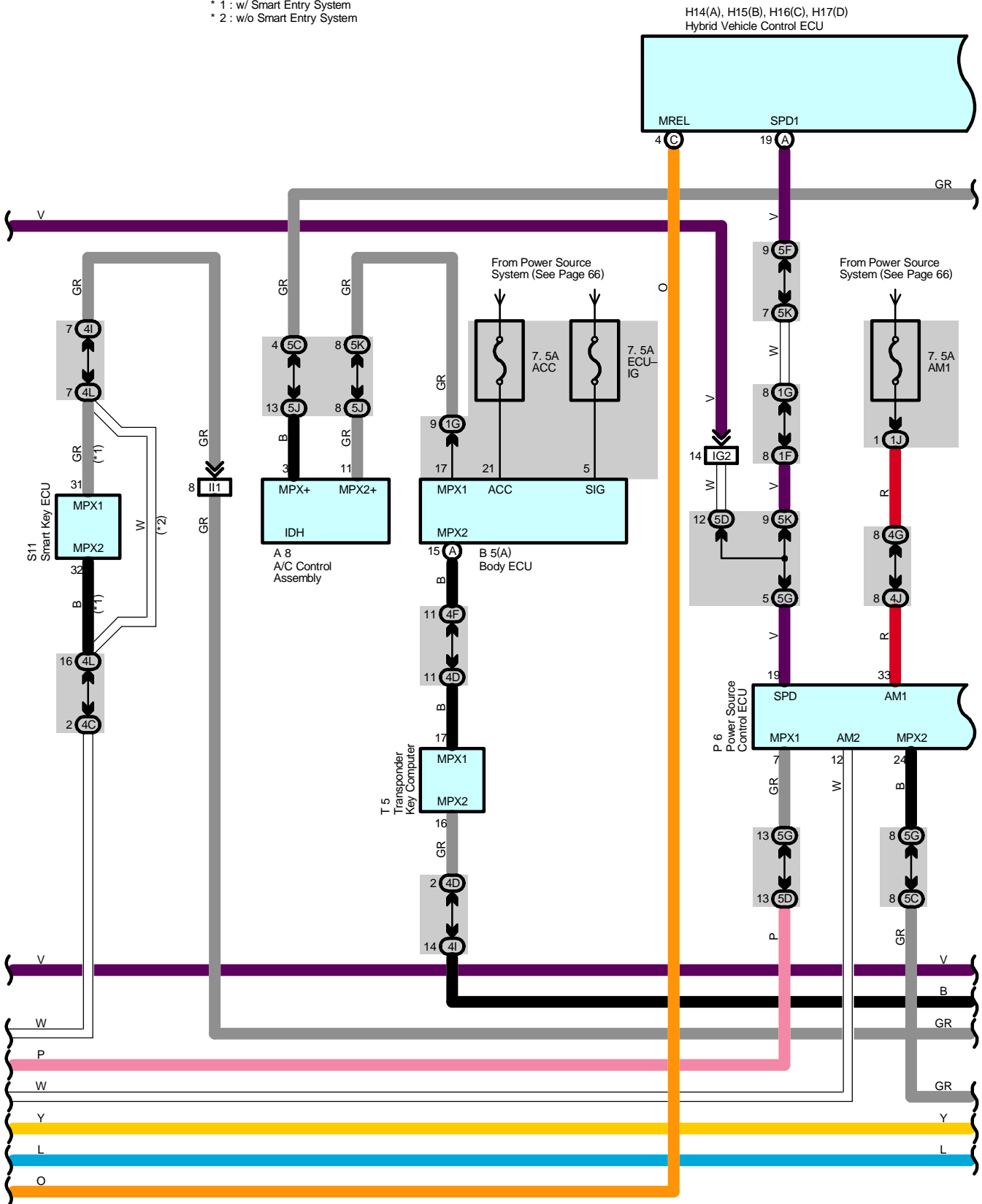
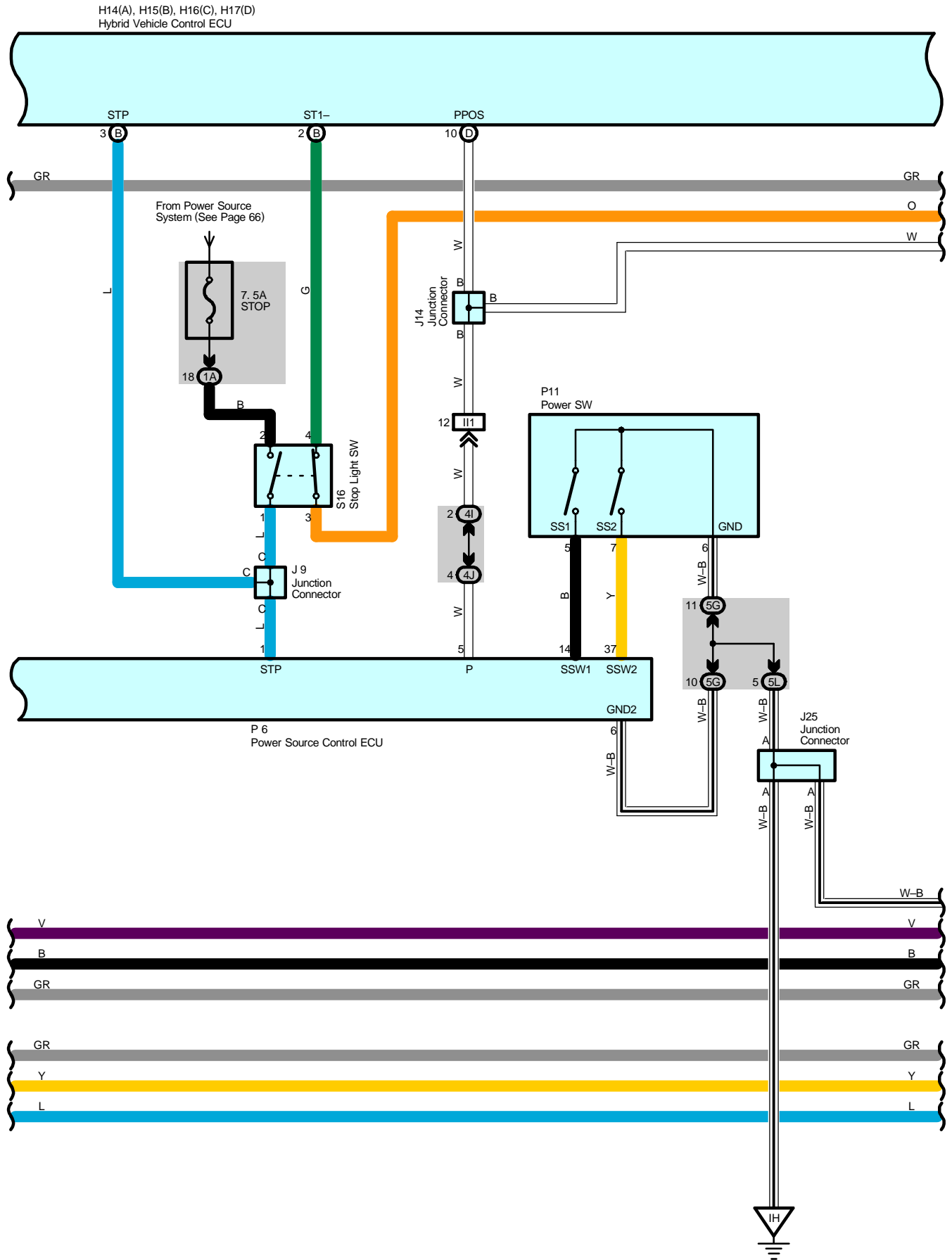


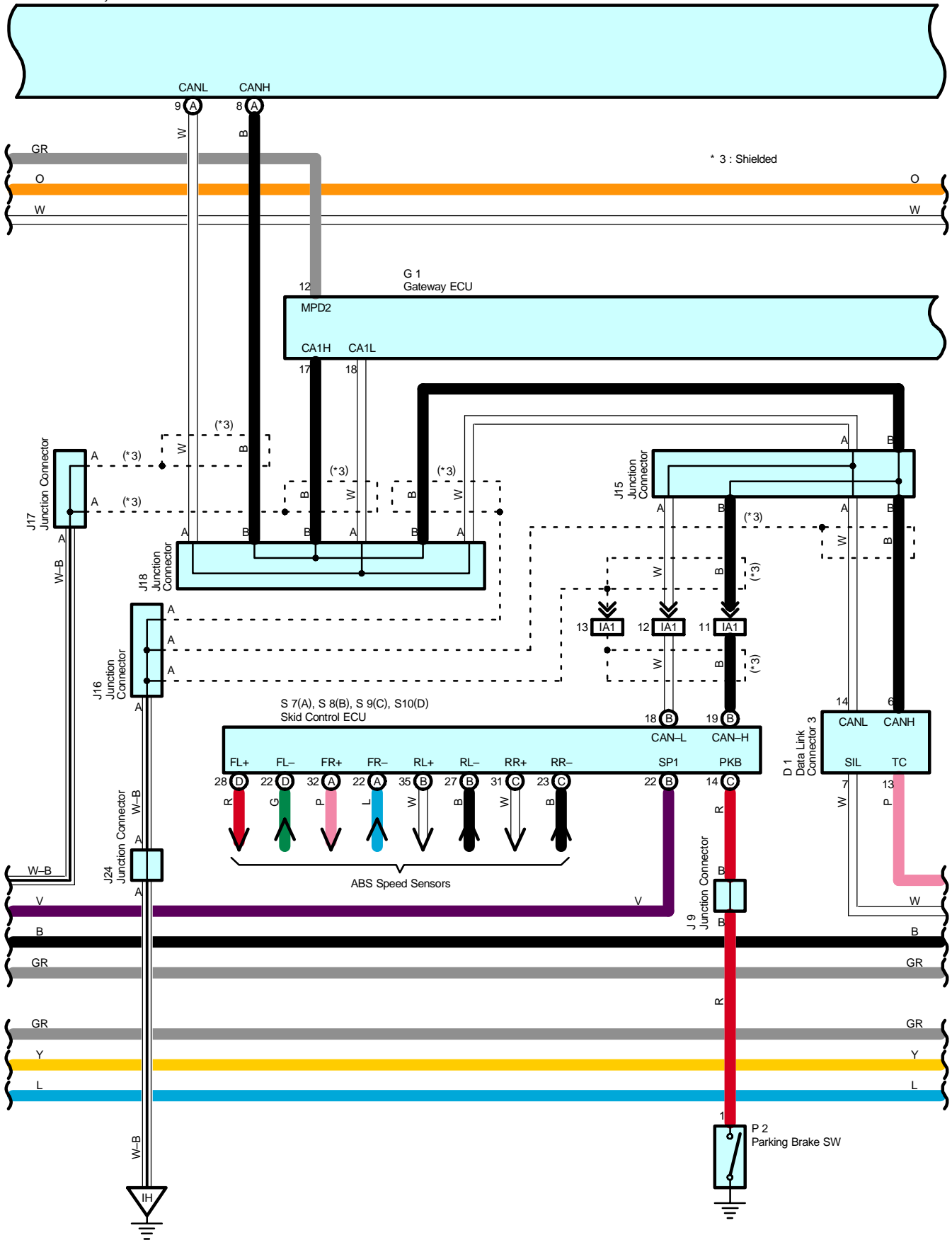
- * 1 : w/ Smart Entry System
- * 2 : w/o Smart Entry System



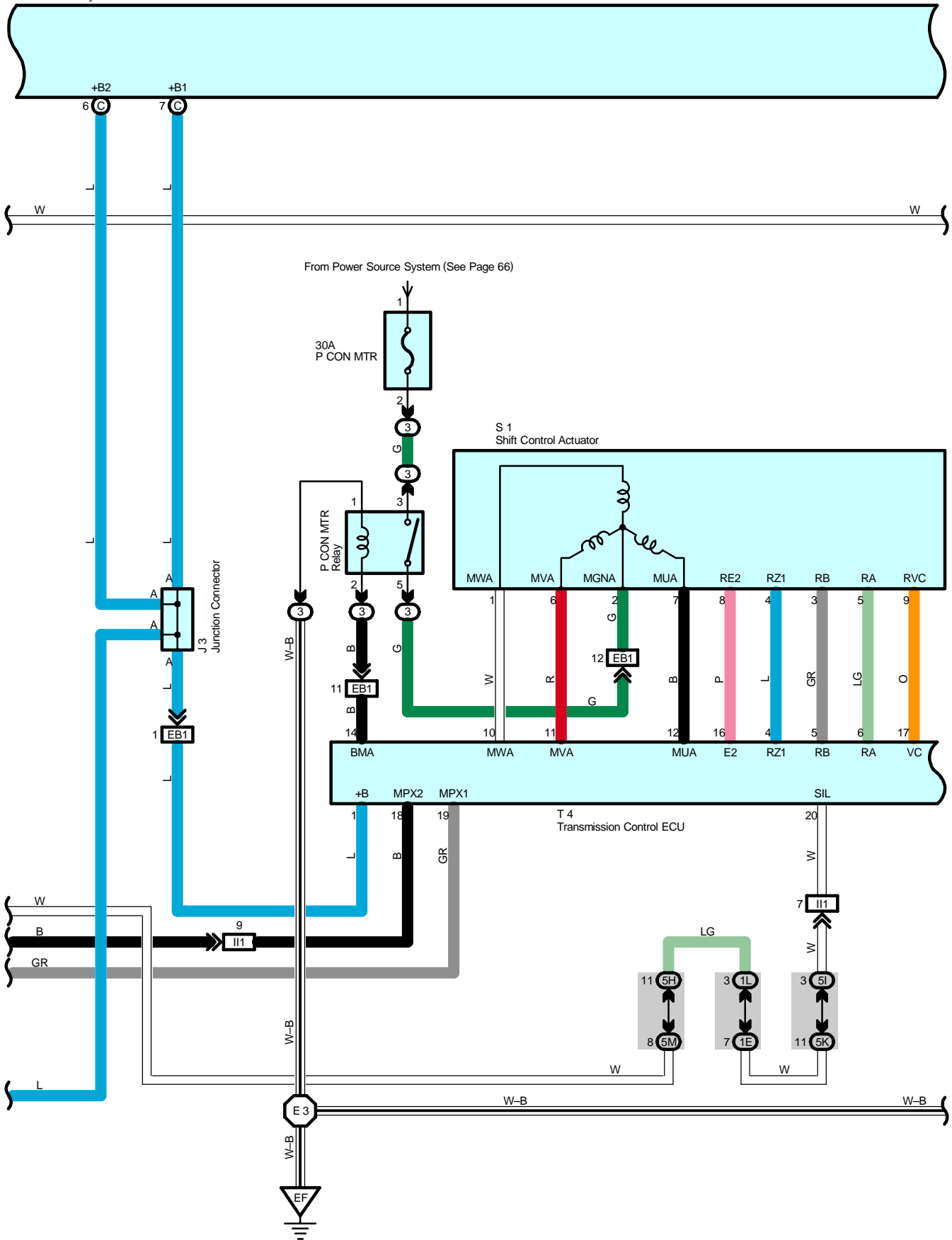
Shift Control System



H14(A), H15(B), H16(C), H17(D)
Hybrid Vehicle Control ECU

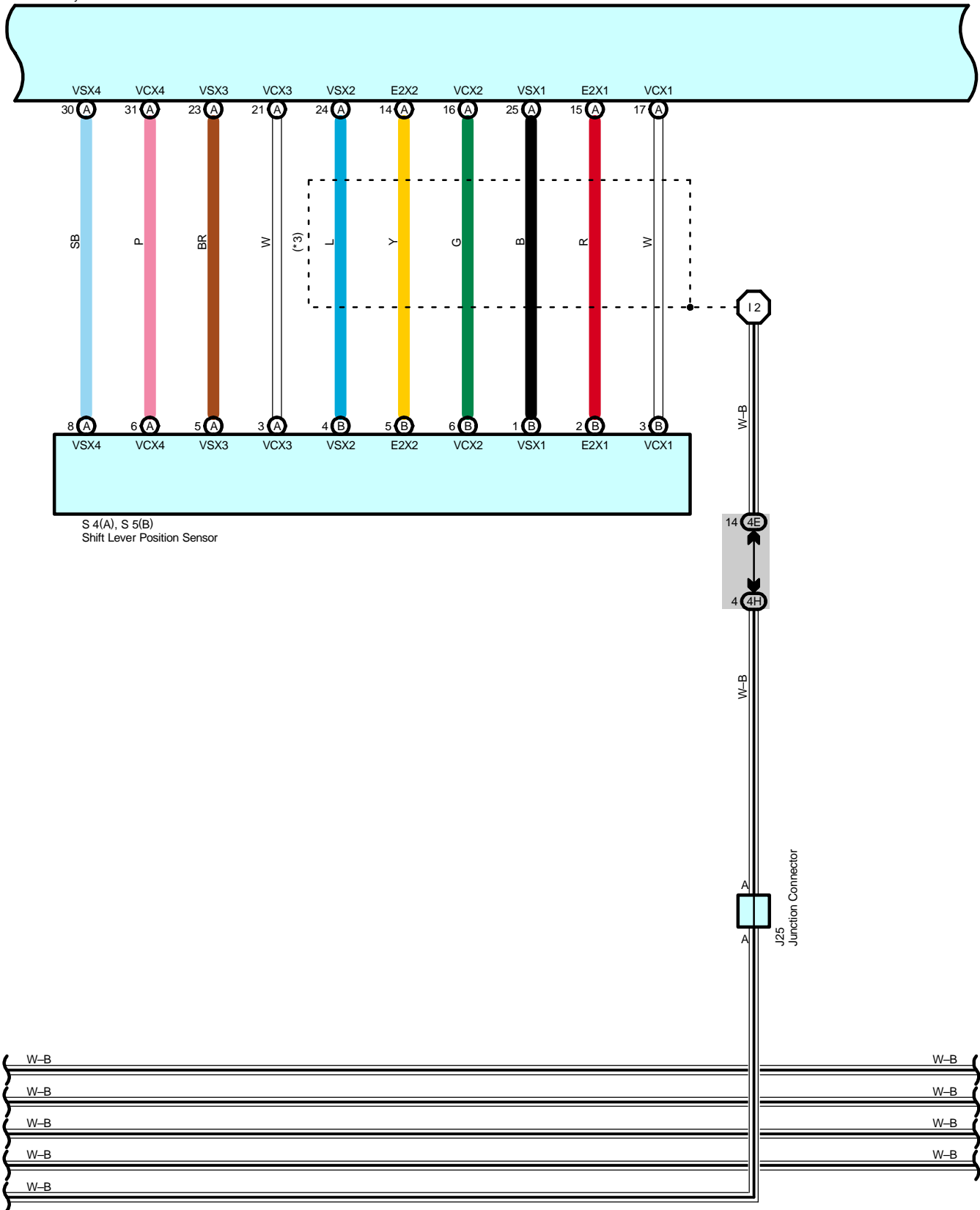


H14(A), H15(B), H16(C), H17(D)
Hybrid Vehicle Control ECU



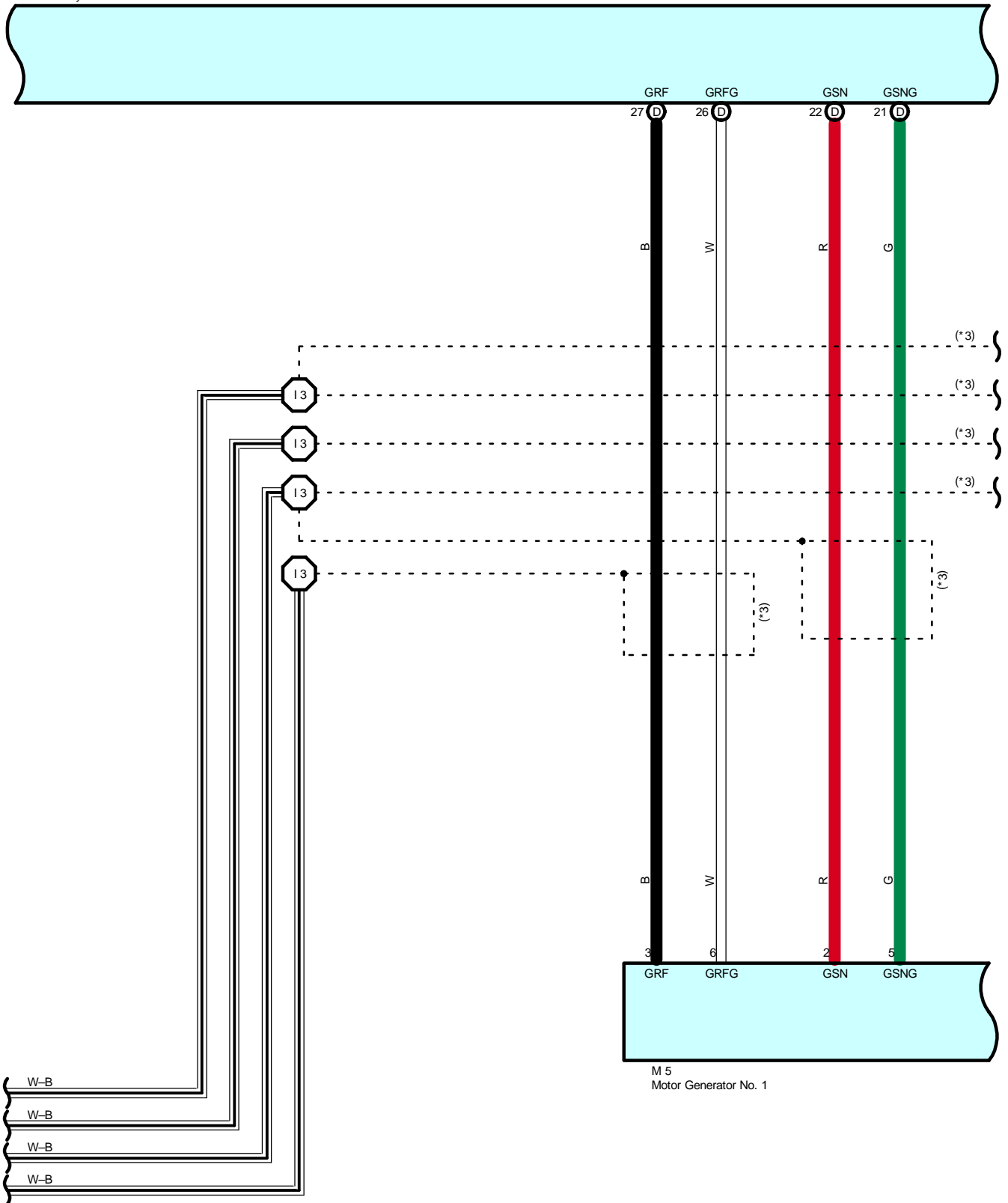
H14(A), H15(B), H16(C), H17(D)
Hybrid Vehicle Control ECU

* 3 : Shielded



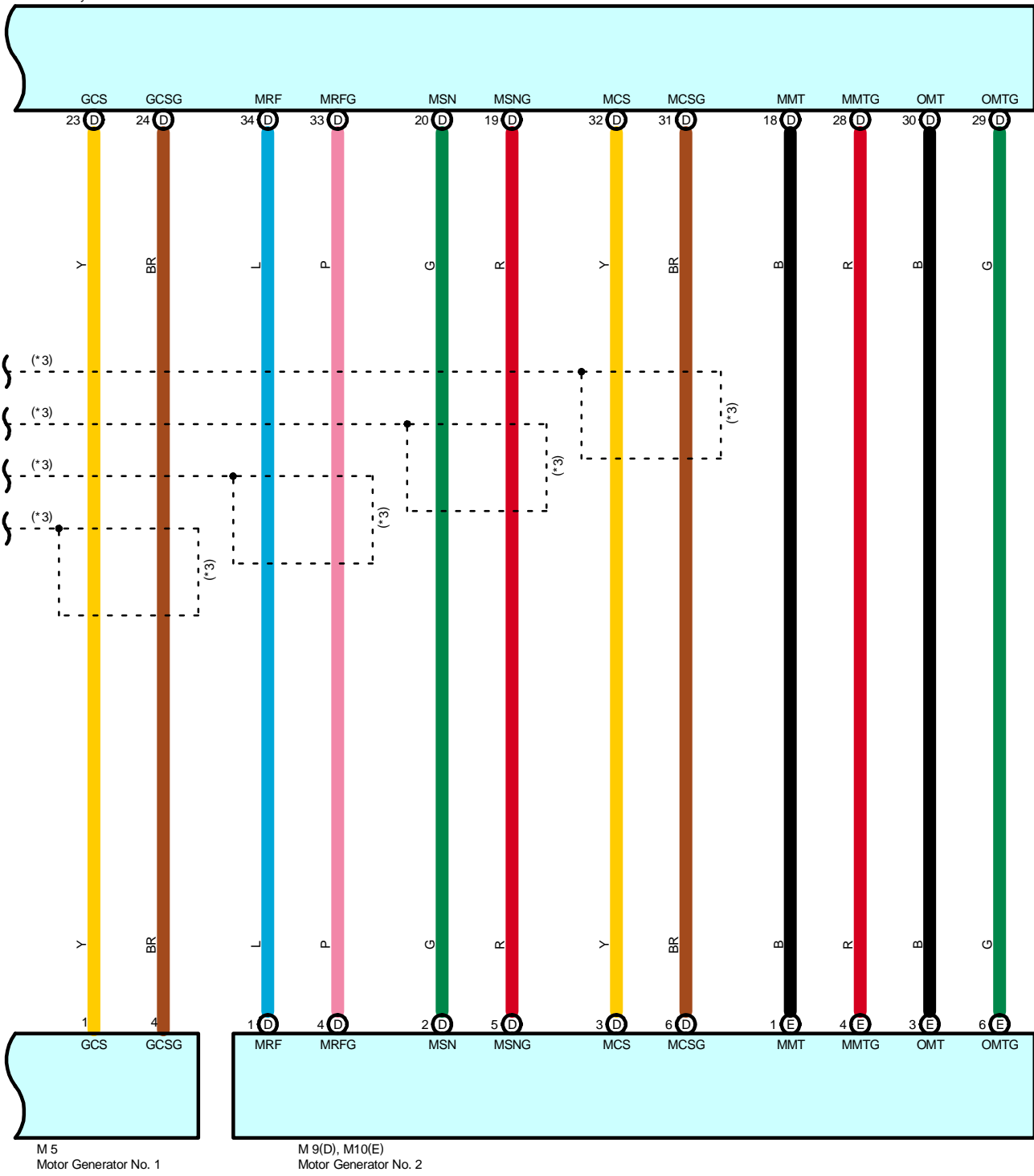
Shift Control System

H14(A), H15(B), H16(C), H17(D)
Hybrid Vehicle Control ECU



H14(A), H15(B), H16(C), H17(D)
Hybrid Vehicle Control ECU

* 3 : Shielded



Shift Control System

System Outline

Under this system, operating signal of shift lever is sent to hybrid vehicle control ECU to control hybrid motor, which changes shift ranges (R, N, D, B) electrically. When shift is put in P range, transmission control ECU receives operating signal from hybrid vehicle control ECU and activates parking lock electrically.

1. Shift Range Change Function

Gear can be shifted to any shift range under condition when vehicle can drive except when reject function is in operation. When vehicle cannot drive with power SW at IG ON position, gear can be shifted only to P and N range. When vehicle cannot drive with power SW at ACC ON position, gear can be shifted only to P range. When power SW is at OFF position, gear cannot be shifted to any range. When main SW is operated at vehicle stop after starting hybrid system, gear is automatically changed to P range from any other gear range and turns off power supply.

2. Reject Function

Changing gear may not effect to change range under certain vehicle condition. Under such condition, warning buzzer of combination meter sounds to show the rejection and call for driver's attention. Followings are shift operations and shift range conditions under which reject function is activated.

- * When gear is shifted from P range to other range without applying brake pedal, gear stays in P range.
- * Main SW cannot put gear in P range during driving but changes to N range.
- * Shift change to forward or backward during driving changes gear to N range.
- * When gear is changed from other range than D range to B range, gear is changed to N range automatically.

3. Combination Meter Indication

The combination meter shows present shift range position. Other shift range positions than D or B range are not shown in lighting in the combination meter. This is to avoid unnecessary shifting operation to B range from other shift position except D range.

4. Operation of Parking Lock

Operation signal from/to P range is sent from main SW or power SW to transmission control ECU through hybrid vehicle control ECU. At that time the transmission control ECU operates P CON MTR relay, activates parking lock actuator with appropriate control of electric current, and lights up main SW when shift is at P range. If the system has abnormality on parking lock operation, it tells the system abnormality to the driver by lighting up master warning light on combination meter, displaying warning of the system abnormality on the multi-display, and blinking indicator light of main SW.

5. Operation at Electric Power OFF

Under electric power OFF, transmission control ECU receives signal from power source control ECU by multi-communication, and sends shift range position information to hybrid vehicle control ECU. The hybrid vehicle control ECU sends signal to power source control ECU to tell whether it is right or wrong condition to turn off electric power. Accepted conditions for electric power OFF are as follows;

- * When hybrid vehicle control ECU is not sending request signal for parking lock release with shift range in P range position.
- * With shift range is at other range than P range, when hybrid vehicle control ECU is outputting signal that hybrid system is not running or request signal for parking lock.
- * When there is abnormal motor's not running condition with parking lock in operation, and hybrid system is not running and parking brake is being applied.

Service Hints

T4 Transmission Control ECU

- 1-Ground : Approx. 12 volts with the power SW at IG ON position
- 13-Ground : Always approx. 12 volts
- 2, 3, 15-Ground : Always continuity

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A8	46	J13 B	48	P6	49
B5 A	46	J14	48	P11	49
C10	47	J15	48	S1	45
D1	47	J16	48	S4 A	49
G1	47	J17	48	S5 B	49
H14 A	47	J18	48	S7 A	49
H15 B	47	J24	48	S8 B	49
H16 C	47	J25	48	S9 C	49
H17 D	47	M5	45	S10 D	49
J3	45	M9 D	45	S11	49
J6	48	M10 E	45	S16	49
J9	48	M11	48	T4	49
J10	48	M13	48	T5	49
J12 A	48	P2	49		

○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
3	22	Engine Room R/B (Engine Compartment Left)

○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	28	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1E	28	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1F		
1G		
1J		
1L		
1M		
3I		
3J		
4C	36	Instrument Panel Wire and Center Connector No.1 (Behind the Combination Meter)
4D		
4E		
4F		
4G		
4H		
4I		
4J		
4L		
5A	40	Instrument Panel Wire and Center Connector No.2 (Instrument Panel Brace RH)
5C		
5D		
5E		
5F		
5G		
5H		
5I		
5J		
5K		
5L		
5M		

Shift Control System

 : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EB1	54	Engine Wire and Engine Room Main Wire (Inside of the Engine Room R/B)
IA1	56	Engine Room Main Wire and Instrument Panel Wire (Upper Parts of Front Body Pillar LH)
IA2		
IA3		
IG1	58	Instrument Panel Wire and Instrument Panel No.2 Wire (Behind the Combination Meter)
IG2		
II1	58	Engine Wire and Instrument Panel Wire (Behind the Glove Box)
IJ1	58	Engine Room Main Wire and Instrument Panel Wire (Behind the Glove Box)

 : Ground Points

Code	See Page	Ground Points Location
EE	54	Left Side of the Suspension Tower
EF		
IH	56	Cowl Side Panel LH
II	56	Instrument Panel Brace LH

 : Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E3	54	Engine Room Main Wire	I3	58	Engine Wire
I2	58	Instrument Panel Wire			

