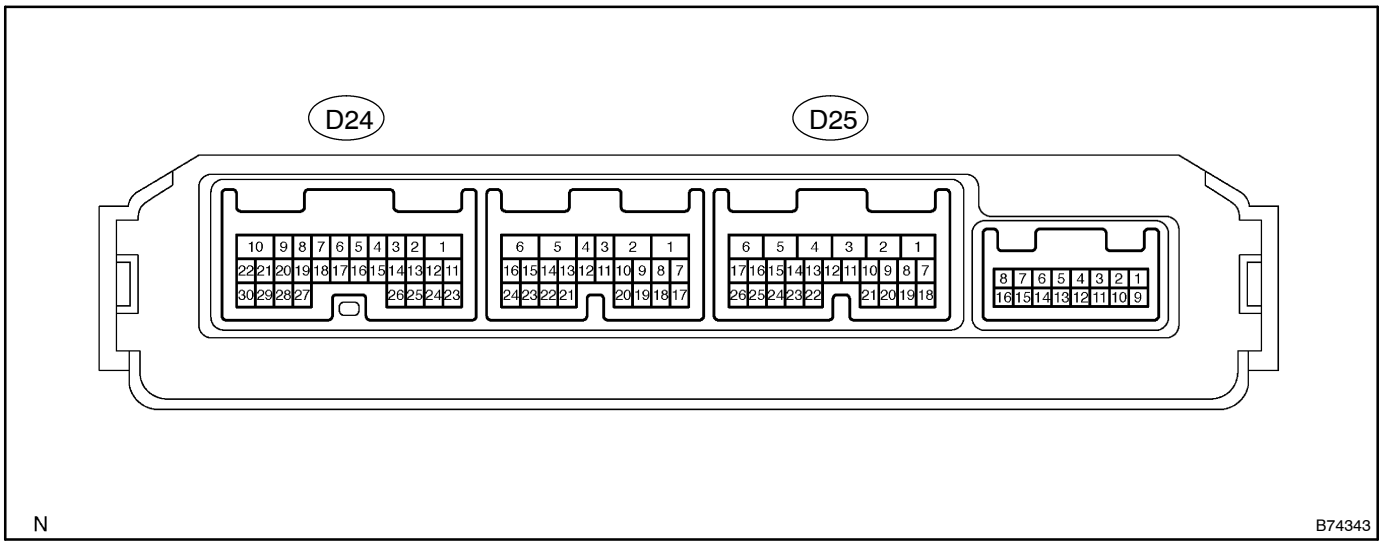
05HWA–01

TERMINALS OF ECU

1. DRIVER DOOR ECU



(a) Disconnect the D24 and D25 ECU connectors.

(b) Measure the voltage and resistance of each terminal of the wire harness side connectors.

Standard:

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
GND (D25–1) – Body ground	W–B – Body ground	Ground	Constant	Below 1 Ω
CPUB (D25–4) – Body ground	V–Y – Body ground	+B power supply	Constant	10 to 14 V
SIG (D25–5) – Body ground	R–L – Body ground	Ignition power supply	Ignition switch OFF → ON	0 V → 10 to 14 V
BDR (D25–6) – Body ground	R – Body ground	+B power supply	Constant	10 to 14 V
DN (D25–2) – UP (D25–3)	G – R–G	Power window motor UP input Power window motor DOWN input	Constant	Below 1 Ω
WLSW (D25–16) – Body ground	Y – Body ground	Power window lock switch input	Ignition switch ON, window lock switch LOCK → UNLOCK	Below 1 Ω → 10 kΩ or higher
LMT (D25–19) – SGND (D25–20)	B–W – BR–W	Power window limit switch input	Power window fully closed	10 kΩ or higher
LMT (D25–19) – SGND (D25–20)	B–W – BR–W	Power window limit switch input	Power window fully opened	Below 1 Ω
CTY (D25–23) – Body ground	P–G – Body ground	Driver side courtesy switch input	Driver side door CLOSED → OPEN	10 kΩ or higher → Below 1 Ω
DT3 (D24–4) – SC1 (D24–17)	G–B – L–R	Rear LH window remote down input	Rear LH window using power window master switch OFF → DOWN	10 kΩ or higher → Below 1 Ω
DT3 (D24–4) – SC2 (D24–16)	G–B – Y–R	Rear LH window remote up input	Rear LH window using power window master switch OFF → UP	10 kΩ or higher → Below 1 Ω
DT3 (D24–4) – SC3 (D24–15)	G–B – R–W	Rear LH window remote AUTO up/down input	Rear LH window using power window master switch UP → AUTO UP or DOWN → AUTO DOWN	10 kΩ or higher → Below 1 Ω

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
DT2 (D24–5) – SC1 (D24–17)	L–B – L–R	Rear RH window remote down input	Rear RH window using power window master switch OFF → DOWN	10 kΩ or higher → Below 1 Ω
PLS (D25–8) – SGND (D25–20)	V–G – BR–W	Power window pulse sensor input	Power window operating	Pulse generation
SGND (D25–20) – Body ground	BR–W – Body ground	Ground	Constant	Below 1 Ω
WLS1 (D25–25) – Body ground	Y–B – Body ground	Power window lock switch output	Ignition switch ON, window lock switch LOCK → UNLOCK	Below 1 Ω → 10 kΩ or higher
DT2 (D24–5) – SC2 (D24–16)	L–B – Y–R	Rear RH window remote up input	Rear RH window using power window master switch OFF → UP	10 kΩ or higher → Below 1 Ω
DT2 (D24–5) – SC3 (D24–15)	L–B – R–W	Rear RH window remote AUTO up/down input	Rear RH window using power window master switch UP → AUTO UP or DOWN → AUTO DOWN	10 kΩ or higher → Below 1 Ω
DT1 (D24–6) – SC1 (D24–17)	G–R – L–R	Passenger door window remote up input	Rear RH window using power window master switch OFF → DOWN	10 kΩ or higher → Below 1 Ω
DT1 (D24–6) – SC2 (D24–16)	G–R – Y–R	Passenger door window remote down input	Rear RH window using power window master switch OFF → UP	10 kΩ or higher → Below 1 Ω
DT1 (D24–6) – SC3 (D24–15)	G–R – R–W	Passenger door window remote AUTO up/down input	Rear RH window using power window master switch UP → AUTO UP or DOWN → AUTO DOWN	10 kΩ or higher → Below 1 Ω
AUTO (D24–2) – Body ground	W–G – Body ground	Driver side power window AUTO UP/DOWN input	Driver side window using power window master switch UP → AUTO UP or DOWN → AUTO DOWN	10 kΩ or higher → Below 1 Ω
MUP (D24–23) – Body ground	*1Y–B – Body ground *2GR–R – Body ground	Driver side power window MANUAL UP input	Driver side window using power window master switch OFF → UP	10 kΩ or higher → Below 1 Ω
MDN (D24–25) – Body ground	*1G – Body ground *2P–G – Body ground	Driver side power window MANUAL DOWN input	Power window master switch OFF → DOWN	10 kΩ or higher → Below 1 Ω
PWE (D24–30) – Body ground	BR–R – Body ground	Power window master switch ground	Ground	Below 1 Ω
PWS (D24–22) – Body ground	V–W – Body ground	Power window master switch supply	IG ON or key off operation	10 to 14 V

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

*1: LHD

*2: RHD

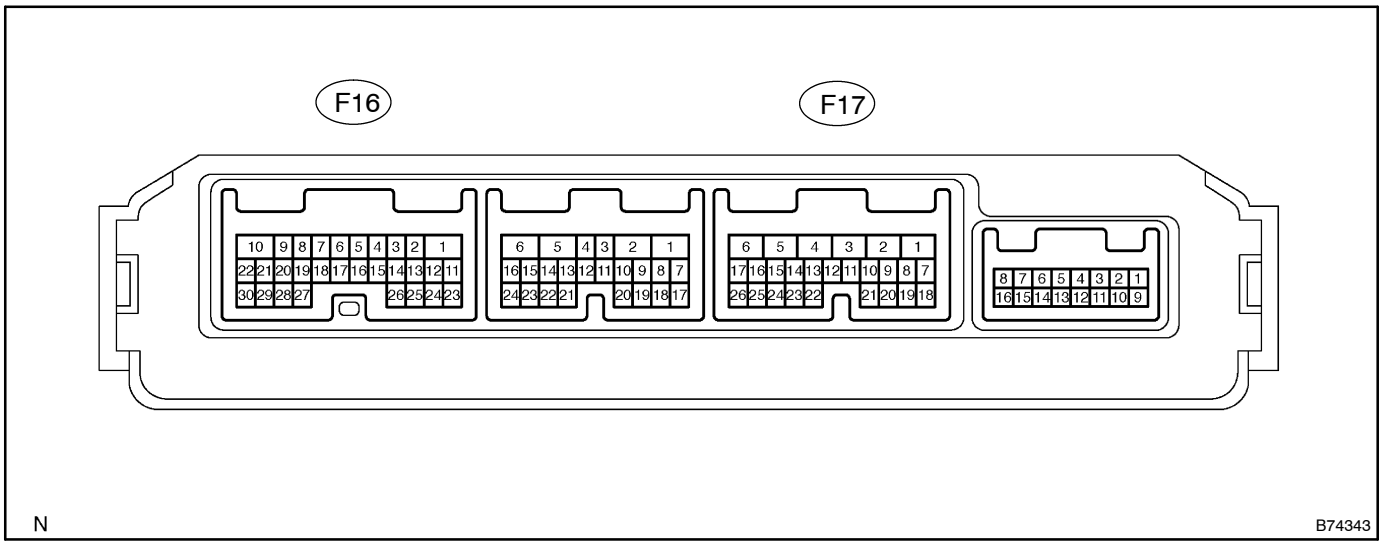
(c) Reconnect the D24 and D25 ECU connectors.
(d) Reset the power window motor (see page 05–1984).
(e) Check the voltage of each terminal of the connectors.

Standard:

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
DN (D25–2) – Body ground	G – Body ground	Power window motor DOWN input	Ignition switch ON, Driver side window using power window master switch OFF → DOWN	0 V → 10 to 14 V
UP (D25–3) – Body ground	R–G – Body ground	Power window motor UP input	Ignition switch ON, Driver side window using power window master switch OFF → UP	0 V → 10 to 14 V
WLSW (D25–16) – Body ground	Y – Body ground	Power window lock switch input	Ignition switch ON, Window lock switch UNLOCK → LOCK	10 to 14 V → 0 V

If the result is not as specified, driver door ECU may have a malfunction.

2. CHECK PASSENGER DOOR ECU



(a) Disconnect the F16 and F17 ECU connectors.
(b) Measure the voltage and resistance of each terminal of the wire harness side connectors.

Standard:

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
GND (F17–1) – Body ground	W–B – Body ground	Ground	Constant	Below 1 Ω
CPUB (F17–4) – Body ground	V–Y – Body ground	+B power supply	Constant	10 to 14 V
SIG (R14–5) – Body ground	R–L – Body ground	Ignition power supply	Ignition switch OFF → ON	0 V → 10 to 14 V
BDR (R14–6) – Body ground	R – Body ground	+B power supply	Constant	10 to 14 V
DN (F17–2) – UP (F17–3)	G – R–G	Power window motor UP input Power window motor DOWN input	Constant	Below 1 Ω
WLS1 (F17–25) – Body ground	B–L – Body ground	Power window lock switch input	Ignition switch ON, Window lock switch LOCK → UNLOCK	Below 1 Ω → 10 kΩ or higher

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
LMT (F17–19) – SGND (R14–20)	B–W – BR–W	Power window limit switch input	Power window fully closed	10 kΩ or higher
LMT (F17–19) – SGND (R14–20)	B–W – BR–W	Power window limit switch input	Power window fully opened	Below 1 Ω
CTY (F17–23) – Body ground	P–G – Body ground	Rear RH courtesy switch input	Rear RH door CLOSED → OPEN	10 kΩ or higher → Below 1 Ω
AUTO (F16–2) – Body ground	W–G – Body ground	Rear RH power window AUTO UP/DOWN input	Rear RH regulator switch UP → AUTO UP DOWN → AUTO DOWN	10 kΩ or higher → Below 1 Ω
MUP (F16–23) – Body ground	GR–G – Body ground	Rear RH power window UP input	Rear RH regulator switch OFF → UP	10 kΩ or higher → Below 1 Ω
MDN (F16–25) – Body ground	L–W – Body ground	Rear RH power window DOWN input	Rear RH regulator switch OFF → DOWN	10 kΩ or higher → Below 1 Ω
PWE (F16–30) – Body ground	BR–W – Body ground	Power window regulator switch ground	Ground	Below 1 Ω
WLSW (F17–16) – Body ground	Y–B – Body ground	Power window lock switch output	Ignition switch ON, window lock switch LOCK → UNLOCK	Below 1 Ω → 10 kΩ or higher
PLS (F17–8) – SGND (F17–20)	V–G – BR–W	Power window pulse sensor input	Power window operating	Pulse generation
SGND (F17–20) – Body ground	BR–W – Body ground	Ground	Constant	Below 1 Ω

If the result is not as specified, the passenger ECU may have a malfunction.

(c) Reconnect the F16 and F17 ECU connectors.

(d) Initialize the power window motor (see page 05–1984).

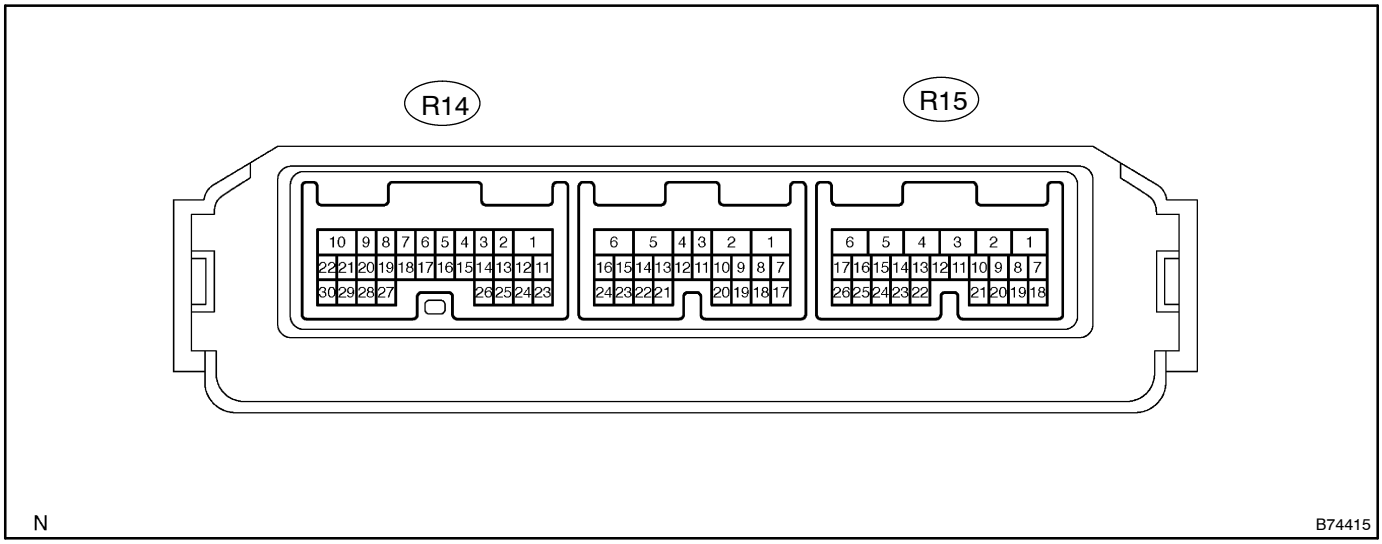
(e) Measure the voltage of each terminal of the connectors.

Standard:

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
DN (F17–2) – Body ground	G – Body ground	Power window motor DOWN input	Ignition switch ON, Rear RH regulator switch OFF → DOWN	0 V → 10 to 14 V
UP (F17–3) – Body ground	R–G – Body ground	Power window motor UP input	Ignition switch ON, Rear RH regulator switch OFF → UP	0 V → 10 to 14 V
WLS1 (F17–25) – Body ground	B–L – Body ground	Power window lock switch input	Ignition switch ON, Window lock switch UNLOCK → LOCK	10 to 14 V → 0 V

If the result is not as specified, the passenger door ECU may have a malfunction.

3. CHECK REAR DOOR LH ECU



(a) Disconnect the R15 and R14 ECU connectors.

(b) Measure the voltage and resistance of each terminal of the wire harness side connectors.

Standard:

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
GND (R15–6) – Body ground	W–B – Body ground	Ground	Constant	Below 1 Ω
CPUB (R15–1) – Body ground	V–Y – Body ground	+B power supply	Constant	10 to 14 V
SIG (R15–26) – Body ground	R–L – Body ground	Ignition power supply	Ignition switch OFF → ON	0 V → 10 to 14 V
BDR (R15–2) – Body ground	R–B – Body ground	+B power supply	Constant	10 to 14 V
DN (R15–4) – UP (R14–5)	G – R	Power window motor UP input Power window motor DOWN input	Constant	Below 1 Ω
PCTO (R14–11) – Body ground	W–G – Body ground	Power window lock switch input	Ignition switch ON, Window lock switch LOCK → UNLOCK	Below 1 Ω → 10 kΩ or higher
LMT (R15–16) – SGND (R15–14)	B–W – BR–B	Power window limit switch input	Power window fully closed	10 kΩ or higher
LMT (R15–16) – SGND (R15–14)	B–W – BR–B	Power window limit switch input	Power window fully opened	Below 1 Ω
CTY (R15–7) – Body ground	L – Body ground	Rear door LH courtesy switch input	Rear door LH CLOSED → OPEN	10 kΩ or higher → Below 1 Ω
PCTI (R15–24) – Body ground	Y–B – Body ground	Power window lock switch input	Ignition switch ON, Window lock switch LOCK → UNLOCK	0 V → 10 to 14 V
PLS (R15–17) – SGND (R14–14)	Y–R – BR–B	Power window pulse sensor input	Power window operating	Pulse generation
SGND (R15–14) – Body ground	BR–B – Body ground	Ground	Constant	Below 1 Ω
AUTO (R14–10) – Body ground	GR–G – Body ground	Rear LH power window AUTO UP/DOWN input	Rear LH regulator switch UP → AUTO UP DOWN → AUTO DOWN	10 kΩ or higher → Below 1 Ω
MUP (R14–29) – Body ground	L–W – Body ground	Rear LH power window UP input	Rear LH regulator switch OFF → UP	10 kΩ or higher → Below 1 Ω

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
MDN (R14–21) – Body ground	R–W – Body ground	Rear LH power window DOWN input	Rear LH regulator switch OFF → DOWN	10 kΩ or higher → Below 1 Ω
PWE (R14–19) – Body ground	BR–R – Body ground	Power window regulator switch ground	Ground	Below 1 Ω

If the result is not as specified, the rear door LH ECU may have a malfunction.

(c) Reconnect the R15 and R14 ECU connectors.

(d) Initialize the power window motor (see page 05–1984).

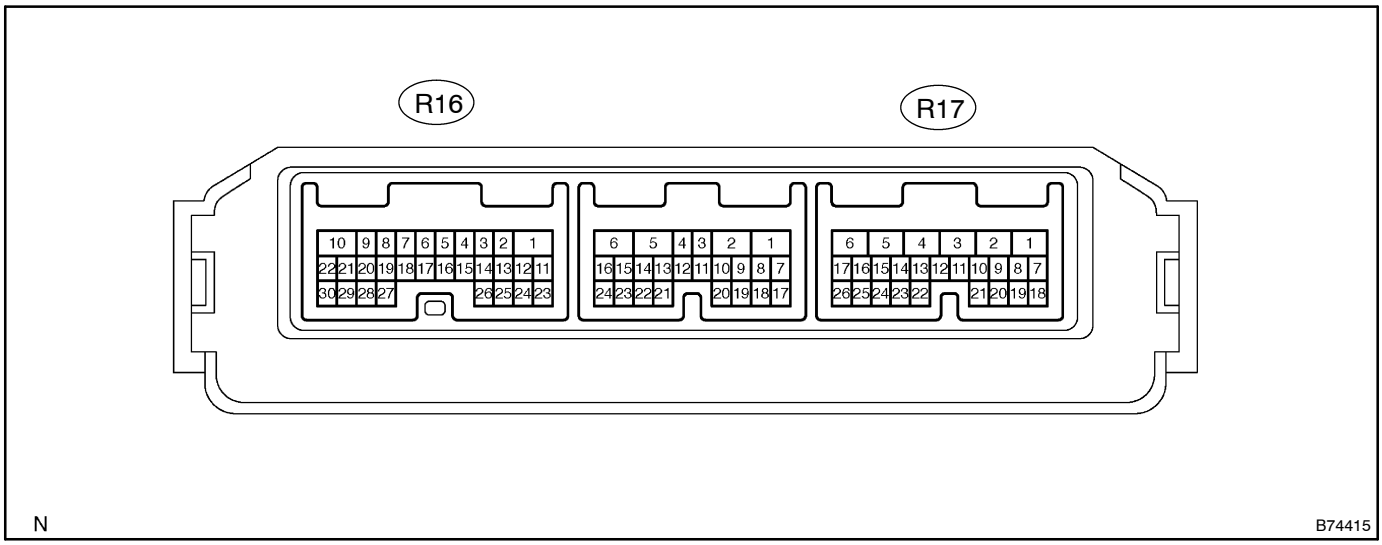
(e) Measure the voltage of each terminal of the connectors.

Standard:

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
DN (R15–4) – Body ground	G – Body ground	Power window motor DOWN input	Ignition switch ON, Rear LH regulator switch OFF → DOWN	0 V → 10 to 14 V
UP (R15–5) – Body ground	R – Body ground	Power window motor UP input	Ignition switch ON, Rear LH regulator switch OFF → UP	0 V → 10 to 14 V
PCTO (R14–11) – Body ground	W–G – Body ground	Power window lock switch input	Ignition switch ON, Window lock switch UNOCK → LOCK	10 to 14 V → 0 V

If the result is not as specified, the rear door LH ECU may have a malfunction.

4. CHECK REAR DOOR RH ECU



(a) Disconnect the R16 and R17 ECU connectors.

(b) Measure the voltage and resistance of each terminal of the wire harness side connectors.

Standard:

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
GND (R16–6) – Body ground	W–B – Body ground	Ground	Constant	Below 1 Ω
CPUB (R17–1) – Body ground	V–Y – Body ground	+B power supply	Constant	10 to 14 V
PCTI (R16–24) – Body ground	Y–B – Body ground	Power window lock switch input	Ignition switch ON, Window lock switch LOCK → UNLOCK	0 V → 10 to 14 V
PLS (R16–17) – SGND (R16–14)	Y–R – BR–B	Power window pulse sensor input	Power window operating	Pulse generation
SGND (R16–14) – Body ground	BR–B – Body ground	Ground	Constant	Below 1 Ω

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
SIG (R16–28) – Body ground	R–L – Body ground	Ignition power supply	Ignition switch OFF → ON	0 V → 10 to 14 V
BDR (R16–2) – Body ground	R–W – Body ground	+B power supply	Constant	10 to 14 V
DN (R16–4) – UP (R16–5)	G – R	Power window motor UP input Power window motor DOWN input	Constant	Below 1 Ω
PCTO (R17–11) – Body ground	W–G – Body ground	Power window lock switch input	Ignition switch ON, Window lock switch LOCK → UNLOCK	Below 1 Ω → 10 kΩ or higher
LMT (R16–15) – SGND (R16–14)	B–W – BR–B	Power window limit switch input	Power window fully closed	10 kΩ or higher
LMT (R16–15) – SGND (R16–14)	B–W – BR–B	Power window limit switch input	Power window fully opened	Below 1 Ω
CTY (R16–7) – Body ground	L – Body ground	Rear RH courtesy switch input	Rear door RH CLOSED → OPEN	10 kΩ or higher → Below 1 Ω
AUTO (R17–10) – Body ground	W–G – Body ground	Rear RH power window AUTO UP/DOWN input	Rear RH regulator switch UP → AUTO UP DOWN → AUTO DOWN	10 kΩ or higher → Below 1 Ω
MUP (R17–29) – Body ground	GR–G – Body ground	Rear RH power window UP input	Rear RH regulator switch OFF → UP	10 kΩ or higher → Below 1 Ω
MDN (R17–21) – Body ground	L–W – Body ground	Rear RH power window DOWN input	Rear RH regulator switch OFF → DOWN	10 kΩ or higher → Below 1 Ω
PWE (R17–19) – Body ground	BR–R – Body ground	Power window regulator switch ground	Ground	Below 1 Ω

If the result is not as specified, the rear door RH ECU may have a malfunction.

(c) Reconnect the R16 and R17 ECU connectors.

(d) Initialize the power window motor (see page 05–1984).

(e) Measure the voltage of each terminal of the connectors.

Standard:

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
DN (R16–4) – Body ground	G – Body ground	Power window motor DOWN input	Ignition switch ON, Rear RH regulator switch OFF → DOWN	0 V → 10 to 14 V
UP (R16–5) – Body ground	R – Body ground	Power window motor UP input	Ignition switch ON, Rear RH regulator switch OFF → UP	0 V → 10 to 14 V
PCTO (R17–11) – Body ground	W–G – Body ground	Power window lock switch input	Ignition switch ON, Window lock switch UNLOCK → LOCK	10 to 14 V → 0 V

If the result is not as specified, rear door RH ECU may have a malfunction.