Installation Instructions for Greddy eManage

(*1998-2002 Toyota Corolla*)

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DISCLAIMER:

This instruction manual is to guide you in the installation of the Greddy eManage and its supplement wiring systems on a 1998-2002 Toyota Corolla. The installation portrayed in this tech document was done on a 1998 Toyota Corolla LE. While the vehicles of both generations (1998-1999 Toyota Corolla 1ZZ-FE (non VVTi) and 2000-2002 Toyota Corolla 1ZZ-FE (w/ VVTi) share similar ECU's it should be noted that GEN A (1998-99) has 3 plugs while GEN B (2000-2002) has 4 plugs. Please refer to the documentation appendix to this manual for wiring color codes, etc… We will not be held responsible if you happen to blow your motor up or short out something because you connected something up wrong. The installation shown here works perfectly fine on the car originally installed on, and we'd like to make it easier for you to do this yourself if you feel you have the confidence.

With that I must say that all installations of this product and products like it should be done by a professional installer. If you decide to do this on your own, you're running at your own risk, specifically on the install of the ignition harness… ☺

With that out of the way… let's begin…

Ok with all that out of the way, let's begin. Installation of this unit isn't that hard at all actually. It's more of a pain than anything. The one simple rule to follow is PATIENCE. Please take your time while making the connections to this unit or you will pay for it later when a wire comes loose while you're driving and your ride shuts off… (or even worse if you're planning on running a turbo – you could blow your motor).

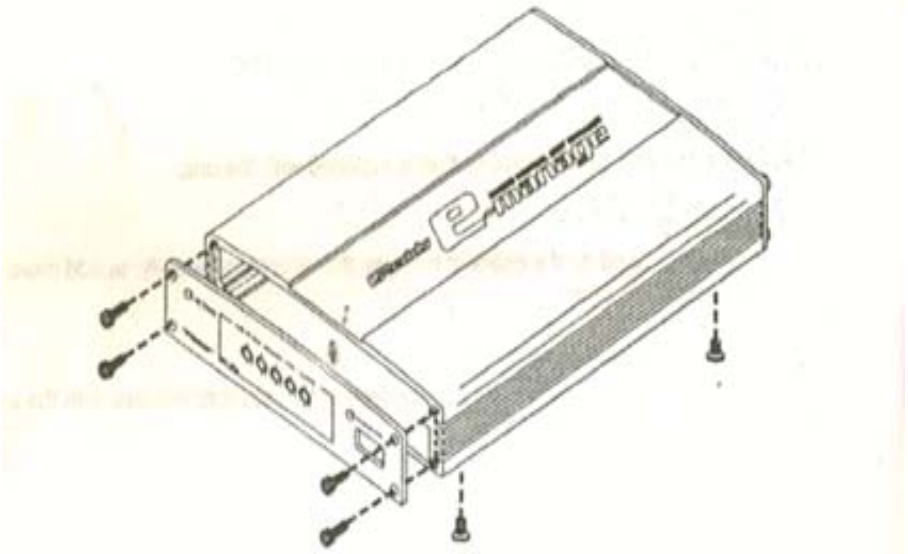
The eManage installs *almost* textbook on the Toyota Corolla's. You should follow those instructions for what wires are spliced into place (tapped into) or what wires are interrupted signal. (wire output from ECU goes into eManage *THEN* is passed to the device being controlled)

There are 3 switches and a jumper which must be set before you begin on this project. In order to get to them you have to pull the unit apart… and please be careful to ground yourself out before you do this by touching a nice metal surface so that you don't fry out your chips… ☺

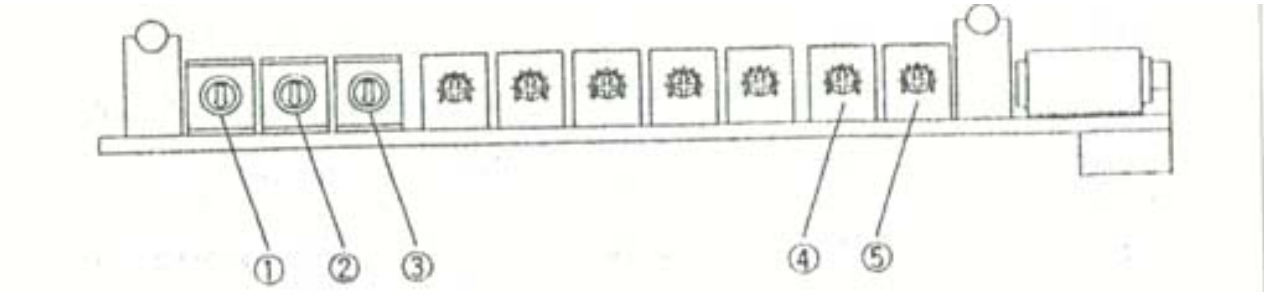
Caution!
Make sure to perform the initial setting before starting the vehicle.

Rotary switch setting

- First, using the Hex wrench supplied with the unit, remove the front cover of the unit.
- From the list of ECU Wire Location Chart on page 26-31, look up you vehicle and set the first three left rotary switches.



Remove the front cover



Rotary Switch Setting

① Number of cylinder selector

② Air-flow Type Selector

③ Air-flow Type Selector

Set the above selector according to the Vehicle Signal Location Chart.

④ VTEC Point Volume (VPV)

This volume switch is used to change the VTEC change over point.

⑤ VTEC Airflow Adjust Volume (VAAV)

This volume switch is used to compensate for the difference in the fuel map caused by the adjustment in the VTEC change over point.

Warning!

The rotary switches are very sensitive, make sure to use the supplied tool to turn the switches, and do not use excessive force.

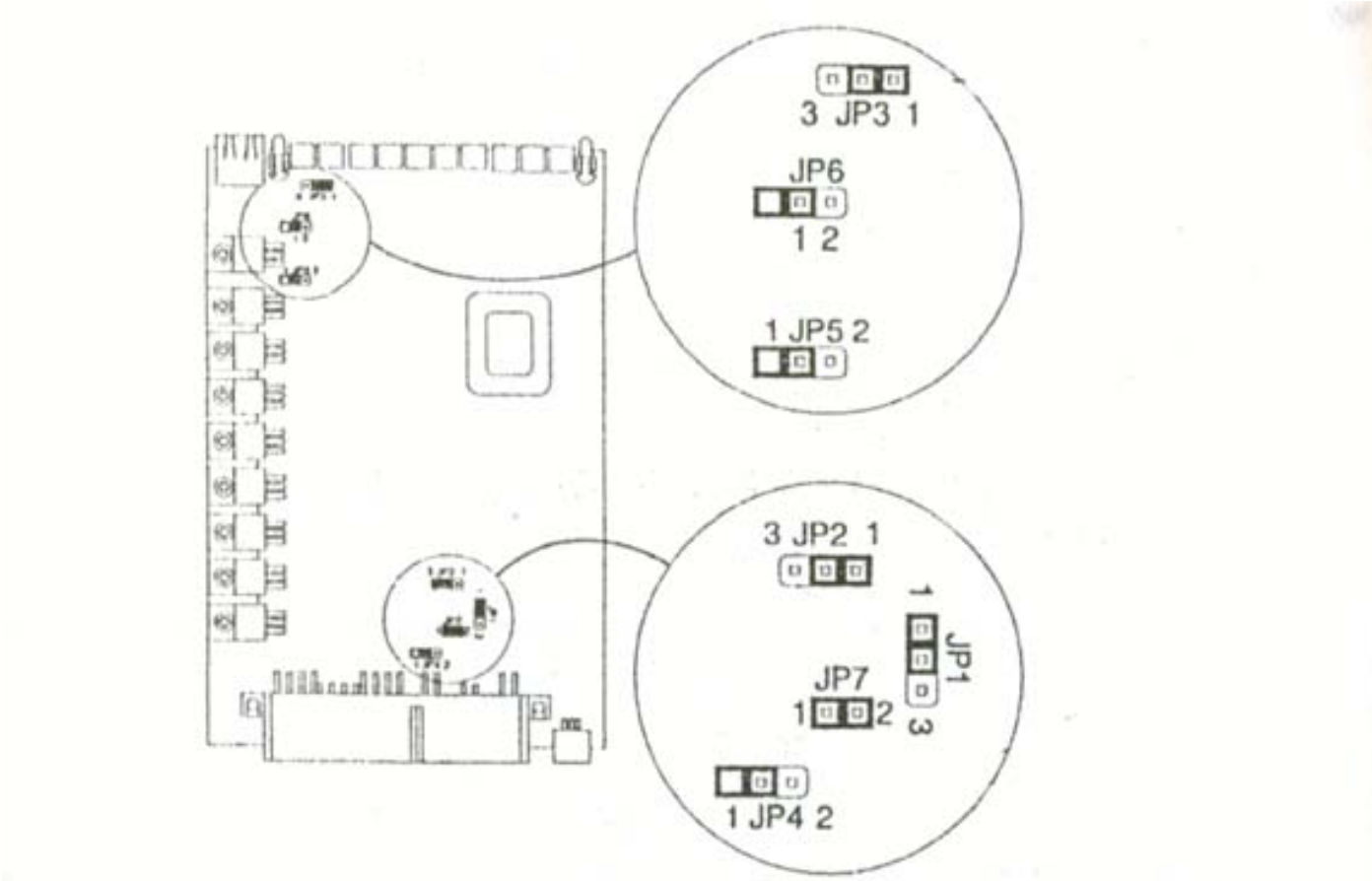
For the Corolla, please ignore switch 4 and 5 – and don't be an idiot and try to run your VVTi off of it… Greddy has *NOT* released a version of the firmware nor a unit that can control VVTi yet! And yes, folks (1) is WRONG it is NOT a cylinder count. This is an IGNITION SIGNAL TYPE!!!!! Also switches 2 & 3 are not exactly described correctly so just follow the instructions here – they work.

The settings are as follows:
1998-1999 Toyota Corolla – you have a MAP sensor.
Your settings on the switches will be the following: 3 – 4 – 2
This sets it up for a 2 coil, wasted spark 4cyl with a Pressure Sensor TY_PR-3

2000-2002 Toyota Corolla – you have a MAF sensor.
Your settings on the switches will be the following: 4 – 2 – 2
This sets it up for a 4 coil, coil on plug 4xyl with a MAF Sensor TY_HW-3

Next is the Jumper setting.

For most of these we'll leave them alone. However, Toyota is an oddball… instead of using a 5v ignition (which is the stock setup on the eManage) We use a 9-12v ignition. This probably won't be relevant unless you install the ignition harness however, I'd advise it if you need to retard the timing any to save your engine during boosting… ☺ In this case we'll be moving Jumper 2 (JP2) from position 1-2 (which is from the factory to position 2-3). Do note, if you install the ignition harness and do not change this jumper- you'll find your Corolla will NOT start… *grin*



Caution!

Make sure all the jumper setting is correct. Improper jumper installation can cause damage to the unit as well as the vehicle.

As I stated, the installation of the harnesses should go according to the instructions in the manual. Ignore all the charts in the back of the book, they are useless to us… ☺ Just make sure you set those rotary switches and that jumper like it is listed above or your eManage will not function properly. There have been known instances of people blowing up ECU's and coil packs due to installing this stuff wrong. *PLEASE* double and triple check your work and make sure every connection is solid and has no risk of being broken. It could be the end of your ECU, engine, or one of its components if something goes wrong.

Below are the relevant pages from the eManage manual. After these you'll see pictures from an actual installation into a 1998 Toyota Corolla.

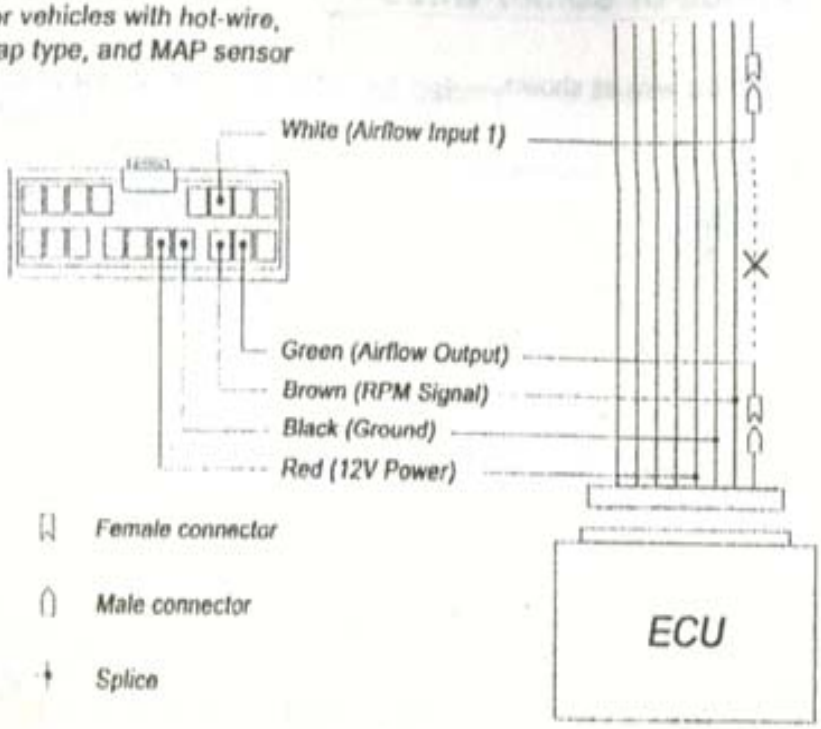
What you'll see on these next charts is the installation of the MAP sensor harness (the one that comes with the eManage), the ignition harness and the injector harness… DO also note, that in order for these to be useful in anyway, you have to have the Support Software for the Greddy eManage.

This document will cover everything but that, but in order to make corrections to the maps in a manner which will be worth the money you spent on this thing, getting the support tool is only logical. ☺

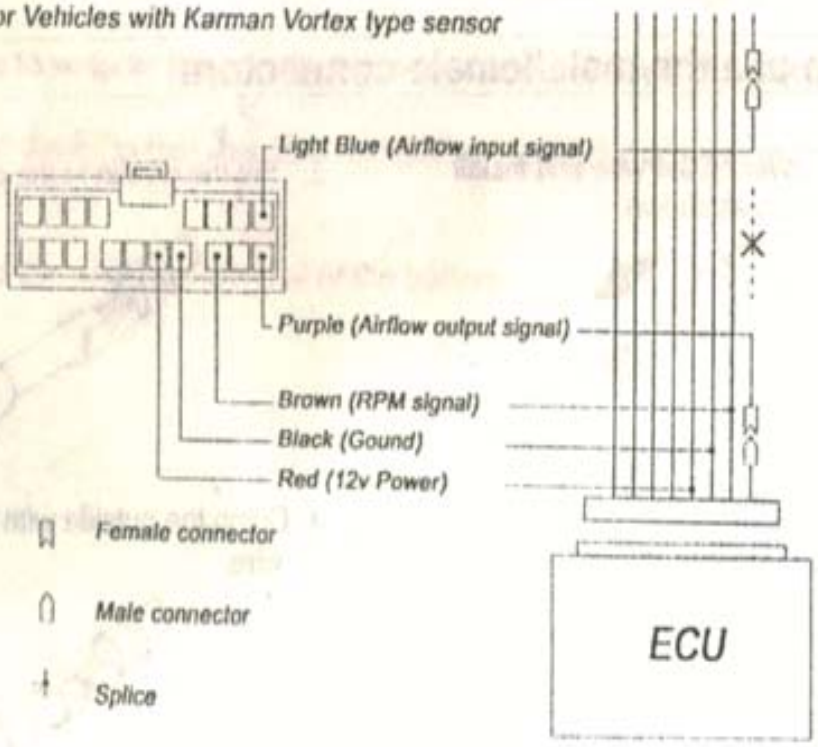
** Oh yes, and the mystery grey wire – you know the one on the initial harness that comes with the eManage that has nothing in the manual about what its there for… yeah, that's for the throttle position sensor… you REALLY want to have that one hooked up… ☺

Wiring Diagram

For vehicles with hot-wire, Flap type, and MAP sensor



For Vehicles with Karman Vortex type sensor

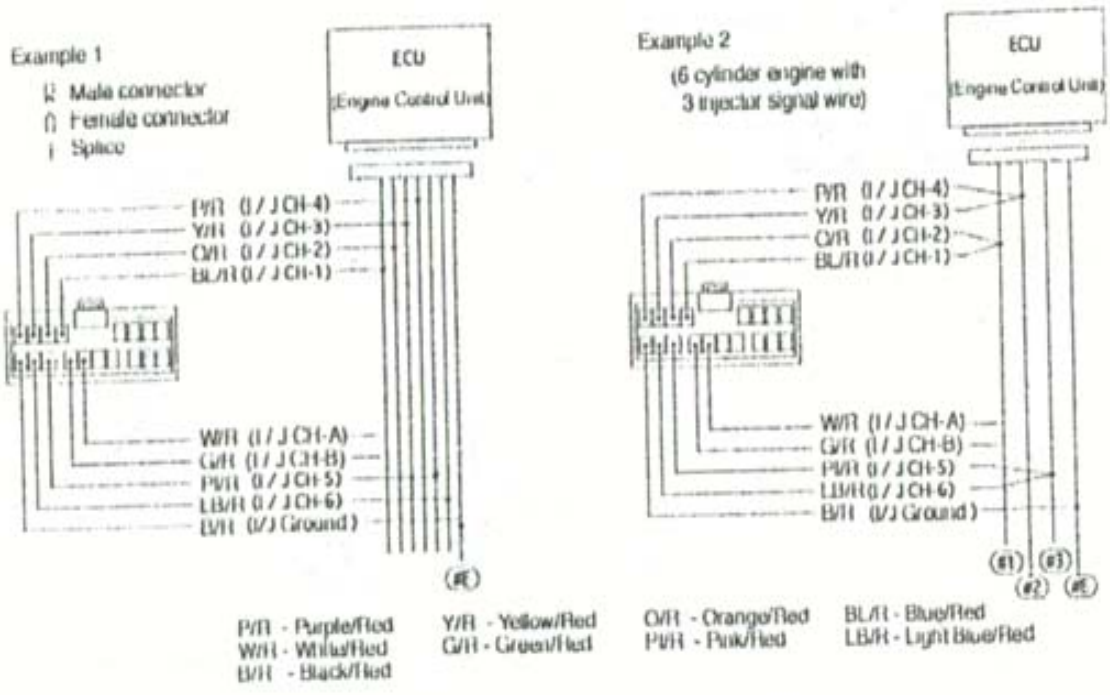


Wire Diagram for the Optional Injector Harness (sold separately)

To control the main injectors, and sub injectors, e-Manage Injector Harness is required along with the e-Manage Support Tool software, and Windows base P.C.(laptop).

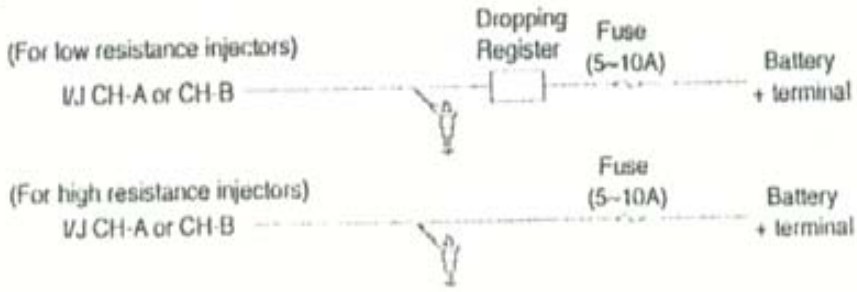
Injector Signal

- Connect to the vehicle's Injector signal wires. Refer to the "Vehicle Specific ECU wire location chart" at the end of this manual for the proper location of each wire. Make sure that you connect the same number of wires as the engine's cylinder number. (Excludes Rotary engines)
- For Rotary engines, you can wire only the primary or secondary injector signal or both.
- If the vehicle does not have the same number of injector signal wire as the number of the engine's cylinder number, group 2 wires in to one. See the example diagram below.



Sub Injector Signal

- When using the I/J CH-A, I/J CH-B for sub injectors, set the jumper JP5 and JP6 in the e-manage main unit to "1-2" from "Open".
- When using low resistance injectors dropping register is required in-line as shown below.

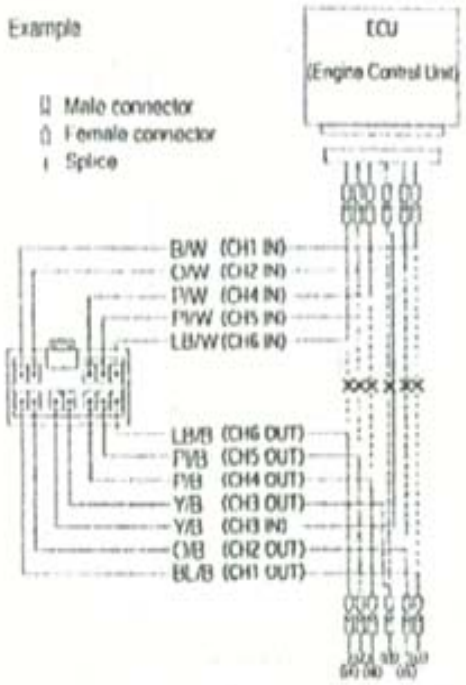


Wire Diagram for the Optional Ignition Harness (sold separately)

To control the ignition timing, e-Manage Ignition Harness is required along with the e-Manage Support Tool software, and Windows base P.C.(laptop).

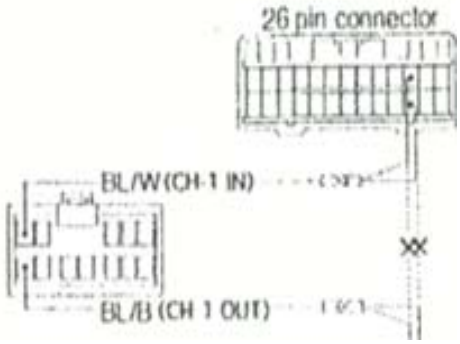
Wire diagram for Ignition Signal

- Please read the instruction included with the Ignition harness kit, and proceed with the wiring only if you fully understand the instruction.
- Connect to the vehicle's Ignition signal wires. Refer to the "Vehicle Specific ECU wire location chart" at the end of this manual for the proper location of each wire. Connect the ignition channel wire in the engine's firing order.
- Make sure that wires are connected in the firing order and jumper setting is correct. Improper wiring and setting can damage the ignition coil.



e-manage I/G Channel	CH-1	CH-2	CH-3	CH-4	CH-5	CH-6
3, 4, 6, 8 cylinder distributor	t					
Inline 4 cylinder group ignition	t1,4	t2,3				
Horizontally opposed 4 cylinder	t1,2	t3,4				
Inline 4 cylinder individual ignition	t1	t3	t4	t2		
Horizontally opposed 4 cylinder	t1	t3	t2	t4		
Inline 6 cylinder group ignition	t1,6	t5,2	t3,4			
V6 group ignition	t1,4	t2,5	t3,6			
Inline 6 cylinder individual ignition	t1	t5	t3	t6	t2	t4
V6 individual ignition	t1	t2	t3	t4	t5	t6
13B (FC3S, JC3SE)	tT	tL				
20B (JCESE)	tT			tL		
13B (FD3S)	tT1	tT2	tL			

- On Hondas set the jumper pins JP 1 and JP2 to 2-3. (see Page 14-15)
- After wiring, if the tachometer, or not firing occurs, set the jumper pin JP2 to 2-3. (Specially on Toyota)
- On Honda EG type vehicles, the bottom third pin from the right on the 26 pin is also an ignition signal. Group the 2 wire together.



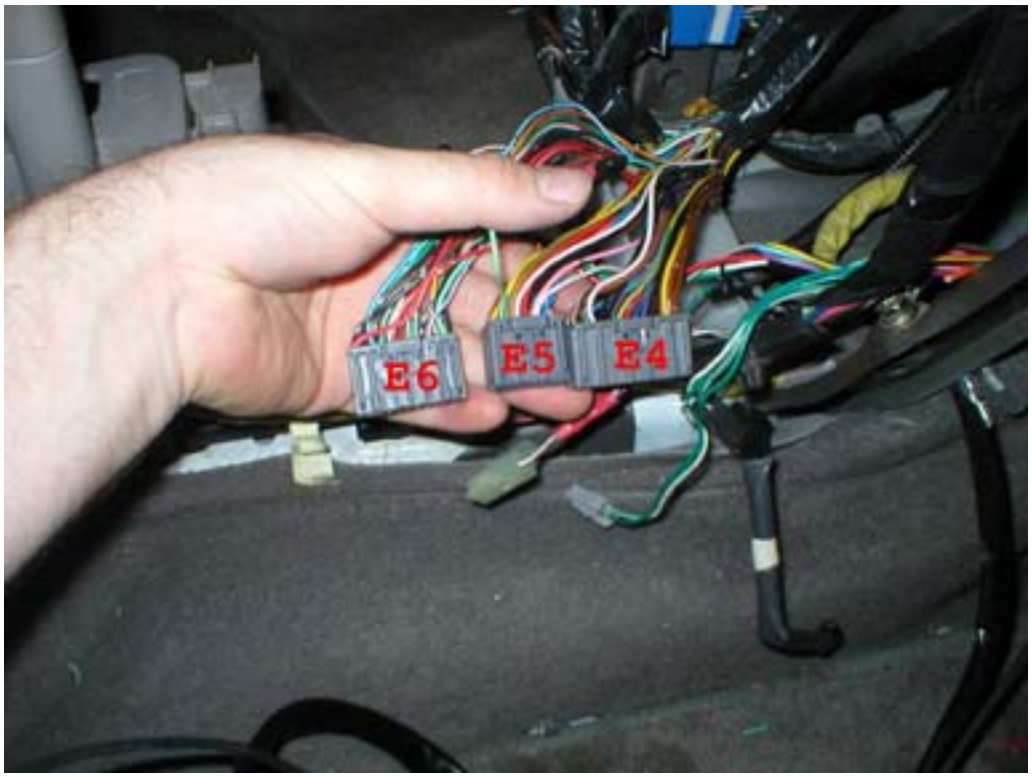
Now here's the photo's from the install into the 1998 Corolla.

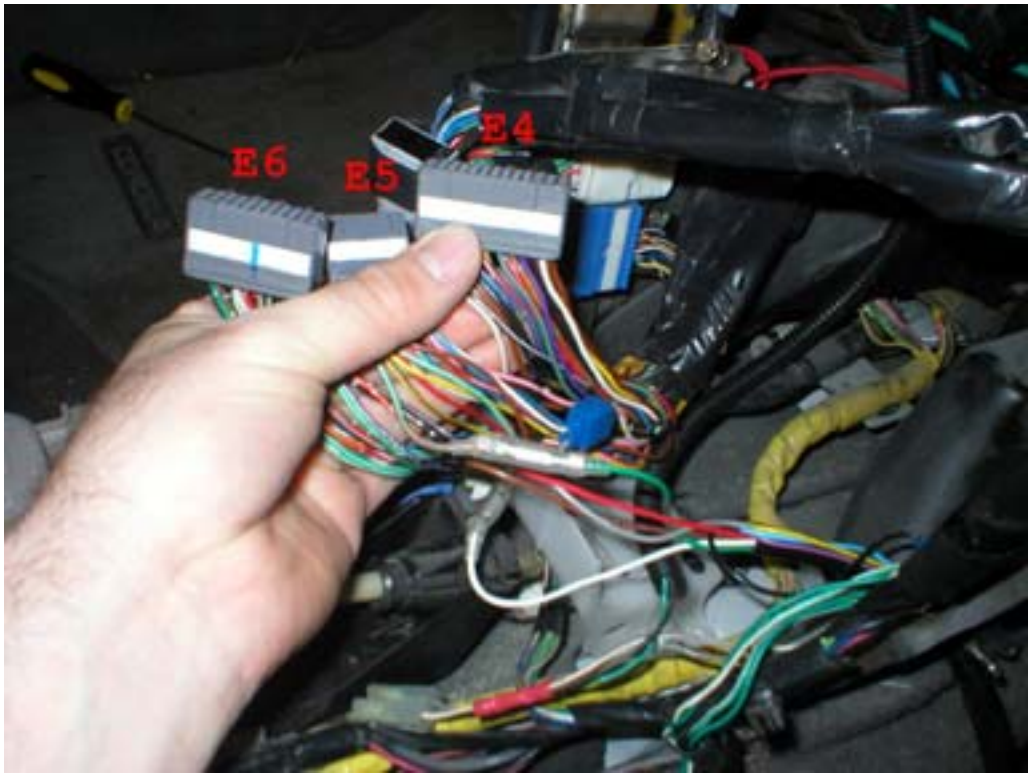
Remove the cover which contains the ash tray and cigarette lighter.

Then remove the storage box.

Next remove the screws on either side of the console. All of the screws are easily visible.

Once all the screws from the panels on either side of the console and the console itself are removed, you'll find the ECU sitting right there with three screws holding it mounting brackets in. Also when removing the console, note there are two screws inside the rear storage compartment under the bottom cover within it.





With the ECU out, you can see the three wire plugs.
(note that there are 4 plugs in total on the 2000-2002)
The plug codes correspond with the 98-99 wiring plugs in the appendix.

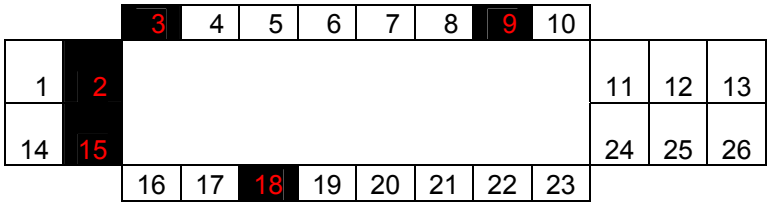
Once you complete the install of the wiring as per the manual and matching the wires up to the wiring diagrams, you can then reassemble the console back and plug in your eManage. You may want to test out the eManage prior to putting everything back together, just to make sure.

This eManage was mounted to the side of the console, however in your installation you can install it somewhere less visible. This one was mounted on the side for ease of access during the Spool Turbo kit installation for the 98-2002 Toyota Corollas.

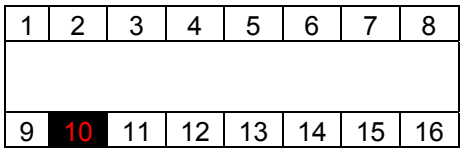
Appendix

The following are diagrams for the 1998-1999 Toyota Corolla. They were pinned out by Travis Sarbin during the install of the Greddy on his 1998 Toyota Corolla. These were taken from a 4spd automatic, however, the pertinent wires for the installation of the eManage are the same across all 3 models. (3spd, 4spd, Manual)

E4 (A)

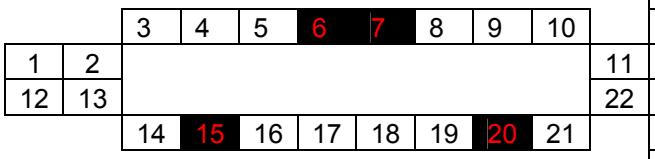


1	Black-White	
2		
3		
4	Black	Crankshaft Position Sensor
5	Black	Camshaft Position Sensor
6	Blue-Red	
7	Red-Silver	
8	Blue-Black	
9		
10	Black-Blue	
11	Black-Red	Injector 2
12	Yellow	Injector 1
13	Brown	
14	Brown	
15		
16	Blue-Yellow	Ignition (F)
17	White	
18		
19	Red-Blue	Ignition 2
20	Yellow-Green	Ignition 1
21	Blue-Yellow	
22	Brown-Yellow-Silver	
23	Purple	
24	Black	Injector 4
25	White	Injector 3
26	Brown-Silver	



E5 (B)

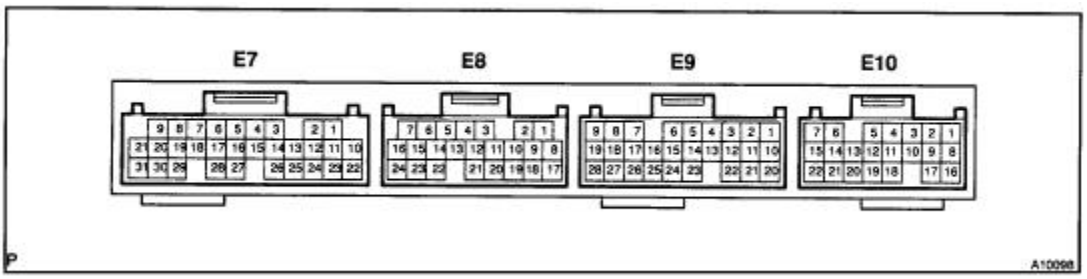
1	Yellow-Silver	
2	Light Green-Red	MAP Sensor
3	Yellow-Black	
4	White	
5	Red	O2 Sensor - CAT
6	White	O2 Sensor - Manifold
7	Blue-Silver	
8	Pink	
9	Brown	
10		
11	Lt Green	Throttle Position Sensor
12	Red-White	
13	Black	Knock Sensor
14	Pink	
15	Blue-White	
16	Brown	



E6 (C)

1	Red-White	12V Constant to Battery
2	Black-Silver	
3	Blue-White-Silver	
4	Green-White-Silver	
5	Red-Yellow-Silver	
6		
7		
8	Black-Silver	Tachometer
9	Purple-White-Silver	
10	Yellow-Red-Silver	
11	Black-White	
12	Black-Silver	B+
13	Green-Silver	
14	Green-Red-Silver	
15		
16	White	
17	Red-Black-Silver	
18	Lt Green-Red	
19	Lt Green-Black	
20		
21	Red-Blue-Silver	
22	Lt Green-Silver	

The following diagrams for the 2000-2002 Corolla's were given to us by LoSx of VVTi.net. Thanks LoSx. These are for the 2000-2002 4spd however, the important wiring for the eManage is the same on all models just as they are for the 1998 Corolla diagrams. There are no specific wires different from each model.



Symbols (Terminals No.)	Wiring Color	Condition	STD Voltage (V)
BATT (E10–1) – E1 (E8–17)	R–W – BR	Always	9 – 14
+B (E10–16) – E1 (E8–17)	B – BR	IG switch ON	9 – 14
VG (E8–11) – EVG (E8–1)	G – L–W	Idling, P or N position, A/C switch OFF	0.5 – 3.0
THA (E8–22) – E2 (E8–18)	Y–B – BR	Idling, Intake air temp. 20°C (68°F)	0.5 – 3.4
THW (E8–14) – E2 (E8–18)	W – BR	Idling, Engine coolant temp. 80°C (176°F)	0.2 – 1.0
VTA (E8–23) – E2 (E8–18)	LG – BR	IG switch ON, Throttle valve fully closed	0.3 – 1.0
		IG switch ON, Throttle valve fully open	3.2 – 9.4
VC (E8–2) – E2 (E8–18)	Y – BR	IG switch ON	4.5 – 5.5
OX1 (E8–12) – E1 (E8–17)	W – BR	Maintain engine speed at 2,500 rpm for 2 min. after warming up	Pulse generation
OX2 (E8–20) – E1 (E8–17)	*1W – BR	Maintain engine speed at 2,500 rpm for 2 min. after warming up	Pulse generation
	*2R – BR		
HT1 (E8–3) – E03 (E8–8)	P – BR	IG switch ON	9 – 14
		Idling	Below 3.0
HT2 (E8–6) – E03 (E8–8)	P – BR	IG switch ON	9 – 14
		Idling	Below 3.0
#10 (E7–1) – E01 (E7–21)	Y – BR	IG switch ON	9 – 14
		Idling	Pulse generation
#20 (E7–2) – E01 (E7–21)	B–R – BR	IG switch ON	9 – 14
		Idling	Pulse generation
#30 (E7–3) – E01 (E7–21)	W – BR	IG switch ON	9 – 14
		Idling	Pulse generation
#40 (E7–4) – E01 (E7–21)	B – BR	IG switch ON	9 – 14
		Idling	Pulse generation
KNK (E7–27) – E1 (E8–17)	B – BR	Idling	Pulse generation
G2 (E8–15) – NE– (E8–24)	B – W	Idling	Pulse generation
NE (E8–16) – NE– (E8–24)	B – W	Idling	Pulse generation
PTNK (E8–9) – E2 (E8–18)	L – BR	IG switch ON, Disconnect vacuum hose from vapor pressure sensor	2.9 – 3.7
		Apply vacuum (less than 4.0 kPa, 30 mmHg, 1.18 in.Hg)	Below 0.5

Symbols (Terminals No.)	Wiring Color	Condition	STD Voltage (V)
CCV (E7–17) – E01 (E7–21)	L–B – BR	IG switch ON	9 – 14
TPB (E7–22) – E01 (E7–21)	R – BR	IG switch ON	9 – 14
EVP (E8–4) – E01 (E7–21)	L–B – BR	IG switch ON	9 – 14
SPD (E9–22) – E1 (E8–17)	V–W – BR	IG switch ON, Rotate driving wheel slowly	Pulse generation
IGF (E7–25) – E1 (E8–17)	L–Y – BR	IG switch ON	9 – 14
		Idling	Pulse generation
IGT1 (E7–10) – E1 (E8–17)	R–L – BR	Idling	Pulse generation
IGT2 (E7–11) – E1 (E8–17)	Y–G – BR	Idling	Pulse generation
IGT3 (E7–12) – E1 (E8–17)	GR – BR	Idling	Pulse generation
IGT4 (E7–13) – E1 (E8–17)	W – BR	Idling	Pulse generation
OCV+ (E7–24) – OCV– (E7–23)	B – R	IG switch ON	Pulse generation
STP (E9–6) – E1 (E8–17)	G–W – BR	IG switch ON, Brake pedal depress	7.5 – 14
		IG switch ON, Brake pedal released	Below 1.5
TE1 (E9–5) – E1 (E8–17)	L–W – BR	IG switch ON	9 – 14
W (E10–15) – E01 (E7–21)	R–Y – BR	IG switch ON	Below 3.0
		Idling	9 – 14
NSW (E9–13) – E1 (E8–17)	B–W – BR	IG switch ON, Shift position in "P" or "N" position	Below 3.0
		IG switch ON, Other shift position in "P" or "N" position	9 – 14
STA (E9–11) – E1 (E8–17)	B–W – BR	IG switch ON	Below 6.0
FC (E10–3) – E01 (E7–21)	G–R – BR	IG switch ON	9 – 14
		Idling	0 – 3
AC1 (E10–18) – E1 (E8–17)	Y–R – BR	A/C switch ON (at idling)	Below 1.5
		A/C switch OFF	7.5 – 14
ACT (E10–18) – E1 (E8–17)	R–L – BR	A/C switch ON	9 – 14
		A/C switch OFF (at idling)	Below 1.5
ELS1 (E9–10) – E1 (E8–17)	B – BR	Light switch ON	9 – 14
		Light switch OFF	Below 3.0
ELS2 (E9–20) – E1 (E8–17)	G – BR	Defogger switch ON	9 – 14
		Defogger switch OFF	Below 3.0
ODMS (E9–4) – E01 (E7–21)	LG – BR	IG switch ON	9 – 14
ODLP (E9–19) – E01 (E7–21)	LG–B – BR	IG switch ON	9 – 14
TAC (E9–27) – E1 (E8–17)	B – BR	Idling	Pulse generation
SIL (E10–11) – E1 (E8–17)	W – BR	During transmission	Pulse generation