

System 7043799AC**Alternator/electronic ignition
for Puch M125 AC**

- Light magneto ignition system with integrated fully electronic ignition. Light output 12V/70W alternating current. Contactless electronic ignition with its own power supply within the system. Replaces the entire old light magneto ignition system. No modifications to your engine housing are required.

- Important note: The AC system is designed for use in off-road sports and therefore does not support battery charging or direction indicators (turn signals), meaning it cannot be used in normal road traffic without an exemption. DC system for battery and turn signal support available on request.

Advantages over the old system:

- All parts are new
- Significantly brighter light
- Very stable ignition with high-energy spark
- Better starting and combustion
- No more wear on the breaker



Installation instructions for system 7043799AC	24.2.2026
<p>- If you can install and adjust the original ignition and have general mechanical skills, you can also install a VAPE system. If you have never dealt with this before, it is better to have the system installed by someone who is familiar with it.</p>	
<p>- VAPE cannot monitor compliance with these instructions or the conditions and methods used in the installation, operation, use, and maintenance of this system. Improper installation can result in property damage or even personal injury. We accept no responsibility or liability for any loss, damage, or costs resulting from or in any way related to incorrect installation, improper operation, or incorrect use and maintenance. We reserve the right to make changes to the product, technical data, or installation and operating instructions without prior notice.</p>	
<p><u>IMPORTANT</u></p>	
<p><u>Be sure to read the entire manual carefully before beginning installation.</u> Please note that unauthorized modifications, including repair attempts, to the parts may void the warranty. This also applies to cutting cables, which very often leads to the loss of reverse polarity protection plugs and, as a result, to material-damaging short circuits or reverse polarity. Please note the information on the system information page. Make sure that the system configuration shown actually meets the requirements of your engine. Incorrect ignition values, for example, can damage the engine and/or cause injuries when starting (kickback of the kick starter). Particular caution is required when starting for the first time after installation. If you notice any malfunction, check and change the ignition setting! During installation, check very carefully that the rotor does not rub against the stator coil or anywhere else, which can happen for various reasons and lead to serious damage.</p>	
<p>Intended use - This is a replacement system and not a copy of the original equipment. The parts of the system therefore look different from the original parts, and in particular the ignition coil and regulator may have different mounting points that require adjustment on your part. This system is intended exclusively as a replacement for original lighting/ignition systems in classic and modern classic motorcycles whose engine characteristics have not been subsequently modified. It is not a tuning system, it does not change the original engine characteristics and does not achieve significantly higher engine performance, but it does improve the roadworthiness and safety of the vehicle through better lighting, clearer indicators, a consistently powerful horn and greater overall reliability compared to the aging original systems. Since our systems do not cause any significant change in the engine characteristics, there is no deterioration in exhaust emissions or noise levels. In most cases, exhaust emissions may even improve due to more complete combustion.</p>	
	<p>- VAPE guarantees homologated products marked with the "E" symbol (specifically for the Czech Republic, E8), which ensures consistent compliance of product characteristics with the relevant ECE homologation regulations (in particular ECE R10.05). Inspections are carried out regularly by the competent authority.</p>
<p>- The charging system is only suitable for use with rechargeable 12V (6V systems 6V) lead-acid batteries with liquid electrolyte or sealed lead-acid batteries, AGM, gel. It is not suitable for use with nickel-cadmium, nickel-metal hydride, lithium-ion, or other types of rechargeable or non-rechargeable batteries.</p>	

- The system is **not suitable for use at sporting events.**

The warranty will be void if the system is used for purposes other than those for which it is intended. In addition, the system may not perform as you expect, and we will not be able to provide support because we are not familiar with the situation. In the worst case, improper use may even result in the operating license being revoked.

- **When assembling the parts, be sure to start with the parts on the motor side** (adapter, stator, rotor) to determine whether this material really fits before assembling the parts to be attached outside the motor. Unfortunately, it is often the case that people start by installing the regulator, ignition coil, and control unit, if applicable, and these parts are very often modified (without being coordinated!), which makes it impossible for us to resell them later. Replacing the lighting/ignition systems of old motorcycles is unfortunately not like buying something off the shelf at the supermarket. Given the variety of types and possible changes to the material since they were manufactured many years ago, it is always a complex matter, which unfortunately can also involve errors.

- Our systems have **NOT been tested for use with other electronic components (such as third-party ignitions, navigation systems, cell phones, LED lights, etc.)** and may cause damage to such parts under certain circumstances. Any existing tachometers are not supported by the system. However, we do offer a tachometer solution. Likewise, any circuit breakers or ignition-controlled exhaust controls are not supported. It may also be the case that your original ignition had a speed limiter for legal reasons. The new system does not have such a device. Therefore, please check the legal situation beforehand.

- If you do not have the necessary expertise to install the system, please have it installed by a specialist or a suitable workshop. Improper installation can damage both the new system and the motorcycle, and may even result in injury to the rider.

- Before ordering a system, please check whether the **rotor puller** we recommend is included in the scope of delivery. If not, it is best to order it at the same time! Damage to the rotor caused by the use of other tools and aids will void the warranty!

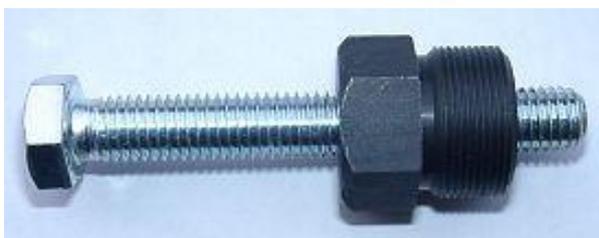
- The rotor is extremely sensitive to impact (e.g., during transport). Always check the rotor for damage before installation. If the rotor has magnets that are not encapsulated, check that the magnets are securely attached by trying to push them sideways with your fingers. After impact, some of the glued-in magnets may have become loose and are only held in place by their magnetic force. This would cause serious damage to the system during operation. At the same time, please check the magnets of the rotor for foreign objects (e.g., screws or other metallic objects).

- **If you have access to the Internet, it is better to view this documentation online.** You can enlarge most of the images by clicking on them and you will receive more and possibly more up-to-date information. System list at: <http://www.powerdynamo.biz>

You should have received these parts!



- Please note that the stator is only loosely screwed onto the base plate, as you will need to lift it during assembly to access the mounting holes underneath.



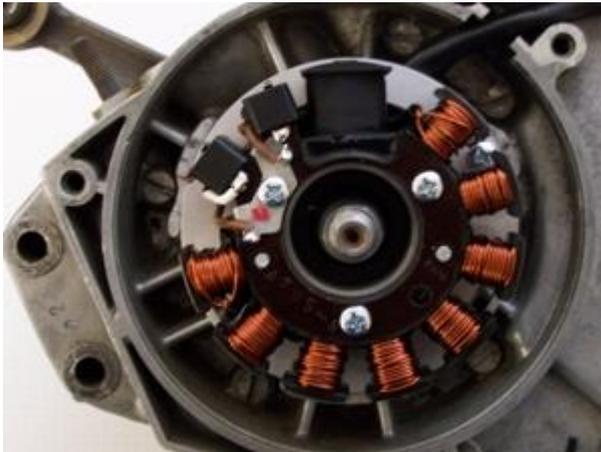
- To remove the new rotor again, you will need an M27x1.25 puller (order no.: 99 99 799 00 - **not included in delivery!**).

- **CAUTION:** When using a claw puller, the magnets in the rotor will come loose!

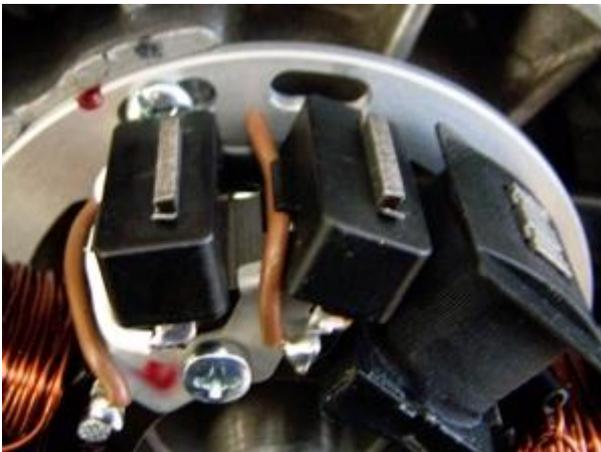
- Now disconnect all cables from your old alternator and remove them. Do NOT remove the blue cable that went to the ignition coil. It can still be used (repurposed). Remove the key on the crankshaft cone with pliers; it is no longer needed. Please do not forget this step, otherwise you will have to remove the alternator again later. Do not worry, the removed key was not used to secure the rotor, but only to prevent it from being inserted incorrectly. However, you now have markings.

- Remove the 3 M4 retaining screws (even if they are only loosely screwed in) from the coil body of the new alternator and pull the coil body slightly away from the base plate so that the mounting holes of the base plate are accessible. Be careful not to damage the paint insulation of the coils.

Now place the aluminum plate with the stator coil hanging loosely from it on the crankcase in place of the previous alternator and screw the plate into the original mounting holes.



- Place the coil body back on the plate. Carefully pull the cable out from under the plate. The cable is very tight, so please pull it out carefully, bit by bit, and push the stator along. Be careful not to pinch the cable! Unfortunately, this can happen quite quickly with this system. To be on the safe side, push the cables underneath slightly to the side with your fingers before placing the coil body on the plate. The coil body must sit firmly on the base plate and click into place audibly. If it does not do so, but instead sits loosely, there is a cable underneath in the way.



- On the base plate, you will find a red mark next to the two smaller black coils. There is also a mark (pressed-in line) on the rotor. These are adjustment marks for the ignition. At the moment of ignition, both marks are aligned.

- Remove the spark plug. Hand-tighten the new rotor onto the crankshaft so that you can turn the shaft with it and bring the piston into the ignition timing position. We recommend setting this to approx. 2.5-3 mm before TDC.



- Now pull the rotor back slightly from the crankshaft and reattach it so that the notch mark on its circumference is exactly aligned with the mark on the base plate, then press the rotor firmly onto the shaft. It is very important not to change the position of the crankshaft (which is at the ignition point). If it does change, please repeat the process. You can see it correctly.



- With the exception of use in motorcycles, which have always had AC power systems, our AC systems are not intended for use within the scope of the German Road Traffic Licensing Regulations (STVZO).

Connect the cables as specified in circuit diagram 71ik-ac, i.e.:

- To make it easier or even possible to pass the cable through narrow openings, the plug of the cable leading to the new ignition coil has not yet been connected to the contact tabs at the end of the cable from the new alternator. You should only attach the plug once the cable has been finally passed through the engine opening. To do this...



... take the female connector of the ignition coil with the red and white cable colors.

- Plug the loose 2-pin connector sleeve supplied onto this connector (to avoid mixing up the cables) and insert the loose cables from the alternator (red and white) with the contact tabs into the back of the connector. Make sure that the connector tabs snap into the connector housing. It is important to ensure that these cables are positioned correctly in the connector:

- white goes to white
- red to red

- If you want (or need) to remove the cables from the connector housing again, it is best to use a bent paper clip to push the barbs on the contact tabs to the side so that the connectors can be released.

- The brown cable from the alternator with the ring eyelet is screwed onto the ignition coil at its ground connection (retaining bracket).

Caution: Failure to do so is the most common cause of ignition problems! Without this direct connection, the system will not work or will not work properly in the long term if you rely solely on the frame as a conductor.

- Please do not rely on the frame ground. Paint, dirt, and oil residue often prevent good ground contact with the coil.

	<p>The two black cables from the new generator ...</p> <p>... are connected to the outer terminals of the new AC controller. It does not matter which cable is connected to which terminal, as alternating current is fed in here.</p>
<p>In addition, ground is connected from the controller's mounting bracket ...</p>	<p>...to the ground distributor. Otherwise, the light will not work.</p>
<p>The (or) power cable(s) from the original vehicle electrical system for the light is/are connected to the middle terminal of the new regulator.</p>	<p>...the power cable(s) from the original vehicle electrical system for the light.</p>

<p>- The blue (sometimes blue/white) cable from the ignition coil remains - the switch-off cable.</p> <p style="text-align: center;">Note:</p> <p>In the event of ignition problems, first disconnect this cable (pull out the plug). In most cases, you will then be able to continue your journey.</p>	<p>- If it is connected to ground, the ignition will switch off!</p> <p>- We use this circuit variant in vehicles that originally had magneto ignition (pole wheel) and therefore also switched off due to a short circuit to ground.</p> <p>- These vehicles have a terminal on the ignition switch (on German vehicles: terminal 2) which is connected to ground in the "OFF" position. The blue (/white) cable is connected to this terminal. This switches off the ignition as before.</p>
<p>- The high-voltage cable (ignition cable) ...</p> <p>Please do not use "Nology Supercables" ("hot wires"). These cause interference in VAPE systems and can damage the electronics.</p>	<p>... screw into the ignition coil and place the rubber cap over it. This is easier to do before installing the coil on the vehicle. Please use the ignition cable supplied and not an old, undefined cable.</p>
<p>- You will be doing yourself a favor if you install new spark plugs and new spark plug connectors (preferably with 1-2, but no more than 5 kilohms) on your motorcycle at this point. More than enough malfunctions can be traced back to "seemingly good" cables, spark plugs, and connectors (including brand new ones)!</p> <p>- Do not use spark plugs with internal interference suppression resistors together with interference-suppressed spark plug connectors (this results in double resistance). Always use only one interference suppression method.</p>	
<p>- Finally, before installing the battery and starting the engine for the first time, take your time to check all fastenings and wiring. Remember to replace all bulbs from 6 to 12 volts. Also remember that you will now need a 12V battery. The horn can remain at 6 volts.</p> <p>- If the system does not work immediately, please consult our troubleshooting page. As a first step, disconnect the blue cable between the relay and the ignition coil (remove the contact); most faults are hidden in the switch-off range.</p>	
<p>- IMPORTANT: Please note that if the crankshaft has been regenerated (previously), its alternator pin will have been over-turned and will therefore be shorter. This causes the rotor to be lower and can result in contact between the rotor (the rivets are the lowest point) and the stator coil. The result is a destroyed stator and thus ignition failure.</p>	

Important safety and operating instructions for alternating current systems (AC systems)

- In terms of functionality, DC controllers (actually rectifiers and controllers in one) are the better solution. They can handle higher loads and are more versatile.

- **The only advantage of the AC regulator** is its small size. This is useful in systems

- **for** classic cars where the DC regulator is difficult to install. The AC regulator can also be mounted in the headlight housing, for example.
- **for** pure off-road sports motorcycles, which usually offer little opportunity to install the relatively heavy DC regulator.



- However, this advantage is accompanied by a number of **disadvantages of the AC regulator**, which are also relevant from a legal perspective and are inherent in the nature of alternating current.

- No on-board battery can be used
- No turn signals can be used (unless an AC turn signal generator is installed, which has some special features, including legal ones).
- No normal DC horn can be used (it would not make any sound with AC). However, there are also AC horns, but these also have some special features.
- In addition, the regulator can only handle a maximum load of 70 watts, even if the alternator would deliver more.

Important safety and operating instructions - MUST be read and observed in full!

- Observe the safety instructions and requirements specified by the vehicle manufacturer and the automotive trade. Installation requires specialist knowledge.

The ignition markings on the material are for orientation purposes only during installation. After installation, please check that your settings are correct using suitable methods (stroboscope) to prevent damage to the engine or risks to your health. You are solely responsible for installation and correct settings.

- Caution Ignition systems generate high voltage, danger to life! Our ignition coils generate up to 40,000 volts! Careless handling can not only cause severe pain, but can also be harmful to the heart! People with pacemakers should not work on ignition systems. Always maintain a safe distance from the electrode and open high-voltage cables, and when testing, press the spark plug connector firmly to ground with an insulating object to safely discharge the voltage. Never pull a spark plug connector to synchronize the carburetor! Never disconnect or touch ignition cables while the engine is running or at starting speed. Only wash the vehicle when the engine is not running.

- If your VAPE ignition cable was supplied with rubber spark plug connectors attached (*which do not have a built-in interference suppression resistor*), please use spark plugs with a built-in resistor (*to comply with local laws regarding electromagnetic compatibility requirements*). Alternatively, replace the cable(s) with normal ones and use shielded spark plug connectors (*under no circumstances should you use interference-suppressed spark plugs AND interference-suppressed spark plug connectors at the same time. This would lead to interference, especially difficulty starting the engine*). The total resistance of the spark plug-spark plug connector combination should not exceed 5kOhm.

- Remember that spark plug connectors age and increase their resistance. If an engine only starts when cold, it is almost certain that the cause is a defective spark plug connector or spark plug. Do not use so-called ignition-enhancing cables (e.g., Nology).

- After installation, be sure to check that all retaining screws are tight. If the parts loosen, damage will occur. We only tighten the screws loosely during pre-assembly!

- Give the newly installed system a chance to ignite before you start measuring and testing everything. Please also note our instructions on how to check for sparks. All our parts are tested before delivery. There is hardly anything you can measure anyway. Under no circumstances should you measure the electronic parts (including the ignition coil, except for its high-voltage output). You risk destroying them and will still not obtain any useful results!

Remember that if the engine does not run immediately, the problem may often lie with the carburetor, the intake rubber, and, above all, the spark plug connectors and spark plugs (unfortunately, even completely new ones). (As a rule, the settings must also be changed after installing the Lima.) If the system does not run immediately, check the ground connections, especially between the ground of the chassis and the engine block.

Before you remove the parts again and send them to us for testing, check our knowledge database to see if there is already an answer to your problem. If not, use our service ticket system to request specific help.

- If you have a system with a double ignition coil, please note some special features of this coil. The ignition will only work correctly if both spark plugs are connected to the coils. This means that you cannot even remove one spark plug to test it, because each output draws power from the other spark plug's ground connection. If you really only want to test one side, the other coil output must be connected to ground.

- The spark produced by classic breaker systems has a low energy level of approx. 10,000 volts and therefore appears yellow and thick. The spark produced by our systems is a high-energy spark with up to 40,000 volts and is therefore very sharply focused and blue, which makes it less visible. In addition, the spark is only generated at kickstarter speeds. Simply pressing the kickstarter lever by hand does not produce a spark.

- Most of our systems are ignition and light current generators in one. This can be recognized by the presence of a regulator. Apart from the voltage output by the regulator, there is little else you can measure on the regulator. If you are not getting any power, check the ground connections and the wiring from the regulator to the ignition switch. This important connection is often cut and overlooked during installation! Most PD systems have DC regulators/rectifiers. However, there are also AC regulators, which have special features that need to be taken into account.

- Never perform electric welding on the vehicle without first completely disconnecting all electronic parts containing semiconductors (regulator, ignition coil, and control unit). The stator and rotor do not need to be removed. Only solder with soldering equipment that is operated via series transformers or unplug the soldering iron before soldering to avoid damage to the parts due to overvoltage. Never use copper paste on connectors or spark plugs.

- Electronics are sensitive to reverse polarity. After making any changes to the system, always check that the battery is connected correctly and that the wiring is correct. Reverse polarity and short circuits will destroy the controller and the ignition coil immediately! As a rule, color is always connected to color when wiring. Exceptions are expressly mentioned in the instructions. Damage caused by reverse polarity is not covered by the warranty.

- When installing the rotor, please take care not to damage the magnets. Avoid direct mechanical impact on the rotor. **Never place the stator in the rotor when transporting the Lima;** follow our shipping instructions (packaging).

- Lightly oil the outside of the rotor, otherwise it will rust quickly in aggressive environments (which is not harmful, but looks unsightly).

- Never use a claw puller or hammer to remove the rotor. This can cause the magnets to come loose. Always use only an M27x1.25 screw-in puller (see installation instructions).

- If your vehicle is not used for a long period of time, you should disconnect the battery (if present) to prevent any slow discharge via the rectifier diodes. However, even with the battery disconnected, you will notice that it discharges after a long period of time; this is normal.

- Please note these instructions, but at the same time, don't let them unsettle you. Thousands of customers before you have already successfully installed our systems.

Good luck and enjoy driving!

Schaltplan 71ik-ac (wiring diagram)

