ProRacing®

CS 2

ProRacing® Chip Box Digital CS2

Certificate IPC: 7711/21, IEC: 61340-4-1

Table of Contents.

1. ProRacing® Chip Box Digital CS2.

ProRacing Chip Box Digital CS2 is a modern, digital device connected in the engine compartment. The device is programmed to work with petrol engines (including LPG) and diesel. Equipped with an additional self-regulation system - an adjustment screw. The set includes dedicated wires with Plug & Play plugs.

Get ready for:

- **The power increase up to 25%**
- **The torque increase up to 25%**
- **Fuel consumption - no change.**

2. Set contains.

- ProRacing® Chip Box Digital CS2,
- Cables with dedicated plugins,
- Assembly instructions and an operating manual,
- Warranty card.

3. Principle of operation.

The device is prepared for mounting in the engine compartment. Depending on the brand and model of the car, the device is connected under a map/maf pressure sensor, a flow meter or a standalone sensor on a suction manifold or an air intake pipe. As a result, we modify the data transmitted between the control computer (ECU) and the corresponding sensor, including fuel injection, fuel charge, turbo-charger boost, air feed rate, engine speed, throttle position, injector opening time.

1. Pro Power Increase – The Power Boost.

1. Increase in power and a maximum speed of the car.
2. Torque increase, guaranteeing:
- better driving dynamics,
- stable and flexible engine operation,
- much better acceleration due to faster response to the gas pedal,
3. Easy starting of the engine even in winter conditions.
4. Reducing turbo lag in turbo-charged cars.
5. Smooth acceleration starting from low engine revs.

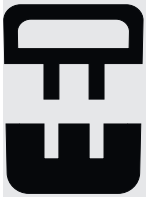
2. Pro Driving Safety – For your and others' safety.

1. Increased driving dynamics.
2. Easier and safer overtaking manoeuvre.
3. Improved driving comfort.
- The device improves driving comfort. Improved driving dynamics and improved engine performance mean increased road safety.
- When the device is connected, the torque increases significantly. The car becomes more dynamic, better responsive to the gas pedal. This is very important, for example, when overtaking.
- Thanks to the easy overtaking, we are taking care of our passengers and their safety. The overtaking manoeuvre will be easier and, above all, safer when we are sure of the power of the car.

4. Product usability.

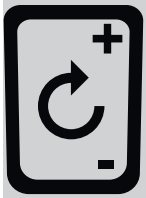
Car warranty protection.

The device can be used on cars with a guarantee because in the computer control (ECU) no parameters are permanently changed. When the device is disconnected, the ECU returns to the serial parameters, so the modification is undetectable by the service during the technical review.



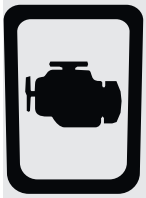
Easy Plug & Play installation.

This device is intended for self-installation. Includes detailed installation instructions and dedicated cables with original manufacturer plugs.



Additional self-regulating system - an adjustment screw.

Allows you to make software modifications - it makes it easy to adjust the device to the needs of the engine - reduce or increase the power of the device.



Engine protection function.

Ensures the engine operates in a safe range of engine speed. The power increase is always maintained within the tolerance range of the engine. This function prevents the engine from overheating at high loads - very dynamic driving.

Fast effect.

The power of the car is increased by the electronics, so there is no need to interfere with the mechanical parts of the engine or the components, and the effect is almost immediate.

Durability and reliability.

The device is built in SMD technology; the electronic circuit is enclosed in a well-insulated housing made of durable plastic. Heat-insulated cables are provided with waterproof plugs for durability and reliability.

5. First steps for installing.

Krok 1. Before installing the Chip Box, please first wait for your engine to cool down. Otherwise there is a risk of sustaining burns.

Krok 2. Open your vehicle's bonnet and close and lock the doors. For vehicles with a keyless system. please place the key outside the radio reception range of the vehicle (to be on the safe side, at a distance of 10 metres).

Krok 3. After locking the vehicle, wait another 10 minutes. This ensures that there is no residua! electrical voltage in the engine bay connections and that the signal flow in the engine ceases.

Krok 4. You do not require any special tools to perform the installation. However, a simple wire cutter is useful for the purposes of removing excess material from the cable tie once the installation is complete.

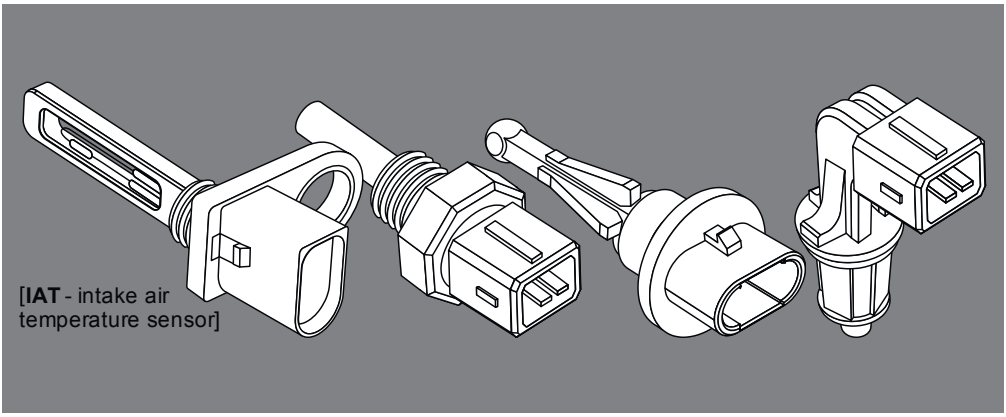
Krok 5. In the following section we explain how to install your Chip Box using an example engine. If your engine has a different design, individual engine parts may be arranged differently in the engine compartment when compared to the images here. However, the parts that are relevant for the Chip Box are largely the same.

6. Installation.

The Chip Box is installed in a proper sensor in the engine compartment. Depending on a model of a car the sensor may occur individually or may be built into another device serving similar function.

The type of sensor and its location will be indicated in the detailed instruction, which is included in the set. Depending on your car model, these may be:

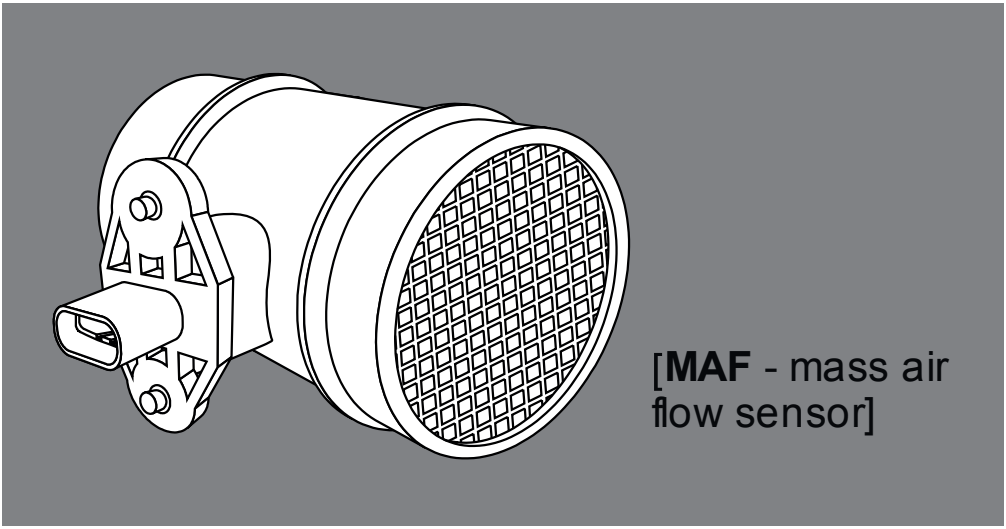
1. A stand-alone air temperature sensor (IAT - Intake Air Temperature sensor). Only two wires come out of it, it can be placed on the intake pipe to the air filter, on the air filter housing or on the intake manifold. (The figure below shows different types of stand-alone sensors with 2 pins).



[**IAT** - intake air temperature sensor]

If there is no stand-alone sensor in the car, it is most likely built into the flow meter (MAF) or pressure sensor (MAP).

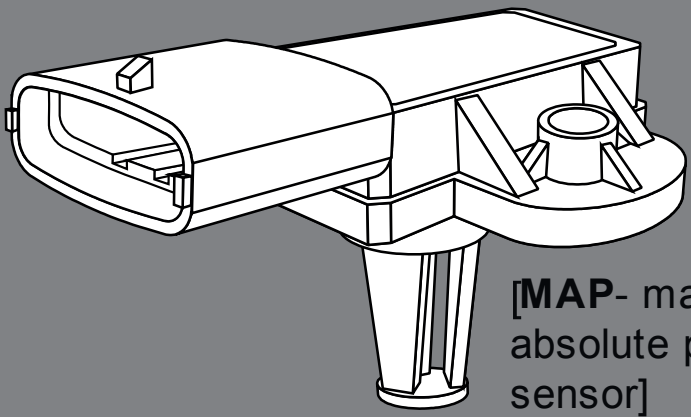
2. Sensor built into MAF (Mass Air Flow sensor).
Around 60% of cars are equipped with a sensor built into a MAF. If there are 4, 5, 6 or 7 pins in the MAF then most likely the sensor is placed there. We connect it with the Chip Box. (The figure beneath presents a typical MAF and a plug socket)



[**MAF** - mass air flow sensor]

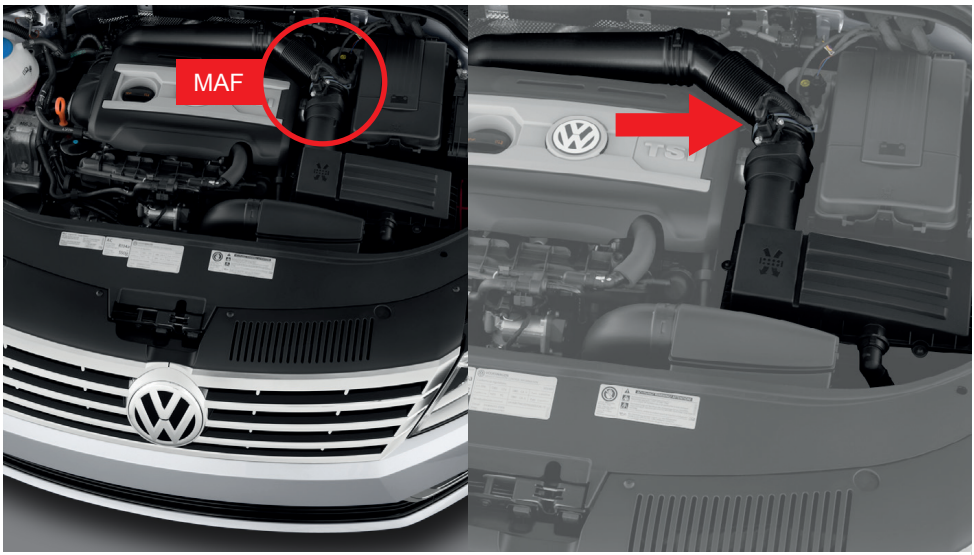
3. If the car does not have a stand-alone sensor with 2 wires and the flow meter has only 3 or 4 wires, it means that the intake air temperature sensor is located in the MAP sensor (Manifold Absolute Pressure sensor).

Sometimes happens that a plug in MAF is for 5 pins but only 4 wires come from it – then a MAP (Manifold Absolute Pressure sensor) also should be searched for. The sensor is placed by a turbine, on an intake manifold. (a drawing beneath presents a typical MAP and a plug socket)

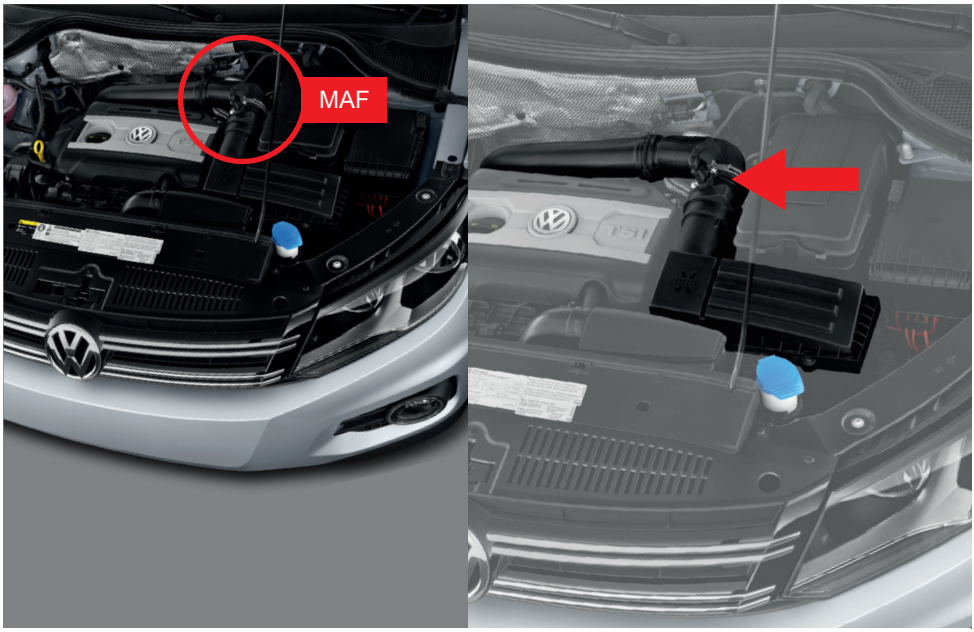


[**MAP**- manifold absolute pressure sensor]

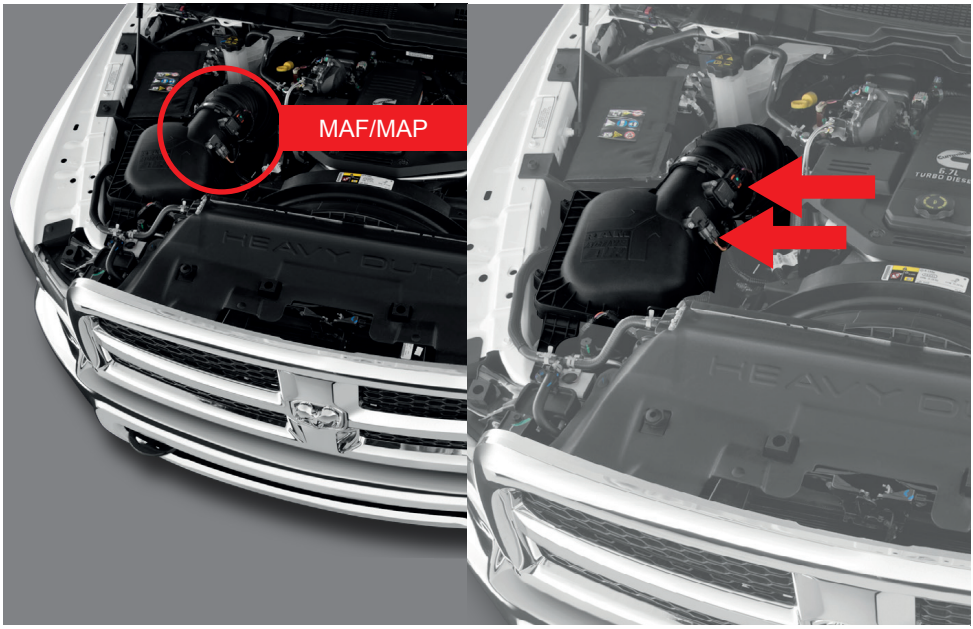
7. Examples of sensor locations.



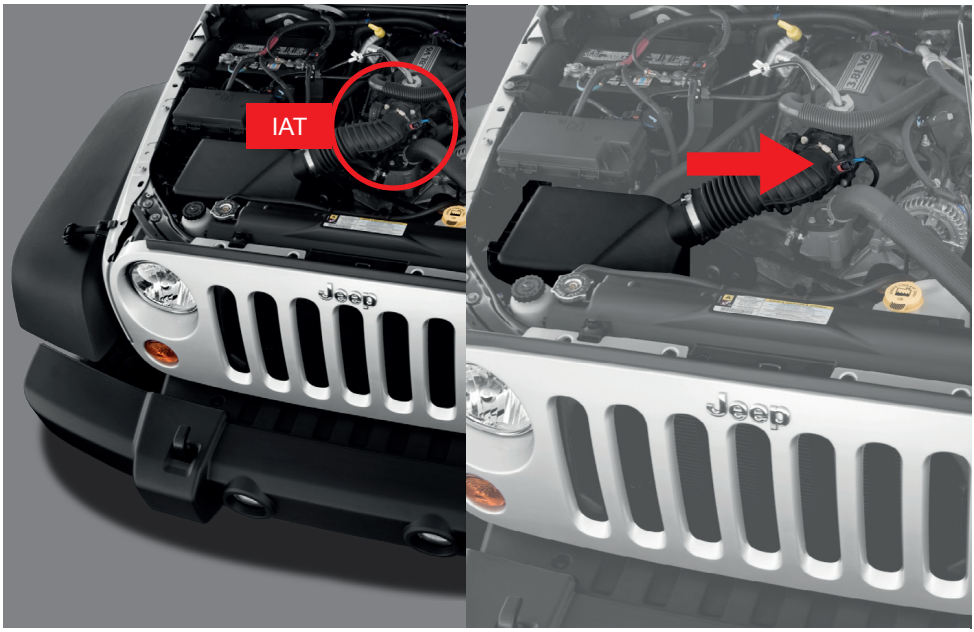
Volkswagen Passat CC (2014)



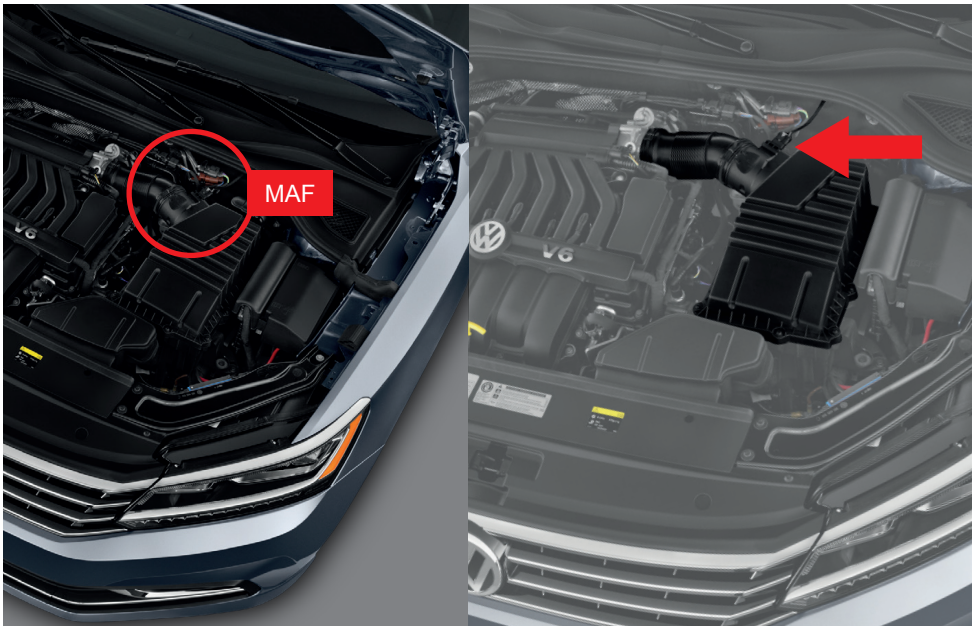
Volkswagen Tiguan (2016)



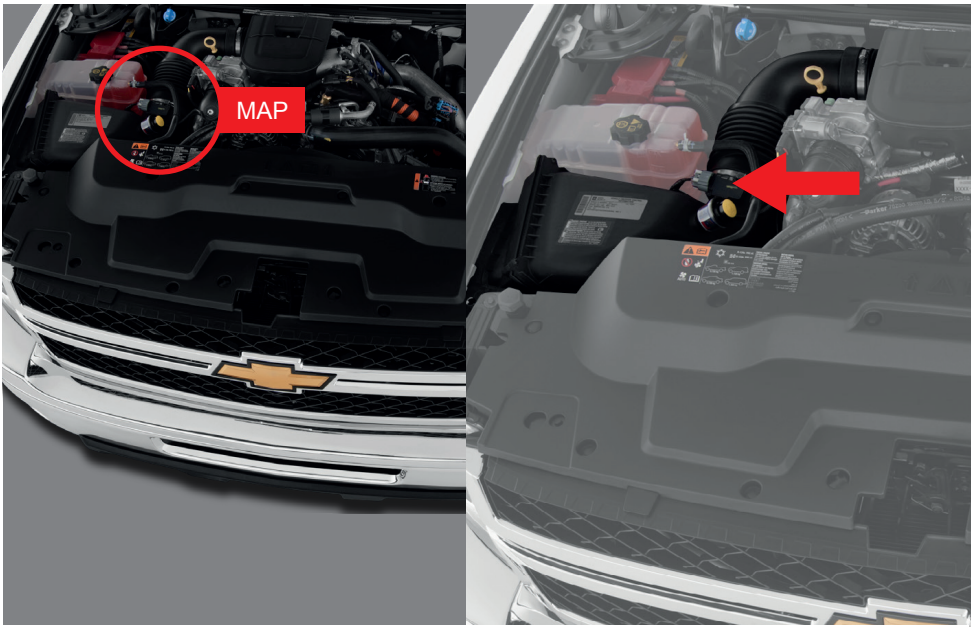
Dodge RAM 2500 SLT (2015)



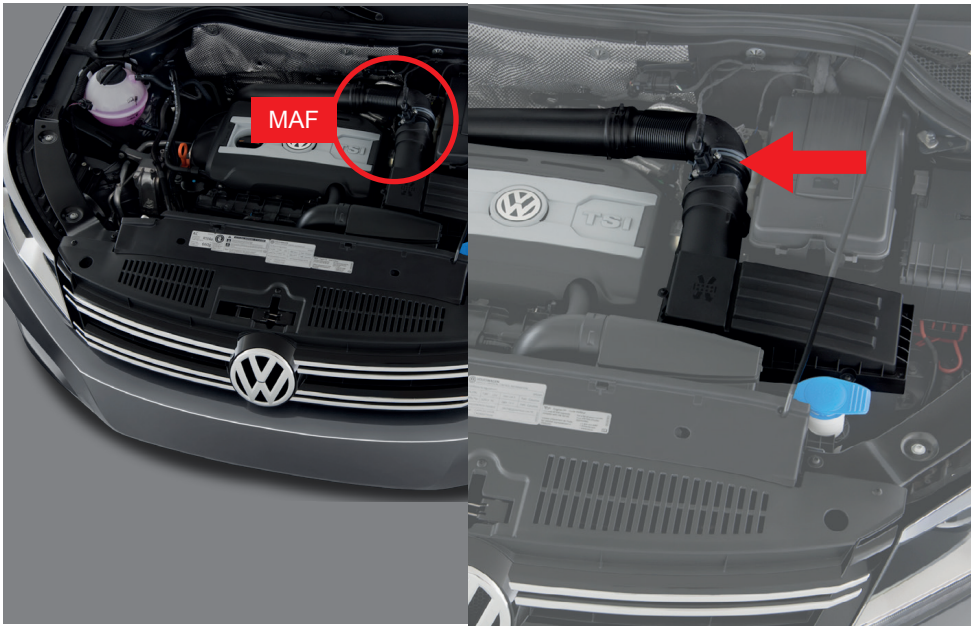
Jeep Wrangler 4x4 (2011)



Volkswagen Passat (2017)



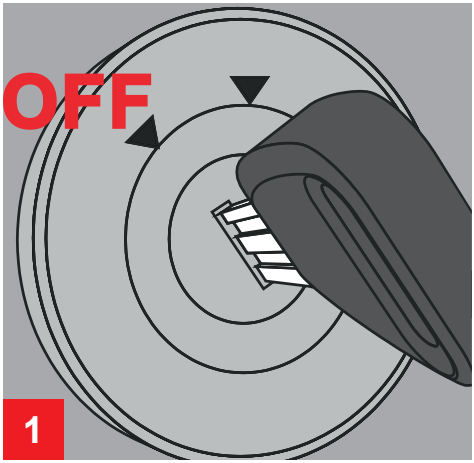
Chevrolet Silverado 3500 LTZ (2012)



Volkswagen Tiguan (2016)

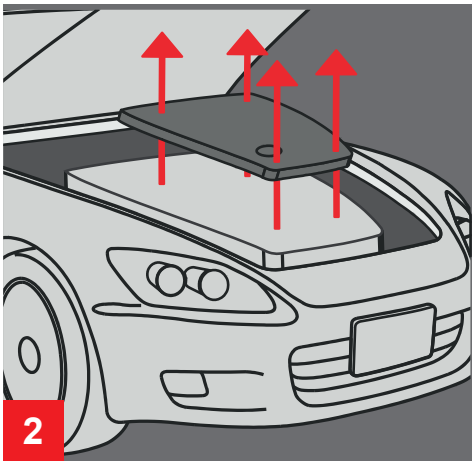
8. Installation.

The device is prepared for mounting in the engine compartment, in the proper sensor indicated on the detailed instructions attached to the kit. As a result, we modify the data transmitted between the control computer (ECU) and the corresponding sensor, including fuel injection, fuel charge, turbocharger boost, air feed rate, engine speed, throttle position, injector opening time.



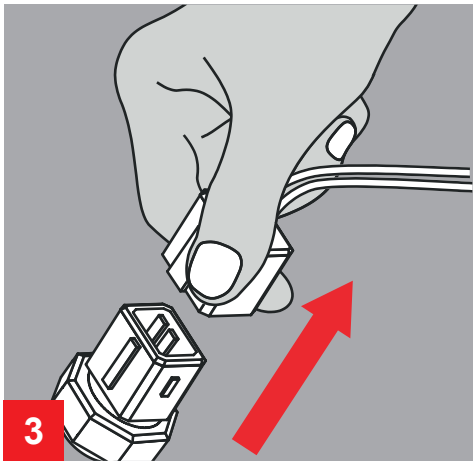
Step 1.

Make sure the car's engine is not working and all electric elements are in an OFF position. The key in the ignition ought to be in an OFF position, no devices such as navigation, car radio, air- conditioning, internal lighting etc. ought to be working. If a car is not started with a key, the power ought to be cut off with a START/STOP button or by removing a card.



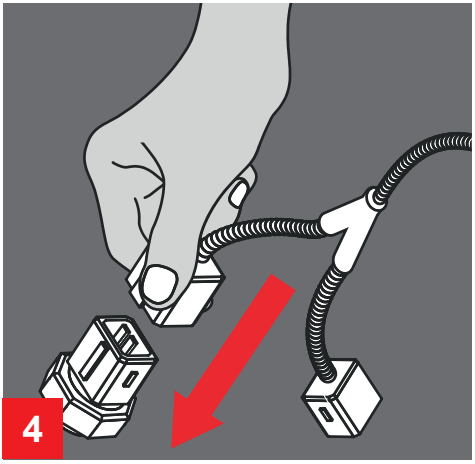
Step 2.

After removing the engine compartment cover locate the sensor.
Its location is shown in a detailed manual attached to the kit – Notice! The location may be different for different models of cars.



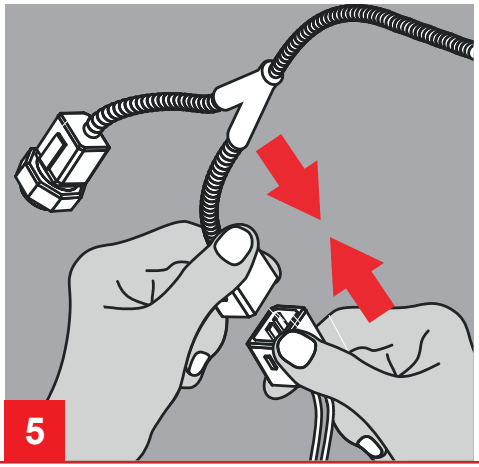
Step 3.

Unpin a plug from the indicated sensor.
On the plug there are latches or metal clasps. They should be unpinned before trying to unplug the connector from a socket. The attempt to disconnect the plug without former unpinning may cause its permanent damage.



Step 4.

Connect a female plugin with a free socket of the sensor. Notice there is a characteristic sound of click of a clasp while pinning. It guarantees certainty of connection.



Step 5.

Connect a male plugin with the female plug formerly unpinned from the sensor and then connect the cable with Chip Box CS2. Attach the Chip Box in a safe place, away from the hot engine. After correct installation, you can start the engine and start driving.

9. Regulation of the device.

You receive a device programmed for your car. Chip Box should not be adjusted immediately after installing! After installing the device, the car should cover a distance of about 100 km (not necessarily in one drive.) The engine has to be heated up and cooled at least once so that ECU can completely read the parameters which are changed by Chip Box. Most often there is no need to perform additional regulation of the device.

Additional regulation with an adjusting screw is done only when:

- a glow plug or CHECK ENGINE indicator appear on a dashboard, the engine does not work in an even way or goes into emergency mode,
- when after covering the distance of 100 km you want to raise the power increase.

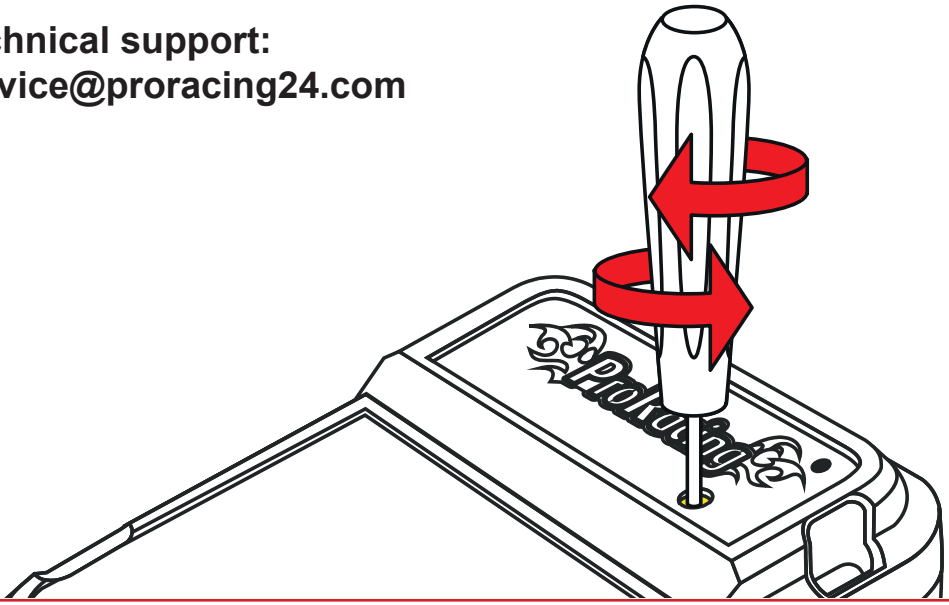
Notice!

The adjustment method depends on the way the device is installed and varies depending on the car model.

Detailed description of the regulation can be found in the additional instructions included with the kit.

If you have any questions, please contact your dealer or contact our technical support.

Technical support:
service@proracing24.com



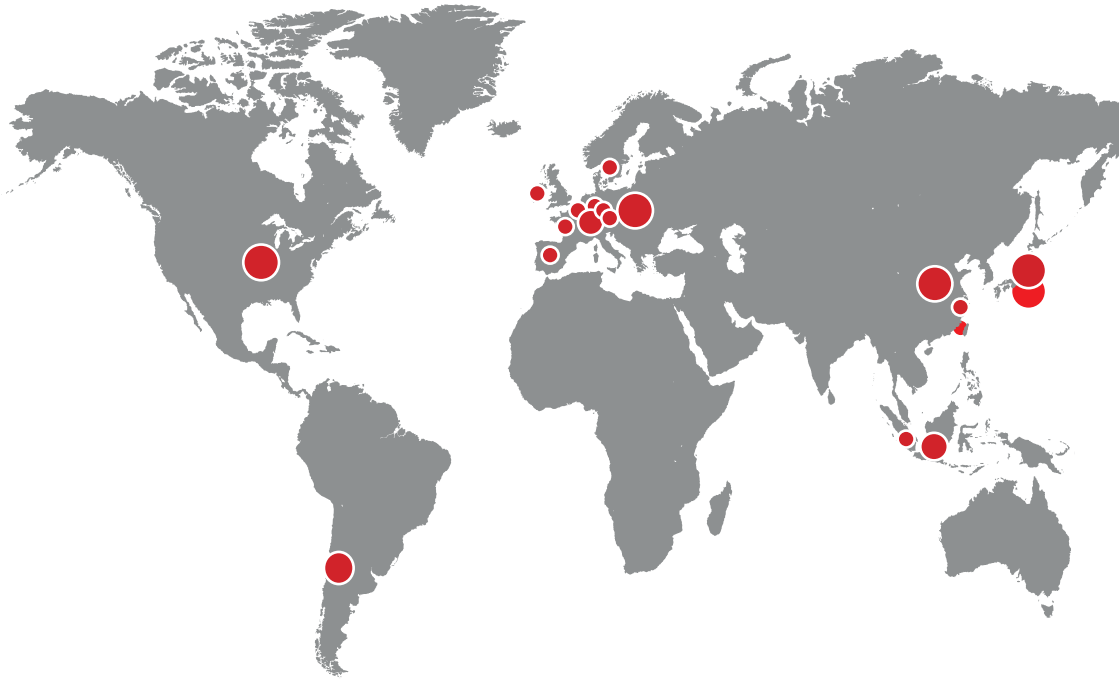
10. We meet the global IPC standards.

Our production meets the highest standards of international Association Connecting Electronics Industries (IPC) and Polish and international standards of production.

IPC® certifications are recognized around the world for guaranteeing the quality of our products and services in the electronics industry. The application of the PN-IEC production standards guarantees high quality and repeatability of the technological process which directly translates into high trust for our products. We are proud to offer the high quality cutting edge technological solutions, that are able to win high demand competition on the global tuning electronics market in premium segment.

Check it out and join to our satisfied users!

11. ProRacing® in the world.



Our top class devices are sold all over the world!
Join our team!

12. Customer Service.

Our service is available to you from
Monday to Friday, from 9^{00} to 17^{00}.

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