

ECU Connector Diagram

A: **B134**

1	2	3	4	5		6	7
8	9	10	11	12	13	14	15
16	17		18	19	20	21	22

B: **B135**

1	2	3	4	5	6		7	8	9
10	11	12	13	14	15	16	17	18	19
20	21	22		23	24	25	26	27	28

C: **B136**

1	2		3	4	5	6	7	
8	9	10	11	12	13	14	15	16
17	18	19	20	21		22	23	24

D: **B137**

1	2		3	4	5	6	7	8	9		
10	11	12	13	14	15	16	17	18	19	20	21
22	23	24	25	26		27	28		29	30	31

E: **B84**

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15		16	17

ECU Pinout Chart

**2002 WRX Engine Control Module (ECM) I/O Signals**

**Signal (V)**

Content		Pin	Wire Color	Ignition SW ON (Engine OFF)	Engine ON (Idling)	Note
Crankshaft position sensor	Signal (+)	B2	W	0	-7 — +7	Sensor output waveform
	Signal (-)	B11	G	0	0	—
	Shield	B21	SB	0	0	—
Camshaft position sensor	Signal (+)	B1	R	0	-7 — +7	Sensor output waveform
	Signal (-)	B10	B	0	0	—
	Shield	B21	SB	0	0	—
Throttle position sensor	Signal	B7	Lg	Fully closed: 0.2 — 1.0 Fully opened: 4.2 — 4.7		—
	Power supply	B9	Sb <sup>1</sup>	5	5	—
	Ground (sensor)	B19	RG	0	0	—
Rear oxygen sensor	Signal	B17	W	0	0 — 0.9	—
	Shield	B26	SB	0	0	—
	Ground (sensor)	B19	RG	0	0	—
	Heater	C13	RW	0 — 1.0	0 — 1.0	—
Front oxygen (A/F) sensor	Sensor (+)	D19	W	2.8 — 3.2	2.8 — 3.2	Positive voltage to sensor's (+) terminal
	Sensor (-)	D29	B	2.4 — 2.7	2.4 — 2.7	Positive voltage to sensor's (-) terminal
	Shield	D18	SB	0	0	—
	Heater 1	D4	W	0 — 1.0	0 — 1.0	—
	Heater 2	D5	W	0 — 1.0	0 — 1.0	—
Engine Coolant temp. sensor	Signal	B18	BY	1.0 — 1.4	1.0 — 1.4	After engine warmup
	Ground (sensor)	B19	RG	0	0	—
Vehicle speed signal		A1	GY	0 or 5	0 or 5	Four 5V pulses for each front differential revolution. 2,548 pulses per minute is 60 km/h.
Mass air flow (MAF) sensor	Signal	E13	PL	—	0.3 — 4.5	—
	Shield	E8	SB	0	0	—
	Ground	E7	BG	0	0	—
Intake air						

temperature sensor signal		B27	Br	—	—	—
Exhaust gas temperature sensor	Signal	B16	WB	—	—	—
	Ground (sensor)	B19	RG	0	0	—
Tumble generator valve position sensor RH	Signal	B23	BrR	Fully closed: 0.2 — 1.0 Fully opened: 4.2 — 4.7		—
	Power supply	B9	Sb <sup>1</sup>	5	5	—
	Ground (sensor)	B19	RG	0	0	—
Tumble generator valve position sensor LH	Signal	B13	BrY	Fully closed: 0.2 — 1.0 Fully opened: 4.2 — 4.7		—
	Power supply	B9	Sb <sup>1</sup>	5	5	—
	Ground (sensor)	B19	RG	0	0	—
Tumble generator valve RH (open)		E4	LG	0 or 5	0 or 5	—
Tumble generator valve RH (close)		E5	YG	0 or 5	0 or 5	—
Tumble generator valve LH (open)		E11	L	0 or 5	0 or 5	—
Tumble generator valve LH (close)		E10	LY	0 or 5	0 or 5	—
Wastegate control solenoid valve		D24	BW	10 — 13	13 — 14	—
Starter switch		A16	Y	0	0	Cranking: 8 — 14
A/C switch		A2	LY	ON: 10 — 13 OFF: 0	ON: 13 — 14 OFF: 0	—
Ignition switch		A5	GR	10 — 13	13 — 14	—
Neutral position switch		A8	WB	ON: 12±0.5 OFF: 0		Switch is ON when gear is in neutral position.
Test mode connector		A14	Or	5	5	When connected: 0
Knock sensor	Signal	B4	W	2.8	2.8	—
	Shield	B22	SB	0	0	—
Back-up power supply		D10	BR	10 — 13	13 — 14	Ignition switch OFF: 10 — 13

Control unit power supply	D2	YL	10 — 13	13 — 14	—	
	D3	YL	10 — 13	13 — 14	—	
Sensor power supply	B9	Sb <sup>1</sup>	5	5	—	
Line end check 1	A10	RW	0	0	—	
Ignition control	Coil #1	C24	Y	0	13 — 14	Waveform
	Coil #2	C23	YB	0	13 — 14	Waveform
	Coil #3	C22	YR	0	13 — 14	Waveform
	Coil #4	C21	YG	0	13 — 14	Waveform
Fuel injector control	#1	D1	P	10 — 13	1 — 14	Waveform
	#2	C6	PL	10 — 13	1 — 14	Waveform
	#3	C5	PB	10 — 13	1 — 14	Waveform
	#4	C4	PG	10 — 13	1 — 14	Waveform
Idle air control solenoid valve	Signal	C10	R	0 or 13 — 14	0 or 13 — 14	Waveform
Fuel pump controller	Signal 1	A13	LgR	—	—	—
	Signal 2	C15	VW	—	—	—
A/C relay control	D27	Br	ON: 0.5, or less OFF: 10 — 13	ON: 0.5, or less OFF: 13 — 14	—	
Radiator fan relay 1 control	D17	RL	ON: 0.5, or less OFF: 10 — 13	ON: 0.5, or less OFF: 13 — 14	—	
Radiator fan relay 2 control	D28	GR	ON: 0.5, or less OFF: 10 — 13	ON: 0.5, or less OFF: 13 — 14	—	
Malfunction indicator lamp (Check Engine)	D15	RW	—	—	Light "ON": 1, or less Light "OFF": 10 — 14	
Engine speed (RPM)	C9	G	—	—	Waveform	
Purge control solenoid valve	D16	WL	ON: 1, or less OFF: 10 — 13	ON: 1, or less OFF: 13 — 14	—	
Torque control 1 signal	A19	RY	5	5	—	
Torque control 2 signal	A18	PG	5	5	—	
Torque control cut signal	C14	YR	8	8	—	
Fuel temperature sensor	B6	LB	2.5 — 3.8	2.5 — 3.8	Ambient temperature: 25°C (75°F)	
					The value obtained after the	

Fuel tank pressure sensor	Signal	B15	GOr	2.3 — 2.7	2.3 — 2.7	fuel filler cap was removed once and recapped.
	Ground (sensor)	A19	RY	0	0	
Fuel tank pressure control solenoid valve		D22	LgB	ON: 1, or less OFF: 10 — 13	ON: 1, or less OFF: 13 — 14	—
Drain valve		D11	BrY	ON: 1, or less OFF: 10 — 13	ON: 1, or less OFF: 13 — 14	—
AT diagnosis input signal		B20	BrR	Less than 1 or More than 4	Less than 1 or More than 4	Waveform
AT load signal		B28	GW	4.3 — 4.4	0.9 — 1.4	—
Intake manifold air pressure (MAP) sensor	Signal	B8	YB	1.7 — 2.4	1.1 — 1.6	—
	Power supply	B9	Sb <sup>1</sup>	5	5	
	Ground (sensor)	B19	RG	0	0	
Fuel level sensor		B25	BrW	0.12 — 4.75	0.12 — 4.75	—
Small light switch		A17	BW	ON: 0 OFF: 10 — 13	ON: 0 OFF: 13 — 14	—
Blower fan switch		A9	GR	ON: 0 OFF: 10 — 13	ON: 0 OFF: 13 — 14	—
Rear defogger switch		A3	L	ON: 0 OFF: 10 — 13	ON: 0 OFF: 13 — 14	—
Power steering oil pressure switch		B24	OrB	10 — 13	ON: 0 OFF: 13 — 14	—
SSM/GST communications line		A21	LgB	Less than 1 or More than 4	Less than 1 or More than 4	—
Ground (sensors)		B19	RB	0	0	—
Ground (injectors)		C8	BY	0	0	—
Ground (coils)		C18	B	0	0	—
Ground (power supply)		C17	BW	0	0	—
		A22	BW	0	0	—
Ground (control systems)		A7	BR	0	0	—
		A15	BR	0	0	—

**Wire Insulation Color Guide****Connector Pin Guide**

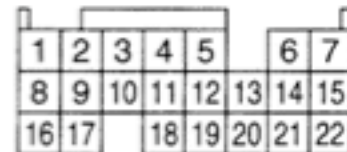
Code	Color
L	Blue
B	Black
Y	Yellow
G	Green
R	Red
W	White
Br	Brown
Lg	Light green
Gr	Gray
P	Pink
Or	Orange
Lb	Light blue
V	Violet
SA	Shielded conductor
SB	Shielding braid

If two colors are given, then the first is the base color and the second is the color of a stripe. Color codes are case sensitive. For example, the color code "Lg" indicates a light green wire, but the color code "LG" means a blue wire with a green stripe.

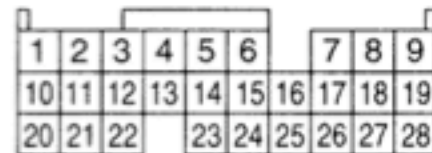
**Note:**

<sup>1</sup> Pin B9 supplies 5V power to several sensors. The Wiring System manual gives its wire color code as "Sb" which isn't a defined wire color code.

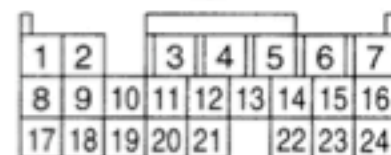
A: **B134**



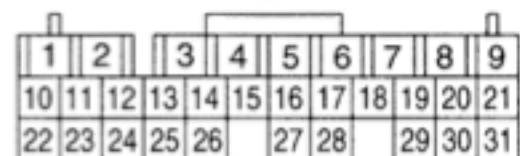
B: **B135**



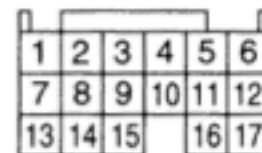
C: **B136**



D: **B137**



E: **B84**



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