

System 733549900

Advantages compared to the old system:

Alternator for Suzuki GT380 and 550

- Replaces the complete original alternator.
 - Unfortunately, a small modification is necessary on the engine housing. A small opening must be made for the new alternator cable. (see picture here).
 - Alternator without ignition! Light output 12V/150W DC.
- all parts are new
 - Significantly brighter light



Installation instructions for system 733549900	4.11.2020
<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 had to deal with it before, it is better to have it installed by someone who knows how to do it.</p>	
<p>- VAPE cannot monitor compliance with this manual or the conditions and methods of installation, operation, use and maintenance of this system. Improper installation may result in property damage or even personal injury. We accept no responsibility or liability whatsoever for any loss, damage or expense arising from or in any way connected with incorrect installation, improper operation and 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>It is essential that you read the complete instructions carefully before starting the installation.</u></p> <p>Remember that unauthorised modifications, including attempts to repair the parts, can lead to the loss of warranty rights. This also applies to the cutting of cables, which very often leads to the loss of the reverse polarity protected plugs and subsequently to material destruction or reverse polarity. Follow the instructions on the information page for the system. Make sure that the configuration of the system shown actually corresponds to the requirements of your engine. Incorrect ignition values, for example, may well damage the engine and/or cause injuries when starting (kick-starter kickback). Particular care should be taken when starting the engine for the first time after installation. If you notice any misbehaviour, check and change the ignition setting! During installation, check very carefully that the rotor does not rub against the stator coil elsewhere, which can happen for various reasons and can lead to serious damage.</p>	
<p><u>Intended use</u></p> <p>- This is a replacement system and not a copy of original material. The parts of the system therefore also look different from the original parts and especially the ignition coil and regulator may have other mounting points that require adjustments by you. This system is intended exclusively for the replacement of original light/ignition systems in old and young timer motorbikes whose engine characteristics not been subsequently influenced by design modifications. It is not a tuning system, it does not change the original engine characteristics and no significantly higher engine performance is achieved, but the roadworthiness and safety of the vehicle is improved by better illumination, clearer flashing, an always powerful horn and, compared to the aged original systems, greater general reliability. Since our systems do not significantly change the engine characteristics, the exhaust and noise characteristics do not deteriorate. In most cases, the exhaust behaviour should even improve, as a more complete combustion takes place.</p>	
	<p>- VAPE guarantees homologated products marked in the ring with the sign "E" (specifically for the Czech Republic, E8), which ensures consistent compliance of the product characteristics with the relevant ECE homologation regulations (in particular ECE R10.05). Inspection is carried out regularly by the competent authority</p>
<p>- The charging system is basically 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>	
<p>- The system is not suitable for use at sporting events. If the system is not used for its intended purpose, the warranty becomes void. In addition, it is possible that the system will not perform as desired and that we will not be able to help you with our support because we do not know the situation. In the worst case, improper use can even lead to the expiry of the operating licence.</p>	
<p>- When assembling the parts, be sure to start with the assembly of the parts on the engine side (adapter, stator, rotor) to determine whether this material really fits before the parts to be mounted outside the engine are assembled. Unfortunately, it is often the case that the installation of the regulator, ignition coil and, if necessary, the control unit is started and these parts are very often modified (out of tune!), which makes a later resale by us impossible. The replacement of light/ignition systems of old motorbikes is unfortunately not like shopping in the supermarket ex shelf but in view of the variety of types and the possible changes of the material since their production many years ago always a complex matter, which unfortunately can also contain errors.</p>	

- Our systems are **NOT tested for use with other electronic components (such as third party ignitions, sat navs, mobile phones, LED lights etc.)** and may cause damage to such parts. Any tachometers that may be present are not supported by the system. However, we offer a tachometer solution. Likewise, any circuit breakers or exhaust controls controlled by the ignition are not supported. It may also be that your original ignition had a speed limiting device for legal reasons. The new system has no such device. Therefore, check the legal situation beforehand.

- If you do not have the specialist knowledge for the installation, please have the installation carried out by a specialist or an appropriate specialist workshop. Improper installation can damage both the new system and the motorbike or even cause injury to the rider.

- Before ordering a system, please check whether the **rotor puller** recommended by us 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 and aids, the warranty claim is void!

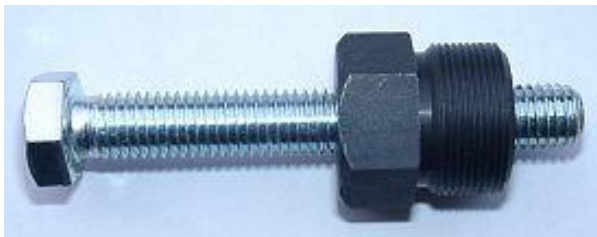
- The rotor is extremely sensitive to impact (e.g. also during transport). In any case, check the rotor for any damage before installation. If the rotor does not have the magnets encapsulated, check that the magnets are firmly seated by pushing them sideways with your fingers. After impact, some of the glued-in magnets may have become loose and are only held in place by their magnetic force. This would cause serious damage to the unit during operation. At the same time, please check the magnets of the rotor for foreign bodies (e.g. screws or other metallic objects).

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

You should have received these parts:

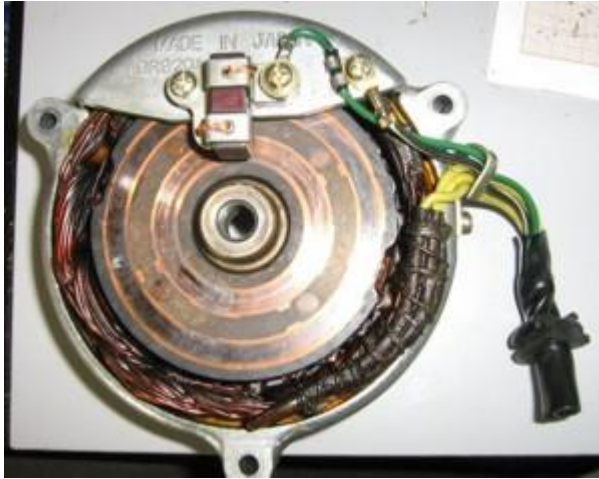


- pre-assembled stator unit
- Rotor
- Regulator/rectifier
- Small material



- You can remove the new rotor with a puller M27x1,25 (order no.: 99 99 799 00 - not included in delivery!-).

ATTENTION: When using a claw puller, the magnets in the rotor come loose!



- Now disconnect all cables from your old alternator and remove these parts as well as the alternator itself.



- Also remove the dowel pin from the crankshaft that went into the groove of the old limo rotor. Don't worry, it never had a retaining function, it was only to guide the ignition setting. If you forget to pull the pin, the rotor will not go onto the shaft later and you will have to dismantle the stator again to get to the pin.



- Now it is time to make the opening for the cable of the new alternator with a suitable tool (a Dremel is best for this). Afterwards, make sure to remove all chips from the engine compartment.



- Attach the new stator unit to the motor housing using the 3 M5 screws supplied. Please do not remove the stator from the base plate, this is unnecessary and you only risk damaging the coils and cables underneath.

- Now press the rubber grommet of the stator cable into the cable outlet and carefully cut off the protruding piece.



- Now screw the rotor with the supplied M8x50 fixing screw and washer.



- Then put the engine cover back on and fasten it.

- Finally, attach the controller to the motorbike and connect the parts as described below. The integration (connection) of the new system to the rest of the motorbike electrical system (lights, horn) is done at the battery or where the battery would be if you wanted to ride without one.

Connect the cables as indicated in the wiring diagram g-only-102, i.e.:

- To facilitate or enable the passage of the cable through narrow openings, the plug of the cable leading to the new ignition coil from the new alternator has not yet been plugged onto the contact lugs at the end of the cable. You should not attach the plug until the cable has finally passed through the engine opening. To do this ...

	<p>- The new regulator/rectifier has 4 cables:</p> <ul style="list-style-type: none"> • the two black cables with the plastic plug are the AC voltage input • the red cable with plastic plug which supplies plus • the brown cable with plastic plug is the earth contact <p>- this controller has a built-in smoothing capacitor</p>
<p>- The two black cables from the controller ...</p>	<p>... are connected to the two black cables of the alternator. To do this, insert the two black alternator cables into the supplied 2-pin plug socket. It does not matter which cable goes to which of the two terminals, as alternating current is fed in here.</p>
<p>- The brown cable from the controller ...</p>	<p>... is connected to the negative of the battery, or to earth if driven without a battery.</p>
<p>- The red cable from the controller ...</p> <p>Caution: Wrong polarity damages the electronics!</p>	<p>... is either connected to positive of the 12 volt battery or, when driving without battery, to the cable going to the consumers (usually the input terminal at the main switch).</p>
<p>- If you drive with battery, make sure that a 15A fuse is used between battery and on-board power supply.</p>	
<p>- There is no possibility to connect a charge indicator lamp; when driving without a battery, this would be without function anyway. The regulator has an integrated capacitor which smoothes the pulsating DC voltage. This ensures that any turn signals and horns work correctly even without a battery.</p>	
<p>- Finally - before installing the battery and before the first start - please take your time to check all fixings and wiring. Remember to change all bulbs from 6 to 12 volts. Also remember that you will need a 12V battery from now on. The horn can remain on 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 (pull off the contact), most faults are hidden in the switch-off area.</p>	
<p>- IMPORTANT: Please note that during any (earlier) regeneration of the crankshaft, its alternator pin was overtightened and thus shorter. This causes the rotor to come lower and contact may occur 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 alternator systems only	
<p>- Observe the safety instructions and requirements prescribed by the vehicle manufacturer and the automotive trade. The installation requires specialist knowledge.</p>	
<p>- After installation, please be sure to <u>check the stator retaining screws for tightness</u>. If the parts become loose, they will be destroyed. <u>We only tighten the screws loosely during pre-assembly!</u></p>	
<p>- Remember, this is only a power generator. It has nothing to do with the ignition. If you have a battery ignition, there must also be a functioning battery.</p> <p>- <u>Give the system you have just installed a chance to supply power with the engine running before you start measuring everything and checking whether it really works.</u> Or even worse, make changes right away without first getting the system running. Our parts are all tested before delivery. You can hardly measure anything on it anyway, apart from the voltage that the controller emits. If you do not get any current, check the earth connections and the wiring from the regulator to the ignition lock. This important connection is often cut and overlooked during installation!</p>	

- Never electrically weld on the vehicle without first completely disconnecting all electronic parts containing semiconductors (regulator, ignition coil and control unit). Stator and rotor do not have to be removed.
- Electronics are sensitive to reverse polarity. Always check the correct connection of the battery and the correct wiring after intervening in the system. Reverse polarity and short circuits will destroy the regulator. This is **ONLY for vehicles with negative to ground.**
- When mounting the rotor, please take care not to damage the magnets. Avoid direct mechanical impact on the rotor. For transporting the Lima, never place the stator in the rotor, follow our instructions for shipping (packaging).
- Oil the outside of the rotor lightly, otherwise it will rust quickly in the aggressive environment (which is not harmful, but looks unsightly).
- Never use a claw puller or a hammer to pull off the rotor. This can loosen the magnets. Always use a screw-in puller M27x1.25 (see installation instructions).
- If your vehicle is not used for a longer period of time, you should disconnect the battery (if present) to prevent a possible slow discharge via the diodes of the rectifier. However, even if the battery is disconnected, you will notice it discharging after a longer period of time; this is normal.
- Please follow these instructions, but at the same time do not let yourself be unsettled. Thousands of customers have already successfully installed our systems before you.
Good luck and have fun driving then!

Important safety and operating instructions - read and observe completely!

- Observe the safety instructions and requirements prescribed by the vehicle manufacturer and the automotive trade. The installation requires specialist knowledge. The ignition markings on the material are only for orientation during installation. After installation, please check the correctness of your setting using suitable methods (stroboscope) to prevent damage to the engine or risks to your health. You alone are responsible for the installation and the correct setting.
- Caution Ignition systems generate high voltage, danger to life! With our ignition coils up to 40,000 volts! If handled carelessly, this can not only cause serious pain, but can also be harmful to the heart! Persons with pacemakers should not work on ignition systems. Always keep a safe distance from the electrode and open high-voltage cables and, when testing, press the spark plug connector firmly to earth with an insulating object to safely discharge the voltage. Never pull a spark plug connector to synchronise the carburettor! Never pull off or touch the ignition cable when the engine is running or at starting speed. Wash the vehicle only when the engine is not running.
- If your VAPE ignition cable was supplied with rubber spark plugs attached (*which do not have a built-in suppression resistor*), please use the spark plugs with built-in resistor (*to comply with local laws regarding electromagnetic compatibility requirements*). Or change the cable(s) for normal ones and use shielded candle plugs (*but under no circumstances should you use suppressed candles AND suppressed candle plugs at the same time. This would lead to malfunctions, especially difficult starting of the engine*). The total resistance of the plug-plug combination should not exceed 5kOhm.
- Remember that spark plug connectors age and increase their resistance. If an engine only starts when cold, the cause is almost certainly a defective spark plug connector or defective spark plug. Do not use so-called ignition-boosting cables (e.g. Nology).
- After installation, please be sure to check the tightness of all retaining screws. If the parts become loose, they will be destroyed. We only tighten the screws loosely during pre-assembly!
- Give the system you have just installed a chance to ignite before you start measuring and checking everything. Please also note our instructions on how to check the existence of sparks. Our parts are all tested before delivery. You can hardly measure anything on them anyway. In any case, do not measure the electronic parts (including the ignition coil except for its high-voltage output). You risk destroying them and still not get usable results! Remember that it can also often be due to the carburettor, the intake rubber and above all the spark plug connectors and spark plugs (unfortunately also completely new ones) if the engine does not run straight away (as a rule, its setting must also be changed after installation of the Lima). If the system does not run immediately, check the earth connections, especially between the chassis earth and the engine block. Before you remove the parts and send them to us for inspection, 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, note some special features of this coil. The ignition only works correctly when both plugs are connected to the coil. So you can't even pull off one plug to test. This is because each output draws ground from the other's plug. If you really only want to test one side, the other coil output must be connected to earth.

- The spark of classic breaker systems has only a low energy of approx. 10,000 volts and therefore looks yellow and thick. The spark of 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 produced at kick-started speeds. Simply pushing the kick-starter lever by hand does not produce a spark.

- Most of our systems are ignition and light power generator in one. You can recognise this by the existence of a regulator. You can hardly measure anything on the regulator, except for the voltage it emits. If you don't get any current, check the earth connections and the wiring from the regulator to the ignition lock. This important connection is often cut and overlooked during installation! Most PD systems have DC regulators/rectifiers. However, there are also AC controllers for which special features must be observed.

- Never electrically weld on the vehicle without first completely disconnecting all electronic parts containing semiconductors (regulator, ignition coil and control unit). Only solder with soldering equipment that is operated via ballast transformers or disconnect the mains plug of the soldering iron before soldering to avoid overvoltage damage to the parts. Never use copper paste on connectors or spark plugs.

- Electronics are sensitive to reverse polarity. Always check the correct connection of the battery and the correct wiring after intervening in the system. Reverse polarity and short circuits destroy the regulator and the ignition coil immediately! As a rule, wiring is always colour on colour. Exceptions are explicitly mentioned in the instructions. Reverse polarity damage is not covered by warranty.

- When mounting the rotor, please take care not to damage the magnets. Avoid direct mechanical impact on the rotor. **For transporting the Lima, never place the stator in the rotor**, follow our instructions for shipping(packaging).

- Oil the outside of the rotor lightly, otherwise it will rust quickly in the aggressive environment (which is not harmful, but looks unsightly).

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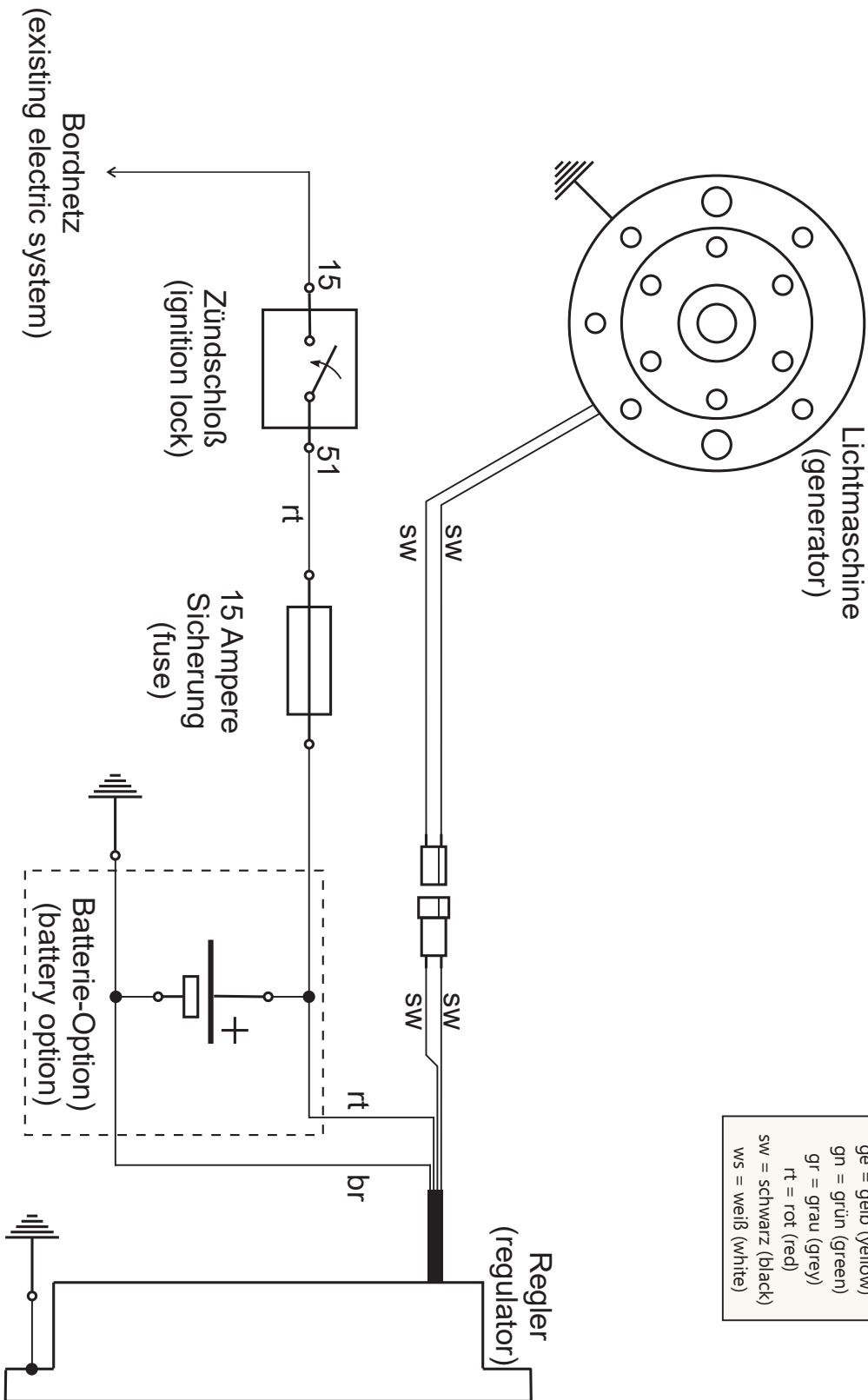
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Good luck and have fun driving then!



Schaltplan ohne Zündung mit Regler R-102 (wiring diagram w/o ignition)



Kabelfarben (wiring colours):	
bl	= blau (blue)
br	= braun (brown)
ge	= gelb (yellow)
gn	= grün (green)
gr	= grau (grey)
rt	= rot (red)
sw	= schwarz (black)
ws	= weiß (white)