

## Assembly and use of **GEMO** contactless ignition system model **D-04**.

**Dear user! Prior to the assembly must read thoroughly the instructions for use.**

**This instructions have been prepared to make the assembly of our system easy and safe.**

Electronic motorcycle ignition **GEMO D-04** is designed for the following motorcycle types:

1. JAWA 350 typ 638
2. JAWA 350 typ 639
3. JAWA 350 typ 640
4. CZ 350 typ 472 (new type with alternator)

Before commencing assembly, check that all components of the system are in the package:

1. Base with stator and pulse generator.
2. Magnet wheel.
3. Cable harness for high voltage coils.
4. High voltage coils with fastenings.
5. Control unit (a collective component consisting of a regulator, a module and a quenching device)
6. A set of assembly screws and an additional connecting block and spare connectors.

The **correct** assembly of the system guarantees its trouble-free operation and makes the ignition system and charging system completely maintenance-free.  
To ensure proper operation of the system, follow the procedure below.

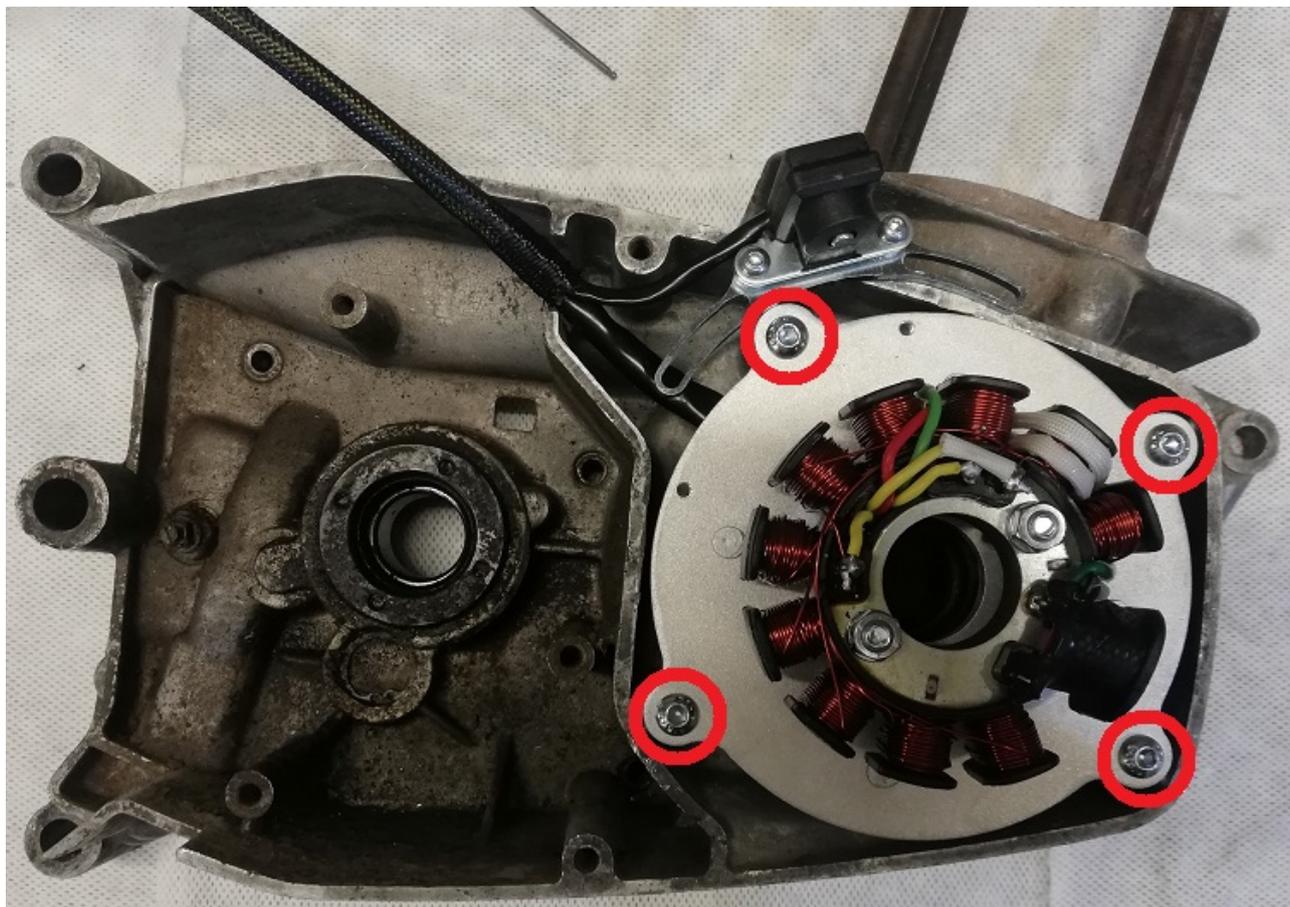
### **I. Preparation for assembly**

1. Place the motorcycle on the central stand.
2. Disconnect the battery.
3. Remove the seat from the motorcycle.
4. Remove the fuel line and the fuel tank.
5. Remove the spark plug boots from the spark plug and remove the original bottle coils
6. Remove the right engine cover.
7. Disassemble the original generator (cam, stator and rotor).
8. Disassemble the "battery-motor box" and the original voltage regulator.
9. Fit/replace bulbs (12v!)



## II. Assembly of the GEMO D-04 system

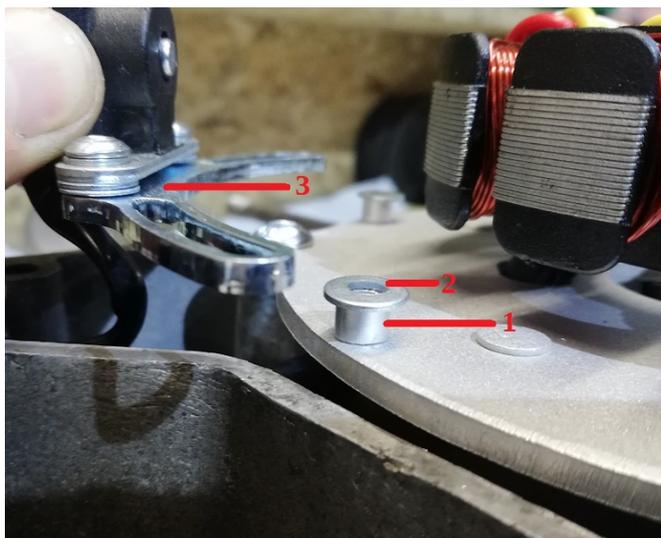
1. GEMO D-04 system designed for 638 engines is fixed in 4 points, in order to properly fix the base with stator, unscrew the pulse generator with the slider, and then screw the assembly with 4 m6x10 screws to the motor housing in places marked with red points (pulse generator pointing in the upper left corner of the engine):



ATTENTION: Be careful not to cut the wires during assembly!

2. Pass the original rubber band (gland) through the wires and place it in the place designated for it in the crankcase.

3. Unscrew the pulse generator with the slider in place, keeping the following order (see the number in the picture and the description):



**DESCRIPTION:**

- 1.Distance sleeve
- 2.Sliding pad pulse
- 3.Slider along with the generator

4.The assembly with the pre-twisted pulse generator (maximally offset from the axis of the crankshaft) should be assembled by placing a magnetic wheel with a hub.

**ATTENTION:** When installing the magnetic wheel, pay attention to the magnetic circle being indented in the hub (it must coincide with the fixing pin in the crankshaft pin!)

**ATTENTION:** Before mounting the wheel, make sure that the cone on the crankshaft peg and in the hub of the magnetic wheel is clean and does not bear signs of corrosion (any dirt / corrosion **MUST** be removed!).

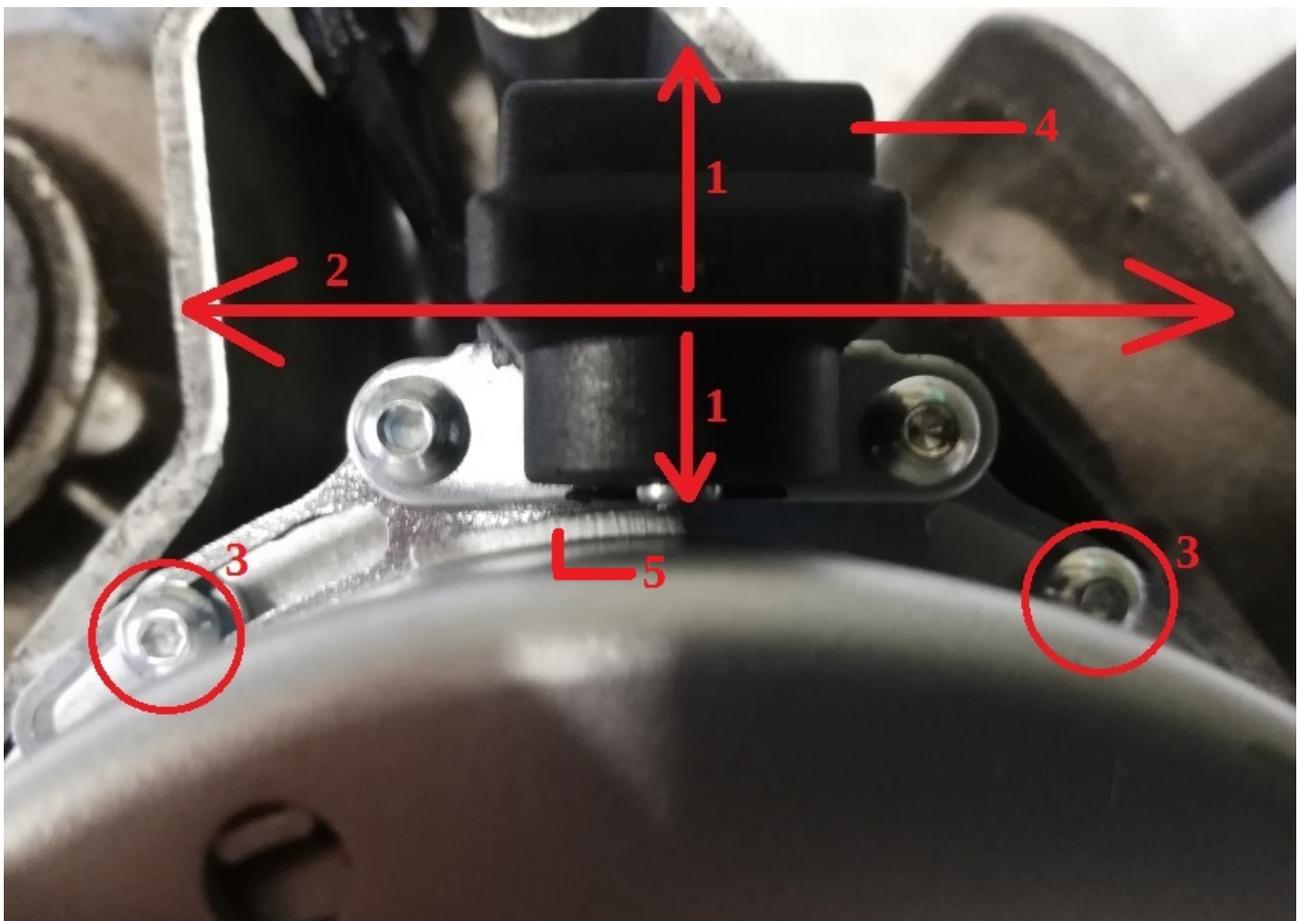
A properly assembled assembly of the GEMO D-04 system.



5. Tighten the magneto with the long M6 central screw attached to the set with a large washer and spring washer.

6. Adjust the ignition timing and the distance of the pulse generator from the marker (strip) on the magnetic wheel (see also the illustration below):

- unscrew the spark plug
- release the adjuster screws of the pulse generator so that it can be moved freely
- turning the shaft, set the desired ignition point
- set the pulse generator (moving in the direction of the barrier or in accordance with the movement of the crankshaft) so that the beginning of the marker (strip) on the magnetic wheel "goes" in the middle point of the pulse generator
- set the pulse generator (by moving the slider along with the pulse generator from/to the marker (strip) of the magnetic wheel) so that the slot is approx. 0.3mm



Key:

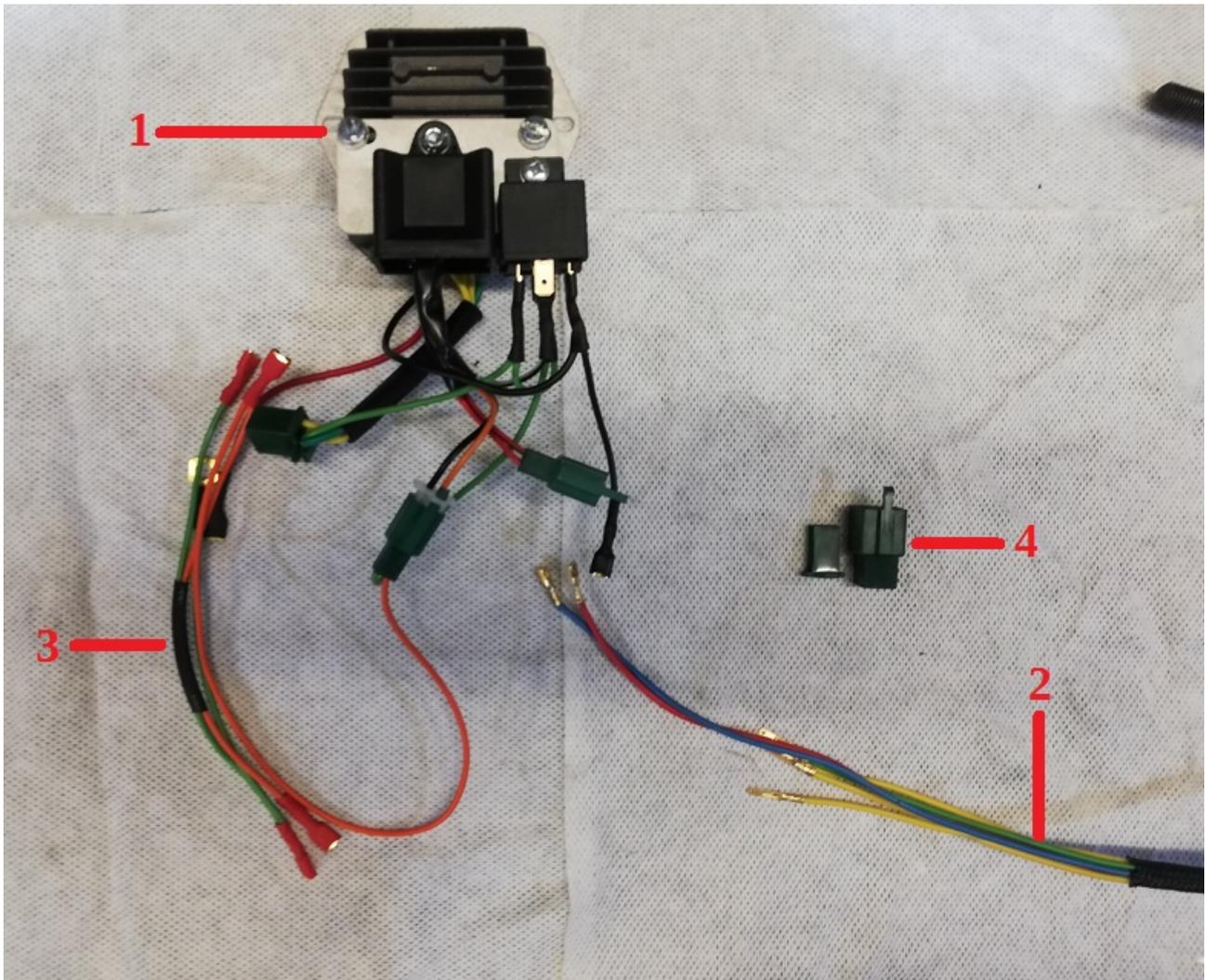
- 1- movement that allows you to adjust the distance of the pulse generator from the marker
- 2- movement allowing to adjust the ignition advance angle
- 3- pulse generator slider bolts
- 4- pulse generator
- 5- magnetic wheel marker (strip)

7. Being careful not to change the achieved setting, tighten the pulse generator slider bolts.

8. Install the right engine cover.

9. Pass the wires from the stator into the "electrical box" and mount the control center in the middle of the box

**ATTENTION! The control panel stand is dismantlable - in various configurations, it can be mounted in virtually every compartment model.**



Key:

1. Control unit.

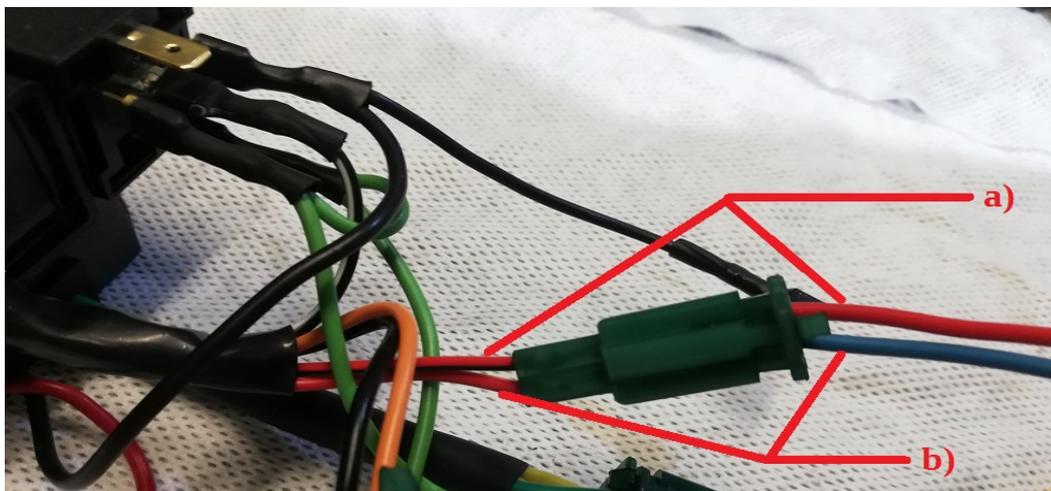
2. Cable harness from the engine (to the "electrical box")

3. Cable harness from the control unit to the high voltage coils (under the tank).

4. Connecting cubes

10. Connect the wires from the motor to the wires from the control unit (2-pin connector) to obtain the following connections:

- a) red (from the engine) + red and black from the module (part of the control unit)
- b) blue (from the engine) + red and white from the module (part of the control unit)

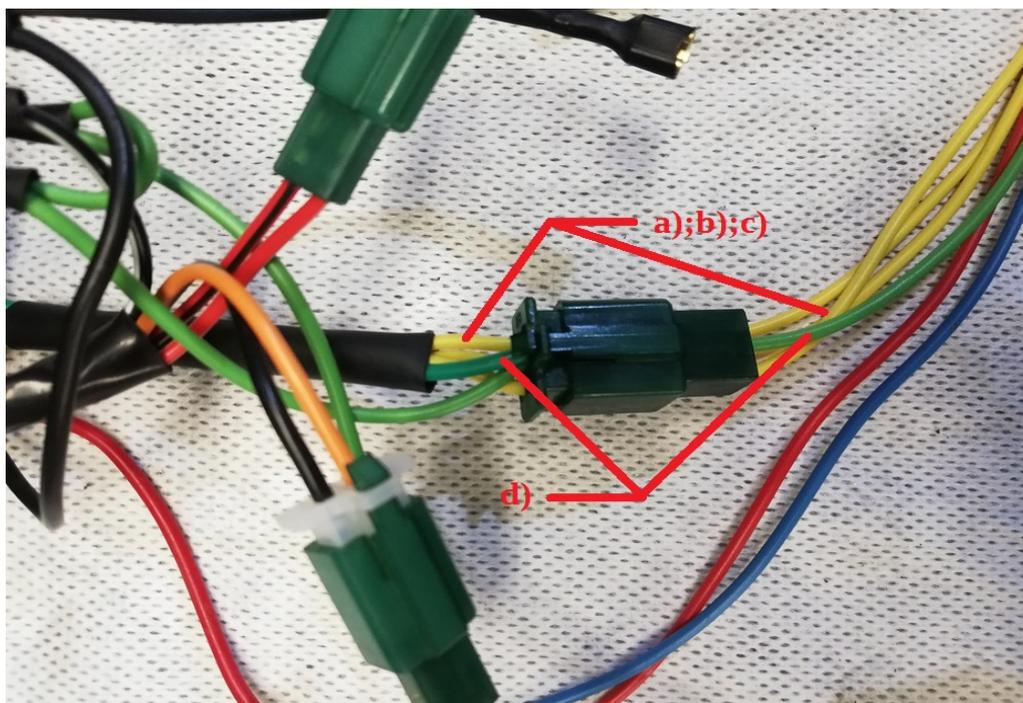


11. Connect the wires from the motor to the wires from the control unit (6-pin connector) to obtain the following connections:

- a) yellow (from the motor) + yellow from the controller (part of the control unit)
- b) yellow (from the motor) + yellow from the controller (part of the control unit)
- c) yellow (from the motor) + yellow from the controller (part of the control unit)

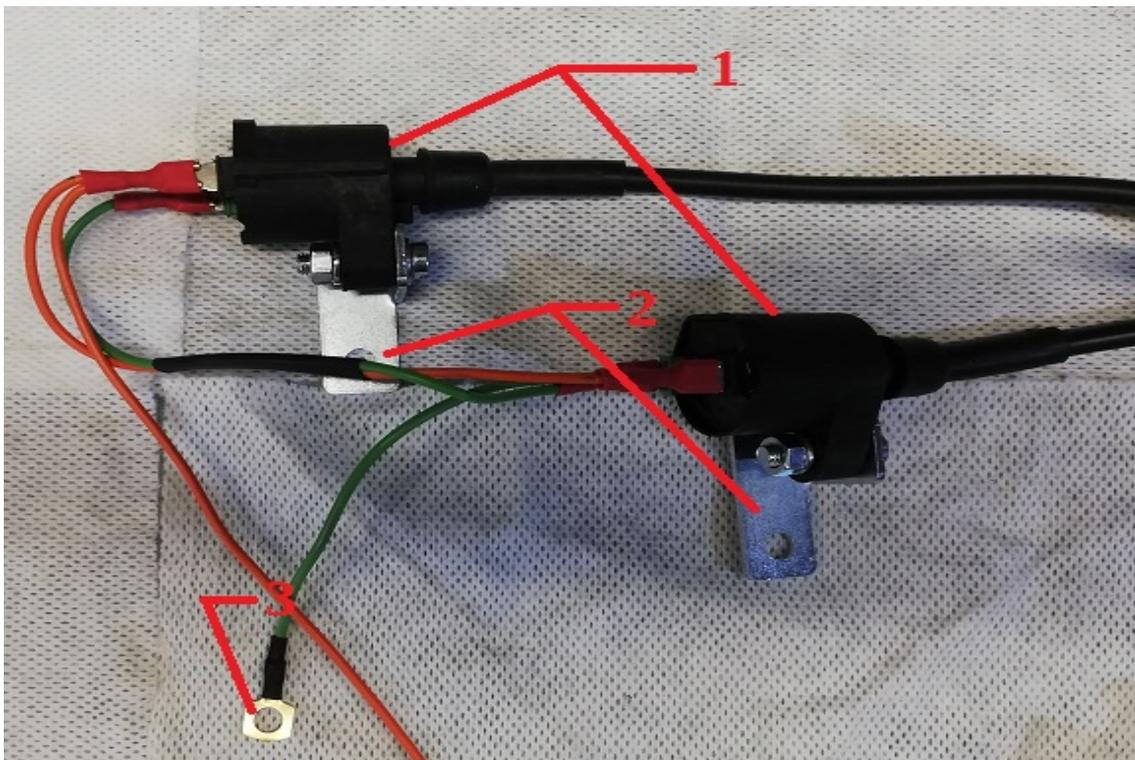
**NOTE: The order of the yellow wires is arbitrary!**

- d) Green (from the engine) + green from the controller and relay (part of the control unit)



12. Pull the wiring harness for the high voltage coils under the tank.
13. Mount the high-voltage coils in place of the original bottle coils.
14. Install a "mesh eye" under one of the fixing screws.
15. Connect high voltage coils
  - orange wire + black pin
  - green wire + green pin

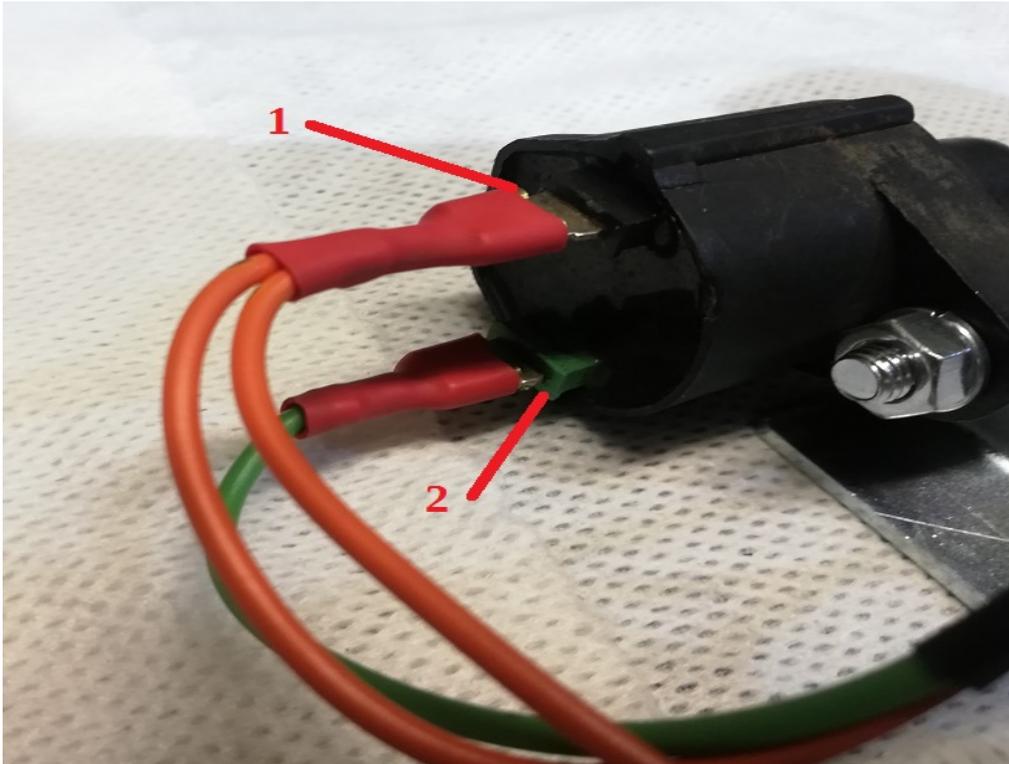
Image 1:



Key:

1. High voltage coils
2. Fastenings of high voltage coils
3. Mesh eye (for screwing under the mounts - to the frame).

Image 2:



Key:

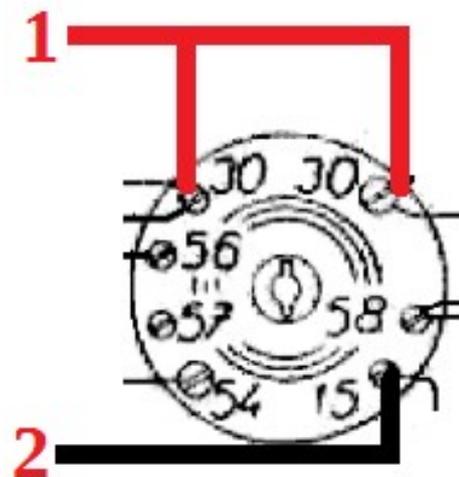
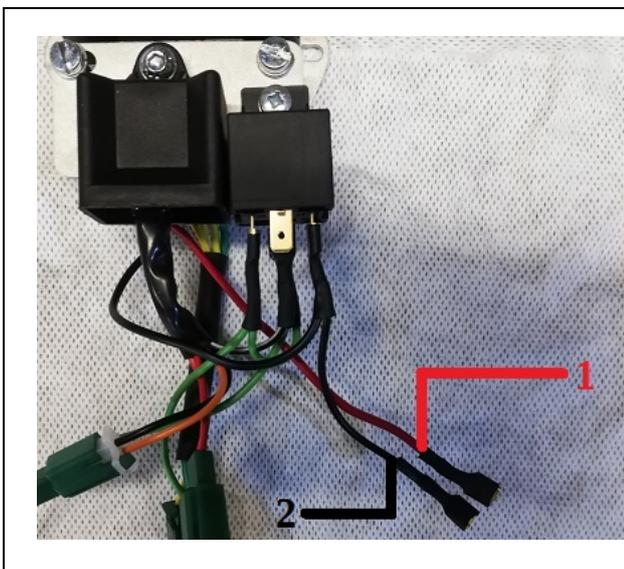
- 1. Orange + black pin
- 2. Green + green pin

**NOTE: APPLIES TO TWO HIGH VOLTAGE COILS!**

16. Attach the charging and excitation current

CONTROL UNIT:

PAL IGNITION:



Key:

- a) 1 (red wire from the controller - part of the control unit) to 1 (key switch 2x 30)
- b) 2 (black wire from the controller and relay-part of the control unit) to 2 (key switch 15)

**ATTENTION:** The red wire must also be connected to the battery!

**ATTENTION:** The installation MUST be protected by a fuse(15A)

### **ATTENTION!**

**Polarization of the electrical system:**

**( + ) positive pole of the battery - control signal**

**( - ) negative pole of the battery - girt**

**Only such polarity of the system will allow the system to work properly!**

### **GEMO D-04 system test.**

- 1.Switch on the ignition (when the ignition is switched on, the massaging relay must be activated, characteristic sound: "snap").
- 2.Connect the spark plug with the boot of the high-voltage coil and press the spark plug to the engine crankcase.
- 3.While moving the foot starter lever, check whether there is a spark on the spark plug electrodes.  
**ATTENTION! Before starting the motorcycle, set a gap on the spark plug electrodes (0.6mm).**
- 4.Close the spark plug and put on the boot.
- 5.Start the motorcycle and check the operation of all power connections and battery charging (charging voltage 12.2 min, 14,4 max).

#### **ATTENTION!**

**WHEN THE ENGINE IS STARTED FOR THE FIRST TIME, DO NOT ALLOW THE ENGINE TO REACH A HIGH SPEED. IT MAY CAUSE DAMAGE TO THE IGNITION MODULE.**

**In emergency situations, it is permissible to use the system without a battery.**

For this purpose, disconnect the black and white wire (pin 87a in the extinguishing device) and connect it in a serial way with the switch / contactor connected to the girt (-). Connecting the wire to the girt causes the spark to disappear (stop the engine).

The charging indicator in the D-04 system is available as an option (you can buy an additional electronic component).

**GEMO D-04 SYSTEM**

