ProRacing®

CS 1

ProRacing® Chip Box Digital CS1

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

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1. ProRacing® Chip Box Digital CS1.

ProRacing Chip Box Digital Series are modern digital devices connected in the engine compartment, designed for cars with gasoline engines (also with LPG systems) and diesel. It is equipped with self-regulation system - an adjustment screw. The set includes dedicated cables with a pair of quick-connectors that facilitate installation directly in the wires of the correct sensor.

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 CS1,
- Cables and quick-connectors,
- Assembly instructions and an operating manual,
- Warranty.

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.

4. 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.

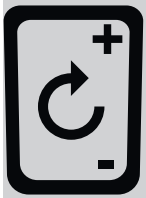
5. Pro Driving Safety – For your and others' safety.

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.

6. Product usability.

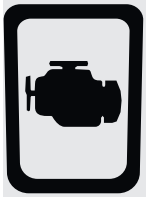
Mounting with quick couplers.

The device is intended for self-installation directly into the electrical installation of a suitable sensor. Included in the kit are a detailed installation manual and dedicated cables with convenient quick connectors.



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.

7. 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.

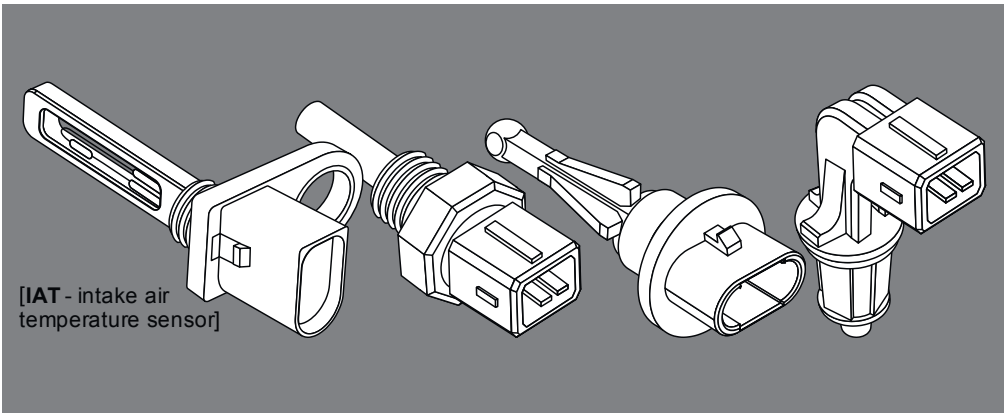
Krok 5. In the following section we explain how to install your Chip Box using an example engine. If your engine has a different design, individual engine parts may be arranged differently in the engine compartment when compared to the images here. However, the parts that are relevant for the Chip Box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

8. 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:

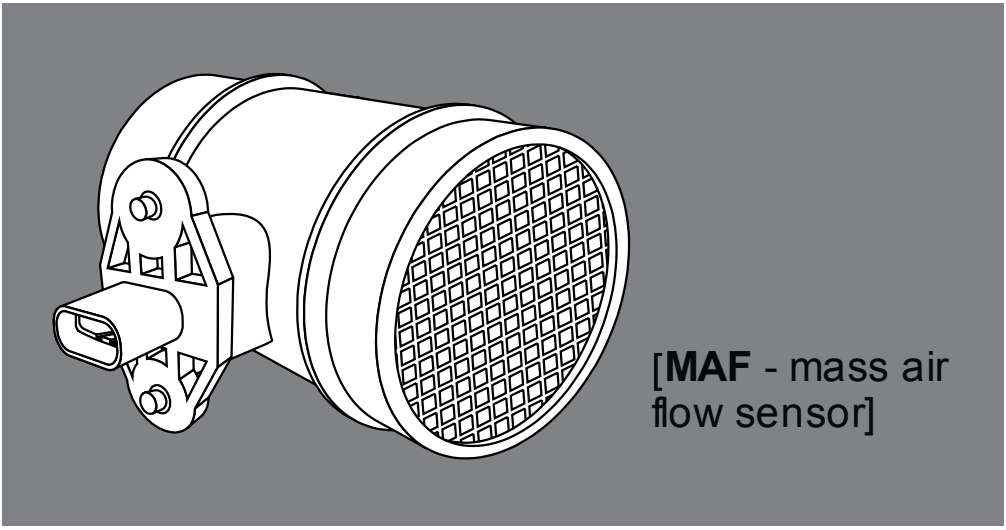
1. A stand-alone air temperature sensor (IAT - Intake Air Temperature sensor). Only two wires come out of it, it can be placed on the intake pipe to the air filter, on the air filter housing or on the intake manifold. (The figure below shows different types of stand-alone sensors with 2 pins).



[**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).

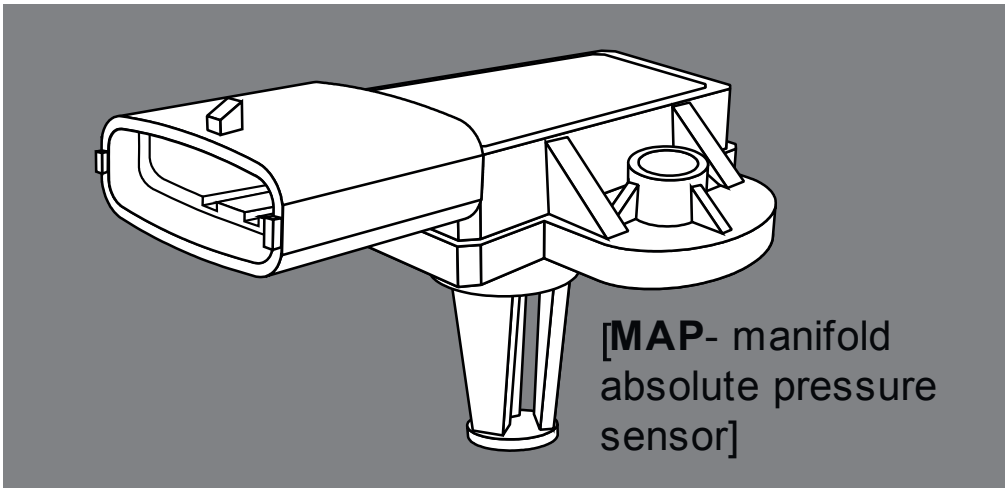
2. Sensor built into MAF (Mass Air Flow sensor).
Around 60% of cars are equipped with a sensor built into a MAF. If there are 4, 5, 6 or 7 pins in the MAF then most likely the sensor is placed there. We connect it with the Chip Box. (The figure beneath presents a typical MAF and a plug socket)



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

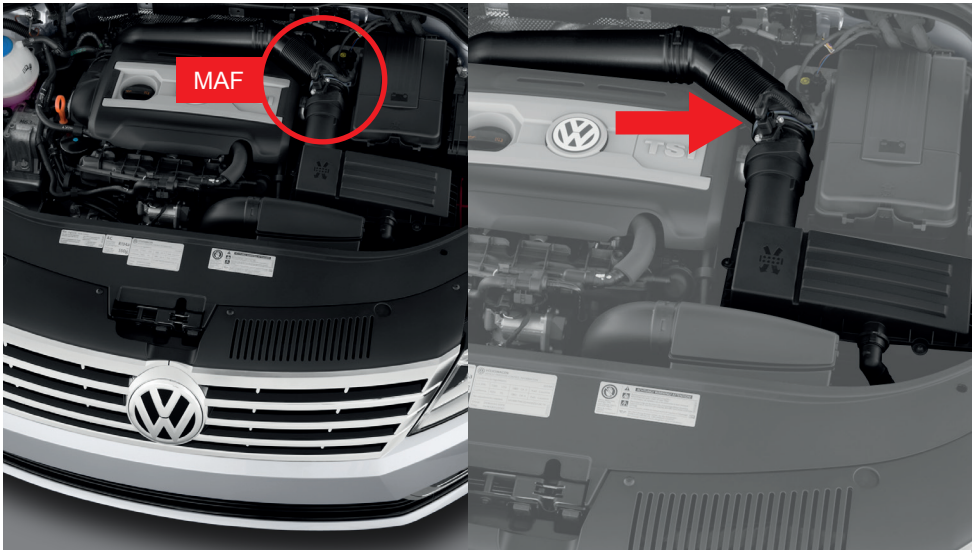
3. If the car does not have a stand-alone sensor with 2 wires and the flow meter has only 3 or 4 wires, it means that the intake air temperature sensor is located in the MAP sensor (Manifold Absolute Pressure sensor).

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)

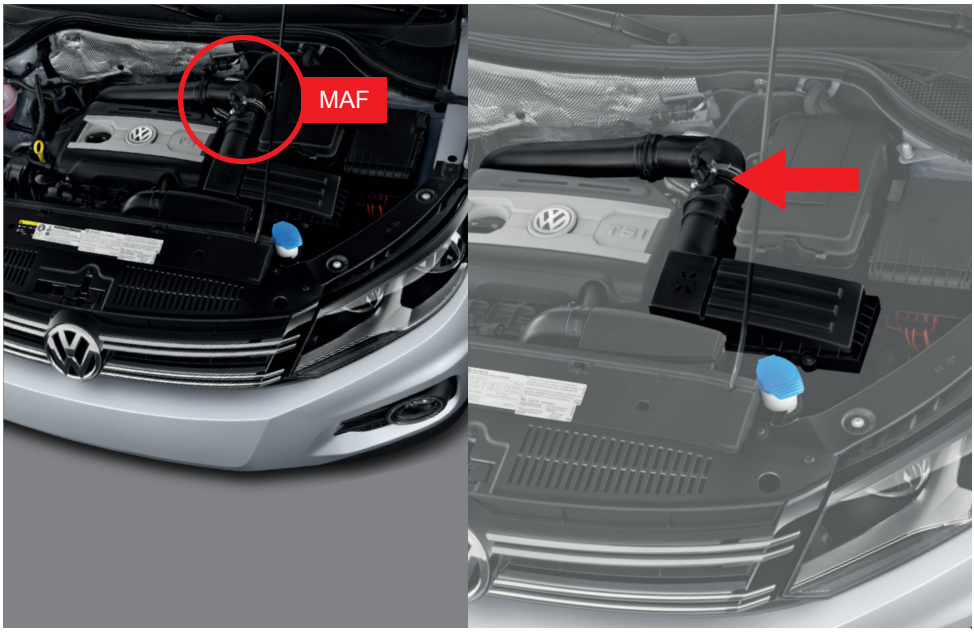


[**MAP**- manifold absolute pressure sensor]

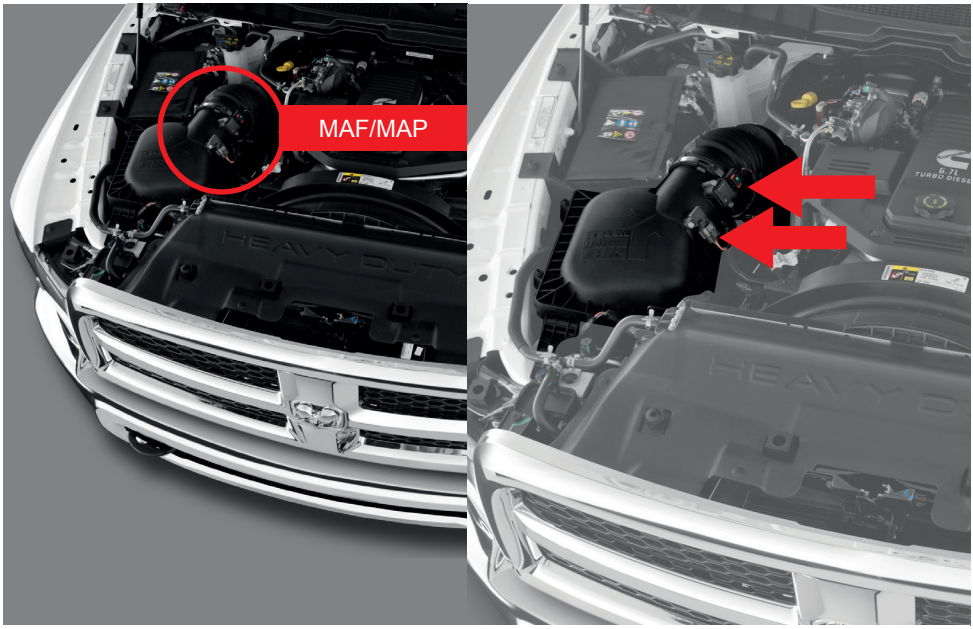
9. Examples of IAT, MAP and MAF sensor locations.



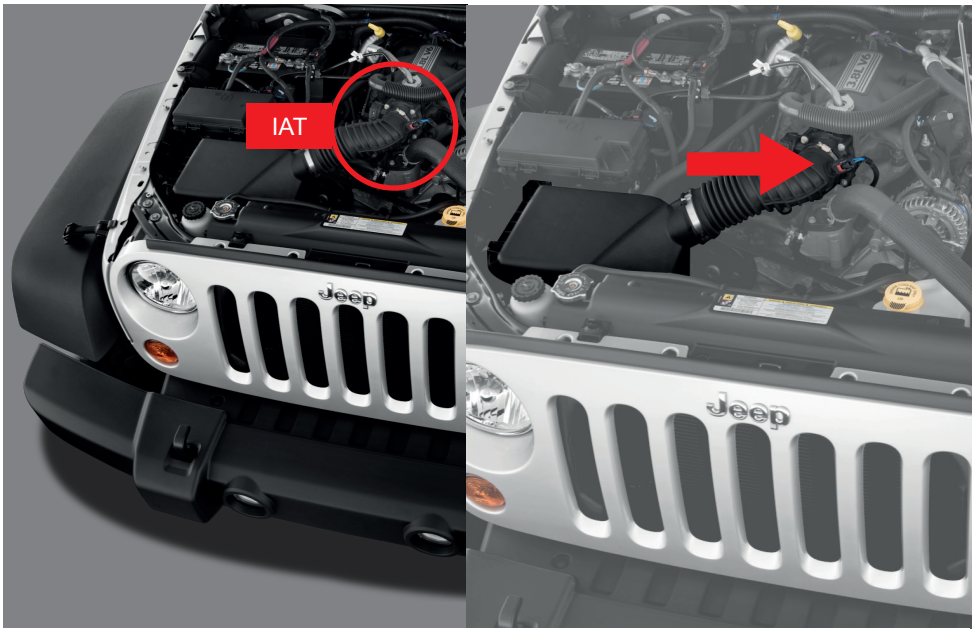
Volkswagen Passat CC (2014)



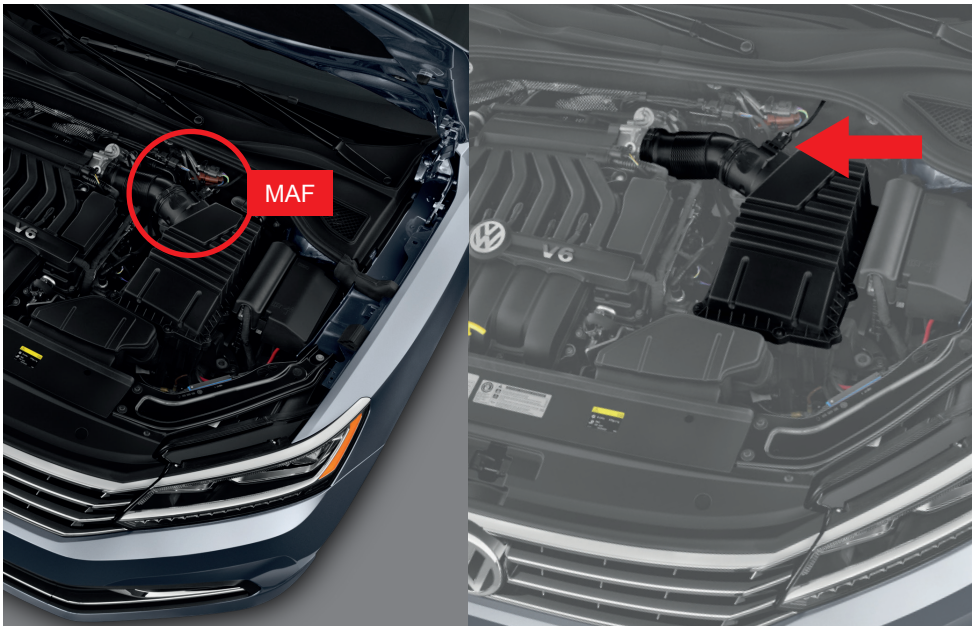
Volkswagen Tiguan (2016)



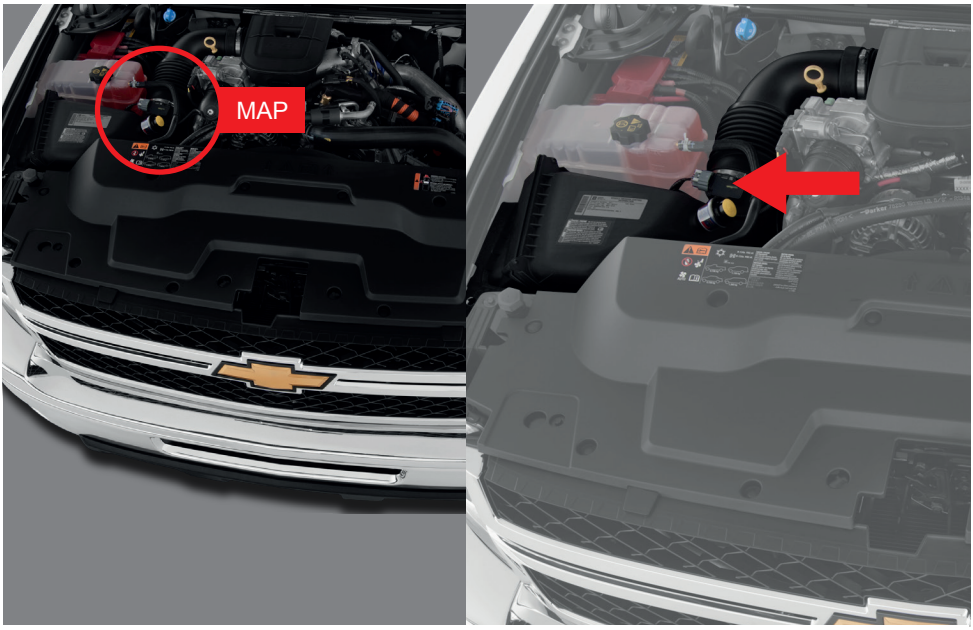
Dodge RAM 2500 SLT (2015)



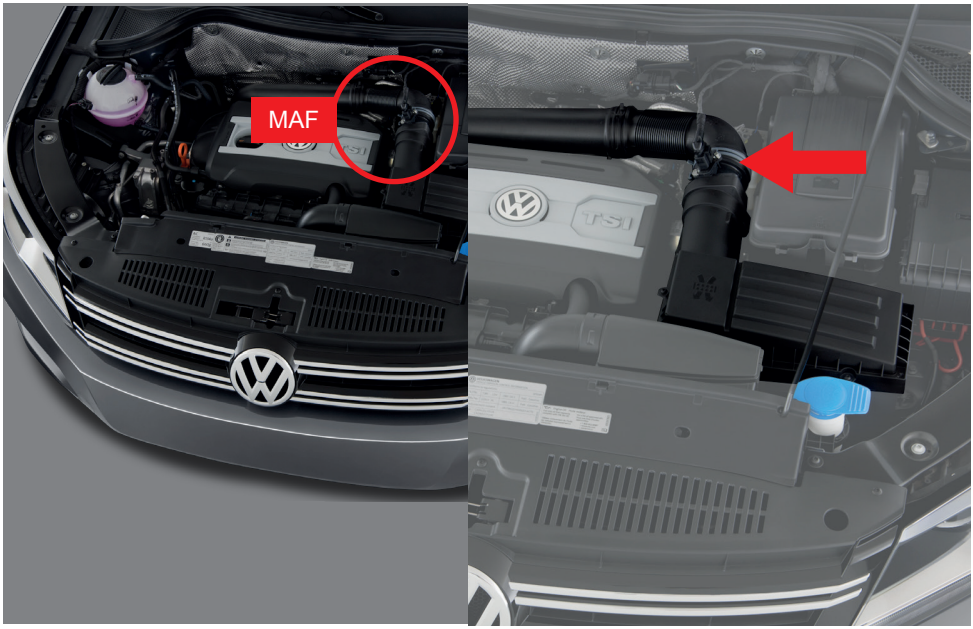
Jeep Wrangler 4x4 (2011)



Volkswagen Passat (2017)



Chevrolet Silverado 3500 LTZ (2012)

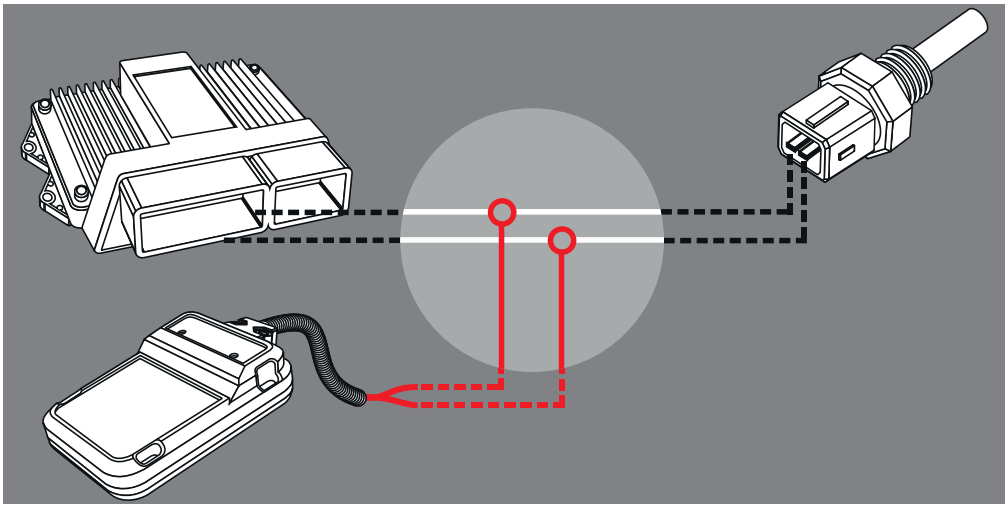


Volkswagen Tiguan (2016)

10. Ways of connecting of the device.

Installation of the Chip Box ProRacing® CS1 in a standalone intake air temperature sensor (IAT).

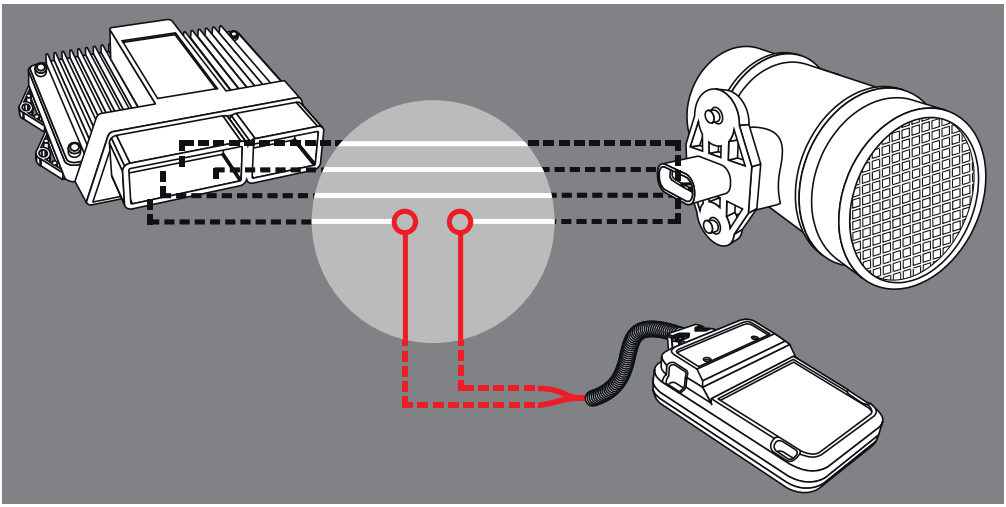
It is standalone sensor with two outgoing wires. It should be „bridged" with the cables from the set. Carefully remove the insulation from the wires coming out of the sensor. Then connect the Chip Box CS1 device to these wires using the attached quick connectors, soldering them on, or braiding them together. The sides do not matter - the signal flow through the Chip is the same in both directions.



Mounting the Chip Box ProRacing® CS1 in a flow meter (MAF) or a pressure sensor (MAP) can be connected in two ways.

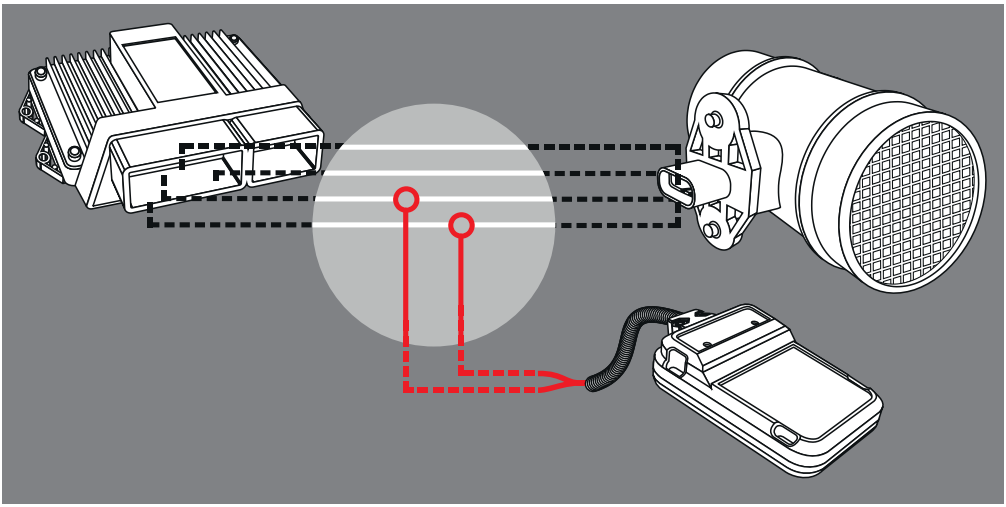
1. The first way is to connect on one cable - in series.

If you know exactly which wire is responsible for the temperature sensors of the intake air (check the additional manual, contact us) then cut it in half and connect the Chip Box CS1 between.



2. Another way is to connect in parallel with two sensor wires.

Find 2 indicated wires, carefully remove the insulation from them without damaging the copper core inside, then plug in the wires from the Chip Box as in the figure below, creating the so-called. bridge. The sides do not matter - the signal flow through the Chip is the same in both directions.



Note! The Chip Box is connected to the pressure sensor MAP in the same way as in the flow meter MAF discussed above, ie bridging the wires or connecting them in series.

11. 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.

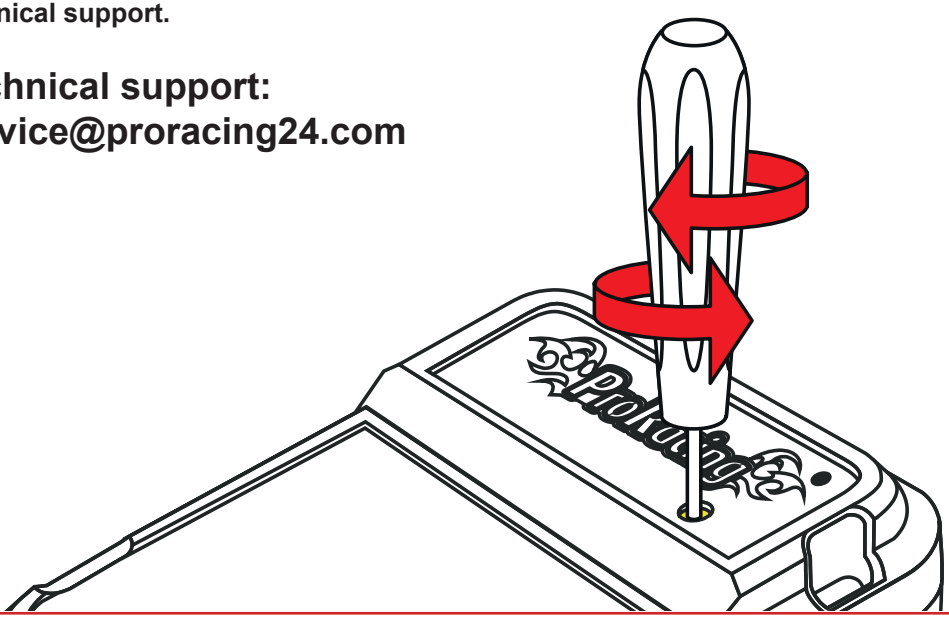
Notice!

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



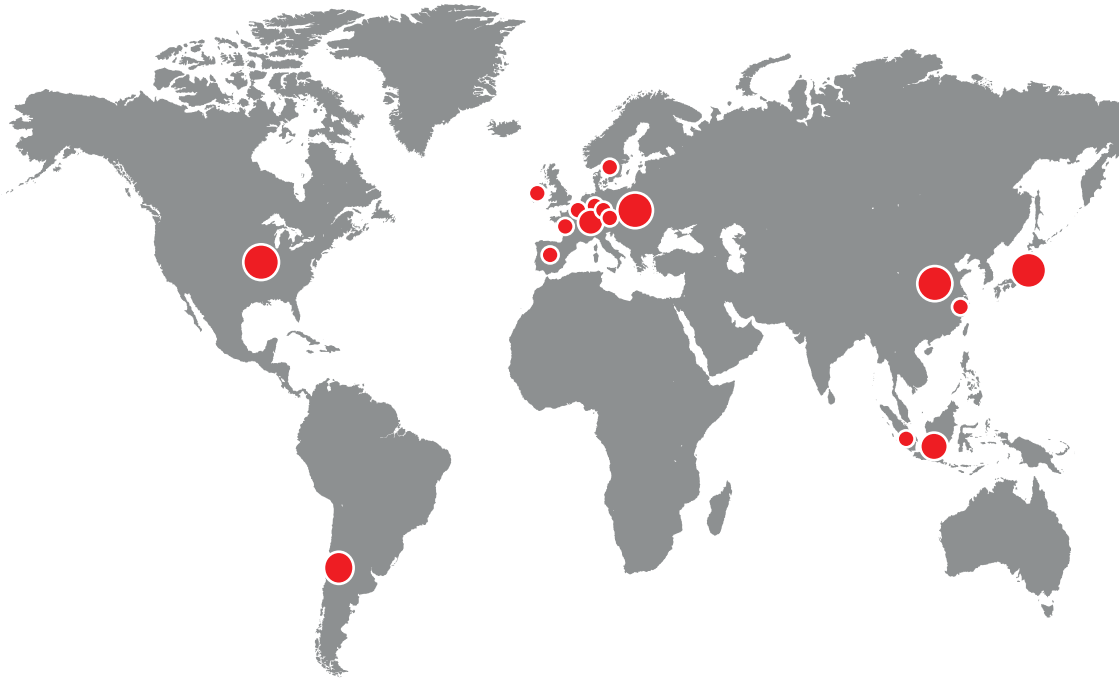
12. We meet the global IPC standards.

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!

13. ProRacing® in the world.



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

14. Customer Service.

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

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