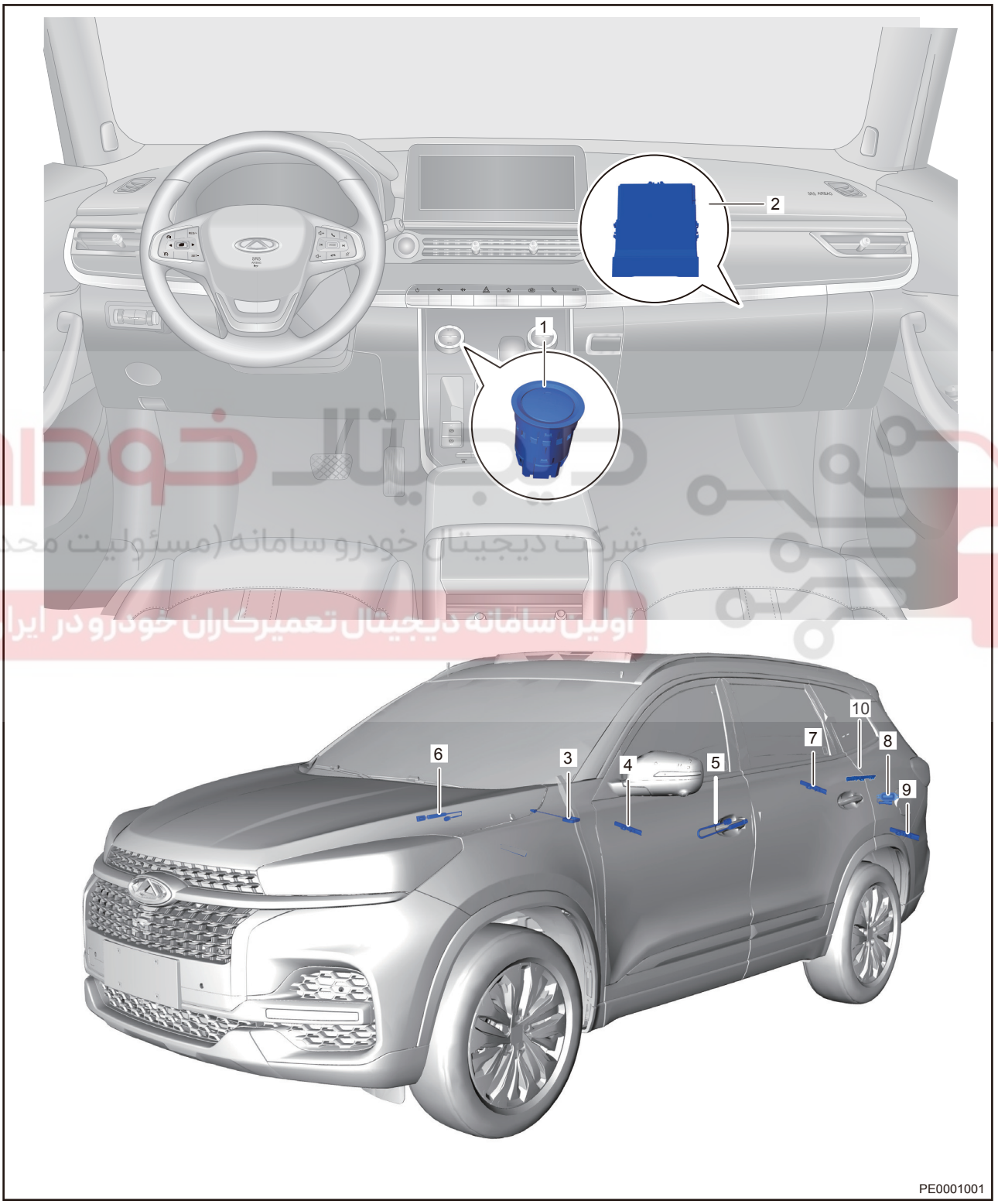
PEPS SYSTEM

GENERAL INFORMATION

Overview

Description



1 - ENGINE START STOP Switch	2 - PEPS Module

3 - Immobilizer Coil	4 - High Performance Antenna
5 -Left front door handle touch switch	6 - Right front door handle touch switch
7 - Right rear door handle lowfrequency antenna	8 - Luggage Compartment Door Release Switch
9 - Left rear door handle lowfrequency antenna	10 - Luggage compartment outer lowfrequency antenna

PEPS system consists of PEPS controller, ENGINE START STOP switch, built-in low frequency antenna (2 low frequency antennas and 1 high performance antenna are equipped in vehicle to detect key position), immobilizer coil for back up starting, front left/right door outside handle sensor (front left/right door handle), ESCL module (for MT models), luggage compartment door microswitch, smart bracelet and remote controller (also called smart key).

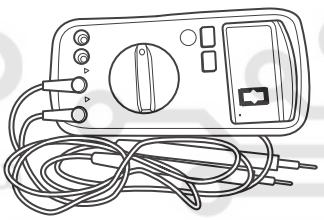
Specifications

Torque Specifications

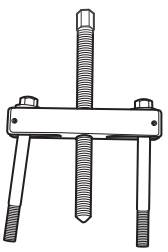
Description	Torque (N·m)
Hexagon Flange Nut	7 ± 1

Tools

General Tools

Digital Multimeter	 002

Special Tools

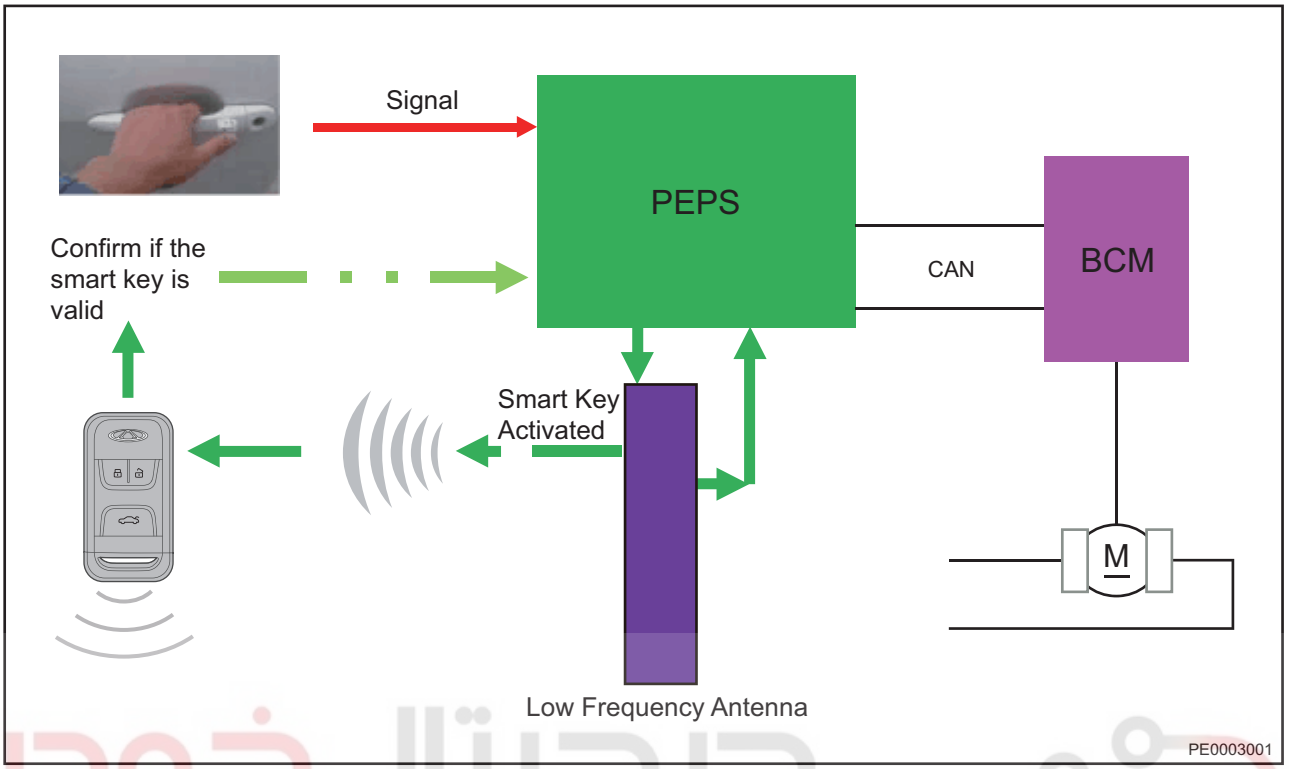
X-431PAD Diagnostic Tester	 014

Function Description

PEPS Function Description

Function	
1 - Smart Entry Function	2 - Keyless Entry Function
3 - Mechanical Entry Function	4 - One-button Start Function
5 - One-button Stop Function	6 - Emergency Stop Function
7 - Back Up Start Function	8 - Emergency Start Function
9 - Starting Number Limit Function	10 - Electric Steering Column Lock Control Function
11 - Prompt Function	12 - Engine Immobilizer Function

Smart Entry Function

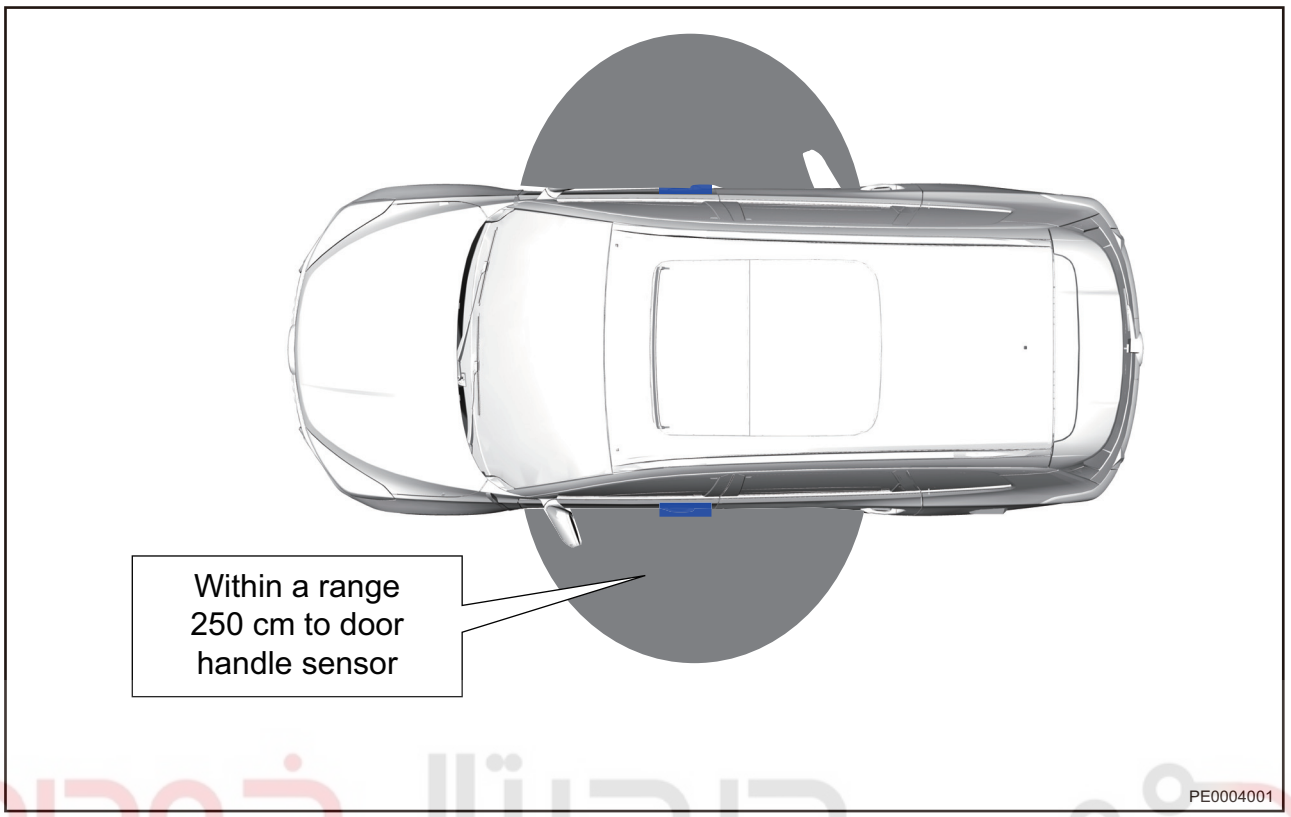


Smart Door Unlock (Keyless Fortifying Deactivation)

1. With doors locked, system identifies legality of smart key automatically when bringing smart key and touching sensible unlocking area of door outside handle with four fingers, and doors will be unlocked automatically.

   Hint:

   Only front left and right doors are equipped with sensible outside handles.
2. Foot light comes on when bringing a smart key close to vehicle. system identifies legality of smart key automatically and doors are unlocked automatically.
3. No matter where the smart key is (put in pocket, hang in the belt or put in bag), as long as the key is within approximately 2.5 m of door handle, if touching sensible area of door handle with four fingers, vehicle will enter fortifying deactivation mode (turn signal lights will flash twice and four doors will be unlocked).
4. If any of following operations is not performed within 30 seconds after touching sensible area of door handle (fortifying deactivation) under fortifying mode, all doors will be locked automatically.
   (a) Open any door.
   (b) Press ENGINE START STOP switch.
   (c) ENGINE START STOP switch is in ACC or ON position.

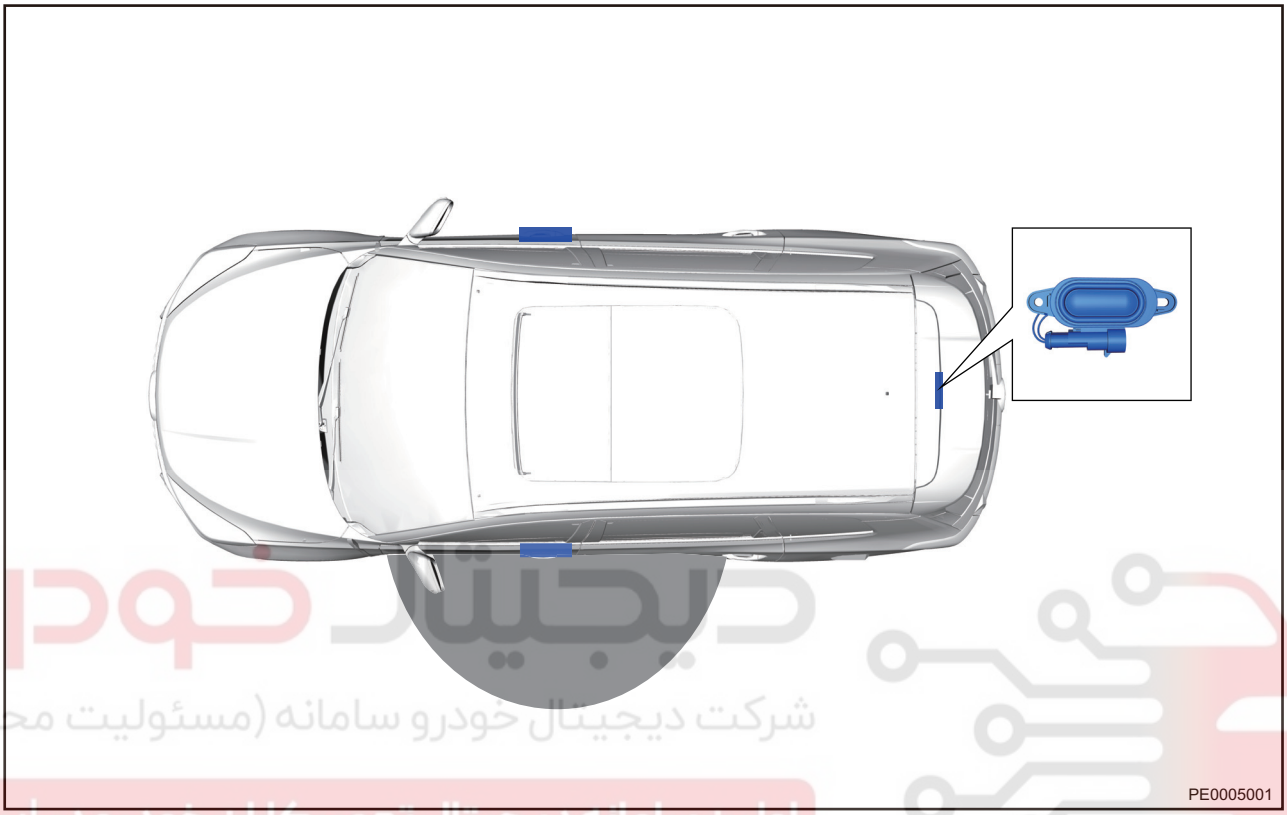


Smart Door Lock (Keyless Fortifying)

1. With doors unlocked, system identifies legality of smart key automatically when bringing smart key and touching sensible locking area with fingers, and doors will be locked automatically.
2. When bringing a smart key to leave vehicle, system identifies legality of smart key automatically and doors are locked automatically.

   Hint:
   If any door is not closed properly, it will be unlocked automatically after locking to avoid leaving key inside vehicle.
   (a) Four doors, engine hood and luggage compartment door are closed, and ENGINE START STOP switch is in OFF position.
   (b) Touch sensible area of door handle when the smart key is outside the vehicle and within a 2.5 m semicircle area around the front left door handle.
   (c) Vehicle enters fortifying mode (turn signal lights will flash once, horn sounds once and all doors will be locked).
3. Operation range
   (a) Only distance between smart key and door outside handle is within specified operation range, smart key function can be used.
   (b) When smart key battery is discharged or there is strong radio wave in operation position, smart key system also will do not operate normally.
   (c) It is recommended that do not place smart key together with mobile phone and other radio equipment.
   (d) Operation range is within 250 cm of sensible area of 2 front door handles.
   (e) If smart key is too close to door glass, handle or rear bumper, door handle sensor may not be used.
   (f) When smart key is within operation range, any one even without carrying smart key can press door handle sensible area on corresponding side to lock/unlock door.
4. When using smart key system, door handle sensor will invalid in following conditions
   (a) When ENGINE START STOP switch is in following positions (ACC or ON position).

(b) Smart key is left in cab or luggage compartment (at this time, alarm will sound, turn signal lights will flash and "Smart Key inside Vehicle" will be prompted on instrument cluster if pressing door handle sensor.)
(c) When smart key is not within exterior operation range.
(d) When any door is opened or not closed properly.
(e) When the smart key battery is discharged.



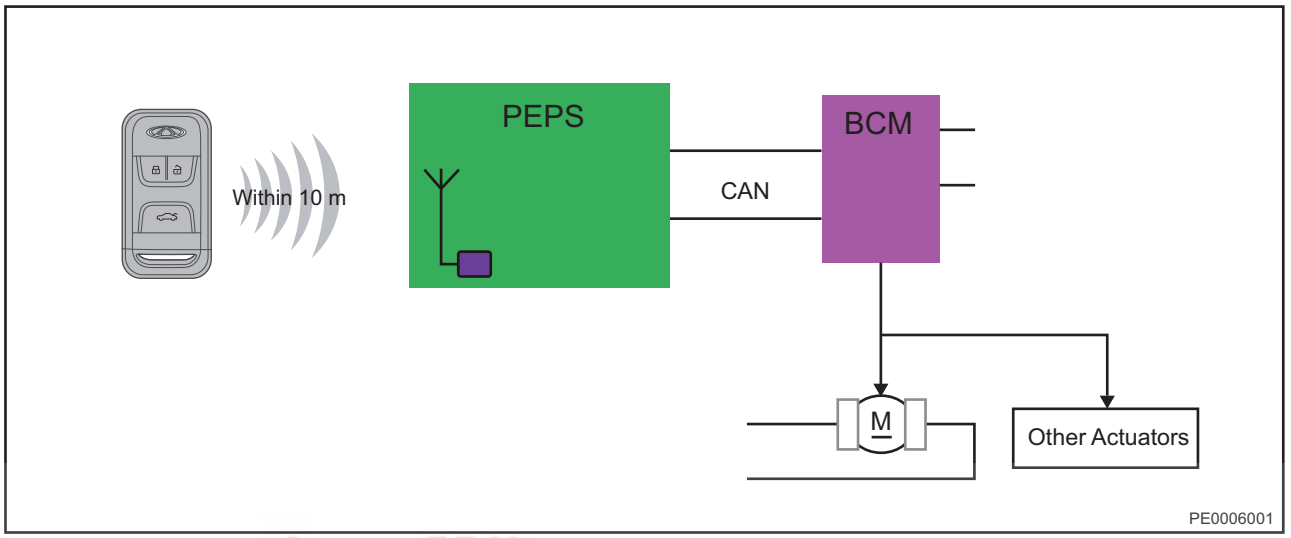
Smart Keyless Luggage Compartment Open

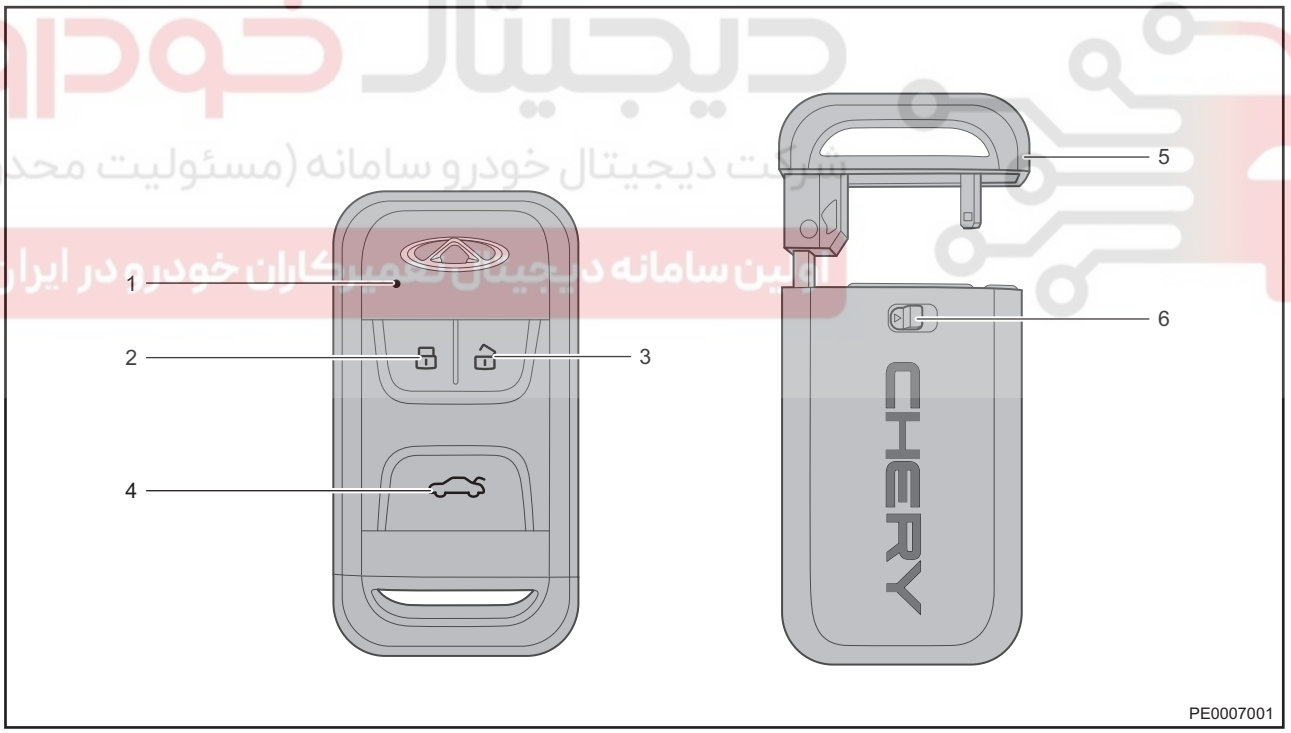
5. If all doors are unlocked, the luggage compartment external electronic switch is activated. At this time, press the switch to open luggage compartment without necessity of carrying smart key.
6. If door is under central lock state, luggage compartment external electronic switch will be disabled. At this time, it is necessary to bring smart key close to rear of vehicle and press electronic switch to open luggage compartment.

1. Precautions for smart entry function
   (a) For safety, when remote control/central control or mechanical control is used to lock vehicle, if there is a smart key inside vehicle, system will disable door handle switch while remote control still can be used.
   (b) In order to successfully perform door handle switch operation, do not rapidly operate door handle switch in succession within 0.5 second. and also do not rapidly operate luggage compartment external electronic switch.
   (c) Smart keyless unlock and lock are only valid when power supply is shut off and four doors are closed properly, or system will not operate.
   (d) Smart keyless unlock and lock are only valid when power supply is shut off and four doors are closed properly, or system will not operate.
   (e) For power saving purpose, after vehicle is parked for 15 days, smart entry for front right door handle will be invalid, only smart entry for front left door handle can be used (it will return to normal if performing remote control unlock once or front left door HSU (door handle sensor) unlock once).

(f) In some particular situations, such as smart key is too close to door, system may determine the key is inside vehicle, causing sensible door handle to be disabled. In this case, keyless entry function will not operate normally. At this time, it is necessary to use remote control to lock and unlock vehicle.

Remote Entry Function





1 - LED Indicator	2 - Lock Button
3 - Unlock Button	4 - Luggage Compartment Door Release Button
5 - Mechanical Key	6 - Mechanical Key Release Slider

Remote Lock (Fortifying) Function

1. Press lock button on smart key with power supply OFF, door will be locked, turn signal lights will flash (once), horn will sound (once) and vehicle will enter fortifying mode.
   (a) Press lock button with four doors, hood and luggage compartment door closed properly, door will be locked, body anti-theft system will be turned on and vehicle will enter fortifying mode.
   (b) If any door is not closed properly, lock system will not operate.

(c) If power supply is in ACC or ON position, remote lock function will not operate to avoid misoperation.

(d) If doors are closed properly while hood or luggage compartment door is not closed properly, lock system will lock doors, but body anti-theft system cannot be turned on and vehicle will not enter fortifying mode.

Remote Lock (Fortifying Deactivation) Function

2. Press the remote control unlock button, 4 door locks are unlocked, and turn signal light flashes twice, the vehicle enters the fortifying deactivation state.

Hint:

If any of following operations is not performed within 30 seconds after pressing remote unlock button (fortifying deactivation) under fortifying mode, all doors will be locked automatically.

(a) Open any door

(b) Press ENGINE START STOP switch

(c) ENGINE START STOP switch is in ACC or ON position

Hint:

- Description

  Press unlock button, so that door will be unlocked and luggage compartment door external switch will be activated (at this time, press luggage compartment external switch to open luggage compartment even if user does not bring valid key).

  Under fortifying or anti-theft alarm mode, press unlock button to cancel body anti-theft alarm system.

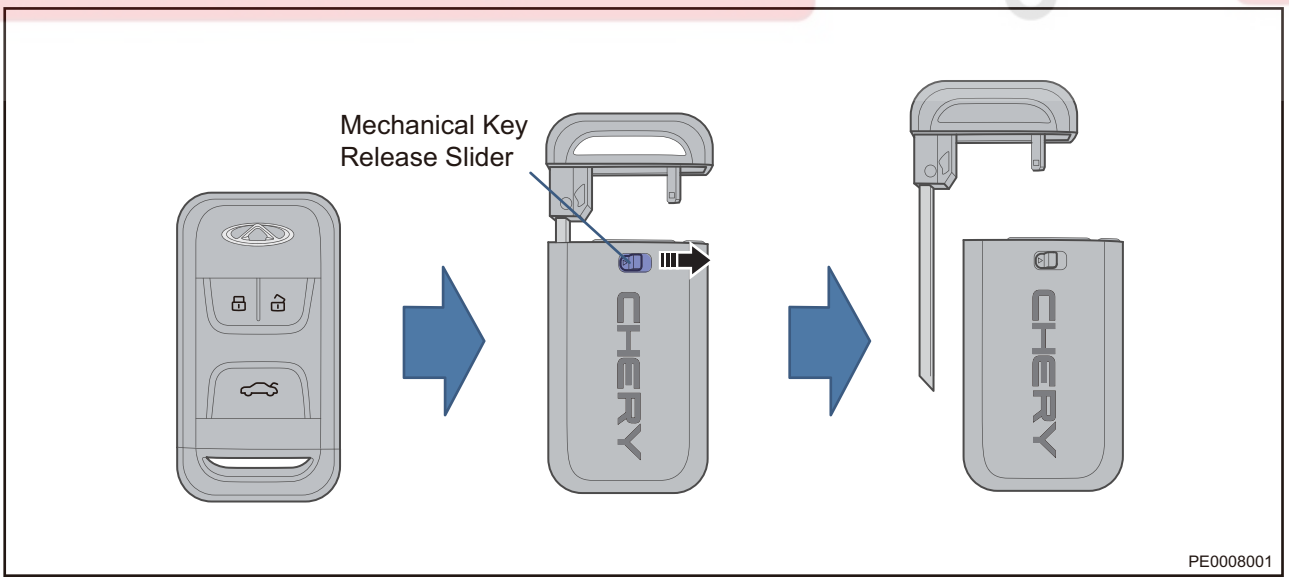
Remote Luggage Compartment Function

3. Long press remote luggage compartment button (about 1.5 seconds), luggage compartment door will be unlocked, at this time, it is still necessary to press luggage compartment door release switch to open luggage compartment door (non-power luggage compartment door). If it is equipped with power luggage compartment door, luggage compartment door will open automatically.

Hint:

Open luggage compartment remotely cannot cancel vehicle fortifying.

Mechanical Key Entry Function

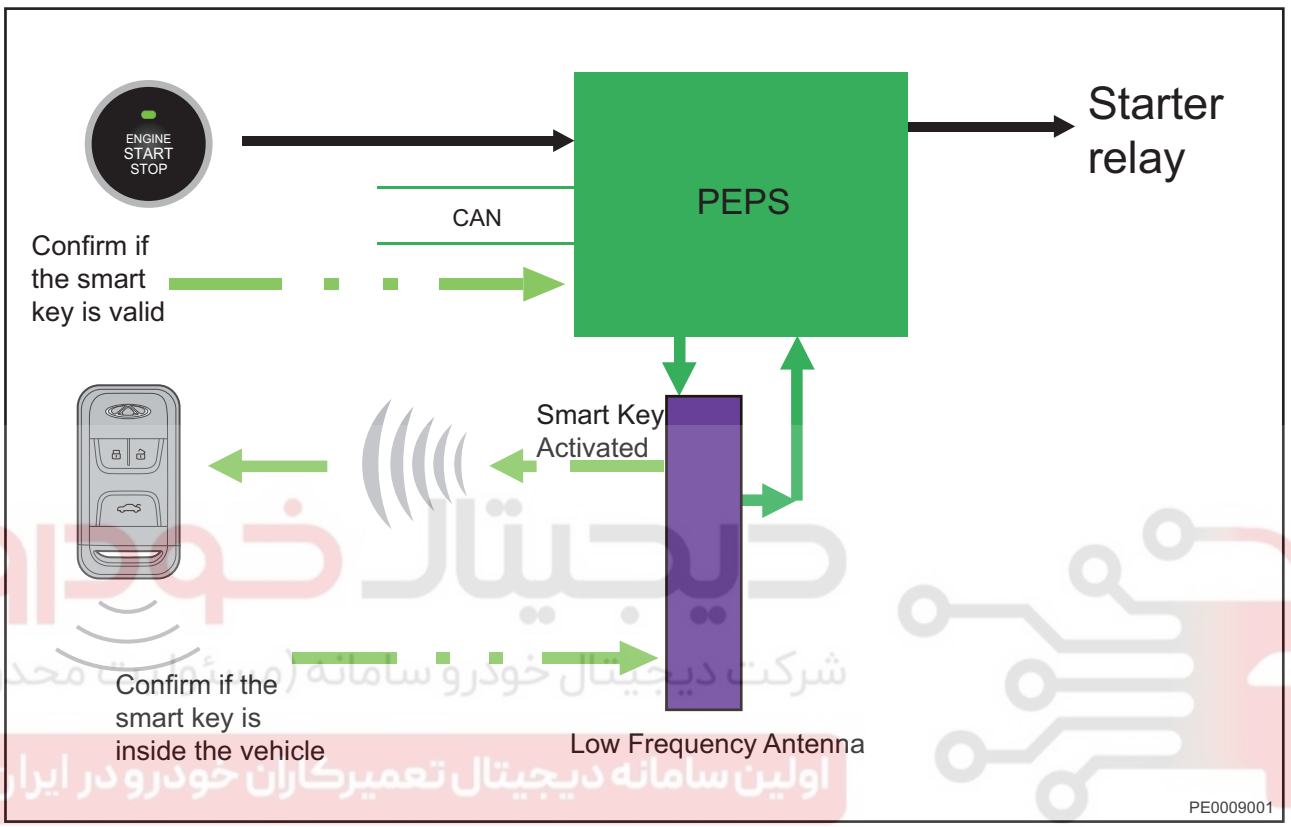


1. When key battery is weak or remote control function cannot operate normally caused by radio interference, it is possible to use mechanical key to lock and unlock vehicle.

2. Slide mechanical key release slider on back side of key and pull out mechanical key, then insert the key into front left door key cylinder and turn it clockwise or counterclockwise to lock or unlock vehicle.

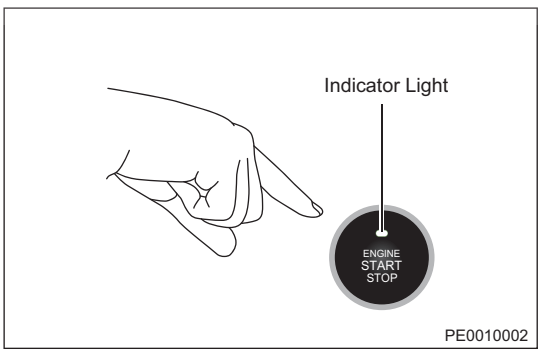
Hint:
When vehicle fortifying is successful, mechanical key can be used to unlock, but it is illegal entry, and alarm will sound and turn signal lights will flash at that time.

28 One-button Start Function



1. Indicator does not come on

(a) Power supply is OFF and brake pedal (for DCT models) or clutch pedal (for MT models) is not depressed, or engine has been started.



2. Amber

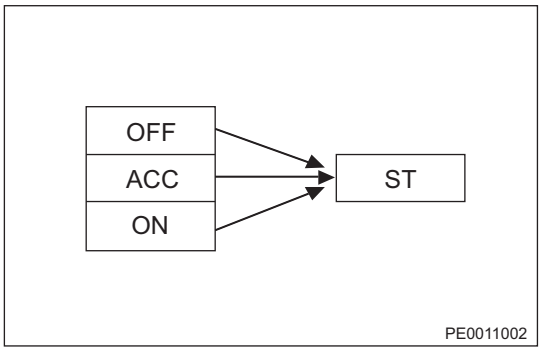
(a) Power supply state: ACC or ON, brake pedal (for DCT models) or clutch pedal (for MT models) is not depressed.

3. Green

(a) Brake pedal (for DCT models) or clutch pedal (for MT models) is depressed, and engine will start once press the button.

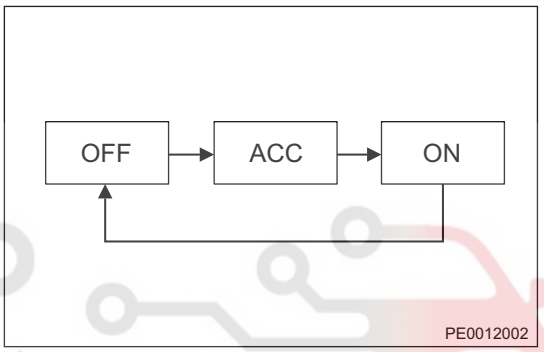
4. One-button start function: It is activated at any power supply state (OFF, ACC, IGN) with legal smart key inside vehicle. Depress brake pedal (for DCT models) or clutch pedal (for MT models), press ENGINE START STOP switch to start engine.

   (a) Power supply state switching



5. There are four positions for vehicle power supply: OFF, ACC, ON, ST (ignition). Brake pedal (for DCT models) or clutch pedal (for MT models) is not depressed, press ENGINE START STOP switch:

   (a) Power supply state switching



1. Precautions for one-button start function
   (a) For MT models: If clutch pedal is not depressed fully, system will not perform starting operation. For DCT models, if it is not in P or N position, system will not perform starting operation.
   (b) During starting, if brake pedal (for DCT models) or clutch pedal (for MT models) is released halfway, system will suspend starting.
   (c) Press ENGINE START STOP switch then release it when starting, system will judge if starting is successful and stop starting properly.
   (d) For AT models, if it is not in P position, vehicle power supply state (ACC, IGN) will not return to OFF state.

One-button Stop Function

1. For common engine stop mode, 4 km/h of vehicle speed must be met.

   Hint:

   - For DCT models, if it not in P position, vehicle power supply state will not return to OFF, you must shift to P position before leaving vehicle after stopping. And check if power supply state is in OFF. Make sure that vehicle power supply is in OFF state and then leave vehicle. Otherwise, door cannot be locked.
   - Simple method for distinguishing power supply in ACC or OFF:
     (a) Judged by color of indicator on ignition switch.
     (b) Under ACC state, instrument cluster will illuminate center display edge of LCD.
     (c) Operate buttons on remote controller, if lock operation is failed and unlock operation is successful, it indicates that vehicle power supply is not in OFF position.

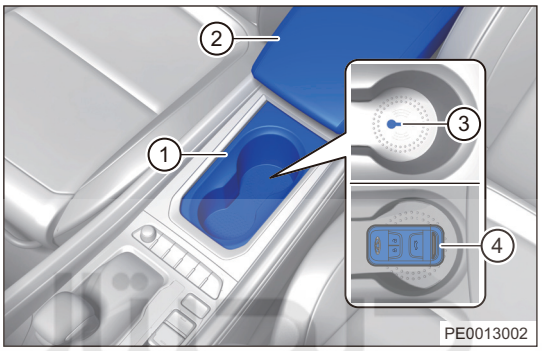
Emergency Stop Function

1. In order to stop engine in emergency, this system has emergency stop mode.

   Hint:
   - When vehicle speed is more than 4 km/h, press ENGINE START STOP switch for more than 3 seconds in succession.
   - If pressing ENGINE START STOP switch for 3 times within 2 seconds with vehicle speed more than 4 km/h, engine will stop and power supply will return to ACC.

   Caution:
   - If this condition is not met, engine will not shut down and ignition switch is kept in ON.
   - During driving, emergency stop will seriously affect normal driving. Do not use this function unless in emergency.

Back Up Start Function



1 - Cup Holder	2 - Armrest Box
3 - Bottom of Rear Cup Holder (Key Placing Mark for Back Up Start)	4 - Smart Key (Face up)

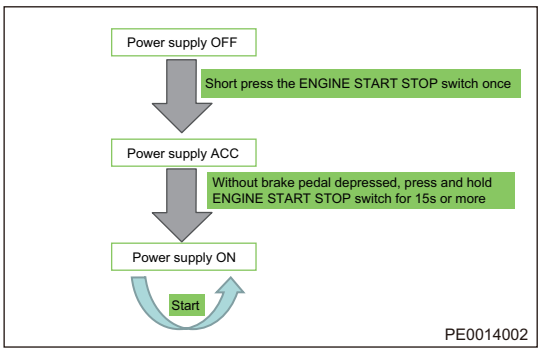
1. If key can not be recognized by system due to weak battery or interference, PEPS system will not operate normally. At this time, system provides a method to back up start engine, following method can be used to start engine or turn on power supply.
   (a) Lay key on bottom of rear cup holder with face up, and do not depress brake pedal (for DCT models) or clutch pedal (for MT models).
   (b) Press the ENGINE START STOP switch once. Power supply state will switch to ON, and "Verification is Successful, it is Possible to Start" is displayed on instrument cluster.
   (c) Depress brake pedal (for DCT models) or clutch pedal (for MT models) fully, press ENGINE START STOP switch to start engine.

   Hint:
   For MT models, communication between ESCL and PEPS is failed or verification does not pass, electric steering column lock cannot be unlocked successfully, power supply cannot switch to ON, engine cannot be started, so back up start function is invalid.

Emergency Start Function

1. To prevent engine cannot be started due to signal failure of brake pedal position (for DCT models) or clutch pedal position (For MT models) detected, this system has emergency start mode.

   Caution:
   - Please contact service station for inspection and repair as soon as possible.



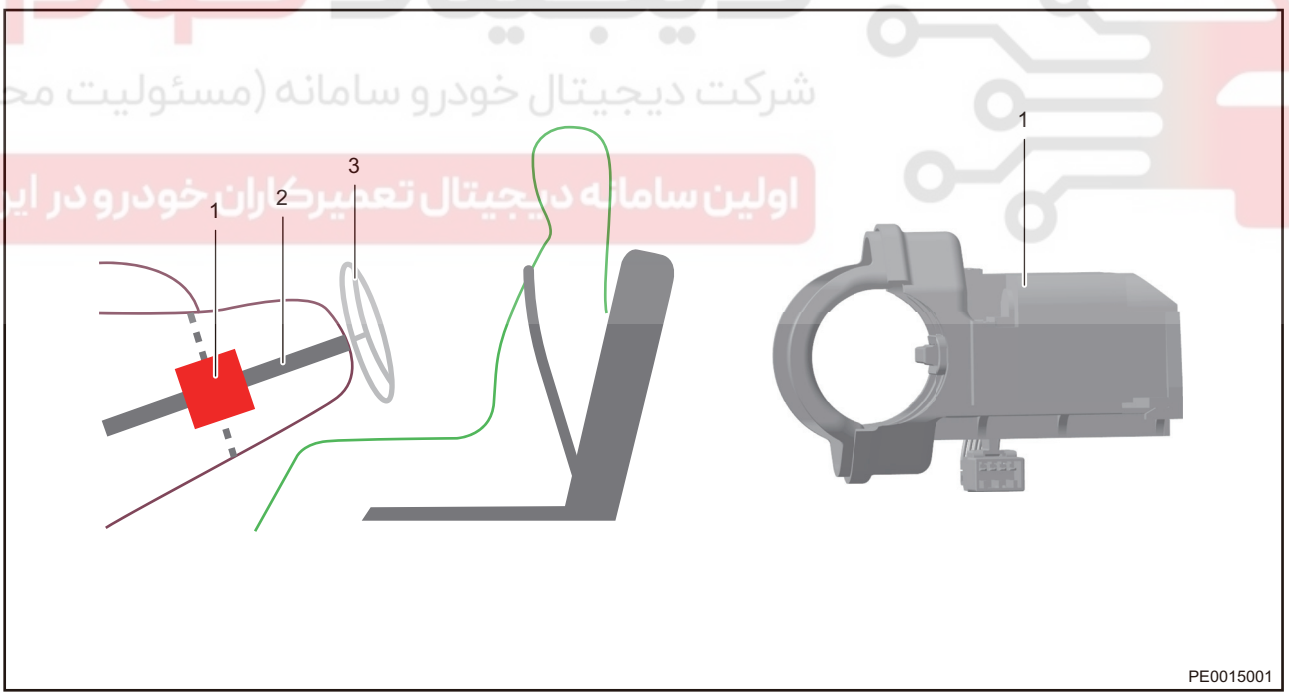
Starting Times Limit Function

1. When serious damage occurs in system, in order to ensure driving safety and prevent steering system locking incorrectly, system will not allow user to start engine limitlessly and engine only can be started for 10 time. And each time engine starts successfully and travel, rest times will reduce one. Please contact Chery service station for repair as soon as possible.

   Caution:
   Only MT models have this function.
   Hint:
   - This system malfunction may be caused by any or several of the following reasons:
     (a) Serious malfunction in the electric steering column lock
     (b) Speed signal malfunction of front right wheel
     (c) Speed signal malfunction of other three wheels

1. Precautions for starting times limit function
   (a) Keyless entry and PEPS system obtains wheel speed signal from brake controller (ABS/ESP), if any wheel speed signal is malfunctioning, ABS/ESP system warning light in instrument cluster will come on.
   (b) If malfunction does not be repaired and maximum start times is reached, it is not allowed to start vehicle. Please contact Chery service station for repair immediately and reset "rest start times" with diagnostic tester. Otherwise, if same malfunction occurs next time, start times offered by system will be less than 10 times. (Specific value depends on residual times last time malfunction occurs.)

Electric Steering Column Lock Control Function



1. Electric steering column lock is actuator of vehicle anti-theft system, consisting of mechanical locking mechanism and electronic control unit. It performs lock and unlock operation according to command from controller.

   Hint:
   Only MT models have this function.
   (a) Locking
   (1) If any door is opened or closed and vehicle speed is 0 within 10 minutes after power supply is turned from ON to OFF, electric steering column lock will be locked.

(2) If any door is not operated within 10 minutes after power supply is turned from ON to OFF, electric steering column lock will not be locked. And even if a door is operated 10 minutes later, electric steering column lock also will not be locked.

(b) Unlocking

(1) When pressing ENGINE START STOP switch with smart key in vehicle, steering column lock will be unlocked.

- In some conditions, such as vehicle is parked on slope, large stress will apply to locking pin and steering column, so that, locking pin will be stuck. At this time:
  (a) System will try to unlock for 3 times within 3 seconds.
  (b) If steering column lock has not been successfully unlocked, perform related operation according to message "Please press ENGINE START STOP switch, restart power supply" and "Please press ENGINE START STOP switch and turn steering wheel to unlock steering column lock".

1. Precautions for electric steering column lock control function

(a) If unlock is failed, try to shake steering wheel after pressing ENGINE START STOP switch, but do not forcibly turn steering wheel.

(b) If electric steering column lock cannot be unlocked successfully, system power supply will not be turned on and engine cannot be started for safety, please contact Chery service station for repair in time.

(c) After replacing electric steering column lock, it is necessary to use diagnostic tester to perform matching and learning.

Prompt Function

To reduce misunderstanding of PEPS features from users and to facilitate the daily diagnosis of simple problems, system will prompt corresponding message to users through instrument cluster display, buzzer and external horn. Regardless of power supply state (OFF, ACC or ON), once PEPS sends information, instrument cluster will handle and display it.

Text Message Prompt	Buzzer	External Horn	Possible Cause
Smart key is not detected	Sound	\	There is no key in vehicle
Smart key is not detected	Sound	\	If you are in vehicle, find smart key and place it in vehicle, or check if passenger brings the key outside
System malfunction, it is allowed to start X times	Sound	\	Please contact Chery Repair Shop for repair immediately.
Please check and repair PEPS system	Sound	\	Please Contact Chery Service Station for Repair Immediately
Please shift to P or N to start	Sound	\	If you want to start engine, shift to P or N
Please depress clutch pedal to start/ depress brake pedal to start	Sound	\	If you want to start engine, depress brake pedal (for DCT models) or clutch pedal (for MT models)
Please turn steering wheel to unlock steering column	Sound	\	Turn power supply on while shaking steering wheel to help steering column unlock successfully
Please press ENGINE START STOP switch to turn power supply on again	Sound	\	Turn power supply on while shaking steering wheel to help steering column unlock successfully
Please shift to P	Sound	\	Please shift to P and press ENGINE START STOP switch to turn off power supply.
Please pay attention that smart key is in vehicle	Sound	Sound 6 times	Be sure to carry smart key on person when leaving vehicle. Caution: Door handle switch will be disabled by system temporarily, please use remote controller to lock and unlock
Verification is successful and it is possible to start	Sound	\	It is displayed only when performing back up start and verification passed, and key battery is fully discharged usually

Please turn off power supply	Sound	\	User may leave vehicle with shift position not in P and power supply not in OFF
Smart key battery is low	Sound	\	Key battery still can be used, but it comes to failure due to low voltage, it is necessary to replace battery

Engine and Vehicle Anti-theft Function

1. Anti-theft for models with PEPS can be divided into two types.
2. For DCT models, anti-theft can be divided into two separate parts - "PEPS and ECU encryption engine immobilizer".
3. For MT models, anti-theft can be divided into two separate parts - "PEPS and ECU encryption engine immobilizer" and "PEPS and ESCL encryption steering column lock anti-theft".

1. For DCT models
   (a) After power supply is turned to ON, ECU will send one frame of validation data to PEPS via CAN bus to verify. Then PEPS will feedback one frame of validation data as response and send to ECU. If response from PEPS is correct, ECU will determine anti-theft can be canceled. Otherwise, ECU will not inject fuel and ignite.
2. For MT models
   (a) After power supply is turned to ACC, PEPS will perform encrypted anti-theft validation with ESCL via special LIN line. If validation passes, ESCL will unlock, or ESCL keeps locking and steering wheel cannot be turned. And power supply cannot be turned to ON.
   (b) After power supply is turned to ON, ECU will send one frame of validation data to PEPS via CAN bus to verify. Then PEPS will feedback one frame of validation data as response and send to ECU. If response from PEPS is correct, ECU will determine anti-theft can be canceled. Otherwise, ECU will not inject fuel and ignite.

Anti-theft Match

Smart Key Replacement After Vehicle Sold

1. Description
   (a) There are two match methods between smart key and system: "Replace with new key" and "Add old key".
      (1) "Add new key" refers to match blank key (never match with any system) with system. It usually happens when user would have additional new key on the basis of the old ones.
      (2) "Add old key" refers to rematch learned key with system (it is must be previous system).

Caution:

- If user lost a smart key with one key left, when replacing with a new smart key, perform as follows to replace with a new one: Learn the new key by "Add new key" service, delete all smart keys by "Delete all keys" service, then learn the remain two smart keys in order by "Add old key" service. If user finds the lost key, it can be reactivated by "Add old key" service on diagnostic tester. If not, even if the lost one is found, it cannot be used normally.

1. Match Operation

Caution:

Perform operations of "Add new key" and "Add old key" when ignition switch is turned to OFF.

(a) Anti-theft match description for "Add new key" is as follows:
   (1) Technician reads VIN in EMS of user’ s vehicle with diagnostic tester, then obtain PIN through VIN.
   (2) Place the smart key to be matched on the key mark in cup holder, enter anti-theft control system program on diagnostic tester, select "Add new key" menu, input PIN, diagnostic tester will perform "Add new key" program automatically.

(3) After that, press unlock button and check if left and right turn signal light indicators on instrument cluster blink. If the indicators blink, new key is matched successfully, otherwise, new key is not matched successfully.

(b) Anti-theft match description for "Add old key" is as follows:

(1) Technician reads VIN in EMS of user’ s vehicle with diagnostic tester, then obtain PIN through VIN.

(2) Enter anti-theft control system program on diagnostic tester, select "Delete all keys" menu.

(3) Place the smart key to be matched on the key mark in cup holder, enter anti-theft control system program on diagnostic tester, select "Add old key" menu, input PIN, diagnostic tester will perform "Add old key" program automatically.

(4) After that, press unlock button and check if left and right turn signal light indicators on instrument cluster blink. If the indicators blink, new key is matched successfully, otherwise, new key is not matched successfully.

Caution:

- When performing "Add old key", it is necessary to carry previous matched smart key and perform match operation one by one according to match procedures, or previous matched key will be disabled.
- Regardless of ""Add new key" or "Add old key", only one smart key can be kept in vehicle and keep key on key mark in cup holder. Make sure that there is no other key in vehicle. If there is other key, bring it to a position 2 m away from vehicle.

PEPS Module Replacement After Vehicle Sold

1. Technician reads VIN in EMS with diagnostic tester, then obtains PIN through VIN.
2. If vehicle is equipped with ESCL, make sure that ESCL is unlocked. After new PEPS is assembled successfully, press ignition switch (IG) to turn on power supply.
3. Enter anti-theft control system program on diagnostic tester, select "Program IMMO" menu; input PIN according to prompt on diagnostic tester, after "Program IMMO" is performed successfully, it will display "Program IMMO is successful".
4. Then match previous keys one by one according to instructions of "Add old key".
5. If vehicle is equipped with ESCL, enter anti-theft control system program on diagnostic tester and complete "Add old key", then keep power supply in OFF position, check state of ESCL with diagnostic tester, if ESCL is not in Anti-scanning state, replacement is completed, if ESCL is in Anti-scanning state, select "Delete ESCL", input PIN according to prompt on diagnostic tester, ESCL will be deleted successfully after about 10 minutes, then match ESCL according to description for ESCL replacement.

Caution:

- Please contact Chery service station to obtain PIN.
- Unmatched smart keyless entry and PEPS can switch power supply from IGN OFF to IGN ON for 50 times. Once it exceeds 50 times, PEPS cannot be used. So, do not turn on and off power supply at will with PEPS unmatched.
- If ESCL accidentally enters "Anti-scanning" protection mode , it is necessary to perform "Erase ESCL".

EMS Replacement After Vehicle Sold

1. Technician reads VIN in old EMS or smart keyless entry and PEPS unit with diagnostic tester, then obtains PIN through VIN.
2. After new EMS is assembled successfully, press ignition switch (IG) to turn on power supply.
3. Enter anti-theft control system program on diagnostic tester, select "Program EMS" menu; input VIN and PIN according to prompts on diagnostic tester. After "Program EMS" is performed successfully, it will display "Match EMS is successful".

4. Depress brake pedal (for DCT models)/clutch pedal (for MT models), press ignition switch once to check if vehicle can be started successful. If vehicle can be started successful, EMS replacement is completed, if vehicle cannot be started successful, EMS replacement is not completed.

Electric Steering Column Lock (ESCL) Replacement After Vehicle Sold

Caution:

- Only apply to PEPS + MT models

1. Technician reads VIN in old EMS or smart keyless entry and PEPS unit with diagnostic tester, then obtains PIN through VIN.
2. After new Electronic Steering Column Lock (ESCL) is assembled successfully, keep power supply in OFF status.
3. Enter anti-theft control system program on diagnostic tester, select "Program ESCL" menu; input PIN according to prompt on diagnostic tester, after "Program ESCL" is successful, "Match ESCL is successful" will be displayed.
4. Press ignition switch to switch power supply to IGN OFF state, open driver door and close it again, check if lock sound can be heard, then check if steering wheel can be turned. If lock sound can be heard and steering wheel cannot be turned, electric steering column lock is locked successfully.
5. Press ignition switch to switch power supply to IGN ON state, check if unlock sound can be heard, then check if steering wheel can be turned. If unlock sound can be heard and steering wheel can be turned, electric steering column lock is locked successfully, ESCL is matched successfully, or match is failed.

   Caution:

   - Please contact Chery service station to obtain PIN.

DIAGNOSIS & TESTING

Diagnosis Content

Problem Symptoms Table

Hint:

Use symptoms table below to help determine cause of problem. Check each suspected area in sequence. Repair, replace or adjust faulty components as necessary.

Symptom	Suspected Area
Remote controller fails	Remote controller battery is weak
	There is remote control signal interference
	Remote controller enters failure mode (it is necessary to exit)
	Code is lost (add old key)
	PEPS malfunction
	Wireless key malfunction
	BCM malfunction
Vehicle cannot enter fortifying mode	Four doors, hood or luggage compartment door is abnormal
	Power supply is not in OFF state
	Door lock malfunction
	PEPS malfunction
	BCM malfunction
Vehicle cannot be unlocked	Door lock malfunction
	PEPS malfunction
	BCM malfunction
Microswitch cannot enter fortifying mode and be unlocked	Smart key is not within range
	Open or sticking in microswitch
	Power supply is not in OFF state
	Four doors, hood or luggage compartment door is abnormal
	Smart key in vehicle
	Smart key battery is low
Luggage compartment cannot be opened	Luggage compartment door switch fails (open, water leakage or sticking)
	Luggage compartment door lock malfunction
	PEPS malfunction
	Short or open in wire harness
	BCM malfunction
Vehicle cannot be started (PEPS) (starter runs)	Anti-theft verification does not pass
Vehicle cannot be started (PEPS) (starter does not run)	Gear position is not in P/N (for DCT models)
	Clutch (for MT models)/brake switch (for DCT models) is abnormal
	ENGINE START STOP switch malfunction
	Circuit or starter relay is abnormal
	Starter malfunction
	Start times limit is activated
ESCL cannot be locked or unlocked	Vehicle is parked on slope (lock pin is stuck)
	Door signal is abnormal
	ENGINE START STOP switch cannot be turned on or off
	Short or open in wire harness
	Anti-theft verification fails
	Network communication malfunction

Diagnosis Procedure

Hint

Use following procedures to troubleshoot the PEPS system.

1	Vehicle brought to workshop

Result

Proceed to
NEXT

NEXT

2	Check battery voltage

Check if battery voltage is normal.

OK

Standard voltage: Not less than 12 V

Result

Proceed to
OK
NG

NG → Replace battery

OK

3	Customer problem analysis

Result

Proceed to
NEXT

NEXT

4	Read DTCs

Result

Proceed to
DTC exists
No DTC

No DTC → Repair according to Problem Symptoms Table

DTC exists

5	Read DTCs (current DTC and history DTC)

Result

Proceed to
Current DTC
History DTC

History DTC → **Troubleshooting according to Intermittent DTC Troubleshooting procedure**

Current DTC

6	Repair according to Diagnostic Trouble Code (DTC) Chart

Result

Proceed to
NEXT

NEXT

7	Adjust, repair or replace

Result

Proceed to
NEXT

NEXT

8	Conduct test and confirm malfunction has been repaired

Result

Proceed to
NEXT

NEXT → **End**

Problem Repair (No DTC)

If PEPS system has problems, but no DTC is stored in PEPS system, this problem is called a problem without DTC. Problems without DTC for PEPS system are divided into following types:

1. Indicator in instrument cluster does not come on or illuminate constantly (incorrect wire harness connection or indicator is damage).
2. Troubleshooting recommendation: check corresponding components according to problem symptom, and troubleshoot following the vehicle repair manual.

DTC Confirmation Procedure

Confirm that battery voltage is normal before performing following procedures.

- Turn ENGINE START STOP switch to OFF.
- Connect diagnostic tester (the latest software) to diagnostic interface.
- Turn ENGINE START STOP switch to ON.
- Using diagnostic tester, record and clear DTCs stored in PEPS control module assembly.
- Turn ENGINE START STOP switch to OFF and wait several seconds.
- Use diagnostic tester to read DTCs.
- If DTC is detected, malfunction indicated by DTC is current. Go to DTC chart, and perform troubleshooting.
- If no DTC is detected, malfunction indicated by DTC is intermittent Please refer to Intermittent DTC Troubleshooting.

Intermittent DTC Troubleshooting

If malfunction is intermittent, perform the followings:

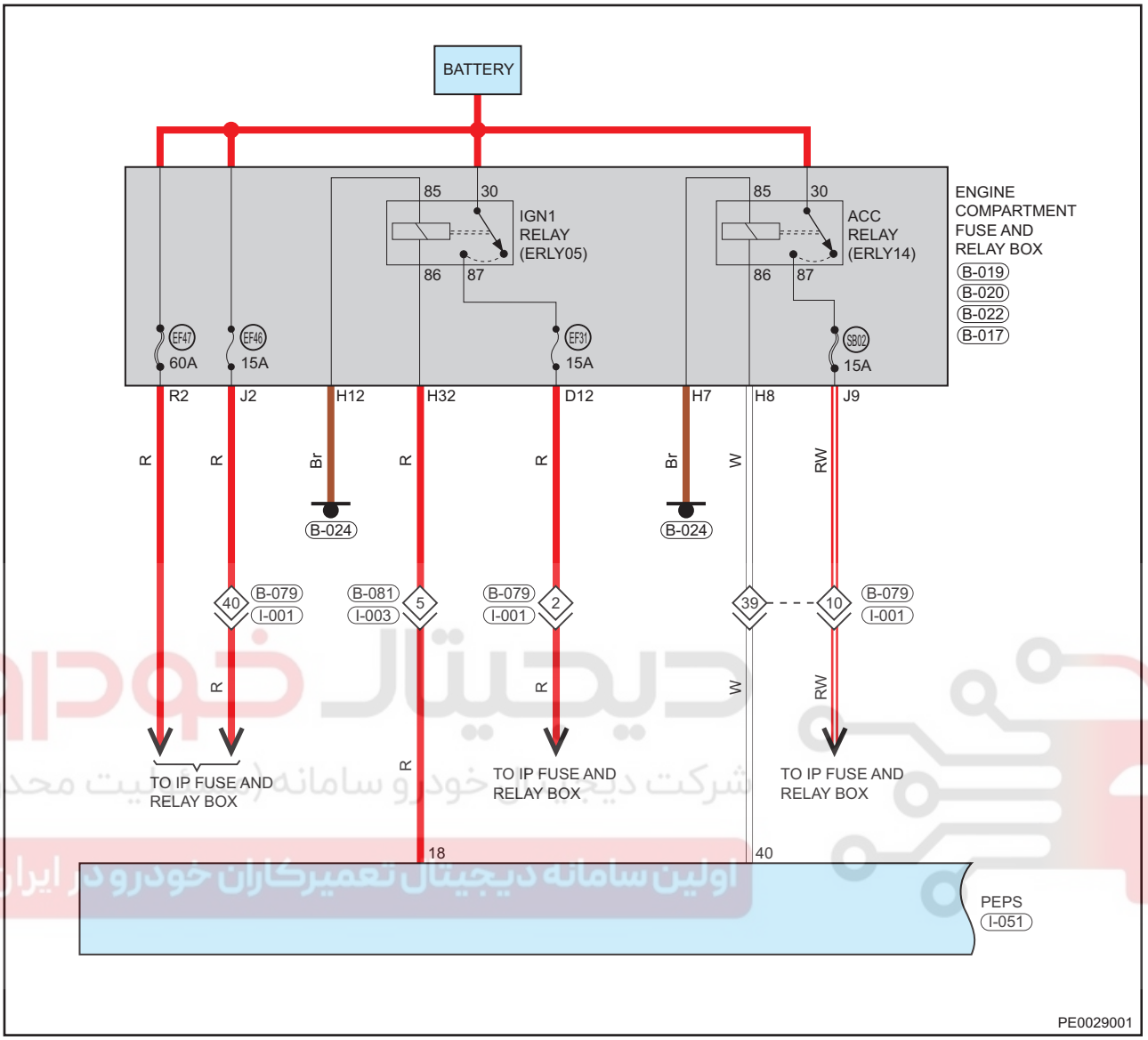
- Check if connector is loose.
- Check if wire harness is worn, pierced, pinched or partially broken.
- Wiggle related wire harness and connector and observe if signal in related circuit is interrupted.
- If possible, try to duplicate conditions under which DTC was set.
- Look for data that has changed or DTC to reset during wiggle test.
- Check for broken, bent, protruded or corroded terminals.
- Check and clean all wire harness connectors and body ground parts related to DTC.
- If multiple trouble codes were set, refer to circuit diagrams to look for any common body ground circuit or power supply circuit applied to DTC.
- Refer to any Technical Bulletin that may apply to this malfunction.

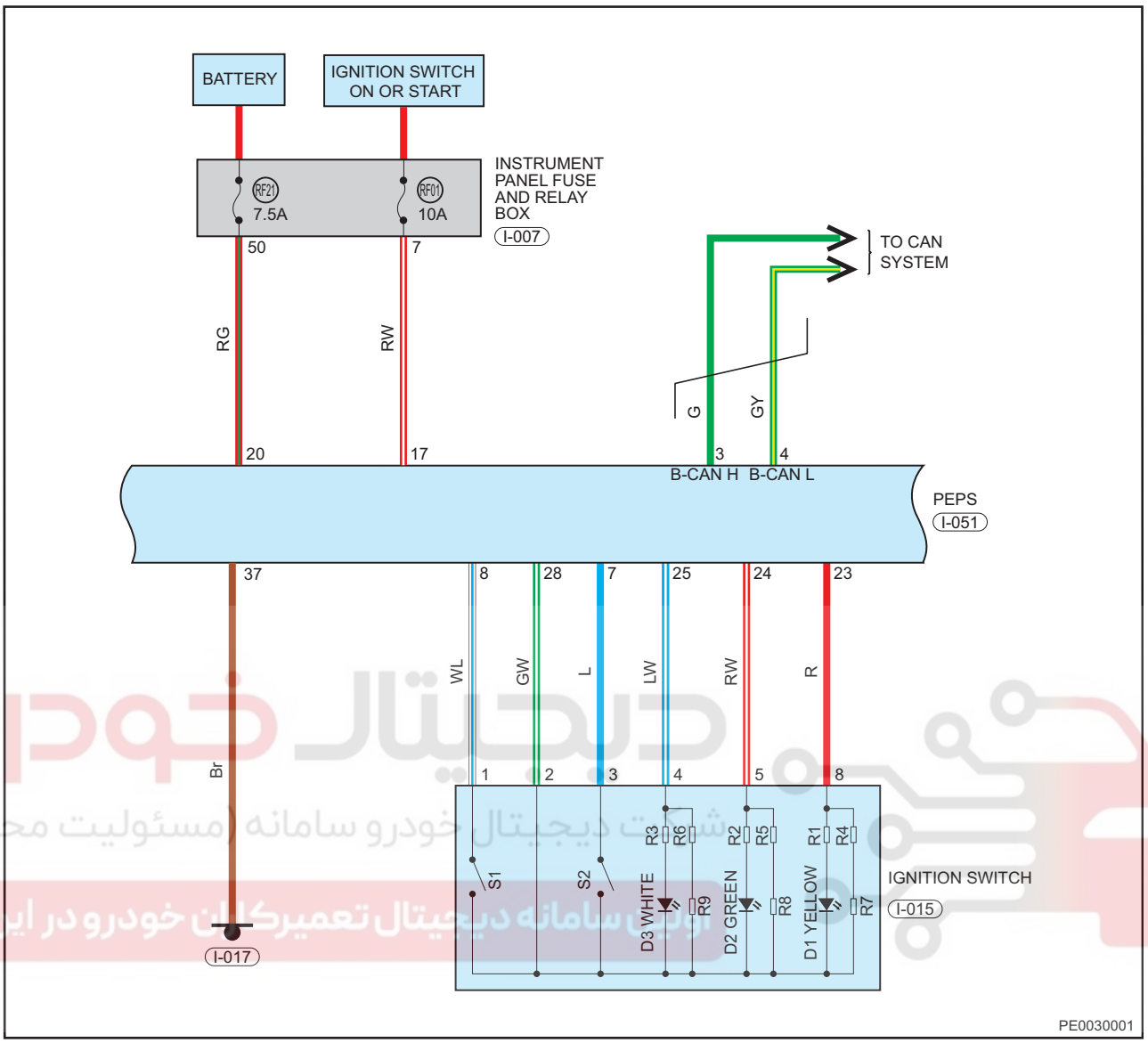
Body Ground Inspection

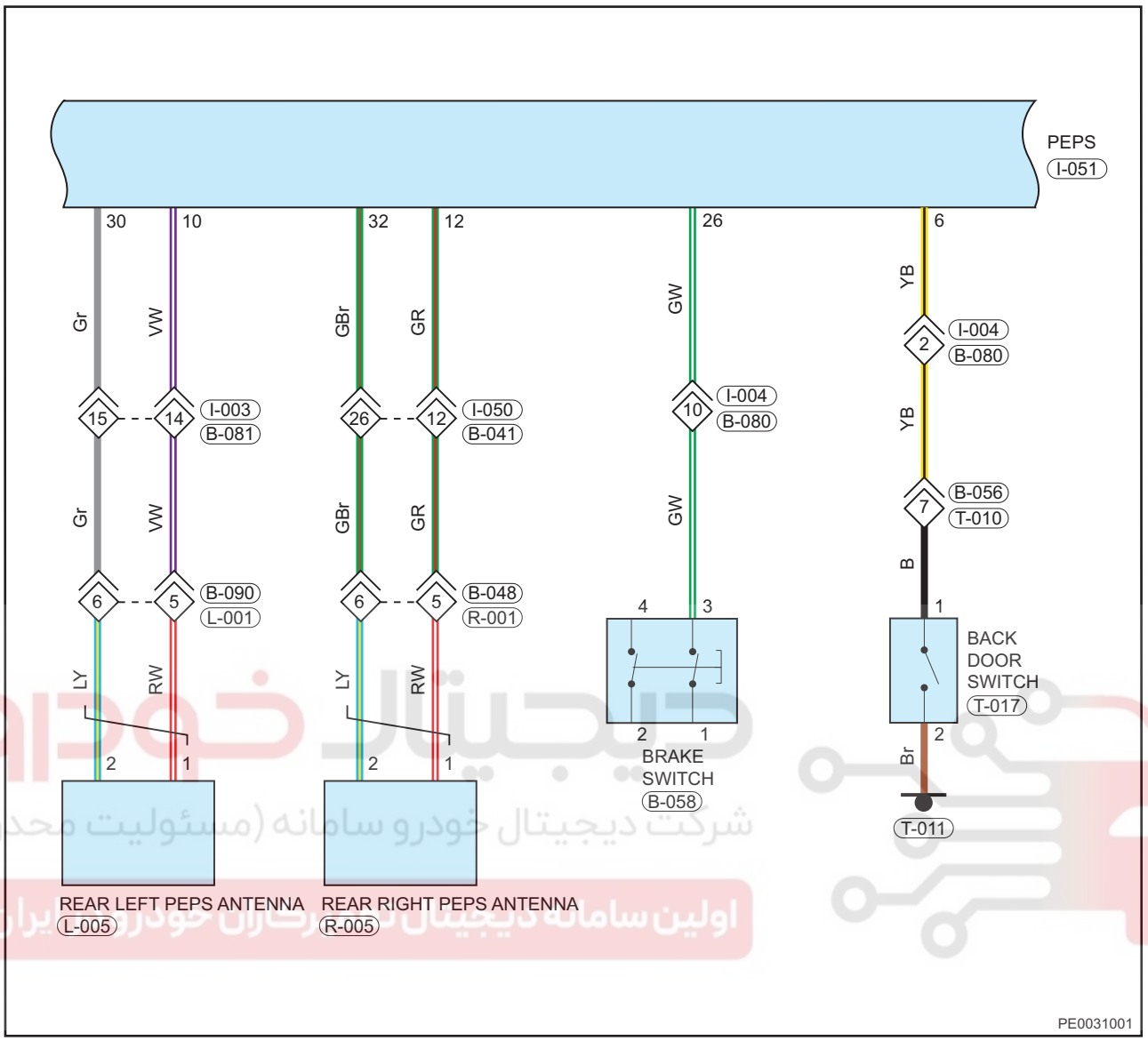
Body ground points are very important to the proper operation of circuits. Body ground points are often exposed to moisture, dirt and other corrosive environments. Corrosion (rust) may increase load resistance. This situation may change the way in which a circuit works. Circuits are very sensitive to proper body grounding. A loose or corroded body ground can affect the control circuit. Check the body ground points as follows:

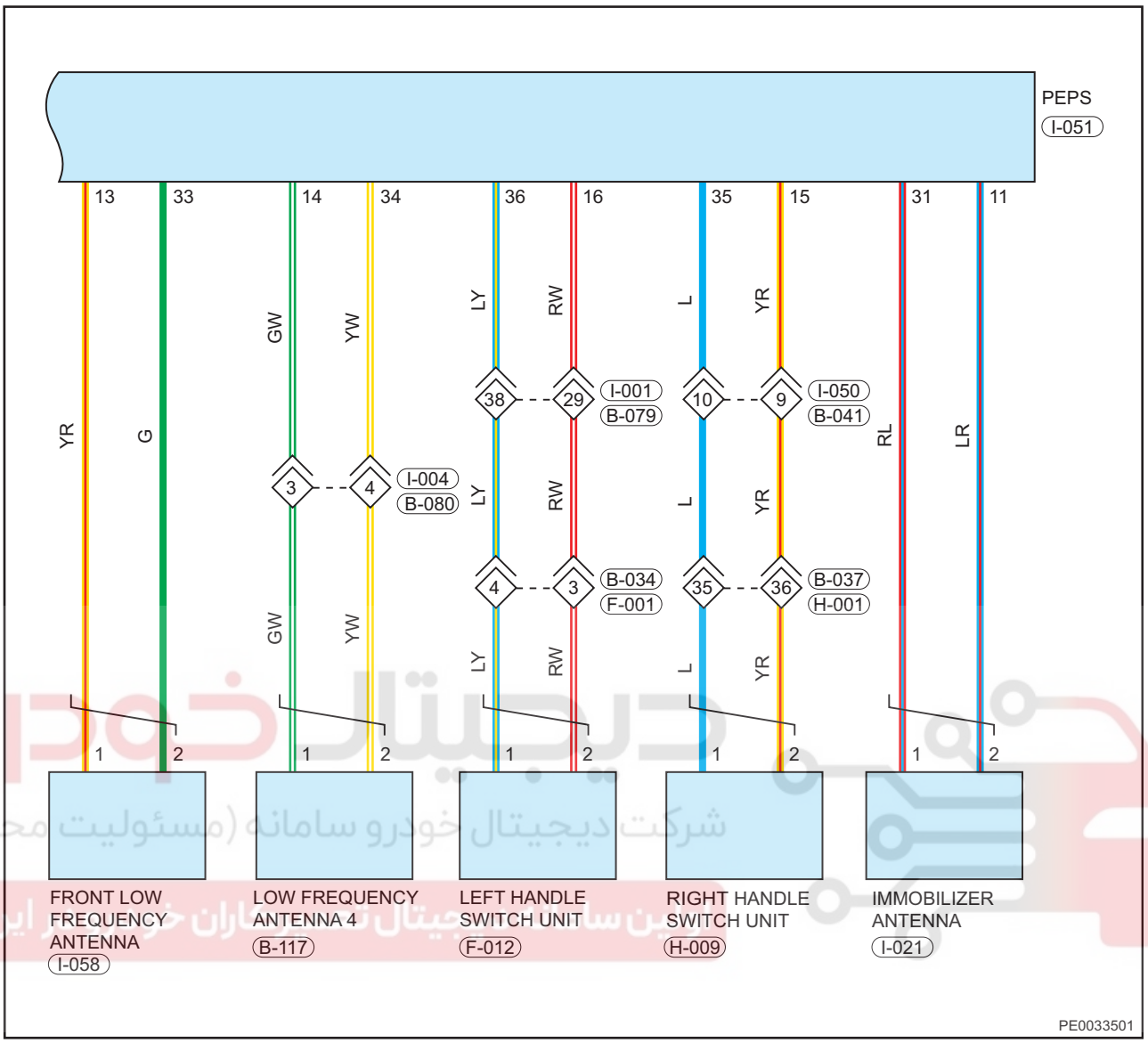
1. Remove body ground bolt or nut.
2. Check all contact surfaces for tarnish, dirt and rust, etc.
3. Clean as necessary to ensure that contact is in good condition.
4. Reinstall body ground bolt or nut securely.
5. Check if there are add-on accessories that interfere with body ground circuit.
6. If several wire harnesses are crimped into one body ground terminal, check for proper crimps. Make sure all wire harnesses are clean, securely fastened with providing a good body ground path.

PEPS Circuit Diagram

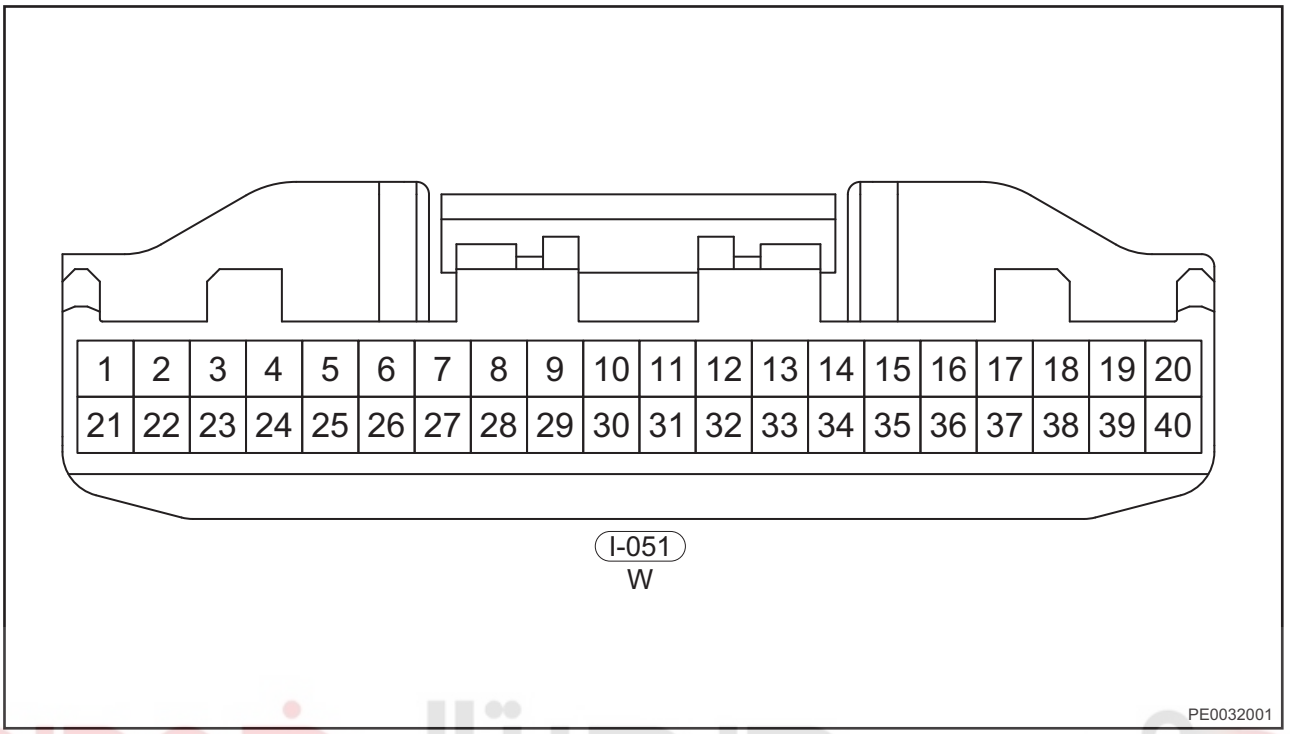








PEPS Control Module Assembly Terminal List



Terminal No.	Terminal Definition	Terminal No.	Terminal Definition
1	-	21	-
2	-	22	Clutch Switch Signal
3	B-CAN H	23	Start Switch Indication
4	B-CAN L	24	Start Switch Indication
5	Clutch Switch (Constant ON)	25	Start Switch Illustration
6	Back Door Opener Switch	26	Brake Signal
7	Start Switch 2	27	-
8	Start Switch 1	28	Analog Ground
9	-	29	-
10	RL PEPS Antenna Positive Terminal	30	RL PEPS Antenna Negative Terminal
11	Immobilizer Coil DCT Negative Terminal	31	Immobilizer Coil DCT Positive Terminal
12	RR PEPS Antenna Positive Terminal	32	RR PEPS Antenna Negative Terminal
13	Front Low Frequency Positive Terminal	33	Front Low Frequency Negative Terminal
14	Low Frequency Antenna 4 Positive Terminal	34	Low Frequency Antenna 4 Negative Terminal
15	FR Door Handle Sensor Positive Terminal	35	FR Door Handle Sensor Negative Terminal
16	FL Door Handle Sensor Positive Terminal	36	FL Door Handle Sensor Negative Terminal
17	IGN1 Power Supply	37	Ground
18	IGN1 Relay	38	Start Relay
19	-	39	Start Relay (High)
20	Ignition Signal	40	ACC Relay

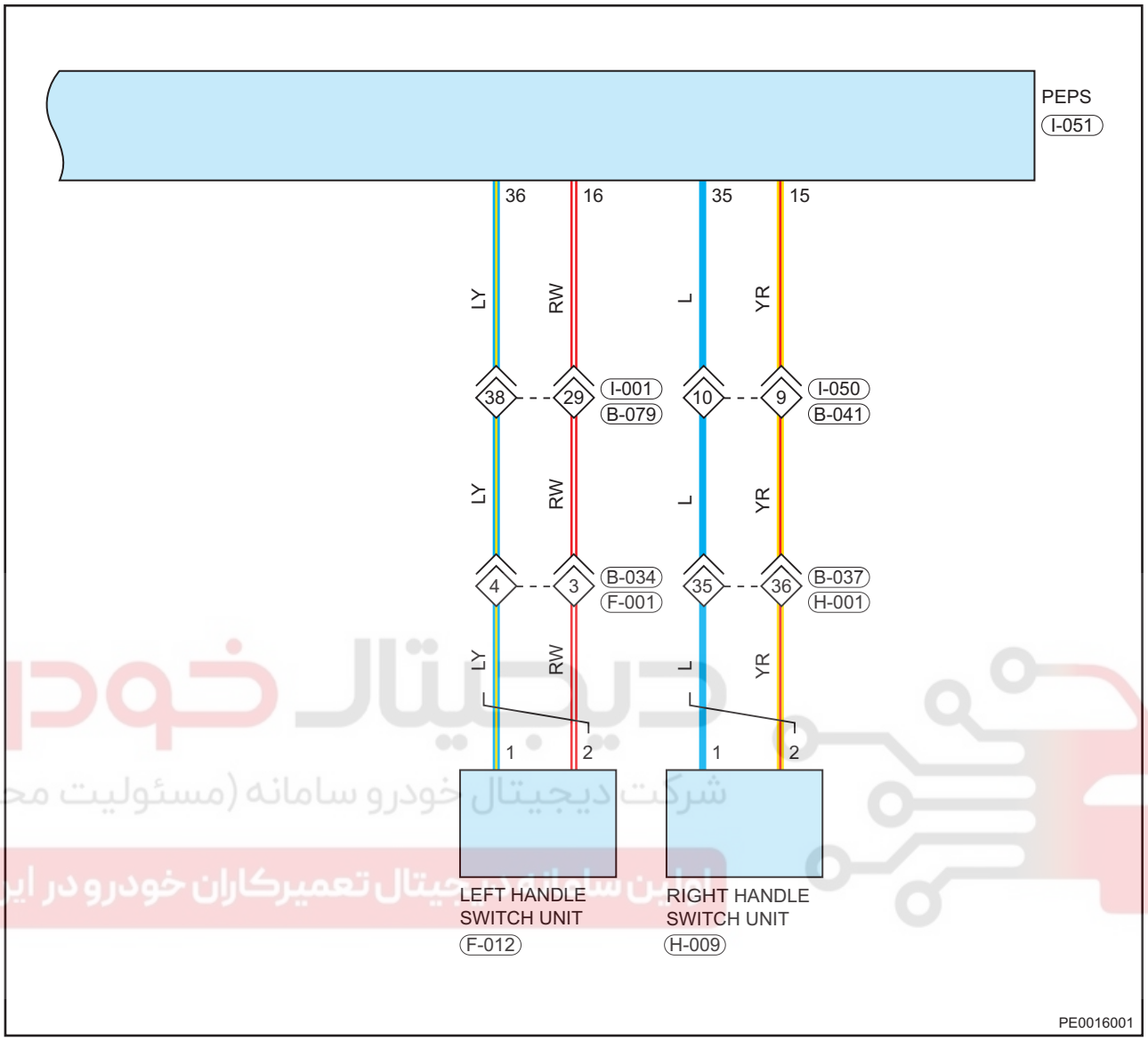
Diagnostic Trouble Code (DTC) Chart

DTC	DTC Definition
B1500	Driver Door Outside LF Antenna
B1501	Passenger Door Outside LF Antenna
B1502	Front Internal LF Antenna

DTC	DTC Definition
B1505	Bumper LF Antenna
B1506	Abnormality on Switches of Engine Switch
B1507	Abnormality in IG Circuit
B1508	Abnormality in ACC Circuit
B1509	Abnormality in Brake Signal
B152D	Switch Stuck
B1506	Abnormality on Switches of Engine Switch
B1507	Abnormality in IG Circuit
B1508	Abnormality in ACC Circuit
B150A	Abnormality in Vehicle Speed Signal
B1509	Abnormality in Brake Signal
B150C	Clutch Switch Signal Error
B150D	Abnormality on ESCL LCK_GND
B150E	Abnormality on ESCL LCK_PS
B1515	ROM Checksumm Failure
B1518	Trunk/Back Door Unlock Switch Stuck Failure
B150F	ESCL Anti Scanning
U0073	CAN Bus Off
U0100	Lost of Communication with Engine Control System Module
U0101	Lost of Communication with Transmission Control Unit
U0129	Lost Communication with Brake System Module
U0140	Lost Communication with Body Control Module
U0329	Lost communication with Electronic Steering Column Lock
U1300	Software Configuration Error

DTC	B1500	Driver Door Outside LF Antenna
DTC	B1501	Passenger Door Outside LF Antenna
DTC	B1522	Open Circuit on Drive Door PSU
DTC	B1523	Open Circuit on Passenger Door PSU
DTC	B1529	Short Circuit on Driver Door HSU/PSU
DTC	B152A	Short Circuit on Passenger Door HSU/PSU
DTC	B152B	Stuck on Driver Door HSU/PSU
DTC	B152C	Stuck on Passenger Door HSU/PSU

Circuit Diagram



Description

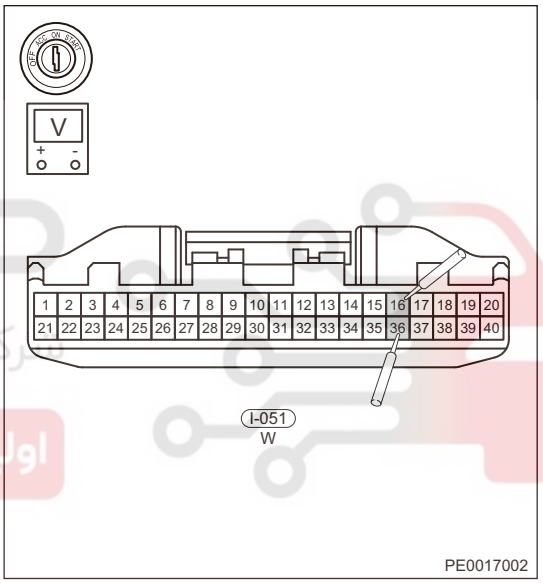
DTC	DTC Definition
B1500	Driver Door Outside LF Antenna
B1501	Passenger Door Outside LF Antenna
B1522	Open Circuit on Drive Door PSU
B1523	Open Circuit on Passenger Door PSU
B1529	Short Circuit on Driver Door HSU/PSU
B152A	Short Circuit on Passenger Door HSU/PSU

Caution:
Take driver side low frequency antenna as an example to explain troubleshooting procedures for reference.
When performing electrical equipment diagnosis and test, always refer to circuit diagram for related circuit and component information.

28 **Procedure**

1	Check if PEPS module output voltage is normal

(a) Turn ENGINE START STOP switch to OFF.
(b) Disconnect the negative battery cable.
(c) Disconnect the PEPS module connector I-051.
(d) Check if wire harnesses are worn, pierced, pinched or partially broken.
(e) Check for broken, bent, protruded or corroded terminals.
(f) Check if related connector pins are in good condition.
(g) Connect the negative battery cable, turn ENGINE START STOP switch to ON, use DC voltage band of digital multimeter to measure if voltage between PEPS terminals I-051 (16) and I-051 (36) is normal.



OK

Multimeter Connection	Condition	Specified Condition
I-051 (16) - I-051 (36)	Always	12V

Result

Proceed to
OK
NG

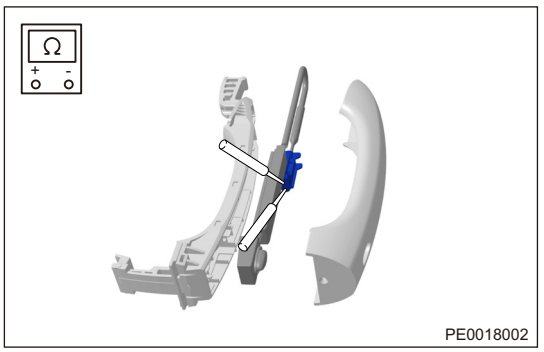
NG → **Replace PEPS module assembly**

OK

2	Check door handle sensor

(a) Turn ENGINE START STOP switch to OFF.
(b) Disconnect the negative battery cable.
(c) Disconnect the front left door sensor connector F-012.
(d) Check if wire harnesses are worn, pierced, pinched or partially broken.
(e) Check for broken, bent, protruded or corroded terminals.
(f) Check if related connector pins are in good condition.

(g) Outside handle is capacitive sensing type. Using ohm band of digital multimeter, measure resistance of front left door outside handle.



OK

Multimeter Connection	Condition	Specified Condition
F-012(1)-F-012(2)	OK	No continuity

Result

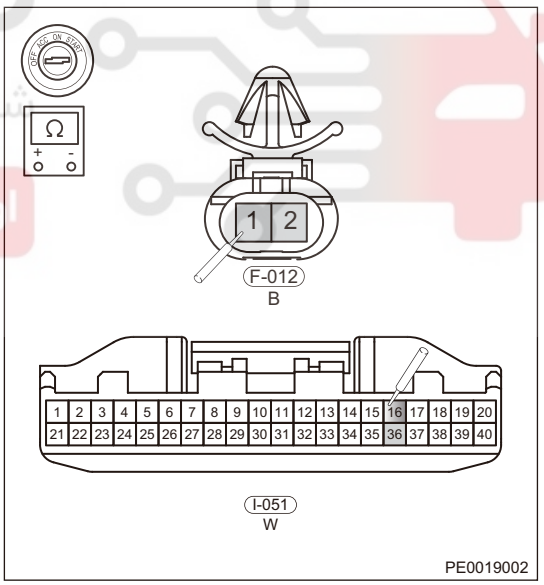
Proceed to
OK
NG

NG → **Replace left door handle sensor**

OK

3	Check front left door wire harness for open or short

(a) Disconnect the front left door outside handle wire harness connector F-012.
(b) Check if wire harnesses are worn, pierced, pinched or partially broken.
(c) Check for broken, bent, protruded or corroded terminals.
(d) Check if related connector pins are in good condition.
(e) Using ohm band of digital multimeter, measure community between terminals F-012 (1), (2) and PEPS module connector I-051 (16), (36) to check front left door wire harness for open.



OK

Multimeter Connection	Condition	Specified Condition
F-012 (1) - I-051 (16)	Always	⩽ 1 Ω
F-012 (2) - I-051 (36)	Always	⩽ 1 Ω

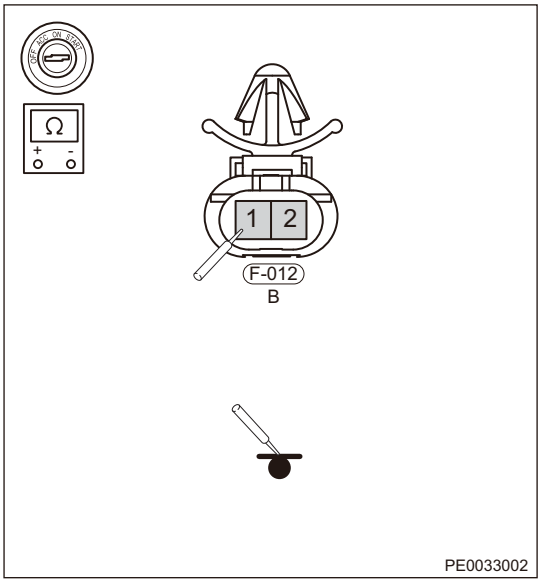
(f) Using ohm band of digital multimeter, measure resistance between terminals 1, 2 of front left door wire harness connector F-012 and body ground to check front left door wire harness for short to body ground.

OK

Multimeter Connection	Condition	Normal Condition
F-012 (1) - Body ground	Always	No continuity
F-012 (2) - Body ground	Always	No continuity

Result

Proceed to
OK
NG

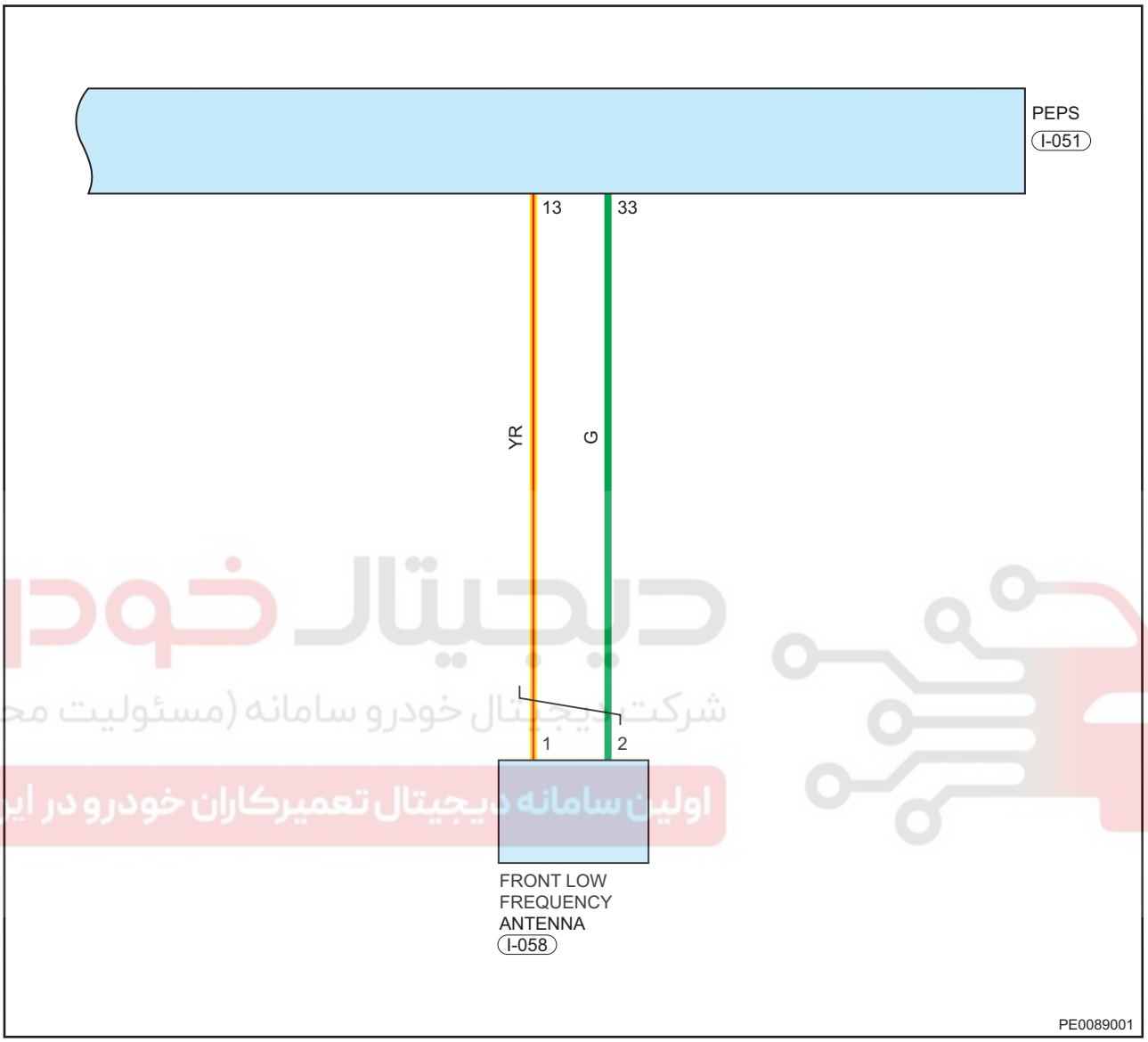


NEXT → **Replace PEPS module**

NEXT → **Replace interior wire harness**

DTC	B1502	Front Internal LF Antenna

Circuit Diagram



Description

DTC	DTC Definition
B1502	Front Internal LF Antenna

Hint:
Caution:
When performing electrical equipment diagnosis and test, always refer to circuit diagram for related circuit and component information.

28 **Procedure**

1	Check if PEPS module software configuration code is correct

(a) Using diagnostic tester, enter PEPS system.
(b) Read software configuration code and check if it is correct.

Result

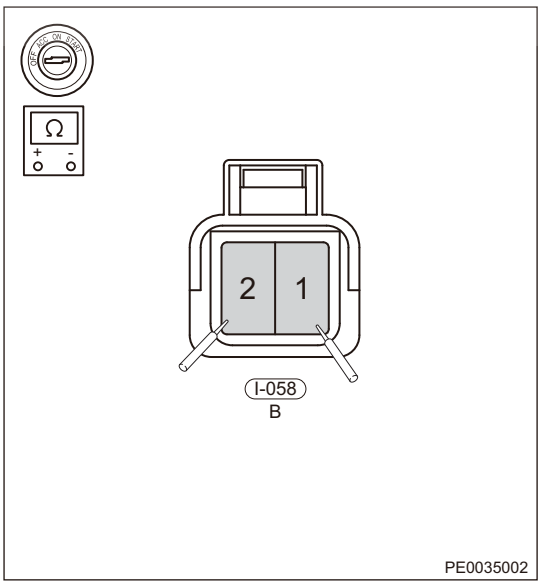
Proceed to
OK
NG

NG → **Input configuration code again and clear DTC**

OK

2	Measure resistance of front low frequency antenna

(a) Turn ENGINE START STOP switch to OFF.
(b) Disconnect the negative battery cable.
(c) Disconnect the front low frequency antenna connector I-058.
(d) Check if wire harnesses are worn, pierced, pinched or partially broken.
(e) Check for broken, bent, protruded or corroded terminals.
(f) Check if related connector pins are in good condition.
(g) Using ohm band of digital multimeter, measure if resistance between front low frequency antenna I-058 (1) and (2) is normal.



OK

Multimeter Connection	Condition	Normal Condition
I-058 (1) - I-058 (2)	Always	≈ 10 KΩ

Result

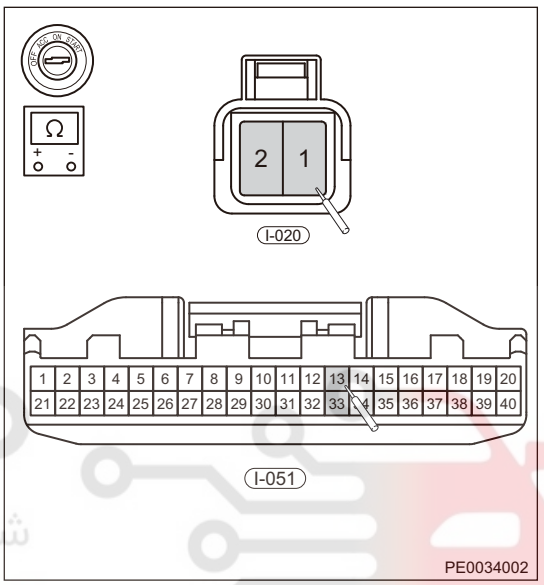
Proceed to
OK
NG

NG → **Replace low frequency antenna**

OK

3	Check interior wire harness for open or short

(a) Turn ENGINE START STOP switch to OFF.
(b) Disconnect the negative battery cable.
(c) Disconnect front low frequency antenna connector I-058 and PEPS module connector I-051.
(d) Check if wire harnesses are worn, pierced, pinched or partially broken.
(e) Check for broken, bent, protruded or corroded terminals.
(f) Check if related connector pins are in good condition.
(g) Using ohm band of digital multimeter, measure community between I-058 (1), (2) and I-051 (13), (33) to check instrument panel wire harness for open.



OK

Multimeter Connection	Condition	Normal Condition
I-058 (1) - I-051 (13)	Always	⩽ 1 Ω
I-058 (2) - I-051 (33)	Always	⩽ 1 Ω

(h) Using ohm band of digital multimeter, measure community between terminals (1), (2) of connector I-058 and body ground separately to check instrument panel wire harness for short to body ground.

OK

Multimeter Connection	Condition	Specified Condition
I-058 (1) - Body ground	Always	No continuity
I-058 (2) - Body ground	Always	No continuity

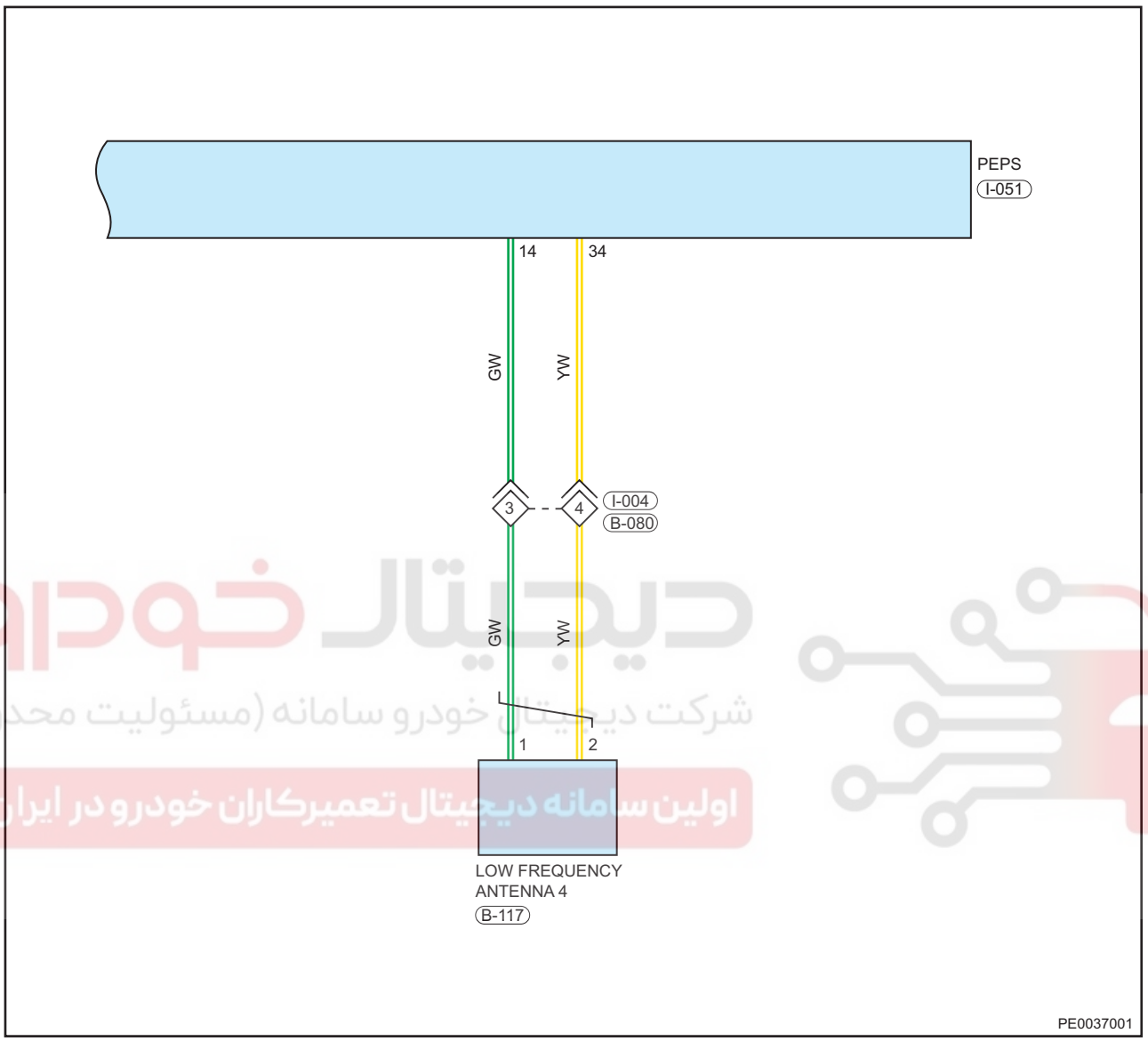
Result

Proceed to
OK
NG

OK	**Replace PEPS module**
NG	**Replace instrument panel wire harness**

DTC	B1505	Bumper LF Antenna

Circuit Diagram



Description

DTC	DTC Definition
B1505	Bumper LF Antenna

Hint:

Caution:

When performing electrical equipment diagnosis and test, always refer to circuit diagram for related circuit and component information.

Procedure

1	Check if PEPS module software configuration code is correct

(a) Using diagnostic tester, enter PEPS system.
(b) Read software configuration code and check if it is correct.

Result

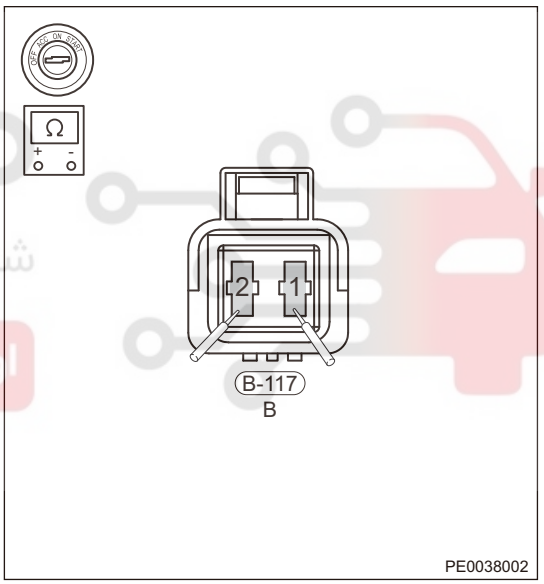
Proceed to
OK
NG

NG → **Input configuration code again and clear DTC**

OK

2 Measure resistance of bumper low frequency antenna

(a) Turn ENGINE START STOP switch to OFF.
(b) Disconnect the negative battery cable.
(c) Disconnect the front low frequency antenna connector B-117.
(d) Check if wire harnesses are worn, pierced, pinched or partially broken.
(e) Check for broken, bent, protruded or corroded terminals.
(f) Check if related connector pins are in good condition.
(g) Using ohm band of digital multimeter, measure if resistance between front low frequency antenna B-117 (1) and (2) is normal.



OK

Multimeter Connection	Condition	Normal Condition
B-117(1)-B-117(2)	Always	≈ 10 KΩ

Result

Proceed to
OK
NG

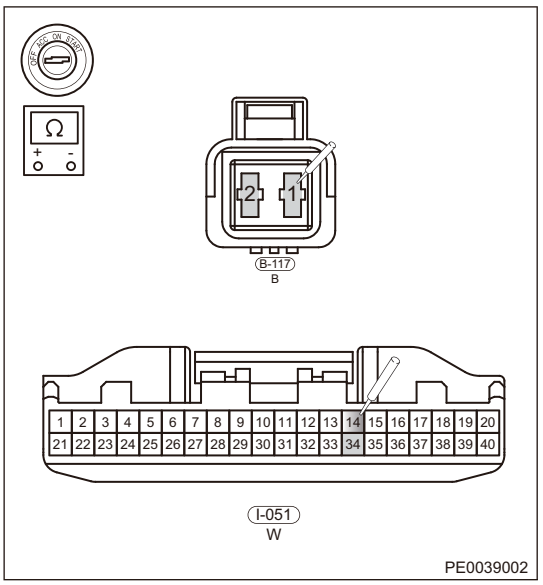
NG → **Replace bumper low frequency antenna**

OK

3 Check interior wire harness for open or short

(a) Turn ENGINE START STOP switch to OFF.
(b) Disconnect the negative battery cable.
(c) Disconnect bumper low frequency antenna connector B-117 and PEPS module connector I-051.
(d) Check if wire harnesses are worn, pierced, pinched or partially broken.
(e) Check for broken, bent, protruded or corroded terminals.
(f) Check if related connector pins are in good condition.

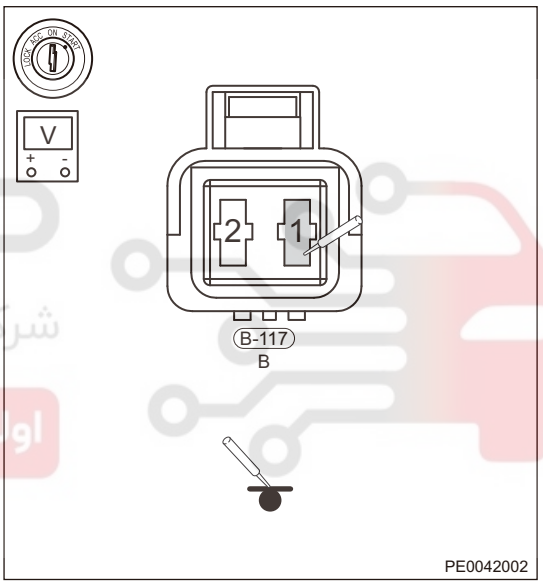
(g) Using ohm band of digital multimeter, measure community between B-117 (1), (2) and I-051 (14), (34) separately to check instrument panel wire harness for open.



OK

Multimeter Connection	Condition	Normal Condition
B-117(1)-I-051(14)	Always	⩽ 1 Ω
B-117(2)-I-051(34)	Always	⩽ 1 Ω

(h) Using digital multimeter, measure voltage between terminal B-117 (1) of bumper low frequency antenna and body ground to check PEPS module for power supply output.



OK

Multimeter Connection	Condition	Normal Condition
B-117 (1) - Body ground	Always	12 V

(i) Using ohm band of digital multimeter, measure community between terminals (1), (2) of connector B-117 and body ground separately to check instrument panel wire harness for short to body ground.

OK

Multimeter Connection	Condition	Specified Condition
B-117 (1) - Body ground	Always	No continuity
B-117 (2) - Body ground	Always	No continuity

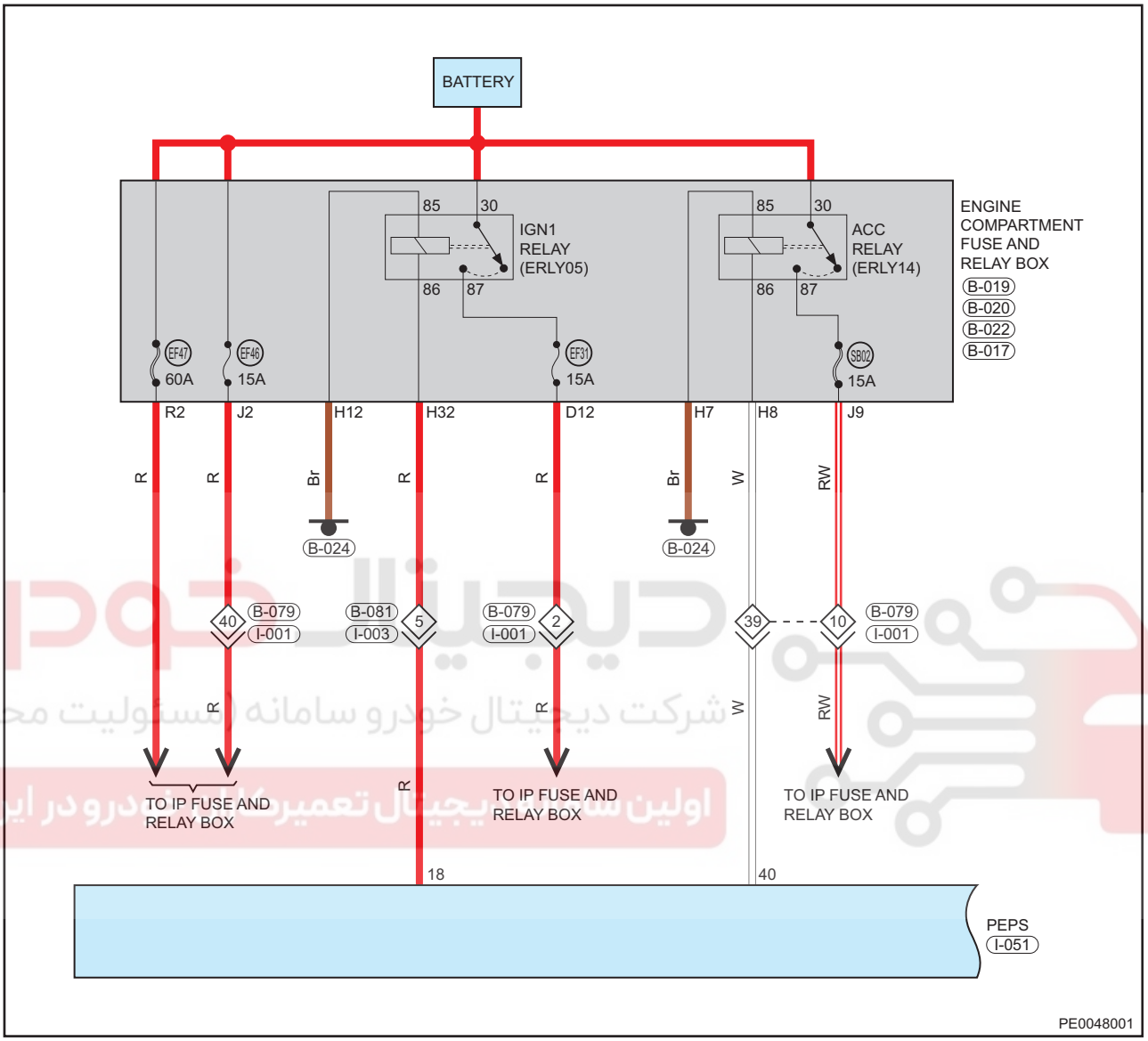
Result

Proceed to
OK
NG

OK	**Replace PEPS module**
NG	**Replace instrument panel wire harness**

DTC	B1508	Abnormality in ACC Circuit

Circuit Diagram



Description

DTC	DTC Definition
B1508	Abnormality in ACC Circuit

Caution:
When performing electrical equipment diagnosis and test, always refer to circuit diagram for related circuit and component information.

Procedure

1	**Check fuse**

(a) Measure fuse SB02-15A in engine compartment fuse and relay box with 21 W test light to check if test light comes on.

Result

Proceed to
OK
NG

OK → **Turn off vehicle power supply (disconnect the negative battery cable), then turn on power supply again and clear DTC.**

NG

2	**Check if fuse base jack is abnormal**

(a) Remove fuse SB02-15A in engine compartment fuse and relay box and check fuse base jack for excessive clearance.

Result

Proceed to
OK
NG

NG → **Adjust fuse base jack**

OK

3	**Adjust ACC relay**

Result

Proceed to
OK
NG

OK → **Replace ACC relay**

NG

4	**Check if relay switch power supply is normal**

(a) Unplug ERLY14 relay in engine compartment fuse and relay box.
(b) Using 21 W test light or digital multimeter, measure if power supply of ACC relay base No.30 jack is normal.

OK

Multimeter Connection	Condition	Specified Condition
ACC relay base 30 - Body ground (digital multimeter)	Always	Not less than 12V
ACC relay base 30 - Body ground (21 W test light)	Always	ON

Result

Proceed to
OK
NG

NG → **Replace front bumper wire harness**

OK

5 Short connect the ACC relay base jack control switch

(a) Use a wire to bridge joint jacks 30 and 87 of relay ERLY14 base in engine compartment fuse and relay box, and check engine compartment fuse and relay box for open.

Result

Proceed to
OK
NG

NG → **Replace front bumper wire harness**

OK

6 Check ACC relay control body ground

(a) Using ohm band of digital multimeter, measure community between jack 86 of ACC relay base and terminal B–020 (8) of engine compartment fuse and relay box to check engine compartment fuse and relay box for open.

OK

Multimeter Connection	Condition	Specified Condition
ACC relay base 86 - B-020 (8)	Always	⩽ 1 Ω

(b) Using ohm band of digital multimeter, measure community between terminal B-020 (7) of engine compartment fuse and relay box and ground point B-024 to check if ground circuit is abnormal.

OK

Multimeter Connection	Condition	Specified Condition
B-020(7)-B-024	Always	⩽ 1 Ω

Result

Proceed to
OK
NG

NG → **Handle the B-024 ground position or replace the front bumper wire harness**

OK

28

7	Check ACC relay control power supply side

(a) Disconnect the negative battery cable.
(b) Disconnect the PEPS module connector I-051.
(c) Check if wire harnesses are worn, pierced, pinched or partially broken.
(d) Check for broken, bent, protruded or corroded terminals.
(e) Check if related connector pins are in good condition.
(f) Using ohm band of digital multimeter, measure resistance between terminal B-020 (8) of engine compartment fuse and relay box and terminal I-051 (40).

OK

Multimeter Connection	Condition	Specified Condition
B-020(8)-I-051(40)	Always	⩽ 1 Ω

Result

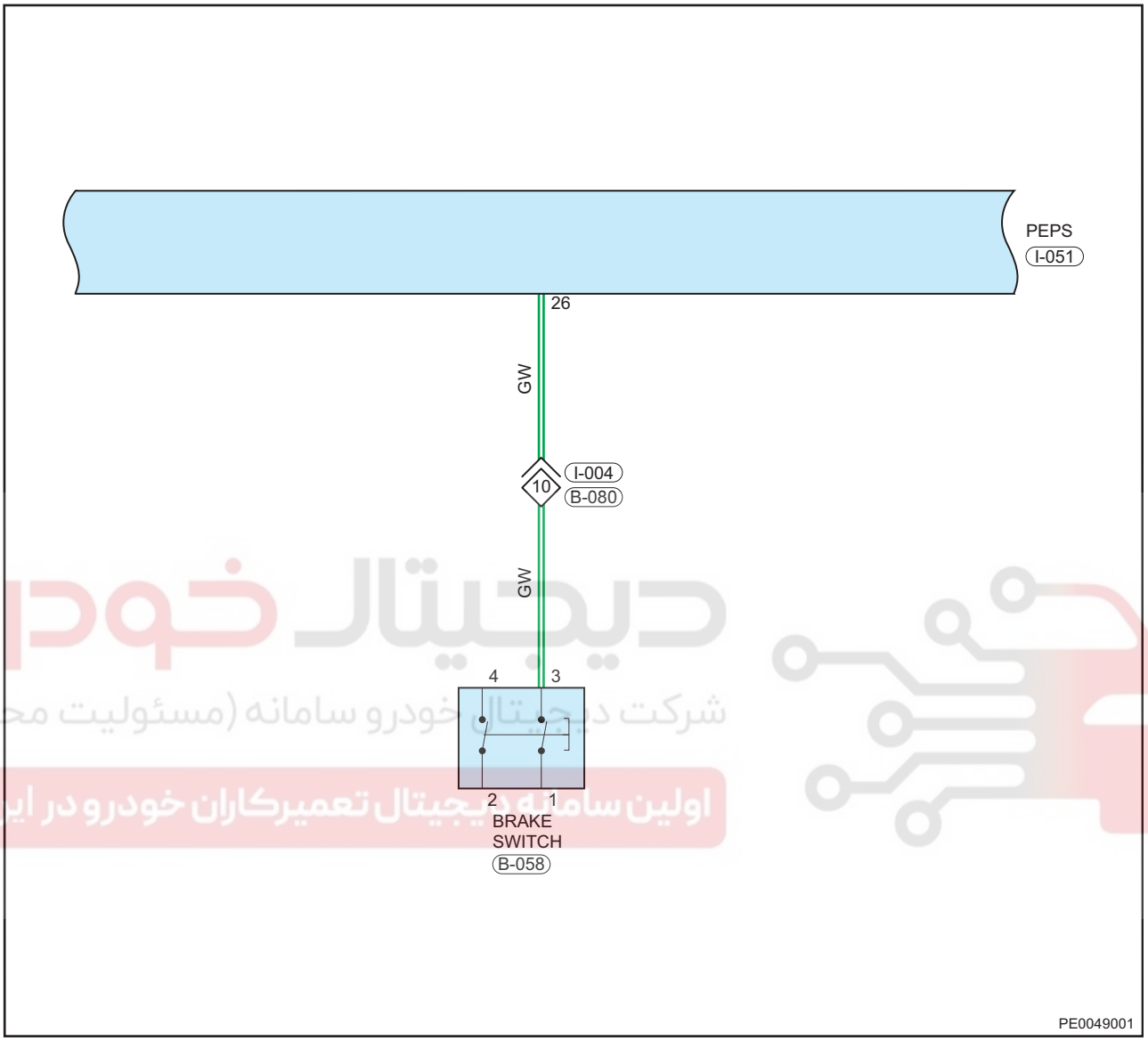
Proceed to
OK
NG

OK → **Replace PEPS module**

NG → **Replace wire harness**

DTC	B1509	Abnormality in Brake Signal

Circuit Diagram



Description

DTC	DTC Definition
B1509	Abnormality in Brake Signal

Caution:
When performing electrical equipment diagnosis and test, always refer to circuit diagram for related circuit and component information.

Procedure

1	Check for DTCs

(a) Using diagnostic tester, clear DTC and read PEPS control module assembly DTC again.
(b) Check if DTCs occur again.

Result

Proceed to
OK
NG

OK → **System is normal**

NG

2	Using diagnostic tester, enter other system

(a) Using diagnostic tester, enter other system (such as ESP module, TCU) and check if same DTC occurs.

Result

Proceed to
OK
NG

NG

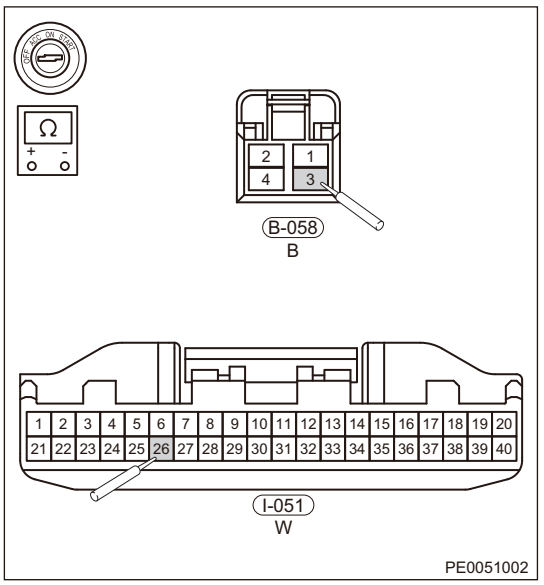
3	Check interior wire harness and connector

(a) Turn ENGINE START STOP switch to OFF.
(b) Disconnect the negative battery cable.
(c) Disconnect instrument panel wire harness connector I-001, interior wire harness connector B-079 and PEPS module connector I-051.
(d) Check if wire harnesses are worn, pierced, pinched or partially broken.
(e) Check for broken, bent, protruded or corroded terminals.
(f) Check if related connector pins are in good condition.

(g) Using ohm band of digital multimeter, measure community between I-051(26) and brake switch B-058 (3) to check for open circuit.

OK

Multimeter Connection	Condition	Specified Condition
I-051(26)-B-058(3)	Always	⩽ 1 Ω



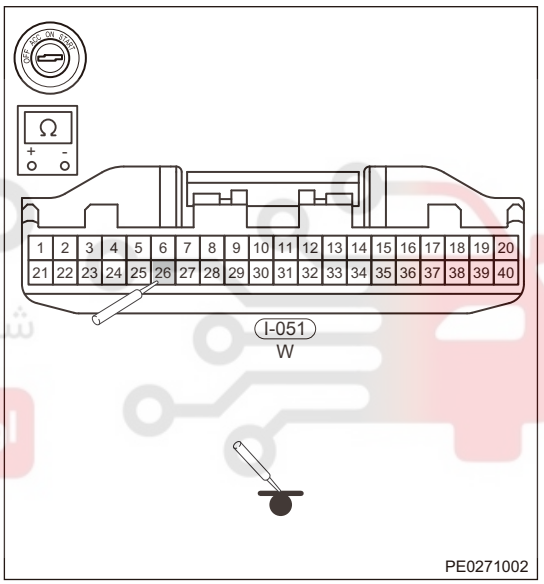
(h) Using ohm band of digital multimeter, measure community between terminal I-051 (26) and body ground to check for short to body ground.

OK

Multimeter Connection	Condition	Specified Condition
I-051 (26) - Body ground	Always	No continuity

Result

Proceed to
OK
NG



OK → **Replace PEPS module**

NG → **Replace interior wire harness**

4 Check fuse

(a) Measure fuse EF32-10A in engine compartment fuse and relay box with 21 W test light.

Result

Proceed to
OK
NG

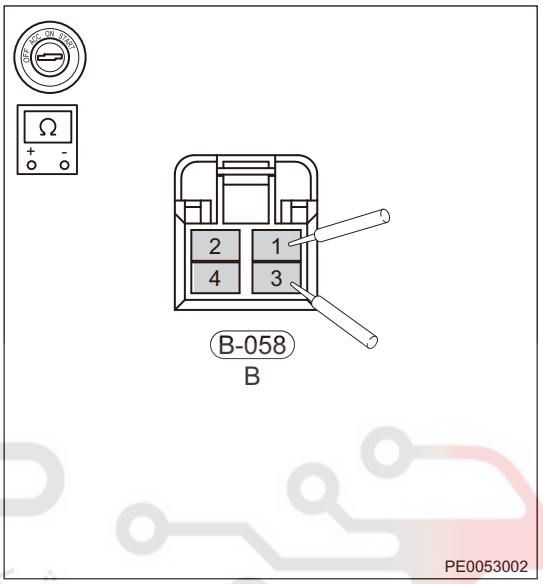
NG

5	Check brake switch

(a) Turn ENGINE START STOP switch to OFF.
(b) Disconnect the negative battery cable.
(c) Disconnect the connector B-058.
(d) Check if wire harnesses are worn, pierced, pinched or partially broken.
(e) Check for broken, bent, protruded or corroded terminals.
(f) Check if related connector pins are in good condition.
(g) Using digital multimeter, measure internal resistance of brake switch to check if brake switch is abnormal

OK

Multimeter Connection	Condition	Specified Condition
B-058(1)-B-058(3)	Brake pedal not depressed	No continuity
B-058(1)-B-058(3)	Brake pedal depressed	⩽ 1 Ω
B-058(2)-B-058(4)	Brake pedal not depressed	⩽ 1 Ω
B-058(2)-B-058(4)	Brake pedal depressed	No continuity



Result

Proceed to
OK
NG

OK → **Turn on power supply again and clear DTC**

NG → **Replace brake switch**

6	Check fuse base jack

(a) Turn ENGINE START STOP switch to OFF.
(b) Disconnect the negative battery cable.
(c) Remove fuse EF32-10A in engine compartment fuse and relay box and check fuse base jack for excessive clearance.

Result

Proceed to
OK
NG

NG → **Adjust fuse jack clearance**

OK

7	Check fuse base jack input power supply

(a) Connect the negative battery cable.

(b) Turn ignition switch to ON.
(c) Measure fuse jack input power supply with 21 W test light and check if test light comes on.

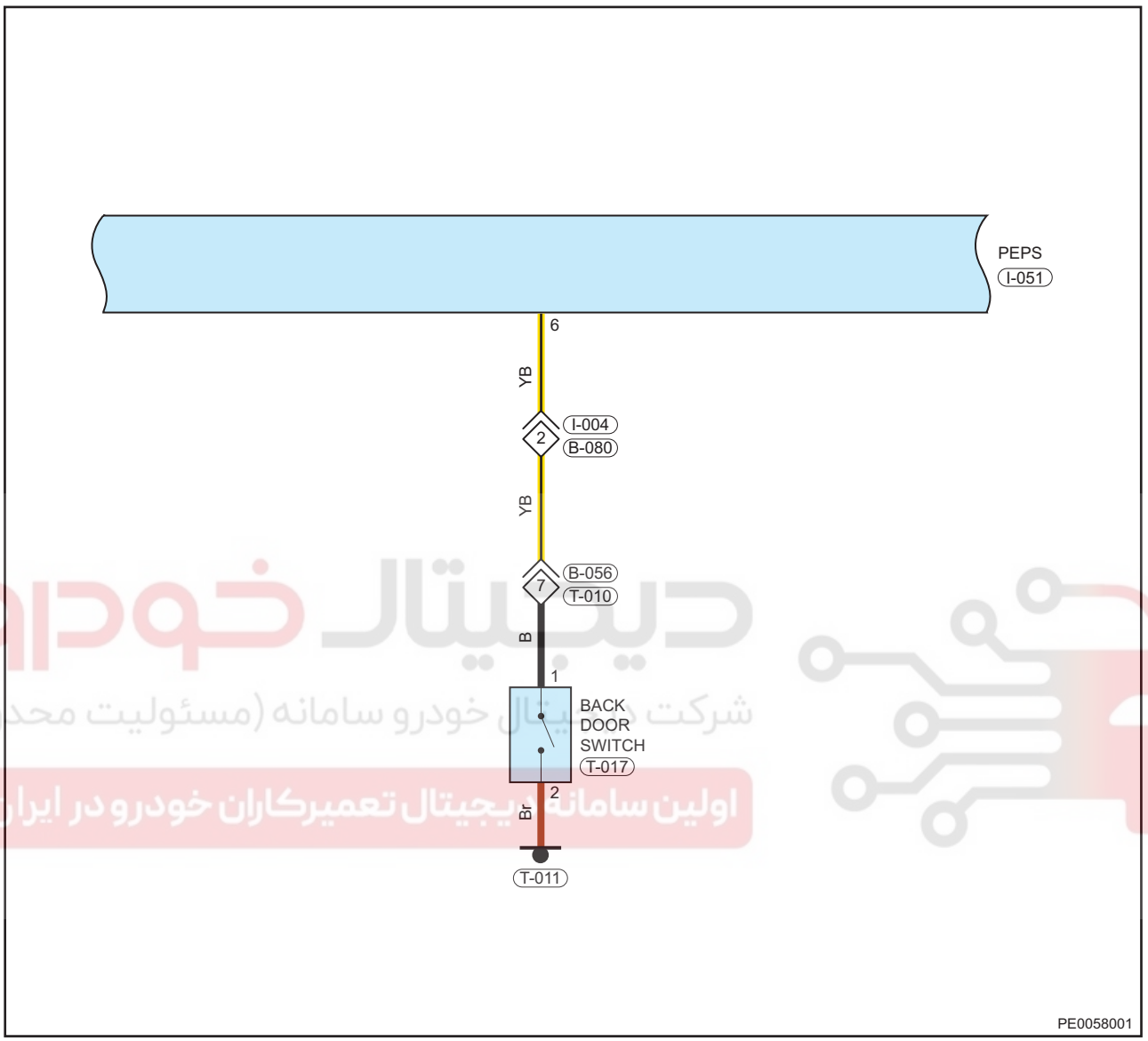
Result

Proceed to
OK
NG

OK	**Replace PEPS module**
NG	**Replace interior wire harness**

DTC	B1518	Trunk/Back Door Unlock Switch Stuck Failure

Circuit Diagram



Description

DTC	DTC Definition
B1518	Trunk/Back Door Unlock Switch Stuck Failure
B1519	Back Door Lock Switch Continuously Pressed

Caution:
When performing electrical equipment diagnosis and test, always refer to circuit diagram for related circuit and component information.

Procedure

1	Check vehicle malfunction condition

(a) Press luggage compartment door release switch to check if luggage compartment door is opened.

Result

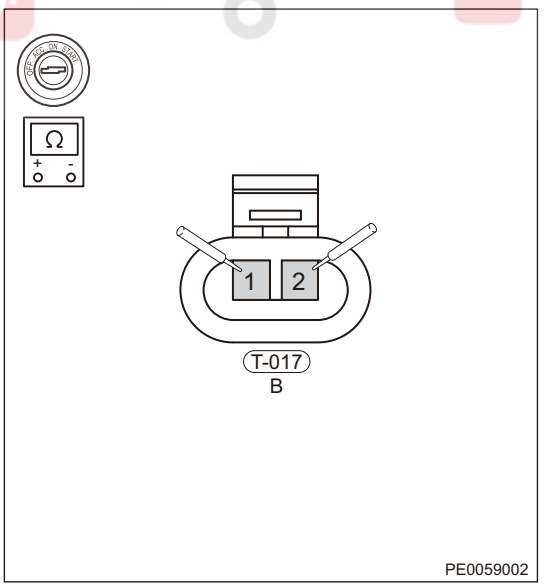
Proceed to
OK
NG

OK → **Turn off vehicle power supply (disconnect the negative battery cable), then turn on power supply again and clear DTC.**

NG

2	Check luggage compartment door release switch

(a) Turn ENGINE START STOP switch to OFF.
(b) Disconnect the negative battery cable.
(c) Disconnect back door release switch connector T-017.
(d) Check if wire harnesses are worn, pierced, pinched or partially broken.
(e) Check for broken, bent, protruded or corroded terminals.
(f) Check if related connector pins are in good condition.
(g) Using ohm band of digital multimeter, measure if resistance of luggage compartment door release switch is normal to check if luggage compartment door release switch is damaged.



OK

Multimeter Connection	Condition	Specified Condition
T-017(1)-T-017(2)	Not pressed	No continuity
T-017(1)-T-017(2)	Pushed	⩽ 1 Ω

Result

Proceed to
OK
NG

NG → **Replace luggage compartment door release switch**

OK

3	Check luggage compartment door release switch ground side

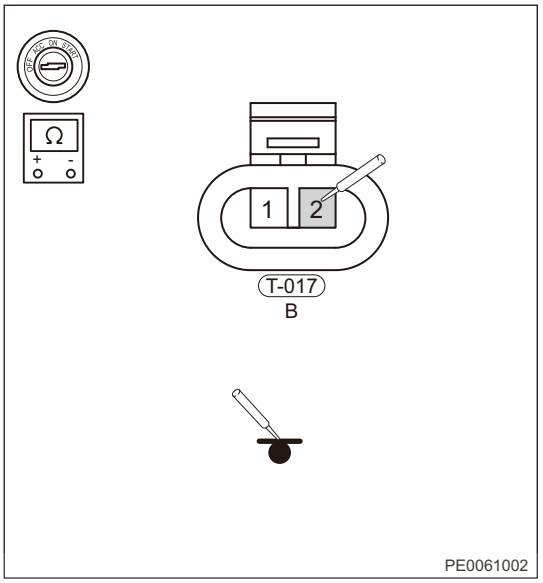
(a) Using ohm band of digital multimeter, measure community between terminal T-017 (2) and ground point T-011 to check if ground side is normal.

OK

Multimeter Connection	Condition	Specified Condition
T-010–2 – T-011	Always	⩽ 1 Ω

Result

Proceed to
OK
NG



NG → **Handle ground point GT-011**

OK →

4	Check luggage compartment door release switch circuit signal voltage

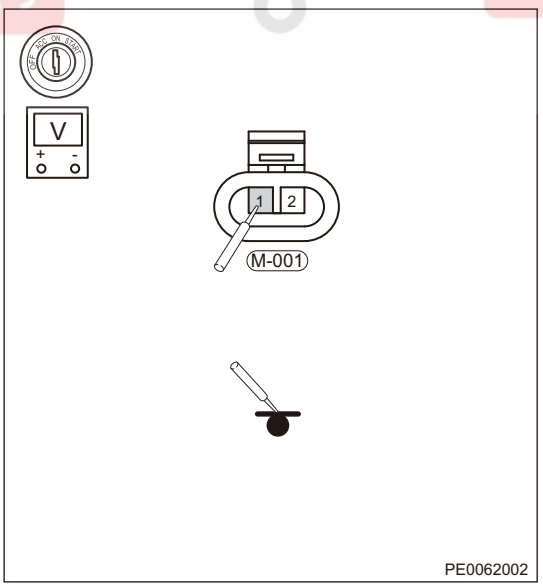
(a) Connect the negative battery cable.
(b) Turn ENGINE START STOP switch to ON.
(c) Using DC voltage band of digital multimeter, measure if signal voltage at terminal T-017 (1) is normal.

OK

Multimeter Connection	Condition	Specified Condition
T-017 (1) - Body ground	ON state	Approximately 12 V

Result

Proceed to
OK
NG



OK → **Repair or replace luggage compartment door wire harness**

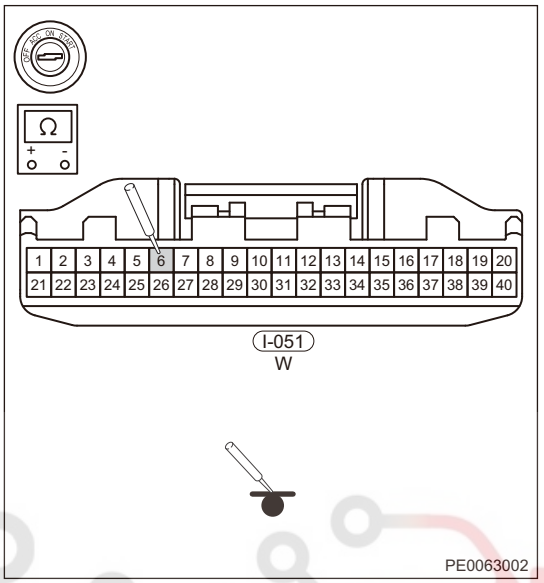
NG →

5	Check interior wire harness for open or short

(a) Disconnect the PEPS module connector I-051.
(b) Check if wire harnesses are worn, pierced, pinched or partially broken.
(c) Check for broken, bent, protruded or corroded terminals.
(d) Check if related connector pins are in good condition.
(e) Using ohm band of digital multimeter, measure resistance between terminal I-051 (6) of PEPS module and body ground to check interior wire harness for short to ground.

OK

Multimeter Connection	Condition	Normal Condition
I-051 (6) - Body ground	Always	No continuity



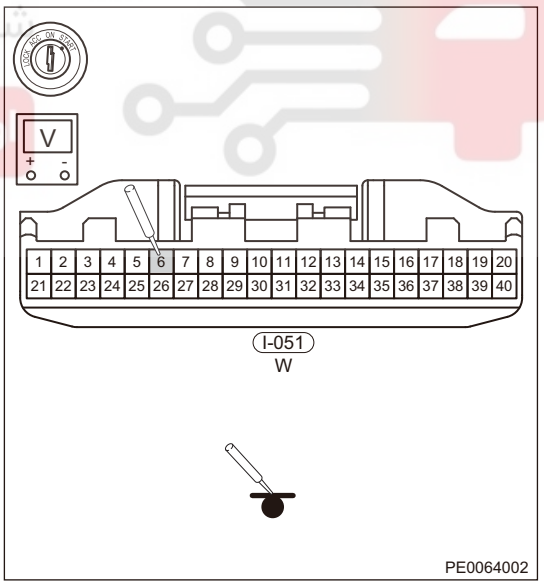
(f) Using voltage band of digital multimeter, measure voltage between terminal I-051 (6) of PEPS module and body ground to check interior wire harness for short to power supply.

OK

Multimeter Connection	Condition	Normal Condition
I-051 (6) - Body ground	Always	Approx. 0V

Result

Proceed to
OK
NG



OK	Replace PEPS module
NG	Replace interior wire harness

DTC	B150F	ESCL Anti Scanning

Description

DTC	DTC Definition
B150F	ESCL Anti Scanning

Procedure

1	Electric steering column lock enters anti-scanning state

(a) Enter anti-theft control system, delete and learn ESCL.

DTC	U0073	CAN Bus Off

DTC	U0100	Lost of Communication with Engine Control System Module

DTC	U0101	Lost of Communication with Transmission Control Unit

DTC	U0129	Lost Communication with Brake System Module

DTC	U0140	Lost Communication with Body Control Module

DTC	U0329	Lost Communication with Electronic Steering Column Lock

Description

DTC	DTC Definition
U0073	CAN Bus Off
U0100	Lost of Communication with Engine Control System Module
U0101	Lost of Communication with Transmission Control Unit
U0129	Lost Communication with Brake System Module
U0140	Lost Communication with Body Control Module
U0329	Lost Communication with Electronic Steering Column Lock

Procedure

1	Refer to "CAN COMMUNICATION" for troubleshooting

ON-VEHICLE SERVICE

PEPS Control Module Assembly

Removal

28

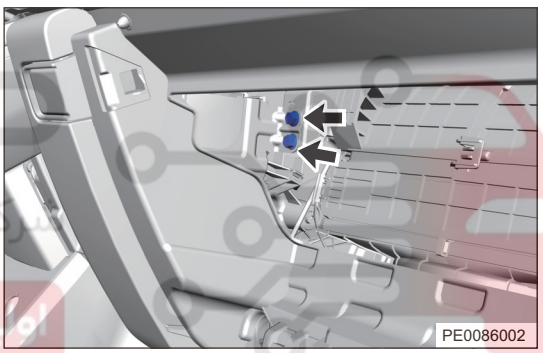
Warning/Caution/Hint

Caution:

- DO NOT separate PEPS controller and fixing bracket at will, or clamping structure of controller will be damaged, unless controller malfunction is confirmed by troubleshooting result, it can be removed and cannot be reused.
- DO NOT replace PCB board of PEPS controller at will, or it cannot be traced back and may be make abnormal sound.
- After replacing PEPS controller assembly, before performing key learning and anti-theft matching, do not press ignition switch at will if nor necessary (it is set that keyless start can be performed for 50 times), to prevent locking PEPS controller and vehicle power supply cannot be turned on.

1. Turn ENGINE START STOP switch to OFF.
2. Disconnect the negative battery cable.
3. Remove the glove box assembly.
4. Remove the PEPS module.

(a) Disconnect the PEPS module connector.



(b) Remove 2 coupling bolts (arrow) between PEPS module mounting bracket and instrument panel crossmember.

Tightening torque

7 ± 1 N·m

(c) Remove PEPS module and mounting bracket assembly carefully.

Installation

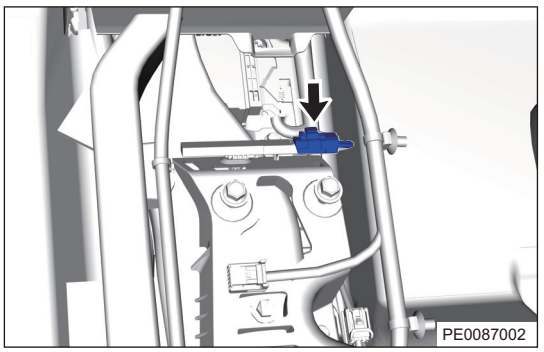
1. Installation is in the reverse order of removal.

Front Low Frequency Antenna

Removal

1. Turn ENGINE START STOP switch to OFF.
2. Disconnect the negative battery cable.
3. Remove the auxiliary fascia console assembly.
4. Remove the front low frequency antenna.

(a) Disconnect the connector (arrow) from front low frequency antenna.



(b) Using an interior crow plate, pry off low frequency antenna fixing clip from mounting bracket and remove low frequency antenna assembly.
Caution:
- DO NOT repeatedly remove and install it, and dispose it if it becomes loosen.

Installation

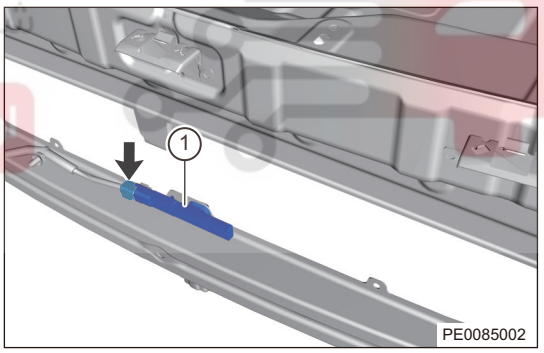
1. Installation is in the reverse order of removal.

Rear Bumper Low Frequency Antenna

Removal

1. Turn ENGINE START STOP switch to OFF.
2. Disconnect the negative battery cable.
3. Remove the rear bumper assembly.
4. Remove the rear low frequency antenna assembly.

(a) Disconnect the connector (arrow) from rear bumper low frequency antenna.



(b) Using a tool, disengage low frequency antenna fixing clip (1) from rear bumper crossmember.
Caution:
- DO NOT repeatedly remove and install it, and dispose it if it becomes loosen.

Installation

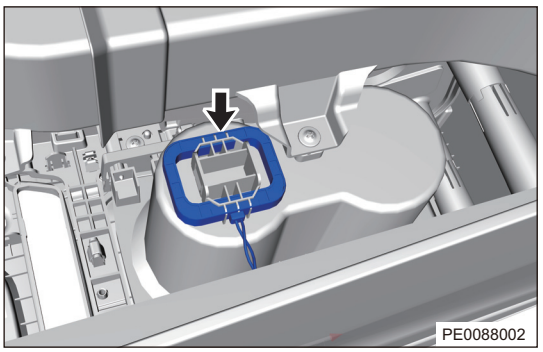
1. Installation is in the reverse order of removal.

Remove the immobilizer coil

Removal

1. Turn ENGINE START STOP switch to OFF.
2. Disconnect the negative battery cable.
3. Remove the A/C panel assembly.
4. Remove the auxiliary fascia console assembly.
5. Immobilizer Coil
   (a) Disconnect the immobilizer coil connector

(b) Press two clips with left hand while hold coil with right hand, and unplug it in opposite direction of installation direction with large force to remove immobilizer coil (arrow).



Installation

1. Installation is in the reverse order of removal.

Caution:

- The immobilizer coil must be installed with a smooth surface against the installation surface, and ensure it is installed in place, otherwise it may fall off from the bracket, thus failing to carry out normal key learning and anti-theft matching.