

System 7241999DC**Alternator/electronic ignition
for AMC DS Maltere**

- same 125/150 4-stroke engine also in: **Auto Moto, Gima, New Map, Guiller, Radior, Huin**
- Light magneto ignition system with integrated fully electronic ignition. Light output 12V/100W direct current. Contactless electronic ignition. Replaces the entire old Safi magneto ignition system, breaker, ignition coil. No modifications to your engine housing are required. You can run the system completely without a battery.

**Advantages over the old system:**

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

Installation instructions for System 7241999AC/DC	February 11, 2026
- 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.	
- 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.	
<u>IMPORTANT</u>	
<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.	
<u>Intended use</u> - 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 are likely to improve as a result of more complete combustion.	
 - 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.	
- 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.	

- 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 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 specialist 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 the following parts:

- Rotor
- Pre-assembled stator unit
- Ignition coil / ignition cable
- Electronic control unit
- Regulator/rectifier
- Small parts

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



- System with an AC controller



- You can remove the new rotor using 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!

- Make sure that your motorcycle is securely positioned, preferably on a raised assembly platform, and that you have good access to the alternator side of the engine.

- Disconnect the battery and remove it from the motorcycle for the duration of the work. Technically speaking, the system is capable of operating without a battery. However, unless your motorcycle is considered a classic car, the StVZO (German Road Traffic Licensing Regulations) stipulates that parking lights must function. If turn signals are installed, you must install an electrolytic capacitor with at least 20,000µF/16V for smoothing instead of the battery. You will need 12-volt bulbs for headlights, speedometer lighting, and taillights. The old horn can remain.



- Remove all cables and the Bowden cable for adjustment and remove the old SAFI system. You can remove the original rotor with an M27x1.25 puller.

- Also remove the key from the crankshaft. This only served to adjust the ignition and would prevent the new rotor from being installed.



- Take a look at the new stator and base plate. There is a red dot on the circumference; this is an ignition mark.



- Take a look at the new rotor. There is also a mark on its circumference. This is also an ignition mark.



- Install the stator using the M5x12 screws provided. Take care not to damage the insulation on the coils.
- The cable should go through the opening of the old cable. The picture shows a similar motor.

- Remove the spark plug and bring the piston to top dead center. It does not matter which operating cycle the motor is in. You can turn the motor with the rotor loosely attached.



- When the piston is at top dead center, remove the rotor and replace it on the crankshaft so that the markings are opposite each other. Of course, the crankshaft must not be allowed to rotate during this process.
- Screw the rotor into this position using the original rotor nut.

- You have now set the ignition to the standard value. In theory, you can change this as desired by rotating the rotor to the desired angle.

- Offsetting the rotor clockwise (with the crankshaft position remaining unchanged) results in earlier ignition.
- A counterclockwise adjustment causes a later ignition timing.
- If the ignition settings differ, please check the ignition timing with a stroboscope to avoid engine damage.

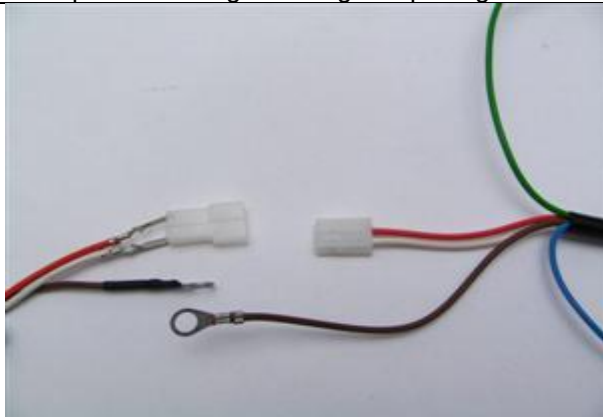
Do not put the retaining plate for the cover on until everything is ready and the engine is running. Otherwise, the work on the engine is complete.

Install the ignition coil, regulator, and control unit in a suitable location on the motorcycle.

- When installing the control unit, please take a look at the small blue switch block on the upper narrow side of the black ignition timing unit. Here you will find 4 small switches that select different ignition timing curves.



- The best curve for the AMC engine achieves full early ignition of 38 degrees at 3,000 rpm and is activated as shown opposite.

Connect the cables as specified in the respective circuit diagram Circuit diagram 91ik_102!	
- To make it easier to pass the cable through narrow openings, or to enable this in the first place, the plug on the cable leading to the new control unit 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 passed through the engine opening. To do this...	
	... take the female connector of the control unit with the red and white cable colors. - Plug the loose 2-pin connector sleeve supplied onto this connector and insert the loose cables from the alternator (red and white) with the contact tabs into the rear of the connector. Ensure that the connector tabs snap into place in the connector housing. It is essential to ensure that these cables are positioned correctly in the connector: • white goes to white • red on 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 detached.
- The brown cables from the alternator and the control unit with the ring terminals are screwed to the ignition coil on its ground (retaining bracket). The system will not work without these connections! Please do not rely on the ground of the frame. Paint, dirt, and oil residues often prevent good ground contact of the coil.	
- The blue/white cable of the control unit - the switch-off cable. - Note: In the event of ignition problems, disconnect this cable first (pull out the plug). In most cases, you will then be able to continue driving.	- If it is connected to ground, the ignition will switch off! - 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. - 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. Alternatively, an extra short-circuit (kill) switch can be used.
- The green or gray cable of the control unit ...	...is connected to the plug contact of the new ignition coil.
CAUTION! If possible, do NOT extend the green cable of the control unit. This can lead to ignition faults. Never lay the ignition cable(s) and the control unit cable(s) together in a common sheath or otherwise parallel to each other over a long distance. This will cause feedback and thus malfunctions in the ignition, and may even destroy the control unit.	

Connecting the alternator to the light supply:

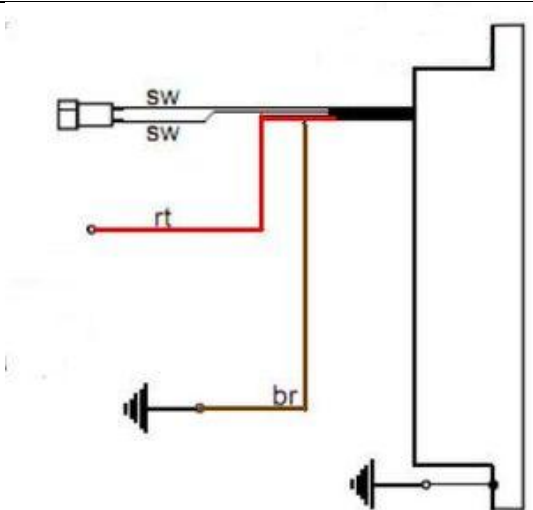


- The two black cables coming from the alternator carry the voltage for the lights, horn, turn signals, etc. They have nothing to do with the ignition.

- This voltage must be stabilized (regulated) and rectified for most applications, as it is initially alternating current.

- Caution: Any **confusion between positive and negative** will result in **immediate destruction of the controller, which is not covered by the warranty!** (The destruction can be clearly detected by the burnt smell!)

Regulator variant: with DC regulator with built-in smoothing capacitor (73 00 799 50), use circuit diagram **91ik_102**:



- The two black cables are connected to the black cables coming from the alternator.
- The red cable is the 12V DC output
- The brown cable is negative and connected internally to the regulator housing.

- The high-voltage cable (ignition cable) ...

Please **do not use** "Nology Supercables" ("hot wires"). These cause interference in VAPE systems and can damage the electronics

... 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 also use the ignition cable supplied and not an old, undefined cable.

- You will be doing yourself a favor if you replace your motorcycle's spark plugs and spark plug connectors (preferably with 1-2, but no more than 5 kilohms) at this point. More than enough malfunctions can be traced back to "seemingly good" cables, spark plugs, and connectors (including brand new ones)!

- **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.

- Finally, **before installing the battery and starting the engine for the first time**, please 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.

- 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 (disconnect the contact); most faults are hidden in the switch-off area.

- **IMPORTANT:** Please note that if the **crankshaft** has been **reconditioned** (at an earlier date), its alternator pin has been oversleeved and is therefore shorter. This causes the rotor to sit lower, which may result in contact between the rotor (the rivets are the lowest point) and the stator coil. This will destroy the stator and cause ignition failure.

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 dissipate 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 91ik_102 (wiring diagram)

