

System 78 43 599 00
=> [€/€](#)

generator / electronic ignition for **OSSA Pioneer, Mounteneer, Dessert Phantom**, rotor weight 1400kg/49oz, fastening nut M14x1.5 **LH**

Magnet based solid state ignition, ignition only, no lighting support.

Ignition with own power supply from within the system. Replaces original Magneto as well as all ignition parts. Does not require changes on crankcase.

Rotor weight: 1400gr/49oz

check direction of rotor nut threading! This system is for left hand threaded nut.



not for phantom cover, not for 4speed cover

Advantage over original system:

- all parts are new
- solid state ignition
- very stable ignition with solid spark
- better starting, better fuel burning
- no wear anymore on collector, governor and points

Documentation:

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

Photos:

- [new system - old system](#)
- [the new rotor on the engine](#)
- [the new stator on the engine](#)

Assembly instructions for Bultaco ignitioon only Systems

[78 41 599 00](#) * [73 47 599 00](#) * [73 59 599 00](#) * [78 42 599 00](#)

* [78 43 599 00](#) * [73 86 599 00](#)

Version 08.10.2015

The main difference between those systems is the weight of the rotor

and the sense of threading of rotor fastening nut in some cases



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.



IMPORTANT:

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).

Designated use

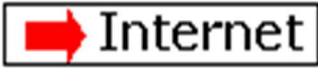
This system is designated to replace stock ignition systems in vintage and classic motorcycles whose engine

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 road safety by offering increased reliability compared with the aging stock systems . As our systems do not tamper with engine characteristics they do not increase emission of gassous pollutants and noise. In most cases emission of pullutants should be even 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, as this situation might be different in other countries, please consult your local road licencing regulations). This system is not suitable for use in competition events. If used other than designated warranty is voided and it might well be that you do not obtain the desired results. In worst cases use not in accordance with designated use might entail legal roadunworthiness.

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 other electronic devices (such as GPS, mobile phones, other 3rd party material.) and may cause damage to

	<p>such parts. Possibly existing electronic tachometers will not work with the new system. 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</p>
	<p>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.</p>
	<p>If you have access to the Internet, best view those instructions online. You get larger and better pictures by clicking onto them and possibly updated information. System list at http://www.powerdynamo.biz</p>



You should have received those parts:

- stator (pre-assembled), no lighting coils
- rotor (depending on system)
- electronic ignition coil / ht-cable
- fastening screw, 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.

Important: The ignition only system is destined for use in offroad sports and hence does not any lighting or battery. For use in public road traffic consult your local regulations.

Make sure your OSSA rests securely on her stand, preferably on an elevated work bench and that you have good access to the generator side of the engine. Note that you will install a 12 volts system, so you will need to replace all lightbulbs to 12 volt ones.

Disconnect the wires from the old dynamo. Pull all wires out of the engine housing.



Pull the rotor off, you will need a puller for this. Unscrew the old stator and take it off the engine.

Your rotor might look different, depending on model.



Take the woodruff key from the crank. You will not need it anymore. Please do not forget to do so, otherwise you will have trouble later on in the assembly.

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



Place the preassembled stator unit onto the engine's generator seat and screw it down there with the 3 screws M5.

Lead the wire from the new generator through the wire opening of the engine upwards along the frame.

her in picture stator with lighting coils



Have a look at the new stator. You will find a little left of the cable exit a small red marking. That is an ignition marking.



Have a look at the new rotor. You will find on its circumference a small pressed in line. That is an ignition marking too. It is durable, but not well visible, so better highlighten it with some marker pen.

To get maximum flexibility no groove has been put into the rotor. No need to worry over the now lost woodruff key. It did not have an arresting capacity, it was guiding to correct ignition settings. Now you have the markings and a much greater flexibility.

Place the rotor loosely onto the crank and check that it may move freely above the statorbase.

Take the spark plug out and bring the piston into ignition position. Might be 2mm BTDC. Take the rotor carefully off again without changing the crank's position and reset it onto the crank in such a way that the marking on the rotor aligns with the marking on the stator. In that position fasten the rotor carefully with the provided new fastening nut.

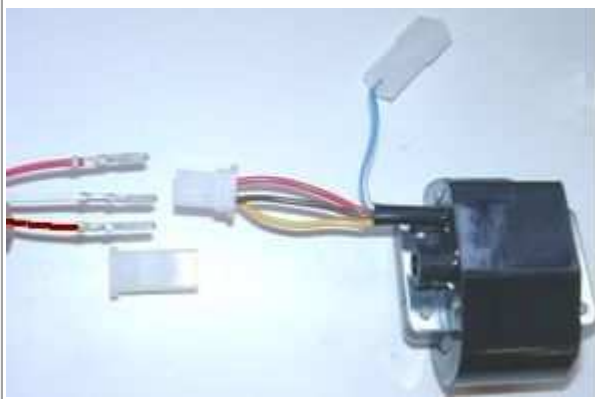
Make sure not to alter the crank's position during that operation.



Fasten the ignition coil on the frame of the motorcycle, best there, where the original coil was.

It may be that you have to drill an extra fastening hole there for the new coil.

Connect the parts as shown in [wiring diagram 73ik-599](#):

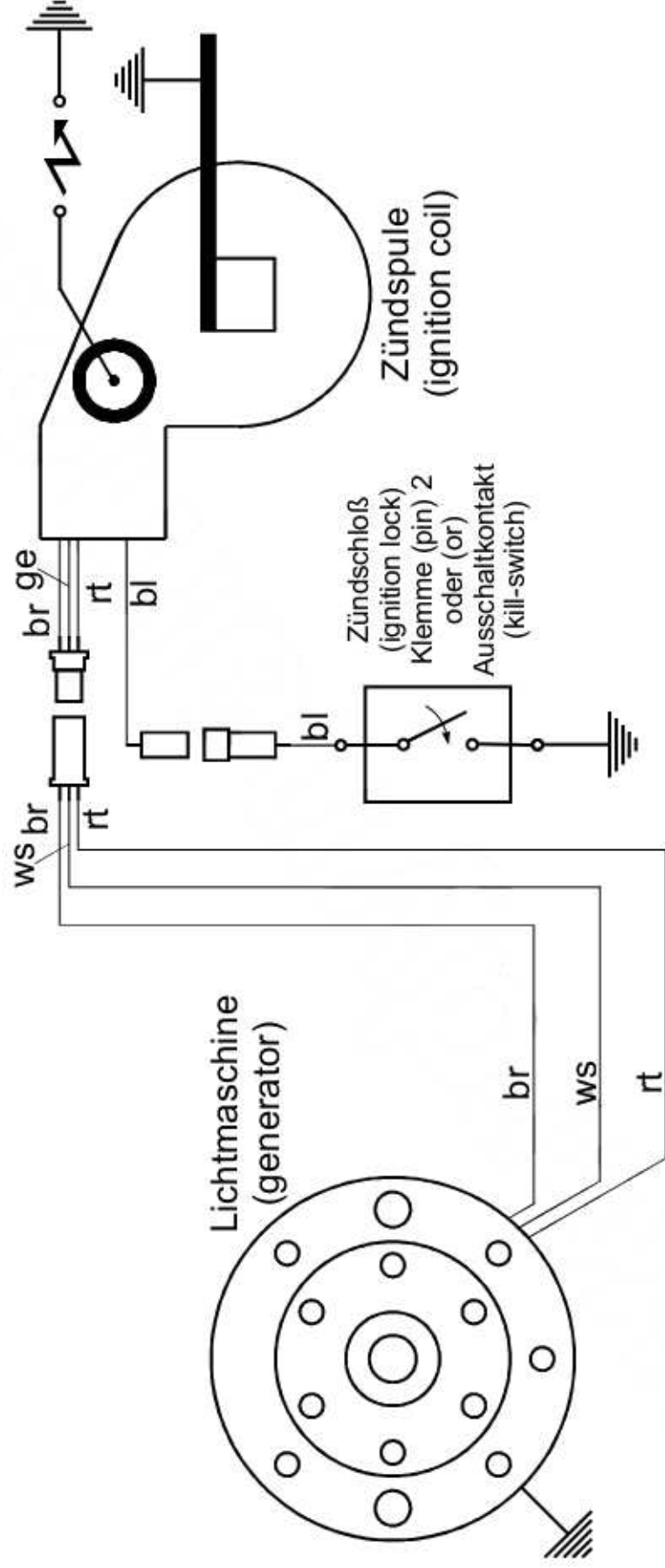
*	To facilitate wire exit through the often small openings in the engine casing, the plastic plug of the generator's wiring that leads to the ignition coil have not been put onto the wire terminal. You should place the plug there only once all has been properly installed on the engine side.
	<p>Look for the ignition coil with its female plug and the three wires (red, brown and yellow).</p> <p>Put the provided 4-position plug housing provisionally onto this plug and insert the three wires (red, brown and white) from the generator. Make sure that the terminals engage securely in the housing and that you connect:</p> <ul style="list-style-type: none"> • red to red • brown to brown • white (in some cases yellow) from the generator to yellow of the ignition coil
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.	
The brown wire from the new generator with the round eye terminal have to be screwed to the holder frame of the ignition coil (ground). This connection is very important. Please don't depend on the frame as <i>the</i> earth-connection. Varnish, oil and dirt prevent often a good contact!	

	Remains the blue (sometimes blue/white) wire at the ignition coil. This is the kill (cut-off) wire.	Connected to ground - it will stop ignition! This type of wiring is used in motorcycles which originally already had magneto ignition and therefore switched off by short circuiting against ground. 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.
*	Note: Should you experience ignition failures, disconnect as a first measure this blue wire. In many cases that will permit you to get mobile again (particulars see: technical help)!	
*	Screw the high tension (ignition) cable ... Please do not use any spark amplifying cables, such as "Nology supercables" or "hot wire". This will disturb the system and possibly damage it.	... into the ignition coil and pull over the rubber seal before mounting the coil (it will be easier). Please do use the cable arriving with the pack and not any old cable.
	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. Do not use spark plugs with an intern suppression resistor. NGK (e.g.) offered such spark plugs coded with an "R" (for resistor).	
*	Finally - and before the first kickstart - please re-check carefully all connections and fitments against the wiring diagram. Should something not work, please consult our trouble-shooting guide on our homepage. As a first step disconnect the blue wire from the coil and re-test.	
*	IMPORTANT: During crank shaft repair 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 more details and how to check see (online) here .	
Important safety and operating information		
#	Safety first! Please observe the general health and safety regulations motor vehicle repair (MVR) as well as the safety information and obligations indicated by the manufacturer of your motorcycle. 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.	
#	<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	

	<p>solid ground of the engine block.</p> <p>Never pull sparkplug caps when engine is running. Wash your vehicle only with engine at standstill and ignition off.</p>
#	<p>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.</p>
#	<p>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.</p>
#	<p>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.</p> <p>Our parts have been checked before delivery to you. You will not be able to check much anyway. 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. Bear in mind that also your carburetor, your spark plugs and spark plug sockets (even if completely new) might be the reason for malfunction.</p> <p>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.</p> <p>In case of troubles, please consult our Knowledge Base first before you send off the material to us for checking</p>
#	<p>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).</p>
#	<p>Systems using a twin outlet ignition coils 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.</p>
#	<p>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! Never use copper putty on spark plugs.</p>
#	<p>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.</p>

#	When you handle the new rotor, take care not to damage its magnets. Refrain from direct blows to the circumference of the rotor. When transporting never put the rotor over the stator. Observe our information relative to transport of the material.
#	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. <i>Enjoy driving your bike with its new electric heart!</i>

Schaltplan 73-599 (wiring diagram)



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)