

QUICK-GLOW SYSTEM

Description (Cont'd)

When the ignition switch is turned on, the control unit turns on relay-1 and the "quick preheating" starts and heats the glow plugs up quickly.

When the ignition switch is turned to the "START" position (cranking position) after "quick preheating", "quick preheating" and "heat retaining" functions repeat alternately while the engine runs at speeds below 1,000 rpm or when alternator "L" terminal voltage remains at low-level. This operation is called "chopping". When the engine speed increases above 1,000 rpm by cranking further or the alternator "L" terminal voltage rises to a high-level, the glow plugs shift to heat retaining (after-glow) function. In the heat-retaining condition, only half of the power voltage is applied to all glow plugs and heat can be retained longer with less power consumption.

When the ignition switch is returned from "START" to "ON" after starting at water temperature below 60°C (140°F), heat retaining (after-glow) function will continue for 10 minutes. If engine speed exceeds 2,000 rpm as a result of racing or starting, or if the vehicle runs at speeds in excess of 12 km/h (7 MPH) for more than 3 minutes, the after-glow function will stop. When the glow plug terminal voltage becomes extremely low or high the glow relays automatically turn off and the glow lamp blinks for 5 minutes in order to indicate that the glow plug circuit is malfunctioning.