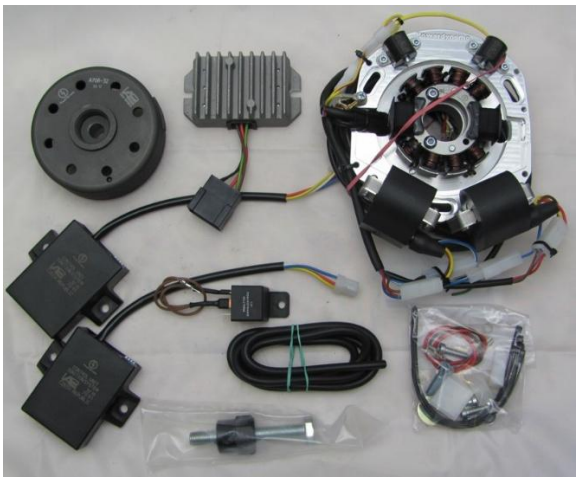
System 774999900



Alternator/electronic ignition system for Victoria V35 Bergmeister

- Replaces the original alternator and upgrades to 12V/100W and a contactless electronic ignition system. The ignition timing is adjusted using a digital control unit. The system is capable of operating without a battery.

M774999900

Advantages over the old system:

- All parts are new
- significantly brighter light (alternator system only)
- very reliable ignition with high-energy sparks
- better starting and improved combustion
- no further wear on the breaker

Fitting instructions for system 774999900	9 July 2026

- If you are able to fit and adjust the original ignition system and have general mechanical skills, you can also fit a VAPE system. If you have never dealt with one before, it is best to have the system fitted by someone who knows what they are doing.

- VAPE is unable to monitor compliance with these instructions, or with the conditions and methods relating to the installation, operation, use and maintenance of this system. Incorrect installation may result in damage to property or even personal injury. We accept no responsibility or liability whatsoever for any loss, damage or costs arising from, or in any way related to, faulty installation, improper operation, or incorrect use and maintenance. We reserve the right to make changes to the product, technical specifications or installation and operating instructions without prior notice.

IMPORTANT

Please ensure you read the entire instruction manual carefully before you begin installation

Please bear in mind that unauthorised modifications, including attempts at repair, to the components may result in the loss of your warranty rights. This also applies to cutting cables, which very often leads to the loss of reverse-polarity-protected connectors and, consequently, to short circuits or reverse polarity that can damage the components.

Please note the **instructions on the system information page**. Ensure that the system configuration shown actually meets the requirements of your engine. Incorrect ignition settings, for example, can certainly damage the engine and/or cause injury when starting (kickback from the kick-starter). Particular caution is required during the first start-up after installation. If you notice any malfunction, check and adjust the ignition timing! During installation, check very carefully that the rotor is not rubbing against the stator coil or anywhere else, as this can occur for various reasons and lead to serious damage.

Intended use

- This is a **replacement system and not a copy of the original components**. 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, which will require you to make adjustments. This system is intended **exclusively** as a replacement for original lighting and ignition systems in classic and modern classic motorbikes **whose engine characteristics have not been subsequently altered by design modifications**. It is not a tuning system; it does not alter the original engine characteristics and does not result in a significantly higher engine output. However, it does improve the roadworthiness and safety of the vehicle through better lighting, more visible indicators, a consistently powerful horn and, compared to the ageing original systems, greater overall reliability. As our systems do not cause any significant change to the engine's performance characteristics, there is no deterioration in exhaust emissions or noise levels. In most cases, exhaust emissions are likely to improve, as combustion becomes more complete.

- VAPE guarantees that its products are type-approved and marked with the letter 'E' (specifically 'E8' for the Czech Republic), thereby ensuring that the products' characteristics consistently comply with the relevant ECE type-approval regulations (in particular ECE R10.05). Inspections are carried out regularly by the competent authority

- The charging system is strictly **intended for use only with rechargeable 12V (6V systems: 6V) lead-acid batteries with liquid electrolyte or sealed lead-acid batteries, AGM and gel types.** It is not suitable for use with nickel-cadmium, nickel-metal hydride, lithium-ion or other types of rechargeable or non-rechargeable batteries.

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- The system is **not suitable for use at sporting events.**
If the system is used for purposes other than those for which it is intended, the warranty will be void. Furthermore, the system may not perform as you require, and we will be unable to assist you through our support service as we will not be aware of the situation. In the worst-case scenario, improper use may even result in the revocation of the operating licence.

- **When assembling the parts, be sure to start by fitting the parts on the motor side** (adapter, stator, rotor) to check that they actually fit before fitting the parts to be mounted outside the motor. Unfortunately, it is often the case that people start by fitting the regulator, ignition coil and, where applicable, the control unit, and these parts are very often modified (without being properly calibrated!), which makes it impossible for us to resell them later. Replacing the lighting and ignition systems on older motorbikes is, unfortunately, not like picking something off the shelf at the supermarket; given the wide variety of models and the possible changes to the components since they were first produced many years ago, it is always a complex matter which, regrettably, can also involve errors.

- Our systems have **NOT been tested for use with other electronic components (such as third-party ignition systems, sat-navs, mobile phones, LED lights, etc.)** and may, under certain circumstances, cause damage to such components. Any existing rev counters are not supported by the system. However, we do offer a rev counter solution. Similarly, any circuit breakers or exhaust control systems operated by the ignition are not supported. It may also be the case that, for legal reasons, your original ignition system was fitted with a speed-limiting device. The new system does not have such a device. You should therefore check the legal situation beforehand.

- If you do not have the necessary expertise to carry out the installation, please have it carried out by a qualified technician or a specialist workshop. Incorrect installation may damage both the new system and the motorbike, or 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! If the rotor is damaged by the use of other tools or equipment, the warranty claim will be void!

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

- **If you have internet access, it is best to view this documentation online**. This allows you to click on most of the images to enlarge them, and you will find more – and possibly more up-to-date – information. System list available at: *http://www.powerdynamo.biz*

You should have received the following parts:

- pre-assembled stator unit with ignition coils
- rotor
- Regulator/rectifier
- Ignition leads
- Relay with cables
- Various bolts and nuts
- Puller

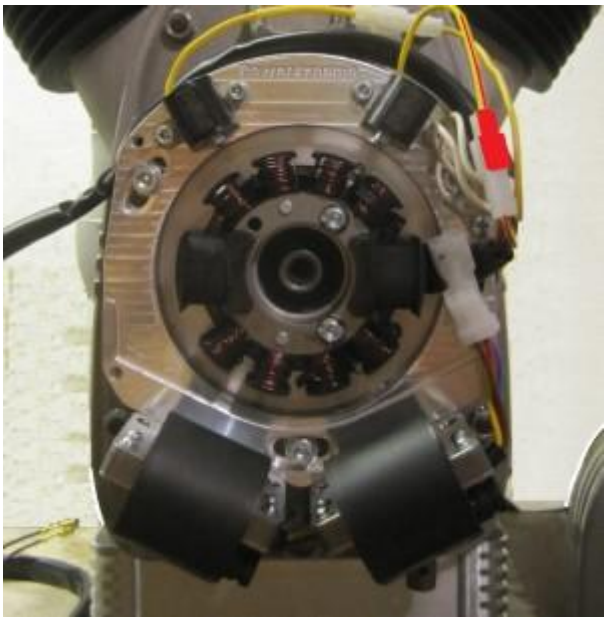
- You can remove the new rotor using the M27x1.25 puller supplied (item no. 99 99 799 00).

- CAUTION: If you use a claw puller, the magnets in the rotor will come loose!

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

- Now disconnect all the cables from your old alternator and remove these parts. You will need a suitable puller to remove the rotor.

- Remove the dowel pin on the crankshaft that fitted into the groove of the old Limo rotor. Don't worry, it doesn't serve as a retaining pin; it's only there to aid ignition timing. If you forget to remove the pin, the rotor won't fit onto the shaft later on and you'll have to dismantle the stator again to get hold of the pin



- Place the pre-assembled stator plate onto the motor. Secure it with the 3 M6x20 screws and washers supplied.

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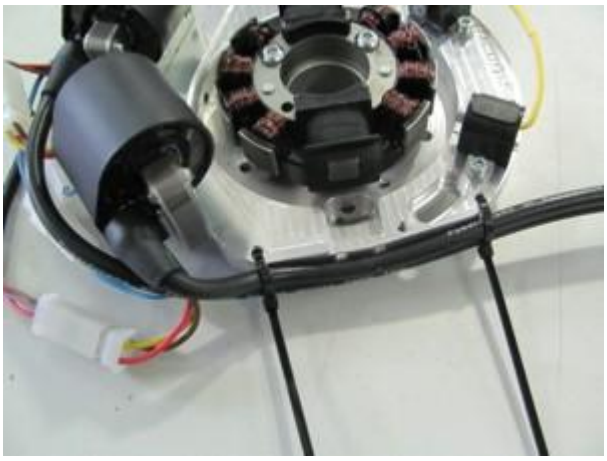
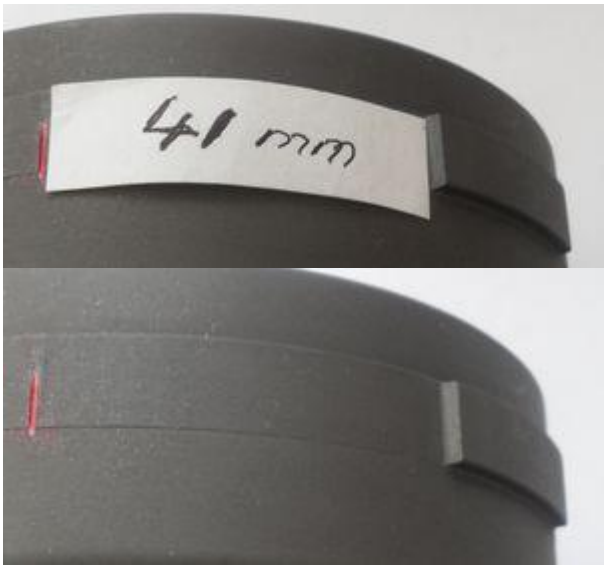
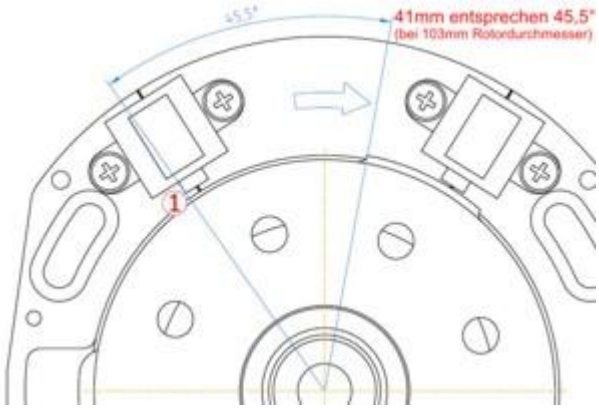


- Screw the ignition leads into the ignition coils. Secure the leads to the base plate using two of the cable ties supplied. There are two holes in the plate specifically for this purpose.

- We have connected the ignition coils in the wiring harness so that the left-hand coil (as viewed in the direction of travel) supplies the ignition spark to the left-hand cylinder and the right-hand coil supplies the spark to the right-hand cylinder.



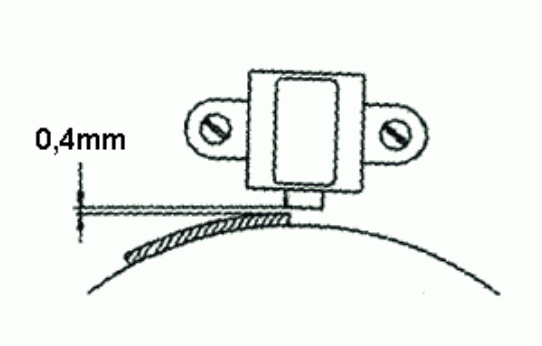
- Remove the spark plugs and move the piston in the right-hand cylinder (as viewed in the direction of travel) to TDC (top dead centre, the highest point the piston can reach). As the system fires on every revolution, it does not matter which stroke you are on.
- To make it easier to turn the shaft, fit the new rotor loosely and use it as a turning handle (do not screw it in). Once the correct position has been found, carefully remove the rotor again.
- Mark the new rotor 41 mm to the left of the raised mark. To do this, please cut a 41 mm long strip of paper, place it to the left of the mark and mark its end with a line (fibre-tip pen). You will then have the correct mark.



- With the right-hand piston in TDC (check!), position the rotor so that the left-hand edge of the sensor for this cylinder (marked ‘1’ in the diagram) aligns with the aforementioned line mark on the rotor.

- Tighten the rotor in this position using the M8x25 screw and washer supplied. To loosen the rotor again, please use only the M27x1.25 puller supplied.

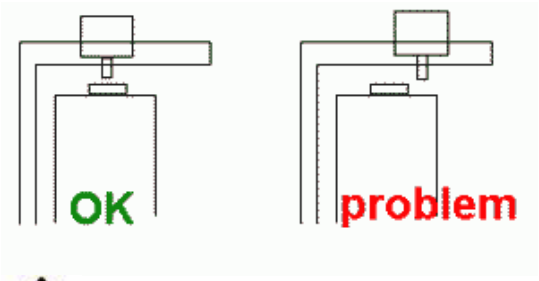
- Tip: You can fine-tune the ignition timing by rotating the base plate within the slotted holes!



- Turn the rotor by hand. Check the gap between the sensors and the mark on the rotor. This must be approx. 0.4 mm.

- If the gap is greater, the engine will start less easily; in extreme cases, it may not start at all.

- You can adjust the distance by moving the sensor once you have loosened its two fixing screws. Make sure to tighten the sensor screws securely again afterwards!

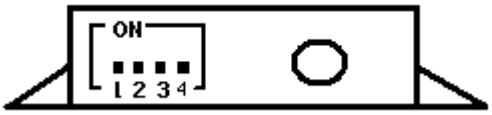


The sensor and the mark must run on (roughly) the same track

- Take a close look at the position of the sensor in relation to the marker and check that the marker really does pass the sensor at (roughly) the same height and does not run alongside it, as shown in the 'Problem' sketch, because if it does, no spark will be produced.

- This problem actually only occurs if there is a different or heavily modified crankshaft in the engine, or if the wrong rotor has been supplied.

- However, if it does happen, it often takes ages to work out why there is no spark. - Please also check that the rotor is not rubbing against the plate at the bottom , but is running freely.



- During assembly, please take a look at the small blue switch block on the upper narrow side of the black ignition timing unit. There are four small switches here which select the ignition timing curve.

- The following curve is recommended for the Victoria Bergmeister, which closely follows the original ignition timing curve:

- All switches are set to OFF, i.e. pointing towards the numbers. This results in an early ignition of approx. 8° at start-up and then approx. 38° from 3000 rpm onwards.

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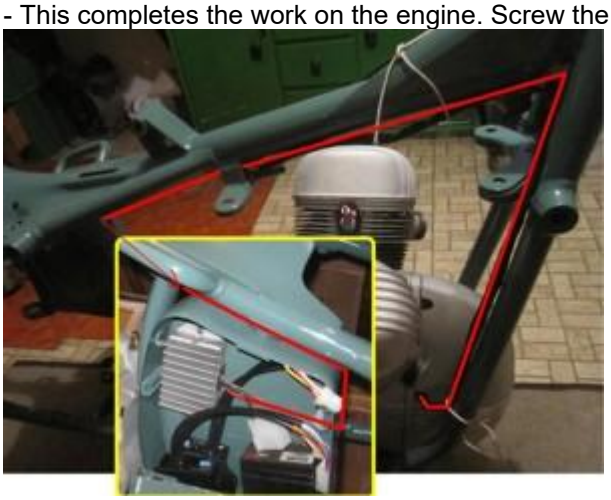
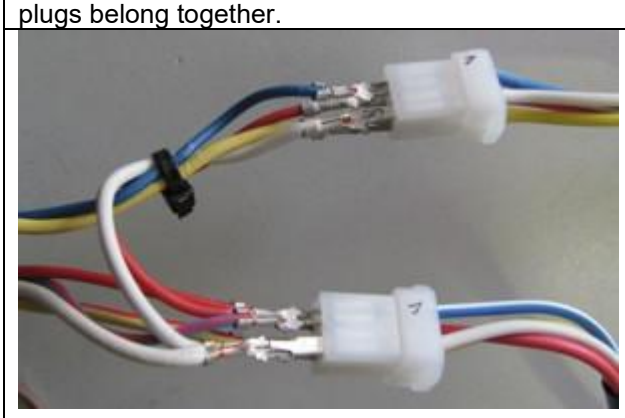
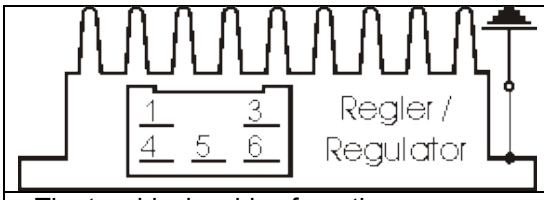
- Finally, fit the original cover. The cable must be routed through the existing cable outlet on the side. The ignition cables can be routed out through the upper outlet.

- This completes the work on the engine. Screw the spark plug back in.



- Mount the new electronic rectifier/regulator in a suitable location. This could, for example, be in an empty battery compartment, as the system can operate without a battery. On the Victoria, this could also be the toolbox, and the components could certainly be fitted in the tunnel beneath the fuel tank.
The image on the left shows a suggested layout for which the cable lengths have been optimised for our system.

Connect the cables as shown in wiring diagram 7749wire, i.e.:	
- In this particular circuit, there are two control units, two ignition coils and two sensors. When connecting the plugs, look out for any (red) markings we may have applied, which indicate which plugs belong together.	
	- Take the female connectors from the two control units and connect them to the wiring harness as follows: 1st control unit: • red to red • white to white • yellow to yellow • blue to blue/white 2. Control unit: • red on red • white on white • blue/red to blue/white • yellow/red to yellow
WARNING! Under no circumstances should you route the ignition cable(s) and the control unit cable(s) together within a single sheath or otherwise run them parallel to one another over a long distance. This will cause feedback and consequently interfere with the ignition system; in some circumstances, it may even result in the destruction of the control unit.	

	- The new regulator/rectifier has a compact connector with 6 pins, <u>one</u> of which is free. A matching connector is supplied with the regulator; the cables must be inserted into this and must click into place.
- The two black cables from the new alternator ...	... are connected to terminals 1 and 4 of the new rectifier (black cables then run from there into the controller). It does not matter which cable is connected to which of the two terminals (1 and 4), as alternating current is fed into the circuit here.
- The new brown cable with the ring terminal at one end ...	... connects terminal 3 of the regulator/rectifier (a brown cable also runs from there into the regulator) to the negative terminal of the battery or a solid earth. Caution: do not reverse the polarity!
- The new red cable with the ring terminal on one end ...	... connect terminal 5 of the regulator/rectifier (a red cable also runs into the regulator from there) to the positive terminal of the battery or to the terminal on the fuse box to which the power cable from the old alternator was connected (on German motorbikes: terminal 51).
- Ensure that a ***15A fuse*** is used between the battery and the vehicle electrical system. If there is an old, higher-amp fuse (due to the original 6-volt system) at the ignition switch, please replace it.	
- Connect the green/red cable from the new regulator to terminal 6 ...	... is for connecting the charge indicator. This is where the indicator light (if fitted) is connected. Naturally, this only works if a battery is present. If the indicator light is nevertheless connected without a battery, it will glow dimly whilst the engine is running, even though electricity is being generated. In short, without a battery, the connection remains unconnected. The same applies if there is no indicator light fitted.

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- Next are the blue (sometimes blue and white) cables from the ignition coils – the cut-off cables. **- Note:** If you experience ignition problems, the first thing to do is to disconnect these cables (pull out the plugs). In most cases, you'll then be able to carry on driving	**If any of them is connected to earth, the ignition will cut out!** - We use this circuit configuration on vehicles that originally had magneto ignition (magneto rotor) and therefore also cut out due to a short circuit to earth. - These vehicles have a terminal on the ignition switch (on German vehicles: terminal 2), which is connected to earth when in the 'OFF' position. The blue (/white) cables are connected to this terminal. This means that the ignition is switched off in the same way as before.

- The high-voltage cable (ignition cable) ... Please **do not use** 'Nology Super Cables' ('hot wire'). These cause interference in VAPE systems and may result in damage to the electronics	... screw them into the ignition coil and fit the rubber cap over them. This is, of course, easier if you do this before fitting the coil to the motorbike. Please also use the ignition lead supplied and not an old, unknown lead.
- You'll be doing yourself a favour if, at this stage, you fit your motorbike with new spark plugs and new plug leads (preferably with 1–2 kiloohms, but no more than 5 kiloohms). More than enough interference can be traced back to 'seemingly good' cables, plugs and leads (including brand-new ones)! - **Do not use** spark plugs with an internal suppression resistor **in conjunction** with suppressed spark plug caps (this results in double the resistance). Always use only one suppression method.	
- Finally – **before fitting the battery and before starting the engine for the first time** – please take your time to check all fixings and wiring. Remember to replace all bulbs from 6 to 12 volts. Also bear in mind that from now on you will need a 12V battery. The horn can remain at 6 volts. - If the system does not work straight away, please consult our troubleshooting page. As a first step, disconnect the blue cable between the relay and the ignition coil (unplug the connector); most faults are hidden in the switch-off circuit.	
- IMPORTANT: Please note that if **the crankshaft** has been (previously) **reconditioned**, its alternator journal may have been over-machined 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. The result is a damaged stator and, consequently, a loss of ignition.	

Important safety and operating instructions – YOU MUST read and follow these in full!
- Observe the safety instructions and requirements stipulated by the vehicle manufacturer and the automotive trade. Installation requires specialist knowledge. The ignition markings on the component are for guidance only during installation. After installation, please check that your settings are correct using suitable methods (e.g. a stroboscope) to prevent damage to the engine or risks to your health. You are solely responsible for the installation and correct adjustment.
- Caution Ignition systems generate high voltage – risk of fatal injury! Our ignition coils can reach up to 40,000 volts! If handled carelessly, this can not only cause severe pain but, above all, be harmful to the heart! People with pacemakers should not carry out any work on ignition systems. Always maintain a safe distance from the electrode and exposed high-voltage cables, and when testing, press the spark plug cap firmly to earth using an insulating object to safely discharge the voltage. Never disconnect a spark plug cap to synchronise the carburettor! Never disconnect or touch the ignition leads whilst the engine is running or at starter speed. Only wash the vehicle when the engine is switched off.

- 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 standard ones and use shielded spark plug connectors *(under no circumstances, however, should you use suppressed spark plugs AND suppressed spark plug connectors at the same time. This would lead to interference, in particular difficulty in starting the engine).* The total resistance of the spark plug and spark plug connector combination should not exceed 5 kOhm.

- Bear in mind that spark plug caps age and their resistance increases as a result. If an engine only starts when cold, the cause is almost certainly a faulty spark plug cap or a faulty spark plug. Do not use so-called 'spark-boosting' cables (e.g. Nology).

- After fitting, please ensure you check that all retaining screws are tight. If the parts become loose, they will be damaged. We only tighten the screws loosely during pre-assembly!

- First of all, give the system you've just fitted a chance to fire before you start measuring and testing everything. Please also note our instructions on how to check for a spark. All our parts are tested before dispatch. In any case, there is hardly anything you can measure on them. Under no circumstances should you attempt to measure the electronic components (including the ignition coil, apart from its high-voltage output). You risk damaging them and will still not obtain any useful results!
Bear in mind that if the engine does not run straight away, the fault may often lie with the carburettor, the intake rubber and, above all, the spark plug caps and spark plugs (unfortunately, even brand-new ones); as a rule, the Lima alternator's settings also need adjusting after installation. If the system does not run straight away, check the earth connections first and foremost, particularly between the chassis earth and the engine block.
Before you remove the parts again straight away and send them to us for inspection, please check our knowledge base to see if there is already an answer to your problem there. If not, please use our service ticket system to request specific assistance.

- If you have a system with a dual ignition coil, please bear in mind a few specific features of this coil. The ignition will only work correctly if both spark plugs are connected to the coil. This means you cannot even remove one spark plug to test it, as each output is earthed via the other spark plug. If you really only want to test one side, the other coil output must be earthed.

- The spark produced by traditional breaker systems has a low energy level of around 10,000 volts and therefore appears yellow and thick. The spark produced by our systems is a high-energy spark of up to 40,000 volts and is therefore very sharply focused and blue, which makes it less visible. Furthermore, the spark is only generated once the engine has reached the speed required by the kick-starter. Simply pressing the kick-start lever by hand does not produce a spark.

- Most of our systems combine the ignition and alternator functions. You can tell this by the presence of a regulator. Apart from the voltage output by the regulator, there is hardly anything else you can measure on it. If you are not getting any power, check the earth connections and the wiring from the regulator to the ignition switch first and foremost. 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 specific features that need to be taken into account.

- Never carry out electric welding on the vehicle without first completely disconnecting all electronic components containing semiconductors (regulator, ignition coil and control unit). The stator and rotor do not need to be removed. Only solder using soldering equipment powered by isolating transformers, or unplug the soldering iron from the mains before soldering to prevent damage to the components caused by overvoltage. Never apply copper paste to connectors or spark plugs.

- Electronic components are sensitive to reverse polarity. After carrying out any work on the system, always check that the battery is connected correctly and that the wiring is correct. Reverse polarity and short circuits will immediately destroy the control unit and the ignition coil! As a general rule, wires should always be connected colour-to-colour. Any exceptions are explicitly mentioned in the instructions. Damage caused by reverse polarity is not covered by the warranty.

- When assembling the rotor, please take care not to damage the magnets. Avoid applying direct mechanical force to the rotor. **Never place the stator inside the rotor when transporting the generator;** please follow our shipping instructions (packaging).

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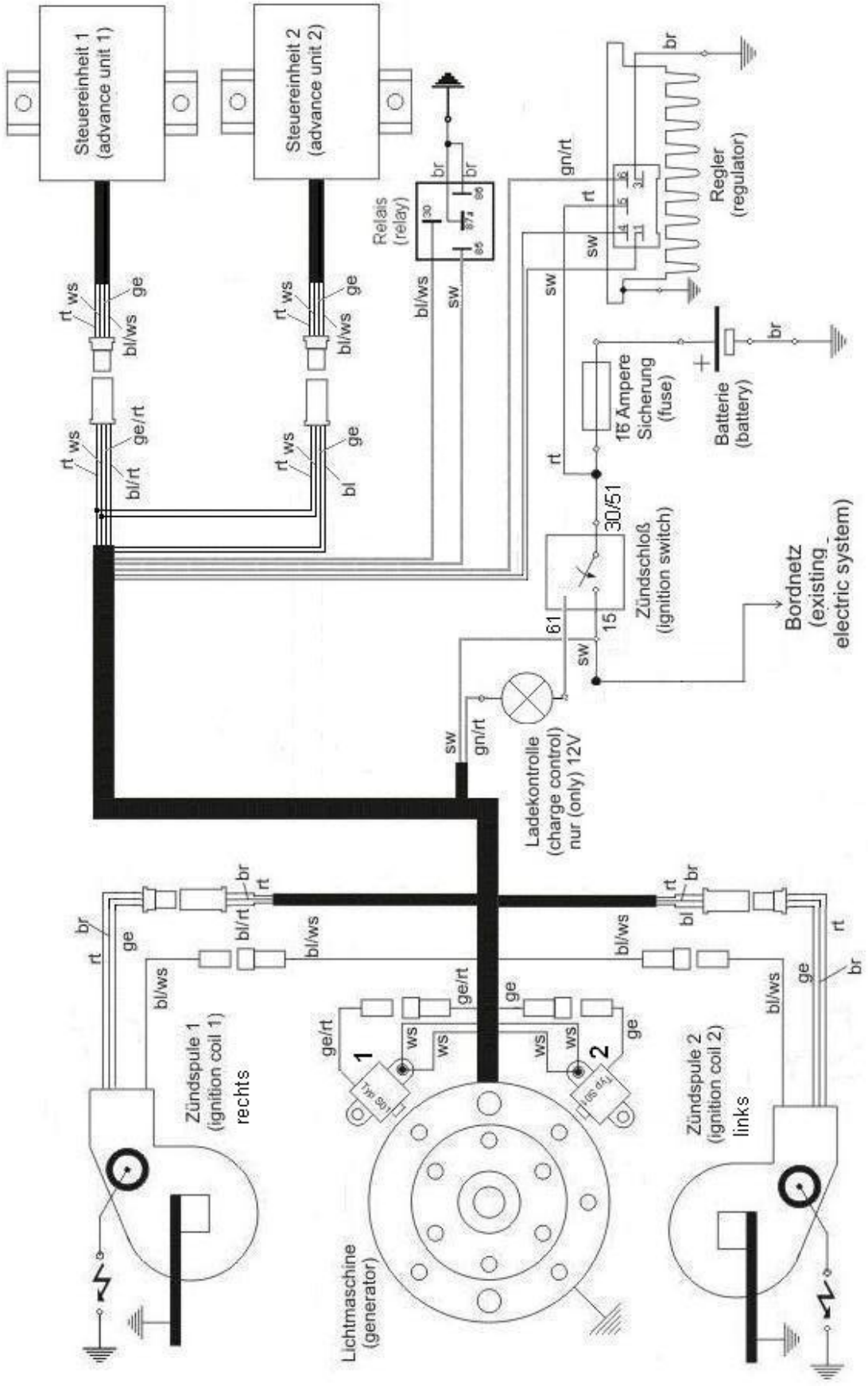
- Lightly oil the outside of the rotor; otherwise, it will rust quickly in the corrosive environment (which is not harmful, but looks unsightly).
- Never use a claw puller or a hammer to remove the rotor. This may cause the magnets to come loose. Always use only an M27x1.25 screw-in puller (see installation instructions).
- If your vehicle is not going to be used for a prolonged period, you should disconnect the battery (if fitted) to prevent any slow discharge via the rectifier's diodes. However, even with the battery disconnected, you will notice that it has discharged after a long period; this is normal.
- Please bear these points in mind, 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 your drive!***



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