

Instructions for installation of the ignitron system VAPE SZ 13 and SZ 14

Dismounting of the original ignitron system:

1. Disconnect the battery; dismount the engine right cover, seat, fuel tank and other covers to create access to original electric installation and induction coil(s).
2. Dismount the dynamo (two screws M6) and then the rotor cam and rotor itself.
3. Dismount original cabling from the dynamo stator except the neutral wire. In case the motorcycle is equipped with a separate regulator, dismount also this regulator.

INSTALLATION OF THE VAPE SYSTEM

1. Measure the arrestment pin on the journal and adapt its length acc. to Fig. 1. The crank journal cone may not be damaged mechanically or corroded. This may cause run-out of the engine and damage to the system.
2. Pass the stator cable through the hole in the stator bracket A69N-2, including its grommet. See Fig. 2.
3. Seat the stator bracket to the recess in the crankcase and fix it using two screws M6x30. **ATTENTION!** Check correct routing of the cabling before you fasten the screws to prevent squeezing of the cable by the stator bracket.
4. Put the stator onto the bracket and check routing of the cabling. Screw the stator using three screws M6x25, see Fig. 4.
ATTENTION! Check correct routing of the cabling before you fasten the screws to prevent squeezing of the cable by the stator.
5. Connect the sensor S01 (yellow wire), put the connector behind the cable harness, see Fig. 4.
6. Fix the sensor S01 using two screws M4x6. Put one white wire with cable eye under each screw, see Fig. 4. Tighten slightly the screws and slide the sensor as far from the stator as possible.
 - As for single-cylinder motorcycles 175 cm³ and double-cylinder motorcycles 250 and 350 cm³ apply the position of the sensor no. 1, Fig. 3, on holes in the bracket marked 1 (smaller ignition advance).
 - As for single-cylinder motorcycles 250 cm³ apply the position of the sensor no. 2 on holes on the bracket marked 2 (bigger ignition advance).
7. Arrange cabling around the sensor and behind the stator to prevent any tension.
8. Check cleanness of the rotor cone, inner space of the rotor around the magnets and slide carefully the rotor into the stator and to the engine crankshaft cone; the guiding pin shall fit freely into the rotor groove, see Fig. 5.
ATTENTION! The rotor is brittle and may not be exposed to any shocks, impacts and other deformation effects. When dismounting it, use only the prescribed puller. In any case do not use screwdriver or any other tool to dismount the rotor by tapping or by side puller.
9. Fix the rotor using a screw M6x30 and a washer 3mm thick.
10. Rotate the crankshaft so that the nose on the rotor perimeter is in position against the sensor as on Fig. 3 and adjust the sensor to the prescribed distance 0.4 to 0.6mm. Tighten carefully the sensor screws after adjustment.
11. Rotate the rotor by hand several times and check if it is not rubbing against the stator, sensor or other object.

12. Fix the regulator (R67 or R64) close to the battery so that the cable from the stator reaches the regulator (two black wires) and connect these wires to the regulator terminal box (black to black). Connect the white (-) and red (+) wires with cable eyes to the battery terminals and pull the other end of the cable with a plug to the place where the high-voltage coil Z67 will be installed (under the fuel tank) and connect this cable with cabling.
ATTENTION! The system has the battery negative (-) pole earthed. Incorrect connection polarity may cause destroying of the whole system.
13. Connect a separate blue wire to the coil; this wire will be used to stop run of the engine (grounded = off). Connect its end to a short-circuiter or triggering relay, see the diagram on Fig. 6.
14. Connect consumers of the motorcycle through a fuse to the (+) pole of the battery, see the original wiring diagram of the particular motorcycle.
15. Insert an ignition plug to the terminal of the high-voltage cable leading from the coil Z67, earth it by putting it onto the engine head and by turning the engine (crankshaft) check visually function of the ignition (appearance of sparks).
16. Install the ignition plug(s) into the cylinder(s).
17. Reinstall the fuel tank and other dismantled covers, check routing of cables to prevent their damage and start the engine.
18. Using a voltmeter check function of battery recharging, i.e. voltage on the battery shall be maintained at various speed within range acc. to the type of the system as follows:
SZ 13: 13.8 ÷ 14.3 V, SZ 14: 6.9 ÷ 7.2 V.

Using a double end ignition coil (Z67) on the one cylinder engine

Connect the second unused end of the ignition coil (Z67) to the ground/mass by high-voltage cable.

Wiring of the triggering relay: Connect earthing to terminal no. 30 and terminal no. 85. Connect (+) pole from terminal no. 15 in the ignition box to terminal no. 86 and connect the blue wire from the coil Z67 to terminal no. 87a. In case that a triggering relay is used, it is necessary to have a functional battery available in the motorcycle.

NOTE: In case that a 6V system is replaced by a 12V system, it is also necessary to replace all consumers on the motorcycle. It is necessary to have proper knowledge and skills for such installation works. In case of any doubts let the works done by a professional service centre.

KLIKOVÝ HRÍDEL - KUŽEL	CRANKSHAFT - CONE	PRYŽOVÁ PRŮCHODKA	RUBBER GROMMET
ARETAČNÍ KOLÍK	ARRESTMENT PIN	NOSIČ STATORU	STATOR BRACKET
VZDUCHOVÁ MEZERA	AIR GAP	PODLOŽKA A ŠROUB	WASHER AND SCREW
POLOHA SNÍMAČE	SENSOR POSITION	ROTOR	ROTOR
POLOHA PÁLENÍ	IGNITION POSITION	Obr. 1 (2, 3...)	Fig. 1 (2, 3...)
POLOHA PÁLENÍ JISKRY A VZDUCHOVÁ MEZERA	IGNITION POSITION AND AIR GAP		
KONEKTOR SNÍMAČE	SENSOR CONNECTOR		
BÍLÝ VODIČ	WHITE WIRE		
ŠROUB	SCREW		
SNÍMAČ	SENSOR		
STATOR	STATOR		
nebo	or		
modrý	blue		