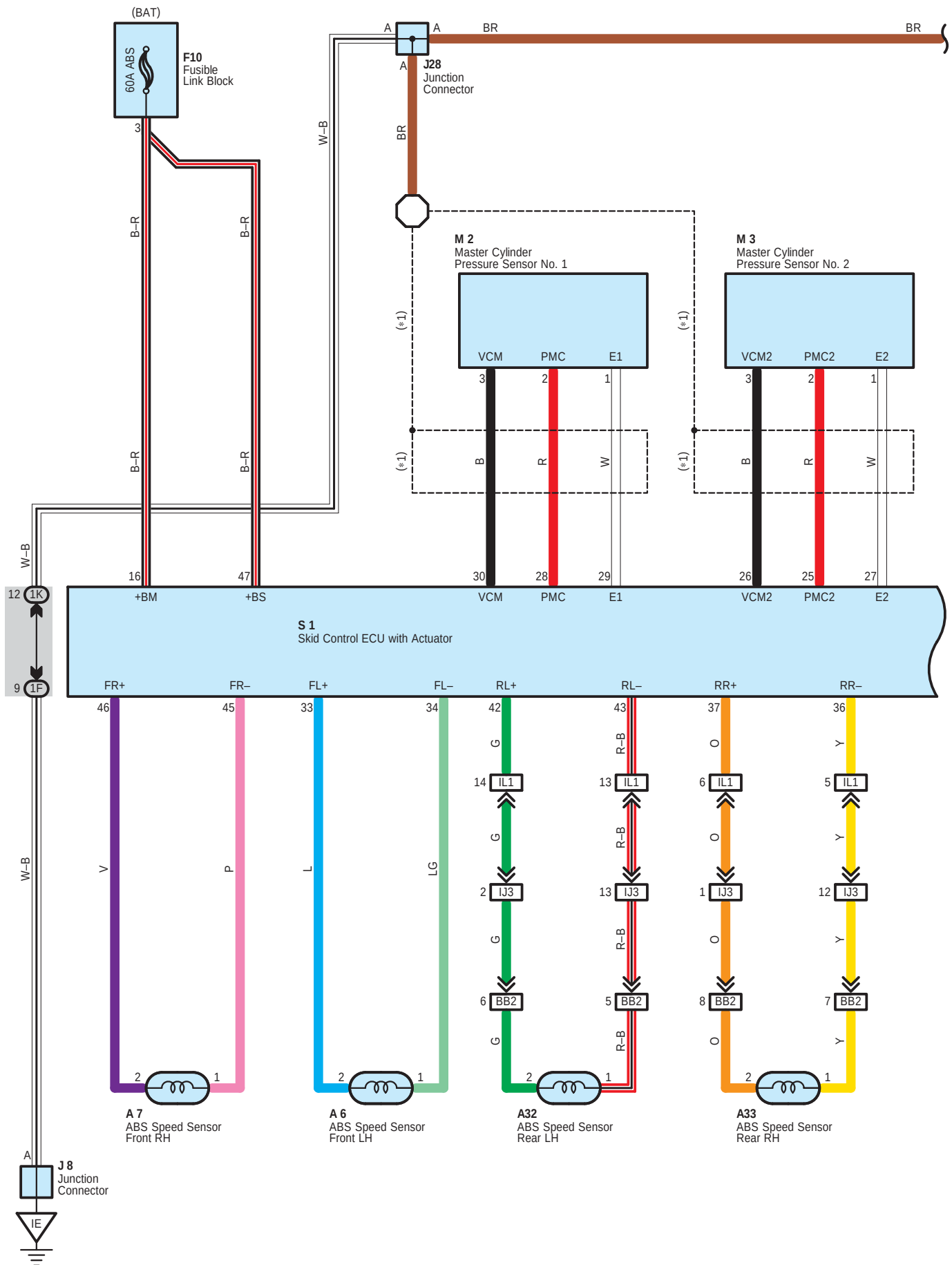
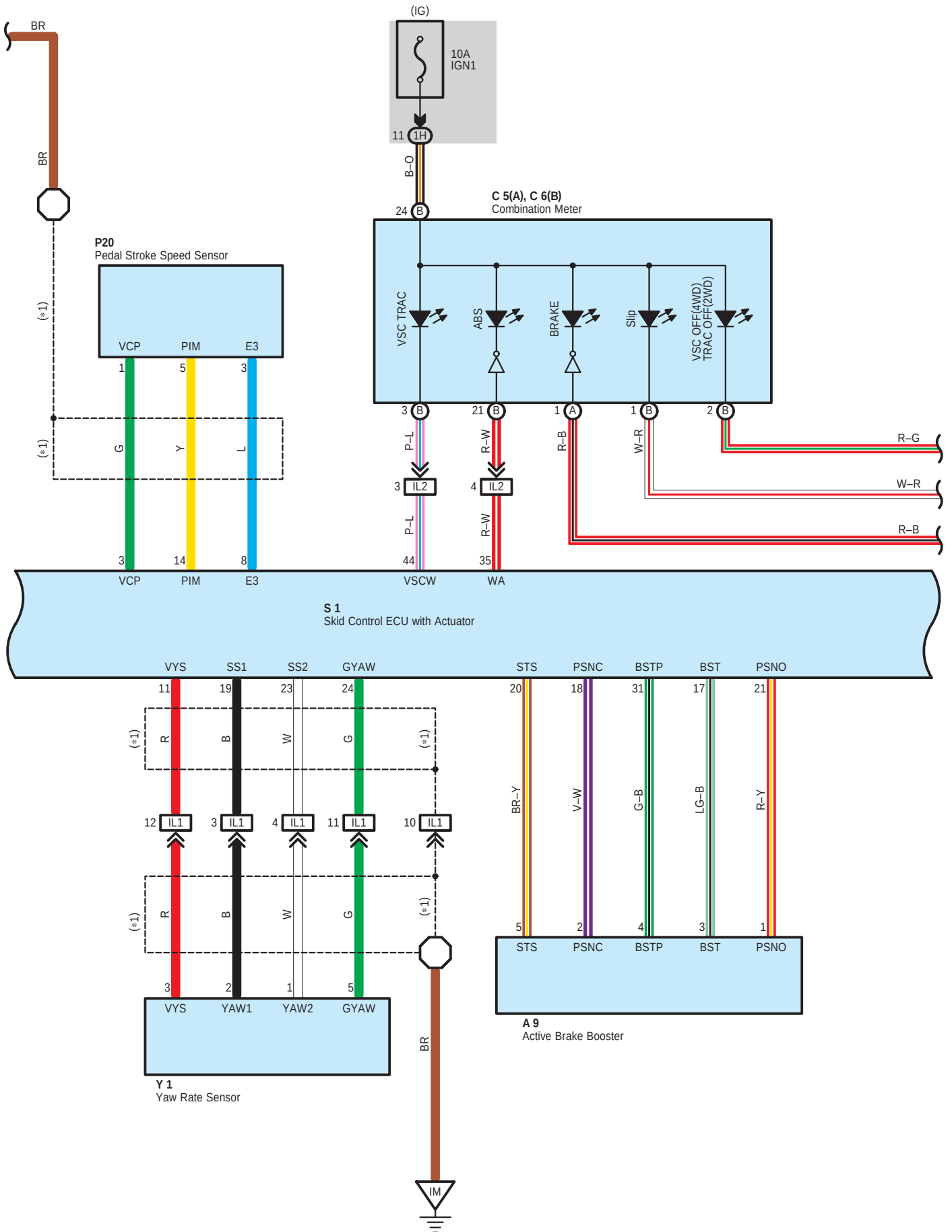
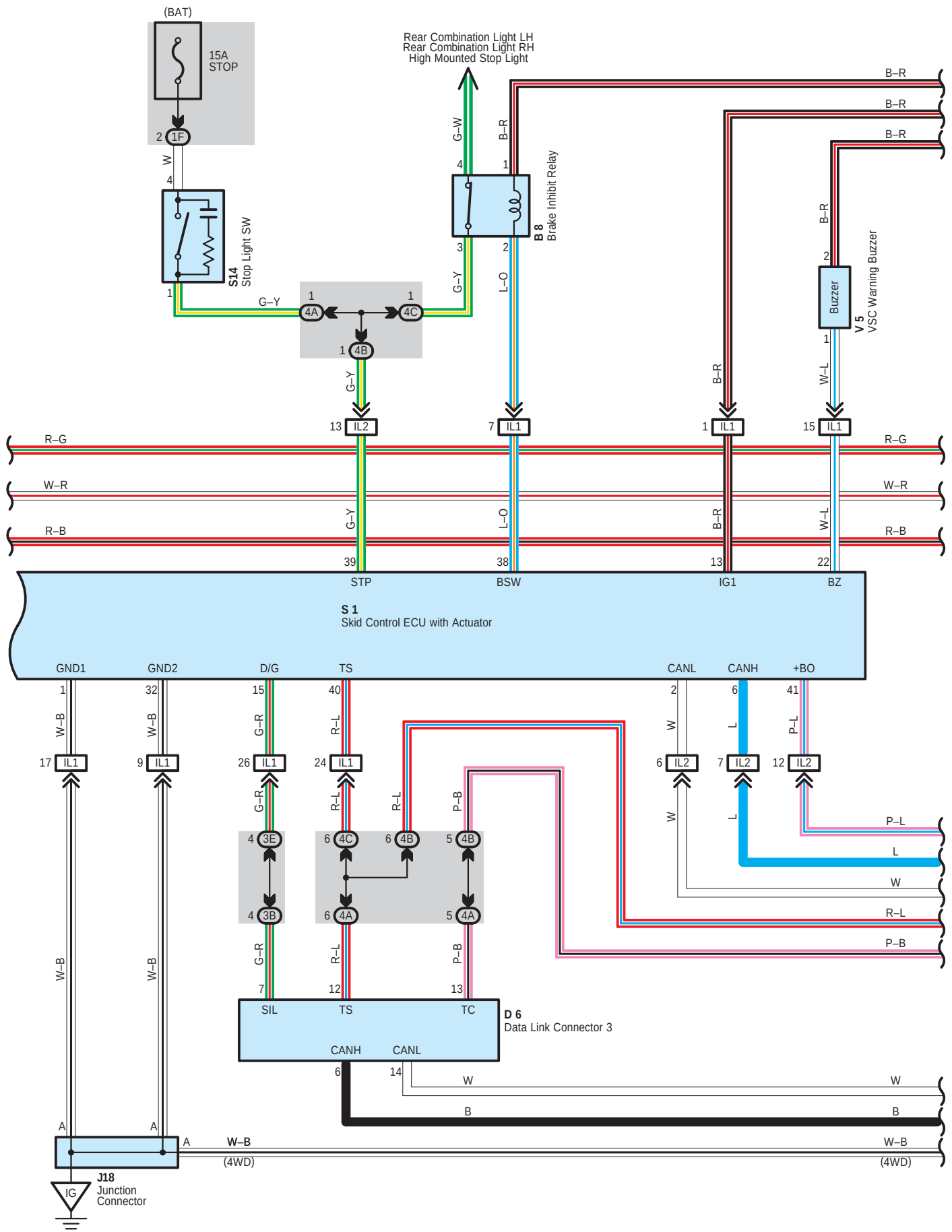
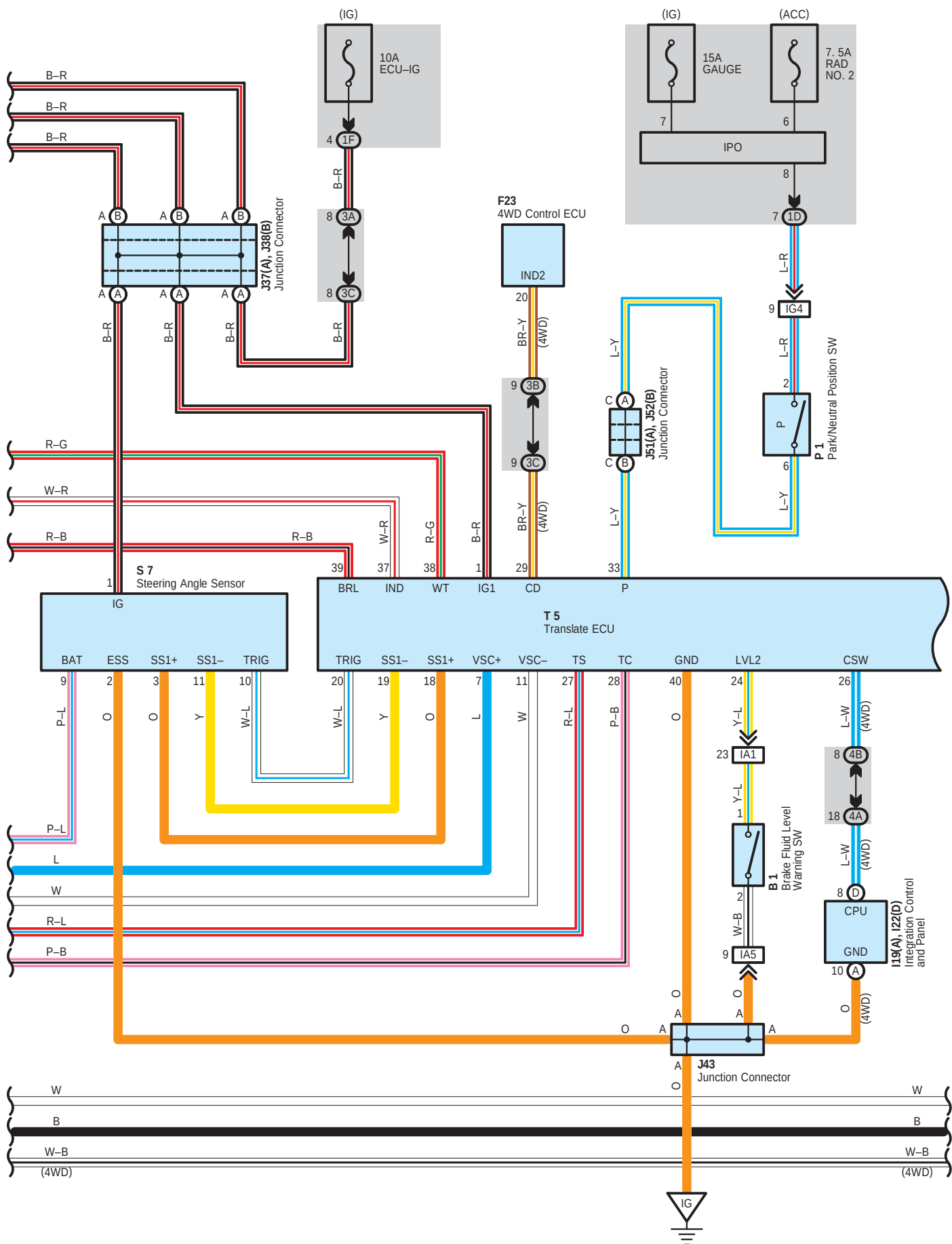


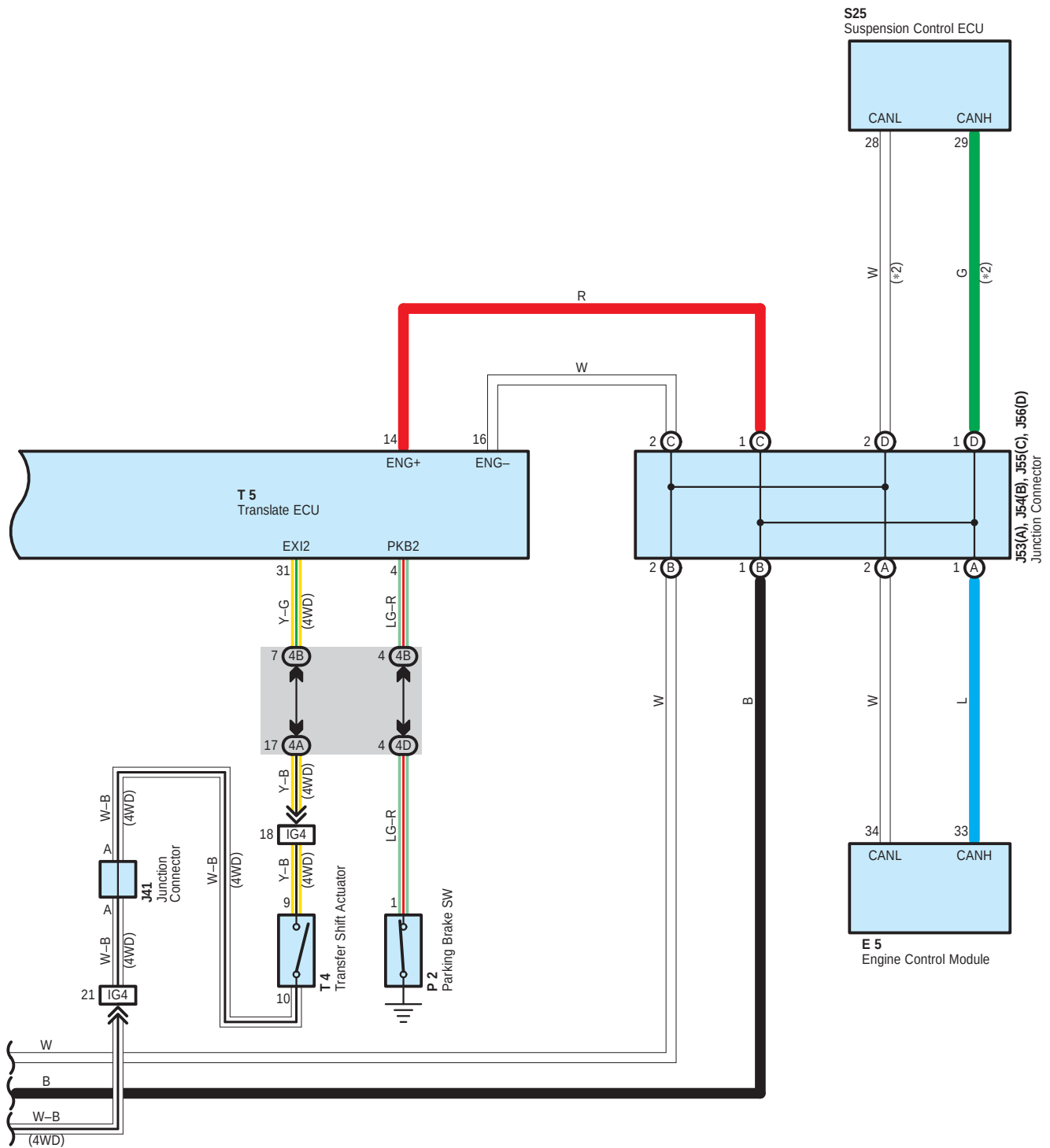


* 1 : Shielded









System Outline

ABS Operation

This system controls the respective brake fluid pressures acting on the disc brake cylinders of the right front wheel, left front wheel, and rear wheels when the brakes are applied in a panic stop so that the wheels do not lock.

This results in improved directional stability and steerability during panic braking.

1. Input Signal

(1) Speed sensor signal

The speed of the wheels is detected and input to TERMINALS FL+, FR+, RL+ and RR+ of the skid control ECU with actuator.

(2) Stop light SW signal

A signal is input to TERMINAL STP of the skid control ECU with actuator when the brake pedal is depressed.

2. System Operation

During sudden braking, the skid control ECU with actuator which has signals input from each sensor lets the hydraulic pressure acting on each wheel cylinder escape to the reservoir.

The pump inside the skid control ECU with actuator is also operating at this time and it returns the brake fluid from the reservoir to the master cylinder, thus preventing locking of vehicle wheels.

If the skid control ECU with actuator judges that the hydraulic pressure acting on the wheel cylinder is insufficient, the current acting on the solenoid is controlled and the hydraulic pressure is increased.

Holding of the hydraulic pressure is also controlled by the ECU, by the same method as above, by repeated pressure reduction. Holding and increase are repeated to maintain vehicle stability and to improve steerability during sudden braking.

VSC Operation

The vehicle could be in an extreme over steering or under steering tendency due to unexpected accidents, road conditions, vehicle speed, or by other external factors. In such a case, this system automatically controls the engine output and the braking to each wheel, to decrease the extreme over steering and under steering.

* To decrease extreme over steering tendency

When the system determines that the over steering tendency is large, the system applies brakes to the outer wheels according to the degree of over steering, and creates a moment towards the outer side of the vehicle, to decrease the tendency of over steering. Also, when the brakes are applied, the vehicle speed decreases while the stability increases.

* To decrease extreme under steering tendency

When the system determines that the under steering tendency is large, the system applies brakes to the front or rear wheels according to the degree of under steering, to decrease the tendency of under steering.

When the VSC operated, the skid control ECU with actuator sends a signal and the slip indicator in the instrumental cluster will flash and a buzzer will sound to warn the driver that the tire grip is at its limit.

Active Traction Control (4WD)

While driving with the 4WD mode, the active TRAC system helps control the spinning of the wheels which may occur when accelerating on a snowy road or during severe off-road driving, by controlling the brake fluid pressure of each wheel. The system distributes the traction lost by slipping to each wheel, which produces a strong LSD effect. When the active TRAC is in use, the skid control ECU with actuator sends a signal and the slip indicator in the instrumental cluster will flash and a buzzer will sound to notify the driver.

Traction Control Operation (2WD)

Estimating the vehicle speed from the rear wheel speed, comparing it with the front, driving wheel speed and judging the grip condition of the driving wheels. From the estimated vehicle speed, target speed of the driving speed will be set. When the front, driving wheel speed exceeds the control starting speed, it judges that the tire slip is occurred and performs the fuel cut cylinder number control and brake control and then adjust to make the front wheel speed become the traction control target speed. Controlling of the traction control will be completed when the vehicle move on to the road where the driving wheels will not have a tire slip or when the driver decelerate.

ABS, TRAC and VSC

: Parts Location

Code		See Page	Code		See Page	Code	See Page
A6		40	I22	D	43	M2	41
A7		40	J8		44	M3	41
A9		40	J18		44	P1	41
A32		46	J28		41	P2	45
A33		46	J37	A	44	P20	41
B1		40	J38	B	44	S1	41
B8		42	J41		44	S7	45
C5	A	42	J43		44	S14	45
C6	B	42	J51	A	44	S25	45
D6		43	J52	B	44	T4	41
E5		43	J53	A	44	T5	45
F10		22, 40	J54	B	44	V5	45
F23		43	J55	C	44	Y1	45
I19	A	43	J56	D	44		

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	33	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1F		
1H		
1K	33	Engine Room Main Wire and Instrument Panel J/B (Lower Finish Panel)
3A	36	Cowl Wire and Sub J/B No.3 (Upper the Accelerator Pedal)
3B		
3C		
3E		
4A	38	Cowl Wire and Sub J/B No.4 (Upper the Accelerator Pedal)
4B		
4C		
4D		

: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA1	51	Engine Room Main Wire and Cowl Wire (Cowl Side Panel LH)
IA5		
IG4	51	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IJ3	51	Floor No.1 Wire and Cowl Wire (Right Kick Panel)
IL1	51	Engine Room Main Wire and Cowl Wire (Cowl Side Panel RH)
IL2		
BB2	52	Frame Wire and Floor No.1 Wire (Under the Front Passenger's Seat)

: Ground Points

Code	See Page	Ground Points Location
IE	51	Cowl Side Panel LH
IG	51	Cowl Side Panel RH
IM	51	Rear Console

