Launch control module Installation and Operation Manual
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Overview
The launch control module can control the engine RPM by monitoring and modifying the
ignition pulses to the coil(s).

It has two modes of operation:

1. Normal mode:
The engine runs normally without any change as if the launch control is not there

2. Launch activated mode:
In this mode a rev-limit is set beyond which the launch control will apply modification to the
spark delay and miss some spark events to keep the revs under the specified limit.

The modes can be changed by pressing the clutch when the second mode is activated. For
the unit to operate as rev limiter all the time, the wire going to the clutch switch can be
permanently connected to ground to keep the module in mode 2.

Features
By keeping the engine within suitable RPM when the clutch is pressed, best launching can
be achieved, reducing wheel spin. Flat-shift is another enhancement that allows to do gear
shifts while keeping the throttle pedal completely pressed. This REMOVES lag when shifting
in turbocharged vehicles and reduces shifting time.

Besides, by tweaking the “Miss” and “Delay” settings the sound and “feel” of the rev limiter
can be varied widely. Hint: big “Delay” setting will make very loud sound from the exhaust
and produce flames.

How it works
When activated the launch control monitors the RPM with very high precision, taking into
account every ignition pulse to instantaneously calculate new RPM value and compare it to
the set level by the “RPM” knob on the device. When the engine goes above that level, both
spark delay and spark cut are performed. The delay is set by the “Delay” knob and the
number of consecutive spark events skipped is set by the “Miss” knob. The delay calculation
takes into account the RPM so that if the RPM is changed the delay will be automatically
recalculated so the spark happens at the same degree.

How to tune it right
At the first start keep the “RPM” knob at the maximum level to make sure the rev limiter is
not too low, thus preventing the engine to start. Next, press the clutch and hold 2k RPM
while decreasing the “RPM” setting until you feel the rev limit kick in. This way you know it’s set at around 2k RPM and can retune it easily.

**Why LaunchItPro?**
What makes this product different is precision and quality. In order to achieve the desired performance the unit controls both ignition delay and ignition cut bringing this to user configurable level. Besides, due to the fast processor and smart programming, every ignition pulse is taken care of individually so that it never occurs too early (or randomly as with other products) which would cause "detonation".

**Compatibility and Limitations**
The launch Control module features 4 independent channels which can control up to 4 coils or 8 cylinder wasted spark. The unit is compatible with many petrol engines with ignition coils with integrated amplifier or external ignitor which uses 5V signals for each ignition event. It's been tested on many cars; some listed in the installation manual. Currently this edition does not support direct coil control (with no internal amplifier). For more information and specific installations don't hesitate to contact us.
Installation

The Launch control is connected between the ECU and Ignitor or if no ignitor is present – between ECU and coils only if the coils have integrated amplifier inside. Consider the following general wiring diagrams:

![Wiring diagram with Ignitor](image1)

Figure 1: Wiring diagram with Ignitor

![Wiring diagram with amplified coils](image2)

Figure 2: Wiring diagram with amplified coils
All wires to the Launch control module are marked in the following way:

<table>
<thead>
<tr>
<th>Wire</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12V</td>
<td>12V ignition “ON” power supply</td>
</tr>
<tr>
<td>GND</td>
<td>Ground connection</td>
</tr>
<tr>
<td>CH1 IN</td>
<td>Signal from ECU</td>
</tr>
<tr>
<td>CH1 OUT</td>
<td>Signal to ignition module channel 1 / To coil 1 signal wire</td>
</tr>
<tr>
<td>CH2 IN</td>
<td>Signal from ECU</td>
</tr>
<tr>
<td>CH2 OUT</td>
<td>Signal to ignition module channel 2 / To coil 2 signal wire</td>
</tr>
<tr>
<td>CH3 IN</td>
<td>Signal from ECU</td>
</tr>
<tr>
<td>CH3 OUT</td>
<td>Signal to ignition module channel 3 / To coil 3 signal wire</td>
</tr>
<tr>
<td>CH4 IN</td>
<td>Signal from ECU</td>
</tr>
<tr>
<td>CH4 OUT</td>
<td>Signal to ignition module channel 4 / To coil 4 signal wire</td>
</tr>
<tr>
<td>Launch</td>
<td>Connects to clutch switch – Launch is activated when connected to ground</td>
</tr>
</tbody>
</table>

If the number of coils is less than 4, only the relevant channels are connected; for example, if two coils are used (or one double coil) leave CH3 IN, CH3 OUT, CH4 IN, CH4 OUT not connected to anything.

The Launch control is tuned using 3 knobs:

- Miss - sets the number of missed sparks during rev limiter (allows unburned fuel to build up)
- Delay - control ignition delay (usually the larger - the more sound and flames you get)
- RPM - set the rpm limit level

After the Launch control is wired, start the car and set the RPM setting to highest (max clockwise) and delay and miss to minimum (counter-clockwise). Connect the “Launch” wire to ground to activate rev-limiter and start turning the RPM knob to the left and rev the engine so you can see when the rev limiter occurs. After this is set, proceed to tuning Delay and Miss settings. Be careful when increasing the Delay setting, as it puts more stress on the engine and turbo, due to higher pressures and temperatures.

Drive safely!
Installation on 1.8T Audi/Vw Engine

There are two possible ignition options for 1.8T engine, pick the one appropriate for your engine by checking the type of coils.

1: Coils look like this:

In this case locate the ignition module in the left side of the engine bay.
It has two connectors where one is bigger, including 5 pins. Unplug the 5 pin connector and attach the Launch control GND wire to the middle wire of the connector.

Then pick one signal wire and cut it. Connect the side going to the ignition module with “CH1 OUT” and the side going to the harness (ECU) to “CH1 IN”.

Do the same for the other 3 channels, connecting them to “CH2 IN”, “CH2 OUT” and so on, one at a time so they don’t get mixed up.

Next, connect the launch control “12V” wire to switched 12V, for example from one of the coils. Look for 12V when ignition is ON.

Go to section 3.
The pinout on the coil connector is:

1. +12V ignition on
2. GND (ign sig)
3. Signal from ECU (thinner wire then the other 3)
4. GND (coil)

Where pin 1 is at the side of the connector with sharper edges (not round).

Launch control installation is done by cutting signal wire at pin 3 and connect the end going to the harness (ECU) to launch control “CH1 IN” and the end going to the coil to “CH1 OUT”. Similarly, cut and connect the signals for all 4 coils.

Next, connect launch control 12V wire to pin 1 12V on one of the coils and GND wire to pin 2 GND on coil. Do not cut these two; just connect to launch control wires as well. You need to do that to one coil only not all of them.

3. Do this regardless of coil type

What is left is to connect “launch” wire to the clutch switch. It should connect to ground when clutch is pressed and activate launch control. When wire is not connected to anything, car works as before.
Installation on Subaru Impreza

There are a few different igniton options on subarus:

Installation on Impreza with 4 separate coils on each cylinder

The ECU wiring diagram according to the manufacturer is like this

You need to locate the ignition module and on its 5 pin connector one wire (the biggest one) is connected to ground – connect to Launch control GND wire. The other 4 wires are ignition signals from the ECU. Cut them and connect the ends going to the ECU to CH IN and the ends to the ignition module to CH OUT of the Launch control.
The 12V launch control wire can be connected to the point marked “E” on the diagram which is the positive side of a coil.

Also install the clutch switch if not already installed.

**Installation on Impreza with no ignition module and double coil with 4 pin connector**

The car’s ignition system only includes the coil with integrated amplifier:

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The coils pinout is:

1. Ignition signal 1
2. 12V ignition On
3. Ground – GND
4. Ignition signal 2

Connect launch control 12V wire to pin 2 and “GND” wire to pin 3. Cut one ignition signal wire and connect the side going to the ECU to CH1 IN and the end going to the coil to CH1 OUT. Do the same for the other ignition signal wire but connect to CH2 IN and CH2 OUT. Mount the clutch switch and connect to Launch wire.

Unfortunately, the coil connector is square so it is unclear which pin is 1, 2, 3, 4... So you could measure the 12V and the Ground wire using a multimeter to make sure. The other 2 wires would be the ignition signals.
Double ignition coil on top of engine (with 3 pin connector) and ignitor on the left hand side of the engine bay

1. Locate the ignition module on the left side of the engine bay and cut the following wires:

There is no need to cut the black one.

Closer view:
2. Connect according to the next picture:

“CH1 OUT” wire to ignition module

“CH1 IN” wire to harness
3. Insulate the connections

4. Connect the other 2 wires:

“CH2 OUT” wire to ignition module

“CH2 IN” wire to harness
5. And insulate them as well

6. Connect and insulate the black wire in the following way (gnd)
7. At the ignition coil peel the insulation off the middle wire:

8. Attach it to an extension wire like this:
9. Connect it to “12V” wire

10. Always insulate all connections you make

11. Now is the time to fit the clutch button. Start by removing the original bolt positioned at the end of the clutch pedal
12. Install the supplied switch in its place and tighten it so it is held firmly in place.
13. Route the switch wire (white) through the hole on the firewall
14. Connect it to the white wire:

You can position the launch control module close to the ignition module (zip ties) or use extension wires if you’d rather have it in the car.
Launch control module installation for Mitsubishi FTO

1. Remove the plastic bit

2. Locate the engine ECU and detach the first connector (it is 26pin)
On the connector you need to find three wires number 10, 11 and 23. Usually they will be

10 – red (or black in some cases)
11 – white
23 – blue

These wires can be seen in the following photo:
Pin 23 is right under pin 10

You need to cut these 3 wires and connect them to the launch control module in the following way:

<table>
<thead>
<tr>
<th>Launch Control</th>
<th>Car</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH1 IN</td>
<td>Pin 10 (red) leading to ECU connector</td>
</tr>
<tr>
<td>CH1 OUT</td>
<td>Pin 10 (red) leading to harness (coil)</td>
</tr>
<tr>
<td>CH2 IN</td>
<td>Pin 11 (white) leading to ECU connector</td>
</tr>
<tr>
<td>CH2 OUT</td>
<td>Pin 11 (white) leading to harness (coil)</td>
</tr>
<tr>
<td>CH3 IN</td>
<td>Pin 23 (blue) leading to ECU connector</td>
</tr>
<tr>
<td>CH3 OUT</td>
<td>Pin 23 (blue) leading to harness (coil)</td>
</tr>
<tr>
<td>12V</td>
<td>Connect to 12V ignition on source</td>
</tr>
<tr>
<td>GND</td>
<td>Ground connection</td>
</tr>
<tr>
<td>Launch switch</td>
<td>To button mounted on clutch pedal</td>
</tr>
</tbody>
</table>

You can connect the GND wire to the bolt on the chassis.
+12V wire can be connected to any of the red wires below:
The clutch button can be mounted by removing the factory bolt at the clutch pedal and putting the switch in its place.
Installation on Toyota MR2 or other VAST ignition (AE86)

Toyota MR2 (or other VAST ignition)

Locate the ECU and verify this pinout:

- IGT = Igniter = White
- E1 = Ground = Brown
- +B = Power from EFI main relay = Black/Yellow
- +B1 = Power from EFI main relay = Black/Yellow

Cut the IGT wire and connect the end to the ECU to CH1 IN and the other end (to ignitor) to CH1 OUT

Connect Launch control 12V wire to ignition on power supply.

Connect GND wire to ground.
Installation on Honda

P30 ECU pinout:

**Connector “A”**

<table>
<thead>
<tr>
<th>Pin</th>
<th>Description</th>
<th>Color(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MAF - Mass Air Flow</td>
<td>white/yellow/white</td>
</tr>
<tr>
<td>2</td>
<td>IAT - Ambient Air Temp</td>
<td>white/brown</td>
</tr>
<tr>
<td>3</td>
<td>MAP - Manifold Pressure</td>
<td>white/green/white</td>
</tr>
<tr>
<td>4</td>
<td>VTS - Vehicle Temp Switch</td>
<td>white/orange/white</td>
</tr>
<tr>
<td>5</td>
<td>VTEC - Engine Control</td>
<td>white/orange/green/white</td>
</tr>
<tr>
<td>6</td>
<td>TPS - Throttle Position</td>
<td>white/orange/green/white</td>
</tr>
<tr>
<td>7</td>
<td>BARO - Barometric Pressure</td>
<td>white/orange/green/white</td>
</tr>
<tr>
<td>8</td>
<td>ECM - Electronic Control Module</td>
<td>white/orange/green/white</td>
</tr>
</tbody>
</table>

**Connector “B”**

<table>
<thead>
<tr>
<th>Pin</th>
<th>Description</th>
<th>Color(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MAP Power Source</td>
<td>white/yellow/white</td>
</tr>
<tr>
<td>2</td>
<td>LID - Logic Board</td>
<td>white/brown</td>
</tr>
<tr>
<td>3</td>
<td>VVT - Variable Valve Timing</td>
<td>white/brown</td>
</tr>
<tr>
<td>4</td>
<td>VFT - Variable Valve Timing</td>
<td>white/orange/white</td>
</tr>
<tr>
<td>5</td>
<td>VTEC - Engine Control</td>
<td>white/orange/green/white</td>
</tr>
<tr>
<td>6</td>
<td>TPS - Throttle Position</td>
<td>white/orange/green/white</td>
</tr>
</tbody>
</table>

**Connector “D”**

<table>
<thead>
<tr>
<th>Pin</th>
<th>Description</th>
<th>Color(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>OBD - OBD Port</td>
<td>white/yellow/white</td>
</tr>
<tr>
<td>2</td>
<td>BMSB - Battery Status</td>
<td>white/orange/white</td>
</tr>
<tr>
<td>3</td>
<td>RS - Refrigeration Unit</td>
<td>white/orange/white</td>
</tr>
<tr>
<td>4</td>
<td>SCD - Service Check Signal</td>
<td>white/orange/white</td>
</tr>
<tr>
<td>5</td>
<td>VFTP/VFMS - VTEC Pressure Switch</td>
<td>white/orange/white</td>
</tr>
<tr>
<td>6</td>
<td>TPSFD - Tachometer</td>
<td>white/yellow/white</td>
</tr>
<tr>
<td>7</td>
<td>ECUS - Electronic Brake</td>
<td>white/orange/white</td>
</tr>
<tr>
<td>8</td>
<td>EECM - ECU Brake</td>
<td>white/orange/white</td>
</tr>
<tr>
<td>9</td>
<td>EFCM - Electronic Fuel Control</td>
<td>white/orange/white</td>
</tr>
</tbody>
</table>

This is the connector end looked from the wire side.
A21 and A22 are the ignition signal. These two wires are connected together in the wiring and continue as one wire to the ignitor/distributor.

What needs to be done is cut these wires and connect the ends at the connector to CH1 IN and the other ends (to the harness and distributor) to CH1 OUT.

Do not connect any other launch control channels.

Connect GND to A23 or A24 or A26.

Connect +12V to A25.

Clutch switch must connect to GND when pedal pressed.

**Other Honda ECUs**

Look for the ignition signal from the ECU pinout or wiring diagram.

Most often it is A20 yellow/black

A24 would be +12V when ignition ON

A9,10,22,23 GND

It is always a good idea to measure the +12V and GND with a multimeter to confirm.