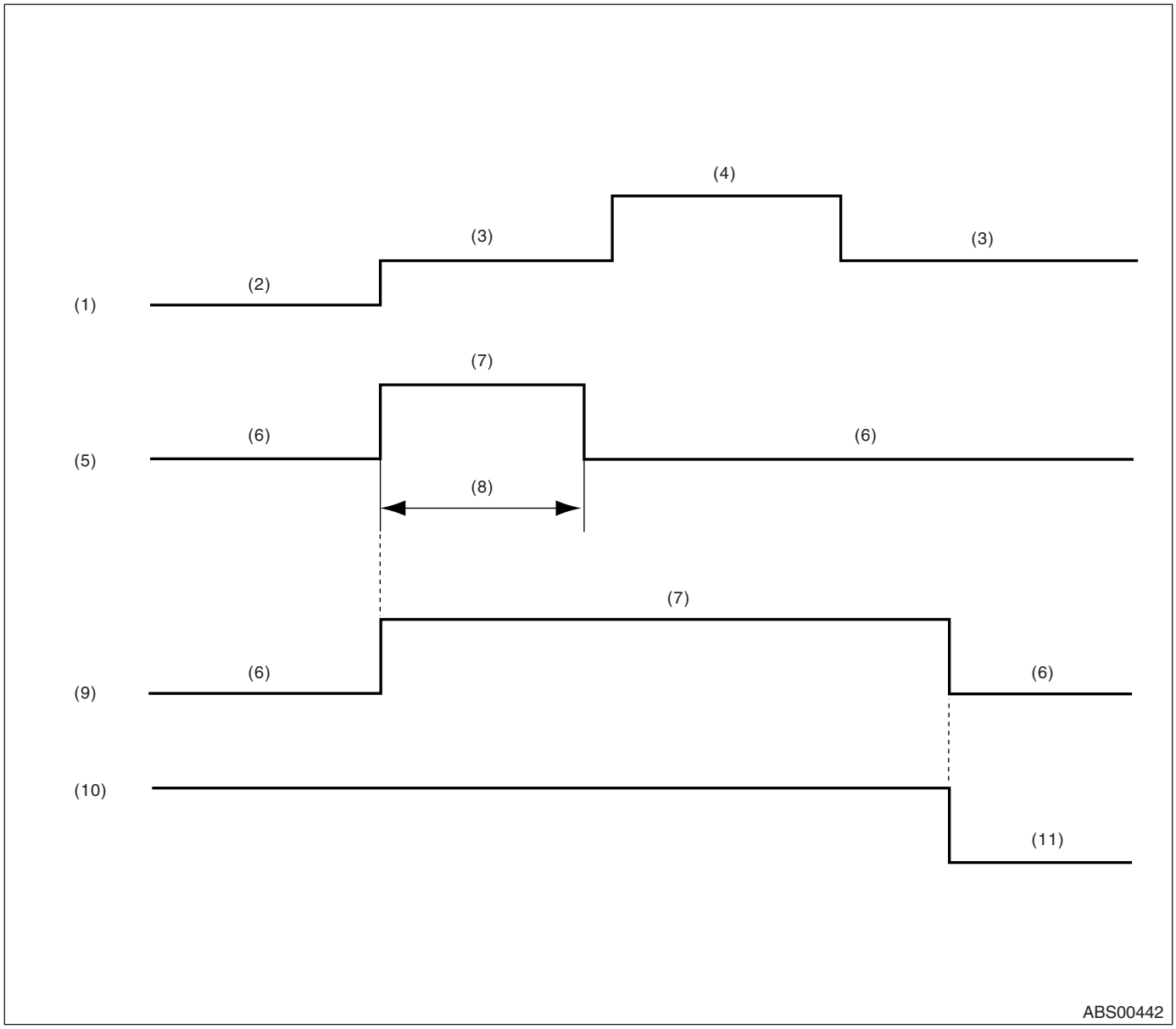
10.ABS Warning Light / Brake Warning Light Illumination Pattern

A: INSPECTION



(1)	Ignition switch	(5)	ABS warning light	(9)	Brake warning light (EBD warning light)
(2)	OFF	(6)	Light OFF		
(3)	ON	(7)	Light ON	(10)	Parking brake
(4)	Start	(8)	1.5 seconds	(11)	Released

1) When the ABS warning light and brake warning light do not illuminate in accordance with this illumination pattern, there must be an electrical malfunction.
2) When ABS warning light remains constantly OFF, check the combination meter circuit. <Ref. to ABS(diag)-28, ABS WARNING LIGHT DOES NOT COME ON, ABS Warning Light / Brake Warning Light Illumination Pattern.>
3) When ABS warning light does not go off, check the combination meter circuit. <Ref. to ABS(diag)-30, ABS WARNING LIGHT DOES NOT GO OFF, ABS Warning Light / Brake Warning Light Illumination Pattern.>

4) When brake warning light does not go off, check the brake warning light circuit, combination meter circuit. <Ref. to ABS(diag)-32, BRAKE WARNING LIGHT DOES NOT GO OFF, ABS Warning Light / Brake Warning Light Illumination Pattern.>

NOTE:
Even though the ABS warning light does not go off after 1.5 seconds from ABS warning light illumination, the ABS function operates normally when the warning light goes off while driving at approximately 12km/h (7 MPH). However, the ABS function does not operate while the ABS warning light is illuminated.

B: ABS WARNING LIGHT DOES NOT COME ON

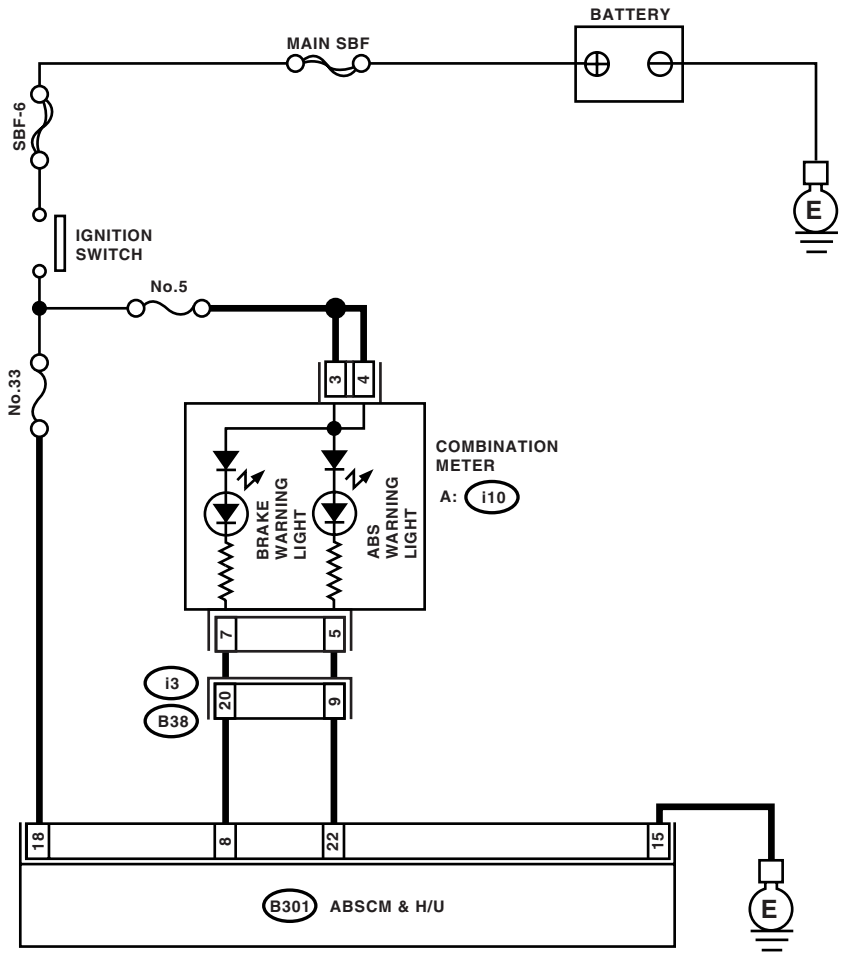
DETECTING CONDITION:

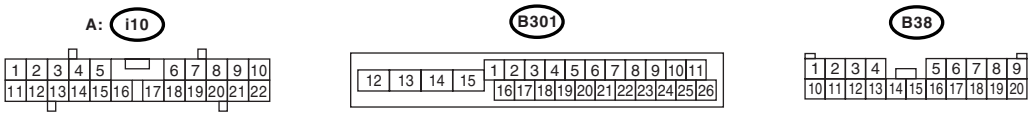
- Defective combination meter
- Defective harness

TROUBLE SYMPTOM:

When the ignition switch is turned to ON (engine OFF), ABS warning light does not come on.

WIRING DIAGRAM:





ABS00593

ABS Warning Light / Brake Warning Light Illumination Pattern

	Step	Check	Yes	No
1	**CHECK ILLUMINATION OF OTHER LIGHTS.** Turn the ignition switch to ON. (engine OFF)	Do other warning lights illuminate?	Go to step **2.**	Check the combination meter.
2	**READ DTC.** Read the DTC. <Ref. to ABS(diag)-23, Read Diagnostic Trouble Code (DTC).>	Is DTC displayed?	Perform the diagnosis according to DTC.	Go to step **3.**
3	**CHECK GROUND SHORT OF HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector (B301) from ABSCM&H/U. 3) Disconnect the connector (i10) from the combination meter. 4) Measure the resistance between ABSCM connector and chassis ground. ***Connector & terminal*** ***(B301) No. 22 — Chassis ground:***	Is the resistance more than 1 MΩ?	Go to step **4.**	Repair the harness and connector between ABSCM&H/U and combination meter connector.
4	**CHECK ABSCM.** 1) Connect the connector (B301) to the ABSCM&H/U. 2) Turn the ignition to ON. 3) Immediately after turning ignition switch to ON (within 1.5 seconds), measure the resistance of harness between the combination meter connector and chassis ground. ***Connector & terminal*** ***(i10) No. 5 — Chassis ground:***	Is the resistance more than 1 MΩ?	Check the combination meter.	Replace the ABSCM only. <Ref. to ABS-8, REPLACEMENT, ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).>

C: ABS WARNING LIGHT DOES NOT GO OFF

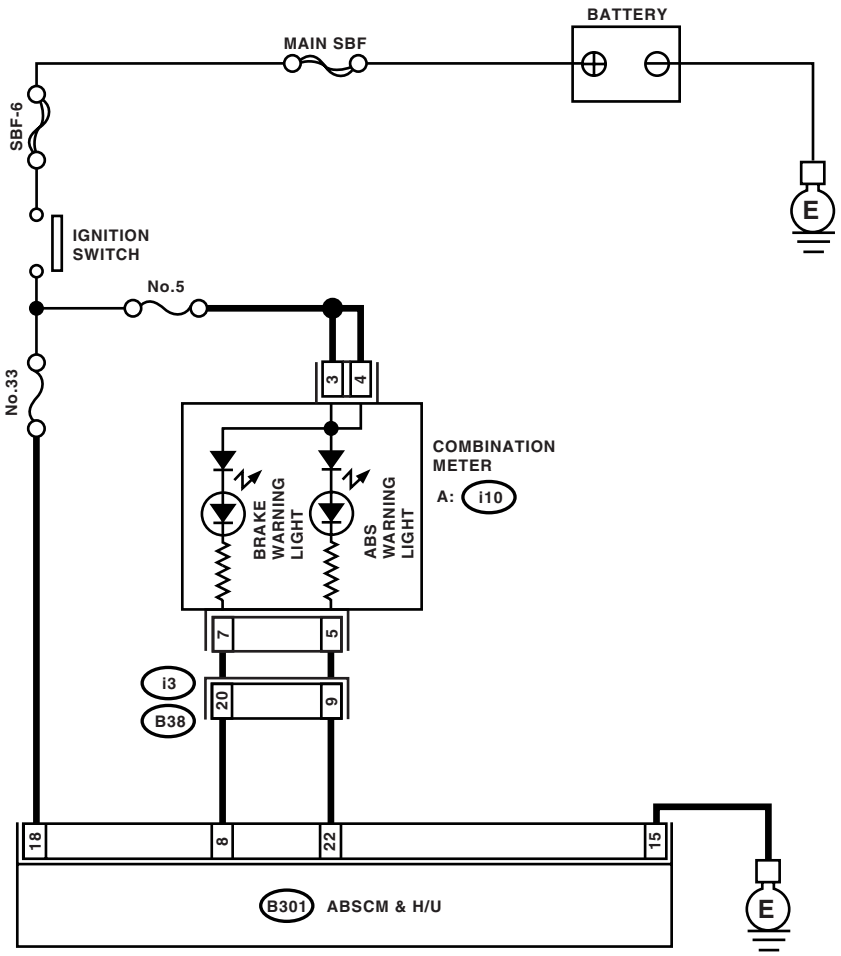
DETECTING CONDITION:

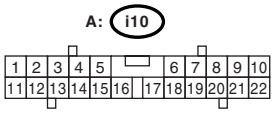
- Defective combination meter
- Open in harness

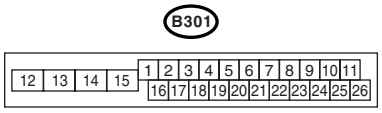
TROUBLE SYMPTOM:

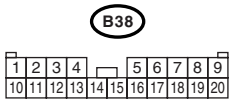
When starting the engine, the ABS warning light is kept on.

WIRING DIAGRAM:









ABS00593

	Step	Check	Yes	No
1	**READ DTC.** Read the DTC. <Ref. to ABS(diag)-23, Read Diagnostic Trouble Code (DTC).>	Is DTC displayed?	Perform the diagnosis according to DTC.	Go to step **2.**
2	**CHECK WIRING HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector (B301) from ABSCM&H/U. 3) Disconnect the connector (i10) from the combination meter. 4) Measure the resistance between ABSCM connector and combination meter connector. ***Connector & terminal*** ***(B301) No. 22 — (i10) No. 5:***	Is the resistance less than 0.5 Ω?	Go to step **3.**	Repair the harness and connector between ABSCM&H/U and combination meter connector.
3	**CHECK POOR CONTACT IN CONNECTOR.** Check poor contact in all connectors.	Is there poor contact?	Repair the connector.	Go to step **4.**
4	**CHECK ABSCM.** 1) Connect the connector (B301) to the ABSCM&H/U. 2) Turn the ignition switch to ON. 3) Measure the resistance between combination meter connector and chassis ground. ***Connector & terminal*** ***(i10) No. 5 — Chassis ground:***	Is the resistance less than 0.5 Ω?	Check the combination meter.	Replace the ABSCM only. <Ref. to ABS-8, REPLACEMENT, ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).>

D: BRAKE WARNING LIGHT DOES NOT GO OFF

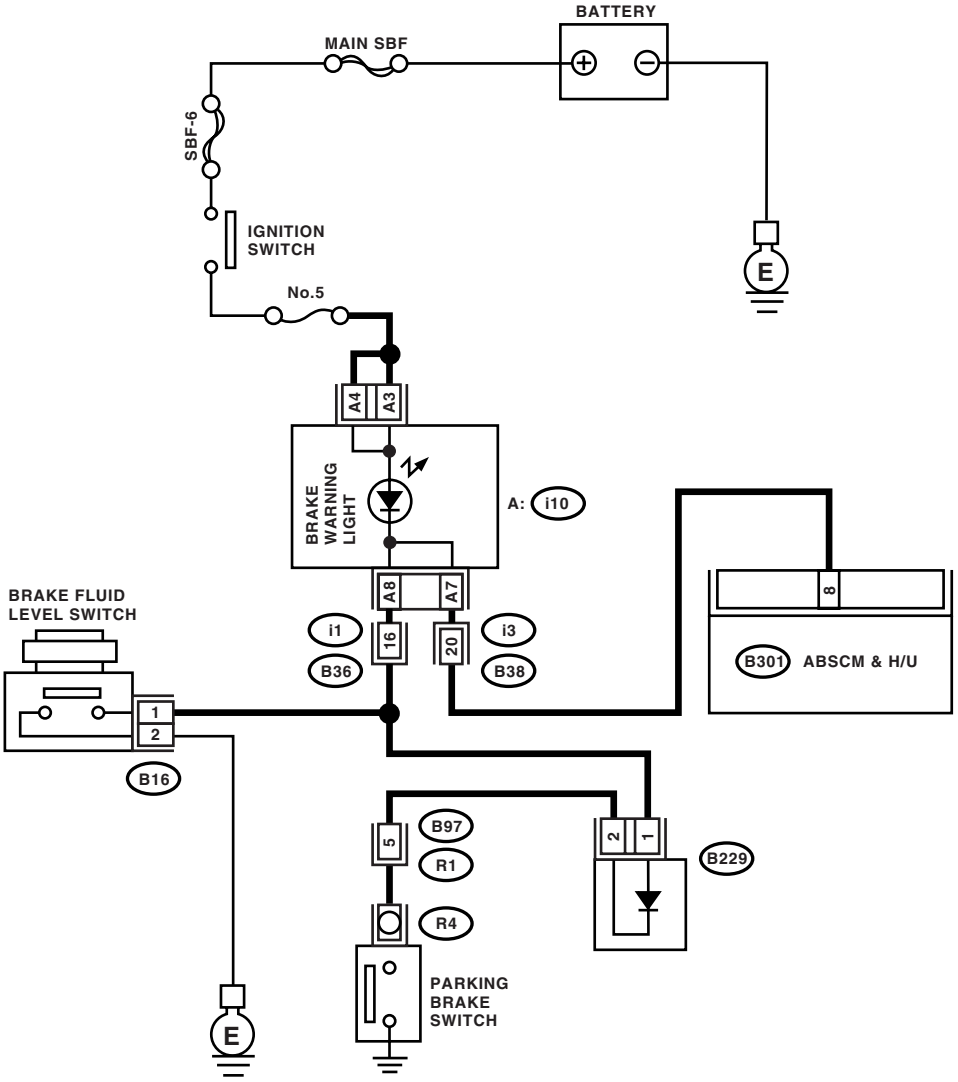
DETECTING CONDITION:

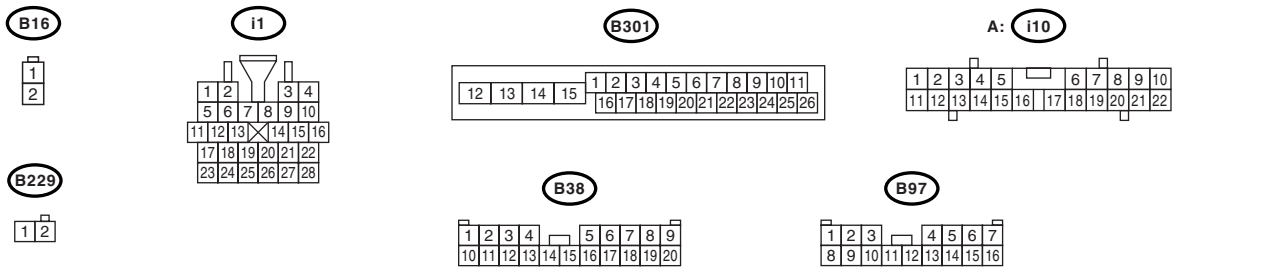
- Brake warning light circuit is shorted.
- Defective sensor/connector

TROUBLE SYMPTOM:

After starting the engine, the brake warning light is kept on though the parking lever is released.

WIRING DIAGRAM:





ABS00594

ABS Warning Light / Brake Warning Light Illumination Pattern

	Step	Check	Yes	No
1	**CHECK INSTALLATION OF ABSCM&H/U CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Check that the ABSCM&H/U connector is inserted to ABSCM&H/U until the clamp locks onto it.	Is the connector correctly inserted?	Go to step **2.**	Insert the ABSCM&H/U connector until the clamp locks onto it.
2	**READ DTC.** Read the DTC. <Ref. to ABS(diag)-23, Read Diagnostic Trouble Code (DTC).>	Is DTC displayed?	Perform the diagnosis according to DTC.	Go to step **3.**
3	**CHECK THE BRAKE FLUID AMOUNT.** Check the amount of brake fluid in the reservoir tank of master cylinder.	Is the amount of brake fluid between the lines of MAX and MIN?	Go to step **4.**	Replenish brake fluid to the specified value.
4	**CHECK BRAKE FLUID LEVEL SWITCH.** 1) Disconnect the level switch connector (B16) from master cylinder. 2) Measure the resistance of master cylinder terminals. ***Terminals*** ***No. 1 — No. 2:***	Is the resistance more than 1 MΩ?	Go to step **5.**	Replace the master cylinder.
5	**CHECK PARKING BRAKE SWITCH.** 1) Disconnect the connector (R4) from parking brake switch. 2) Release the parking brake. 3) Measure the resistance between parking brake switch terminal and chassis ground.	Is the resistance more than 1 MΩ?	Go to step **6.**	Replace the parking brake switch.
6	**CHECK GROUND SHORT OF HARNESS.** 1) Disconnect the connector (i10) from combination meter. 2) Measure the resistance between combination meter connector and chassis ground. ***Connector & terminal*** ***(i10) No. 8 — Chassis ground:***	Is the resistance more than 1 MΩ?	Go to step **7.**	Repair the harness connector between combination meter and parking brake switch.
7	**CHECK HARNESS.** 1) Disconnect the connector (B301) from ABSCM&H/U. 2) Disconnect the connector (i10) from the combination meter. 3) Measure the resistance between ABSCM&H/U connector and combination meter connector. ***Connector & terminal*** ***(B301) No. 8 — (i10) No. 7:***	Is the resistance less than 0.5 Ω?	Go to step **8.**	Repair harness between ABSCM&H/U and combination meter connector.
8	**CHECK POOR CONTACT IN CONNECTOR.** Check poor contact in all connectors.	Is there poor contact?	Repair the connector.	Go to step **9.**
9	**CHECK ABSCM.** 1) Connect the connector to the ABSCM&H/U. 2) Turn the ignition switch to ON. 3) Measure the resistance between combination meter connector and chassis ground. ***Connector & terminal*** ***(i10) No. 7 — Chassis ground:***	Is the resistance less than 0.5 Ω?	Check the combination meter.	Replace the ABSCM only. <Ref. to ABS-8, REPLACEMENT, ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).>