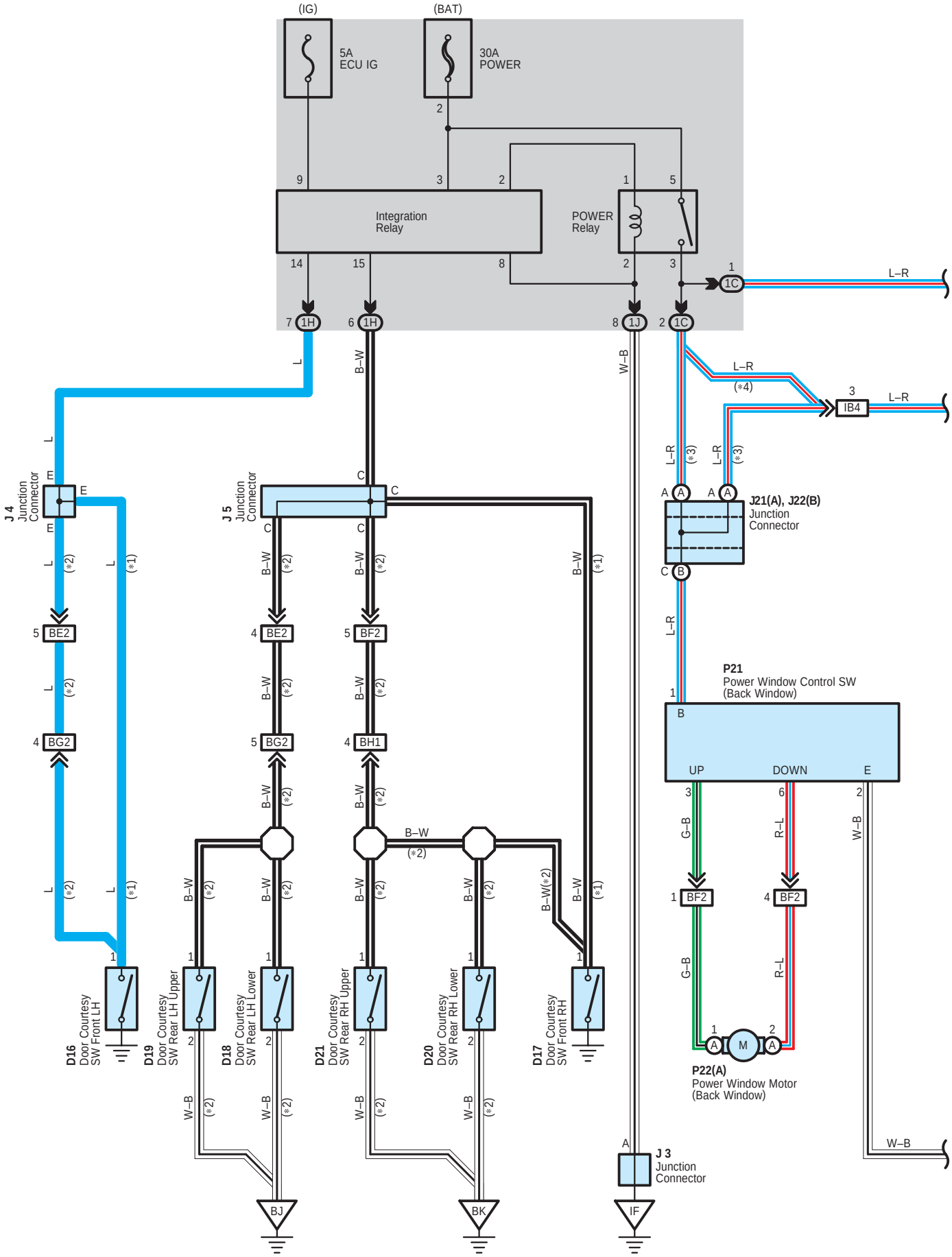
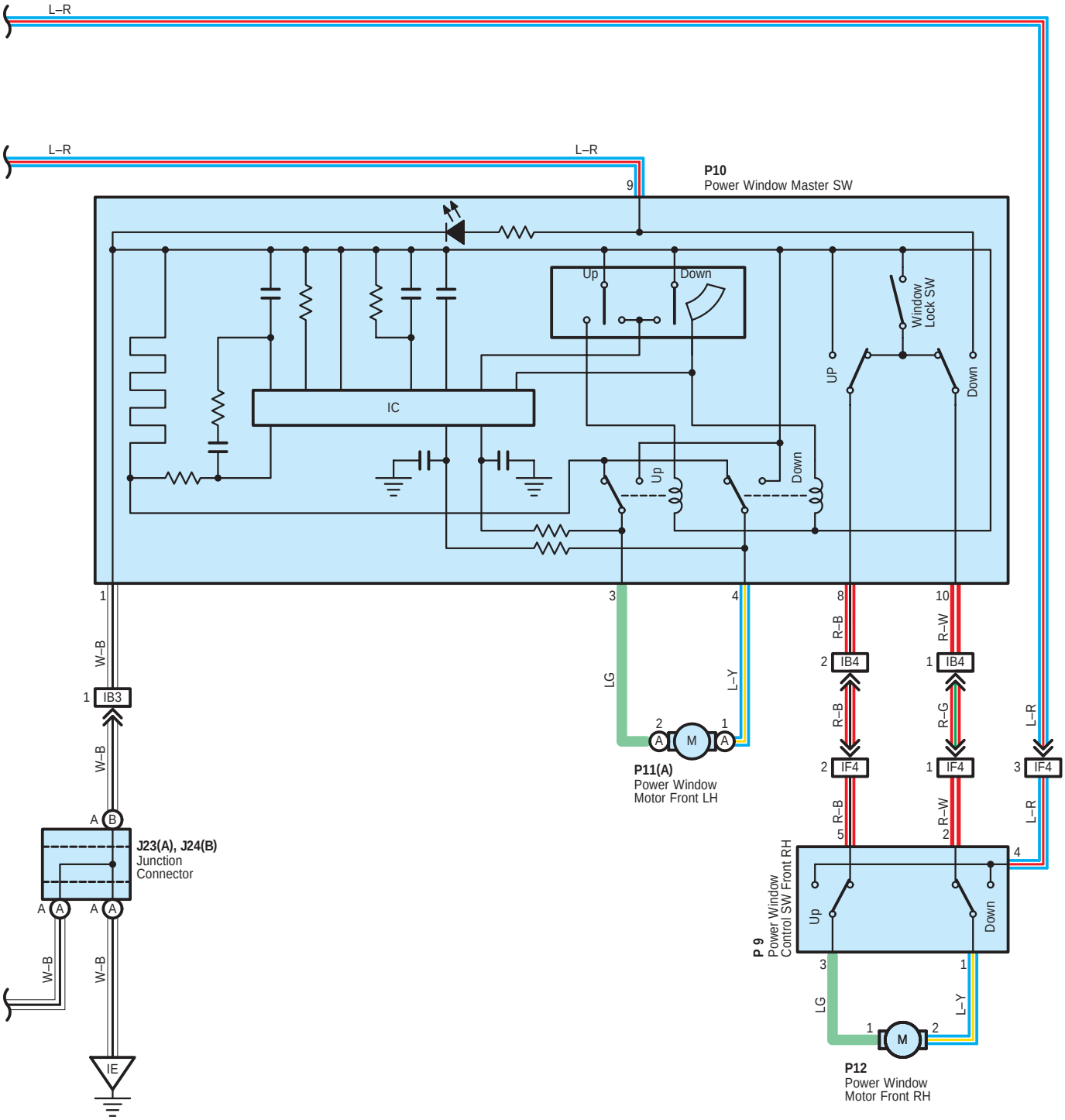

(IG)
(BAT)
5A
ECU IG
30A
POWER
Integration
Relay
POWER
Relay
1C
1H
1J
L–R
(*4)
IB4
J 4
Junction
Connector
J 5
Junction
Connector
J21(A), J22(B)
Junction
Connector
P21
Power Window Control SW
(Back Window)
UP
DOWN
E
BE2
BF2
BG2
BH1
D16
Door Courtesy
SW Front LH
D19
Door Courtesy
SW Rear LH Upper
D18
Door Courtesy
SW Rear LH Lower
D21
Door Courtesy
SW Rear RH Upper
D20
Door Courtesy
SW Rear RH Lower
D17
Door Courtesy
SW Front RH
P22(A)
Power Window Motor
(Back Window)
J 3
Junction
Connector
BJ
BK
IF

* 1 : Standard Cab
* 2 : Access Cab
* 3 : w/ Power Window (Back Window)
* 4 : w/o Power Window (Back Window)



System Outline

With the ignition SW turned on, current flows through the ECU IG fuse to TERMINAL 9 of the integration relay to TERMINAL 2 to TERMINAL 1 of the power relay to TERMINAL 2 to GROUND, activating the power relay, and the current flowing from TERMINAL 5 of the power relay flows to TERMINAL 3 to TERMINAL 9 of the power window master SW, TERMINAL 4 of the power window control SW RH and TERMINAL 1 of power window SW (Back window).

1. Manual Operation (Driver's Window)

With the ignition SW turned on and with the power window master SW (Manual SW) in UP position, the current flowing to TERMINAL 9 of the power window master SW flows to TERMINAL 3 to TERMINAL 2 of the power window motor LH to TERMINAL 1 to TERMINAL 4 of the master SW to TERMINAL 1 to GROUND and causes the power window motor to rotate in the up direction. The window ascends only while the SW is being pushed.

In down operation, the current flowing from TERMINAL 9 of the power window master SW to TERMINAL 4 flows to TERMINAL 1 of the motor LH to TERMINAL 2 to TERMINAL 3 of the master SW to TERMINAL 1 to GROUND, flowing in the opposite direction to manual up operation, causing the motor to rotate in reverse and lowering the window.

2. Auto Down Operation (Driver's Window)

With the ignition SW on and with the auto SW of the power window master SW in DOWN position, the current flowing to TERMINAL 9 of the master SW flows to TERMINAL 4 of the master SW to TERMINAL 1 of the power window motor LH to TERMINAL 2 to TERMINAL 3 of the master SW to TERMINAL 1 to GROUND, causing the motor to rotate towards the down side.

Then the solenoid in the master SW is activated and it locks the auto SW being pushed, causing the motor to continue to rotate in auto down operation.

When the window has completely descended, the current flowing between TERMINAL 3 of the master SW and TERMINAL 1 increases. As a result, the solenoid stops operating, the auto SW turns off and the flowing from TERMINAL 9 of the master SW to TERMINAL 4 is cut off, stopping the motor so that auto stop occurs.

3. Stopping of Auto Down AT Driver's Window

When the manual SW (Driver's) is pushed to the up side during auto down operation, a ground circuit opens in the master SW and current does not flow from TERMINAL 3 of the master SW to TERMINAL 1, so the motor stops, causing auto down operation to stop. If the manual SW is pushed continuously, the motor rotates in the up direction in manual up operation.

4. Manual Operation By Power Window Control SW (Passenger's Window)

With the power window control SW RH is pushed to the up side, the current flowing from TERMINAL 4 of the power window control SW RH flows to TERMINAL 3 of the power window control SW RH to TERMINAL 1 of the power window motor RH to TERMINAL 2 to TERMINAL 1 of the power window control SW RH to TERMINAL 2 to TERMINAL 10 of the master SW to TERMINAL 1 to GROUND. This causes the power window motor RH to rotate in the up direction. Up operation is continuous only while the power window control SW RH is pushed to the up side. When the window descends, the current flowing to the motor flows in the opposite direction, from TERMINAL 1 to TERMINAL 2, and the motor rotates in revers.

When the window lock SW is pushed to the lock side, the ground circuit to the passenger's window becomes open. As a result, even if Open/Close operation of the passenger's window is tried, the current from TERMINAL 9 of the power window master SW is not grounded and the motor does not rotate, so the passenger's window can not be operated and window lock occurs.

5. Key Off Power Window Operation

With the ignition SW turned from on to off, the integration relay operates for about 43 seconds and current flows from TERMINAL 1 of the power relay to TERMINAL 2 to GROUND. For this period, current also flows TERMINAL 5 to TERMINAL 3. This current flows to TERMINAL 9 of the power window master SW and to TERMINAL 4 of the power window control SW RH. As a result, for about 43 seconds after the ignition SW is turned off, it is possible to raise and lower the power window by the functioning of the integration relay. Also, by opening the door (Door courtesy SW on) within about 43 seconds after turning the ignition SW to off, a signal is input to TERMINAL 3, 14 or 15 of the integration relay. As a result, the integration relay turns off, and up and down movement of the window stops.

: Parts Location

Code	See Page	Code	See Page	Code	See Page
D16	64 (*3)	J4	62	P10	65 (*4)
	65 (*4)	J5	62	P11 A	64 (*3)
D17	64 (*3)	J21 A	62		65 (*4)
	65 (*4)	J22 B	62	P12	64 (*3)
D18	64 (*3)	J23 A	62		65 (*4)
D19	64 (*3)	J24 B	62	P21	62
D20	64 (*3)	P9	64 (*3)	P22 A	64 (*3)
D21	64 (*3)		65 (*4)		
J3	62	P10	64 (*3)		

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1C	26 (*1)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	30 (*2)	
1H	26 (*1)	
	30 (*2)	
1J	26 (*1)	
	30 (*2)	

: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IB3	82	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IB4		
IF4	83	Front Door RH Wire and Cowl Wire (Right Kick Panel)
BE2	84 (*3)	Floor No.2 Wire and Cowl Wire (Center of Left Rocker Panel)
BF2	84 (*3)	Floor No.1 Wire and Cowl Wire (Center of Right Rocker Panel)
BG2	84 (*3)	Floor No.2 Wire and Rear Door No.2 Wire (Under the Left Quarter Panel)
BH1	84 (*3)	Floor No.1 Wire and Rear Door No.1 Wire (Under the Right Quarter Panel)

: Ground Points

Code	See Page	Ground Points Location
IE	82	Left Kick Panel
IF		
BJ	84 (*3)	Inside of Rear Door LH
BK	84 (*3)	Inside of Rear Door RH

* 1 : w/o Daytime Running Light * 2 : w/ Daytime Running Light * 3 : Access Cab * 4 : Standard Cab * 5 : Access Cab Captain Seat
* 6 : Access Cab Separate Seat * 7 : Standard Cab Bench Seat