

- [Carens Manuals](#)
- [OM](#)
- [SM](#)
- [New](#)
- [Top](#)
- [Sitemap](#)
- [Search](#)



Kia Carens
CAR MANUALS
TECHNICAL INFO

Kia Carens: Fuses And Relays / Relay Box (Passenger Compartment) Description and operation

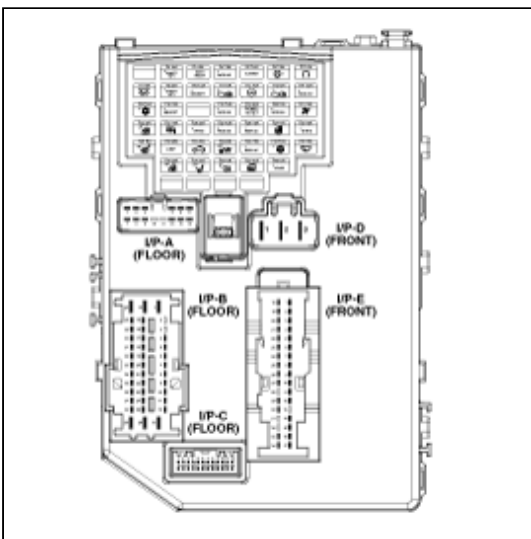
[Kia Carens RP \(2013-2018\) Service Manual](#) / [Body Electrical System](#) / [Fuses And Relays](#) / Relay Box (Passenger Compartment) Description and operation

Description

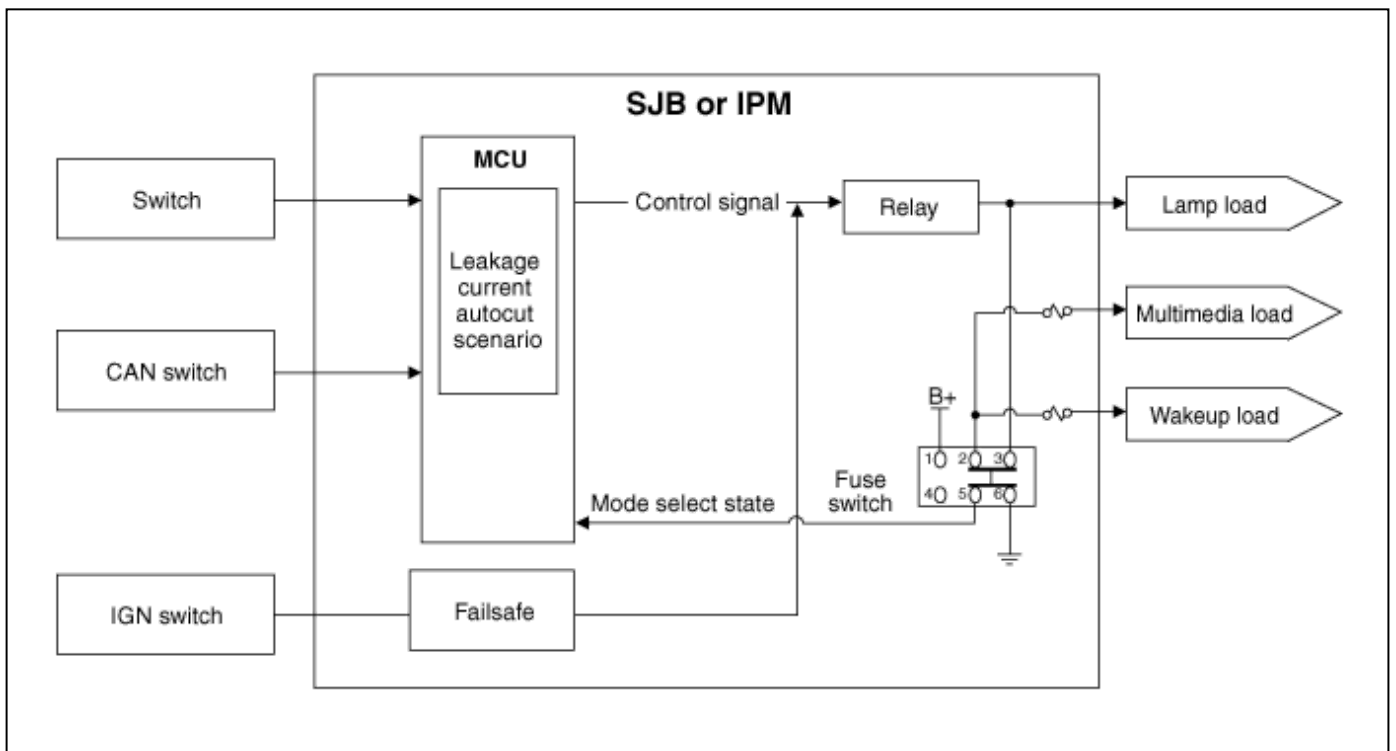
Smart Junction Box(SJB)

1. General function : Interior Junction Box + some functions of BCM
It controls loads with CAN communication and IPS.
2. Main function
 - Low speed CAN communication(100 kbps)
 - Self diagnostics(Lamp open/short)
 - Fail safe(When MCU/CAN is fail, Head lamp / Tail lamp directly drive)
 - Protection of bulb over-voltage(PWM function)
 - Cut of Over-load and Short : PCL(Program Current Limit)

Auto Cut System Of Dark Current



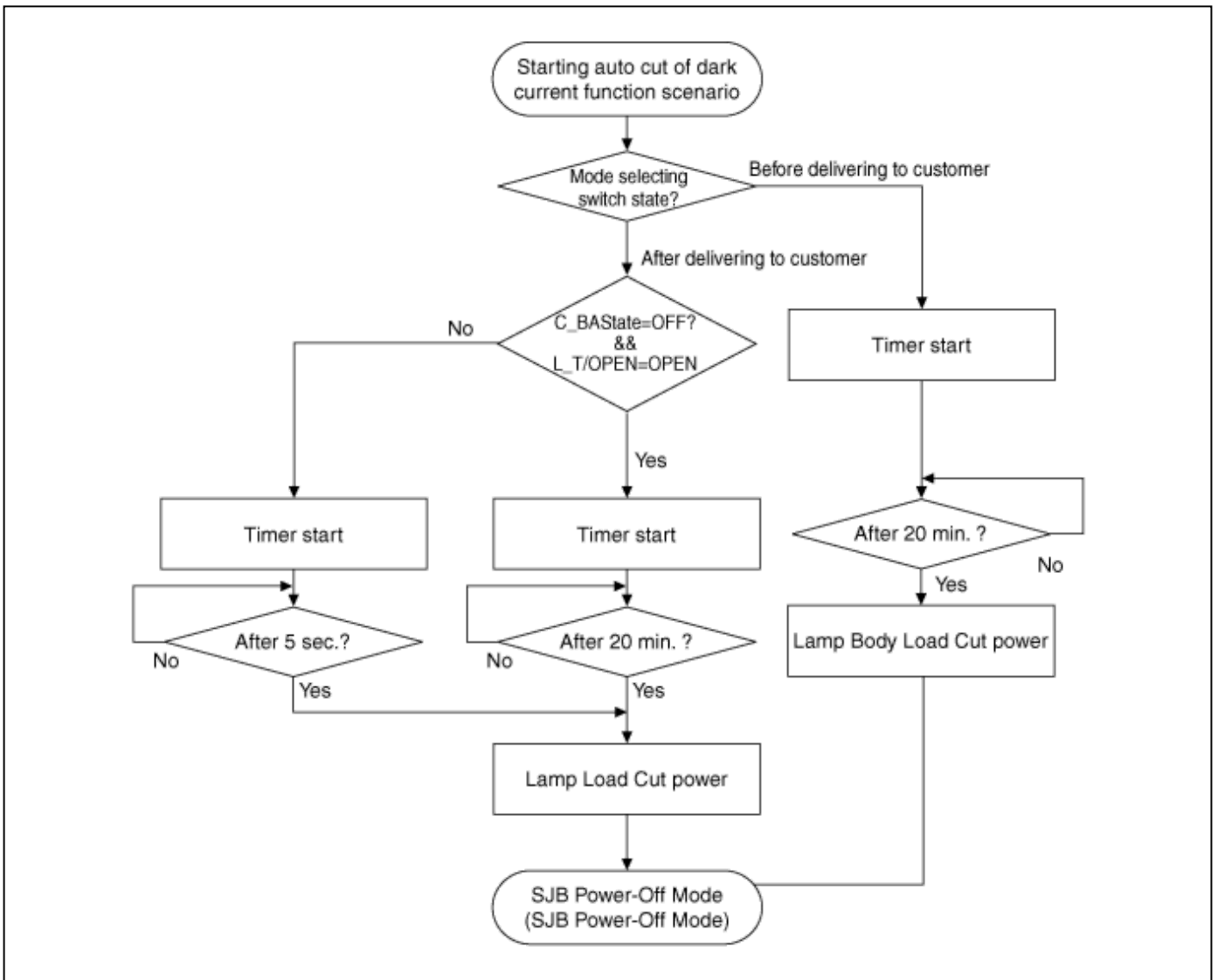
1. Description : It cuts automatically power to be provided with load for reducing useless dark current according to vehicle state.





2. SJB had 3 modes, "Normal Mode", "Sleep Mode", "Power Off Mode". Auto cut of dark current practice in "Sleep Mode".

- "Sleep" condition : IG OFF, constant input switch, CAN network doesn't activate.
- "Sleep" resolutive condition : Any switch inputs, CAN network activates, KEY ON, IGN ON
- "Power OFF" condition : The setting time of timer which is used by cutting a load power expires.
- "Normal Mode" : SJB function normally activates.
- "Sleep Mode" : It is low power mode and activates for reducing electricity consumption of SJB or IPM. Auto cut of dark current function activates.
- "Power OFF Mode" : Power of MCU and circumferential circuit is cut for minimizing electricity consumption. Operation stops.

3. The explanation - The auto cut of dark current



Before delivering to customer	Fuse switch OFF
<ul style="list-style-type: none"> •All door close & RKE door lock or Constant switch state (Auto cut of dark current scenario starts.) -After "sleep" state is for 20 min. -SJB power down(SJB dark current : 200 μA) and cutting power of Lamp/Body Load/Wake up 	
After delivering to customer	Fuse switch ON
<ul style="list-style-type: none"> •All door close & Constant switch state : C_BAState=OFF (Auto cut of dark current scenario starts.) -After "sleep" state is for 20 min. -SJB power down(SJB dark current : 200 μA) and cutting power of Lamp Load •In case RKE door lock : C_BAState=ON & Trunk SW=CLOSE (Auto cut of dark current scenario starts.) -After "Sleep" state 35s~65s (Waiting time of other unit : 30~60s + SJB sleep counts 5s) -SJB Powerdown(SJB dark current : 200 μA) and cutting power of Lamp Load 	

4. Problem when fuse switch setting is wrong

: If a fuse switch is set to OFF(Before delivering to customer) by a customer or technician and auto cut function of dark current activates, below problems may happen.

Symptom	Related part
•Door lock/unlock, trunk open don't activate by RKE. (Wakeup of each module don't activate.)	BCM
•Digital clock is reset.(Memory is reset.)	Digital clock
•Setting value of audio(Volume, Frequency setting) is reset. (Memory is reset.)	Audio

*If fuse switch OFF(before delivering to customer) is set, power of BCM, Digital clock and audio is shut off.



Relay Box (Passenger Compartment) Components and components location

Component Location ...

Relay Box (Passenger Compartment) Repair procedures



Fuse Inspection 1. Be sure there is no play in the fuse holders, and that the fuses are held securely. 2. Are the fuse capacities f ...

Other information:

[Kia Carens RP \(2013-2018\) Owners Manual: Hitches](#)

It's important to have the correct hitch equipment. Crosswinds, large trucks going by, and rough roads are a few reasons why you'll need the right hitch. Here are some rules to follow: Do you have to make any holes in the body of your vehicle when you install a trailer hitch? If you do, then ...

[Kia Carens RP \(2013-2018\) Owners Manual: Battery saver function](#)

The purpose of this feature is to prevent the battery from being discharged. The system automatically turns off the parking lights when the driver removes the ignition key (Smart key : turns off the engine) and opens the driver- side door. With this feature, the parking lights will be turned ...

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