



PowerBlock

*Ignition
Systems*

ASSEMBLY INSTRUCTIONS for V2 - 90° one Pickup

E_Micro_V2_90°

© 02.2019

9. Juli 2020

ASSEMBLY INSTRUCTIONS FOR V2 90° IGNITION KIT :

The Power Block ignition system is far superior to conventional ignitions that usually achieve double the ignition tension, double the ignition energy, as well as double the spark duration. The adjustment of the ignition timing is worked out by a digital High Speed Microprocessor, with 16bit resolution (65536 points) for each single revolution. The Signal conditioning as well as the ignition amps control are also carried out digitally, to achieve maximum efficiency with a minimum loss. The necessary D-Well time of the ignition coils is worked out digitally to achieve maximum energy saving. The output requirements of the ignition system (module + ignition coil) is approximately 17W with 1000 RPM and approximately 67W with 5000 RPM.

The full performance of our Power Block ignitions is only possible with SILENT HEKTIK ignition coils, because the ignition curves for the relevant ignition energy as well as tensions are tuned and the D-Well timing on the technical details of the coils are cut.

With unsuitable or inadequate ignition coils, not only does the guarantee expire, there will also be bad throttle response; bad coldstart or perhaps misfire.

SAFETY PRECAUTIONS AND NOTICES

Caution High Voltage! Mortal danger !

To avoid injury or destruction of the electronic, attention should be paid to the following when working on vehicles with full electronic digital high energy ignition systems:

- Read the assembly instructions carefully and completely and follow the instructions.
Display warning labels in a good visible place!
- To install the modules, specialized knowledge and tools are required.
- People with a Pacemaker should not carry out work on electronic ignition systems.
- To synchronize the carburettor **never** pull out a spark plug.
- Do not touch or remove ignition cable when the ignition is on.
- Only connect or disconnect the cable from the ignition system when the ignition is turned off.
- Always connect the high tension cable to ground (mass) with or without the spark plugs after removal.
- Checking the function of the high tension part with a spark to the ground (mass) leads to damage.
- Washing the engine or vehicle is only to be carried out when the ignition is turned off and the engine is stopped.
- The ignition module should be carefully protected from static tension.
- Separate ignition module from the cable harness when electric welding.
- Faulty alternator regulators (max. tension 15V) are often the cause of breakdown.
- Jumpstarting with a battery charger is only permitted for 1 minute with max. 15V.
- There is no guarantee for the accuracy of the timing curves with tuned engines; consultation and tuning of the tuner absolutely necessary.
- Guarantee-, replacement or claim for compensation only in reference to the supplied electronic; mistakes and changes in future to be accepted.



TYPE SELECTION and SPEED LIMITER :

The motorcycle type and the engine speed limiter are set by the UPM_switch, top right, adjusted:

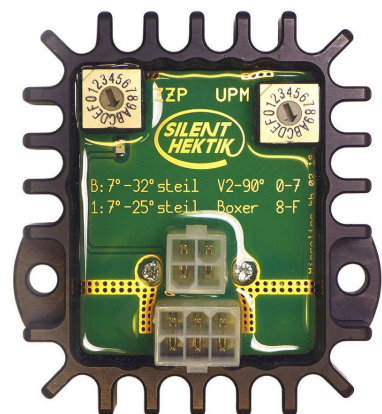
V2 90°

0 = 7000 upm
1 = 7500 upm
2 = 8000 upm
3 = 8500 upm
4 = 9000 upm
5 = 9500 upm
6 = 10000 upm
7 = 11500 upm

2V Boxer

8 = 7000 upm
9 = 7500 upm
A = 8000 upm
B = 8500 upm
C = 9000 upm
D = 9500 upm
E = 10000 upm
F = 11500 upm

Factory setting = B



ASSEMBLY OF THE PICKUPS AND THE ROTORS:

For the assembly of the rotor, please ensure the vehicle is on the crankshaft. Use the original screws. Please inspect the locating surface of the rotors and remove all possible metal shavings that can occur through spring washers.
For Ducati timing belts, the Kokusan-Pick-up can be used:

Sensor-Plus = yellow Sensor-Minus = black

We recommend always the Silent Hektik Pickup :

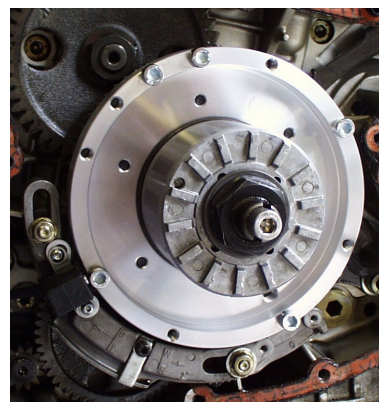
Sensor-Plus = red Sensor-Minus = black

The distance between the rotor and the pickup should be app. 0.3-0.6 mm (at all rotor wings). The default mechanical setting assumes a static ignition point of app. 6°-8° BTDC for all models (please see photo on the right for vertical cylinder).

For the basic setting, please pull the vertical cylinder (as seen in the picture on the right) and move the ignition rotor's wing accordingly (as shown in photos). The leaving edge of the screw should be located centrally to the pickup steel core. Please keep in mind the direction of rotation!

Ducati beltdrive:	right = vertical	left = horizontal
Ducati bevel	right = horizontal	left = vertical
Guzzi	right = right	left = left

Check the static ignition timing with a strobolight at app. 1200 rpm.



statische Einstellung am Pickup verlassende Schraubenkante -> ca. Mitte Pickup-Kern für den steh. Zylinder (rechts) bei ca. 6°-8° vOT.

ASSEMBLY OF THE IGNITION BOX AND IGNITION COILS:

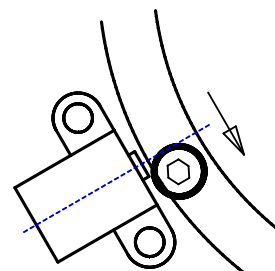
The ignition coils replace the existing ones. Depending on the model, the bracket/ mounting will fit. Make sure that the distance from the pick-up lead and the ignition box to the ignition coils and ignition wires is maximised (at least 10cm) to prevent radio interference. The ignition box and the engine case must have excellent grounding with the battery.

To ensure an optimal ignition system, the distance between the ignition plugs electrodes needs to be 0.5 – 0.7mm. Please only use interference-suppressed inductor and ignition plug connectors with a minimum of 5kOhm resistance and/ or resistance-ignition cable.

All possible interference must be suppressed in order to guarantee a smooth operation of this fully-electronic equipment. This is especially important for old contact-alternator controllers. Protect all electrical connectors with appropriate grease in order to protect them from dampness and humidity. Never use battery-pole grease as it is alkaline. Soldered Crimp-connectors lead to hairline cracks and malfunctions due to the engine vibrations. Also, faulty 'kill-switches' on handlebar controls and side stands switches are often a source for disturbances and interferences.

Only ignition coils with a primary resistance of 2-3 Ohm must be used – otherwise this will result in a loss of warranty!!

When the engine is stop, the module will be automatically turned off, please keep this in mind when working on it. Older tachometers can be connected to the grey outlet of the box (which box?). Please note that the box will not be damaged if you try to connect a tachometer.



statischer ZZP ca. 6°-8° vOT
alle Modelle - Singel- & Twinspark

ADJUSTMENTS:

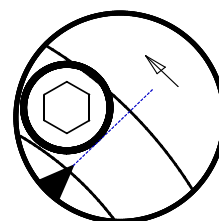
For the basic setting, ALL single spark ignitions ('normal ignitions') have 33° curves (switch_1 right top): For touring use - No 8 for sports use - No 7

If the engine pings, which can be caused by bad petrol or sidecar use, please use a shallower curve.

To tune a twin spark-ignition (Dual ignition), a high level of experience is needed. It is best to follow the instructions of the tuners. If you do decide to tune it yourself, please start by using the following settings:

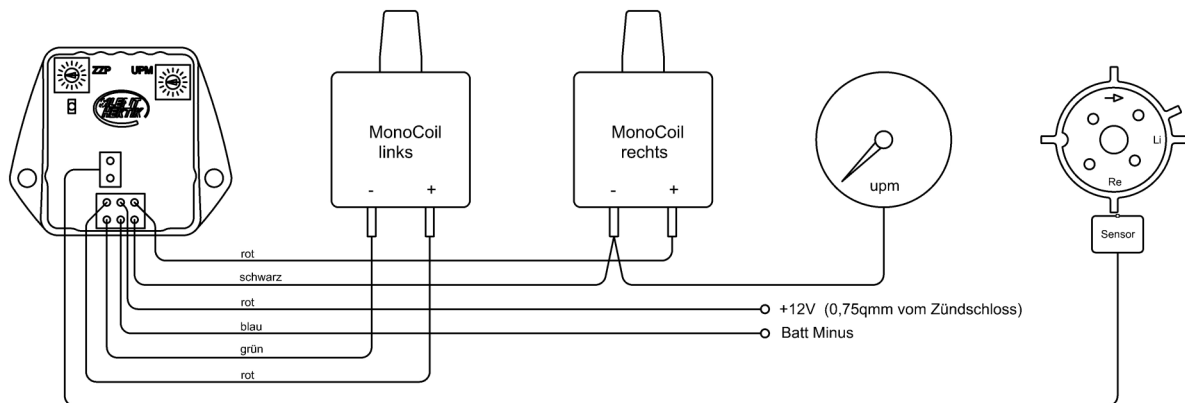
For touring use till 1:10 4°-6° - No 4, for touring use from 1:10 6°-8° - No 3, for sports use till 1:10 6°-8° - No 2, for sports use from 1:10 8°-10° - No 1

The tuning is completed when the maximum driving dynamic with the smoothest running of the engine is achieved



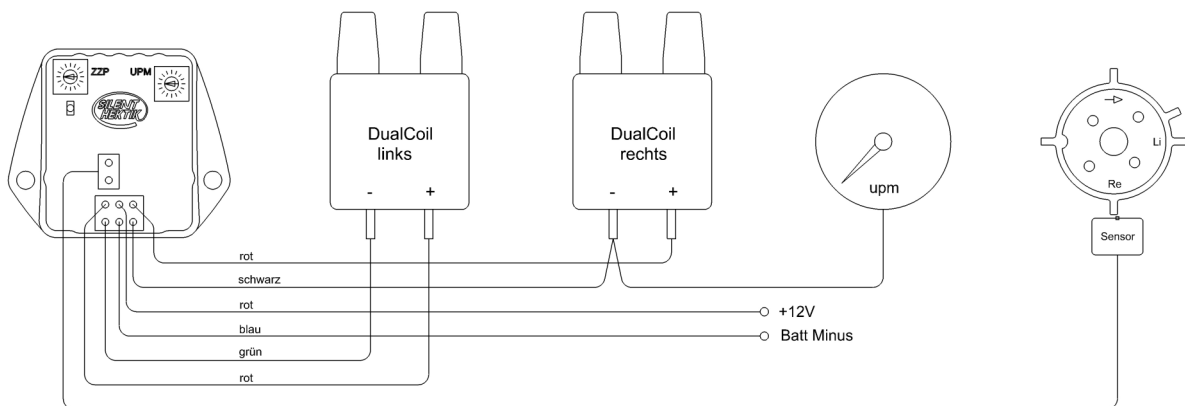
bei ca. 1200 U/min den stehenden Zylinder mit einem Stroboskop im Schauglas abbilden (bei Racing-Nocken MITTE Schraubenkopf)

Connection diagram for single-spark :

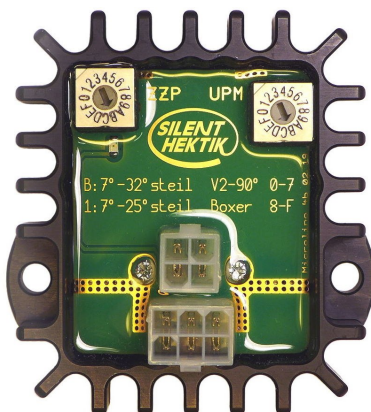


trigger-rotor rotation for both diagrams is clockwise

Connection diagram for twin-spark :



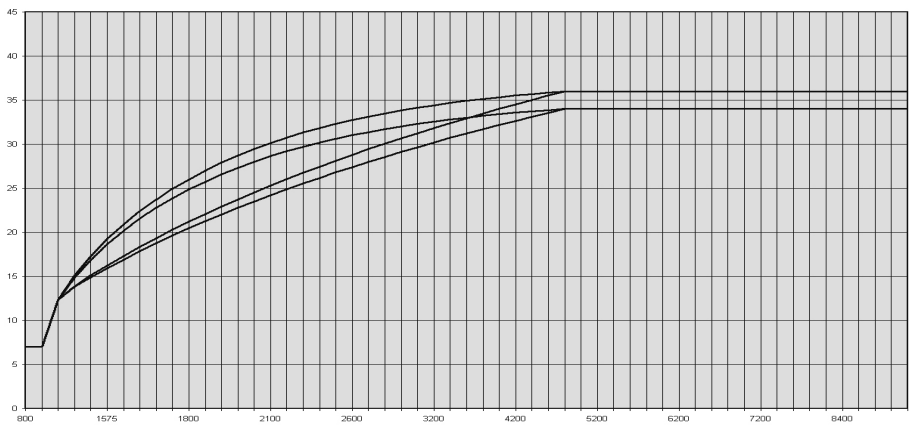
IGNITION TIMING RANGES AND BOX - DIAGNOSIS:



The left switch for the ignition timing, range 0 to 15, is inside the box. Take the appropriate timing-curve from the diagramms.

There is also a diagnosis interface in the form of a light diode:

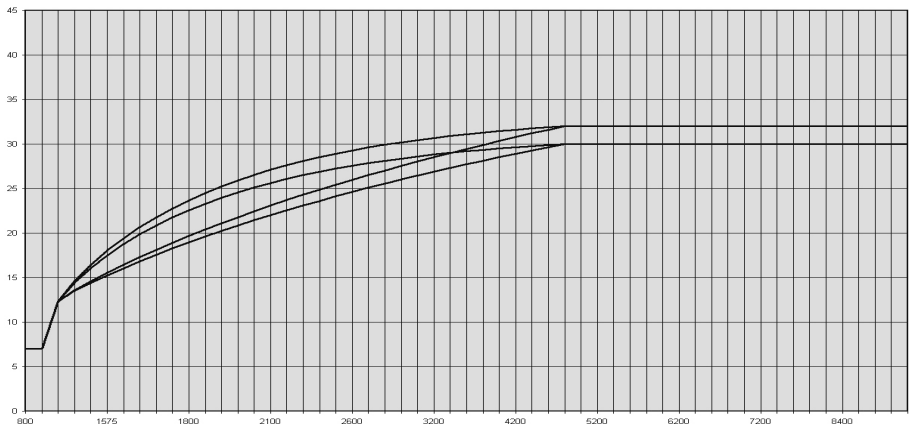
Ignition off	=	LED off
Ignition on	=	LED blinks to the switch position
Start with > 7V	=	LED blinks at half engine speed
Start with < 7V	=	LED don't lights at BTDC
Start with > 120 RPM	=	LED blinks at half engine speed
Start with < 120 RPM	=	LED blinks to switch position



7° vOT statisch

Nr.	F	36°	sharp
Nr.	E	36°	flat
Nr.	D	34°	sharp
Nr.	C	34°	flat

MonoCoil D-Well

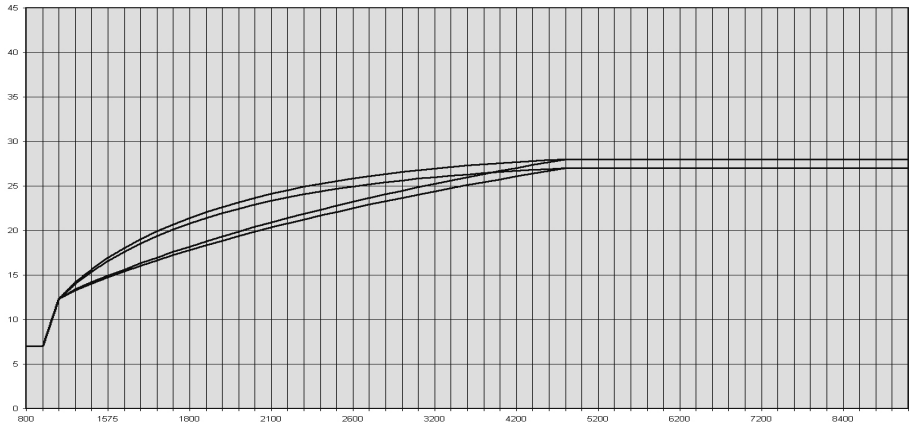


7° vOT statisch

Nr.	B	32°	sharp
Nr.	A	32°	flat
Nr.	9	30°	sharp
Nr.	8	30°	flat

MonoCoil D-Well

Factory setting = Nr. B

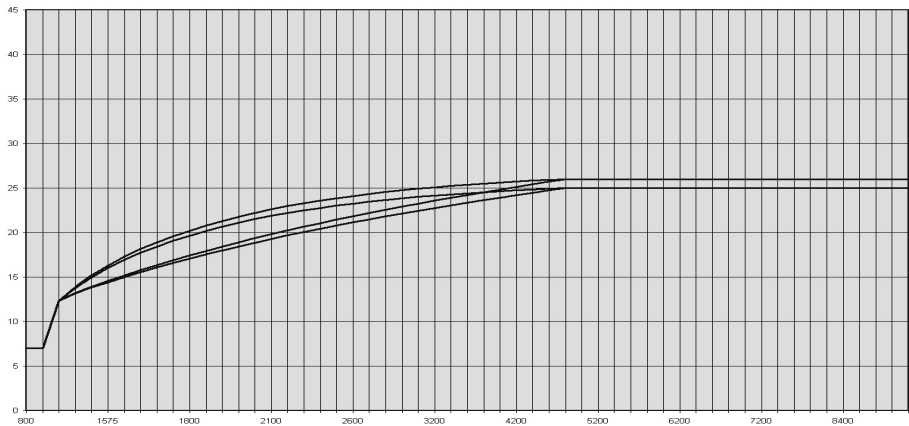


7° vOT statisch

Nr.	7	28°	sharp
Nr.	6	28°	flat
Nr.	5	27°	sharp
Nr.	4	27°	flat

DualCoil D-Well

Twinspark bei 6°-8° stat. vOT



7° vOT statisch

Nr.	3	26°	sharp
Nr.	2	26°	flat
Nr.	1	25°	sharp
Nr.	0	25°	flat

DualCoil D-Well

Twinspark bei 6°-8° stat. vOT

SILENT HEKTIK

INJEKTIONS IGNITIONS COILS SPARK-PLUGS REGULATORS TOOLS

...und die Power wird mit Dir sein !



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