

RACE CHIP



RaceChip Ultimate Installation Guide

For your engine: **3.6 Turbo, 324 kW und 440 hp, 3604 cm³**
3.6 Turbo, 309 kW und 420 hp, 3604 cm³
3.6 Turbo, 294 kW und 400 hp, 3604 cm³
3.0 Turbo, 309 kW und 420 hp, 2997 cm³
3.0 Turbo, 250 kW und 340 hp, 2997 cm³

This installation guide is for the installation of the RaceChip in the following vehicles:

Porsche	Macan S
Porsche	Macan Turbo
Porsche	Panamera S
Porsche	Cayenne S
Porsche	Cayenne GTS



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Foreword

Dear customer,

Finally - you are now the proud owner of a new RaceChip Ultimate! In just a few minutes you will experience the tremendous driving pleasure that RaceChip offers.

Regardless of whether you are on bending country roads, accelerating away at traffic lights or coasting on motorways, your RaceChip is guaranteed to thrill! The "RaceChip Effect" allows a completely new dimension of driving pleasure, as your vehicle gives you performance the like of which you have never experienced before. And you are not alone! Every year we welcome over 100,000 new RaceChip enthusiasts across the world. Our top priority is to offer you the best performance enhancements for your vehicle – with the best technology and quality standards.

Your feedback helps us to become even better. We would be thrilled to hear about your new driving experiences with RaceChip.

So start looking forward to your first drive with your new RaceChip. After installing you can begin straight away.

Happy driving.

Your RaceChip Team



Scope of delivery



RaceChip Ultimate

Individually customised for your vehicle



Wiring harness

Automobile-grade, suitable for your vehicle

Other equipment

- *Deactivation plug*
for resetting your vehicle to its factory settings
- *Cable tie*
for fastening the RaceChip and wiring harness in your engine bay
- *Torx key*
in case you wish to open the RaceChip
- *Installation guide*
for installing your new RaceChip in just a handful of steps

Installation

First steps for installing the RaceChip



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



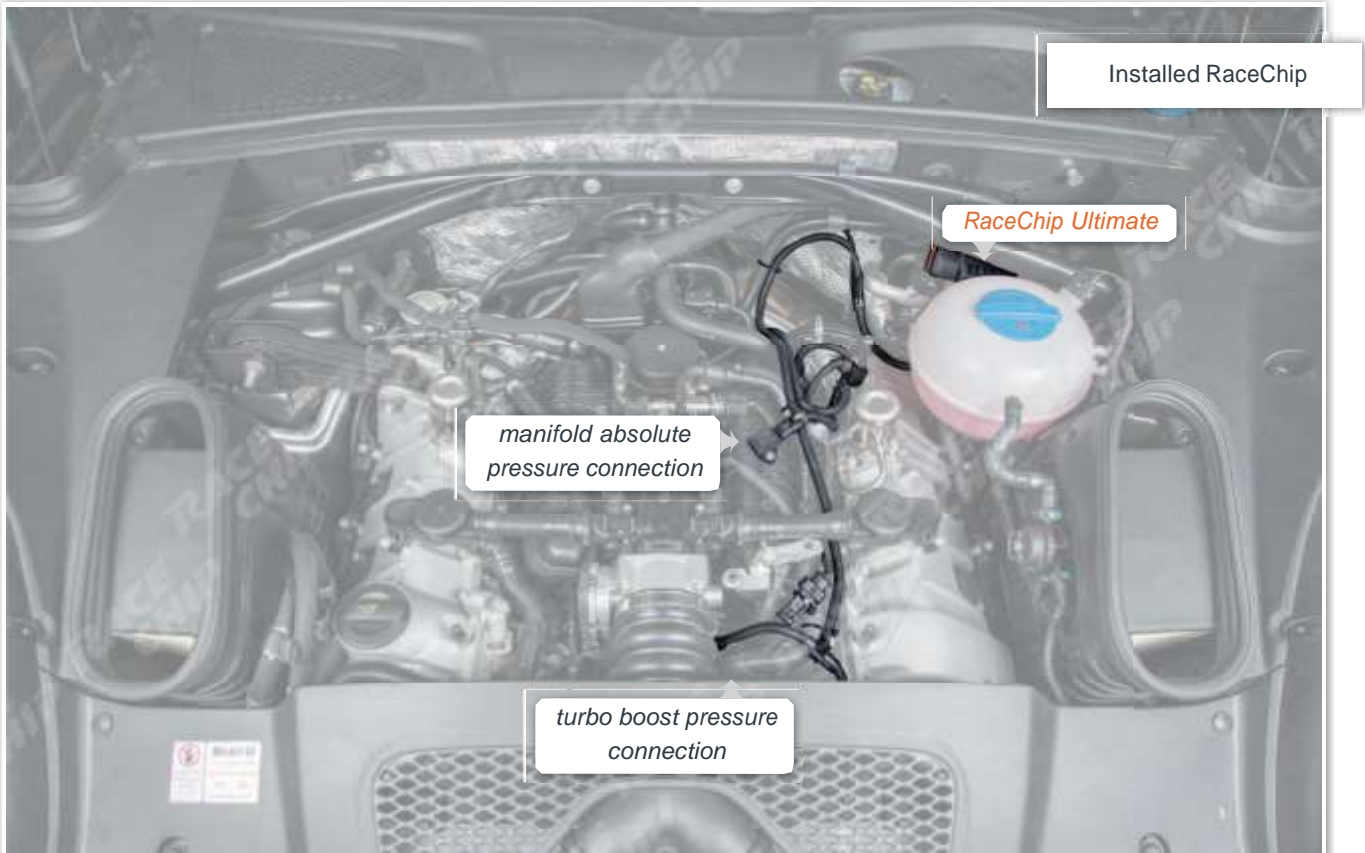
Open your vehicle's bonnet and close and lock the doors. For vehicles with a keyless system: please place the key outside the radio reception range of the vehicle (to be on the safe side, at a distance of 10 metres).



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

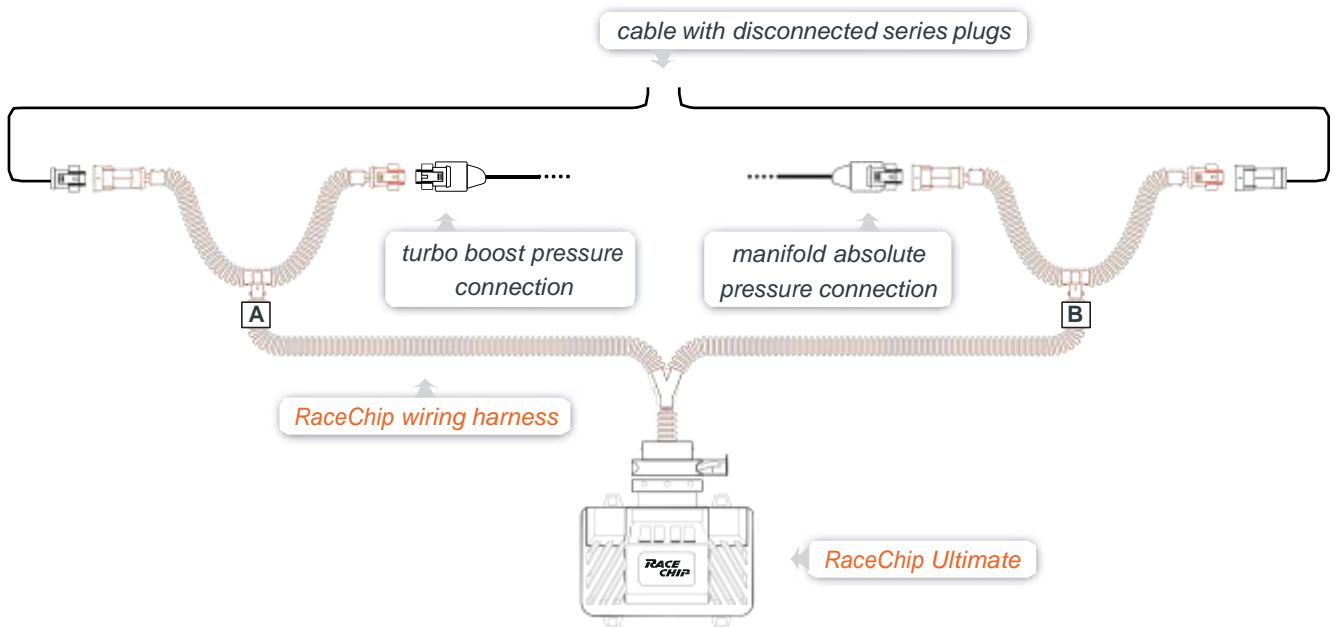


Generally speaking, you do not require special tools to perform the installation. However, a simple wire cutter is useful for the purposes of removing excess material from the cable tie once the installation is complete.



This is how the RaceChip looks in its final installed position. We will now explain step-by-step how to install it.

Setup illustration



Removing the engine cover



Remove the engine cover from the holding clips and place it next to the car. You must jiggle the cover slightly to release it from the holding clips.

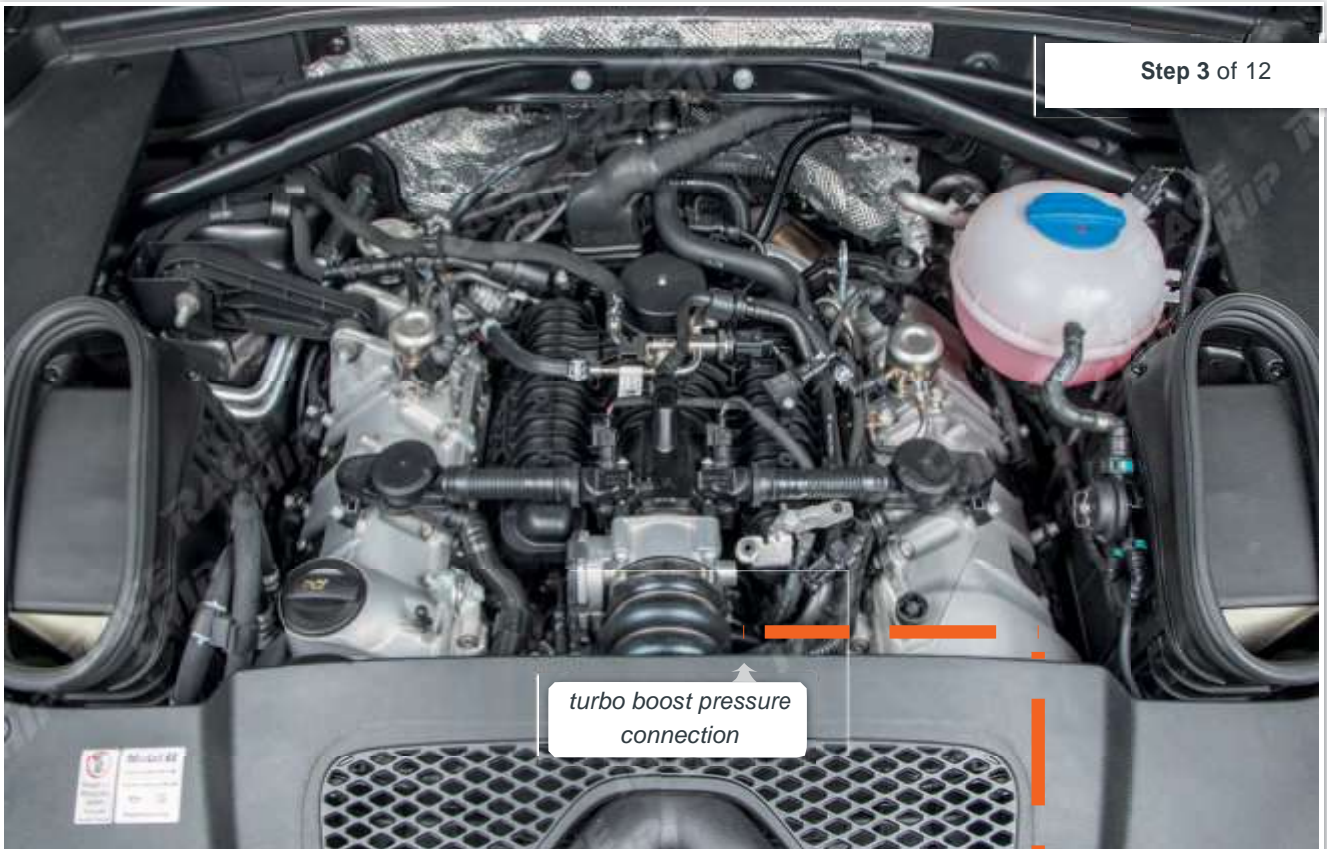


Connecting to sensors

Step 2 of 12

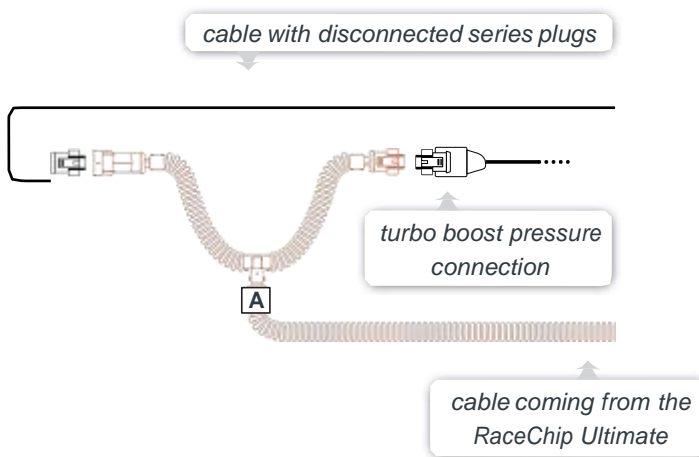


This image shows the connections that are relevant for the installation in your vehicle.



First, locate the turbo boost pressure connection in your engine bay. The connection on the turbo boost pressure instrument is located under the front plastic cover (see image below).

Setup illustration





Step 4 of 12

Now remove the plug from the connection socket. The image below explains how to release the plug.



The first step involves pulling out the bright grey *locking clip*. Press down on the bright grey *locking clip*, which serves as a switch for releasing and removing the plug.

Because the plug is often connected very tightly to the socket, it is helpful, when pressing the *locking clip*, to first push the plug towards the connection socket before subsequently pulling on in.

In addition, temperature fluctuations in the engine bay can result in a type of “vacuum effect” between the plug and the socket. This can be solved by lightly “wiggling” the plug.

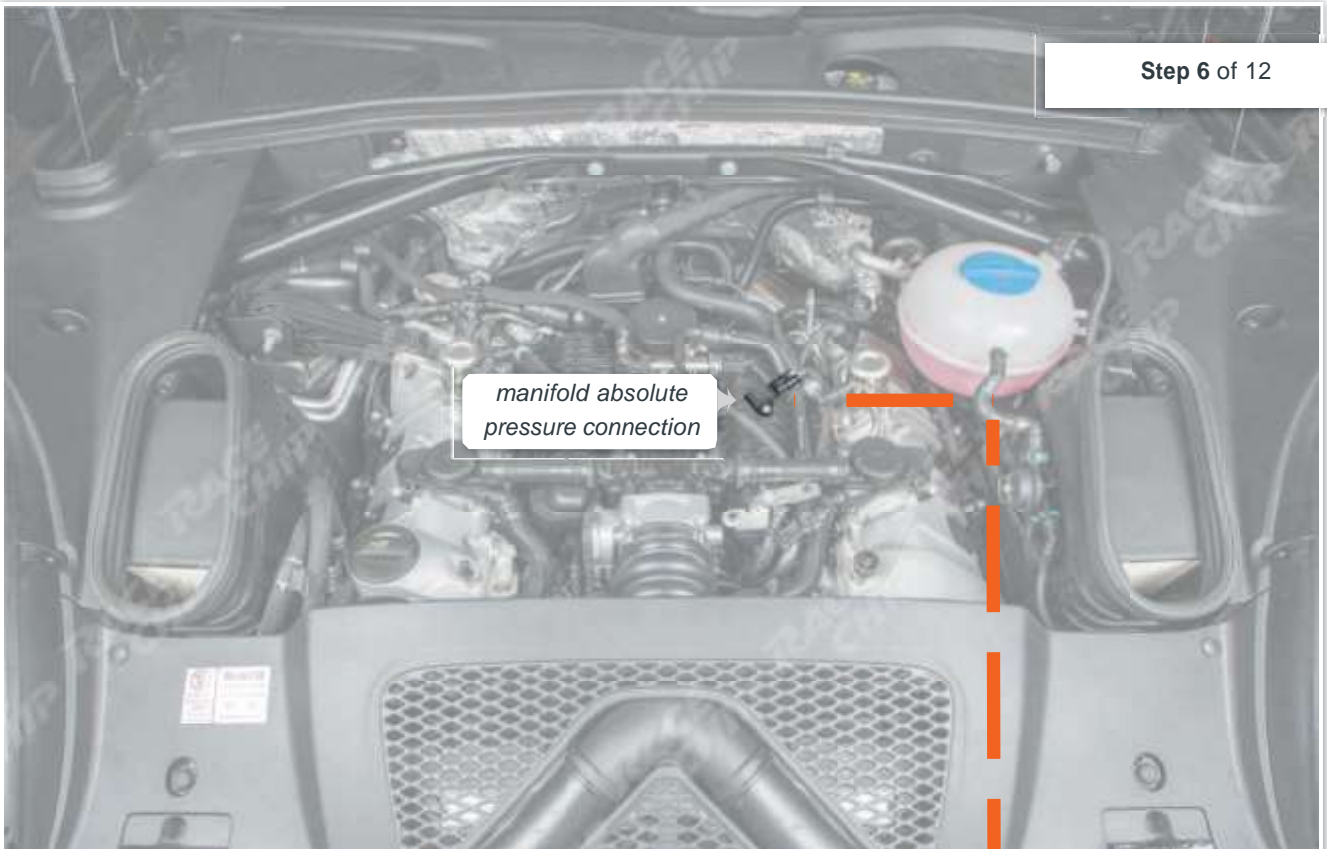
Step 5 of 12



Now connect the part of the RaceChip wiring harness marked "A" to both the disconnected series plug and the socket in your vehicle. Make sure that the plug's locking clip engages again.



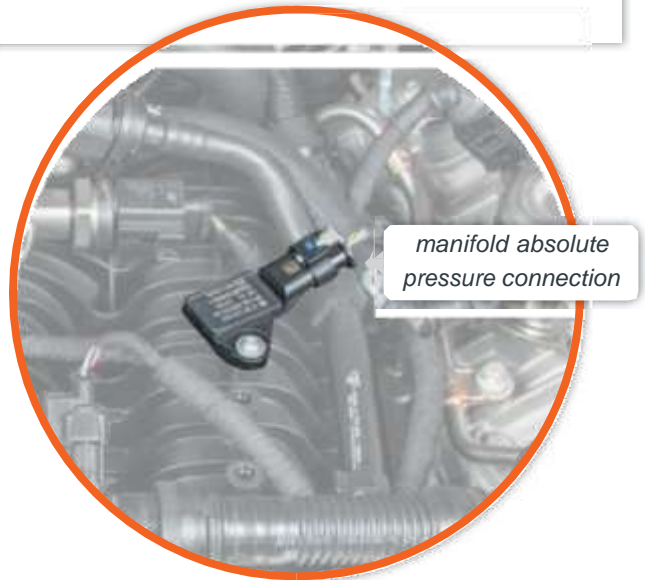
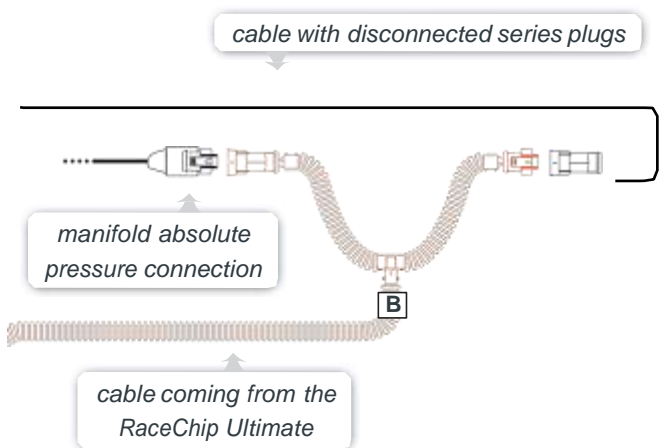
Step 6 of 12

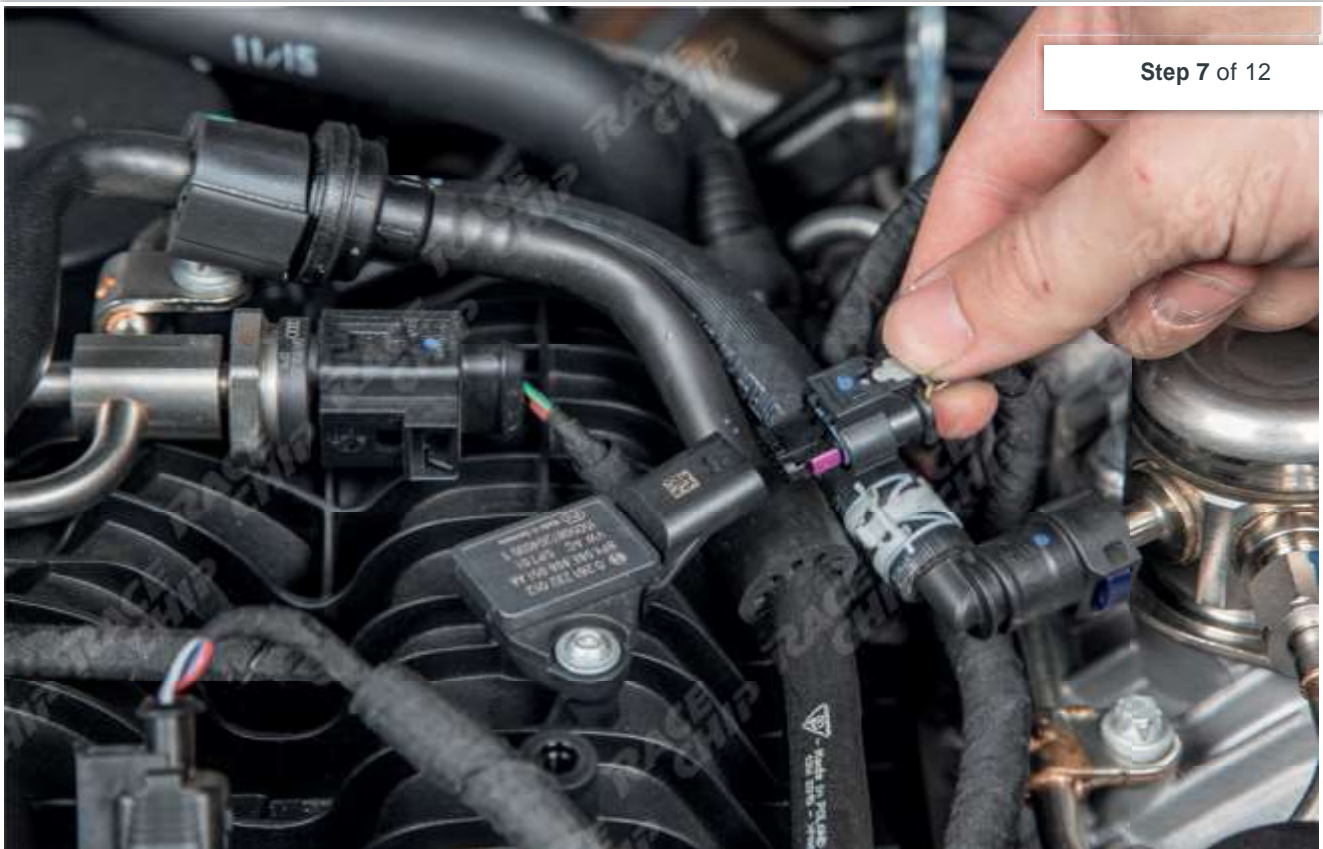


manifold absolute pressure connection

Once the connection to the turbo boost pressure is complete, it is time to make the connection to the manifold absolute pressure. To begin, locate the manifold absolute pressure connection in your engine bay (see image below).

Setup illustration





Now remove the plug from the connection socket. The image below explains how to release the plug.

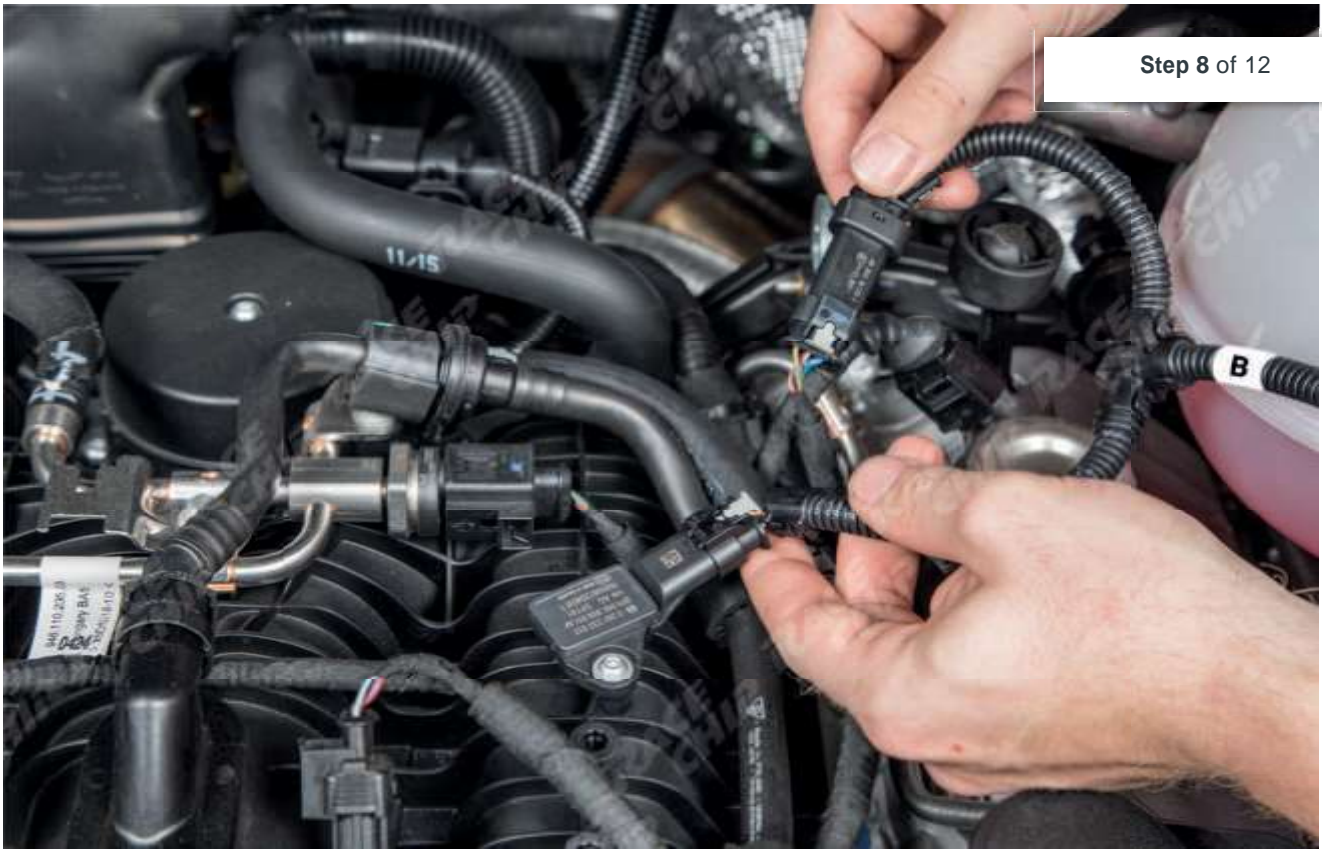
Locking clip



The first step involves pulling out the bright grey *locking clip*. Press down on the bright grey *locking clip*, which serves as a switch for releasing and removing the plug.

Because the plug is often connected very tightly to the socket, it is helpful, when pressing the *locking clip*, to first push the plug towards the connection socket before subsequently pulling on in.

In addition, temperature fluctuations in the engine bay can result in a type of “vacuum effect” between the plug and the socket. This can be solved by lightly “wiggling” the plug.



Step 8 of 12

Now connect the part of the RaceChip wiring harness marked "B" to both the disconnected series plug and to the socket in your vehicle. Make sure that the plug's locking clip engages again.

Connecting the RaceChip to a wiring harness



Wiring harness with deactivation plug removed

Wiring harness with RaceChip connected

Now connect your RaceChip to the newly installed wiring harness. To do so, first remove the deactivation plug that is still connected to the RaceChip wiring harness in its as-delivered condition. Pull the purple-coloured plug outwards and then remove the deactivation plug from the wiring harness connector.



Deactivation plug

The deactivation plug allows the vehicle to be restored to its factory settings without the need to remove the RaceChip wiring harness. In order to use the deactivation plug, you must remove the RaceChip from the wiring harness connector and then replace the chip with the deactivation plug.

If you wish to replace the RaceChip with the deactivation plug at some stage in the future, please ensure that there is no electrical voltage present (see notes on page 6).



Fastening the RaceChip



When searching for a secure fastening point for the RaceChip, make sure that the wiring harness can be properly routed in the engine bay in the next installation step. The harness must not, for instance, be routed along engine parts that become very hot, nor should the harness be routed under tension. Fasten the RaceChip in place using the supplied cable tie, as illustrated in the image above.



- When selecting a fastening point, make sure that the RaceChip is protected from exposure to water, heat, and vibrations.
- Do **not** wrap the RaceChip in an airtight bag as this can lead to a built up of condensation..

Step 11 of 12



Route the cable along a suitable path (for example, along an existing harness) and then fasten it using the supplied cable tie. Using a wire cutter, you can remove the excess length of the cable tie.



- Do **not** route the cable in areas in your vehicle that become overly hot during operation (e.g. the exhaust system, turbocharger, etc.).
- Do **not** route the cable along movable parts (e.g. fan belts, cam belts, fan wheels).
- Never fasten the cable onto hoses (e.g. a brake hose) as this could result in abrasion.



Completing the installation



Re-attach the cover of your engine and close the bonnet. The installation process is now complete and your RaceChip is ready for use. Perform a trial run with your vehicle and test the RaceChip with the function you wish to use. Should you have any questions, do not hesitate to contact our Customer Service department (see page 24).

We hope you enjoy using
your **RaceChip Ultimate!**

Troubleshooting

If, after the installation, your RaceChip does not function as desired, the following list serves as a set of troubleshooting tips.

<p>No performance boost - I am not satisfied with the performance level of my vehicle</p>	<p>You have the option of individually customising your RaceChip's performance level. It is possible, for example, to increase or decrease the performance boost. To do this, you need to adjust the rotary switch inside the RaceChip. A detailed functional description and the exact location of the switch can be found in the "Fine-tuning the RaceChip" section (starting on page 22). However, it is important to note that our chips are always shipped with what we consider the ideal fine-tuned setting for your engine.</p> <p>If, after further fine-tuning, you still do not notice a performance boost, then please contact our Customer Service department.</p>
<p>Jolting - My vehicle jolts after the installation of the RaceChip</p>	<p>It is possible to further customise your RaceChip to the special characteristics of your engine. This involves an additional installation step (see "Fine-tuning", page 22 onwards).</p> <p>If this does not rectify the problem, please provide our Customer Service staff with an exact description of the driving circumstances in which the problem arises. The Customer Service department will then suggest further adjustments for solving the issue.</p>
<p>An engine indicator lamp lights up - After the installation of the RaceChip, an engine indicator lamp lights up (fail-safe/fault signal)</p>	<p>Firstly, a lit engine indicator lamp does not necessarily mean that something is wrong with your engine. This may be a protective measure designed by the manufacturer. There can be several different causes of an illuminated fault signal once the engine has been started. However, the RaceChip cannot independently bring about this type of fault signal. When the engine is started or at idle speed, the performance boost itself is not active. This type of fault can be the result of a sensor being disconnected while the control unit is active. Please consult the information on page 6.</p> <p>If there is a recurring fault signal, starting and restarting the engine several times may solve the problem. If the engine indicator lamp lights up after a period of driving, please contact our Customer Service staff.</p>



<p>The vehicle does not start - After the installation of the RaceChip, the vehicle's ignition does not work</p>	<p>Please make sure that you have installed the chip in accordance with this guide. If you are not able to find the cause of the fault, please contact our Customer Service staff.</p>
<p>No noticeable fuel savings - I do not notice any fuel savings</p>	<p>Please compare the before-and-after levels of fuel consumption based on the vehicle's actual consumption – the on-board computer often displays incorrect values. It is important that you do not inappropriately adjust your driving style as a result of the RaceChip performance boost, i.e. by accelerating more frequently. If the fuel savings provided by the RaceChip in its as-delivered condition are not satisfactory, please contact our Customer Service staff for a fine-tuning adjustment.</p>

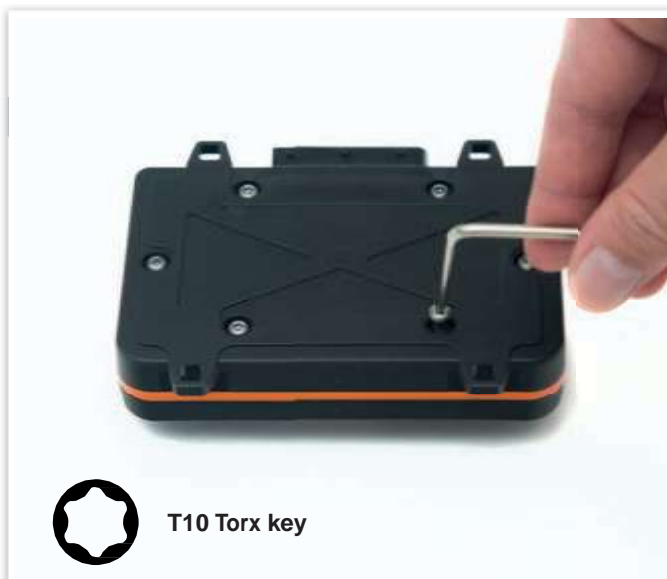
Fine-tuning of the RaceChip

Your RaceChip is shipped with optimisation software and a chosen factory setting that are customised to your vehicle's engine. In its as-delivered state, the RaceChip guarantees optimum customisation of your vehicle software in line with the RaceChip's own software and also provides the following advantages: **A considerable performance boost within the vehicle's existing reserves, a long engine service life and fuel savings.**

Nevertheless, manufacturer-based production tolerances may affect performance. In order to compensate these tolerances, there is a rotary switch inside the RaceChip that allows additional fine-tuning of the RaceChip.

Factory adjustment: **6**

Rotary switch



T10 Torx key

Opening the RaceChip

To open the RaceChip (if necessary), a T10 torx key is included in the scope of delivery (see image). Using this key, unfasten the six screws on the underside of the RaceChip. You can now open the housing.

Example calculation:

- 1 RaceChip Ultimate
Rotary switch position: **D6**
Cable reference: DM-S⁶³1036

Rotary switch



How do I find the factory setting?

Your bill includes a reference to the factory setting installed in your shipped RaceChip. The factory setting for your vehicle is designated as "6". The "D" is not significant.



Adjusting the performance boost

If you think that the achieved performance boost does not quite live up to your expectations, it can be tuned further using the rotary switch. Only perform this tuning if the achieved performance boost at the factory setting does not meet your expectations for the engine. Please adjust the performance in incremental steps, starting with **Tuning 1**. As soon as the desired performance boost has been achieved, stick with this tuning. If your engine begins to jolt while running, then select a lower tuning.

Factory setting	Tuning 1	Tuning 2	Tuning 3
Rotary switch	Rotary switch	Rotary switch	Rotary switch
6	7	8	9

Improving smoothness of engine operation

If the installation of the RaceChip results in jolting, tapping or banging noises, or if an engine indicator lamp lights up, smooth operation of the engine can be restored with a suitable fine-tuning adjustment. Please proceed in incremental steps, as illustrated below. First, set the rotary switch to **Tuning 1** and start your vehicle's engine. If your engine is running as smoothly as you would like and no engine lamps light up, then begin increasing the setting with the rotary switch, starting with **Tuning 2**. Perform a test drive each time you go up a tuning level. If the engine does not run as desired at a particular tuning level, then go down a level. This level is then the ideal setting for obtaining a performance boost based on the special characteristics of your engine.

If your engine does not run as you would like it in any tuning setting, or if an engine indicator lamp lights up in service mode, please contact our Customer Service staff.

Factory setting	Tuning 1	Tuning 2	Tuning 3	Tuning 4
Rotary switch	Rotary switch	Rotary switch	Rotary switch	Rotary switch
6	2	3	4	5



Position "0" on the rotary switch does not provide a tuning setting. With this switch setting, your vehicle's performance corresponds to the original series performance.

Contact us

We are always here to help!



Normal landline and mobile phone charges apply.
Contact us at: +49 (0) 7023 - 77 999 - 0

Our service hotline is available from:

Monday to Friday, from 8:30am to 12:30pm
and from 2:30pm to 5:30pm

Please have your customer details ready when you call. This allows us to access your key data quickly, and to help you as fast as possible.

You can also get in touch using our contact form:

www.racechip.de/kontakt

Imprint

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