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Author:

Subject: "How to" OEM zetec ecu with Pats info.

big_wasa
Contributor

posted on 25/3/13 at 20:35

QUOTE REPORT



"How to" OEM zetec ecu with Pats info.

WARNING I WILL NOT BE HELD RESPONSIBLE FOR ANY LOSSES OR INJURY RESULTING FROM USE OF THE INFORMATION CONTAINED WITHIN THIS POST.

Posts 7190
Registered 9/12/04
Location spalding
Member Is Offline

As this is locost builders there are some people left that love to tinker and make things.

This is to give those people that are interested in running a ford efi engine on a budget a little more info on how the Immobilizer can be used out of the donor car.

The key to using the the ecu is the Pat's immobilizer. You must get atleast one key with chip that is matched to the ecu.

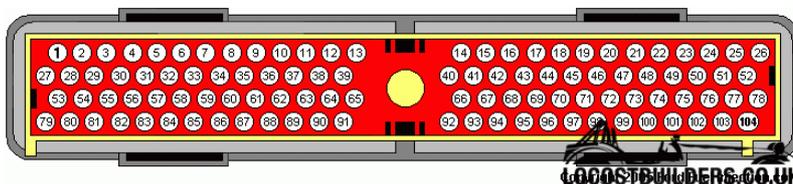
Photo Archive

Building: garrage is empty

You can not bypass it but you can use it.

Silver Top

The following pinouts are ONLY for the ecu with the code OWLS but with the info you can often work out other ecu's Ford 104 pin Mondeo 1997 "owls" ecu plug.



Missing numbers have no connection and are not used on the owls ecu or the function has not been found. This is still under development.

Pin number -- colour -- function.

08 yellow/green -- Pats
13 white/blue--Data Link connector.
15 blue-- Data Link connector.
16 grey-- Data Link connector.
19 grey/orange -- Pats TX signal.
20 black/blue -- Injector 3 switched earth.
21 white/red -- crankshaft position sensor +.
22 brown/rd --crankshaft position sensor -.
24 black/yellow -- ground
25 black/red -- ground separate earth @ ecu plug.
26 brown/blue -- switched earth coil 1 (pin 1 on coil).
27 black/yellow starter relay inhibitor
30 white/black -- octane plug
36 brown/blue -- MAF.
38 white/green -- Engine coolant temp sensor.
39 white violet -- Air temp sensor.
40 violet/black -- fuel pump monitor.
42 black/blue -- PATS Led.
48 white -- Tacho.
51 black/yellow -- ground.
52 brown/blue -- switched ground coil 2 (pin 3 on coil)
53 white/green -- Pats RX signal.
54 black/blue -- fuel pump switched earth.
55 orange/yellow Pin 10 c2513 KAM perm live.
60 white -- HO2S 1 signal
70 black/white -- injector 1 switched earth.
71 green/yellow -- switched 12v from power relay.
76 brown/white -- Cam position sensor.
77 black/yellow -- ground.
83 green/yellow -- idle air control valve.
85 white violet -- camshaft position sensor.
88 white/blue -- MAF.
89 white -- throttle position sensor.
90 yellow -- 5v Voltage Reference (tps)
91 brown -- sensor common.
93 black/yellow -- HO2S 1 control (earth).
95 black/orange -- injector 4 switched earth.
96 black/yellow -- injector 2 switched earth.
97 green/yellow -- switched 12v.
103 black/yellow -- earth.

Black Top

Ford 104 pin Mondeo 1999 "owl5" Pcm plug. C401.

Pin number -- colour -- function.

13 white/blue--Data Link connector.
15 blue-- Data Link connector.
16 grey-- Data Link connector.
17 black/white -- to PIN 25 on c2513.
19 grey/orange -- to Pin 32 on c2513 Pats TX signal.
20 black/blue -- Injector 3 switched earth.
21 white/red -- crankshaft position sensor +.
22 brown/rd --crankshaft position sensor -.
24 black/yellow -- ground pin 9 on c2513.
25 black/red -- ground separate earth @ Pcm plug.
26 black/blue -- switched earth coil 1 (pin 1 on coil).
27 black/yellow -- pin 36 on square c2513 start inhibit relay circuit. ???
28 white/violet -- pin 13 on c2513 vehicle speed signal (split to Pcm and dash).
31 white -- pin 7 on c2513 Power steering pressure switch. ???
36 brown/blue -- Pin 4 on square c2513 MAF return.
38 white/green -- coolant temp sensor (P1 mini timer)
39 white violet -- Air temp in MAF (P1 Maf plug)

40 violet/black -- Pin 19 c2513 fuel pump monitor.
 41 violet/blue -- Pin 23 c2513 A/C clutch pressure switch.???
 42 black/blue -- Pin 6 c2513 PATS Led. ???
 43 white -- Pin 28 on c2513 sensor signal white. ???
 47 black/green -- vacuum solenoid valve control (pin 2 small plug).
 48 white -- Pin 30 on c2513 Tacho.
 51 black/yellow -- Pin 9 on c2513 ground.
 52 brown/blue -- switched ground coil 2 (pin 3 on coil)
 53 white/green -- Pin 35 on c2513 s Pats RX signal.
 54 black/blue -- Pin 5 on c2513 fuel pump switched earth.
 55 orange/yellow Pin 10 c2513 KAM perm live.
 58 white/blue -- Pin 2 on c2513 Vehicle speed Sensor.
 59 white/green -- Alternator monitor circuit (Pin 2 on alt plug)
 60 white -- HO2S 1 signal
 64 white -- Pin 39 c2513 clutch switch.???
 65 white/green -- exhaust pressure transducer signal(large plug)
 67 black/orange -- Pin 18 c2513EVAP canister vent control . ???
 68 black/blue -- Pin 20 c2513 switched ground black/blue ???
 69 black/yellow -- Pin 27 c2513 switched ground. ???
 70 black/white -- injector 1 switched earth.
 71 green/yellow -- switched 12v from power relay.
 76 brown/white -- Cam position sensor.
 77 black/yellow -- Pin 9 c2513 earth.
 83 green/yellow -- idle air control valve (pin 2).
 85 white violet -- camshaft position sensor.
 86 black/blue -- Pin 40 c2513. ???
 88 white/blue -- MAF output.
 89 white -- throttle position sensor (pin 2)
 90 yellow -- 5v Voltage Reference (5v out from ecu)
 91 brown -- Pin 38 c2513 + sensor common brown
 93 black/yellow -- HO2S 1 control.
 95 black/orange -- injector 4 switched earth.
 96 black/yellow -- injector 2 switched earth.
 97 green/yellow -- Pin 1 c2513 switched 12v.
 103 black/yellow -- Pin 9 c2513 earth.

"DLC" Diagnostic link connector.

The obd2 plug is found under the steering wheel. The plastic body should be unclipped from its holder and cut from the Mondeo with as much wire as can be pulled free. The tape covering the wires can be removed.

You will be left with This.



The pin's are numbered as below.



Not all pins are used.

Pin out's of the Dlc plug, these go to your harness plug.

- 2) To pin 16 (grey) on ecu plug.
- 4) To earth (Chassis).
- 5) To earth (chassis).
- 7) To pin 13 (white/blue) on ecu plug.
- 10) To pin 15 (blue) on ecu plug.
- 16) To switched 12v fuse box.

Pats indicator. This is the led that is usually found in the clock of the Mondeo. Its job is to show you the status of the immobilizer. Ford's Passive Anti- Theft- System (PATS)

Just one Pin from the ecu plug, No 42 (black/blue). This is a switched earth. Take one Led, colour of your choice. You need one that is pre wired with a resistor. This is mounted in your dash. The negative or black wire is connected to pin 42 of the ecu plug and the red or positive wire is connected to the permanent live.



The Immobilizer.

The picture below shows the transceiver or aerial. This is found behind the steering cowl. The ring sit's around the ignition switch and is held to the steering column with one screw.



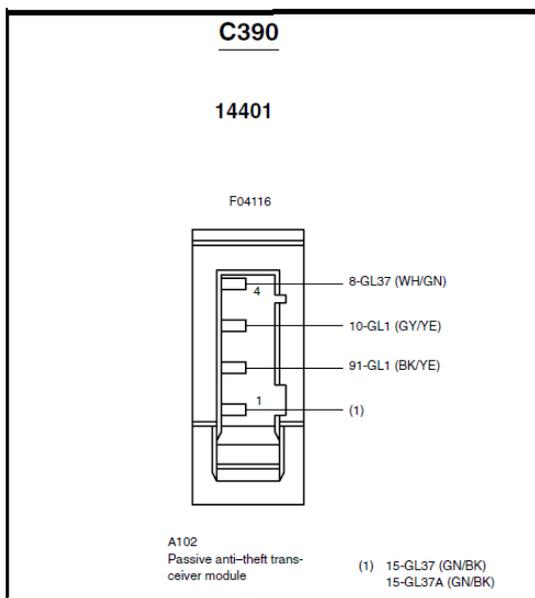
This is the wiring plug.



It needs cutting from the car with as much wire as can be pulled free.

Retaining clip shown at the bottom.

There are four pins, They may be colour coded as above or they may be all black as shown in the photo. This depends on the age of the donor.



Pin 3 to pin 19 grey/orange -- Pats TX signal.

Pin 4 to pin 53 white/green -- Pats RX signal.

Pin 2 is the earth, to chassis.

Pin 1 is a switched 12v.

All four wires will need extending from the harness plug up to the steering column.

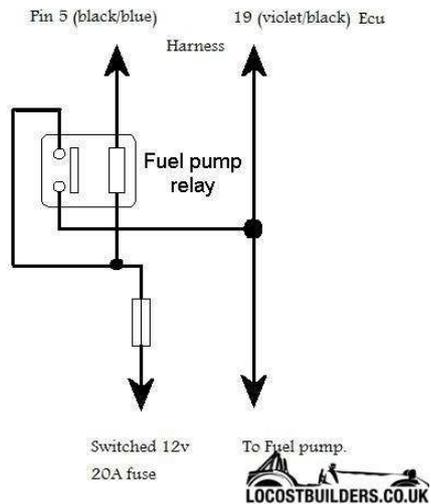
Fuel pump relay.

The Ecu, both controls and monitors the fuel pump via a relay.

There are two pins from the ecu plug.

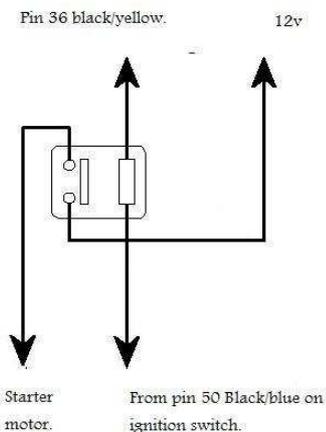
Pin 54 (black/blue) from ecu plug, Fuel pump relay control switched earth.

Pin 40 (violet/black) from ecu plug, fuel pump monitor.



Starter motor inhibitor relay. This stops the engine from cranking as part of the immobilizer.

Pin 27 (black/yellow) ecu plug -- starter motor relay control (switched earth).



Hope this helps any one wanting to run a zetec without spending shed loads. Its no harder than making a loom for a MS ecu. There is no mapping and the ecu can be had for a few quid.

ps it would be nice if it was made a sticky.

[Edited on 26/3/13 by big_wasa]

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Photo Archive
Building: westfield on no budget

posted on 25/3/13 at 22:18

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Warren,
I have no idea of how much time and effort you had to do behind the scenes so that you could post this, but I bet it was a LOT !

I would just like to say thank you for your efforts, and I am sure it will be widely used!

+1 for making this a sticky !

Kind regards
Jon

(Edited for stupid spelling error!)>

[Edited on 25/3/13 by slingshot2000]

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Building: locost zetec megajolt bike carbs

posted on 25/3/13 at 22:47

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