07-03-2010, 03:20 PM

#1

chemik
Honda-Tech Member
Garage is empty, add now

Join Date:

How To: Install KPRO on your 03-05 k24a4 Accord

This was just my experience but it will give you an idea of what you might expect when adding KPRO to your 03-05 k24a4 Accord. Its a different approach with the Accord since you end up running 2 ECUs and routing functions to each one. One controls the vitals of the engine and such, while the other controls things like the AC, Speedo etc.

The stock ECU lies behind the cubby in the center console. You can get to it by go through the passenger side. 1 clip holds the plastic cover in place.

My parts list:
1 of these : 02-4 RSX ECU (Base or S) - EP3 Civic Si ECU **appx $200**
1 of these : 02-04 RSX (Base or S) - EP3 Civic Si - 04-05 Civic D17 Wideband o2 sensor **$200-$300**
KPRO : **$1000**
Kpro Dual Harness: (Cham may still make them) **$350**
Soldering Iron

Mar 2003
Location: DFW
Posts: 124
iTrader Rating: (**0**)

Heat Shrink
Solder
Bullet Connectors
Butane Torch
16g Wire
o2 Sensor note: The Accord o2 sensor plug is **FEMALE** while the RSX and EP3 sensor is **MALE**
You can use **BUTT CONNECTORS** (yes, I said butt connectors as T1 Race Development advised me wouldn't hurt anything) to splice in a **FEMALE** plug to the new sensor since soldering them **properly** is
almost impossible. (notice I say PROPERLY) It is possible to fool with it long enough to stick a little bit of solder (as I did the first time on mine) but it wasn't as solid as I felt it should be. This is due to the o2 sensor using stainless steel wiring, as opposed to standard copper wiring found in the rest of the cars wiring. This is what makes it so hard to solder o2 sensor wiring.

other o2 option:create (or buy) a FEMALE-FEMALE o2 extension. This makes everything a plug and play experience and makes things faster. I ended up doing this on round 2 when my 1st o2 sensor went bad (it was used when I got it)

My parts list for making the female-female o2 extension:
4 Injector Dynamics Injector pins (same as female pins on Honda o2 sensor plug)
Crimping Tool
2 female plugs

My o2 Extension:

Props to T1 Race Development for this

Expect to spend anywhere between **$1500-$2000** to go KPRO. This depends on if you do all your labor, pay a shop to do it and also how cheap you find the sensor, ecu and KPRO. I know some shops sell KPRO a bit under $1000

As Tim on Elitecm.net has said before: This mod is only for those looking to make a good chunk of power down the road. Whether its a big all motor build or forced induction.

I do not advocate anyone to go do all this just to squeeze and extra 10whp from a bolt on affair car. In that case spray a 35shot of nitrous for $500 and call it a day :)

For those wanting to know the kpro process , here it is

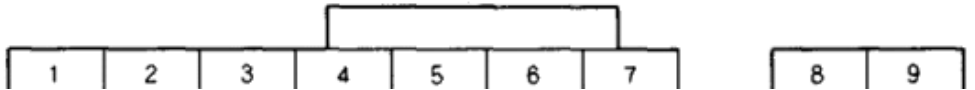
My kpro install was a bit different than other Accord Kpro installs because my harness did **NOT** come with the **VTC-** and **VTC+** wires ready to be ran into the engine bay.
Before we continue , I want to make you aware that I will be referring to pins as a letter followed by a number (ex: **b1**) The letter means the plug, and the number means the pin on the plug.

Here are the Accord ECU Diagrams so you get an idea of what im talking about:

Note: The **Manual** ECU only uses plugs **A B and E**. While the AUTO uses **C and D** in addition to those, in order to control the transmission.

Note JL: when looking at male PCM pins, A is on left (toward rear of vehicle if looking through passenger door as-installed), E is on right (toward firewall)

ECM/PCM Inputs and Outputs at Connector A (31P)

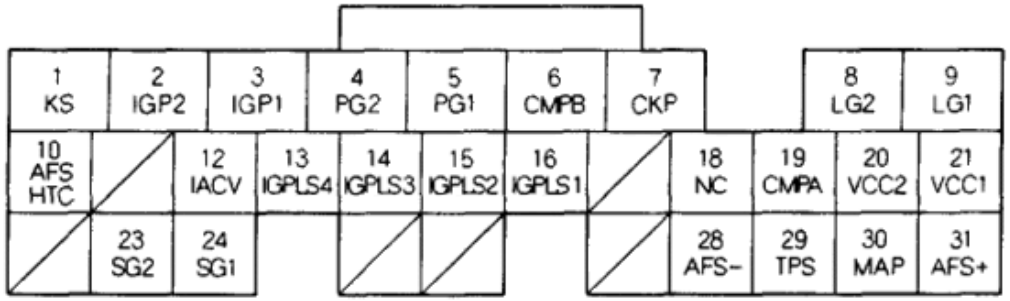


Wire side of female terminals

NOTE: Standard battery voltage is 12 V.

Terminal number	Wire color	Terminal name	Description	Signal
1	RED/BLU	KS (KNOCK SENSOR)	Detects knock sensor signal	With engine knocking: pulses
2	YEL/BLK	IGP2 (POWER SOURCE)	Power source for ECM/PCM circuit	With ignition switch ON (II): battery voltage With ignition switch OFF: about 0 V
3	YEL/BLK	IGP1 (POWER SOURCE)	Power source for ECM/PCM circuit	With ignition switch ON (II): battery voltage With ignition switch OFF: about 0 V
4	BLK	PG2 (POWER GROUND)	Ground circuit for ECM/ PCM	Less than 1.0 V at all times
5	BLK	PG1 (POWER GROUND)	Ground circuit for ECM/ PCM	Less than 1.0 V at all times
6	GRN	CMPB (CAMSHAFT POSITION SENSOR B)	Detects CMP sensor B signal	With engine running: pulses With the ignition switch ON (II): about 5 V
7	BLU	CKP (CRANKSHAFT POSITION SENSOR)	Detects CKP sensor signal	With engine running: pulses With the ignition switch ON (II): about 5 V
8	BRN/YEL	LG2 (LOGIC GROUND)	Ground circuit for ECM/ PCM	Less than 1.0 V at all times
9	BRN/YEL	LG1 (LOGIC GROUND)	Ground circuit for ECM/ PCM	Less than 1.0 V at all times
10	GRN	AFSHTC (AIR FUEL RATIO (A/F) SENSOR HEATER CONTROL)	Drives A/F sensor heater	With ignition switch ON (II): battery voltage With fully warmed up engine running: about 0 V
12	BLK/RED	IACV (IDLE AIR CONTROL (IAC) VALVE)	Drives IAC valve	With engine running: duty controlled
13	BRN	IGPLS4 (No. 4 IGNITION COIL PULSE)	Drives No. 4 ignition coil	With ignition switch ON (II): about 0 V With engine running: pulses
14	WHT/BLU	IGPLS3 (No. 3 IGNITION COIL PULSE)	Drives No. 3 ignition coil	
15	BLU/RED	IGPLS2 (No. 2 IGNITION COIL PULSE)	Drives No. 2 ignition coil	
16	YEL/GRN	IGPLS1 (No. 1 IGNITION COIL PULSE)	Drives No. 1 ignition coil	
18	BLK/BLU	NC (OUTPUT SHAFT (COUNTERSHAFT) SPEED SENSOR)	Detects output shaft (countershaft) speed sensor signal	With ignition switch ON (II): about 0 V or about 5 V While driving: about 2.5 V
19	BLU/WHT	CMP A (CAMSHAFT POSITION SENSOR A)	Detects CMP sensor A signal	With engine running: pulses With ignition switch ON (II): about 5 V

ECM/PCM Inputs and Outputs at Connector A (31P)

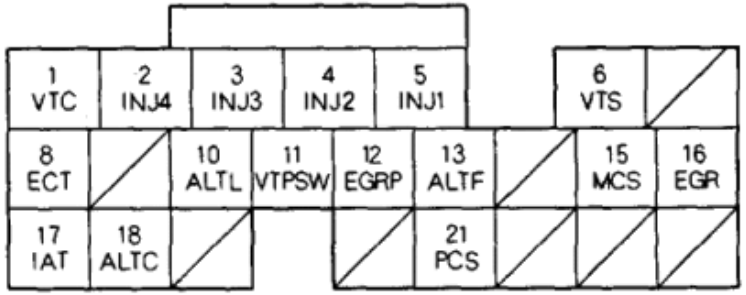


Wire side of female terminals

NOTE: Standard battery voltage is 12 V.

Terminal number	Wire color	Terminal name	Description	Signal
20	YEL/BLU	VCC2 (SENSOR VOLTAGE)	Provides sensor voltage	With ignition switch ON (II): about 5 V With ignition switch OFF: about 0 V
21	YEL/RED	VCC1 (SENSOR VOLTAGE)	Provides sensor voltage	With ignition switch ON (II): about 5 V With ignition switch OFF: about 0 V
23	GRN/YEL	SG2 (SENSOR GROUND)	Sensor ground	Less than 1.0 V at all times
24	GRN/WHT	SG1 (SENSOR GROUND)	Sensor ground	Less than 1.0 V at all times
28	RED/YEL	AFS − (AIR FUEL RATIO (A/F) SENSOR, SENSOR 1 −SIDE)	Detects A/F sensor (sensor 1) signal	
29	RED/BLK	TPS (THROTTLE POSITION SENSOR)	Detects TP sensor signal	With throttle fully open: about 4.5 V With throttle fully closed: about 0.5 V
30	GRN/RED	MAP (MANIFOLD ABSOLUTE PRESSURE SENSOR)	Detects MAP sensor signal	With ignition switch ON (II): about 3V At idle: about 1.0 V (depending on engine speed)
31	RED	AFS + (AIR FUEL RATIO (A/F) SENSOR, SENSOR 1 +SIDE)	Detects A/F sensor (sensor 1) signal	

ECM/PCM Inputs and Outputs at Connector B (24P)



Wire side of female terminals

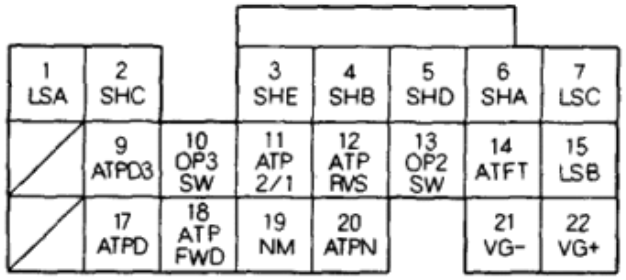
NOTE: Standard battery voltage is 12 V.

Terminal number	Wire color	Terminal name	Description	Signal
1	BLU/WHT	VTC (VTC OIL CONTROL SOLENOID VALVE)	Drives VTC oil control solenoid valve	With ignition switch ON (II): 0 V
2	YEL	INJ4 (No. 4 INJECTOR)	Drives No. 4 injector	At idle: duty controlled With ignition switch ON (II): battery voltage
3	BLU	INJ3 (No. 3 INJECTOR)	Drives No. 3 injector	
4	RED	INJ2 (No. 2 INJECTOR)	Drives No. 2 injector	
5	BRN	INJ1 (No. 1 INJECTOR)	Drives No. 1 injector	
6	GRN/YEL	VTS (VTEC SOLENOID VALVE)	Drives VTEC solenoid valve	At idle: about 0 V
8	RED/WHT	ECT (ENGINE COOLANT TEMPERATURE SENSOR)	Detects ECT sensor signal	With ignition switch ON (II): about 0.1 – 4.8 V (depending on engine coolant temperature) With fully warmed up engine: about 0.5 – 0.7 V
10	WHT/BLU	ALTL (ALTERNATOR L SIGNAL)	Detects alternator signal	With ignition switch ON (II): about 0 V With engine running: battery voltage
11	BLU/BLK	VTPSW (VTEC OIL PRESSURE SWITCH)	Detects VTEC oil pressure switch signal	With engine at low speed: about 0 V With engine at high speed: battery voltage
12	WHT/BLK	EGRP (EXHAUST GAS RECIRCULATION (EGR) VALVE POSITION SENSOR))	Detects EGR valve position sensor signal	With engine running: 1.2 – 3.0 V (depending on EGR valve lift)
13	WHT/RED	ALTF (ALTERNATOR FR SIGNAL)	Detects alternator FR signal	With engine running: about 0 – 5 V (depending on electrical load)
15*2	BLU/YEL	MCS (ENGINE MOUNT CONTROL SOLENOID VALVE)	Drives engine mount control solenoid valve	At idle: about 0 V Above idle: battery voltage With ignition switch ON (II): battery voltage
16	BLU/RED	EGR (EXHAUST GAS RECIRCULATION (EGR) VALVE)	Drives EGR valve	With EGR operating: duty controlled With EGR not operating: about 0 V
17	RED/YEL	IAT (INTAKE AIR TEMPERATURE SENSOR)	Detects IAT sensor signal	With ignition switch ON (II): about 0.1 – 4.8 V (depending on intake air temperture)
18	WHT/GRN	ALTC (ALTERNATOR CONTROL)	Sends alternator control signal	With engine running and fully warmed up: about 8 V
21	YEL/BLU	PCS (EVAPORATIVE EMISSION CANISTER	Drives EVAP canister purge valve	With engine running, engine coolant below 131°F (55°C): battery voltage

		PURGE VALVE)		With engine running, engine coolant above 131°F (55°C): duty controlled

* 2: A/T

PCM Inputs and Outputs at Connector C (22P)



Wire side of female terminals

NOTE: Standard battery voltage is 12 V.

Terminal number	Wire color	Terminal name	Description	Signal
1*2	RED/BLK	LSA (A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A)	Drives A/T clutch pressure control solenoid valve A	With ignition switch ON (II): duty controlled
2*2	GRN	SHC (SHIFT SOLENOID VALVE C)	Drives shift solenoid valve C	With engine running in Neutral and 1, or in D or D3 (in 1st, 3rd and 5th gears): battery voltage With engine running in Park, R, 2, or D or D3 (in 2nd, 4th gears): about 0 V
3*2	YEL	SHE (SHIFT SOLENOID VALVE E)	Drives shift solenoid valve E	With engine running in Park, R: battery voltage With engine running in Neutral, or in D, D3, 2, and 1: about 0 V
4*2	GRN/WHT	SHB (SHIFT SOLENOID VALVE B)	Drives shift solenoid valve B	With engine running in Park, R, Neutral 2, and 1, or D, D3 (in 1st, 2nd gears): battery voltage With engine running in D, D3 (in 3rd, 4th, 5th gears): about 0 V
5*2	GRN/RED	SHD (SHIFT SOLENOID VALVE D)	Drives shift solenoid valve D	With engine running in 2 or D, D3 (in 2nd, 5rd gears): battery voltage With engine running in Park, R, Neutral, 1, or D, D3 position (in 1st, 3rd, 4th, gears): about 0 V
6*2	BLU/BLK	SHA (SHIFT SOLENOID VALVE A)	Drives shift solenoid valve A	With engine running in R and 1, or D, D3 (in 1st, 4th, 5th gears): battery voltage With engine running in Park, Neutral and 2, or D, D3 (in 2nd, 3rd gears): about 0 V
7*2	BLU/YEL	LSC (A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE C)	Drives A/T clutch pressure control solenoid valve C	With the ignition switch ON (II): duty controlled
9*2	RED	ATPD3 (TRANSMISSION RANGE SWITCH D3)	Detects transmission range switch D3 signal input	In D3: about 0 V In any other position: battery voltage
10*2	BLU/WHT	OP3SW (3RD CLUTCH TRANSMISSION FLUID	Detects 3rd clutch transmission fluid pressure	With ignition switch ON (II): about 5 V With 3rd clutch pressure: 0 V

ok

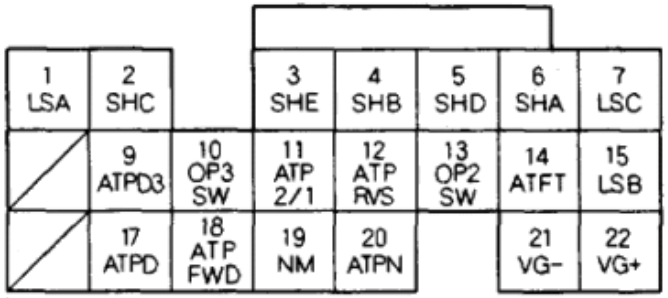
ok

OK

		PRESSURE SWITCH)	switch signal output	
11*2	GRN/RED	ATP2/1 (TRANSMISSION RANGE SWITCH 2ND/1ST)	Detects transmission range switch 2/1 signal input	In 2/1: about 0 V In any other position: battery voltage
12*2	RED/WHT	ATPRVS (TRANSMISSION RANGE SWITCH R)	Detects transmission range switch R signal input	In R: about 0 V In any other position: battery voltage
13*2	BLU/RED	OP2SW (2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH)	Detects 2nd clutch transmission fluid pressure switch signal input	With ignition switch ON (II): about 5 V With 2nd clutch pressure: 0 V
14*2	RED/YEL	ATFT (ATF TEMPERATURE SENSOR)	Detects ATF temperature sensor signal input	With ignition switch ON (II): about 0.2 – 4.8 V (depending on ATF temperature)

*2: A/T

PCM Inputs and Outputs at Connector C (22P)



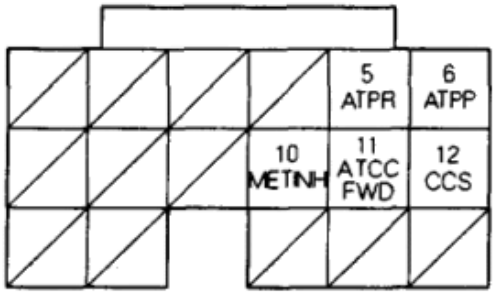
Wire side of female terminals

NOTE: Standard battery voltage is 12 V.

Terminal number	Wire color	Terminal name	Description	Signal
15*2	BRN/WHT	LSB (A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B)	Drives A/T clutch pressure control solenoid valve B	With ignition switch ON (II): duty controlled
17*2	YEL/GRN	ATPD (TRANSMISSION RANGE SWITCH D)	Detects transmission range switch D signal	In D: about 0 V In any other position: battery voltage
18*2	BLU/YEL	ATPFWD (TRANSMISSION RANGE SWITCH D, D3, 2)	Detects transmission range switch D, D3, 2 signal	In D, D3, and 2: about 0 V In any other position: battery voltage
19*2	WHT/RED	NM (INPUT SHAFT (MAINSHAFT) SPEED SENSOR)	Detects (input shaft (mainshaft) speed sensor signal	With ignition switch ON (II): about 0 V or about 5 V With engine running in Neutral: about 2.5 V
20*2	RED/BLK	ATPN (TRANSMISSION RANGE SWITCH NEUTRAL)	Detects transmition range switch Neutral signal	In Neutral: about 0 V In any other position: battery voltage
21*1	BLK/RED	VG− (MASS AIR FLOW (MAF) SENSOR −SIDE)	Ground for MAF sensor signal	
22*1	RED/GRN	VG+ (MASS AIR FLOW (MAF) SENSOR +SIDE)	Detects MAF sensor signal	At idle: 1.1−1.6 V

* 1: SULEV and LX-P models
* 2: A/T

PCM Inputs and Outputs at Connector D (17P)



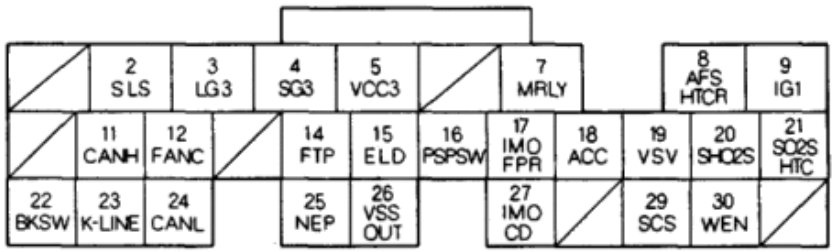
Wire side of female terminals

NOTE: Standard battery voltage is 12 V.

Terminal number	Wire color	Terminal name	Description	Signal
5*2	WHT	ATPR (TRANSMISSION RANGE SWITCH R)	Detects transmission range switch R signal	In R: about 0 V In any other position: battery voltage
6*2	BLU/BLK	ATPP (TRANSMISSION RANGE SWITCH PARK)	Detects transmission range switch Park signal	In Park: about 0 V In any other position: battery voltage
10*2	GRN	METINH (METER DISPLAY INHIBIT SIGNAL)	Sends inhibit signal	With ignition switch ON (II): battery voltage
11*2	PNK	ATCCFWD (TRANSMISSION RANGE SWITCH CRUISE CONTROL FWD SIGNAL)	Sends Park and D3 transmission range switch signal to cruise control unit	In D, D3: about 0 V In any other than D, D3: battery voltage
12*2	BLU/BLK	CCS (CRUISE CONTROL SIGNAL)	Detects cruise control signal	With cruise control on: pulses

* 2: A/T

ECM/PCM Inputs and Outputs at Connector E (31P)



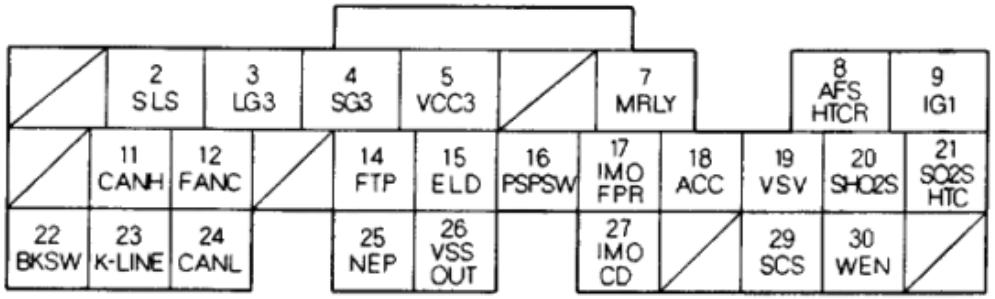
Wire side of female terminals

NOTE: Standard battery voltage is 12 V.

Terminal number	Wire color	Terminal name	Description	Signal
2*2	YEL/BLK	SLS (SHIFT LOCK SOLENOID)	Drives shift lock solenoid	With ignition switch ON (II), in the Park position, brake pedal pressed, and accelerator released: 0 V
3	BRN/YEL	LG3 (LOGIC GROUND)	Ground for ECM/PCM control circuit	Less than 1.0 V at all times
4	GRN/BLK	SG3 (SENSOR GROUND)	Sensor ground	Less than 1.0 V at all times
5	YEL/GRN	VCC3 (SENSOR VOLTAGE)	Provides sensor voltage	With ignition switch ON (II): about 5 V With ignition switch OFF: about 0 V
7	RED/BLK	MRLY (PGM-FI MAIN RELAY)	Drives PGM-FI main relay 1 (FI MAIN) * Power source for DTC memory	With ignition switch ON (II): about 0 V With ignition switch OFF: battery voltage
8	PNK	AFSHTCR (AIR FUEL RATIO (A/F) SENSOR HEATER CONTROL RELAY)	Drives A/F sensor heater relay	With ignition switch ON (II): 0 V
9	BLK/YEL	IG1 (IGNITION SIGNAL)	Detects ignition signal	With ignition switch ON (II): battery voltage With ignition switch OFF: about 0 V
11	WHT	CANH (CAN COMMUNICATION SIGNAL HIGH)	Sends communication signal	With ignition switch ON (II): pulses
12	GRN	FANC (RADIATOR FAN CONTROL)	Drives radiator fan relay	With radiator fan running: about 0 V With radiator fan stopped: battery voltage
14	LT GRN	FTP (FUEL TANK PRESSURE (FTP) SENSOR)	Detects FTP sensor signal	With ignition switch ON (II) and fuel fill cap off: about 2.5 V
15	BLU/BLK	ELD (ELECTRICAL LOAD DETECTOR)	Detects ELD signal	With ignition switch ON (II): about 0.1 — 4.8 V (depending on electrical load)
16	BLU/YEL	PSPSW (POWER STEERING PRESSURE SWITCH SIGNAL)	Detects PSP switch signal	At idle with steering wheel straight ahead: 0 V At idle with steering wheel at full lock: battery voltage
17	GRN/YEL	IMO FPR (IMMOBILIZER FUEL PUMP RELAY)	Drives PGM-FI main relay 2 (FUEL PUMP)	0 V for 2 seconds after turning ignition switch ON (II), then battery voltage
18	RED	ACC (A/C CLUTCH RELAY)	Drives A/C clutch relay	With compressor ON: about 0 V With compressor OFF: battery voltage
19	LT GRN/RED	VSV (EVAPORATIVE EMISSION (EVAP) CANISTER VENT SHUT VALVE)	Drives EVAP canister vent shut valve	With ignition switch ON (II): battery voltage
20	WHT/RED	SHO2S (SECONDARY HEATED OXYGEN SENSOR (SECONDAY HO2S), SENSOR 2)	Detects secondary HO2S (sensor 2) signal	With throttle fully closed at idle and fully warmed up engine: above 0.6 V With throttle quickly closed: below 0.4 V
21	BLK/WHT	SO2SHTC (SECONDARY HEATED OXYGEN SENSOR (SECONDAY HO2S) HEATER CONTROL)	Drives secondary HO2S heater	With ignition switch ON (II): battery voltage With fully warmed up engine running: duty controlled

* 2: A/T

ECM/PCM Inputs and Outputs at Connector E (31P)



Wire side of female terminals

NOTE: Standard battery voltage is 12 V.

Terminal number	Wire color	Terminal name	Description	Signal
22	WHT/BLK	BKSW (BRAKE PEDAL POSITION SWITCH)	Detects brake pedal position switch signal	With brake pedal released: about 0 V With brake pedal pressed: battery voltage
23	BLU	K-LINE	Sends and receives HDS signals	With ignition switch ON (II): pulses or battery voltage
24	RED	CANL (CAN COMMUNICATION SIGNAL LOW)	Sends the communication signal	With ignition switch ON (II): pulses
25	BLU/RED			
26*2	BLU/WHT	VSSOUT (VEHICLE SPEED SENSOR OUTPUT SIGNAL)	Sends vehicle speed sensor signal	Depending on vehicle speed: pulses With ignition switch ON (II): battery voltage
27	RED/BLU	IMOCD (IMMOBILIZER CODE)	Detects immobilizer signal	
29	BRN	SCS (SERVICE CHECK SIGNAL)	Detects service check signal	With the service check signal shorted using HDS: about 0 V With the service check signal open: about 5 V
30	RED/WHT	WEN (WRITE ENABLE SIGNAL)	Detects write enable signal	With ignition switch ON (II): about 0 V

* 2: A/T

Cham (the creator of the dual harness) told me on the phone he was trying something new on mine that may or may not work. Well it didnt work 100% but did 50% . It saved me from cutting the **VTC+** wire at the solenoid on the motor and required me to run only **1 wire (VTC -)** into the bay.

I initially tried the harness as it was shipped to me but immediately it popped a **P0010 code for VTC Oil Control Solenoid**

Turns out that Cham had both **B23 (vtc -) B1(vtc +)**wires going to **B1 pin.**