

SPEED CONTROL SYSTEMS

SP(H4DO)

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General Description

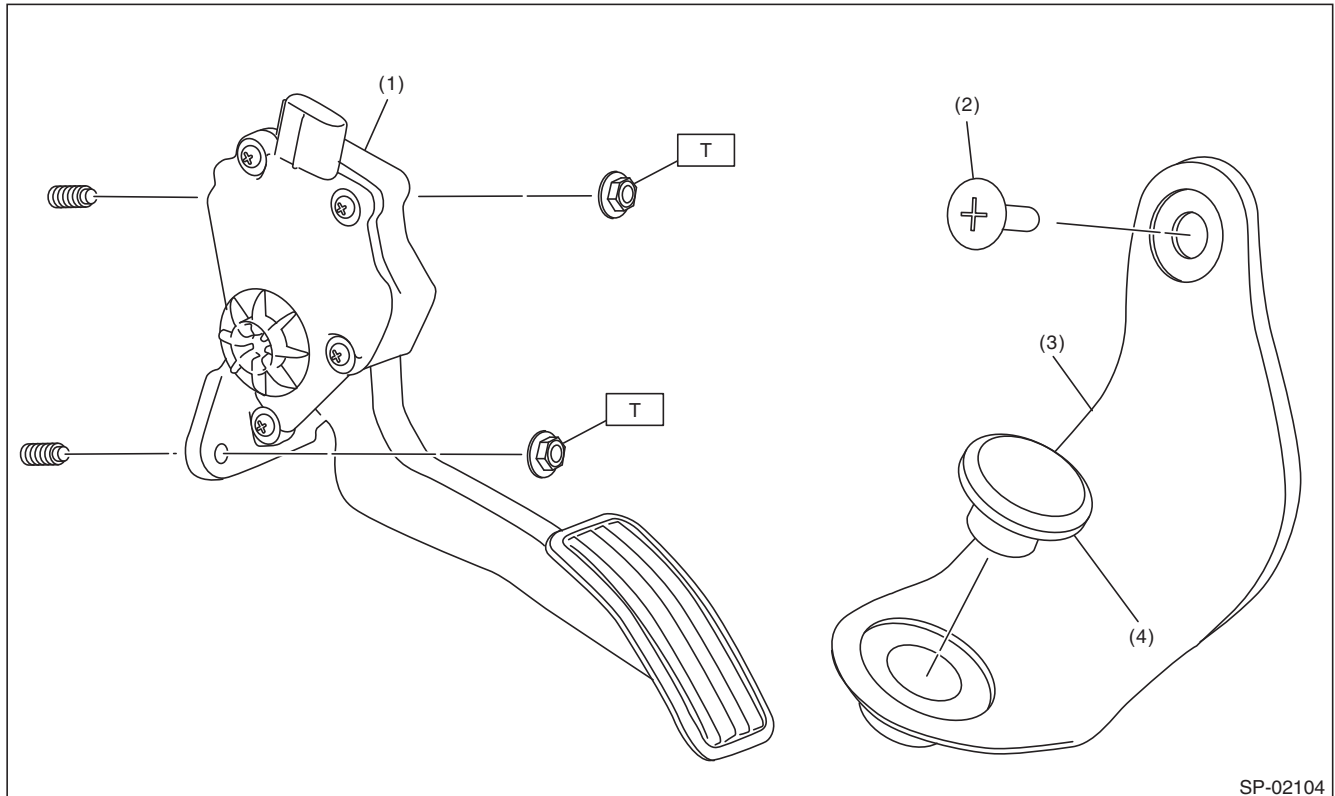
SPEED CONTROL SYSTEMS

1. General Description

A: SPECIFICATION

Accelerator pedal	Stroke	At pedal pad	50 — 59 mm (1.97 — 2.32 in)
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B: COMPONENT



SP-02104

- | | |
|----------------------------|-------------------------|
| (1) Accelerator pedal ASSY | (3) Accelerator plate |
| (2) Clip | (4) Accelerator stopper |

Tightening torque: N·m (kgf-m, ft-lb)
T: 7.5 (0.8, 5.5)

C: CAUTION

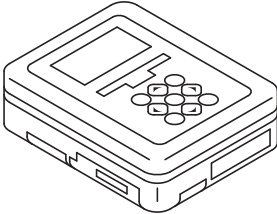
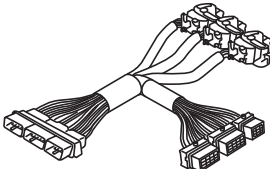
- Prior to starting work, pay special attention to the following:
 1. Always wear work clothes, a safety cap, protective shoes. Additionally, wear a helmet, protective goggles, etc. if necessary.
 2. Protect the vehicle using a seat cover, fender cover, etc.
 3. Prepare the service tools, clean cloth, containers to catch grease and oil, etc.
- Vehicle components are extremely hot immediately after driving. Be wary of receiving burns from heated parts.
- When performing a repair, identify the cause of trouble and avoid unnecessary removal, disassembly and replacement.
- Before disconnecting connectors of sensors or units, be sure to disconnect the ground cable from battery.
- Always use the jack-up point when the shop jacks or rigid racks are used to support the vehicle.
- Remove contamination including dirt and corrosion before removal, installation, disassembly or assembly.
- Keep the removed parts in order and protect them from dust and dirt.
- All removed parts, if to be reused, should be reinstalled in the original positions with attention to the correct directions, etc.
- Bolts, nuts and washers should be replaced with new parts as required.
- Be sure to tighten the fasteners including bolts and nuts to the specified torque.

General Description

SPEED CONTROL SYSTEMS

D: PREPARATION TOOL

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for inspecting the accelerator pedal.
 ST18460AA030	18460AA030 (Newly adopted tool)	CHECK BOARD	Used for inspecting the accelerator pedal. (Turbo model)

2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring voltage.

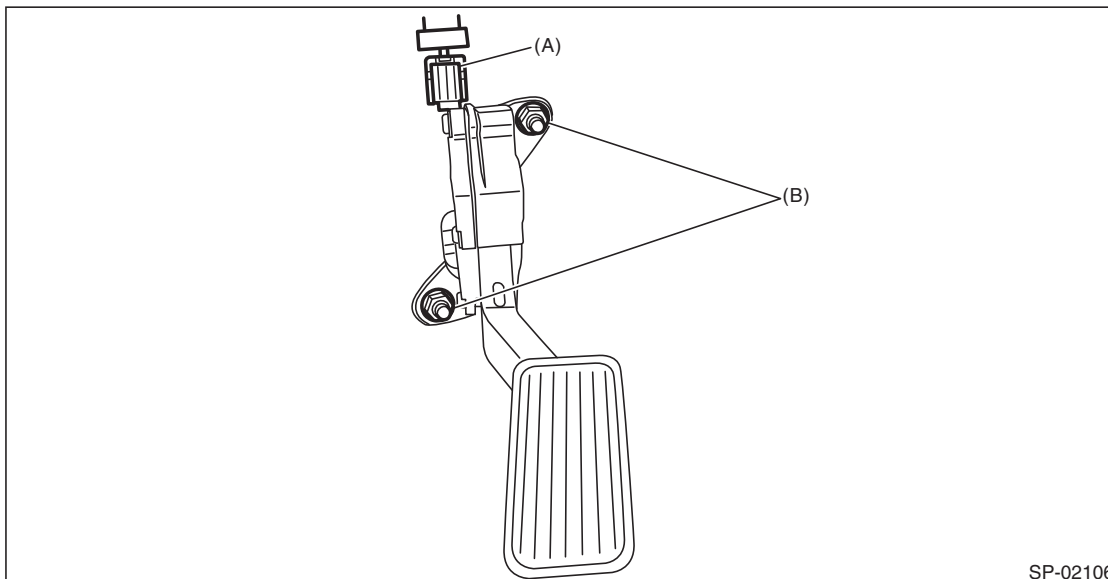
Accelerator Pedal

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2. Accelerator Pedal

A: REMOVAL

- 1) Disconnect the ground cable from battery.
- 2) Disconnect the connector (A).
- 3) Remove the nut (B) securing accelerator pedal assembly, and remove the accelerator pedal assembly.



SP-02106

B: INSTALLATION

Install in the reverse order of removal.

Tightening torque:

7.5 N·m (0.8 kgf-m, 5.5 ft-lb)

C: DISASSEMBLY

NOTE:

The accelerator pedal cannot be disassembled.

Accelerator Pedal

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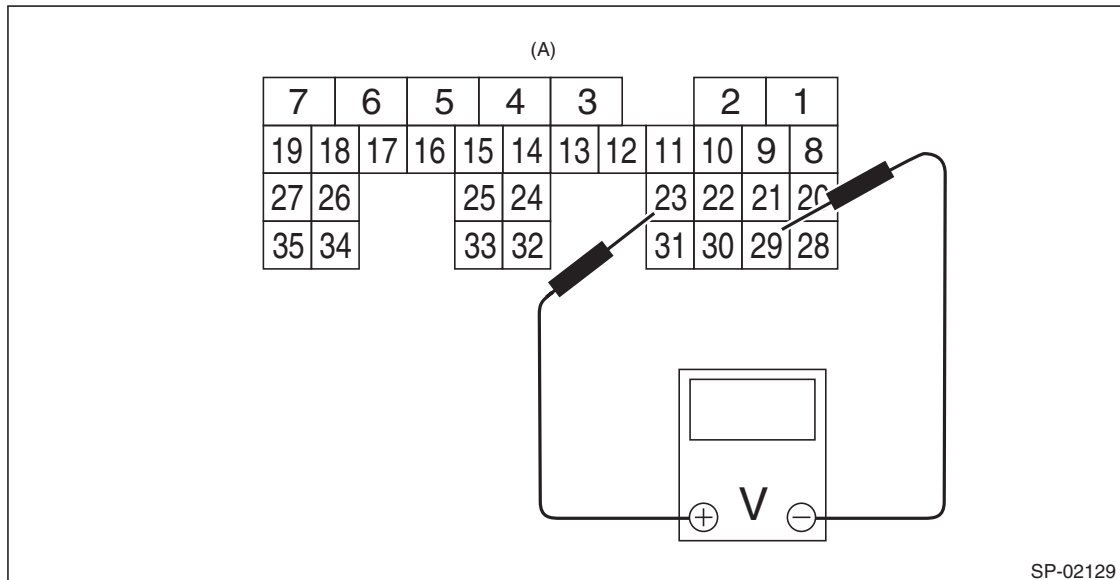
D: INSPECTION

1. CHECK ACCELERATOR PEDAL SENSOR AREA (METHOD WITH CIRCUIT TESTER)

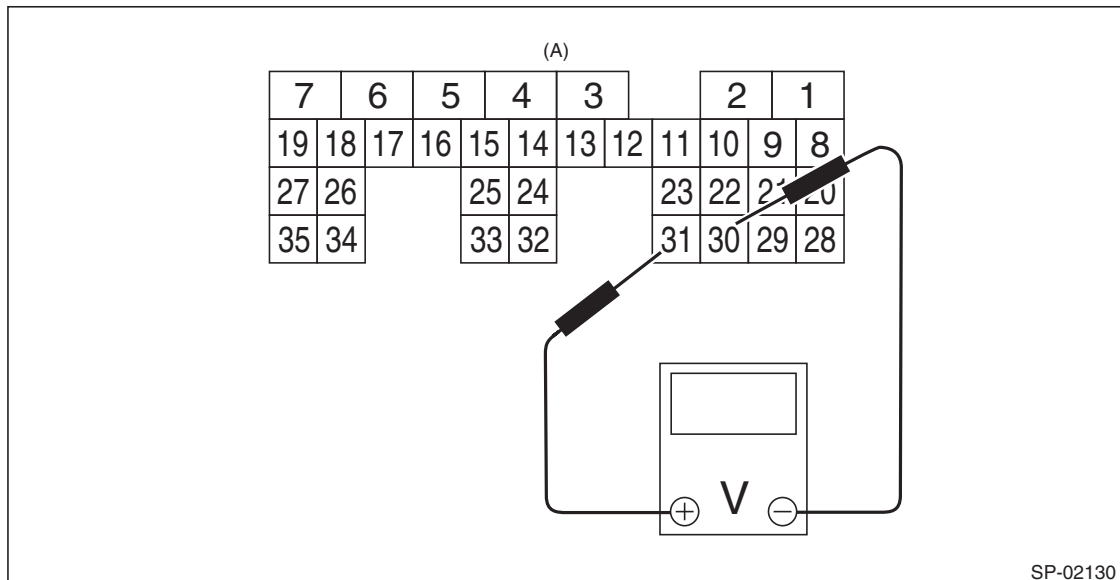
• Non-turbo model

- 1) Remove the glove box. <Ref. to EI-61, REMOVAL, Glove Box.>
- 2) Turn the ignition switch to ON. (engine OFF)
- 3) Measure the voltage between ECM connector terminals.

Main sensor side



Sub sensor side



(A) To ECM connector

Accelerator pedal sensor	Accelerator pedal	Terminal No.	Standard
Main	Not depressed (full closed)	23 (+) and 29 (-)	0.4 — 1.0 V
	Depressed (full opened)		2.4 — 3.7 V
Sub	Not depressed (full closed)	31 (+) and 30 (-)	0.3 — 1.1 V
	Depressed (full opened)		2.3 — 3.8 V

- 4) After inspection, install the related parts in the reverse order of removal.

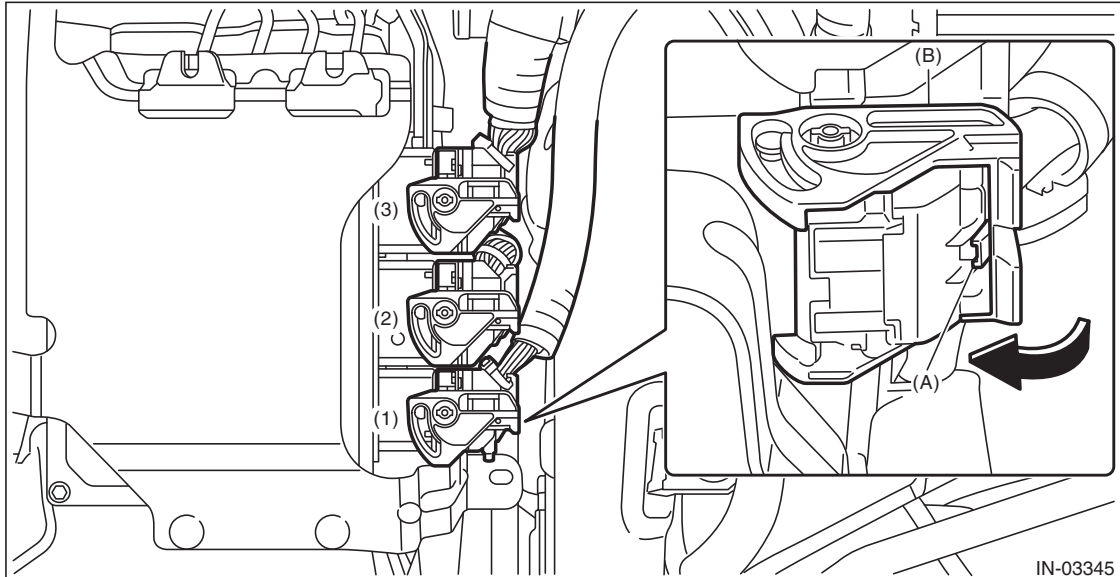
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Accelerator Pedal

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• Turbo model

- 1) Disconnect the ground cable from battery.
- 2) While pressing the area (A) shown in the figure, move the lock lever (B) in the direction of the arrow to disconnect the connectors from ECM.

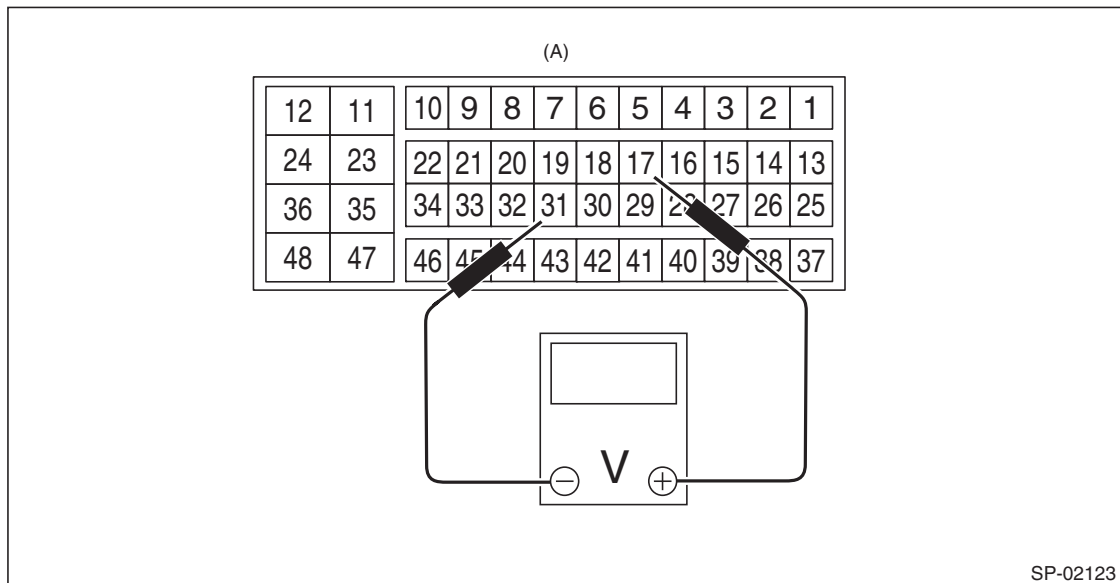


- 3) Install the special tool between the ECM and body harness and the engine harness. <Ref. to EN(H4DOTC)(diag)-6, CAUTION, General Description.>
ST 18460AA030 CHECK BOARD
- 4) Connect the ground cable to battery.
- 5) Turn the ignition switch to ON. (engine OFF)

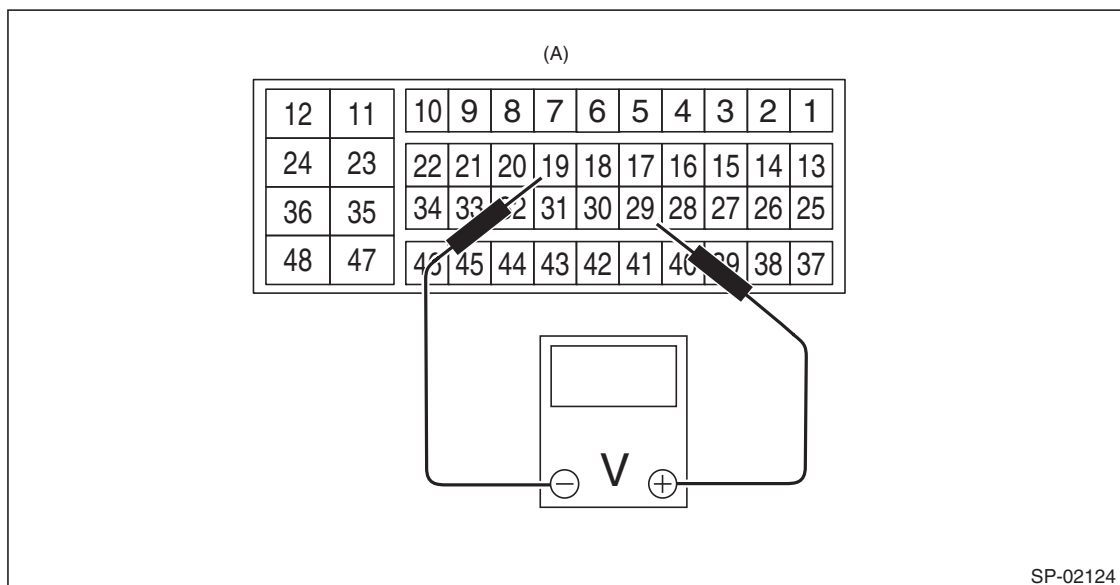
Accelerator Pedal

SPEED CONTROL SYSTEMS

6) Measure the voltage between ECM connector terminals using ST.
Main sensor side



Sub sensor side



(A) To the check board connector
(ECM connector)

Accelerator pedal sensor	Accelerator pedal	Terminal No.	Standard
Main	Not depressed (full closed)	17 (+) and 31 (-)	0.4 — 1.0 V
	Depressed (full opened)		2.4 — 3.7 V
Sub	Not depressed (full closed)	29 (+) and 19 (-)	0.4 — 1.0 V
	Depressed (full opened)		2.4 — 3.7 V

7) After inspection, install the related parts in the reverse order of removal.

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Accelerator Pedal

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2. CHECK ACCELERATOR PEDAL SENSOR AREA (METHOD WITH SUBARU SELECT MONITOR)

1) Turn the ignition switch to ON. (engine OFF)

2) Read the accelerator pedal opening angle signal and voltage of accelerator pedal sensor using Subaru Select Monitor. <Ref. to EN(H4DO)(diag)-36, DISPLAY CURRENT ENGINE DATA, OPERATION, Subaru Select Monitor.> <Ref. to EN(H4DOTC)(diag)-37, DISPLAY CURRENT ENGINE DATA, OPERATION, Subaru Select Monitor.>

- Non-turbo model

Accelerator pedal sensor	Accelerator pedal opening angle signal	Standard
Main	0.0%	0.4 — 1.0 V
	100.0%	2.4 — 3.7 V
Sub	0.0%	0.3 — 1.1 V
	100.0%	2.3 — 3.8 V

- Turbo model

Accelerator pedal sensor	Accelerator pedal opening angle signal	Standard
Main	0.0%	0.4 — 1.0 V
	100.0%	2.4 — 3.7 V
Sub	0.0%	0.4 — 1.0 V
	100.0%	2.4 — 3.7 V

3. OTHER INSPECTIONS

- 1) Check that the accelerator pedal does not have deformation, cracks or damage.
- 2) Check for smooth operation when the accelerator pedal is depressed.
- 3) Check if the accelerator pedal returns to its original position smoothly when the pedal is released.

