## Inspection

### Tolerance Compensation

Tolerance compensation compensates for the error margins of Surround view video that occur due to the installation tolerance when the four cameras that comprise the SVM system are installed.

Tolerance compensation must be carried out when the following actions are performed:

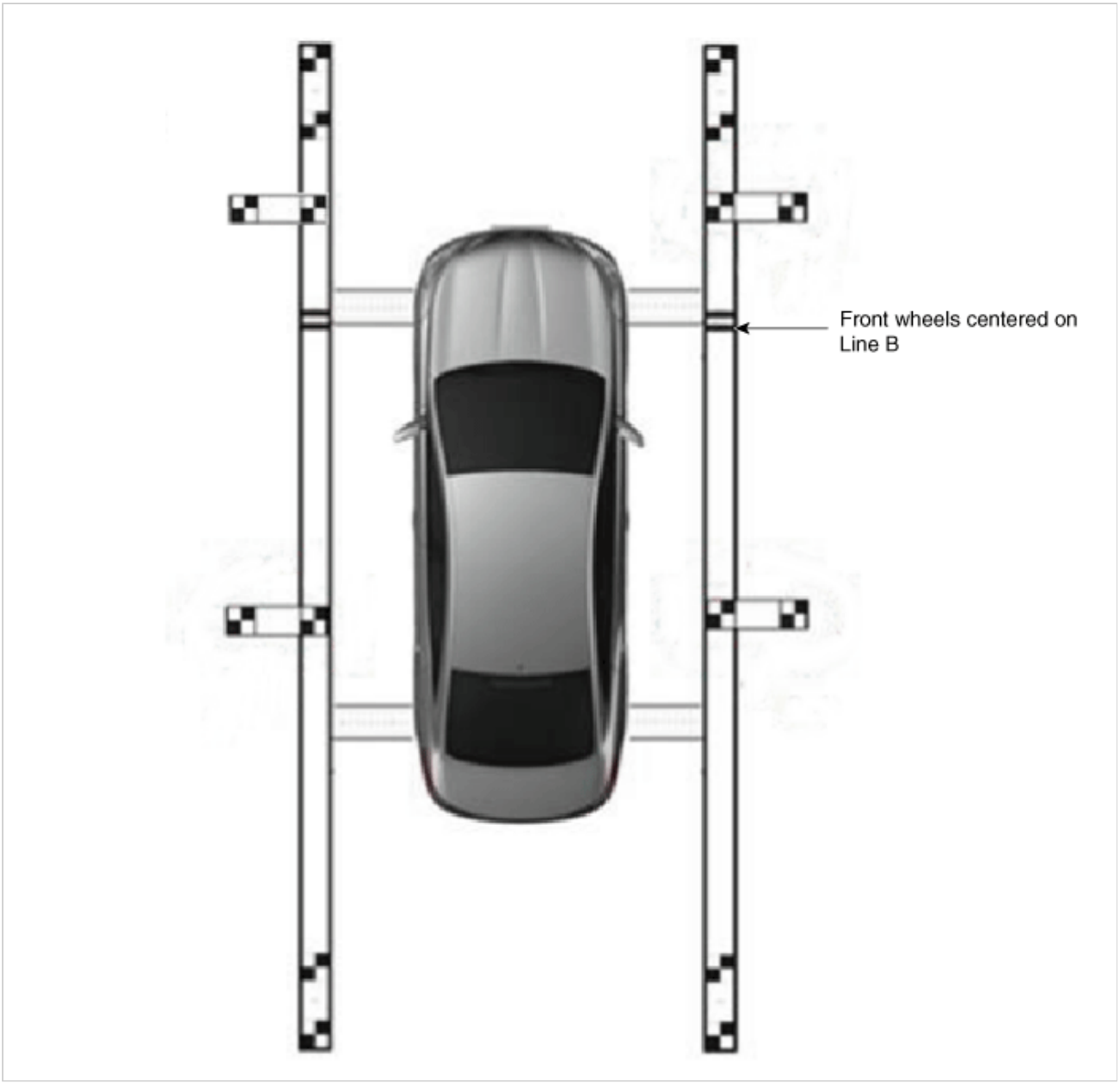
– When removing and installing a wide camera.

– When conducting a body task such as the trunk task that causes the focus of the wide camera to change.

– When replacing the door mirror with a wide camera.

– When replacing the Surround view monitor unit.

### Tolerance Compensation Environments




**NOTICE**

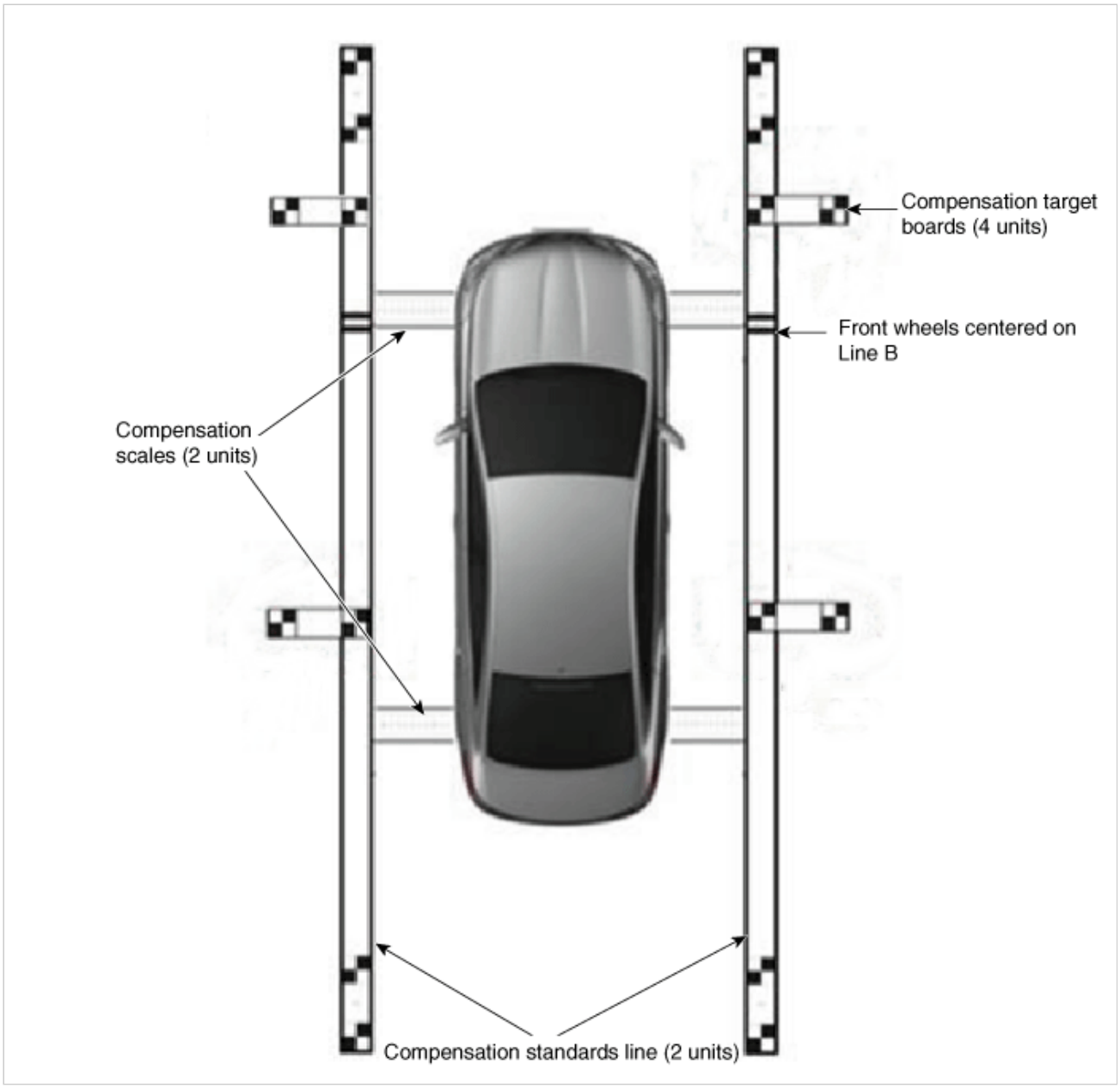
- There are two types of tolerance compensations: [manual tolerance compensation] and [automatic tolerance compensation].
- The service center with the SVM exclusive workshop performs [automatic tolerance compensation].
- The maintenance environment lacking an SVM exclusive workshop performs [manual tolerance compensation].

## The Procedure of Manual Tolerance Compensation

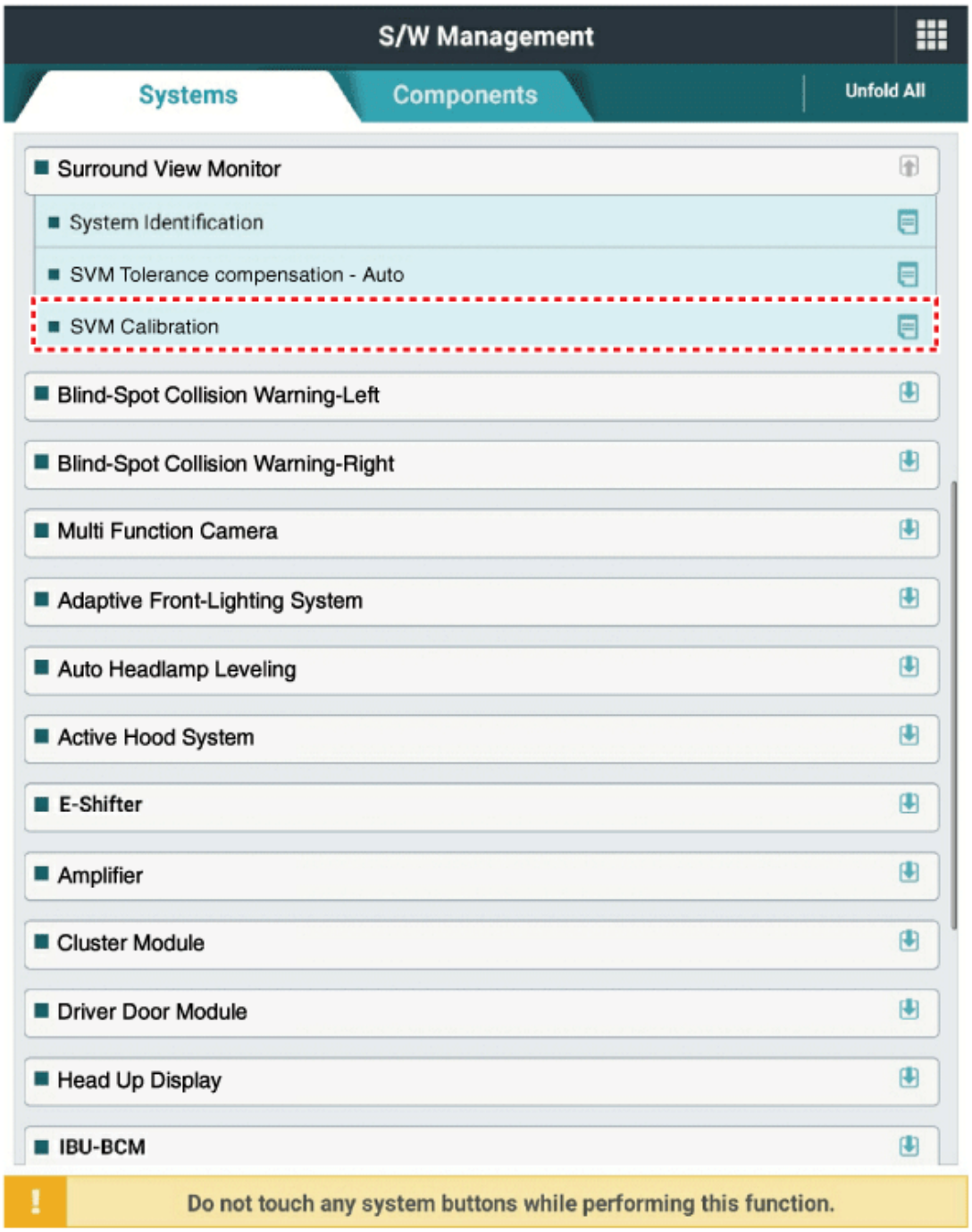
1. Prepare in advance as below.
   – Confirm that the car hood, trunk and doors are closed.
   – Close the door after getting in on the driver side.
   – Switch the ignition to "IGN".
   – Unfold all side mirrors.
   – Shift the gear to N.
   – Check the flashing state of LED indicator lamp in the SVM switch.
   – During the advance preparation, do not install exhaust inhaler or other equipment that may block the view of rearview cameras.
   – Also, as exhaust fume may block the rearview image, blow off the smoke by using a fan before performing tolerance compensation with IGN ON.
   – Engage foot brake or electronic parking brake (EPB) to hold vehicle in place.
2. Before entering tolerance compensation mode, to check normal operation of SVM ECU and cameras, perform the following.
   – Check that initial setting screen of SVM is displayed. (Front view image + surround view image when shifted to N)
   – Check that front, rear, left and right images of surround view monitor are properly displayed.
   – If images are properly displayed, enter tolerance compensation mode. Otherwise, if images are abnormally displayed or are not displayed, replace relevant part.
3. Install two compensation scales, two compensation reference line boards, and four compensation target boards around the vehicle by referring to the manual provided with the tools.

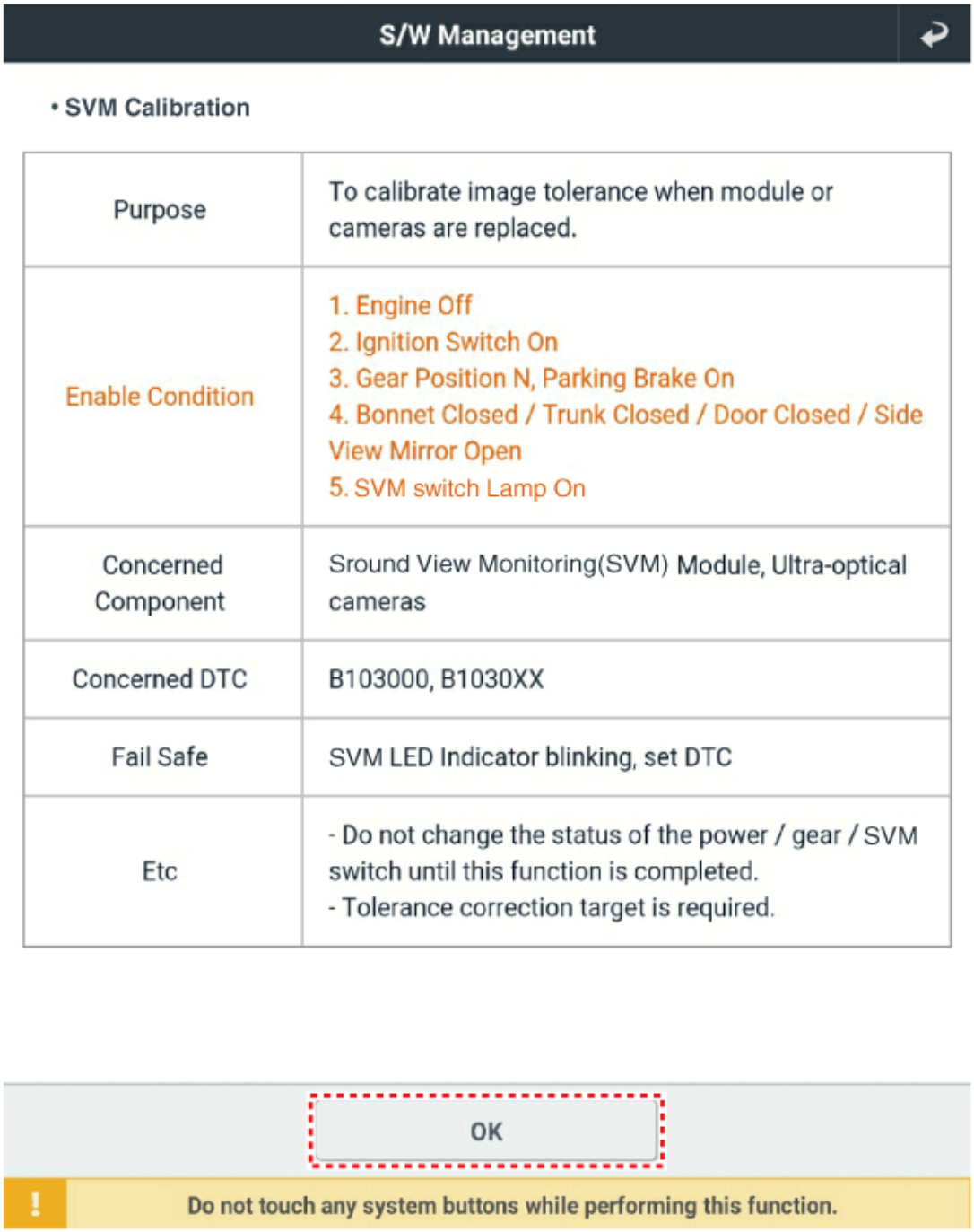
**⚠ CAUTION**

- Align centers of front wheels to "B-type" on the compensation reference line board.
- Accurately set the location (distance/angle) of the center of white and black compensation board as this is the reference point.
- Front/rear and left/right alignment error margin should be below 3 cm.
- Rotation error margin when aligning vehicle should be within 1° to left/right.



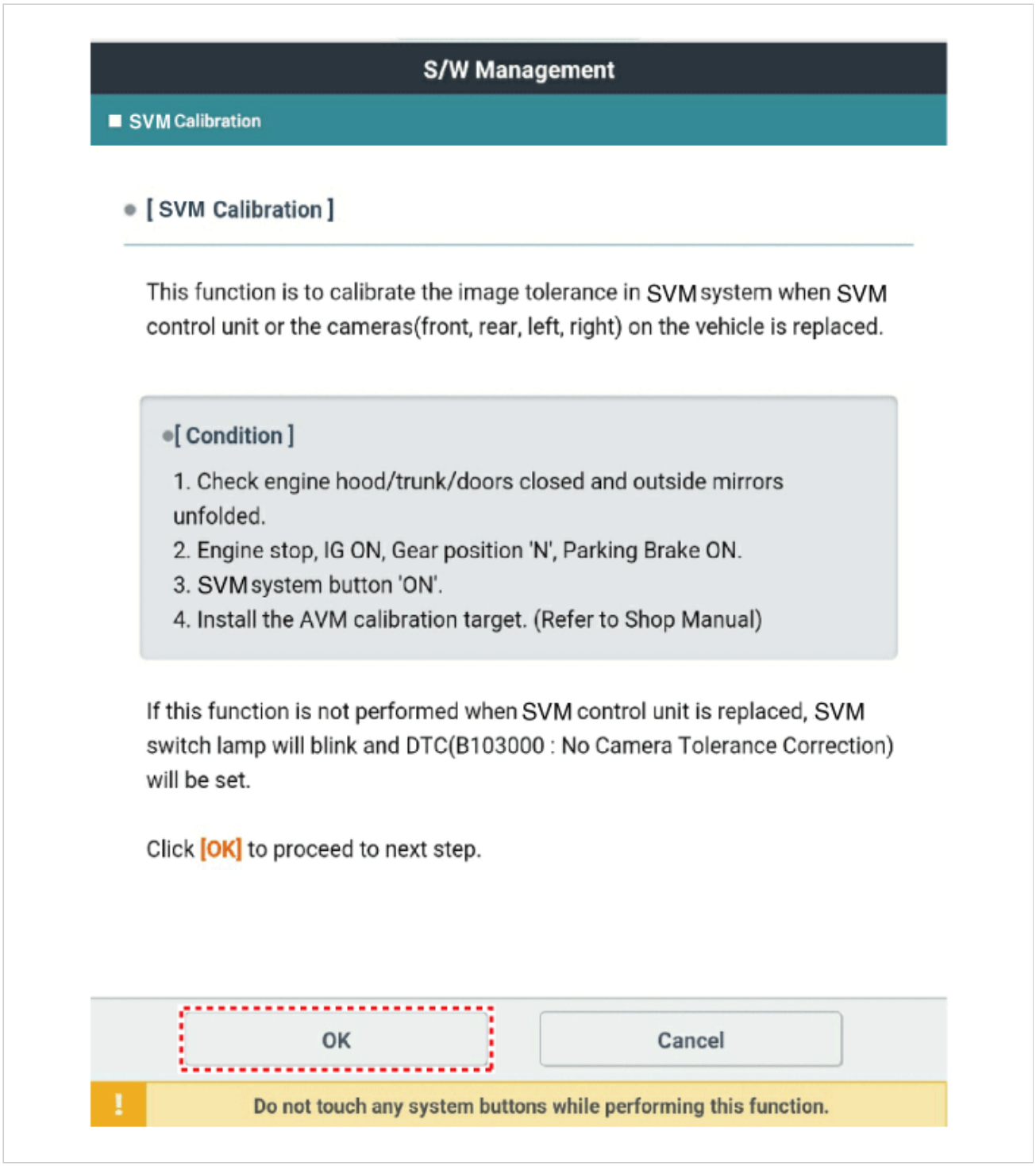

4. Maintain ignition "ON" with vehicle stopped, check that the gear is in P, and engage parking brake even on flat ground.
5. Perform work with SVM switched "ON".
6. Connect the KDS to vehicle.
7. Select vehicle model and system.
8. Enter additional function in KDS.
9. Perform SVM manual tolerance compensation as shown on KDS diagnostic device.


S/W Management
Systems
Components
Unfold All
Surround View Monitor
System Identification
SVM Tolerance compensation - Auto
SVM Calibration
Blind-Spot Collision Warning-Left
Blind-Spot Collision Warning-Right
Multi Function Camera
Adaptive Front-Lighting System
Auto Headlamp Leveling
Active Hood System
E-Shifter
Amplifier
Cluster Module
Driver Door Module
Head Up Display
IBU-BCM
Do not touch any system buttons while performing this function.




**Information**

When "SVM tolerance compensation - Manual" is clicked on the KDS diagnostic device screen, the SVM switch indicator lamp will flash.

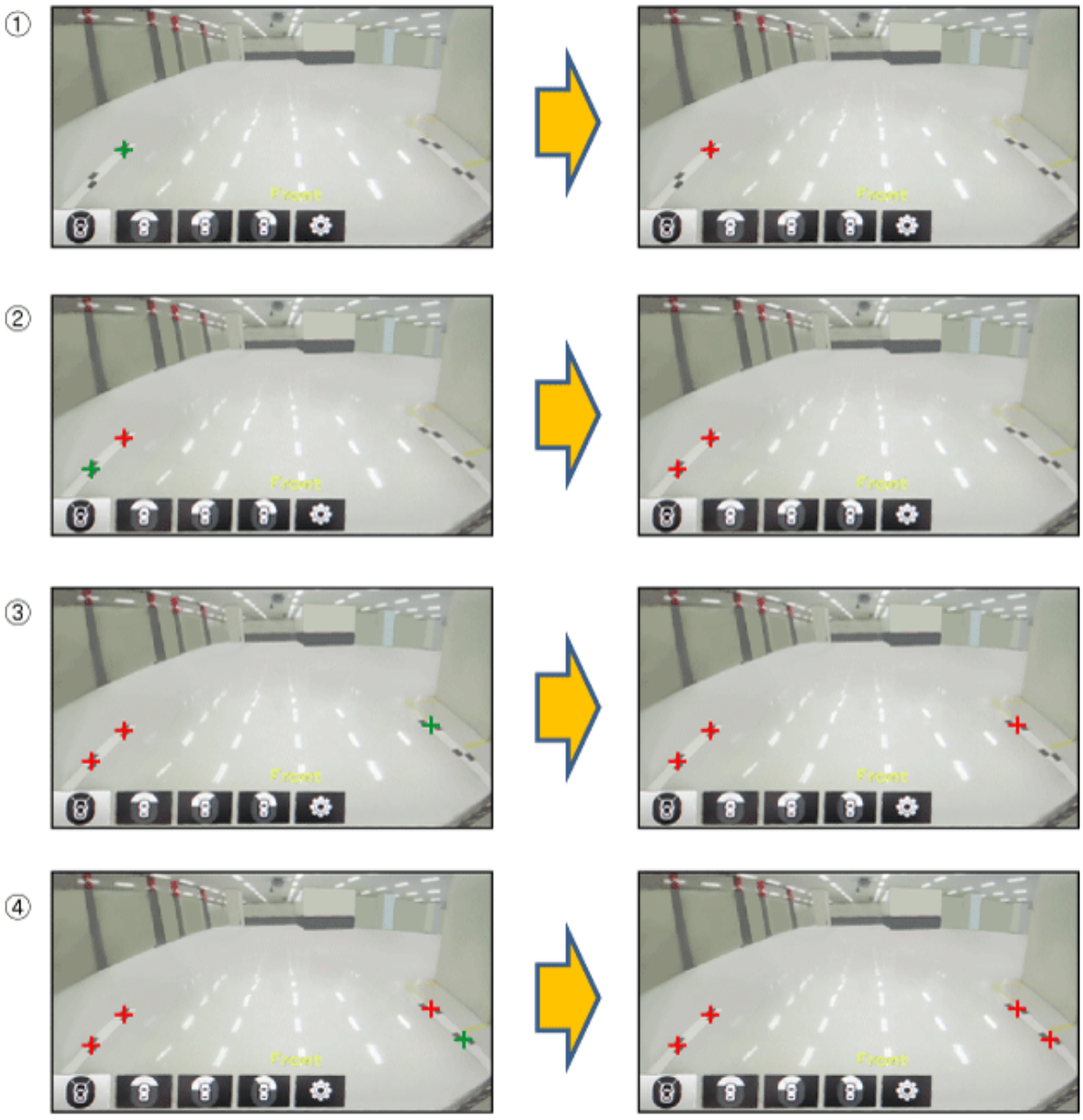


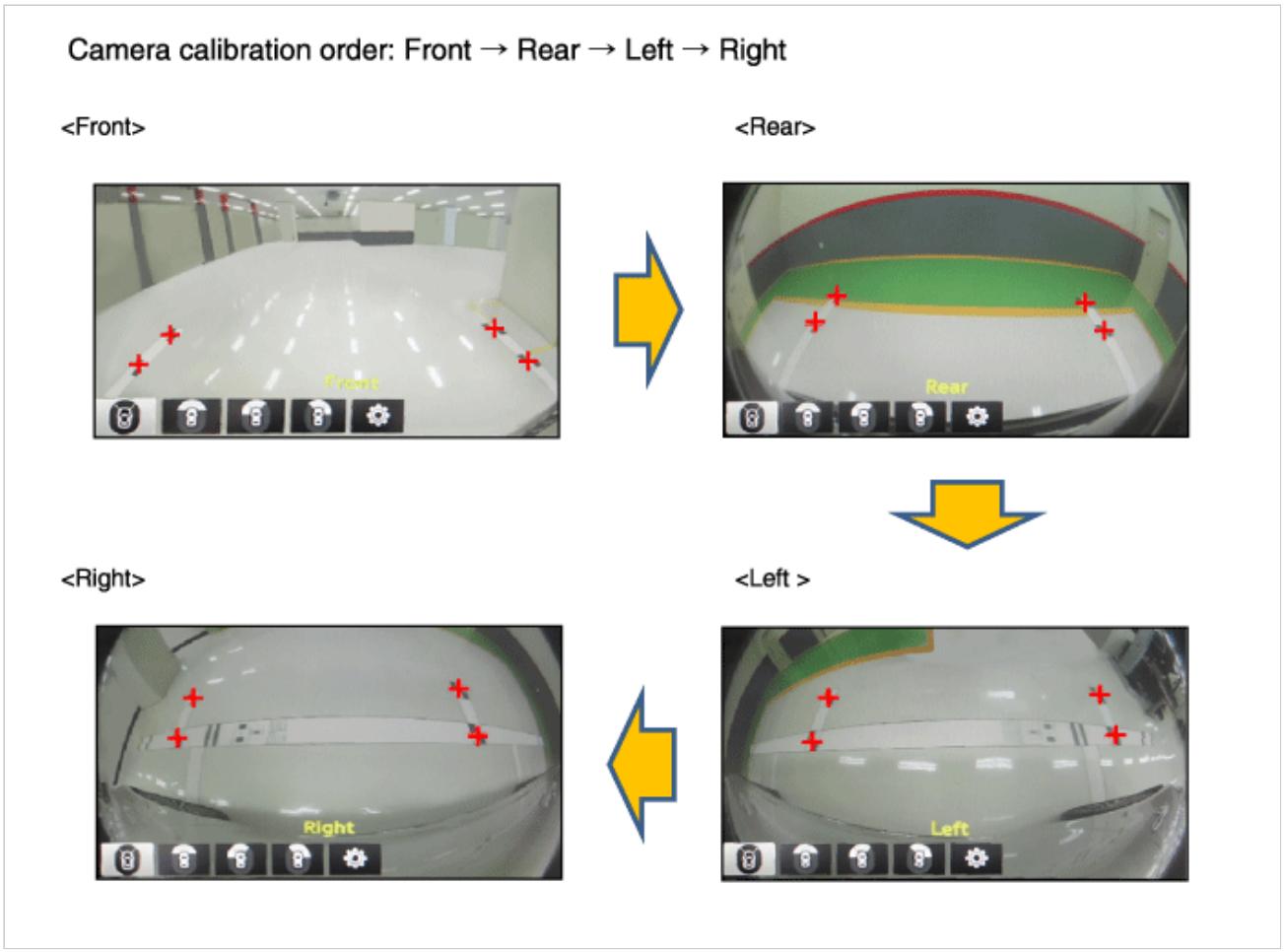

Click to see large image...

**Information**

- Before matching calibration points: "+" green light flashes
- When clicking [OK] after matching calibration points: "+" red light ON
- Match four frontal calibration points, and then perform calibration in the order from rear → left → right.

Screen calibration order: ① Top left → ② Bottom left → ③ Top right → ④ Bottom right






10. To confirm completion of calibration, check the vehicle and calibration line on AVN monitor and click [OK].
    If calibration has not been properly performed, click [Cancel] and reenter calibration points.