POWER WINDOW SYSTEM

■ DESCRIPTION

- There are 3 types of power window system, as follows: a power window with jam protection function on each door, a power window with jam protection function on the driver side door and a power window motor without jam protection function on all the doors.
- The power window motor with built-in ECU on each door has one-touch auto up-and-down and jam protection functions for all doors. The ECU controls the jam protection function of the power window.
- The power window motor with built-in ECU on the driver side door has the one-touch auto up-and-down and jam protection functions only for the driver side door.
- The power window motor without built-in ECU for all doors has the one-touch auto down functions only for the driver side door.
- The settings of the power window system vary depending on the destinations and grades. For details, see the equipment list in Model Outline (see page MO-42).
- The power window system has the following functions:

Function	Outline
Manual up-and-down (All Doors)	This function causes the driver door window to open or close while the power window switch is being pulled halfway up or pushed halfway down. Windows other than the driver door window can be opened or closed by fully pulling up or fully pushing down the switch. The window stops as soon as the switch is released.
One-touch auto up-and-down (Driver Door*1, All Doors*2)	The one-touch auto up-and-down function enables the window to be fully opened or closed with a single touch of the power window switch.
One-touch auto down (Driver Door)*3	The one-touch auto down function enables the window to be fully opened with a single touch of the power window switch.
Jam Protection (Driver Door*1, All Doors*2)	A jam protection function automatically stops the power window and moves it downward if a foreign object gets jammed in the window during one-touch auto-up operation.
Remote Control (All Doors)	The power window master switch can control the up-and-down operations of the windows.
Window Lock	Power window operation of the 3 passenger windows is disabled when the window lock switch is pressed.
Key Off Operation (Driver Door*1, All Doors*2)	This function makes it possible to operate the power windows for approximately 43 seconds after the power source is turned to OFF, if the driver door or the front passenger door is not opened.
Key-linked up-and-down function*4	When the key is not in the ignition key cylinder, the driver's door is locked, and the key in the driver's door key cylinder is turned and maintained in the lock direction for 1.5 seconds or more, the main body ECU activates the power window motor to raise the driver's window while the key is turned. Similarly, when the driver's door is unlocked, turning and maintaining the key in the driver's door key cylinder in the unlock direction for 1.5 seconds or more will cause the driver's window to be lowered.

(Continued)

Function	Outline
Transmitter-linked up-and-down*4	When a lock/unlock signal is transmitted from the transmitter for longer than 2.5 seconds to the main body ECU, the power window ECU activates the driver's power window motor in accordance with the signal from the main body ECU to open or close the driver's power window.
Open and Close (Driver Door*4,5, All Doors*4,6)	● After all the doors are locked by pressing the door lock switch on the key, pressing and holding the lock switch for 3 seconds or more will cause the power window and the sliding roof*7 to start closing. ● After all the doors are unlocked by pressing the door unlock switch on the key, pressing and holding the unlock switch for 3 seconds or more will cause the power window and the sliding roof*7 to start opening. ● After a lock signal is output to all the doors by pressing the lock switch on the door handle, continuing to hold the lock switch for 3 seconds or more will cause the power window and the sliding roof*7 to start closing. A buzzer sounds when the power window and the sliding roof*7 open or close.
Diagnosis*1,2	When the power window ECU detects the following conditions, the self-diagnosis function switches the ECU to failsafe mode. The illumination (LED) of either the power window master switch or the power window switches flashes to inform the user. ● An abnormality in the Hall IC that detects the position, speed and direction of the window. ● An error in the window detection position and the upper limit position recorded in the power window ECU.
Fail-Safe*1,2	If the Hall IC in the power window ECU malfunctions, some power window functions will be prohibited by the failsafe mode: ● Power windows can be operated using the power window switches within 40 seconds of failsafe mode being entered. ● Each power window operates when the corresponding power window switch is fully pushed down or pulled up and held in that position.

*1: On models with driver door jam protection function
*2: On models with all doors jam protection function
*3: On models without all doors jam protection function
*4: On models for countries other than G.C.C Countries and Australia, the setting functions can be changed using the customized body electronics system. For details, refer to Customized Body Electronics System section on page BE-14.
*5: On models with the smart entry and start system and with jam protection function on the driver door
*6: On models with the smart entry and start system and with jam protection function on all the doors
*7: On models with the sliding roof

Service Tip

The power window motor assembly with a jam protection function stores the initial position of each door window. The memory is not cleared if battery terminals, fuses or power window motor assembly connectors are disconnected. However, after the power window motor assembly and power window regulator assembly are replaced, the stored initial position data must be cleared and the initialization of the power window motor assembly must be performed. When necessary, perform the initialization as follows:

Initial Position Memory Erasure Procedure

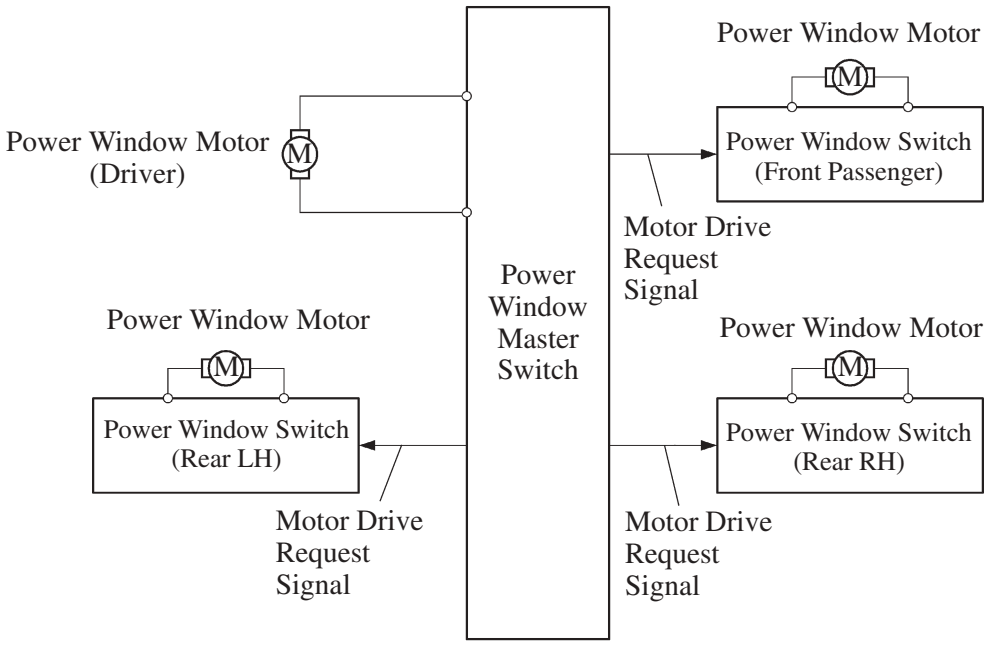
- Turn the power supply off (for example, remove a power window motor assembly connector or fuse) while the power window motor is operating.
- Check that the power window switch illumination blinks after the power source is turned on.

Initialization procedure

- Pull up the power window switch to the AUTO UP position and hold it until the window is fully closed.
- Hold the power window switch in the AUTO UP position for at least 1 second after the window is fully closed.
- Make sure that the window opens and closes automatically using the one touch function.

For details, see the Camry Repair Manual.

▶ System Diagram ◀

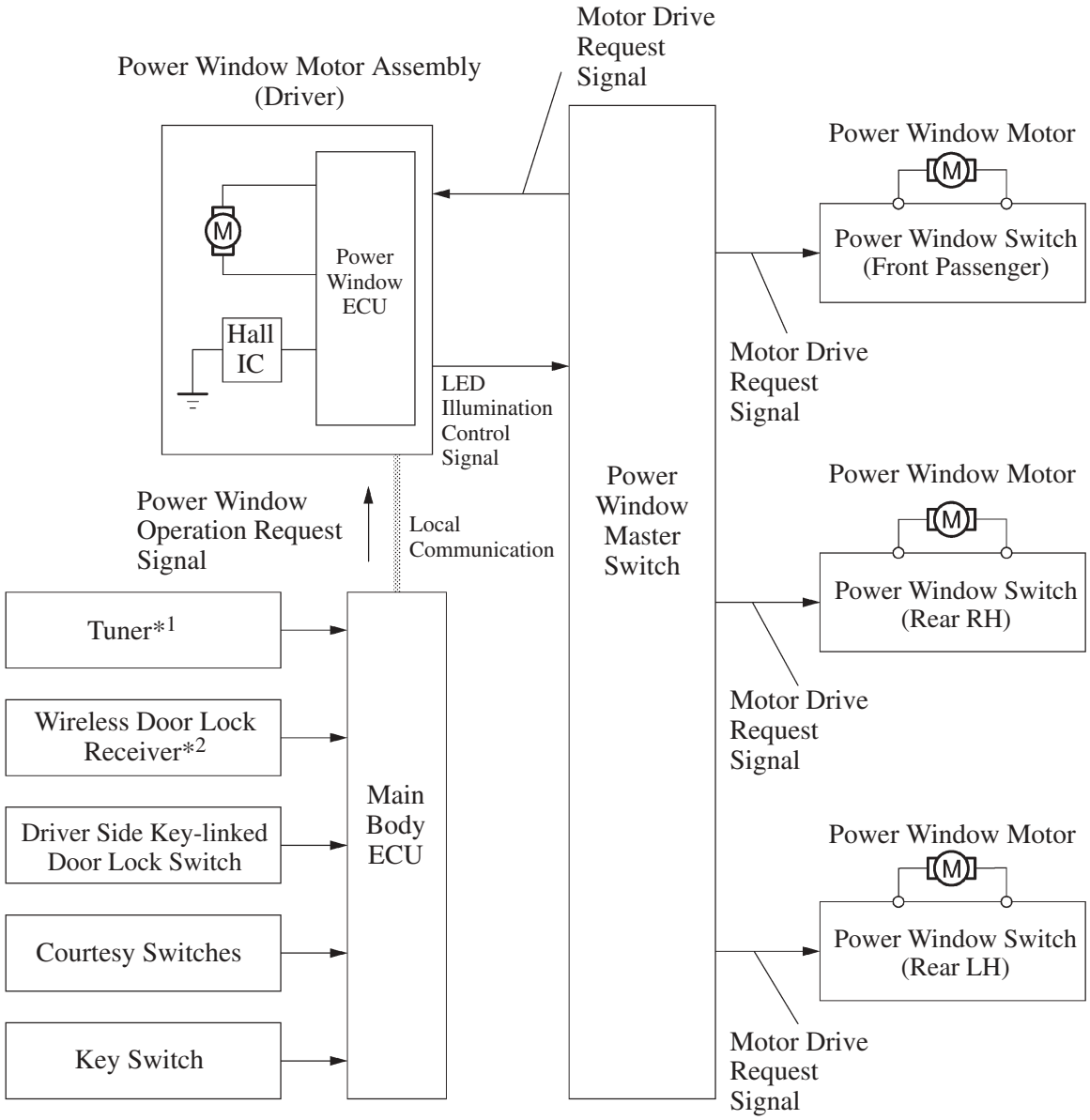


02KBE54TE

Without jam protection function

(Continued)

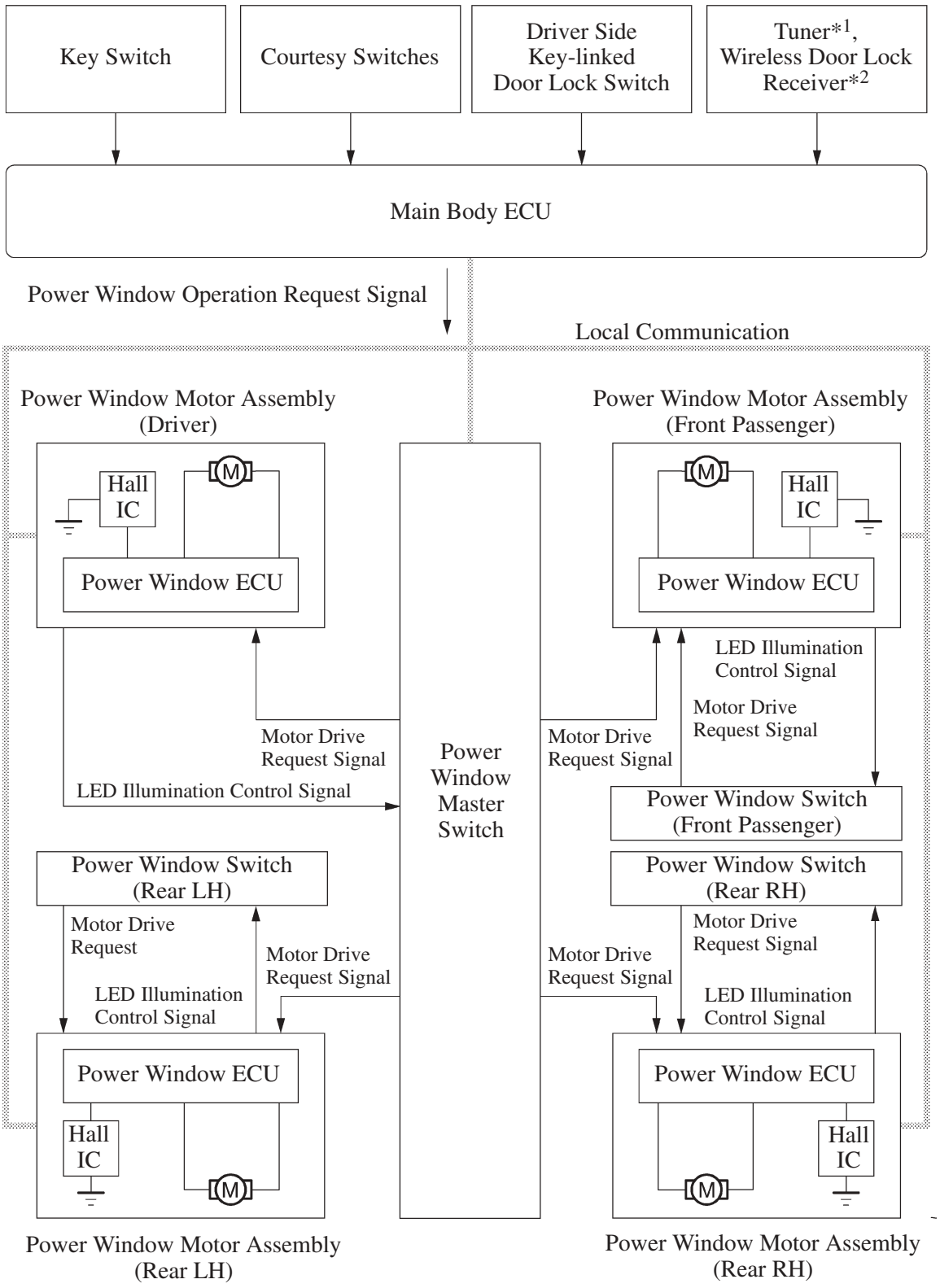
BE



Driver Door with Jam Protection Function 02KBE57Y

*1: Models with the smart entry and start system
*2: Models without the smart entry and start system

(Continued)



All Doors with Jam Protection Function

02KBE51Y

*1: Models with the smart entry and start system
*2: Models without the smart entry and start system

BE