ON–VEHICLE INSPECTION

05F08–02

1.   OUTLINE OF THEFT DETERRENT SYSTEM

(a)   When the theft deterrent system detects that the vehicle is being tampered with, the vehicle horn and security horn will sound; room lamps will light up; and hazard warning lamps, taillamps and headlamps will flash continuously.

(b)   The system has two modes: active arming mode (see step 2) and passive arming mode (see step 3). Passive arming mode can be toggled ON and OFF (see step 4).

(c)   Each mode has 4 states: disarmed state, arming preparation state, armed state and alarm sounding state.

    (1)   Disarmed state:
- The alarm function is not operating.
- The theft deterrent system is not operating.

    (2)   Arming preparation state:
- The theft deterrent system is not operating.

    (3)   Armed state:
- The theft deterrent system is operating.

Alarm time: 60 $\pm$ 5 seconds

    (4)   Alarm sounding state:
- The alarm function is operating.

Refer to table below for alarm method and time:

Alarm Method	Headlamp	Blinking (cycle of 0.4 seconds)
	Taillamp	Blinking (cycle of 0.4 seconds)
	Hazard Warning Lamp	Blinking (cycle of flasher relay)
	Room Lamp	Illuminated
	Vehicle Horn	Sounding (cycle of 0.4 seconds)
	Security Horn	Sounding (cycle of 0.4 seconds)
Alarm Time	60 $\pm$ 5 seconds	

HINT:

During the alarm sounding state, a forced door lock signal (see step 5) will be output if: 1) one of the doors is unlocked and no key is in the key slot, or 2) the smart key is outside of the vehicle.

2. ACTIVE ARMING MODE

- Active arming mode starts the alarm control immediately after the doors are locked.

Disarmed state
(No key in key slot or smart key is outside vehicle)

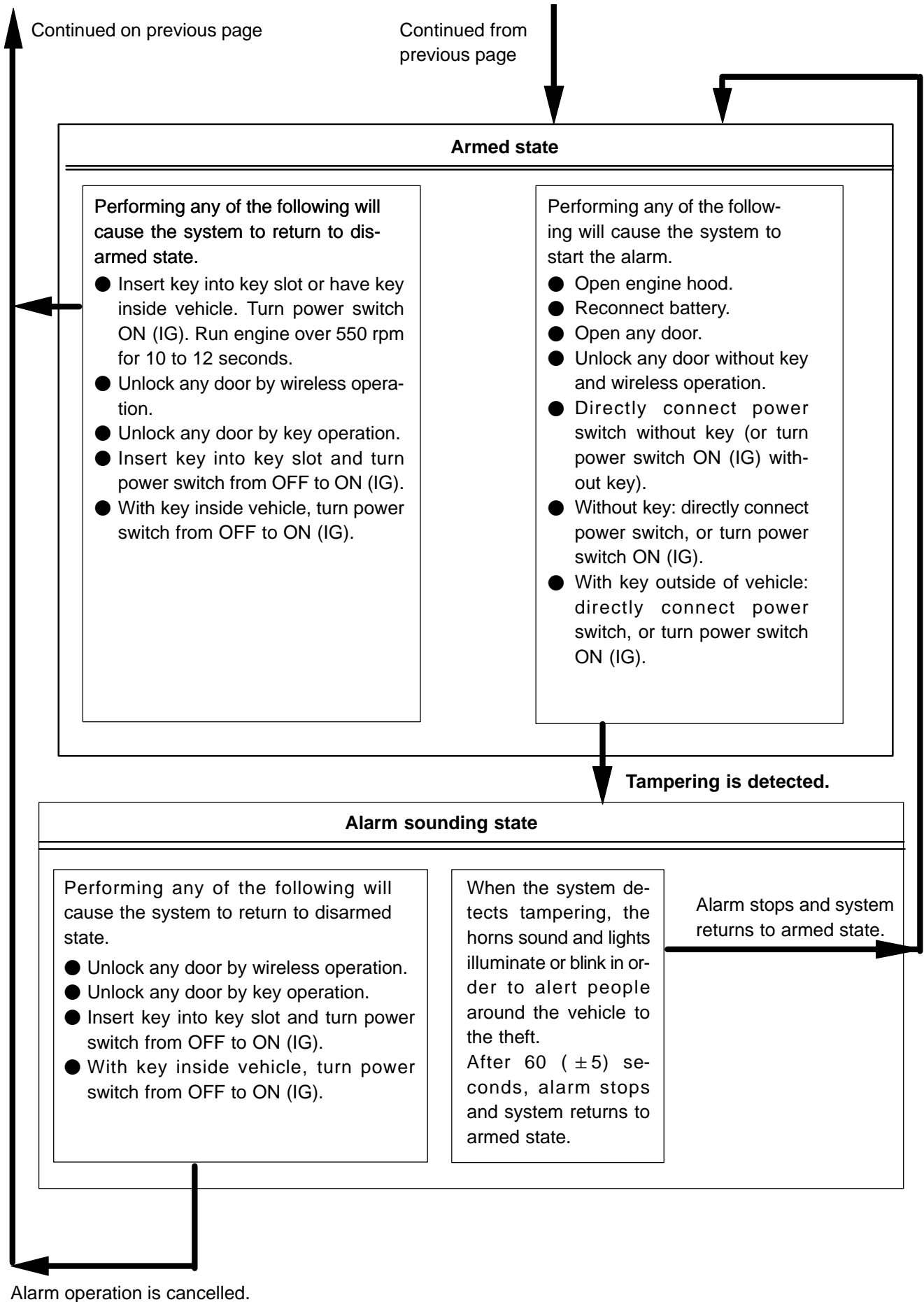Performing any of the following will cause the system to go into arming preparation state.
- ● With all doors and engine hood closed, lock all doors by key operation.
- ● With all doors and engine hood closed, lock all doors by wireless operation.
- ● With all doors and engine hood closed, lock all doors by smart lock operation.
- ● With any door or the engine hood open, lock all doors and close all doors and engine hood.

Arming preparation state

Performing any of the following will cause the system to return to disarmed state.
- ● Unlock all doors by wireless operation.
- ● Unlock all doors by key operation.
- ● Unlock any door.
- ● Open any door.
- ● Open engine hood.
- ● Insert key into key slot.
- ● Reconnect battery.
- ● Turn power switch from OFF to ON (IG).
- ● Smart key is inside vehicle.

Performing the following will cause the system to go into armed state.
- ● With all doors and engine hood closed, lock all doors. Allow 30 ($\pm$ 1.5) seconds to elapse.

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Armed state

Performing any of the following will cause the system to return to disarmed state.

● Insert key into key slot or have key inside vehicle. Turn power switch ON (IG). Run engine over 550 rpm for 10 to 12 seconds.
● Unlock any door by wireless operation.
● Unlock any door by key operation.
● Insert key into key slot and turn power switch from OFF to ON (IG).
● With key inside vehicle, turn power switch from OFF to ON (IG).

Performing any of the following will cause the system to start the alarm.

● Open engine hood.
● Reconnect battery.
● Open any door.
● Unlock any door without key and wireless operation.
● Directly connect power switch without key (or turn power switch ON (IG) without key).
● Without key: directly connect power switch, or turn power switch ON (IG).
● With key outside of vehicle: directly connect power switch, or turn power switch ON (IG).

Tampering is detected.

Alarm sounding state

Performing any of the following will cause the system to return to disarmed state.

● Unlock any door by wireless operation.
● Unlock any door by key operation.
● Insert key into key slot and turn power switch from OFF to ON (IG).
● With key inside vehicle, turn power switch from OFF to ON (IG).

When the system detects tampering, the horns sound and lights illuminate or blink in order to alert people around the vehicle to the theft.
After 60 (±5) seconds, alarm stops and system returns to armed state.

Alarm stops and system returns to armed state.
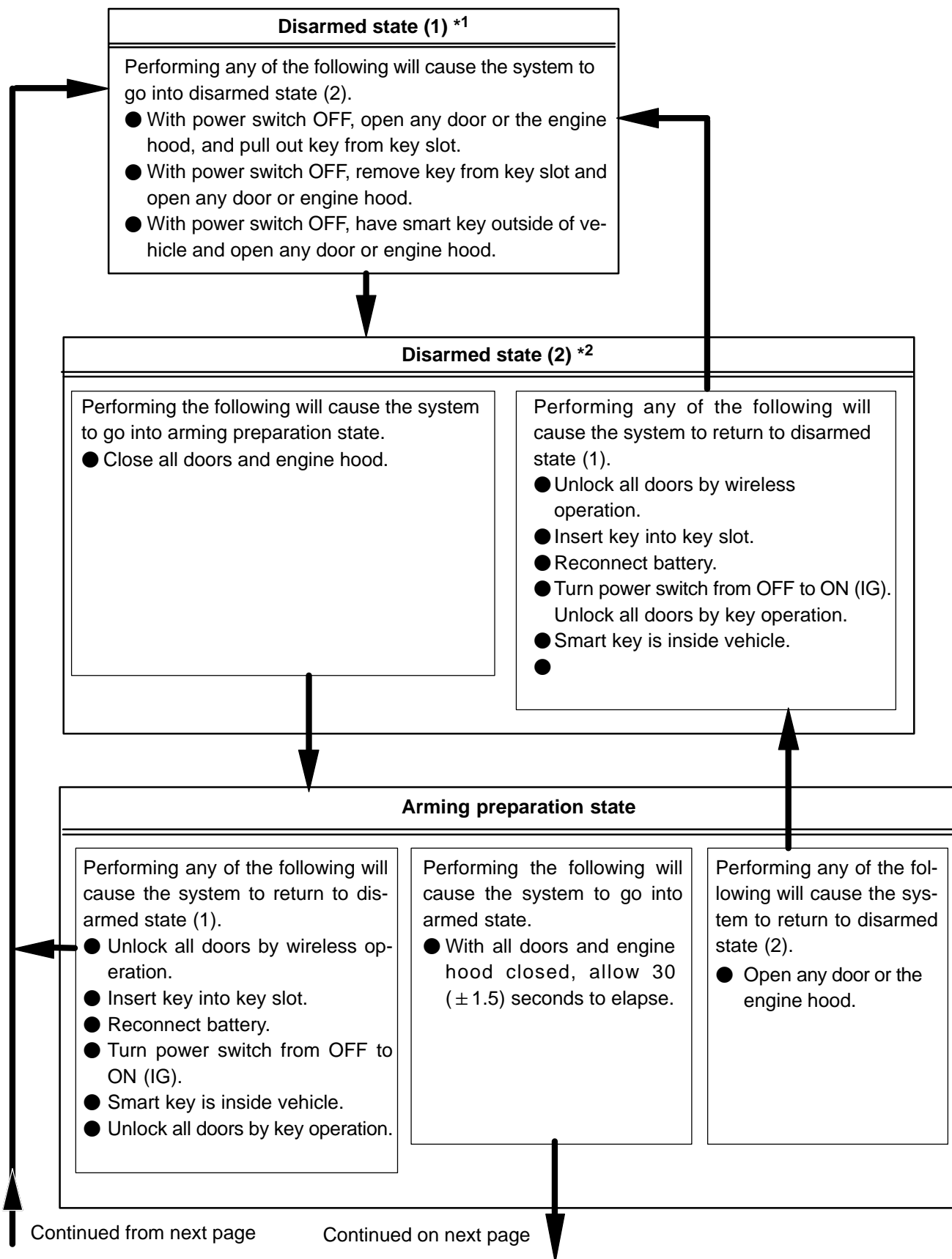
Alarm operation is cancelled.
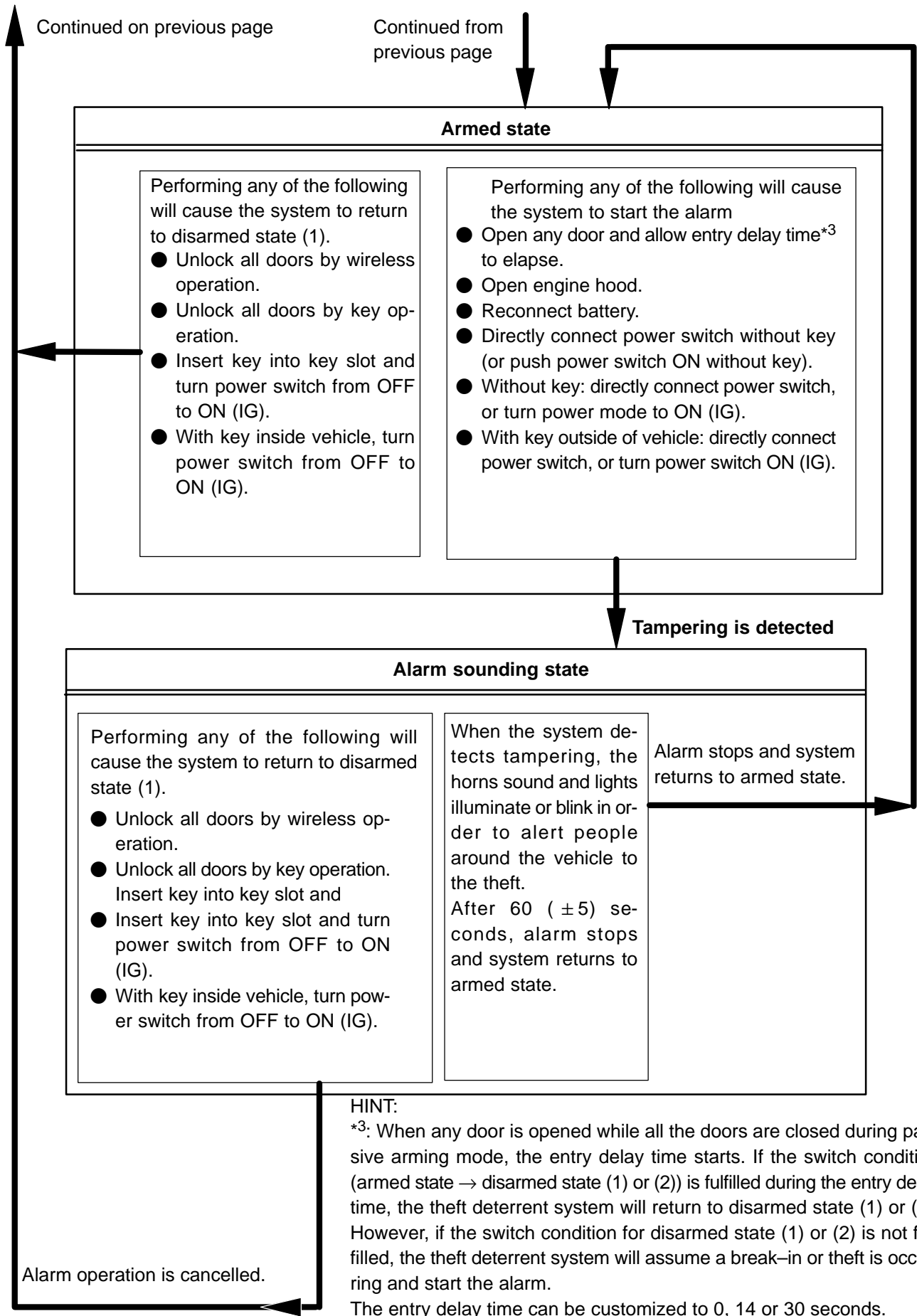
3. PASSIVE ARMING MODE

- Passive arming mode can be switched ON/OFF (see step 4).
- The vehicle's initial alarm setting is active arming mode.
- During passive arming mode, the theft deterrent system enters the armed state even if the doors are not locked.
- Passive arming mode starts the alarm control if: 1) the key is removed from the key slot and then all doors are closed, or 2) the smart key is outside of the vehicle and then all doors are closed.
- Detecting that the doors are unlocked does not set off the alarm during passive arming mode.
- A forced door lock signal (see step 5) is not output during passive arming mode.
- When the theft deterrent system detects that the doors are opened during passive arming mode, the alarm is not set off immediately depending on the entry delay time setting.
- If any of the following conditions is fulfilled during passive arming mode, the theft deterrent system will switch to active arming mode.
  - With all doors and engine hood closed, lock all doors by key operation.
  - With all doors and engine hood closed, lock all doors by wireless operation.
  - With all doors and engine hood closed, lock all doors by smart lock operation.
  - With any door or the engine hood open, lock all doors and close all doors and engine hood.
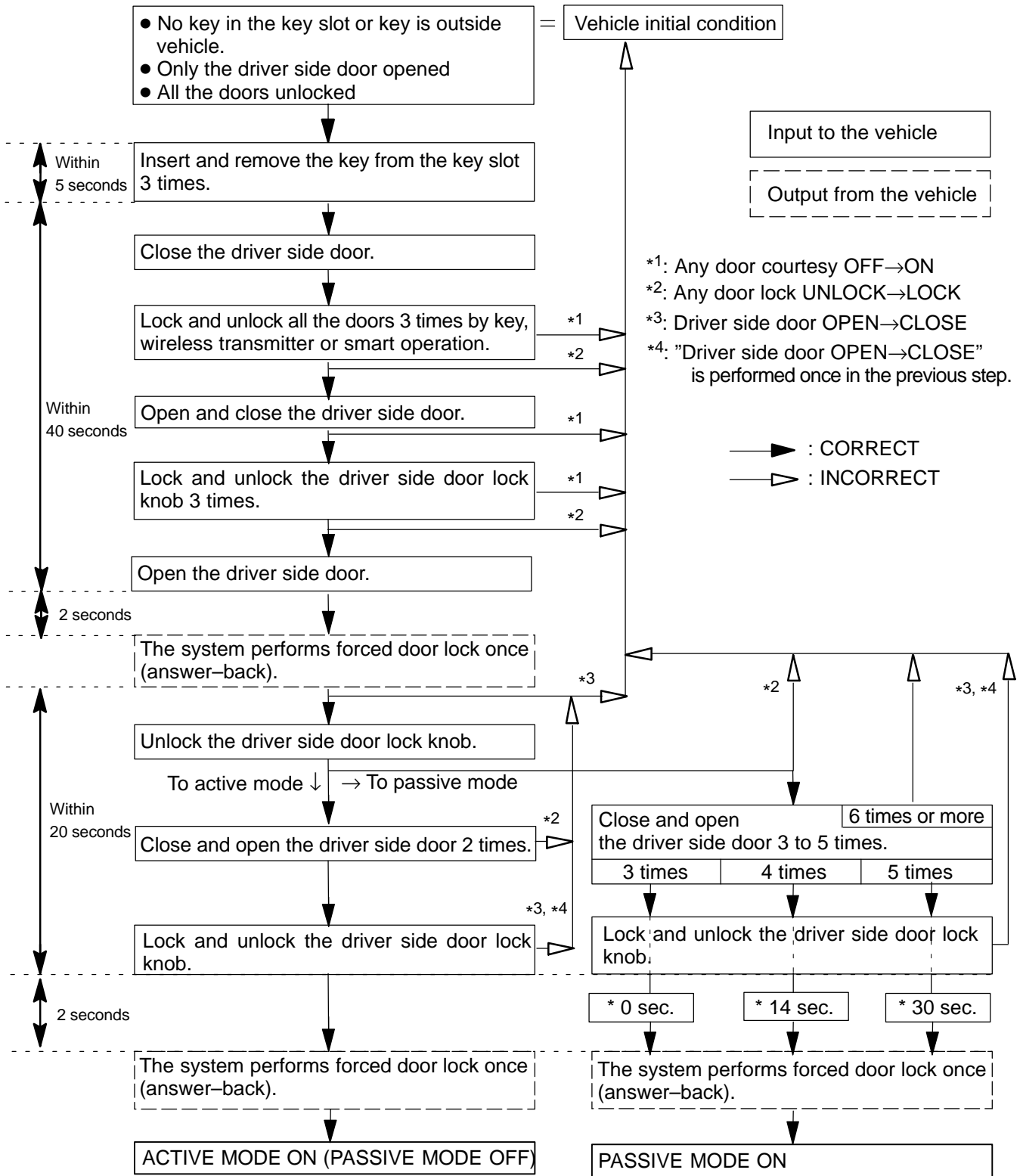
HINT:

*[1]: Disarmed state (1) is the normal disarmed state.

*[2]: Disarmed state (2) is set from either the disarmed state (1) or the arming preparation state.

Disarmed state (1) *[1]

Performing any of the following will cause the system to go into disarmed state (2).
- With power switch OFF, open any door or the engine hood, and pull out key from key slot.
- With power switch OFF, remove key from key slot and open any door or engine hood.
- With power switch OFF, have smart key outside of vehicle and open any door or engine hood.

Disarmed state (2) *[2]

Performing the following will cause the system to go into arming preparation state.
- Close all doors and engine hood.

Performing any of the following will cause the system to return to disarmed state (1).
- Unlock all doors by wireless operation.
- Insert key into key slot.
- Reconnect battery.
- Turn power switch from OFF to ON (IG). Unlock all doors by key operation.
- Smart key is inside vehicle.
-

Arming preparation state

Performing any of the following will cause the system to return to disarmed state (1).
- Unlock all doors by wireless operation.
- Insert key into key slot.
- Reconnect battery.
- Turn power switch from OFF to ON (IG).
- Smart key is inside vehicle.
- Unlock all doors by key operation.

Performing the following will cause the system to go into armed state.
- With all doors and engine hood closed, allow 30 ($\pm$1.5) seconds to elapse.

Performing any of the following will cause the system to return to disarmed state (2).
- Open any door or the engine hood.

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Armed state

Performing any of the following will cause the system to return to disarmed state (1).
● Unlock all doors by wireless operation.
● Unlock all doors by key operation.
● Insert key into key slot and turn power switch from OFF to ON (IG).
● With key inside vehicle, turn power switch from OFF to ON (IG).

Performing any of the following will cause the system to start the alarm
● Open any door and allow entry delay time*3 to elapse.
● Open engine hood.
● Reconnect battery.
● Directly connect power switch without key (or push power switch ON without key).
● Without key: directly connect power switch, or turn power mode to ON (IG).
● With key outside of vehicle: directly connect power switch, or turn power switch ON (IG).

Tampering is detected

Alarm sounding state

Performing any of the following will cause the system to return to disarmed state (1).

● Unlock all doors by wireless operation.
● Unlock all doors by key operation. Insert key into key slot and
● Insert key into key slot and turn power switch from OFF to ON (IG).
● With key inside vehicle, turn power switch from OFF to ON (IG).

When the system detects tampering, the horns sound and lights illuminate or blink in order to alert people around the vehicle to the theft.
After 60 (±5) seconds, alarm stops and system returns to armed state.

Alarm stops and system returns to armed state.

HINT:
*3: When any door is opened while all the doors are closed during passive arming mode, the entry delay time starts. If the switch condition (armed state → disarmed state (1) or (2)) is fulfilled during the entry delay time, the theft deterrent system will return to disarmed state (1) or (2). However, if the switch condition for disarmed state (1) or (2) is not fulfilled, the theft deterrent system will assume a break–in or theft is occurring and start the alarm.
The entry delay time can be customized to 0, 14 or 30 seconds.

Alarm operation is cancelled.

4. METHOD FOR CHANGING OF PASSIVE MODE (ON OR OFF)

- No key in the key slot or key is outside vehicle.
- Only the driver side door opened
- All the doors unlocked

= Vehicle initial condition

Input to the vehicle

Output from the vehicle

Within 5 seconds — Insert and remove the key from the key slot 3 times.

Close the driver side door.

Lock and unlock all the doors 3 times by key, wireless transmitter or smart operation. — *1, *2

*1: Any door courtesy OFF→ON
*2: Any door lock UNLOCK→LOCK
*3: Driver side door OPEN→CLOSE
*4: "Driver side door OPEN→CLOSE" is performed once in the previous step.

Within 40 seconds

Open and close the driver side door. — *1

Lock and unlock the driver side door lock knob 3 times. — *1, *2

Open the driver side door.

──▶ : CORRECT
──▷ : INCORRECT

2 seconds

The system performs forced door lock once (answer–back). — *3

Within 20 seconds

Unlock the driver side door lock knob.

To active mode ↓ | → To passive mode

Close and open the driver side door 2 times. — *2

Close and open the driver side door 3 to 5 times.   6 times or more

| 3 times | 4 times | 5 times |

Lock and unlock the driver side door lock knob. — *3, *4

Lock and unlock the driver side door lock knob.

| * 0 sec. | * 14 sec. | * 30 sec. |

*2   *3, *4

2 seconds

The system performs forced door lock once (answer–back).

The system performs forced door lock once (answer–back).

ACTIVE MODE ON (PASSIVE MODE OFF)

PASSIVE MODE ON

HINT:
- Initial mode is PASSIVE MODE OFF.
- If the power switch is turned ON (IG), change will be cancelled.
*: Entry delay time

5.   FORCED DOOR LOCK CONTROL

(a) The forced door lock control also helps to prevent the vehicle from being tampered with. When a door is unlocked and the alarm starts, the door is forced to lock by a forced door lock signal.

   (1) Conditions that force the doors to lock:
   - No key is in the key slot or key is outside vehicle.
   - 0.4 seconds have elapsed after the previous output of a forced door lock signal.
   - The theft deterrent system is in the alarm sounding state of active arming mode.
   - Any door is unlocked.

6.   ALARM MEMORY FUNCTION

(a) If the alarm is set off (tampering is detected) while the theft deterrent system is armed, the alarm memory function will record it. Whenever the theft deterrent system is cancelled, the alarm memory function causes the taillamps to light up for 2 seconds in order to inform you that the alarm has been set off.

   (1) Conditions of the alarm memory function that cause the taillamps to illuminate:
   When the theft deterrent system has entered into the alarm sounding state (tampering has been detected) even once, the taillamps will light up for 2 seconds if any of the following conditions are fulfilled:
   - Switched to the disarmed state from the armed state during active arming mode.
   - Switched to the disarmed state (1) from the armed state during passive arming mode.

HINT:

For more information about the active arming mode, see step 2. For more information about the passive arming mode, see step 3.

7.   PANIC ALARM CONTROL

(a) The panic alarm control activates the panic alarm when the wireless transmitter PANIC switch is pressed. The panic alarm control operates independently from the theft deterrent system's alarm control's change from the armed state to the alarm sounding state.

   (1) Conditions that cause the panic alarm control to set off the panic alarm:
   The panic alarm control sets off the panic alarm by pressing the PANIC switch on the wireless transmitter for over 2.4 seconds under the following conditions:
   - The power switch is OFF or ON (ACC).
   - The theft deterrent system is not in the alarm sounding state (same for active arming mode and passive arming mode).
   - The panic alarm control is not operating (the alarm is not set off).

   (2) Conditions that cause the panic alarm control to shut off the alarm:
   The panic alarm control shuts off the panic alarm when any of the following conditions is fulfilled during panic alarm operation:
   - Turn the power switch ON (IG).
   - Any of the wireless transmitter switches are pressed.
   - 60 ± 5 seconds have passed and the panic alarm has ended.
   - The theft deterrent system switches to the alarm sounding state (same for active arming mode and passive arming mode). However, the alarm is still sounding, because the theft deterrent system has switched to the alarm sounding state. Conditions for canceling the panic alarm are the same as for the alarm control.

HINT:

For more information about the active arming mode, see step 2. For more information about the passive arming mode, see step 3.

8. SECURITY INDICATOR OUTPUT

(a) The security indicator turns on and off based on output signals from the multiplex network body ECU. However, in some cases the actual status of the security indicator is different than the output signals from the multiplex network body ECU.

Output:

State of Theft Deterrent System*	Security Indicator	
	Output Signals from Body ECU	Actual Lighting Condition
Disarmed state (1), (2)	OFF	OFF (Immobilizer system not set) BLINKING (Immobilizer system set)
Arming preparation state	ON	ON
Armed state	OFF	BLINKING
Alarm sounding state	ON	ON

Blinking cycle:

Time	Security Indicator
0.2 seconds	ON
1.8 seconds	OFF

HINT:

*: Same for active arming mode and passive arming mode

• When the immobilizer system is set, the security indicator blinks during the disarmed state and the armed state due to the output signals from the immobiliser system.