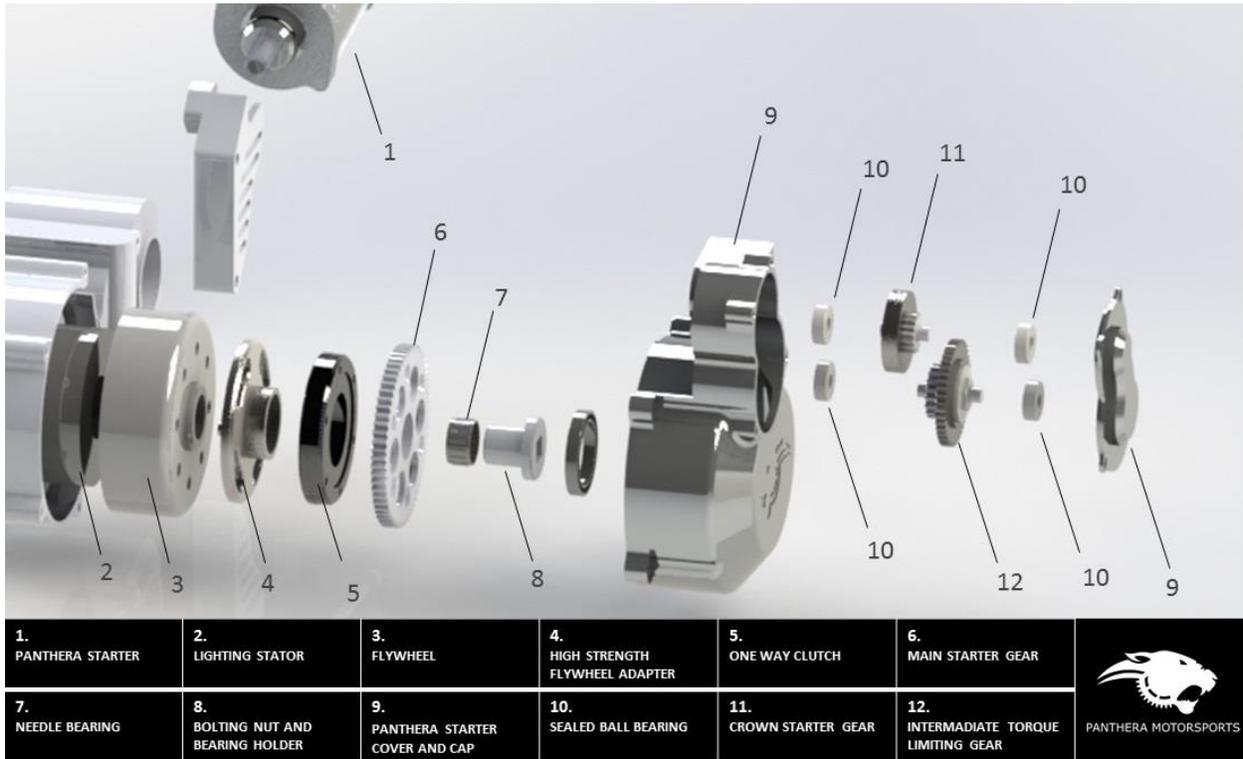




# PANTHERA MOTORSPORTS

## PANTHERA KX500 E-START Installation guide

### List of Panthera parts you need



- 1- Panthera starter electric motor
- 2- Stator and back plate (including a regulator and electronic ignition coil)
- 3- Flywheel
- 4- High strength flywheel adapter
- 5- Main starter gear
- 6- Needle bearing
- 7- Bolting nut and bearing holder
- 8- Panthera starter cover and cap
- 9- Sealed ball bearing
- 10- Crown starter gear
- 11- Intermediate gear
- 12- Sprocket guard and motor mounting
- 13- Starter relay



# PANTHERA MOTORSPORTS

## PANTHERA KX500 E-START Installation guide

### Installation

#### Vape Stator Installation

Refer to powerdynamo installation details in annexe 2.

#### Flywheel

Align the flywheel with the key way and slide it in place. You will have to fight the magnets to place it straight and all the way down.

Once you will have the flywheel bolted, spin the flywheel (and motor) by hand to make sure you don't feel any rubbing between the flywheel and the stator. This can happen if the stator back plate is not properly sitting, or your crankshaft taper as once been machined down.

#### Flywheel adaptor

The high strength steel flywheel adaptor is a balanced machined part. It can be placed on in any clocking orientation. Put the torque transfer tabs inside the flywheel holes.

#### One way clutch and ring gear

If you have taken off the one way clutch and ring gear from the flywheel adaptor, you can easily put it back on by pushing it on the adaptor with a clockwise rotation.

#### Bolting the flywheel

Bolt the flywheel in place with the specially designed element. You will simply need a 1/2in extension on your torque wrench or even use the torque wrench itself. Use the supplied gear holder to hold the assembly from spinning.

!! Do not forget the needle bearing before putting the bolting unit !!

!!! The flywheel has to be torque at **75 ft-lb**. Not doing so will have the key way sheared by the starter!!!



# PANTHERA MOTORSPORTS

## PANTHERA KX500 E-START Installation guide



*Figure 1 Flywheel torquing*

### Sprocket guard

The billet sprocket guard supplied with the kit is necessary as it holds the electric motor in place.

Bolt the guard in place with oem bolts or any other M6x1.0 bolts you like.

### Starter cover

To install the cover, remove the middle small gear from behind the gears cap. Leaving the gear in will make it hard to put the cover on and align the gear at the same time, you will risk damaging the gears.

Do not forget to put the gasket on the cover.

Align the starter cover so that the flywheel bolting unit slides in the bearing inside the cover. This bearing ensure that the main ring gear is at the exact right distance to the secondary gear.

Bolt the cover in place with standard Kawasaki flywheel cover bolts or any other M6x1.0 bolt you like.

Torque to 90 in-lb.

**!!! Before putting the gears back in, putt 300ml of gear oil in the cover.**

But back the gears in place.

Then put back the gear cap in place with its gasket, and torque back the bolts to 84 in-lb.

### Starter motor

Slide the starter motor in gently. Put grease on the o-ring to ensure not damaging it. Finding the gear alignment might require to rotate the motor a couple degrees. Bolt the motor to the sprocket guard.



# **PANTHERA MOTORSPORTS**

## **PANTHERA KX500 E-START Installation guide**

### Electrical connection

For wiring, see the wiring diagram in the annexe 1.

### Battery

The recommended battery is a battery of at least 5 Ah and 250 cranking amp.

### Starter relay

The starter relay included in the kit can be place anywhere on the bike. It is best to place it near the battery and make the power cable from the battery to the relay to the electric motor the shortest possible the limit the resistance.



# PANTHERA MOTORSPORTS

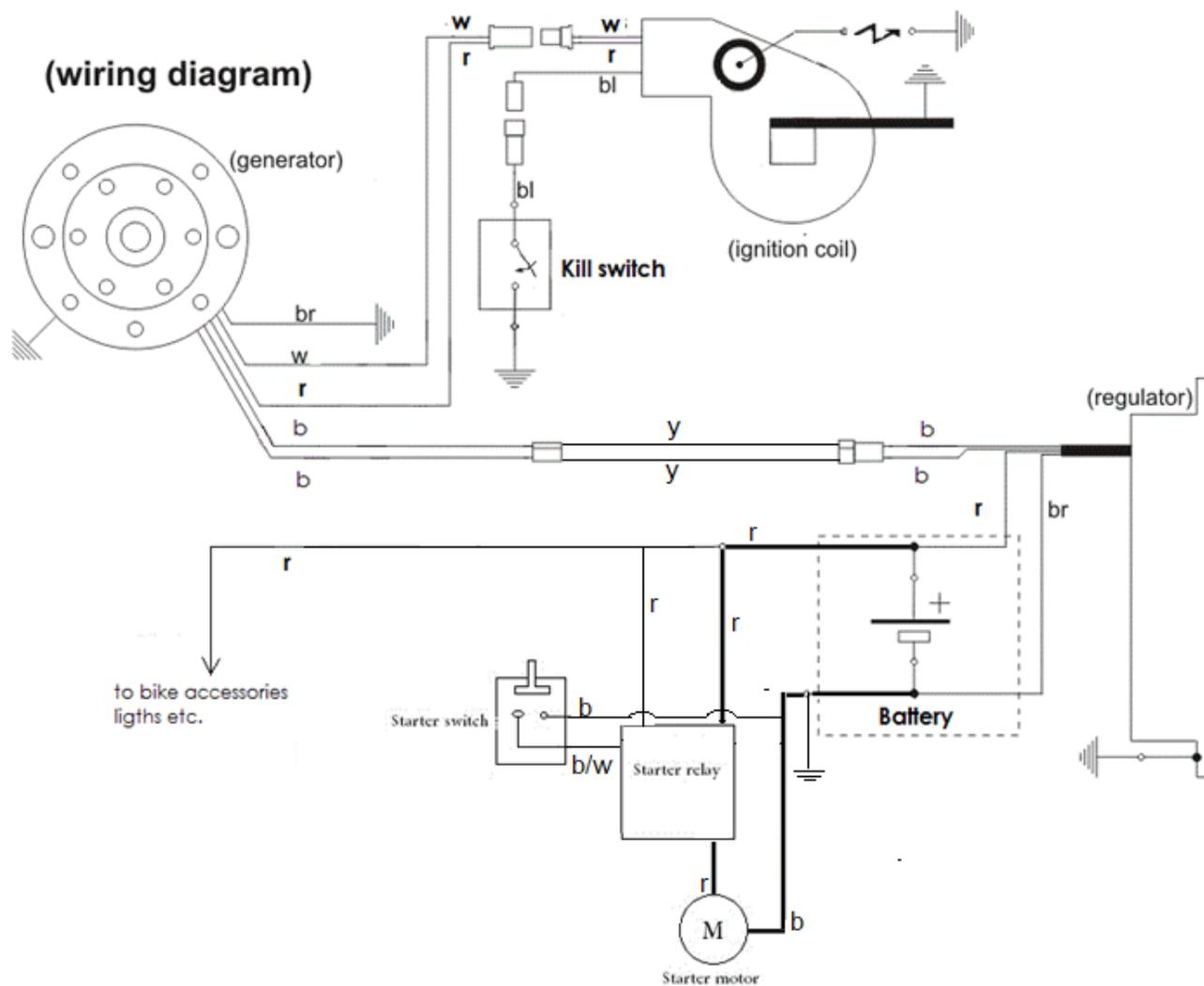
## PANTHERA KX500 E-START Installation guide

### Annexe 1: Wiring diagram



#### Wiring color

- bl = blue
- br = brown
- b = black
- y = yellow
- gn = green
- gr = grey
- r = red
- w = white





# **PANTHERA MOTORSPORTS**

## **PANTHERA KX500 E-START Installation guide**

### Security concerns

Engine assembly must always be accomplished by a qualified mechanic.

Use the proper tools for every operations and always wear the proper personal protective equipment (glass, gloves, etc.)

The parts sold by Panthera Motorsports are often machined parts and are at risk of having sharp edges. Always handle with care.



# **PANTHERA MOTORSPORTS**

## **PANTHERA KX500 E-START Installation guide**

### Returns and Exchanges

#### General:

All returns must be postmarked no later than 10 days from the original customer shipment date. Returns and exchanges must be in new condition and must include all instructions and original packing material. Customer pays all return shipping charges. Include a copy of your packing list and authorization number with all returns.

Original shipping and handling charges are not refundable. Returns must be preauthorized by us and are subject to a 20% re-stocking fee. These amounts will be deducted from the original amount billed and the remaining balance will be credited to the original credit card or paypal account.

#### Incorrect Item:

If you received an incorrect item, we must be notified within 10 days of receipt of the shipment so that no extra charges will be incurred. We will replace incorrect items and pay the additional shipping charge. No returns of items will be accepted beyond 21 days of the original shipment date.

#### Return Shipping Instructions:

Return via prepaid mail only. Insure shipment for full value of purchase. Use original packaging. We are not responsible for packages lost during return shipping.

#### Return/Exchange Instructions:

Enclose a copy of your packing list along with detailed return/exchange instructions.

All returns require prior authorization by e-mailing us at [sebastien.m@pantheramotorsports.com](mailto:sebastien.m@pantheramotorsports.com) . All return shipping charges will be the responsibility of the customer. No returns on items under \$30.00 will be approved. Items must be returned within 90 days of the original order date in the original packaging with the labels intact.



# **PANTHERA MOTORSPORTS**

## **PANTHERA KX500 E-START Installation guide**

### Warranty Items:

All merchandise manufactured by Panthera Motorsports has a warranty against manufacturing defects for a period of one (1) year from the date of original shipping. Warranty is limited to the repair or replacement of defective products. There is no warranty for normal wear and tear, any type of crash. Panthera Motorsports reserves the right to repair, replace or issue a Panthera credit for defective product at its discretion. Credits are valid for a period of one (1) year from issuance. No credit will be issued for labor or other costs incurred beyond the value of the original product. Product returned as a warranty after having been used, if found to be defective, is not valued at the full purchase price. A depreciated value will be estimated for used product. Warranty excludes product that has been modified or where the product was improperly installed, abnormally used or misused. This limited warranty is in lieu of all other guarantees or warranties implied or expressed. This includes, without limitation, any warranties or merchantability and fitment for a particular purpose. We make no warranty as to products distributed by Panthera Motorsports, expressed or implied. We will, however, pass on all warranties made by the manufacturer, who has sole responsibility for performing such warranties. A return authorization number must be issued by Panthera Motorsports before product is returned. Returns must be sent back to Panthera Motorsports freight prepaid. Proof of purchase, such as a copy of the original invoice, must accompany all warranty claims. Warranties will be honored to the direct purchaser only.

System 77 12 799 00  
=> [€/S](#)

generator/electronic ignition for Kawasaki KDX 175/250  
and KX500  
with rotor 720g (24oz) - special make system



Attention: there are different Kawasaki models with equal model names (e.g. KDX175) which are technically different!

**This system is for models with a base plate diameter of 110mm !!!**

If it is 108mm you'll need system [78 39 799 00!](#)

Should there be no base plate for the stator at all as the [Stator is directly fitted to the carter](#), we can not help yet with a system

There are (at express customer demands) 2 VAPE Systems for KX500. This system with rotor 0.7kg (24oz) and [system 73 01 799 00](#) with rotor 1.1kg (35oz). both systems differ! you can not just swap the rotor. It will neither fit nor reliably work electrically!



Magnet based generator with integrated fully electronic ignition. Output at 12V/100W DC. Solid state ignition with own power supply from within the system. Replaces old magneto, pickup, regulator and ignition coil.

No changes on engine casing needed.

(Enlarge pictures by clicking onto them.)

**advantage over original system:**

- all parts are new
- very good light output
- very stable ignition with solid spark
- better starting, better fuel burning

**documentation:**

- [assembly instructions](#)
- [wiring diagram](#)
- [parts in the pack \(photo\)](#)

**photos:**

- [the stock system](#) and [alternative stock ignition](#)
- [view at the new stator](#)
- [the system assembled on the engine](#) (showing old rotor version)
- [the engine without any ignition](#)



**If you can install and time a stock ignition and possess basic mechanical skills, you can install a VAPE system!**

**If you never have worked on your ignition, better have it done by someone who knows.**

VAPE can not monitor the compliance to those instructions, nor the conditions and methods of installation, operation, usage and maintenance of the system. Improper installation may result in damage to property and possibly even bodily injury. Therefore we assume no responsibility for loss, damage or cost which result from, or are in any way related to, incorrect installation, improper operation, or incorrect use and maintenance. We reserve the right to make changes to the product, technical data or assembly and operating instructions without prior notice.

**Please read these instructions fully and carefully before starting work on your motorcycle**

Please bear in mind that [any modification of the material as well as own repair attempts which have not been agreed with VAPE may result in a loss of warranty. Do not cut off wires. This leads to a loss of reverse polarity protection and often results in damage to electronics.](#) Also, please take note of the information provided on the information page for this system. Check that what you have bought really corresponds to the motorcycle you have. Wrong ignition settings may damage your engine and even hurt you during kickstart (violent kickbacks). Be careful during the first test runs. If needed change settings to safer values (less advance). During assembly check carefully that the [rotor \(flywheel\) does not touch the stator coils or anything else](#), which may happen due to various circumstances and lead to severe damage.



**IMPORTANT:**

**Designated use**

This system is designated to replace stock dynamo/alternator & ignition systems in vintage and classic motorcycles [whose engine characteristics have not been modified aftermarket](#). This system is not a tuning system and it will not bring significant increases in engine output. It does however significantly enhance roadworthiness and comfort by offering better lighting, better function of side indicators and horn and, compared with the aging stock systems, increased reliability. As our system does not tamper with engine characteristics it does not increase emission of gaseous pollutants and noise. In most cases emission of pollutants should even be reduced due to better combustion. If used as designated the system therefore will not normally infringe the existing legal status of the motorcycle (this statement is valid for Germany, for other countries, please check locally against your road licensing regulations). This system is not suitable for use in competition events. If used other than the designated way, warranty will be voided and it might well be that you do not obtain the desired results or, worst you loose legal

roadworthiness.

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

This is a [\*\*replacement system and not a copy of the stock material\*\*](#). The parts in this system therefore look different and might fit differently (notably ignition coil and regulator) requiring some adaptation by you.

**During assembly imperatively start with assy of engine based parts** to see that those really fit before you start fitting the external parts. In many cases customers assemble those first and thereby often [modify them in breach of warranty](#) which renders them unfit for renewed sale. [Replacing old ignition systems is not a matter of taking something from a supermarket shelf as there have been very many types, versions and possibly unknown aftermarket modifications which harbour plenty of room for error.](#)

Our systems are [NOT tested for use with third party electronic devices \(such as GPS, mobile phones, LED lighting etc\) and may cause damage to such parts.](#) Possibly existing [electronic tachometers](#) will not work with the new system. Read our [information for suitable solutions](#). Possibly existing safety switches and electronic valve controls are not supported. It might be that your motorcycle was originally equipped with an ignition that did limit top speed for legal reasons. The new system does not have such a facility, so check your legal situation beforehand.

If you have no expertise for the installation have it done by an expert or at a specialist's workshop. Improper installation may damage the new system and your motorcycle, possibly even lead to bodily harm.

Before you order a system, please check whether a [puller tool](#) for the new rotor is included in the kit. If not, better order it at the same time. You might want to order light [bulbs](#), [fuse](#), horn, [flasher unit](#) etc.

Never use anything other than the recommended puller tool to pull the new rotor again. Damage to the rotor as a result of use of other tools or methods is not covered by warranty.

The rotor is sensible to blows (including during transport). Before assembly, please always check for damage (on rotor without magnet plastification try to push the magnets aside with your

	<p>fingers). After impact the glued in magnets might have broken loose, sticking to the rotor solely by magnetic force, so that one does not notice right away. During engine run the damage would be considerable. Before placing the rotor onto the engine, please make sure that its magnets have not collected any metal objects such as small screws, nuts and washers. That equally would lead to severe damage.</p>
	<p><b>If you have access to the Internet, best view those instructions online.</b> You get larger and better pictures by clicking onto them and possibly updated information. System list at <a href="http://www.powerdynamo.biz">http://www.powerdynamo.biz</a></p>



**You should have received those parts:**

- pre-assembled stator unit
- rotor and rotor screw
- regulator/rectifier
- electronic ignition coil
- ht-cable
- bits & pieces



To disengage your new rotor again, you will need a puller M27x1.25 (part-no.: 99 99 799 00 -**Not provided!**-).

**Note:** Never use a claw puller, a hammer or any other device, that will shake the magnets off.

Make sure your motorcycle rests securely, preferably on an elevated work bench and that you have good access to the magneto side of the engine.

Remove the rotor screw and pull the old rotor from the crankshaft. For this you need a puller.

Disconnect all wires to the old magneto and pickup and take those parts off. Will not be needed any more. There have been different versions of stock ignition



Take the woodruff key from the crank pin. It will not be needed any more and prevent assembly. If you forget this right at start, you will have to take the whole new unit off again to get access to the key.

**Remark:** The woodruff key does not actually hold your rotor on the shaft, this is done by the taper. It simply guides to the correct setting which will now be otherwise achieved.

picture shows different engine



Insert the new base plate with the stator in the place of your old stator and fasten the plate with the two provided M5 screws (Please don't use other screws, as they may be too high and could scratch at the rotor).

Have a look at the new stator unit. You will find at the adapter plate, near the black coils, a small red dot, this is an ignition marking.

This ignition marking is no longer visible after the rotor is mounted. Therefore it must be transferred to the engine housing.



(Pictures showing similar engine!)

**Ignition timing:** Panthera motorsports has added a keyway to the flywheel to facilitate flywheel alignment.



Take a look at the new rotor. You will find on its circumference a small lasered on line. That is an ignition marking.

Check the inside of the rotor for foreign objects (screws or other metal parts) that could damage the rotor and stator during the operation.

Take the spark plug out to ease turning of the crank put a dial indicator bring the piston into ignition position (put the rotor loosely onto the crank shaft and using it as a turning knob).

The ignition mark should be aligned when the piston is 0.087" before TDC. Place the engine at the location by spinning the flywheel. Once in place, turn the stator to align the dot.

Make a pen mark on the back plate and engine case before removing the flywheel.



Take the spark plug out to ease turning of the crank and bring the piston into ignition position (put the rotor loosely onto the crank shaft and using it as a turning knob). Please consult your manual of the bike.

**VERY IMPORTANT:** ... check at once, that the rotor may move freely above the stator base. If (for whatever reason) a rotor/flywheel comes to sit too low (e.g. in the wake of a regeneration of the crank shaft), it will touch and destroy the stator coil under it.

More info [online here](#).



Carefully remove the rotor again from the crank (best using the puller tool for this) and reset it in such a way that the marking on the rotor aligns with the (transferred) marking of the stator. If there is any change in the crank's (ignition) position, you have to start again.



In this position fasten the rotor carefully with the screw provided.

Remember, to disengage your new rotor again, you will need a puller M27x1.25 (part-no.: 99 99 799 00 **-Not provided!-**).

**Note:** Never use a claw puller, a hammer or any other device, that will shake the magnets off.

Place the engine cover back. Check that it does not interfere with anything.

Fasten the new electronic rectifier/regulator and ignition coil at a convenient place. Before you fix the coil, screw in the high-tension cables. Lay the new generator cables along the frame (using the enclosed cable binders), in that way, that they finished close to the regulator resp. ignition coil. Take care that nothing's pinched.

Connect the parts as shown in [wiring diagram](#)

To facilitate wire exit through the often small openings in the engine casing, the plastic plug of the generator's wiring that leads to the ignition coil has not been put onto the wire terminal.  
\* You should place the plug there only once all has been properly installed on the engine side.

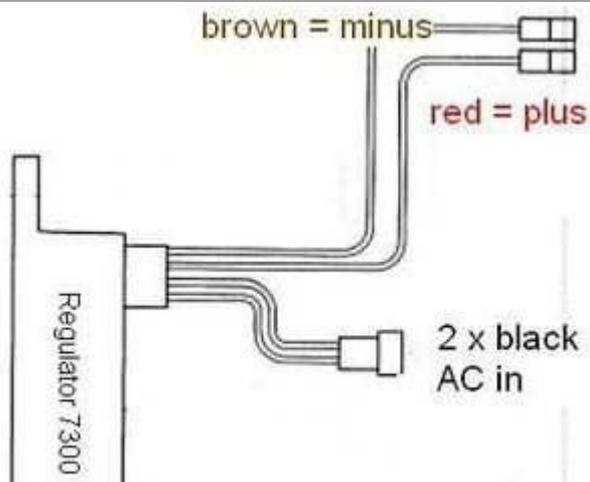


Look for the ignition coil with its female plug and the two wires (red and white).

Put the provided 2-position plug housing onto this plug and insert the two wires (red and white) from the generator. Make sure that the terminals engage securely in the housing and that you connect:

- white to white
- red to red

Should you need (or want) to get the terminals out of the plug housing again, enter a paper clip from front next to the terminals and push the little barb aside. Than pull the wire out.

<p>The brown wire from the new generator with the round eye terminal has to be screwed directly to the holder frame of the ignition coil (ground).  <b><u>Take note! disrespecting is the most frequent cause for ignition problems !!</u></b>  <b>Without this <u>direct</u> connection the system does not work or not work for long without problems. Please do not rely on the frame for ground. Paint, oil and dirt often prevent good contact!</b></p>	
<p>* </p>	<p>The new regulator/rectifier has 4 wires</p> <ul style="list-style-type: none"> <li>• 2 black ending in a plastic plug for the AC input from the 2 black generator wires</li> <li>• 1 red with a plastic plug which outputs plus</li> <li>• 1 brown with a plastic plug being ground (minus)</li> </ul>
<p>The two black cables leading from the generator ...</p>	<p>... should be first introduced into the supplied twin plastic plug housing. This housing connects to the plastic plug at the end of the 2 black wires on the regulator. It does not matter which black is at which side, as there is AC.</p>
<p>The brown cable from the regulator ...</p>	<p>... should connect to either battery minus or good ground if there is no battery.</p>
<p>The red cable from the regulator ...</p> <p><b><u>Take care:</u></b>  <b>Wrong polarity will damage the electronics!</b></p>	<p>... should connect to either battery <b>12V PLUS</b> or if there is no battery to the wiring that runs to your consumers (normally main switch intake pin).</p>
<p>There is NO facility for a charge control light without battery this will not work anyway. The regulator has an inbuilt high potency condenser to smoothen voltage. This will make sure that your side indicators (flashers) and horn will work correctly even without battery.</p>	
<p>* Remains the blue (sometimes blue/white) wire at the ignition coil. This is the kill (cut-off) wire.</p> <p><b><u>Note:</u></b>  <b>Should you experience ignition failures, disconnect as a first measure this blue wire.</b></p>	<p><b>Connected to ground - it will stop ignition!</b></p> <p>This type of wiring is used in motorcycles which originally already had magneto ignition and therefore</p>

<p>In many cases that will permit you to get mobile again (particulars see: <a href="#">technical help</a>)!</p>	<p>switched off by shortcircuiting against ground.</p> <p>Those vehicles have by design a main lock (or some kill switch) that connects a pin to ground when in OFF position (German bikes: pin 2). The blue(/white) wire of the ignition coil will be connected here. In that way the cut-off works like previously.</p>
<p>Screw the high tension (ignition) cable ...</p> <p>* Please <b>do not use</b> any spark amplifying cables, such as "Nology supercables" or "hot wire". This will disturb the system and possibly damage it.</p>	<p>... into the ignition coil and pull over the rubber seal before mounting the coil (it will be easier).</p> <p>Please do use the cable arriving with the pack and not any old cable.</p>
<p>You will do yourself a favour to treat your bike to new spark plugs and spark plug sockets (preferably some between 0-2kOhm). Plenty of problems are to be traced back to "apparently good" (even completely "brand-new") sparks plugs, terminals and cables. <b>Do not use</b> spark plugs with an intern suppression resistor. NGK (e.g.) offered such spark plugs coded with an "R" (for resistor).</p>	
<p>Finally - <b>and before installing the battery and before the first kickstart</b> - please re-check carefully all connections and fitments against the wiring diagram. Do check battery and light bulbs for correct voltage (12V).</p> <p>* Should something not work, please consult our <a href="#">trouble-shooting guide</a> on our homepage. As a first step disconnect the blue wire from the coil and re-test.</p>	
<p>* <b>IMPORTANT:</b> During <b>crank shaft repair</b> the dynamo shaft is often machined and gets shorter. The result is a rotor sitting lower, possibly touching now with its rivets the stator coil. The result is a destroyed stator and ignition failure. For <a href="#">more detail and how to check see (online) here</a>.</p>	
<p><b>Important safety and operating information</b></p>	
<p>Safety first! Please observe the <a href="#">general health and safety regulations motor vehicle repair (MVR)</a> as well as the safety information and obligations indicated by the manufacturer of your motorcycle.</p> <p># The timing marks on the material are for general guidance only during first installation. Please check after assembly by suitable means (stroboscope) that settings are correct to prevent damage to the engine or possibly even your health. You alone are responsible for the installation and the correctness of settings.</p>	
<p># <u>Ignition systems generate high tension!</u> With our material right up to 40,000 Volts! This may, if handled carelessly, not only be painful, but outrightly <u>dangerous</u>. Please do keep a safe distance to the electrode of your spark plug and open high tension cables. Should you need to test spark firing, hold the spark plug socket securely with some well insulating material and push it firmly to solid ground of the engine block.</p>	

	Never pull sparkplug caps when engine is running. Wash your vehicle only with engine at standstill and ignition off.
#	Should you have received in the kit HT cables with a fixed rubber boot(which does not contain a resistor) you might have to use spark plugs with an inbuilt resistor (or replace the cap with one containing a resistor) to comply with your local laws.
#	After installation, please <u>check tightness of all screws, even those preinstalled</u> . If parts get loose during run, there will be inevitably damage to the material. We pre-assemble screws only loosely.
#	Give the newly installed system a chance to work, <u>before you start to check and test values</u> , or what is worse apply changes to it. Our parts have been checked before delivery to you. You will not be able to check much anyway. <b>At any rate do refrain from measuring the electronic components (such as ignition coil, regulator and advance unit). You risk severe damage to the inner electronics there. You will not get any tangible results from the operation anyway.</b> Bear in mind that also your carburetor, your spark plugs and spark plug sockets (even if completely new) might be the reason for malfunction. The general experience with our systems is that the carburetor will have to be re-adjusted to lower settings. Should the system not start after assembly, first disconnect the blue (or blue/white) cut-off wire directly at the ignition coil (or in some cases advance unit) to eliminate any malfunction in the cut-off circuitry. Check ground connections carefully, make sure there is a good electrical connection between frame and engine block. In case of troubles, please consult our <a href="#">Knowledge Base</a> first before you send off the material to us for checking
#	The spark of classic, points based ignition systems has with about 10,000 Volts comparatively little energy and looks therefore yellow and fat (which however makes it highly visible). The spark from our system is a high energy spark with up to 40,000 Volts and therefore is needle thin focused in form, and blue in colour, which makes it not so visible. Furthermore you get spark only at kick-start operated speeds and not by pushing the kick-lever down slowly with your hand (as you might get with battery based ignitions).
#	<u>Systems using a twin outlet ignition coils</u> have a few peculiarities. Please observe that during tests on one side, the other has either to be connected to an fitted spark plug or securely earthed/grounded. Otherwise there will be no spark on either side. Also with such open exits long and dangerous sparks may fly all over the coil.
#	Never do electric arc welding on the bike without completely disconnecting all parts containing semiconductors (ignition coil, regulator, advance) stator and rotor need not be taken off. The same is true for soldering. Before touching electronics disconnect the soldering iron from mains! <u>Never use copper putty on spark plugs.</u>
#	Electronics are very sensitive to wrong polarity. After work on the system, do check correct polarity of the battery and the regulator. Wrong polarity creates short circuits and will destroy the regulator, the ignition coil and the advance unit. As a rule, wiring will always be

	colour to colour. Instances, where colour jumps between wires are expressly mentioned in our instructions.
#	When you handle the new rotor, take care not to damage its magnets. Refrain from direct blows to the circumference of the rotor. <b>When transporting never put the rotor over the stator.</b> <a href="#">Observe our information relative to transport of the material.</a>
#	Do not use spark plug sockets with a resistance of more than 5kOhm. Better use 1 or 2kOhm ones. Bear in mind that spark plug sockets do age and thereby increase their internal resistance. Should an engine start up only when cold, a defective spark plug socket and/or spark plug is very probably the cause. In case of problems check high tension cables too. Never use carbon fibre HT-cables, never use so called "hot wires" which promise to increase spark.
#	It is a good idea to cover the rotor in a thin layer of oil to reduce the risk of corrosion.
#	Never use a claw puller or a hammer to disengage the rotor. Its magnets might become loose in the event. We offer a special puller for disengaging the new rotor again (see assembly instruction)!
#	Should the motorcycle not be in use for some longer period, please disconnect the battery (so existing) to prevent current bleeding through the diodes of the regulator. Though, even a disconnected battery will empty itself after a while.
#	Please do observe these remarks, but at the same time, don't be afraid of the installation process. Remember, that before you, thousands of other customers have successfully installed the system. <b><i>Enjoy driving your bike with its new electric heart!</i></b>