PROBLEM SYMPTOMS TABLE

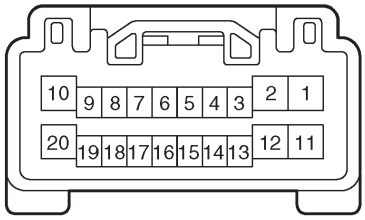
POWER WINDOW CONTROL SYSTEM

Symptom	Suspected area	See page
Power window does not operate with multiplex network master switch operation	1. ECU-B, ECU-IG, PWR fuse	-
	2. Multiplex network master switch circuit (power source)	WS-26
	3. Power window regulator motor circuit	WS-31
	4. Multiplex network master switch	-
Power window does not operate with multiplex network switch operation (front passenger side)	1. PWR fuse	-
	2. Multiplex network switch circuit (power source)	WS-28
	3. Power window regulator motor circuit (front passenger side)	WS-33
	4. Multiplex network switch (front passenger side)	-
Power window does not operate with multiplex network switch operation (rear LH side)	1. PWR fuse	-
	2. Multiplex network switch circuit (power source)	WS-29
	3. Power window regulator motor circuit (rear LH side)	WS-35
	4. Multiplex network switch (rear LH side)	-
Power window does not operate with multiplex network switch operation (rear RH side)	1. PWR fuse	-
	2. Multiplex network switch circuit (power source)	WS-30
	3. Power window regulator motor circuit (rear RH side)	WS-37
	4. Multiplex network switch (rear RH side)	-
AUTO UP/DOWN function does not operate on driver side	1. Diagnosis check	WS-20
	2. Power window regulator motor reset	WS-12
	3. Multiplex network master switch	-
	4. Wire harness	-
AUTO UP/DOWN function does not operate on any door side except driver sides	1. Diagnosis check	WS-20
	2. Power window regulator motor reset	WS-12
	3. Multiplex network master switch	-
	4. Wire harness	-
Remote UP/DOWN function does not operate	1. DATA LIST/ACTIVE TEST	WS-21
	2. Multiplex network master switch	WS-14
	3. Multiplex network body ECU	-
	4. Wire harness	-
Power window can be operated after ignition switch is turned off even if operated conditions are not met	1. Front door courtesy switch	WS-14
	2. Wire harness	-
AUTO UP operation does not fully close power window (Jam protection function is activated)	1. Power window regulator motor reset	WS-12
	2. Check & Clean Glass run	-
	3. Multiplex network master switch	-

TERMINALS OF ECU

1. MULTIPLEX NETWORK MASTER SWITCH

P22



Y

B069754E02

(a) Disconnect the P22 switch connector.
(b) Measure the voltage and resistance of each terminal according to the value(s) in the table below.

Standard resistance

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
GND (P22-2) - Body ground	W-B - Body ground	Ground	Constant	Below 1 Ω

Standard voltage

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
BDR (P22-10) - GND (P22-2)	G - W-B	+B power supply	Constant	10 to 14 V
CPUB (P22-9) - GND (P22-2)	L-B - W-B	+B power supply	Constant	10 to 14 V
SIG (P22-20) - GND (P22-2)	BR - W-B	Ignition power supply	Ignition switch OFF → ON	0 V → 10 to 14 V

If the result is not as specified, there may be a malfunction on the wire harness side.
(c) Reconnect the P22 switch connector and reset the power window motor.
(d) Measure the voltage according to the value(s) in the table below.

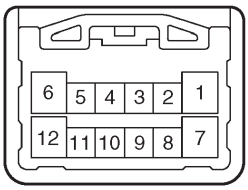
Standard voltage

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
UP (P22-1) - GND (P22-2)	GR - W-B	Power window motor UP output	Ignition switch ON, Driver side power window switch OFF → UP (Manual operation)	0 V → 10 to 14 V
UP (P22-1) - GND (P22-2)	GR - W-B	Power window motor UP output	Ignition switch ON, Driver side power window fully open → Driver side power window switch UP (AUTO operation) → Driver side power window fully closed	0 V → 10 to 14 V → 0 V
DN (P22-11) - GND (P22-2)	B - W-B	Power window motor DOWN output	Ignition switch ON, Driver side power window switch OFF → DOWN (Manual operation)	10 to 14 V → 0 V

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
DN (P22-11) - GND (P22-2)	B - W-B	Power window motor DOWN output	Ignition switch ON, Driver side power window fully closed → Driver side power window switch DOWN (AUTO operation) → Driver side power window fully open	10 to 14 V → 0 V
PWS (P22-6) - GND (P22-2)	O - W-B	Power window lock switch output	Ignition switch ON, Power window lock switch UNLOCK → LOCK	10 to 14 V → 0 V
VCC (P22-19) - GND (P22-2)	O - W-B	Power window motor power source	Constant	10 to 14 V

2. CHECK MULTIPLEX NETWORK SWITCH (FRONT PASSENGER SIDE)

P19



Y

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(a) Disconnect the P19 switch connector.
(b) Measure the voltage and resistance according to the value(s) in the table below.

Standard resistance

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
GND (P19-7) - Body ground	W-B - Body ground	Ground	Constant	Below 1 Ω

Standard voltage

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
BDR (P19-12) - GND (P19-7)	G - W-B	+B power supply	Constant	10 to 14 V

If the result is not as specified, there may be a malfunction on the wire harness side.
(c) Reconnect the P19 switch connector and reset power window motor.
(d) Measure the voltage according to the value(s) in the table below.

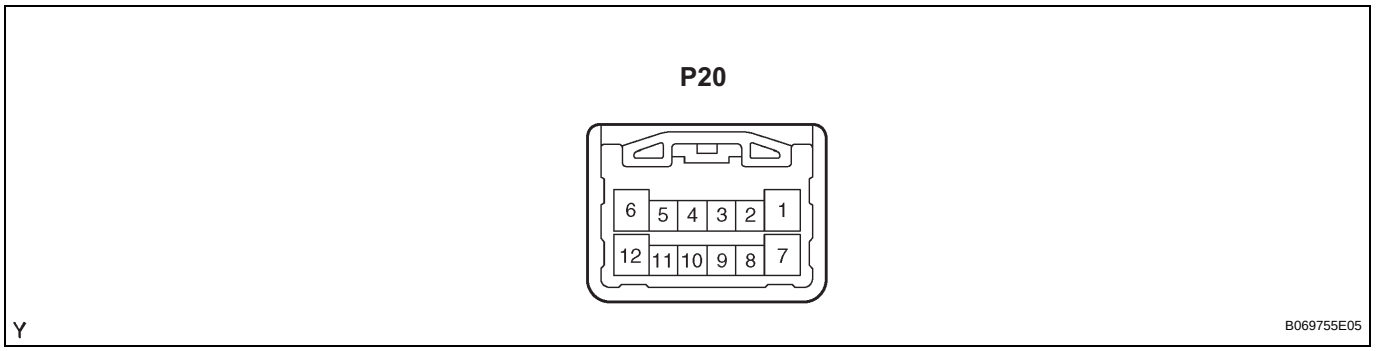
Standard voltage

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
UP (P19-6) - GND (P19-7)	GR - W-B	Power window motor UP output	Ignition switch ON, Regulator switch OFF → UP (Manual operation)	0 V → 10 to 14 V

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
UP (P19-6) - GND (P19-7)	GR - W-B	Power window motor UP output	Ignition switch ON, Front passenger side power window fully open → Regulator switch UP (AUTO operation) → Front passenger side power window fully closed	0 V → 10 to 14 V → 0 V
DN (P19-1) - GND (P19-7)	B - W-B	Power window motor DOWN output	Ignition switch ON, Regulator switch OFF → DOWN (Manual operation)	10 to 14 V → 0 V
DN (P19-1) - GND (P19-7)	B - W-B	Power window motor DOWN output	Ignition switch ON, Front passenger side power window fully closed → Regulator switch DOWN (AUTO operation) → Front passenger side power window fully open	10 to 14 V → 0 V
PCT (P19-11) - GND (P19-7)	O - W-B	Power window lock switch output	Ignition switch ON, Power window lock switch UNLOCK → LOCK	10 to 14 V → 0 V
VCC (P19-5) - SGND (P19-8)	LG - R	Power window motor power source	Constant	10 to 14 V

If the result is not as specified, the multiplex network switch may have a malfunction.

3. CHECK MULTIPLEX NETWORK SWITCH (REAR LH)



(a) Disconnect the P20 switch connector.
(b) Measure the voltage and resistance according to the value(s) in the table below.

Standard resistance

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
GND (P20-7) - Body ground	W-B - Body ground	Ground	Constant	Below 1 Ω
SEL2 (P20-10) - GND (P20-7)	W-B - W-B	Terminal for identification of rear LH switch	Constant	Below 1 Ω

Standard voltage

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
BDR (P20-12) - GND (P20-7)	LG - W-B	+B power supply	Constant	10 to 14 V

(c) Reconnect the P20 switch connector and reset the power window motor.

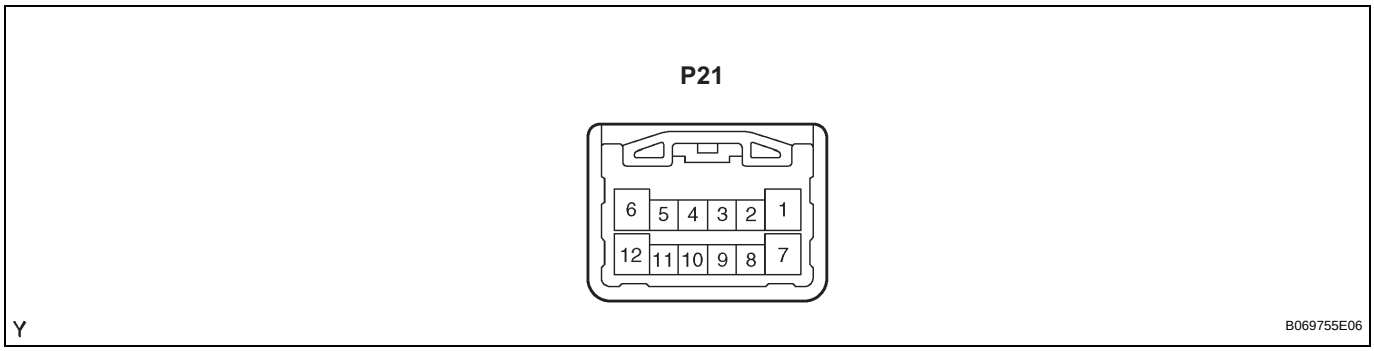
(d) Measure the voltage according to the value(s) in the table below.

Standard voltage

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
UP (P20-6) - GND (P20-7)	V - W-B	Power window motor UP output	Ignition switch ON, Regulator switch OFF → UP (Manual operation)	0 V → 10 to 14 V
UP (P20-6) - GND (P20-7)	V - W-B	Power window motor UP output	Ignition switch ON, Rear LH power window fully open → Regulator switch UP (AUTO operation) → Rear LH power window fully closed	0 V → 10 to 14 V → 0 V
DN (P20-1) - GND (P20-7)	W - W-B	Power window motor DOWN output	Ignition switch ON, Regulator switch OFF → DOWN (Manual operation)	10 to 14 V → 0 V
DN (P20-1) - GND (P20-7)	W - W-B	Power window motor DOWN output	Ignition switch ON, Rear LH power window fully closed → Regulator switch DOWN (AUTO operation) → Rear LH power window fully open	10 to 14 V → 0 V
PCT1 (P20-11) - GND (P20-7)	GR - W-B	Power window lock switch output	Ignition switch ON, Power window lock switch UNLOCK → LOCK	10 to 14 V → 0 V
VCC (P20-5) - SGND (P20-8)	L - BR	Power window motor power source	Constant	10 to 14 V

If the result is not as specified, the multiplex network switch may have a malfunction.

4. CHECK MULTIPLEX NETWORK SWITCH (REAR RH)



(a) Disconnect the P21 switch connector.
(b) Measure the voltage and resistance according to the value(s) in the table below.

Standard resistance

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
GND (P21-7) - Body ground	W-B - Body ground	Ground	Constant	Below 1 Ω
SEL1 (P21-9) - GND (P21-7)	W-B - W-B	Terminal for identification of rear RH switch	Constant	Below 1 Ω

Standard voltage

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
BDR (P21-12) - GND (P21-7)	LG - W-B	+B power supply	Constant	10 to 14 V

WS

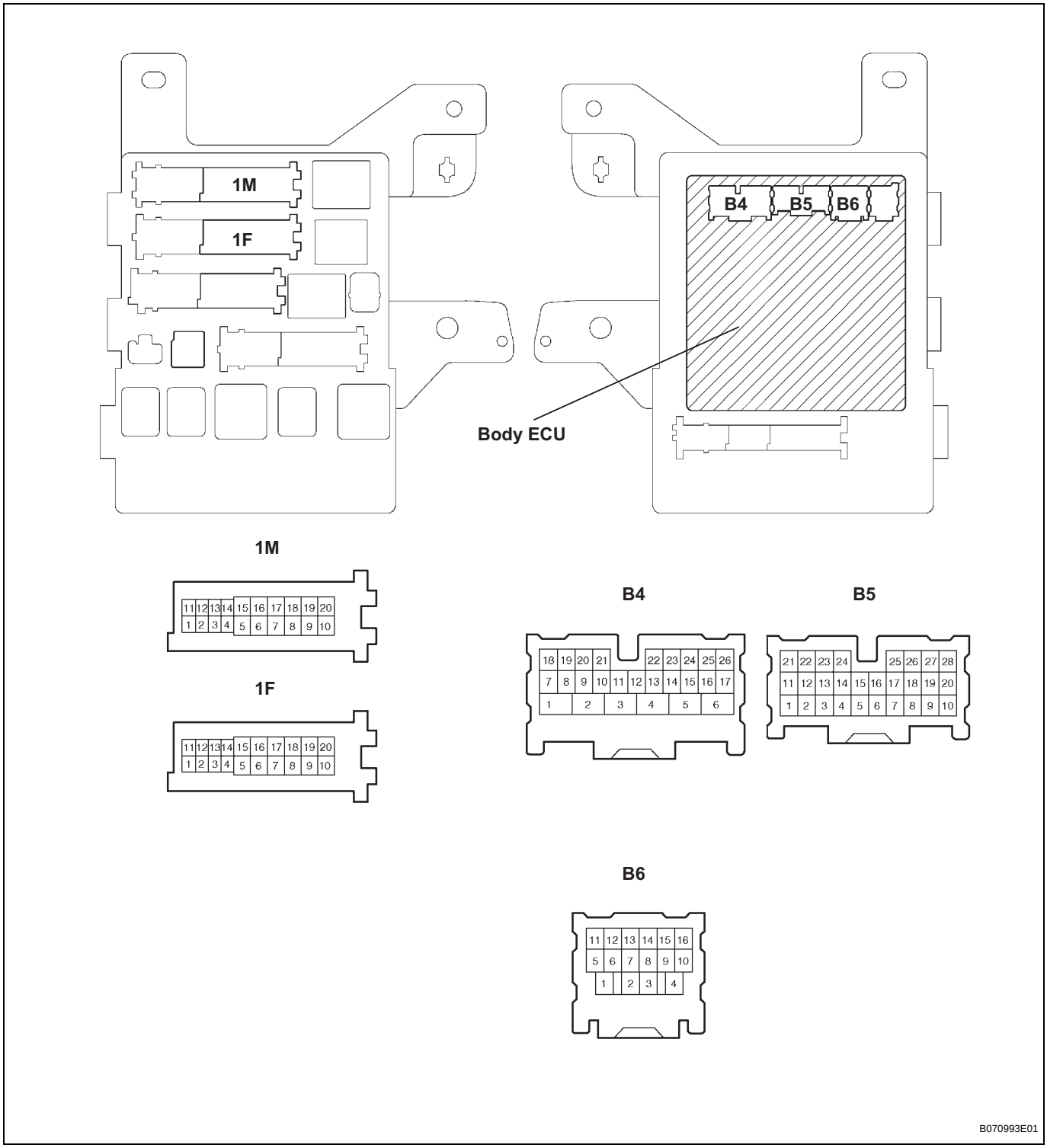
(c) Reconnect the P21 switch connector and reset the power window motor.
(d) Measure the voltage according to the value(s) in the table below.

Standard voltage

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
UP (P21-6) - GND (P21-7)	V - W-B	Power window motor UP output	Ignition switch ON, Regulator switch OFF → UP (Manual operation)	0 V → 10 to 14 V
UP (P21-6) - GND (P21-7)	V - W-B	Power window motor UP output	Ignition switch ON, Rear RH power window fully open → Regulator switch UP (AUTO operation) → Rear RH power window fully closed	0 V → 10 to 14 V → 0 V
DN (P21-1) - GND (P21-7)	W - W-B	Power window motor DOWN output	Ignition switch ON, Regulator switch OFF → DOWN (Manual operation)	10 to 14 V → 0 V
DN (P21-1) - GND (P21-7)	W - W-B	Power window motor DOWN output	Ignition switch ON, Rear RH power window fully closed → Regulator switch DOWN (AUTO operation) → Rear RH power window fully open	10 to 14 V → 0 V
PCT1 (P21-11) - GND (P21-7)	GR - W-B	Power window lock switch output	Ignition switch ON, Power window lock switch UNLOCK → LOCK	10 to 14 V → 0 V
VCC (P21-5) - SGND (P21-8)	L - BR	Power window motor power source	Constant	10 to 14 V

If the result is not as specified, the multiplex network switch may have a malfunction.

5. CHECK INSTRUMENT PANEL J/B (BODY ECU)



(a) Disconnect the B4, B5 and B6 ECU connectors.
(b) Disconnect the 1F and 1M J/B connectors.
(c) Measure the resistance according to the value(s) in the table below.

Standard resistance

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
KSW (B4-21) - Body ground	B - Body ground	Key unlock warning switch input	No key in ignition key cylinder → Key inserted	10 KΩ or higher → Below 1 Ω

WS

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
PCTY (B5-23) - Body ground	L - W-B	Front passenger side courtesy switch input	Passenger side door CLOSED → OPEN	10 KΩ or higher → Below 1 Ω
DCTY (B6-14) - Body ground	L - Body ground	Driver side courtesy switch input	Driver side door CLOSED → OPEN	10 KΩ or higher → Below 1 Ω
GND1 (1F-10) - Body ground	W-B - Body ground	Ground	Constant	Below 1 Ω
GND2 (1M-9) - Body ground	W-B - Body ground	Ground	Constant	Below 1 Ω

If the result is not as specified, there may be a malfunction on the wire harness side.

(d) Reconnect the B4, B5 and B6 ECU connectors.

(e) Reconnect the 1M and 1F J/B connectors.

(f) Measure the voltage according to the value(s) in the table below.

Standard voltage

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
KSW (B4-21) - Body ground	B - Body ground	Key unlock warning switch input	No key in ignition key cylinder → Key inserted	10 to 14 V → 0 V

If the result is not as specified, the instrument panel J/B (body ECU) may have a malfunction.