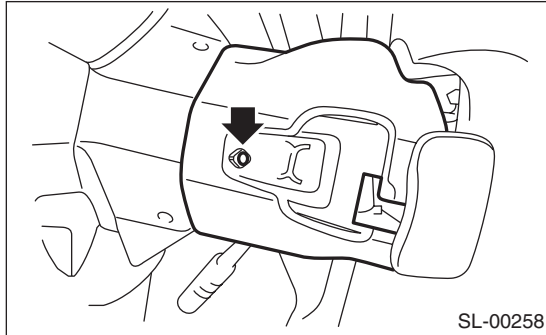


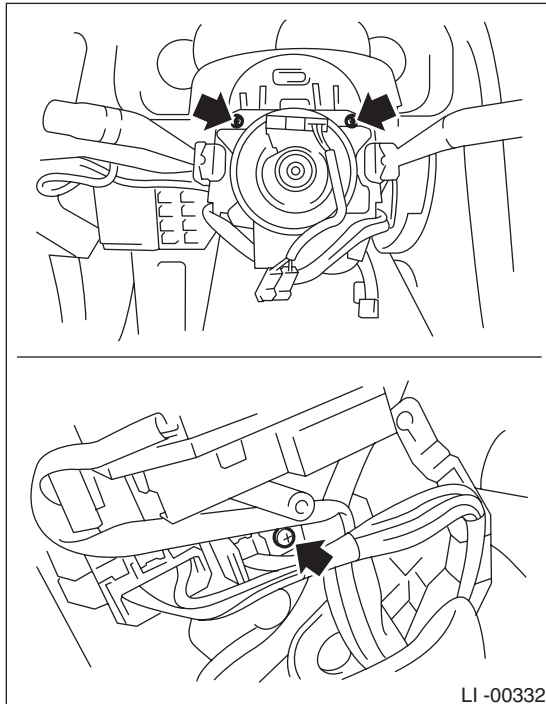
3. Combination Switch (Wiper)

A: REMOVAL

- 1) Disconnect the ground cable from battery.
- 2) Remove the driver's airbag module. <Ref. to AB-14, REMOVAL, Driver's Airbag Module.>
- 3) Remove the steering wheel. <Ref. to PS-12, REMOVAL, Steering Wheel.>
- 4) Remove the screws and remove the steering column covers (upper & lower).



- 5) Disconnect the connector from the combination switch.
- 6) Remove three screws and pull out the combination base switch assembly.



- 7) Remove the screws which secure the switch, then remove the combination switch.

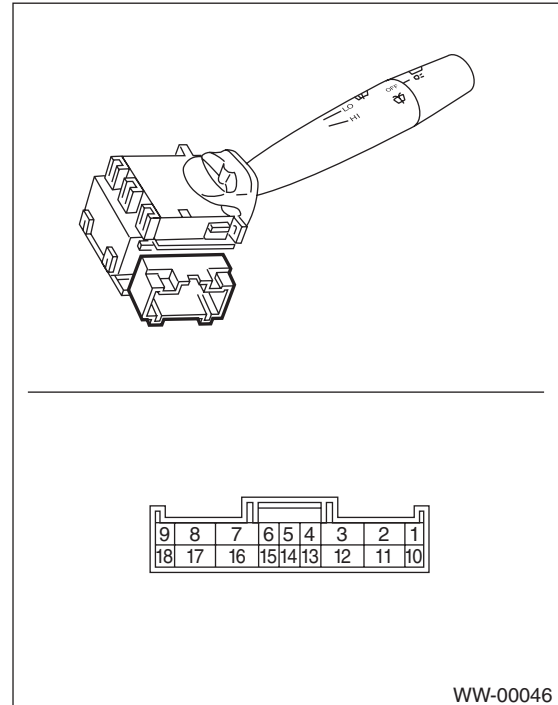
B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

1. COMBINATION SWITCH

- 1) Inspect the continuity between each connector terminal.



	Switch position	Terminal No.	Standard
Front	LO	7 and 17	Less than 1 Ω
	HI	8 and 17	Less than 1 Ω
	Washer ON	2 and 11	Less than 1 Ω
Rear	Washer ON	2 and 12	Less than 1 Ω
	OFF	2 and 10 2 and 12 2 and 13 10 and 12 10 and 13 12 and 13	1 M Ω or more
	INT	2 and 13	Less than 1 Ω
	ON	2 and 10	Less than 1 Ω
	Washer ON	2 and 12 12 and 10 2 and 10	Less than 1 Ω

- 2) If continuity is not as specified, replace the switch.

2. FRONT WIPER

- 1) Check with Subaru Select Monitor

When the front wiper switch is operated, check the input signal using the Subaru Select Monitor.

- (1) Prepare the Subaru Select Monitor kit. <Ref. to GW-6, PREPARATION TOOL, General Description.>

Combination Switch (Wiper)

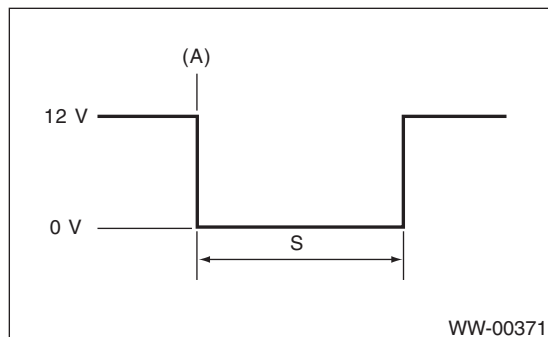
WIPER AND WASHER SYSTEMS

- (2) Turn the ignition switch to ON (engine OFF) and run the "PC application for Subaru Select Monitor".
- (3) On «System Selection Menu» display, select {Integ. unit mode}.
- (4) Select the {Current Data Display & Save}.
- (5) Check the input signal when the front wiper switch is set to LO or HI.

Check	Yes	No
Is the input signal normal?	Finish the diagnosis.	Inspect the harness. If there are no problems, replace the body integrated unit. <Ref. to SL-48, Body Integrated Unit.>

- 2) Check the intermittent operation (inspection of the wiper switch alone)

- (1) Set the voltage meter between connector terminal No. 7 (+) and No. 2 (-).
- (2) Connect the battery between connector terminal No. 7 (+) and No. 2 (-).
- (3) Turn the wiper switch to INT.
- (4) Connect the battery ground terminal to the connector terminal No. 16 for five seconds.
- (5) After connecting the battery ground terminal for five seconds in step (4), connect the battery positive terminal to the connector terminal No. 16 for five seconds.
- (6) After connecting the battery ground terminal and the battery positive terminal to the connector terminal No. 16 for five seconds each in step (4) and (5), connect the ground terminal to the connector terminal No. 16 again.
- (7) Perform the step (1) to (6) above at MIN and MAX position of the intermittent control switch. If operation is not as specification, replace the wiper switch assembly.



S: Intermittent down-time (sec.)

(A): Connect battery terminal to No. 16 in step (4).

Intermittent stationary time specification

MIN: Approx. 4 seconds

MAX: Approx. 21 seconds

- 3) Inspect the vehicle speed response (with the wiper switch installed on the vehicle)

- (1) Operational check

Position the front wiper switch to INT, then measure the intermittent stationary time at each vehicle speed.

Switch position	Vehicle speed (km/h (MPH))	Intermittent stationary time (sec.)
MIN.	0 (0)	Approx. 4
	30 (19)	Approx. 1.5
	60 (37)	Approx. 1
MAX.	0 (0)	Approx. 21
	30 (19)	Approx. 19.5
	60 (37)	Approx. 18

If operation is not as specified, replace the switch.

- (2) Check vehicle speed signal

Raise the vehicle speed to 10 km/h (6 MPH) or more, then measure the voltage between the wiper switch connector and the chassis ground.

Terminals

No. 15 (+) — Chassis ground (-):

Check	Yes	No
Does the voltage repeat 12 V and 0 V?	Vehicle speed signal is normal.	Replace the wiper switch.

- (3) Check of vehicle speed signal harness
Measure the resistance between the wiper switch connector and the VDC control module.

Terminals

Wiper switch connector No. 15 — VDC control module No. 10:

Check	Yes	No
Is the resistance 0 Ω?	Replace the wiper switch.	Repair the harness.

Combination Switch (Wiper)

WIPER AND WASHER SYSTEMS

3. REAR WIPER

Step	Check	Yes	No
1 CHECK INPUT OF BODY INTEGRATED UNIT. Check the input signal when the rear wiper switch is operated using Subaru Select Monitor. 1) Turn the ignition switch to ACC. 2) Operate the rear wiper switch to each position of ON, INT and Washer ON.	Does the input signal change corresponding to the switch operation?	Go to step 4.	Go to step 2.
2 CHECK HARNESS. 1) Turn the ignition switch to OFF and disconnect the ground cable from the battery. 2) Disconnect the connector of body integrated unit and wiper switch. 3) Measure the resistance between body integrated unit and wiper switch. Connector & terminal (B281) No. 6 — (B70) No. 10: (B281) No. 18 — (B70) No. 13: (B281) No. 27 — (B70) No. 12:	Is the resistance less than 10 Ω?	Go to step 3.	Repair the harness between the body integrated unit and wiper switch.
3 CHECK HARNESS. 1) Turn the ignition switch to OFF and disconnect the ground cable from the battery. 2) Disconnect the connector from wiper switch. 3) Measure the resistance between the wiper switch and chassis ground. Connector & terminal (B70) No. 2 (+) — Chassis ground (–):	Is the resistance less than 10 Ω?	Check the combination switch (wiper). <Ref. to WW-7, INSPECTION, Combination Switch (Wiper).> If there is no problem, replace the body integrated unit.	Repair the harness between the body integrated unit and wiper switch.
4 CHECK INPUT VOLTAGE OF BODY INTEGRATED UNIT. 1) Connect the ground cable to battery. 2) Turn the ignition switch to ACC and check the input voltage of the body integrated unit. Connector & terminal (B280) No. 21 (+) — Chassis ground (–): (i84) No. 24 (+) — Chassis ground (–):	Is the voltage 10 V or more?	Go to step 5.	Check the harness and fuse.
5 CHECK OUTPUT OF BODY INTEGRATED UNIT 1. When the rear wiper switch is operated, check the output using the Subaru Select Monitor. 1) Turn the ignition switch to ON. 2) Operate the rear wiper switch to ON and Washer ON. 3) Check the output signal of the body integrated unit when the operation in step 2) is performed.	When the rear wiper switch is set to ON, is ON output continuous? Also, when the washer is set to ON, is ON output?	Go to step 6.	Replace the body integrated unit. <Ref. to SL-48, Body Integrated Unit.>
6 CHECK OUTPUT OF BODY INTEGRATED UNIT 2. When the rear wiper switch is operated, check the output using the Subaru Select Monitor. 1) Turn the ignition switch to ON. 2) Operate the rear wiper switch to INT and check the output of the body integrated unit.	When the rear wiper switch is set to INT, is ON/OFF output repeated? (INT OFF time (when vehicle parked): 12 seconds)	Go to step 7.	Replace the body integrated unit. <Ref. to SL-48, Body Integrated Unit.>

Combination Switch (Wiper)

WIPER AND WASHER SYSTEMS

Step	Check	Yes	No
7 CHECK HARNESS BETWEEN BODY INTEGRATED UNIT AND REAR WIPER MOTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of body integrated unit. 3) Disconnect the harness connector of the rear wiper motor. 4) Measure the resistance between the harness connector terminals of the body integrated unit and rear wiper motor. Connector & terminal (B280) No. 1 — (D43) No. 2:	Is the resistance less than 10 Ω ?	Go to step 8.	Repair the open circuit of the harness between body integrated unit and rear wiper motor.
8 CHECK HARNESS BETWEEN BODY INTEGRATED UNIT AND REAR WIPER MOTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of body integrated unit. 3) Disconnect the harness connector of the rear wiper motor. 4) Measure the resistance between the harness connector terminals of the body integrated unit and rear wiper motor. Connector & terminal (B280) No. 8 — (D43) No. 4:	Is the resistance less than 10 Ω ?	Go to step 9.	Repair the open circuit of the harness between body integrated unit and rear wiper motor.
9 CHECK POWER SUPPLY CIRCUIT OF THE REAR WIPER MOTOR. 1) Disconnect the harness connector of the rear wiper motor. 2) Turn the ignition switch to ON. 3) Measure the voltage between the rear wiper motor harness connector terminal and chassis ground. Connector & terminal (D43) No. 1 (+) — Chassis ground (-):	Is the voltage 10 V or more?	Go to step 10.	Check the fuse (No. 23 in main fuse box).
10 CHECK GROUND CIRCUIT OF REAR WIPER MOTOR. 1) Turn the ignition switch to OFF. 2) Measure the resistance between the rear wiper motor harness connector terminal and chassis ground. Connector & terminal (D43) No. 3 (+) — Chassis ground (-):	Is the resistance less than 10 Ω ?	Go to step 11.	Repair the open circuit of the rear wiper motor ground circuit.
11 CHECK STOP POSITION CIRCUIT OF THE REAR WIPER MOTOR. 1) Disconnect the harness connector of the rear wiper motor. 2) Check the continuity of the circuit of rear wiper motor stop position. Connector & terminal (D43) No. 1 (+) — (D43) No. 4 (-):	Is there continuity?	Go to step 12.	Replace the rear wiper motor.

Combination Switch (Wiper)

WIPER AND WASHER SYSTEMS

Step	Check	Yes	No
12 CHECK OUTPUT OF BODY INTEGRATED UNIT. 1) Connect the harness connector of body integrated unit. 2) Disconnect the connector of the rear wiper motor. 3) Turn the ignition switch to ACC. 4) Measure the voltage between rear wiper motor connector and chassis ground. Connector & terminal (D43) No. 2 (+) — Chassis ground (-):	Is the voltage less than 1.0 V when the rear wiper switch is OFF, and is the voltage 9 V or more when the rear wiper switch is ON?	Go to step 13.	Replace the body integrated unit. <Ref. to SL-48, Body Integrated Unit.>
13 CHECK OPERATION OF REAR WIPER MOTOR. 1) Remove the rear wiper motor. 2) Check the rear wiper motor. <Ref. to WW-21, INSPECTION, Rear Wiper Motor.>	Does the rear wiper motor rotate normally?	System is normal.	Replace the rear wiper motor.