

System 733078800**Advantages over the old system:**

- all parts are new
- significantly brighter light
- very reliable ignition with high-energy sparks
- better starting and improved combustion
- no further wear on the breaker

**Alternator/electronic ignition
for NSU Quick / Pony 100**

- Magneto ignition system with integrated fully electronic ignition, lighting output at 6V/18W AC (no regulator required). Contactless, maintenance-free electronic ignition. The system carries only AC current and is therefore not designed to charge a battery and/or operate indicators.



Fitting instructions for System 733078800	29 June 2026
<p>- 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 worked on one before, it is best to have the system fitted by someone who is familiar with it.</p>	
<p>- 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.</p>	
<p><u>IMPORTANT</u></p>	
<p><u>Please ensure you read the entire instruction manual carefully before you begin installation</u> 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.</p>	
<p><u>Intended use</u> - 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 vehicle's roadworthiness and safety 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.</p>	
	<p>- VAPE guarantees that its products are type-approved and marked with the letter 'E' (specifically 'E8' for the Czech Republic), thereby ensuring that the product characteristics consistently comply with the relevant ECE type-approval regulations (in particular ECE R10.05). Inspections are carried out regularly by the competent authority</p>
<p>- The system is not capable of charging a battery. It supplies alternating current to the lighting circuit. The system has no regulator or rectifier. It is designed to power a 6V/18W lighting system without these components.</p>	
<p>- 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 via 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.</p>	

- **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
- rotor
- Ignition coil / ignition leads
- Small parts



- To remove the new rotor, you will need an M27x1.25 puller (order no.: 99 99 799 00 – **not included!**).

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

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



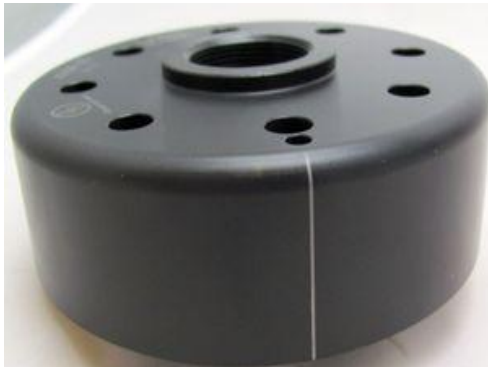
- Disconnect all cables leading to the old alternator and ignition coil, and remove these parts.
- Please also remove the key from the crankshaft. It is no longer required and will get in the way during the rest of the installation.



- Carefully feed the stator cable harness through the appropriate opening in the motor. Place the stator assembly onto the motor block and secure it with screws (as shown in the illustration).
- **The image shows a different stator!**

- Ignition setting:

To ensure maximum flexibility in ignition timing adjustment, the rotor is not secured to the crankshaft by a key and keyway. Nevertheless (provided the taper is correct), there is no risk of the rotor becoming unintentionally dislodged or twisted, as it has always been held in place by the taper, never by the key. The key serves only to guide the setting of the correct ignition timing.

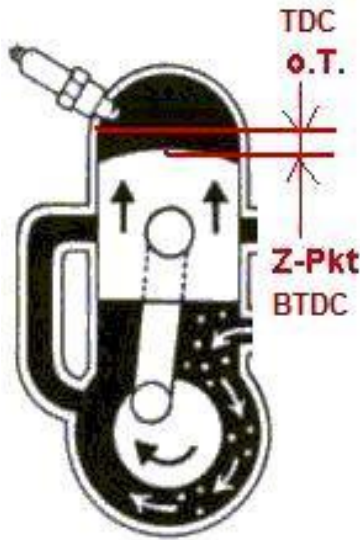


- Take a look at the new rotor. You will find a stamped notch on its circumference. This is an ignition timing mark.



- Take a look at the stator plate. It also has an ignition mark.
- At the moment of ignition, both marks (rotor and stator) are aligned.
- **Please note:** There is no need for you to detach the stator from the base plate. You only run the risk of pinching cables when reassembling it.
- **The image shows a different stator!**

- Before fitting the rotor, check that its magnets have not picked up any screws or other small parts that could cause damage.
- Fit the new rotor firmly enough to turn the crankshaft. You can then use it to turn the crankshaft.



- To measure the piston position, you will need a tool (a dial gauge or a measuring rod, which you can make from an old spark plug, for example. In a pinch, however, a pencil and a bit of visual estimation will do).
- Remove the spark plug and move the piston to top dead centre (here, 0.T.). This is the highest position the piston can reach in the cylinder.
- As the flywheel in this system rotates clockwise, you must now turn it slightly to the left (i.e. anti-clockwise) until the piston has dropped to the required advance angle.

- Please refer to your manual for the correct value (if no values are available, try 4 mm before TDC, but be sure to obtain the correct values afterwards and adjust the setting accordingly). Incorrect settings can lead to overheating and, in extreme cases, even to the piston crown burning through.



- Once you have located the ignition position, carefully remove the new rotor and refit it so that the mark on the outside of the rotor aligns with the mark on the stator base plate.



- Secure the rotor with the original fixing nut. You will need to use all or some of the washers supplied.



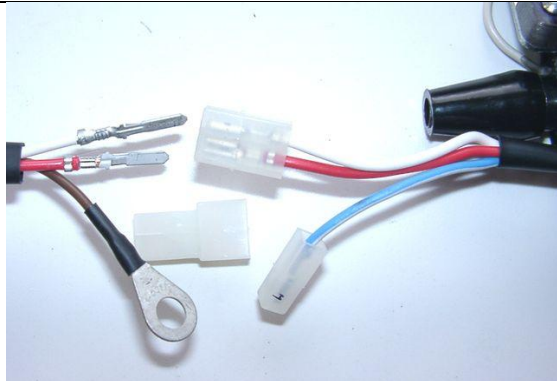
- Finally, check very carefully that the rotor rotates freely above the plate and above the coil and does not rub against them as a result of any changes to the motor's mechanical configuration (modifications to the housing and/or shaft). Any rubbing will certainly result in the destruction of the system.

- Now secure the new ignition coil and the new regulator in a suitable position. It is best to attach them to the ignition coil's mounting bracket. Leave one of the ignition coil's retaining bolts loose for now, as a ground cable will be attached here later. Route the new alternator cable along the frame using the cable ties provided, so that it ends up alongside all the other cables at the level of the regulator and ignition coil. Make sure that nothing can rub against it.

- This system is specifically designed for small or very old motorbikes/mopeds that require only a small amount of light output and, at the same time, have limited space for housing new components (regulator). As there is no regulator here, it is not possible to charge a battery!

Connect the cables as shown in circuit diagram 71ik-788, i.e.:

- To make it easier to route the cable through narrow openings – or indeed to make this possible in the first place – the terminal tabs and the plug on the cable leading to the new ignition coil from the new alternator have not yet been connected to the terminal tabs at the end of the cable. You should only connect the plug once the cable has been routed through the engine opening for good. To do this ...



... take the female connector from the ignition coil with the red and white wires. Fit the loose 2-pin connector sleeve supplied with the kit onto this plug and insert the loose alternator cables (red and white) with their terminals into the rear of the plug. Ensure that the cable terminals click into place inside the plug housing. It is essential to ensure that these cables are positioned correctly within the plug:

- white goes to white
- red to red

- If you want (or need) to remove the cables from the connector housing again, it is best to use a paperclip that has been bent open and use it to push the barbs on the contact tabs to one side, so that the connectors can be released.

- The brown cable from the alternator, fitted with a ring terminal, is screwed onto the ignition coil's earth terminal (retaining clip). The system will not work without this connection! Please do not rely on the frame's earth. Paint, dirt and oil residues often prevent a good earth connection for the coil.

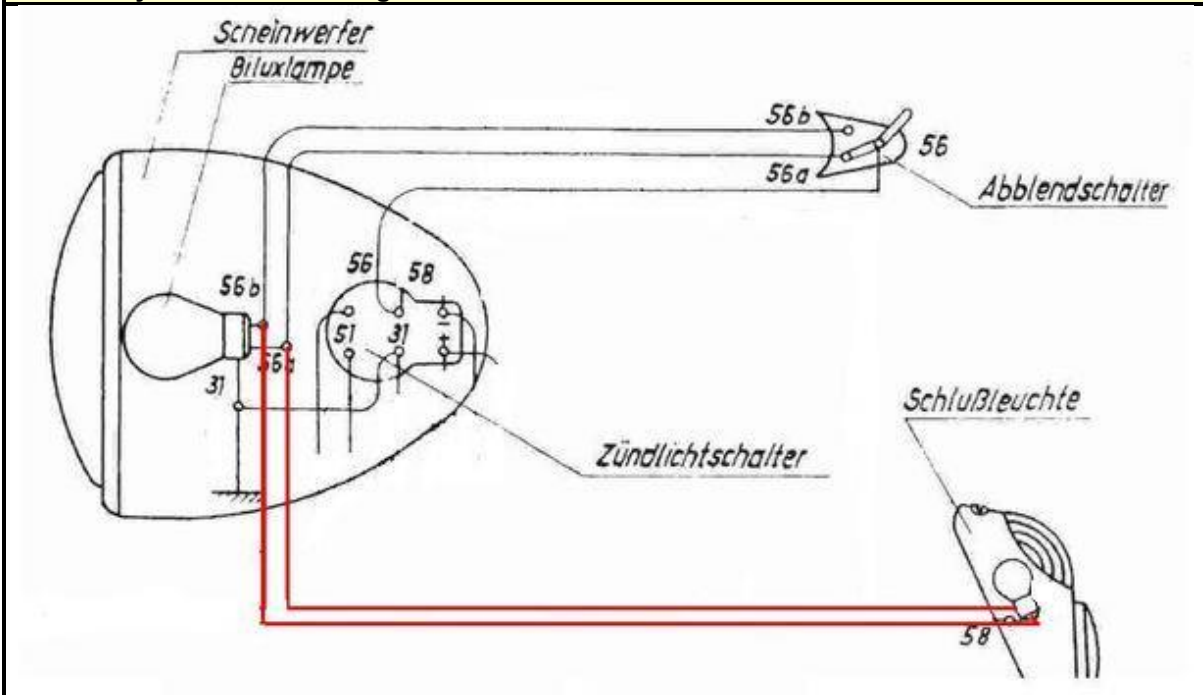
The black cable from the stator...

...connect to the ignition terminal at terminal 51

<p>That leaves the blue (sometimes blue and white) cable from the ignition coil – the cut-off cable.</p> <p>Note:</p> <ul style="list-style-type: none"> - If you experience ignition faults, disconnect this cable first (pull out the plug). In most cases, you'll then be able to continue your journey 	<p>- If it is connected to earth, the ignition will cut out!</p> <ul style="list-style-type: none"> - We use this wiring configuration on vehicles that originally had a magneto ignition (pole wheel) 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) cable is connected to this terminal. This means that the ignition is switched off in the same way as before.
<p>- The high-voltage cable (ignition cable) ...</p> <p>Please do not use 'Nology Super Cables' ('hot wire'). These cause interference in VAPE systems and may result in damage to the electronics.</p>	<p>... screw it into the ignition coil and fit the rubber cap over it. 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.</p>
<p>- 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)!</p> <p>- 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.</p>	
<p>- 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.</p> <p>- 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 section.</p>	
<p>- 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.</p>	

<p>Suggested wiring configuration for 788 systems (6V/18W without a regulator) to prevent the rear light bulb from burning out when dimming or brightening</p>
<p>- If the headlamp and rear light bulbs are wired in parallel as standard, switching between full-beam and dipped-beam may cause the rear light bulb to blow, as there is briefly no voltage at the headlamp when the switch is in the intermediate position, meaning the voltage to the rear light can rise momentarily. This is not only the case in our 788 systems, but also in many original older systems. Some manufacturers at the time had addressed this problem either by fitting a choke coil or by incorporating a safety circuit of this kind.</p>

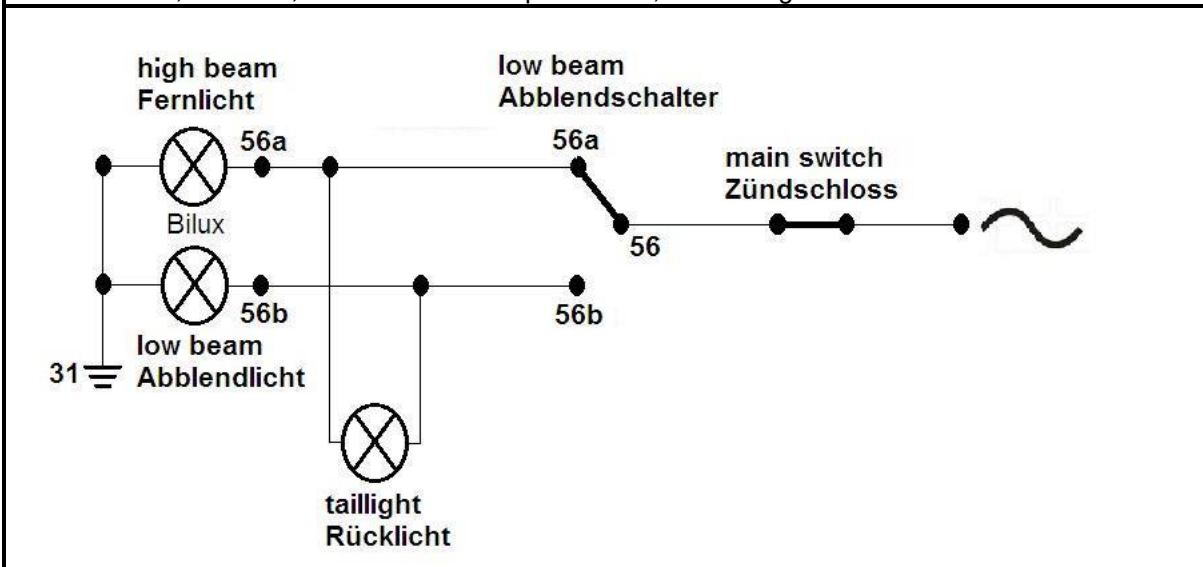
- Here we describe the safety wiring for the rear light bulb and recommend using this with our 788 systems if a dimming switch is fitted



- What you need to do (after checking whether your motorbike already has such a safety circuit) is to disconnect the earth connection of the rear light bulb and, in place of this earth connection, run an additional cable to the headlight. You will now have two cables coming from the rear light.

- Connect one of these to the high-beam contact and the other to the dipped-beam contact, as shown in the circuit diagram above (and in the diagram below). If the headlamp bulb does not receive power when the switch is changed, the rear light bulb will not receive power either and will be protected.

- Please note, however, that if the headlamp bulb fails, the rear light will also fail at the same time.



Important safety and operating instructions – YOU MUST read and follow these in full!

- Observe the safety instructions and requirements prescribed by the vehicle manufacturer and the automotive trade. Installation requires specialist knowledge.

The ignition markings applied to the material are for guidance only during installation. Once installed, please check that your settings are correct using suitable methods (such as 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 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, particularly 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 can 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 a speed achieved by pressing 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 in one unit. 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).

- 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 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 don't let them unsettle you. Thousands of customers before you have already successfully fitted our systems.

Good luck, and enjoy your drive!

