# 17.Diagnostic Procedure with Diagnostic Trouble Code (DTC)

## A: DTC U0073 CONTROL MODULE COMMUNICATION BUS “A” OFF

Detected when error occurs in the CAN line. (Bus off)

NOTE:
Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

## B: DTC U0100 LOST COMMUNICATION WITH ECM/PCM “A”

Detected when CAN data from engine control module (ECM) is not transmitted to stereo camera.

NOTE:
Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

## C: DTC U0101 LOST COMMUNICATION WITH TCM

Detected when CAN data from TCM is not transmitted to stereo camera.

NOTE:
Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

## D: DTC U0122 LOST COMMUNICATION WITH VEHICLE DYNAMICS CONTROL MODULE

Detected when CAN data from VDC is not transmitted to stereo camera.

NOTE:
Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

## E: DTC U0128 LOST COMMUNICATION WITH PARK BRAKE CONTROL MODULE

Detected when CAN data from EPB is not transmitted to stereo camera.

NOTE:
Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

## F: DTC U0140 LOST COMMUNICATION WITH BODY CONTROL MODULE

Detected when CAN data from body integrated unit is not transmitted to stereo camera.

NOTE:
Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

## G: DTC U0155 LOST COMMUNICATION WITH INSTRUMENT PANEL CLUSTER (IPC) CONTROL MODULE

Detected when CAN data from meter is not transmitted to stereo camera.

NOTE:
Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

## H: DTC U0401 INVALID DATA RECEIVED FROM ECM/PCM “A”

Failure counter diagnosis of engine control module (ECM)

NOTE:
Perform check of the ECM. <Ref. to EN(H6DO)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

## I: DTC U0402 INVALID DATA RECEIVED FROM TCM

Failure counter diagnosis of automatic transmission control module (TCM)

NOTE:
Check the automatic transmission. <Ref. to 5AT(diag)-2, PROCEDURE, Basic Diagnostic Procedure.> <Ref. to CVT(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

## J: DTC U0416 INVALID DATA RECEIVED FROM VEHICLE DYNAMICS CONTROL MODULE

Failure counter diagnosis of VDC control module (VDC CM)

NOTE:
Check the VDC. <Ref. to VDC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

## K: DTC U0417 INVALID DATA RECEIVED FROM PARK BRAKE CONTROL MODULE

Failure counter diagnosis of electronic parking brake control module (EPB CM)

NOTE:
Check the electronic parking brake. <Ref. to PB(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

## L: DTC U0422 INVALID DATA RECEIVED FROM BODY CONTROL MODULE

Failure counter diagnosis of body integrated unit

NOTE:
Inspect the body integrated unit. <Ref. to BC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

## M: DTC U0423 INVALID DATA RECEIVED FROM INSTRUMENT PANEL CLUSTER CONTROL MODULE

Failure counter diagnosis of combination meter

NOTE:
Check the combination meter. <Ref. to IDI-14, INSPECTION, Combination Meter System.>

## N: DTC U1001 CAN-HS ABNORMAL

Detected when error occurs in the high speed CAN communication circuit.

NOTE:
Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

## O: DTC B2801 TCM ABNORMAL

Detected when error occurs in the automatic transmission.

NOTE:
Check the automatic transmission. <Ref. to 5AT(diag)-2, PROCEDURE, Basic Diagnostic Procedure.> <Ref. to CVT(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

## P: DTC B2802 ETC ABNORMAL

Detected when error occurs in the electronic throttle control.

NOTE:
Check the electronic throttle control. <Ref. to EN(H6DO)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

## Q: DTC B2803 EPB ABNORMAL

Detected when error occurs in the electronic parking brake. (EPB operation prohibited)

NOTE:
Check the electronic parking brake. <Ref. to PB(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

## R: DTC B2804 EPB ABNORMAL

Detected when error occurs in the electronic parking brake. (EPB operation abnormal)

NOTE:
Check the electronic parking brake. <Ref. to PB(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

## S: DTC B2805 BIU ABNORMAL

Detected when error occurs in the body integrated unit.

NOTE:
Inspect the body integrated unit. <Ref. to BC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

## T: DTC B2806 ECM ABNORMAL

Detected when error occurs in the engine control module (ECM).

NOTE:
Perform check of the ECM. <Ref. to EN(H6DO)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

## U: DTC B2807 ECM ABNORMAL

Detected when cruise indicator illumination request from ECM and ON/OFF information of cruise function do not match.

NOTE:
Perform check of the ECM. <Ref. to EN(H6DO)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

## V: DTC B2809 VDC ABNORMAL

Detected when error occurs in the VDC. (VDC failure)

NOTE:
Check the VDC. <Ref. to VDC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

## W: DTC B280A VDC ABNORMAL

Detected when error occurs in the VDC. (VDC brake control malfunction 1)

NOTE:
Check the VDC. <Ref. to VDC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

## X: DTC B280B VDC ABNORMAL

Detected when error occurs in the VDC. (VDC brake control malfunction 2)

NOTE:
Check the VDC. <Ref. to VDC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

## Y: DTC B280C VDC ABNORMAL

Detected when error occurs in the VDC. (VDC fluid pressure control prohibited)

NOTE:
Check the VDC. <Ref. to VDC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

## Z: DTC B280D VDC ABNORMAL

Detected when error occurs in the VDC. (Pre-collision BA prohibited)

NOTE:
Check the VDC. <Ref. to VDC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

## AA:DTC B280E VDC ABNORMAL

Detected when error occurs in the VDC. (VDC wrong variant)

NOTE:
Check the VDC. <Ref. to VDC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

## AB:DTC B280F METER ABNORMAL

Malfunction is detected in the combination meter.
**DTC DETECTING CONDITION:**
Defective combination meter
**TROUBLE SYMPTOM:**
- All functions of EyeSight system do not operate.
- EyeSight warning light blinks or illuminates.
- Combination meter does not illuminate.

NOTE:
Check the combination meter. <Ref. to IDI-14, INSPECTION, Combination Meter System.>

## AC:DTC B2810 METER ABNORMAL

Detected when the combination meter, which is not designed exclusively for EyeSight is installed.
**DTC DETECTING CONDITION:**
Incorrect specifications of combination meter
**TROUBLE SYMPTOM:**
All functions of EyeSight system do not operate.

NOTE:
Replace the combination meter with the one designed for EyeSight.

## AD:DTC B2813 BRAKE SWITCH ABNORMAL

Detected when the error related to brake switch occurs.

**DTC DETECTING CONDITION:**

- Defective brake switch
- Defective brake light switch

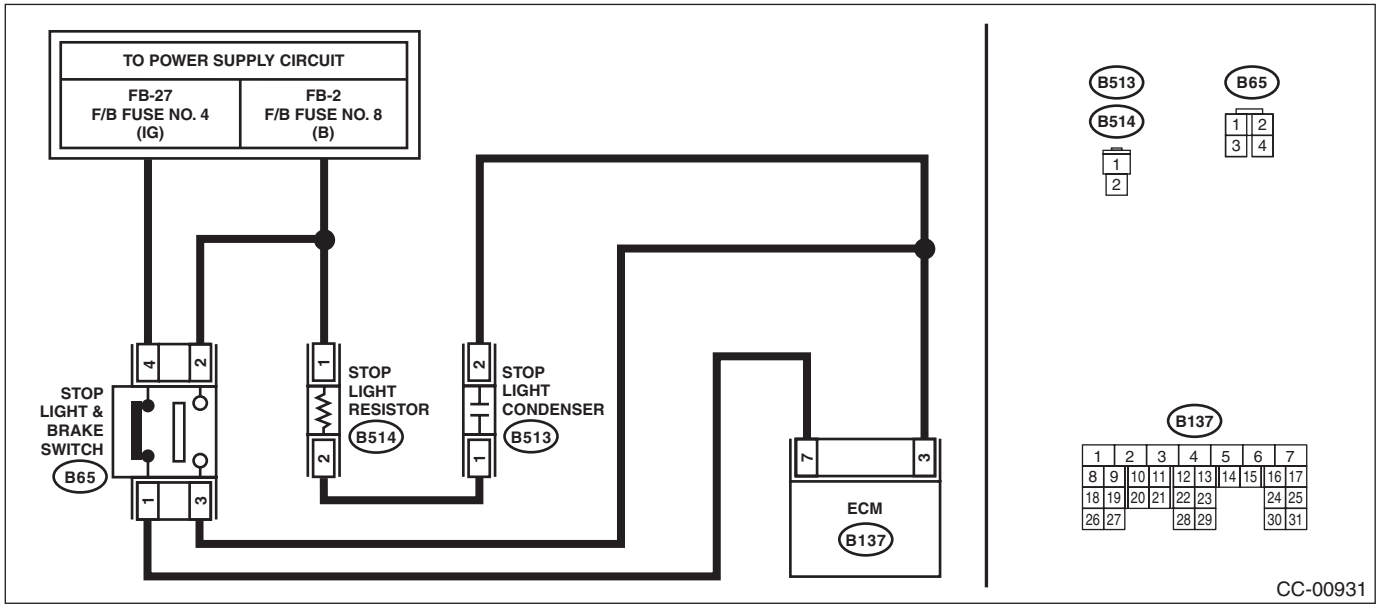
**TROUBLE SYMPTOM:**

- All functions of EyeSight system do not operate.
- EyeSight warning light illuminates.
- Malfunction indicator light illuminates.

**WIRING DIAGRAM:**

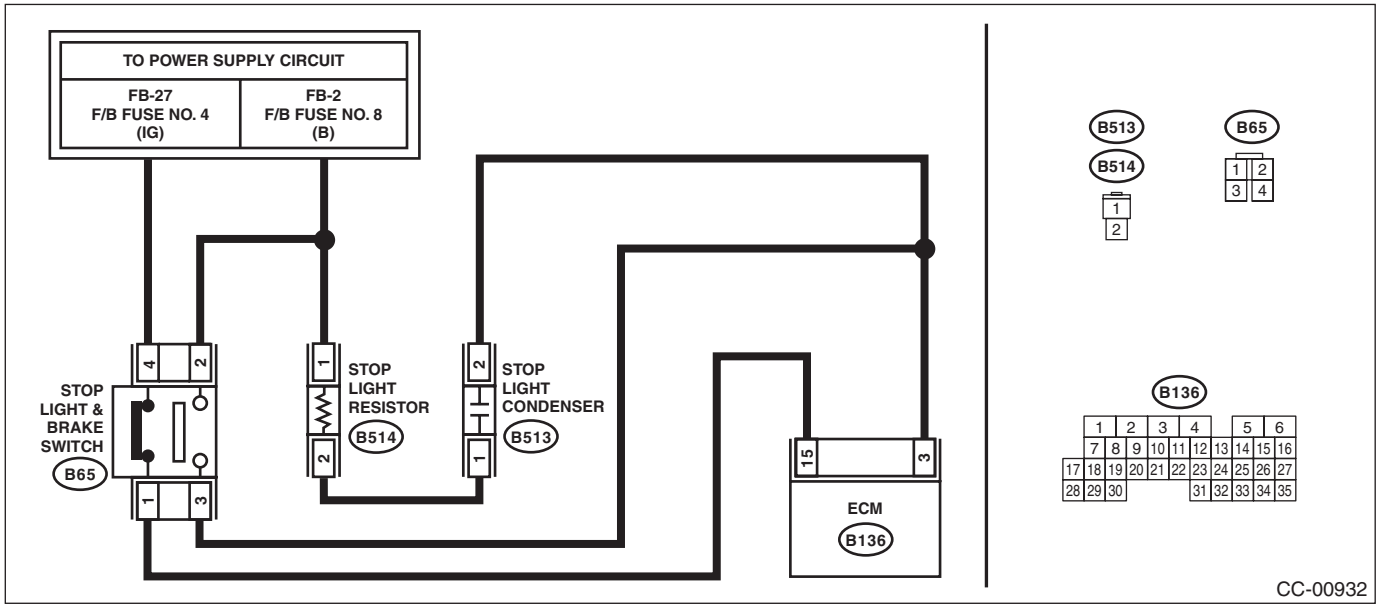
- 2.5 L model

EyeSight System <Ref. to WI-182, 2.5 L MODEL, WIRING DIAGRAM, EyeSight System.>




- 3.6 L model

EyeSight System <Ref. to WI-186, 3.6 L MODEL, WIRING DIAGRAM, EyeSight System.>



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK BRAKE SWITCH SIGNAL (ECM).**<br>1) Turn the ignition switch to ON.<br>2) Confirm the current data of stereo camera using Subaru Select Monitor.<br>3) Display the data of brake switch to check it. | Is ON ←→ OFF displayed on the display when the brake pedal is depressed or released? | Go to step **2**. | Go to step **3**. |
| 2 | **CHECK BRAKE SWITCH SIGNAL (BODY INTEGRATED UNIT).**<br>1) Turn the ignition switch to ON.<br>2) Connect the Subaru Select Monitor.<br>3) Select {Integ. unit mode} from main menu.<br>4) Select {Current Data Display & Save}, check the brake switch output. | Is ON ←→ OFF displayed on the display when the brake pedal is depressed or released? | Go to step **6**. | Go to step **3**. |
| 3 | **CHECK STOP LIGHT & BRAKE SWITCH.**<br>Check the stop light & brake switch. <Ref. to BR-65, INSPECTION, Stop Light Switch.> | Is the stop light & brake switch OK? | Go to step **4**. | Replace the stop light & brake switch. <Ref. to BR-63, REMOVAL, Stop Light Switch.> |
| 4 | **CHECK BRAKE SWITCH CIRCUIT (BATTERY POWER SUPPLY CIRCUIT).**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the harness connector from stop light & brake switch.<br>3) Turn the ignition switch to ON.<br>4) Measure the voltage between stop light & brake switch harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B65) No. 2 (+) — Chassis ground (–):***<br>***(B65) No. 4 (+) — Chassis ground (–):*** | Is the voltage approx. 10 V or more? | Go to step **5**. | Check the power supply system circuit, and if any fault is found, repair or replace the defective parts. |
| 5 | **CHECK BRAKE SWITCH CIRCUIT.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the ECM connector.<br>3) Measure the resistance between ECM harness connector terminal and stop light & brake switch.<br>***Connector & terminal***<br>***2.5 L model***<br>***(B137) No. 3 — (B65) No. 3:***<br>***(B137) No. 7 — (B65) No. 1:***<br>***3.6 L model***<br>***(B136) No. 3 — (B65) No. 3:***<br>***(B136) No. 15 — (B65) No. 1:*** | Is the resistance less than 10 Ω? | Go to step **6**. | Repair or replace the harness. |
| 6 | **CHECK STEREO CAMERA.**<br>1) Connect all connectors.<br>2) Turn the ignition switch to ON.<br>3) Connect the Subaru Select Monitor.<br>4) Read the DTC. | Is another DTC (other than DTC B2813) displayed? | Perform the diagnosis according to DTC. | Go to step **7**. |
| 7 | **CHECK CONNECTOR.**<br>Check the connectors of stop light & brake switch, ECM and stereo camera. | Is the connector normal? | Go to step **8**. | Repair or replace the connector. |
| 8 | **CHECK LAN SYSTEM.**<br>Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.> | Is a DTC of the LAN system detected? | Perform the diagnosis according to DTC for LAN system. | Go to step **9**. |
| 9 | **CHECK STEREO CAMERA.**<br>1) Clear the memory.<br>2) Read the DTC. | Is the same DTC (DTC B2813) displayed? | Replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.> | Temporary poor contact occurs. |

## AE:DTC B2814 POWER SUPPLY VOLT ERROR

Detected when the status of 7.9 V or less continues approximately for 5 seconds and is judged to be low-voltage malfunction, or when the +B harness of the stereo camera is broken.

**DTC DETECTING CONDITION:**

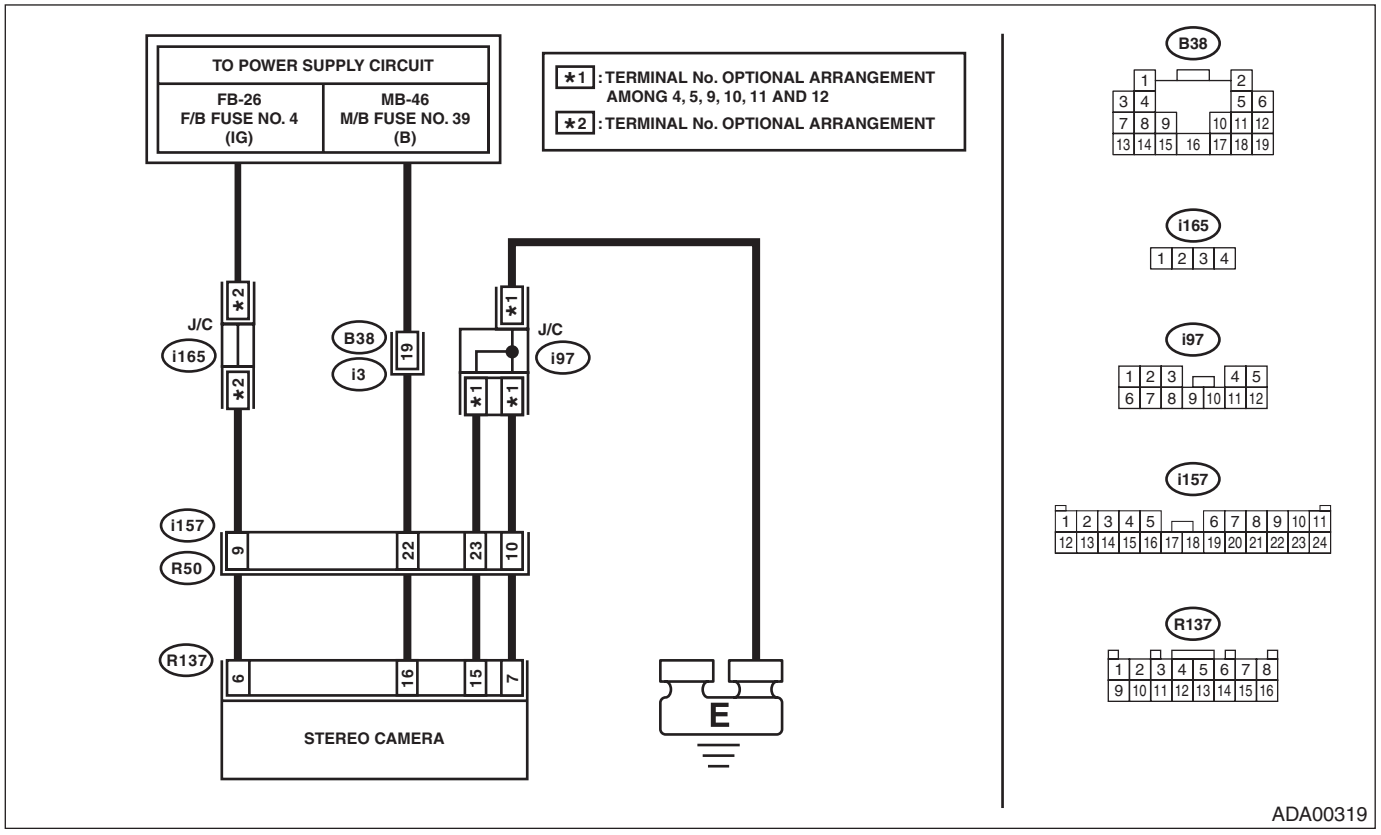
- Input voltage to stereo camera is out of specifications.
- Defective stereo camera control harness (open circuit in +B harness)
- Defective stereo camera

**TROUBLE SYMPTOM:**

- All functions of EyeSight system do not operate.
- EyeSight warning light blinks or illuminates.
- CRUISE indicator light blinks.
- Malfunction indicator light illuminates.
- VDC warning light illuminates.
- ATF temperature warning light illuminates.

**WIRING DIAGRAM:**

EyeSight System <Ref. to WI-182, WIRING DIAGRAM, EyeSight System.>




| Step | | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK GENERATOR.**<br>1) Start the engine and idle for a while.<br>2) Measure the voltage between generator terminal B and chassis ground.<br>***Connector & terminal***<br>***Generator terminal B (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **2**. | Check the generator. |
| 2 | **CHECK BATTERY TERMINAL.**<br>Turn the ignition switch to OFF. | Is the battery terminal connected securely? | Go to step **3**. | Tighten the battery terminal securely. |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 3 | **CHECK FUSE.**<br>Check the fuse. | Is the fuse OK? | Go to step **4**. | Replace the faulty fuse. If the newly replaced fuse is blown instantly, check the short circuit in harness. |
| 4 | **CHECK HARNESS (POWER SUPPLY CIRCUIT).**<br>1) Disconnect the stereo camera.<br>2) Turn the ignition switch to ON.<br>3) Measure the voltage between harness connector of stereo camera and chassis ground.<br>***Connector & terminal***<br>***(R137) No. 6 (+) — Chassis ground (–):***<br>***(R137) No. 16 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **5**. | Check the power supply system circuit, and if any fault is found, repair the defective parts or replace the harness. |
| 5 | **CHECK HARNESS (GROUND CIRCUIT).**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the ground cable from battery.<br>3) Measure the resistance between stereo camera and chassis ground.<br>***Connector & terminal***<br>***(R137) No. 7 — Chassis ground:***<br>***(R137) No. 15 — Chassis ground:*** | Is the resistance less than 10 Ω? | Go to step **6**. | Check the ground system circuit, and if any fault is found, repair the defective parts or replace the harness. |
| 6 | **CHECK POOR CONTACT OF CONNECTORS.**<br>Check stereo camera connector. | Is there poor contact of the connector? | Repair the connector. | Go to step **7**. |
| 7 | **CHECK STEREO CAMERA.**<br>1) Connect all connectors and battery terminals securely.<br>2) Start the engine, drive the vehicle at 40 km/h (24.9 MPH) or more, stop the vehicle and then stop the engine.<br>3) After 3 seconds or more have elapsed, restart the engine.<br>4) Clear the memory.<br>5) Read the DTC. | Is the same DTC (DTC B2814 or B2815) displayed? | Replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.> | Temporary poor contact occurs. |

## AF:DTC B2815 POWER SUPPLY VOLT ERROR

Detected when the status for the battery voltage of 16 V or more continues approximately for 5 seconds and is judged to be abnormally high voltage.
Refer to DTC B2814 for DTC detecting condition, trouble symptom and diagnostic procedure. <Ref. to ES(diag)-99, DTC B2814 POWER SUPPLY VOLT ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

# AG:DTC B2817 BRAKE LAMP ERROR

**DTC DETECTING CONDITION:**

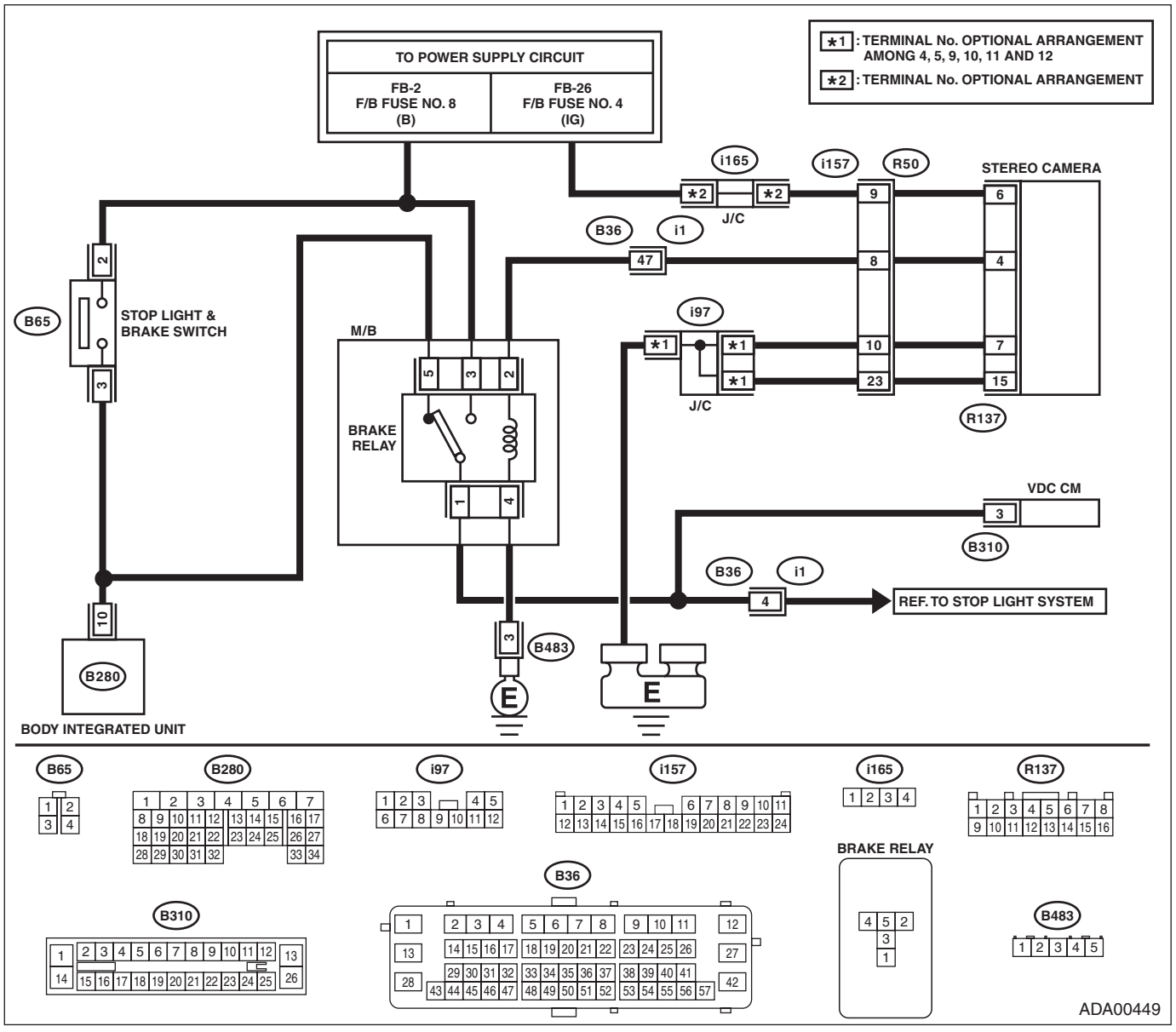
- Defective brake light relay
- Defective brake light switch
- Defective VDC

**TROUBLE SYMPTOM:**

- All functions of EyeSight system do not operate.
- EyeSight warning light illuminates.
- Brake light does not go off or illuminate.

**WIRING DIAGRAM:**

EyeSight System <Ref. to WI-182, WIRING DIAGRAM, EyeSight System.>




| Step | | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK BRAKE LIGHT.**<br>Turn the ignition switch to ON. | Does the brake light go off when the brake pedal is not depressed? | Go to step **5**. | Go to step **2**. |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 2 | **CHECK HARNESS.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the brake light relay connector.<br>3) Turn the ignition switch to ON.<br>4) Measure the voltage between the brake light relay connector and chassis ground.<br>***Connector & terminal***<br>***Brake relay No. 1 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Repair or replace the harness. | Go to step **3**. |
| 3 | **CHECK HARNESS.**<br>Measure the voltage between the brake light relay connector and chassis ground.<br>***Connector & terminal***<br>***Brake relay No. 2 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **4**. | Replace the brake light relay. <Ref. to ES-24, REMOVAL, Brake Lamp Relay.> |
| 4 | **CHECK HARNESS.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the connector from the stereo camera.<br>3) Turn the ignition switch to ON.<br>4) Measure the voltage between the brake light relay connector and chassis ground.<br>***Connector & terminal***<br>***Brake relay No. 2 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Repair the harness. | Replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.> |
| 5 | **CHECK BRAKE LIGHT RELAY.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the brake light relay connector.<br>3) Check the brake light relay. | Is the brake light relay OK? | Go to step **6**. | Replace the brake light relay. <Ref. to ES-24, REMOVAL, Brake Lamp Relay.> |
| 6 | **CHECK HARNESS.**<br>1) Disconnect the connector from the VDCCM&H/U.<br>2) Measure the resistance between brake light relay and VDCCM&H/U harness connector.<br>***Connector & terminal***<br>***Brake relay No. 1 — (B310) No. 3:*** | Is the resistance less than 10 Ω? | Go to step **7**. | Repair or replace the harness. |
| 7 | **CHECK HARNESS.**<br>1) Disconnect the stop light & brake switch connector.<br>2) Disconnect the connector of body integrated unit.<br>3) Measure the resistance between stop light & brake switch and harness connector of body integrated unit.<br>***Connector & terminal***<br>***(B65) No. 3 — (B280) No. 10:*** | Is the resistance less than 10 Ω? | Go to step **8**. | Check harness between stop light switch and body integrated unit. |
| 8 | **CHECK CONNECTOR.**<br>Check the connectors for brake light relay, stereo camera, VDCCM&H/U and body integrated unit. | Is the connector normal? | Go to step **9**. | Repair or replace the connector. |
| 9 | **CHECK HARNESS.**<br>1) Disconnect the brake light relay connector.<br>2) Measure the voltage between the brake light relay connector and chassis ground.<br>***Connector & terminal***<br>***Brake relay No. 3 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **10**. | Check the power supply system harness. |
| 10 | **CHECK HARNESS.**<br>Measure the resistance between the brake light relay harness connector and chassis ground.<br>***Connector & terminal***<br>***Brake relay No. 4 — Chassis ground:*** | Is the resistance less than 10 Ω? | Go to step **11**. | Check the ground system harness. |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 11 | **CHECK HARNESS.**<br>1) Disconnect the stereo camera.<br>2) Disconnect the brake light relay connector.<br>3) Measure the resistance between the harness connectors of stereo camera and brake light relay.<br>***Connector & terminal***<br>***(R137) No. 4 — Brake relay No. 2:*** | Is the resistance less than 10 Ω? | Go to step **12**. | Repair or replace the connector. |
| 12 | **CHECK HARNESS.**<br>Measure the resistance between the brake light relay harness connector and chassis ground.<br>***Connector & terminal***<br>***Brake relay No. 1 — Chassis ground:*** | Is the resistance 1 MΩ or more? | Check the brake light bulb and harness. | Go to step **13**. |
| 13 | **CHECK HARNESS.**<br>Measure the resistance between the harness connectors of stop light & brake switch and brake light relay.<br>***Connector & terminal***<br>***(B65) No. 3 — Brake relay No. 5:*** | Is the resistance less than 10 Ω? | Go to step **14**. | Check the harness. |
| 14 | **CHECK STEREO CAMERA.**<br>1) Connect all connectors securely.<br>2) Turn the ignition switch to ON.<br>3) Connect the Subaru Select Monitor.<br>4) Read the DTC. | Is another DTC displayed? | Perform the diagnosis according to DTC. | Go to step **15**. |
| 15 | **CHECK STEREO CAMERA.**<br>1) Clear the memory.<br>2) Start the engine. After 5 seconds of the engine start, depress and hold the brake pedal for 3 seconds or more.<br>3) Operate the adaptive cruise control with preceding vehicle adaptive function in all speed ranges, apply brake by deceleration control.<br>4) Read the DTC. | Is DTC B2817 displayed? | Replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.> | Temporary poor contact occurs. |

## AH:DTC B28A0 VEHICLE MODEL JUDGMENT ABNORMAL

Detected when the model code for stereo camera and the model code used for CAN data are different.

**DTC DETECTING CONDITION:**

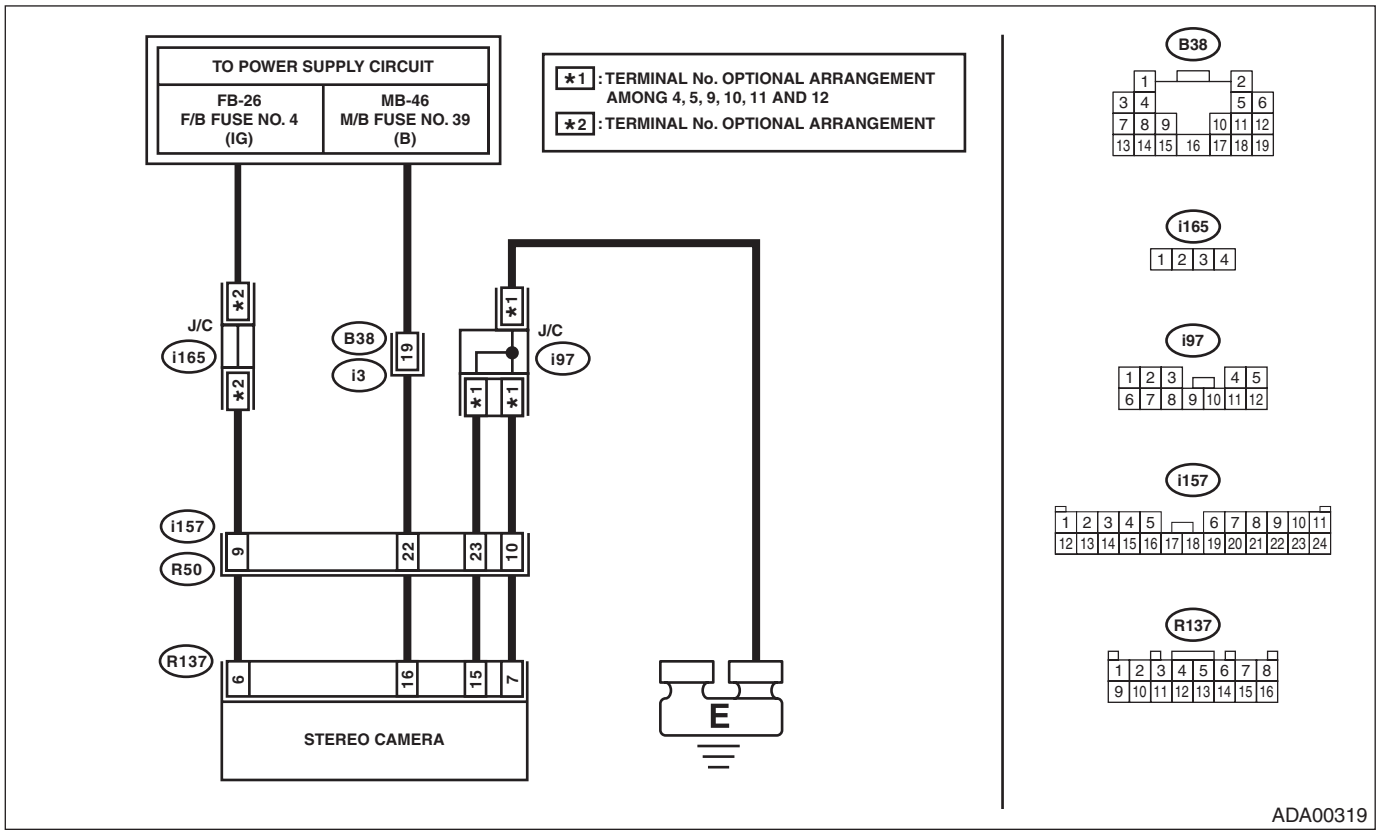
- Defective CAN system
- Defective stereo camera
- In the aiming operation, there is an open circuit in the +B harness of the stereo camera.
- In the completion of the aiming operation, the switching from IGN OFF to IGN ON takes place too early, and the recording of the model information has not yet been finished.

**TROUBLE SYMPTOM:**

- All functions of EyeSight system do not operate.
- EyeSight warning light illuminates.

**WIRING DIAGRAM:**

EyeSight System <Ref. to WI-182, WIRING DIAGRAM, EyeSight System.>




| Step | | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK RELATED CM.**<br>Check the part number of the ECM, TCM, VDC CM and combination meter. | Is each CM a genuine part? | Go to step **2**. | Replace the non-genuine CM with a genuine one. |
| 2 | **CHECK STEREO CAMERA.**<br>1) Remove the camera cover.<br>2) Check the part number of the stereo camera. | Is the stereo camera genuine? | Go to step **3**. | Replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.> |
| 3 | **CHECK LAN SYSTEM.**<br>Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.> | Is DTC displayed? | Perform the diagnosis according to DTC. | Go to step **4**. |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 4 | **CHECK MODEL REGISTRATION INFORMATION.**<br>Check the model registration information from the current data of stereo camera. | Does vehicle and data correspond? | Perform the adjustment or inspection of the camera. <Ref. to ES(diag)-45, Camera Adjustment, Inspection.> | Go to step **5**. |
| 5 | **CHECK FUSE.**<br>Check the fuse. | Is the fuse OK? | Go to step **6**. | Replace the faulty fuse. If the newly replaced fuse is blown instantly, check the short circuit in harness. |
| 6 | **CHECK HARNESS (POWER SUPPLY CIRCUIT).**<br>1) Disconnect the stereo camera.<br>2) Turn the ignition switch to ON.<br>3) Measure the voltage between harness connector of stereo camera and chassis ground.<br>***Connector & terminal***<br>***(R137) No. 6 (+) — Chassis ground (–):***<br>***(R137) No. 16 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **7**. | Check the power supply system circuit, and if any fault is found, repair the defective parts or replace the harness. |
| 7 | **CHECK HARNESS (GROUND CIRCUIT).**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the ground cable from battery.<br>3) Measure the resistance between stereo camera and chassis ground.<br>***Connector & terminal***<br>***(R137) No. 7 — Chassis ground:***<br>***(R137) No. 15 — Chassis ground:*** | Is the resistance less than 10 Ω? | Go to step **8**. | Check the ground system circuit, and if any fault is found, repair the defective parts or replace the harness. |
| 8 | **CHECK POOR CONTACT OF CONNECTORS.**<br>Check stereo camera connector. | Is there poor contact of the connector? | Repair the connector. | Go to step **9**. |
| 9 | **CHECK STEREO CAMERA.**<br>1) Connect all connectors and battery terminals securely.<br>2) Clear the memory.<br>3) Read the DTC. | Is the same DTC (DTC B28A0) displayed? | Replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.> | Temporary poor contact occurs. |

## AI: DTC B28A1 ADAPTIVE CC ECM COMMUNICATION DATA ERROR

Detected when the engine control module (ECM) detects the malfunction of stereo camera, or when the stereo camera or ECM is assembled incorrectly.

**DTC DETECTING CONDITION:**

- Defective CAN system
- Defective engine control module (ECM)
- Defective stereo camera
- Incorrect assembly of stereo camera (When the stereo camera designed for C-type vehicle is installed to the B-type vehicle, etc.)
- Incorrect assembly of ECM (When the ECM designed for B-type vehicle is installed to the C-type vehicle, etc.)

**TROUBLE SYMPTOM:**

- All functions of EyeSight system do not operate.
- EyeSight warning light illuminates.

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK ECM.**<br>Check the part number of the ECM. | Is the ECM genuine? | Go to step **2**. | Replace the ECM. |
| 2 | **CHECK STEREO CAMERA.**<br>1) Remove the camera cover.<br>2) Check the part number of the stereo camera. | Is the stereo camera genuine? | Go to step **3**. | Replace the stereo camera. |
| 3 | **CHECK LAN SYSTEM.**<br>Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.> | Is DTC displayed? | Perform the diagnosis according to DTC. | Go to step **4**. |
| 4 | **CHECK ECM.**<br>Perform the diagnosis for the engine. <Ref. to EN(H6DO)(diag)-2, Basic Diagnostic Procedure.> | Is DTC displayed? | Perform the diagnosis according to DTC. | Go to step **5**. |
| 5 | **CHECK CONNECTOR.**<br>Check the ECM connector and the stereo camera connector. | Is the connector OK? | Go to step **6**. | Repair or replace the connector. |
| 6 | **CHECK STEREO CAMERA.**<br>Read the DTC. | Is another DTC displayed? | Perform the diagnosis according to DTC. | Go to step **7**. |
| 7 | **CHECK STEREO CAMERA.**<br>1) Clear the memory.<br>2) Read the DTC. | Is the same DTC displayed? | Replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.> | Temporary poor contact. |

## AJ:DTC B28A2 ADAPTIVE CC ECM COMMUNICATION DATA ERROR

Detected when the VDC control module (VDC CM) detects the malfunction of stereo camera.

**DTC DETECTING CONDITION:**

- Defective CAN system
- Defective VDC control module (VDC CM)
- Defective stereo camera

**TROUBLE SYMPTOM:**

- All functions of EyeSight system do not operate.
- EyeSight warning light illuminates.

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK LAN SYSTEM.**<br>Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.> | Is DTC displayed? | Perform the diagnosis according to DTC. | Go to step **2**. |
| 2 | **CHECK VDC.**<br>Perform the diagnosis for VDC. <Ref. to VDC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.> | Is DTC displayed? | Perform the diagnosis according to DTC. | Go to step **3**. |
| 3 | **CHECK CONNECTOR.**<br>Check the VDC connector and the stereo camera connector. | Is the connector OK? | Go to step **4**. | Repair or replace the connector. |
| 4 | **CHECK STEREO CAMERA.**<br>Read the DTC. | Is another DTC displayed? | Perform the diagnosis according to DTC. | Go to step **5**. |
| 5 | **CHECK STEREO CAMERA.**<br>1) Clear the memory.<br>2) Read the DTC. | Is the same DTC displayed? | Replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.> | Temporary poor contact. |

## AK:DTC B28A3 ADAPTIVE CC ECM COMMUNICATION DATA ERROR

Detected when the combination meter detects the malfunction of stereo camera.

**DTC DETECTING CONDITION:**

- Defective CAN system
- Defective combination meter
- Defective stereo camera

**TROUBLE SYMPTOM:**

- All functions of EyeSight system do not operate.
- EyeSight warning light illuminates.

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK LAN SYSTEM.**<br>Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.> | Is the DTC displayed in the LAN system? | Perform the diagnosis according to DTC. | Go to step **2**. |
| 2 | **CHECK COMBINATION METER.**<br>Check the combination meter. | Is combination meter OK? | Go to step **3**. | Perform the diagnosis for combination meter. |
| 3 | **CHECK CONNECTOR.**<br>Check the combination meter connector and the stereo camera connector. | Is the connector OK? | Go to step **4**. | Repair or replace the connector. |
| 4 | **CHECK STEREO CAMERA.**<br>Read the DTC. | Is another DTC displayed? | Perform the diagnosis according to DTC. | Go to step **5**. |
| 5 | **CHECK STEREO CAMERA.**<br>1) Clear the memory.<br>2) Read the DTC. | Is the same DTC displayed? | Replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.> | Temporary poor contact. |

## AL:DTC B28A4 ADAPTIVE CC ECM COMMUNICATION DATA ERROR

Detected when the power steering control module (EPS CM) detects the malfunction of stereo camera.

**DTC DETECTING CONDITION:**

- Defective CAN system
- Defective EPS CM
- Defective stereo camera

**TROUBLE SYMPTOM:**

- All functions of EyeSight system do not operate.
- EyeSight warning light illuminates.

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK LAN SYSTEM.**<br>Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.> | Is the DTC displayed in the LAN system? | Perform the diagnosis according to DTC. | Go to step **2**. |
| 2 | **CHECK EPS CM.**<br>Perform the diagnosis for the power steering system. | Is DTC displayed? | Perform the diagnosis according to DTC. | Go to step **3**. |
| 3 | **CHECK CONNECTOR.**<br>Check the EPS CM connector and the stereo camera connector. | Is the connector OK? | Go to step **4**. | Repair or replace the connector. |
| 4 | **CHECK STEREO CAMERA.**<br>Read the DTC. | Is another DTC displayed? | Perform the diagnosis according to DTC. | Go to step **5**. |
| 5 | **CHECK STEREO CAMERA.**<br>1) Clear the memory.<br>2) Read the DTC. | Is the same DTC displayed? | Replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.> | Temporary poor contact. |

## AM:DTC B28A5 ADAPTIVE CC ECM COMMUNICATION DATA ERROR

Detected when abnormal data is transmitted from stereo camera to engine control module (ECM) and the engine control module (ECM) prohibits the AT rapid start prevention control, or when the engine control module (ECM) prohibits the AT rapid start prevention control.

**DTC DETECTING CONDITION:**

- Defective CAN system
- Defective engine control module (ECM)
- Defective stereo camera

**TROUBLE SYMPTOM:**

- All functions of EyeSight system do not operate.
- EyeSight warning light illuminates.

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK LAN SYSTEM.**<br>Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.> | Is DTC displayed? | Perform the diagnosis according to DTC. | Go to step **2**. |
| 2 | **CHECK ECM.**<br>Perform the diagnosis for the engine. <Ref. to EN(H6DO)(diag)-2, Basic Diagnostic Procedure.> <Ref. to EN(H4DO)(diag)-2, Basic Diagnostic Procedure.> | Is DTC displayed? | Perform the diagnosis according to DTC. | Go to step **3**. |
| 3 | **CHECK CONNECTOR.**<br>Check the ECM connector and the stereo camera connector. | Is the connector OK? | Go to step **4**. | Repair or replace the connector. |
| 4 | **CHECK STEREO CAMERA.**<br>Read the DTC. | Is another DTC displayed? | Perform the diagnosis according to DTC. | Go to step **5**. |
| 5 | **CHECK STEREO CAMERA.**<br>1) Clear the memory.<br>2) Read the DTC again. | Is the same DTC displayed? | Replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.> | Temporary poor contact. |

## AN:DTC B28A6 STEREO CAMERA ABNORMAL

Detected when communication error occurs inside the stereo camera.

**DTC DETECTING CONDITION:**

Communication error occurs inside the stereo camera.

**TROUBLE SYMPTOM:**

All functions of EyeSight system do not operate.

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK RESTARTING.**<br>1) Turn the ignition switch to OFF.<br>2) Start the engine.<br>3) Read the DTC related to the stereo camera using the Subaru Select Monitor. | Is DTC displayed after restarting the engine?* | Replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.> | Clear the memory, in which temporary communication failure occurs and complete the step. |

*: When malfunction is detected after restarting the engine, 0 is registered in IG counter. Other values can be regarded as DTCs detected in the past.

## AO:DTC B28A7 STEREO CAMERA ABNORMAL

Detected when error occurs in the communication data inside the control module caused by external factors such as noises.

NOTE:
If the same DTC is still detected after the engine has restarted, replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>

## AP:DTC B28A8 STEREO CAMERA ABNORMAL

Detected when error occurs in the communication data inside the control module caused by external factors such as noises.

NOTE:
If the same DTC is still detected after the engine has restarted, replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>

## AQ:DTC B28A9 STEREO CAMERA ABNORMAL

Detected when error occurs in the communication data inside the control module caused by external factors such as noises.

NOTE:
If the same DTC is still detected after the engine has restarted, replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>

## AR:DTC B28AA STEREO CAMERA ABNORMAL

Detected when communication error occurs due to malfunction of microcomputer inside the stereo camera.
**DTC DETECTING CONDITION:**
Communication error occurs due to malfunction of microcomputer inside the stereo camera.
**TROUBLE SYMPTOM:**
All functions of EyeSight system do not operate.
For diagnostic procedure, refer to “DTC B28A6 STEREO CAMERA ABNORMAL”. <Ref. to ES(diag)-109, DTC B28A6 STEREO CAMERA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

## AS:DTC B28AB STEREO CAMERA ABNORMAL

Detected when communication error occurs due to malfunction of microcomputer inside the stereo camera.
**DTC DETECTING CONDITION:**
Communication error occurs due to malfunction of microcomputer inside the stereo camera.
**TROUBLE SYMPTOM:**
All functions of EyeSight system do not operate.
For diagnostic procedure, refer to “DTC B28A6 STEREO CAMERA ABNORMAL”. <Ref. to ES(diag)-109, DTC B28A6 STEREO CAMERA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

## AT:DTC B28AC STEREO CAMERA ABNORMAL

Detected when communication error occurs due to malfunction of ASIC.
**DTC DETECTING CONDITION:**
Communication error occurs due to malfunction of ASIC.
**TROUBLE SYMPTOM:**
All functions of EyeSight system do not operate.
For diagnostic procedure, refer to “DTC B28A6 STEREO CAMERA ABNORMAL”. <Ref. to ES(diag)-109, DTC B28A6 STEREO CAMERA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

## AU:DTC B28AD STEREO CAMERA ABNORMAL

Detected when improper image recognition occurs in the microcomputer inside the stereo camera.
**DTC DETECTING CONDITION:**
Improper image recognition occurs in the microcomputer inside the stereo camera.
**TROUBLE SYMPTOM:**
All functions of EyeSight system do not operate.
For diagnostic procedure, refer to “DTC B28A6 STEREO CAMERA ABNORMAL”. <Ref. to ES(diag)-109, DTC B28A6 STEREO CAMERA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

## AV:DTC B28AE STEREO CAMERA ABNORMAL

Detected when improper power supply inside the stereo camera occurs.
**DTC DETECTING CONDITION:**
Improper power supply inside the stereo camera occurs.
**TROUBLE SYMPTOM:**
All functions of EyeSight system do not operate.
For diagnostic procedure, refer to “DTC B28A6 STEREO CAMERA ABNORMAL”. <Ref. to ES(diag)-109, DTC B28A6 STEREO CAMERA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

## AW:DTC B28AF STEREO CAMERA ABNORMAL

Detected when adjustment or inspection of stereo camera has not been completed normally.
**DTC DETECTING CONDITION:**
- Operation is aborted during adjustment or inspection of the stereo camera.
- After the replacement of the stereo camera, adjustment or inspection of camera has not yet been performed.

**TROUBLE SYMPTOM:**
All functions of EyeSight system do not operate.
For diagnostic procedure, perform adjustment/inspection of camera. When the adjustment or inspection of camera is performed, and if it is not completed successfully, replace the camera.

## AX:DTC B28B0 STEREO CAMERA ABNORMAL

Detected when pre-collision brake OFF switch or lane departure warning OFF switch circuit is shorted.

**DTC DETECTING CONDITION:**

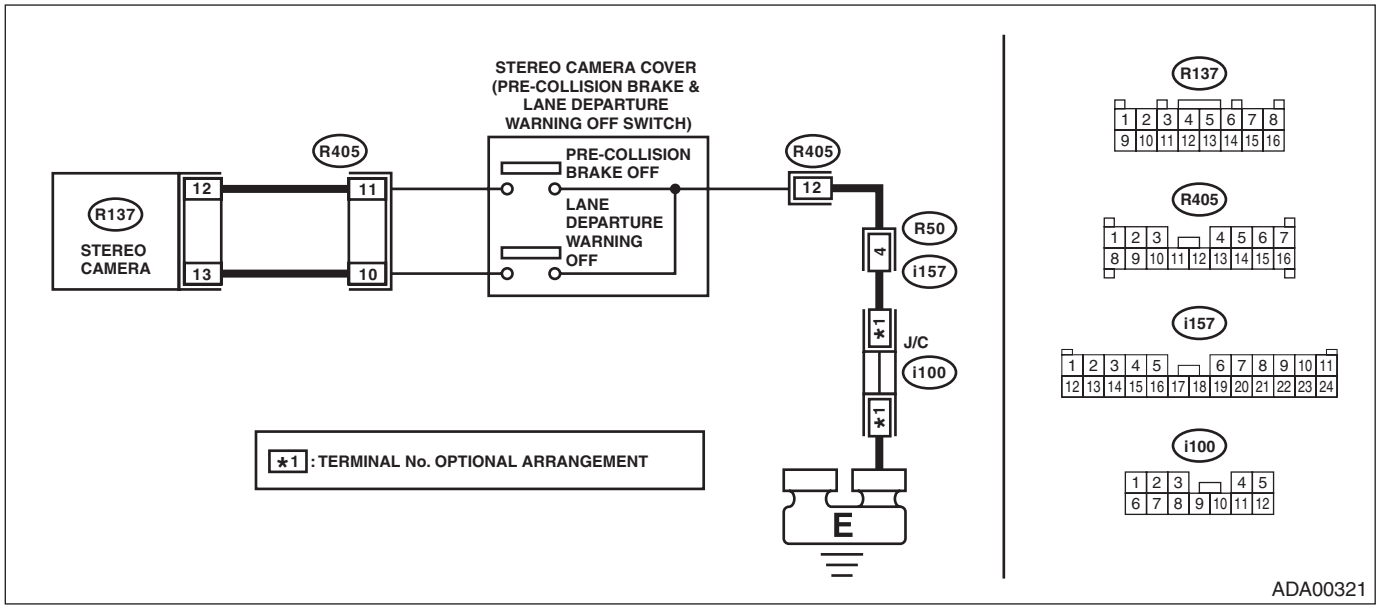
Pre-collision brake OFF switch or lane departure warning OFF switch circuit stays ON for 45 seconds or more.

**TROUBLE SYMPTOM:**

All functions of EyeSight system do not operate.

**WIRING DIAGRAM:**

EyeSight System <Ref. to WI-182, WIRING DIAGRAM, EyeSight System.>




| Step | | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK SWITCH.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the stereo camera connector.<br>3) Using the tester, measure the resistance between terminals.<br>***Connector & terminal***<br>***(R137) No. 12 — Chassis ground:***<br>***(R137) No. 13 — Chassis ground:*** | Is the resistance 10 Ω or less? | Go to step **2**. | If the code is still detected after restoring, replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.> |
| 2 | **CHECK HARNESS.**<br>1) Disconnect the switch connector for the stereo camera cover.<br>2) Using the tester, measure the resistance between terminals.<br>***Connector & terminal***<br>***(R137) No. 12 — Chassis ground:***<br>***(R137) No. 13 — Chassis ground:*** | Is the resistance 10 Ω or less? | Repair or replace the harness. | Go to step **3**. |
| 3 | **CHECK SWITCH.**<br>Using the tester, measure the resistance of the switch.<br>***Connector & terminal***<br>***(R405) No. 11 — No. 12:***<br>***(R405) No. 10 — No. 12:*** | Does the resistance change when the switch is operated? | Repair or replace the harness. | Replace the switch. |

## AY:DTC B28B1 STEREO CAMERA ABNORMAL

Detected when the optical axis of stereo camera is deviated in lateral direction or when the fluctuation range of automatic adjustment value has expanded.

NOTE:
Readjust the stereo camera. <Ref. to ES(diag)-45, PROCEDURE, Camera Adjustment, Inspection.>
If the same DTC is still detected after readjustment, replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>

## AZ:DTC B28B2 STEREO CAMERA ABNORMAL

Detected when the temperature of the stereo camera excessively increases.

NOTE:
When this DTC is detected, performing adjustment or inspection of the camera will not return to the normal state. In this case, always replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>

## BA:DTC B28B3 STEREO CAMERA ABNORMAL

Detected when the temperature of the stereo camera excessively decreases.

NOTE:
When this DTC is detected, performing adjustment or inspection of the camera will not return to the normal state. In this case, always replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>

# KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

# *KPS(diag)*