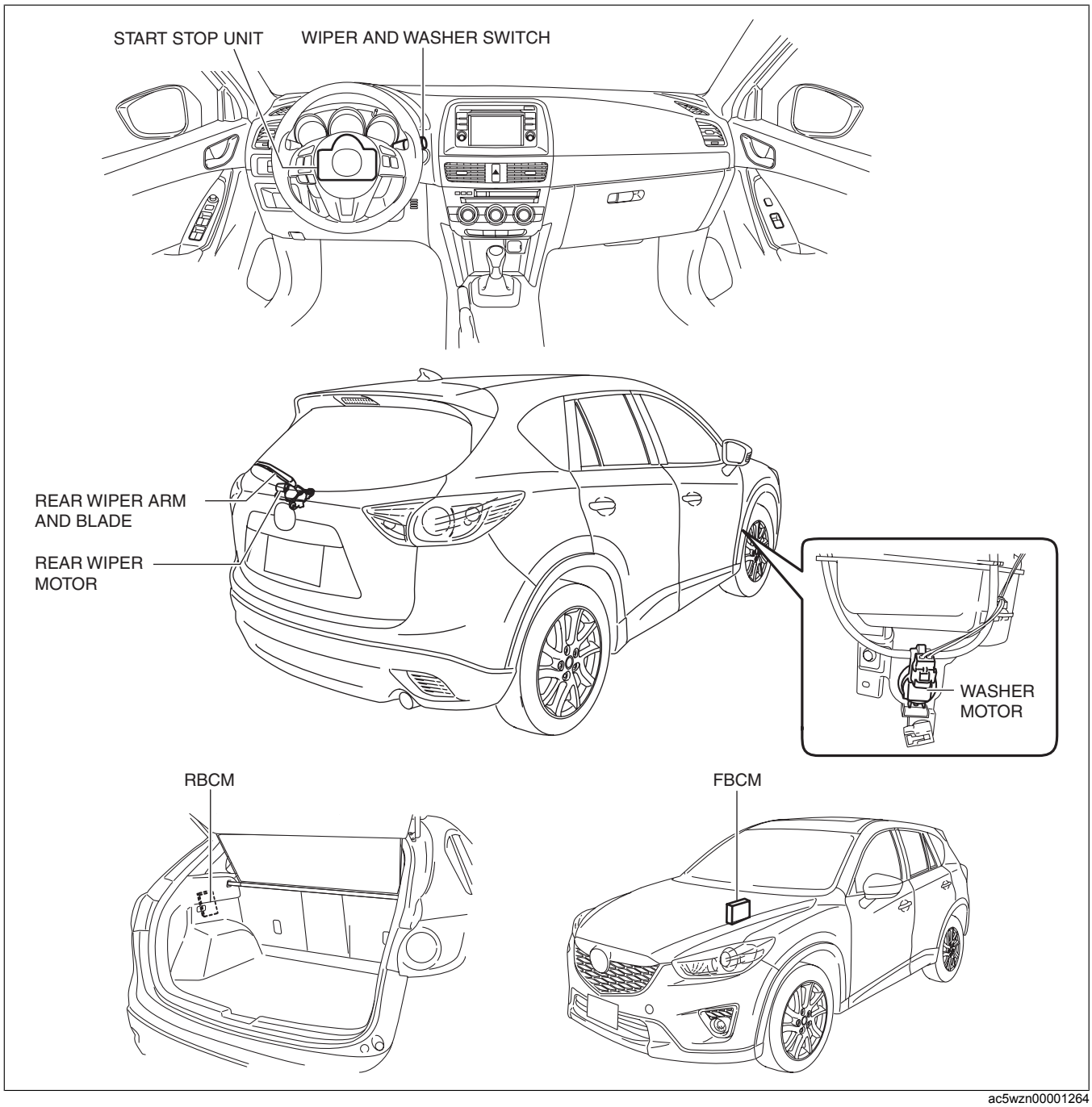
REAR WIPER SYSTEM

id091900000800

Outline

- Equipped with continuous, auto-stop, intermittent wiper, and synchronized washer and wiper operation.
- The front body control module (FBCM) and rear body control module (RBCM) performs rear wiper and washer system fail-safe. (See FRONT BODY CONTROL MODULE (FBCM).) (See REAR BODY CONTROL MODULE (RBCM).)

Structural View
L.H.D.



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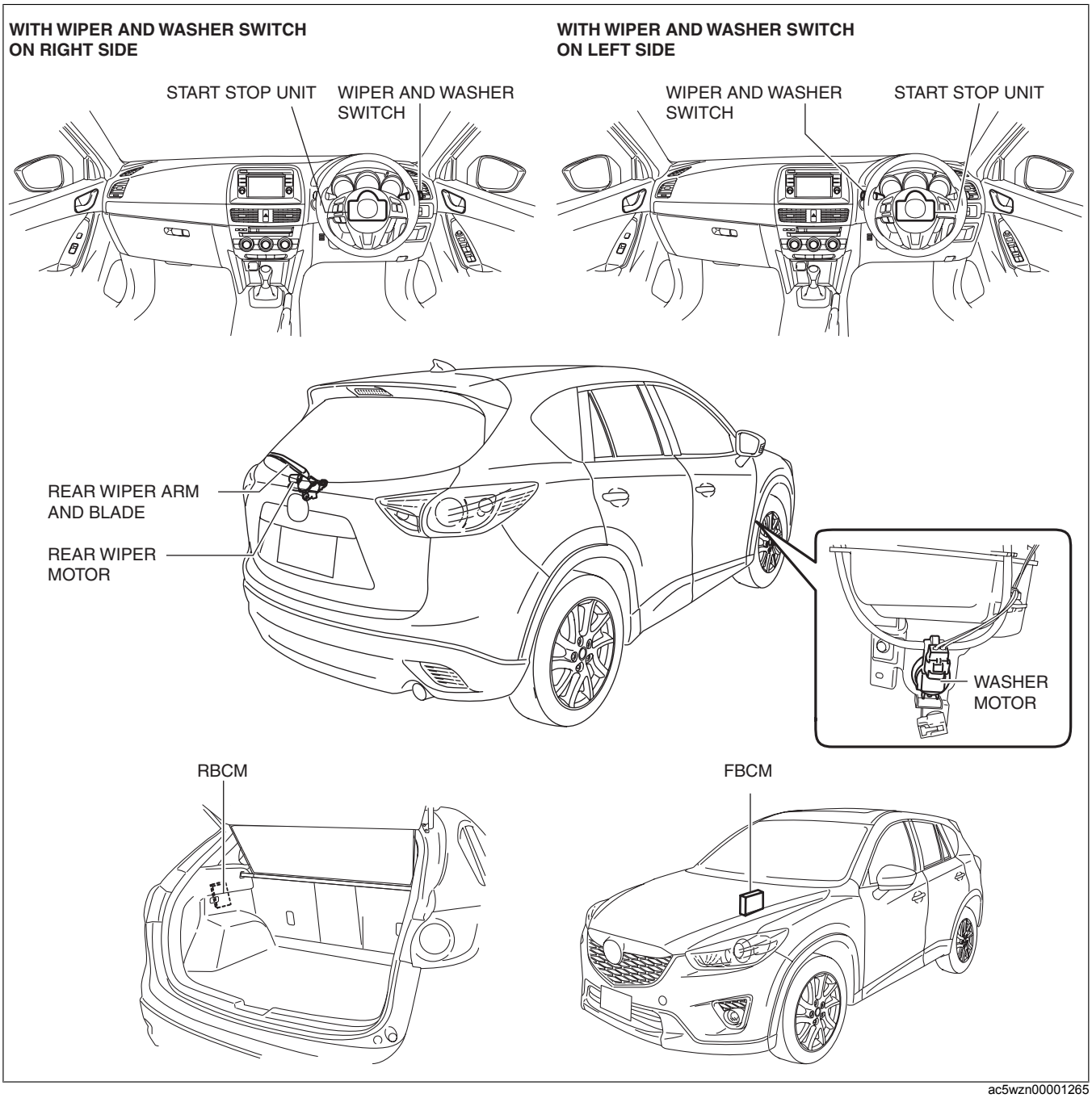
R.H.D.



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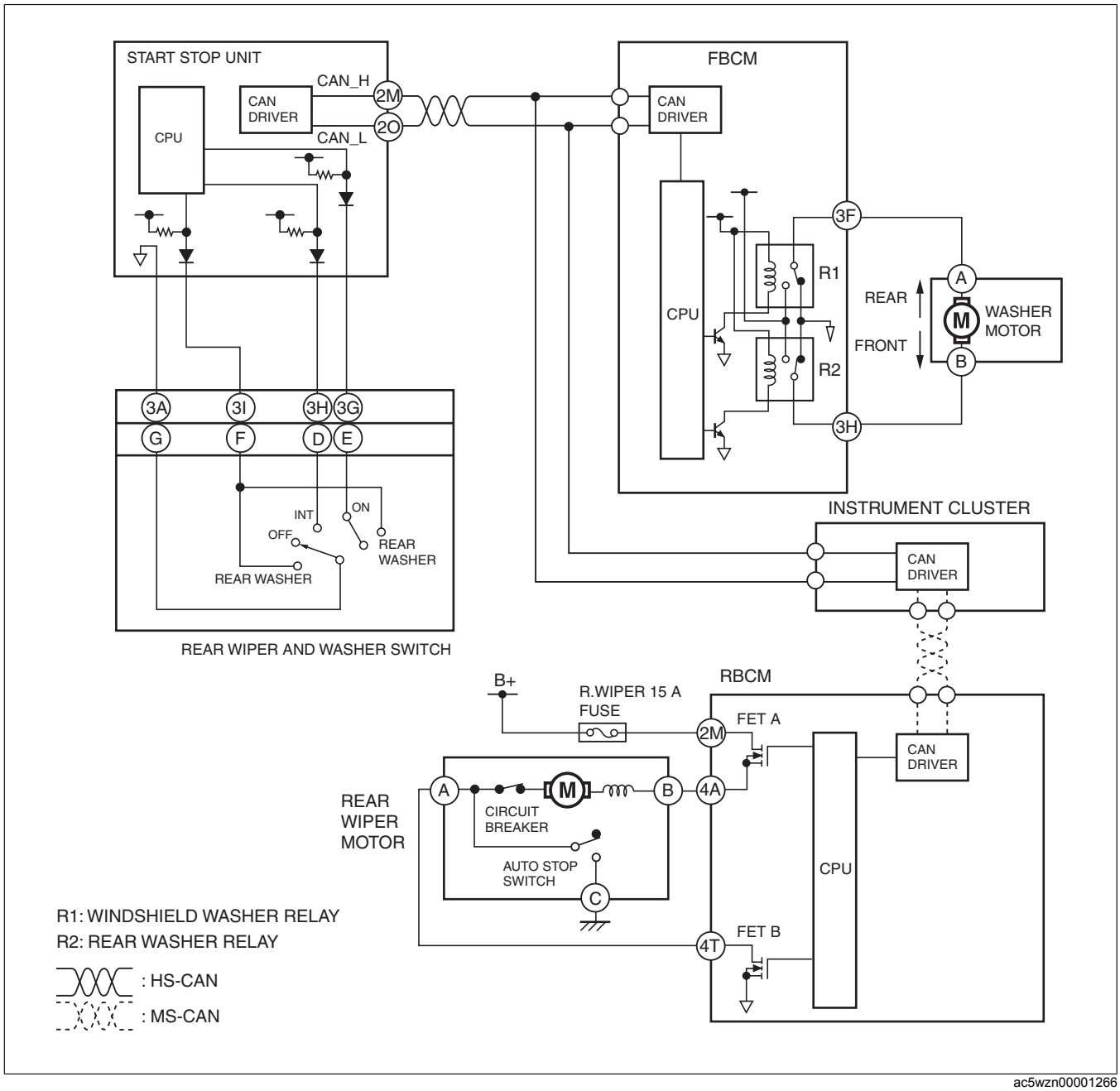
System Wiring Diagram

With wiper and washer switch on right side



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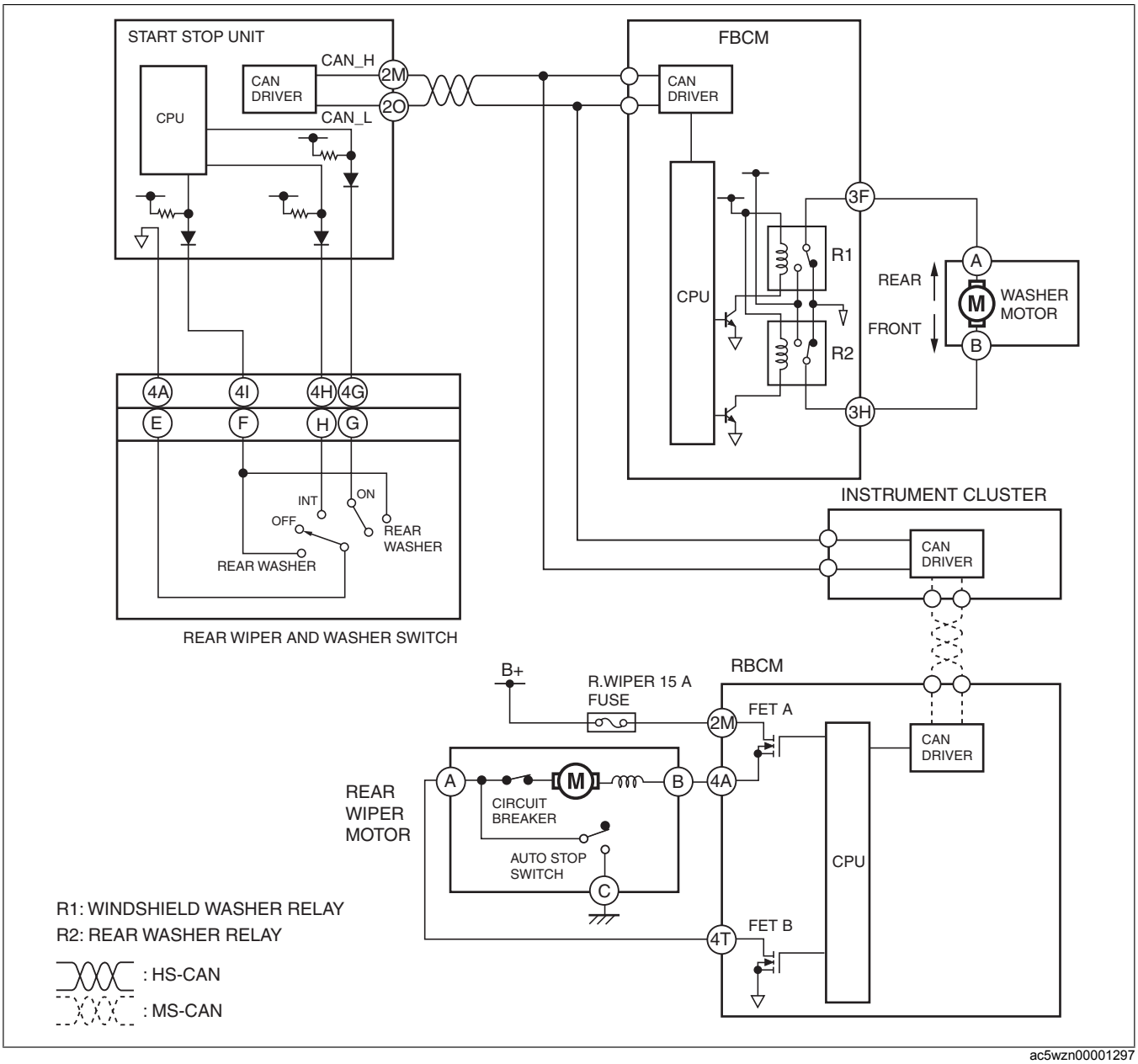
With wiper and washer switch on left side



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Operation

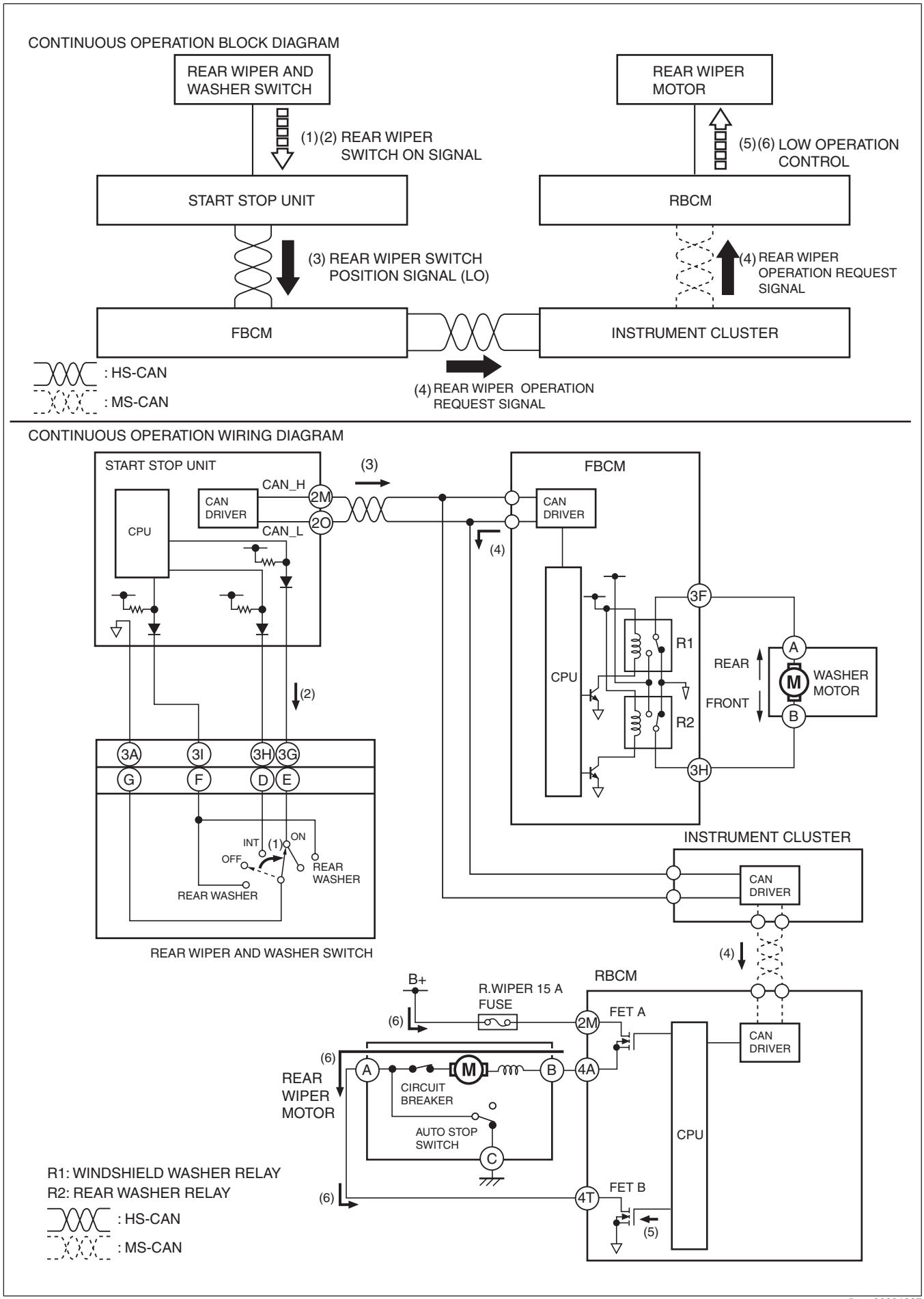
Continuous operation

1. When the rear wiper and washer switch is turned to the ON position with the ignition switched ON (engine off or on) (1), the start stop unit detects a rear wiper switch ON signal.(2)
2. When the start stop unit detects a rear wiper switch ON signal, it send a rear wiper switch position signal (LO) to the front body control module (FBCM) as a CAN signal.(3)
3. When the front body control module (FBCM) receives the rear wiper switch position signal (LO), it sends a rear wiper operation request signal to the rear body control module (RBCM) via the instrument cluster as a CAN signal.(4)
4. When the rear body control module (RBCM) receives the rear wiper operation request signal, it supplies the gate current from the internal CPU to FET B (5), and current flows from the battery to the rear wiper motor and the rear wiper operates continuously.(6)

Note

- When the ignition is switched ON (engine on or off), the rear body control module (RBCM) turns the FET A on.

With wiper and washer switch on right side



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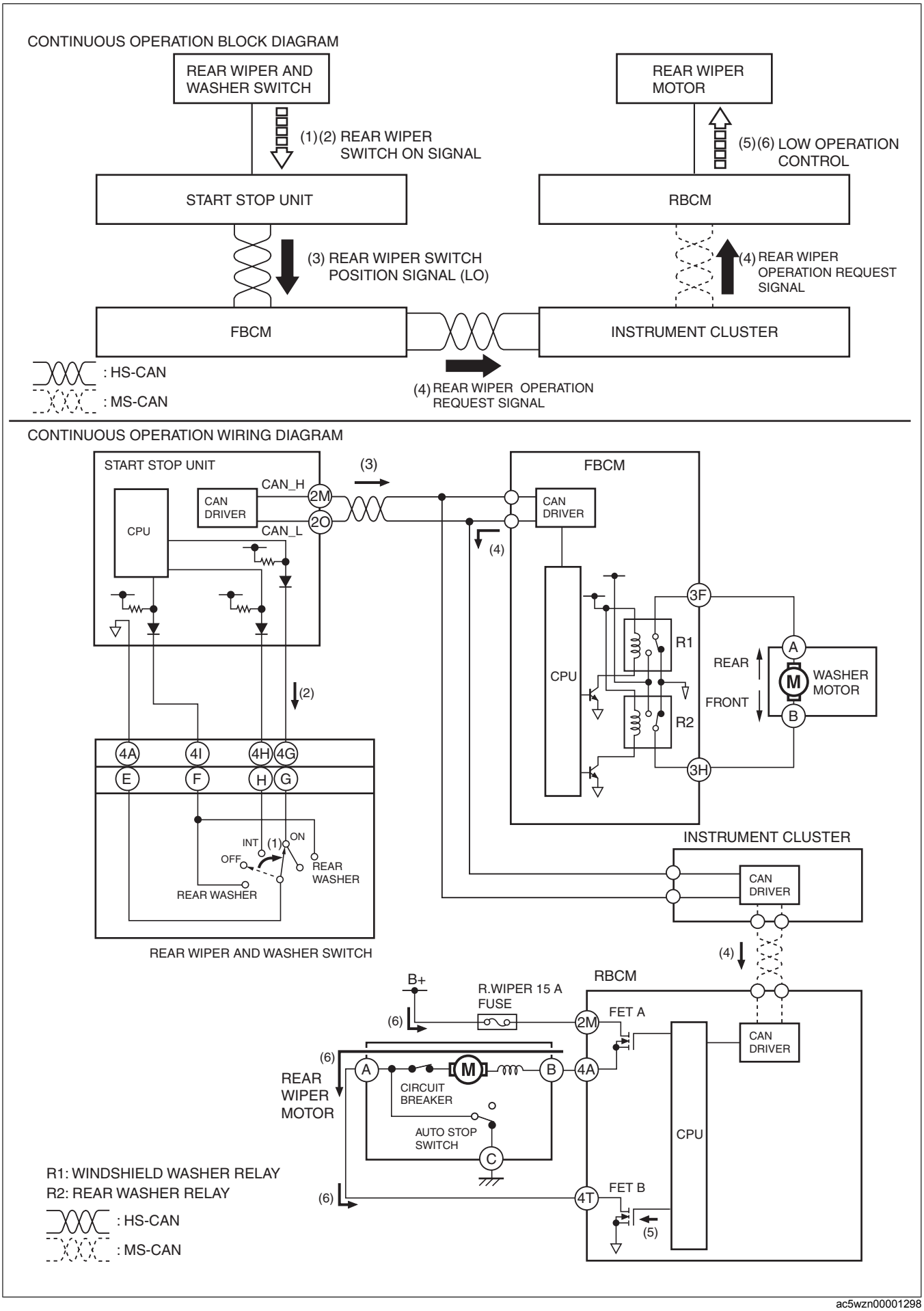
With wiper and washer switch on left side



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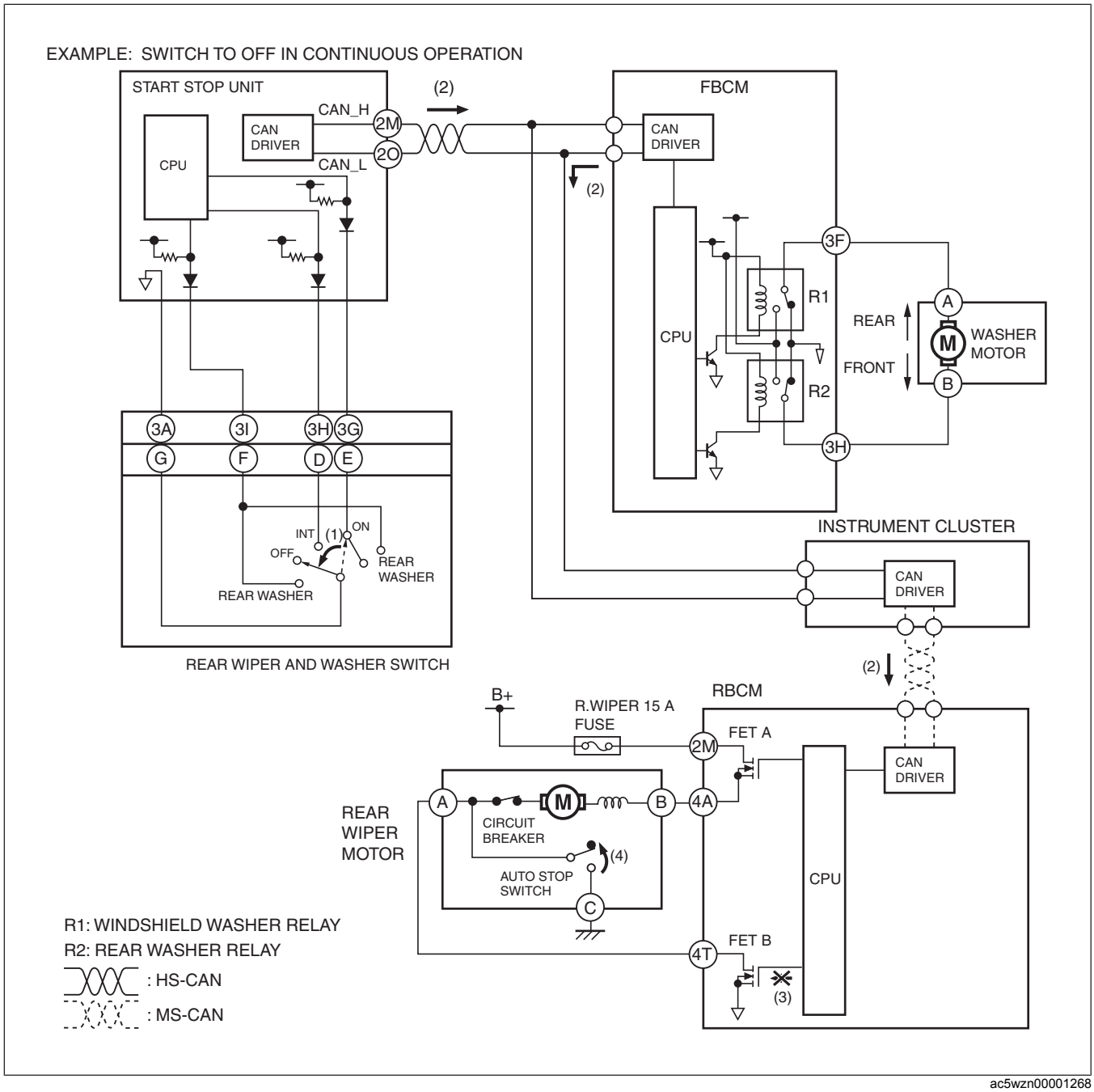
Auto-stop operation

1. The auto stop switch inside the rear wiper motor operates as follows according to the operation position of the rear wipers.
   - Rear wipers stopped in park position: Off
   - Rear wipers stopped in position other than park: On
2. When the rear wiper and washer switch is in the OFF position (1) during rear wiper operation, the rear wiper operation request signal sent to the rear body control module (RBCM) via the instrument cluster from the front body control module (FBCM) turns off. (2)
3. When the rear wiper operation request signal turns off, the rear body control module (RBCM) turns the FET B off. (3)
4. The rear wiper operates continuously because the auto stop switch is on.
5. The autostop switch in the rear wiper motor turns off if the rear wiper stops at the correct position, and the rear wiper stops based on this.(4)

With wiper and washer switch on right side



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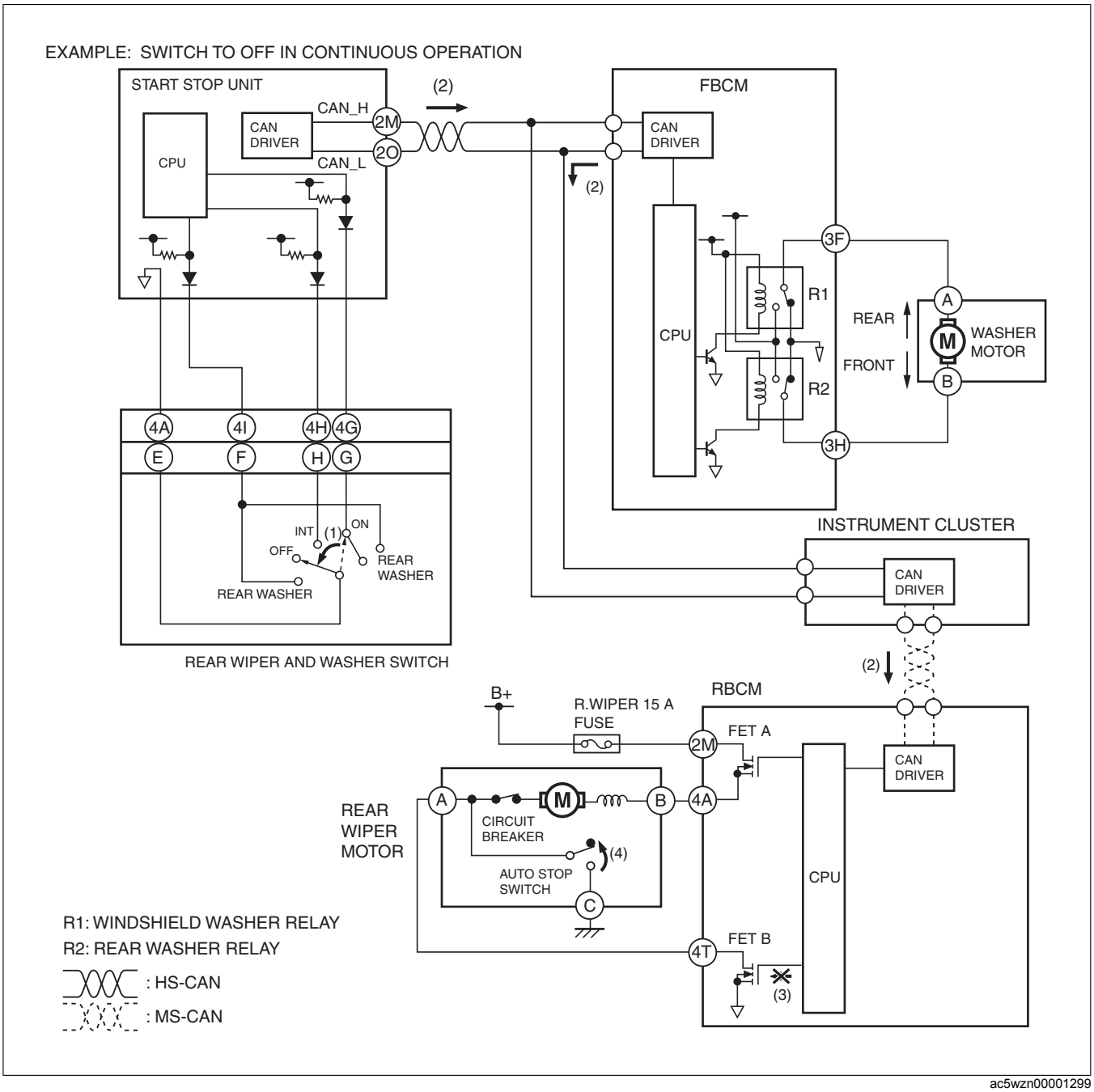
With wiper and washer switch on left side



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Intermittent wiper operation

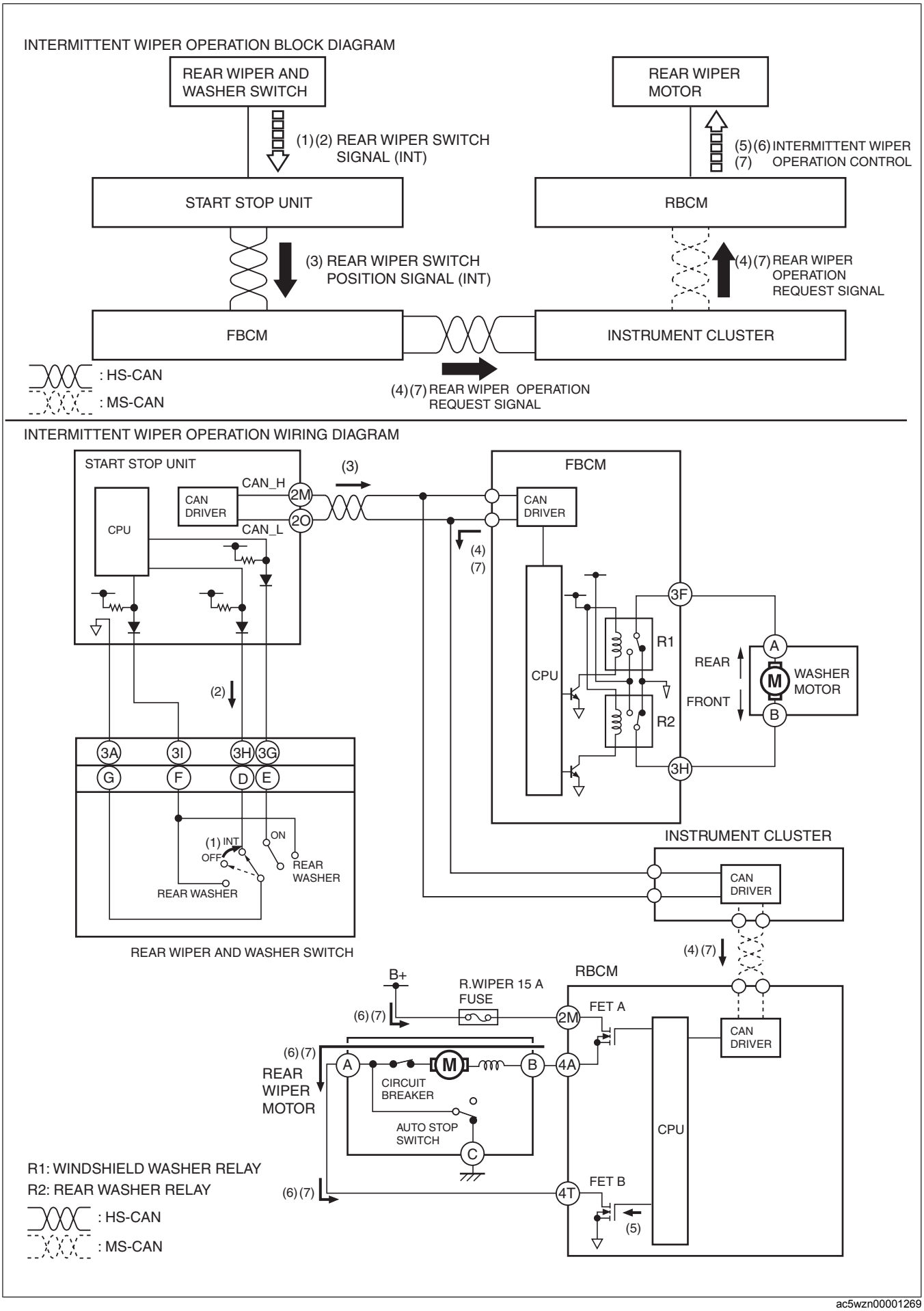
1. When the rear wiper and washer switch is moved to the INT position with the ignition switched ON (engine off or on) (1), the start stop unit detects a rear wiper switch signal (INT).(2)
2. When the start stop unit detects a rear wiper switch signal (INT), it send a rear wiper switch position signal (INT) to the front body control module (FBCM) as a CAN signal.(3)
3. When the front body control module (FBCM) receives the rear wiper switch position signal (INT), it sends a rear wiper operation request signal to the rear body control module (RBCM) via the instrument cluster as a CAN signal.(4)
4. When the rear body control module (RBCM) receives the rear wiper operation request signal, it supplies the gate current from the internal CPU to FET B (5), and current flows from the battery to the rear wiper motor and the rear wiper operates.(6)

Note

- When the ignition is switched ON (engine on or off), the rear body control module (RBCM) turns the FET A on.

5. The front body control module (FBCM) sends a rear wiper operation request signal to the rear body control module (RBCM) via the instrument cluster at regular intervals. Due to this, the rear wiper operates intermittently. (7)

With wiper and washer switch on right side



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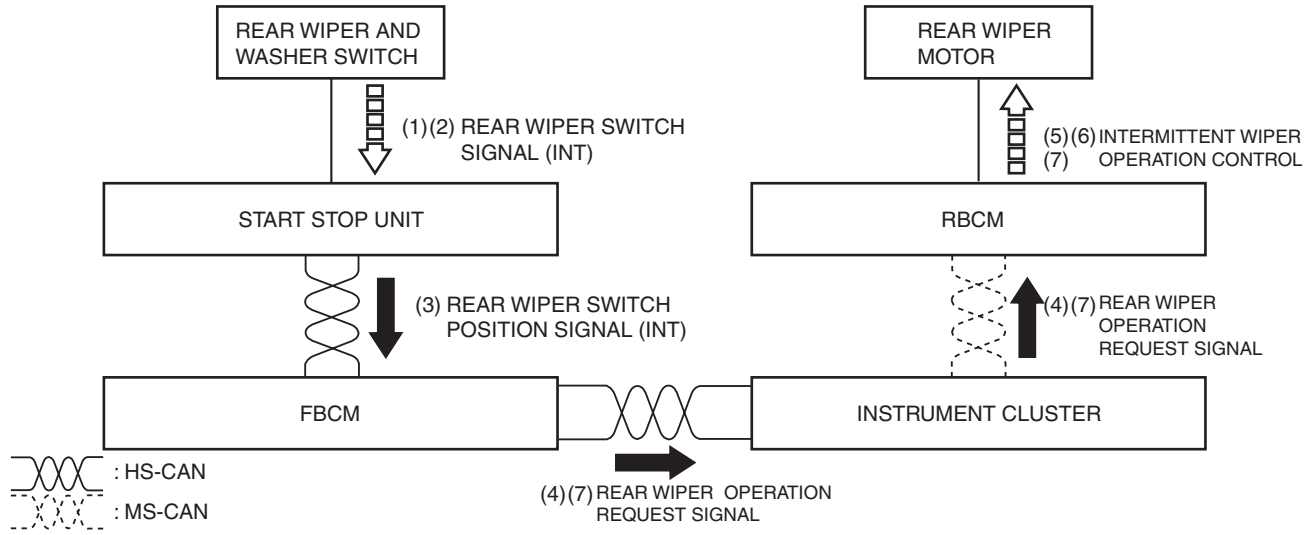
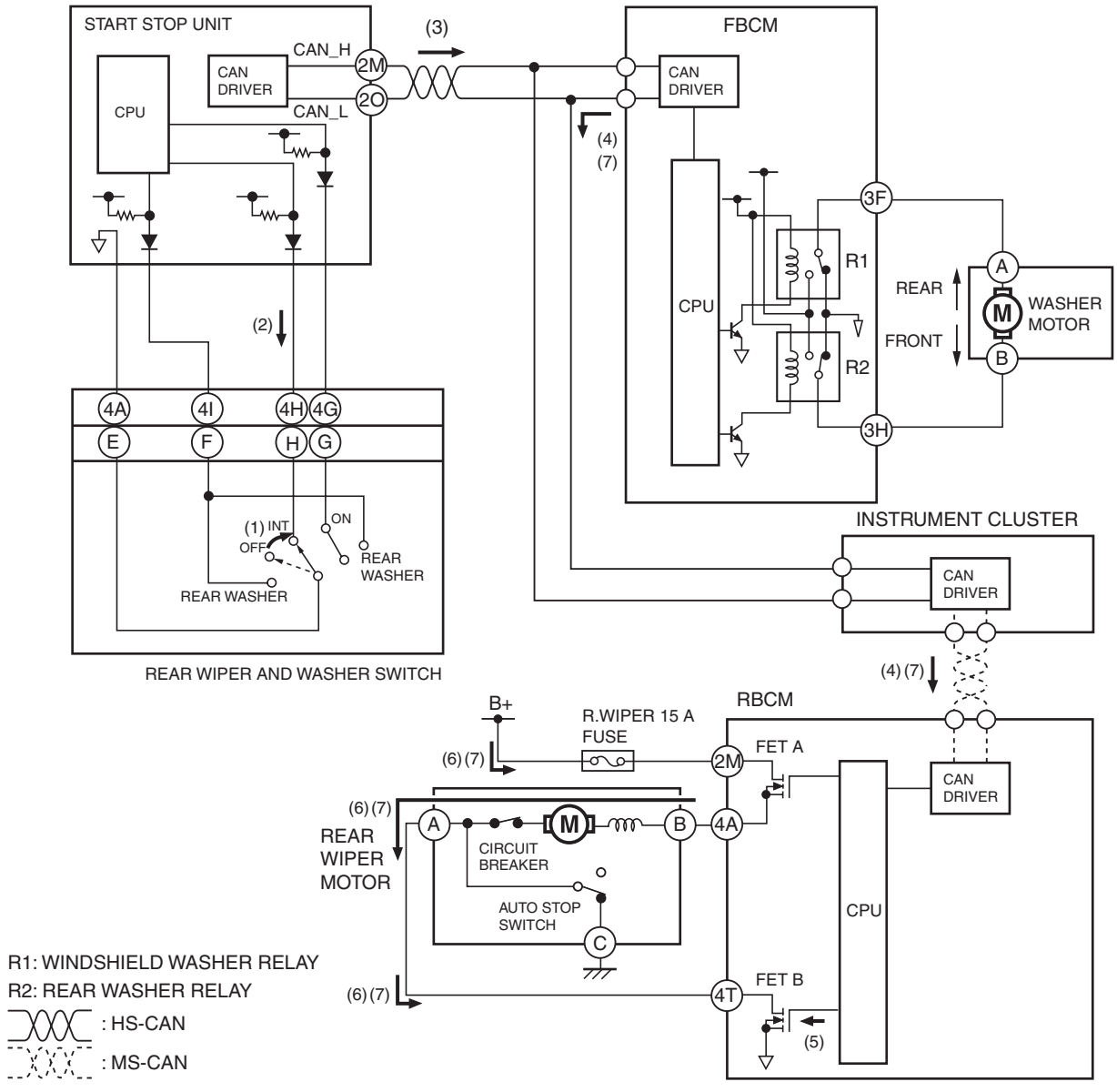
With wiper and washer switch on left side

INTERMITTENT WIPER OPERATION BLOCK DIAGRAM



INTERMITTENT WIPER OPERATION WIRING DIAGRAM



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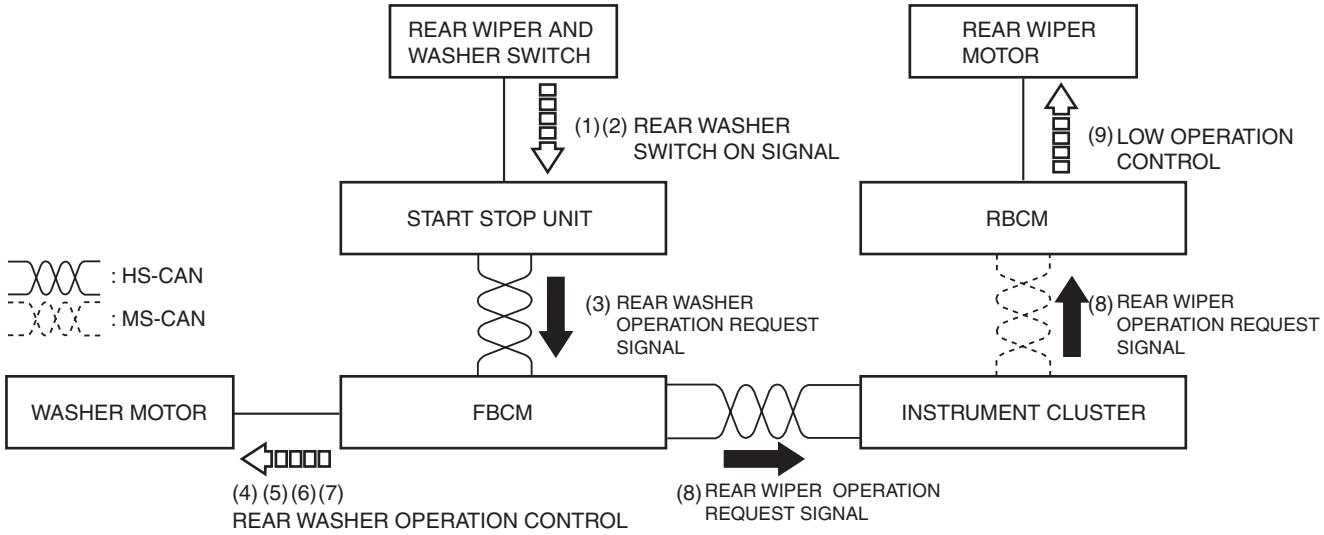
Synchronized washer and wiper operation

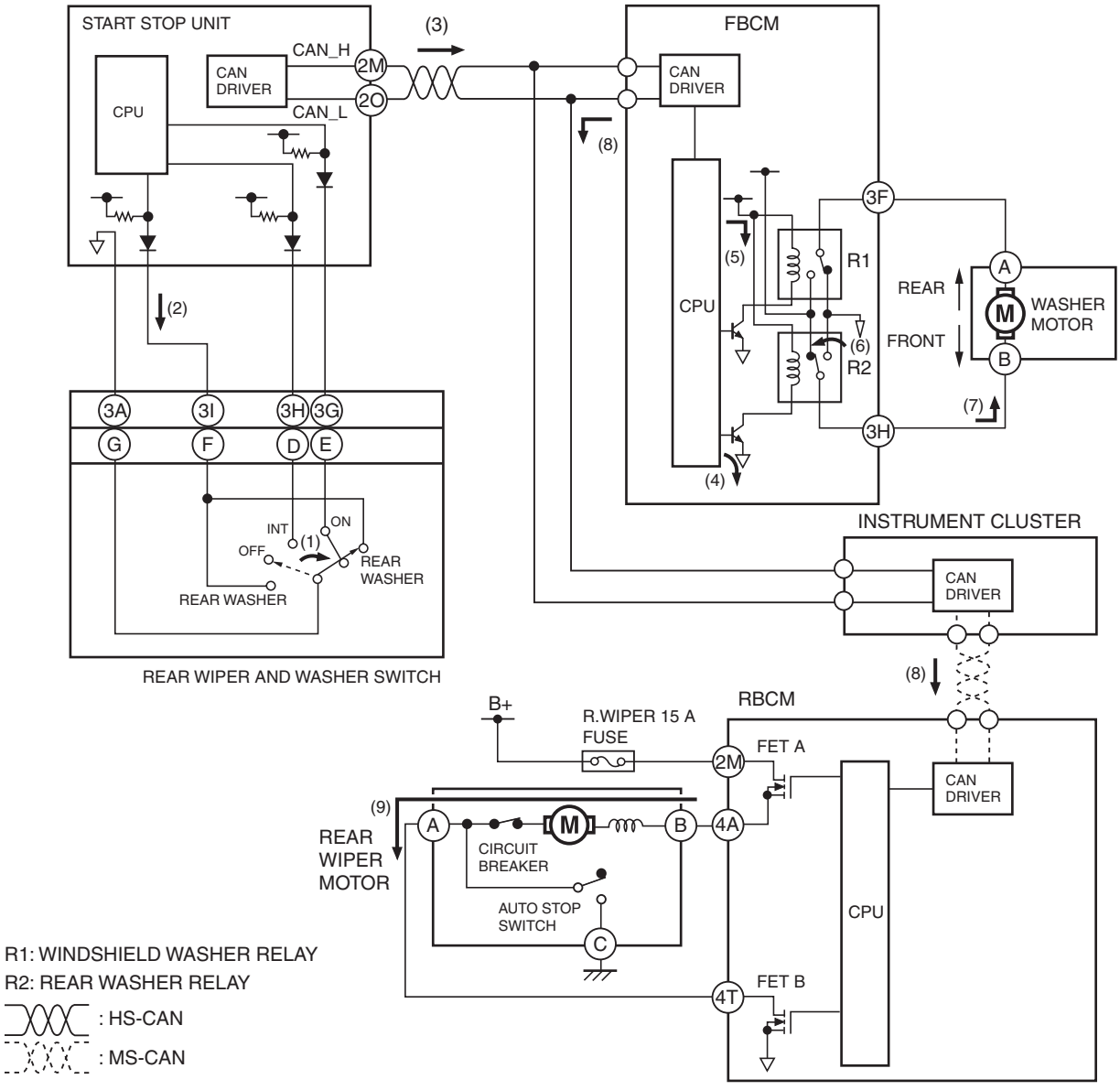
1. When the rear wiper and washer switch is turned to the rear washer position with the ignition switched ON (engine off or on) (1), the start stop unit detects a rear washer switch ON signal.(2)
2. When the start stop unit detects a rear washer switch ON signal, it send a rear washer operation request signal to the front body control module (FBCM) as a CAN signal.(3)
3. When the front body control module (FBCM) receives the rear washer operation request signal, it supplies the base current from the internal CPU to transistor (4), and collector current flows from the internal power supply (5), turning the rear washer relay on.(6)
4. When the rear washer relay is turned on, current flows to the washer motor and the washer motor operates, and washer fluid is sprayed from the rear washer nozzle.(7)
5. When the front body control module (FBCM) receives the rear washer operation request signal for a certain period of time, it sends a rear wiper operation request signal to the rear body control module (RBCM) via the instrument cluster as a CAN signal.(8)
6. When the rear body control module (RBCM) receives the rear wiper operation request signal, it operates the rear wiper.(9)
7. When the rear washer switch is turned off, the rear wiper stops after it operates for **approx. 2.6 s**.

With wiper and washer switch on right side

SYNCHRONIZED WASHER AND WIPER OPERATION BLOCK DIAGRAM



SYNCHRONIZED WASHER AND WIPER OPERATION WIRING DIAGRAM



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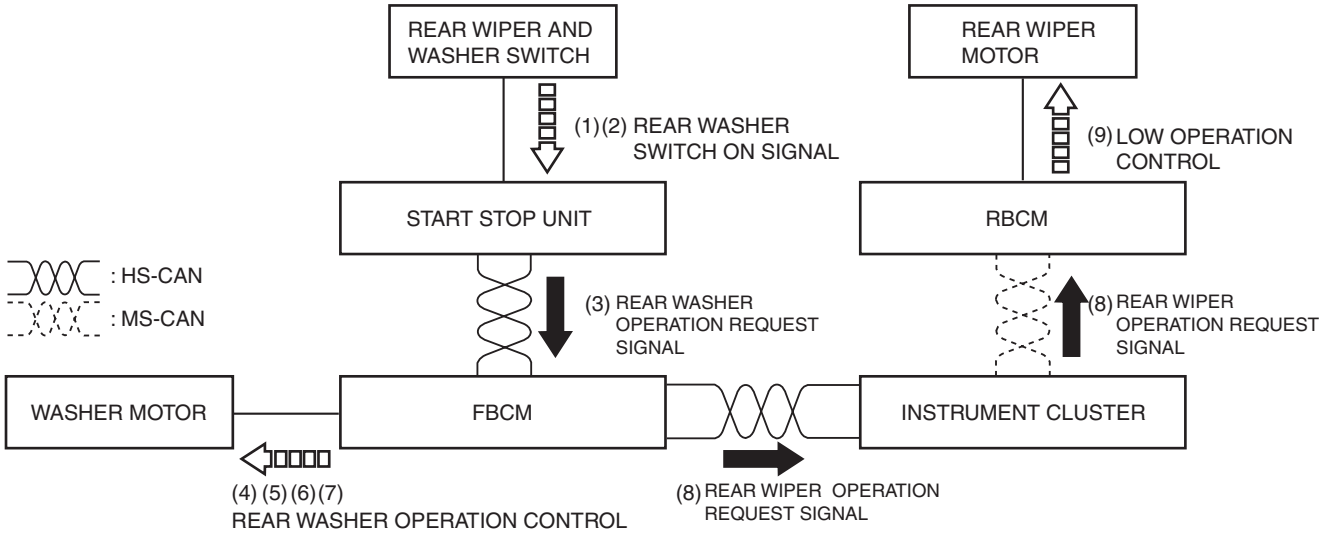
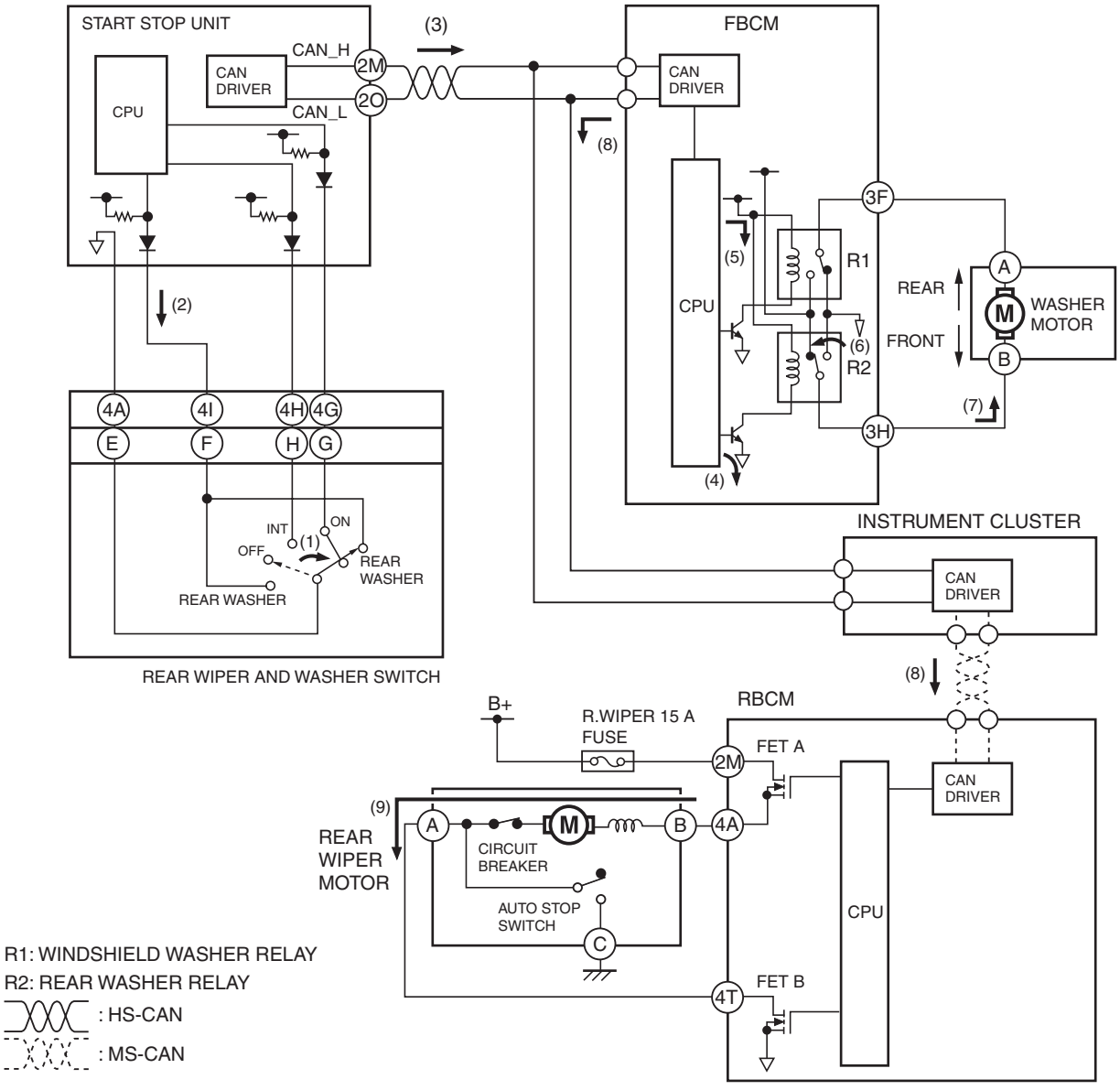
With wiper and washer switch on left side

SYNCHRONIZED WASHER AND WIPER OPERATION BLOCK DIAGRAM



SYNCHRONIZED WASHER AND WIPER OPERATION WIRING DIAGRAM



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