

System 717979900**Alternator/electronic ignition for small cutting tools**

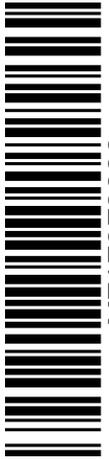
- Light magneto ignition system with integrated fully electronic ignition. Light output 12V/150W direct current.

- Contactless electronic battery ignition, which ignites at starting speeds from approx. 60 rpm, thus avoiding the starting problems otherwise associated with the magneto solution via cable pull or the partially used electric starter.

- Replaces the original 6-volt DC magneto ignition system of the Noris MLZ type, including centrifugal governor, breaker, and ignition coil. No modifications to your engine housing are required. The ignition coil, regulator, and power converter must be installed outside the engine.

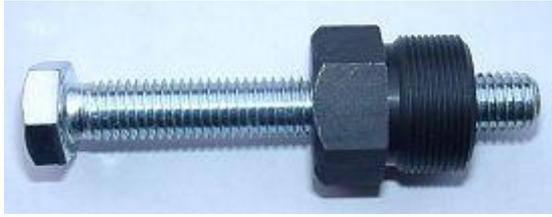
Advantages over the old system:

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



M717979900

Installation instructions for system 717979900	4.3.2026
<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>	



- To remove the new rotor, 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!

- Ensure that you have good access to the alternator side of the engine. Disconnect the battery and remove it from the vehicle.

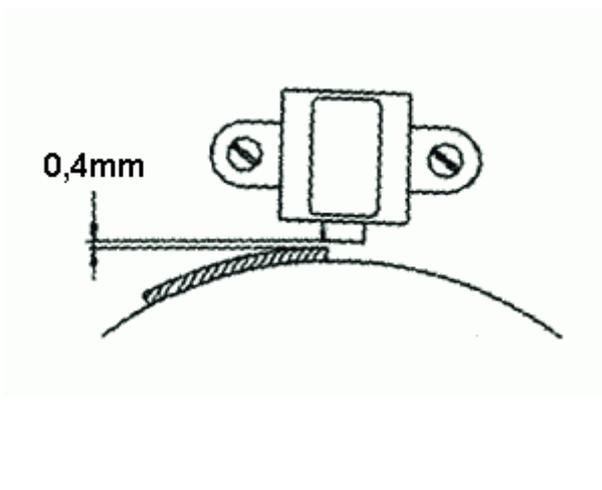


- Now disconnect all cables from your old alternator and remove them. Remove the key on the crankshaft cone with pliers. It is no longer needed! Please do not forget this step, otherwise you will have to remove the alternator again later. Do not worry, the removed key was not used to secure the rotor, but only to prevent it from being inserted incorrectly.



- Remove the pre-assembled cover retaining plate from the new Lima and insert the pre-assembled base plate/stator unit into the crankcase alternator mount and secure it with the two M8 screws.

- You should place the screws in the middle of the slotted holes so that you can adjust them on both sides.



- Take a look at the new rotor. You will find a raised mark on its outer circumference. This is used to generate pulses. When the start of the mark reaches the sensor core, ignition takes place.

- Remove the spark plug. Hand-tighten the new rotor onto the crankshaft so that you can use it to turn the shaft. Move the piston to the ignition timing position. The optimum position is 2-2.5 mm before TDC.



- Now pull the rotor slightly off the crankshaft and then place it back on the crankshaft so that the right edge of the symbol (in the direction of rotation, clockwise!) is aligned with the left edge of the sensor core. During this operation, make sure that the crankshaft does not twist (the magnets tend to pull sideways). If anything twists, please start again. In this position, screw the rotor securely in place using the M8x50 screw (don't forget the washer!).

- Don't worry, the removed key was not intended to secure the rotor, but only to prevent it from being inserted incorrectly. Now you have the marking and the sensor core. To loosen the rotor again, use an M27x1.25 puller.

- Turn the rotor by hand. Check the distance between the sensor and the control nose of the rotor. This must be approx. 0.4 mm. You can adjust the distance by loosening the two retaining screws on the sensor and moving it. Then tighten the sensor screws again properly! Please also make sure that the rotor does not rub against the base plate at the bottom.

- The ignition is now set. If necessary, it can theoretically be changed as desired by removing the rotor and placing it at an angle to this basic setting.



- Replace the retaining plate for the cover that was removed at the start of the work. This sits on two spacer tubes and is held in place on the base plate with two M8x60 screws.

- The upper side of the plate is marked by a small hole. First insert the screws from above through the plate and then through the spacer bushings and screw the whole assembly to the base plate.

- Attach the electronic rectifier/regulator, the relay, and the electronic ignition coil in a suitable location.

- However, you can also position the parts anywhere else.

- Despite the presence of a magnetic pole wheel, this system is a battery ignition. This version was chosen to enable or simplify starting at low speeds.



- The capacitor ignition is powered by an AC voltage of 340 volts generated from the battery voltage via a converter.

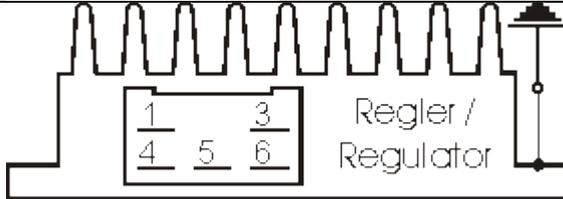
Connect the cables as specified in circuit diagram 71x-bat-n, i.e.:

Parts of the magneto ignition

- The magneto ignition is deactivated by connecting the red cable to ground.

CAUTION: Do not connect this red cable anywhere else under any circumstances!

Lighting components



The new regulator/rectifier has a compact connector with 6 plug options, one of which is free. A matching counterpart is supplied with the regulator, into which the following cables must be inserted and must snap into place.

- The two black cables of the new alternator ...

... connect to terminals 1/4 of the new rectifier (black cables then also run from there into the controller). It does not matter which cable is connected to which of the two terminals (1/4), as alternating current is fed in here.

- Connect the new brown cable with the ring eyelet on one side ...

... connects terminal 3 of the controller/rectifier (from there, a brown cable also goes into the controller) to the negative terminal of the battery or solid ground. Caution: do not reverse the polarity!

- The new red cable with the ring eyelet on one side ...

... connect terminal 5 of the regulator/rectifier (a red cable also runs from there into the regulator) to the positive terminal of the battery or the terminal of the fuse box to which the power cable of the old alternator was connected (on German motorcycles: terminal 51).

- Ensure that a **16A fuse** is used between the battery and the vehicle electrical system.

- Connect the green/red cable of the new regulator to terminal 6 ...

... is for connecting the charge indicator. This is where the indicator light (if available) is connected. Of course, this only works if there is a battery. If the indicator light is connected without a battery, it will glow dimly when the engine is running, even though power is being generated. In short, without a battery, the connection remains free. The same applies if there is no light.

Battery support parts


- The converter converts the battery voltage into an alternating voltage of 340 volts, which boosts the charge of the capacitor ignition.
- Depending on the speed and thus the amount of sparks, the converter (like a normal ignition coil) requires between 10 and 15 watts.

The red cable of the converter ...

...is the cable for supplying battery voltage. It is connected to a live terminal on the ignition switch when "ON" (on German motorcycles: terminal 15), which switches the converter on and off.

- The brown cable of the converter ...

... is connected to ground (negative battery terminal).

- The converter's 3-pin plug (with red/white, white, and yellow cables):

... is plugged into the corresponding connector on the ignition coil. Here,

- red/white to red
- white to brown
- yellow to yellow

- The yellow cable of the converter:

- The yellow cable of the converter is connected to the yellow cable from the sensor.

- 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 of the contact tabs to the side so that the connectors can be released.

High-voltage cables

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

... screw them into the ignition coil and put the rubber caps over them. This is easier to do before installing the coil on the vehicle. Please use the ignition cable supplied and not an old, undefined cable.

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

- 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)!

- **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**, 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 (remove the contact); most faults are hidden in the switch-off range.

- 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.

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 installation guidance only. After installation, please use suitable methods (stroboscope) to check that your settings are correct in order 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!

