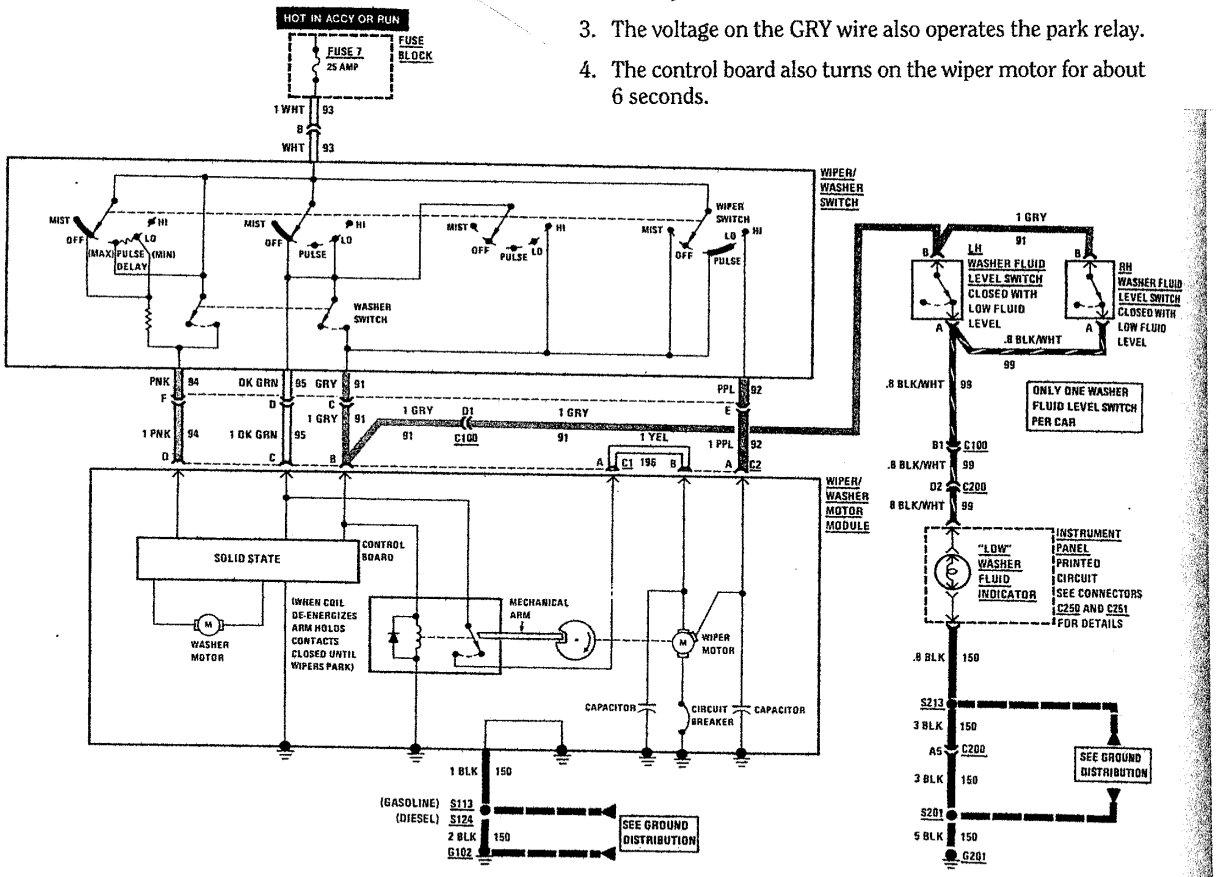

FIGURE 34–15. This circuit shows the complete operation of a pulse wiper system. *(Courtesy of Oldsmobile Division, General Motors Corporation)*