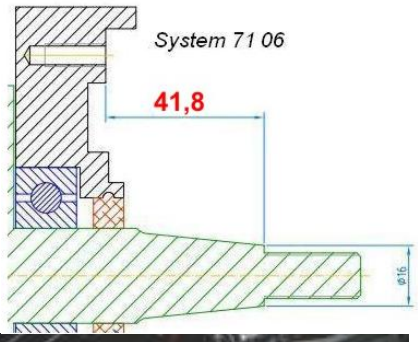
System 711349900

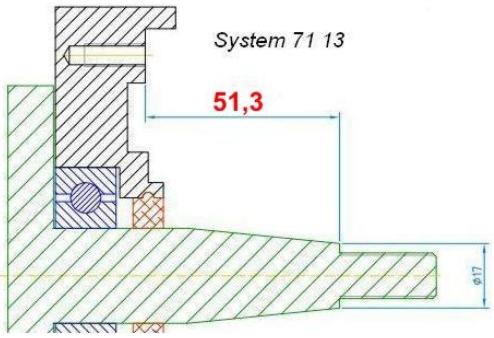
System generator and pulse module for Yamaha RD (long shaft) for use with third-party ignition components (Ignitech or Zeeltronics PDCI or PDCIS, not PCDI units)

- We offer this because we receive many requests for equipment that can power Ignitech or Zeeltronics ignition systems.

- We ensure the alternator functions correctly (voltage generation) and that pulses are generated by the sensor. However, it is not our responsibility how the third-party ignition is connected or whether it works in this setup. We also cannot provide any service related to the ignition system.

Double-check what shaft configuration your Yamaha has! There is a high margin for error here.





- This is not a complete ignition system. It is only an alternator that provides a regulated nominal voltage of 12VDC (13.8V) and 2 pulses per revolution from the VAPE S01 sensor triggered via 2 direct marks on the rotor.
- Replaces the stock alternator and regulator. Provides pulses from the S01. No modifications to the engine case are required.

- Advantages over older systems:

- All parts are new
- Constant light output (12V/150W DC)

Installation Instructions 711349900	June 4, 2024

- If you can install a standard dynamo/alternator and have basic mechanical skills, you can install the VAPE system! If you have never worked on an electrical system, it is best to have someone who knows how to do it handle the installation.

- VAPE cannot verify compliance with these instructions or the conditions and methods of installation, operation, use, and maintenance of the system. Improper installation may result in property damage and, potentially, personal injury. Therefore, we assume no liability for any loss, damage, or costs arising from or in any way related to improper installation, operation, or use and maintenance. We reserve the right to make changes to the product, technical specifications, or installation and operating instructions without prior notice.

IMPORTANT

- Read these instructions carefully before working on the motorcycle.
Please keep in mind that any modification of the material and DIY repair attempts not approved by VAPE may void the warranty. Do not cut the wires. This results in the loss of reverse polarity protection and often leads to damage to the electronics. Please also note the information provided on the information page for this system. Verify that what you have purchased is actually compatible with your motorcycle. During installation, carefully check that the rotor (flywheel) does not touch the stator coils or anything else, as this can occur under various circumstances and lead to serious damage.

Intended Use

This system is designed to replace the stock dynamo/alternator in vintage and classic motorcycles. Since it is only a voltage-generating unit, it does not alter the engine's characteristics. In most cases, it will supply more electrical power, thereby improving ride quality and comfort by providing better lighting, improved operation of turn signals and the horn, and increased reliability compared to aging stock systems.
The system does not replace the ignition. **The ignition must be either a fully automatic magneto or must be part of the battery system.** The system has not been tested for compatibility with third-party electronic ignition systems. It may work with them, but it may not, and it could even damage them. In any case, the system will charge the battery effectively.
The charging system is suitable only for use with rechargeable 12V (6V systems) lead-acid batteries with liquid electrolyte or sealed lead-acid batteries, AGM, and gel batteries. It is not suitable for use with nickel-cadmium, nickel-metal hydride, lithium-ion, or other types of rechargeable or non-rechargeable batteries.
This is a replacement system, **not a copy of the original equipment**. Parts in this system therefore look different and may fit differently (especially the ignition coil and regulator), which requires some adjustment.

- VAPE guarantees type-approved products marked with an "E" in a circle (specifically E8 for the Czech Republic), which ensures strict compliance of the product's characteristics with the relevant ECE type-approval regulations (particularly ECE R10.05). The competent authority conducts regular inspections.

- The charging system is generally **suitable only for use with rechargeable 12V (6V systems) lead-acid batteries with liquid electrolyte or sealed lead-acid batteries, AGM, and 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 in sporting events.** The warranty is void if the system is not used for its intended purpose. Furthermore, the system may fail to deliver the required performance, and we will be unable to assist you because we are unaware of the specific circumstances. In the worst case, improper use may result in the revocation of your operating license.

- **When installing parts**, **be sure to start by installing the parts on the motor side** (adapter, stator, rotor) to verify that these components actually fit before installing parts intended for mounting outside the motor. Unfortunately, it is often the case that people start by installing the regulator, ignition coil, or control unit, and these parts are very often modified in the process, which prevents us from processing a warranty claim later on. Replacing the lighting/ignition systems on older motorcycles is unfortunately not like a standard purchase; due to the wide variety of models and possible changes to original parts since their manufacture many years ago, it is always a complex matter that, unfortunately, can also involve errors.

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- Our systems **are NOT tested for use with other electronic components (such as third-party ignition systems, satellite navigation systems, cell phones, LED lights, etc.)** and may cause damage to these components. Speedometers are not supported by the system. However, we do offer a solution that includes a speedometer. Similarly, no ignition-controlled circuit breakers or exhaust gas control systems are supported. It is also possible that your original ignition system had a speed-limiting device installed for legal reasons. The new system does not have such a device. Therefore, please verify the legal situation in advance.

- If you do not have the technical expertise required for installation, have the installation performed by a professional or at an authorized service center. Improper installation can damage the new system and the motorcycle or even cause injury to the rider.

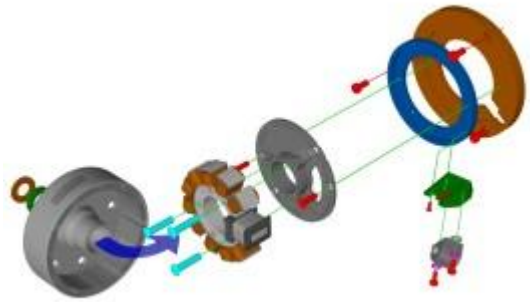
- Before ordering the system, check whether **the rotor puller** we recommend is included in the package. If not, it is best to order it at the same time! If the rotor is damaged by using other tools or aids, the warranty claim will be void!

- The rotor is very sensitive to impacts (e.g., even during transport). Always check the rotor for damage before installation. If the rotor does not have encapsulated magnets, check the tightness of the magnets by pressing them sideways with your fingers. After an impact, some of the glued-in magnets may have come loose and are held in place only by their magnetic force. This could cause serious damage to the system during operation. At the same time, check the rotor magnets for foreign objects (e.g., screws or other metal objects).

- **If you have internet access, it is better to view this documentation online**. You can enlarge most images by clicking on them, which will provide you with additional and possibly more up-to-date information. System list at: *http://www.powerdynamo.biz*

You should have received the following parts:

- stator unit (pre-assembled)
- stator adapter plate
- rotor with 2 long starting marks (not slanted)
- rotor puller (extra-long, not shown in the image, but see below)
- regulator/rectifier
- mounting screws and cable ties
- 2 washers, 1 housing for securing the rotor



- This is an overview of the parts mounted on the motor.

- The stator unit (adapter plates and coil) **is supplied as a single unit and does not need to be disassembled.** It is mounted on the motor as a single unit (older versions consisted of separate plates that had to be mounted individually).

- To remove the new rotor, use only the supplied long M27x1.25 puller (
part number: 71 69 999 99).

- Note: Never use a puller, hammer, or other device that could dislodge the magnets.

- Make sure the motorcycle is securely supported, preferably on a raised workbench, and that you have good access to the alternator on the engine side.

- Disconnect the battery and remove it from the motorcycle. Keep in mind that you will be installing a 12-volt system, so you will either need a 12-volt battery or take advantage of the option to ride without one. In any case, you will need to replace all bulbs with 12-volt ones. The horn can remain at 6 V. To ride without a battery, follow our instructions for riding without a battery.

- Disconnect all cables from the old magneto, regulator, rectifier, CDI, and ignition coil, and remove these parts.

- Remove the wooden key from the crankshaft. It will no longer be needed and will prevent reassembly. If you forget to do this right at the start, you'll have to remove the entire new unit again to access the key.
Don't worry about
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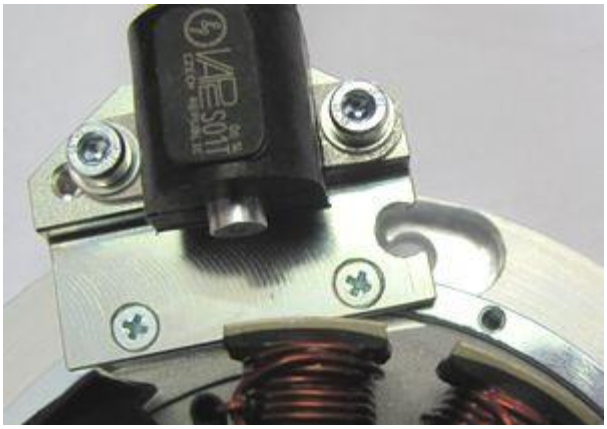
- **Check to see if the small pin is still** on the circumference of the alternator housing. This is a component of the old alternator design that prevents the customer from installing the original unit upside down.

- If the pin is still in place, it **must be removed** (it can be pulled out with pliers).

- If the pin is left in place, the new plate will not sit flush with the motor, causing the new rotor to touch the coils, which will result in complete destruction of the material.

- Mount the stator assembly onto the motor. The collector module should point approximately at the 5 o'clock position.

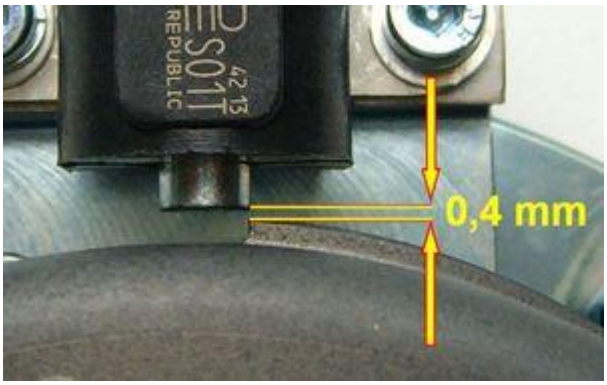
(The image shows an older version; the new version has no unused screw holes)



- The stator assembly is secured with the 3 supplied M6x12 cylindrical-head screws. Since one of them, near the sensor, is covered by the sensor bracket, the bracket was opened slightly to allow use of an Allen wrench. The sensor (commutator) bracket does not need to be removed.

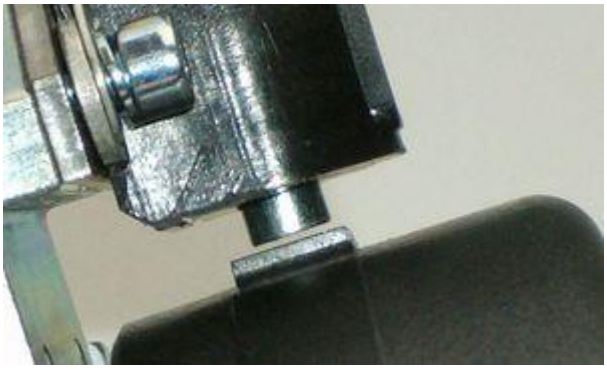
- Take a look at the new rotor.

- You will find 2 straight protrusions (noses) on its circumference. These serve as pulses to track elapsed time for calculating motor speed.



- Install the rotor, but do not tighten it yet. Then slowly rotate the rotor by hand and check the clearance between the sensor and one of the rotor tabs. It must be approximately 0.4–0.5 mm.

- You can adjust the gap by loosening the two screws on the sensor bracket and moving it slightly. Be sure to carefully tighten the two screws on the sensor bracket. If they are left loose, the sensor will come into contact with the rotor and be damaged.



- Check that the metal pin on the sensor is positioned approximately in the center of the starting mark on the rotor. The further off-center it is, the more difficult starting becomes.

- Ignition timing is set by positioning the rotor in a specific position relative to the sensor.

- How to do this and in what position depends on the third-party manufacturer's instructions. You should follow the instructions provided there.

- Tighten the rotor using the factory nut, and don't forget the supplied washer and sleeve, as the thread is quite long. Use an M27x1.25 puller to remove the rotor. This completes the work on the engine. Reinstall the spark plugs.

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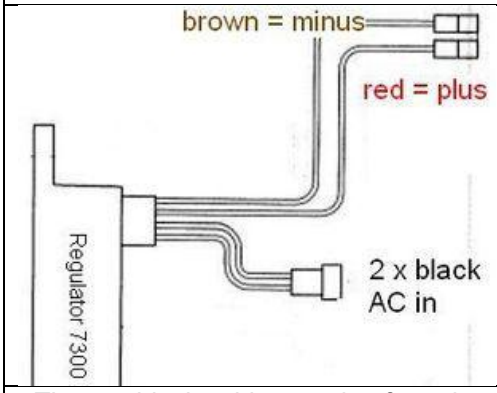
Connect the parts as shown in the wiring diagram pickup_gonly_102	
- To facilitate the routing of wires through the small holes in the motor housing, the plastic connector for the generator wire leading to the ignition coil is not attached to the wire terminal. You should only attach the connector after everything has been properly installed on the motor side.	
	The new regulator/rectifier has 4 wires. • 2 black terminals in the plastic connector for AC input from the 2 black generator wires. • 1 red wire with a plastic cap which leads to the positive terminal • 1 brown terminal with a plastic cap ground (negative)
- The two black cables coming from the generator ...	... must first be inserted into the supplied double plastic plug cover. This cover connects to the plastic plug at the end of the two black wires on the regulator. It doesn't matter which black wire is on which side, since there is alternating current.
- The brown wire from the regulator ...	... should be connected either to the negative terminal of the battery or to a good ground if a battery is not available.
- The red wire from the controller ... **- Be careful:** Incorrect polarity will damage the electronics!	... should be connected either to the **12V** battery **POSITIVE** terminal or, if no battery is available, to a wire leading to the electrical load (usually the input pin of the main switch).
- If you are using a battery, make sure you have **a 15A fuse** between the battery and the vehicle's circuits.	
- The yellow wire remains connected to the sensor	- Here, connect the Pickup to the third-party equipment according to the instructions provided with that equipment. Never apply any voltage to this yellow wire! It would destroy the sensor
- Finally—**and before installing the battery and starting the engine for the first time**—carefully check all connections and wiring according to the wiring diagram. Verify the correct voltage of the battery and bulbs (12 V). - If something isn't working, consult the troubleshooting guide on our homepage. First, disconnect the blue wire from the coil and retest.	
IMPORTANT: When **repairing the crankshaft**, the dynamo shaft is often machined and shortened. As a result, the rotor sits lower, or its rivets may now touch the stator coil. This results in a damaged stator and ignition failure.	

Important safety and operating information for dynamo-only systems
- Safety first! Follow general health and safety regulations for motor vehicle repairs (MVR), as well as the safety information and obligations specified by your motorcycle manufacturer.
- After installation, check that all screws are tight. If parts loosen during operation, material damage will inevitably occur. We only loosely mount the screws beforehand.
- Before you begin inspection and testing, give the newly installed alternator a chance to run. Our parts were inspected before shipment. You won't be able to check much more than that anyway. In any case, refrain from measuring anything on the electronic controller other than the output voltage. You risk damaging the internal electronics. You won't get any tangible results from this anyway. Carefully check the ground connections, and for safety and testing purposes, run an additional ground wire from the regulator directly to the engine block.

- Never perform arc welding on a motorcycle without completely disconnecting all parts containing semiconductors (ignition coil, regulator, advance); there is no need to remove the stator and rotor.
- The electronics are very sensitive to incorrect polarity. After working on the system, check the correct polarity of the battery and the regulator. Incorrect polarity causes short circuits and will destroy the regulator, which is designed **for negative grounding only.**
When handling a new rotor, be careful not to damage its magnets. Avoid direct impacts to the rotor circuit. Never place the rotor on the stator during transport. Follow our guidelines regarding material transport.
- It is recommended to coat the rotor with a thin layer of oil to reduce the risk of corrosion.
- Never use a puller or hammer to remove the rotor. This could cause its magnets to come loose. We offer a special removal screw for reinstalling the new rotor (see installation instructions)!
- If you are not using the motorcycle for an extended period, disconnect the battery (as is) to prevent current leakage through the regulator diodes. Note that even a disconnected battery will eventually discharge on its own.
- Follow these instructions, but don't be afraid of the installation process. Remember that thousands of other customers have successfully installed the system before you. **Enjoy cycling with its new electric motor!**

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Schaltplan Lima mit Sensor (wiring diagram generator with pick up)