

SD927-1

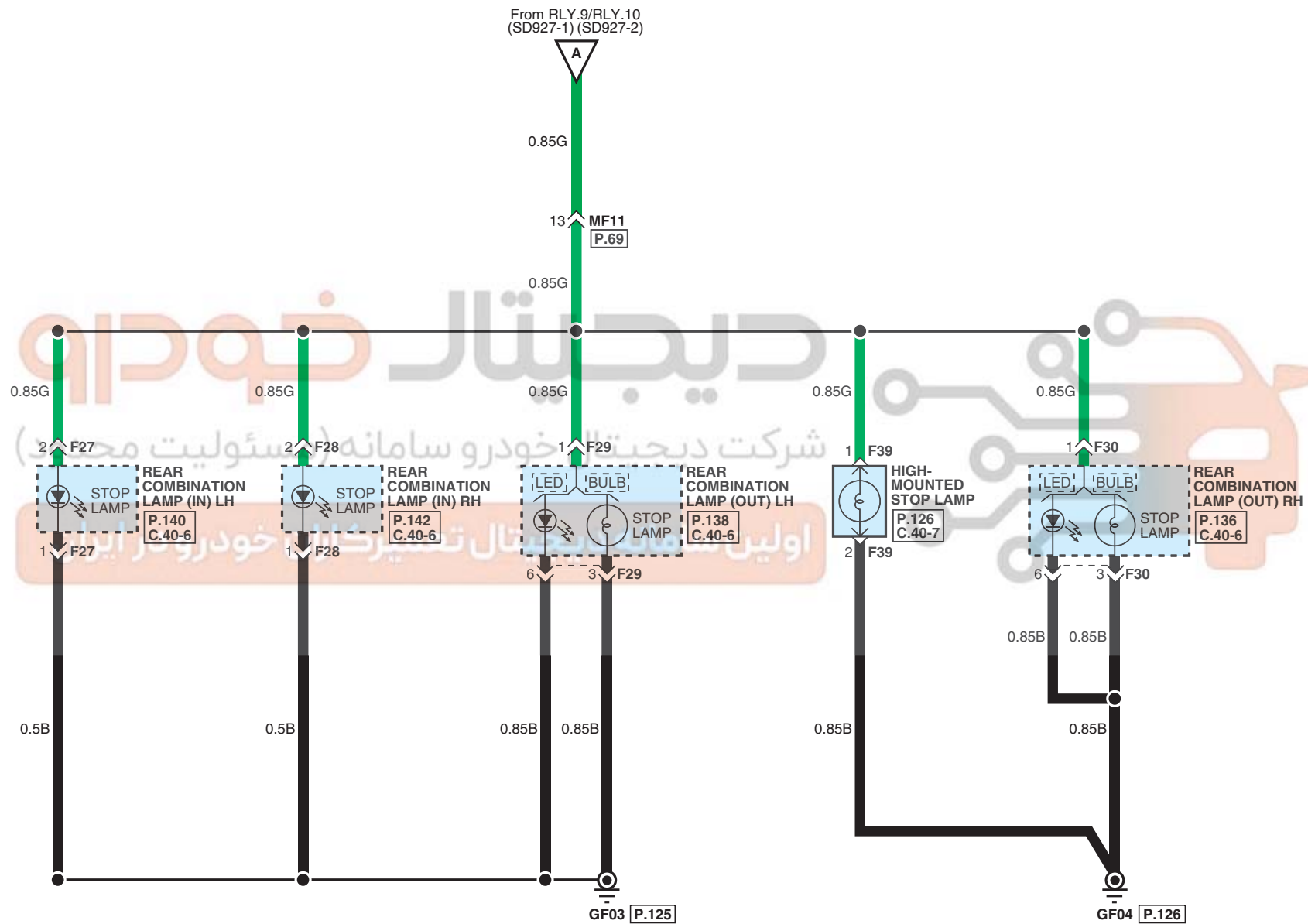


SD927-2



Stop Lamps (3)

SD927-3



Stop Lamps

Service Tips (1)

Circuit Description

This system informs the deceleration and braking state of the vehicle to the rear vehicle driver to secure the safety using stop lamps and high mounted stop lamp.

Stop lamp switch is double switch type, A and B. These two signals send opposite values depending on the brake operation. If the brake is not stepped on, the stop lamp switch B sends the power voltage value while the stop lamp switch A sends a 0V value. On the other hand, if the brake is stepped on, the opposite values are output. Stop lamp switch A used for stop lamps power and also used as signal for related systems (ABS/ESP Control Module, Smart Key Control Module, ECM(PCM), Electric Parking Brake Module), While stop lamp switch B used as signal for stop lamp switch inspection. Depend on ESS or appliance of HAC system, each circuit operates differently through the following path.

• **Stop Lamp Operating Path.**

1. Stop Lamp Switch A "ON" (No. 2, 1) → Stop Lamp Relay (No. 2, 4) → Ground
At this time the Stop Lamp Relay (No. 5, 1) is turned "ON"
* Stop Lamp Relay (No.3) sends Stop Lamp Switch operating signal.
2. W/O ESS/HAC
Constant power (F26 15A) → Stop Lamp relay (No. 5, 1) → Stop lamp "ON"
3. With ESS
Constant power (F26 15A) → Stop Lamp relay (No. 5, 1) → ESS relay (No. 4, 1) → Stop lamp "ON"
4. With HAC (Without ESS)
Constant power (F26 15A) → Stop Lamp relay (No. 5, 1) → HAC relay (No. 4, 1) → Stop lamp "ON"

※ When both ESS system and HAC system is applied, terminal No. 4 of HAC Relay is not used.

• **Function of relay**

1. Stop Signal Relay : It is used to increase the durability for Stop Lamp Switch.
2. ESS (Emergency Stop Signal) Relay : The Emergency Stop Signal system alerts the driver behind by blinking the stop light when the vehicle is braked rapidly and severely.
ESS system is activated when the vehicle suddenly stops (vehicle speed is over 55 km/h and the vehicle deceleration at greater than 7m/s^2) or the ABS/ESP is activating.
When the vehicle speed is under 40 km/h and the ABS/ESP deactivates or the sudden stop situation is over, the stop light will not blink.
3. HAC (Hill-start Assist Control) Relay : A vehicle has the tendency to slip back on a steep hill when it starts to go after stopping. The Hill-start Assist Control (HAC) prevents the vehicle from slipping back by operating the brakes automatically for about 2 seconds. The brakes are released when the accelerator pedal is depressed or after about 2 seconds.