

SECTION

LAN

LAN SYSTEM

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## PRECAUTIONS

PFP:00001

### Precautions for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

EKS0089Q

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the SRS and SB section of this Service Manual.

#### **WARNING:**

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SRS section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

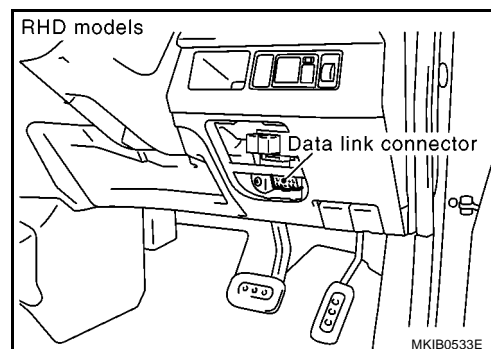
### Precautions When Using CONSULT-II

EKS0073H

When connecting CONSULT-II to data link connector, connect them through CONSULT-II CONVERTER.

#### **CAUTION:**

If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carry out CAN communication.



### CHECK POINTS FOR USING CONSULT-II

1. Has CONSULT-II been used without connecting CONSULT-II CONVERTER on this vehicle?
  - If YES, GO TO 2.
  - If NO, GO TO 5.
2. Is there any indication other than indications relating to CAN communication system in the self-diagnosis results?
  - If YES, GO TO 3.
  - If NO, GO TO 4.
3. Based on self-diagnosis results unrelated to CAN communication, carry out the inspection.
4. Malfunctions may be detected in self-diagnosis depending on control units carrying out CAN communication. Therefore, erase the self-diagnosis results.
5. Diagnose CAN communication system. Refer to [LAN-6, "CAN Communication Unit"](#).

### Precautions For Trouble Diagnosis CAN SYSTEM

EKS0073I

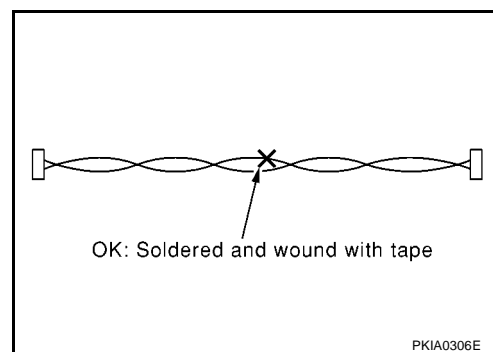
- Do not apply voltage of 7.0V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0V or less.
- Be sure to turn ignition switch off and disconnect negative battery terminal before checking the circuit.

## Precautions For Harness Repair

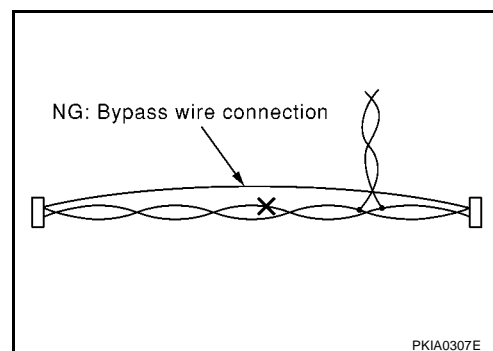
### CAN SYSTEM

EKS0073J

- Solder the repaired parts, and wrap with tape. [Frays of twisted line must be within 110 mm (4.33 in)]



- Do not perform bypass wire connections for the repair parts. (The spliced wire will become separated and the characteristics of twisted line will be lost.)



## Maintenance Information

EKS008WQ

If any of following part is replaced, always replace with new\* one.

If it's not (or fail to do so), the electrical system may not be operated properly.

\*: New one means a virgin control unit that has never been energized on-board.

### RHD MODELS

- BCM (Models without Intelligent Key system)
- Intelligent Key unit (Models with Intelligent Key system)
- ECM
- IPDM E/R
- Combination meter
- EPS control unit

### LHD MODELS

- BCM (Models without Intelligent Key system)
- Intelligent Key unit (Models with Intelligent Key system)
- ECM

## CAN COMMUNICATION

## System Description

EKS007UG

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

## CAN Communication Unit

EKS007UH

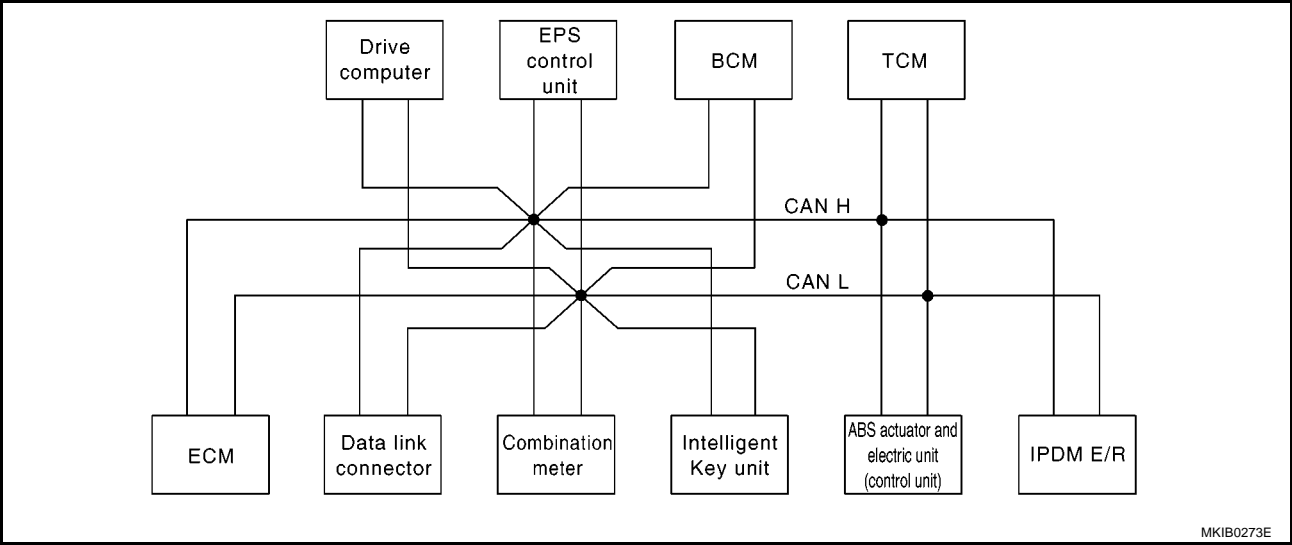
Go to CAN system, when selecting your car model from the following table.

|  |  |   |  |   |  |   |   |   |   |   |   |   |   |   |   |   |   |   |  |   |
|--|--|---|--|---|--|---|---|---|---|---|---|---|---|---|---|---|---|---|--|---|
| Body type  | 3door/5door  |   |  |   |  |   |   |   |   |   |   |   |   |   |   |   |   |   |  |   |
| Axle   | 2WD  |   |  |   |  |   |   |   |   |   |   |   |   |   |   |   |   |   |  |   |
| Engine   | CR10DE/CR12DE/CR14DE   |   |  |   |  |   |   |   | CR12DE/CR14DE   |   |   |   |   |   |   |   | K9K   |   |  |   |
| Handle   | LHD/RHD  |   |  |   |  |   |   |   |   |   |   |   |   |   |   |   |   |   |  |   |
| Brake control                                    | ABS system   |   |  |   |  |   |   |   | ESP system  |   |   |   |   |   |   |   | ABS   |   |  |   |
| Transmission                                     | A/T  |   |  |   | M/T  |   |   |   | A/T   |   |   |   | M/T   |   |   |   | M/T   |   |  |   |
| Intelligent Key system                           | Appli-<br>cable  |   | Not appli-<br>cable  |   | Appli-<br>cable  |   | Not appli-<br>cable   |   | Appli-<br>cable   |   | Not appli-<br>cable   |   | Appli-<br>cable   |   | Not appli-<br>cable   |   | Appli-<br>cable   |   | Not appli-<br>cable  |   |
| CAN communication unit                           |  |   |  |   |  |   |   |   |   |   |   |   |   |   |   |   |   |   |  |   |
| ECM  | ×  | × | ×  | × | ×  | × | ×   | × | ×   | × | ×   | × | ×   | × | ×   | × | ×   | × | ×  | × |
| Data link connector                              | ×  | × | ×  | × | ×  | × | ×   | × | ×   | × | ×   | × | ×   | × | ×   | × | ×   | × | ×  | × |
| Combination meter                                | ×  | × | ×  | × | ×  | × | ×   | × | ×   | × | ×   | × | ×   | × | ×   | × | ×   | × | ×  | × |
| Intelligent Key unit                             | ×  | × |  |   | ×  | × |   |   | ×   | × |   |   | ×   | × |   |   | ×   | × |  |   |
| Drive computer                                   | ×  |   | ×  |   | ×  |   | ×   |   | ×   |   | ×   |   | ×   |   | ×   |   | ×   |   | ×  |   |
| EPS control unit                                 | ×  | × | ×  | × | ×  | × | ×   | × | ×   | × | ×   | × | ×   | × | ×   | × | ×   | × | ×  | × |
| BCM  | ×  | × | ×  | × | ×  | × | ×   | × | ×   | × | ×   | × | ×   | × | ×   | × | ×   | × | ×  | × |
| ABS actuator and electric unit<br>(control unit) | ×  | × | ×  | × | ×  | × | ×   | × | ×   | × | ×   | × | ×   | × | ×   | × | ×   | × | ×  | × |
| TCM  | ×  | × | ×  | × |  |   |   |   | ×   | × | ×   | × |   |   |   |   |   |   |  |   |
| IPDM E/R   | ×  | × | ×  | × | ×  | × | ×   | × | ×   | × | ×   | × | ×   | × | ×   | × | ×   | × | ×  | × |
| CAN communication type                           | <a href="#">LAN-7. "TYPE 1/<br/>TYPE 2"</a>                              |   |  |   | <a href="#">LAN-10. "TYPE<br/>3/TYPE 4"</a>                              |   |   |   | <a href="#">LAN-12. "TYPE<br/>5/TYPE 6"</a>                               |   |   |   | <a href="#">LAN-15. "TYPE<br/>7/TYPE 8"</a>                               |   |   |   | <a href="#">LAN-17. "TYPE<br/>9/TYPE 10"</a>                              |   |  |   |
| CAN system trouble diagnosis                     | <a href="#">LAN-<br/>20.<br/>"CAN<br/>SYS-<br/>TEM<br/>(TYPE<br/>1)"</a> |   | <a href="#">LAN-<br/>52.<br/>"CAN<br/>SYS-<br/>TEM<br/>(TYPE<br/>2)"</a> |   | <a href="#">LAN-<br/>82.<br/>"CAN<br/>SYS-<br/>TEM<br/>(TYPE<br/>3)"</a> |   | <a href="#">LAN-<br/>112.<br/>"CAN<br/>SYS-<br/>TEM<br/>(TYPE<br/>4)"</a> |   | <a href="#">LAN-<br/>140.<br/>"CAN<br/>SYS-<br/>TEM<br/>(TYPE<br/>5)"</a> |   | <a href="#">LAN-<br/>172.<br/>"CAN<br/>SYS-<br/>TEM<br/>(TYPE<br/>6)"</a> |   | <a href="#">LAN-<br/>202.<br/>"CAN<br/>SYS-<br/>TEM<br/>(TYPE<br/>7)"</a> |   | <a href="#">LAN-<br/>232.<br/>"CAN<br/>SYS-<br/>TEM<br/>(TYPE<br/>8)"</a> |   | <a href="#">LAN-<br/>260.<br/>"CAN<br/>SYS-<br/>TEM<br/>(TYPE<br/>9)"</a> |   | <a href="#">LAN-<br/>290.<br/>"CAN<br/>SYS-<br/>TEM<br/>(TYPE<br/>10)"</a> |   |

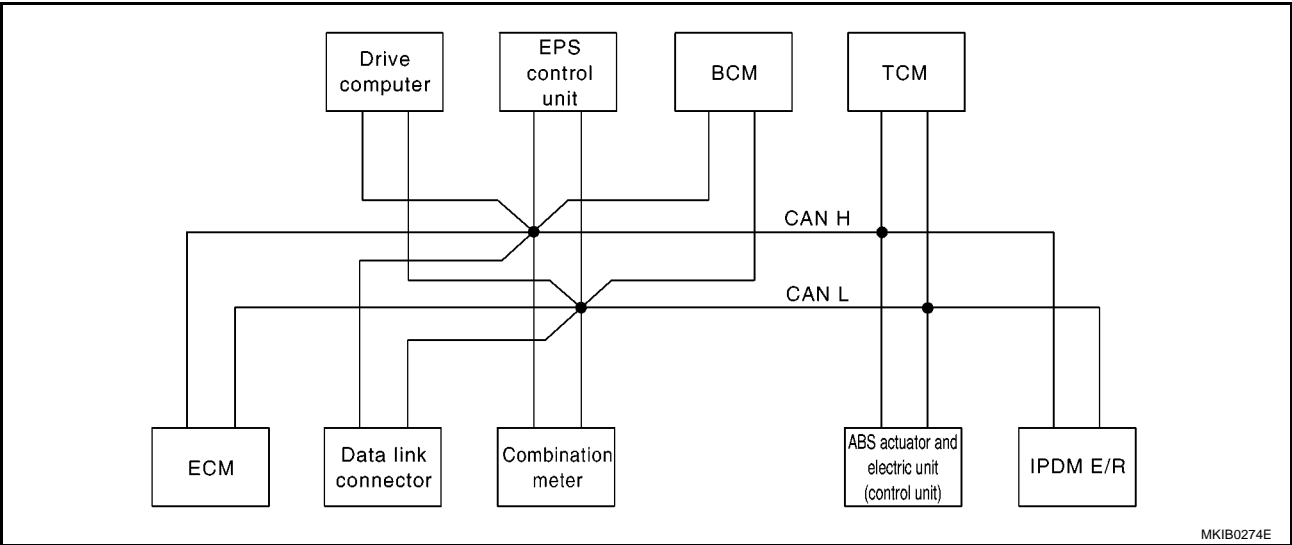
×: Applicable

TYPE 1/TYPE 2  
System diagram

- Type 1



- Type 2



Input/output signal chart

T: Transmit R: Receive

| Signals                            | ECM | Combination meter. | IntelligentKey unit | Drive computer | EPS control unit | BCM | ABS actuator and electric unit (control unit) | TCM | IPDM E/R |
|------------------------------------|-----|--------------------|---------------------|----------------|------------------|-----|---|-----|----------|
| Engine speed signal                | T   | R                  |                     | R              | R                |     |   |     |          |
| Engine coolant temperature signal  | T   | R                  |                     |                |                  |     |   |     |          |
| A/T self-diagnosis signal          | R   |                    |                     |                |                  |     |   | T   |          |
| Output shaft revolution signal     | R   |                    |                     |                |                  |     |   | T   |          |
| Accelerator pedal position signal  | T   |                    |                     |                |                  |     |   | R   |          |
| Closed throttle position signal    | T   |                    |                     |                |                  |     |   | R   |          |
| Wide open throttle position signal | T   |                    |                     |                |                  |     |   | R   |          |

# CAN COMMUNICATION

[CAN]

| Signals                                  | ECM | Combination meter. | Intelligent Key unit | Drive computer | EPS control unit | BCM | ABS actuator and electric unit (control unit) | TCM | IPDM E/R |
|--|-----|--------------------|----------------------|----------------|------------------|-----|---|-----|----------|
| A/T shift position signal                |     | R                  |                      |                |                  |     |   | T   |          |
| Stop lamp switch signal                  |     | T                  |                      |                |                  |     |   | R   |          |
| O/D OFF indicator lamp signal            |     | R                  |                      |                |                  |     |   | T   |          |
| Engine and A/T integrated control signal | T   |                    |                      |                |                  |     |   | R   |          |
|  | R   |                    |                      |                |                  |     |   | T   |          |
| Fuel consumption monitor signal          | T   | R                  |                      |                |                  |     |   |     |          |
| Oil pressure switch signal               |     | R                  |                      | R              |                  |     |   |     | T        |
| A/C compressor request signal            | T   |                    |                      |                |                  |     |   |     | R        |
| Heater fan switch signal                 | R   |                    |                      |                |                  | T   |   |     |          |
| Cooling fan speed request signal         | T   |                    |                      |                |                  |     |   |     | R        |
| Cooling fan speed status signal          | R   |                    |                      |                |                  |     |   |     | T        |
| Position lights request signal           |     | R                  |                      | R              |                  | T   |   |     | R        |
| Position light status signal             | R   |                    |                      |                |                  |     |   |     | T        |
| Low beam request signal                  |     |                    |                      |                |                  | T   |   |     | R        |
| Low beam status signal                   | R   |                    |                      |                |                  |     |   |     | T        |
| High beam request signal                 |     | R                  |                      |                |                  | T   |   |     | R        |
| High beam status signal                  | R   |                    |                      |                |                  |     |   |     | T        |
| Day time light request signal            |     |                    |                      |                |                  | T   |   |     | R        |
| Vehicle speed signal                     | R   | R                  |                      |                | R                |     | T   |     |          |
|  | R   | T                  | R                    | R              | R                | R   |   |     |          |
| Sleep/wake up signal                     |     | R                  | R                    |                |                  | T   |   |     | R        |
| Door switch signal                       |     | R                  | R                    | R              |                  | T   |   |     | R        |
| Turn indicator signal                    |     | R                  |                      |                |                  | T   |   |     |          |
| Buzzer output signal                     |     | R                  |                      |                |                  | T   |   |     |          |
|  |     | R                  | T                    |                |                  |     |   |     |          |
| MI signal                                | T   | R                  |                      | R              |                  |     |   |     |          |
| Front wiper request signal               |     |                    |                      |                |                  | T   |   |     | R        |
| Front wiper stop position signal         |     |                    |                      |                |                  | R   |   |     | T        |
| Rear window defogger switch signal       |     |                    |                      |                |                  | T   |   |     | R        |
| Rear window defogger control signal      | R   |                    |                      |                |                  |     |   |     | T        |
| Drive computer signal                    |     | T                  |                      | R              |                  |     |   |     |          |
| EPS warning lamp signal                  |     | R                  |                      | R              | T                |     |   |     |          |
| ABS warning lamp signal                  |     | R                  |                      | R              |                  |     | T   |     |          |
| ABS operation signal                     | R   |                    |                      |                |                  |     | T   |     |          |
| Brake warning lamp signal                |     | R                  |                      | R              |                  |     | T   |     |          |
| Buck-up lamp signal                      |     |                    |                      |                | R                | T   |   |     |          |
| Fuel low warning signal                  |     | T                  |                      | R              |                  |     |   |     |          |
| Battery charge malfunction signal        |     | T                  |                      | R              |                  |     |   |     |          |



CAN COMMUNICATION

[CAN]

| Signals                                   | ECM | Combination meter. | IntelligentKey unit | Drive computer | EPS control unit | BCM | ABS actuator and electric unit (control unit) | TCM | IPDM E/R |
|---|-----|--------------------|---------------------|----------------|------------------|-----|---|-----|----------|
| Air bag system warning signal             |     | T                  |                     | R              |                  |     |   |     |          |
| Brake fluid level warning signal          |     | T                  |                     | R              |                  |     |   |     |          |
| Engine coolant temperature warning signal |     | T                  |                     | R              |                  |     |   |     |          |
| Front fog lamp request signal             |     | R                  |                     |                |                  | T   |   |     | R        |
| Rear fog lamp status signal               |     | R                  |                     |                |                  | T   |   |     |          |
| Headlamp washer request signal            |     |                    |                     |                |                  | T   |   |     | R        |
| Door lock/unlock request signal           |     |                    | R                   |                |                  | T   |   |     |          |
| Door lock/unlock status signal            |     |                    | R                   |                |                  | T   |   |     |          |
| KEY indicator signal                      |     | R                  | T                   |                |                  |     |   |     |          |
| LOCK indicator signal                     |     | R                  | T                   |                |                  |     |   |     |          |

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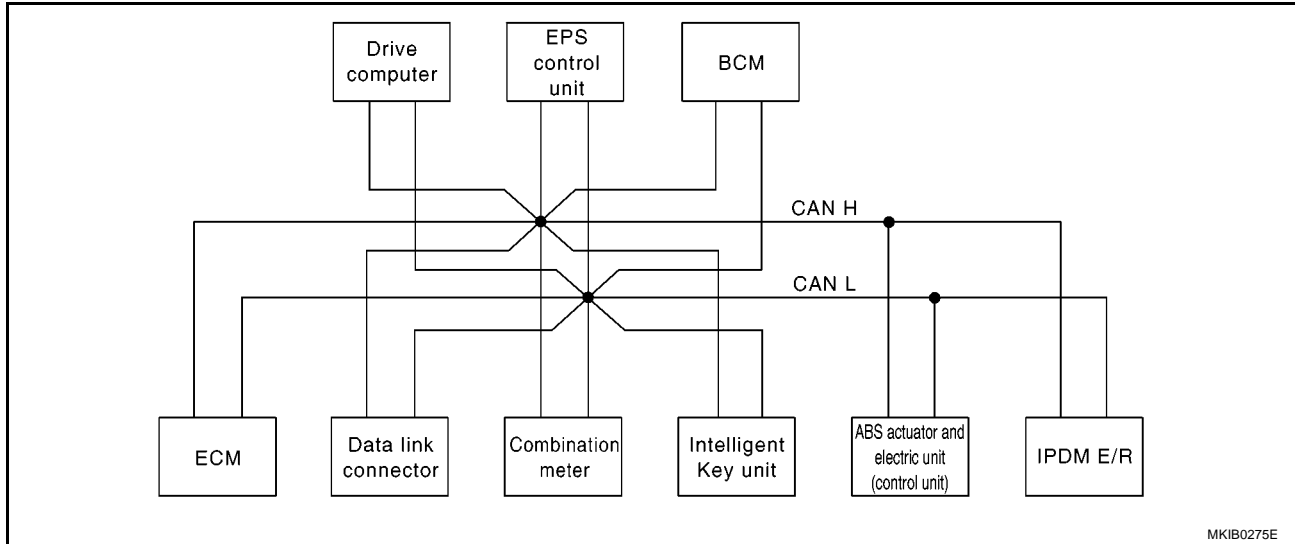
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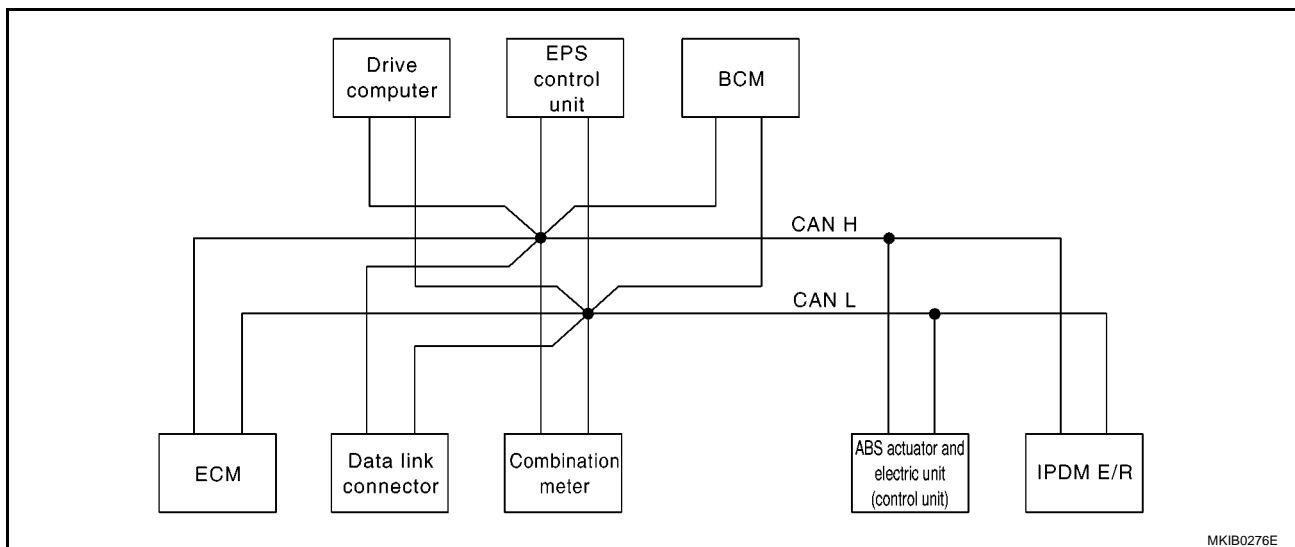
## TYPE 3/TYPE 4

### System diagram

- Type 3



- Type 4



### Input/output signal chart

T: Transmit R: Receive

| Signals                           | ECM | Combina-<br>tion<br>meter. | Intelli-<br>gent Key<br>unit | Drive<br>computer | EPS con-<br>trol unit | BCM | ABS<br>actuator<br>and elec-<br>tric unit<br>(control<br>unit) | IPDM E/<br>R |
|-----------------------------------|-----|----------------------------|------------------------------|-------------------|-----------------------|-----|--|--------------|
| Engine speed signal               | T   | R                          |                              | R                 | R                     |     |  |              |
| Engine coolant temperature signal | T   | R                          |                              |                   |                       |     |  |              |
| Fuel consumption monitor signal   | T   | R                          |                              |                   |                       |     |  |              |
| Oil pressure switch signal        |     | R                          |                              | R                 |                       |     |  | T            |
| A/C compressor request signal     | T   |                            |                              |                   |                       |     |  | R            |
| Heater fan switch signal          | R   |                            |                              |                   |                       | T   |  |              |
| Cooling fan speed request signal  | T   |                            |                              |                   |                       |     |  | R            |
| Cooling fan speed status signal   | R   |                            |                              |                   |                       |     |  | T            |
| Position lights request signal    |     | R                          |                              | R                 |                       | T   |  | R            |

# CAN COMMUNICATION

[CAN]

| Signals                                   | ECM | Combina-<br>tion<br>meter. | Intelli-<br>gent Key<br>unit | Drive<br>computer | EPS con-<br>trol unit | BCM | ABS<br>actuator<br>and elec-<br>tric unit<br>(control<br>unit) | IPDM E/<br>R |
|---|-----|----------------------------|------------------------------|-------------------|-----------------------|-----|--|--------------|
| Position light status signal              | R   |                            |                              |                   |                       |     |  | T            |
| Low beam request signal                   |     |                            |                              |                   |                       | T   |  | R            |
| Low beam status signal                    | R   |                            |                              |                   |                       |     |  | T            |
| High beam request signal                  |     | R                          |                              |                   |                       | T   |  | R            |
| High beam status signal                   | R   |                            |                              |                   |                       |     |  | T            |
| Day time light request signal             |     |                            |                              |                   |                       | T   |  | R            |
| Vehicle speed signal                      | R   | R                          |                              |                   | R                     |     | T  |              |
|   | R   | T                          | R                            | R                 | R                     | R   |  |              |
| Sleep/wake up signal                      |     | R                          | R                            |                   |                       | T   |  | R            |
| Door switch signal                        |     | R                          | R                            | R                 |                       | T   |  | R            |
| Turn indicator signal                     |     | R                          |                              |                   |                       | T   |  |              |
| Buzzer output signal                      |     | R                          |                              |                   |                       | T   |  |              |
|   |     | R                          | T                            |                   |                       |     |  |              |
| MI signal                                 | T   | R                          |                              | R                 |                       |     |  |              |
| Front wiper request signal                |     |                            |                              |                   |                       | T   |  | R            |
| Front wiper stop position signal          |     |                            |                              |                   |                       | R   |  | T            |
| Rear window defogger switch signal        |     |                            |                              |                   |                       | T   |  | R            |
| Rear window defogger control signal       | R   |                            |                              |                   |                       |     |  | T            |
| Drive computer signal                     |     | T                          |                              | R                 |                       |     |  |              |
| EPS warning indicator signal              |     | R                          |                              | R                 | T                     |     |  |              |
| ABS warning lamp signal                   |     | R                          |                              | R                 |                       |     | T  |              |
| ABS operation signal                      | R   |                            |                              | R                 |                       |     | T  |              |
| Brake warning lamp signal                 |     | R                          |                              |                   |                       |     | T  |              |
| Buck-up lamp signal                       |     |                            |                              |                   | R                     | T   |  |              |
| Fuel low warning signal                   |     | T                          |                              | R                 |                       |     |  |              |
| Battery charge malfunction signal         |     | T                          |                              | R                 |                       |     |  |              |
| Air bag system warning signal             |     | T                          |                              | R                 |                       |     |  |              |
| Brake fluid level warning signal          |     | T                          |                              | R                 |                       |     |  |              |
| Engine coolant temperature warning signal |     | T                          |                              | R                 |                       |     |  |              |
| Front fog lamp request signal             |     | R                          |                              |                   |                       | T   |  | R            |
| Rear fog lamp status signal               |     | R                          |                              |                   |                       | T   |  |              |
| Headlamp washer request signal            |     |                            |                              |                   |                       | T   |  | R            |
| Door lock/unlock request signal           |     |                            | R                            |                   |                       | T   |  |              |
| Door lock/unlock status signal            |     |                            | R                            |                   |                       | T   |  |              |
| KEY indicator signal                      |     | R                          | T                            |                   |                       |     |  |              |
| LOCK indicator signal                     |     | R                          | T                            |                   |                       |     |  |              |

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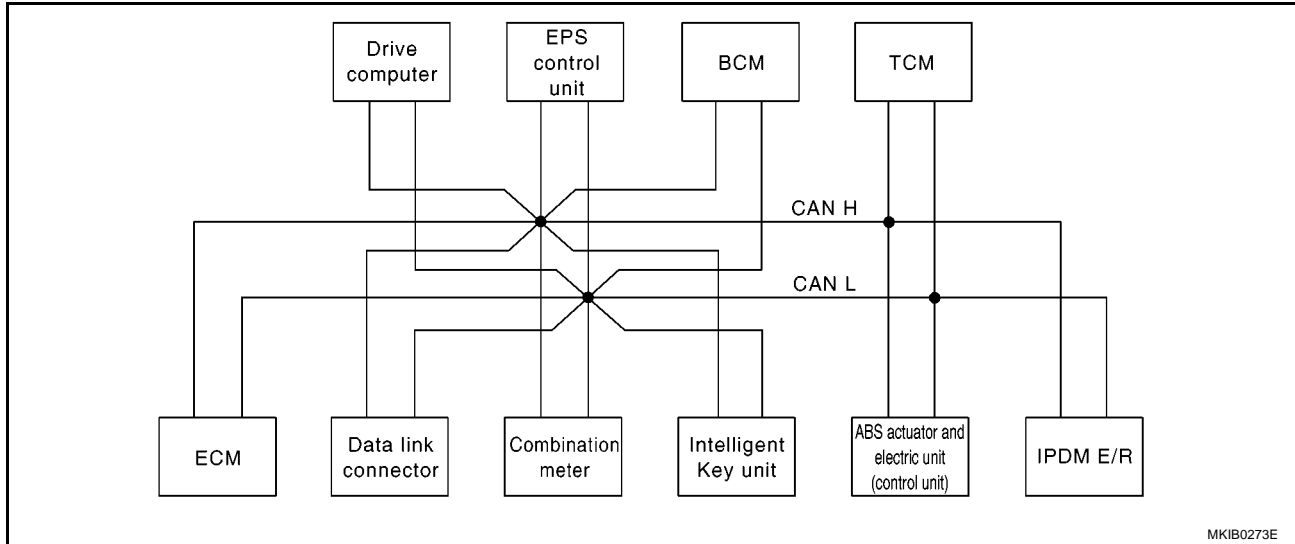
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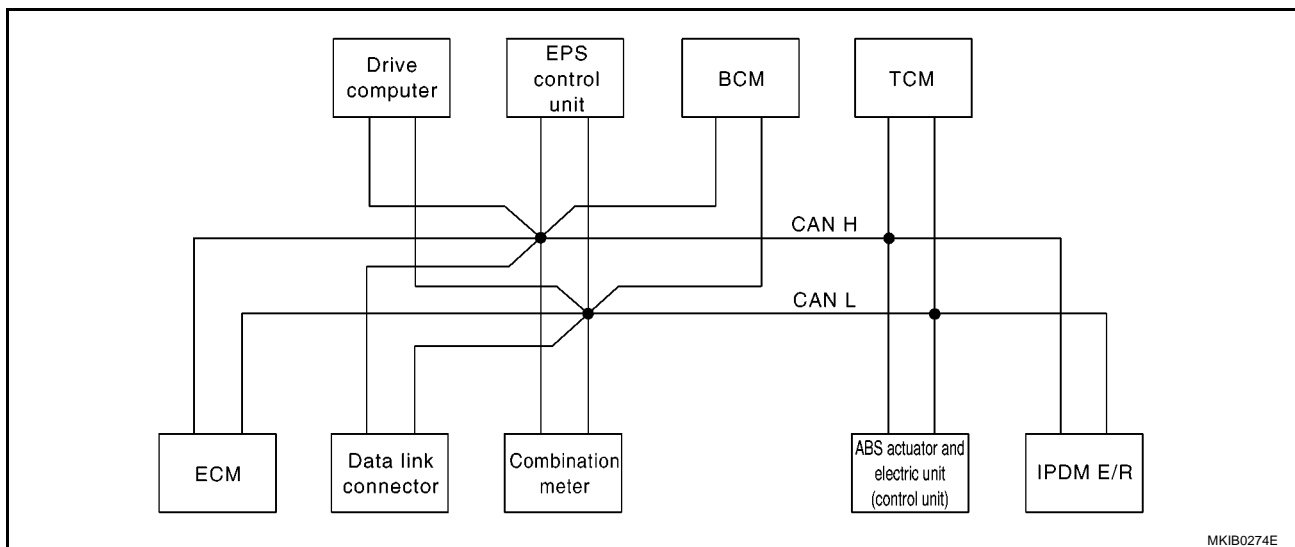
## TYPE 5/TYPE 6

### System diagram

- Type 5



- Type 6



### Input/output signal chart

T: Transmit R: Receive

| Signals                            | ECM | Combination meter. | Intelligent Key unit | Drive computer | EPS control unit | BCM | ABS actuator and electric unit (control unit) | TCM | IPDM E/R |
|------------------------------------|-----|--------------------|----------------------|----------------|------------------|-----|---|-----|----------|
| Engine speed signal                | T   | R                  |                      | R              | R                |     | R   |     |          |
| Engine coolant temperature signal  | T   | R                  |                      |                |                  |     |   |     |          |
| A/T self-diagnosis signal          | R   |                    |                      |                |                  |     |   | T   |          |
| Output shaft revolution signal     | R   |                    |                      |                |                  |     |   | T   |          |
| Accelerator pedal position signal  | T   |                    |                      |                |                  |     | R   | R   |          |
| Closed throttle position signal    | T   |                    |                      |                |                  |     |   | R   |          |
| Wide open throttle position signal | T   |                    |                      |                |                  |     | R   | R   |          |

# CAN COMMUNICATION

[CAN]

| Signals                                  | ECM | Combination meter. | Intelligent Key unit | Drive computer | EPS control unit | BCM | ABS actuator and electric unit (control unit) | TCM | IPDM E/R |
|--|-----|--------------------|----------------------|----------------|------------------|-----|---|-----|----------|
| A/T shift position signal                |     | R                  |                      |                |                  |     |   | T   |          |
| A/T shift schedule change demand signal  |     |                    |                      |                |                  |     | T   | R   |          |
| Stop lamp switch signal                  |     | T                  |                      |                |                  |     |   | R   |          |
| O/D OFF indicator lamp signal            |     | R                  |                      |                |                  |     |   | T   |          |
| Engine and A/T integrated control signal | T   |                    |                      |                |                  |     |   | R   |          |
|  | R   |                    |                      |                |                  |     |   | T   |          |
| Fuel consumption monitor signal          | T   | R                  |                      |                |                  |     |   |     |          |
| Oil pressure switch signal               |     | R                  |                      | R              |                  |     |   |     | T        |
| A/C compressor request signal            | T   |                    |                      |                |                  |     |   |     | R        |
| A/C switch signal                        | R   |                    |                      |                |                  |     |   |     | T        |
| Heater fan switch signal                 | R   |                    |                      |                |                  | T   |   |     |          |
| Cooling fan speed request signal         | T   |                    |                      |                |                  |     |   |     | R        |
| Cooling fan speed status signal          | R   |                    |                      |                |                  |     |   |     | T        |
| Position lights request signal           |     | R                  |                      | R              |                  | T   |   |     | R        |
| Position light status signal             | R   |                    |                      |                |                  |     |   |     | T        |
| Low beam request signal                  |     |                    |                      |                |                  | T   |   |     | R        |
| Low beam status signal                   | R   |                    |                      |                |                  |     |   |     | T        |
| High beam request signal                 |     | R                  |                      |                |                  | T   |   |     | R        |
| High beam status signal                  | R   |                    |                      |                |                  |     |   |     | T        |
| Day time light request signal            |     |                    |                      |                |                  | T   |   |     | R        |
| Vehicle speed signal                     | R   | R                  |                      |                | R                |     | T   |     |          |
|  | R   | T                  | R                    | R              | R                | R   |   |     |          |
| Sleep/wake up signal                     |     | R                  | R                    |                |                  | T   |   |     | R        |
| Door switch signal                       |     | R                  | R                    | R              |                  | T   |   |     | R        |
| Turn indicator signal                    |     | R                  |                      |                |                  | T   |   |     |          |
| Buzzer output signal                     |     | R                  |                      |                |                  | T   |   |     |          |
|  |     | R                  | T                    |                |                  |     |   |     |          |
| MI signal                                | T   | R                  |                      | R              |                  |     |   |     |          |
| Front wiper request signal               |     |                    |                      |                |                  | T   |   |     | R        |
| Front wiper stop position signal         |     |                    |                      |                |                  | R   |   |     | T        |
| Rear window defogger switch signal       |     |                    |                      |                |                  | T   |   |     | R        |
| Rear window defogger control signal      | R   |                    |                      |                |                  |     |   |     | T        |
| Drive computer signal                    |     | T                  |                      | R              |                  |     |   |     |          |
| EPS warning lamp signal                  |     | R                  |                      | R              | T                |     |   |     |          |
| ABS warning lamp signal                  |     | R                  |                      | R              |                  |     | T   |     |          |
| ESP warning lamp signal                  |     | R                  |                      | R              |                  |     | T   |     |          |
| ESP OFF indicator signal                 |     | R                  |                      |                |                  |     | T   |     |          |
| SLIP indicator lamp signal               |     | R                  |                      |                |                  |     | T   |     |          |

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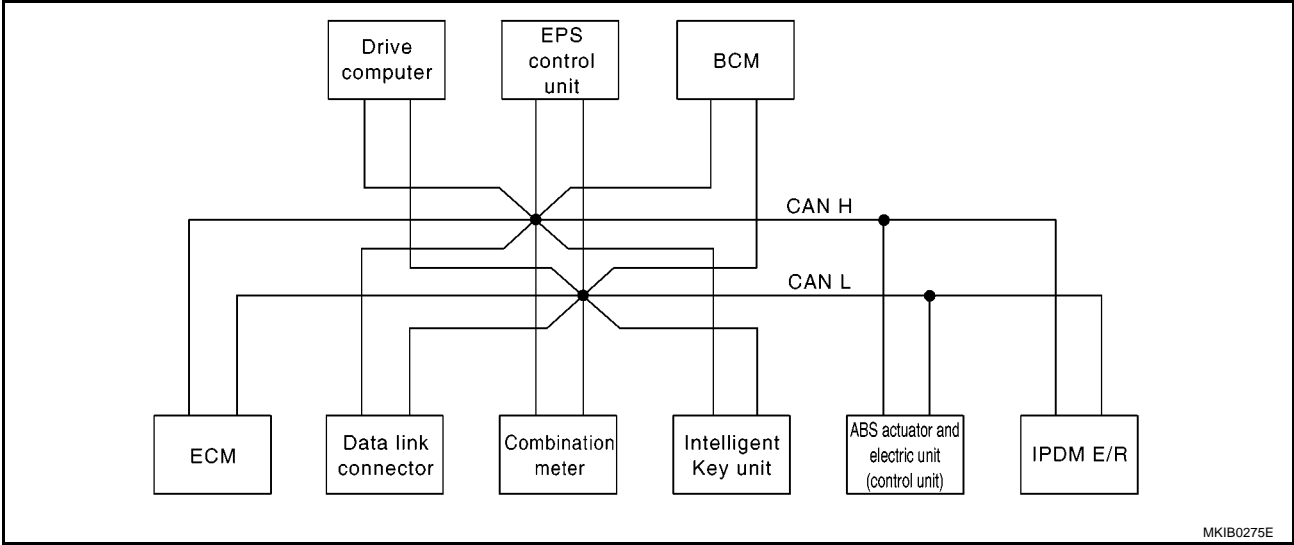
# CAN COMMUNICATION

[CAN]

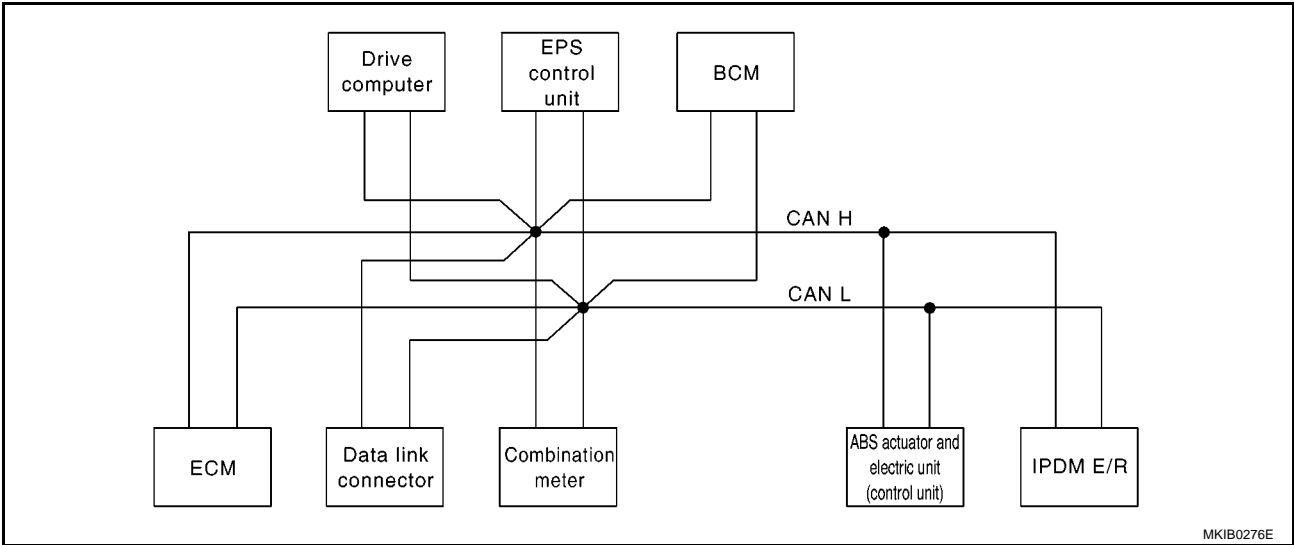
| Signals                                   | ECM | Combination meter. | Intelligent Key unit | Drive computer | EPS control unit | BCM | ABS actuator and electric unit (control unit) | TCM | IPDM E/R |
|---|-----|--------------------|----------------------|----------------|------------------|-----|---|-----|----------|
| ESP operation signal                      | R   |                    |                      |                |                  |     | T   |     |          |
| TCS operation signal                      | R   |                    |                      |                |                  |     | T   |     |          |
| ABS operation signal                      | R   |                    |                      |                |                  |     | T   |     |          |
| Steering angle signal                     |     |                    |                      |                | T                |     | R   |     |          |
| Brake warning lamp signal                 |     | R                  |                      |                |                  |     | T   |     |          |
| Buck-up lamp signal                       |     |                    |                      |                | R                | T   |   |     |          |
| Fuel low warning signal                   |     | T                  |                      | R              |                  |     |   |     |          |
| Battery charge malfunction signal         |     | T                  |                      | R              |                  |     |   |     |          |
| Air bag system warning signal             |     | T                  |                      | R              |                  |     |   |     |          |
| Brake fluid level warning signal          |     | T                  |                      | R              |                  |     |   |     |          |
| Engine coolant temperature warning signal |     | T                  |                      | R              |                  |     |   |     |          |
| Front fog lamp request signal             |     | R                  |                      |                |                  | T   |   |     | R        |
| Rear fog lamp status signal               |     | R                  |                      |                |                  | T   |   |     |          |
| Headlamp washer request signal            |     |                    |                      |                |                  | T   |   |     | R        |
| Door lock/unlock request signal           |     |                    | R                    |                |                  | T   |   |     |          |
| Door lock/unlock status signal            |     |                    | R                    |                |                  | T   |   |     |          |
| KEY indicator signal                      |     | R                  | T                    |                |                  |     |   |     |          |
| LOCK indicator signal                     |     | R                  | T                    |                |                  |     |   |     |          |

TYPE 7/TYPE 8  
System diagram

- Type 7



- Type 8



Input/output signal chart

T: Transmit R: Receive

| Signals                           | ECM | Combina-<br>tion<br>meter. | Intelli-<br>gent Key<br>unit | Drive<br>computer | EPS con-<br>trol unit | BCM | ABS<br>actuator<br>and elec-<br>tric unit<br>(control<br>unit) | IPDM E/<br>R |
|-----------------------------------|-----|----------------------------|------------------------------|-------------------|-----------------------|-----|--|--------------|
| Engine speed signal               | T   | R                          |                              | R                 | R                     |     | R  |              |
| Engine coolant temperature signal | T   | R                          |                              |                   |                       |     |  |              |
| Fuel consumption monitor signal   | T   | R                          |                              |                   |                       |     |  |              |
| Accelerator pedal position signal | T   |                            |                              |                   |                       |     | R  |              |
| Oil pressure switch signal        |     | R                          |                              | R                 |                       |     |  | T            |
| A/C compressor request signal     | T   |                            |                              |                   |                       |     |  | R            |
| A/C switch signal                 | R   |                            |                              |                   |                       |     |  | T            |
| Heater fan switch signal          | R   |                            |                              |                   |                       | T   |  |              |
| Cooling fan speed request signal  | T   |                            |                              |                   |                       |     |  | R            |

# CAN COMMUNICATION

[CAN]

| Signals                                   | ECM | Combina-<br>tion<br>meter. | Intelli-<br>gent Key<br>unit | Drive<br>computer | EPS con-<br>trol unit | BCM | ABS<br>actuator<br>and elec-<br>tric unit<br>(control<br>unit) | IPDM E/<br>R |
|---|-----|----------------------------|------------------------------|-------------------|-----------------------|-----|--|--------------|
| Cooling fan speed status signal           | R   |                            |                              |                   |                       |     |  | T            |
| Position lights request signal            |     | R                          |                              | R                 |                       | T   |  | R            |
| Position light status signal              | R   |                            |                              |                   |                       |     |  | T            |
| Low beam request signal                   |     |                            |                              |                   |                       | T   |  | R            |
| Low beam status signal                    | R   |                            |                              |                   |                       |     |  | T            |
| High beam request signal                  |     | R                          |                              |                   |                       | T   |  | R            |
| High beam status signal                   | R   |                            |                              |                   |                       |     |  | T            |
| Day time light request signal             |     |                            |                              |                   |                       | T   |  | R            |
| Vehicle speed signal                      | R   | R                          |                              |                   | R                     |     | T  |              |
|   | R   | T                          | R                            | R                 | R                     | R   |  |              |
| Sleep/wake up signal                      |     | R                          | R                            |                   |                       | T   |  | R            |
| Door switch signal                        |     | R                          | R                            | R                 |                       | T   |  | R            |
| Turn indicator signal                     |     | R                          |                              |                   |                       | T   |  |              |
| Buzzer output signal                      |     | R                          |                              |                   |                       | T   |  |              |
|   |     | R                          | T                            |                   |                       |     |  |              |
| MI signal                                 | T   | R                          |                              | R                 |                       |     |  |              |
| Front wiper request signal                |     |                            |                              |                   |                       | T   |  | R            |
| Front wiper stop position signal          |     |                            |                              |                   |                       | R   |  | T            |
| Rear window defogger switch signal        |     |                            |                              |                   |                       | T   |  | R            |
| Rear window defogger control signal       | R   |                            |                              |                   |                       |     |  | T            |
| Drive computer signal                     |     | T                          |                              | R                 |                       |     |  |              |
| EPS warning indicator signal              |     | R                          |                              | R                 | T                     |     |  |              |
| ABS warning lamp signal                   |     | R                          |                              | R                 |                       |     | T  |              |
| ESP warning lamp signal                   |     | R                          |                              | R                 |                       |     | T  |              |
| ESP OFF indicator signal                  |     | R                          |                              |                   |                       |     | T  |              |
| SLIP indicator lamp signal                |     | R                          |                              |                   |                       |     | T  |              |
| ESP operation signal                      | R   |                            |                              |                   |                       |     | T  |              |
| TCS operation signal                      | R   |                            |                              |                   |                       |     | T  |              |
| ABS operation signal                      | R   |                            |                              |                   |                       |     | T  |              |
| Steering angle signal                     |     |                            |                              |                   | T                     |     | R  |              |
| Brake warning lamp signal                 |     | R                          |                              |                   |                       |     | T  |              |
| Buck-up lamp signal                       |     |                            |                              |                   | R                     | T   |  |              |
| Fuel low warning signal                   |     | T                          |                              | R                 |                       |     |  |              |
| Battery charge malfunction signal         |     | T                          |                              | R                 |                       |     |  |              |
| Air bag system warning signal             |     | T                          |                              | R                 |                       |     |  |              |
| Brake fluid level warning signal          |     | T                          |                              | R                 |                       |     |  |              |
| Engine coolant temperature warning signal |     | T                          |                              | R                 |                       |     |  |              |
| Front fog lamp request signal             |     | R                          |                              |                   |                       | T   |  | R            |
| Rear fog lamp status signal               |     | R                          |                              |                   |                       | T   |  |              |
| Headlamp washer request signal            |     |                            |                              |                   |                       | T   |  | R            |



# CAN COMMUNICATION

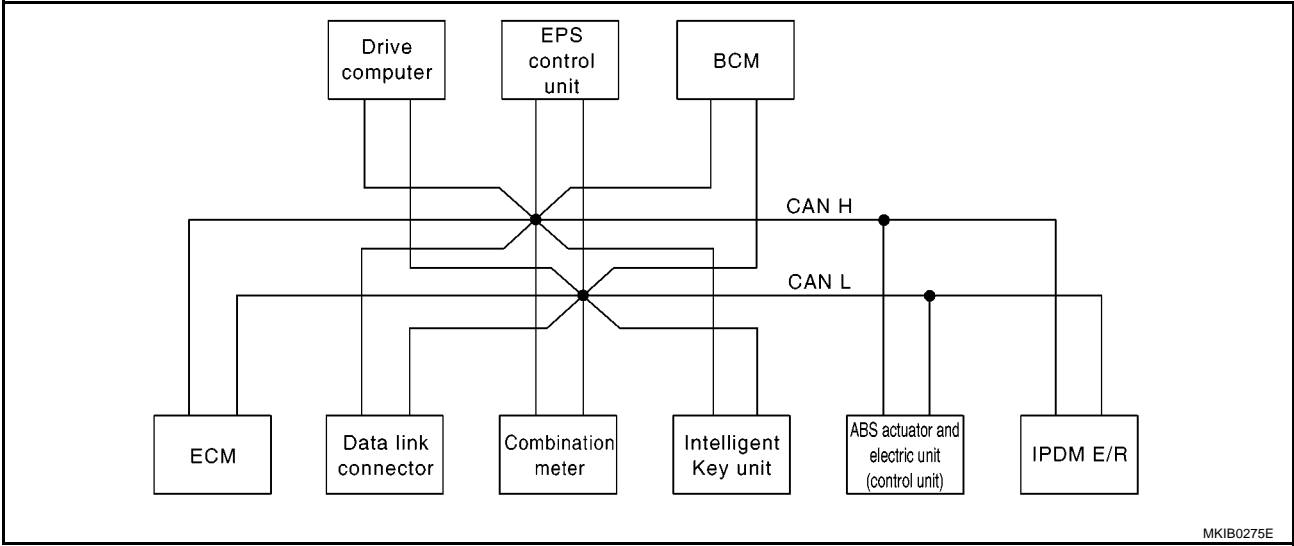
[CAN]

| Signals                         | ECM | Combina-<br>tion<br>meter. | Intelli-<br>gent Key<br>unit | Drive<br>computer | EPS con-<br>trol unit | BCM | ABS<br>actuator<br>and elec-<br>tric unit<br>(control<br>unit) | IPDM E/<br>R |
|---------------------------------|-----|----------------------------|------------------------------|-------------------|-----------------------|-----|--|--------------|
| Door lock/unlock request signal |     |                            | R                            |                   |                       | T   |  |              |
| Door lock/unlock status signal  |     |                            | R                            |                   |                       | T   |  |              |
| KEY indicator signal            |     | R                          | T                            |                   |                       |     |  |              |
| LOCK indicator signal           |     | R                          | T                            |                   |                       |     |  |              |

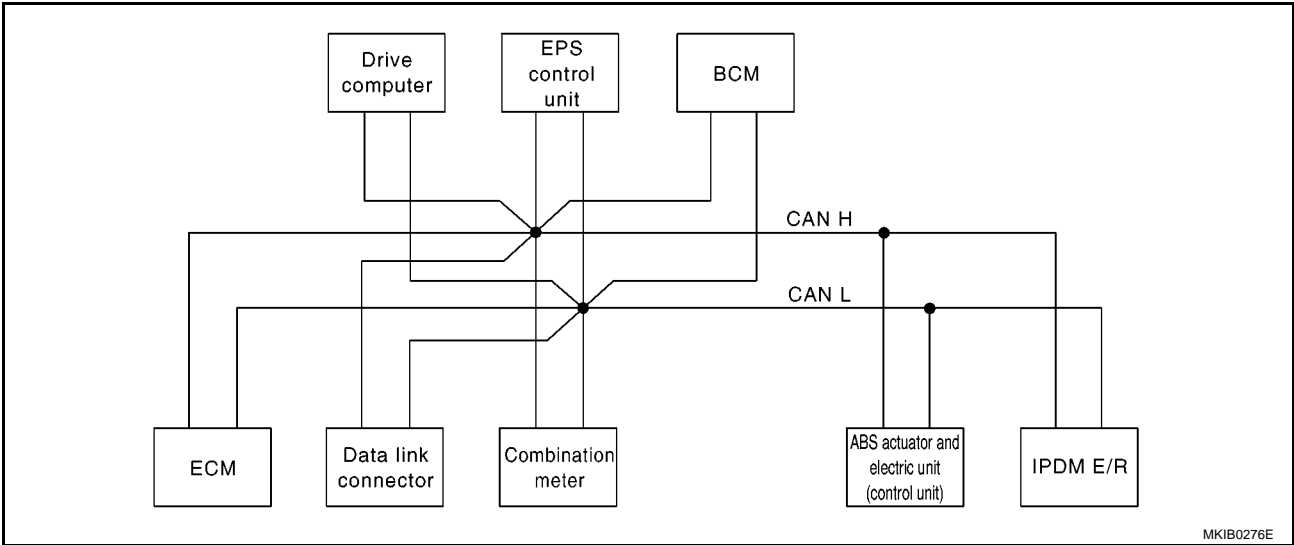
## TYPE 9/TYPE 10

### System diagram

- Type 9



- Type 10



# CAN COMMUNICATION

[CAN]

## Input/output signal chart

T: Transmit R: Receive

| Signals  | ECM | Combina-<br>tion<br>meter. | Intelli-<br>gent Key<br>unit | Drive<br>computer | EPS con-<br>trol unit | BCM | ABS<br>actuator<br>and elec-<br>tric unit<br>(control<br>unit) | IPDM E/<br>R |
|--|-----|----------------------------|------------------------------|-------------------|-----------------------|-----|--|--------------|
| Engine speed signal                            | T   | R                          |                              | R                 | R                     |     |  |              |
| Engine coolant temperature signal              | T   | R                          |                              |                   |                       | R   |  |              |
| Fuel consumption monitor signal                | T   | R                          |                              |                   |                       |     |  |              |
| Oil pressure switch signal                     |     | R                          |                              | R                 |                       |     |  | T            |
| A/C compressor request signal                  | T   |                            |                              |                   |                       |     |  | R            |
| Heater fan switch signal                       | R   |                            |                              |                   |                       | T   |  |              |
| Cooling fan speed request signal               | T   |                            |                              |                   |                       |     |  | R            |
| Position lights request signal                 |     | R                          |                              | R                 |                       | T   |  | R            |
| Low beam request signal                        |     |                            |                              |                   |                       | T   |  | R            |
| High beam request signal                       |     | R                          |                              |                   |                       | T   |  | R            |
| Day time light request signal                  |     |                            |                              |                   |                       | T   |  | R            |
| Vehicle speed signal                           | R   | R                          |                              |                   | R                     | R   | T  |              |
|  | R   | T                          | R                            | R                 | R                     |     |  |              |
| Sleep/wake up signal                           |     | R                          | R                            |                   |                       | T   |  | R            |
| Door switch signal                             |     | R                          | R                            | R                 |                       | T   |  | R            |
| Turn indicator signal                          |     | R                          |                              |                   |                       | T   |  |              |
| Buzzer output signal                           |     | R                          |                              |                   |                       | T   |  |              |
|  |     | R                          | T                            |                   |                       |     |  |              |
| MI signal                                      | T   | R                          |                              | R                 |                       |     |  |              |
| Front wiper request signal                     |     |                            |                              |                   |                       | T   |  | R            |
| Front wiper stop position signal               |     |                            |                              |                   |                       | R   |  | T            |
| Rear window defogger switch signal             |     |                            |                              |                   |                       | T   |  | R            |
| Drive computer signal                          |     | T                          |                              | R                 |                       |     |  |              |
| EPS warning indicator signal                   |     | R                          |                              | R                 | T                     |     |  |              |
| ABS warning lamp signal                        |     | R                          |                              | R                 |                       |     | T  |              |
| ABS operation signal                           |     |                            |                              | R                 |                       |     | T  |              |
| Brake warning lamp signal                      |     | R                          |                              |                   |                       |     | T  |              |
| Buck-up lamp signal                            |     |                            |                              |                   | R                     | T   |  |              |
| Fuel low warning signal                        |     | T                          |                              | R                 |                       |     |  |              |
| Battery charge malfunction signal              |     | T                          |                              | R                 |                       |     |  |              |
| Air bag system warning signal                  |     | T                          |                              | R                 |                       |     |  |              |
| Brake fluid level warning signal               |     | T                          |                              | R                 |                       |     |  |              |
| Engine coolant temperature warn-<br>ing signal |     | T                          |                              | R                 |                       |     |  |              |
| Front fog lamp request signal                  |     | R                          |                              |                   |                       | T   |  | R            |
| Rear fog lamp status signal                    |     | R                          |                              |                   |                       | T   |  |              |
| Headlamp washer request signal                 |     |                            |                              |                   |                       | T   |  | R            |
| Door lock/unlock request signal                |     |                            | T                            |                   |                       | R   |  |              |
| Door lock/unlock status signal                 |     |                            | R                            |                   |                       | T   |  |              |

CAN COMMUNICATION

[CAN]

| Signals               | ECM | Combina-<br>tion<br>meter. | Intelli-<br>gent Key<br>unit | Drive<br>computer | EPS con-<br>trol unit | BCM | ABS<br>actuator<br>and elec-<br>tric unit<br>(control<br>unit) | IPDM E/<br>R |
|-----------------------|-----|----------------------------|------------------------------|-------------------|-----------------------|-----|--|--------------|
| KEY indicator signal  |     | R                          | T                            |                   |                       |     |  |              |
| LOCK indicator signal |     | R                          | T                            |                   |                       |     |  |              |

A

B

C

D

E

F

G

H

I

J

LAN

L

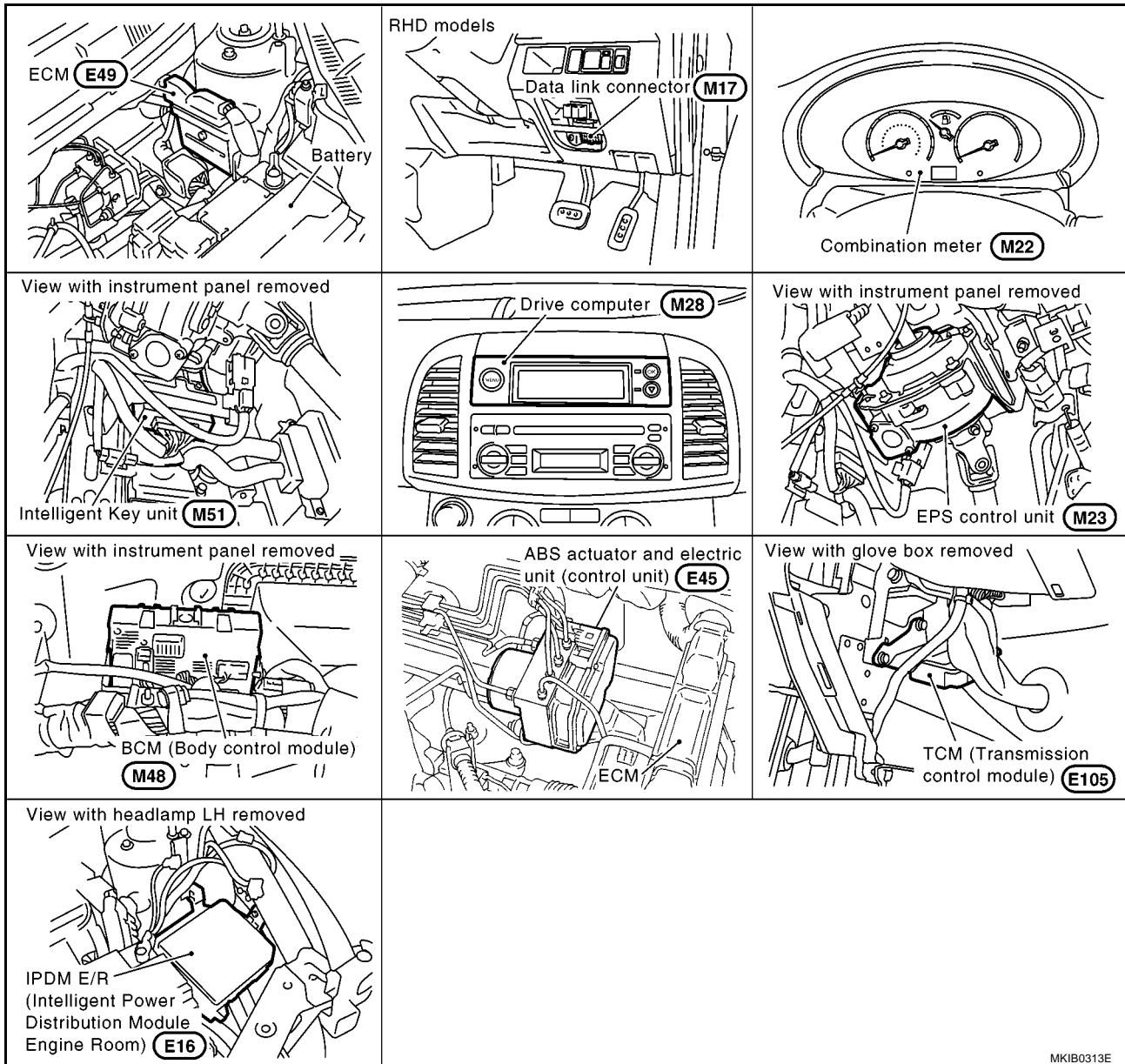
M

## CAN SYSTEM (TYPE 1)

## System Description

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

## Component Parts and Harness Connector Location



# CAN SYSTEM (TYPE 1)

[CAN]

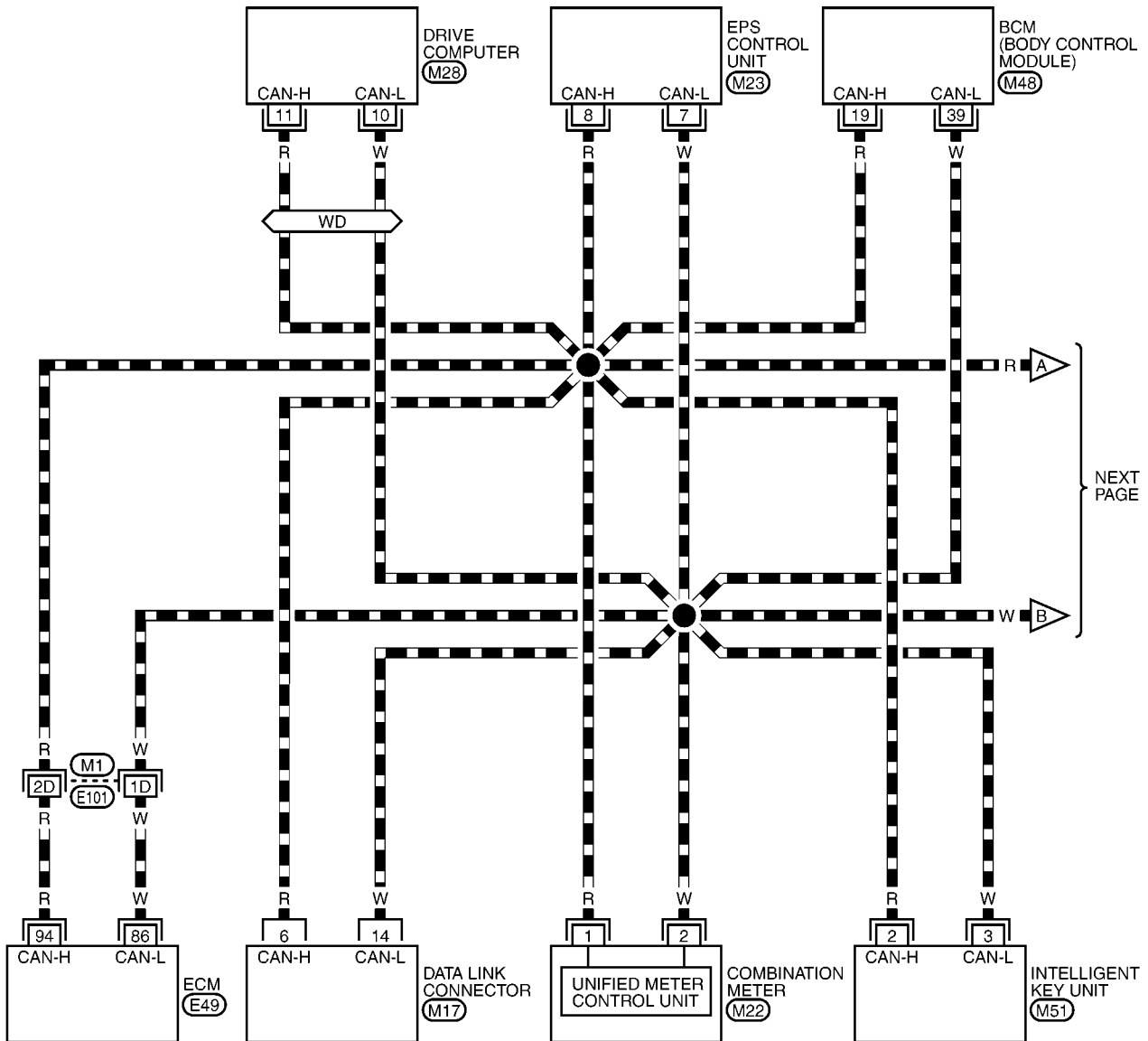
## Wiring Diagram — CAN —

EKS00730

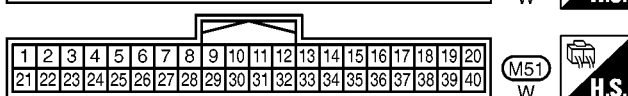
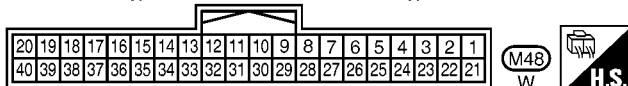
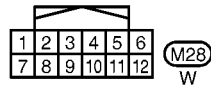
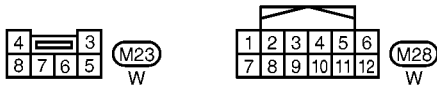
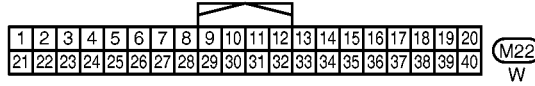
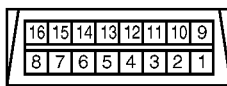
### LAN-CAN-01

— : DATA LINE

WD : WITH DRIVE COMPUTER



A  
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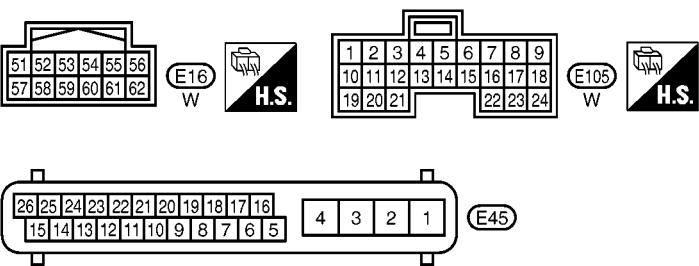
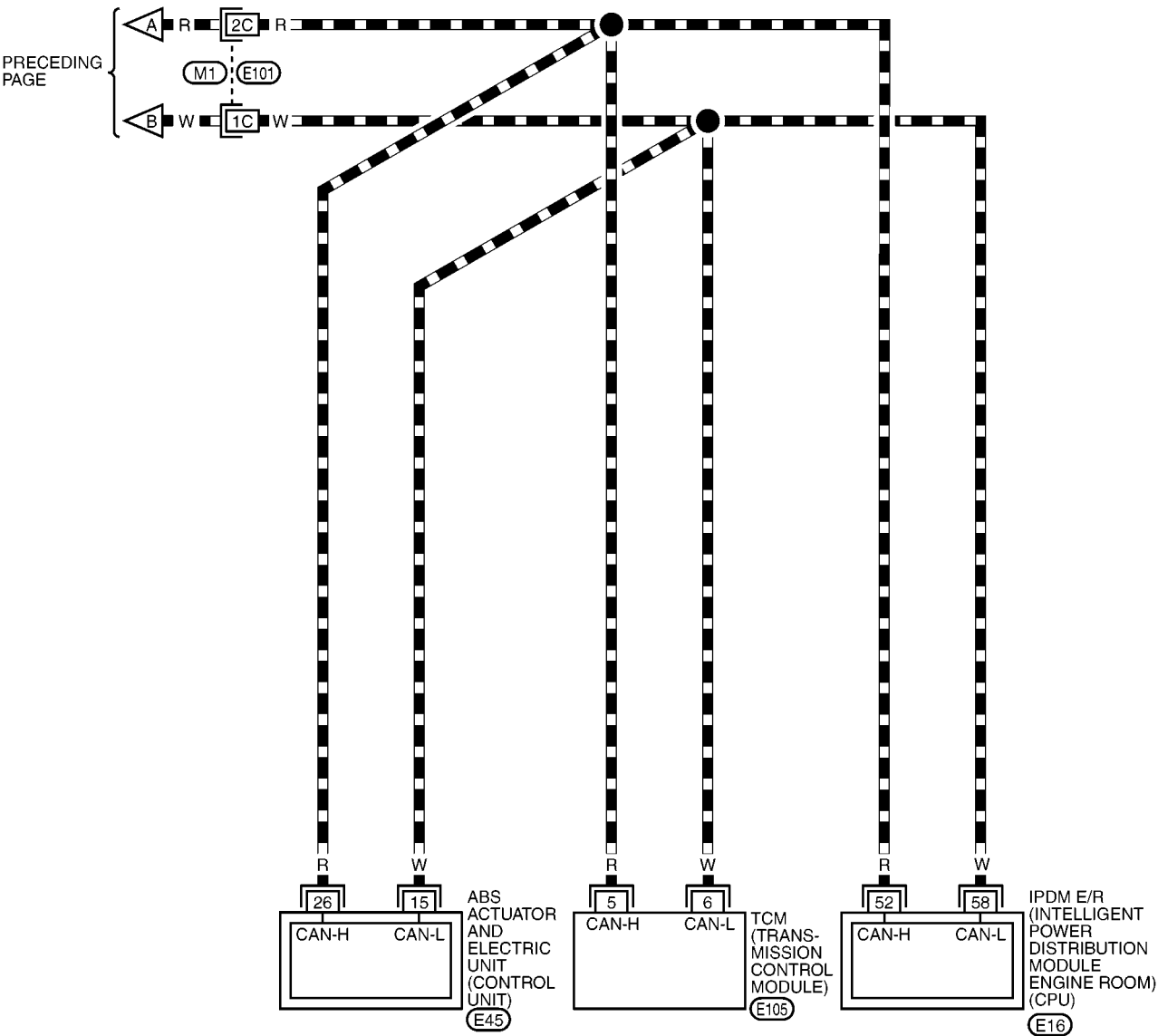


REFER TO THE FOLLOWING.

(M1) -SUPER MULTIPLE JUNCTION (SMJ)

(E49) -ELECTRICAL UNITS

DATA LINE




REFER TO THE FOLLOWING.  
(M1) -SUPER MULTIPLE JUNCTION (SMJ)

## Work Flow

- When there are no indications of "INTELLIGENT KEY", "EPS", "BCM" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".

(Example)

|                           |  |       |      |
|---------------------------|--|-------|------|
| NISSAN                    |  |       |      |
| CONSULT-II                |  |       |      |
| ENGINE                    |  |       |      |
| START (NISSAN BASED VHCL) |  |       |      |
| START (X-BADGE VHCL)      |  |       |      |
| SUB MODE                  |  |       |      |
|                           |  | LIGHT | COPY |




|               |  |      |            |
|---------------|--|------|------------|
| SELECT SYSTEM |  |      |            |
| ENGINE        |  |      |            |
| A/T           |  |      |            |
| ABS           |  |      |            |
| AIR BAG       |  |      |            |
| BCM           |  |      |            |
| METER A/C AMP |  |      |            |
|               |  |      |            |
|               |  |      |            |
|               |  | BACK | LIGHT COPY |

MKIB1692E

- Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "INTELLIGENT KEY", "EPS", "BCM", "ABS", "A/T" and "IPDM E/R" displayed on CONSULT-II.

(Example)

|                       |  |             |            |
|-----------------------|--|-------------|------------|
| SELECT DIAG MODE      |  |             |            |
| WORK SUPPORT          |  |             |            |
| SELF-DIAG RESULTS     |  |             |            |
| DATA MONITOR          |  |             |            |
| DATA MONITOR (SPEC)   |  |             |            |
| CAN DIAG SUPPORT MNTR |  |             |            |
| ACTIVE TEST           |  |             |            |
|                       |  |             |            |
|                       |  | Scroll Down |            |
|                       |  | BACK        | LIGHT COPY |




|                          |      |          |      |
|--------------------------|------|----------|------|
| SELF-DIAG RESULTS        |      |          |      |
| DTC RESULTS              |      | TIME     |      |
| CAN COMM CIRCUIT [U1000] |      | 0        |      |
|                          |      |          |      |
|                          |      |          |      |
|                          |      | F.F.DATA |      |
| ERASE                    |      | PRINT    |      |
| MODE                     | BACK | LIGHT    | COPY |

PKIA8260E

- Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "INTELLIGENT KEY", "EPS", "BCM", "ABS", "A/T" and "IPDM E/R" displayed on CONSULT-II.

(Example)

|                       |  |             |            |
|-----------------------|--|-------------|------------|
| SELECT DIAG MODE      |  |             |            |
| WORK SUPPORT          |  |             |            |
| SELF-DIAG RESULTS     |  |             |            |
| DATA MONITOR          |  |             |            |
| DATA MONITOR (SPEC)   |  |             |            |
| CAN DIAG SUPPORT MNTR |  |             |            |
| ACTIVE TEST           |  |             |            |
|                       |  |             |            |
|                       |  | Scroll Down |            |
|                       |  | BACK        | LIGHT COPY |



|                       |      |             |      |
|-----------------------|------|-------------|------|
| CAN DIAG SUPPORT MNTR |      |             |      |
| ENGINE                |      |             |      |
|                       |      | PRNT        |      |
| INITIAL DIAG          |      | OK          |      |
| TRANSMIT DIAG         |      | OK          |      |
| TCM                   |      | OK          |      |
| VDC/TCS/ABS           |      | OK          |      |
| METER/M&A             |      | OK          |      |
| ICC                   |      | UNKWN       |      |
| BCM/SEC               |      | OK          |      |
| IPDM E/R              |      | OK          |      |
| AWD/4WD/e4WD          |      | UNKWN       |      |
| PRINT                 |      | Scroll Down |      |
| MODE                  | BACK | LIGHT       | COPY |

PKIA8343E

- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to [LAN-25, "CHECK SHEET"](#).
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "V" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to [LAN-25, "CHECK SHEET"](#).

**NOTE:**

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual. So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.

## 6. Convert "v" mark on comparison table to check sheet table.

(Example)

Check sheet table

|                 | CONSULT<br>Indication | CAN<br>system | Tx         | Rx         |                      |                    |            |            |            |            |            |
|-----------------|-----------------------|---------------|------------|------------|----------------------|--------------------|------------|------------|------------|------------|------------|
|                 |                       |               |            | ECM        | Combination<br>meter | Intelligent<br>Key | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE          | —                     | CAN COMM      | CAN CIRC 1 | —          | CAN CIRC 4           | —                  | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication         | CAN COMM      | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 3           | —                  | —          | CAN CIRC 5 | —          | —          | —          |
| EPS             | No indication         | CAN COMM      | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4           | —                  | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM             | No indication         | —             | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4           | CAN CIRC 5         | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS             | —                     | CAN COMM      | CAN CIRC 1 | CAN CIRC 2 | —                    | —                  | —          | —          | —          | —          | —          |
| A/T             | —                     | CAN COMM      | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4           | —                  | —          | —          | —          | —          | —          |
| IPDM E/R        | No indication         | —             | CAN CIRC 1 | CAN CIRC 3 | —                    | —                  | —          | CAN CIRC 3 | —          | —          | —          |

Comparison table

| SELECT SYSTEM screen |               | Initial<br>diagnosis | Transmit<br>diagnosis | Receive diagnosis |               |       |       |         |                 |       |          |
|----------------------|---------------|----------------------|-----------------------|-------------------|---------------|-------|-------|---------|-----------------|-------|----------|
|                      |               |                      |                       | ECM               | METER<br>/M&A | I-KEY | EPS   | BCM/SEC | VDC/TCS<br>/ABS | TCM   | IPDM E/R |
| ENGINE               | —             | NG                   | UNKWN                 | —                 | UNKWN         | —     | UNKWN | UNKWN   | UNKWN           | UNKWN | UNKWN    |
| INTELLIGENT          | No indication | NG                   | UNKWN                 | UNKWN             | UNKWN         | —     | —     | UNKWN   | —               | —     | —        |
| EPS                  | No indication | NG                   | UNKWN                 | UNKWN             | UNKWN         | —     | —     | UNKWN   | UNKWN           | —     | —        |
| BCM                  | No indication | —                    | UNKWN                 | UNKWN             | UNKWN         | UNKWN | —     | —       | —               | UNKWN | UNKWN    |
| ABS                  | —             | NG                   | UNKWN                 | —                 | UNKWN         | —     | —     | —       | —               | —     | —        |
| A/T                  | —             | NG                   | UNKWN                 | UNKWN             | UNKWN         | —     | —     | —       | —               | —     | —        |
| IPDM E/R             | No indication | —                    | UNKWN                 | UNKWN             | —             | —     | —     | UNKWN   | —               | —     | —        |

Convert

MKIB1682E

## 7. According to the check sheet results (example), start inspection. Refer to [LAN-27, "CHECK SHEET RESULTS \(EXAMPLE\)"](#).



# CAN SYSTEM (TYPE 1)

[CAN]

## CHECK SHEET

Check sheet table

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —          | —          | —          | —          | —          |
| A/T             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | —          | —          | —          | —          |
| IPDM E/R        | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 3 | —          | —          | —          |

Comparison table

| SELECT SYSTEM screen |               | Initial diagnosis | Transmit diagnosis | Receive diagnosis |            |       |       |         |              |       |          |
|----------------------|---------------|-------------------|--------------------|-------------------|------------|-------|-------|---------|--------------|-------|----------|
|                      |               |                   |                    | ECM               | METER /M&A | I-KEY | EPS   | BCM/SEC | VDC/TCS /ABS | TCM   | IPDM E/R |
| ENGINE               | —             | NG                | UNKWN              | —                 | UNKWN      | —     | UNKWN | UNKWN   | UNKWN        | UNKWN | UNKWN    |
| INTELLIGENT          | No indication | NG                | UNKWN              | UNKWN             | UNKWN      | —     | —     | UNKWN   | —            | —     | —        |
| EPS                  | No indication | NG                | UNKWN              | UNKWN             | UNKWN      | —     | —     | UNKWN   | UNKWN        | —     | —        |
| BCM                  | No indication | —                 | UNKWN              | UNKWN             | UNKWN      | UNKWN | —     | —       | —            | UNKWN | UNKWN    |
| ABS                  | —             | NG                | UNKWN              | UNKWN             | —          | —     | —     | —       | —            | —     | —        |
| A/T                  | —             | NG                | UNKWN              | UNKWN             | UNKWN      | —     | —     | —       | —            | —     | —        |
| IPDM E/R             | No indication | —                 | UNKWN              | UNKWN             | —          | —     | —     | UNKWN   | —            | —     | —        |

Symptoms:

Attach copy of  
SELECT SYSTEM

Attach copy of  
SELECT SYSTEM

MKIB1601E

## CAN SYSTEM (TYPE 1)

[CAN]

Attach copy of  
ENGINE  
SELF-DIAG RESULTS

Attach copy of  
INTELLIGENT KEY  
SELF-DIAG RESULTS

Attach copy of  
EPS  
SELF-DIAG RESULTS

Attach copy of  
BCM  
SELF-DIAG RESULTS

Attach copy of  
ABS  
SELF-DIAG RESULTS

Attach copy of  
A/T  
SELF-DIAG RESULTS

Attach copy of  
IPDM E/R  
SELF-DIAG RESULTS

Attach copy of  
ENGINE  
DATA MONITOR

Attach copy of  
INTELLIGENT KEY  
DATA MONITOR

Attach copy of  
EPS  
DATA MONITOR

Attach copy of  
BCM  
DATA MONITOR

Attach copy of  
ABS  
DATA MONITOR

Attach copy of  
A/T  
DATA MONITOR

Attach copy of  
IPDM  
DATA MONITOR

MKIB0278E

## CHECK SHEET RESULTS (EXAMPLE)

## NOTE:

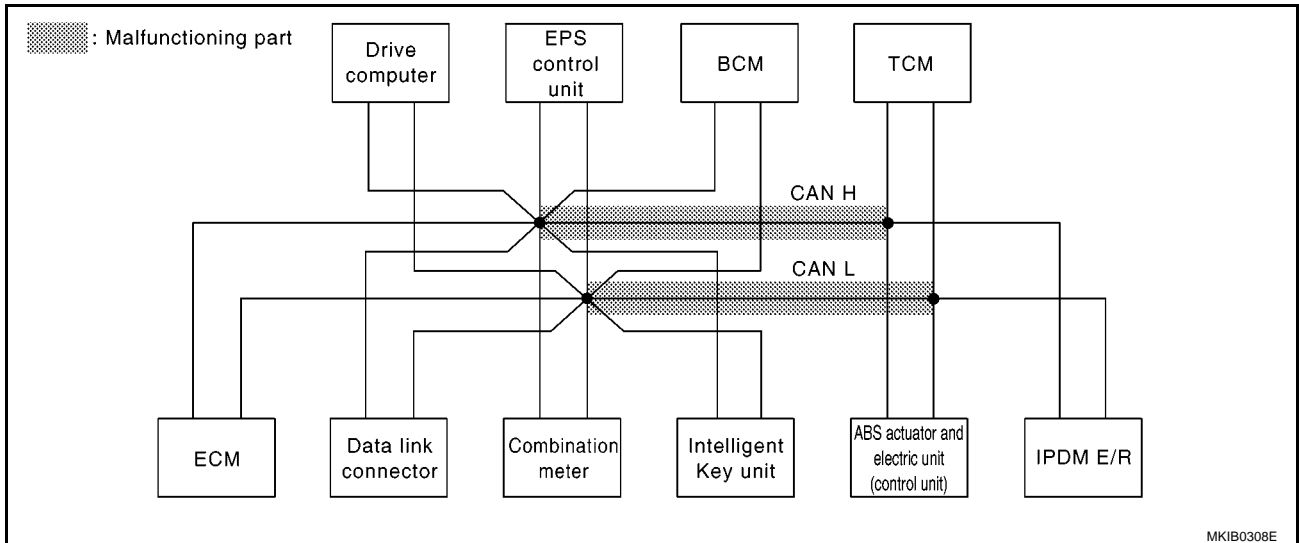
If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

## Case 1

Check harness between BCM and ABS actuator and electric unit (control unit). Refer to [LAN-38, "Circuit Check Between BCM and ABS Actuator and Electric Unit \(Control Unit\)"](#).

|                 | CONSULT indication | CAN system | Tx         | Rx           |                   |                 |            |            |              |              |              |
|-----------------|--------------------|------------|------------|--------------|-------------------|-----------------|------------|------------|--------------|--------------|--------------|
|                 |                    |            |            | ECM          | Combination meter | Intelligent Key | EPS        | BCM        | ABS          | TCM          | IPDM E/R     |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —            | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 ✓ | CAN CIRC 2 ✓ | CAN CIRC 7 ✓ |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4   | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —            | —            | —            |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2   | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 ✓ | —            | —            |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2   | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —            | CAN CIRC 6 ✓ | CAN CIRC 3 ✓ |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 ✓ | —                 | —               | —          | —          | —            | —            | —            |
| A/T             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 ✓ | CAN CIRC 4 ✓      | —               | —          | —          | —            | —            | —            |
| IPDM E/R        | No indication ✓    | —          | CAN CIRC 1 | CAN CIRC 3   | —                 | —               | —          | CAN CIRC 3 | —            | —            | —            |

MKIB1611E



MKIB0308E

# CAN SYSTEM (TYPE 1)

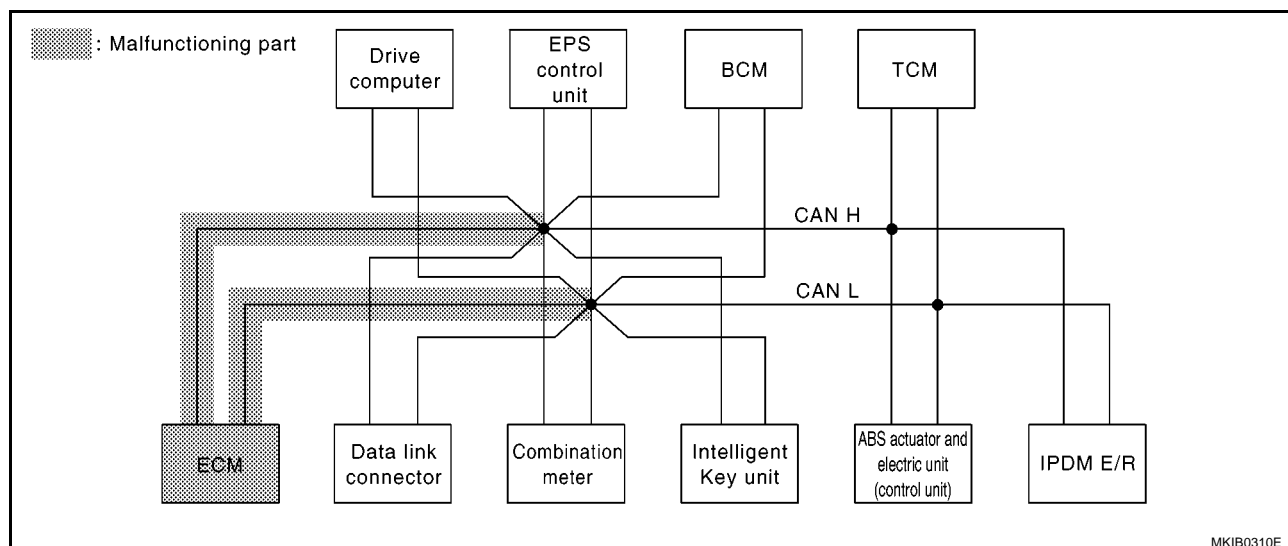
[CAN]

## Case 2

Check ECM circuit. Refer to [LAN-39, "ECM Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx           | Rx           |                   |                 |              |              |              |              |              |
|-----------------|--------------------|------------|--------------|--------------|-------------------|-----------------|--------------|--------------|--------------|--------------|--------------|
|                 |                    |            |              | ECM          | Combination meter | Intelligent Key | EPS          | BCM          | ABS          | TCM          | IPDM E/R     |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 ✓ | —            | CAN CIRC 4        | —               | CAN CIRC 9 ✓ | CAN CIRC 6 ✓ | CAN CIRC 3 ✓ | CAN CIRC 2 ✓ | CAN CIRC 7 ✓ |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1   | CAN CIRC 4 ✓ | CAN CIRC 3        | —               | —            | CAN CIRC 2   | —            | —            | —            |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1   | CAN CIRC 2 ✓ | CAN CIRC 4        | —               | —            | CAN CIRC 5   | CAN CIRC 3   | —            | —            |
| BCM             | No indication      | —          | CAN CIRC 1   | CAN CIRC 2   | CAN CIRC 4        | CAN CIRC 5      | —            | —            | —            | CAN CIRC 6   | CAN CIRC 3   |
| ABS             | —                  | CAN COMM   | CAN CIRC 1   | CAN CIRC 2   | —                 | —               | —            | —            | —            | —            | —            |
| A/T             | —                  | CAN COMM   | CAN CIRC 1   | CAN CIRC 2   | CAN CIRC 4        | —               | —            | —            | —            | —            | —            |
| IPDM E/R        | No indication      | —          | CAN CIRC 1   | CAN CIRC 3 ✓ | —                 | —               | —            | CAN CIRC 3   | —            | —            | —            |

MKIB1612E



MKIB0310E

# CAN SYSTEM (TYPE 1)

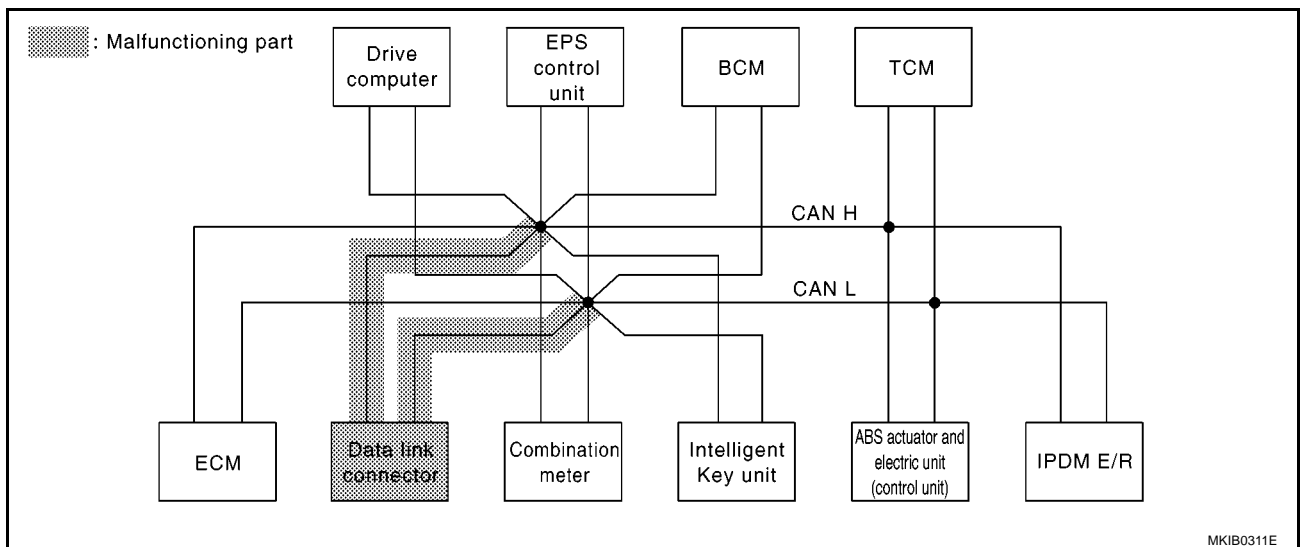
[CAN]

## Case 3

Check data link connector circuit. Refer to [LAN-40, "Data Link Connector Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication ✓    | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          | —          |
| EPS             | No indication ✓    | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM             | No indication ✓    | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —          | —          | —          | —          | —          |
| A/T             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | —          | —          | —          | —          |
| IPDM E/R        | No indication ✓    | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 3 | —          | —          | —          |

MKIB1613E



MKIB0311E

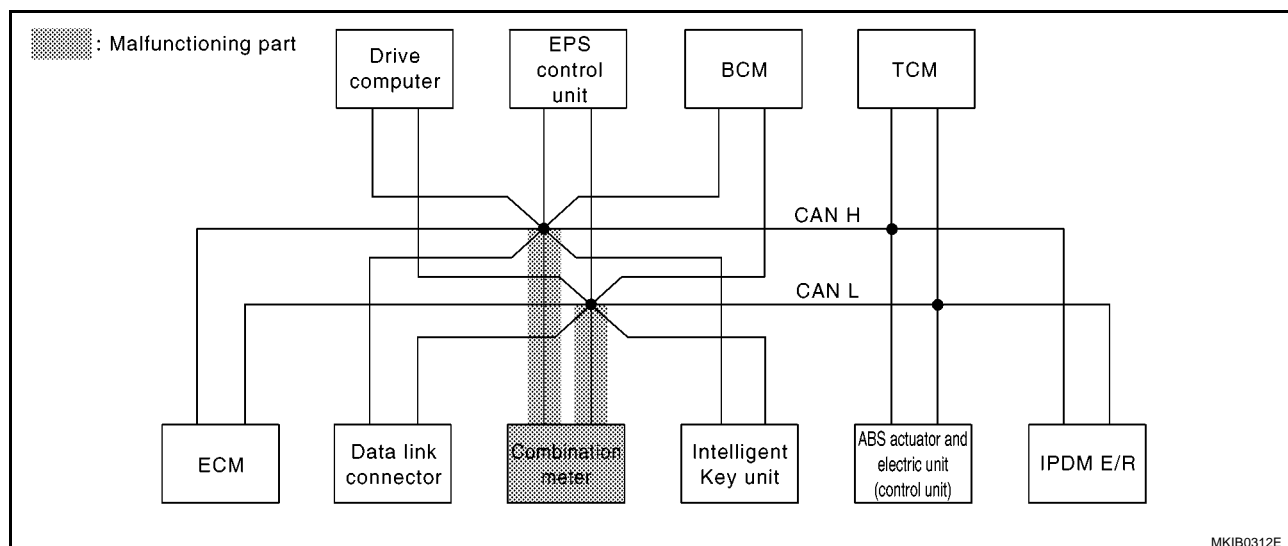
LAN

**Case 4**

Check combination meter circuit. Refer to [LAN-41, "Combination Meter Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —          | —          | —          | —          | —          |
| A/T             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | —          | —          | —          | —          |
| IPDM E/R        | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 3 | —          | —          | —          |

MKIB1614E



MKIB0312E

# CAN SYSTEM (TYPE 1)

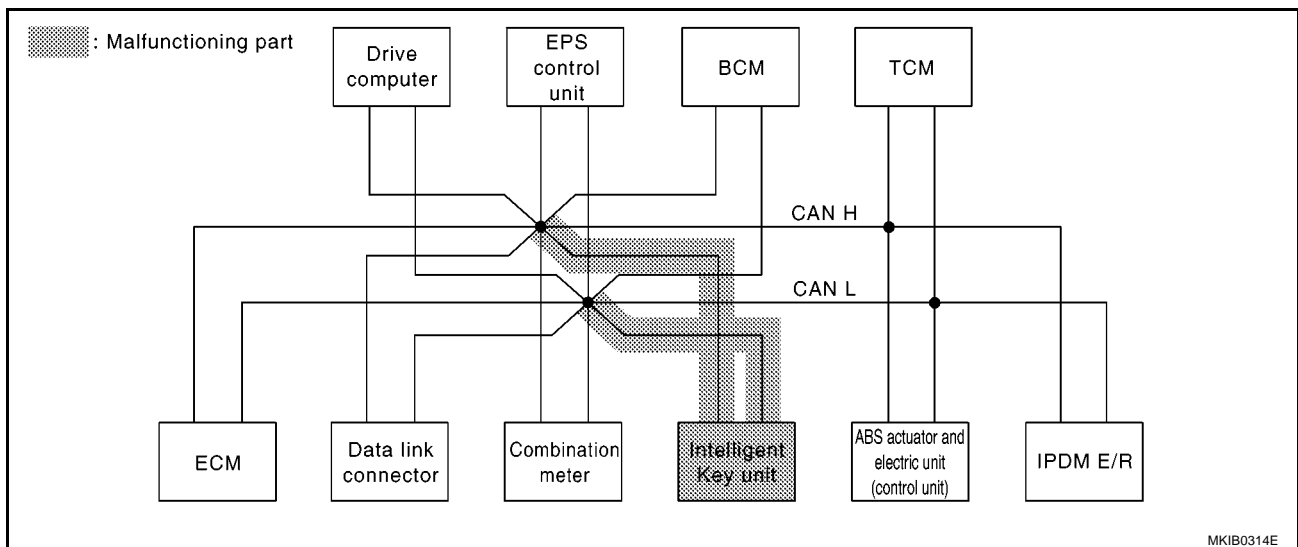
[CAN]

## Case 5

Check Intelligent Key unit circuit. Refer to [LAN-42, "Intelligent Key Unit Circuit Check"](#).

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication ✓    | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5 ✓    | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —          | —          | —          | —          | —          |
| A/T             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | —          | —          | —          | —          |
| IPDM E/R        | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 3 | —          | —          | —          |

MKIB1615E



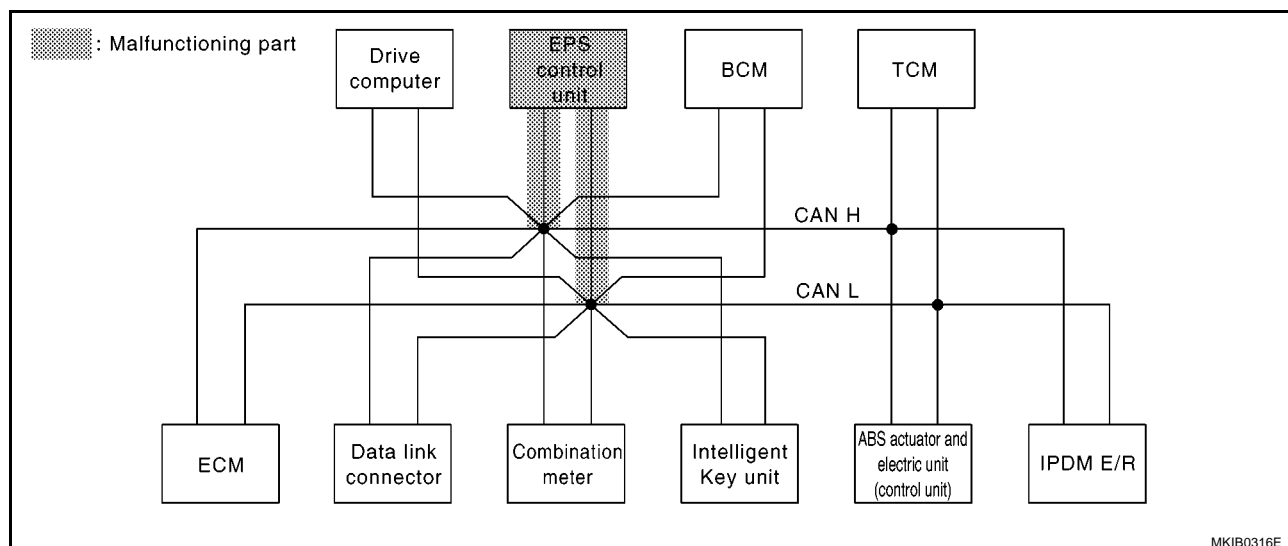
MKIB0314E

**Case 6**

Check EPS control unit circuit. Refer to [LAN-43, "EPS Control Unit Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —          | —          | —          | —          | —          |
| A/T             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | —          | —          | —          | —          |
| IPDM E/R        | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 3 | —          | —          | —          |

MKIB1616E



MKIB0316E



# CAN SYSTEM (TYPE 1)

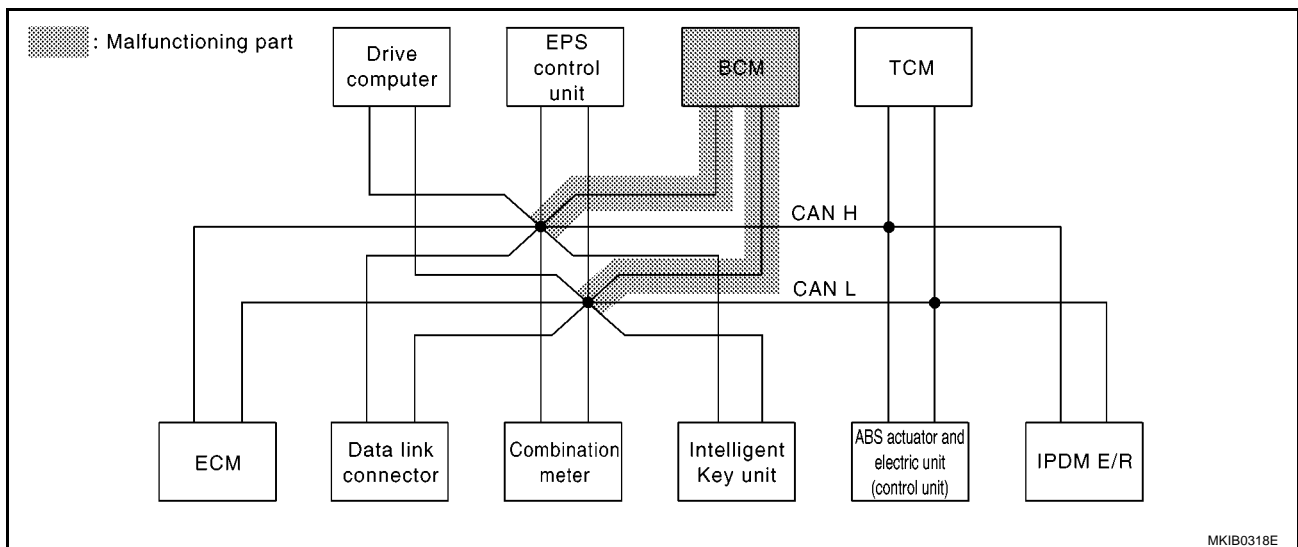
[CAN]

## Case 7

Check BCM circuit. Refer to [LAN-44, "BCM Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —          | —          | —          | —          | —          |
| A/T             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | —          | —          | —          | —          |
| IPDM E/R        | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 3 | —          | —          | —          |

MKIB1617E



MKIB0318E

# CAN SYSTEM (TYPE 1)

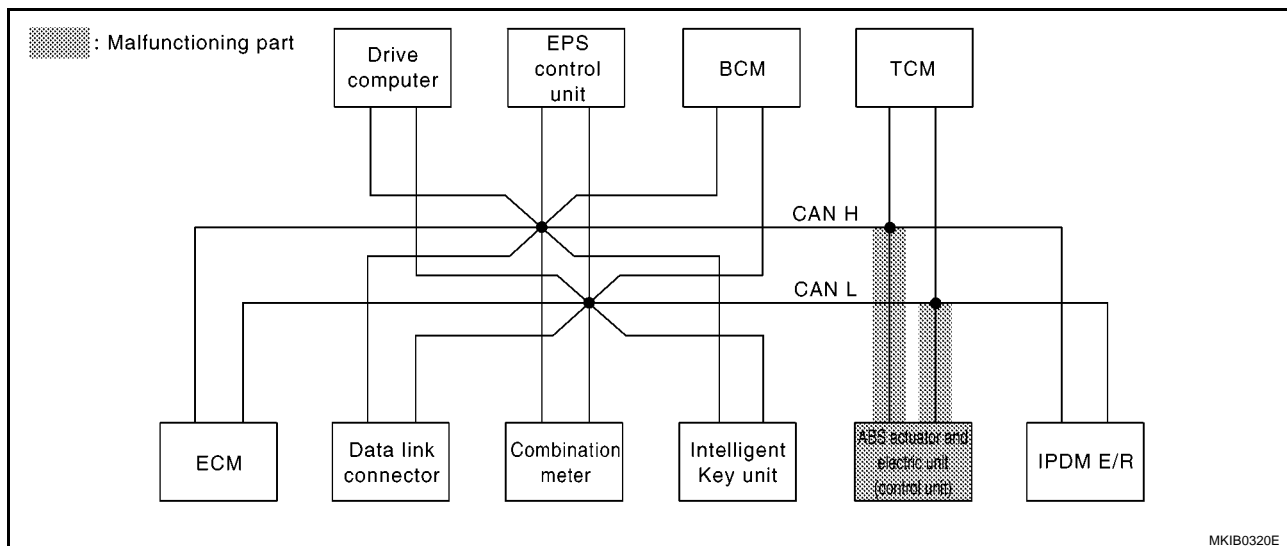
[CAN]

## Case 8

Check ABS actuator and electric unit (control unit) circuit. Refer to [LAN-45, "ABS Actuator and Electric Unit \(Control Unit\) Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx           | Rx           |                   |                 |            |            |              |            |            |
|-----------------|--------------------|------------|--------------|--------------|-------------------|-----------------|------------|------------|--------------|------------|------------|
|                 |                    |            |              | ECM          | Combination meter | Intelligent Key | EPS        | BCM        | ABS          | TCM        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1   | —            | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 ✓ | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1   | CAN CIRC 4   | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —            | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1   | CAN CIRC 2   | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 ✓ | —          | —          |
| BCM             | No indication      | —          | CAN CIRC 1   | CAN CIRC 2   | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —            | CAN CIRC 6 | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 ✓ | CAN CIRC 2 ✓ | —                 | —               | —          | —          | —            | —          | —          |
| A/T             | —                  | CAN COMM   | CAN CIRC 1   | CAN CIRC 2   | CAN CIRC 4        | —               | —          | —          | —            | —          | —          |
| IPDM E/R        | No indication      | —          | CAN CIRC 1   | CAN CIRC 3   | —                 | —               | —          | CAN CIRC 3 | —            | —          | —          |

MKIB1618E



MKIB0320E

# CAN SYSTEM (TYPE 1)

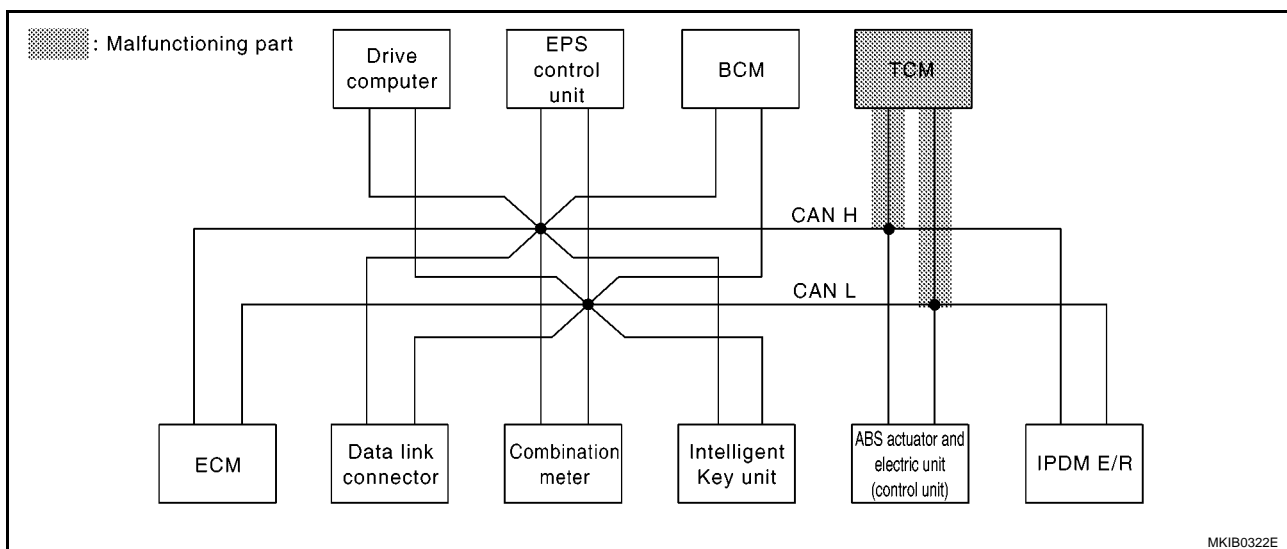
[CAN]

## Case 9

Check TCM circuit. Refer to [LAN-46, "TCM Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —          | —          | —          | —          | —          |
| A/T             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | —          | —          | —          | —          |
| IPDM E/R        | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 3 | —          | —          | —          |

MKIB1619E



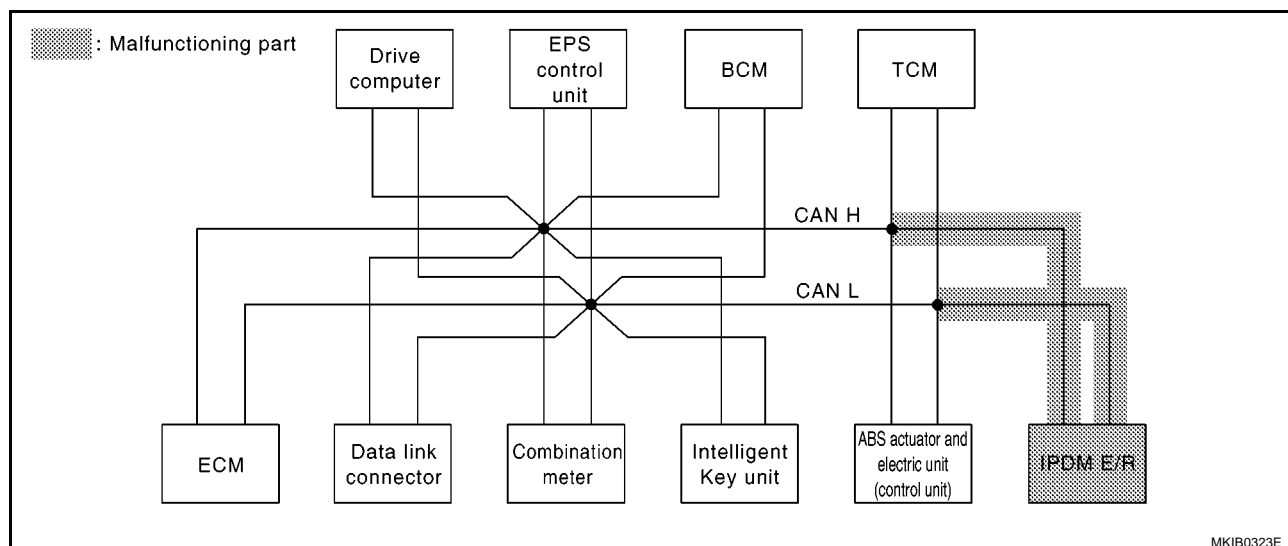
MKIB0322E

**Case 10**

Check IPDM E/R circuit. Refer to [LAN-47, "IPDM E/R Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —          | —          | —          | —          | —          |
| A/T             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | —          | —          | —          | —          |
| IPDM E/R        | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 3 | —          | —          | —          |

MKIB1620E



MKIB0323E

# CAN SYSTEM (TYPE 1)

[CAN]

## Case 11

Check CAN communication circuit. Refer to [LAN-48, "CAN Communication Circuit Check"](#).

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —          | —          | —          | —          | —          |
| A/T             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | —          | —          | —          | —          |
| IPDM E/R        | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 3 | —          | —          | —          |

MKIB1621E

## Case 12

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to [LAN-51, "IPDM E/R Ignition Relay Circuit Check"](#).

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —          | —          | —          | —          | —          |
| A/T             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | —          | —          | —          | —          |
| IPDM E/R        | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 3 | —          | —          | —          |

MKIB1623E

## Case 13

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to [LAN-51, "IPDM E/R Ignition Relay Circuit Check"](#).

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —          | —          | —          | —          | —          |
| A/T             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | —          | —          | —          | —          |
| IPDM E/R        | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 3 | —          | —          | —          |

MKIB1622E

## Circuit Check Between BCM and ABS Actuator and Electric Unit (Control Unit)

EKS0073Q

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
  - Harness connector M1
  - Harness connector E101

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect following connector.
  - Harness connector M1
  - Combination meter connector
  - Intelligent Key unit connector
  - Drive computer connector
  - EPS control unit connector
  - BCM connector
2. Check continuity between BCM harness connector M48 terminals 19 (R), 39 (W) and harness connector M1 terminals 2C (R), 1C (W).

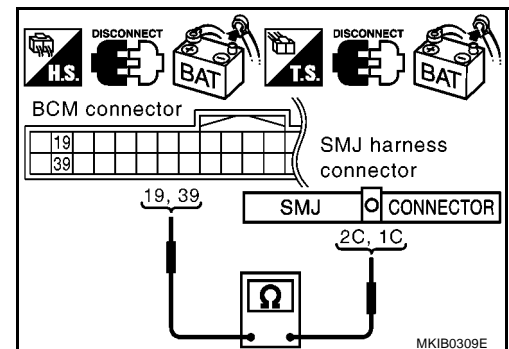
**19 (R) – 2C (R) : Continuity should exist.**

**39 (W) – 1C (W) : Continuity should exist.**

OK or NG

OK &gt;&gt; GO TO 3.

NG &gt;&gt; Repair harness.



### 3. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between harness connector E101 terminals 2C (R), 1C (W) and ABS actuator and electric unit (control unit) harness connector E45 terminals 26 (R), 15 (W).

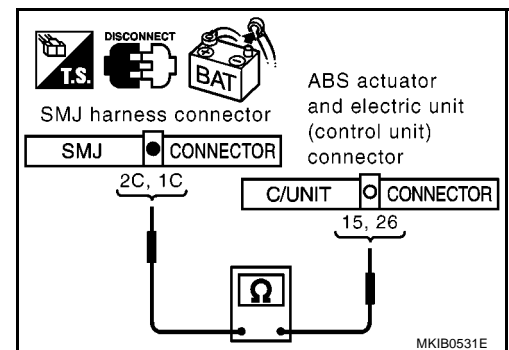
**2C (R) – 26 (R) : Continuity should exist.**

**1C (W) – 15 (W) : Continuity should exist.**

OK or NG

OK >> Reconnect all connectors to perform "SELECT SYSTEM", "SELF-DIAG RESULTS" and "DATA MONITOR (CAN DIAG SUPPORT MNTR)" displayed on CONSULT-II. Refer to [LAN-23, "Work Flow"](#).

NG >> Repair harness.



**ECM Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
  - ECM connector
  - Harness connector M1
  - Harness connector E101

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

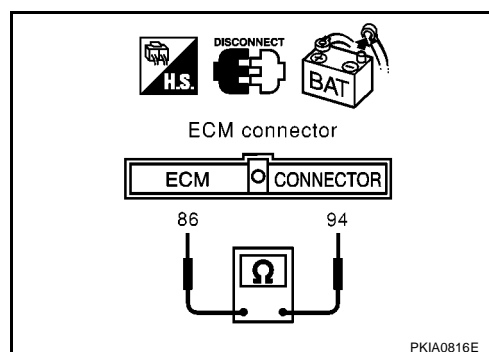
1. Disconnect ECM connector.
2. Check resistance between ECM harness connector E49 terminals 94 (R) and 86 (W).

**94 (R) – 86 (W)****: Approx. 108 – 132Ω**

OK or NG

OK &gt;&gt; Replace ECM.

NG &gt;&gt; Repair harness between ECM and data link connector.



## Data Link Connector Circuit Check

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check data link connector and terminals for damage, bend and loose connection (connector side and harness side).

#### OK or NG

- OK >> GO TO 2.  
NG >> Repair terminal or connector.

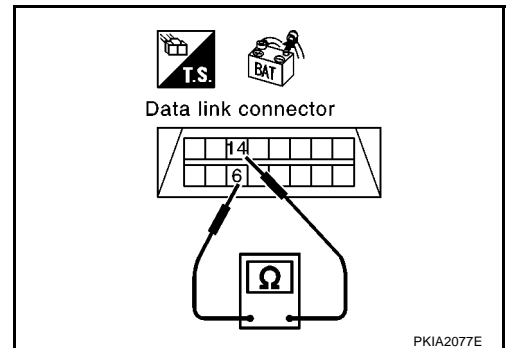
### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M17 terminals 6 (R) and 14 (W).

**6 (R) – 14 (W) : Approx. 54 – 66Ω**

#### OK or NG

- OK >> Perform "SELECT SYSTEM", "SELF-DIAG RESULTS" and "DATA MONITOR (CAN DIAG SUPPORT MNTR)" displayed on CONSULT-II. Refer to [LAN-23, "Work Flow"](#).
- NG >> Repair harness between data link connector and combination meter





**Combination Meter Circuit Check**

EKS0073X

**1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of combination meter for damage, bend and loose connection (meter side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

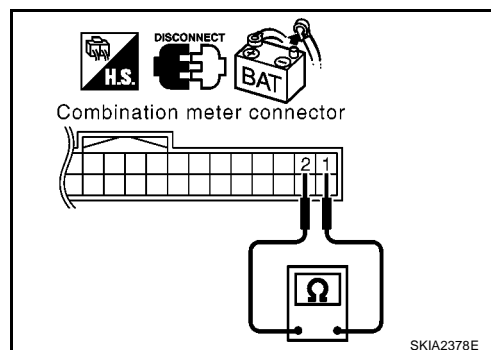
**2. CHECK HARNESS FOR OPEN CIRCUIT**

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M22 terminals 1 (R) and 2 (W).

**1 (R) – 2 (W)****: Approx. 54 – 66Ω**OK or NG

OK &gt;&gt; Replace combination meter

NG &gt;&gt; Repair harness between combination meter and data link connector.



## Intelligent Key Unit Circuit Check

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of Intelligent Key unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect Intelligent Key unit connector.
2. Check resistance between Intelligent Key unit harness connector M51 terminals 2 (R) and 3 (W).

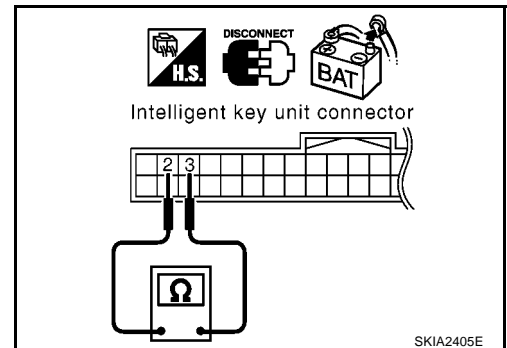
**2 (R) – 3 (W)**

**: Approx. 54 – 66Ω**

OK or NG

OK >> Replace Intelligent Key unit.

NG >> Repair harness between Intelligent Key unit and data link connector.



**EPS Control Unit Circuit Check**

EKS007XN

**1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of EPS control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

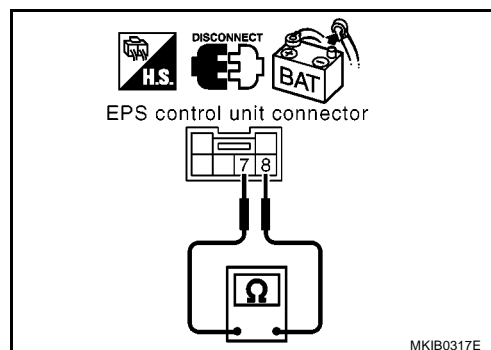
**2. CHECK HARNESS FOR OPEN CIRCUIT**

1. Disconnect EPS control unit connector.
2. Check resistance between EPS control unit harness connector M23 terminals 8 (R) and 7 (W).

**8 (R) – 7 (W)****: Approx. 54 – 66Ω**OK or NG

OK &gt;&gt; Replace EPS control unit.

NG &gt;&gt; Repair harness between EPS control unit and data link connector.



**BCM Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

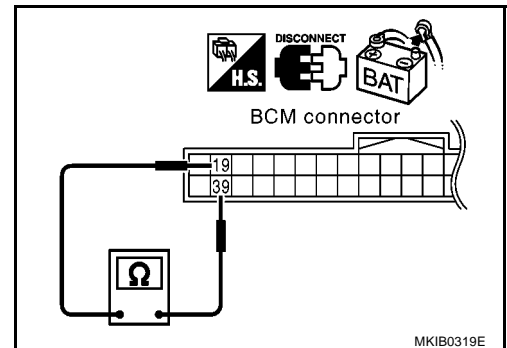
1. Disconnect BCM connector.
2. Check resistance between BCM harness connector M48 terminals 19 (R) and 39 (W).

**19 (R) – 39 (W) : Approx. 54 – 66Ω**

OK or NG

OK >> Replace BCM. Refer to [BCS-31, "Removal and Installation of BCM"](#).

NG >> Repair harness between BCM and data link connector.



**ABS Actuator and Electric Unit (Control Unit) Circuit Check**

EKS0073Z

**1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

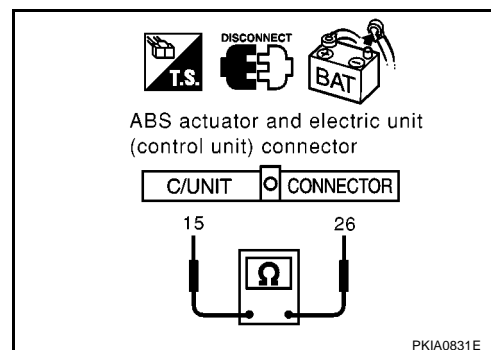
**2. CHECK HARNESS FOR OPEN CIRCUIT**

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector E45 terminals 26 (R) and 15 (W).

**26 (R) – 15 (W)****: Approx. 54 – 66Ω**OK or NG

OK &gt;&gt; Replace ABS actuator and electric unit (control unit).

NG &gt;&gt; Repair harness between ABS actuator and electric unit (control unit) and TCM.



**TCM Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of TCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

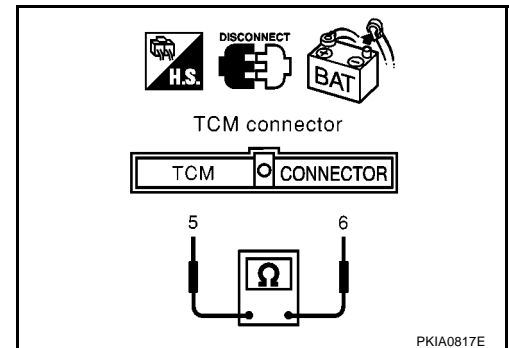
1. Disconnect TCM connector.
2. Check resistance between TCM harness connector E105 terminals 5 (R) and 6 (W).

**5 (R) – 6 (W) : Approx. 54 – 66Ω**

OK or NG

OK &gt;&gt; Replace TCM.

NG &gt;&gt; Repair harness between TCM and IPDM E/R.



**IPDM E/R Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

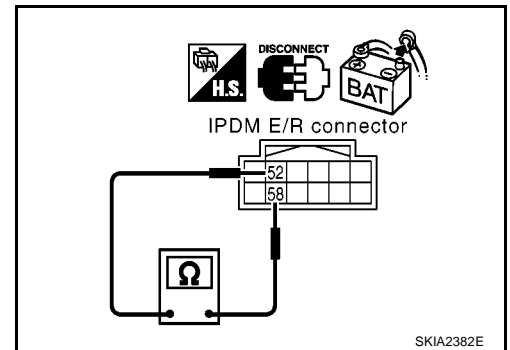
**2. CHECK HARNESS FOR OPEN CIRCUIT**

1. Disconnect IPDM E/R connector.
2. Check resistance between IPDM E/R harness connector E16 terminals 52 (R) and 58 (W).

**52 (R) – 58 (W)****: Approx. 108 – 132Ω**OK or NG

OK &gt;&gt; Replace IPDM E/R.

NG &gt;&gt; Repair harness between IPDM E/R and TCM.



## CAN Communication Circuit Check

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connectors for damage, bend and loose connection (control module side, meter side, control unit side and harness side).
  - ECM
  - Combination meter
  - Intelligent Key unit
  - Drive computer
  - EPS control unit
  - BCM
  - ABS actuator and electric unit (control unit)
  - TCM
  - IPDM E/R
  - Between ECM and IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

### 2. CHECK HARNESS FOR SHORT CIRCUIT

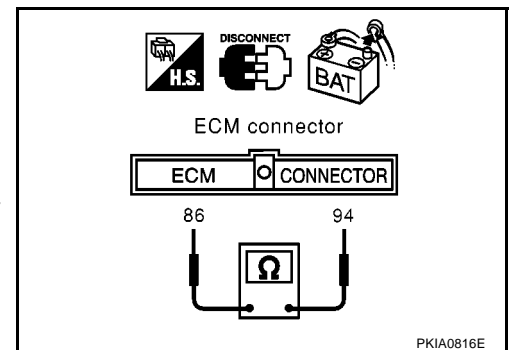
1. Disconnect ECM connector and harness connector E101.
2. Check continuity between ECM harness connector E49 terminals 94 (R) and 86 (W).

**94 (R) – 86 (W) : Continuity should not exist.**

OK or NG

OK >> GO TO 3.

NG >> Repair harness between ECM and harness connector E101.



### 3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector E49 terminals 94 (R), 86 (W) and ground.

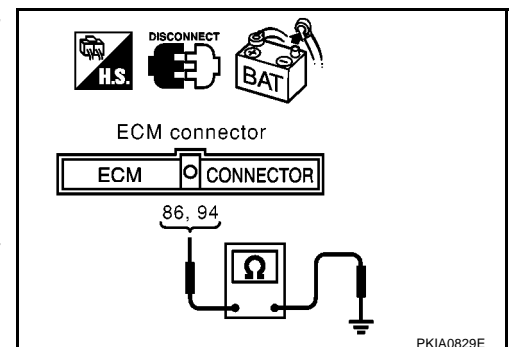
**94 (R) – Ground : Continuity should not exist.**

**86 (W) – Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 4.

NG >> Repair harness between ECM and harness connector E101.





## 4. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect following connectors.
  - ABS actuator and electric unit (control unit) connector
  - TCM connector
  - IPDM E/R connector
2. Check continuity between ABS actuator and electric unit (control unit) harness connector E45 terminals 26 (R) and 15 (W).

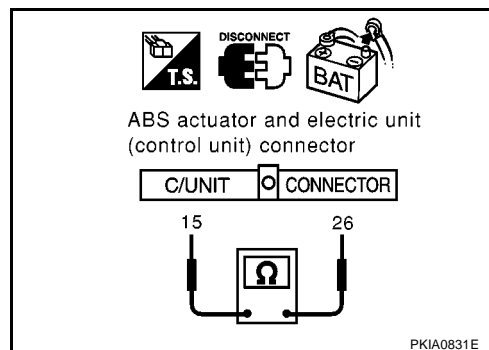
**26 (R) – 15 (W) : Continuity should not exist.**

OK or NG

OK >> GO TO 5.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between ABS actuator and electric unit (control unit) and TCM
- Harness between ABS actuator and electric unit (control unit) and harness connector E101
- Harness between ABS actuator and electric unit (control unit) and IPDM E/R



## 5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ABS actuator and electric unit (control unit) harness connector E45 terminals 26 (R), 15 (W) and ground.

**26 (R) – Ground : Continuity should not exist.**

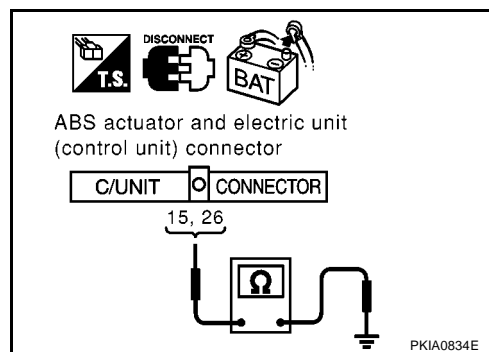
**15 (W) – Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 6.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between ABS actuator and electric unit (control unit) and TCM
- Harness between ABS actuator and electric unit (control unit) and harness connector E101
- Harness between ABS actuator and electric unit (control unit) and IPDM E/R



## 6. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect following connectors.
  - Combination meter connector
  - Intelligent Key unit connector
  - Drive computer connector
  - EPS control unit connector
  - BCM connector
- Check continuity between data link connector M17 terminals 6 (R) and 14 (W).

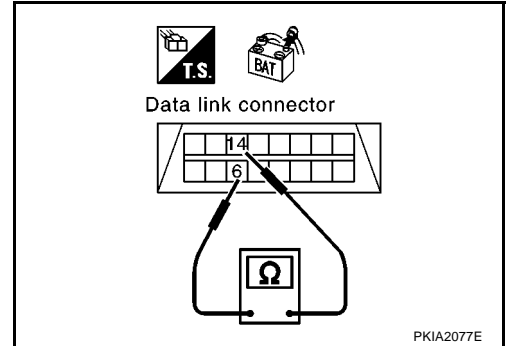
**6 (R) – 14 (W) : Continuity should not exist.**

### OK or NG

OK >> GO TO 7.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between data link connector and harness connector M1
- Harness between data link connector and combination meter
- Harness between data link connector and Intelligent Key unit
- Harness between data link connector and drive computer
- Harness between data link connector and EPS control unit
- Harness between data link connector and BCM



## 7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M17 terminals 6 (R), 14 (W) and ground.

**6 (R) – Ground : Continuity should not exist.**

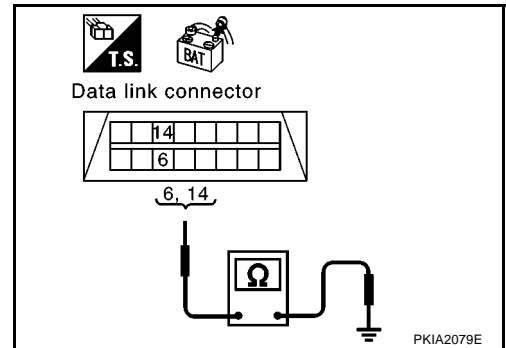
**14 (W) – Ground : Continuity should not exist.**

### OK or NG

OK >> GO TO 8.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between data link connector and harness connector M1
- Harness between data link connector and combination meter
- Harness between data link connector and Intelligent Key unit
- Harness between data link connector and drive computer
- Harness between data link connector and EPS control unit
- Harness between data link connector and BCM



## 8. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-51, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"](#).

### OK or NG

OK >> Reconnect all connectors to perform "SELECT SYSTEM", "SELF-DIAG RESULTS" and "DATA MONITOR (CAN DIAG SUPPORT MNTR)" displayed on CONSULT-II. Refer to [LAN-23, "Work Flow"](#).

NG >> Replace ECM and/or IPDM E/R.

**IPDM E/R Ignition Relay Circuit Check**

EKS00742

Perform the self-diagnosis for IPDM E/R. Refer to [PG-48, "Inspection With CONSULT-II \(Self-Diagnosis\)"](#) . If the result is OK, carry out following inspections.

- IPDM E/R power supply circuit. Refer to [PG-49, "IPDM E/R Power Supply and Ground Circuit Check"](#) .
- Ignition power supply circuit. Refer to [PG-12, "IGNITION POWER SUPPLY — IGNITION SW. IN "ON" AND/OR "START""](#) .

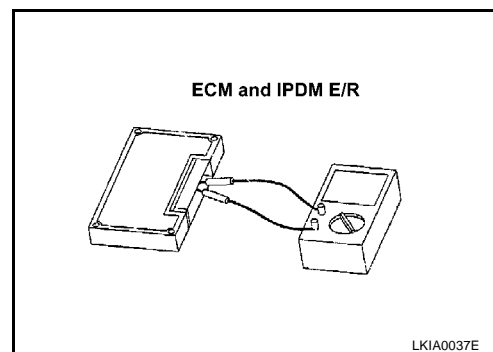
**Component Inspection**

EKS00743

**ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION**

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 52 and 58.

| Unit     | Terminal | Resistance value ( $\Omega$ )<br>(Approx.) |
|----------|----------|--|
| ECM      | 94 – 86  | 108 - 132                                  |
| IPDM E/R | 52 – 58  |  |



## CAN SYSTEM (TYPE 2)

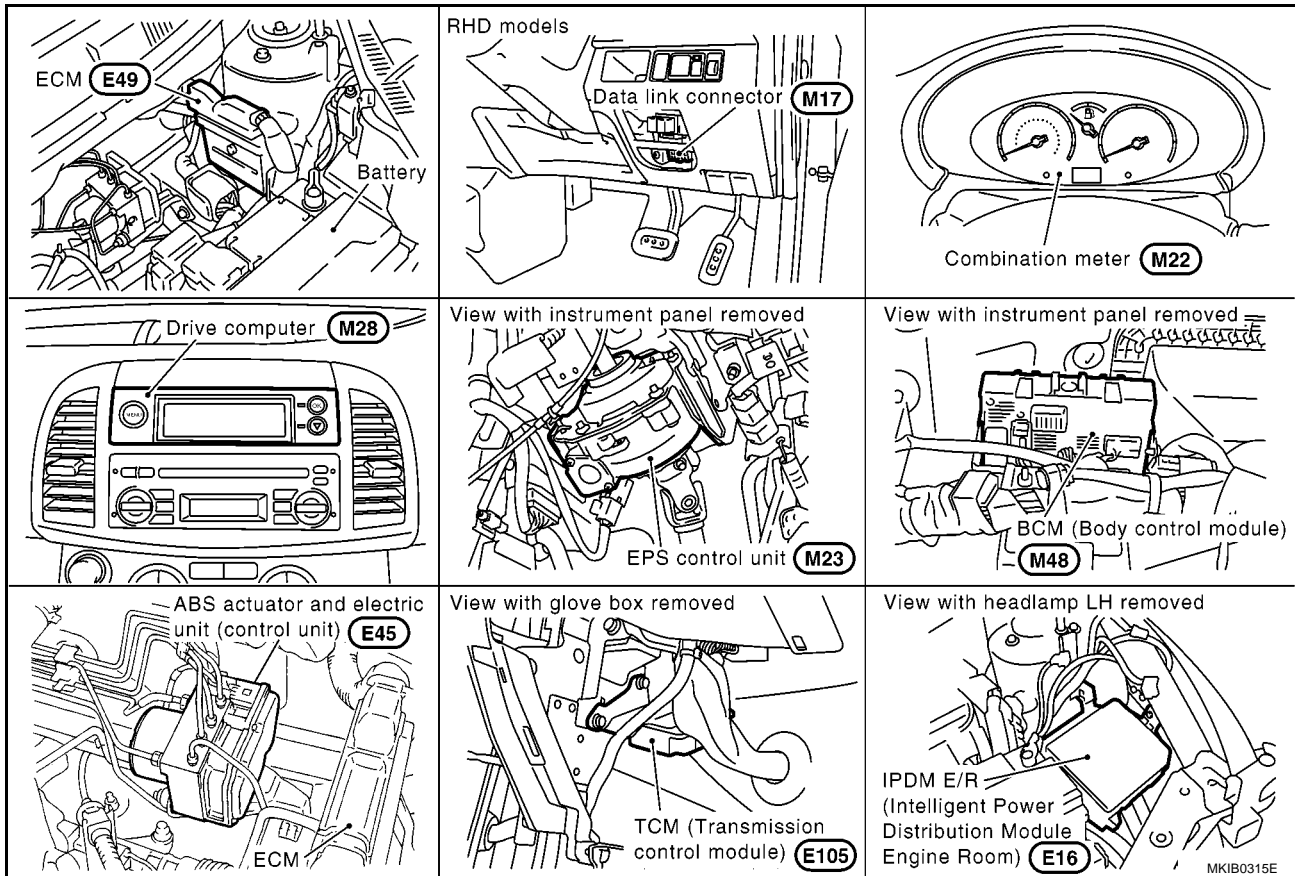
## System Description

EKS00744

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

## Component Parts and Harness Connector Location

EKS00745



# CAN SYSTEM (TYPE 2)

[CAN]

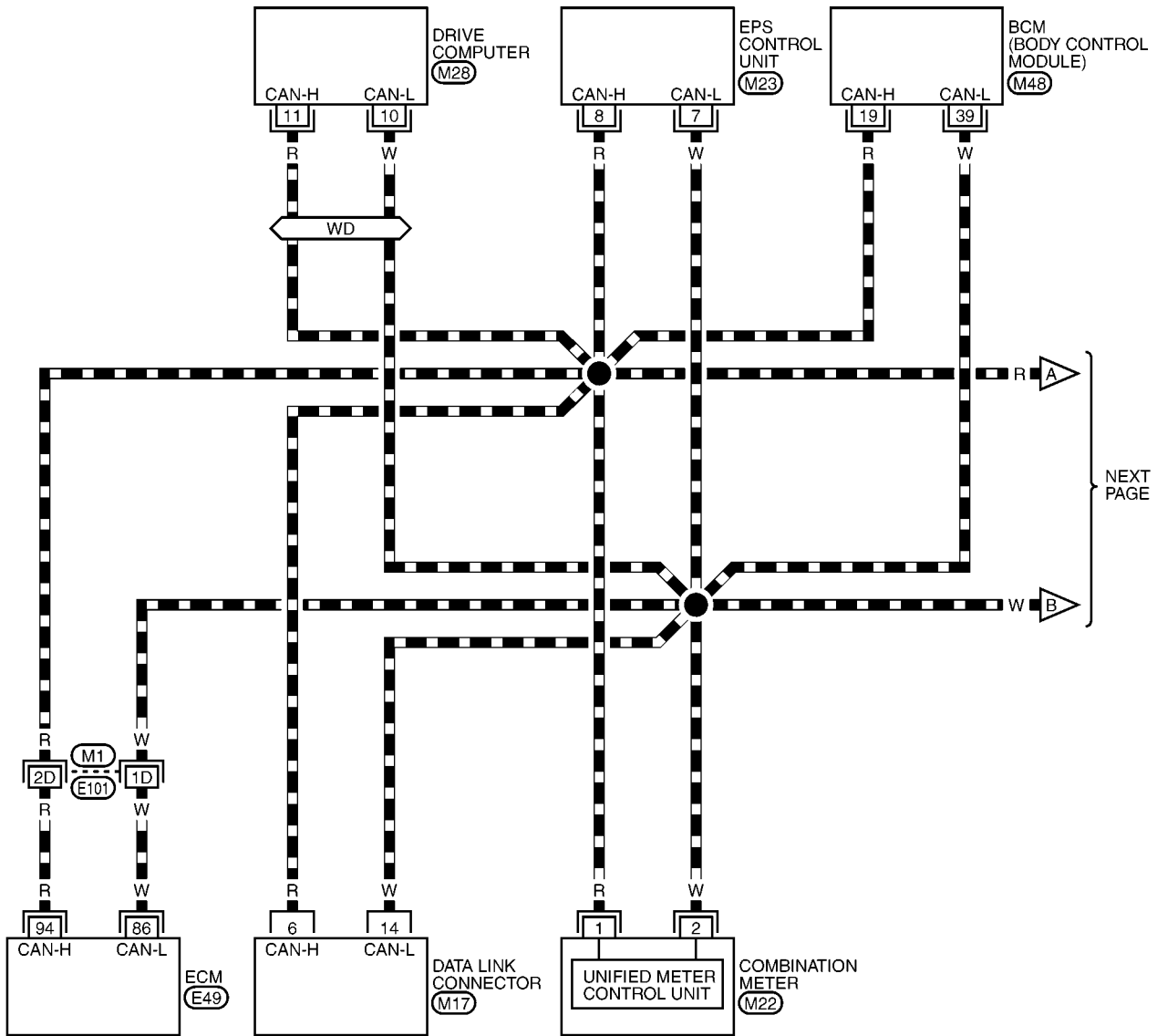
## Wiring Diagram — CAN —

EKS007Y0

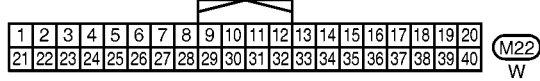
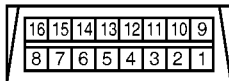
### LAN-CAN-03

— : DATA LINE

WD : WITH DRIVE COMPUTER



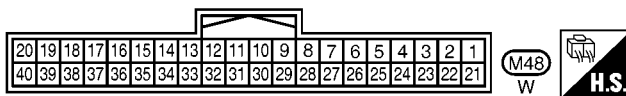
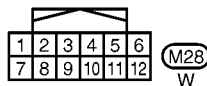
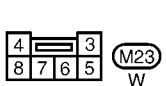
LAN



REFER TO THE FOLLOWING.

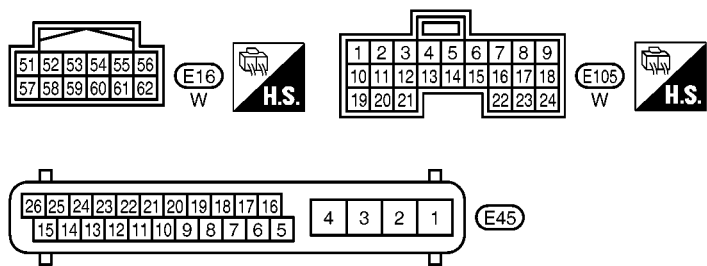
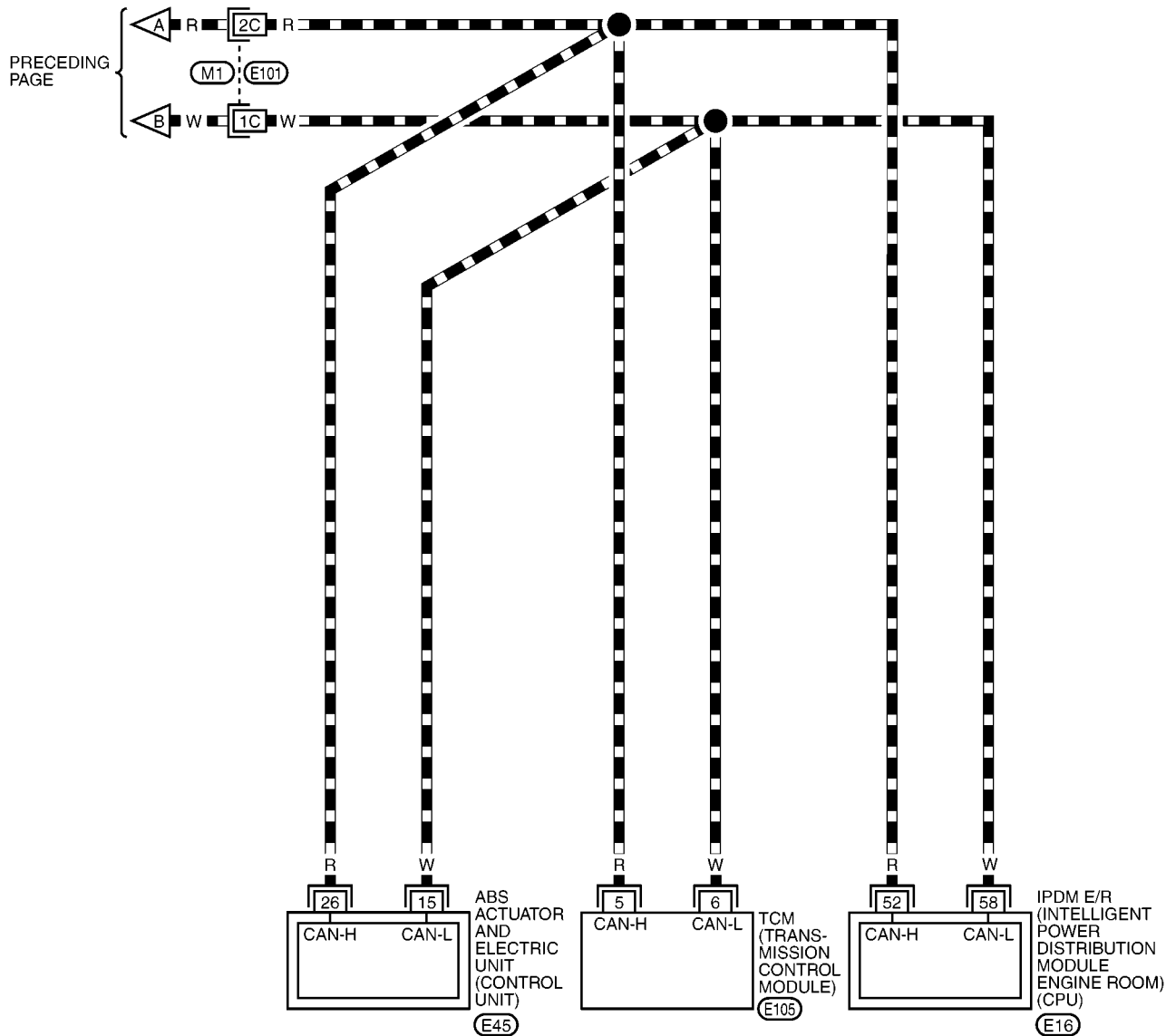
(M1) -SUPER MULTIPLE JUNCTION (SMJ)

(E49) -ELECTRICAL UNITS



MKWA0792E

DATA LINE




REFER TO THE FOLLOWING.  
(M1) -SUPER MULTIPLE JUNCTION (SMJ)

## Work Flow

- When there are no indications of "EPS", "BCM" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".

(Example)

|                           |  |       |      |
|---------------------------|--|-------|------|
| NISSAN                    |  |       |      |
| CONSULT-II                |  |       |      |
| ENGINE                    |  |       |      |
| START (NISSAN BASED VHCL) |  |       |      |
| START (X-BADGE VHCL)      |  |       |      |
| SUB MODE                  |  |       |      |
|                           |  | LIGHT | COPY |




|               |  |      |            |
|---------------|--|------|------------|
| SELECT SYSTEM |  |      |            |
| ENGINE        |  |      |            |
| A/T           |  |      |            |
| ABS           |  |      |            |
| AIR BAG       |  |      |            |
| BCM           |  |      |            |
| METER A/C AMP |  |      |            |
|               |  |      |            |
|               |  |      |            |
|               |  | BACK | LIGHT COPY |

MKIB1692E

- Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "EPS", "BCM", "ABS", "A/T" and "IPDM E/R" displayed on CONSULT-II.

(Example)

|                       |  |      |             |
|-----------------------|--|------|-------------|
| SELECT DIAG MODE      |  |      |             |
| WORK SUPPORT          |  |      |             |
| SELF-DIAG RESULTS     |  |      |             |
| DATA MONITOR          |  |      |             |
| DATA MONITOR (SPEC)   |  |      |             |
| CAN DIAG SUPPORT MNTR |  |      |             |
| ACTIVE TEST           |  |      |             |
|                       |  |      |             |
|                       |  |      | Scroll Down |
|                       |  | BACK | LIGHT COPY  |




|                          |      |       |          |
|--------------------------|------|-------|----------|
| SELF-DIAG RESULTS        |      |       |          |
| DTC RESULTS              |      | TIME  |          |
| CAN COMM CIRCUIT [U1000] |      | 0     |          |
|                          |      |       |          |
|                          |      |       |          |
|                          |      |       | F.F.DATA |
| ERASE                    |      | PRINT |          |
| MODE                     | BACK | LIGHT | COPY     |

PKIA8260E

- Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "EPS", "BCM", "ABS", "A/T" and "IPDM E/R" displayed on CONSULT-II.

(Example)

|                       |  |      |             |
|-----------------------|--|------|-------------|
| SELECT DIAG MODE      |  |      |             |
| WORK SUPPORT          |  |      |             |
| SELF-DIAG RESULTS     |  |      |             |
| DATA MONITOR          |  |      |             |
| DATA MONITOR (SPEC)   |  |      |             |
| CAN DIAG SUPPORT MNTR |  |      |             |
| ACTIVE TEST           |  |      |             |
|                       |  |      |             |
|                       |  |      | Scroll Down |
|                       |  | BACK | LIGHT COPY  |



|                       |      |             |      |
|-----------------------|------|-------------|------|
| CAN DIAG SUPPORT MNTR |      |             |      |
| ENGINE                |      |             |      |
|                       |      | PRSN        |      |
| INITIAL DIAG          |      | OK          |      |
| TRANSMIT DIAG         |      | OK          |      |
| TCM                   |      | OK          |      |
| VDC/TCS/ABS           |      | OK          |      |
| METER/M&A             |      | OK          |      |
| ICC                   |      | UNKWN       |      |
| BCM/SEC               |      | OK          |      |
| IPDM E/R              |      | OK          |      |
| AWD/4WD/e4WD          |      | UNKWN       |      |
| PRINT                 |      | Scroll Down |      |
| MODE                  | BACK | LIGHT       | COPY |

PKIA8343E

- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to [LAN-57, "CHECK SHEET"](#).
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "V" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to [LAN-57, "CHECK SHEET"](#).

**NOTE:**

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual. So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.

## 6. Convert "v" mark on comparison table to check sheet table.

(Example)

Check sheet table

|          | CONSULT<br>indication | CAN<br>system | Tx         | Rx         |                      |            |            |            |            |            |
|----------|-----------------------|---------------|------------|------------|----------------------|------------|------------|------------|------------|------------|
|          |                       |               |            | ECM        | Combination<br>meter | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE   | —                     | CAN COMM      | CAN CIRC 1 | —          | CAN CIRC 4           | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication         | CAN COMM      | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4           | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM      | No indication         | —             | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4           | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS      | —                     | CAN COMM      | CAN CIRC 1 | CAN CIRC 2 | —                    | —          | —          | —          | —          | —          |
| A/T      | —                     | CAN COMM      | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4           | —          | —          | —          | —          | —          |
| IPDM E/R | No indication         | —             | CAN CIRC 1 | CAN CIRC 3 | —                    | —          | CAN CIRC 3 | —          | —          | —          |

Comparison table

| SELECT SYSTEM screen |               | Initial<br>diagnosis | Transmit<br>diagnosis | Receive diagnosis |               |       |         |                 |       |          |
|----------------------|---------------|----------------------|-----------------------|-------------------|---------------|-------|---------|-----------------|-------|----------|
|                      |               |                      |                       | ECM               | METER<br>/M&A | EPS   | BCM/SEC | VDC/TCS<br>/ABS | TCM   | IPDM E/R |
| ENGINE               | —             | NG                   | UNKWN                 | —                 | UNKWN         | UNKWN | UNKWN   | UNKWN           | UNKWN | UNKWN    |
| EPS                  | No indication | NG                   | UNKWN                 | UNKWN             | UNKWN         | —     | UNKWN   | UNKWN           | —     | —        |
| BCM                  | No indication | —                    | UNKWN                 | UNKWN             | UNKWN         | —     | —       | —               | UNKWN | UNKWN    |
| ABS                  | —             | NG                   | UNKWN                 | UNKWN             | —             | —     | —       | —               | —     | —        |
| A/T                  | —             | NG                   | UNKWN                 | UNKWN             | UNKWN         | —     | —       | —               | —     | —        |
| IPDM E/R             | No indication | —                    | UNKWN                 | UNKWN             | —             | —     | UNKWN   | —               | —     | —        |

Convert

MKIB1683E

## 7. According to the check sheet results (example), start inspection. Refer to [LAN-59, "CHECK SHEET RESULTS \(EXAMPLE\)"](#).



# CAN SYSTEM (TYPE 2)

[CAN]

## CHECK SHEET

Check sheet table

|          | CONSULT<br>indication | CAN<br>system | Tx         | Rx         |                      |            |            |            |            |            |
|----------|-----------------------|---------------|------------|------------|----------------------|------------|------------|------------|------------|------------|
|          |                       |               |            | ECM        | Combination<br>meter | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE   | —                     | CAN COMM      | CAN CIRC 1 | —          | CAN CIRC 4           | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication         | CAN COMM      | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4           | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM      | No indication         | —             | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4           | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS      | —                     | CAN COMM      | CAN CIRC 1 | CAN CIRC 2 | —                    | —          | —          | —          | —          | —          |
| A/T      | —                     | CAN COMM      | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4           | —          | —          | —          | —          | —          |
| IPDM E/R | No indication         | —             | CAN CIRC 1 | CAN CIRC 3 | —                    | —          | CAN CIRC 3 | —          | —          | —          |

Comparison table

| SELECT SYSTEM screen |               | Initial<br>diagnosis | Transmit<br>diagnosis | Receive diagnosis |               |       |         |                 |       |          |
|----------------------|---------------|----------------------|-----------------------|-------------------|---------------|-------|---------|-----------------|-------|----------|
|                      |               |                      |                       | ECM               | METER<br>/M&A | EPS   | BCM/SEC | VDC/TCS<br>/ABS | TCM   | IPDM E/R |
| ENGINE               | —             | NG                   | UNKWN                 | —                 | UNKWN         | UNKWN | UNKWN   | UNKWN           | UNKWN | UNKWN    |
| EPS                  | No indication | NG                   | UNKWN                 | UNKWN             | UNKWN         | —     | UNKWN   | UNKWN           | —     | —        |
| BCM                  | No indication | —                    | UNKWN                 | UNKWN             | UNKWN         | —     | —       | —               | UNKWN | UNKWN    |
| ABS                  | —             | NG                   | UNKWN                 | UNKWN             | —             | —     | —       | —               | —     | —        |
| A/T                  | —             | NG                   | UNKWN                 | UNKWN             | UNKWN         | —     | —       | —               | —     | —        |
| IPDM E/R             | No indication | —                    | UNKWN                 | UNKWN             | —             | —     | UNKWN   | —               | —     | —        |

Symptoms:

Attach copy of  
SELECT SYSTEM

Attach copy of  
SELECT SYSTEM

MKIB1602E

Attach copy of  
ENGINE  
SELF-DIAG RESULTS

Attach copy of  
EPS  
SELF-DIAG RESULTS

Attach copy of  
BCM  
SELF-DIAG RESULTS

Attach copy of  
ABS  
SELF-DIAG RESULTS

Attach copy of  
A/T  
SELF-DIAG RESULTS

Attach copy of  
IPDM E/R  
SELF-DIAG RESULTS

Attach copy of  
ENGINE  
DATA MONITOR

Attach copy of  
EPS  
DATA MONITOR

Attach copy of  
BCM  
DATA MONITOR

Attach copy of  
ABS  
DATA MONITOR

Attach copy of  
A/T  
DATA MONITOR

Attach copy of  
IPDM E/R  
DATA MONITOR

## CHECK SHEET RESULTS (EXAMPLE)

## NOTE:

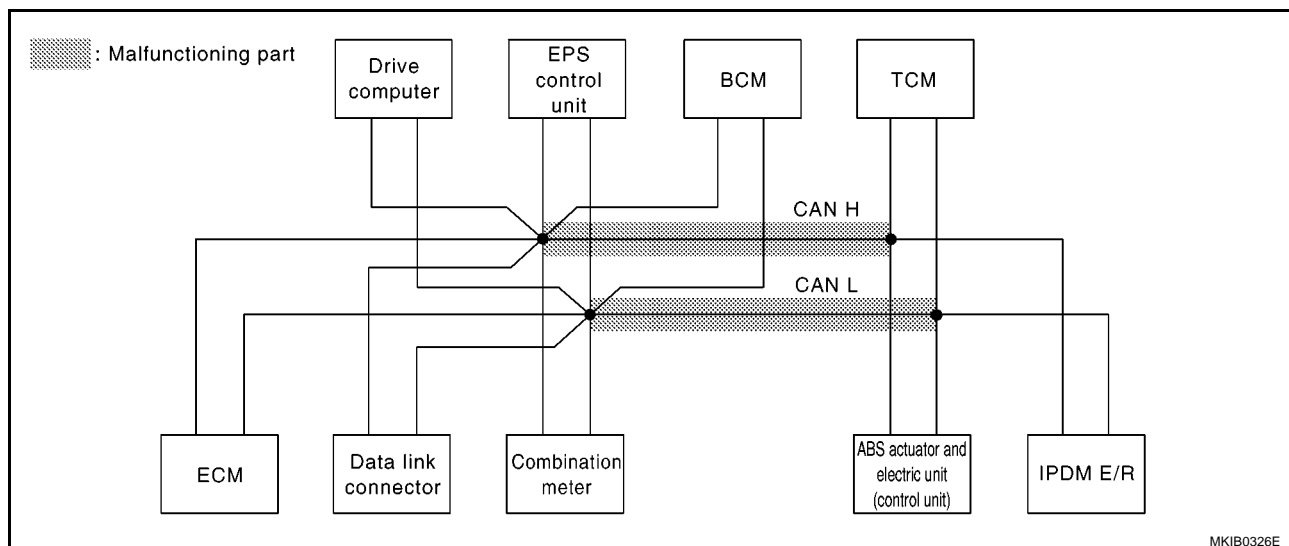
If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

## Case 1

Check harness between BCM and ABS actuator and electric unit (control unit). Refer to [LAN-69, "Circuit Check Between BCM and ABS Actuator and Electric Unit \(Control Unit\)"](#).

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —          | —          | —          | —          | —          |
| A/T      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | —          | —          |
| IPDM E/R | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 3 | —          | —          | —          |

MKIB1624E



MKIB0326E

# CAN SYSTEM (TYPE 2)

[CAN]

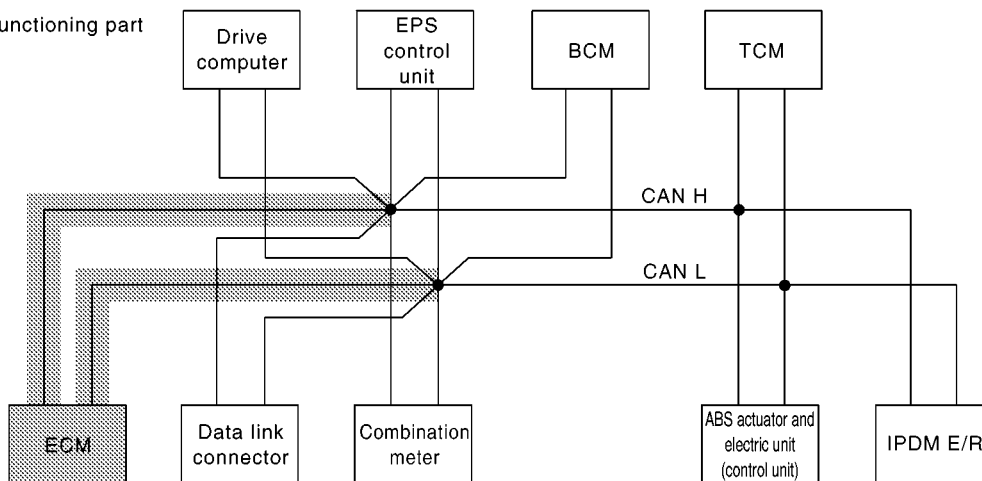
## Case 2

Check ECM circuit. Refer to [LAN-70, "ECM Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx           | Rx           |                   |              |              |              |              |              |
|----------|--------------------|------------|--------------|--------------|-------------------|--------------|--------------|--------------|--------------|--------------|
|          |                    |            |              | ECM          | Combination meter | EPS          | BCM          | ABS          | TCM          | IPDM E/R     |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 ✓ | —            | CAN CIRC 4        | CAN CIRC 9 ✓ | CAN CIRC 6 ✓ | CAN CIRC 3 ✓ | CAN CIRC 2 ✓ | CAN CIRC 7 ✓ |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1   | CAN CIRC 2 ✓ | CAN CIRC 4        | —            | CAN CIRC 5   | CAN CIRC 3   | —            | —            |
| BCM      | No indication      | —          | CAN CIRC 1   | CAN CIRC 2 ✓ | CAN CIRC 4        | —            | —            | —            | CAN CIRC 6   | CAN CIRC 3   |
| ABS      | —                  | CAN COMM   | CAN CIRC 1   | CAN CIRC 2 ✓ | —                 | —            | —            | —            | —            | —            |
| A/T      | —                  | CAN COMM   | CAN CIRC 1   | CAN CIRC 2 ✓ | CAN CIRC 4        | —            | —            | —            | —            | —            |
| IPDM E/R | No indication      | —          | CAN CIRC 1   | CAN CIRC 3 ✓ | —                 | —            | CAN CIRC 3   | —            | —            | —            |

MKIB1625E

 : Malfunctioning part



MKIB0327E

# CAN SYSTEM (TYPE 2)

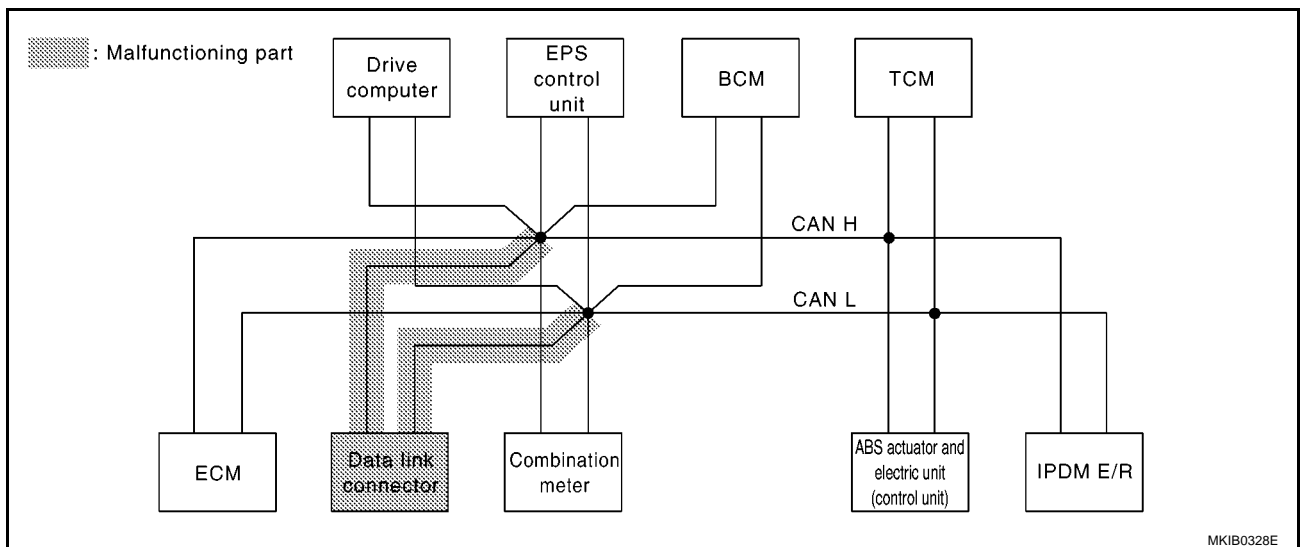
[CAN]

## Case 3

Check data link connector circuit. Refer to [LAN-71, "Data Link Connector Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —          | —          | —          | —          | —          |
| A/T      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | —          | —          |
| IPDM E/R | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 3 | —          | —          | —          |

MKIB1626E



MKIB0328E

LAN

# CAN SYSTEM (TYPE 2)

[CAN]

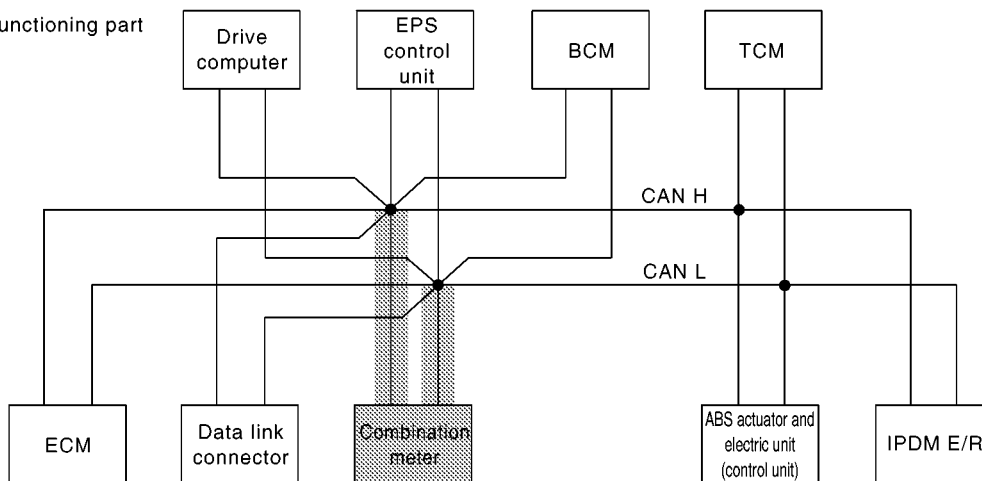
## Case 4

Check combination meter circuit. Refer to [LAN-72, "Combination Meter Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4 ✓      | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4 ✓      | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4 ✓      | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —          | —          | —          | —          | —          |
| A/T      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4 ✓      | —          | —          | —          | —          | —          |
| IPDM E/R | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 3 | —          | —          | —          |

MKIB1627E

 : Malfunctioning part



MKIB0329E

# CAN SYSTEM (TYPE 2)

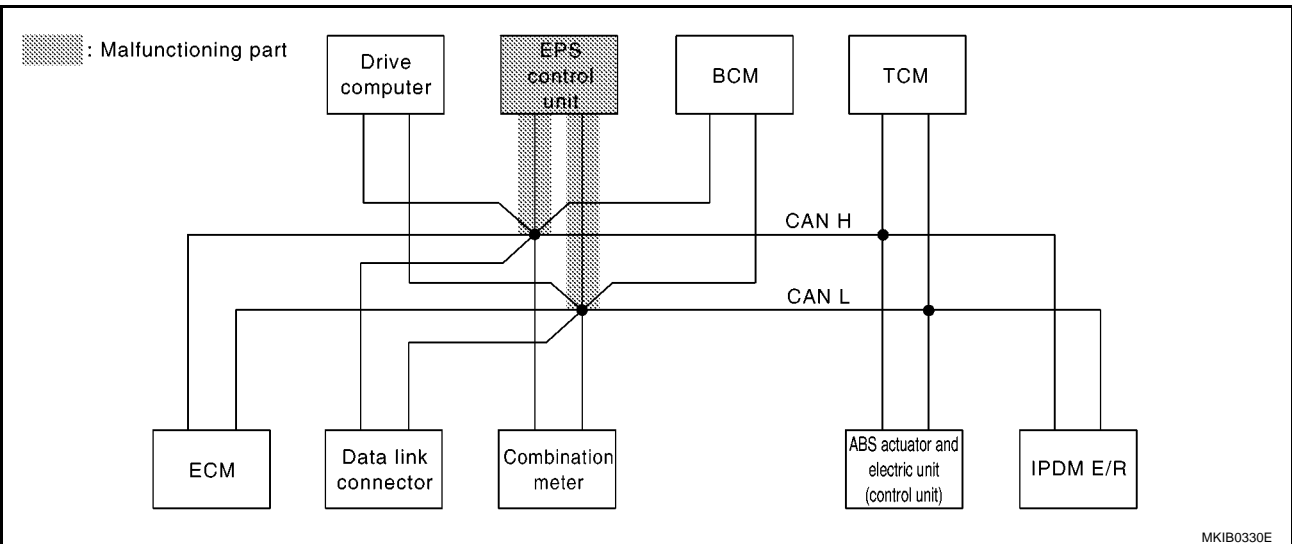
[CAN]

## Case 5

Check EPS control unit circuit. Refer to [LAN-73, "EPS Control Unit Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —          | —          | —          | —          | —          |
| A/T      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | —          | —          |
| IPDM E/R | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 3 | —          | —          | —          |

MKIB1628E



MKIB0330E

LAN

# CAN SYSTEM (TYPE 2)

[CAN]

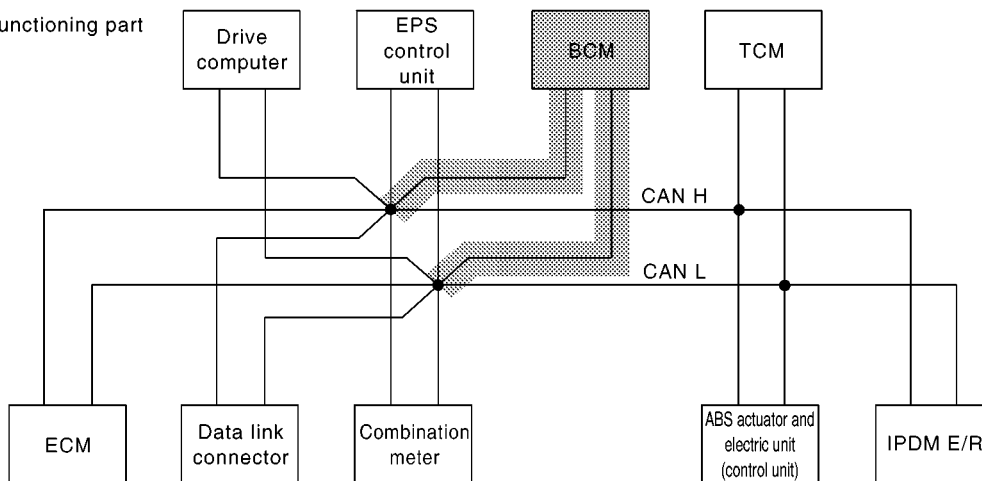
## Case 6

Check BCM circuit. Refer to [LAN-74, "BCM Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —          | —          | —          | —          | —          |
| A/T      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | —          | —          |
| IPDM E/R | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 3 | —          | —          | —          |

MKIB1629E

 : Malfunctioning part



MKIB0331E



# CAN SYSTEM (TYPE 2)

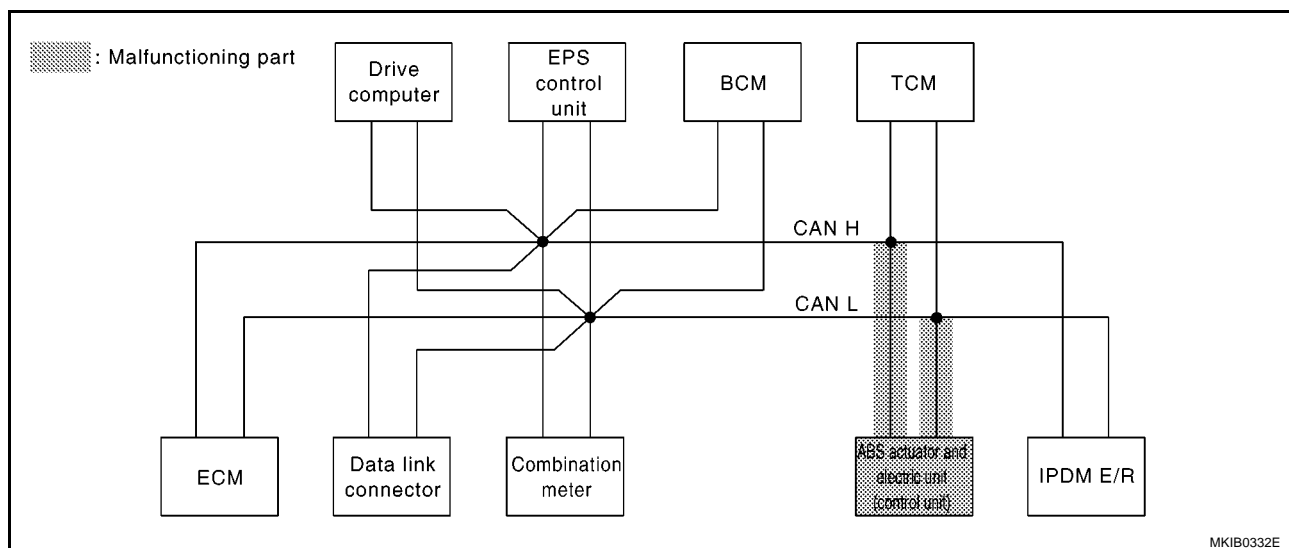
[CAN]

## Case 7

Check ABS actuator and electric unit (control unit) circuit. Refer to [LAN-75, "ABS Actuator and Electric Unit \(Control Unit\) Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —          | —          | —          | —          | —          |
| A/T      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | —          | —          |
| IPDM E/R | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 3 | —          | —          | —          |

MKIB1630E



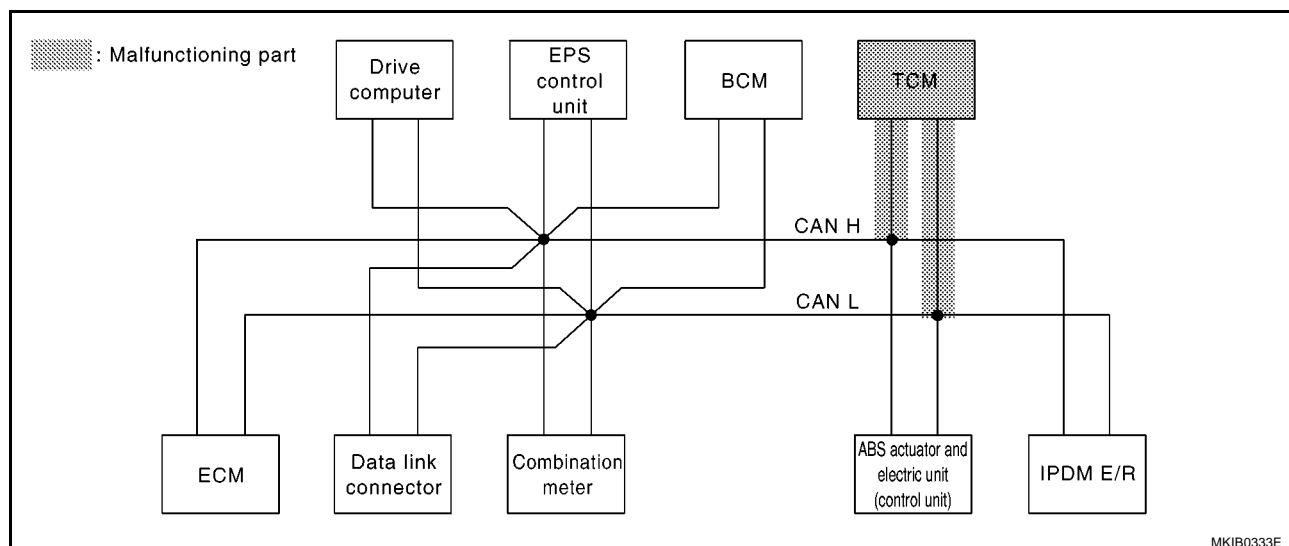
MKIB0332E

**Case 8**

Check TCM circuit. Refer to [LAN-76, "TCM Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —          | —          | —          | —          | —          |
| A/T      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | —          | —          |
| IPDM E/R | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 3 | —          | —          | —          |

MKIB1631E



MKIB0333E

# CAN SYSTEM (TYPE 2)

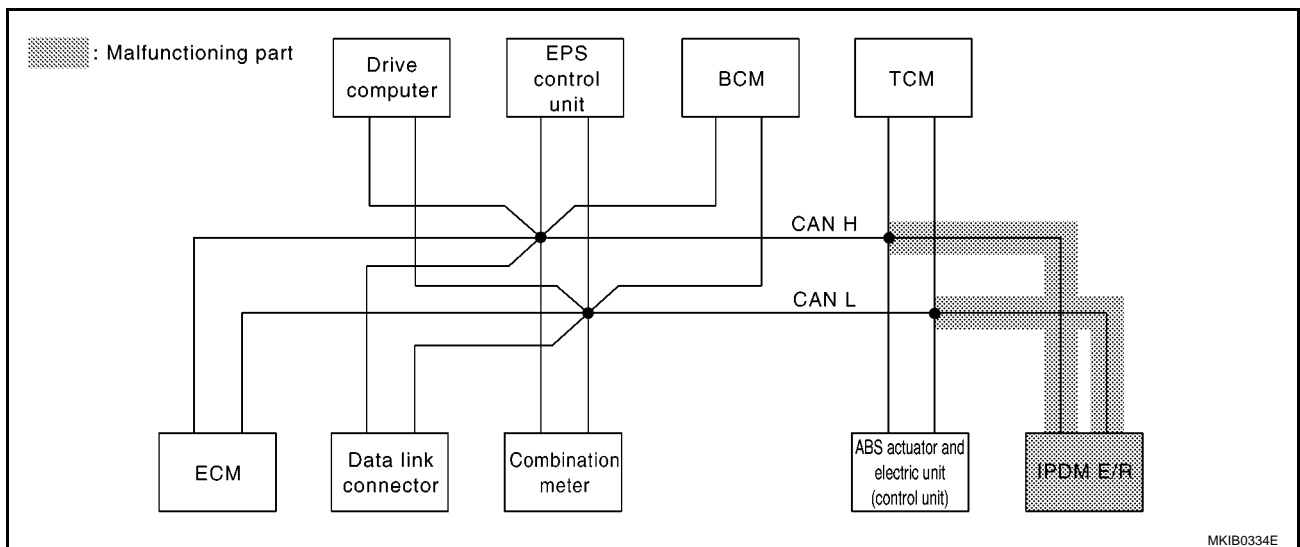
[CAN]

## Case 9

Check IPDM E/R circuit. Refer to [LAN-77, "IPDM E/R Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —          | —          | —          | —          | —          |
| A/T      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | —          | —          |
| IPDM E/R | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 3 | —          | —          | —          |

MKIB1632E



MKIB0334E

LAN

# CAN SYSTEM (TYPE 2)

[CAN]

## Case 10

Check CAN communication circuit. Refer to [LAN-78, "CAN Communication Circuit Check"](#).

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —          | —          | —          | —          | —          |
| A/T      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | —          | —          |
| IPDM E/R | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 3 | —          | —          | —          |

MKIB1633E

## Case 11

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to [LAN-81, "IPDM E/R Ignition Relay Circuit Check"](#).

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —          | —          | —          | —          | —          |
| A/T      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | —          | —          |
| IPDM E/R | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 3 | —          | —          | —          |

MKIB1635E

## Case 12

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to [LAN-81, "IPDM E/R Ignition Relay Circuit Check"](#).

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —          | —          | —          | —          | —          |
| A/T      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | —          | —          |
| IPDM E/R | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 3 | —          | —          | —          |

MKIB1634E

## Circuit Check Between BCM and ABS Actuator and Electric Unit (Control Unit)

EKS00811

## 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
  - Harness connector M1
  - Harness connector E101

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

## 2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect following connector.
  - Harness connector M1
  - Combination meter connector
  - Drive computer connector
  - EPS control unit connector
  - BCM connector
2. Check continuity between BCM harness connector M48 terminals 19 (R), 39 (W) and harness connector M1 terminals 2C (R), 1C (W).

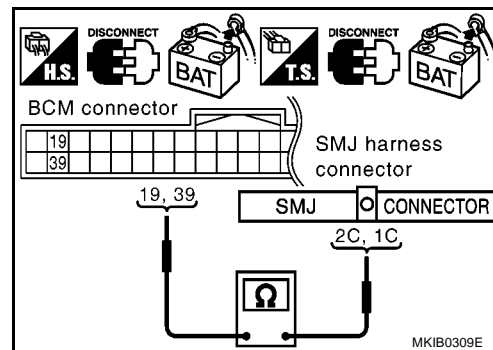
19 (R) – 2C (R) : Continuity should exist.

39 (W) – 1C (W) : Continuity should exist.

OK or NG

OK &gt;&gt; GO TO 3.

NG &gt;&gt; Repair harness.



## 3. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between harness connector E101 terminals 2C (R), 1C (W) and ABS actuator and electric unit (control unit) harness connector E45 terminals 26 (R), 15 (W).

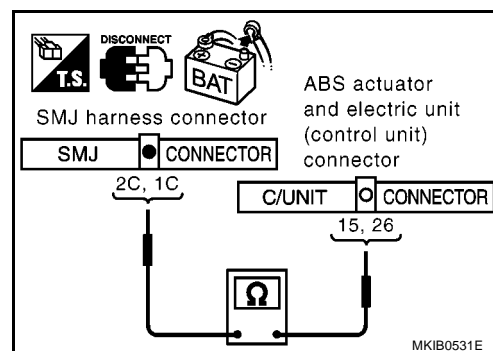
2C (R) – 26 (R) : Continuity should exist.

1C (W) – 15 (W) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELECT SYSTEM", "SELF-DIAG RESULTS" and "DATA MONITOR (CAN DIAG SUPPORT MNTR)" displayed on CONSULT-II. Refer to [LAN-55, "Work Flow"](#).

NG &gt;&gt; Repair harness.



## ECM Circuit Check

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
  - ECM connector
  - Harness connector M1
  - Harness connector E101

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ECM connector.
2. Check resistance between ECM harness connector E49 terminals 94 (R) and 86 (W).

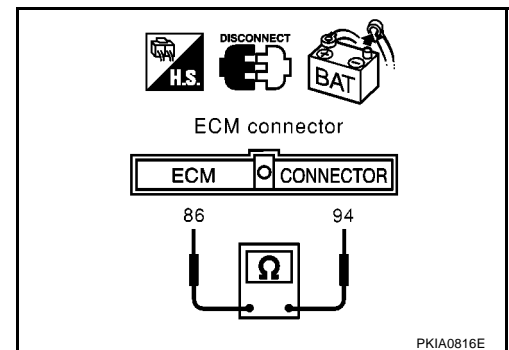
**94 (R) – 86 (W)**

**: Approx. 108 – 132Ω**

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and data link connector.



## Data Link Connector Circuit Check

EKS00813

## 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check data link connector and terminals for damage, bend and loose connection (connector side and harness side).

## OK or NG

- OK >> GO TO 2.  
 NG >> Repair terminal or connector.

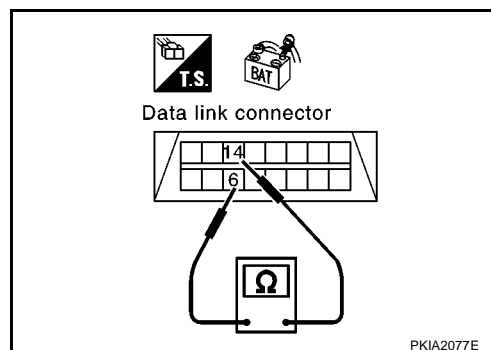
## 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M17 terminals 6 (R) and 14 (W).

**6 (R) – 14 (W) : Approx. 54 – 66Ω**

## OK or NG

- OK >> Perform "SELECT SYSTEM", "SELF-DIAG RESULTS" and "DATA MONITOR (CAN DIAG SUPPORT MNTR)" displayed on CONSULT-II. Refer to [LAN-55, "Work Flow"](#).
- NG >> Repair harness between data link connector and combination meter



**Combination Meter Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of combination meter for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M22 terminals 1 (R) and 2 (W).

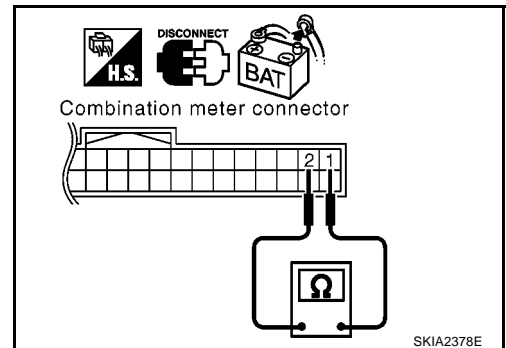
**1 (R) – 2 (W)**

**: Approx. 54 – 66Ω**

OK or NG

OK >> Replace combination meter

NG >> Repair harness between combination meter and data link connector.





**EPS Control Unit Circuit Check**

EKS00815

**1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of EPS control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

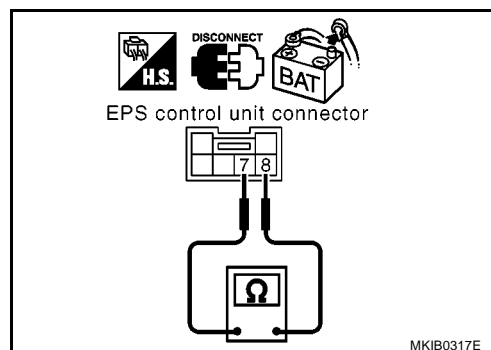
**2. CHECK HARNESS FOR OPEN CIRCUIT**

1. Disconnect EPS control unit connector.
2. Check resistance between EPS control unit harness connector M23 terminals 8 (R) and 7 (W).

**8 (R) – 7 (W)****: Approx. 54 – 66Ω**OK or NG

OK &gt;&gt; Replace EPS control unit.

NG &gt;&gt; Repair harness between EPS control unit and data link connector.



**BCM Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

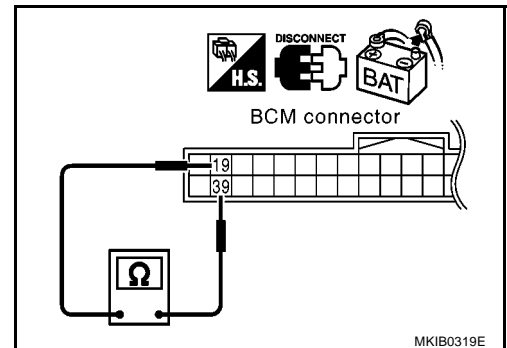
1. Disconnect BCM connector.
2. Check resistance between BCM harness connector M48 terminals 19 (R) and 39 (W).

**19 (R) – 39 (W) : Approx. 54 – 66Ω**

OK or NG

OK >> Replace BCM. Refer to [BCS-31, "Removal and Installation of BCM"](#).

NG >> Repair harness between BCM and data link connector.



## ABS Actuator and Electric Unit (Control Unit) Circuit Check

EKS00817

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection (control unit side and harness side).

OK or NG

- OK >> GO TO 2.  
 NG >> Repair terminal or connector.

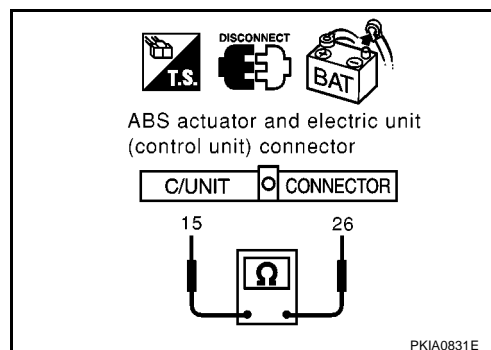
### 2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector E45 terminals 26 (R) and 15 (W).

**26 (R) – 15 (W) : Approx. 54 – 66Ω**

OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).  
 NG >> Repair harness between ABS actuator and electric unit (control unit) and TCM.



**TCM Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of TCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

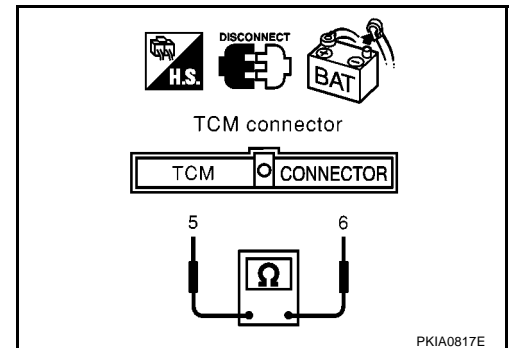
1. Disconnect TCM connector.
2. Check resistance between TCM harness connector E105 terminals 5 (R) and 6 (W).

**5 (R) – 6 (W) : Approx. 54 – 66Ω**

OK or NG

OK >> Replace TCM.

NG >> Repair harness between TCM and IPDM E/R.



**IPDM E/R Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

1. Disconnect IPDM E/R connector.
2. Check resistance between IPDM E/R harness connector E16 terminals 52 (R) and 58 (W).

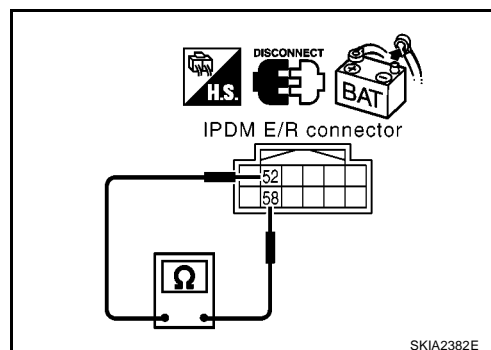
**52 (R) – 58 (W)**

**: Approx. 108 – 132Ω**

OK or NG

OK >> Replace IPDM E/R.

NG >> Repair harness between IPDM E/R and TCM.



## CAN Communication Circuit Check

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connectors for damage, bend and loose connection (control module side, meter side, control unit side and harness side).
  - ECM
  - Combination meter
  - Drive computer
  - EPS control unit
  - BCM
  - ABS actuator and electric unit (control unit)
  - TCM
  - IPDM E/R
  - Between ECM and IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

### 2. CHECK HARNESS FOR SHORT CIRCUIT

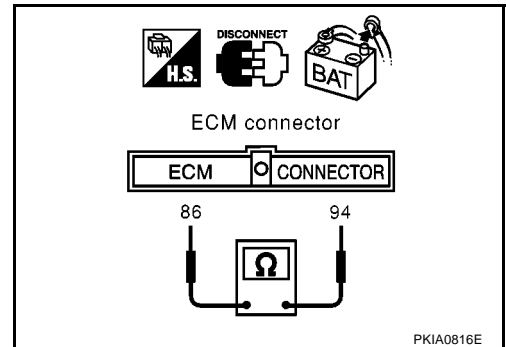
1. Disconnect ECM connector and harness connector E101.
2. Check continuity between ECM harness connector E49 terminals 94 (R) and 86 (W).

**94 (R) – 86 (W) : Continuity should not exist.**

OK or NG

OK >> GO TO 3.

NG >> Repair harness between ECM and harness connector E101.



### 3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector E49 terminals 94 (R), 86 (W) and ground.

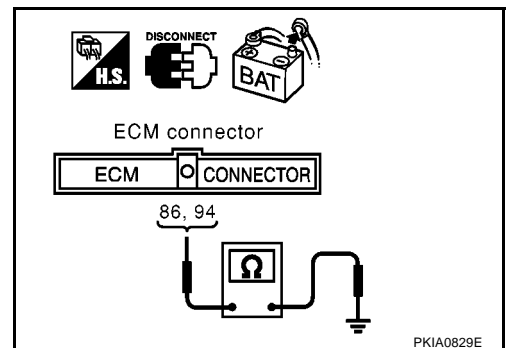
**94 (R) – Ground : Continuity should not exist.**

**86 (W) – Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 4.

NG >> Repair harness between ECM and harness connector E101.



## 4. CHECK HARNESS FOR SHORT CIRCUIT

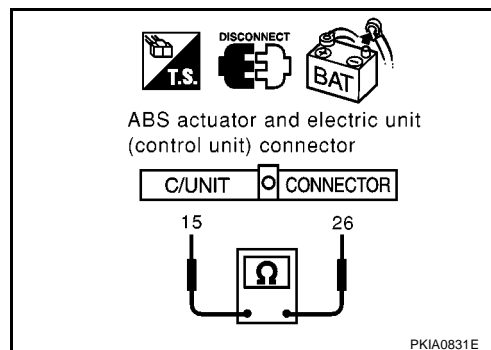
1. Disconnect following connectors.
  - ABS actuator and electric unit (control unit) connector
  - TCM connector
  - IPDM E/R connector
2. Check continuity between ABS actuator and electric unit (control unit) harness connector E45 terminals 26 (R) and 15 (W).

**26 (R) – 15 (W) : Continuity should not exist.**

OK or NG

OK >> GO TO 5.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
- Harness between ABS actuator and electric unit (control unit) and TCM
  - Harness between ABS actuator and electric unit (control unit) and harness connector E101
  - Harness between ABS actuator and electric unit (control unit) and IPDM E/R



## 5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ABS actuator and electric unit (control unit) harness connector E45 terminals 26 (R), 15 (W) and ground.

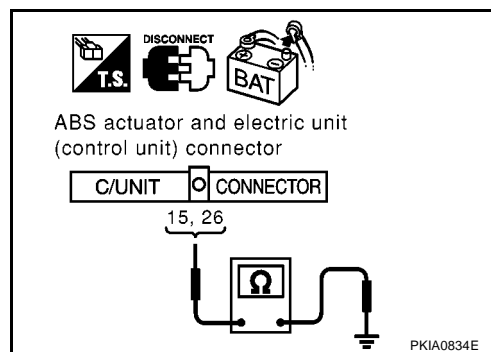
**26 (R) – Ground : Continuity should not exist.**

**15 (W) – Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 6.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
- Harness between ABS actuator and electric unit (control unit) and TCM
  - Harness between ABS actuator and electric unit (control unit) and harness connector E101
  - Harness between ABS actuator and electric unit (control unit) and IPDM E/R



## 6. CHECK HARNESS FOR SHORT CIRCUIT

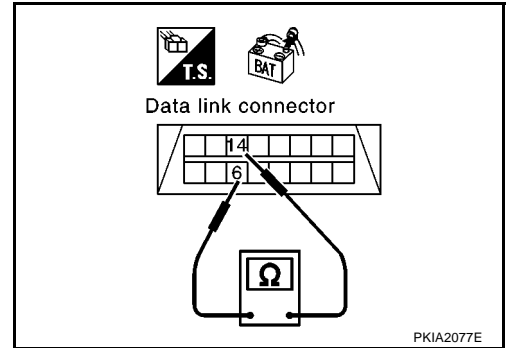
- Disconnect following connectors.
  - Combination meter connector
  - Drive computer connector
  - EPS control unit connector
  - BCM connector
- Check continuity between data link connector M17 terminals 6 (R) and 14 (W).

**6 (R) – 14 (W) : Continuity should not exist.**

OK or NG

OK >> GO TO 7.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
- Harness between data link connector and harness connector M1
  - Harness between data link connector and combination meter
  - Harness between data link connector and drive computer
  - Harness between data link connector and EPS control unit
  - Harness between data link connector and BCM.



## 7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M17 terminals 6 (R), 14 (W) and ground.

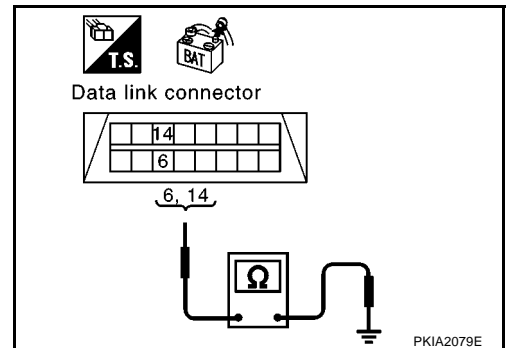
**6 (R) – ground : Continuity should not exist.**

**14 (W) – ground : Continuity should not exist.**

OK or NG

OK >> GO TO 8.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
- Harness between data link connector and harness connector M1
  - Harness between data link connector and combination meter
  - Harness between data link connector and drive computer
  - Harness between data link connector and EPS control unit
  - Harness between data link connector and BCM.



## 8. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-81, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"](#).

OK or NG

- OK >> Reconnect all connectors to perform "SELECT SYSTEM", "SELF-DIAG RESULTS" and "DATA MONITOR (CAN DIAG SUPPORT MNTR)" displayed on CONSULT-II. Refer to [LAN-55, "Work Flow"](#).
- NG >> Replace ECM and/or IPDM E/R.



**IPDM E/R Ignition Relay Circuit Check**

EKS0081B

Perform the self-diagnosis for IPDM E/R. Refer to [PG-48, "Inspection With CONSULT-II \(Self-Diagnosis\)"](#) . If the result is OK, carry out following inspections.

- IPDM E/R power supply circuit. Refer to [PG-49, "IPDM E/R Power Supply and Ground Circuit Check"](#) .
- Ignition power supply circuit. Refer to [PG-12, "IGNITION POWER SUPPLY — IGNITION SW. IN "ON" AND/OR "START""](#) .

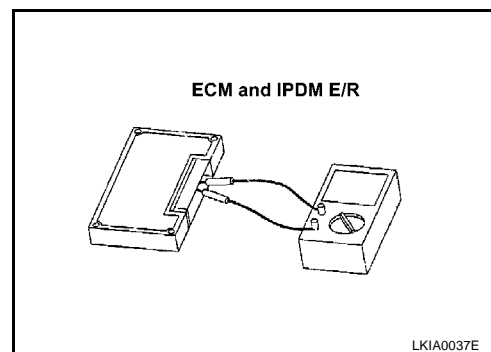
**Component Inspection**

EKS0081C

**ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION**

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 52 and 58.

| Unit     | Terminal | Resistance value ( $\Omega$ )<br>(Approx.) |
|----------|----------|--|
| ECM      | 94 – 86  | 108 - 132                                  |
| IPDM E/R | 52 – 58  |  |



## CAN SYSTEM (TYPE 3)

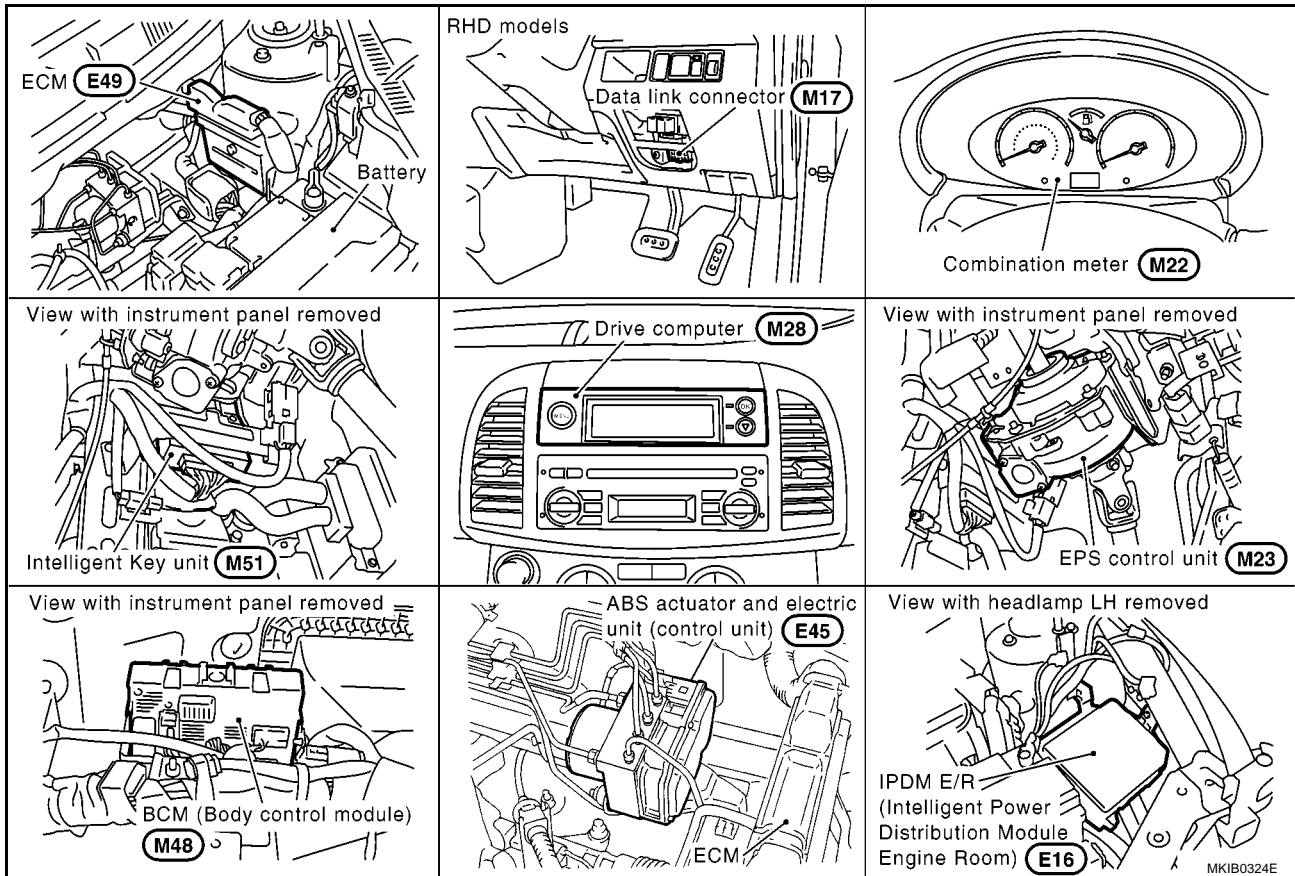
## System Description

EKS0074L

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

## Component Parts and Harness Connector Location

EKS0074M



# CAN SYSTEM (TYPE 3)

[CAN]

## Wiring Diagram — CAN —

EKS007YF

### LAN-CAN-05

— : DATA LINE

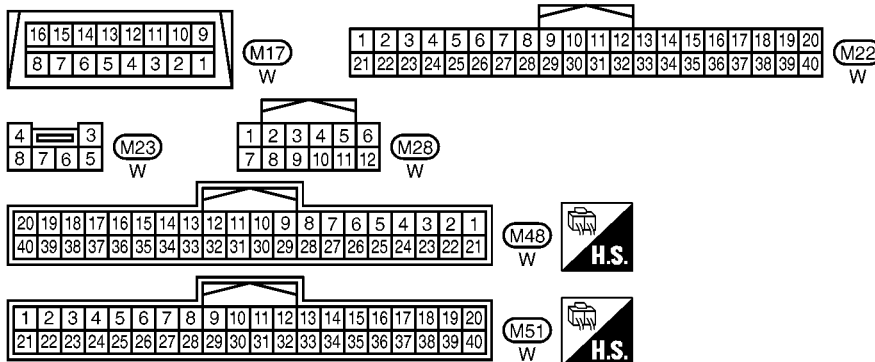
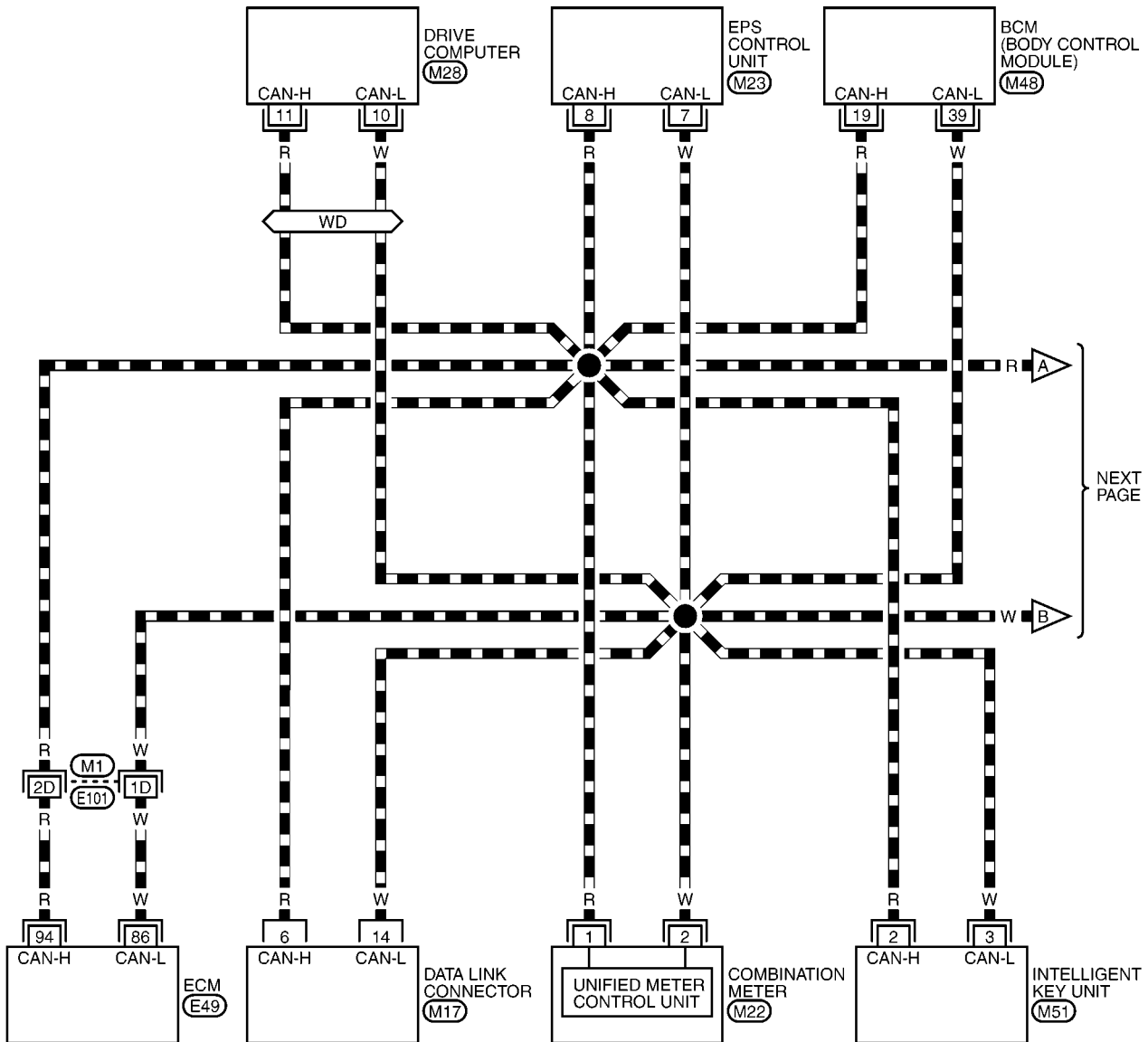
WD : WITH DRIVE COMPUTER

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M

LAN

L

M



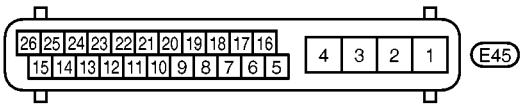
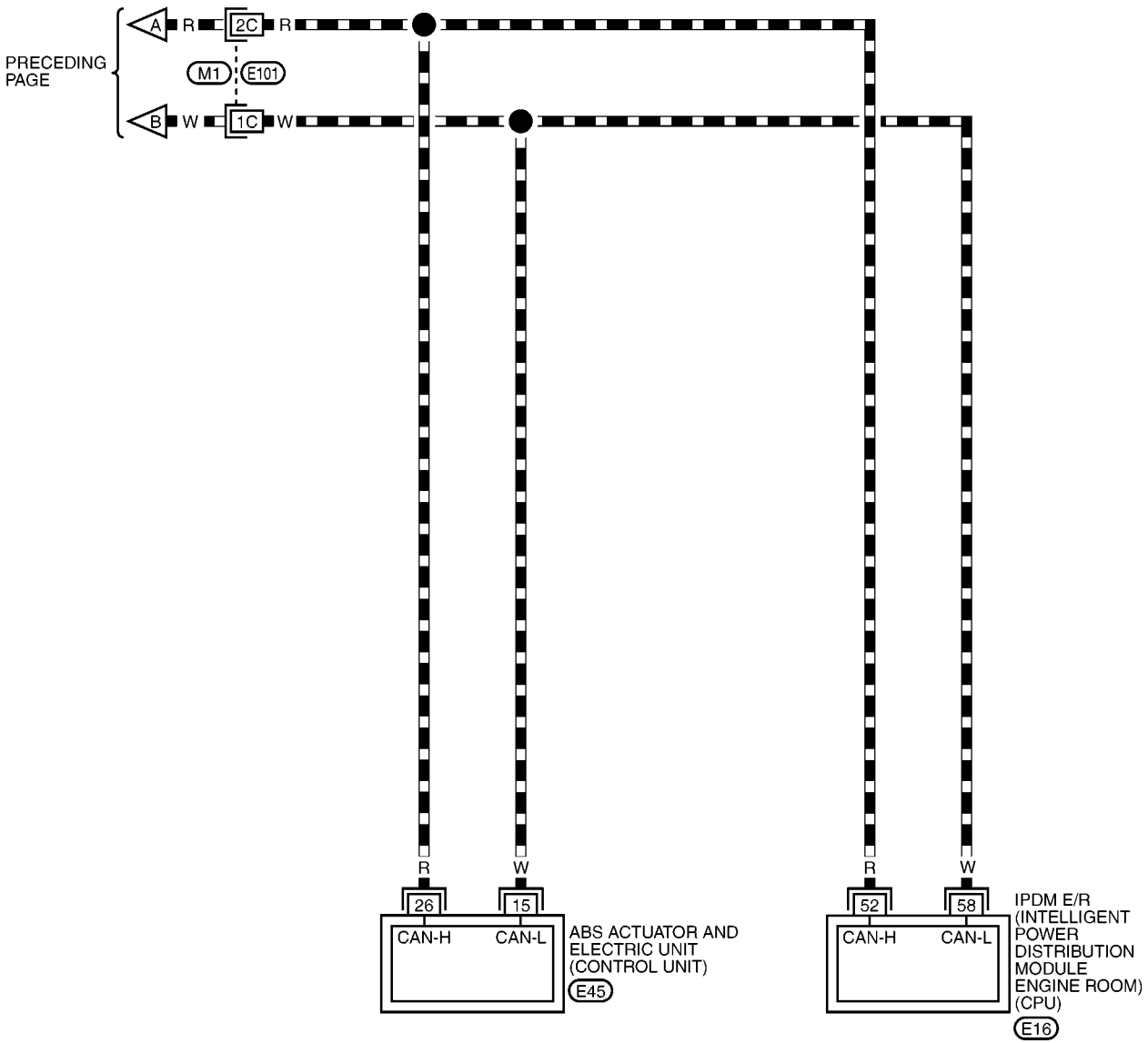
REFER TO THE FOLLOWING.

(M1) -SUPER MULTIPLE JUNCTION (SMJ)

(E49) -ELECTRICAL UNITS

MKWA1308E

▬ : DATA LINE




REFER TO THE FOLLOWING.  
(M1) -SUPER MULTIPLE  
JUNCTION (SMJ)

## Work Flow

- When there are no indications of "INTELLIGENT KEY", "EPS", "BCM" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".

(Example)

|                           |  |       |      |
|---------------------------|--|-------|------|
| NISSAN                    |  |       |      |
| CONSULT-II                |  |       |      |
| ENGINE                    |  |       |      |
| START (NISSAN BASED VHCL) |  |       |      |
| START (X-BADGE VHCL)      |  |       |      |
| SUB MODE                  |  |       |      |
|                           |  | LIGHT | COPY |




|               |  |      |            |
|---------------|--|------|------------|
| SELECT SYSTEM |  |      |            |
| ENGINE        |  |      |            |
| A/T           |  |      |            |
| ABS           |  |      |            |
| AIR BAG       |  |      |            |
| BCM           |  |      |            |
| METER A/C AMP |  |      |            |
|               |  |      |            |
|               |  |      |            |
|               |  | BACK | LIGHT COPY |

MKIB1692E

- Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "INTELLIGENT KEY", "EPS", "BCM", "ABS" and "IPDM E/R" displayed on CONSULT-II.

(Example)

|                       |  |             |            |
|-----------------------|--|-------------|------------|
| SELECT DIAG MODE      |  |             |            |
| WORK SUPPORT          |  |             |            |
| SELF-DIAG RESULTS     |  |             |            |
| DATA MONITOR          |  |             |            |
| DATA MONITOR (SPEC)   |  |             |            |
| CAN DIAG SUPPORT MNTR |  |             |            |
| ACTIVE TEST           |  |             |            |
|                       |  |             |            |
|                       |  | Scroll Down |            |
|                       |  | BACK        | LIGHT COPY |




|                          |      |          |      |
|--------------------------|------|----------|------|
| SELF-DIAG RESULTS        |      |          |      |
| DTC RESULTS              |      | TIME     |      |
| CAN COMM CIRCUIT [U1000] |      | 0        |      |
|                          |      |          |      |
|                          |      |          |      |
|                          |      | F.F.DATA |      |
| ERASE                    |      | PRINT    |      |
| MODE                     | BACK | LIGHT    | COPY |

PKIA8260E

- Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "INTELLIGENT KEY", "EPS", "BCM", "ABS" and "IPDM E/R" displayed on CONSULT-II.

(Example)

|                       |  |             |            |
|-----------------------|--|-------------|------------|
| SELECT DIAG MODE      |  |             |            |
| WORK SUPPORT          |  |             |            |
| SELF-DIAG RESULTS     |  |             |            |
| DATA MONITOR          |  |             |            |
| DATA MONITOR (SPEC)   |  |             |            |
| CAN DIAG SUPPORT MNTR |  |             |            |
| ACTIVE TEST           |  |             |            |
|                       |  |             |            |
|                       |  | Scroll Down |            |
|                       |  | BACK        | LIGHT COPY |



|                       |      |             |      |
|-----------------------|------|-------------|------|
| CAN DIAG SUPPORT MNTR |      |             |      |
| ENGINE                |      |             |      |
|                       |      | PRSN        |      |
| INITIAL DIAG          |      | OK          |      |
| TRANSMIT DIAG         |      | OK          |      |
| TCM                   |      | OK          |      |
| VDC/TCS/ABS           |      | OK          |      |
| METER/M&A             |      | OK          |      |
| ICC                   |      | UNKWN       |      |
| BCM/SEC               |      | OK          |      |
| IPDM E/R              |      | OK          |      |
| AWD/4WD/e4WD          |      | UNKWN       |      |
| PRINT                 |      | Scroll Down |      |
| MODE                  | BACK | LIGHT       | COPY |

PKIA8343E

- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to [LAN-87, "CHECK SHEET"](#).
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "V" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to [LAN-87, "CHECK SHEET"](#).

**NOTE:**

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual. So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.

# CAN SYSTEM (TYPE 3)

[CAN]

6. Convert "v" mark on comparison table to check sheet table.

(Example)

Check sheet table

|                 | CONSULT<br>indication | CAN<br>system | Tx         | Rx         |                      |                    |            |            |            |            |  |
|-----------------|-----------------------|---------------|------------|------------|----------------------|--------------------|------------|------------|------------|------------|--|
|                 |                       |               |            | ECM        | Combination<br>meter | Intelligent<br>Key | EPS        | BCM        | ABS        | IPDM E/R   |  |
| ENGINE          | —                     | CAN COMM      | CAN CIRC 1 | —          | CAN CIRC 4           | —                  | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |  |
| INTELLIGENT KEY | No indication         | CAN COMM      | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3           | —                  | —          | CAN CIRC 2 | —          | —          |  |
| EPS             | No indication         | CAN COMM      | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4           | —                  | —          | CAN CIRC 5 | CAN CIRC 3 | —          |  |
| BCM             | No indication         | —             | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4           | CAN CIRC 5         | —          | —          | —          | CAN CIRC 3 |  |
| ABS             | —                     | CAN COMM      | CAN CIRC 1 | CAN CIRC 2 | —                    | —                  | —          | —          | —          | —          |  |
| IPDM E/R        | No indication         | —             | CAN CIRC 1 | CAN CIRC 3 | —                    | —                  | —          | CAN CIRC 3 | —          | —          |  |

Comparison table

| SELECT SYSTEM screen | Initial<br>diagnosis | Transmit<br>diagnosis | Receive diagnosis |               |       |     |         |                 |          |       |
|----------------------|----------------------|-----------------------|-------------------|---------------|-------|-----|---------|-----------------|----------|-------|
|                      |                      |                       | ECM               | METER<br>/M&A | I-KEY | EPS | BCM/SEC | VDC/TCS<br>/ABS | IPDM E/R |       |
| ENGINE               | —                    | NG                    | UNKWN             | —             | UNKWN | —   | UNKWN   | UNKWN           | UNKWN    | UNKWN |
| INTELLIGENT          | No indication        | NG                    | UNKWN             | UNKWN         | UNKWN | —   | UNKWN   | UNKWN           | UNKWN    | UNKWN |
| EPS                  | No indication        | NG                    | UNKWN             | UNKWN         | UNKWN | —   | UNKWN   | UNKWN           | UNKWN    | UNKWN |
| BCM                  | No indication        | —                     | UNKWN             | UNKWN         | UNKWN | —   | —       | —               | —        | UNKWN |
| ABS                  | —                    | NG                    | UNKWN             | UNKWN         | UNKWN | —   | —       | —               | —        | UNKWN |
| IPDM E/R             | No indication        | —                     | UNKWN             | UNKWN         | UNKWN | —   | UNKWN   | UNKWN           | UNKWN    | UNKWN |

Convert

MKIB1684E

7. According to the check sheet results (example), start inspection. Refer to [LAN-89, "CHECK SHEET RESULTS \(EXAMPLE\)"](#).

# CAN SYSTEM (TYPE 3)

[CAN]

## CHECK SHEET

Check sheet table

|                 | CONSULT<br>indication | CAN<br>system | Tx         | Rx         |                      |                    |            |            |            |            |
|-----------------|-----------------------|---------------|------------|------------|----------------------|--------------------|------------|------------|------------|------------|
|                 |                       |               |            | ECM        | Combination<br>meter | Intelligent<br>Key | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE          | —                     | CAN COMM      | CAN CIRC 1 | —          | CAN CIRC 4           | —                  | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication         | CAN COMM      | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3           | —                  | —          | CAN CIRC 2 | —          | —          |
| EPS             | No indication         | CAN COMM      | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4           | —                  | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication         | —             | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4           | CAN CIRC 5         | —          | —          | —          | CAN CIRC 3 |
| ABS             | —                     | CAN COMM      | CAN CIRC 1 | CAN CIRC 2 | —                    | —                  | —          | —          | —          | —          |
| IPDM E/R        | No indication         | —             | CAN CIRC 1 | CAN CIRC 3 | —                    | —                  | —          | CAN CIRC 3 | —          | —          |

Comparison table

| SELECT SYSTEM screen |               | Initial<br>diagnosis | Transmit<br>diagnosis | Receive diagnosis |               |       |       |         |                 |          |
|----------------------|---------------|----------------------|-----------------------|-------------------|---------------|-------|-------|---------|-----------------|----------|
|                      |               |                      |                       | ECM               | METER<br>/M&A | I-KEY | EPS   | BCM/SEC | VDC/TCS<br>/ABS | IPDM E/R |
| ENGINE               | —             | NG                   | UNKWN                 | —                 | UNKWN         | —     | UNKWN | UNKWN   | UNKWN           | UNKWN    |
| INTELLIGENT          | No indication | NG                   | UNKWN                 | UNKWN             | UNKWN         | —     | —     | UNKWN   | —               | —        |
| EPS                  | No indication | NG                   | UNKWN                 | UNKWN             | UNKWN         | —     | —     | UNKWN   | UNKWN           | —        |
| BCM                  | No indication | —                    | UNKWN                 | UNKWN             | UNKWN         | UNKWN | —     | —       | —               | UNKWN    |
| ABS                  | —             | NG                   | UNKWN                 | UNKWN             | —             | —     | —     | —       | —               | —        |
| IPDM E/R             | No indication | —                    | UNKWN                 | UNKWN             | —             | —     | —     | UNKWN   | —               | —        |

Symptoms:

Attach copy of  
SELECT SYSTEM

Attach copy of  
SELECT SYSTEM

MKIB1603E

A  
B  
C  
D  
E  
F  
G  
H  
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J  
LAN  
L  
M

Attach copy of  
ENGINE  
SELF-DIAG RESULTS

Attach copy of  
INTELLIGENT KEY  
SELF-DIAG RESULTS

Attach copy of  
EPS  
SELF-DIAG RESULTS

Attach copy of  
BCM  
SELF-DIAG RESULTS

Attach copy of  
ABS  
SELF-DIAG RESULTS

Attach copy of  
IPDM E/R  
SELF-DIAG RESULTS

Attach copy of  
ENGINE  
DATA MONITOR

Attach copy of  
INTELLIGENT KEY  
DATA MONITOR

Attach copy of  
EPS  
DATA MONITOR

Attach copy of  
BCM  
DATA MONITOR

Attach copy of  
ABS  
DATA MONITOR

Attach copy of  
IPDM  
DATA MONITOR



## CHECK SHEET RESULTS (EXAMPLE)

## NOTE:

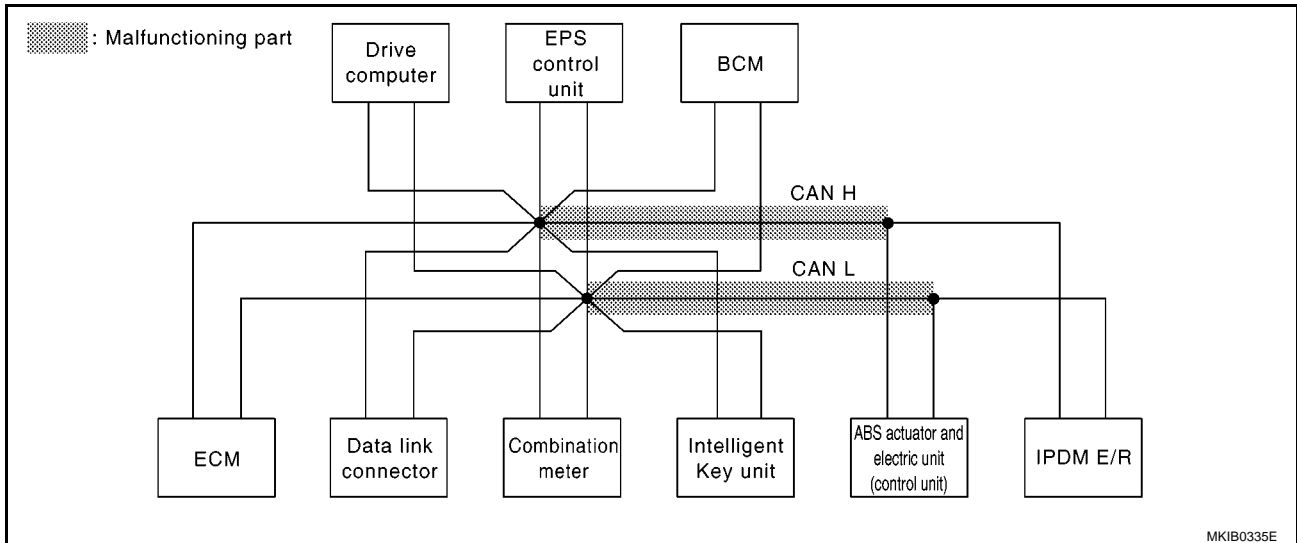
If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

## Case 1

Check harness between BCM and ABS actuator and electric unit (control unit). Refer to [LAN-99, "Circuit Check Between BCM and ABS Actuator and Electric Unit \(Control Unit\)"](#).

|                 | CONSULT indication | CAN system | Tx         | Rx           |                   |                 |            |            |              |              |
|-----------------|--------------------|------------|------------|--------------|-------------------|-----------------|------------|------------|--------------|--------------|
|                 |                    |            |            | ECM          | Combination meter | Intelligent Key | EPS        | BCM        | ABS          | IPDM E/R     |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —            | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 ✓ | CAN CIRC 7 ✓ |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4   | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —            | —            |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2   | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 ✓ | —            |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2   | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —            | CAN CIRC 3 ✓ |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 ✓ | —                 | —               | —          | —          | —            | —            |
| IPDM E/R        | No indication ✓    | —          | CAN CIRC 1 | CAN CIRC 3   | —                 | —               | —          | CAN CIRC 3 | —            | —            |

MKIB1636E



MKIB0335E

# CAN SYSTEM (TYPE 3)

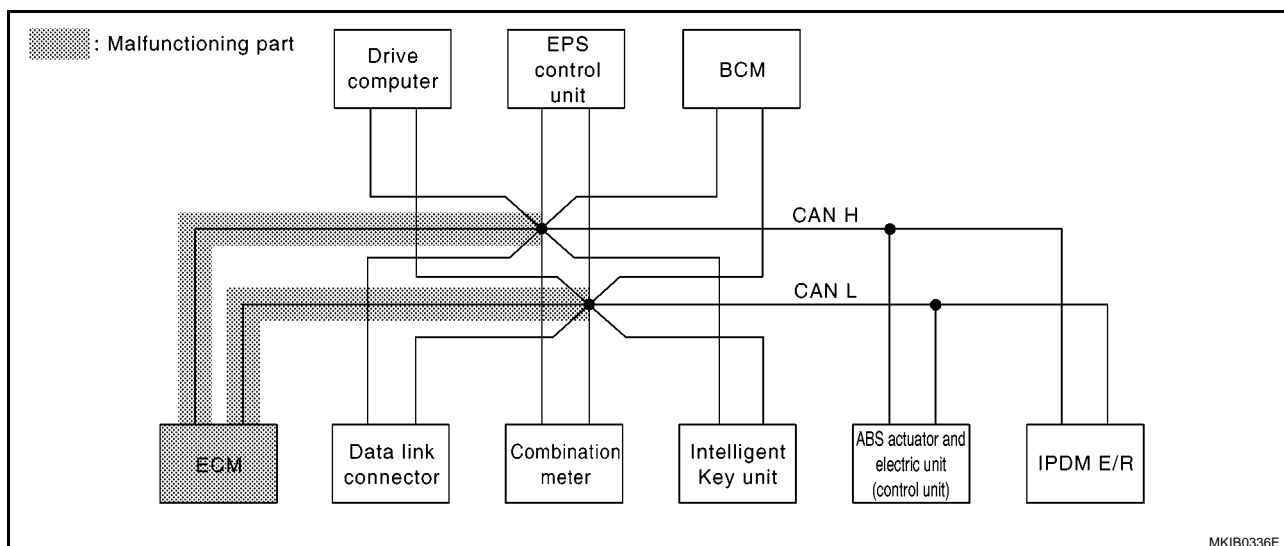
[CAN]

## Case 2

Check ECM circuit. Refer to [LAN-100, "ECM Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx           | Rx           |                   |                 |              |              |              |              |
|-----------------|--------------------|------------|--------------|--------------|-------------------|-----------------|--------------|--------------|--------------|--------------|
|                 |                    |            |              | ECM          | Combination meter | Intelligent Key | EPS          | BCM          | ABS          | IPDM E/R     |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 ✓ | —            | CAN CIRC 4        | —               | CAN CIRC 9 ✓ | CAN CIRC 6 ✓ | CAN CIRC 3 ✓ | CAN CIRC 7 ✓ |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 ✓ | CAN CIRC 4 ✓ | CAN CIRC 3        | —               | —            | CAN CIRC 2   | —            | —            |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 ✓ | CAN CIRC 2 ✓ | CAN CIRC 4        | —               | —            | CAN CIRC 5   | CAN CIRC 3   | —            |
| BCM             | No indication      | —          | CAN CIRC 1 ✓ | CAN CIRC 2 ✓ | CAN CIRC 4        | CAN CIRC 5      | —            | —            | —            | CAN CIRC 3   |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 ✓ | CAN CIRC 2 ✓ | —                 | —               | —            | —            | —            | —            |
| IPDM E/R        | No indication      | —          | CAN CIRC 1 ✓ | CAN CIRC 3 ✓ | —                 | —               | —            | CAN CIRC 3   | —            | —            |

MKIB1637E



MKIB0336E

# CAN SYSTEM (TYPE 3)

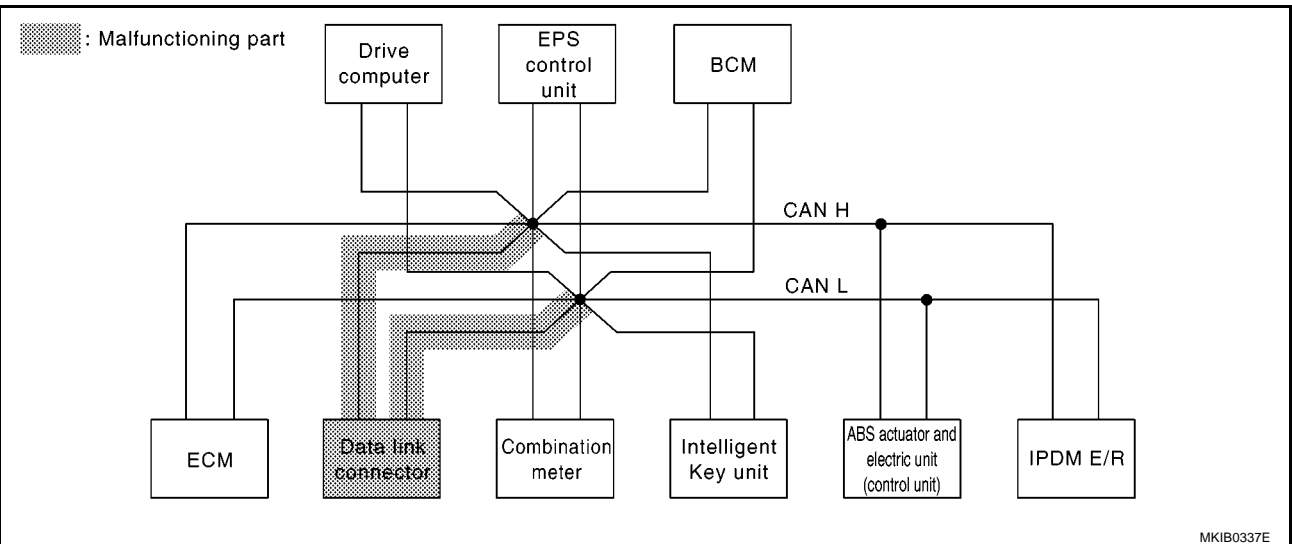
[CAN]

## Case 3

Check data link connector circuit. Refer to [LAN-101, "Data Link Connector Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —          | —          | —          | —          |
| IPDM E/R        | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 3 | —          | —          |

MKIB1638E



MKIB0337E

LAN

# CAN SYSTEM (TYPE 3)

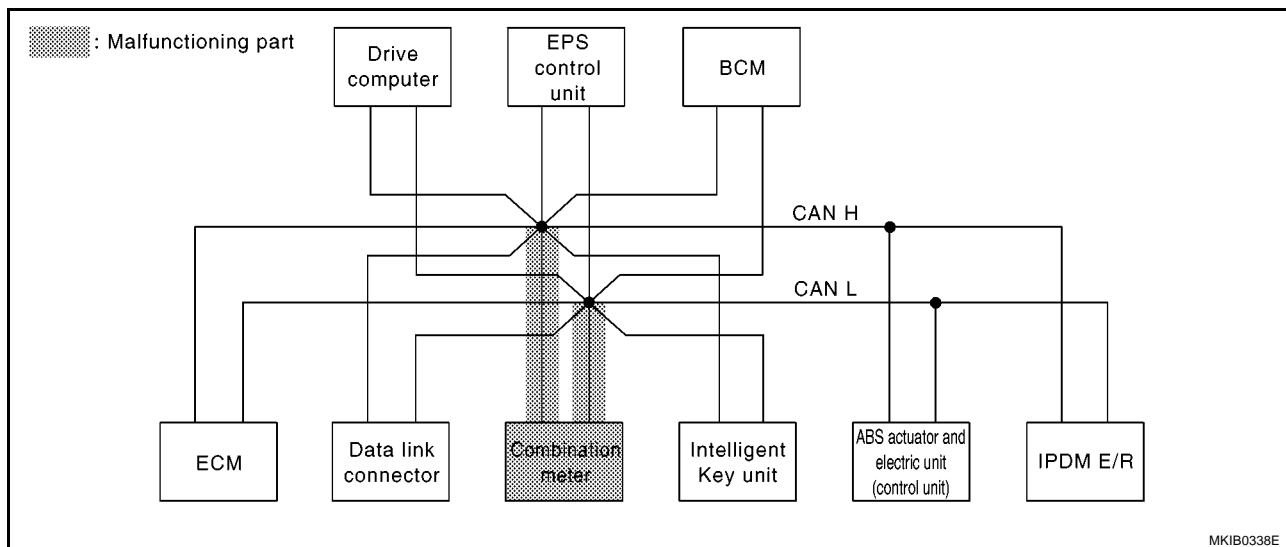
[CAN]

## Case 4

Check combination meter circuit. Refer to [LAN-102, "Combination Meter Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —          | —          | —          | —          |
| IPDM E/R        | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 3 | —          | —          |

MKIB1639E



MKIB0338E

# CAN SYSTEM (TYPE 3)

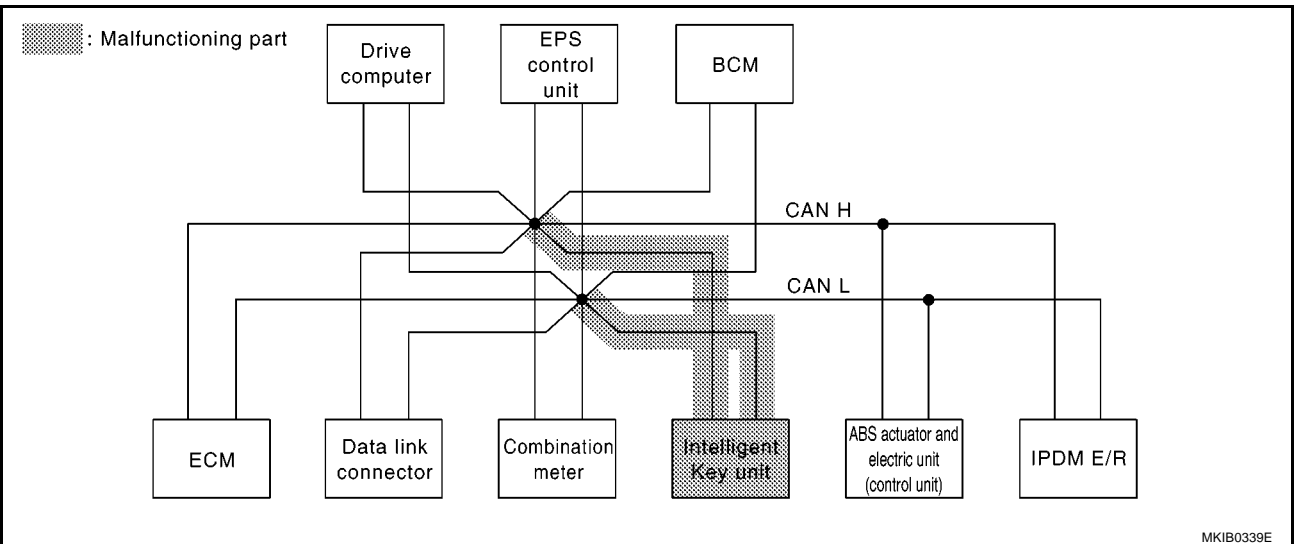
[CAN]

## Case 5

Check Intelligent Key unit circuit. Refer to [LAN-103, "Intelligent Key Unit Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication ✓    | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5 ✓    | —          | —          | —          | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —          | —          | —          | —          |
| IPDM E/R        | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 3 | —          | —          |

MKIB1640E



MKIB0339E

LAN

# CAN SYSTEM (TYPE 3)

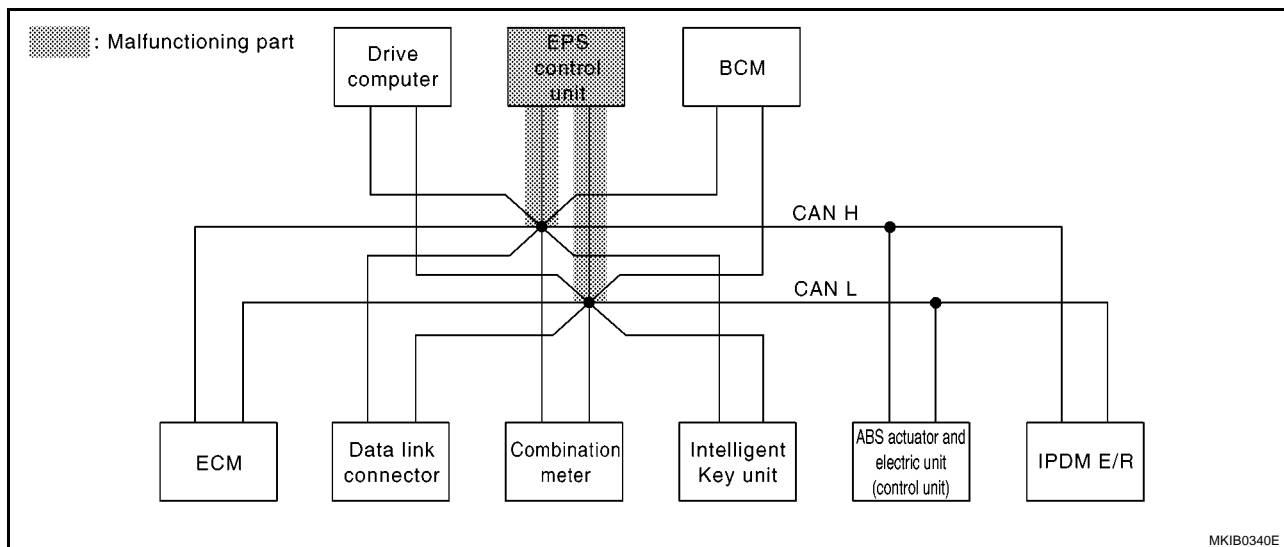
[CAN]

## Case 6

Check EPS control unit circuit. Refer to [LAN-104, "EPS Control Unit Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —          | —          | —          | —          |
| IPDM E/R        | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 3 | —          | —          |

MKIB1641E



MKIB0340E

# CAN SYSTEM (TYPE 3)

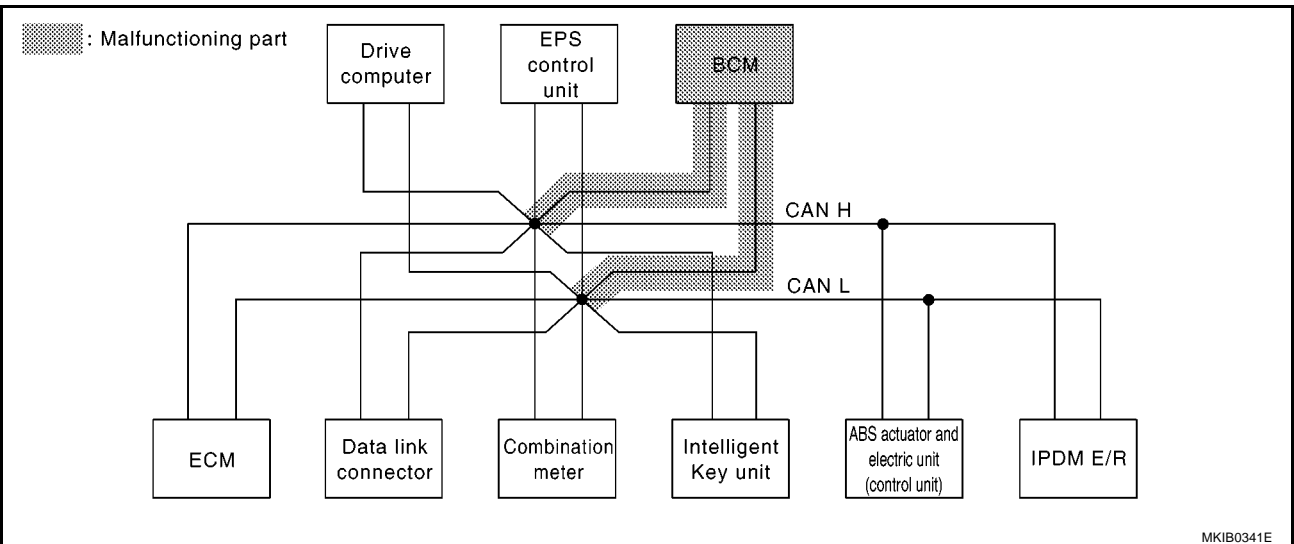
[CAN]

## Case 7

Check BCM circuit. Refer to [LAN-105, "BCM Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —          | —          | —          | —          |
| IPDM E/R        | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 3 | —          | —          |

MKIB1642E



MKIB0341E

LAN

# CAN SYSTEM (TYPE 3)

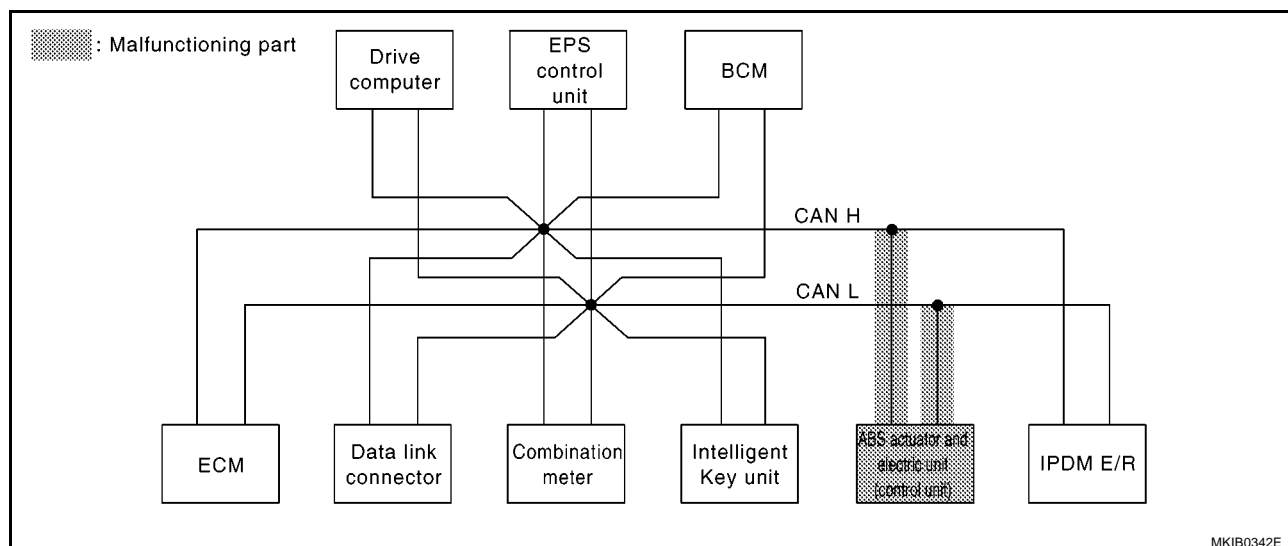
[CAN]

## Case 8

Check ABS actuator and electric unit (control unit) circuit. Refer to [LAN-106, "ABS Actuator and Electric Unit \(Control Unit\) Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —          | —          | —          | —          |
| IPDM E/R        | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 3 | —          | —          |

MKIB1643E



MKIB0342E



# CAN SYSTEM (TYPE 3)

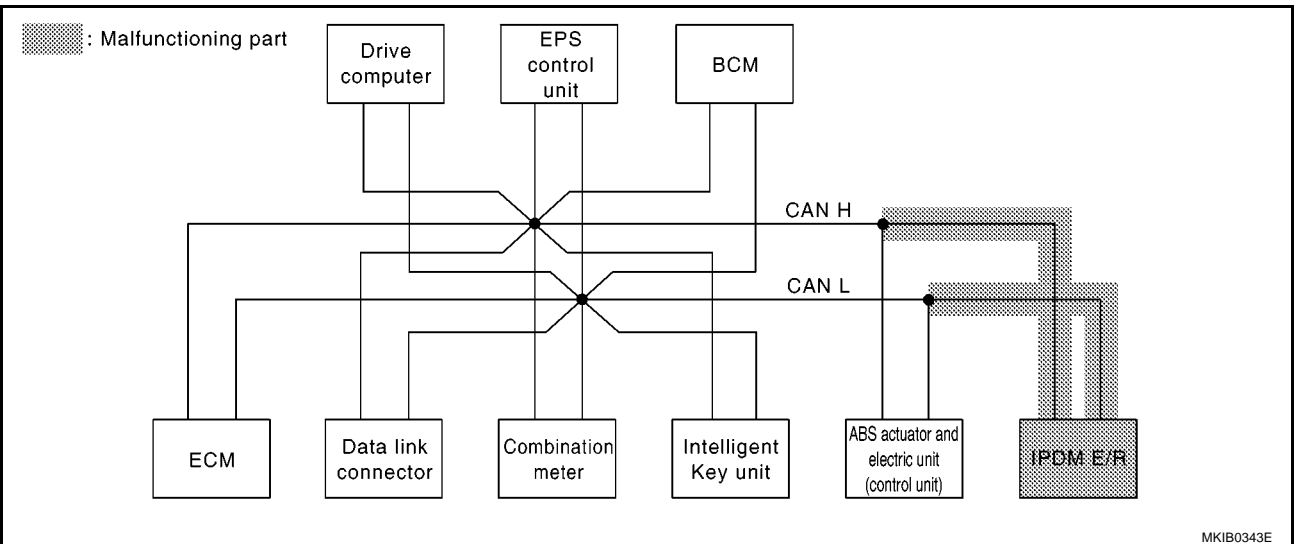
[CAN]

## Case 9

Check IPDM E/R circuit. Refer to [LAN-107, "IPDM E/R Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —          | —          | —          | —          |
| IPDM E/R        | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 3 | —          | —          |

MKIB1644E



MKIB0343E

LAN

# CAN SYSTEM (TYPE 3)

[CAN]

## Case 10

Check CAN communication circuit. Refer to [LAN-108, "CAN Communication Circuit Check"](#).

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —          | —          | —          | —          |
| IPDM E/R        | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 3 | —          | —          |

MKIB1645E

## Case 11

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to [LAN-111, "IPDM E/R Ignition Relay Circuit Check"](#).

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —          | —          | —          | —          |
| IPDM E/R        | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 3 | —          | —          |

MKIB1647E

## Case 12

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to [LAN-111, "IPDM E/R Ignition Relay Circuit Check"](#).

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —          | —          | —          | —          |
| IPDM E/R        | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 3 | —          | —          |

MKIB1646E

## Circuit Check Between BCM and ABS Actuator and Electric Unit (Control Unit)

EKS0081E

## 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
  - Harness connector M1
  - Harness connector E101

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

## 2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect following connector.
  - Harness connector M1
  - Combination meter connector
  - Intelligent Key unit connector
  - Drive computer connector
  - EPS control unit connector
  - BCM connector
2. Check continuity between BCM harness connector M48 terminals 19 (R), 39 (W) and harness connector M1 terminals 2C (R), 1C (W).

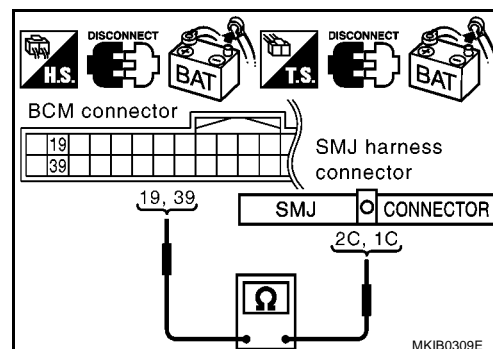
19 (R) – 2C (R) : Continuity should exist.

39 (W) – 1C (W) : Continuity should exist.

OK or NG

OK &gt;&gt; GO TO 3.

NG &gt;&gt; Repair harness.



## 3. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between harness connector E101 terminals 2C (R), 1C (W) and ABS actuator and electric unit (control unit) harness connector E45 terminals 26 (R), 15 (W).

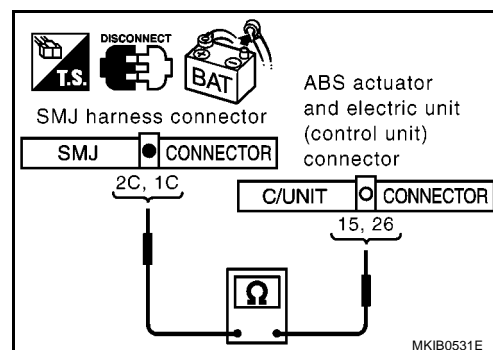
2C (R) – 26 (R) : Continuity should exist.

1C (W) – 15 (W) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELECT SYSTEM", "SELF-DIAG RESULTS" and "DATA MONITOR (CAN DIAG SUPPORT MNTR)" displayed on CONSULT-II. Refer to [LAN-85, "Work Flow"](#).

NG &gt;&gt; Repair harness.



**ECM Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
  - ECM connector
  - Harness connector M1
  - Harness connector E101

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

1. Disconnect ECM connector.
2. Check resistance between ECM harness connector E49 terminals 94 (R) and 86 (W).

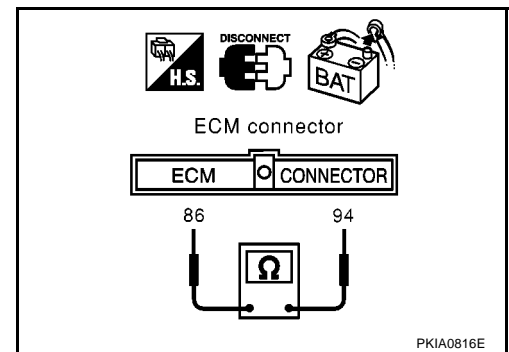
**94 (R) – 86 (W)**

**: Approx. 108 – 132Ω**

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and data link connector.



## Data Link Connector Circuit Check

EKS0081G

## 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check the data link connector and terminals for damage, bend and loose connection (connector side and harness side).

## OK or NG

- OK >> GO TO 2.  
 NG >> Repair terminal or connector.

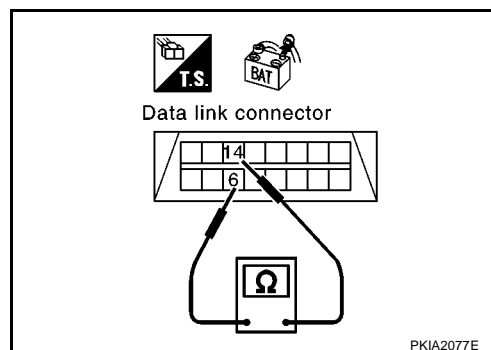
## 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M17 terminals 6 (R) and 14 (W).

**6 (R) – 14 (W) : Approx. 54 – 66Ω**

## OK or NG

- OK >> Perform "SELECT SYSTEM", "SELF-DIAG RESULTS" and "DATA MONITOR (CAN DIAG SUPPORT MNTR)" displayed on CONSULT-II. Refer to [LAN-85, "Work Flow"](#).
- NG >> Repair harness between data link connector and combination meter



**Combination Meter Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of combination meter for damage, bend and loose connection (meter side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

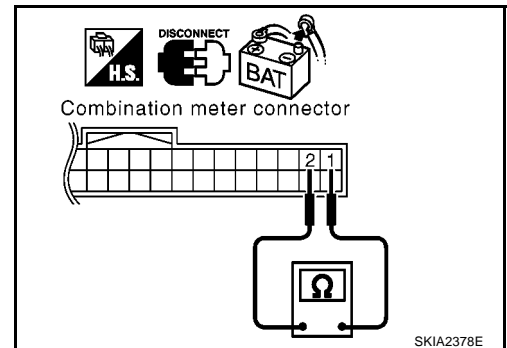
1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M22 terminals 1 (R) and 2 (W).

**1 (R) – 2 (W)****: Approx. 54 – 66Ω**

OK or NG

OK &gt;&gt; Replace combination meter.

NG &gt;&gt; Repair harness between combination meter and data link connector.



## Intelligent Key Unit Circuit Check

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of Intelligent Key unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect Intelligent Key unit connector.
2. Check resistance between Intelligent Key unit harness connector M51 terminals 2 (R) and 3 (W).

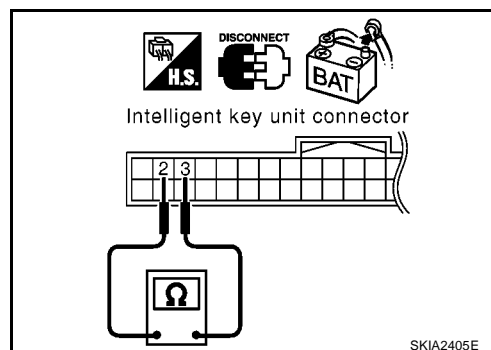
**2 (R) – 3 (W)**

**: Approx. 54 – 66Ω**

OK or NG

OK >> Replace Intelligent Key unit.

NG >> Repair harness between Intelligent Key unit and data link connector.



## EPS Control Unit Circuit Check

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of EPS control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect EPS control unit connector.
2. Check resistance between EPS control unit harness connector M23 terminals 8 (R) and 7 (W).

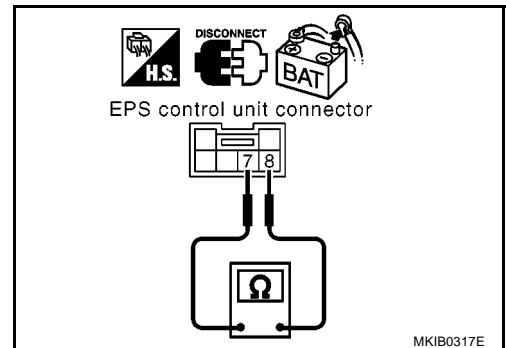
**8 (R) – 7 (W)**

**: Approx. 54 – 66Ω**

OK or NG

OK >> Replace EPS control unit.

NG >> Repair harness between EPS control unit and data link connector.





**BCM Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

1. Disconnect BCM connector.
2. Check resistance between BCM harness connector M48 terminals 19 (R) and 39 (W).

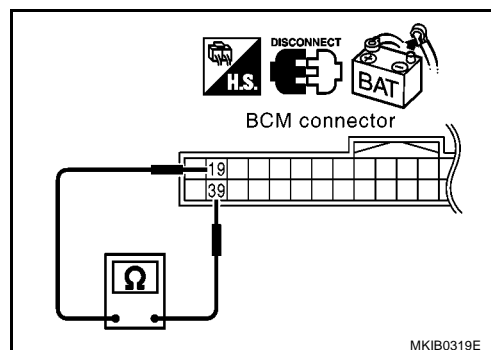
**19 (R) – 39 (W)**

**: Approx. 54 – 66Ω**

OK or NG

OK >> Replace BCM. Refer to [BCS-31, "Removal and Installation of BCM"](#).

NG >> Repair harness between BCM and data link connector.



## ABS Actuator and Electric Unit (Control Unit) Circuit Check

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector E45 terminals 26 (R) and 15 (W).

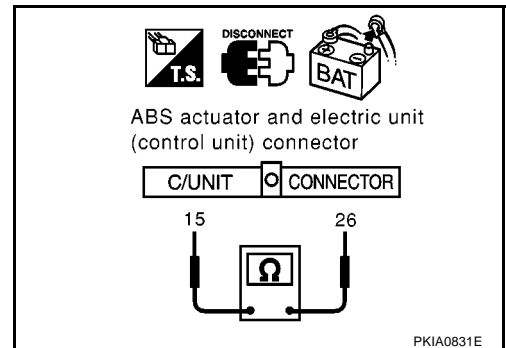
**26 (R) – 15 (W)**

**: Approx. 54 – 66Ω**

OK or NG

OK >> Replace ABS actuator and electric unit (control unit).

NG >> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



**IPDM E/R Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

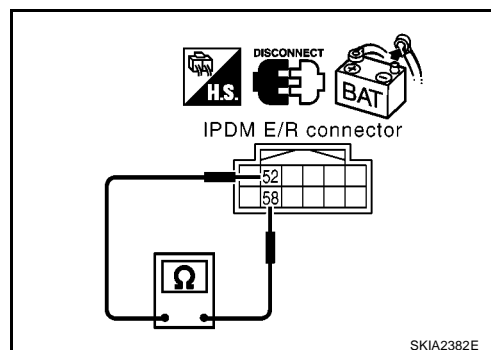
1. Disconnect IPDM E/R connector.
2. Check resistance between IPDM E/R harness connector E16 terminals 52 (R) and 58 (W).

**52 (R) – 58 (W)****: Approx. 108 – 132Ω**

OK or NG

OK &gt;&gt; Replace IPDM E/R.

NG &gt;&gt; Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



## CAN Communication Circuit Check

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connectors for damage, bend and loose connection (control module side, meter side, control unit side and harness side).
  - ECM
  - Combination meter
  - Intelligent Key unit
  - Drive computer
  - EPS control unit
  - BCM
  - ABS actuator and electric unit (control unit)
  - IPDM E/R
  - Between ECM and IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

### 2. CHECK HARNESS FOR SHORT CIRCUIT

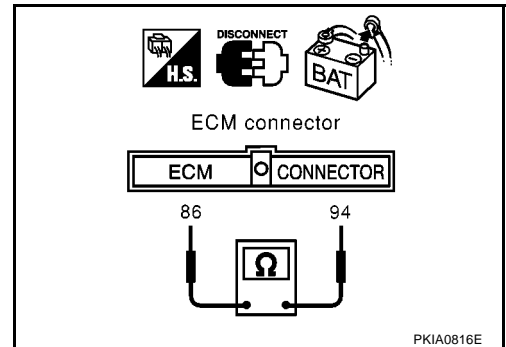
1. Disconnect ECM connector and harness connector E101.
2. Check continuity between ECM harness connector E49 terminals 94 (R) and 86 (W).

**94 (R) – 86 (W) : Continuity should not exist.**

OK or NG

OK >> GO TO 3.

NG >> Repair harness between ECM and harness connector E101.



### 3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector E49 terminals 94 (R), 86 (W) and ground.

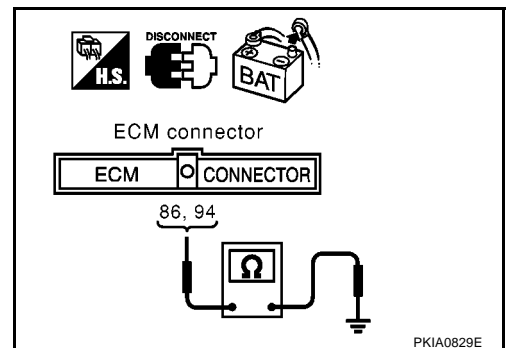
**94 (R) – Ground : Continuity should not exist.**

**86 (W) – Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 4.

NG >> Repair harness between ECM and harness connector E101.



## 4. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect following connectors.
  - ABS actuator and electric unit (control unit) connector
  - IPDM E/R connector
2. Check continuity between ABS actuator and electric unit (control unit) harness connector E45 terminals 26 (R) and 15 (W).

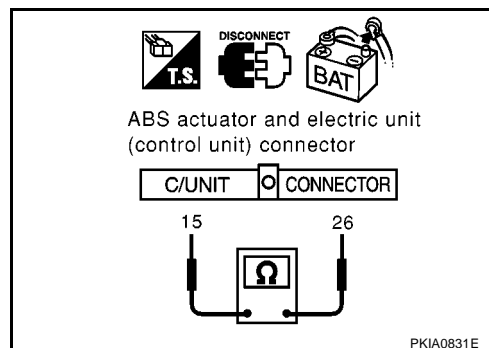
**26 (R) – 15 (W) : Continuity should not exist.**

OK or NG

OK >> GO TO 5.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between ABS actuator and electric unit (control unit) and harness connector E101
- Harness between ABS actuator and electric unit (control unit) and IPDM E/R



## 5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector E45 terminals 26 (R), 15 (W) and ground.

**26 (R) – Ground : Continuity should not exist.**

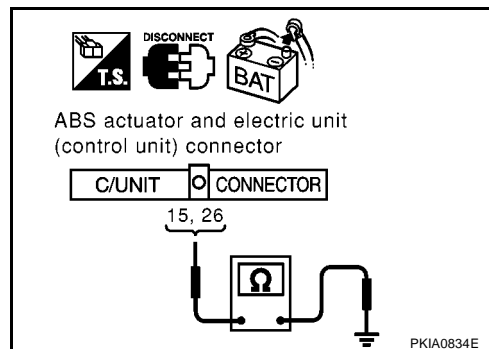
**15 (W) – Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 6.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between ABS actuator and electric unit (control unit) and harness connector E101
- Harness between ABS actuator and electric unit (control unit) and IPDM E/R



## 6. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect following connectors.
  - Combination meter connector
  - Intelligent Key unit connector
  - Drive computer connector
  - EPS control unit connector
  - BCM connector
2. Check continuity between data link connector M17 terminals 6 (R) and 14 (W).

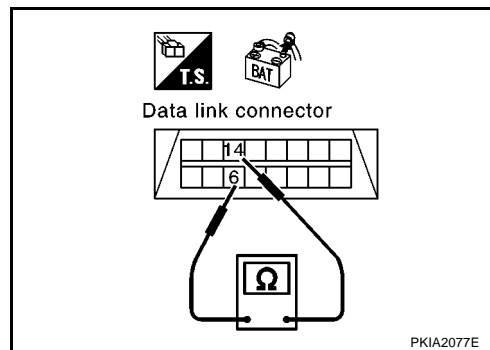
**6 (R) – 14 (W) : Continuity should not exist.**

### OK or NG

OK >> GO TO 7.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between data link connector and harness connector M1
- Harness between data link connector and combination meter
- Harness between data link connector and Intelligent Key unit
- Harness between data link connector and drive computer
- Harness between data link connector and EPS control unit
- Harness between data link connector and BCM



## 7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M17 terminals 6 (R), 14 (W) and ground.

**6 (R) – Ground : Continuity should not exist.**

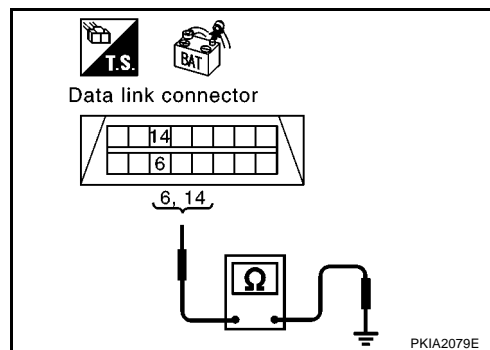
**14 (W) – Ground : Continuity should not exist.**

### OK or NG

OK >> GO TO 8.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between data link connector and harness connector M1
- Harness between data link connector and combination meter
- Harness between data link connector and Intelligent Key unit
- Harness between data link connector and drive computer
- Harness between data link connector and EPS control unit
- Harness between data link connector and BCM



## 8. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-111, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"](#).

### OK or NG

OK >> Reconnect all connectors to perform "SELECT SYSTEM", "SELF-DIAG RESULTS" and "DATA MONITOR (CAN DIAG SUPPORT MNTR)" displayed on CONSULT-II. Refer to [LAN-85, "Work Flow"](#).

NG >> Replace ECM and/or IPDM E/R.

**IPDM E/R Ignition Relay Circuit Check**

EKS0081O

Perform the self-diagnosis for IPDM E/R. Refer to [PG-48, "Inspection With CONSULT-II \(Self-Diagnosis\)"](#) . If the result is OK, carry out following inspections.

- IPDM E/R power supply circuit. Refer to [PG-49, "IPDM E/R Power Supply and Ground Circuit Check"](#) .
- Ignition power supply circuit. Refer to [PG-12, "IGNITION POWER SUPPLY — IGNITION SW. IN "ON" AND/OR "START" "](#) .

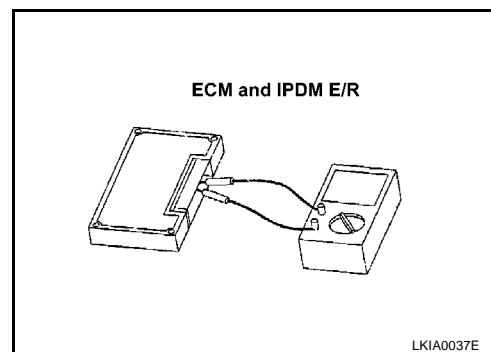
**Component Inspection**

EKS0081P

**ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION**

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 52 and 58.

| Unit     | Terminal | Resistance value ( $\Omega$ )<br>(Approx.) |
|----------|----------|--|
| ECM      | 94 – 86  | 108 - 132                                  |
| IPDM E/R | 52 – 58  |  |



## CAN SYSTEM (TYPE 4)

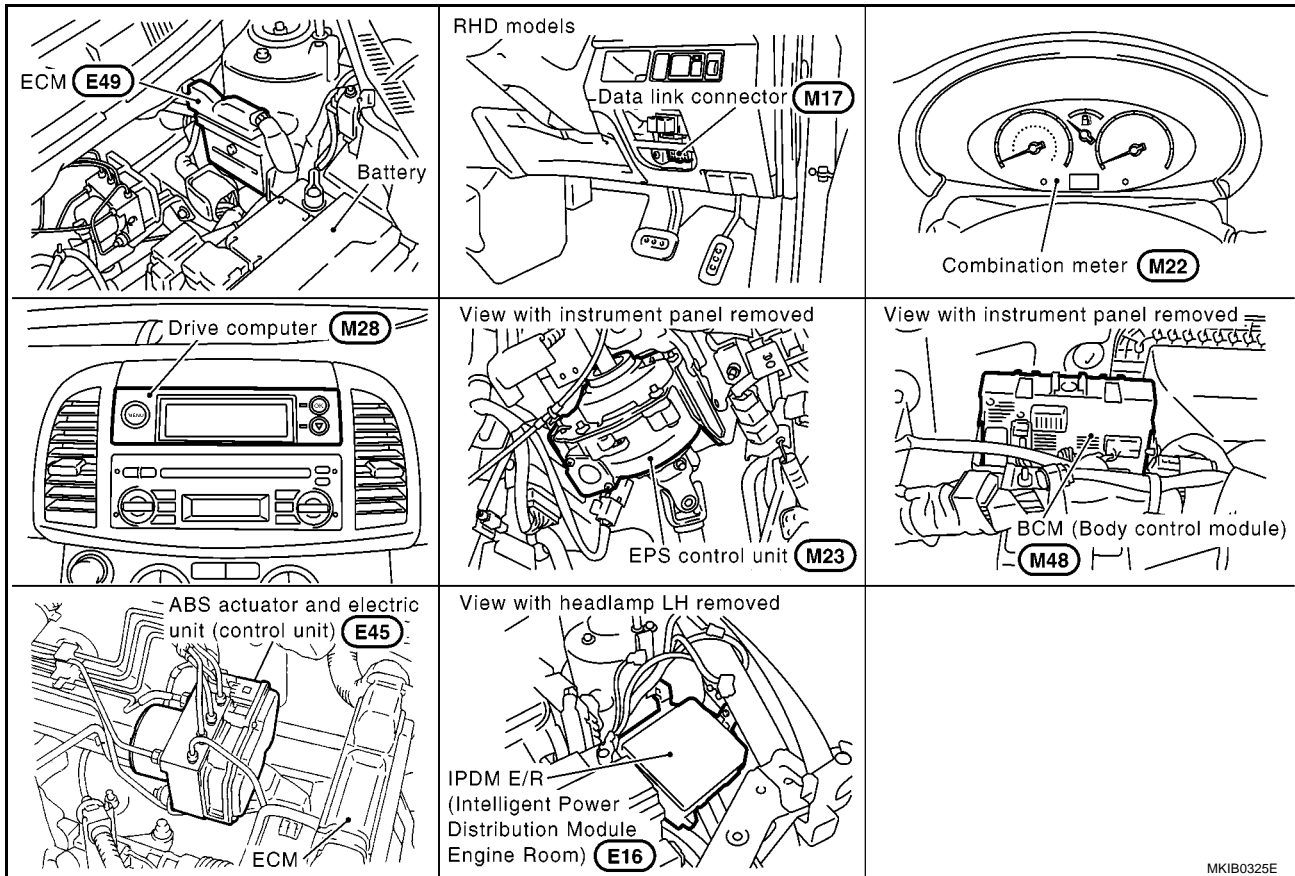
## System Description

EKS00754

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

## Component Parts and Harness Connector Location

EKS00755



MKIB0325E



# CAN SYSTEM (TYPE 4)

[CAN]

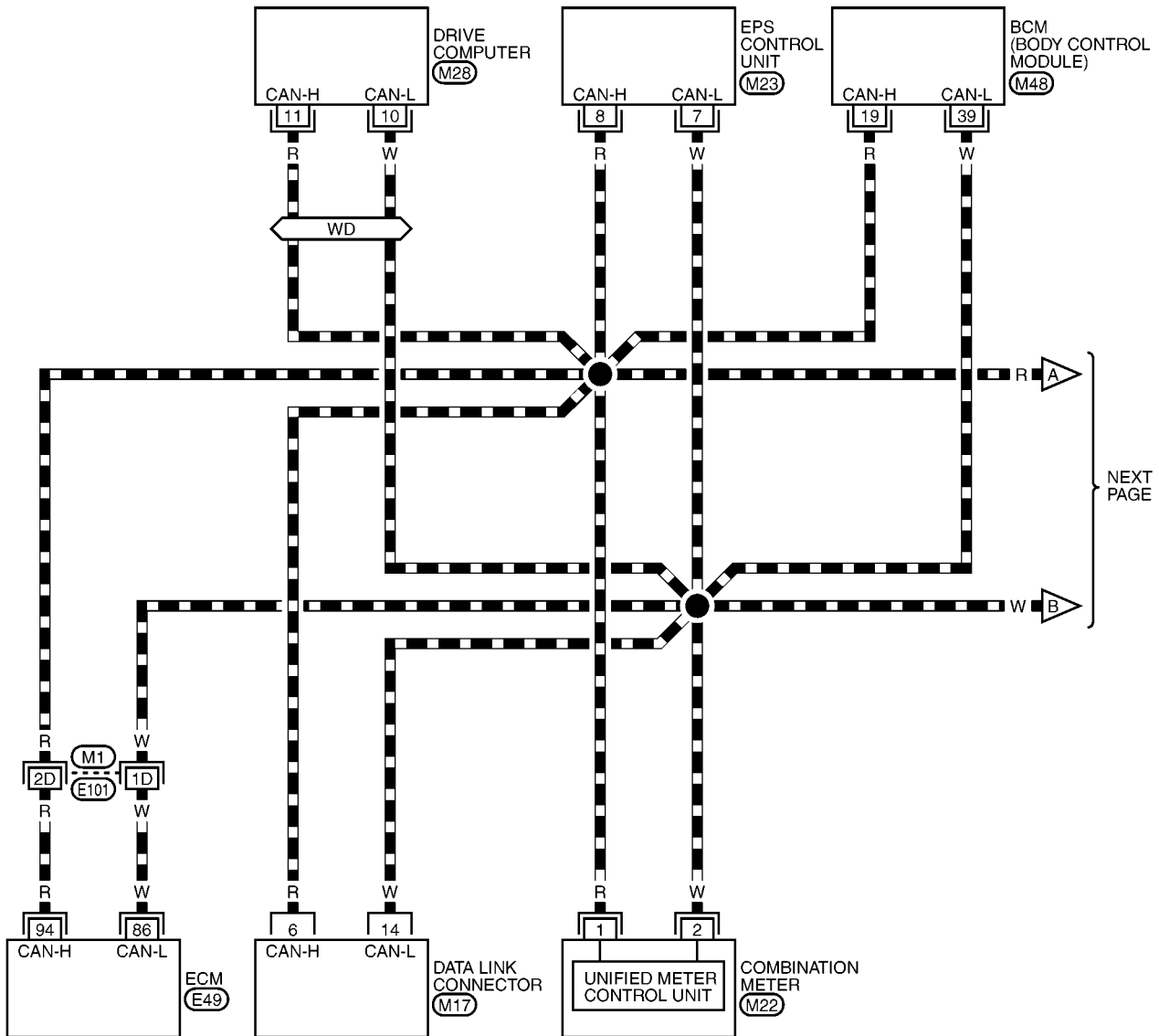
## Wiring Diagram — CAN —

EKS007YU

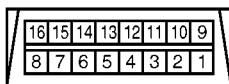
### LAN-CAN-07

— : DATA LINE

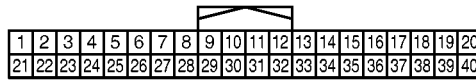
WD : WITH DRIVE COMPUTER



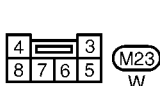
LAN



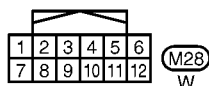
M17  
W



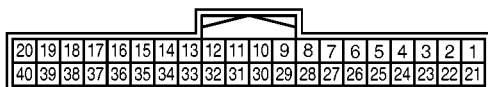
M22  
W



M23  
W



M28  
W



M48  
W



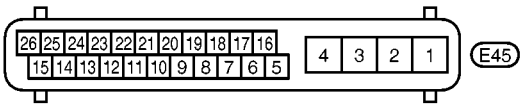
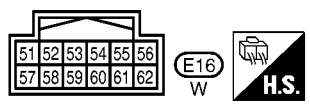
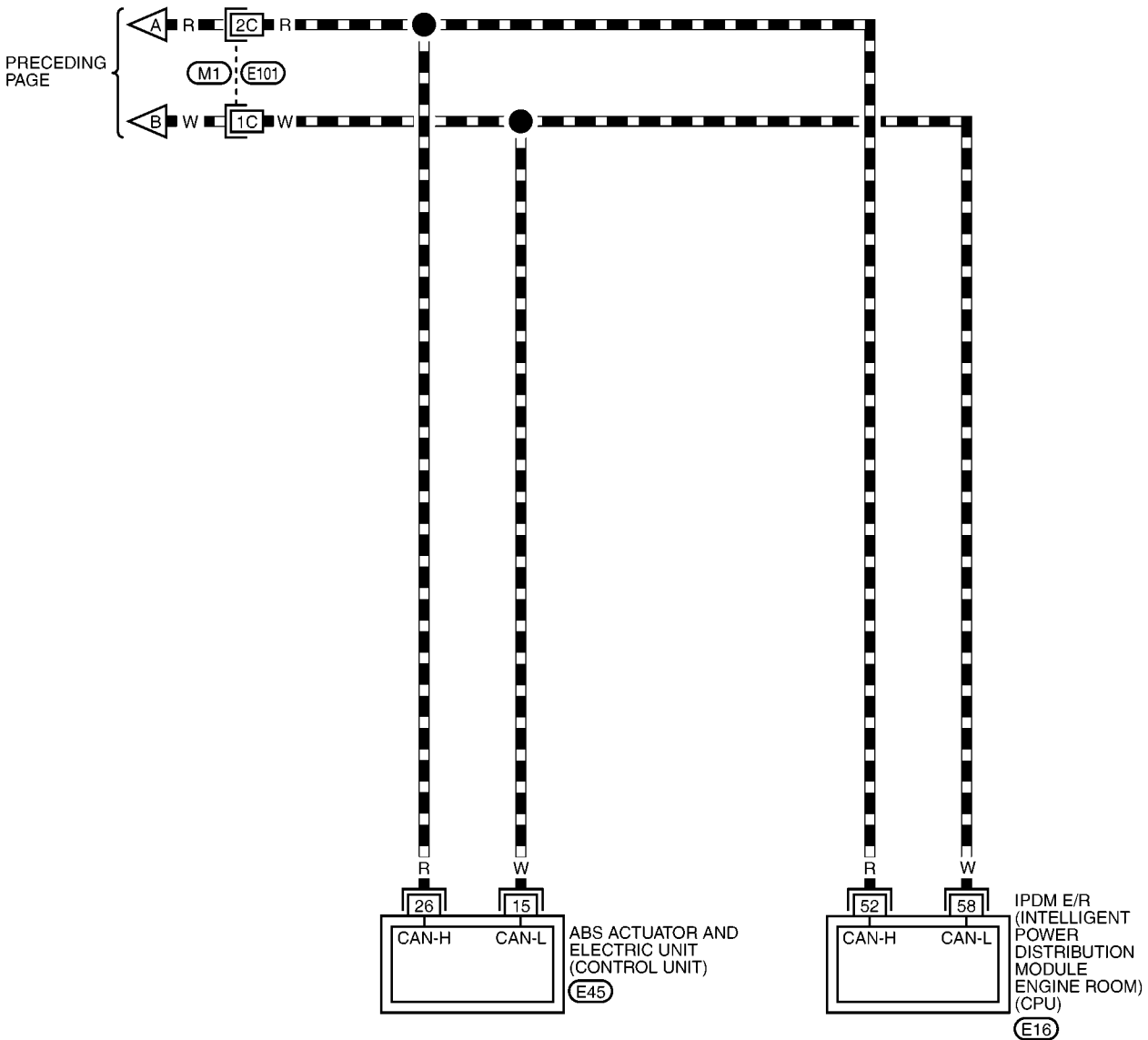
REFER TO THE FOLLOWING.

(M1) -SUPER MULTIPLE JUNCTION (SMJ)

(E49) -ELECTRICAL UNITS

MKWA1310E

▬ : DATA LINE




REFER TO THE FOLLOWING.  
(M1) -SUPER MULTIPLE JUNCTION (SMJ)

## Work Flow

- When there are no indications of "EPS", "BCM" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".

(Example)

|                           |  |       |      |
|---------------------------|--|-------|------|
| NISSAN                    |  |       |      |
| CONSULT-II                |  |       |      |
| ENGINE                    |  |       |      |
| START (NISSAN BASED VHCL) |  |       |      |
| START (X-BADGE VHCL)      |  |       |      |
| SUB MODE                  |  |       |      |
|                           |  | LIGHT | COPY |




|               |  |      |            |
|---------------|--|------|------------|
| SELECT SYSTEM |  |      |            |
| ENGINE        |  |      |            |
| A/T           |  |      |            |
| ABS           |  |      |            |
| AIR BAG       |  |      |            |
| BCM           |  |      |            |
| METER A/C AMP |  |      |            |
|               |  |      |            |
|               |  |      |            |
|               |  | BACK | LIGHT COPY |

MKIB1692E

- Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "EPS", "BCM", "ABS" and "IPDM E/R" displayed on CONSULT-II.

(Example)

|                       |  |             |            |
|-----------------------|--|-------------|------------|
| SELECT DIAG MODE      |  |             |            |
| WORK SUPPORT          |  |             |            |
| SELF-DIAG RESULTS     |  |             |            |
| DATA MONITOR          |  |             |            |
| DATA MONITOR (SPEC)   |  |             |            |
| CAN DIAG SUPPORT MNTR |  |             |            |
| ACTIVE TEST           |  |             |            |
|                       |  |             |            |
|                       |  | Scroll Down |            |
|                       |  | BACK        | LIGHT COPY |




|                          |      |          |      |
|--------------------------|------|----------|------|
| SELF-DIAG RESULTS        |      |          |      |
| DTC RESULTS              |      | TIME     |      |
| CAN COMM CIRCUIT [U1000] |      | 0        |      |
|                          |      |          |      |
|                          |      |          |      |
|                          |      | F.F.DATA |      |
| ERASE                    |      | PRINT    |      |
| MODE                     | BACK | LIGHT    | COPY |

PKIA8260E

- Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "EPS", "BCM", "ABS" and "IPDM E/R" displayed on CONSULT-II.

(Example)

|                       |  |             |            |
|-----------------------|--|-------------|------------|
| SELECT DIAG MODE      |  |             |            |
| WORK SUPPORT          |  |             |            |
| SELF-DIAG RESULTS     |  |             |            |
| DATA MONITOR          |  |             |            |
| DATA MONITOR (SPEC)   |  |             |            |
| CAN DIAG SUPPORT MNTR |  |             |            |
| ACTIVE TEST           |  |             |            |
|                       |  |             |            |
|                       |  | Scroll Down |            |
|                       |  | BACK        | LIGHT COPY |



|                       |      |             |      |
|-----------------------|------|-------------|------|
| CAN DIAG SUPPORT MNTR |      |             |      |
| ENGINE                |      |             |      |
|                       |      | PRNT        |      |
| INITIAL DIAG          |      | OK          |      |
| TRANSMIT DIAG         |      | OK          |      |
| TCM                   |      | OK          |      |
| VDC/TCS/ABS           |      | OK          |      |
| METER/M&A             |      | OK          |      |
| ICC                   |      | UNKWN       |      |
| BCM/SEC               |      | OK          |      |
| IPDM E/R              |      | OK          |      |
| AWD/4WD/e4WD          |      | UNKWN       |      |
| PRINT                 |      | Scroll Down |      |
| MODE                  | BACK | LIGHT       | COPY |

PKIA8343E

- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to [LAN-117, "CHECK SHEET"](#).
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to [LAN-117, "CHECK SHEET"](#).

**NOTE:**

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual. So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.

## 6. Convert "v" mark on comparison table to check sheet table.

(Example)

Check sheet table

|          | CONSULT<br>indication | CAN<br>system | Tx         | Rx         |                      |            |            |            |            |
|----------|-----------------------|---------------|------------|------------|----------------------|------------|------------|------------|------------|
|          |                       |               |            | ECM        | Combination<br>meter | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE   | —                     | CAN COMM      | CAN CIRC 1 | —          | CAN CIRC 4           | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| EPS      | No indication         | CAN COMM      | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4           | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM      | No indication         | —             | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4           | —          | —          | —          | CAN CIRC 3 |
| ABS      | —                     | CAN COMM      | CAN CIRC 1 | CAN CIRC 2 | —                    | —          | —          | —          | —          |
| IPDM E/R | No indication         | —             | CAN CIRC 1 | CAN CIRC 3 | —                    | —          | CAN CIRC 3 | —          | —          |

Comparison table

| SELECT SYSTEM screen |               | Initial<br>diagnosis | Transmit<br>diagnosis | Receive diagnosis |               |       |         |                 |          |
|----------------------|---------------|----------------------|-----------------------|-------------------|---------------|-------|---------|-----------------|----------|
|                      |               |                      |                       | ECM               | METER<br>/M&A | EPS   | BCM/SEC | VDC/TCS<br>/ABS | IPDM E/R |
| ENGINE               | —             | NG                   | UNKWN                 | —                 | UNKWN         | UNKWN | UNKWN   | UNKWN           | UNKWN    |
| EPS                  | No indication | NG                   | UNKWN                 | UNKWN             | UNKWN         | —     | UNKWN   | UNKWN           | —        |
| BCM                  | No indication | —                    | UNKWN                 | UNKWN             | UNKWN         | —     | —       | —               | UNKWN    |
| ABS                  | —             | NG                   | UNKWN                 | UNKWN             | —             | —     | —       | —               | —        |
| IPDM E/R             | No indication | —                    | UNKWN                 | UNKWN             | —             | —     | UNKWN   | —               | —        |

Convert

MKIB1685E

7. According to the check sheet results (example), start inspection. Refer to [LAN-119, "CHECK SHEET RESULTS \(EXAMPLE\)"](#).

# CAN SYSTEM (TYPE 4)

[CAN]

## CHECK SHEET

Check sheet table

|          | CONSULT<br>indication | CAN<br>system | Tx         | Rx         |                      |            |            |            |            |
|----------|-----------------------|---------------|------------|------------|----------------------|------------|------------|------------|------------|
|          |                       |               |            | ECM        | Combination<br>meter | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE   | —                     | CAN COMM      | CAN CIRC 1 | —          | CAN CIRC 4           | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| EPS      | No indication         | CAN COMM      | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4           | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM      | No indication         | —             | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4           | —          | —          | —          | CAN CIRC 3 |
| ABS      | —                     | CAN COMM      | CAN CIRC 1 | CAN CIRC 2 | —                    | —          | —          | —          | —          |
| IPDM E/R | No indication         | —             | CAN CIRC 1 | CAN CIRC 3 | —                    | —          | CAN CIRC 3 | —          | —          |

Comparison table

| SELECT SYSTEM screen |               | Initial<br>diagnosis | Transmit<br>diagnosis | Receive diagnosis |               |       |         |                 |          |
|----------------------|---------------|----------------------|-----------------------|-------------------|---------------|-------|---------|-----------------|----------|
|                      |               |                      |                       | ECM               | METER<br>/M&A | EPS   | BCM/SEC | VDC/TCS<br>/ABS | IPDM E/R |
| ENGINE               | —             | NG                   | UNKWN                 | —                 | UNKWN         | UNKWN | UNKWN   | UNKWN           | UNKWN    |
| EPS                  | No indication | NG                   | UNKWN                 | UNKWN             | UNKWN         | —     | UNKWN   | UNKWN           | —        |
| BCM                  | No indication | —                    | UNKWN                 | UNKWN             | UNKWN         | —     | —       | —               | UNKWN    |
| ABS                  | —             | NG                   | UNKWN                 | UNKWN             | —             | —     | —       | —               | —        |
| IPDM E/R             | No indication | —                    | UNKWN                 | UNKWN             | —             | —     | UNKWN   | —               | —        |

Symptoms:

Attach copy of  
SELECT SYSTEM

Attach copy of  
SELECT SYSTEM

MKIB1604E

Attach copy of  
ENGINE  
SELF-DIAG RESULTS

Attach copy of  
EPS  
SELF-DIAG RESULTS

Attach copy of  
BCM  
SELF-DIAG RESULTS

Attach copy of  
ABS  
SELF-DIAG RESULTS

Attach copy of  
IPDM E/R  
SELF-DIAG RESULTS

Attach copy of  
ENGINE  
DATA MONITOR

Attach copy of  
EPS  
DATA MONITOR

Attach copy of  
BCM  
DATA MONITOR

Attach copy of  
ABS  
DATA MONITOR

Attach copy of  
IPDM E/R  
DATA MONITOR

## CHECK SHEET RESULTS (EXAMPLE)

## NOTE:

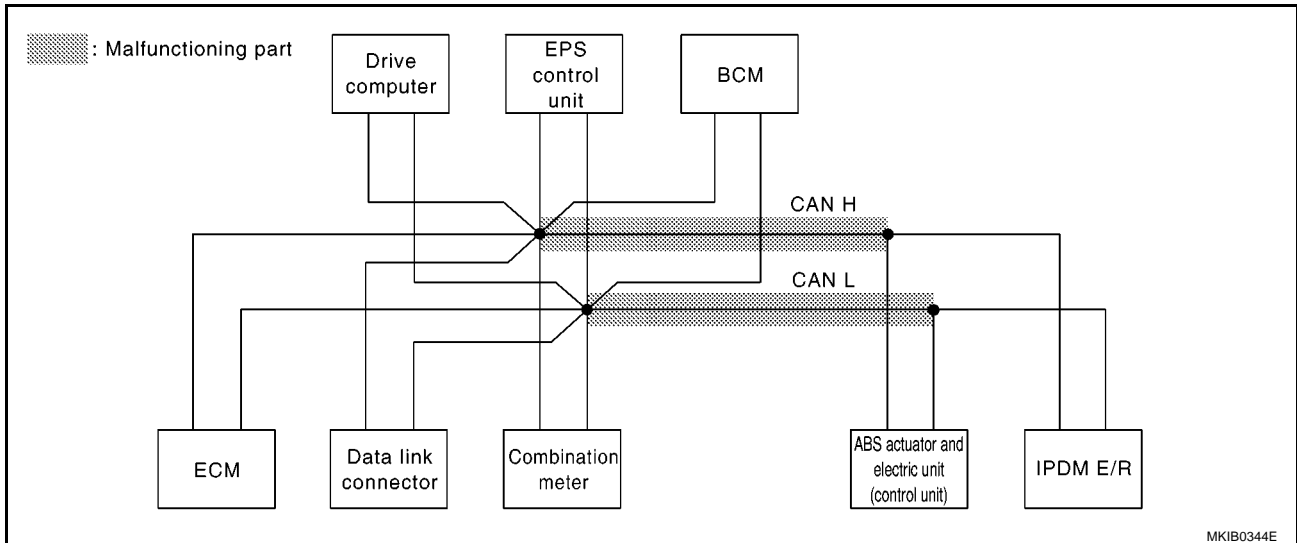
If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

## Case 1

Check harness between BCM and ABS actuator and electric unit (control unit). Refer to [LAN-128, "Circuit Check Between BCM and ABS Actuator and Electric Unit \(Control Unit\)"](#).

|          | CONSULT indication | CAN system | Tx         | Rx           |                   |            |            |              |              |
|----------|--------------------|------------|------------|--------------|-------------------|------------|------------|--------------|--------------|
|          |                    |            |            | ECM          | Combination meter | EPS        | BCM        | ABS          | IPDM E/R     |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —            | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 ✓ | CAN CIRC 7 ✓ |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2   | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 ✓ | —            |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2   | CAN CIRC 4        | —          | —          | —            | CAN CIRC 3 ✓ |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 ✓ | —                 | —          | —          | —            | —            |
| IPDM E/R | No indication ✓    | —          | CAN CIRC 1 | CAN CIRC 3   | —                 | —          | CAN CIRC 3 | —            | —            |

MKIB1648E



MKIB0344E

# CAN SYSTEM (TYPE 4)

[CAN]

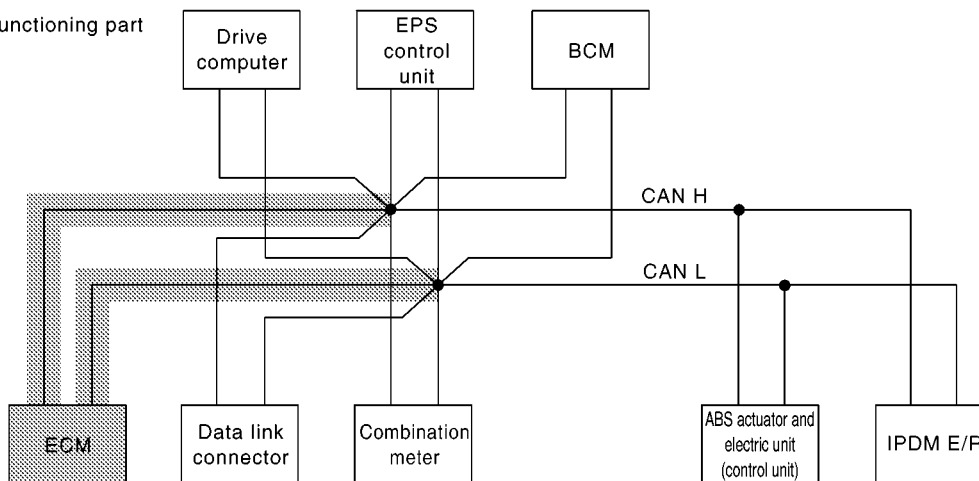
## Case 2

Check ECM circuit. Refer to [LAN-129, "ECM Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx           | Rx           |                   |              |              |              |              |
|----------|--------------------|------------|--------------|--------------|-------------------|--------------|--------------|--------------|--------------|
|          |                    |            |              | ECM          | Combination meter | EPS          | BCM          | ABS          | IPDM E/R     |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 ✓ | —            | CAN CIRC 4        | CAN CIRC 9 ✓ | CAN CIRC 6 ✓ | CAN CIRC 3 ✓ | CAN CIRC 7 ✓ |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1   | CAN CIRC 2 ✓ | CAN CIRC 4        | —            | CAN CIRC 5   | CAN CIRC 3   | —            |
| BCM      | No indication      | —          | CAN CIRC 1   | CAN CIRC 2 ✓ | CAN CIRC 4        | —            | —            | —            | CAN CIRC 3   |
| ABS      | —                  | CAN COMM   | CAN CIRC 1   | CAN CIRC 2 ✓ | —                 | —            | —            | —            | —            |
| IPDM E/R | No indication      | —          | CAN CIRC 1   | CAN CIRC 3 ✓ | —                 | —            | CAN CIRC 3   | —            | —            |

MKIB1649E

 : Malfunctioning part



MKIB0345E



# CAN SYSTEM (TYPE 4)

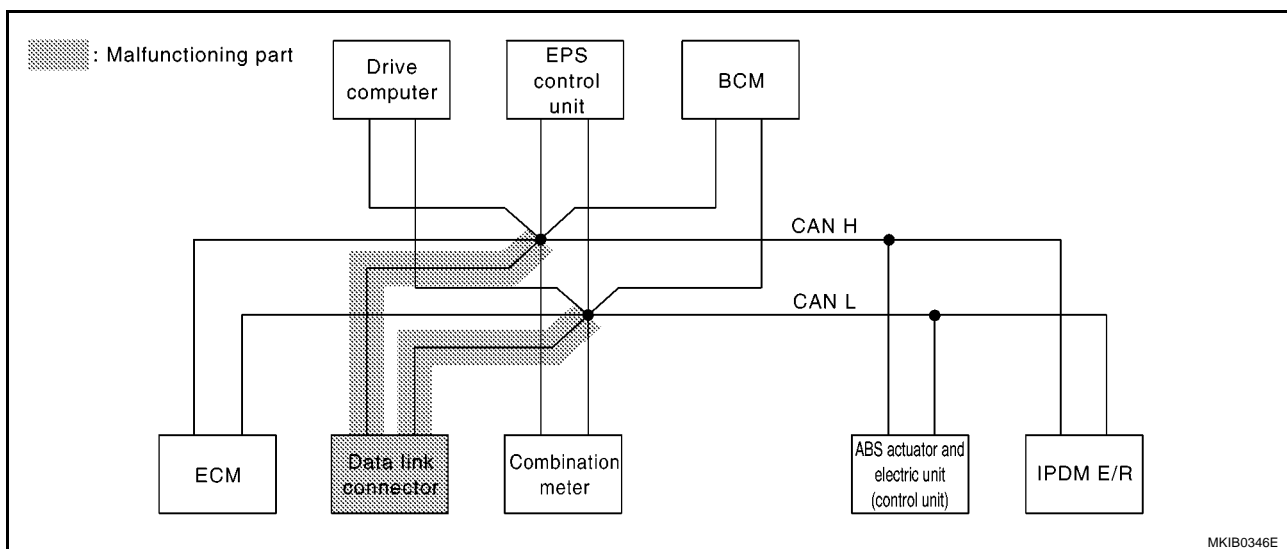
[CAN]

## Case 3

Check data link connector circuit. Refer to [LAN-130, "Data Link Connector Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 3 |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —          | —          | —          | —          |
| IPDM E/R | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 3 | —          | —          |

MKIB1650E



MKIB0346E

LAN

# CAN SYSTEM (TYPE 4)

[CAN]

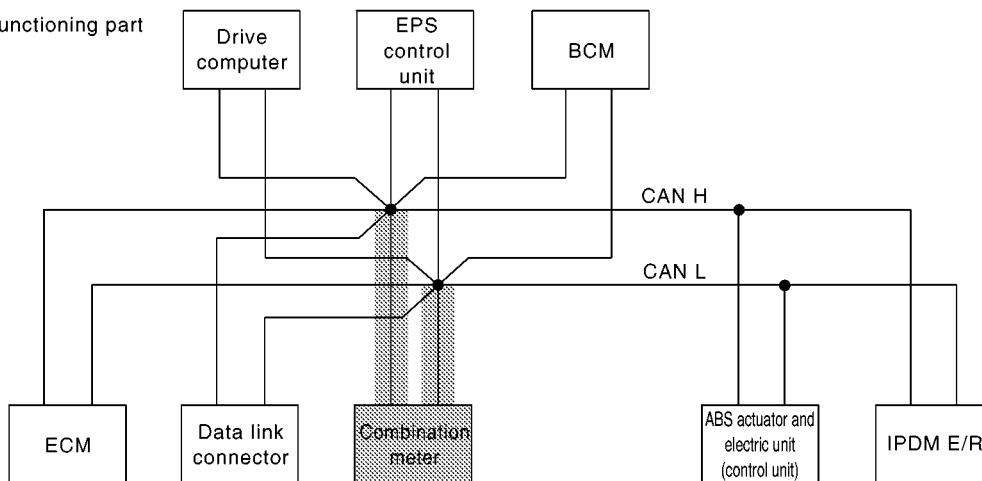
## Case 4

Check combination meter circuit. Refer to [LAN-131, "Combination Meter Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 3 |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —          | —          | —          | —          |
| IPDM E/R | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 3 | —          | —          |

MKIB1651E

 : Malfunctioning part



MKIB0347E

# CAN SYSTEM (TYPE 4)

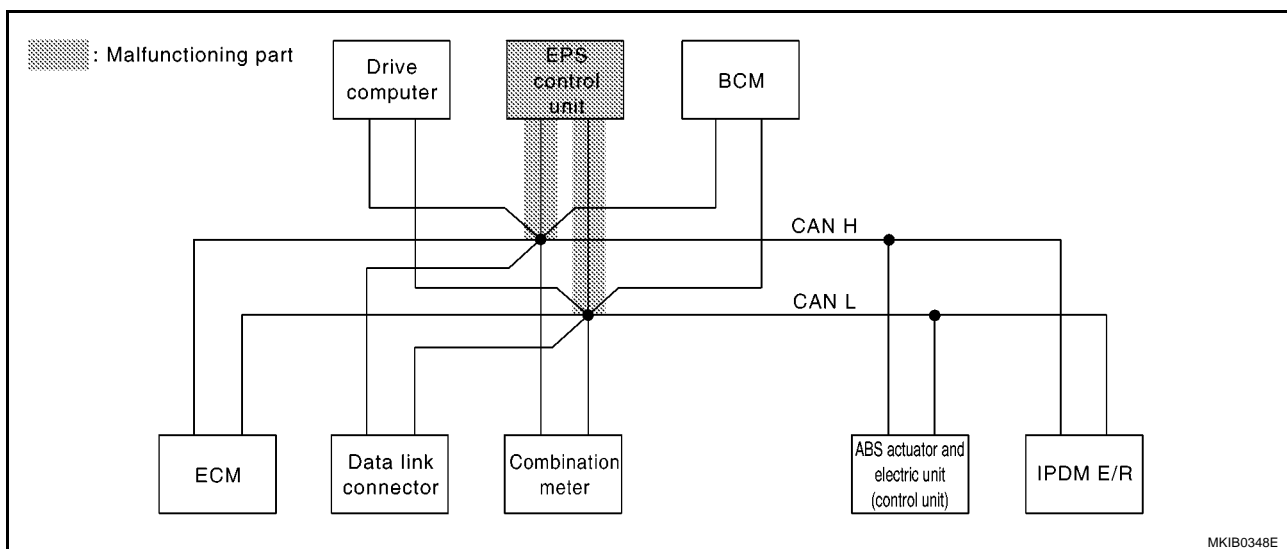
[CAN]

## Case 5

Check EPS control unit circuit. Refer to [LAN-132, "EPS Control Unit Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 3 |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —          | —          | —          | —          |
| IPDM E/R | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 3 | —          | —          |

MKIB1652E



MKIB0348E

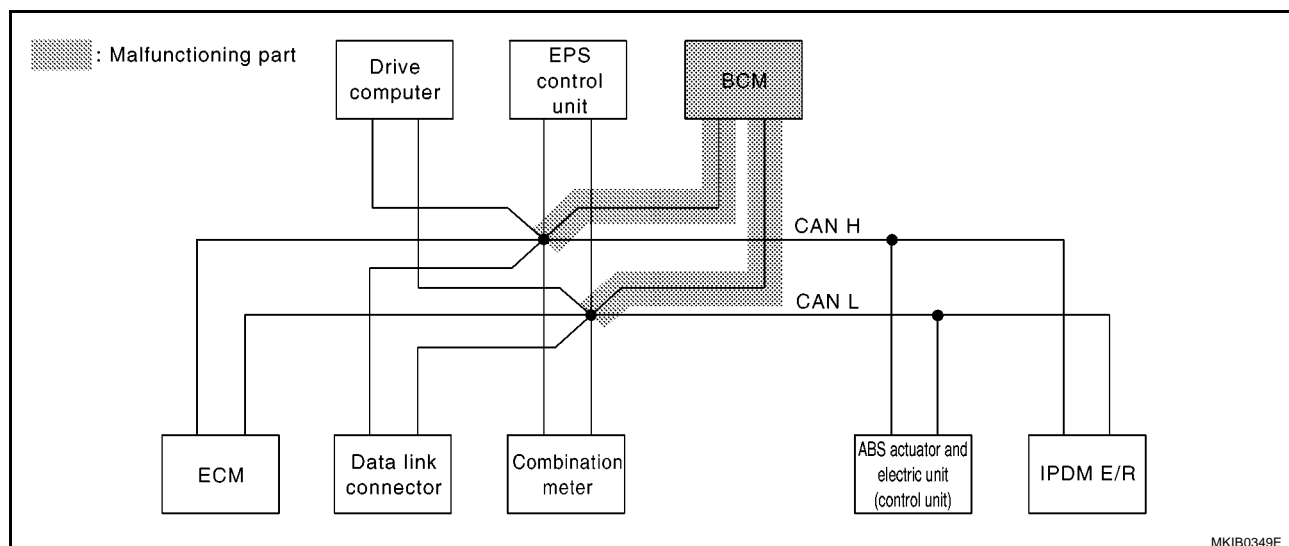
LAN

**Case 6**

Check BCM circuit. Refer to [LAN-133, "BCM Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |              |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|--------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM          | ABS        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 ✓ | CAN CIRC 3 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 ✓ | CAN CIRC 3 | —          |
| BCM      | No indication ✓    | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —            | —          | CAN CIRC 3 |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —          | —            | —          | —          |
| IPDM E/R | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 3 ✓ | —          | —          |

MKIB1653E



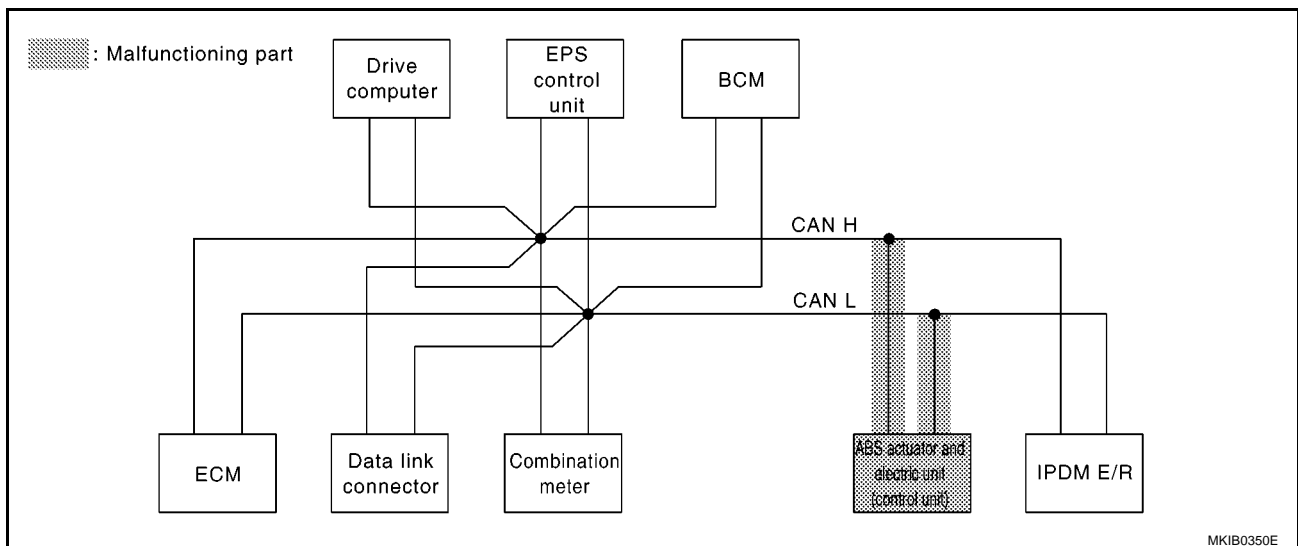
MKIB0349E

**Case 7**

Check ABS actuator and electric unit (control unit) circuit. Refer to [LAN-134, "ABS Actuator and Electric Unit \(Control Unit\) Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 3 |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —          | —          | —          | —          |
| IPDM E/R | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 3 | —          | —          |

MKIB1654E



MKIB0350E

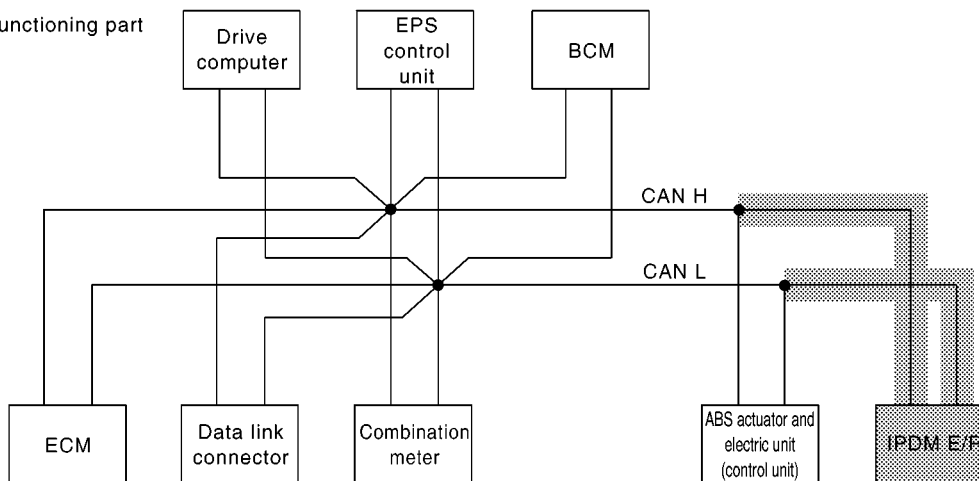
**Case 8**

Check IPDM E/R circuit. Refer to [LAN-135, "IPDM E/R Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |              |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|--------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | IPDM E/R     |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 ✓ |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —            |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 3 ✓ |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —          | —          | —          | —            |
| IPDM E/R | No indication ✓    | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 3 | —          | —            |

MKIB1655E

 : Malfunctioning part



MKIB0351E

# CAN SYSTEM (TYPE 4)

[CAN]

## Case 9

Check CAN communication circuit. Refer to [LAN-136. "CAN Communication Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 3 |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —          | —          | —          | —          |
| IPDM E/R | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 3 | —          | —          |

MKIB1656E

## Case 10

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to [LAN-139. "IPDM E/R Ignition Relay Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 3 |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —          | —          | —          | —          |
| IPDM E/R | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 3 | —          | —          |

MKIB1658E

## Case 11

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to [LAN-139. "IPDM E/R Ignition Relay Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 3 |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —          | —          | —          | —          |
| IPDM E/R | No indication      | —          | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 3 | —          | —          |

MKIB1657E

## Circuit Check Between BCM and ABS Actuator and Electric Unit (Control Unit)

EKS0081R

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
  - Harness connector M1
  - Harness connector E101

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect following connector.
  - Harness connector M1
  - Combination meter connector
  - Drive computer connector
  - EPS control unit connector
  - BCM connector
2. Check continuity between BCM harness connector M48 terminals 19 (R), 39 (W) and harness connector M1 terminals 2C (R), 1C (W).

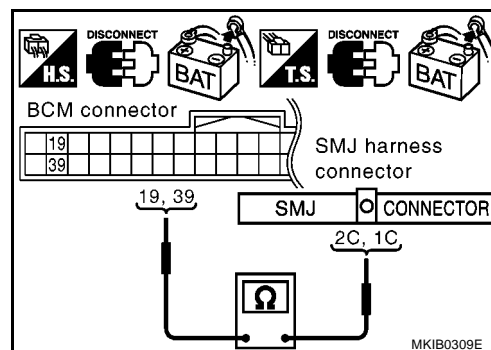
19 (R) – 2C (R) : Continuity should exist.

39 (W) – 1C (W) : Continuity should exist.

OK or NG

OK &gt;&gt; GO TO 3.

NG &gt;&gt; Repair harness.



### 3. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between harness connector E101 terminals 2C (R), 1C (W) and ABS actuator and electric unit (control unit) harness connector E45 terminals 26 (R), 15 (W).

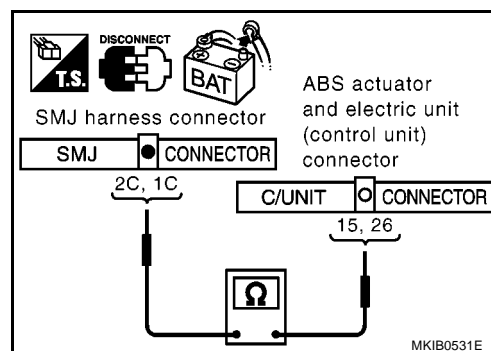
2C (R) – 26 (R) : Continuity should exist.

1C (W) – 15 (W) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELECT SYSTEM", "SELF-DIAG RESULTS" and "DATA MONITOR (CAN DIAG SUPPORT MNTR)" displayed on CONSULT-II. Refer to [LAN-115, "Work Flow"](#).

NG &gt;&gt; Repair harness.





**ECM Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
  - ECM connector
  - Harness connector M1
  - Harness connector E101

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

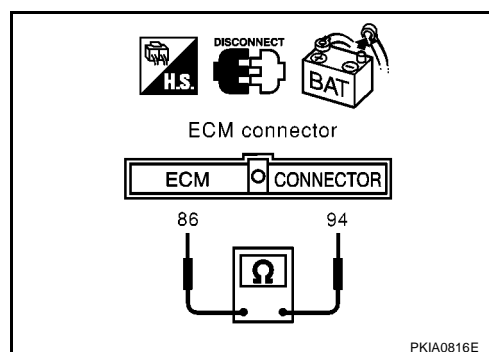
1. Disconnect ECM connector.
2. Check resistance between ECM harness connector E49 terminals 94 (R) and 86 (W).

**94 (R) – 86 (W)****: Approx. 108 – 132Ω**

OK or NG

OK &gt;&gt; Replace ECM.

NG &gt;&gt; Repair harness between ECM and data link connector.



## Data Link Connector Circuit Check

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check data link connector and terminals for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M17 terminals 6 (R) and 14 (W).

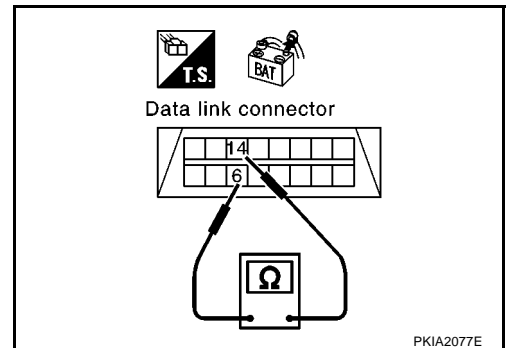
**6 (R) – 14 (W)**

**: Approx. 54 – 66Ω**

OK or NG

OK >> Perform "SELECT SYSTEM", "SELF-DIAG RESULTS" and "DATA MONITOR (CAN DIAG SUPPORT MNTR)" displayed on CONSULT-II. Refer to [LAN-115, "Work Flow"](#).

NG >> Repair harness between data link connector and combination meter



**Combination Meter Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of combination meter for damage, bend and loose connection (meter side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

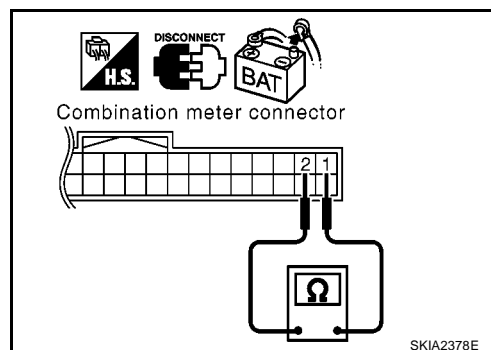
**2. CHECK HARNESS FOR OPEN CIRCUIT**

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M22 terminals 1 (R) and 2 (W).

**1 (R) – 2 (W)****: Approx. 54 – 66Ω**OK or NG

OK &gt;&gt; Replace combination meter

NG &gt;&gt; Repair harness between combination meter and data link connector.



## EPS Control Unit Circuit Check

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of EPS control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect EPS control unit connector.
2. Check resistance between EPS control unit harness connector M23 terminals 8 (R) and 7 (W).

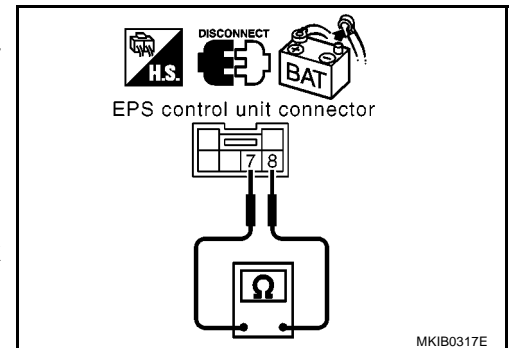
**8 (R) – 7 (W)**

**: Approx. 54 – 66Ω**

OK or NG

OK >> Replace EPS control unit.

NG >> Repair harness between EPS control unit and data link connector.



**BCM Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

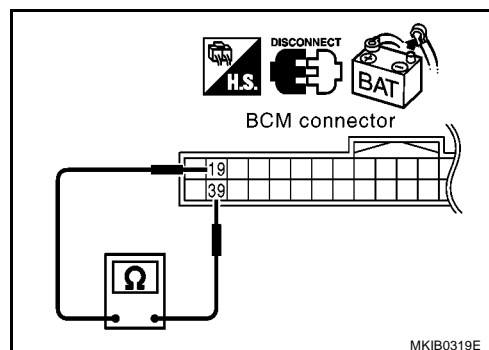
1. Disconnect BCM connector.
2. Check resistance between BCM harness connector M48 terminals 19 (R) and 39 (W).

**19 (R) – 39 (W)****: Approx. 54 – 66Ω**

OK or NG

OK >> Replace BCM. Refer to [BCS-31, "Removal and Installation of BCM"](#).

NG &gt;&gt; Repair harness between BCM and data link connector.



## ABS Actuator and Electric Unit (Control Unit) Circuit Check

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector E45 terminals 26 (R) and 15 (W).

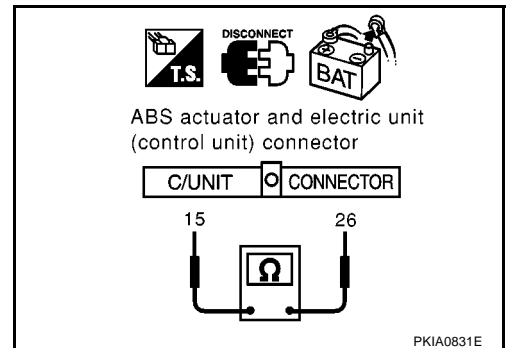
**26 (R) – 15 (W)**

**: Approx. 54 – 66Ω**

OK or NG

OK >> Replace ABS actuator and electric unit (control unit).

NG >> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



**IPDM E/R Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

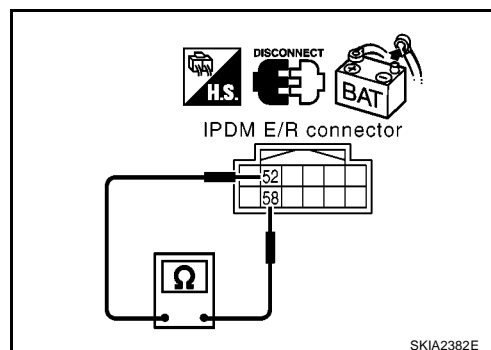
**2. CHECK HARNESS FOR OPEN CIRCUIT**

1. Disconnect IPDM E/R connector.
2. Check resistance between IPDM E/R harness connector E16 terminals 52 (R) and 58 (W).

**52 (R) – 58 (W)****: Approx. 108 – 132Ω**OK or NG

OK &gt;&gt; Replace IPDM E/R.

NG &gt;&gt; Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



## CAN Communication Circuit Check

EKS0081Z

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connectors for damage, bend and loose connection (control module side, meter side, control unit side and harness side).
  - ECM
  - Combination meter
  - Drive computer
  - EPS control unit
  - BCM
  - ABS actuator and electric unit (control unit)
  - IPDM E/R
  - Between ECM and IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

### 2. CHECK HARNESS FOR SHORT CIRCUIT

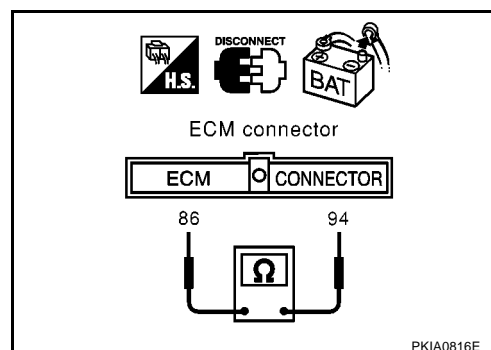
1. Disconnect ECM connector and harness connector E101.
2. Check continuity between ECM harness connector E49 terminals 94 (R) and 86 (W).

**94 (R) – 86 (W) : Continuity should not exist.**

OK or NG

OK >> GO TO 3.

NG >> Repair harness between ECM and harness connector E101.



### 3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector E49 terminals 94 (R), 86 (W) and ground.

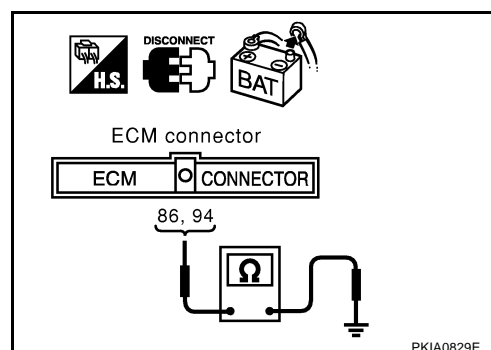
**94 (R) – Ground : Continuity should not exist.**

**86 (W) – Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 4.

NG >> Repair harness between ECM and harness connector E101.





## 4. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect following connectors.
  - ABS actuator and electric unit (control unit) connector
  - IPDM E/R connector
2. Check continuity between ABS actuator and electric unit (control unit) harness connector E45 terminals 26 (R) and 15 (W).

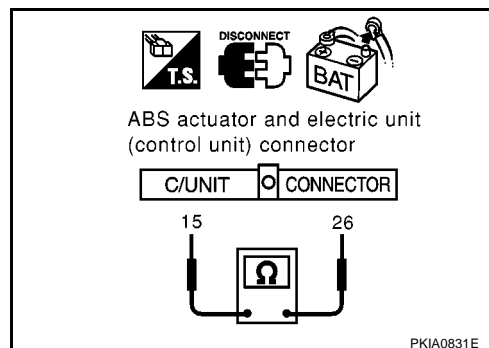
**26 (R) – 15 (W) : Continuity should not exist.**

OK or NG

OK >> GO TO 5.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between ABS actuator and electric unit (control unit) and harness connector E101
- Harness between ABS actuator and electric unit (control unit) and IPDM E/R



## 5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector E45 terminals 26 (R), 15 (W) and ground.

**26 (R) – Ground : Continuity should not exist.**

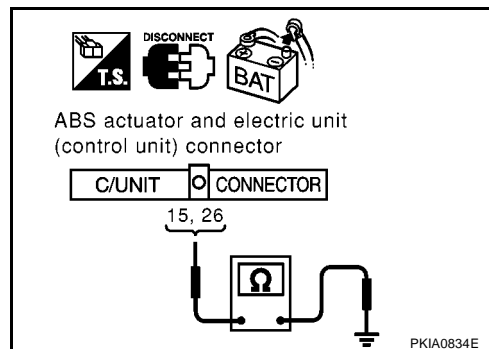
**15 (W) – Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 4.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between ABS actuator and electric unit (control unit) and harness connector E101
- Harness between ABS actuator and electric unit (control unit) and IPDM E/R



## 6. CHECK HARNESS FOR SHORT CIRCUIT

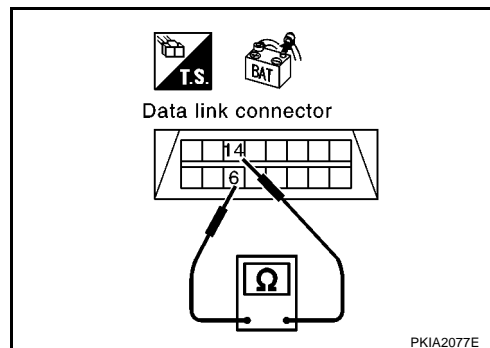
- Disconnect following connectors.
  - Combination meter connector
  - Drive computer connector
  - EPS control unit connector
  - BCM connector
- Check continuity between data link connector M17 terminals 6 (R) and 14 (W).

**6 (R) – 14 (W) : Continuity should not exist.**

OK or NG

OK >> GO TO 5.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
- Harness between data link connector and harness connector M1
  - Harness between data link connector and combination meter
  - Harness between data link connector and drive computer
  - Harness between data link connector and EPS control unit
  - Harness between data link connector and BCM



## 7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M17 terminals 6 (R), 14 (W) and ground.

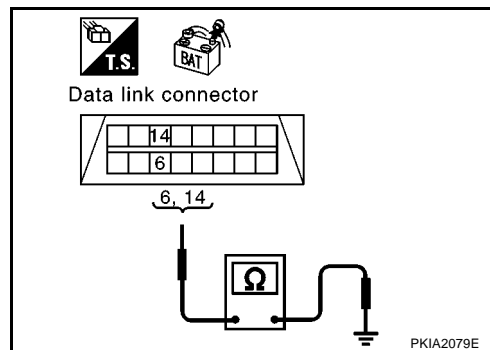
**6 (R) – Ground : Continuity should not exist.**

**14 (W) – Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 6.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
- Harness between data link connector and harness connector M1
  - Harness between data link connector and combination meter
  - Harness between data link connector and drive computer
  - Harness between data link connector and EPS control unit
  - Harness between data link connector and BCM



## 8. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-139, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"](#).

OK or NG

- OK >> Reconnect all connectors to perform "SELECT SYSTEM", "SELF-DIAG RESULTS" and "DATA MONITOR (CAN DIAG SUPPORT MNTR)" displayed on CONSULT-II. Refer to [LAN-115, "Work Flow"](#).
- NG >> Replace ECM and/or IPDM E/R.

**IPDM E/R Ignition Relay Circuit Check**

EKS00820

Perform the self-diagnosis for IPDM E/R. Refer to [PG-48, "Inspection With CONSULT-II \(Self-Diagnosis\)"](#) . If the result is OK, carry out following inspections.

- IPDM E/R power supply circuit. Refer to [PG-49, "IPDM E/R Power Supply and Ground Circuit Check"](#) .
- Ignition power supply circuit. Refer to [PG-12, "IGNITION POWER SUPPLY — IGNITION SW. IN "ON" AND/OR "START""](#) .

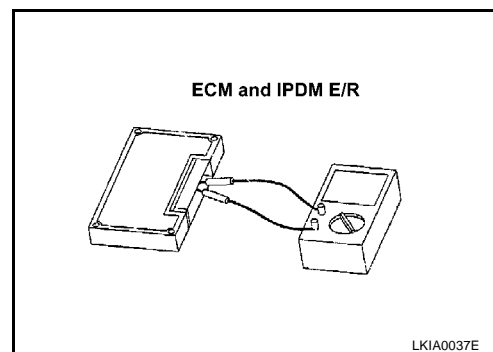
**Component Inspection**

EKS00821

**ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION**

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 52 and 58.

| Unit     | Terminal | Resistance value ( $\Omega$ )<br>(Approx.) |
|----------|----------|--|
| ECM      | 94 – 86  | 108 - 132                                  |
| IPDM E/R | 52 – 58  |  |

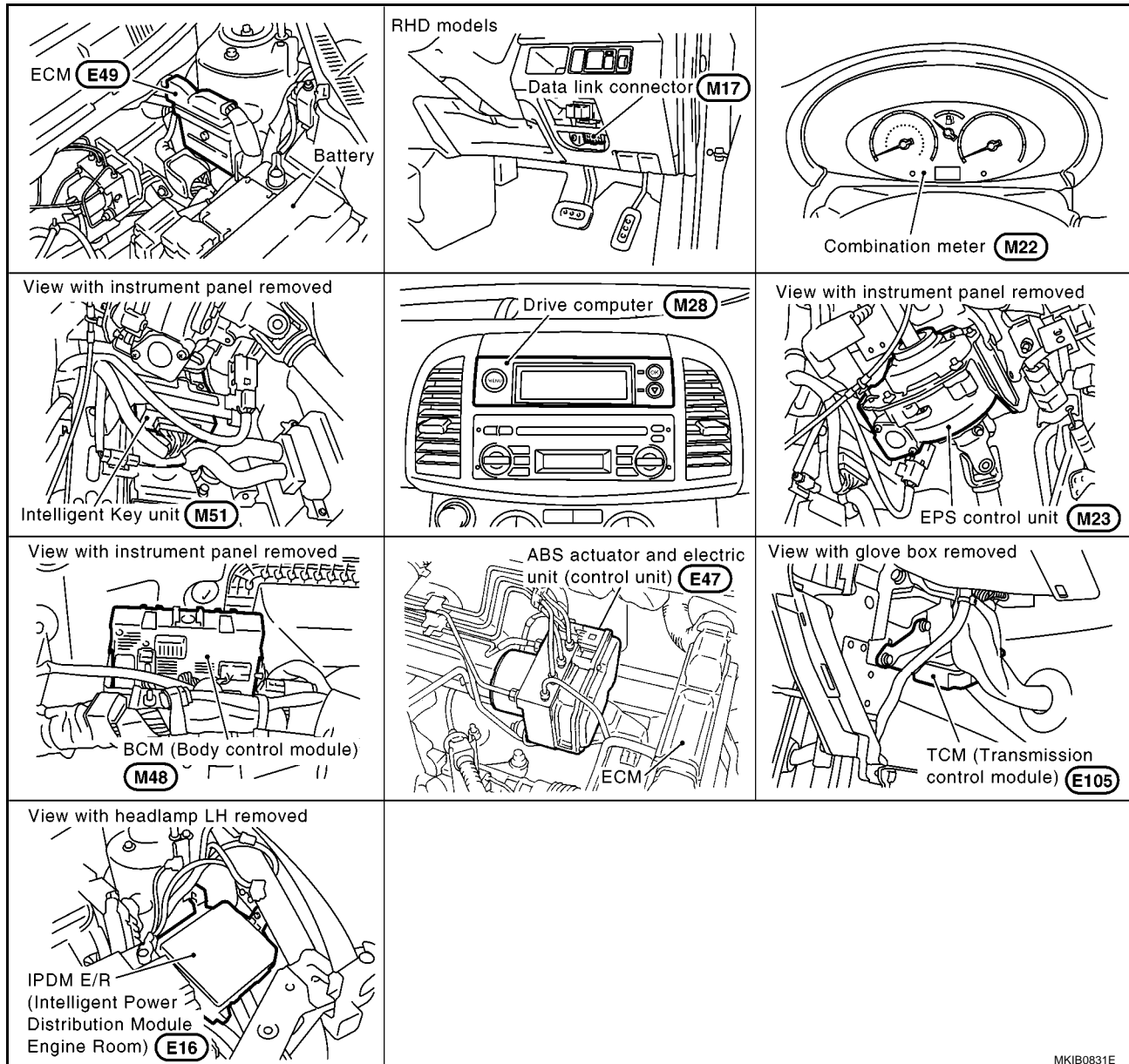


## CAN SYSTEM (TYPE 5)

## System Description

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

## Component Parts and Harness Connector Location



# CAN SYSTEM (TYPE 5)

[CAN]

## Wiring Diagram — CAN —

EKS00J07

### LAN-CAN-09

— : DATA LINE

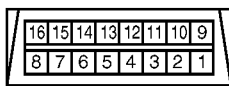
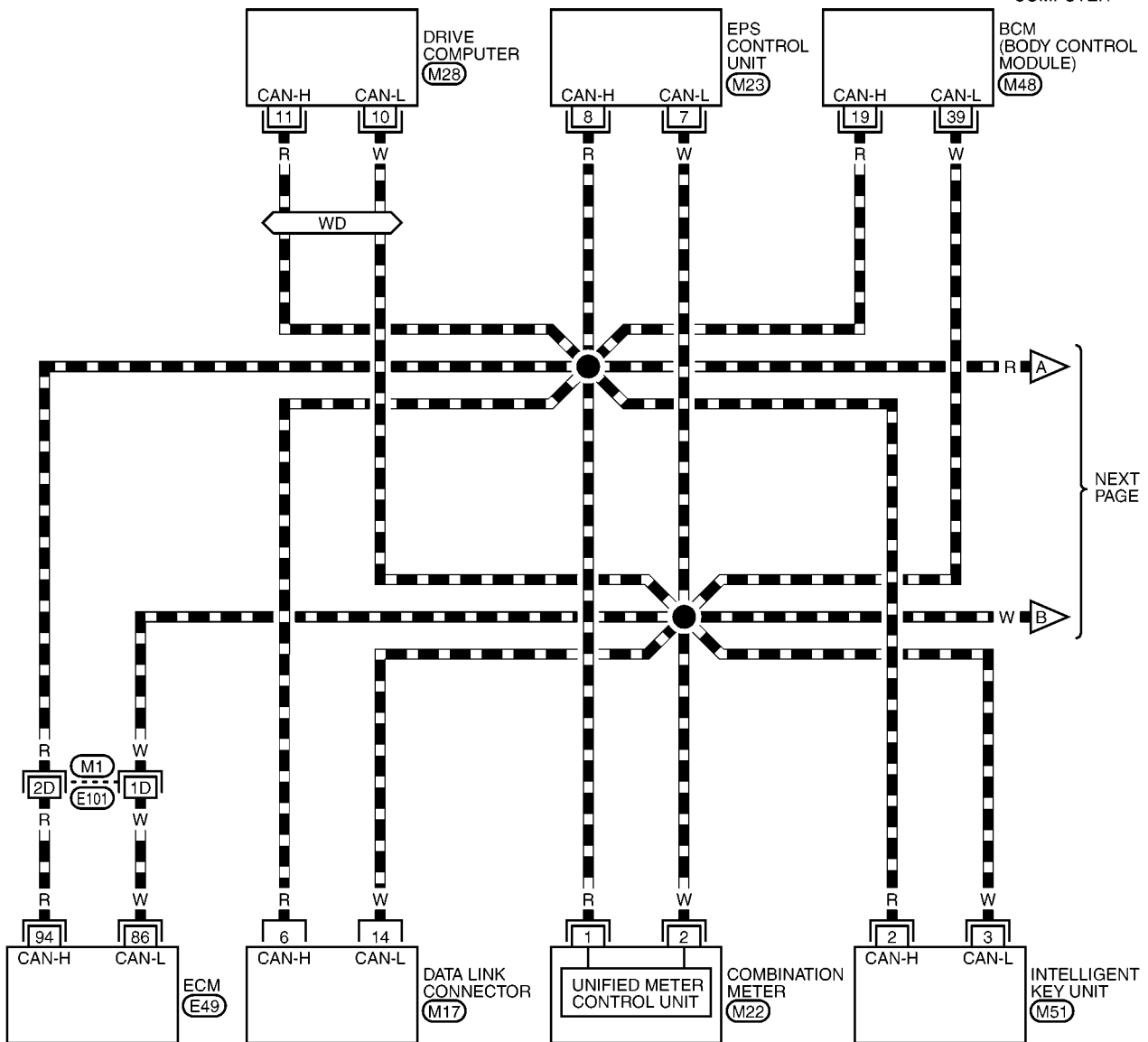
WD : WITH DRIVE COMPUTER

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M

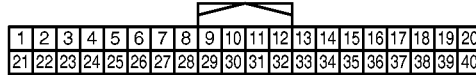
LAN

L

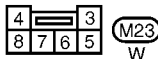
M



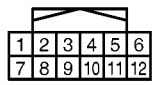
M17  
W



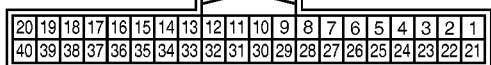
M22  
W



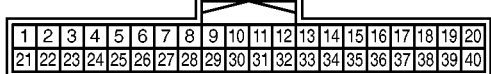
M23  
W



M28  
W



M48  
W



M51  
W



REFER TO THE FOLLOWING.

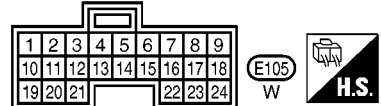
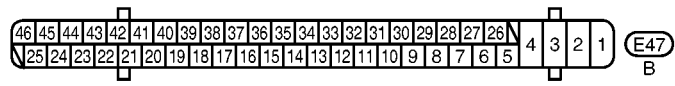
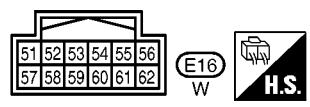
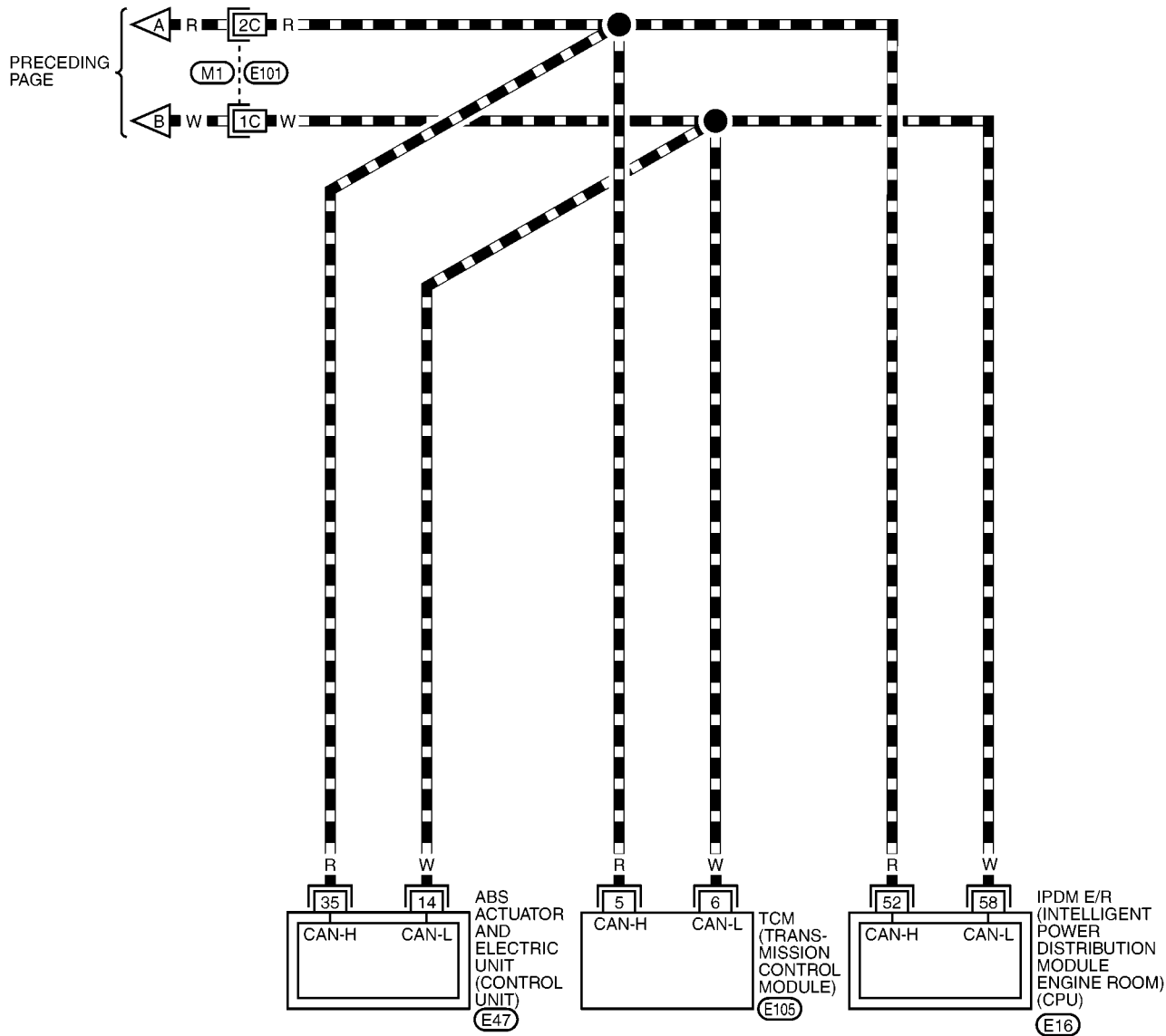
(M1) -SUPER MULTIPLE JUNCTION (SMJ)

(E49) -ELECTRICAL UNITS

MKWA2709E

LAN-CAN-10

DATA LINE



REFER TO THE FOLLOWING.  
(M1) -SUPER MULTIPLE JUNCTION (SMJ)

**[CAN]**

## EK.S00.108

- A  
B  
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L  
M

MKIR1692E

- LAN

PKIA8260F

- L

PKIA8343E

- M

- If “NG” is displayed on “INITIAL DIAG (Initial diagnosis)” as “CAN DIAG SUPPORT MNTR” for the diagnosed control unit, replace the control unit.
- The “CAN DIAG SUPPORT MNTR” items, which are not in check sheet table, are not related to diagnostic procedure on service manual.  
So it is not necessary to check the status of “CAN DIAG SUPPORT MNTR” items which are not indicated in check sheet table.

# CAN SYSTEM (TYPE 5)

[CAN]

## 6. Convert "v" mark on comparison table to check sheet table.

(Example) Check sheet table

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | CAN CIRC 5 | —          | —          | CAN CIRC 3 | —          |
| A/T             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | —          | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 2 | —          | —          | —          |

Comparison table

| SELECT SYSTEM screen |               | Initial diagnosis | Transmit diagnosis | Receive diagnosis |            |       |       |         |              |       |
|----------------------|---------------|-------------------|--------------------|-------------------|------------|-------|-------|---------|--------------|-------|
|                      |               |                   |                    | ECM               | METER /M&A | I-KEY | EPS   | BCM/SEC | VDC/TCS /ABS | TCM   |
| ENGINE               | —             | NG                | UNKWN              | —                 | UNKWN      | —     | UNKWN | UNKWN   | UNKWN        | UNKWN |
| INTELLIGENT          | No indication | NG                | UNKWN              | UNKWN             | UNKWN      | —     | UNKWN | —       | —            | —     |
| EPS                  | No indication | NG                | UNKWN              | UNKWN             | UNKWN      | —     | —     | UNKWN   | UNKWN        | —     |
| BCM                  | No indication | —                 | UNKWN              | UNKWN             | UNKWN      | —     | —     | —       | UNKWN        | UNKWN |
| ABS                  | No indication | NG                | UNKWN              | UNKWN             | UNKWN      | —     | UNKWN | —       | UNKWN        | —     |
| A/T                  | —             | NG                | UNKWN              | UNKWN             | UNKWN      | —     | —     | —       | —            | —     |
| IPDM E/R             | No indication | NG                | UNKWN              | UNKWN             | —          | —     | UNKWN | —       | —            | —     |

Convert

MKIB1686E

## 7. According to the check sheet results (example), start inspection. Refer to [LAN-147, "CHECK SHEET RESULTS \(EXAMPLE\)"](#).



# CAN SYSTEM (TYPE 5)

[CAN]

## CHECK SHEET

Check sheet table

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | CAN CIRC 5 | —          | —          | CAN CIRC 3 | —          |
| A/T             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | —          | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 2 | —          | —          | —          |

Comparison table

| SELECT SYSTEM screen |               | Initial diagnosis | Transmit diagnosis | Receive diagnosis |            |       |       |         |              |       |          |
|----------------------|---------------|-------------------|--------------------|-------------------|------------|-------|-------|---------|--------------|-------|----------|
|                      |               |                   |                    | ECM               | METER /M&A | I-KEY | EPS   | BCM/SEC | VDC/TCS /ABS | TCM   | IPDM E/R |
| ENGINE               | —             | NG                | UNKWN              | —                 | UNKWN      | —     | UNKWN | UNKWN   | UNKWN        | UNKWN | UNKWN    |
| INTELLIGENT          | No indication | NG                | UNKWN              | UNKWN             | UNKWN      | —     | —     | UNKWN   | —            | —     | —        |
| EPS                  | No indication | NG                | UNKWN              | UNKWN             | UNKWN      | —     | —     | UNKWN   | UNKWN        | —     | —        |
| BCM                  | No indication | —                 | UNKWN              | UNKWN             | UNKWN      | UNKWN | —     | —       | —            | UNKWN | UNKWN    |
| ABS                  | No indication | NG                | UNKWN              | UNKWN             | UNKWN      | —     | UNKWN | —       | —            | UNKWN | —        |
| A/T                  | —             | NG                | UNKWN              | UNKWN             | UNKWN      | —     | —     | —       | —            | —     | —        |
| IPDM E/R             | No indication | NG                | UNKWN              | UNKWN             | —          | —     | —     | UNKWN   | —            | —     | —        |

Symptoms:

Attach copy of  
SELECT SYSTEM

Attach copy of  
SELECT SYSTEM

## CAN SYSTEM (TYPE 5)

[CAN]

Attach copy of  
ENGINE  
SELF-DIAG RESULTS

Attach copy of  
INTELLIGENT KEY  
SELF-DIAG RESULTS

Attach copy of  
EPS  
SELF-DIAG RESULTS

Attach copy of  
BCM  
SELF-DIAG RESULTS

Attach copy of  
ABS  
SELF-DIAG RESULTS

Attach copy of  
A/T  
SELF-DIAG RESULTS

Attach copy of  
IPDM E/R  
SELF-DIAG RESULTS

Attach copy of  
ENGINE  
DATA MONITOR

Attach copy of  
INTELLIGENT KEY  
DATA MONITOR

Attach copy of  
EPS  
DATA MONITOR

Attach copy of  
BCM  
DATA MONITOR

Attach copy of  
ABS  
DATA MONITOR

Attach copy of  
A/T  
DATA MONITOR

Attach copy of  
IPDM  
DATA MONITOR

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## CHECK SHEET RESULTS (EXAMPLE)

## NOTE:

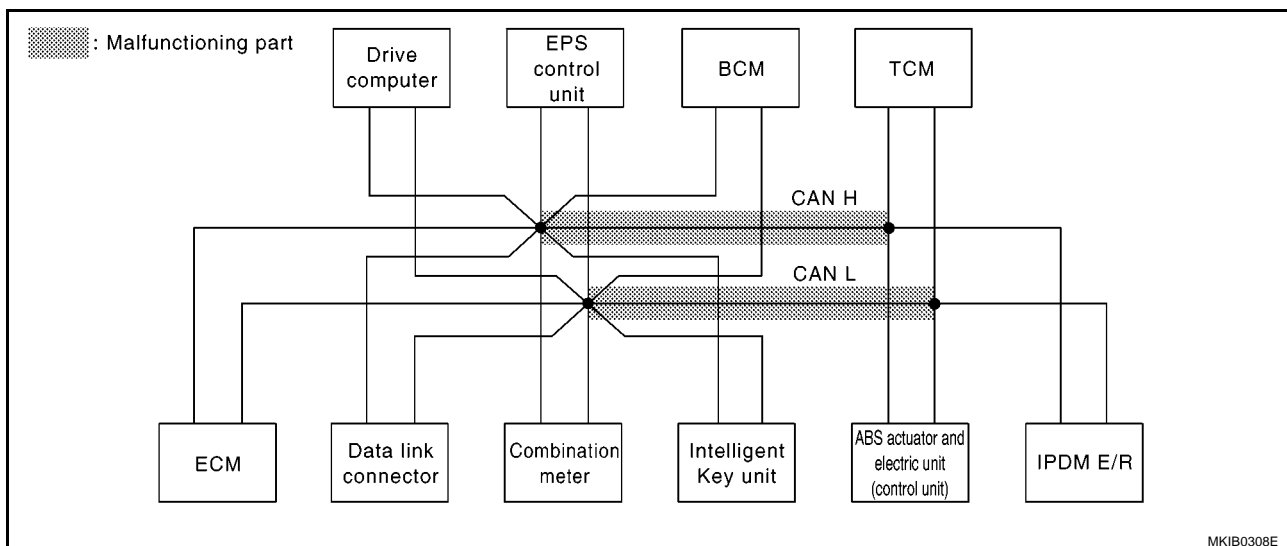
If "NG" is displayed on "CAN COMM" as "DATA MONITOR (CAN DIAG SUPPORT MNTR)" for the diagnosed control unit, replace the control unit.

## Case1

Check harness between BCM and ABS actuator and electric unit (control unit). Refer to [LAN-158, "Circuit Check Between BCM and ABS Actuator and Electric Unit \(Control Unit\)"](#).

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | CAN CIRC 5 | —          | —          | CAN CIRC 3 | —          |
| A/T             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | —          | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 2 | —          | —          | —          |

MKIB0777E



MKIB0308E

# CAN SYSTEM (TYPE 5)

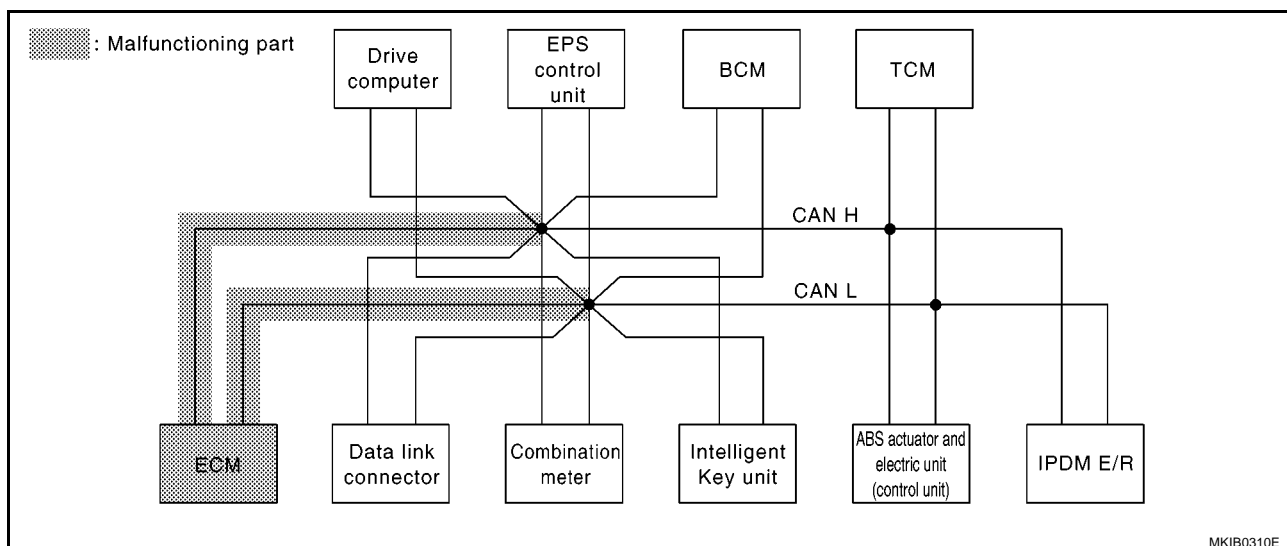
[CAN]

## Case2

Check ECM circuit. Refer to [LAN-159, "ECM Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | CAN CIRC 5 | —          | —          | CAN CIRC 3 | —          |
| A/T             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | —          | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 2 | —          | —          | —          |

MKIB0778E



MKIB0310E

# CAN SYSTEM (TYPE 5)

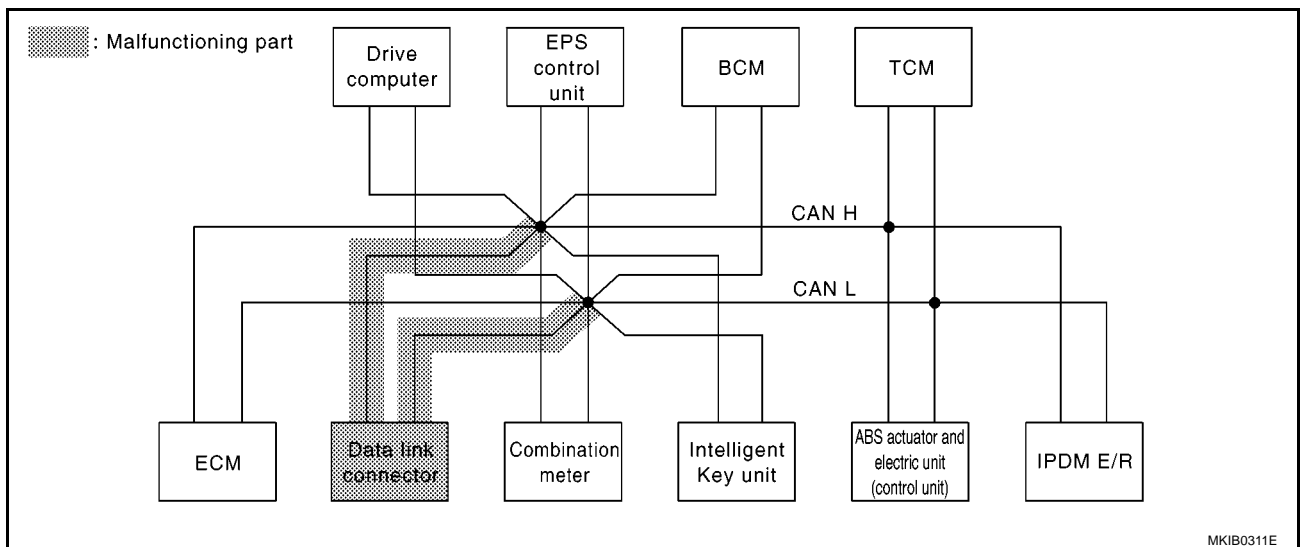
[CAN]

## Case3

Check data link connector circuit. Refer to [LAN-160, "Data Link Connector Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | CAN CIRC 5 | —          | —          | CAN CIRC 3 | —          |
| A/T             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | —          | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 2 | —          | —          | —          |

MKIB0779E



MKIB0311E

# CAN SYSTEM (TYPE 5)

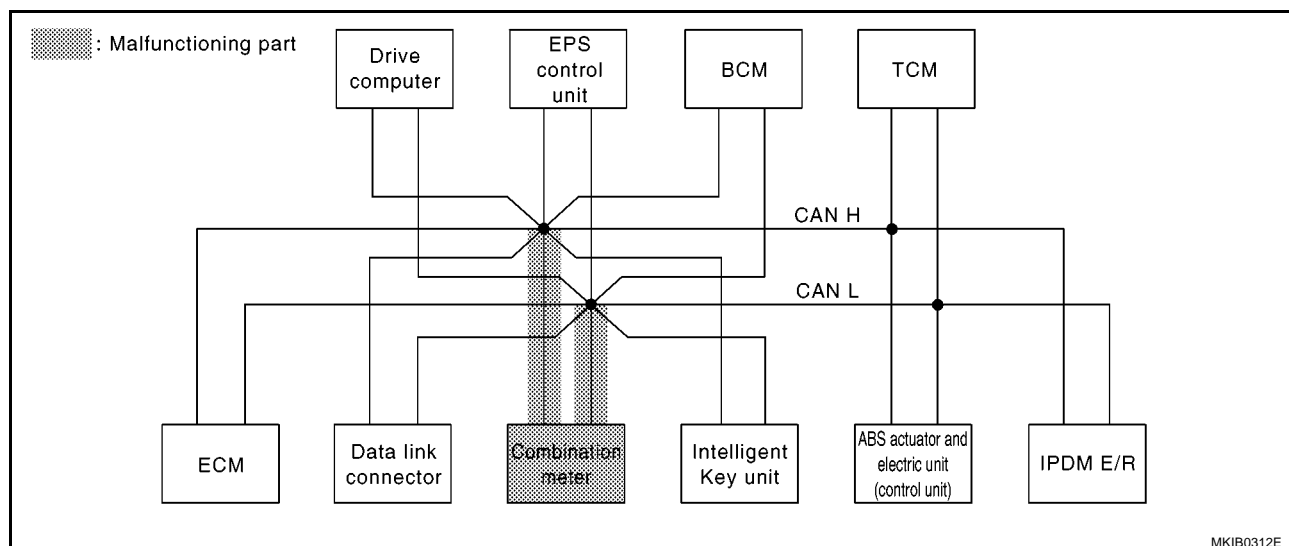
[CAN]

## Case4

Check combination meter circuit. Refer to [LAN-161, "Combination Meter Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | CAN CIRC 5 | —          | —          | CAN CIRC 3 | —          |
| A/T             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | —          | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 2 | —          | —          | —          |

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MKIB0312E

# CAN SYSTEM (TYPE 5)

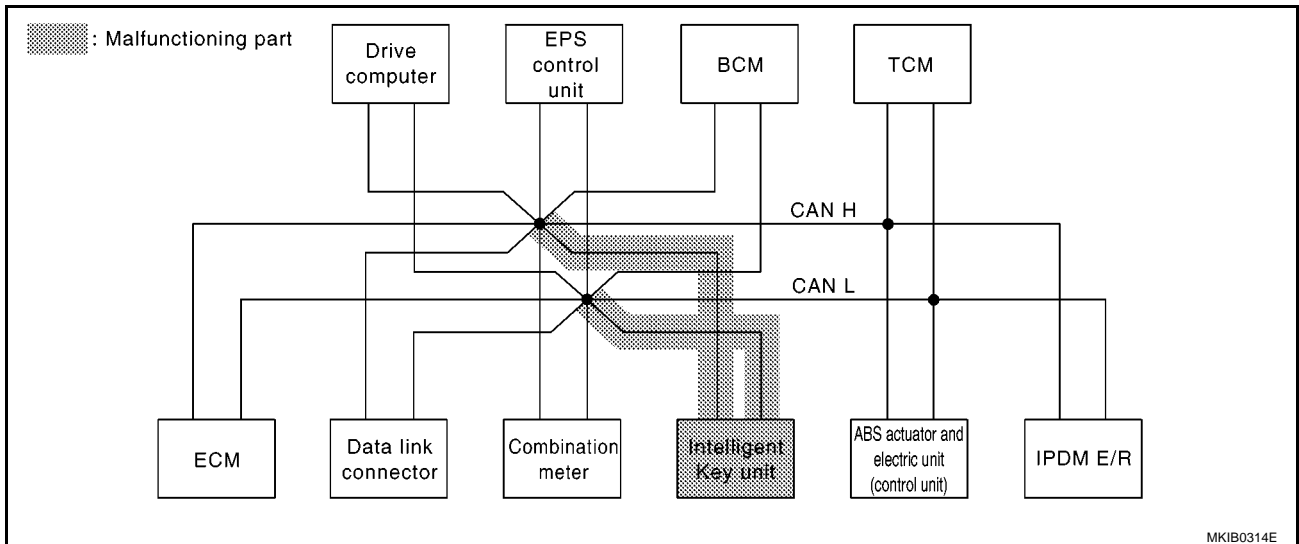
[CAN]

## Case5

Check Intelligent Key unit circuit. Refer to [LAN-162, "Intelligent Key Unit Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | CAN CIRC 5 | —          | —          | CAN CIRC 3 | —          |
| A/T             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | —          | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 2 | —          | —          | —          |

MKIB0781E



MKIB0314E

# CAN SYSTEM (TYPE 5)

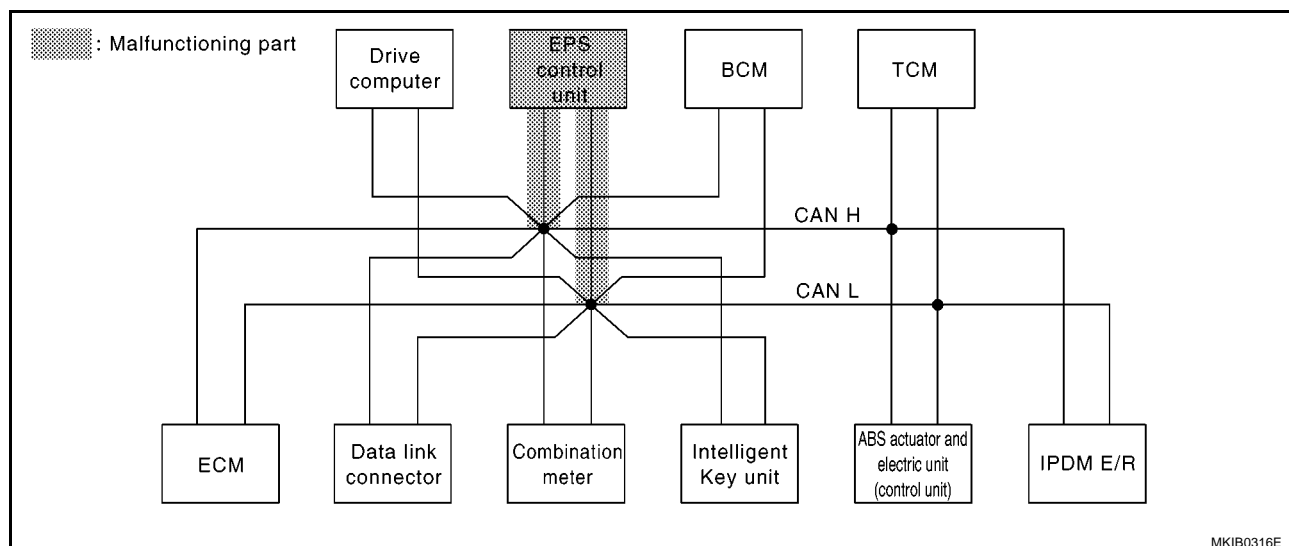
[CAN]

## Case6

Check EPS control unit circuit. Refer to [LAN-163, "EPS Control Unit Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | CAN CIRC 5 | —          | —          | CAN CIRC 3 | —          |
| A/T             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | —          | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 2 | —          | —          | —          |

MKIB0782E



MKIB0316E



**[CAN]**

Check BCM circuit. Refer to [LAN-164, "BCM Circuit Check"](#).

MKIB0783E

# CAN SYSTEM (TYPE 5)

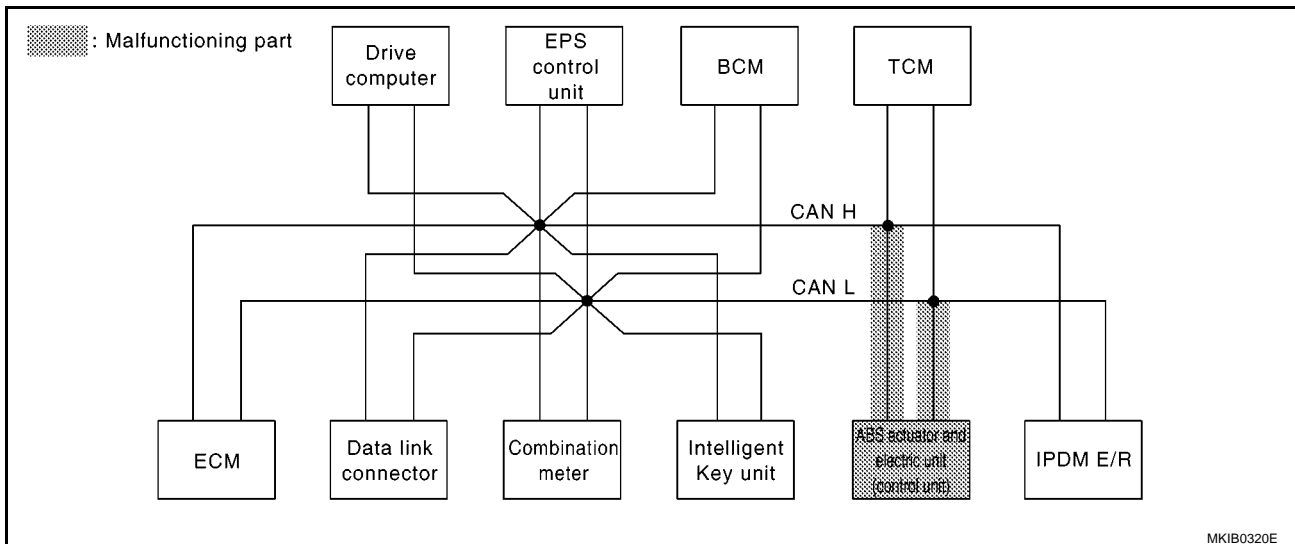
[CAN]

## Case8

Check ABS actuator and electric unit (control unit) circuit. Refer to [LAN-165, "ABS Actuator and Electric Unit \(Control Unit\) Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |              |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|--------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS          | TCM        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 ✓ | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —            | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 ✓ | —          | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —            | CAN CIRC 6 | CAN CIRC 3 |
| ABS             | No indication ✓    | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | CAN CIRC 5 | —          | —            | CAN CIRC 3 | —          |
| A/T             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | —          | —            | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 2 | —            | —          | —          |

MKIB0784E



MKIB0320E

# CAN SYSTEM (TYPE 5)

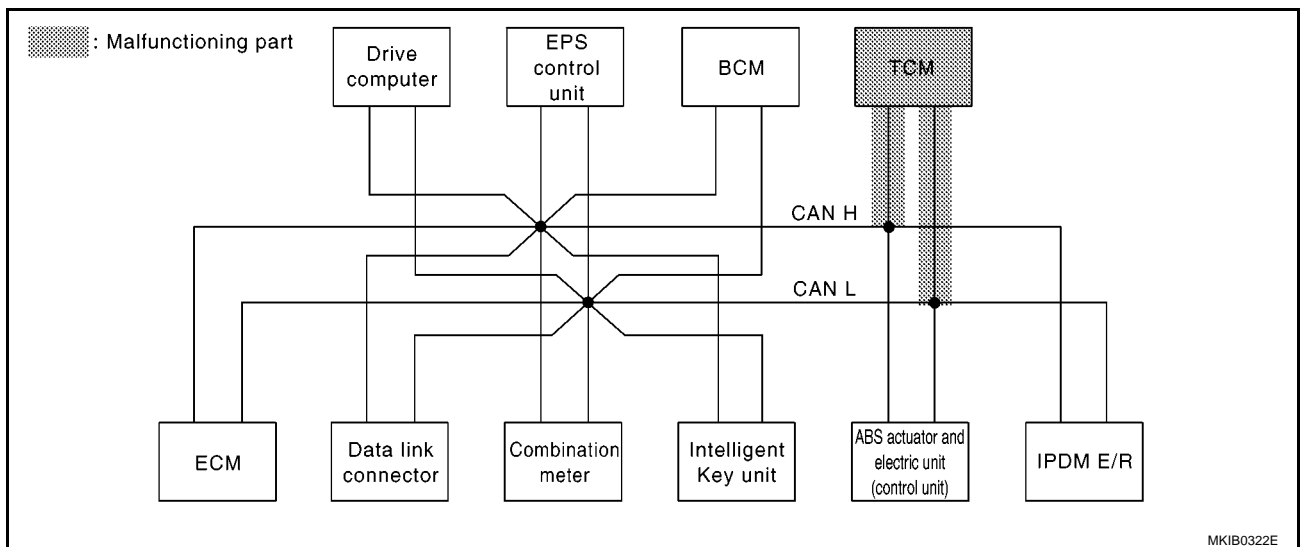
[CAN]

## Case9

Check TCM circuit. Refer to [LAN-166. "TCM Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 2        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | CAN CIRC 5 | —          | —          | CAN CIRC 3 | —          |
| A/T             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | —          | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 2 | —          | —          | —          |

MKIB0785E



MKIB0322E

# CAN SYSTEM (TYPE 5)

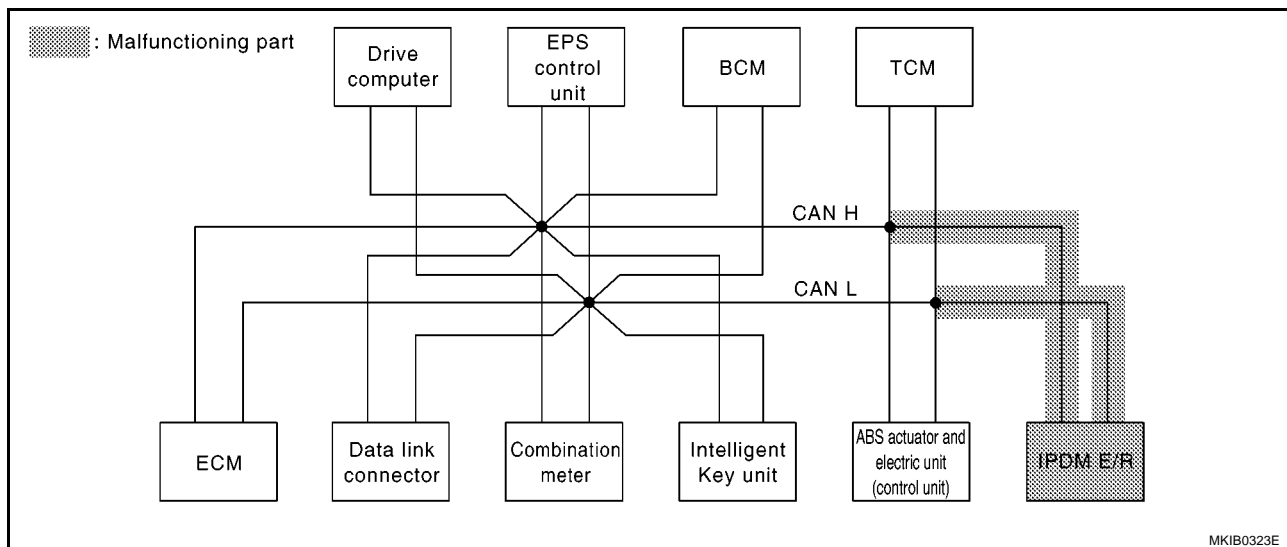
[CAN]

## Case10

Check IPDM E/R circuit. Refer to [LAN-167, "IPDM E/R Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | CAN CIRC 5 | —          | —          | CAN CIRC 3 | —          |
| A/T             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | —          | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 2 | —          | —          | —          |

MKIB0786E



MKIB0323E

# CAN SYSTEM (TYPE 5)

[CAN]

## Case11

Check CAN communication circuit. Refer to [LAN-168, "CAN Communication Circuit Check"](#).

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | CAN CIRC 5 | —          | —          | CAN CIRC 3 | —          |
| A/T             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | —          | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 2 | —          | —          | —          |

MKIB0787E

## Case12

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to [LAN-171, "IPDM E/R Ignition Relay Circuit Check"](#).

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | CAN CIRC 5 | —          | —          | CAN CIRC 3 | —          |
| A/T             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | —          | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 2 | —          | —          | —          |

MKIB0788E

## Case13

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to [LAN-171, "IPDM E/R Ignition Relay Circuit Check"](#).

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | CAN CIRC 5 | —          | —          | CAN CIRC 3 | —          |
| A/T             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | —          | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 2 | —          | —          | —          |

MKIB0789E

LAN

# Circuit Check Between BCM and ABS Actuator and Electric Unit (Control Unit)

EKS00J09

## 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).

- Harness connector M1
- Harness connector E101

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

## 2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect following connector.
  - Harness connector M1
  - Combination meter connector
  - Intelligent Key unit connector
  - Drive computer connector
  - EPS control unit connector
  - BCM connector
2. Check continuity between BCM harness connector M48 terminals 19 (R), 39 (W) and harness connector M1 terminals 2C (R), 1C (W).

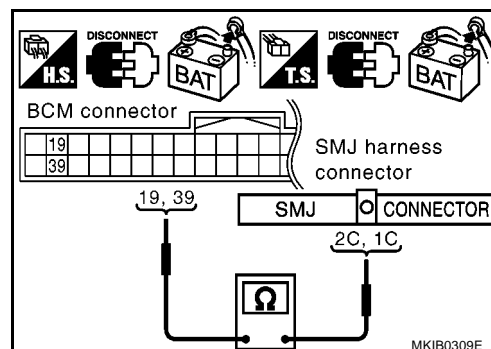
**19 (R) – 2C (R) : Continuity should exist.**

**39 (W) – 1C (W) : Continuity should exist.**

OK or NG

OK &gt;&gt; GO TO 3.

NG &gt;&gt; Repair harness.



## 3. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between harness connector E101 terminals 2C (R), 1C (W) and ABS actuator and electric unit (control unit) harness connector E47 terminals 35 (R), 14 (W).

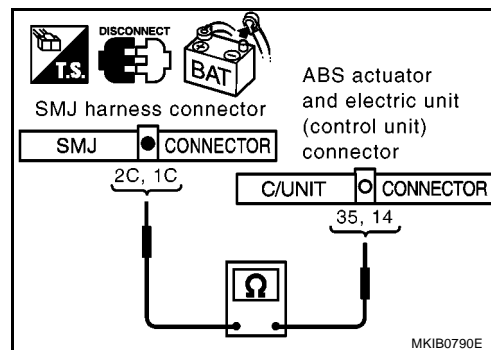
**2C (R) – 35 (R) : Continuity should exist.**

**1C (W) – 14 (W) : Continuity should exist.**

OK or NG

OK >> Reconnect all connectors to perform "SELECT SYSTEM", "SELF-DIAG RESULTS" and "DATA MONITOR (CAN DIAG SUPPORT MNTR)" displayed on CONSULT-II. Refer to [LAN-143, "Work Flow"](#).

NG >> Repair harness.



**ECM Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
  - ECM connector
  - Harness connector M1
  - Harness connector E101

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

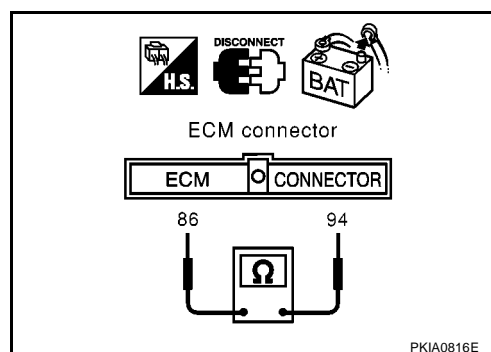
1. Disconnect ECM connector.
2. Check resistance between ECM harness connector E49 terminals 94 (R) and 86 (W).

**94 (R) – 86 (W)****: Approx. 108 – 132Ω**

OK or NG

OK &gt;&gt; Replace ECM.

NG &gt;&gt; Repair harness between ECM and data link connector.



## Data Link Connector Circuit Check

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check data link connector and terminals for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M17 terminals 6 (R) and 14 (W).

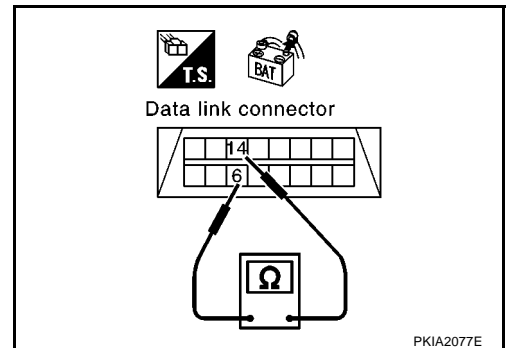
**6 (R) – 14 (W)**

**: Approx. 54 – 66Ω**

OK or NG

OK >> Perform "SELECT SYSTEM", "SELF-DIAG RESULTS" and "DATA MONITOR (CAN DIAG SUPPORT MNTR)" displayed on CONSULT-II. Refer to [LAN-143, "Work Flow"](#).

NG >> Repair harness between data link connector and combination meter





**Combination Meter Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of combination meter for damage, bend and loose connection (meter side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

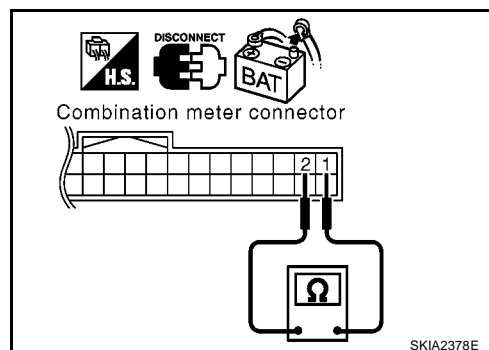
**2. CHECK HARNESS FOR OPEN CIRCUIT**

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M22 terminals 1 (R) and 2 (W).

**1 (R) – 2 (W)****: Approx. 54 – 66Ω**OK or NG

OK &gt;&gt; Replace combination meter

NG &gt;&gt; Repair harness between combination meter and data link connector.



## Intelligent Key Unit Circuit Check

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of Intelligent Key unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect Intelligent Key unit connector.
2. Check resistance between Intelligent Key unit harness connector M51 terminals 2 (R) and 3 (W).

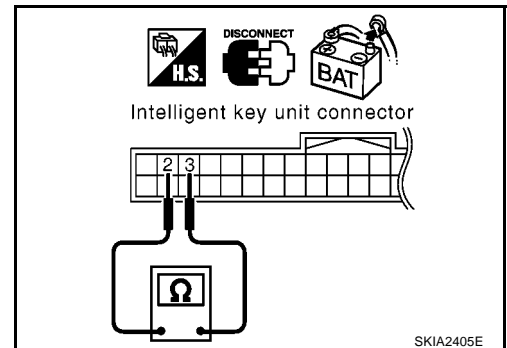
**2 (R) – 3 (W)**

**: Approx. 54 – 66Ω**

OK or NG

OK >> Replace Intelligent Key unit.

NG >> Repair harness between Intelligent Key unit and data link connector.



**EPS Control Unit Circuit Check**

EKS00J0E

**1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of EPS control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

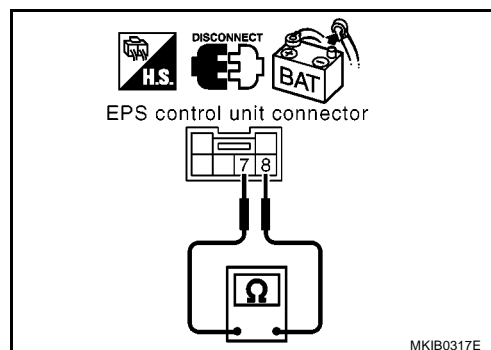
**2. CHECK HARNESS FOR OPEN CIRCUIT**

1. Disconnect EPS control unit connector.
2. Check resistance between EPS control unit harness connector M23 terminals 8 (R) and 7 (W).

**8 (R) – 7 (W)****: Approx. 54 – 66Ω**OK or NG

OK &gt;&gt; Replace EPS control unit.

NG &gt;&gt; Repair harness between EPS control unit and data link connector.



**BCM Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

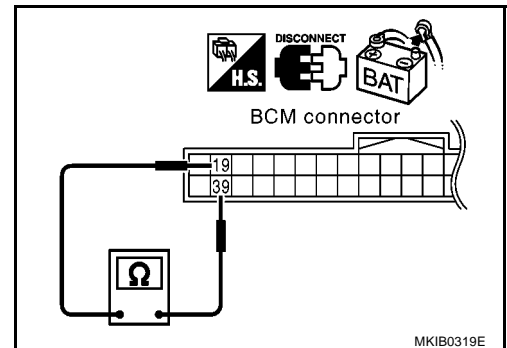
1. Disconnect BCM connector.
2. Check resistance between BCM harness connector M48 terminals 19 (R) and 39 (W).

**19 (R) – 39 (W) : Approx. 54 – 66Ω**

OK or NG

OK >> Replace BCM. Refer to [BCS-31, "Removal and Installation of BCM"](#).

NG &gt;&gt; Repair harness between BCM and data link connector.



## ABS Actuator and Electric Unit (Control Unit) Circuit Check

EKS00JOG

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector E47 terminals 35 (R) and 14 (W).

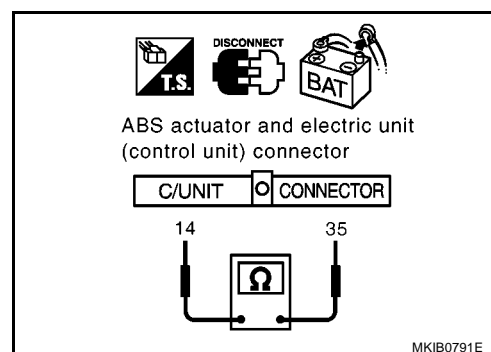
**35 (R) – 14 (W)**

**: Approx. 54 – 66Ω**

OK or NG

OK >> Replace ABS actuator and electric unit (control unit).

NG >> Repair harness between ABS actuator and electric unit (control unit) and TCM.



**TCM Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of TCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

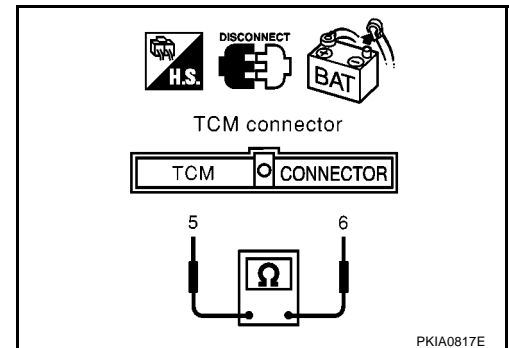
1. Disconnect TCM connector.
2. Check resistance between TCM harness connector E105 terminals 5 (R) and 6 (W).

**5 (R) – 6 (W) : Approx. 54 – 66Ω**

OK or NG

OK >> Replace TCM.

NG >> Repair harness between TCM and IPDM E/R.



**IPDM E/R Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

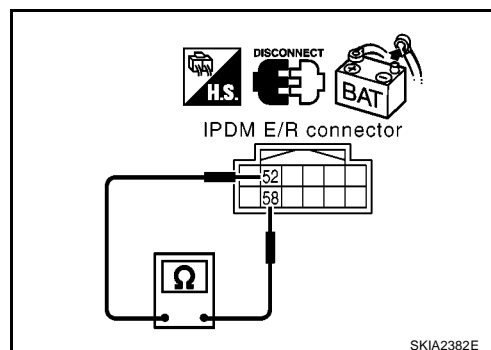
**2. CHECK HARNESS FOR OPEN CIRCUIT**

1. Disconnect IPDM E/R connector.
2. Check resistance between IPDM E/R harness connector E16 terminals 52 (R) and 58 (W).

**52 (R) – 58 (W)****: Approx. 108 – 132Ω**OK or NG

OK &gt;&gt; Replace IPDM E/R.

NG &gt;&gt; Repair harness between IPDM E/R and TCM.



## CAN Communication Circuit Check

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connectors for damage, bend and loose connection (control module side, meter side, control unit side and harness side).
  - ECM
  - Combination meter
  - Intelligent Key unit
  - Drive computer
  - EPS control unit
  - BCM
  - ABS actuator and electric unit (control unit)
  - TCM
  - IPDM E/R
  - Between ECM and IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

### 2. CHECK HARNESS FOR SHORT CIRCUIT

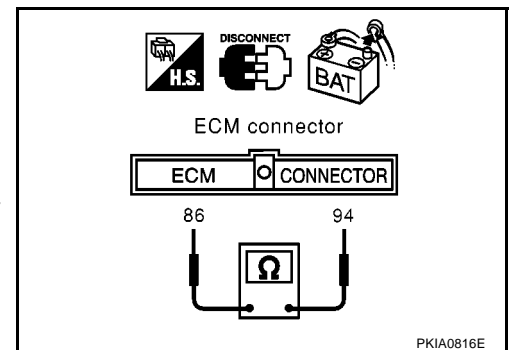
1. Disconnect ECM connector and harness connector E101.
2. Check continuity between ECM harness connector E49 terminals 94 (R) and 86 (W).

**94 (R) – 86 (W) : Continuity should not exist.**

OK or NG

OK >> GO TO 3.

NG >> Repair harness between ECM and harness connector E101.



### 3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector E49 terminals 94 (R), 86 (W) and ground.

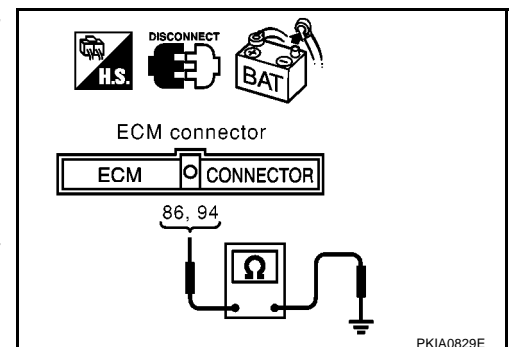
**94 (R) – Ground : Continuity should not exist.**

**86 (W) – Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 4.

NG >> Repair harness between ECM and harness connector E101.





## 4. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect following connectors.
  - ABS actuator and electric unit (control unit) connector
  - TCM connector
  - IPDM E/R connector
2. Check continuity between ABS actuator and electric unit (control unit) harness connector E47 terminals 35 (R) and 14 (W).

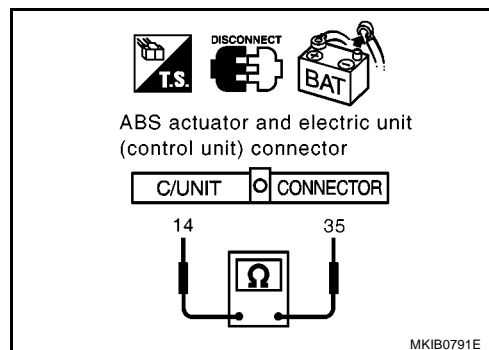
**35 (R) – 14 (W) : Continuity should not exist.**

OK or NG

OK >> GO TO 5.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between ABS actuator and electric unit (control unit) and TCM
- Harness between ABS actuator and electric unit (control unit) and harness connector E101
- Harness between ABS actuator and electric unit (control unit) and IPDM E/R



## 5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ABS actuator and electric unit (control unit) harness connector E47 terminals 35 (R), 14 (W) and ground.

**35 (R) – Ground : Continuity should not exist.**

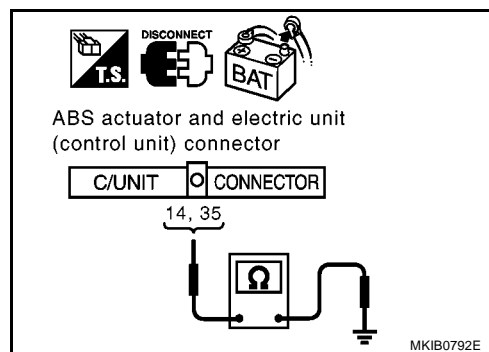
**14 (W) – Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 6.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between ABS actuator and electric unit (control unit) and TCM
- Harness between ABS actuator and electric unit (control unit) and harness connector E101
- Harness between ABS actuator and electric unit (control unit) and IPDM E/R



## 6. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect following connectors.
  - Combination meter connector
  - Intelligent Key unit connector
  - Drive computer connector
  - EPS control unit connector
  - BCM connector
- Check continuity between data link connector M17 terminals 6 (R) and 14 (W).

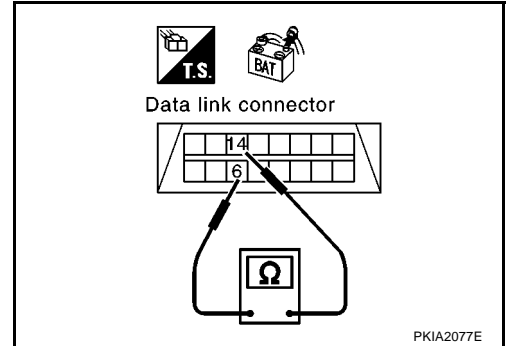
**6 (R) – 14 (W) : Continuity should not exist.**

### OK or NG

OK >> GO TO 7.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between data link connector and harness connector M1
- Harness between data link connector and combination meter
- Harness between data link connector and Intelligent Key unit
- Harness between data link connector and drive computer
- Harness between data link connector and EPS control unit
- Harness between data link connector and BCM



## 7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M17 terminals 6 (R), 14 (W) and ground.

**6 (R) – Ground : Continuity should not exist.**

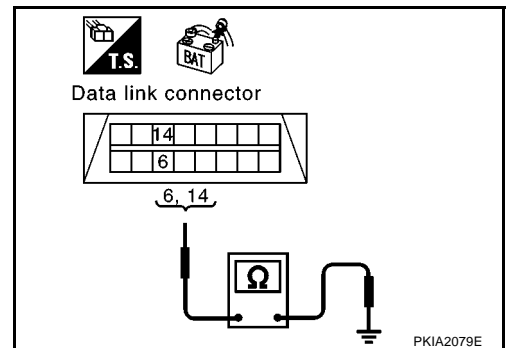
**14 (W) – Ground : Continuity should not exist.**

### OK or NG

OK >> GO TO 8.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between data link connector and harness connector M1
- Harness between data link connector and combination meter
- Harness between data link connector and Intelligent Key unit
- Harness between data link connector and drive computer
- Harness between data link connector and EPS control unit
- Harness between data link connector and BCM



## 8. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-171, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"](#).

### OK or NG

OK >> Reconnect all connectors to perform "SELECT SYSTEM", "SELF-DIAG RESULTS" and "DATA MONITOR (CAN DIAG SUPPORT MNTR)" displayed on CONSULT-II. Refer to [LAN-143, "Work Flow"](#).

NG >> Replace ECM and/or IPDM E/R.

**IPDM E/R Ignition Relay Circuit Check**

EKS00JOK

Perform the self-diagnosis for IPDM E/R. Refer to [PG-48, "Inspection With CONSULT-II \(Self-Diagnosis\)"](#) . If the result is OK, carry out following inspections.

- IPDM E/R power supply circuit. Refer to [PG-49, "IPDM E/R Power Supply and Ground Circuit Check"](#) .
- Ignition power supply circuit. Refer to [PG-12, "IGNITION POWER SUPPLY — IGNITION SW. IN "ON" AND/OR "START" "](#) .

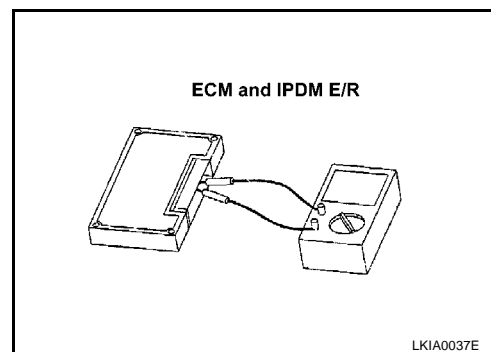
**Component Inspection**

EKS00JOL

**ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION**

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 52 and 58.

| Unit     | Terminal | Resistance value ( $\Omega$ )<br>(Approx.) |
|----------|----------|--|
| ECM      | 94 – 86  | 108 - 132                                  |
| IPDM E/R | 52 – 58  |  |



## CAN SYSTEM (TYPE 6)

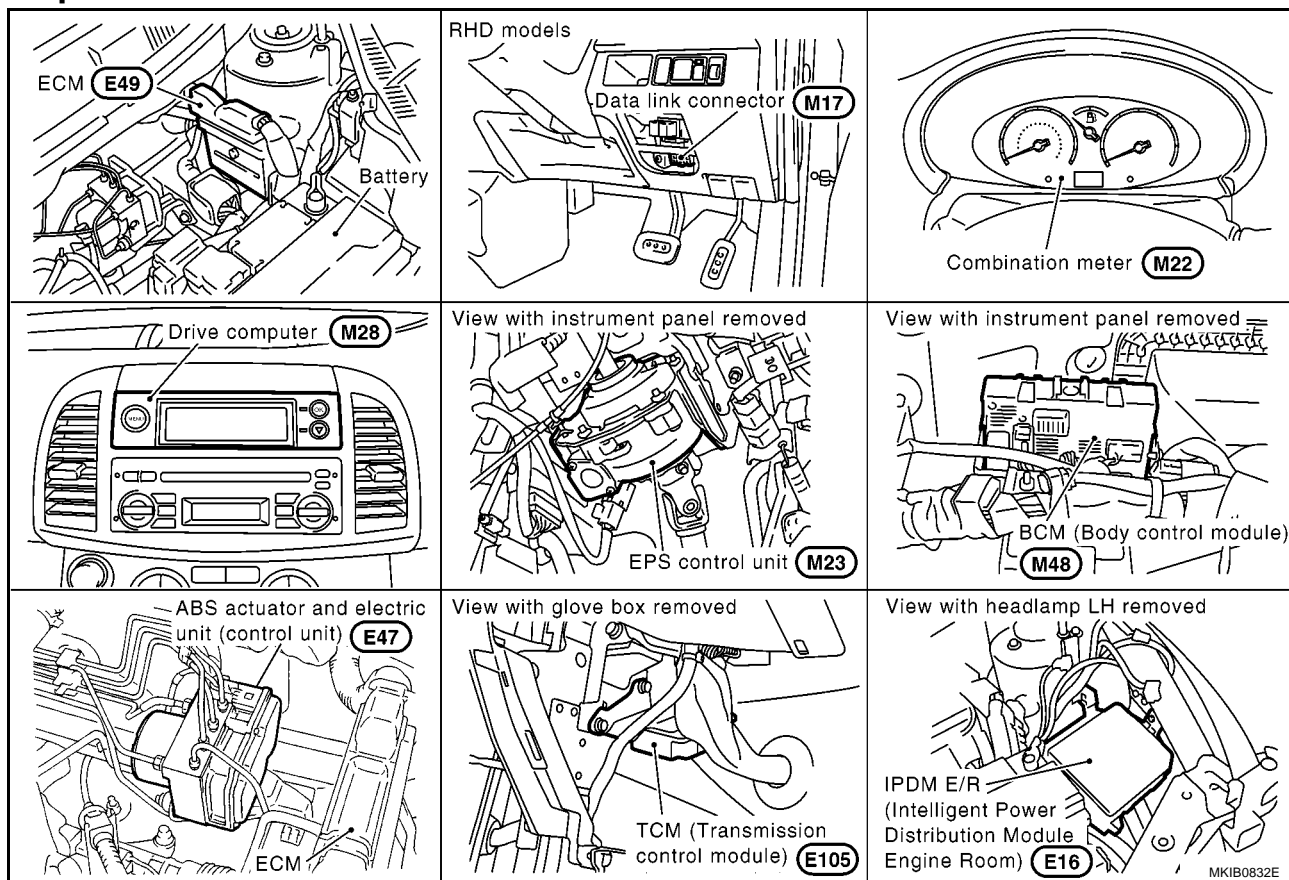
## System Description

EKS00JOM

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

## Component Parts and Harness Connector Location

EKS00JON



# CAN SYSTEM (TYPE 6)

[CAN]

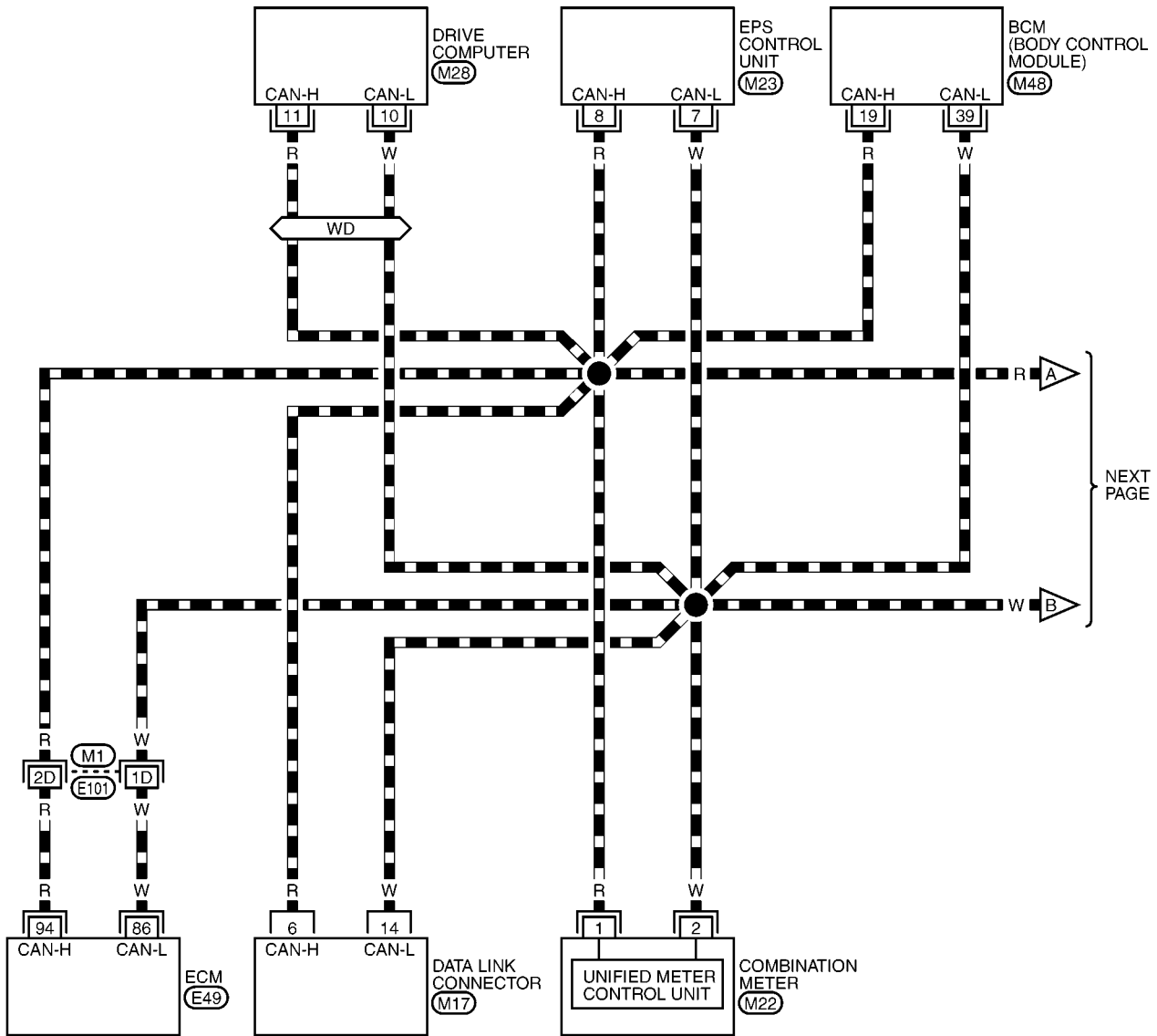
## Wiring Diagram — CAN —

EKS00J00

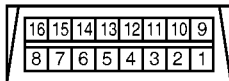
### LAN-CAN-11

— : DATA LINE

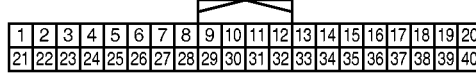
WD : WITH DRIVE COMPUTER



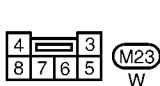
LAN



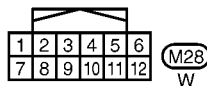
M17  
W



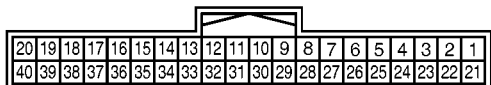
M22  
W



M23  
W



M28  
W



M48  
W



REFER TO THE FOLLOWING.

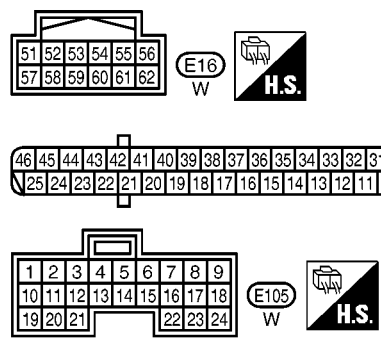
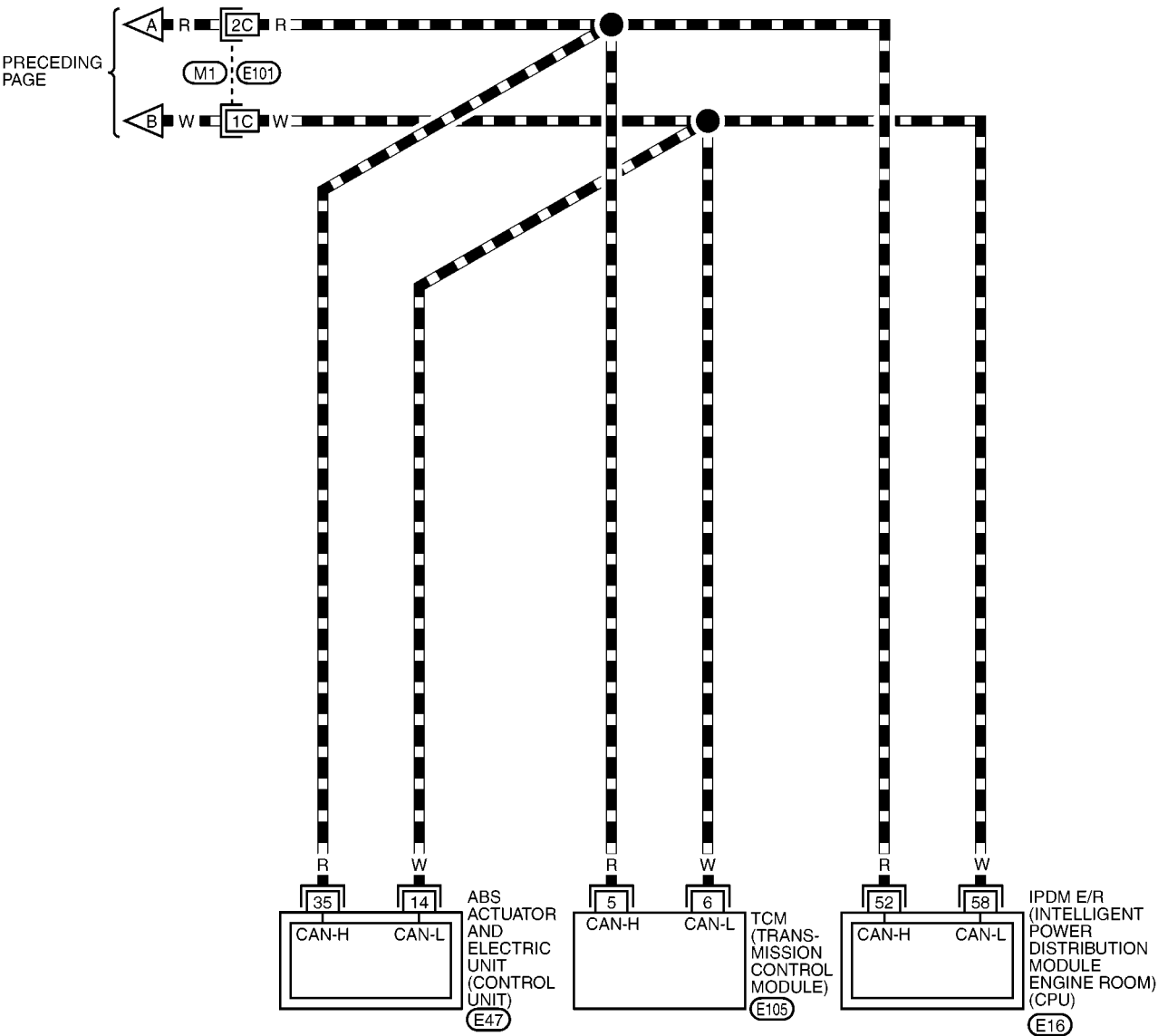
(M1) -SUPER MULTIPLE JUNCTION (SMJ)

(E49) -ELECTRICAL UNITS

MKWA2711E

LAN-CAN-12

DATA LINE



REFER TO THE FOLLOWING.  
(M1) -SUPER MULTIPLE JUNCTION (SMJ)


## Work Flow

EKS00JOP

- When there are no indications of "EPS", "BCM" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".

(Example)

|                           |  |       |      |
|---------------------------|--|-------|------|
| NISSAN                    |  |       |      |
| CONSULT-II                |  |       |      |
| ENGINE                    |  |       |      |
| START (NISSAN BASED VHCL) |  |       |      |
| START (X-BADGE VHCL)      |  |       |      |
| SUB MODE                  |  |       |      |
|                           |  | LIGHT | COPY |




|               |  |      |            |
|---------------|--|------|------------|
| SELECT SYSTEM |  |      |            |
| ENGINE        |  |      |            |
| A/T           |  |      |            |
| ABS           |  |      |            |
| AIR BAG       |  |      |            |
| BCM           |  |      |            |
| METER A/C AMP |  |      |            |
|               |  |      |            |
|               |  |      |            |
|               |  | BACK | LIGHT COPY |

MKIB1692E

- Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "EPS", "BCM", "ABS", "A/T" and "IPDM E/R" displayed on CONSULT-II.

(Example)

|                       |  |             |            |
|-----------------------|--|-------------|------------|
| SELECT DIAG MODE      |  |             |            |
| WORK SUPPORT          |  |             |            |
| SELF-DIAG RESULTS     |  |             |            |
| DATA MONITOR          |  |             |            |
| DATA MONITOR (SPEC)   |  |             |            |
| CAN DIAG SUPPORT MNTR |  |             |            |
| ACTIVE TEST           |  |             |            |
|                       |  |             |            |
|                       |  | Scroll Down |            |
|                       |  | BACK        | LIGHT COPY |




|                          |      |          |      |
|--------------------------|------|----------|------|
| SELF-DIAG RESULTS        |      |          |      |
| DTC RESULTS              |      | TIME     |      |
| CAN COMM CIRCUIT [U1000] |      | 0        |      |
|                          |      |          |      |
|                          |      |          |      |
|                          |      | F.F.DATA |      |
| ERASE                    |      | PRINT    |      |
| MODE                     | BACK | LIGHT    | COPY |

PKIA8260E

- Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "EPS", "BCM", "ABS", "A/T" and "IPDM E/R" displayed on CONSULT-II.

(Example)

|                       |  |             |            |
|-----------------------|--|-------------|------------|
| SELECT DIAG MODE      |  |             |            |
| WORK SUPPORT          |  |             |            |
| SELF-DIAG RESULTS     |  |             |            |
| DATA MONITOR          |  |             |            |
| DATA MONITOR (SPEC)   |  |             |            |
| CAN DIAG SUPPORT MNTR |  |             |            |
| ACTIVE TEST           |  |             |            |
|                       |  |             |            |
|                       |  | Scroll Down |            |
|                       |  | BACK        | LIGHT COPY |



|                       |      |             |      |
|-----------------------|------|-------------|------|
| CAN DIAG SUPPORT MNTR |      |             |      |
| ENGINE                |      |             |      |
|                       |      | PRST        |      |
| INITIAL DIAG          |      | OK          |      |
| TRANSMIT DIAG         |      | OK          |      |
| TCM                   |      | OK          |      |
| VDC/TCS/ABS           |      | OK          |      |
| METER/M&A             |      | OK          |      |
| ICC                   |      | UNKWN       |      |
| BCM/SEC               |      | OK          |      |
| IPDM E/R              |      | OK          |      |
| AWD/4WD/e4WD          |      | UNKWN       |      |
| PRINT                 |      | Scroll Down |      |
| MODE                  | BACK | LIGHT       | COPY |

PKIA8343E

- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to [LAN-177, "CHECK SHEET"](#).
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to [LAN-177, "CHECK SHEET"](#).

**NOTE:**

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual. So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.

# CAN SYSTEM (TYPE 6)

[CAN]

6. Convert "v" mark on comparison table to check sheet table.

(Example)

Check sheet table

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5 | —          | —          | CAN CIRC 3 | —          |
| A/T      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | —          | —          |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 2 | —          | —          | —          |

Comparison table

| SELECT SYSTEM screen | Initial diagnosis | Transmit diagnosis | Receive diagnosis |            |       |         |              |       |          |
|----------------------|-------------------|--------------------|-------------------|------------|-------|---------|--------------|-------|----------|
|                      |                   |                    | ECM               | METER /M&A | EPS   | BCM/SEC | VDC/TCS /ABS | TCM   | IPDM E/R |
| ENGINE               | —                 | NG                 | UNKWN             | —          | UNKWN | UNKWN   | UNKWN        | UNKWN | UNKWN    |
| EPS                  | No indication     | NG                 | UNKWN             | UNKWN      | UNKWN | —       | UNKWN        | —     | —        |
| BCM                  | No indication     | —                  | UNKWN             | UNKWN      | UNKWN | —       | —            | UNKWN | UNKWN    |
| ABS                  | No indication     | NG                 | UNKWN             | UNKWN      | UNKWN | —       | —            | UNKWN | —        |
| A/T                  | —                 | NG                 | UNKWN             | UNKWN      | UNKWN | —       | —            | —     | —        |
| IPDM E/R             | No indication     | NG                 | UNKWN             | UNKWN      | —     | —       | UNKWN        | —     | —        |

Convert

MKIB1687E

7. According to the check sheet results (example), start inspection. Refer to [LAN-179, "CHECK SHEET RESULTS \(EXAMPLE\)"](#).



# CAN SYSTEM (TYPE 6)

[CAN]

## CHECK SHEET

Check sheet table

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5 | —          | —          | CAN CIRC 3 | —          |
| A/T      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | —          | —          |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 2 | —          | —          | —          |

Comparison table

| SELECT SYSTEM screen |               | Initial diagnosis | Transmit diagnosis | Receive diagnosis |            |       |         |              |       |          |
|----------------------|---------------|-------------------|--------------------|-------------------|------------|-------|---------|--------------|-------|----------|
|                      |               |                   |                    | ECM               | METER /M&A | EPS   | BCM/SEC | VDC/TCS /ABS | TCM   | IPDM E/R |
| ENGINE               | —             | NG                | UNKWN              | —                 | UNKWN      | UNKWN | UNKWN   | UNKWN        | UNKWN | UNKWN    |
| EPS                  | No indication | NG                | UNKWN              | UNKWN             | UNKWN      | —     | UNKWN   | UNKWN        | —     | —        |
| BCM                  | No indication | —                 | UNKWN              | UNKWN             | UNKWN      | —     | —       | —            | UNKWN | UNKWN    |
| ABS                  | No indication | NG                | UNKWN              | UNKWN             | UNKWN      | UNKWN | —       | —            | UNKWN | —        |
| A/T                  | —             | NG                | UNKWN              | UNKWN             | UNKWN      | —     | —       | —            | —     | —        |
| IPDM E/R             | No indication | NG                | UNKWN              | UNKWN             | —          | —     | UNKWN   | —            | —     | —        |

Symptoms:

Attach copy of  
SELECT SYSTEM

Attach copy of  
SELECT SYSTEM

MKIB1606E

Attach copy of  
ENGINE  
SELF-DIAG RESULTS

Attach copy of  
EPS  
SELF-DIAG RESULTS

Attach copy of  
BCM  
SELF-DIAG RESULTS

Attach copy of  
ABS  
SELF-DIAG RESULTS

Attach copy of  
A/T  
SELF-DIAG RESULTS

Attach copy of  
IPDM E/R  
SELF-DIAG RESULTS

Attach copy of  
ENGINE  
DATA MONITOR

Attach copy of  
EPS  
DATA MONITOR

Attach copy of  
BCM  
DATA MONITOR

Attach copy of  
ABS  
DATA MONITOR

Attach copy of  
A/T  
DATA MONITOR

Attach copy of  
IPDM E/R  
DATA MONITOR

## CHECK SHEET RESULTS (EXAMPLE)

## NOTE:

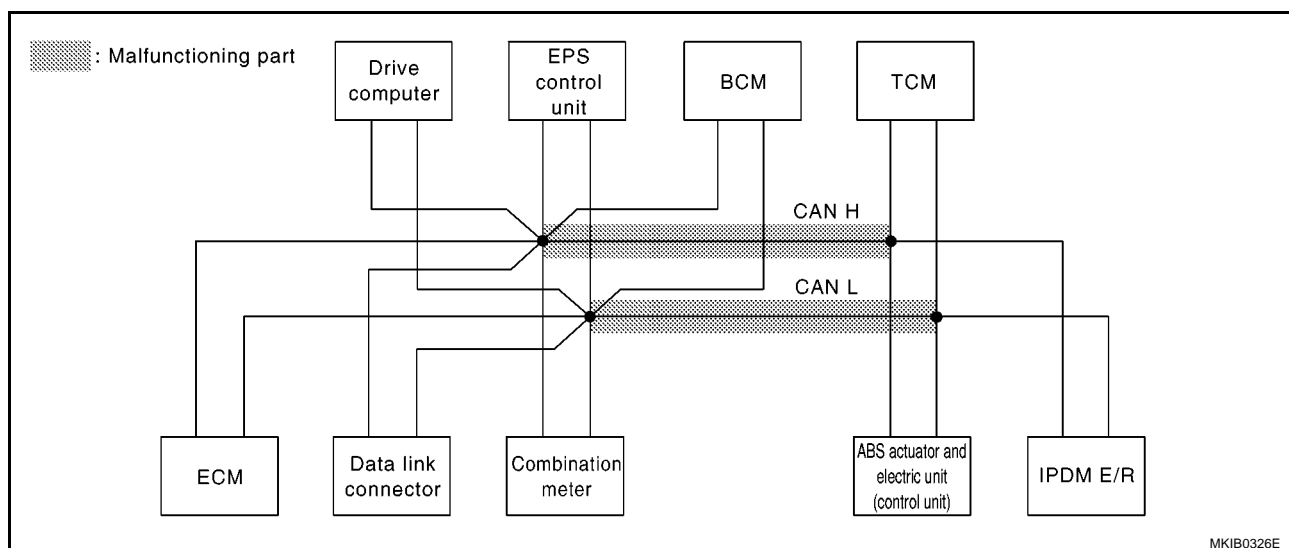
If "NG" is displayed on "CAN COMM" as "DATA MONITOR (CAN DIAG SUPPORT MNTR)" for the diagnosed control unit, replace the control unit.

## Case1

Check harness between BCM and ABS actuator and electric unit (control unit). Refer to [LAN-189, "Circuit Check Between BCM and ABS Actuator and Electric Unit \(Control Unit\)"](#).

|          | CONSULT indication | CAN system | Tx         | Rx           |                   |            |            |              |              |              |
|----------|--------------------|------------|------------|--------------|-------------------|------------|------------|--------------|--------------|--------------|
|          |                    |            |            | ECM          | Combination meter | EPS        | BCM        | ABS          | TCM          | IPDM E/R     |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —            | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 ✓ | CAN CIRC 2 ✓ | CAN CIRC 7 ✓ |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2   | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 ✓ | —            | —            |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2   | CAN CIRC 4        | —          | —          | —            | CAN CIRC 6 ✓ | CAN CIRC 3 ✓ |
| ABS      | No indication ✓    | CAN COMM   | CAN CIRC 1 | CAN CIRC 2   | CAN CIRC 4        | CAN CIRC 5 | —          | —            | CAN CIRC 3   | —            |
| A/T      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 ✓ | CAN CIRC 4 ✓      | —          | —          | —            | —            | —            |
| IPDM E/R | No indication ✓    | CAN COMM   | CAN CIRC 1 | CAN CIRC 3   | —                 | —          | CAN CIRC 2 | —            | —            | —            |

MKIB0794E



MKIB0326E

# CAN SYSTEM (TYPE 6)

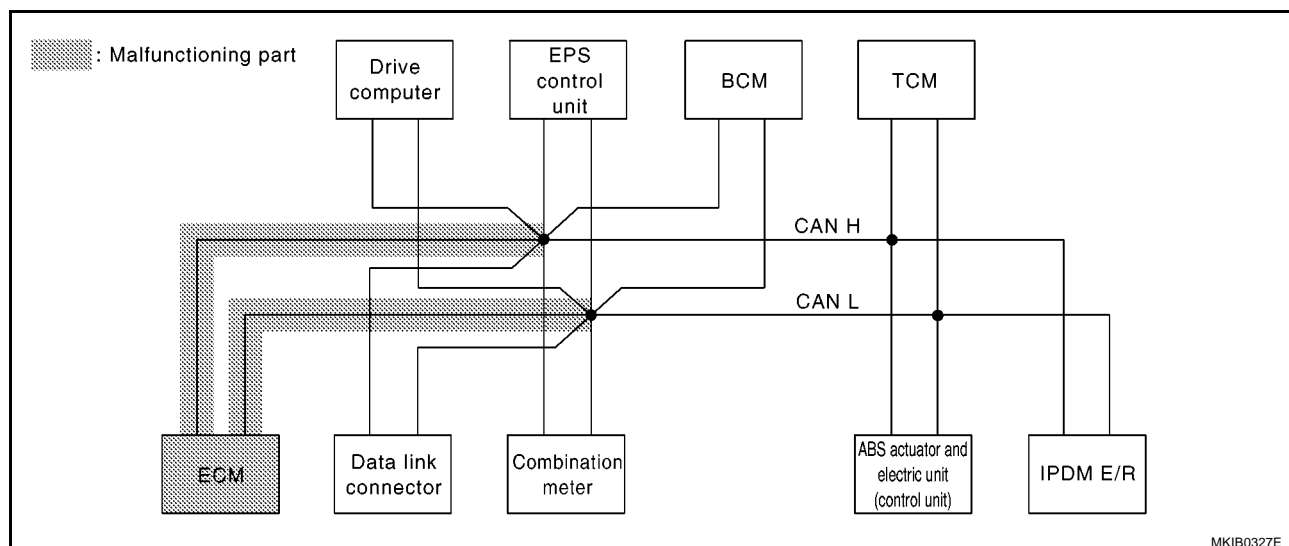
[CAN]

## Case2

Check ECM circuit. Refer to [LAN-190, "ECM Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5 | —          | —          | CAN CIRC 3 | —          |
| A/T      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | —          | —          |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 2 | —          | —          | —          |

MKIB0795E



MKIB0327E

# CAN SYSTEM (TYPE 6)

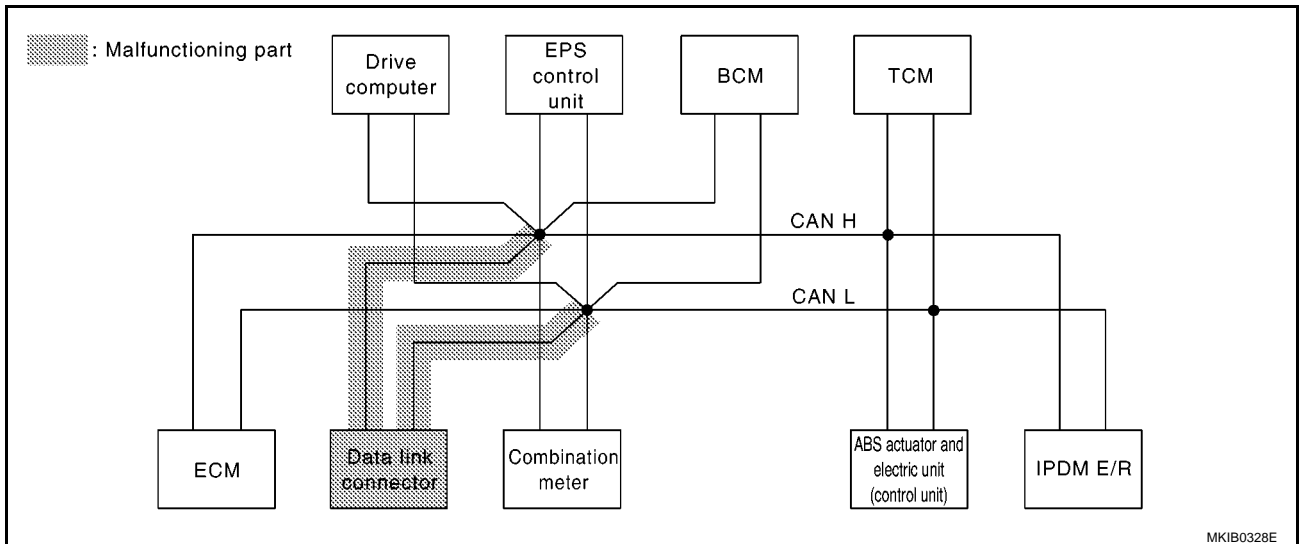
[CAN]

## Case3

Check data link connector circuit. Refer to [LAN-191, "Data Link Connector Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication ✓    | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM      | No indication ✓    | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS      | No indication ✓    | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5 | —          | —          | CAN CIRC 3 | —          |
| A/T      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | —          | —          |
| IPDM E/R | No indication ✓    | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 2 | —          | —          | —          |

MKIB0796E



MKIB0328E

LAN

# CAN SYSTEM (TYPE 6)

[CAN]

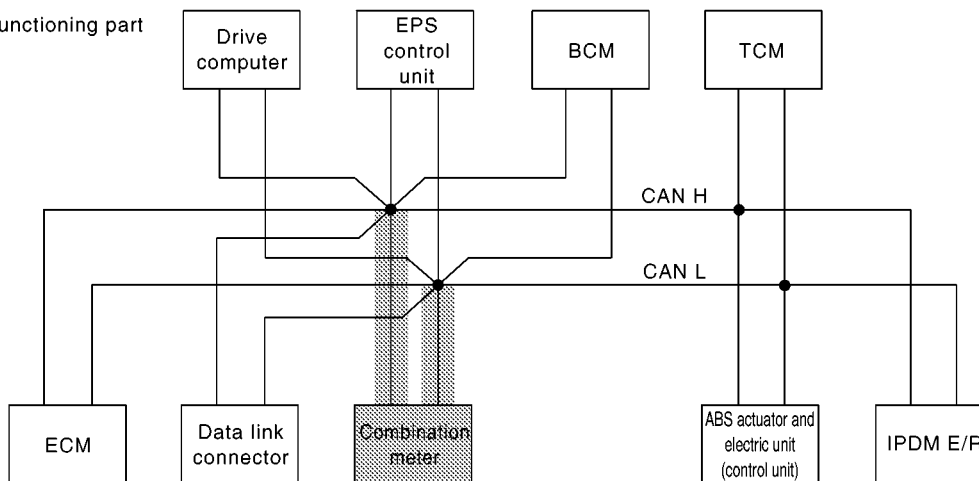
## Case4

Check combination meter circuit. Refer to [LAN-192, "Combination Meter Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5 | —          | —          | CAN CIRC 3 | —          |
| A/T      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | —          | —          |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 2 | —          | —          | —          |

MKIB0797E

 : Malfunctioning part



MKIB0329E

# CAN SYSTEM (TYPE 6)

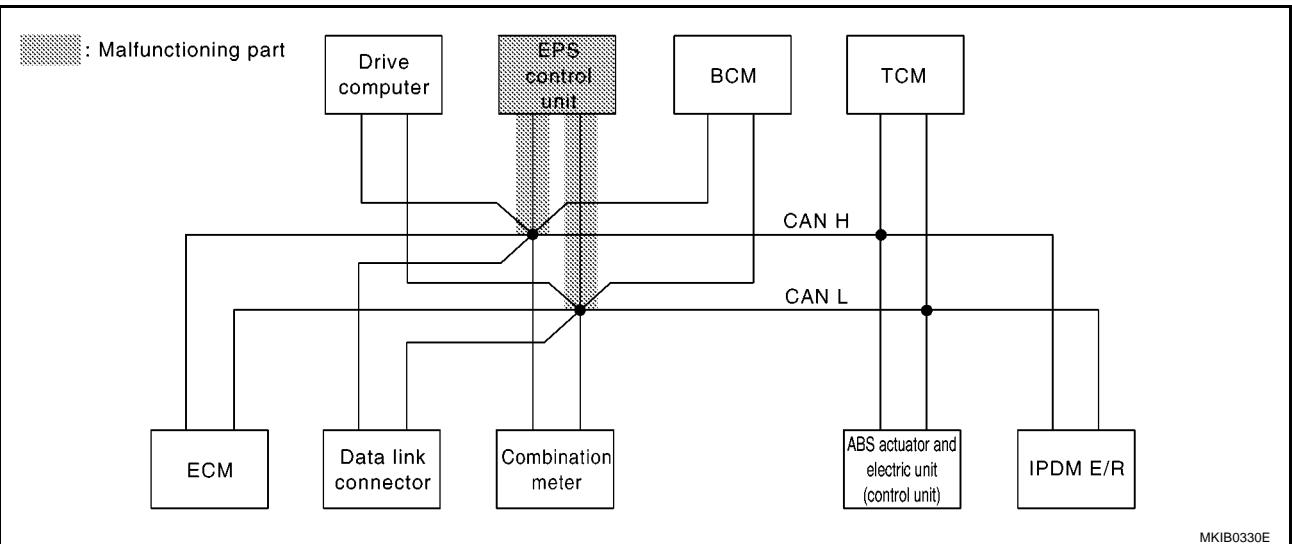
[CAN]

## Case5

Check EPS control unit circuit. Refer to [LAN-193, "EPS Control Unit Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5 | —          | —          | CAN CIRC 3 | —          |
| A/T      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | —          | —          |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 2 | —          | —          | —          |

MKIB0798E



MKIB0330E

# CAN SYSTEM (TYPE 6)

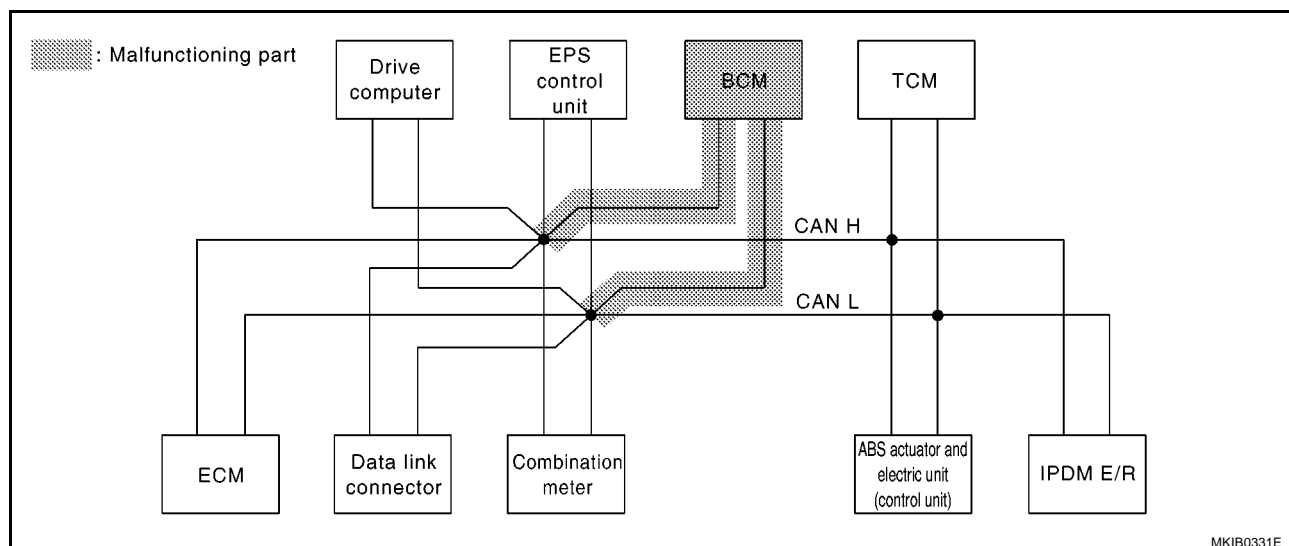
[CAN]

## Case6

Check BCM circuit. Refer to [LAN-194, "BCM Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5 | —          | —          | CAN CIRC 3 | —          |
| A/T      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | —          | —          |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 2 | —          | —          | —          |

MKIB0799E



MKIB0331E



# CAN SYSTEM (TYPE 6)

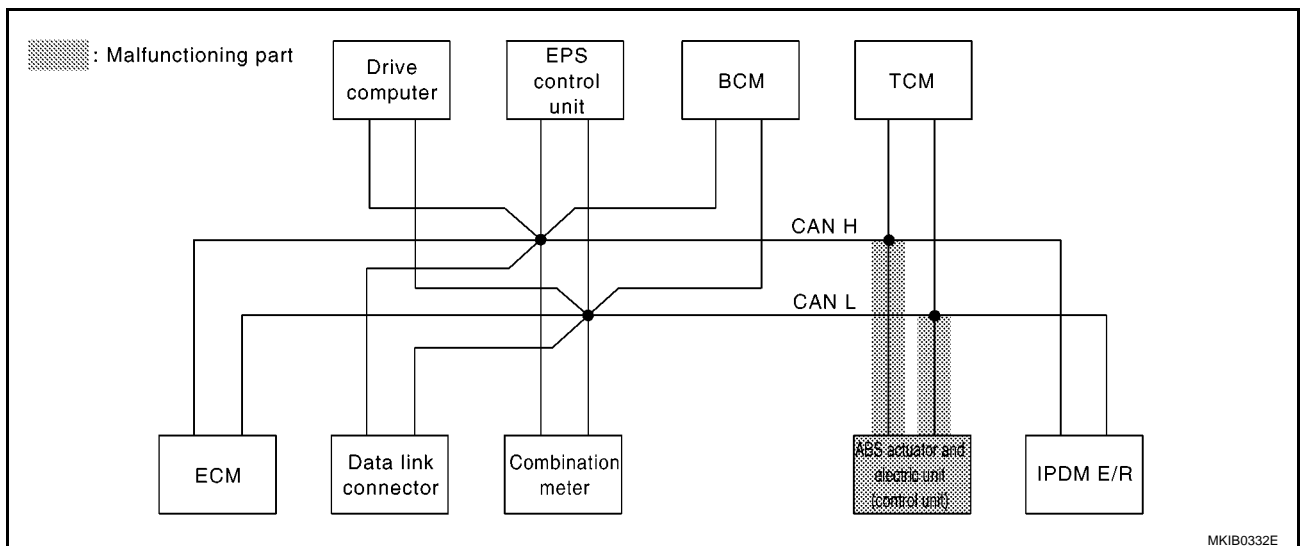
[CAN]

## Case7

Check ABS actuator and electric unit (control unit) circuit. Refer to [LAN-195, "ABS Actuator and Electric Unit \(Control Unit\) Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5 | —          | —          | CAN CIRC 3 | —          |
| A/T      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | —          | —          |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 2 | —          | —          | —          |

MKIB0800E



MKIB0332E

# CAN SYSTEM (TYPE 6)

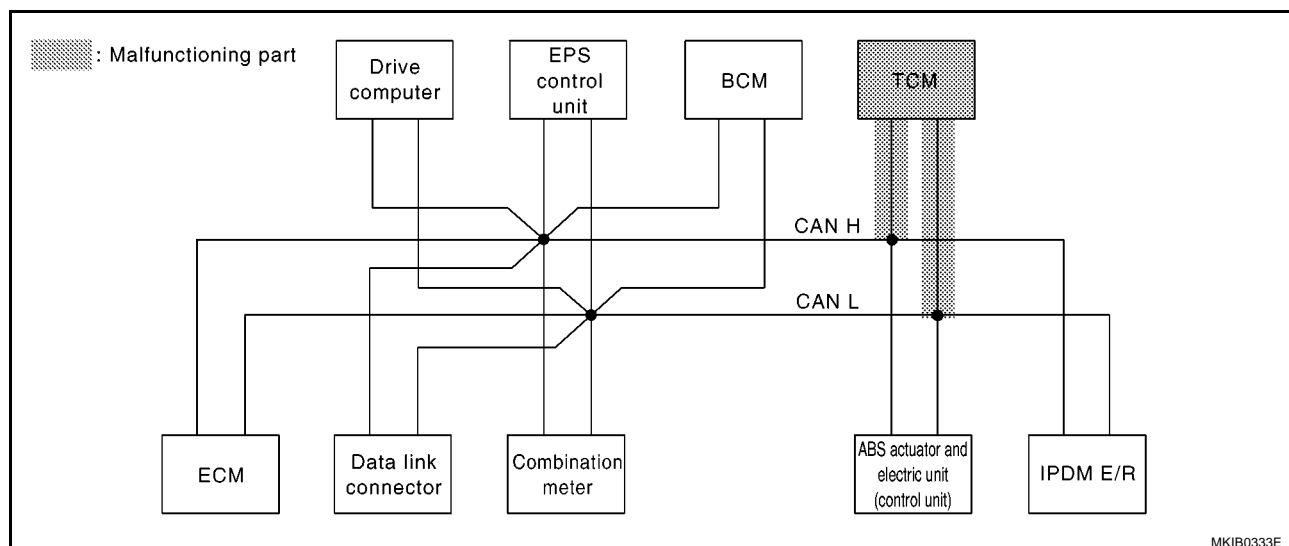
[CAN]

## Case8

Check TCM circuit. Refer to [LAN-196, "TCM Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5 | —          | —          | CAN CIRC 3 | —          |
| A/T      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | —          | —          |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 2 | —          | —          | —          |

MKIB0801E



MKIB0333E

# CAN SYSTEM (TYPE 6)

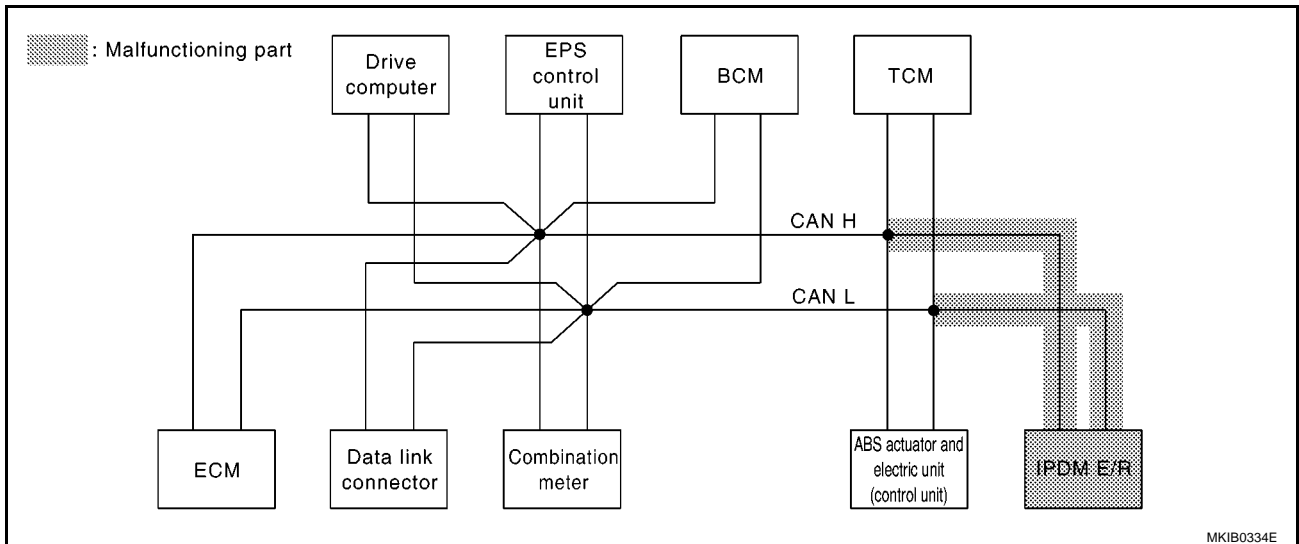
[CAN]

## Case9

Check IPDM E/R circuit. Refer to [LAN-197, "IPDM E/R Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | TCM        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 6 | CAN CIRC 3 |
| ABS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5 | —          | —          | CAN CIRC 3 | —          |
| A/T      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | —          | —          |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 2 | —          | —          | —          |

MKIB0802E



MKIB0334E

# CAN SYSTEM (TYPE 6)

[CAN]

## Case10

Check CAN communication circuit. Refer to [LAN-198, "CAN Communication Circuit Check"](#).

|          | CONSULT indication | CAN system | Tx   | Rx   |  |  |  |  |  |  |
|----------|--------------------|------------|--|--|--|--|--|--|--|--|
|          |                    |            |  | ECM  | Combination meter                              | EPS  | BCM  | ABS  | TCM  | IPDM E/R                                       |
| ENGINE   | –                  | CAN COMM   | CAN <input checked="" type="checkbox"/> CIRC 1 | –  | CAN <input checked="" type="checkbox"/> CIRC 4 | CAN <input checked="" type="checkbox"/> CIRC 9 | CAN <input checked="" type="checkbox"/> CIRC 6 | CAN <input checked="" type="checkbox"/> CIRC 3 | CAN <input checked="" type="checkbox"/> CIRC 2 | CAN <input checked="" type="checkbox"/> CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1                                     | CAN CIRC 2                                     | CAN CIRC 4                                     | –  | CAN CIRC 5                                     | CAN CIRC 3                                     | –  | –  |
| BCM      | No indication      | –          | CAN CIRC 1                                     | CAN CIRC 2                                     | CAN CIRC 4                                     | –  | –  | –  | CAN CIRC 6                                     | CAN CIRC 3                                     |
| ABS      | No indication      | CAN COMM   | CAN CIRC 1                                     | CAN CIRC 2                                     | CAN CIRC 4                                     | CAN CIRC 5                                     | –  | –  | CAN CIRC 3                                     | –  |
| A/T      | –                  | CAN COMM   | CAN <input checked="" type="checkbox"/> CIRC 1 | CAN <input checked="" type="checkbox"/> CIRC 2 | CAN <input checked="" type="checkbox"/> CIRC 4 | –  | –  | –  | –  | –  |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1                                     | CAN CIRC 3                                     | –  | –  | CAN CIRC 2                                     | –  | –  | –  |

MKIB0803E

## Case11

Check IPDM E/R ignition relay circuit continuously sticks “OFF”. Refer to [LAN-201, "IPDM E/R Ignition Relay Circuit Check"](#).

|          | CONSULT indication | CAN system | Tx         | Rx   |                   |            |            |  |  |            |
|----------|--------------------|------------|------------|--|-------------------|------------|------------|--|--|------------|
|          |                    |            |            | ECM  | Combination meter | EPS        | BCM        | ABS  | TCM  | IPDM E/R   |
| ENGINE   | –                  | CAN COMM   | CAN CIRC 1 | –  | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3                                     | CAN CIRC 2                                     | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN <input checked="" type="checkbox"/> CIRC 2 | CAN CIRC 4        | –          | CAN CIRC 5 | CAN <input checked="" type="checkbox"/> CIRC 3 | –  | –          |
| BCM      | No indication      | –          | CAN CIRC 1 | CAN <input checked="" type="checkbox"/> CIRC 2 | CAN CIRC 4        | –          | –          | –  | CAN <input checked="" type="checkbox"/> CIRC 6 | CAN CIRC 3 |
| ABS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2                                     | CAN CIRC 4        | CAN CIRC 5 | –          | –  | CAN CIRC 3                                     | –          |
| A/T      | –                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2                                     | CAN CIRC 4        | –          | –          | –  | –  | –          |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1 | CAN <input checked="" type="checkbox"/> CIRC 3 | –                 | –          | CAN CIRC 2 | –  | –  | –          |

MKIB0804E

## Case12

Check IPDM E/R ignition relay circuit continuously sticks “ON”. Refer to [LAN-201, "IPDM E/R Ignition Relay Circuit Check"](#).

|          | CONSULT indication | CAN system | Tx         | Rx         |  |  |  |            |            |  |
|----------|--------------------|------------|------------|------------|--|--|--|------------|------------|--|
|          |                    |            |            | ECM        | Combination meter                              | EPS  | BCM  | ABS        | TCM        | IPDM E/R                                       |
| ENGINE   | –                  | CAN COMM   | CAN CIRC 1 | –          | CAN <input checked="" type="checkbox"/> CIRC 4 | CAN <input checked="" type="checkbox"/> CIRC 9 | CAN <input checked="" type="checkbox"/> CIRC 6 | CAN CIRC 3 | CAN CIRC 2 | CAN <input checked="" type="checkbox"/> CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4                                     | –  | CAN CIRC 5                                     | CAN CIRC 3 | –          | –  |
| BCM      | No indication      | –          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4                                     | –  | –  | –          | CAN CIRC 6 | CAN CIRC 3                                     |
| ABS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN <input checked="" type="checkbox"/> CIRC 4 | CAN <input checked="" type="checkbox"/> CIRC 5 | –  | –          | CAN CIRC 3 | –  |
| A/T      | –                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN <input checked="" type="checkbox"/> CIRC 4 | –  | –  | –          | –          | –  |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | –  | –  | CAN CIRC 2                                     | –          | –          | –  |

MKIB0805E

## Circuit Check Between BCM and ABS Actuator and Electric Unit (Control Unit)

EKS00J0Q

## 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).

- Harness connector M1
- Harness connector E101

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

## 2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect following connector.
  - Harness connector M1
  - Combination meter connector
  - Drive computer connector
  - EPS control unit connector
  - BCM connector
2. Check continuity between BCM harness connector M48 terminals 19 (R), 39 (W) and harness connector M1 terminals 2C (R), 1C (W).

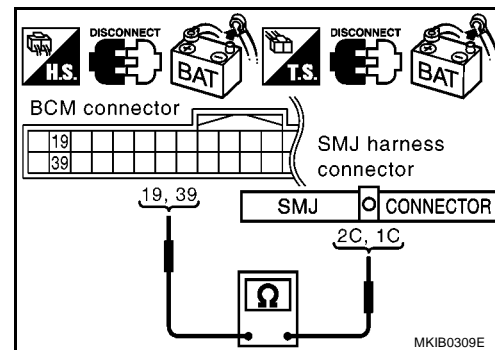
19 (R) – 2C (R) : Continuity should exist.

39 (W) – 1C (W) : Continuity should exist.

OK or NG

OK &gt;&gt; GO TO 3.

NG &gt;&gt; Repair harness.



## 3. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between harness connector E101 terminals 2C (R), 1C (W) and ABS actuator and electric unit (control unit) harness connector E47 terminals 35 (R), 14 (W).

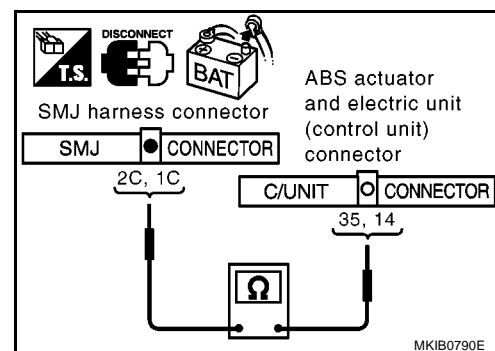
2C (R) – 35 (R) : Continuity should exist.

1C (W) – 14 (W) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELECT SYSTEM", "SELF-DIAG RESULTS" and "DATA MONITOR (CAN DIAG SUPPORT MNTR)" displayed on CONSULT-II. Refer to LAN-175, "Work Flow".

NG &gt;&gt; Repair harness.



**ECM Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
  - ECM connector
  - Harness connector M1
  - Harness connector E101

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

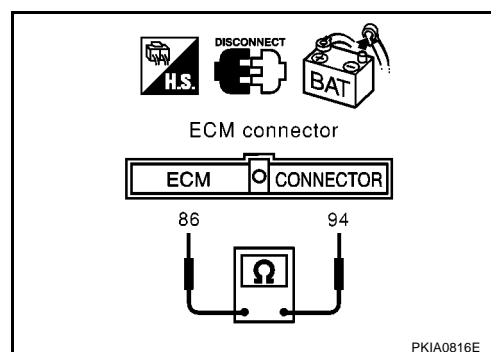
1. Disconnect ECM connector.
2. Check resistance between ECM harness connector E49 terminals 94 (R) and 86 (W).

**94 (R) – 86 (W)****: Approx. 108 – 132Ω**

OK or NG

OK &gt;&gt; Replace ECM.

NG &gt;&gt; Repair harness between ECM and data link connector.



## Data Link Connector Circuit Check

## 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check data link connector and terminals for damage, bend and loose connection (connector side and harness side).

## OK or NG

- OK >> GO TO 2.  
 NG >> Repair terminal or connector.

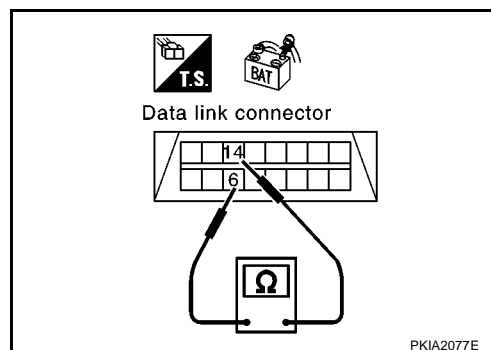
## 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M17 terminals 6 (R) and 14 (W).

**6 (R) – 14 (W) : Approx. 54 – 66Ω**

## OK or NG

- OK >> Perform "SELECT SYSTEM", "SELF-DIAG RESULTS" and "DATA MONITOR (CAN DIAG SUPPORT MNTR)" displayed on CONSULT-II. Refer to [LAN-175. "Work Flow"](#).
- NG >> Repair harness between data link connector and combination meter



**Combination Meter Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of combination meter for damage, bend and loose connection (meter side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

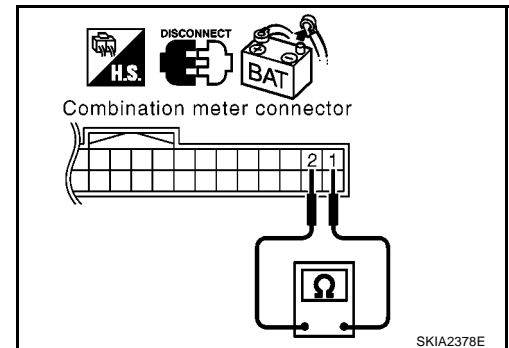
1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M22 terminals 1 (R) and 2 (W).

**1 (R) – 2 (W)****: Approx. 54 – 66Ω**

OK or NG

OK &gt;&gt; Replace combination meter

NG &gt;&gt; Repair harness between combination meter and data link connector.





**EPS Control Unit Circuit Check**

EKS00J0U

**1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of EPS control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

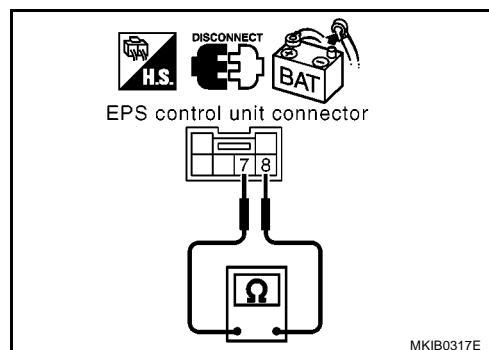
**2. CHECK HARNESS FOR OPEN CIRCUIT**

1. Disconnect EPS control unit connector.
2. Check resistance between EPS control unit harness connector M23 terminals 8 (R) and 7 (W).

**8 (R) – 7 (W)****: Approx. 54 – 66Ω**OK or NG

OK &gt;&gt; Replace EPS control unit.

NG &gt;&gt; Repair harness between EPS control unit and data link connector.



**BCM Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

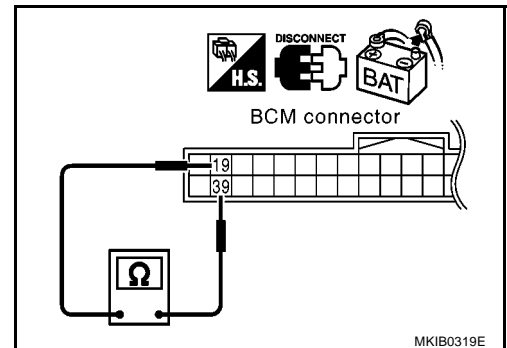
1. Disconnect BCM connector.
2. Check resistance between BCM harness connector M48 terminals 19 (R) and 39 (W).

**19 (R) – 39 (W) : Approx. 54 – 66Ω**

OK or NG

OK >> Replace BCM. Refer to [BCS-31, "Removal and Installation of BCM"](#).

NG &gt;&gt; Repair harness between BCM and data link connector.



## ABS Actuator and Electric Unit (Control Unit) Circuit Check

EKS00J0W

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector E47 terminals 35 (R) and 14 (W).

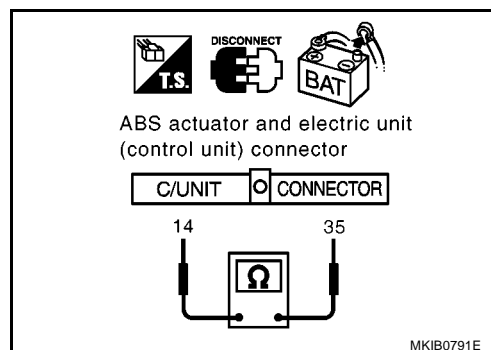
**35 (R) – 14 (W)**

**: Approx. 54 – 66Ω**

OK or NG

OK >> Replace ABS actuator and electric unit (control unit).

NG >> Repair harness between ABS actuator and electric unit (control unit) and TCM.



**TCM Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of TCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

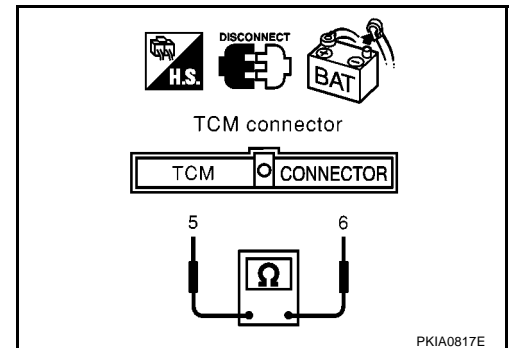
1. Disconnect TCM connector.
2. Check resistance between TCM harness connector E105 terminals 5 (R) and 6 (W).

**5 (R) – 6 (W) : Approx. 54 – 66Ω**

OK or NG

OK &gt;&gt; Replace TCM.

NG &gt;&gt; Repair harness between TCM and IPDM E/R.



**IPDM E/R Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

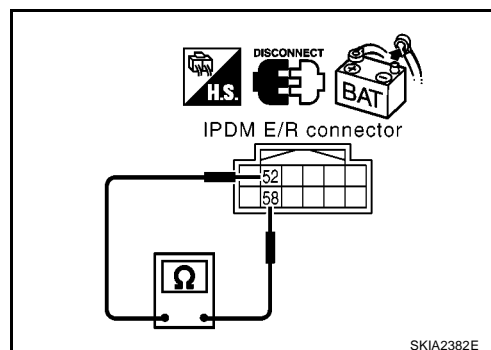
**2. CHECK HARNESS FOR OPEN CIRCUIT**

1. Disconnect IPDM E/R connector.
2. Check resistance between IPDM E/R harness connector E16 terminals 52 (R) and 58 (W).

**52 (R) – 58 (W)****: Approx. 108 – 132Ω**OK or NG

OK &gt;&gt; Replace IPDM E/R.

NG &gt;&gt; Repair harness between IPDM E/R and TCM.



## CAN Communication Circuit Check

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connectors for damage, bend and loose connection (control module side, meter side, control unit side and harness side).
  - ECM
  - Combination meter
  - Drive computer
  - EPS control unit
  - BCM
  - ABS actuator and electric unit (control unit)
  - TCM
  - IPDM E/R
  - Between ECM and IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

### 2. CHECK HARNESS FOR SHORT CIRCUIT

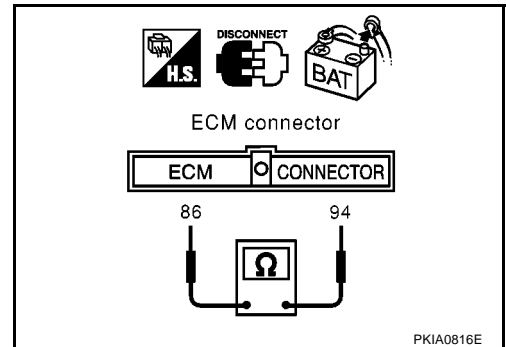
1. Disconnect ECM connector and harness connector E101.
2. Check continuity between ECM harness connector E49 terminals 94 (R) and 86 (W).

**94 (R) – 86 (W) : Continuity should not exist.**

OK or NG

OK >> GO TO 3.

NG >> Repair harness between ECM and harness connector E101.



### 3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector E49 terminals 94 (R), 86 (W) and ground.

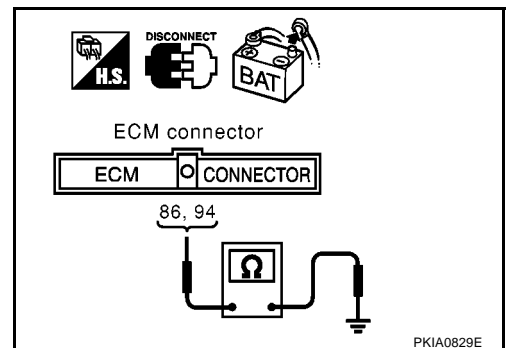
**94 (R) – Ground : Continuity should not exist.**

**86 (W) – Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 4.

NG >> Repair harness between ECM and harness connector E101.



## 4. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect following connectors.
  - ABS actuator and electric unit (control unit) connector
  - TCM connector
  - IPDM E/R connector
2. Check continuity between ABS actuator and electric unit (control unit) harness connector E47 terminals 35 (R) and 14 (W).

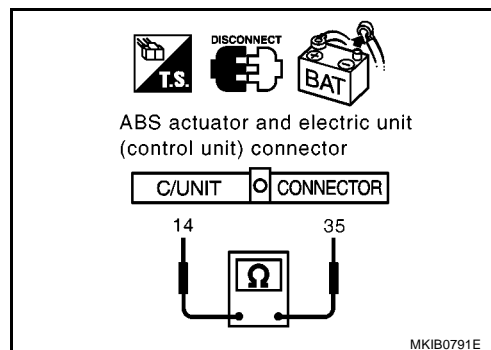
**35 (R) – 14 (W) : Continuity should not exist.**

OK or NG

OK >> GO TO 5.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between ABS actuator and electric unit (control unit) and TCM
- Harness between ABS actuator and electric unit (control unit) and harness connector E101
- Harness between ABS actuator and electric unit (control unit) and IPDM E/R



## 5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ABS actuator and electric unit (control unit) harness connector E47 terminals 35 (R), 14 (W) and ground.

**35 (R) – Ground : Continuity should not exist.**

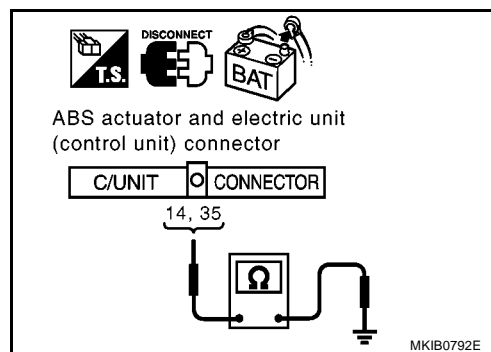
**14 (W) – Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 6.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between ABS actuator and electric unit (control unit) and TCM
- Harness between ABS actuator and electric unit (control unit) and harness connector E101
- Harness between ABS actuator and electric unit (control unit) and IPDM E/R



## 6. CHECK HARNESS FOR SHORT CIRCUIT

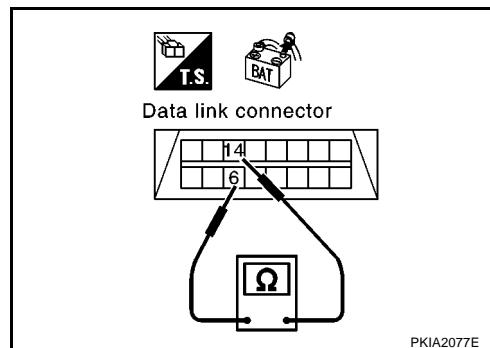
1. Disconnect following connectors.
  - Combination meter connector
  - Drive computer connector
  - EPS control unit connector
  - BCM connector
2. Check continuity between data link connector M17 terminals 6 (R) and 14 (W).

**6 (R) – 14 (W) : Continuity should not exist.**

OK or NG

OK >> GO TO 7.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
- Harness between data link connector and harness connector M1
  - Harness between data link connector and combination meter
  - Harness between data link connector and drive computer
  - Harness between data link connector and EPS control unit
  - Harness between data link connector and BCM.



## 7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M17 terminals 6 (R), 14 (W) and ground.

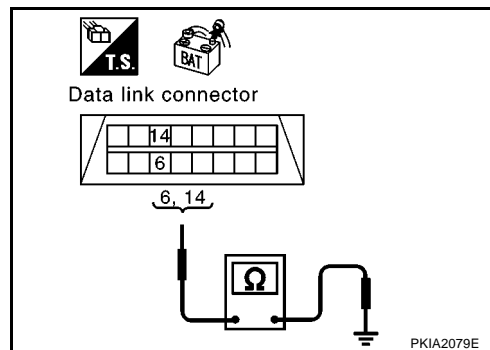
**6 (R) – ground : Continuity should not exist.**

**14 (W) – ground : Continuity should not exist.**

OK or NG

OK >> GO TO 8.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
- Harness between data link connector and harness connector M1
  - Harness between data link connector and combination meter
  - Harness between data link connector and drive computer
  - Harness between data link connector and EPS control unit
  - Harness between data link connector and BCM.



## 8. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-201, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"](#).

OK or NG

- OK >> Reconnect all connectors to perform "SELECT SYSTEM", "SELF-DIAG RESULTS" and "DATA MONITOR (CAN DIAG SUPPORT MNTR)" displayed on CONSULT-II. Refer to [LAN-175, "Work Flow"](#).
- NG >> Replace ECM and/or IPDM E/R.



**IPDM E/R Ignition Relay Circuit Check**

EKS00JP0

Perform the self-diagnosis for IPDM E/R. Refer to [PG-48, "Inspection With CONSULT-II \(Self-Diagnosis\)"](#) . If the result is OK, carry out following inspections.

- IPDM E/R power supply circuit. Refer to [PG-49, "IPDM E/R Power Supply and Ground Circuit Check"](#) .
- Ignition power supply circuit. Refer to [PG-12, "IGNITION POWER SUPPLY — IGNITION SW. IN "ON" AND/OR "START""](#) .

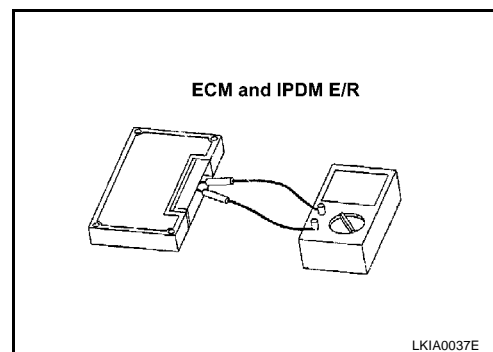
**Component Inspection**

EKS00JP1

**ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION**

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 52 and 58.

| Unit     | Terminal | Resistance value ( $\Omega$ )<br>(Approx.) |
|----------|----------|--|
| ECM      | 94 – 86  | 108 - 132                                  |
| IPDM E/R | 52 – 58  |  |



## CAN SYSTEM (TYPE 7)

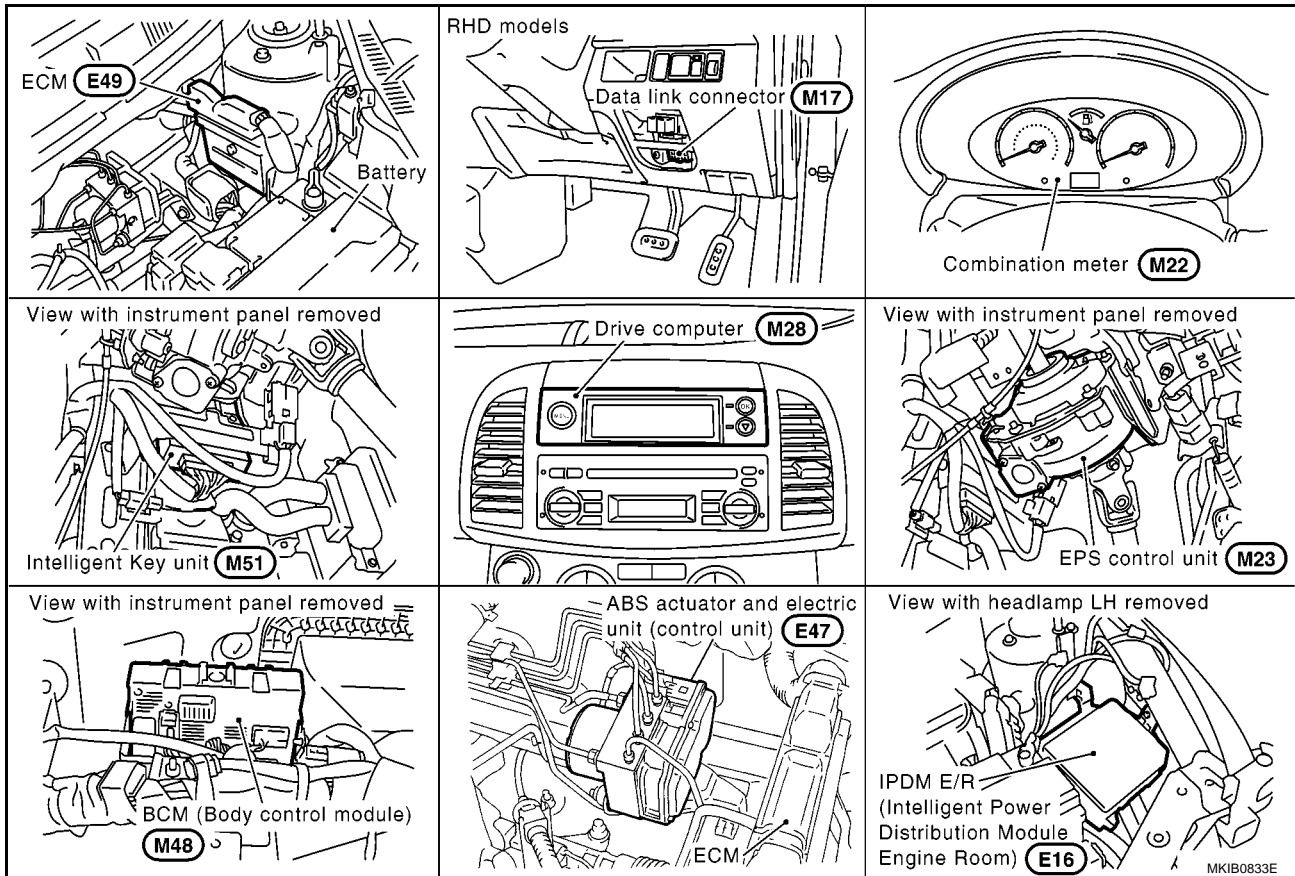
## System Description

EKS00JP2

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

## Component Parts and Harness Connector Location

EKS00JP3



# CAN SYSTEM (TYPE 7)

[CAN]

## Wiring Diagram — CAN —

EKS00JP4

### LAN-CAN-13

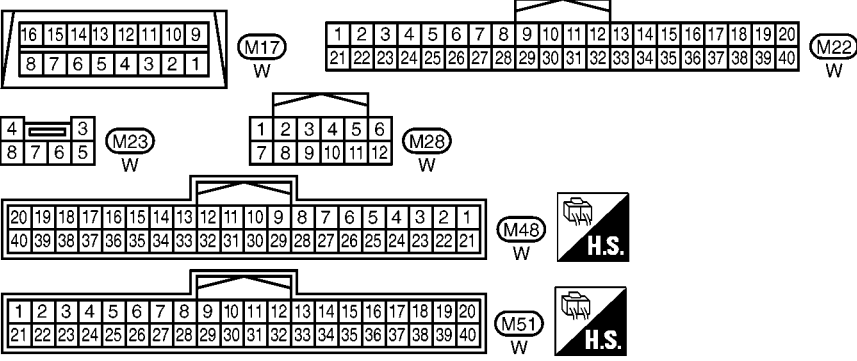
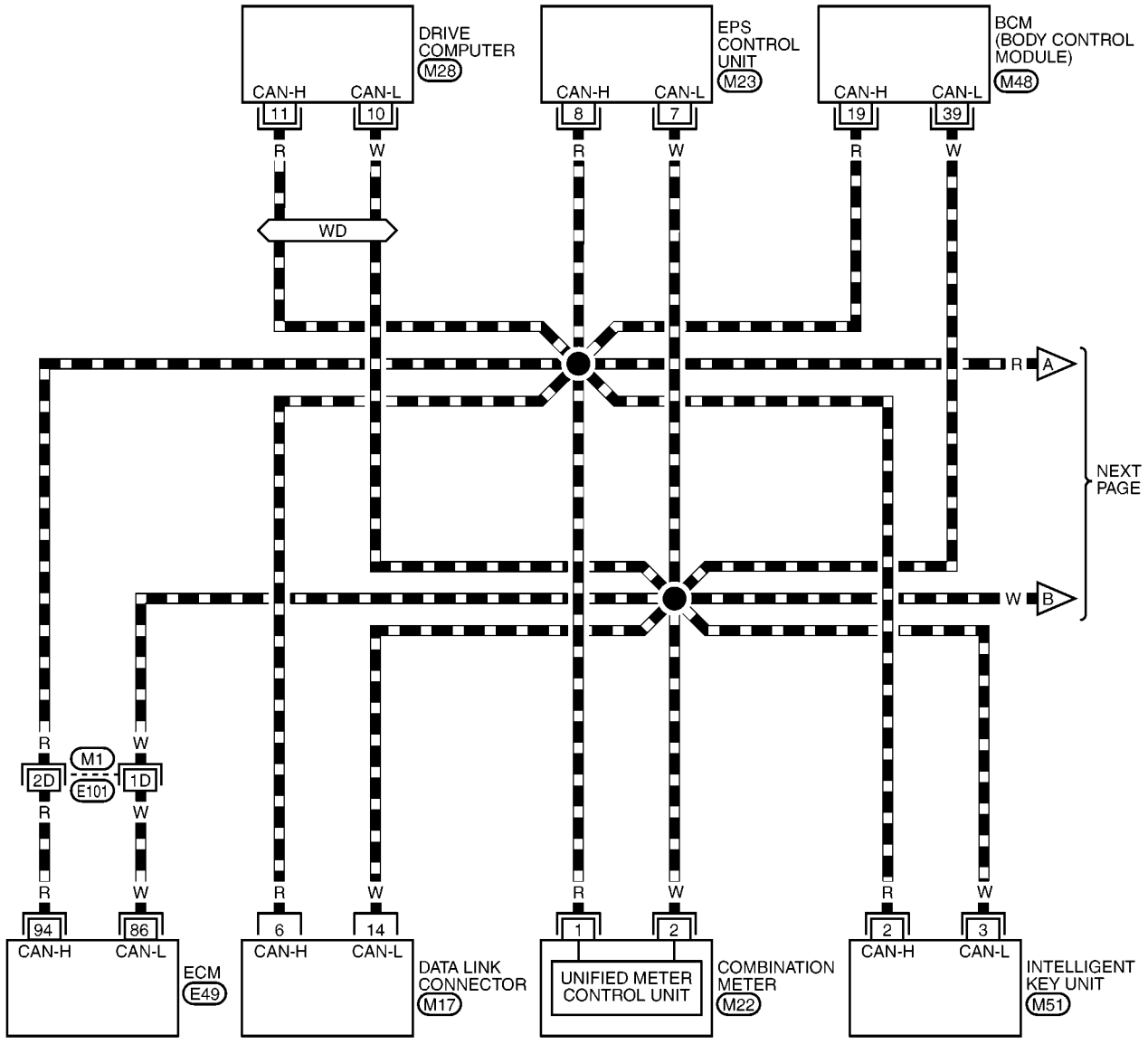
— : DATA LINE  
 (WD) : WITH DRIVE COMPUTER

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M

LAN

L

M



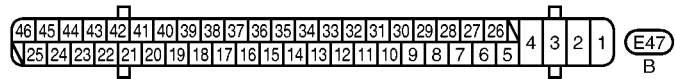
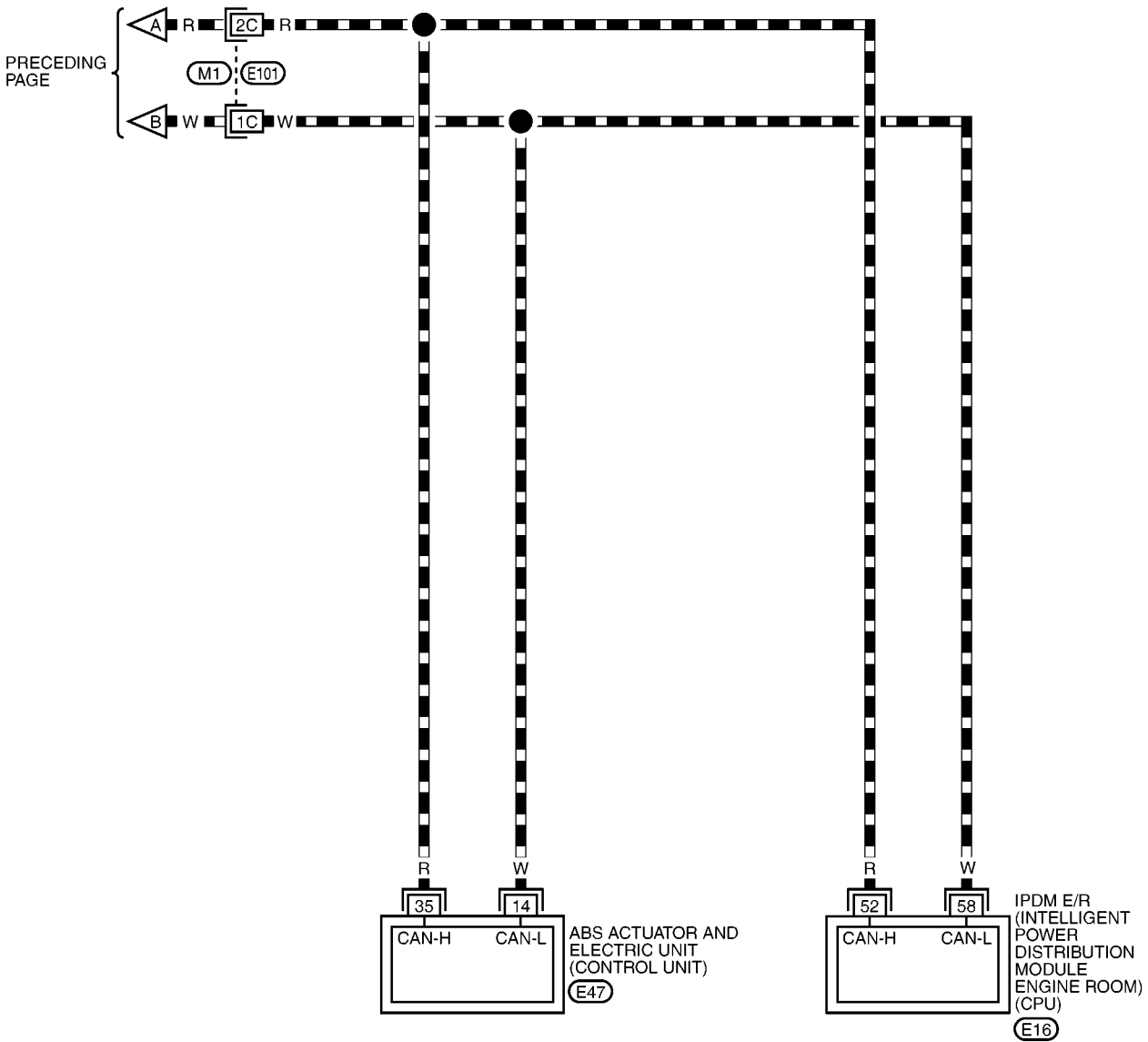
REFER TO THE FOLLOWING.

- (M1) -SUPER MULTIPLE JUNCTION (SMJ)
- (E49) -ELECTRICAL UNITS

MKWA2713E

LAN-CAN-14

▬ : DATA LINE




REFER TO THE FOLLOWING.  
(M1) -SUPER MULTIPLE  
JUNCTION (SMJ)

## Work Flow

- When there are no indications of "INTELLIGENT KEY", "EPS", "BCM" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".

(Example)

|                           |  |       |      |
|---------------------------|--|-------|------|
| NISSAN                    |  |       |      |
| CONSULT-II                |  |       |      |
| ENGINE                    |  |       |      |
| START (NISSAN BASED VHCL) |  |       |      |
| START (X-BADGE VHCL)      |  |       |      |
| SUB MODE                  |  |       |      |
|                           |  | LIGHT | COPY |




|               |  |      |            |
|---------------|--|------|------------|
| SELECT SYSTEM |  |      |            |
| ENGINE        |  |      |            |
| A/T           |  |      |            |
| ABS           |  |      |            |
| AIR BAG       |  |      |            |
| BCM           |  |      |            |
| METER A/C AMP |  |      |            |
|               |  |      |            |
|               |  |      |            |
|               |  | BACK | LIGHT COPY |

MKIB1692E

- Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "INTELLIGENT KEY", "EPS", "BCM", "ABS" and "IPDM E/R" displayed on CONSULT-II.

(Example)

|                       |  |             |            |
|-----------------------|--|-------------|------------|
| SELECT DIAG MODE      |  |             |            |
| WORK SUPPORT          |  |             |            |
| SELF-DIAG RESULTS     |  |             |            |
| DATA MONITOR          |  |             |            |
| DATA MONITOR (SPEC)   |  |             |            |
| CAN DIAG SUPPORT MNTR |  |             |            |
| ACTIVE TEST           |  |             |            |
|                       |  |             |            |
|                       |  | Scroll Down |            |
|                       |  | BACK        | LIGHT COPY |




|                          |      |          |      |
|--------------------------|------|----------|------|
| SELF-DIAG RESULTS        |      |          |      |
| DTC RESULTS              |      | TIME     |      |
| CAN COMM CIRCUIT [U1000] |      | 0        |      |
|                          |      |          |      |
|                          |      |          |      |
|                          |      | F.F.DATA |      |
| ERASE                    |      | PRINT    |      |
| MODE                     | BACK | LIGHT    | COPY |

PKIA8260E

- Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "INTELLIGENT KEY", "EPS", "BCM", "ABS" and "IPDM E/R" displayed on CONSULT-II.

(Example)

|                       |  |             |            |
|-----------------------|--|-------------|------------|
| SELECT DIAG MODE      |  |             |            |
| WORK SUPPORT          |  |             |            |
| SELF-DIAG RESULTS     |  |             |            |
| DATA MONITOR          |  |             |            |
| DATA MONITOR (SPEC)   |  |             |            |
| CAN DIAG SUPPORT MNTR |  |             |            |
| ACTIVE TEST           |  |             |            |
|                       |  |             |            |
|                       |  | Scroll Down |            |
|                       |  | BACK        | LIGHT COPY |



|                       |      |             |      |
|-----------------------|------|-------------|------|
| CAN DIAG SUPPORT MNTR |      |             |      |
| ENGINE                |      |             |      |
|                       |      | PRNT        |      |
| INITIAL DIAG          |      | OK          |      |
| TRANSMIT DIAG         |      | OK          |      |
| TCM                   |      | OK          |      |
| VDC/TCS/ABS           |      | OK          |      |
| METER/M&A             |      | OK          |      |
| ICC                   |      | UNKWN       |      |
| BCM/SEC               |      | OK          |      |
| IPDM E/R              |      | OK          |      |
| AWD/4WD/e4WD          |      | UNKWN       |      |
| PRINT                 |      | Scroll Down |      |
| MODE                  | BACK | LIGHT       | COPY |

PKIA8343E

- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to [LAN-207, "CHECK SHEET"](#).
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "V" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to [LAN-207, "CHECK SHEET"](#).

**NOTE:**

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual. So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.

# CAN SYSTEM (TYPE 7)

[CAN]

## 6. Convert "v" mark on comparison table to check sheet table.

(Example)

Check sheet table

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |              |              |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|--------------|--------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS          | IPDM E/R     |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 ✓ | CAN CIRC 7 ✓ |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —            | —            |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 ✓ | —            |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —            | CAN CIRC 3 ✓ |
| ABS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | CAN CIRC 5 | —          | —            | —            |
| IPDM E/R        | No indication ✓    | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 2 | —            | —            |

Comparison table

| SELECT SYSTEM screen | Initial diagnosis | Transmit diagnosis | Receive diagnosis |            |       |       |         |              |          |         |
|----------------------|-------------------|--------------------|-------------------|------------|-------|-------|---------|--------------|----------|---------|
|                      |                   |                    | ECM               | METER /M&A | I-KEY | EPS   | BCM/SEC | VDC/TCS /ABS | IPDM E/R |         |
| ENGINE               | —                 | NG                 | UNKWN             | —          | UNKWN | —     | UNKWN   | UNKWN        | UNKWN ✓  | UNKWN ✓ |
| INTELLIGENT          | No indication     | NG                 | UNKWN             | UNKWN      | UNKWN | —     | —       | UNKWN        | —        | —       |
| EPS                  | No indication     | NG                 | UNKWN             | UNKWN      | UNKWN | —     | —       | UNKWN        | UNKWN ✓  | —       |
| BCM                  | No indication     | —                  | UNKWN             | UNKWN      | UNKWN | UNKWN | —       | —            | —        | UNKWN ✓ |
| ABS                  | No indication     | NG                 | UNKWN             | UNKWN      | UNKWN | —     | UNKWN   | —            | —        | —       |
| IPDM E/R             | No indication ✓   | NG                 | UNKWN             | UNKWN      | —     | —     | —       | UNKWN        | —        | —       |

Convert

MKIB1688E

## 7. According to the check sheet results (example), start inspection. Refer to [LAN-209, "CHECK SHEET RESULTS \(EXAMPLE\)"](#).

# CAN SYSTEM (TYPE 7)

[CAN]

## CHECK SHEET

Check sheet table

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 3 |
| ABS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | CAN CIRC 5 | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 2 | —          | —          |

Comparison table

| SELECT SYSTEM screen |               | Initial diagnosis | Transmit diagnosis | Receive diagnosis |            |       |       |         |              |          |
|----------------------|---------------|-------------------|--------------------|-------------------|------------|-------|-------|---------|--------------|----------|
|                      |               |                   |                    | ECM               | METER /M&A | I-KEY | EPS   | BCM/SEC | VDC/TCS /ABS | IPDM E/R |
| ENGINE               | —             | NG                | UNKWN              | —                 | UNKWN      | —     | UNKWN | UNKWN   | UNKWN        | UNKWN    |
| INTELLIGENT          | No indication | NG                | UNKWN              | UNKWN             | UNKWN      | —     | —     | UNKWN   | —            | —        |
| EPS                  | No indication | NG                | UNKWN              | UNKWN             | UNKWN      | —     | —     | UNKWN   | UNKWN        | —        |
| BCM                  | No indication | —                 | UNKWN              | UNKWN             | UNKWN      | UNKWN | —     | —       | —            | UNKWN    |
| ABS                  | No indication | NG                | UNKWN              | UNKWN             | UNKWN      | —     | UNKWN | —       | —            | —        |
| IPDM E/R             | No indication | NG                | UNKWN              | UNKWN             | —          | —     | —     | UNKWN   | —            | —        |

Symptoms:

Attach copy of  
SELECT SYSTEM

Attach copy of  
SELECT SYSTEM

MKIB1607E

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
LAN  
L  
M

Attach copy of  
ENGINE  
SELF-DIAG RESULTS

Attach copy of  
INTELLIGENT KEY  
SELF-DIAG RESULTS

Attach copy of  
EPS  
SELF-DIAG RESULTS

Attach copy of  
BCM  
SELF-DIAG RESULTS

Attach copy of  
ABS  
SELF-DIAG RESULTS

Attach copy of  
IPDM E/R  
SELF-DIAG RESULTS

Attach copy of  
ENGINE  
DATA MONITOR

Attach copy of  
INTELLIGENT KEY  
DATA MONITOR

Attach copy of  
EPS  
DATA MONITOR

Attach copy of  
BCM  
DATA MONITOR

Attach copy of  
ABS  
DATA MONITOR

Attach copy of  
IPDM  
DATA MONITOR



## CHECK SHEET RESULTS (EXAMPLE)

## NOTE:

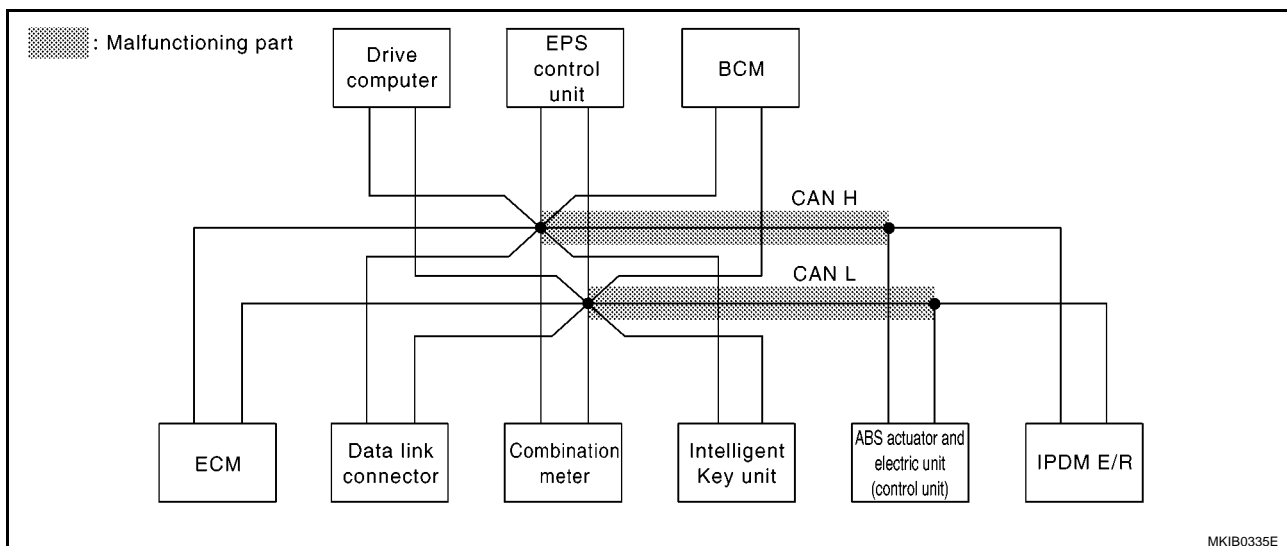
If "NG" is displayed on "CAN COMM" as "DATA MONITOR (CAN DIAG SUPPORT MNTR)" for the diagnosed control unit, replace the control unit.

## Case1

Check harness between BCM and ABS actuator and electric unit (control unit). Refer to [LAN-219, "Circuit Check Between BCM and ABS Actuator and Electric Unit \(Control Unit\)"](#).

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 3 |
| ABS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | CAN CIRC 5 | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 2 | —          | —          |

MKIB0807E



MKIB0335E

# CAN SYSTEM (TYPE 7)

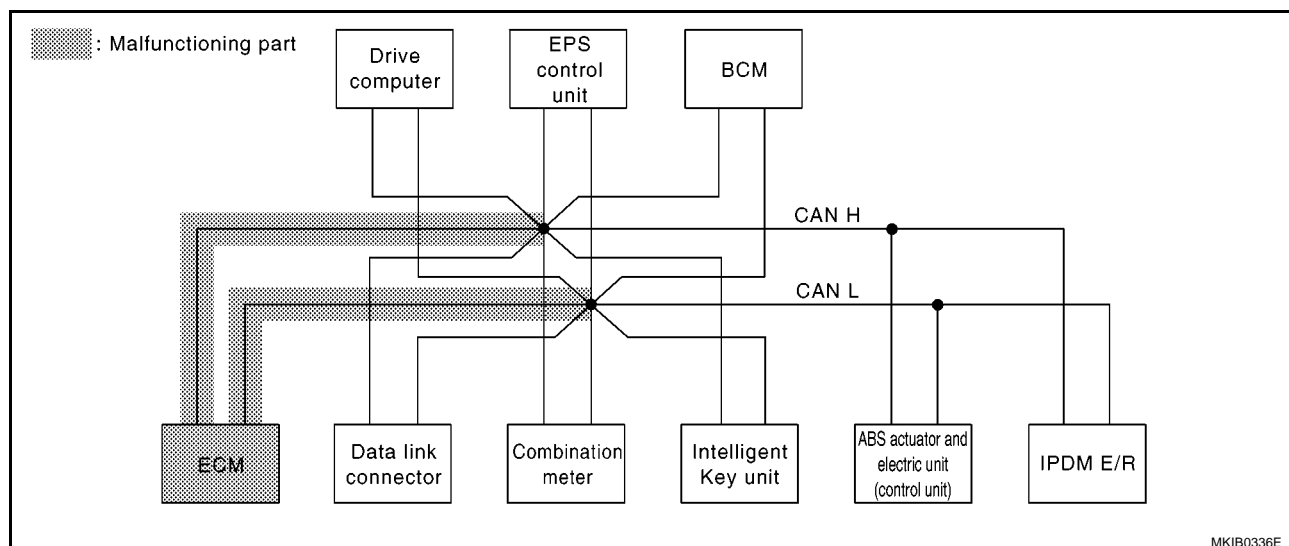
[CAN]

## Case2

Check ECM circuit. Refer to [LAN-220, "ECM Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 3 |
| ABS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | CAN CIRC 5 | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 2 | —          | —          |

MKIB0808E



MKIB0336E

# CAN SYSTEM (TYPE 7)

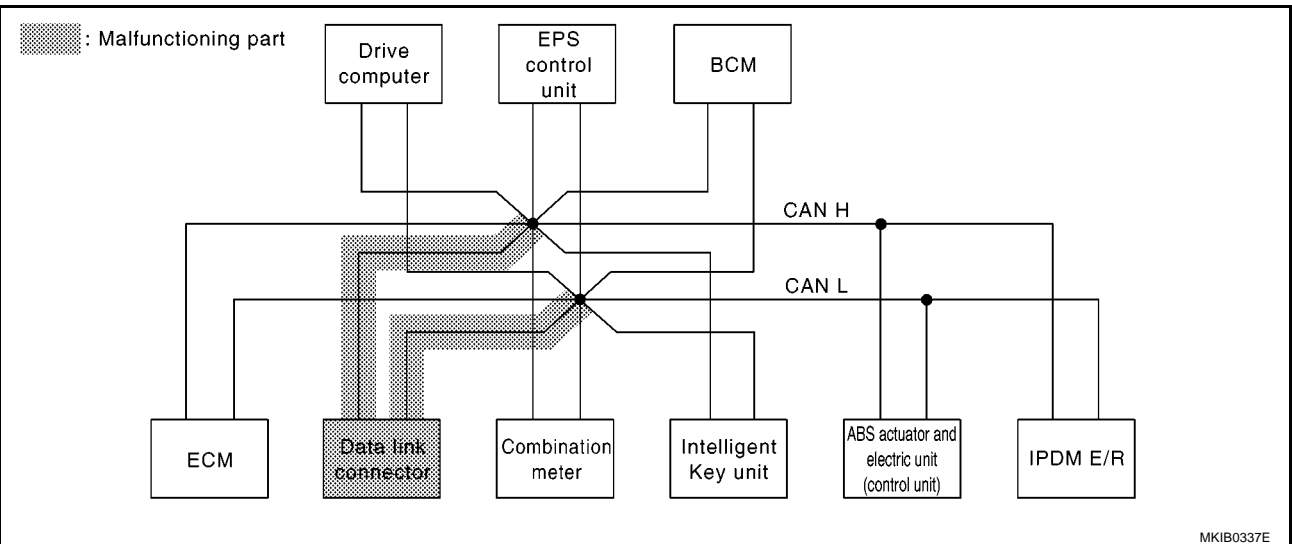
[CAN]

## Case3

Check data link connector circuit. Refer to [LAN-221, "Data Link Connector Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 3 |
| ABS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | CAN CIRC 5 | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 2 | —          | —          |

MKIB0809E



MKIB0337E

LAN

# CAN SYSTEM (TYPE 7)

[CAN]

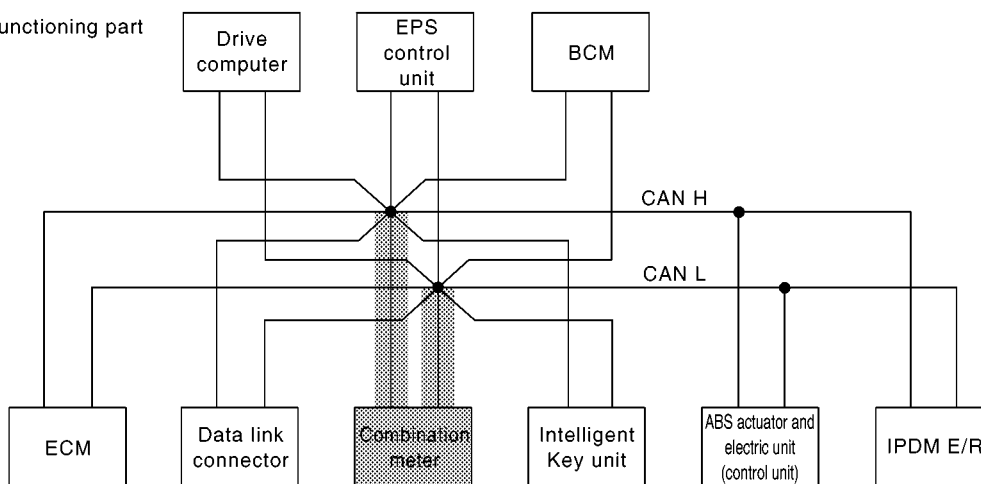
## Case4

Check combination meter circuit. Refer to [LAN-222, "Combination Meter Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 3 |
| ABS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | CAN CIRC 5 | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 2 | —          | —          |

MKIB0810E

 : Malfunctioning part



MKIB0338E

# CAN SYSTEM (TYPE 7)

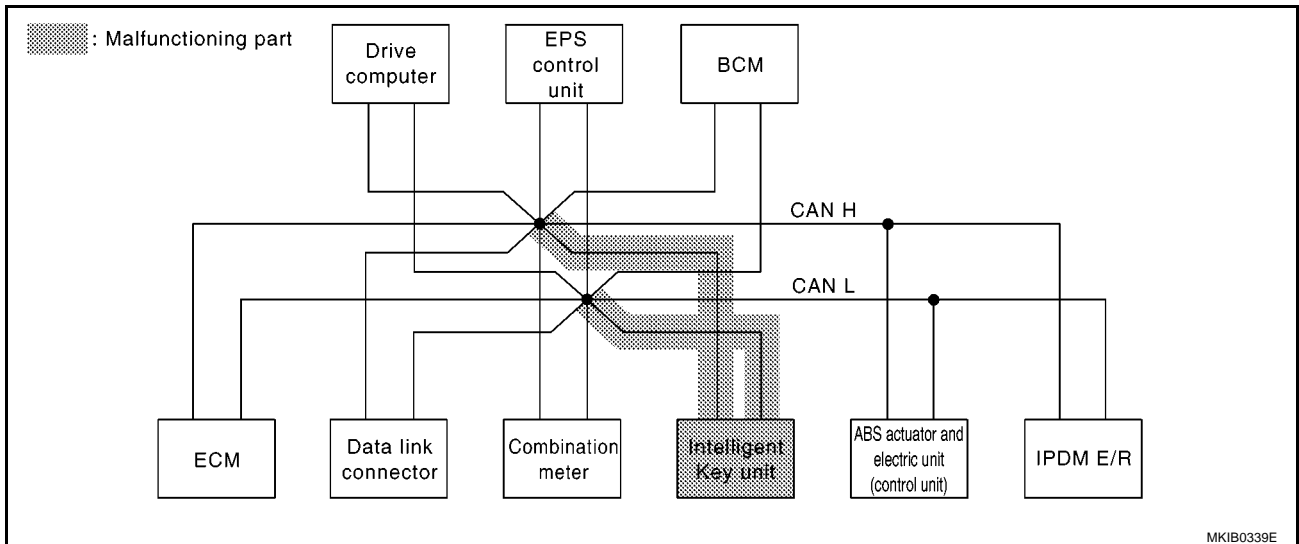
[CAN]

## Case5

Check Intelligent Key unit circuit. Refer to [LAN-223, "Intelligent Key Unit Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication ✓    | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5 ✓    | —          | —          | —          | CAN CIRC 3 |
| ABS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | CAN CIRC 5 | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 2 | —          | —          |

MKIB0811E



MKIB0339E

LAN

# CAN SYSTEM (TYPE 7)

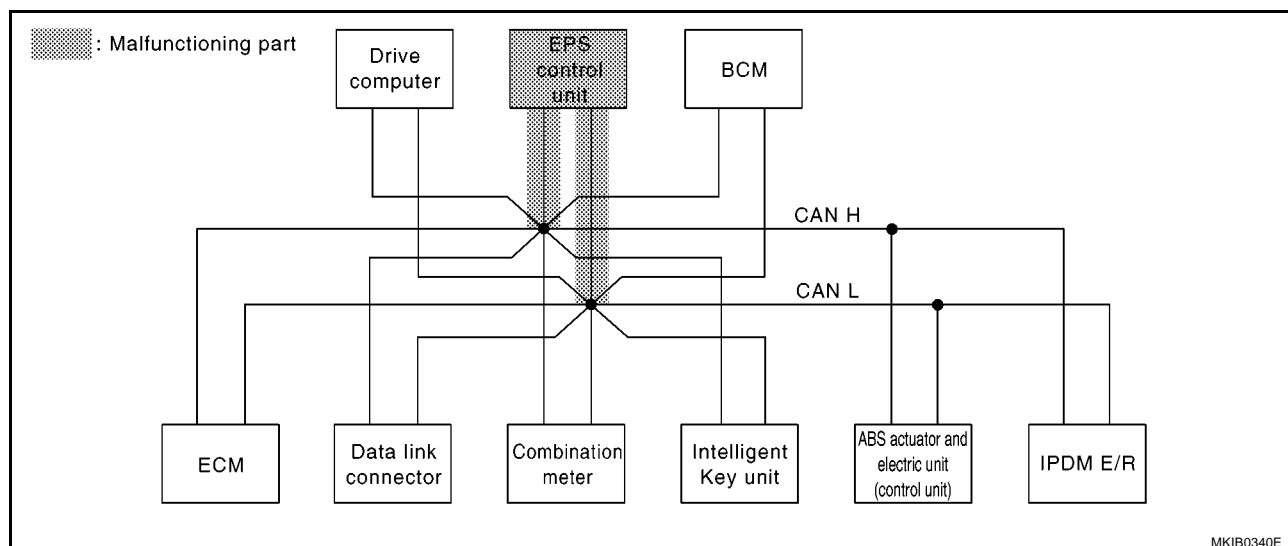
[CAN]

## Case6

Check EPS control unit circuit. Refer to [LAN-224, "EPS Control Unit Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 3 |
| ABS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | CAN CIRC 5 | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 2 | —          | —          |

MKIB0812E



MKIB0340E

# CAN SYSTEM (TYPE 7)

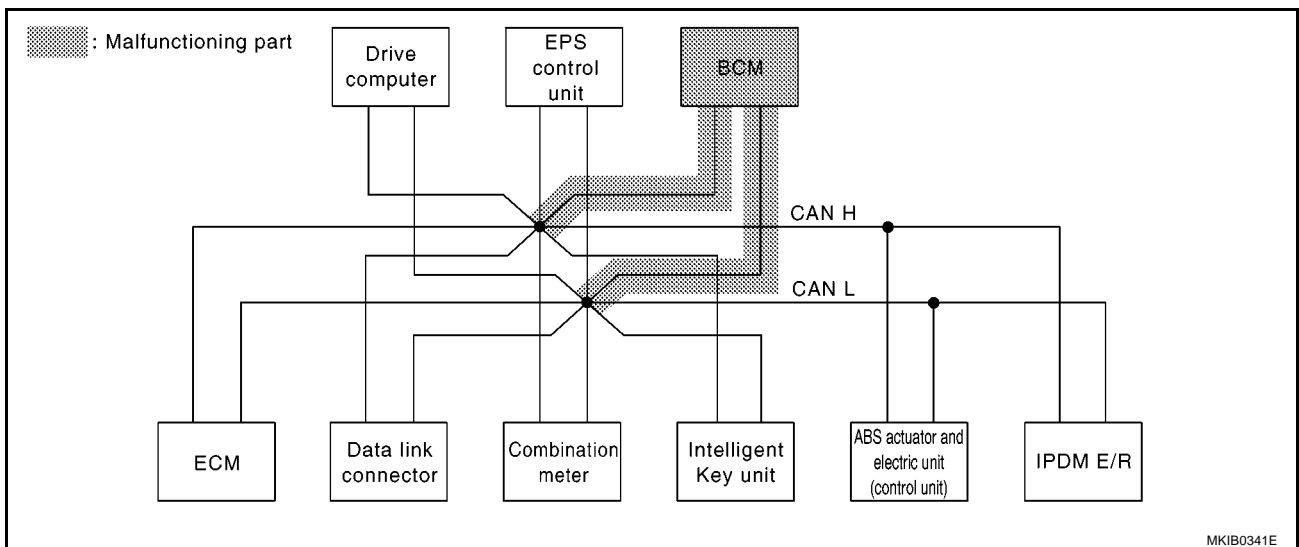
[CAN]

## Case7

Check BCM circuit. Refer to [LAN-225, "BCM Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 3 |
| ABS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | CAN CIRC 5 | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 2 | —          | —          |

MKIB0813E



MKIB0341E

LAN

# CAN SYSTEM (TYPE 7)

[CAN]

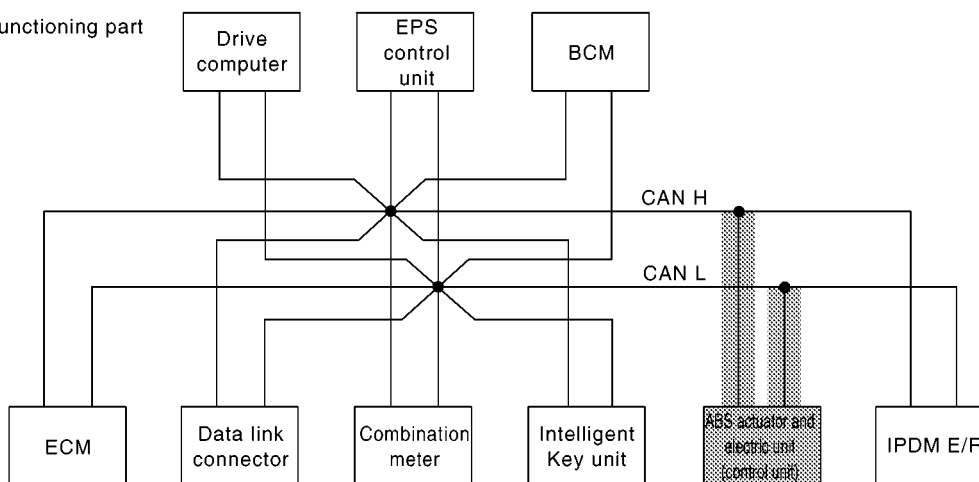
## Case8

Check ABS actuator and electric unit (control unit) circuit. Refer to [LAN-226, "ABS Actuator and Electric Unit \(Control Unit\) Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |              |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|--------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS          | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 ✓ | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —            | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 ✓ | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —            | CAN CIRC 3 |
| ABS             | No indication ✓    | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | CAN CIRC 5 | —          | —            | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 2 | —            | —          |

MKIB0814E

■ : Malfunctioning part



MKIB0342E



# CAN SYSTEM (TYPE 7)

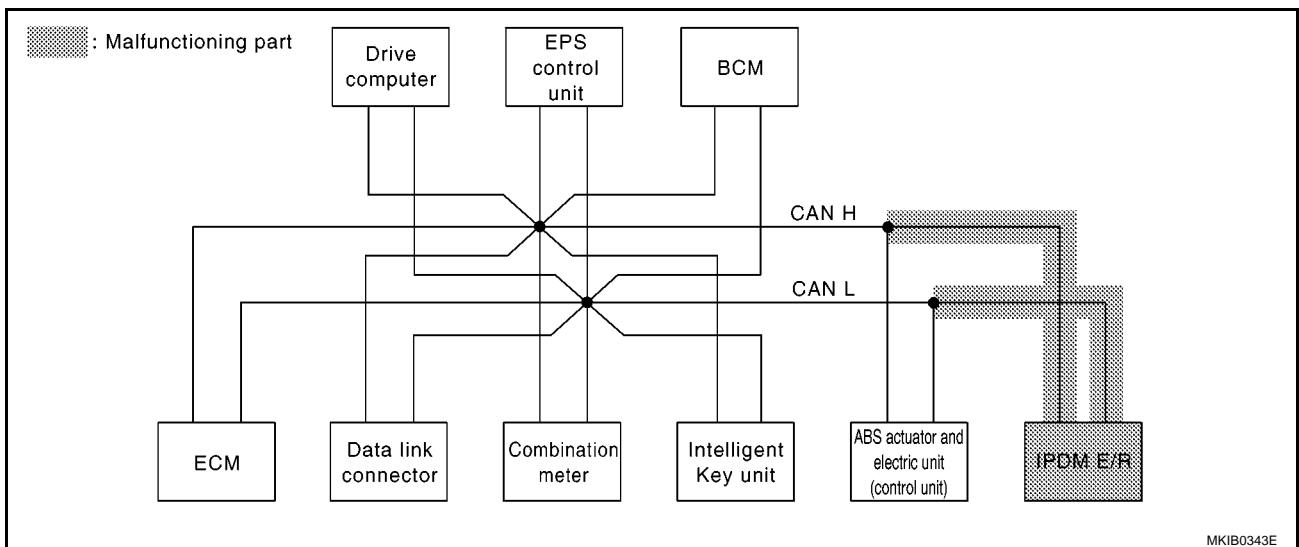
[CAN]

## Case9

Check IPDM E/R circuit. Refer to [LAN-227, "IPDM E/R Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |              |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|--------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | IPDM E/R     |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 ✓ |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —            |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —            |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 3 ✓ |
| ABS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | CAN CIRC 5 | —          | —          | —            |
| IPDM E/R        | No indication ✓    | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 2 | —          | —            |

MKIB0815E



MKIB0343E

# CAN SYSTEM (TYPE 7)

[CAN]

## Case10

Check CAN communication circuit. Refer to [LAN-228, "CAN Communication Circuit Check"](#).

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 3 |
| ABS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | CAN CIRC 5 | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 2 | —          | —          |

MKIB0816E

## Case11

Check IPDM E/R ignition relay circuit continuously sticks “OFF”. Refer to [LAN-231, "IPDM E/R Ignition Relay Circuit Check"](#).

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 3 |
| ABS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | CAN CIRC 5 | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 2 | —          | —          |

MKIB0817E

## Case12

Check IPDM E/R ignition relay circuit continuously sticks “ON”. Refer to [LAN-231, "IPDM E/R Ignition Relay Circuit Check"](#).

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |            |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|------------|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE          | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | —               | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 4 | CAN CIRC 3        | —               | —          | CAN CIRC 2 | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —          | —          | —          | CAN CIRC 3 |
| ABS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | CAN CIRC 5 | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —          | CAN CIRC 2 | —          | —          |

MKIB0818E

## Circuit Check Between BCM and ABS Actuator and Electric Unit (Control Unit)

EKS00JP6

## 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).

- Harness connector M1
- Harness connector E101

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

## 2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect following connector.
  - Harness connector M1
  - Combination meter connector
  - Intelligent Key unit connector
  - Drive computer connector
  - EPS control unit connector
  - BCM connector
2. Check continuity between BCM harness connector M48 terminals 19 (R), 39 (W) and harness connector M1 terminals 2C (R), 1C (W).

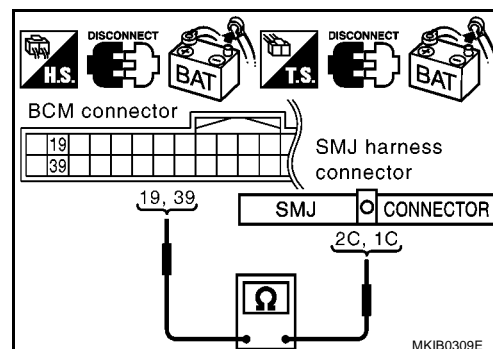
19 (R) – 2C (R) : Continuity should exist.

39 (W) – 1C (W) : Continuity should exist.

OK or NG

OK &gt;&gt; GO TO 3.

NG &gt;&gt; Repair harness.



## 3. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between harness connector E101 terminals 2C (R), 1C (W) and ABS actuator and electric unit (control unit) harness connector E47 terminals 35 (R), 14 (W).

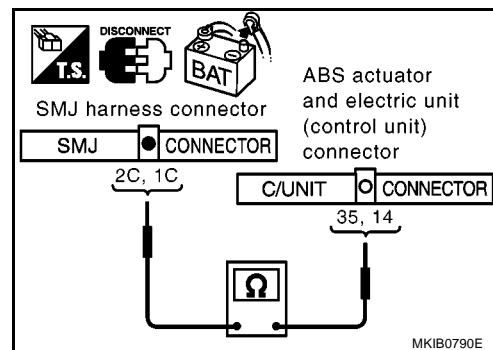
2C (R) – 35 (R) : Continuity should exist.

1C (W) – 14 (W) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELECT SYSTEM", "SELF-DIAG RESULTS" and "DATA MONITOR (CAN DIAG SUPPORT MNTR)" displayed on CONSULT-II. Refer to [LAN-205, "Work Flow"](#).

NG &gt;&gt; Repair harness.



**ECM Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
  - ECM connector
  - Harness connector M1
  - Harness connector E101

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

1. Disconnect ECM connector.
2. Check resistance between ECM harness connector E49 terminals 94 (R) and 86 (W).

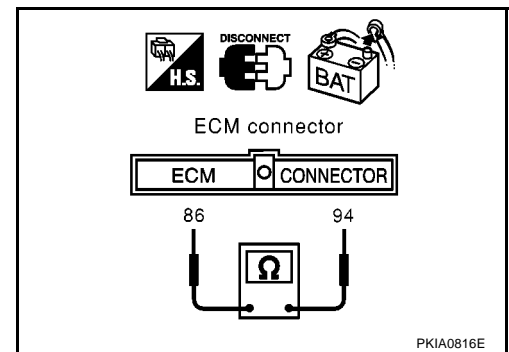
**94 (R) – 86 (W)**

**: Approx. 108 – 132Ω**

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and data link connector.



## Data Link Connector Circuit Check

EKS00JP8

## 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check the data link connector and terminals for damage, bend and loose connection (connector side and harness side).

## OK or NG

- OK >> GO TO 2.  
 NG >> Repair terminal or connector.

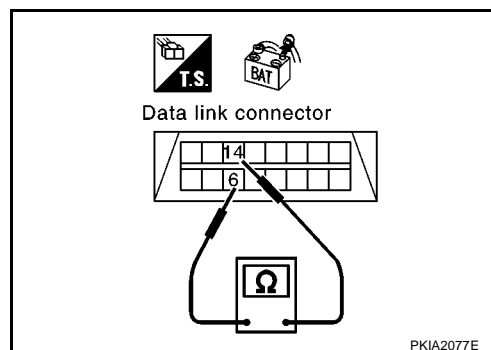
## 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M17 terminals 6 (R) and 14 (W).

**6 (R) – 14 (W) : Approx. 54 – 66Ω**

## OK or NG

- OK >> Perform "SELECT SYSTEM", "SELF-DIAG RESULTS" and "DATA MONITOR (CAN DIAG SUPPORT MNTR)" displayed on CONSULT-II. Refer to [LAN-205. "Work Flow"](#).
- NG >> Repair harness between data link connector and combination meter



## Combination Meter Circuit Check

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of combination meter for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M22 terminals 1 (R) and 2 (W).

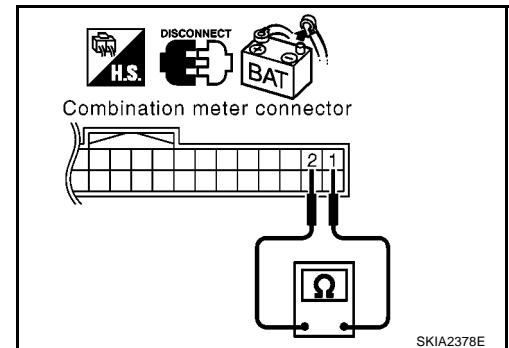
**1 (R) – 2 (W)**

**: Approx. 54 – 66Ω**

OK or NG

OK >> Replace combination meter.

NG >> Repair harness between combination meter and data link connector.



## Intelligent Key Unit Circuit Check

EKS00JPA

## 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of Intelligent Key unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

## 2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect Intelligent Key unit connector.
2. Check resistance between Intelligent Key unit harness connector M51 terminals 2 (R) and 3 (W).

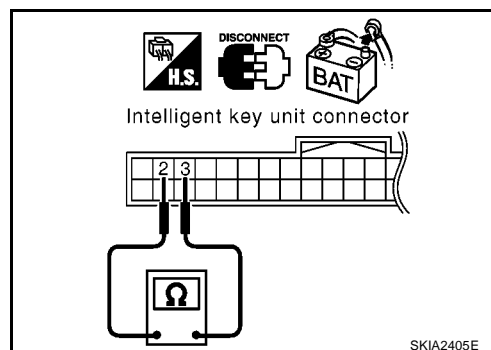
2 (R) – 3 (W)

: Approx. 54 – 66Ω

OK or NG

OK &gt;&gt; Replace Intelligent Key unit.

NG &gt;&gt; Repair harness between Intelligent Key unit and data link connector.



**EPS Control Unit Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of EPS control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

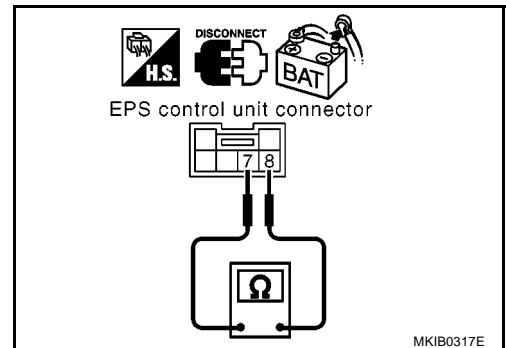
1. Disconnect EPS control unit connector.
2. Check resistance between EPS control unit harness connector M23 terminals 8 (R) and 7 (W).

**8 (R) – 7 (W)****: Approx. 54 – 66Ω**

OK or NG

OK &gt;&gt; Replace EPS control unit.

NG &gt;&gt; Repair harness between EPS control unit and data link connector.





**BCM Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

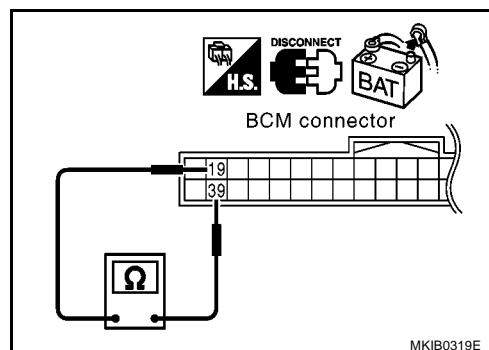
1. Disconnect BCM connector.
2. Check resistance between BCM harness connector M48 terminals 19 (R) and 39 (W).

**19 (R) – 39 (W)****: Approx. 54 – 66Ω**

OK or NG

OK >> Replace BCM. Refer to [BCS-31, "Removal and Installation of BCM"](#).

NG &gt;&gt; Repair harness between BCM and data link connector.



## ABS Actuator and Electric Unit (Control Unit) Circuit Check

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector E47 terminals 35 (R) and 14 (W).

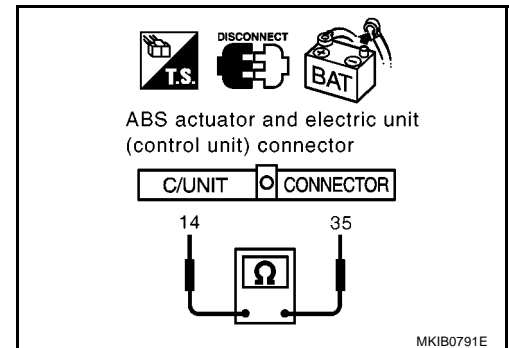
**35 (R) – 14 (W)**

**: Approx. 54 – 66Ω**

OK or NG

OK >> Replace ABS actuator and electric unit (control unit).

NG >> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



**IPDM E/R Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

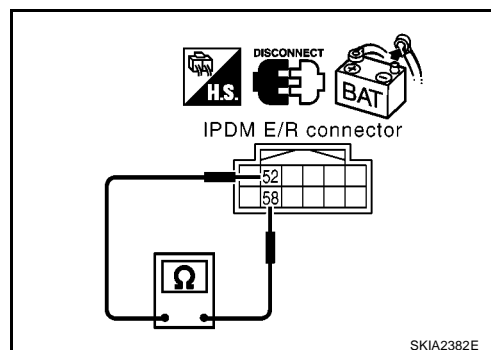
**2. CHECK HARNESS FOR OPEN CIRCUIT**

1. Disconnect IPDM E/R connector.
2. Check resistance between IPDM E/R harness connector E16 terminals 52 (R) and 58 (W).

**52 (R) – 58 (W)****: Approx. 108 – 132Ω**OK or NG

OK &gt;&gt; Replace IPDM E/R.

NG &gt;&gt; Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



## CAN Communication Circuit Check

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connectors for damage, bend and loose connection (control module side, meter side, control unit side and harness side).
  - ECM
  - Combination meter
  - Intelligent Key unit
  - Drive computer
  - EPS control unit
  - BCM
  - ABS actuator and electric unit (control unit)
  - IPDM E/R
  - Between ECM and IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

### 2. CHECK HARNESS FOR SHORT CIRCUIT

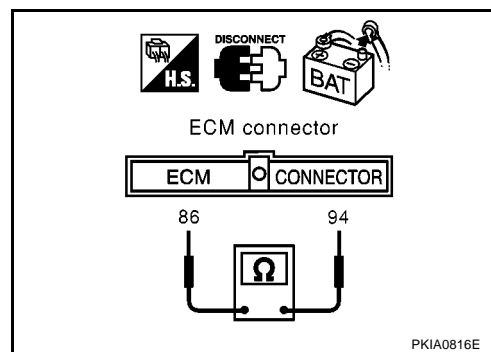
1. Disconnect ECM connector and harness connector E101.
2. Check continuity between ECM harness connector E49 terminals 94 (R) and 86 (W).

**94 (R) – 86 (W) : Continuity should not exist.**

OK or NG

OK >> GO TO 3.

NG >> Repair harness between ECM and harness connector E101.



### 3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector E49 terminals 94 (R), 86 (W) and ground.

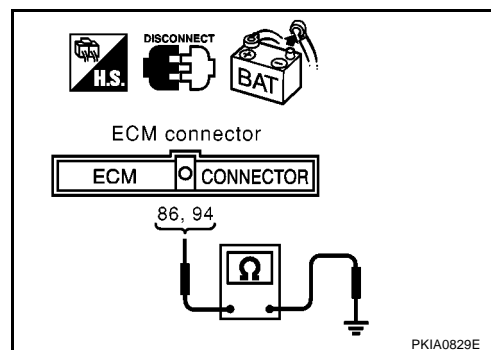
**94 (R) – Ground : Continuity should not exist.**

**86 (W) – Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 4.

NG >> Repair harness between ECM and harness connector E101.



## 4. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect following connectors.
  - ABS actuator and electric unit (control unit) connector
  - IPDM E/R connector
2. Check continuity between ABS actuator and electric unit (control unit) harness connector E47 terminals 35 (R) and 14 (W).

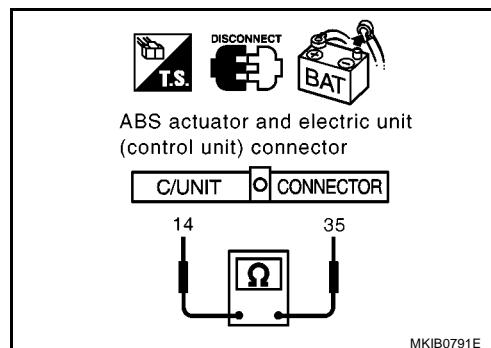
**35 (R) – 14 (W) : Continuity should not exist.**

OK or NG

OK >> GO TO 5.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between ABS actuator and electric unit (control unit) and harness connector E101
- Harness between ABS actuator and electric unit (control unit) and IPDM E/R



## 5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector E47 terminals 35 (R), 14 (W) and ground.

**35 (R) – Ground : Continuity should not exist.**

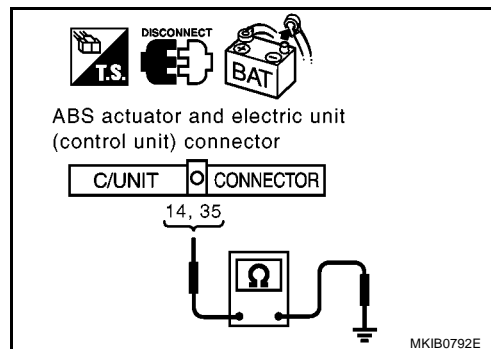
**14 (W) – Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 6.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between ABS actuator and electric unit (control unit) and harness connector E101
- Harness between ABS actuator and electric unit (control unit) and IPDM E/R



## 6. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect following connectors.
  - Combination meter connector
  - Intelligent Key unit connector
  - Drive computer connector
  - EPS control unit connector
  - BCM connector
2. Check continuity between data link connector M17 terminals 6 (R) and 14 (W).

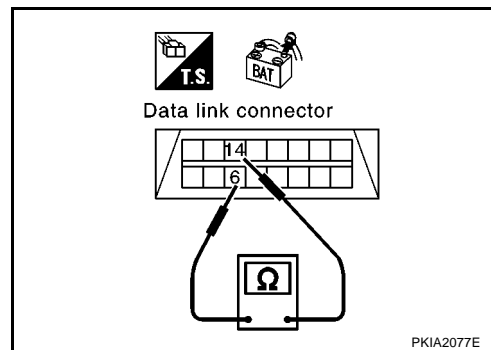
**6 (R) – 14 (W) : Continuity should not exist.**

### OK or NG

OK >> GO TO 7.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between data link connector and harness connector M1
- Harness between data link connector and combination meter
- Harness between data link connector and Intelligent Key unit
- Harness between data link connector and drive computer
- Harness between data link connector and EPS control unit
- Harness between data link connector and BCM



## 7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M17 terminals 6 (R), 14 (W) and ground.

**6 (R) – Ground : Continuity should not exist.**

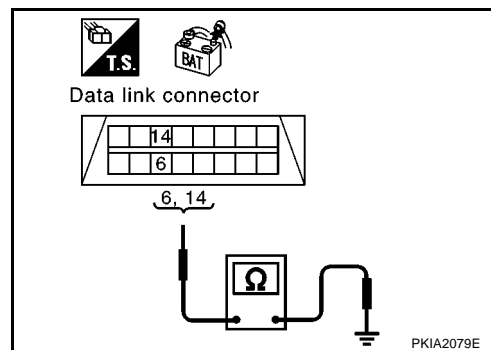
**14 (W) – Ground : Continuity should not exist.**

### OK or NG

OK >> GO TO 8.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between data link connector and harness connector M1
- Harness between data link connector and combination meter
- Harness between data link connector and Intelligent Key unit
- Harness between data link connector and drive computer
- Harness between data link connector and EPS control unit
- Harness between data link connector and BCM



## 8. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-231, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"](#).

### OK or NG

OK >> Reconnect all connectors to perform "SELECT SYSTEM", "SELF-DIAG RESULTS" and "DATA MONITOR (CAN DIAG SUPPORT MNTR)" displayed on CONSULT-II. Refer to [LAN-205, "Work Flow"](#).

NG >> Replace ECM and/or IPDM E/R.

**IPDM E/R Ignition Relay Circuit Check**

EKS00JPG

Perform the self-diagnosis for IPDM E/R. Refer to [PG-48, "Inspection With CONSULT-II \(Self-Diagnosis\)"](#) . If the result is OK, carry out following inspections.

- IPDM E/R power supply circuit. Refer to [PG-49, "IPDM E/R Power Supply and Ground Circuit Check"](#) .
- Ignition power supply circuit. Refer to [PG-12, "IGNITION POWER SUPPLY — IGNITION SW. IN "ON" AND/OR "START" "](#) .

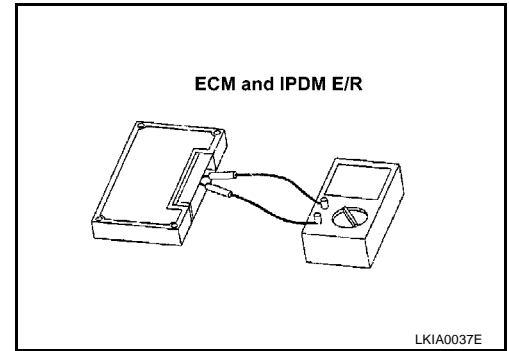
**Component Inspection**

EKS00JPH

**ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION**

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 52 and 58.

| Unit     | Terminal | Resistance value ( $\Omega$ )<br>(Approx.) |
|----------|----------|--|
| ECM      | 94 – 86  | 108 - 132                                  |
| IPDM E/R | 52 – 58  |  |



## CAN SYSTEM (TYPE 8)

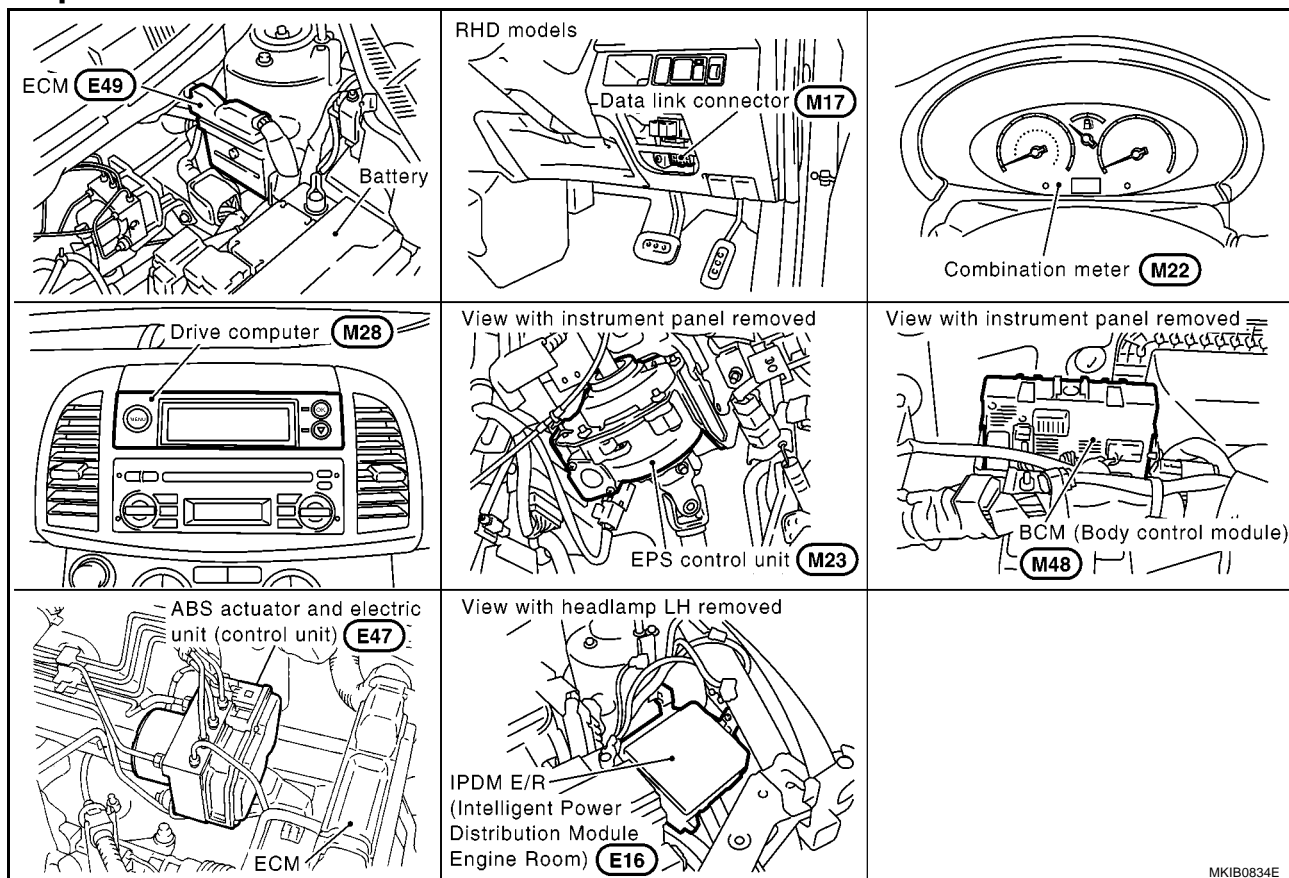
## System Description

EKS00JPJ

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

## Component Parts and Harness Connector Location

EKS00JPJ



MKIB0834E



# CAN SYSTEM (TYPE 8)

[CAN]

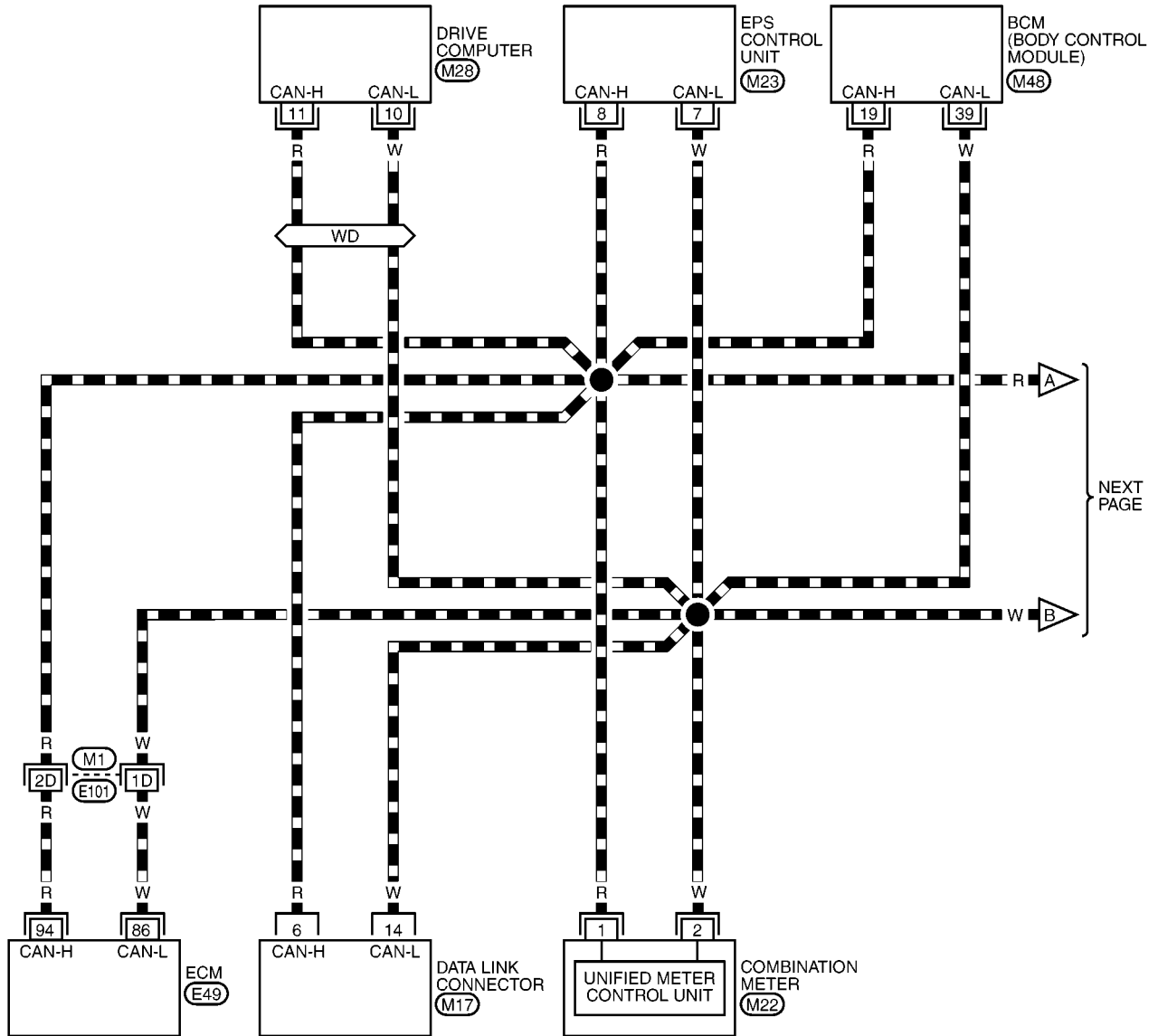
## Wiring Diagram — CAN —

EKS00JPK

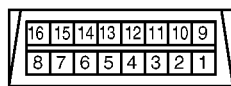
### LAN-CAN-15

— : DATA LINE

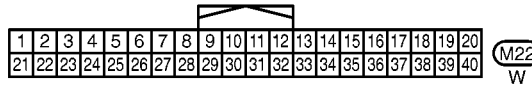
WD : WITH DRIVE COMPUTER



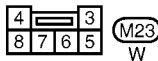
LAN



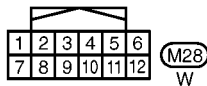
(M17)  
W



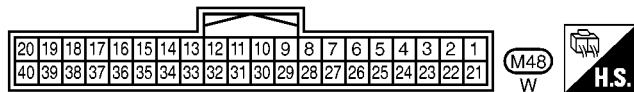
(M22)  
W



(M23)  
W



(M28)  
W



(M48)  
W



REFER TO THE FOLLOWING.

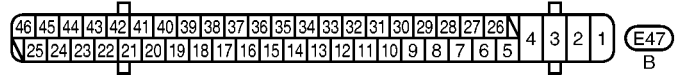
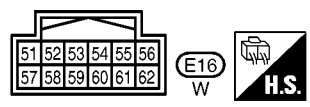
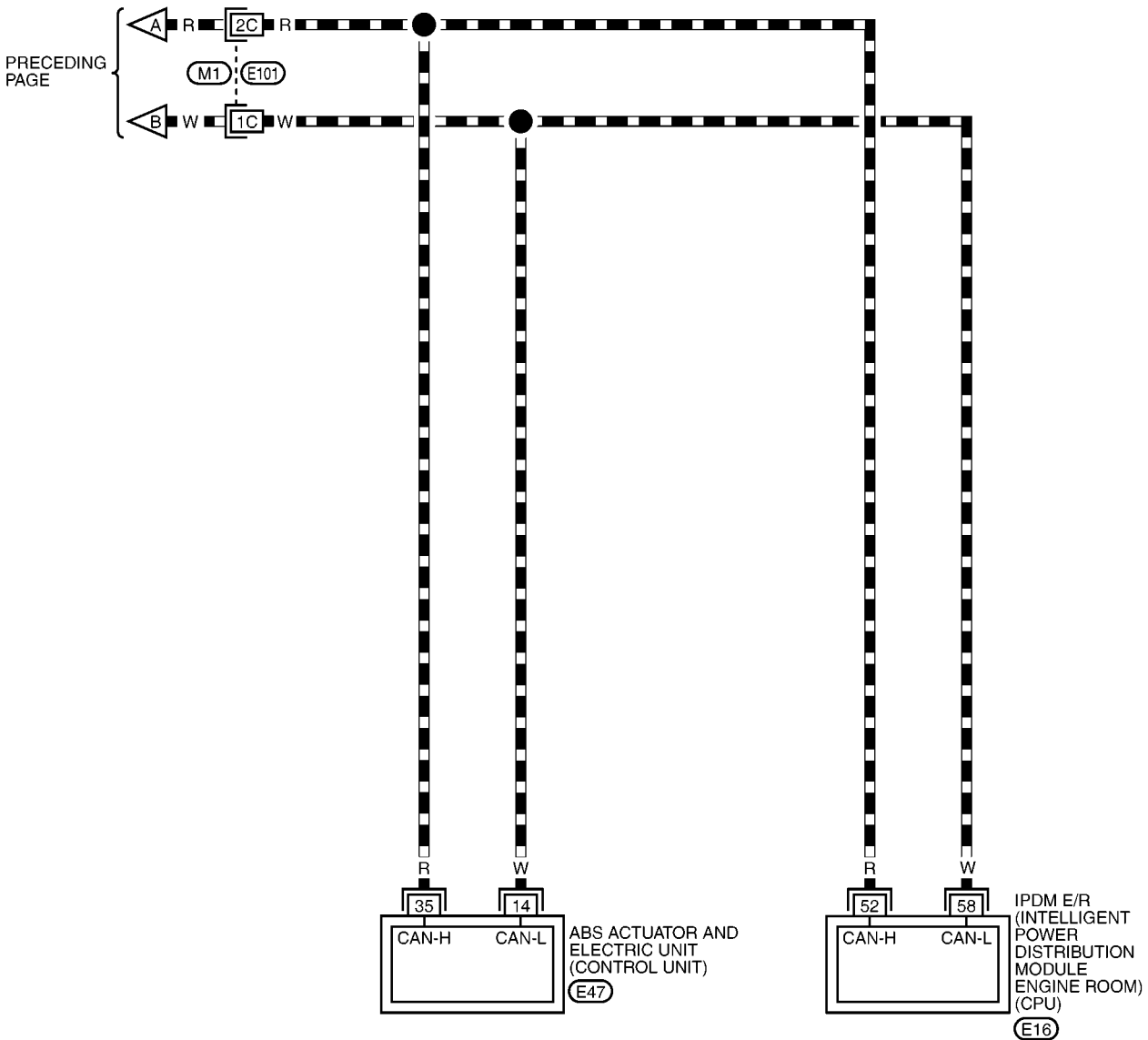
(M1) -SUPER MULTIPLE JUNCTION (SMJ)

(E49) -ELECTRICAL UNITS

MKWA2715E

LAN-CAN-16

DATA LINE




REFER TO THE FOLLOWING.  
(M1) -SUPER MULTIPLE JUNCTION (SMJ)

## Work Flow

- When there are no indications of "EPS", "BCM" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".

(Example)

|                           |  |       |      |
|---------------------------|--|-------|------|
| NISSAN                    |  |       |      |
| CONSULT-II                |  |       |      |
| ENGINE                    |  |       |      |
| START (NISSAN BASED VHCL) |  |       |      |
| START (X-BADGE VHCL)      |  |       |      |
| SUB MODE                  |  |       |      |
|                           |  | LIGHT | COPY |




|               |  |      |            |
|---------------|--|------|------------|
| SELECT SYSTEM |  |      |            |
| ENGINE        |  |      |            |
| A/T           |  |      |            |
| ABS           |  |      |            |
| AIR BAG       |  |      |            |
| BCM           |  |      |            |
| METER A/C AMP |  |      |            |
|               |  |      |            |
|               |  |      |            |
|               |  | BACK | LIGHT COPY |

MKIB1692E

- Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "EPS", "BCM", "ABS" and "IPDM E/R" displayed on CONSULT-II.

(Example)

|                       |  |             |            |
|-----------------------|--|-------------|------------|
| SELECT DIAG MODE      |  |             |            |
| WORK SUPPORT          |  |             |            |
| SELF-DIAG RESULTS     |  |             |            |
| DATA MONITOR          |  |             |            |
| DATA MONITOR (SPEC)   |  |             |            |
| CAN DIAG SUPPORT MNTR |  |             |            |
| ACTIVE TEST           |  |             |            |
|                       |  |             |            |
|                       |  | Scroll Down |            |
|                       |  | BACK        | LIGHT COPY |




|                          |      |          |      |
|--------------------------|------|----------|------|
| SELF-DIAG RESULTS        |      |          |      |
| DTC RESULTS              |      | TIME     |      |
| CAN COMM CIRCUIT [U1000] |      | 0        |      |
|                          |      |          |      |
|                          |      |          |      |
|                          |      | F.F.DATA |      |
| ERASE                    |      | PRINT    |      |
| MODE                     | BACK | LIGHT    | COPY |

PKIA8260E

- Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "EPS", "BCM", "ABS" and "IPDM E/R" displayed on CONSULT-II.

(Example)

|                       |  |             |            |
|-----------------------|--|-------------|------------|
| SELECT DIAG MODE      |  |             |            |
| WORK SUPPORT          |  |             |            |
| SELF-DIAG RESULTS     |  |             |            |
| DATA MONITOR          |  |             |            |
| DATA MONITOR (SPEC)   |  |             |            |
| CAN DIAG SUPPORT MNTR |  |             |            |
| ACTIVE TEST           |  |             |            |
|                       |  |             |            |
|                       |  | Scroll Down |            |
|                       |  | BACK        | LIGHT COPY |



|                       |      |             |      |
|-----------------------|------|-------------|------|
| CAN DIAG SUPPORT MNTR |      |             |      |
| ENGINE                |      |             |      |
|                       |      | PRNT        |      |
| INITIAL DIAG          |      | OK          |      |
| TRANSMIT DIAG         |      | OK          |      |
| TCM                   |      | OK          |      |
| VDC/TCS/ABS           |      | OK          |      |
| METER/M&A             |      | OK          |      |
| ICC                   |      | UNKWN       |      |
| BCM/SEC               |      | OK          |      |
| IPDM E/R              |      | OK          |      |
| AWD/4WD/e4WD          |      | UNKWN       |      |
| PRINT                 |      | Scroll Down |      |
| MODE                  | BACK | LIGHT       | COPY |

PKIA8343E

- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to [LAN-237, "CHECK SHEET"](#).
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "V" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to [LAN-237, "CHECK SHEET"](#).

**NOTE:**

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual. So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.

# CAN SYSTEM (TYPE 8)

[CAN]

6. Convert "v" mark on comparison table to check sheet table.

(Example)

Check sheet table

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE   | -                  | CAN COMM   | CAN CIRC 1 | -          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | -          | CAN CIRC 5 | CAN CIRC 3 | -          |
| BCM      | No indication      | -          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | -          | -          | -          | CAN CIRC 3 |
| ABS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5 | -          | -          | -          |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | -                 | -          | CAN CIRC 2 | -          | -          |

Comparison table

| SELECT SYSTEM screen | Initial diagnosis | Transmit diagnosis | Receive diagnosis |            |       |         |              |          |       |
|----------------------|-------------------|--------------------|-------------------|------------|-------|---------|--------------|----------|-------|
|                      |                   |                    | ECM               | METER /M&A | EPS   | BCM/SEC | VDC/TCS /ABS | IPDM E/R |       |
| ENGINE               | -                 | NG                 | UNKWN             | -          | UNKWN | UNKWN   | UNKWN        | UNKWN    | UNKWN |
| EPS                  | No indication     | NG                 | UNKWN             | UNKWN      | UNKWN | -       | UNKWN        | UNKWN    | -     |
| BCM                  | No indication     | -                  | UNKWN             | UNKWN      | UNKWN | -       | -            | -        | UNKWN |
| ABS                  | No indication     | NG                 | UNKWN             | UNKWN      | UNKWN | -       | -            | -        | -     |
| IPDM E/R             | No indication     | NG                 | UNKWN             | UNKWN      | -     | -       | UNKWN        | -        | -     |

Convert

MKIB1689E

7. According to the check sheet results (example), start inspection. Refer to [LAN-239, "CHECK SHEET RESULTS \(EXAMPLE\)"](#).

# CAN SYSTEM (TYPE 8)

[CAN]

## CHECK SHEET

Check sheet table

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 3 |
| ABS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5 | —          | —          | —          |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 2 | —          | —          |

Comparison table

| SELECT SYSTEM screen |               | Initial diagnosis | Transmit diagnosis | Receive diagnosis |            |       |         |              |          |
|----------------------|---------------|-------------------|--------------------|-------------------|------------|-------|---------|--------------|----------|
|                      |               |                   |                    | ECM               | METER /M&A | EPS   | BCM/SEC | VDC/TCS /ABS | IPDM E/R |
| ENGINE               | —             | NG                | UNKWN              | —                 | UNKWN      | UNKWN | UNKWN   | UNKWN        | UNKWN    |
| EPS                  | No indication | NG                | UNKWN              | UNKWN             | UNKWN      | —     | UNKWN   | UNKWN        | —        |
| BCM                  | No indication | —                 | UNKWN              | UNKWN             | UNKWN      | —     | —       | —            | UNKWN    |
| ABS                  | No indication | NG                | UNKWN              | UNKWN             | UNKWN      | UNKWN | —       | —            | —        |
| IPDM E/R             | No indication | NG                | UNKWN              | UNKWN             | —          | —     | UNKWN   | —            | —        |

Symptoms:

Attach copy of  
SELECT SYSTEM

Attach copy of  
SELECT SYSTEM

MKIB1608E

Attach copy of  
ENGINE  
SELF-DIAG RESULTS

Attach copy of  
EPS  
SELF-DIAG RESULTS

Attach copy of  
BCM  
SELF-DIAG RESULTS

Attach copy of  
ABS  
SELF-DIAG RESULTS

Attach copy of  
IPDM E/R  
SELF-DIAG RESULTS

Attach copy of  
ENGINE  
DATA MONITOR

Attach copy of  
EPS  
DATA MONITOR

Attach copy of  
BCM  
DATA MONITOR

Attach copy of  
ABS  
DATA MONITOR

Attach copy of  
IPDM E/R  
DATA MONITOR

## CHECK SHEET RESULTS (EXAMPLE)

## NOTE:

If "NG" is displayed on "CAN COMM" as "DATA MONITOR (CAN DIAG SUPPORT MNTR)" for the diagnosed control unit, replace the control unit.

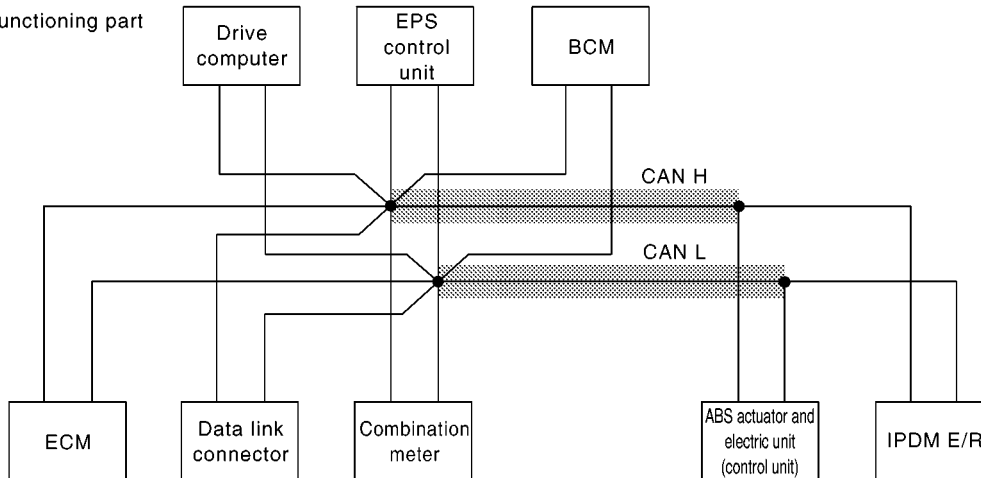
## Case1

Check harness between BCM and ABS actuator and electric unit (control unit). Refer to [LAN-248, "Circuit Check Between BCM and ABS Actuator and Electric Unit \(Control Unit\)"](#).

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |              |              |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|--------------|--------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS          | IPDM E/R     |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 ✓ | CAN CIRC 7 ✓ |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 ✓ | —            |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —            | CAN CIRC 3 ✓ |
| ABS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5 | —          | —            | —            |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 2 | —            | —            |

MKIB0820E

 : Malfunctioning part



MKIB0344E

# CAN SYSTEM (TYPE 8)

[CAN]

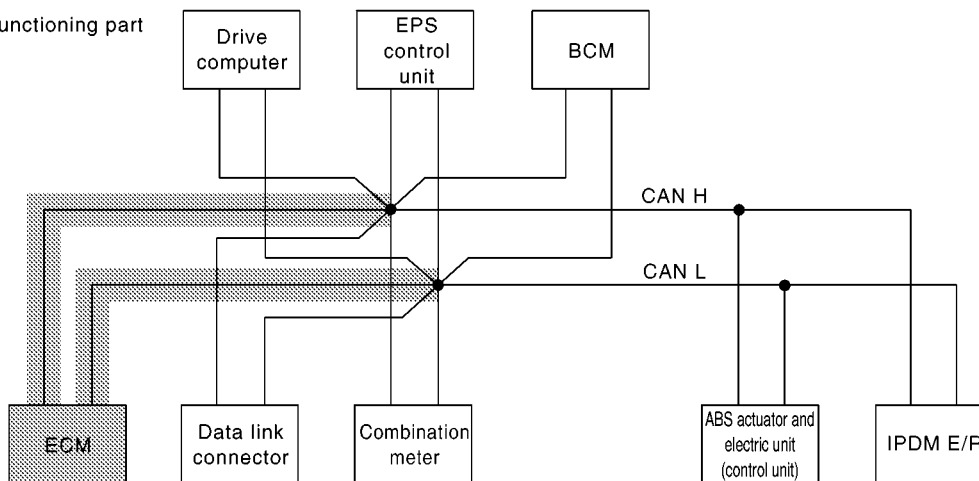
## Case2

Check ECM circuit. Refer to [LAN-249, "ECM Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx          | Rx          |                   |             |             |             |             |
|----------|--------------------|------------|-------------|-------------|-------------------|-------------|-------------|-------------|-------------|
|          |                    |            |             | ECM         | Combination meter | EPS         | BCM         | ABS         | IPDM E/R    |
| ENGINE   | —                  | CAN COMM   | CAN ✓CIRC 1 | —           | CAN ✓CIRC 4       | CAN ✓CIRC 9 | CAN ✓CIRC 6 | CAN ✓CIRC 3 | CAN ✓CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1  | CAN ✓CIRC 2 | CAN CIRC 4        | —           | CAN CIRC 5  | CAN CIRC 3  | —           |
| BCM      | No indication      | —          | CAN CIRC 1  | CAN ✓CIRC 2 | CAN CIRC 4        | —           | —           | —           | CAN CIRC 3  |
| ABS      | No indication      | CAN COMM   | CAN CIRC 1  | CAN ✓CIRC 2 | CAN CIRC 4        | CAN CIRC 5  | —           | —           | —           |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1  | CAN ✓CIRC 3 | —                 | —           | CAN CIRC 2  | —           | —           |

MKIB0821E

 : Malfunctioning part



MKIB0345E




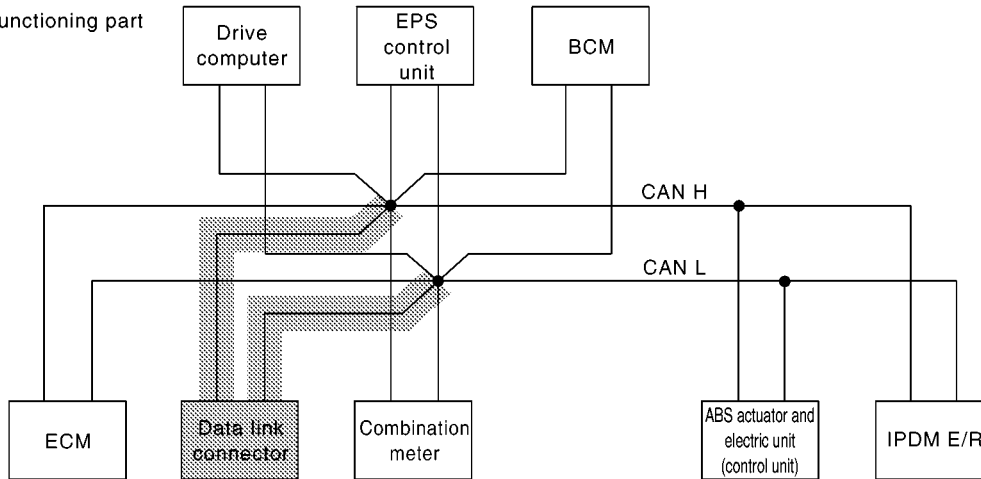
**Case3**

Check data link connector circuit. Refer to [LAN-250, "Data Link Connector Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 3 |
| ABS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5 | —          | —          | —          |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 2 | —          | —          |

MKIB0822E

 : Malfunctioning part



MKIB0346E

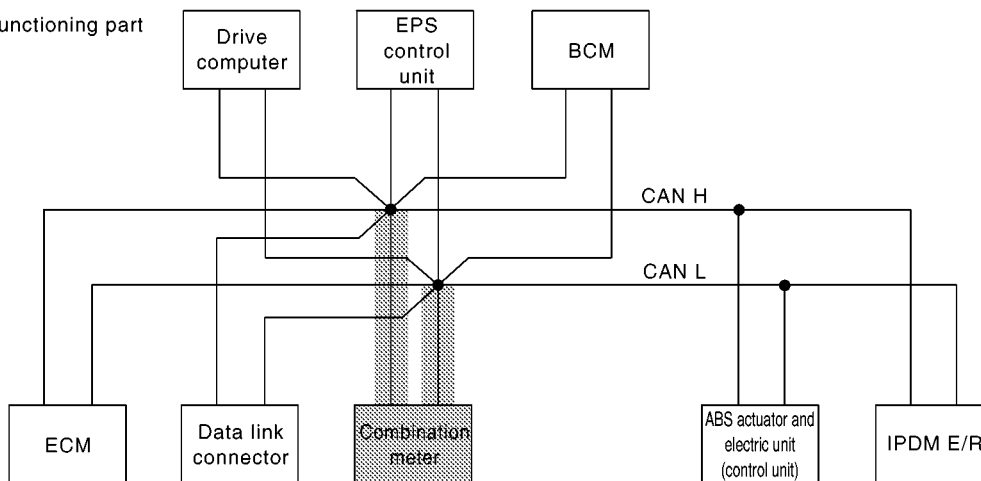
**Case4**

Check combination meter circuit. Refer to [LAN-251, "Combination Meter Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 3 |
| ABS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5 | —          | —          | —          |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 2 | —          | —          |

MKIB0823E

 : Malfunctioning part



MKIB0347E

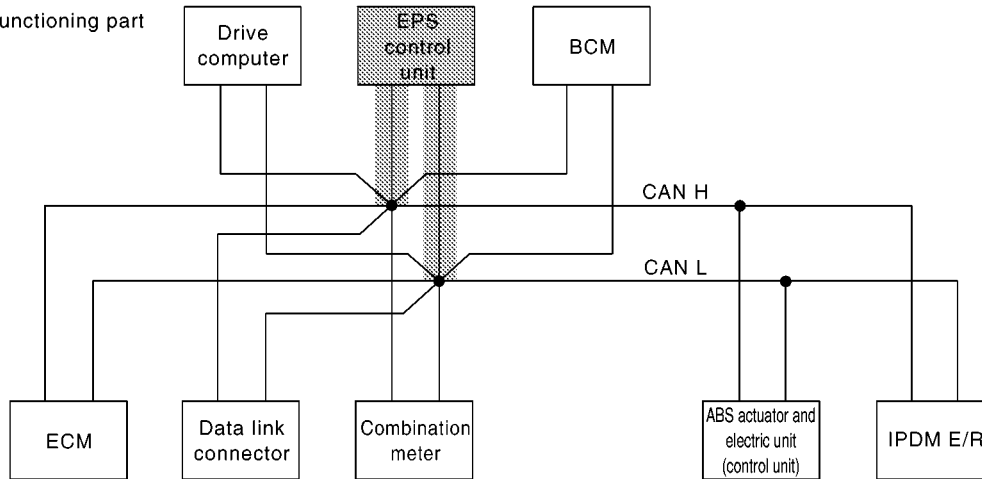
**Case5**

Check EPS control unit circuit. Refer to [LAN-252, "EPS Control Unit Circuit Check"](#).

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 3 |
| ABS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5 | —          | —          | —          |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 2 | —          | —          |

MKIB0824E

 : Malfunctioning part



MKIB0348E

# CAN SYSTEM (TYPE 8)

[CAN]

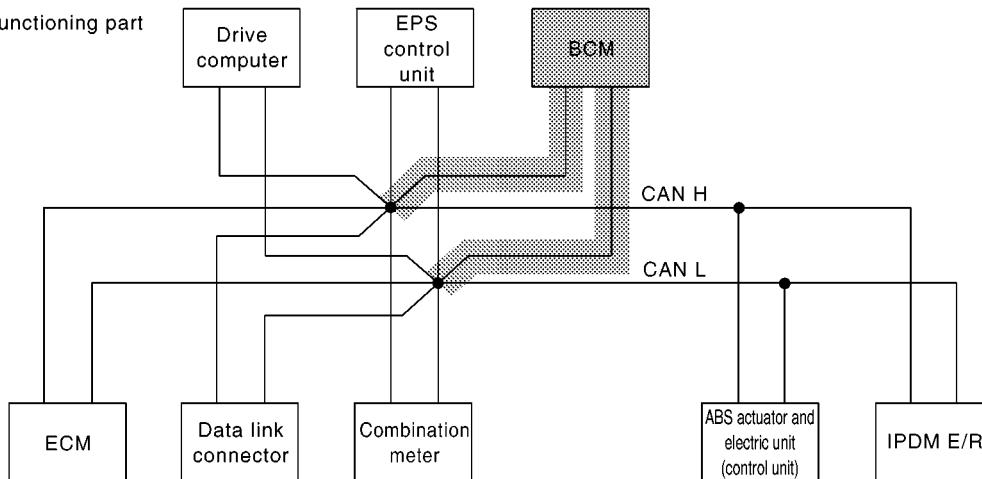
## Case6

Check BCM circuit. Refer to [LAN-253, "BCM Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |              |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|--------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM          | ABS        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 ✓ | CAN CIRC 3 | CAN CIRC 7 |
| EPS      | No indication ✓    | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 ✓ | CAN CIRC 3 | —          |
| BCM      | No indication ✓    | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —            | —          | CAN CIRC 3 |
| ABS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5 | —            | —          | —          |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 2 ✓ | —          | —          |

MKIB0825E

 : Malfunctioning part



MKIB0349E

# CAN SYSTEM (TYPE 8)

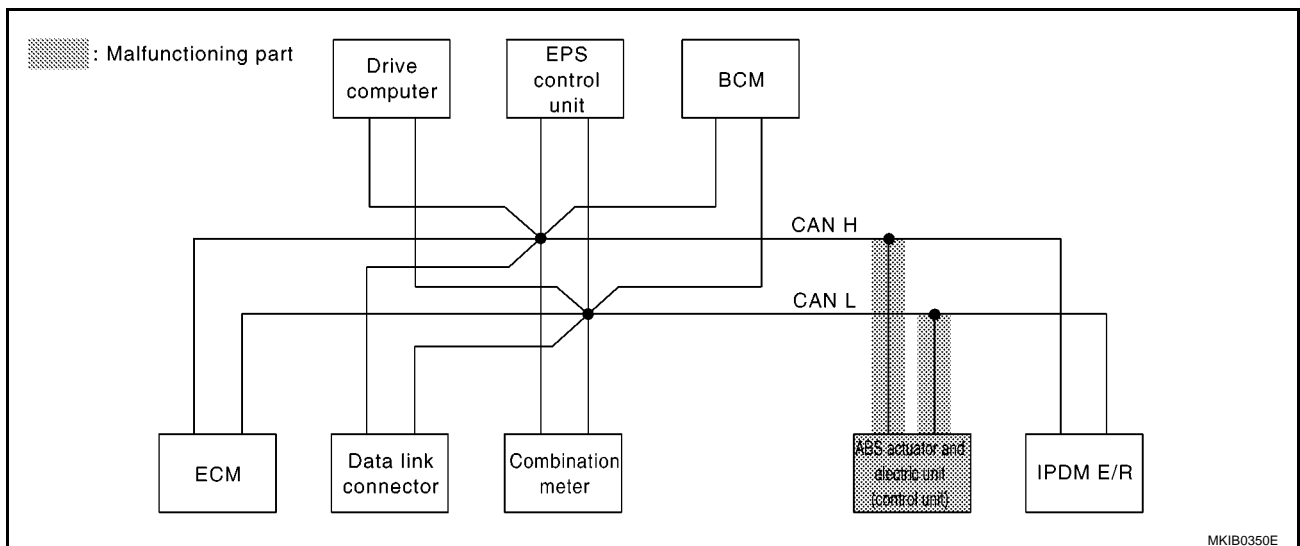
[CAN]

## Case7

Check ABS actuator and electric unit (control unit) circuit. Refer to [LAN-254, "ABS Actuator and Electric Unit \(Control Unit\) Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 3 |
| ABS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5 | —          | —          | —          |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 2 | —          | —          |

MKIB0826E



MKIB0350E

LAN

# CAN SYSTEM (TYPE 8)

[CAN]

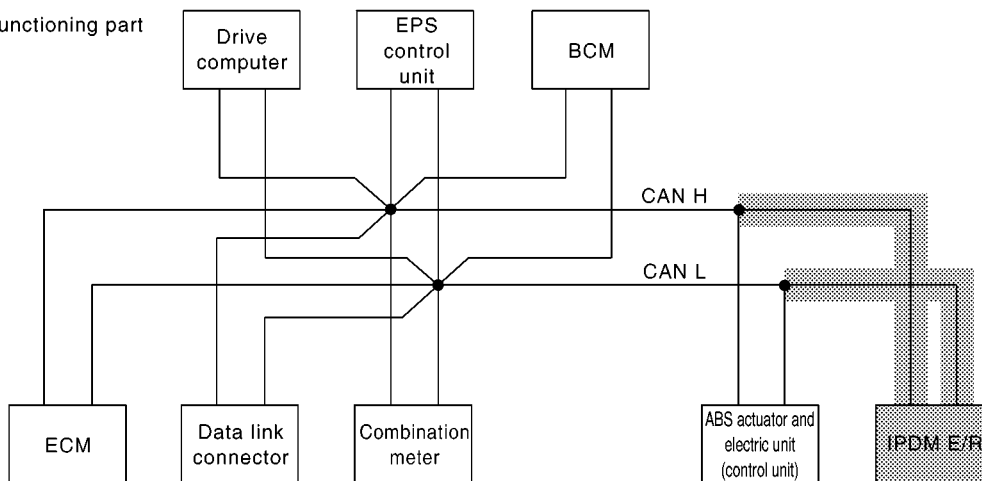
## Case8

Check IPDM E/R circuit. Refer to [LAN-255, "IPDM E/R Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 3 |
| ABS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5 | —          | —          | —          |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 2 | —          | —          |

MKIB0827E

 : Malfunctioning part



MKIB0351E

# CAN SYSTEM (TYPE 8)

[CAN]

## Case9

Check CAN communication circuit. Refer to [LAN-256. "CAN Communication Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 3 |
| ABS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5 | —          | —          | —          |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 2 | —          | —          |

MKIB0828E

## Case10

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to [LAN-259. "IPDM E/R Ignition Relay Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 3 |
| ABS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5 | —          | —          | —          |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 2 | —          | —          |

MKIB0829E

## Case11

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to [LAN-259. "IPDM E/R Ignition Relay Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |            |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|------------|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS        | BCM        | ABS        | IPDM E/R   |
| ENGINE   | —                  | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 4        | CAN CIRC 9 | CAN CIRC 6 | CAN CIRC 3 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —          | —          | —          | CAN CIRC 3 |
| ABS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5 | —          | —          | —          |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —          | CAN CIRC 2 | —          | —          |

MKIB0830E

**Circuit Check Between BCM and ABS Actuator and Electric Unit (Control Unit)**

EKS00JPM

**1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
  - Harness connector M1
  - Harness connector E101

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

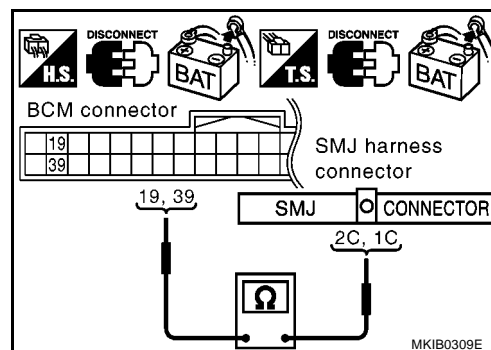
1. Disconnect following connector.
  - Harness connector M1
  - Combination meter connector
  - Drive computer connector
  - EPS control unit connector
  - BCM connector
2. Check continuity between BCM harness connector M48 terminals 19 (R), 39 (W) and harness connector M1 terminals 2C (R), 1C (W).

**19 (R) – 2C (R) : Continuity should exist.****39 (W) – 1C (W) : Continuity should exist.**

OK or NG

OK &gt;&gt; GO TO 3.

NG &gt;&gt; Repair harness.

**3. CHECK HARNESS FOR OPEN CIRCUIT**

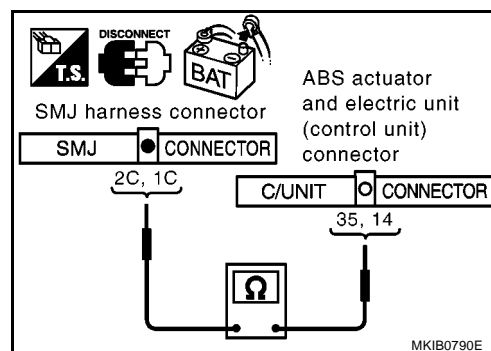
Check continuity between harness connector E101 terminals 2C (R), 1C (W) and ABS actuator and electric unit (control unit) harness connector E47 terminals 35 (R), 14 (W).

**2C (R) – 35 (R) : Continuity should exist.****1C (W) – 14 (W) : Continuity should exist.**

OK or NG

OK >> Reconnect all connectors to perform "SELECT SYSTEM", "SELF-DIAG RESULTS" and "DATA MONITOR (CAN DIAG SUPPORT MNTR)" displayed on CONSULT-II. Refer to [LAN-235, "Work Flow"](#).

NG &gt;&gt; Repair harness.





**ECM Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
  - ECM connector
  - Harness connector M1
  - Harness connector E101

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

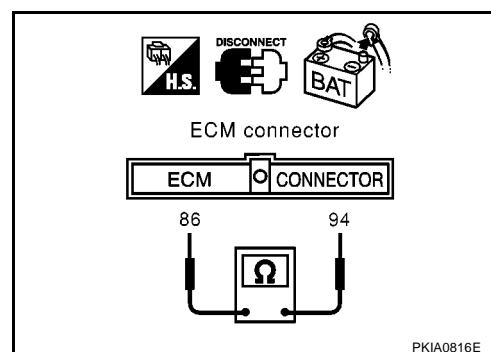
1. Disconnect ECM connector.
2. Check resistance between ECM harness connector E49 terminals 94 (R) and 86 (W).

**94 (R) – 86 (W)****: Approx. 108 – 132Ω**

OK or NG

OK &gt;&gt; Replace ECM.

NG &gt;&gt; Repair harness between ECM and data link connector.



## Data Link Connector Circuit Check

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check data link connector and terminals for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M17 terminals 6 (R) and 14 (W).

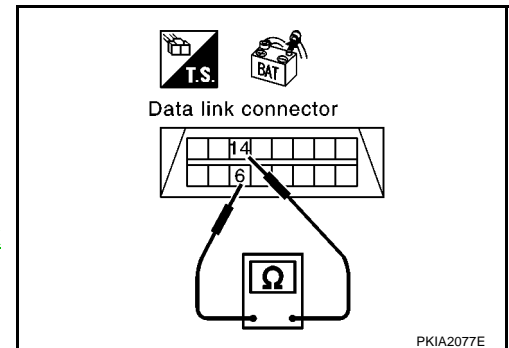
**6 (R) – 14 (W)**

**: Approx. 54 – 66Ω**

OK or NG

OK >> Perform "SELECT SYSTEM", "SELF-DIAG RESULTS" and "DATA MONITOR (CAN DIAG SUPPORT MNTR)" displayed on CONSULT-II. Refer to [LAN-235, "Work Flow"](#).

NG >> Repair harness between data link connector and combination meter



**Combination Meter Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of combination meter for damage, bend and loose connection (meter side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

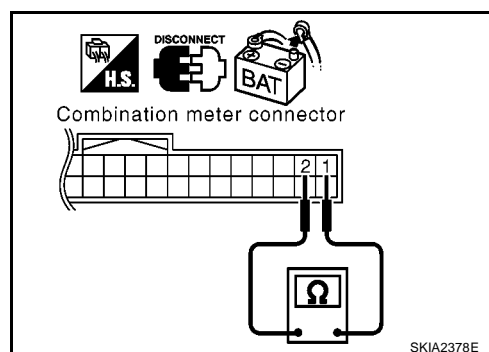
1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M22 terminals 1 (R) and 2 (W).

**1 (R) – 2 (W)****: Approx. 54 – 66Ω**

OK or NG

OK &gt;&gt; Replace combination meter

NG &gt;&gt; Repair harness between combination meter and data link connector.



## EPS Control Unit Circuit Check

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of EPS control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect EPS control unit connector.
2. Check resistance between EPS control unit harness connector M23 terminals 8 (R) and 7 (W).

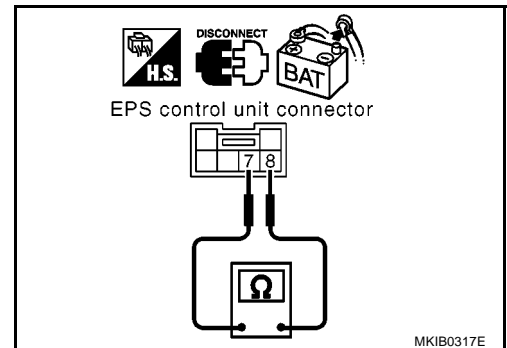
**8 (R) – 7 (W)**

**: Approx. 54 – 66Ω**

OK or NG

OK >> Replace EPS control unit.

NG >> Repair harness between EPS control unit and data link connector.



**BCM Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

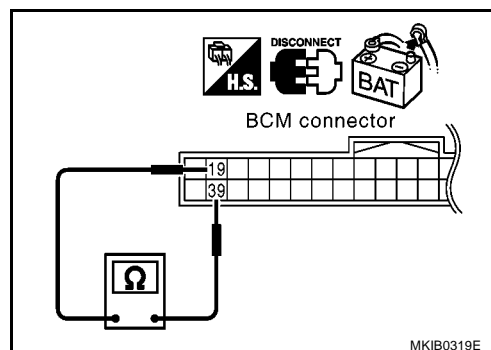
NG &gt;&gt; Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

1. Disconnect BCM connector.
2. Check resistance between BCM harness connector M48 terminals 19 (R) and 39 (W).

**19 (R) – 39 (W)****: Approx. 54 – 66Ω**OK or NGOK >> Replace BCM. Refer to [BCS-31, "Removal and Installation of BCM"](#).

NG &gt;&gt; Repair harness between BCM and data link connector.



## ABS Actuator and Electric Unit (Control Unit) Circuit Check

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector E47 terminals 35 (R) and 14 (W).

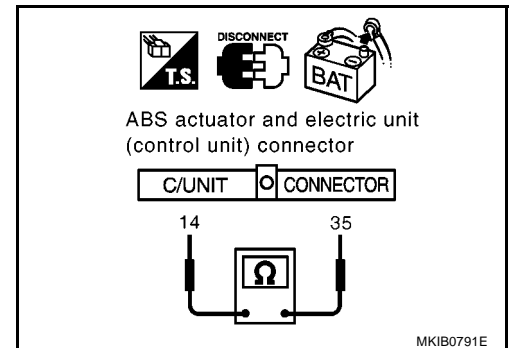
**35 (R) – 14 (W)**

**: Approx. 54 – 66Ω**

OK or NG

OK >> Replace ABS actuator and electric unit (control unit).

NG >> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



**IPDM E/R Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

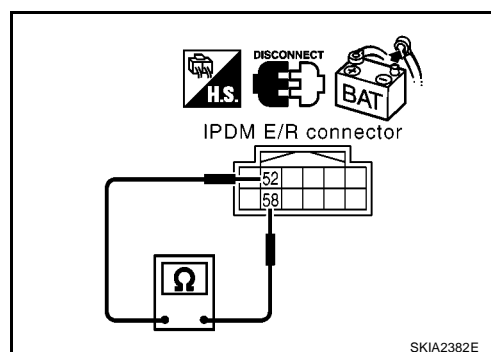
**2. CHECK HARNESS FOR OPEN CIRCUIT**

1. Disconnect IPDM E/R connector.
2. Check resistance between IPDM E/R harness connector E16 terminals 52 (R) and 58 (W).

**52 (R) – 58 (W)****: Approx. 108 – 132Ω**OK or NG

OK &gt;&gt; Replace IPDM E/R.

NG &gt;&gt; Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



## CAN Communication Circuit Check

EKS00JPU

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connectors for damage, bend and loose connection (control module side, meter side, control unit side and harness side).
  - ECM
  - Combination meter
  - Drive computer
  - EPS control unit
  - BCM
  - ABS actuator and electric unit (control unit)
  - IPDM E/R
  - Between ECM and IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

### 2. CHECK HARNESS FOR SHORT CIRCUIT

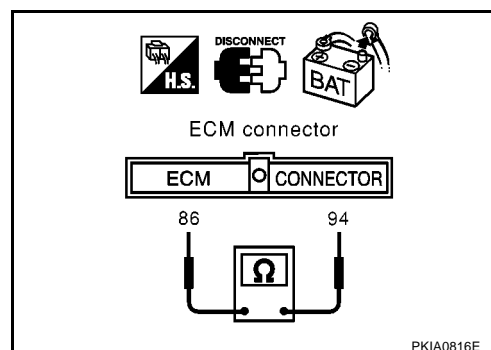
1. Disconnect ECM connector and harness connector E101.
2. Check continuity between ECM harness connector E49 terminals 94 (R) and 86 (W).

**94 (R) – 86 (W) : Continuity should not exist.**

OK or NG

OK >> GO TO 3.

NG >> Repair harness between ECM and harness connector E101.



### 3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector E49 terminals 94 (R), 86 (W) and ground.

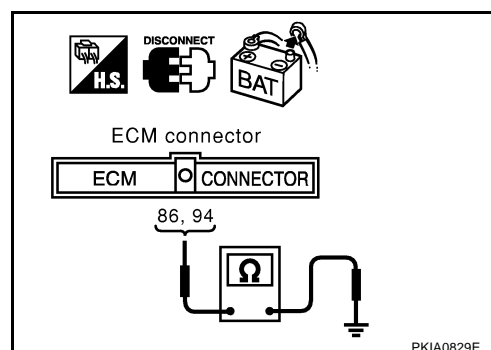
**94 (R) – Ground : Continuity should not exist.**

**86 (W) – Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 4.

NG >> Repair harness between ECM and harness connector E101.





## 4. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect following connectors.
  - ABS actuator and electric unit (control unit) connector
  - IPDM E/R connector
2. Check continuity between ABS actuator and electric unit (control unit) harness connector E47 terminals 35 (R) and 14 (W).

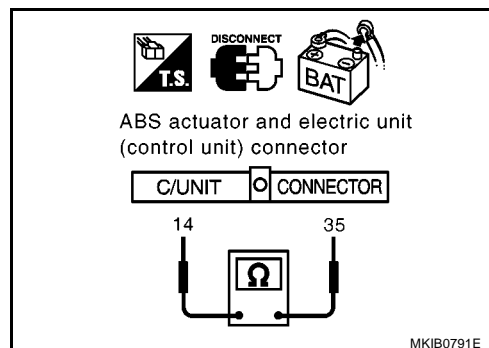
**35 (R) – 14 (W) : Continuity should not exist.**

OK or NG

OK >> GO TO 5.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between ABS actuator and electric unit (control unit) and harness connector E101
- Harness between ABS actuator and electric unit (control unit) and IPDM E/R



## 5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector E47 terminals 35 (R), 14 (W) and ground.

**35 (R) – Ground : Continuity should not exist.**

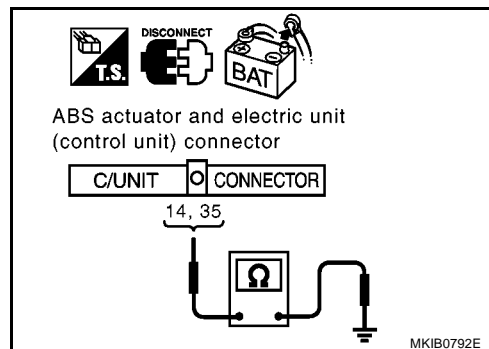
**14 (W) – Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 6.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between ABS actuator and electric unit (control unit) and harness connector E101
- Harness between ABS actuator and electric unit (control unit) and IPDM E/R



## 6. CHECK HARNESS FOR SHORT CIRCUIT

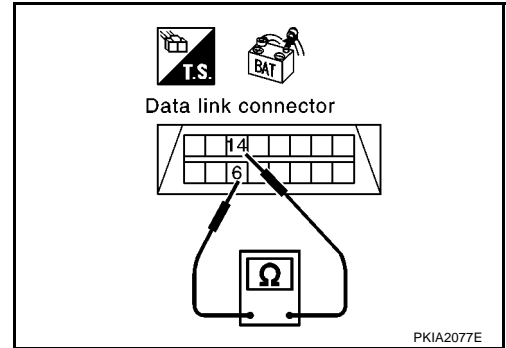
- Disconnect following connectors.
  - Combination meter connector
  - Drive computer connector
  - EPS control unit connector
  - BCM connector
- Check continuity between data link connector M17 terminals 6 (R) and 14 (W).

**6 (R) – 14 (W) : Continuity should not exist.**

OK or NG

OK >> GO TO 7.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
- Harness between data link connector and harness connector M1
  - Harness between data link connector and combination meter
  - Harness between data link connector and drive computer
  - Harness between data link connector and EPS control unit
  - Harness between data link connector and BCM



## 7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M17 terminals 6 (R), 14 (W) and ground.

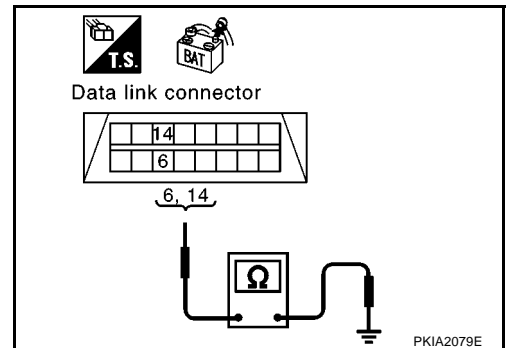
**6 (R) – Ground : Continuity should not exist.**

**14 (W) – Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 8.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
- Harness between data link connector and harness connector M1
  - Harness between data link connector and combination meter
  - Harness between data link connector and drive computer
  - Harness between data link connector and EPS control unit
  - Harness between data link connector and BCM



## 8. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-259, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"](#).

OK or NG

- OK >> Reconnect all connectors to perform "SELECT SYSTEM", "SELF-DIAG RESULTS" and "DATA MONITOR (CAN DIAG SUPPORT MNTR)" displayed on CONSULT-II. Refer to [LAN-235, "Work Flow"](#).
- NG >> Replace ECM and/or IPDM E/R.

**IPDM E/R Ignition Relay Circuit Check**

EKS00JPV

Perform the self-diagnosis for IPDM E/R. Refer to [PG-48, "Inspection With CONSULT-II \(Self-Diagnosis\)"](#) . If the result is OK, carry out following inspections.

- IPDM E/R power supply circuit. Refer to [PG-49, "IPDM E/R Power Supply and Ground Circuit Check"](#) .
- Ignition power supply circuit. Refer to [PG-12, "IGNITION POWER SUPPLY — IGNITION SW. IN "ON" AND/OR "START""](#) .

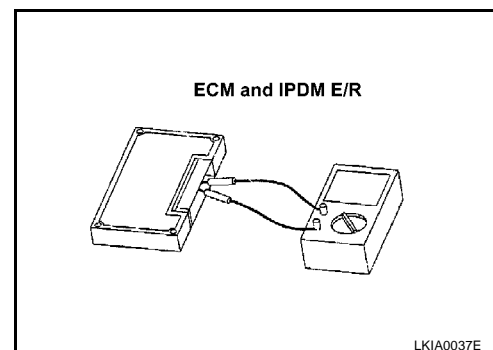
**Component Inspection**

EKS00JPW

**ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION**

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 52 and 58.

| Unit     | Terminal | Resistance value ( $\Omega$ )<br>(Approx.) |
|----------|----------|--|
| ECM      | 94 – 86  | 108 - 132                                  |
| IPDM E/R | 52 – 58  |  |



## CAN SYSTEM (TYPE 9)

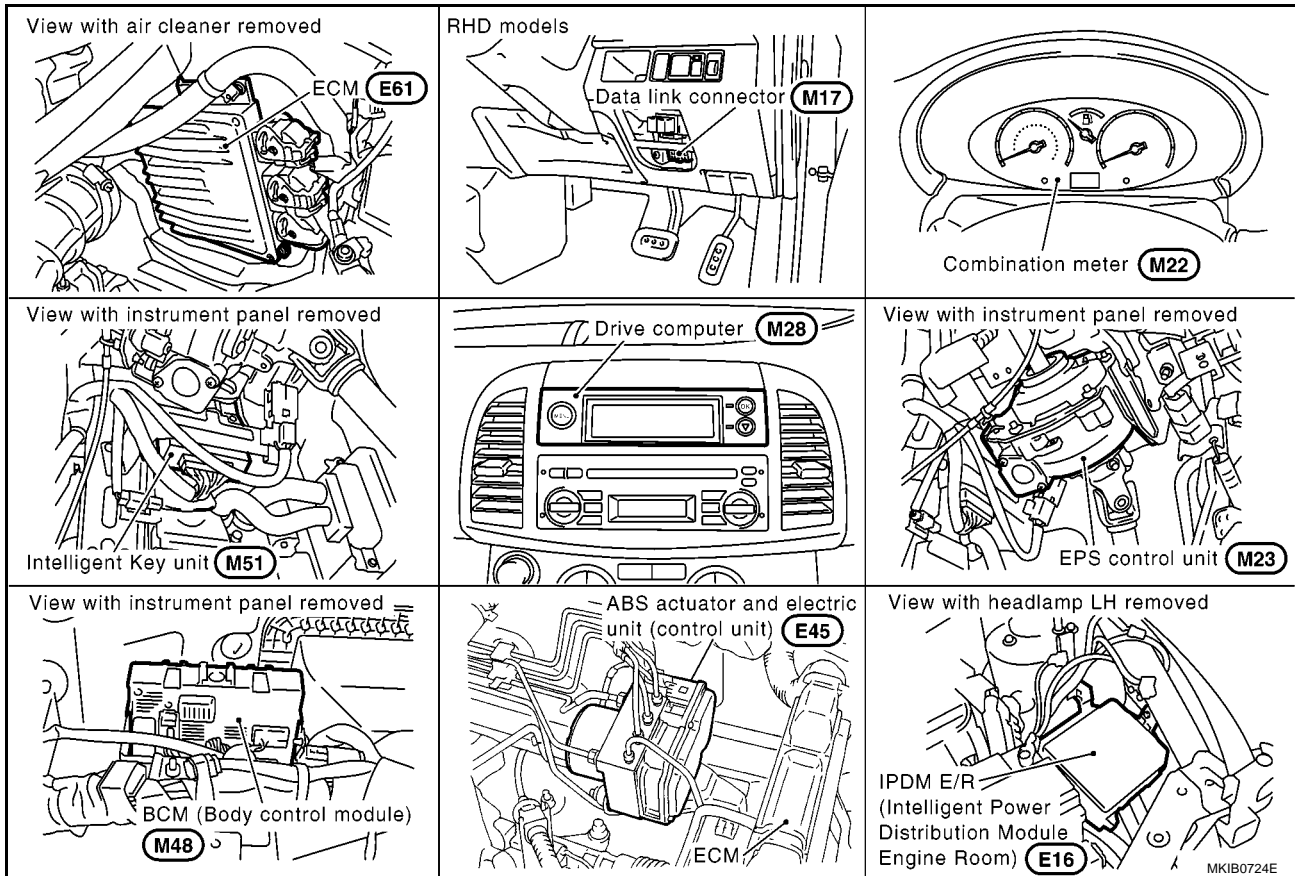
## System Description

EKS00JPX

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

## Component Parts and Harness Connector Location

EKS00JPY



# CAN SYSTEM (TYPE 9)

[CAN]

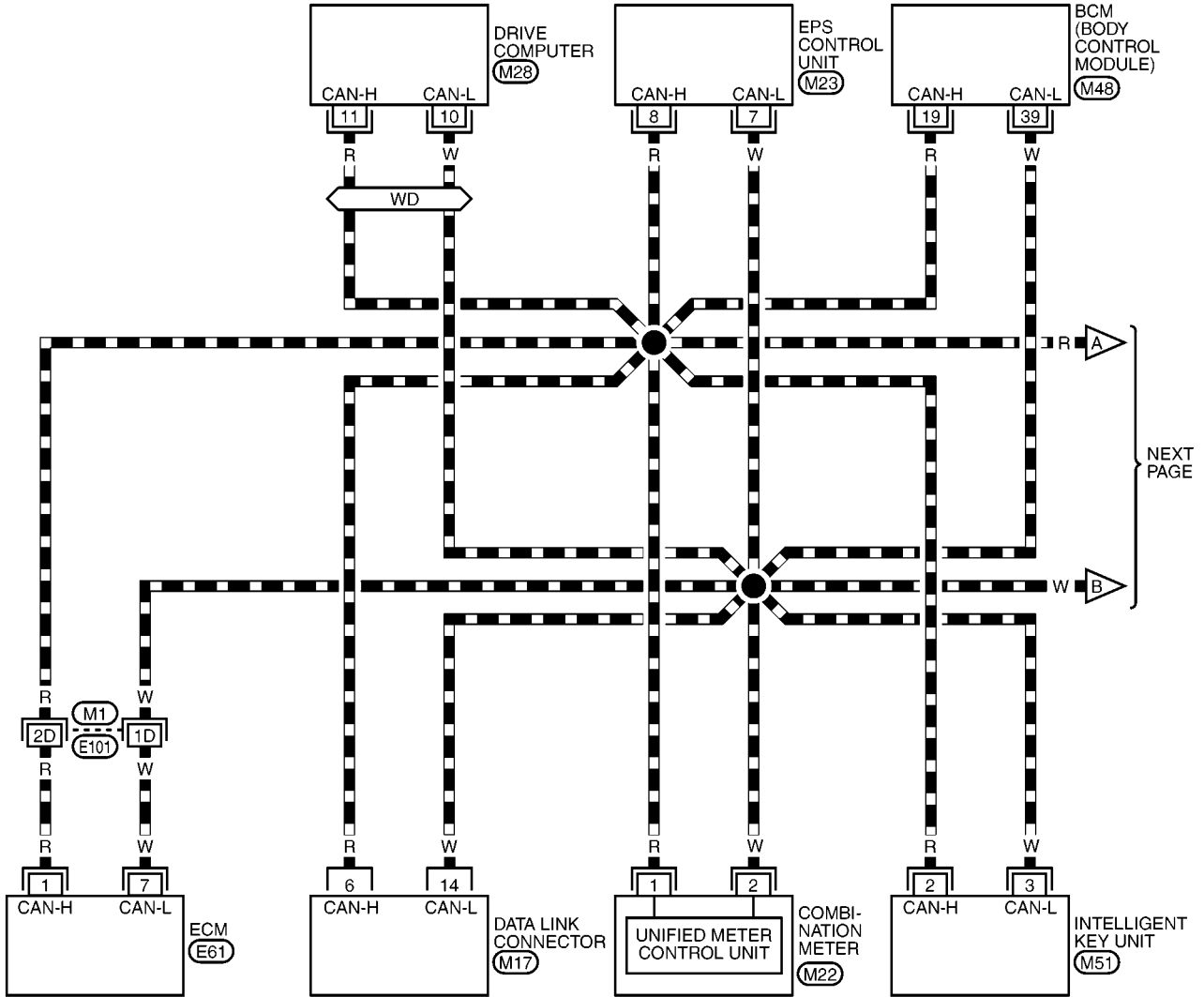
## Wiring Diagram — CAN —

EKS00JPZ

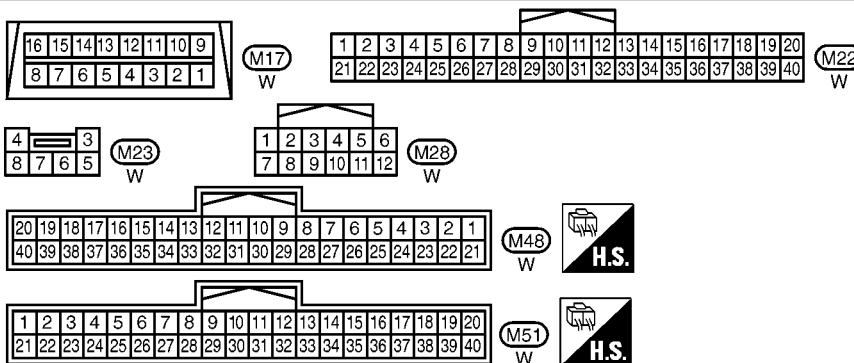
### LAN-CAN-17

— : DATA LINE

WD : WITH DRIVE COMPUTER



LAN



REFER TO THE FOLLOWING.

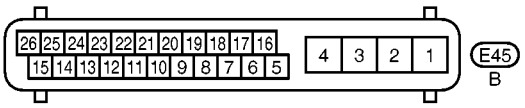
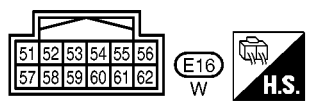
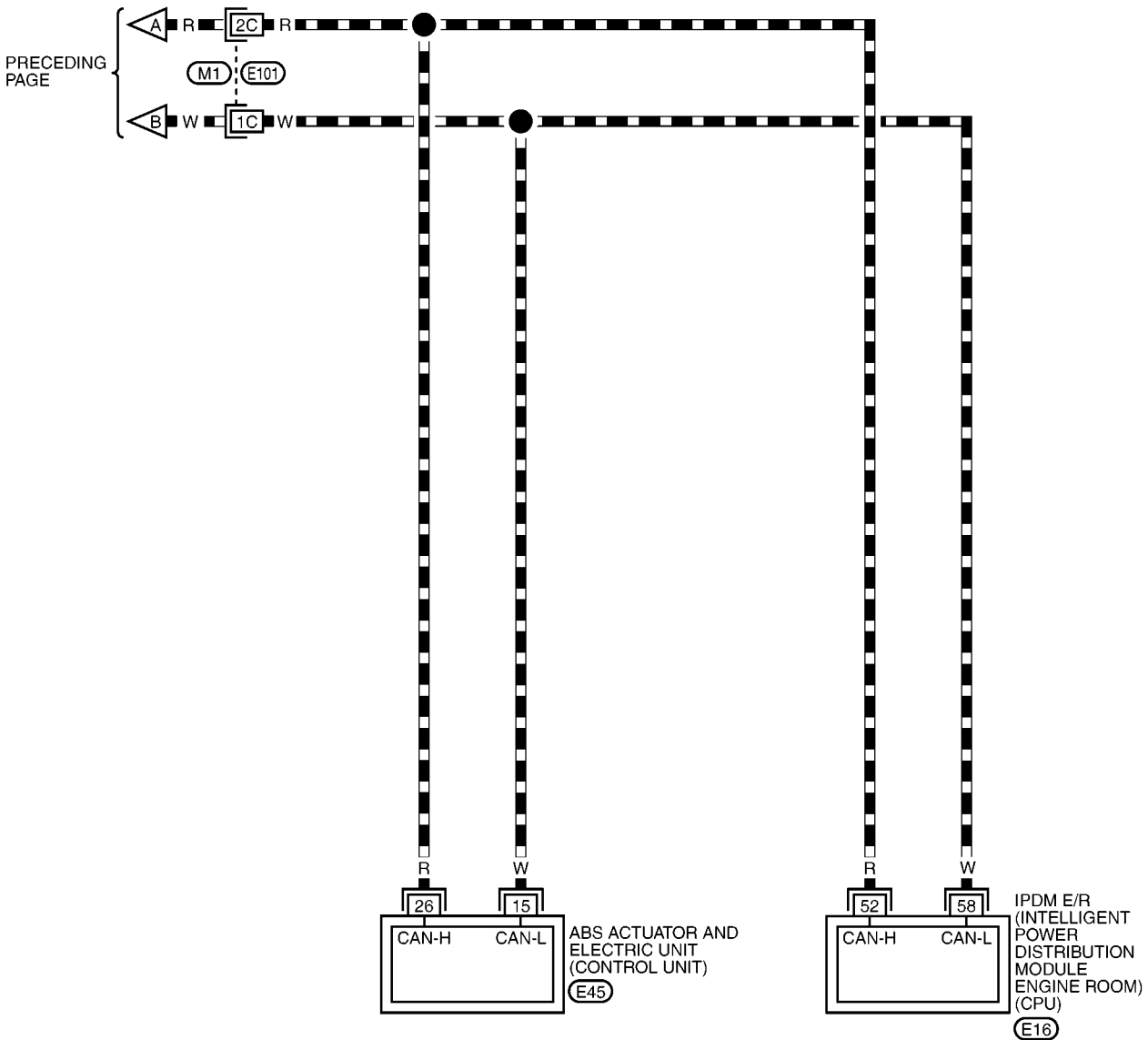
(M1) -SUPER MULTIPLE JUNCTION (SMJ)

(E61) -ELECTRICAL UNITS

MKWA2705E

LAN-CAN-18

DATA LINE




REFER TO THE FOLLOWING.  
M1 -SUPER MULTIPLE JUNCTION (SMJ)

## Work Flow

- When there are no indications of "ENGINE", "INTELLIGENT KEY", "EPS", "BCM" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".

(Example)

|                           |  |       |      |
|---------------------------|--|-------|------|
| NISSAN                    |  |       |      |
| CONSULT-II                |  |       |      |
| ENGINE                    |  |       |      |
| START (NISSAN BASED VHCL) |  |       |      |
| START (X-BADGE VHCL)      |  |       |      |
| SUB MODE                  |  |       |      |
|                           |  | LIGHT | COPY |




|               |  |      |            |
|---------------|--|------|------------|
| SELECT SYSTEM |  |      |            |
| ENGINE        |  |      |            |
| A/T           |  |      |            |
| ABS           |  |      |            |
| AIR BAG       |  |      |            |
| BCM           |  |      |            |
| METER A/C AMP |  |      |            |
|               |  |      |            |
|               |  |      |            |
|               |  | BACK | LIGHT COPY |

MKIB1692E

- Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "INTELLIGENT KEY", "EPS", "BCM", "ABS" and "IPDM E/R" displayed on CONSULT-II.

(Example)

|                       |  |             |            |
|-----------------------|--|-------------|------------|
| SELECT DIAG MODE      |  |             |            |
| WORK SUPPORT          |  |             |            |
| SELF-DIAG RESULTS     |  |             |            |
| DATA MONITOR          |  |             |            |
| DATA MONITOR (SPEC)   |  |             |            |
| CAN DIAG SUPPORT MNTR |  |             |            |
| ACTIVE TEST           |  |             |            |
|                       |  |             |            |
|                       |  | Scroll Down |            |
|                       |  | BACK        | LIGHT COPY |




|                          |      |          |      |
|--------------------------|------|----------|------|
| SELF-DIAG RESULTS        |      |          |      |
| DTC RESULTS              |      | TIME     |      |
| CAN COMM CIRCUIT [U1000] |      | 0        |      |
|                          |      |          |      |
|                          |      |          |      |
|                          |      | F.F.DATA |      |
| ERASE                    |      | PRINT    |      |
| MODE                     | BACK | LIGHT    | COPY |

PKIA8260E

- Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "INTELLIGENT KEY", "EPS", "BCM", "ABS" and "IPDM E/R" displayed on CONSULT-II.

(Example)

|                       |  |             |            |
|-----------------------|--|-------------|------------|
| SELECT DIAG MODE      |  |             |            |
| WORK SUPPORT          |  |             |            |
| SELF-DIAG RESULTS     |  |             |            |
| DATA MONITOR          |  |             |            |
| DATA MONITOR (SPEC)   |  |             |            |
| CAN DIAG SUPPORT MNTR |  |             |            |
| ACTIVE TEST           |  |             |            |
|                       |  |             |            |
|                       |  | Scroll Down |            |
|                       |  | BACK        | LIGHT COPY |



|                       |      |             |      |
|-----------------------|------|-------------|------|
| CAN DIAG SUPPORT MNTR |      |             |      |
| ENGINE                |      |             |      |
|                       |      | PRNT        |      |
| INITIAL DIAG          |      | OK          |      |
| TRANSMIT DIAG         |      | OK          |      |
| TCM                   |      | OK          |      |
| VDC/TCS/ABS           |      | OK          |      |
| METER/M&A             |      | OK          |      |
| ICC                   |      | UNKWN       |      |
| BCM/SEC               |      | OK          |      |
| IPDM E/R              |      | OK          |      |
| AWD/4WD/e4WD          |      | UNKWN       |      |
| PRINT                 |      | Scroll Down |      |
| MODE                  | BACK | LIGHT       | COPY |

PKIA8343E

- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to [LAN-265, "CHECK SHEET"](#).
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "V" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to [LAN-265, "CHECK SHEET"](#).

**NOTE:**

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual. So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.

# CAN SYSTEM (TYPE 9)

[CAN]

- Convert "v" mark on comparison table to check sheet table.

(Example)

Check sheet table

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |     |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|-----|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS | BCM        | ABS        | IPDM E/R   |
| ENGINE          | No indication      | —          | CAN CIRC 1 | —          | CAN CIRC 3        | —               | —   | CAN CIRC 4 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 3        | —               | —   | CAN CIRC 2 | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —   | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —   | —          | —          | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —   | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —   | CAN CIRC 2 | —          | —          |

Comparison table

| SELECT SYSTEM screen |               | Initial diagnosis | Transmit diagnosis | Receive diagnosis |            |       |     |         |              |          |
|----------------------|---------------|-------------------|--------------------|-------------------|------------|-------|-----|---------|--------------|----------|
|                      |               |                   |                    | ECM               | METER /M&A | I-KEY | EPS | BCM/SEC | VDC/TCS /ABS | IPDM E/R |
| ENGINE               | No indication | —                 | UNKWN              | —                 | UNKWN      | —     | —   | UNKWN   | UNKWN        | UNKWN    |
| INTELLIGENT          | No indication | NG                | UNKWN              | —                 | UNKWN      | —     | —   | UNKWN   | —            | —        |
| EPS                  | No indication | NG                | UNKWN              | UNKWN             | UNKWN      | —     | —   | UNKWN   | UNKWN        | —        |
| BCM                  | No indication | —                 | UNKWN              | UNKWN             | UNKWN      | UNKWN | —   | —       | —            | UNKWN    |
| ABS                  | —             | NG                | UNKWN              | UNKWN             | —          | —     | —   | —       | —            | —        |
| IPDM E/R             | No indication | NG                | UNKWN              | UNKWN             | —          | —     | —   | UNKWN   | —            | —        |

Convert

- According to the check sheet results (example), start inspection. Refer to [LAN-267, "CHECK SHEET RESULTS \(EXAMPLE\)"](#).

MKIB1690E



# CAN SYSTEM (TYPE 9)

[CAN]

## CHECK SHEET

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
LAN  
L  
M

Check sheet table

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |     |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|-----|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS | BCM        | ABS        | IPDM E/R   |
| ENGINE          | No indication      | —          | CAN CIRC 1 | —          | CAN CIRC 3        | —               | —   | CAN CIRC 4 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 3        | —               | —   | CAN CIRC 2 | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —   | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —   | —          | —          | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —   | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —   | CAN CIRC 2 | —          | —          |

Comparison table

| SELECT SYSTEM screen |               | Initial diagnosis | Transmit diagnosis | Receive diagnosis |            |       |     |         |              |          |
|----------------------|---------------|-------------------|--------------------|-------------------|------------|-------|-----|---------|--------------|----------|
|                      |               |                   |                    | ECM               | METER /M&A | I-KEY | EPS | BCM/SEC | VDC/TCS /ABS | IPDM E/R |
| ENGINE               | No indication | —                 | UNKWN              | —                 | UNKWN      | —     | —   | UNKWN   | UNKWN        | UNKWN    |
| INTELLIGENT          | No indication | NG                | UNKWN              | —                 | UNKWN      | —     | —   | UNKWN   | —            | —        |
| EPS                  | No indication | NG                | UNKWN              | UNKWN             | UNKWN      | —     | —   | UNKWN   | UNKWN        | —        |
| BCM                  | No indication | —                 | UNKWN              | UNKWN             | UNKWN      | UNKWN | —   | —       | —            | UNKWN    |
| ABS                  | —             | NG                | UNKWN              | UNKWN             | —          | —     | —   | —       | —            | —        |
| IPDM E/R             | No indication | NG                | UNKWN              | UNKWN             | —          | —     | —   | UNKWN   | —            | —        |

Symptoms:

Attach copy of  
SELECT SYSTEM

Attach copy of  
SELECT SYSTEM

MKIB1609E

CAN SYSTEM (TYPE 9)

[CAN]

Attach copy of  
ENGINE  
SELF-DIAG RESULTS

Attach copy of  
INTELLIGENT KEY  
SELF-DIAG RESULTS

Attach copy of  
EPS  
SELF-DIAG RESULTS

Attach copy of  
BCM  
SELF-DIAG RESULTS

Attach copy of  
ABS  
SELF-DIAG RESULTS

Attach copy of  
IPDM E/R  
SELF-DIAG RESULTS

Attach copy of  
ENGINE  
DATA MONITOR

Attach copy of  
INTELLIGENT KEY  
DATA MONITOR

Attach copy of  
EPS  
DATA MONITOR

Attach copy of  
BCM  
DATA MONITOR

Attach copy of  
ABS  
DATA MONITOR

Attach copy of  
IPDM  
DATA MONITOR

MKIB0296E

## CHECK SHEET RESULTS (EXAMPLE)

## NOTE:

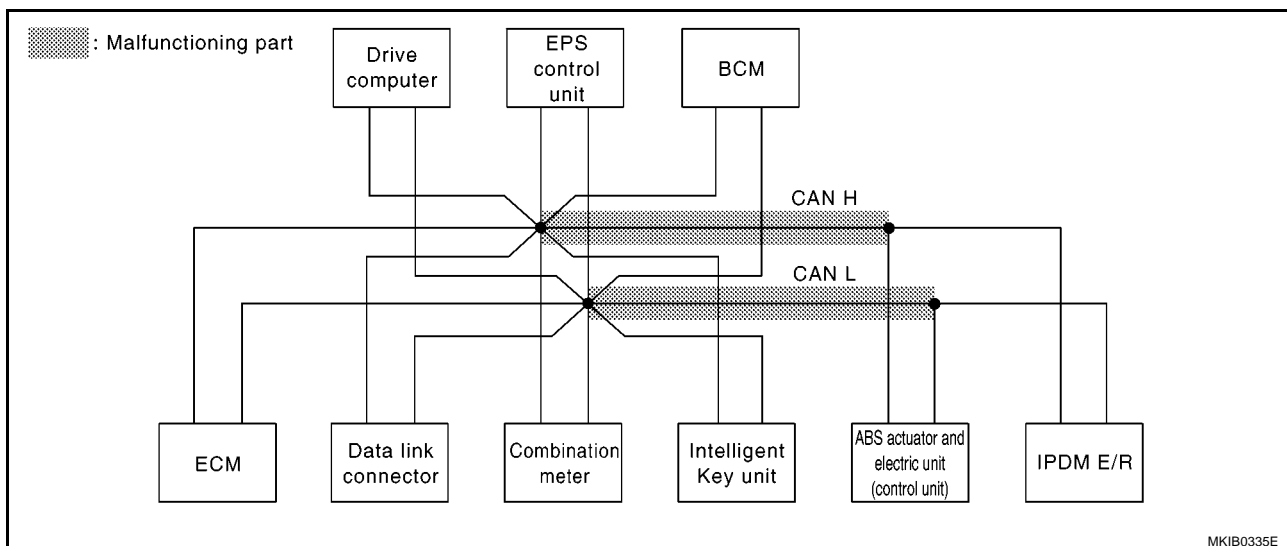
If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

## Case 1

Check harness between BCM and ABS actuator and electric unit (control unit). Refer to [LAN-277, "Circuit Check Between BCM and ABS Actuator and Electric Unit \(Control Unit\)"](#).

|                 | CONSULT indication | CAN system | Tx         | Rx           |                   |                 |     |            |              |              |
|-----------------|--------------------|------------|------------|--------------|-------------------|-----------------|-----|------------|--------------|--------------|
|                 |                    |            |            | ECM          | Combination meter | Intelligent Key | EPS | BCM        | ABS          | IPDM E/R     |
| ENGINE          | No indication      | —          | CAN CIRC 1 | —            | CAN CIRC 3        | —               | —   | CAN CIRC 4 | CAN CIRC 2 ✓ | CAN CIRC 7 ✓ |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | —            | CAN CIRC 3        | —               | —   | CAN CIRC 2 | —            | —            |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2   | CAN CIRC 4        | —               | —   | CAN CIRC 5 | CAN CIRC 3 ✓ | —            |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2   | CAN CIRC 4        | CAN CIRC 5      | —   | —          | —            | CAN CIRC 3 ✓ |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 ✓ | —                 | —               | —   | —          | —            | —            |
| IPDM E/R        | No indication ✓    | CAN COMM   | CAN CIRC 1 | CAN CIRC 3   | —                 | —               | —   | CAN CIRC 2 | —            | —            |

MKIB1659E



MKIB0335E

# CAN SYSTEM (TYPE 9)

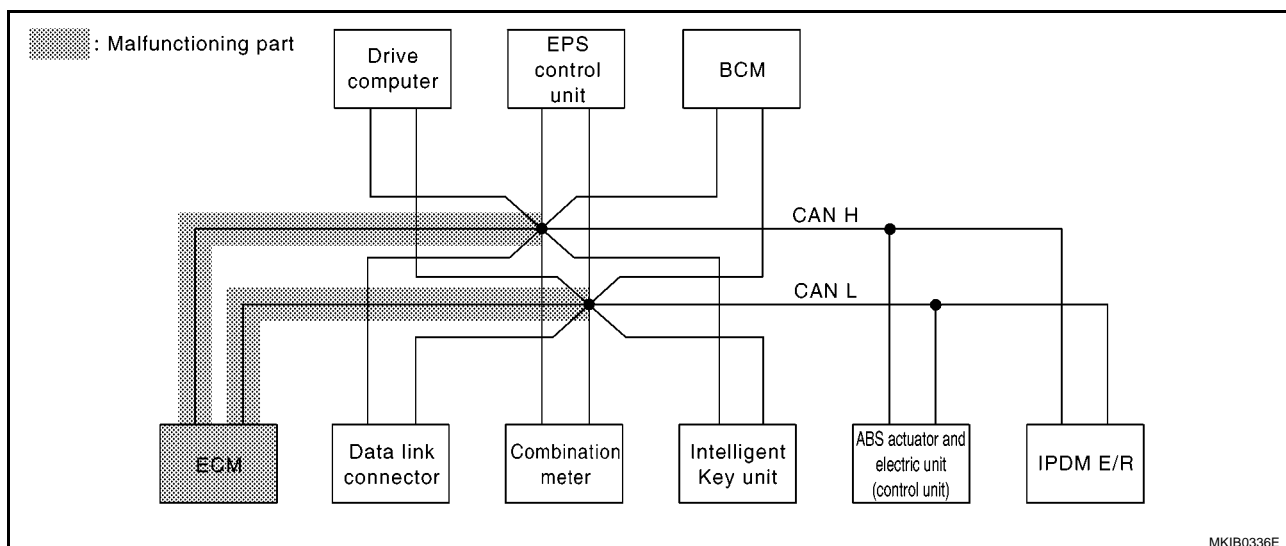
[CAN]

## Case 2

Check ECM circuit. Refer to [LAN-278, "ECM Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |     |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|-----|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS | BCM        | ABS        | IPDM E/R   |
| ENGINE          | No indication      | —          | CAN CIRC 1 | —          | CAN CIRC 3        | —               | —   | CAN CIRC 4 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 3        | —               | —   | CAN CIRC 2 | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —   | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —   | —          | —          | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —   | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —   | CAN CIRC 2 | —          | —          |

MKIB1660E



MKIB0336E

# CAN SYSTEM (TYPE 9)

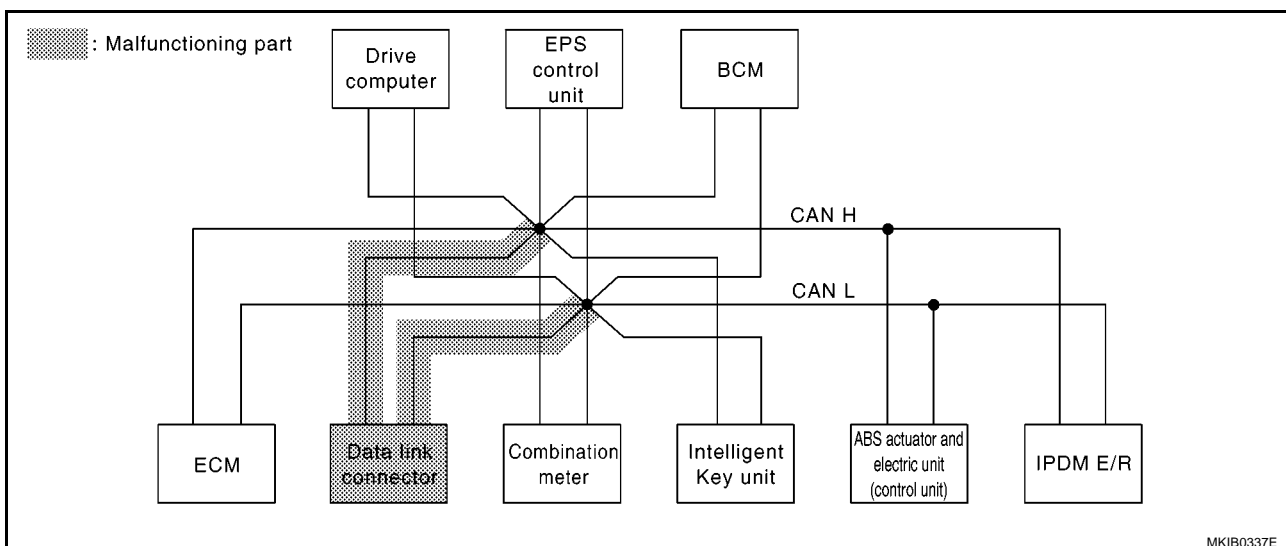
[CAN]

## Case 3

Check data link connector circuit. Refer to [LAN-279, "Data Link Connector Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |     |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|-----|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS | BCM        | ABS        | IPDM E/R   |
| ENGINE          | No indication ✓    | —          | CAN CIRC 1 | —          | CAN CIRC 3        | —               | —   | CAN CIRC 4 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication ✓    | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 3        | —               | —   | CAN CIRC 2 | —          | —          |
| EPS             | No indication ✓    | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —   | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication ✓    | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —   | —          | —          | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —   | —          | —          | —          |
| IPDM E/R        | No indication ✓    | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —   | CAN CIRC 2 | —          | —          |

MKIB1661E



MKIB0337E

LAN

# CAN SYSTEM (TYPE 9)

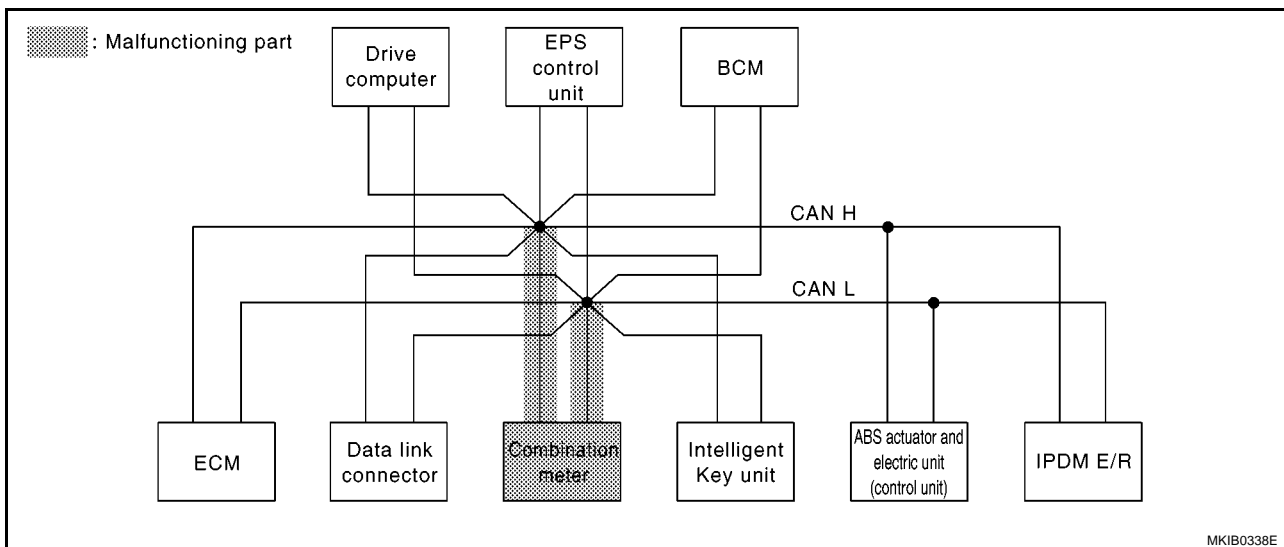
[CAN]

## Case 4

Check combination meter circuit. Refer to [LAN-280, "Combination Meter Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |     |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|-----|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS | BCM        | ABS        | IPDM E/R   |
| ENGINE          | No indication      | —          | CAN CIRC 1 | —          | CAN CIRC 3        | —               | —   | CAN CIRC 4 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 3        | —               | —   | CAN CIRC 2 | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —   | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —   | —          | —          | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —   | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —   | CAN CIRC 2 | —          | —          |

MKIB1662E



MKIB0338E

# CAN SYSTEM (TYPE 9)

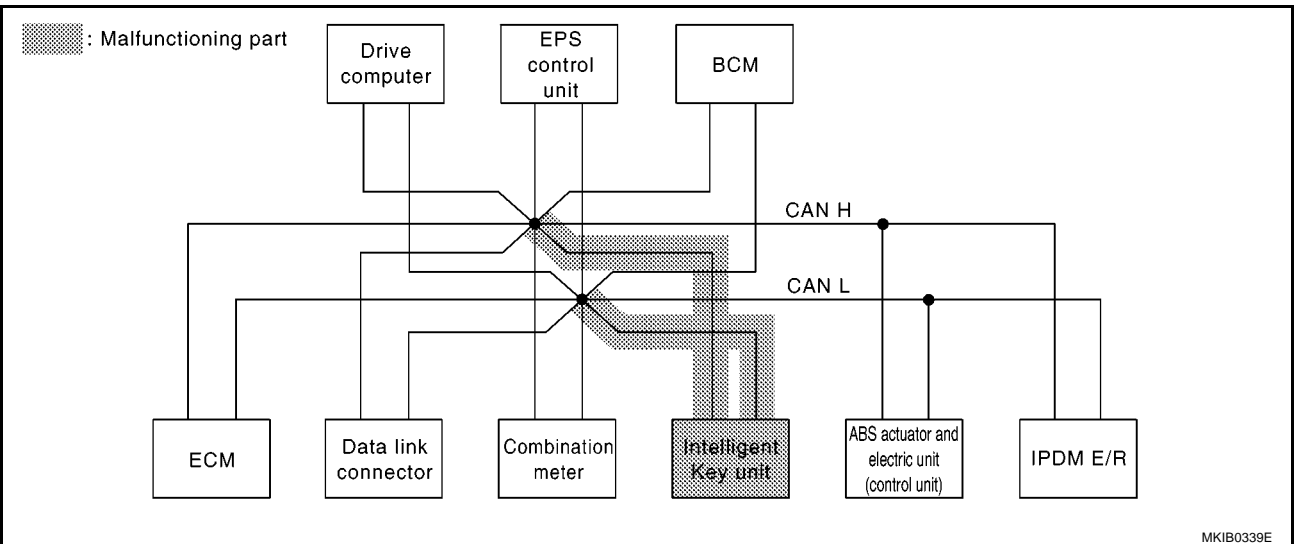
[CAN]

## Case 5

Check Intelligent Key unit circuit. Refer to [LAN-281, "Intelligent Key Unit Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |     |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|-----|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS | BCM        | ABS        | IPDM E/R   |
| ENGINE          | No indication      | —          | CAN CIRC 1 | —          | CAN CIRC 3        | —               | —   | CAN CIRC 4 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 3        | —               | —   | CAN CIRC 2 | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —   | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —   | —          | —          | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —   | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —   | CAN CIRC 2 | —          | —          |

MKIB1663E



MKIB0339E

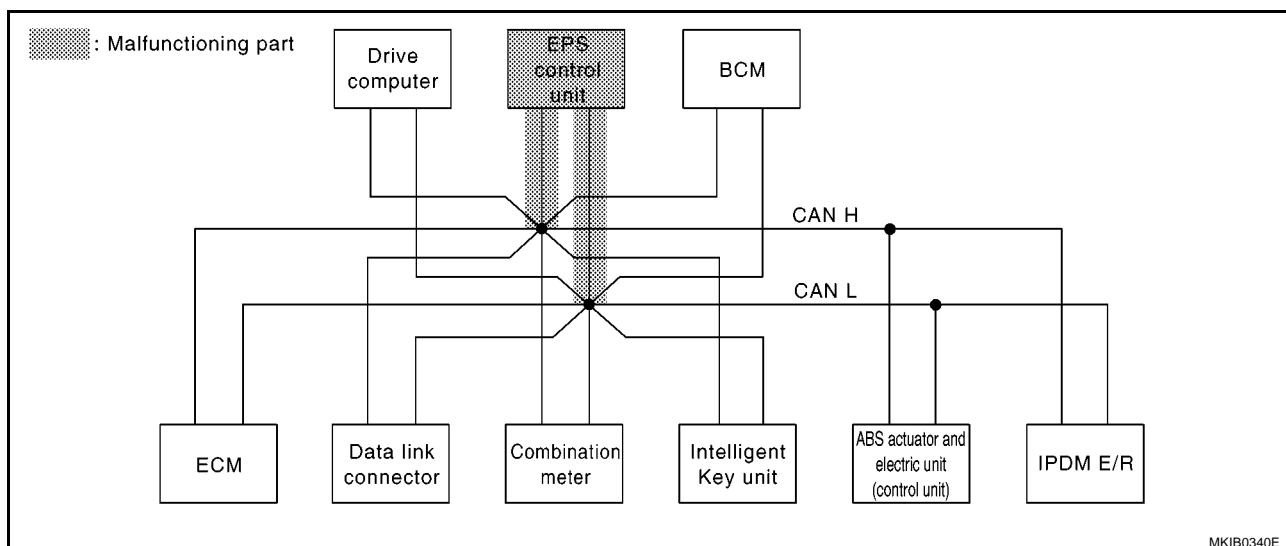
LAN

**Case 6**

Check EPS control unit circuit. Refer to [LAN-282, "EPS Control Unit Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |     |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|-----|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS | BCM        | ABS        | IPDM E/R   |
| ENGINE          | No indication      | —          | CAN CIRC 1 | —          | CAN CIRC 3        | —               | —   | CAN CIRC 4 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 3        | —               | —   | CAN CIRC 2 | —          | —          |
| EPS             | No indication ✓    | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —   | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —   | —          | —          | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —   | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —   | CAN CIRC 2 | —          | —          |

MKIB1664E



MKIB0340E

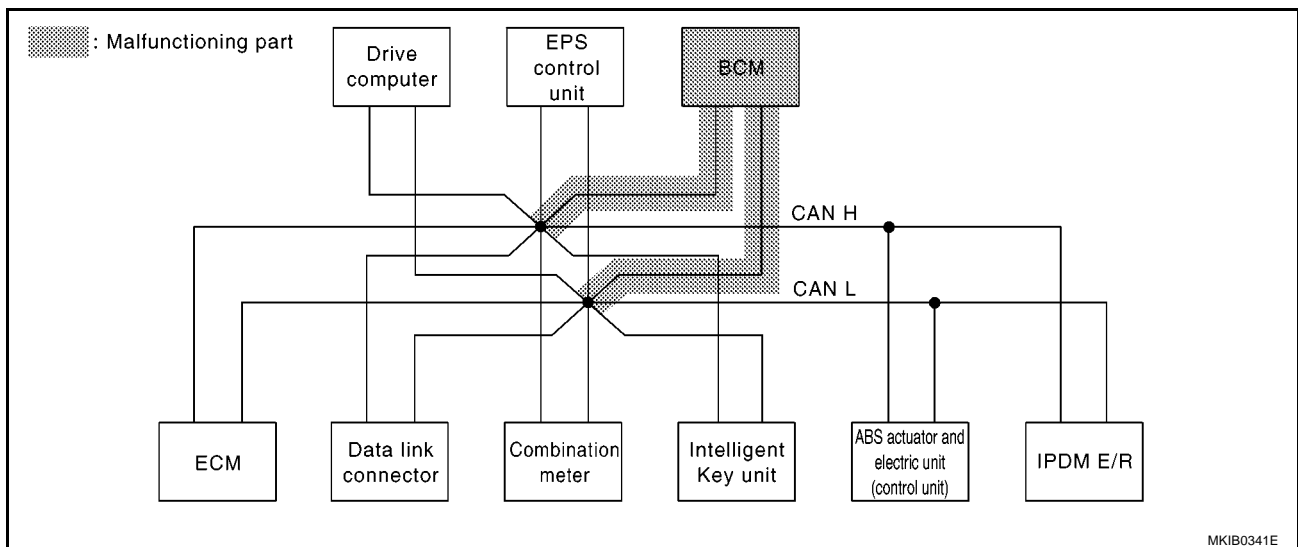


**Case 7**

Check BCM circuit. Refer to [LAN-283, "BCM Circuit Check"](#).

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |     |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|-----|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS | BCM        | ABS        | IPDM E/R   |
| ENGINE          | No indication      | —          | CAN CIRC 1 | —          | CAN CIRC 3        | —               | —   | CAN CIRC 4 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 3        | —               | —   | CAN CIRC 2 | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —   | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —   | —          | —          | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —   | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —   | CAN CIRC 2 | —          | —          |

MKIB1665E



MKIB0341E

## CAN SYSTEM (TYPE 9)

[CAN]

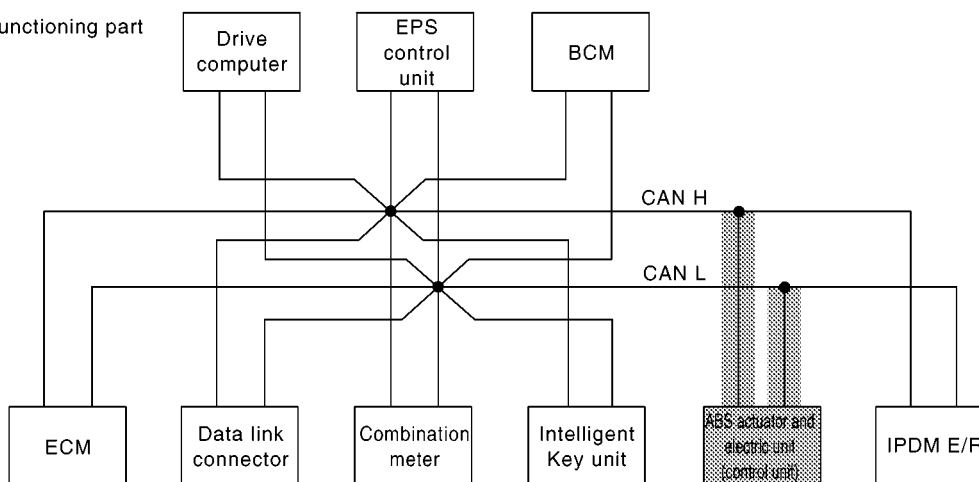
### Case 8

Check ABS actuator and electric unit (control unit) circuit. Refer to [LAN-284, "ABS Actuator and Electric Unit \(Control Unit\) Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx           | Rx           |                   |                 |     |            |              |            |
|-----------------|--------------------|------------|--------------|--------------|-------------------|-----------------|-----|------------|--------------|------------|
|                 |                    |            |              | ECM          | Combination meter | Intelligent Key | EPS | BCM        | ABS          | IPDM E/R   |
| ENGINE          | No indication      | —          | CAN CIRC 1   | —            | CAN CIRC 3        | —               | —   | CAN CIRC 4 | CAN CIRC 2 ✓ | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1   | —            | CAN CIRC 3        | —               | —   | CAN CIRC 2 | —            | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1   | CAN CIRC 2   | CAN CIRC 4        | —               | —   | CAN CIRC 5 | CAN CIRC 3 ✓ | —          |
| BCM             | No indication      | —          | CAN CIRC 1   | CAN CIRC 2   | CAN CIRC 4        | CAN CIRC 5      | —   | —          | —            | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 ✓ | CAN CIRC 2 ✓ | —                 | —               | —   | —          | —            | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1   | CAN CIRC 3   | —                 | —               | —   | CAN CIRC 2 | —            | —          |

MKIB1666E

 : Malfunctioning part



MKIB0342E

# CAN SYSTEM (TYPE 9)

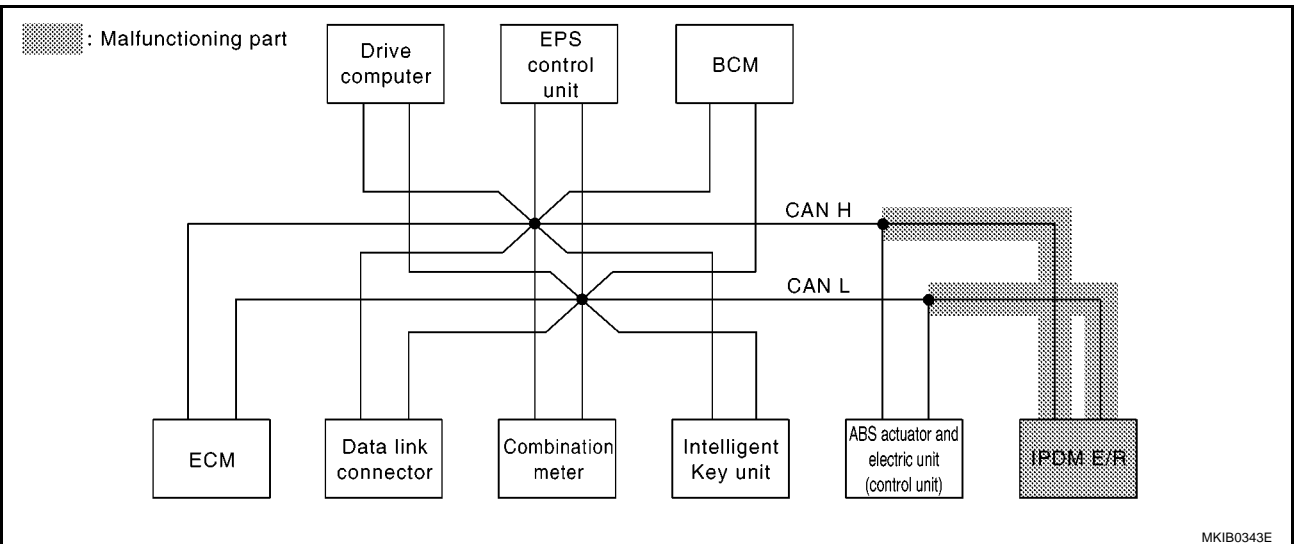
[CAN]

## Case 9

Check IPDM E/R circuit. Refer to [LAN-285, "IPDM E/R Circuit Check"](#) .

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |     |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|-----|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS | BCM        | ABS        | IPDM E/R   |
| ENGINE          | No indication      | —          | CAN CIRC 1 | —          | CAN CIRC 3        | —               | —   | CAN CIRC 4 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 3        | —               | —   | CAN CIRC 2 | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —   | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —   | —          | —          | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —   | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —   | CAN CIRC 2 | —          | —          |

MKIB1667E



MKIB0343E

LAN

# CAN SYSTEM (TYPE 9)

[CAN]

## Case 10

Check CAN communication circuit. Refer to [LAN-286, "CAN Communication Circuit Check"](#).

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |     |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|-----|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS | BCM        | ABS        | IPDM E/R   |
| ENGINE          | No indication ✓    | —          | CAN CIRC 1 | —          | CAN CIRC 3        | —               | —   | CAN CIRC 4 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication ✓    | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 3        | —               | —   | CAN CIRC 2 | —          | —          |
| EPS             | No indication ✓    | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —   | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —   | —          | —          | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —   | —          | —          | —          |
| IPDM E/R        | No indication ✓    | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —   | CAN CIRC 2 | —          | —          |

MKIB1668E

## Case 11

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to [LAN-289, "IPDM E/R Ignition Relay Circuit Check"](#).

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |     |            |              |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|-----|------------|--------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS | BCM        | ABS          | IPDM E/R   |
| ENGINE          | No indication      | —          | CAN CIRC 1 | —          | CAN CIRC 3        | —               | —   | CAN CIRC 4 | CAN CIRC 2 ✓ | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 3        | —               | —   | CAN CIRC 2 | —            | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —   | CAN CIRC 5 | CAN CIRC 3 ✓ | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —   | —          | —            | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —   | —          | —            | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —   | CAN CIRC 2 | —            | —          |

MKIB1670E

## Case 12

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to [LAN-289, "IPDM E/R Ignition Relay Circuit Check"](#).

|                 | CONSULT indication | CAN system | Tx         | Rx         |                   |                 |     |            |            |            |
|-----------------|--------------------|------------|------------|------------|-------------------|-----------------|-----|------------|------------|------------|
|                 |                    |            |            | ECM        | Combination meter | Intelligent Key | EPS | BCM        | ABS        | IPDM E/R   |
| ENGINE          | No indication      | —          | CAN CIRC 1 | —          | CAN CIRC 3        | —               | —   | CAN CIRC 4 | CAN CIRC 2 | CAN CIRC 7 |
| INTELLIGENT KEY | No indication      | CAN COMM   | CAN CIRC 1 | —          | CAN CIRC 3        | —               | —   | CAN CIRC 2 | —          | —          |
| EPS             | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —               | —   | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM             | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | CAN CIRC 5      | —   | —          | —          | CAN CIRC 3 |
| ABS             | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —               | —   | —          | —          | —          |
| IPDM E/R        | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —               | —   | CAN CIRC 2 | —          | —          |

MKIB1669E

## Circuit Check Between BCM and ABS Actuator and Electric Unit (Control Unit)

EKS00JQ1

## 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
  - Harness connector M1
  - Harness connector E101

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

## 2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect following connector.
  - Harness connector M1
  - Combination meter connector
  - Intelligent Key unit connector
  - Drive computer connector
  - EPS control unit connector
  - BCM connector
2. Check continuity between BCM harness connector M48 terminals 19 (R), 39 (W) and harness connector M1 terminals 2C (R), 1C (W).

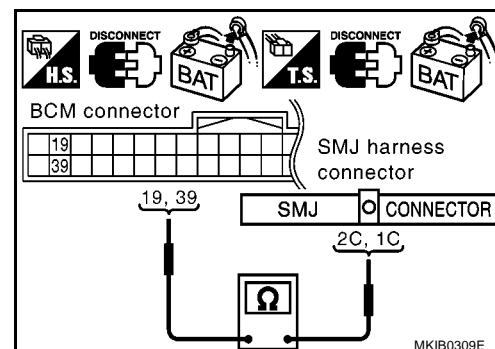
19 (R) – 2C (R) : Continuity should exist.

39 (W) – 1C (W) : Continuity should exist.

OK or NG

OK &gt;&gt; GO TO 3.

NG &gt;&gt; Repair harness.



## 3. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between harness connector E101 terminals 2C (R), 1C (W) and ABS actuator and electric unit (control unit) harness connector E45 terminals 26 (R), 15 (W).

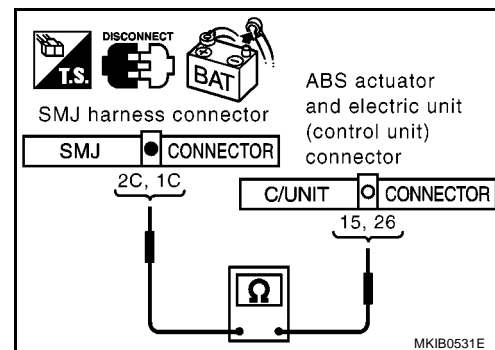
2C (R) – 26 (R) : Continuity should exist.

1C (W) – 15 (W) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELECT SYSTEM", "SELF-DIAG RESULTS" and "DATA MONITOR (CAN DIAG SUPPORT MNTR)" displayed on CONSULT-II. Refer to [LAN-263, "Work Flow"](#).

NG &gt;&gt; Repair harness.



**ECM Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
  - ECM connector
  - Harness connector M1
  - Harness connector E101

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

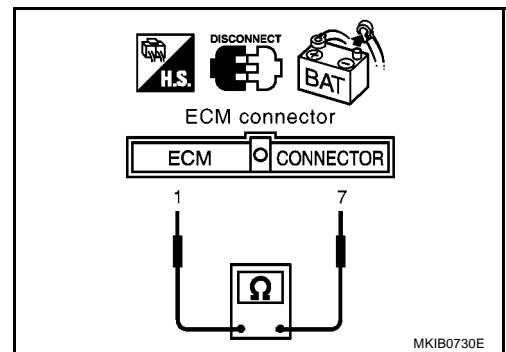
1. Disconnect ECM connector.
2. Check resistance between ECM harness connector E61 terminals 1 (R) and 7 (W).

**1 (R) – 7 (W)****: Approx. 108 – 132Ω**

OK or NG

OK &gt;&gt; Replace ECM.

NG &gt;&gt; Repair harness between ECM and data link connector.



## Data Link Connector Circuit Check

EKS00JQ3

## 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check the data link connector and terminals for damage, bend and loose connection (connector side and harness side).

## OK or NG

- OK >> GO TO 2.  
 NG >> Repair terminal or connector.

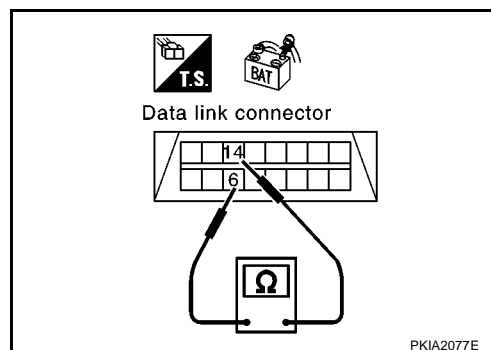
## 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M17 terminals 6 (R) and 14 (W).

**6 (R) – 14 (W) : Approx. 54 – 66Ω**

## OK or NG

- OK >> Perform "SELECT SYSTEM", "SELF-DIAG RESULTS" and "DATA MONITOR (CAN DIAG SUPPORT MNTR)" displayed on CONSULT-II. Refer to [LAN-263, "Work Flow"](#).
- NG >> Repair harness between data link connector and combination meter



**Combination Meter Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of combination meter for damage, bend and loose connection (meter side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

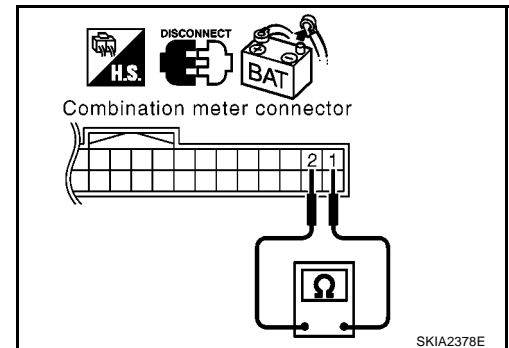
1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M22 terminals 1 (R) and 2 (W).

**1 (R) – 2 (W)****: Approx. 54 – 66Ω**

OK or NG

OK &gt;&gt; Replace combination meter.

NG &gt;&gt; Repair harness between combination meter and data link connector.





**Intelligent Key Unit Circuit Check**

EKS00JQ5

**1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of Intelligent Key unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

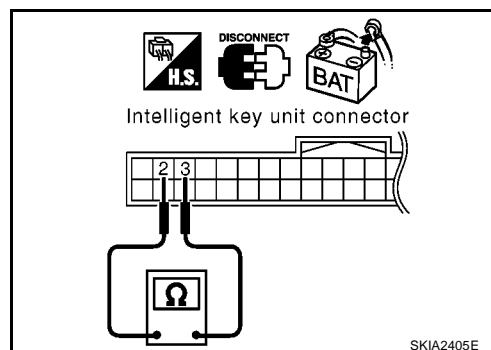
**2. CHECK HARNESS FOR OPEN CIRCUIT**

1. Disconnect Intelligent Key unit connector.
2. Check resistance between Intelligent Key unit harness connector M51 terminals 2 (R) and 3 (W).

**2 (R) – 3 (W)****: Approx. 54 – 66Ω**OK or NG

OK &gt;&gt; Replace Intelligent Key unit.

NG &gt;&gt; Repair harness between Intelligent Key unit and data link connector.



**EPS Control Unit Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of EPS control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

1. Disconnect EPS control unit connector.
2. Check resistance between EPS control unit harness connector M23 terminals 8 (R) and 7 (W).

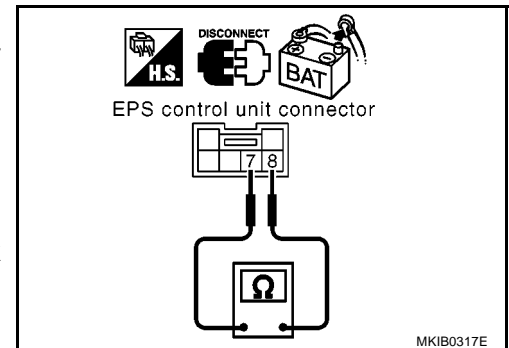
**8 (R) – 7 (W)**

**: Approx. 54 – 66Ω**

OK or NG

OK >> Replace EPS control unit.

NG >> Repair harness between EPS control unit and data link connector.



**BCM Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

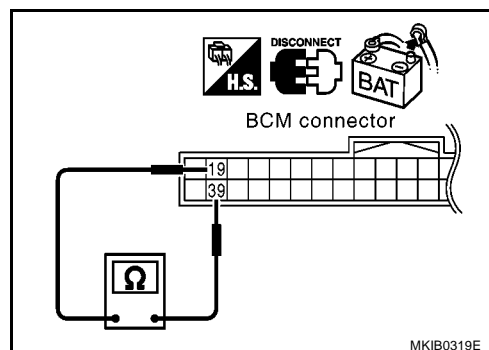
1. Disconnect BCM connector.
2. Check resistance between BCM harness connector M48 terminals 19 (R) and 39 (W).

**19 (R) – 39 (W)****: Approx. 54 – 66Ω**

OK or NG

OK >> Replace BCM. Refer to [BCS-31, "Removal and Installation of BCM"](#).

NG &gt;&gt; Repair harness between BCM and data link connector.



**ABS Actuator and Electric Unit (Control Unit) Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

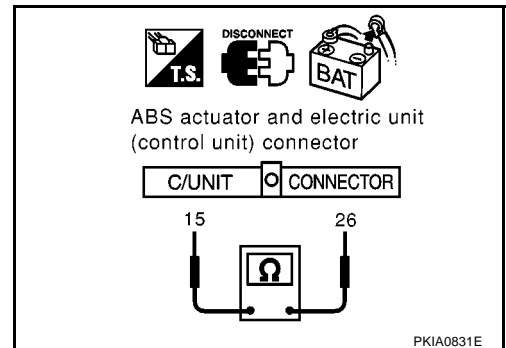
**2. CHECK HARNESS FOR OPEN CIRCUIT**

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector E45 terminals 26 (R) and 15 (W).

**26 (R) – 15 (W)****: Approx. 54 – 66Ω**OK or NG

OK &gt;&gt; Replace ABS actuator and electric unit (control unit).

NG &gt;&gt; Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



**IPDM E/R Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

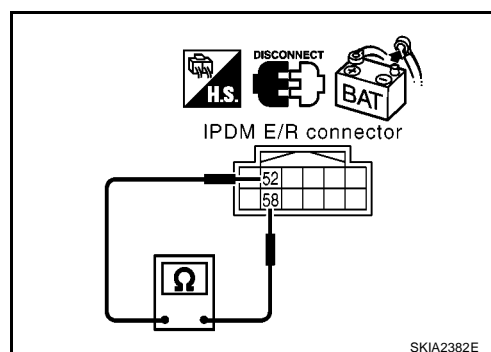
**2. CHECK HARNESS FOR OPEN CIRCUIT**

1. Disconnect IPDM E/R connector.
2. Check resistance between IPDM E/R harness connector E16 terminals 52 (R) and 58 (W).

**52 (R) – 58 (W)****: Approx. 108 – 132Ω**OK or NG

OK &gt;&gt; Replace IPDM E/R.

NG &gt;&gt; Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



## CAN Communication Circuit Check

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connectors for damage, bend and loose connection (control module side, meter side, control unit side and harness side).
  - ECM
  - Combination meter
  - Intelligent Key unit
  - Drive computer
  - EPS control unit
  - BCM
  - ABS actuator and electric unit (control unit)
  - IPDM E/R
  - Between ECM and IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

### 2. CHECK HARNESS FOR SHORT CIRCUIT

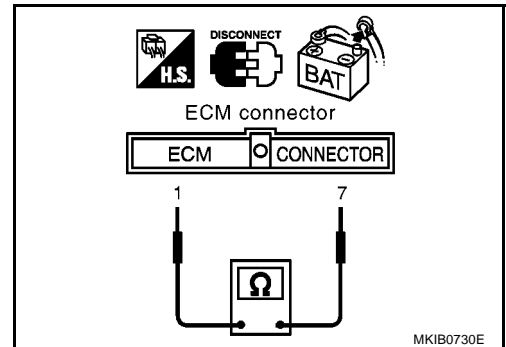
1. Disconnect ECM connector and harness connector E101.
2. Check continuity between ECM harness connector E61 terminals 1 (R) and 7 (W).

**1 (R) – 7 (W) : Continuity should not exist.**

OK or NG

OK >> GO TO 3.

NG >> Repair harness between ECM and harness connector E101.



### 3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector E61 terminals 1 (R), 7 (W) and ground.

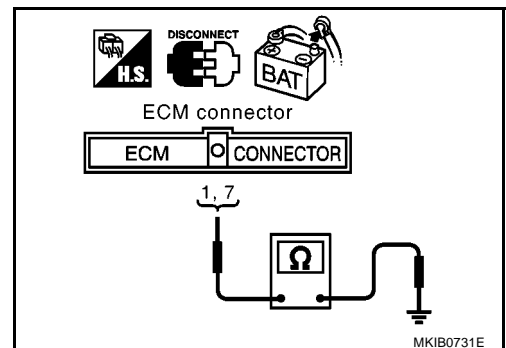
**1 (R) – Ground : Continuity should not exist.**

**7 (W) – Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 4.

NG >> Repair harness between ECM and harness connector E101.



## 4. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect following connectors.
  - ABS actuator and electric unit (control unit) connector
  - IPDM E/R connector
2. Check continuity between ABS actuator and electric unit (control unit) harness connector E45 terminals 26 (R) and 15 (W).

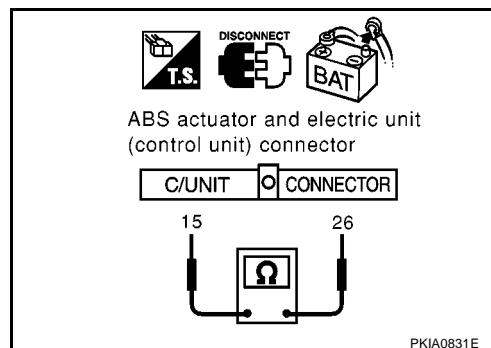
**26 (R) – 15 (W) : Continuity should not exist.**

### OK or NG

OK >> GO TO 5.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between ABS actuator and electric unit (control unit) and harness connector E101
- Harness between ABS actuator and electric unit (control unit) and IPDM E/R



## 5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector E45 terminals 26 (R), 15 (W) and ground.

**26 (R) – Ground : Continuity should not exist.**

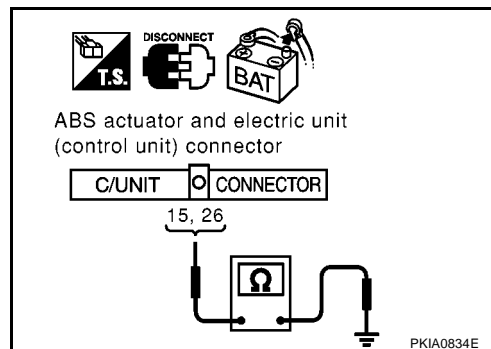
**15 (W) – Ground : Continuity should not exist.**

### OK or NG

OK >> GO TO 6.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between ABS actuator and electric unit (control unit) and harness connector E101
- Harness between ABS actuator and electric unit (control unit) and IPDM E/R



## 6. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect following connectors.
  - Combination meter connector
  - Intelligent Key unit connector
  - Drive computer connector
  - EPS control unit connector
  - BCM connector
2. Check continuity between data link connector M17 terminals 6 (R) and 14 (W).

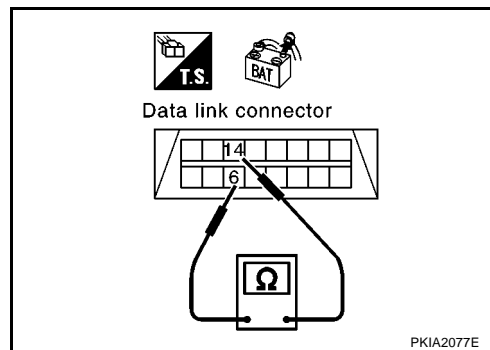
**6 (R) – 14 (W) : Continuity should not exist.**

### OK or NG

OK >> GO TO 7.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between data link connector and harness connector M1
- Harness between data link connector and combination meter
- Harness between data link connector and Intelligent Key unit
- Harness between data link connector and drive computer
- Harness between data link connector and EPS control unit
- Harness between data link connector and BCM



## 7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M17 terminals 6 (R), 14 (W) and ground.

**6 (R) – Ground : Continuity should not exist.**

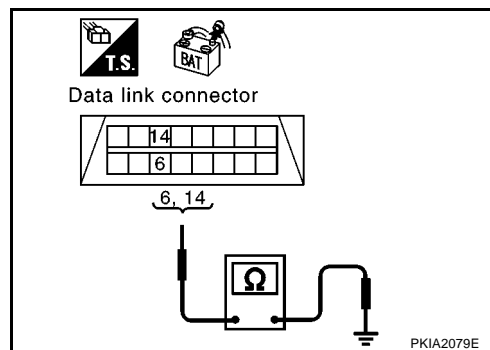
**14 (W) – Ground : Continuity should not exist.**

### OK or NG

OK >> GO TO 8.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between data link connector and harness connector M1
- Harness between data link connector and combination meter
- Harness between data link connector and Intelligent Key unit
- Harness between data link connector and drive computer
- Harness between data link connector and EPS control unit
- Harness between data link connector and BCM



## 8. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-289, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"](#).

### OK or NG

OK >> Reconnect all connectors to perform "SELECT SYSTEM", "SELF-DIAG RESULTS" and "DATA MONITOR (CAN DIAG SUPPORT MNTR)" displayed on CONSULT-II. Refer to [LAN-263, "Work Flow"](#).

NG >> Replace ECM and/or IPDM E/R.



**IPDM E/R Ignition Relay Circuit Check**

EKS00JQB

Perform the self-diagnosis for IPDM E/R. Refer to [PG-48, "Inspection With CONSULT-II \(Self-Diagnosis\)"](#) . If the result is OK, carry out following inspections.

- IPDM E/R power supply circuit. Refer to [PG-49, "IPDM E/R Power Supply and Ground Circuit Check"](#) .
- Ignition power supply circuit. Refer to [PG-12, "IGNITION POWER SUPPLY — IGNITION SW. IN "ON" AND/OR "START" "](#) .

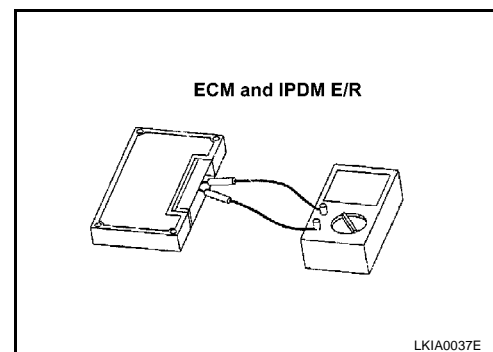
**Component Inspection**

EKS00JQC

**ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION**

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 1 and 7.
- Check resistance between IPDM E/R terminals 52 and 58.

| Unit     | Terminal | Resistance value ( $\Omega$ )<br>(Approx.) |
|----------|----------|--|
| ECM      | 1 – 7    | 108 - 132                                  |
| IPDM E/R | 52 – 58  |  |



## CAN SYSTEM (TYPE 10)

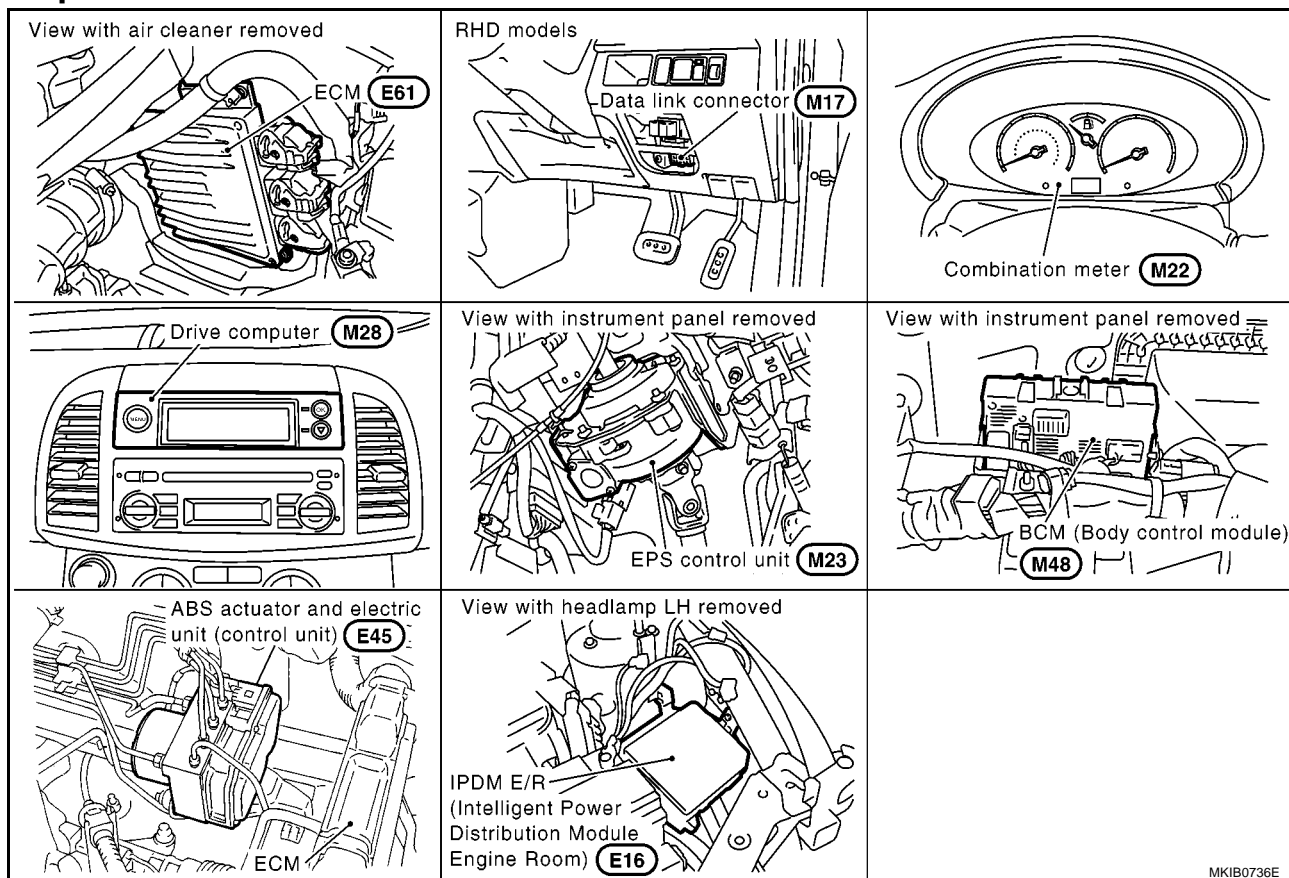
## System Description

EKS00JQD

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

## Component Parts and Harness Connector Location

EKS00JQE



MKIB0736E

# CAN SYSTEM (TYPE 10)

[CAN]

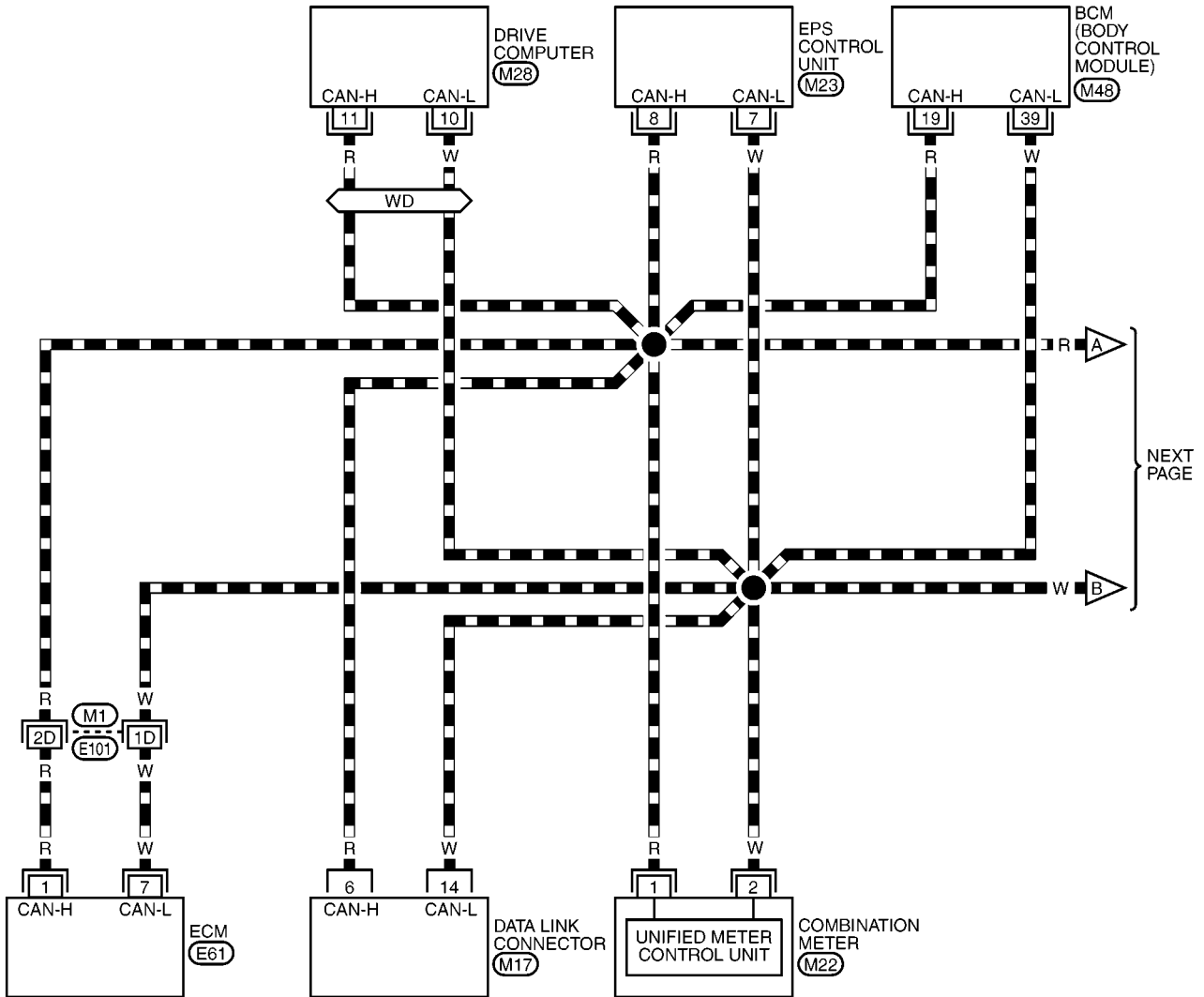
## Wiring Diagram — CAN —

EKS00JQF

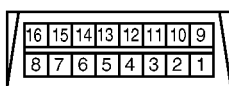
### LAN-CAN-19

— : DATA LINE

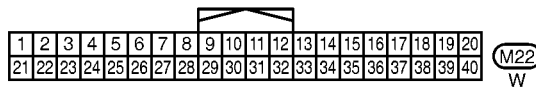
WD : WITH DRIVE COMPUTER



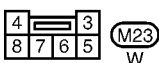
LAN



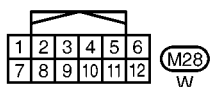
(M17)  
W



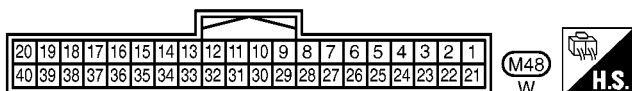
(M22)  
W



(M23)  
W



(M28)  
W



(M48)  
W



REFER TO THE FOLLOWING.

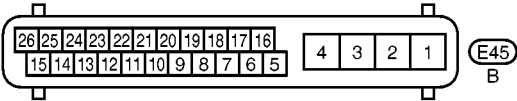
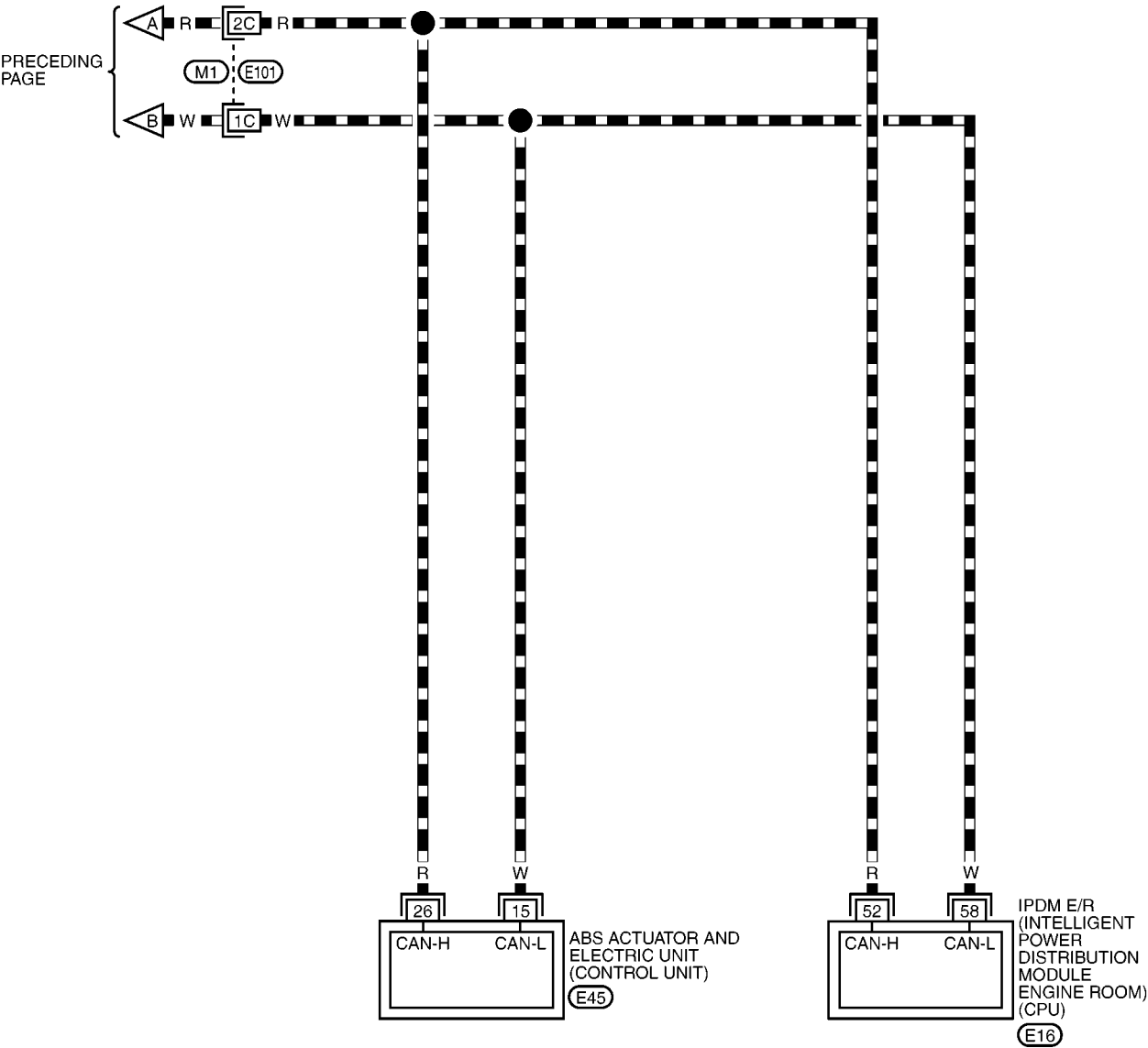
(M1) -SUPER MULTIPLE JUNCTION (SMJ)

(E61) -ELECTRICAL UNITS

MKWA2707E

LAN-CAN-20

DATA LINE



REFER TO THE FOLLOWING.  
(M1) -SUPER MULTIPLE  
JUNCTION (SMJ)

# CAN SYSTEM (TYPE 10)

[CAN]


## Work Flow

EKS00JQG

- When there are no indications of "ENGINE", "EPS", "BCM" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".

(Example)

|                           |  |       |      |
|---------------------------|--|-------|------|
| NISSAN                    |  |       |      |
| CONSULT-II                |  |       |      |
| ENGINE                    |  |       |      |
| START (NISSAN BASED VHCL) |  |       |      |
| START (X-BADGE VHCL)      |  |       |      |
| SUB MODE                  |  |       |      |
|                           |  | LIGHT | COPY |




|               |  |      |       |
|---------------|--|------|-------|
| SELECT SYSTEM |  |      |       |
| ENGINE        |  |      |       |
| A/T           |  |      |       |
| ABS           |  |      |       |
| AIR BAG       |  |      |       |
| BCM           |  |      |       |
| METER A/C AMP |  |      |       |
|               |  | BACK | LIGHT |
|               |  | COPY |       |

MKIB1692E

- Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "EPS", "BCM", "ABS" and "IPDM E/R" displayed on CONSULT-II.

(Example)

|                       |  |             |       |
|-----------------------|--|-------------|-------|
| SELECT DIAG MODE      |  |             |       |
| WORK SUPPORT          |  |             |       |
| SELF-DIAG RESULTS     |  |             |       |
| DATA MONITOR          |  |             |       |
| DATA MONITOR (SPEC)   |  |             |       |
| CAN DIAG SUPPORT MNTR |  |             |       |
| ACTIVE TEST           |  |             |       |
|                       |  | Scroll Down |       |
|                       |  | BACK        | LIGHT |
|                       |  | COPY        |       |




|                          |      |          |      |
|--------------------------|------|----------|------|
| SELF-DIAG RESULTS        |      |          |      |
| DTC RESULTS              |      | TIME     |      |
| CAN COMM CIRCUIT [U1000] |      | 0        |      |
|                          |      |          |      |
|                          |      |          |      |
|                          |      | F.F.DATA |      |
| ERASE                    |      | PRINT    |      |
| MODE                     | BACK | LIGHT    | COPY |

PKIA8260E

- Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "EPS", "BCM", "ABS" and "IPDM E/R" displayed on CONSULT-II.

(Example)

|                       |  |             |       |
|-----------------------|--|-------------|-------|
| SELECT DIAG MODE      |  |             |       |
| WORK SUPPORT          |  |             |       |
| SELF-DIAG RESULTS     |  |             |       |
| DATA MONITOR          |  |             |       |
| DATA MONITOR (SPEC)   |  |             |       |
| CAN DIAG SUPPORT MNTR |  |             |       |
| ACTIVE TEST           |  |             |       |
|                       |  | Scroll Down |       |
|                       |  | BACK        | LIGHT |
|                       |  | COPY        |       |



|                       |      |             |      |
|-----------------------|------|-------------|------|
| CAN DIAG SUPPORT MNTR |      |             |      |
| ENGINE                |      |             |      |
|                       |      | PRNT        |      |
| INITIAL DIAG          |      | OK          |      |
| TRANSMIT DIAG         |      | OK          |      |
| TCM                   |      | OK          |      |
| VDC/TCS/ABS           |      | OK          |      |
| METER/M&A             |      | OK          |      |
| ICC                   |      | UNKWN       |      |
| BCM/SEC               |      | OK          |      |
| IPDM E/R              |      | OK          |      |
| AWD/4WD/e4WD          |      | UNKWN       |      |
| PRINT                 |      | Scroll Down |      |
| MODE                  | BACK | LIGHT       | COPY |

PKIA8343E

- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to [LAN-295, "CHECK SHEET"](#).
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "V" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to [LAN-295, "CHECK SHEET"](#).

### NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual. So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.

# CAN SYSTEM (TYPE 10)

[CAN]

6. Convert "v" mark on comparison table to check sheet table.

(Example)

Check sheet table

|          | CONSULT<br>Indication | CAN<br>system | Tx         | Rx         |                      |     |            |            |            |
|----------|-----------------------|---------------|------------|------------|----------------------|-----|------------|------------|------------|
|          |                       |               |            | ECM        | Combination<br>meter | EPS | BCM        | ABS        | IPDM E/R   |
| ENGINE   | No Indication         | —             | CAN CIRC 1 | —          | CAN CIRC 3           | —   | CAN CIRC 4 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No Indication         | CAN COMM      | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4           | —   | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM      | No Indication         | —             | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4           | —   | —          | —          | CAN CIRC 3 |
| ABS      | —                     | CAN COMM      | CAN CIRC 1 | CAN CIRC 2 | —                    | —   | —          | —          | —          |
| IPDM E/R | No Indication         | CAN COMM      | CAN CIRC 1 | CAN CIRC 3 | —                    | —   | CAN CIRC 2 | —          | —          |

Comparison table

| SELECT SYSTEM screen | Initial<br>diagnosis | Transmit<br>diagnosis | Receive diagnosis |               |       |         |                 |          |       |
|----------------------|----------------------|-----------------------|-------------------|---------------|-------|---------|-----------------|----------|-------|
|                      |                      |                       | ECM               | METER<br>/M&A | EPS   | BCM/SEC | VDC/TCS<br>/ABS | IPDM E/R |       |
| ENGINE               | No Indication        | —                     | UNKWN             | —             | UNKWN | —       | UNKWN           | UNKWN    | UNKWN |
| EPS                  | No Indication        | NG                    | UNKWN             | UNKWN         | UNKWN | —       | UNKWN           | UNKWN    | —     |
| BCM                  | No Indication        | —                     | UNKWN             | UNKWN         | UNKWN | —       | —               | —        | UNKWN |
| ABS                  | —                    | NG                    | UNKWN             | UNKWN         | —     | —       | —               | —        | —     |
| IPDM E/R             | No Indication        | NG                    | UNKWN             | UNKWN         | —     | —       | UNKWN           | —        | —     |

Convert

MKIB1691E

7. According to the check sheet results (example), start inspection. Refer to [LAN-297, "CHECK SHEET RESULTS \(EXAMPLE\)"](#).

# CAN SYSTEM (TYPE 10)

[CAN]

## CHECK SHEET

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
LAN  
L  
M

Check sheet table

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |     |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|-----|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS | BCM        | ABS        | IPDM E/R   |
| ENGINE   | No indication      | —          | CAN CIRC 1 | —          | CAN CIRC 3        | —   | CAN CIRC 4 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —   | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —   | —          | —          | CAN CIRC 3 |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —   | —          | —          | —          |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —   | CAN CIRC 2 | —          | —          |

Comparison table

| SELECT SYSTEM screen |               | Initial diagnosis | Transmit diagnosis | Receive diagnosis |            |     |         |              |          |
|----------------------|---------------|-------------------|--------------------|-------------------|------------|-----|---------|--------------|----------|
|                      |               |                   |                    | ECM               | METER /M&A | EPS | BCM/SEC | VDC/TCS /ABS | IPDM E/R |
| ENGINE               | No indication | —                 | UNKWN              | —                 | UNKWN      | —   | UNKWN   | UNKWN        | UNKWN    |
| EPS                  | No indication | NG                | UNKWN              | UNKWN             | UNKWN      | —   | UNKWN   | UNKWN        | —        |
| BCM                  | No indication | —                 | UNKWN              | UNKWN             | UNKWN      | —   | —       | —            | UNKWN    |
| ABS                  | —             | NG                | UNKWN              | UNKWN             | —          | —   | —       | —            | —        |
| IPDM E/R             | No indication | NG                | UNKWN              | UNKWN             | —          | —   | UNKWN   | —            | —        |

Symptoms:

Attach copy of  
SELECT SYSTEM

Attach copy of  
SELECT SYSTEM

MKIB1610E

# CAN SYSTEM (TYPE 10)

[CAN]

Attach copy of  
ENGINE  
SELF-DIAG RESULTS

Attach copy of  
EPS  
SELF-DIAG RESULTS

Attach copy of  
BCM  
SELF-DIAG RESULTS

Attach copy of  
ABS  
SELF-DIAG RESULTS

Attach copy of  
IPDM E/R  
SELF-DIAG RESULTS

Attach copy of  
ENGINE  
DATA MONITOR

Attach copy of  
EPS  
DATA MONITOR

Attach copy of  
BCM  
DATA MONITOR

Attach copy of  
ABS  
DATA MONITOR

Attach copy of  
IPDM E/R  
DATA MONITOR

MKIB0304E



## CHECK SHEET RESULTS (EXAMPLE)

## NOTE:

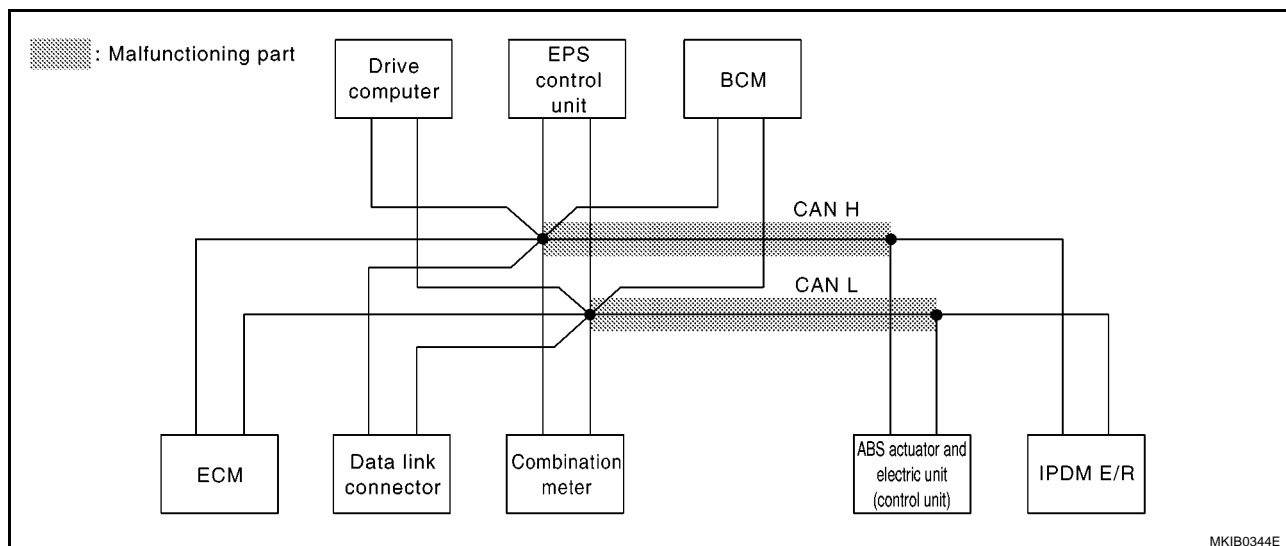
If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

## Case 1

Check harness between BCM and ABS actuator and electric unit (control unit). Refer to [LAN-306, "Circuit Check Between BCM and ABS Actuator and Electric Unit \(Control Unit\)"](#).

|          | CONSULT indication | CAN system | Tx         | Rx           |                   |     |            |              |              |
|----------|--------------------|------------|------------|--------------|-------------------|-----|------------|--------------|--------------|
|          |                    |            |            | ECM          | Combination meter | EPS | BCM        | ABS          | IPDM E/R     |
| ENGINE   | No indication      | —          | CAN CIRC 1 | —            | CAN CIRC 3        | —   | CAN CIRC 4 | CAN CIRC 2 ✓ | CAN CIRC 7 ✓ |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2   | CAN CIRC 4        | —   | CAN CIRC 5 | CAN CIRC 3 ✓ | —            |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2   | CAN CIRC 4        | —   | —          | —            | CAN CIRC 3 ✓ |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 ✓ | —                 | —   | —          | —            | —            |
| IPDM E/R | No indication ✓    | CAN COMM   | CAN CIRC 1 | CAN CIRC 3   | —                 | —   | CAN CIRC 2 | —            | —            |

MKIB1671E



MKIB0344E

# CAN SYSTEM (TYPE 10)

[CAN]

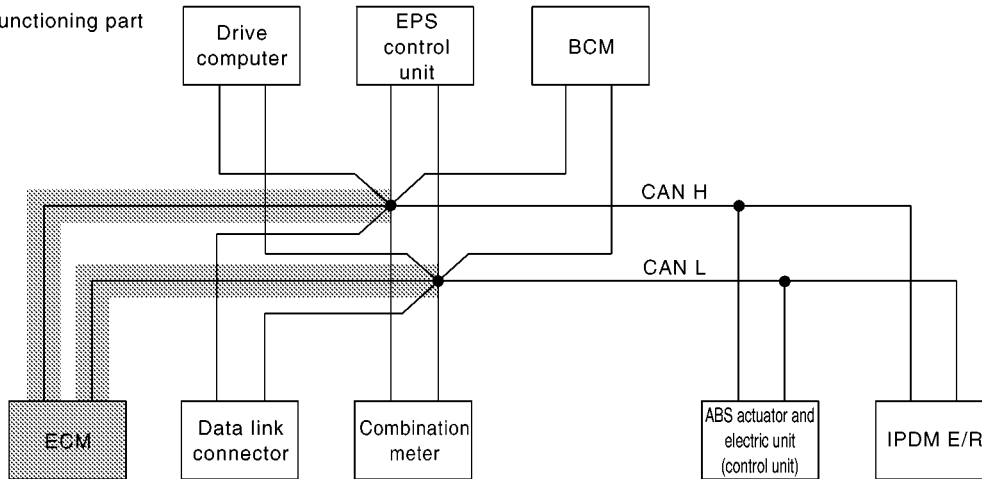
## Case 2

Check ECM circuit. Refer to [LAN-307, "ECM Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx           |                   |     |            |            |            |
|----------|--------------------|------------|------------|--------------|-------------------|-----|------------|------------|------------|
|          |                    |            |            | ECM          | Combination meter | EPS | BCM        | ABS        | IPDM E/R   |
| ENGINE   | No indication ✓    | —          | CAN CIRC 1 | —            | CAN CIRC 3        | —   | CAN CIRC 4 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 ✓ | CAN CIRC 4        | —   | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 ✓ | CAN CIRC 4        | —   | —          | —          | CAN CIRC 3 |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 ✓ | —                 | —   | —          | —          | —          |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 ✓ | —                 | —   | CAN CIRC 2 | —          | —          |

MKIB1672E

 : Malfunctioning part



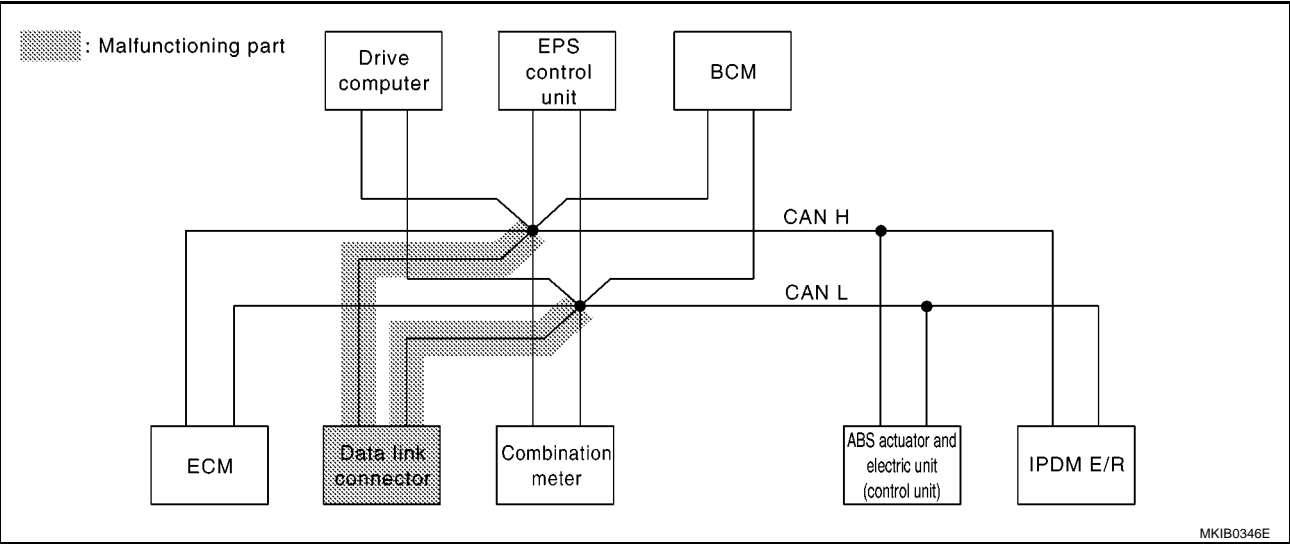
MKIB0345E

Case 3

Check data link connector circuit. Refer to [LAN-308, "Data Link Connector Circuit Check"](#) .

|          | CONSULT<br>indication | CAN<br>system | Tx         | Rx         |                      |     |            |            |            |
|----------|-----------------------|---------------|------------|------------|----------------------|-----|------------|------------|------------|
|          |                       |               |            | ECM        | Combination<br>meter | EPS | BCM        | ABS        | IPDM E/R   |
| ENGINE   | No indication         | —             | CAN CIRC 1 | —          | CAN CIRC 3           | —   | CAN CIRC 4 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication         | CAN COMM      | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4           | —   | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM      | No indication         | —             | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4           | —   | —          | —          | CAN CIRC 3 |
| ABS      | —                     | CAN COMM      | CAN CIRC 1 | CAN CIRC 2 | —                    | —   | —          | —          | —          |
| IPDM E/R | No indication         | CAN COMM      | CAN CIRC 1 | CAN CIRC 3 | —                    | —   | CAN CIRC 2 | —          | —          |

MKIB1673E



MKIB0346E

# CAN SYSTEM (TYPE 10)

[CAN]

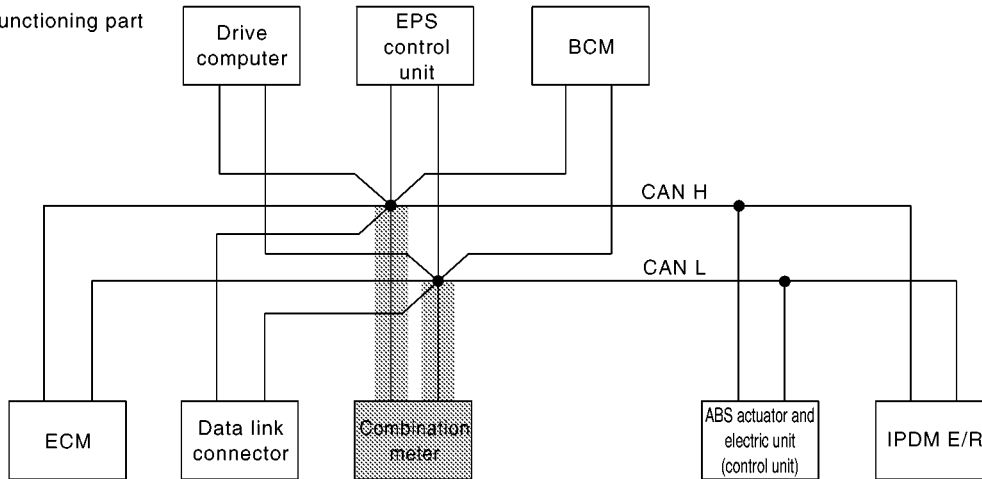
## Case 4

Check combination meter circuit. Refer to [LAN-309, "Combination Meter Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |     |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|-----|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS | BCM        | ABS        | IPDM E/R   |
| ENGINE   | No indication      | —          | CAN CIRC 1 | —          | CAN CIRC 3        | —   | CAN CIRC 4 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —   | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —   | —          | —          | CAN CIRC 3 |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —   | —          | —          | —          |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —   | CAN CIRC 2 | —          | —          |

MKIB1674E

 : Malfunctioning part



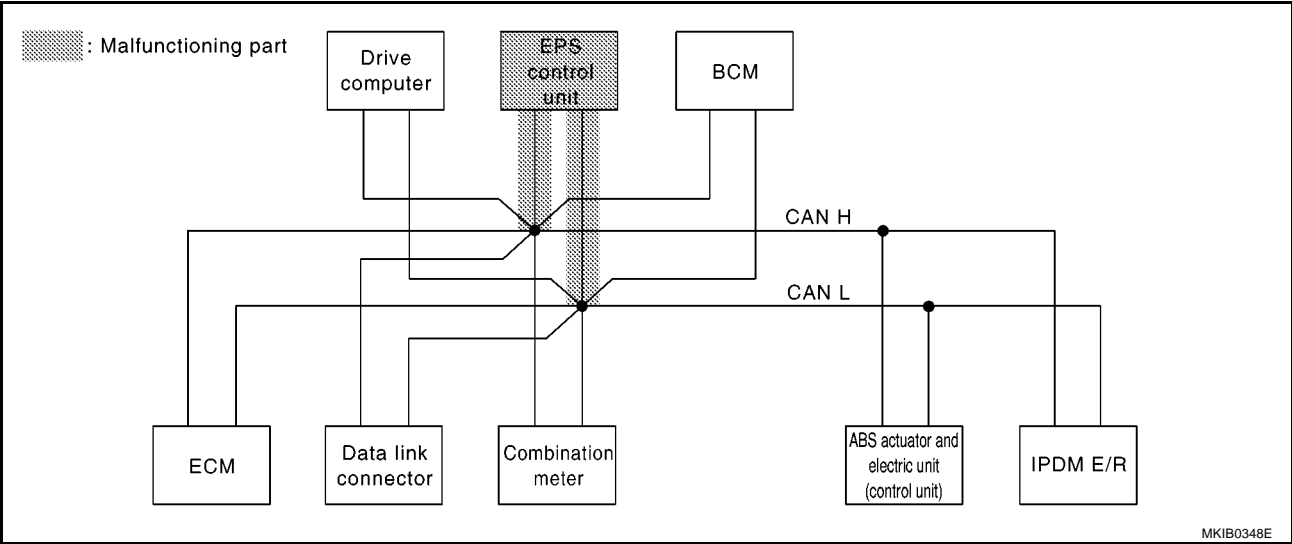
MKIB0347E

Case 5

Check EPS control unit circuit. Refer to [LAN-310, "EPS Control Unit Circuit Check"](#) .

|          | CONSULT<br>indication | CAN<br>system | Tx         | Rx         |                      |     |            |            |            |
|----------|-----------------------|---------------|------------|------------|----------------------|-----|------------|------------|------------|
|          |                       |               |            | ECM        | Combination<br>meter | EPS | BCM        | ABS        | IPDM E/R   |
| ENGINE   | No indication         | —             | CAN CIRC 1 | —          | CAN CIRC 3           | —   | CAN CIRC 4 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication         | CAN COMM      | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4           | —   | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM      | No indication         | —             | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4           | —   | —          | —          | CAN CIRC 3 |
| ABS      | —                     | CAN COMM      | CAN CIRC 1 | CAN CIRC 2 | —                    | —   | —          | —          | —          |
| IPDM E/R | No indication         | CAN COMM      | CAN CIRC 1 | CAN CIRC 3 | —                    | —   | CAN CIRC 2 | —          | —          |

MKIB1675E



# CAN SYSTEM (TYPE 10)

[CAN]

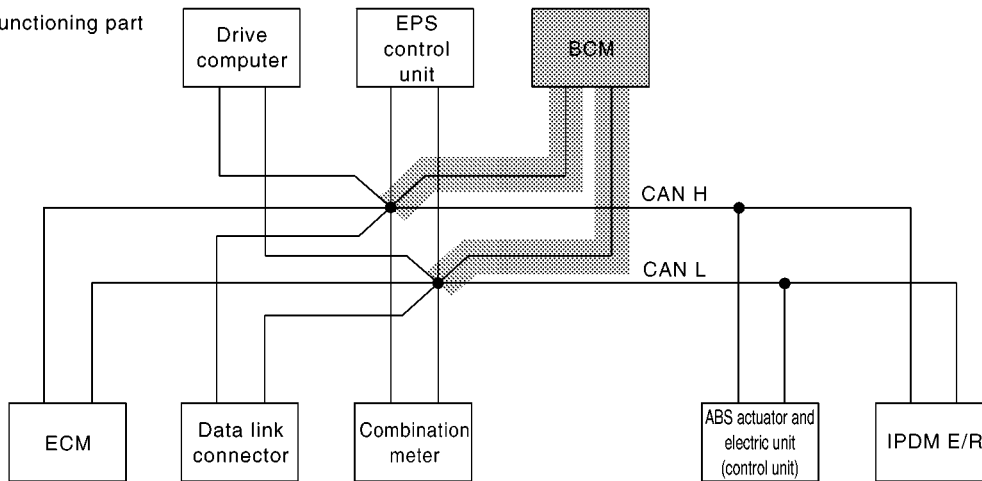
## Case 6

Check BCM circuit. Refer to [LAN-311, "BCM Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |     |              |            |            |
|----------|--------------------|------------|------------|------------|-------------------|-----|--------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS | BCM          | ABS        | IPDM E/R   |
| ENGINE   | No indication      | —          | CAN CIRC 1 | —          | CAN CIRC 3        | —   | CAN CIRC 4 ✓ | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —   | CAN CIRC 5 ✓ | CAN CIRC 3 | —          |
| BCM      | No indication ✓    | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —   | —            | —          | CAN CIRC 3 |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —   | —            | —          | —          |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —   | CAN CIRC 2 ✓ | —          | —          |

MKIB1676E

 : Malfunctioning part



MKIB0349E

# CAN SYSTEM (TYPE 10)

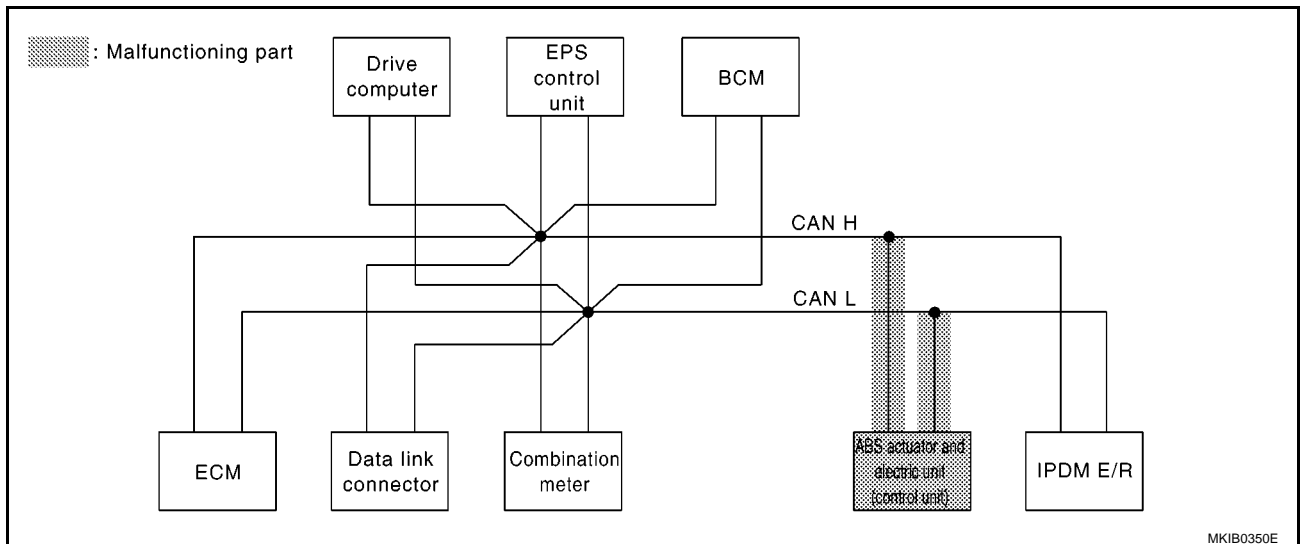
[CAN]

## Case 7

Check ABS actuator and electric unit (control unit) circuit. Refer to [LAN-312, "ABS Actuator and Electric Unit \(Control Unit\) Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx           | Rx           |                   |     |            |              |            |
|----------|--------------------|------------|--------------|--------------|-------------------|-----|------------|--------------|------------|
|          |                    |            |              | ECM          | Combination meter | EPS | BCM        | ABS          | IPDM E/R   |
| ENGINE   | No indication      | —          | CAN CIRC 1   | —            | CAN CIRC 3        | —   | CAN CIRC 4 | CAN CIRC 2 ✓ | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1   | CAN CIRC 2   | CAN CIRC 4        | —   | CAN CIRC 5 | CAN CIRC 3 ✓ | —          |
| BCM      | No indication      | —          | CAN CIRC 1   | CAN CIRC 2   | CAN CIRC 4        | —   | —          | —            | CAN CIRC 3 |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 ✓ | CAN CIRC 2 ✓ | —                 | —   | —          | —            | —          |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1   | CAN CIRC 3   | —                 | —   | CAN CIRC 2 | —            | —          |

MKIB1677E



MKIB0350E

LAN

# CAN SYSTEM (TYPE 10)

[CAN]

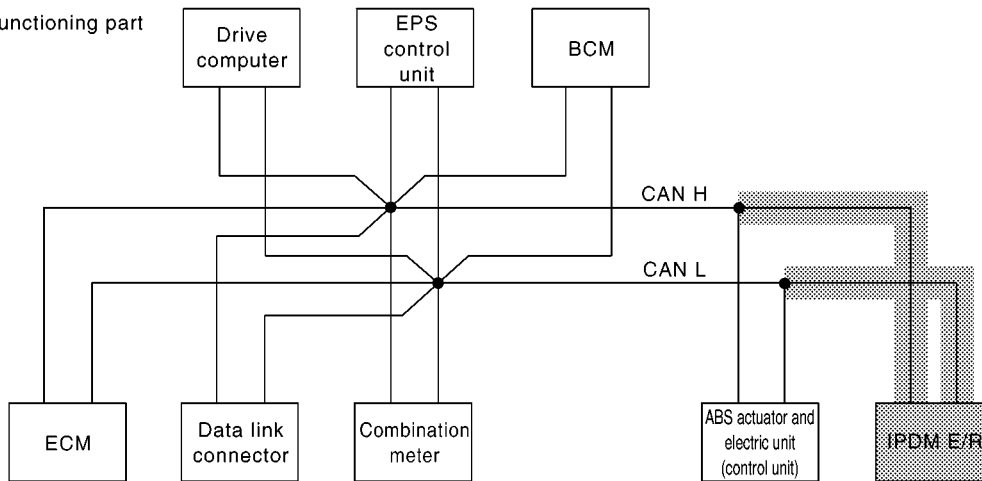
## Case 8

Check IPDM E/R circuit. Refer to [LAN-313, "IPDM E/R Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |     |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|-----|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS | BCM        | ABS        | IPDM E/R   |
| ENGINE   | No indication      | —          | CAN CIRC 1 | —          | CAN CIRC 3        | —   | CAN CIRC 4 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —   | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —   | —          | —          | CAN CIRC 3 |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —   | —          | —          | —          |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —   | CAN CIRC 2 | —          | —          |

MKIB1678E

 : Malfunctioning part



MKIB0351E



# CAN SYSTEM (TYPE 10)

[CAN]

## Case 9

Check CAN communication circuit. Refer to [LAN-314, "CAN Communication Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |     |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|-----|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS | BCM        | ABS        | IPDM E/R   |
| ENGINE   | No indication ✓    | —          | CAN CIRC 1 | —          | CAN CIRC 3        | —   | CAN CIRC 4 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —   | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —   | —          | —          | CAN CIRC 3 |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —   | —          | —          | —          |
| IPDM E/R | No indication ✓    | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —   | CAN CIRC 2 | —          | —          |

MKIB1679E

## Case 10

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to [LAN-317, "IPDM E/R Ignition Relay Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |     |            |              |            |
|----------|--------------------|------------|------------|------------|-------------------|-----|------------|--------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS | BCM        | ABS          | IPDM E/R   |
| ENGINE   | No indication      | —          | CAN CIRC 1 | —          | CAN CIRC 3        | —   | CAN CIRC 4 | CAN CIRC 2 ✓ | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —   | CAN CIRC 5 | CAN CIRC 3 ✓ | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —   | —          | —            | CAN CIRC 3 |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —   | —          | —            | —          |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —   | CAN CIRC 2 | —            | —          |

MKIB1681E

## Case 11

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to [LAN-317, "IPDM E/R Ignition Relay Circuit Check"](#) .

|          | CONSULT indication | CAN system | Tx         | Rx         |                   |     |            |            |            |
|----------|--------------------|------------|------------|------------|-------------------|-----|------------|------------|------------|
|          |                    |            |            | ECM        | Combination meter | EPS | BCM        | ABS        | IPDM E/R   |
| ENGINE   | No indication      | —          | CAN CIRC 1 | —          | CAN CIRC 3        | —   | CAN CIRC 4 | CAN CIRC 2 | CAN CIRC 7 |
| EPS      | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —   | CAN CIRC 5 | CAN CIRC 3 | —          |
| BCM      | No indication      | —          | CAN CIRC 1 | CAN CIRC 2 | CAN CIRC 4        | —   | —          | —          | CAN CIRC 3 |
| ABS      | —                  | CAN COMM   | CAN CIRC 1 | CAN CIRC 2 | —                 | —   | —          | —          | —          |
| IPDM E/R | No indication      | CAN COMM   | CAN CIRC 1 | CAN CIRC 3 | —                 | —   | CAN CIRC 2 | —          | —          |

MKIB1680E

# Circuit Check Between BCM and ABS Actuator and Electric Unit (Control Unit)

EKS00JQH

## 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
  - Harness connector M1
  - Harness connector E101

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

## 2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect following connector.
  - Harness connector M1
  - Combination meter connector
  - Drive computer connector
  - EPS control unit connector
  - BCM connector
2. Check continuity between BCM harness connector M48 terminals 19 (R), 39 (W) and harness connector M1 terminals 2C (R), 1C (W).

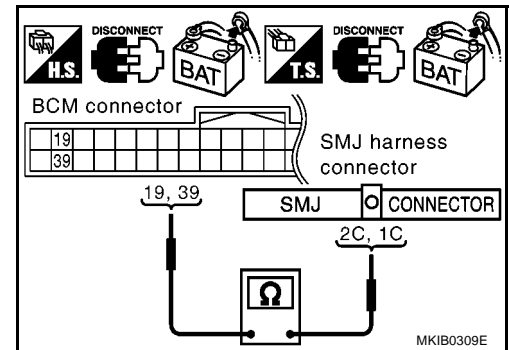
19 (R) – 2C (R) : Continuity should exist.

39 (W) – 1C (W) : Continuity should exist.

OK or NG

OK &gt;&gt; GO TO 3.

NG &gt;&gt; Repair harness.



## 3. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between harness connector E101 terminals 2C (R), 1C (W) and ABS actuator and electric unit (control unit) harness connector E45 terminals 26 (R), 15 (W).

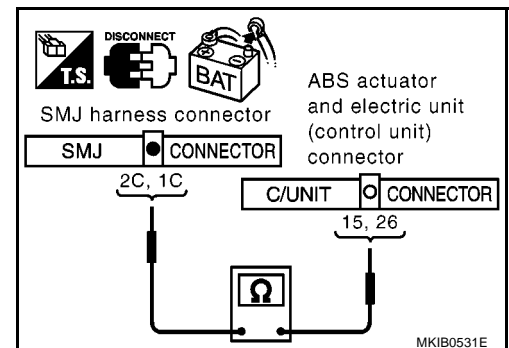
2C (R) – 26 (R) : Continuity should exist.

1C (W) – 15 (W) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELECT SYSTEM", "SELF-DIAG RESULTS" and "DATA MONITOR (CAN DIAG SUPPORT MNTR)" displayed on CONSULT-II. Refer to [LAN-293, "Work Flow"](#).

NG &gt;&gt; Repair harness.



**ECM Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
  - ECM connector
  - Harness connector M1
  - Harness connector E101

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

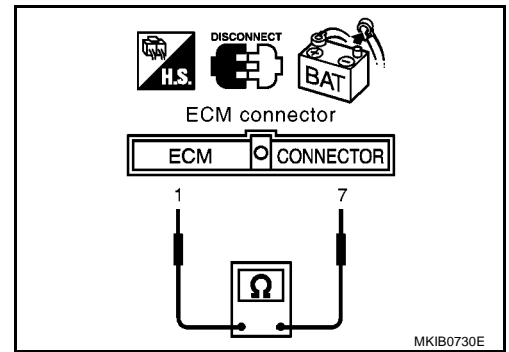
**2. CHECK HARNESS FOR OPEN CIRCUIT**

1. Disconnect ECM connector.
2. Check resistance between ECM harness connector E61 terminals 1 (R) and 7 (W).

**1 (R) – 7 (W)****: Approx. 108 – 132Ω**OK or NG

OK &gt;&gt; Replace ECM.

NG &gt;&gt; Repair harness between ECM and data link connector.



## Data Link Connector Circuit Check

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check data link connector and terminals for damage, bend and loose connection (connector side and harness side).

#### OK or NG

- OK >> GO TO 2.  
 NG >> Repair terminal or connector.

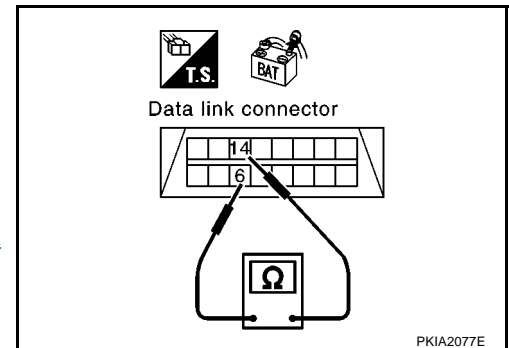
### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M17 terminals 6 (R) and 14 (W).

**6 (R) – 14 (W) : Approx. 54 – 66Ω**

#### OK or NG

- OK >> Perform "SELECT SYSTEM", "SELF-DIAG RESULTS" and "DATA MONITOR (CAN DIAG SUPPORT MNTR)" displayed on CONSULT-II. Refer to [LAN-293, "Work Flow"](#).
- NG >> Repair harness between data link connector and combination meter



**Combination Meter Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of combination meter for damage, bend and loose connection (meter side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

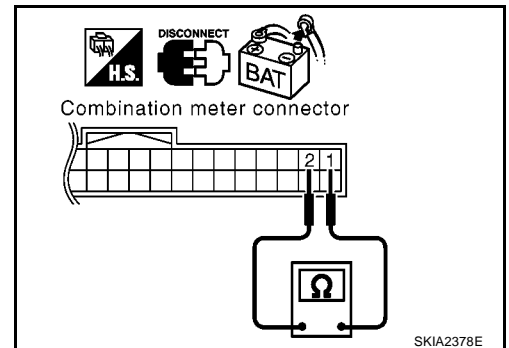
**2. CHECK HARNESS FOR OPEN CIRCUIT**

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M22 terminals 1 (R) and 2 (W).

**1 (R) – 2 (W)****: Approx. 54 – 66Ω**OK or NG

OK &gt;&gt; Replace combination meter

NG &gt;&gt; Repair harness between combination meter and data link connector.



## EPS Control Unit Circuit Check

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of EPS control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect EPS control unit connector.
2. Check resistance between EPS control unit harness connector M23 terminals 8 (R) and 7 (W).

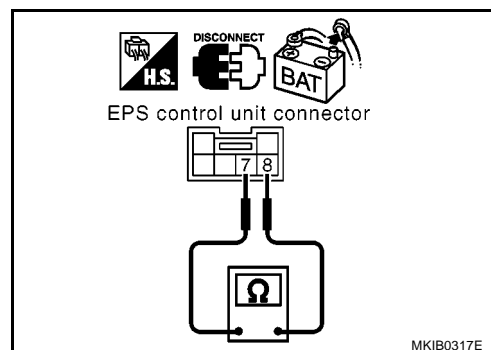
**8 (R) – 7 (W)**

**: Approx. 54 – 66Ω**

OK or NG

OK >> Replace EPS control unit.

NG >> Repair harness between EPS control unit and data link connector.



**BCM Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

**2. CHECK HARNESS FOR OPEN CIRCUIT**

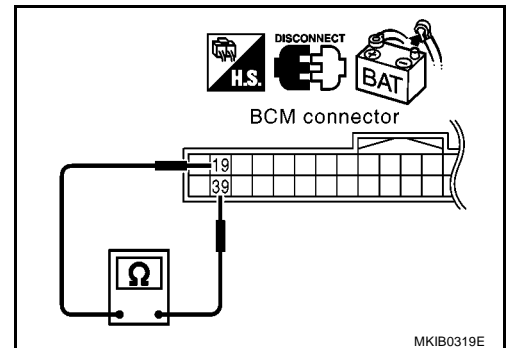
1. Disconnect BCM connector.
2. Check resistance between BCM harness connector M48 terminals 19 (R) and 39 (W).

**19 (R) – 39 (W)****: Approx. 54 – 66Ω**

OK or NG

OK >> Replace BCM. Refer to [BCS-31, "Removal and Installation of BCM"](#).

NG &gt;&gt; Repair harness between BCM and data link connector.



## ABS Actuator and Electric Unit (Control Unit) Circuit Check

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector E45 terminals 26 (R) and 15 (W).

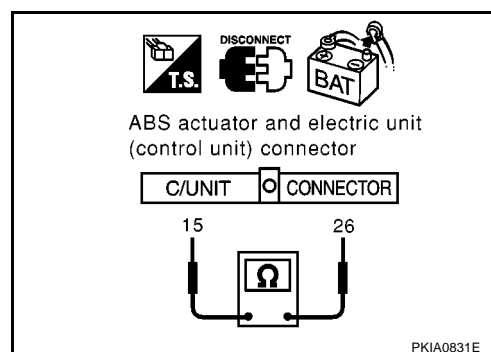
**26 (R) – 15 (W)**

**: Approx. 54 – 66Ω**

OK or NG

OK >> Replace ABS actuator and electric unit (control unit).

NG >> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.





**IPDM E/R Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK &gt;&gt; GO TO 2.

NG &gt;&gt; Repair terminal or connector.

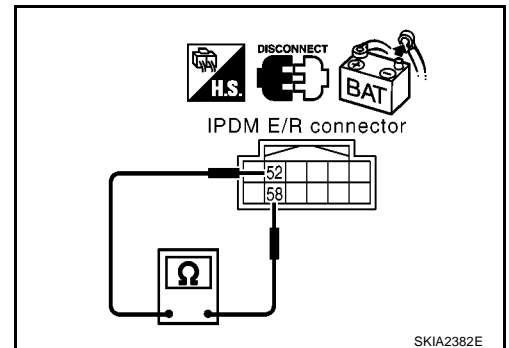
**2. CHECK HARNESS FOR OPEN CIRCUIT**

1. Disconnect IPDM E/R connector.
2. Check resistance between IPDM E/R harness connector E16 terminals 52 (R) and 58 (W).

**52 (R) – 58 (W)****: Approx. 108 – 132Ω**OK or NG

OK &gt;&gt; Replace IPDM E/R.

NG &gt;&gt; Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



A

B

C

D

E

F

G

H

I

J

LAN

L

M

## CAN Communication Circuit Check

EKS00JQP

### 1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connectors for damage, bend and loose connection (control module side, meter side, control unit side and harness side).
  - ECM
  - Combination meter
  - Drive computer
  - EPS control unit
  - BCM
  - ABS actuator and electric unit (control unit)
  - IPDM E/R
  - Between ECM and IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

### 2. CHECK HARNESS FOR SHORT CIRCUIT

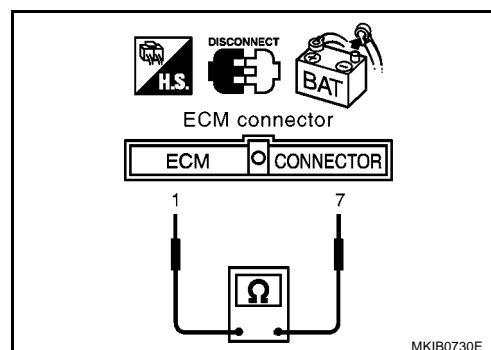
1. Disconnect ECM connector and harness connector E101.
2. Check continuity between ECM harness connector E61 terminals 1 (R) and 7 (W).

**1 (R) – 7 (W) : Continuity should not exist.**

OK or NG

OK >> GO TO 3.

NG >> Repair harness between ECM and harness connector E101.



### 3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector E61 terminals 1 (R), 7 (W) and ground.

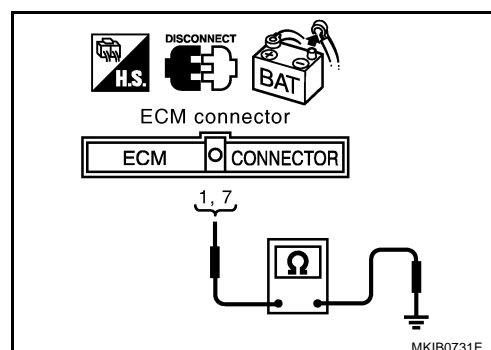
**1 (R) – Ground : Continuity should not exist.**

**7 (W) – Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 4.

NG >> Repair harness between ECM and harness connector E101.



#### 4. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect following connectors.
  - ABS actuator and electric unit (control unit) connector
  - IPDM E/R connector
2. Check continuity between ABS actuator and electric unit (control unit) harness connector E45 terminals 26 (R) and 15 (W).

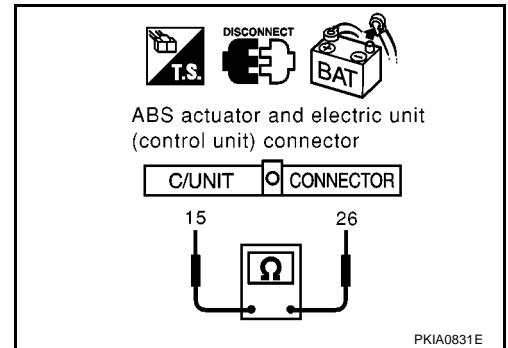
**26 (R) – 15 (W) : Continuity should not exist.**

OK or NG

OK >> GO TO 5.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between ABS actuator and electric unit (control unit) and harness connector E101
- Harness between ABS actuator and electric unit (control unit) and IPDM E/R



#### 5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector E45 terminals 26 (R), 15 (W) and ground.

**26 (R) – Ground : Continuity should not exist.**

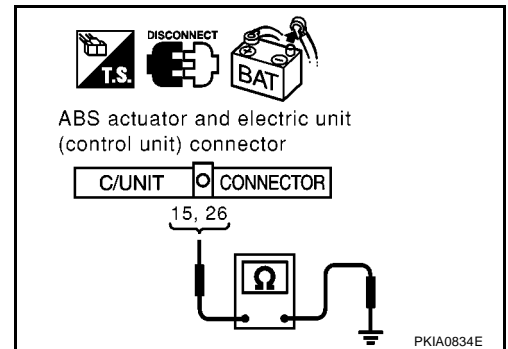
**15 (W) – Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 4.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between ABS actuator and electric unit (control unit) and harness connector E101
- Harness between ABS actuator and electric unit (control unit) and IPDM E/R



## 6. CHECK HARNESS FOR SHORT CIRCUIT

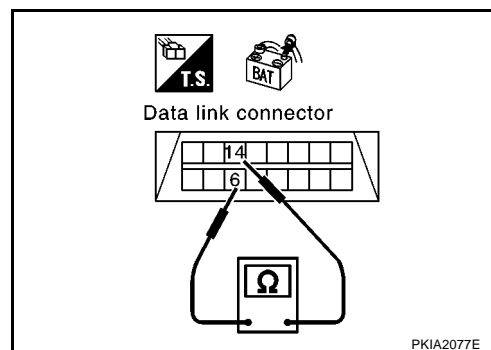
1. Disconnect following connectors.
  - Combination meter connector
  - Drive computer connector
  - EPS control unit connector
  - BCM connector
2. Check continuity between data link connector M17 terminals 6 (R) and 14 (W).

**6 (R) – 14 (W) : Continuity should not exist.**

OK or NG

OK >> GO TO 5.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
- Harness between data link connector and harness connector M1
  - Harness between data link connector and combination meter
  - Harness between data link connector and drive computer
  - Harness between data link connector and EPS control unit
  - Harness between data link connector and BCM



## 7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M17 terminals 6 (R), 14 (W) and ground.

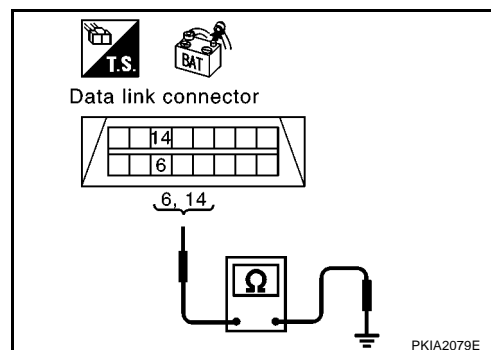
**6 (R) – Ground : Continuity should not exist.**

**14 (W) – Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 6.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
- Harness between data link connector and harness connector M1
  - Harness between data link connector and combination meter
  - Harness between data link connector and drive computer
  - Harness between data link connector and EPS control unit
  - Harness between data link connector and BCM



## 8. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-317, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"](#).

OK or NG

- OK >> Reconnect all connectors to perform "SELECT SYSTEM", "SELF-DIAG RESULTS" and "DATA MONITOR (CAN DIAG SUPPORT MNTR)" displayed on CONSULT-II. Refer to [LAN-293, "Work Flow"](#).
- NG >> Replace ECM and/or IPDM E/R.

**IPDM E/R Ignition Relay Circuit Check**

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Perform the self-diagnosis for IPDM E/R. Refer to [PG-48, "Inspection With CONSULT-II \(Self-Diagnosis\)"](#) . If the result is OK, carry out following inspections.

- IPDM E/R power supply circuit. Refer to [PG-49, "IPDM E/R Power Supply and Ground Circuit Check"](#) .
- Ignition power supply circuit. Refer to [PG-12, "IGNITION POWER SUPPLY — IGNITION SW. IN "ON" AND/OR "START" "](#) .

**Component Inspection**

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**ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION**

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 1 and 7.
- Check resistance between IPDM E/R terminals 52 and 58.

| Unit     | Terminal | Resistance value ( $\Omega$ )<br>(Approx.) |
|----------|----------|--|
| ECM      | 1 - 7    | 108 - 132                                  |
| IPDM E/R | 52 - 58  |  |

