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1996 NISSAN 200 SX OEM Service and Repair Workshop Manual

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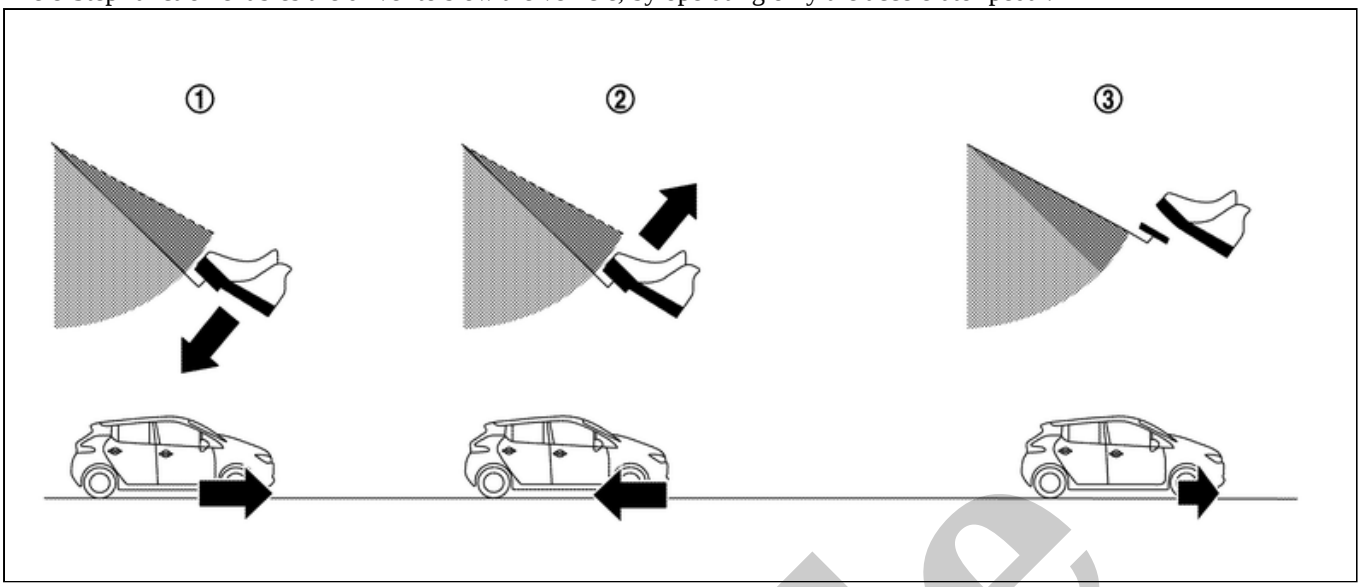
SIEMD-7262770

- The e-Step function enables the driver to slow the vehicle, by operating only the accelerator pedal.



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①	Acceleration
②	Deceleration
③	Extremely low speed (creep)

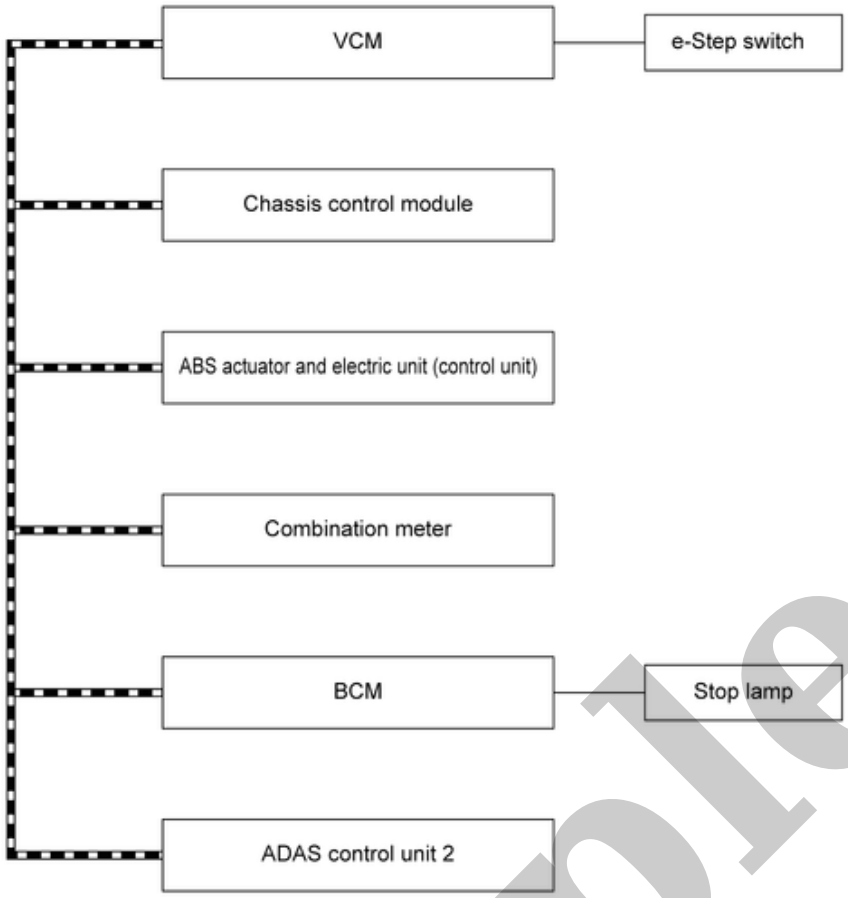
- When the e-Step function is ON, the regenerative brake is enhanced and the driver can adjust the vehicle speed by only depressing or returning the accelerator pedal.

NOTE:

- **Even when the e-Step function is ON, vehicle speed can be adjusted by brake pedal.**
- **Since the deceleration of the e-Step function is stronger than when the e-Step function is OFF when the accelerator pedal is released, smooth deceleration can be achieved by making fine adjustments without completely releasing the accelerator pedal.**

- e-Step function is controlled by receiving input signal from chassis control module, VCM and electrically-driven intelligent brake unit via CAN communication and each related switches.

SYSTEM DIAGRAM



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Component	Signal description
VCM	Mainly transmits the following signals to chassis control module via CAN communication. • Request drive torque signal • e-Step status signal • VCM malfunction signal • Shift position signal • Motor speed signal • Estimate slop signal • Accelerator pedal position signal • Estimate drive torque signal • Coast deceleration torque signal • Traction motor torque signal Mainly receives the following signals from ABS actuator and electric unit (control unit) via CAN communication. • Brake torque signal Mainly receives the following signals from chassis control module via CAN communication. • Chassis control module malfunction signal • Slop estimate permission signal • Coast limit torque signal

Component	Signal description
	Mainly receives the following signals from ADAS control unit 2 via CAN communication. • Intelligent cruise control signal • ProPILOT status signal
ABS actuator and electric unit (control unit)	Mainly transmits the following signals to chassis control module via CAN communication. • ABS operation signal • ABS malfunction signal • VDC operation signal • VDC malfunction signal • Steering angle sensor signal • Front LH wheel speed signal • Front RH wheel speed signal • Rear LH wheel speed signal • Rear RH wheel speed signal • Deceleration control permission status signal • Target brake force signal Mainly receives the following signals from chassis control module via CAN communication. • Stop lamp ON request signal Mainly transmits the following signals to VCM via CAN communication. • Electric parking brake operation status signal • Regenerative request torque signal Mainly receives the following signals from VCM via CAN communication. • Coast deceleration torque signal • Accelerator pedal position signal • Motor speed signal • Shift position signal • Estimate drive torque signal • Regenerative possible torque signal
Combination meter	Mainly transmits the following signals to VCM via CAN communication. • e-Step mode memory setting signal Mainly receives the following signals from VCM via CAN communication. • e-Step mode display signal • e-Step malfunction display signal • e-Step memory status signal Mainly receives the following signals from BCM via CAN communication.

Component	Signal description
	• Stop lamp ON status signal Mainly receives the following signals from chassis control module via CAN communication. • Meter display signal
BCM	Mainly transmits the following signals to chassis control module via CAN communication. • Stop lamp switch malfunction signal Mainly receives the following signals from ABS actuator and electric unit (control unit) via CAN communication. • Stop lamp request signal
ADAS control unit 2	Mainly transmits the following signals to chassis control module and VCM via CAN communication. • ProPILOT status signal
Chassis control module	

OPERATION OUTLINE

e-Step function ON/OFF

When the power switch is ON, operating the e-Step switch switches the display of the information display of the combination meter.

NOTE:

- **The display colors when e-Step function ON / OFF are as follows:**
  - **e-Step function ON: Blue**
  - **e-Step function OFF: Gray**
- **The mode of e-Step function can be memorized. Refer to "MODE MEMORY" below for mode memory.**

OPERATION

- Operation condition

  e-Step function will not be activated in the followings conditions.
  - When shift position is N or P.
  - When any driver assistance systems are activated.
- Acceleration and deceleration while driving
  - The e-Step function enables the driver to accelerate and decelerate the vehicle by operating only the accelerator pedal.
  - When the accelerator pedal is released, the vehicle decelerates with a stronger deceleration when the e-Step function is ON than when it is OFF.

    CAUTION:
    If the deceleration is not sufficient even after releasing the accelerator pedal, depress the brake pedal.

- When the vehicle speed decreases, the deceleration decreases, and at extremely low speed, it becomes a creep state as in the e-Step function OFF state.

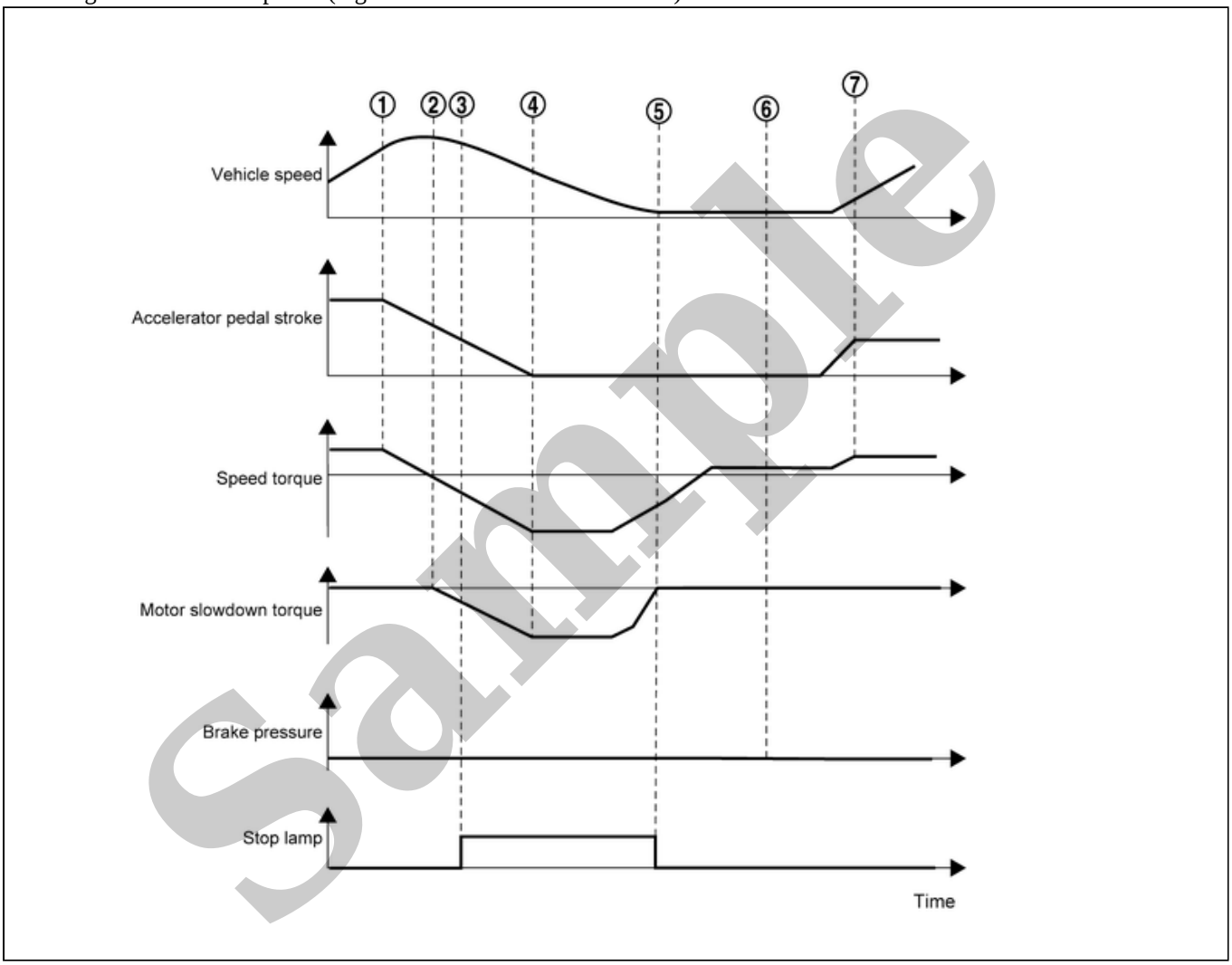
CAUTION:
When decelerating or stopping the vehicle, depress the brake pedal.

- Reverse

As same characteristics as e-Step function OFF.

TIMING CHART

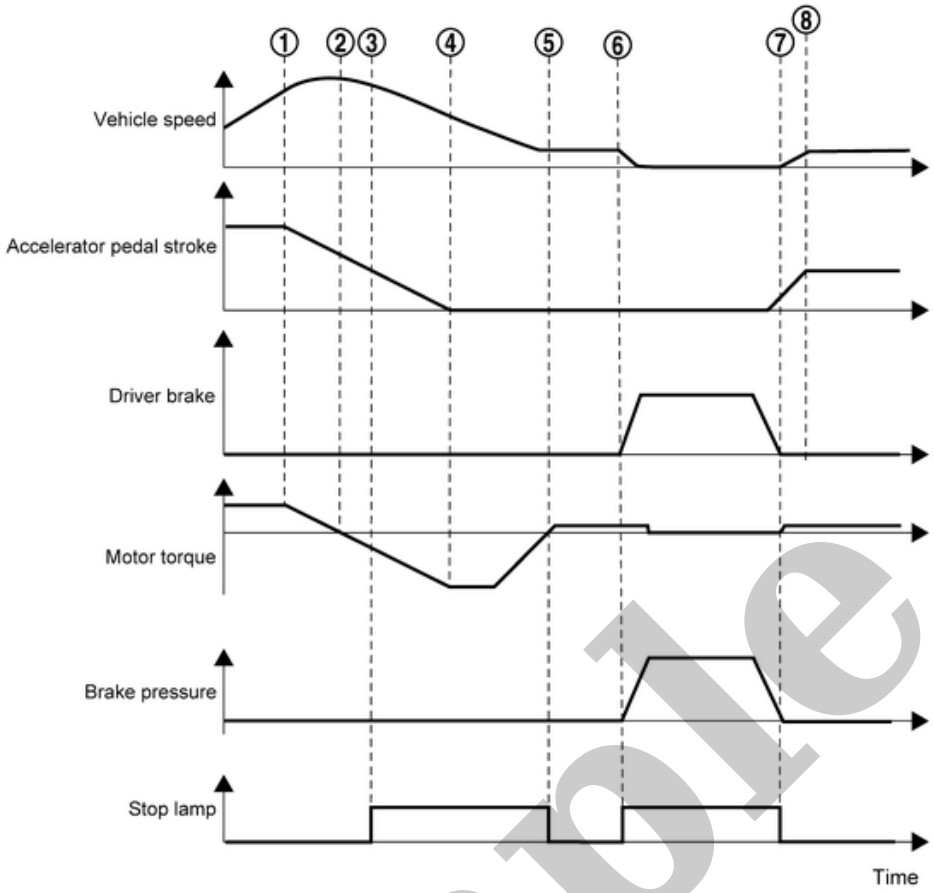
- When regenerative brake operate (regenerative brake force: sufficient)



SIEMD-7262770-04-000382434

①	Returning accelerator pedal
②	Timing of acceleration and deceleration (deceleration start).
③	Stop lamp turned ON (exceed deceleration speed to turn ON stop lamp)
④	Release accelerator pedal
⑤	Stop lamp turned OFF
⑥	Creep state
⑦	Re-acceleration

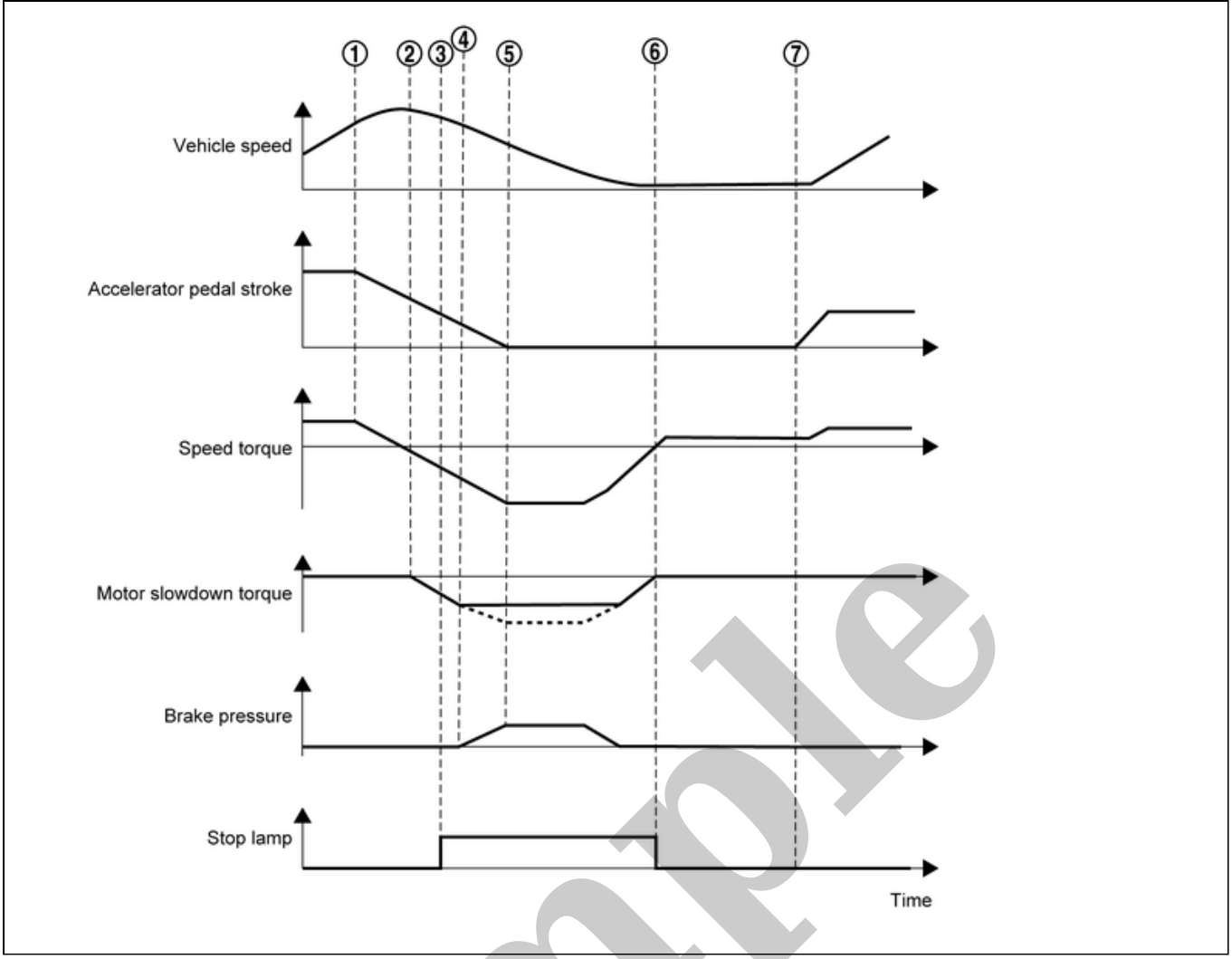
- When regenerative brake operate (regenerative brake force: sufficient) / Driver brake



SIEMD-7262770-07-000382435

①	Returning accelerator pedal
②	Timing of acceleration and deceleration (deceleration start).
③	Stop lamp turned ON (exceed deceleration speed to turn ON stop lamp)
④	Release accelerator pedal
⑤	Creep state / Stop lamp turned OFF
⑥	Depress brake pedal / Stop lamp turned ON
⑦	Release brake pedal / Stop lamp turned OFF
⑧	Re-acceleration

- When regenerative brake operate (regenerative brake force: insufficient)



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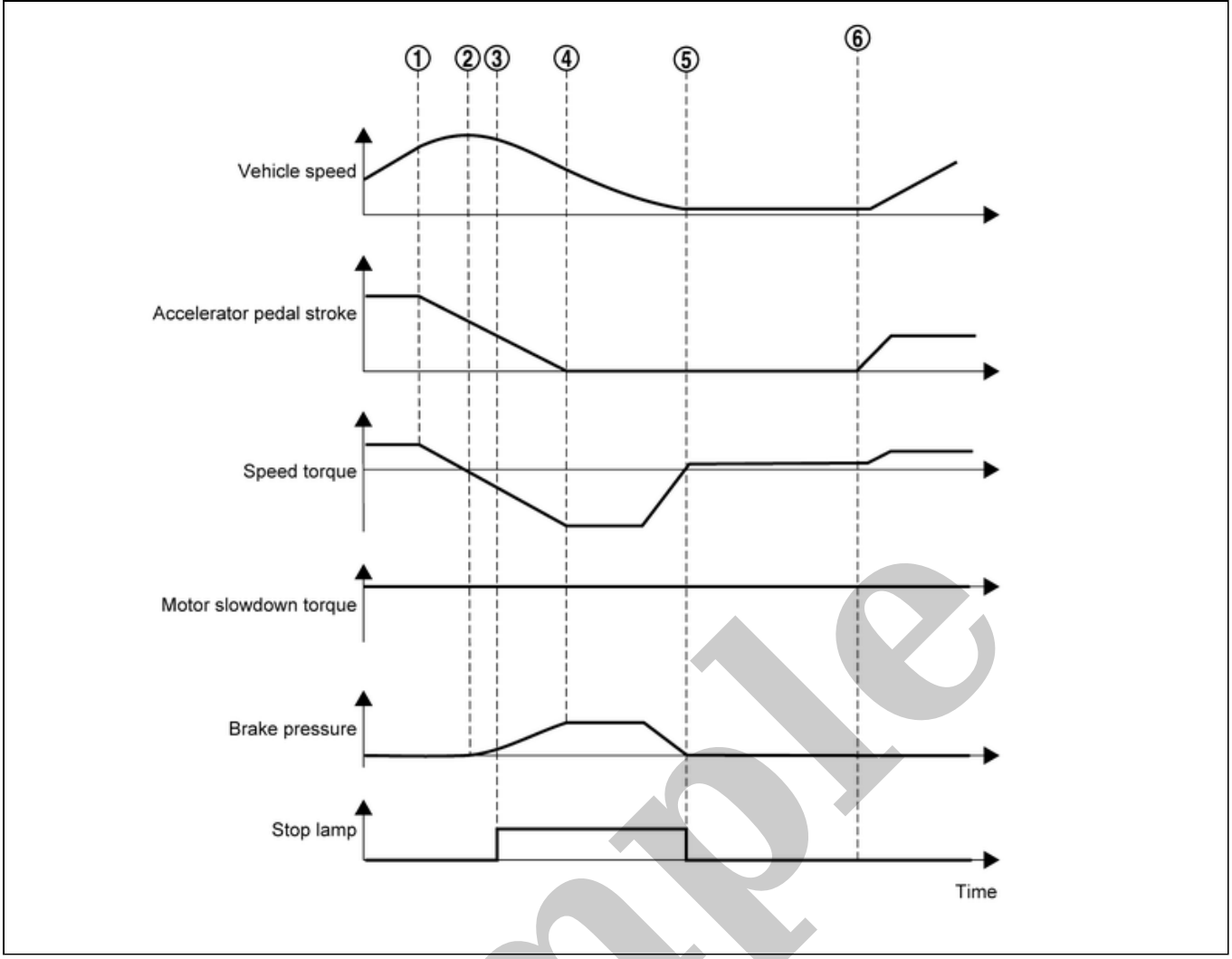
①	Returning accelerator pedal
②	Timing of acceleration and deceleration (deceleration start)
③	Stop lamp turned ON (exceed deceleration speed to turn ON stop lamp)
④	Friction (normal) brake assists deceleration because regenerative braking amount is insufficient
⑤	Release accelerator pedal (maximum deceleration)
⑥	Creep state / Stop lamp turned OFF
⑦	Re-acceleration

- When regenerative brake does not operate

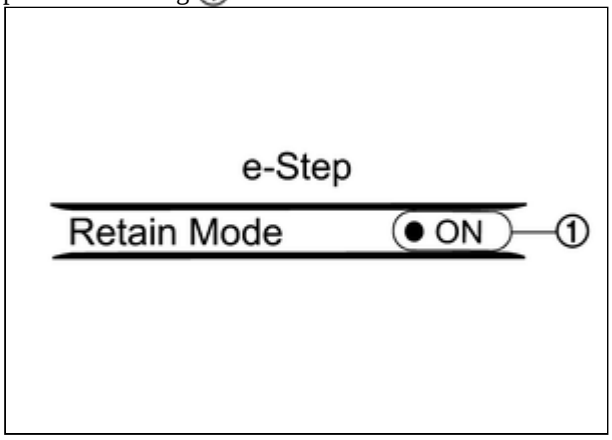


SIEMD-7262770-06-000382437

①	Returning accelerator pedal
②	Timing of acceleration and deceleration (deceleration start)
③	Stop lamp turned ON (exceed deceleration speed to turn ON stop lamp)
④	Release accelerator pedal (maximum deceleration)
⑤	Creep state / Stop lamp turned OFF
⑥	Vehicle restart

RETAIN MODE

- Allows driver to maintain the e-Step function setting ① "ON" or "OFF".



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- When mode memory turned ON, previous e-Step function setting (ON/OFF) will be kept.
- The mode is switched on the vehicle information display of the combination meter.

Circuit Diagram

Refer to Circuit Diagram.