2001 outback h6 (non-vdc) swap into impreza rs

How to get rid of p1507 code

This information was obtained from Dyne
On the rs25 web site his help has helped me greatly.
 I just wanted to help out and make this info more accessible

The ECU will be in neutral mode when the B134-8 pin is grounded, and in gear mode when it's open (and will read 10-14vish on the multimeter).

The TCM will be in neutral mode when either the park or neutral pins are grounded and all the others are open. Likewise, it will think it's in "1" when the "1" pin is grounded and all the others are open.

The ECU and TCM both need to be in either neutral or gear/"1" mode, or else you'll get a CEL for neutral position switch high or low input.

Since the B134-8 ECU pin and TCM neutral pin are both grounded when you when them to be in neutral mode, they can be wired together.

The ECU and TCM need to be in neutral mode when the clutch is pushed or the car is in neutral, otherwise the car will have a had time finding idle and you'll get the P1507 code.

The next part I can't quite remember. IIRC, the neutral switch will be grounded when the car is in gear. Also, the blue clutch switch (which is normally hooked up to the cruise control) is closed when the clutch is let out, and open when the clutch is pushed in.

If you hijack the clutch switch, and wire it inline with the neutral position switch, such that:

wire -------- [clutch switch] ---------- [NPS] ---------- ground

The wire will be grounded when the clutch is let out and the car is in gear. When the clutch is pushed in, or the car is in gear, the wire will be open.

SO, this wire can be connected to the TCM "1" pin. The ECU B134-8 and TCM neutral pin need to be wired so they're opposite of the TCM "1" pin (grounded when the "1" pin is ungrounded). This can be achieved with an NPN transitor you can get at radioshack if you don't have one.

Wire the NPN base to both the above clutch/NPS wire and the TCM "1" pin. Wire the collector to both the ECU B134-8 and TCM neutral pin. Wire the NPN emitter to another ground.

If you're not familiar with NPN transistors, when the Base voltage is high (such as when the clutch is pushed in or the car is in neutral), the Collector and Emitter pins are connected (so B134-8 and TCM neutral pins will be grounded).

Do that and it should work just fine. I dunno if you'd be able to get

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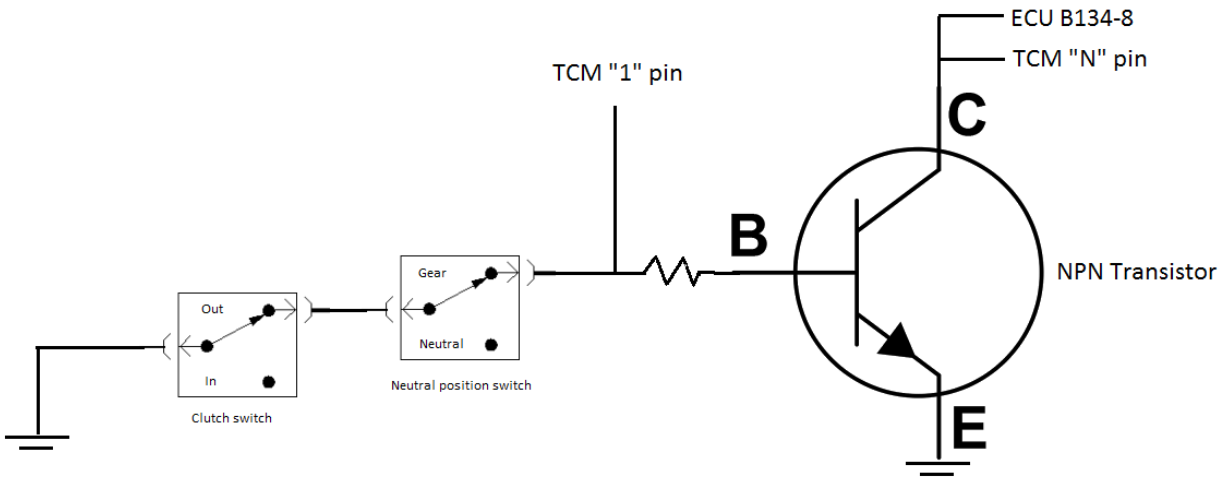
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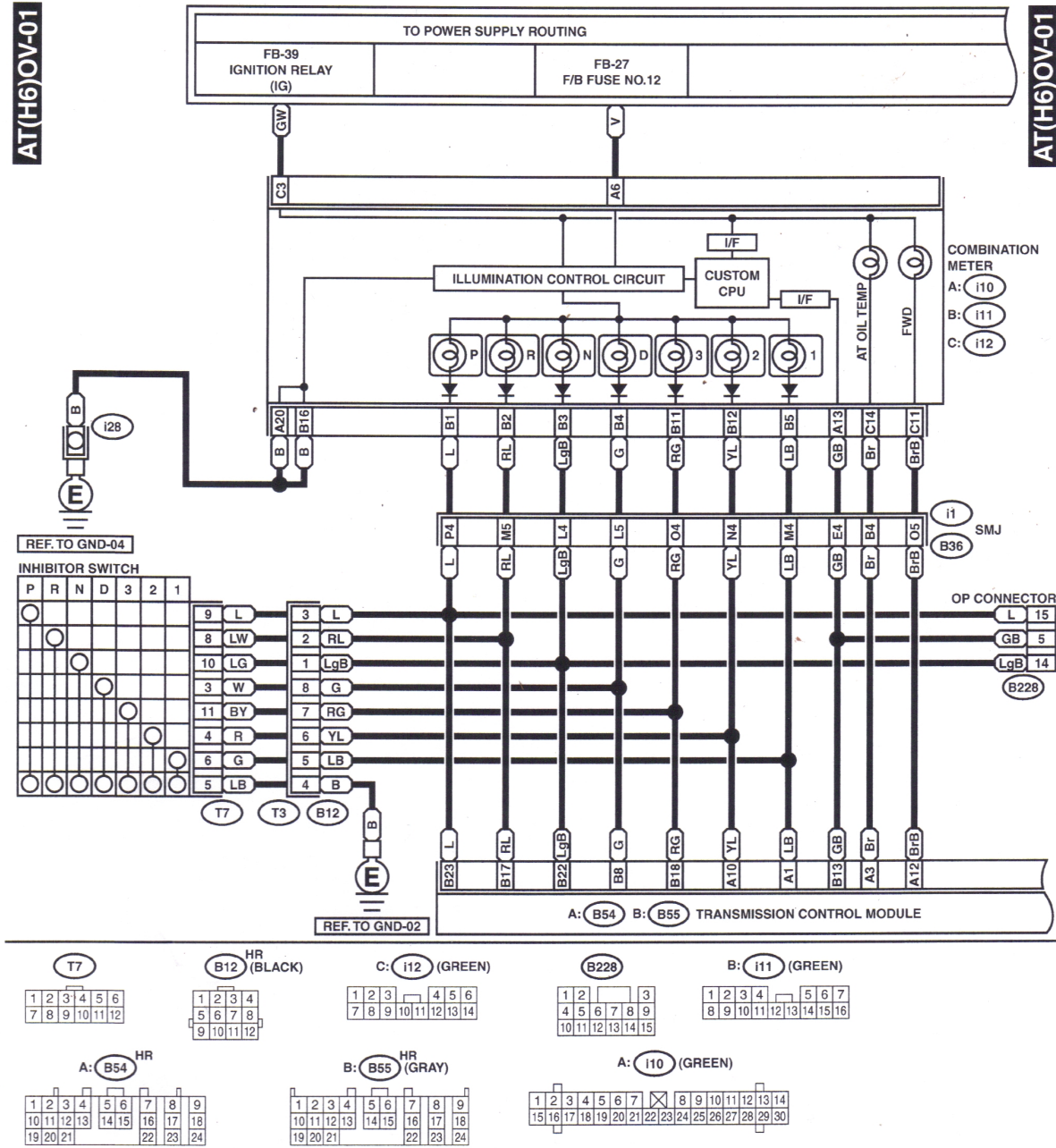
Do that and it should work just fine. I dunno if you'd be able to get the cruise control working correctly as the clutch switch is repurposed, but I never use it and didnt install it when I did the swap.

ECU B134-8

TCM "N" pin

TCM "1" pin

C

B

NPN Transistor

E

Out

In

Clutch switch

Gear

Neutral

Neutral position switch

A/T CONTROL SYSTEM

2002

2. 6-CYLINDER ENGINE WITHOUT VDC MODEL S903485A2104

AT(H6)OV-01

TO POWER SUPPLY ROUTING

| FB-39 IGNITION RELAY (IG) | | FB-27 F/B FUSE NO.12 | |

GW — C3
V — A6

ILLUMINATION CONTROL CIRCUIT

I/F

CUSTOM CPU

I/F

AT OIL TEMP

FWD

COMBINATION METER
A: i10
B: i11
C: i12

P R N D 3 2 1

i28

B

A20 B16

B B

REF. TO GND-04

INHIBITOR SWITCH

| P | R | N | D | 3 | 2 | 1 |

9 L — 3 L
8 LW — 2 RL
10 LG — 1 LgB
3 W — 8 G
11 BY — 7 RG
4 R — 6 YL
6 G — 5 LB
5 LB — 4 B

T7   T3   B12

E
REF. TO GND-02

B1 L P4 L B23 L
B2 RL M5 RL B17 RL
B3 LgB L4 LgB B22 LgB
B4 G L5 G B8 G
B11 RG O4 RG B18 RG
B12 YL N4 YL A10 YL
B5 LB M4 LB A1 LB
A13 GB E4 GB B13 GB
C14 Br B4 Br A3 Br
C11 BrB O5 BrB A12 BrB

i1 SMJ
B36

OP CONNECTOR
L 15
GB 5
LgB 14
B228

A: B54 B: B55 **TRANSMISSION CONTROL MODULE**

| T7 | HR B12 (BLACK) | C: i12 (GREEN) | B228 | B: i11 (GREEN) |

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

| A: B54 HR | B: B55 HR (GRAY) | A: i10 (GREEN) |

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

WI-07693

ENGINE CONTROL MODULE (ECM) I/O SIGNAL

Content			Connector No.	Terminal No.	Signal (V) Ignition SW ON (Engine OFF)	Signal (V) Engine ON (Idling)	Note
Engine coolant temperature sensor	Signal		B135	18	—	—	After warm-up the engine.
	GND (sensor)		B134	7	0	0	After warm-up the engine.
				15			
Generator signal			B137	12	4 — 5	4 — 5	
Starter switch			B134	16	0	0	Cranking: 9 — 12
A/C switch			B134	2	ON: 10 — 13 OFF: 0	ON: 13 — 14 OFF: 0	—
Ignition switch			B134	5	10 — 13	13 — 14	—
Neutral position switch			B134	8	ON: 0 OFF: 5		Switch is ON when shift is in "N" or "P" position.
Test mode connector			B134	14	5	5	When connected: 0
Knock sensor	Signal	1	B135	4	2.5	2.5	—
		2		13	2.5	2.5	—
	Shield		B135	22	0	0	—
Back-up power supply			B137	10	10 — 13	13 — 14	Ignition switch "OFF": 10 — 13
Control unit power supply			B137	2	10 — 13	13 — 14	—
				3	10 — 13	13 — 14	—
Sensor power supply			B135	9	5	5	—
Line end check 1			B134	10	0	0	—
Ignition control	#1		B136	24	0	—	Waveform
	#2		B136	23	0	—	Waveform
	#3		B136	22	0	—	Waveform
	#4		B136	21	0	—	Waveform
	#5		B136	20	0	—	Waveform
	#6		B136	19	0	—	Waveform
Fuel injector	#1		B137	1	10 — 13	1 — 14	Waveform
	#2		B136	6	10 — 13	1 — 14	Waveform
	#3		B136	5	10 — 13	1 — 14	Waveform
	#4		B136	4	10 — 13	1 — 14	Waveform
	#5		B136	3	10 — 13	1 — 14	Waveform
	#6		B136	1	10 — 13	1 — 14	Waveform
Idle air control solenoid valve	Signal		B136	10	10 — 13	—	Waveform
Fuel pump relay control			B136	15	ON: 0.5, or less OFF: 10 — 13	0.5, or less	—
A/C relay control			B137	27	ON: 0.5, or less OFF: 10 — 13	ON: 0.5, or less OFF: 13 — 14	—
Radiator fan relay 1 control			B137	17	ON: 0.5, or less OFF: 10 — 13	ON: 0.5, or less OFF: 13 — 14	—
Radiator fan relay 2 control			B137	28	ON: 0.5, or less OFF: 10 — 13	ON: 0.5, or less OFF: 13 — 14	With A/C vehicles only
Radiator fan relay 3 control			B137	24	ON: 0.5, or less OFF: 10 — 13	ON: 0.5, or less OFF: 13 — 14	—
Self-shutoff control			B134	6	10 — 13	13 — 14	—
Malfunction indicator lamp			B137	15	—	—	Light "ON": 1, or less Light "OFF": 10 — 14
Engine speed output			B136	9	—	0 — 13, or more	Waveform
Torque control 1 signal			B134	19	5	5	—