

SE ignition system

For the two-valve boxer engines with contactless ignition (Hall sensors from 1981)

Safety instructions and warnings

The ignition system is not intended for use on public roads, but exclusively for motor sport purposes.

We ask for your understanding that we do not assume any warranty for any damage, including consequential damage, caused by improper and/or unprofessional handling of the ignition system.

The installation of the high-voltage ignition system may only be carried out by competent persons with special tools. We recommend having the installation and adjustment carried out by a specialist workshop!

Caution +++ High voltage +++ Danger to life!

Especially persons with heart pacemakers should not work on ignition systems!

To prevent personal injury and damage to property, it is essential to observe the following instructions when carrying out work on motorcycles:

- Read the assembly instructions thoroughly and completely.
- Before starting work, be sure to disconnect the battery
- Do not disconnect or touch ignition cables while the engine is running or the starter motor is rotating
- Only connect and disconnect the ignition system cables when the ignition is switched off.
- Always connect high-voltage cable with inserted spark plug firmly to ground (e.g. by placing it on the cylinder).
- Wash engine and vehicle only when engine is not running and ignition is switched off.
- Never use copper paste on plug connections or spark plugs.
- During electric welding work, the ignition module must be disconnected from the wiring harness.

Preliminary note

The maximum power is achieved by our performance ignition system in combination with our ignition coil. The electrical and electronic components as well as the maps have been carefully matched.

The use of unsuitable or defective ignition coils will void the warranty. In addition, damage, poor cold start, insufficient pull or misfiring can be the result.

Mounting the pickup/signal generator unit

- Remove spark plugs
- Set engine to S mark
- Disassemble original pulser unit (under front engine cover on front camshaft stub) with associated cables.
- The driver of the original pulse generator unit is still used. To do this, remove the driver from the original encoder unit by removing the retaining spring and the dowel pin (use a suitable punch for this).
- Mount the driver on the new signal transmitter unit. Before mounting the retaining spring, check that the dowel pin does not protrude into the groove of the retaining spring by sliding the driver back and forth.
- Mount the new signal generator unit instead of the original pulse generator unit with the original M5 screws so that the unit can be turned in both directions via the slotted holes. A little grease on the o-ring will make mounting easier. The driver is asymmetrical and must be in line with the recess in the camshaft.
- Route the cable of the signal generator unit so that no contact with rotating parts is possible. The cable is routed through the original rubber cable gland to the outside. Make sure that it is not squeezed.
- The two round plug sleeves of the signal transmitter unit will be connected later to the matching counterparts on the adapter harness of the control unit.

Mounting the control unit and the ignition coil

- The control unit is best mounted in a protected, shielded location, for example under the tank on the main frame tube, under the seat, or in the racing hump if necessary.
- The cable routing should be made from the control unit to the rear or below, so that it is on the side away from the splash water in the dry.
- The ignition coil is mounted in place of the original ignition coil. It is helpful if the ignition coils are in the airstream and thus cooled.
- When routing the wires, please ensure the greatest possible distance between the pick-up wires of the control unit to the ignition coils and ignition wires to avoid radio interference. We recommend a minimum distance of >10cm.
- Both the ECU and the engine case must have a very good ground connection to the battery, this concerns the ground wire between the gear case and that of the ECU itself.
- As spark plug electrode distance we recommend 0,6-0,7 mm as well as interference suppressed spark plug connectors with at least 5 kOhm resistance or resistor ignition cables.
- The performance ignition system works optimally with perfect radio interference suppression, this also applies to the alternator regulator.
- The 3-pin block connector of the adapter harness of the control unit is plugged into the matching mating connector on the harness. This was previously connected to the original ignition switch unit. The two remaining round plugs of the adapter harness are connected to the matching mating plugs of the signal generator unit.

Settings

Basic setting

- For the basic setting, the motor must be at the S mark.
- After loosening the two fastening screws of the trigger wheel of the signal generator unit, it can be turned.
- One of the two lugs of the trigger wheel must be turned so that it is centered in front of the pickup.
- Tighten the screws again.
- Now adjust the ignition at idle speed with the help of a stroboscope lamp. Again, the S mark on the flywheel must align with the mark on the engine case in the inspection hole. Adjustment is possible by loosening the two fastening screws of the signal generator unit. Now this can be turned. Attention : when the engine is running, there is a risk of injury from the rotating parts !!!.
- If this adjustment is not sufficient, the trigger wheel must be loosened (with the motor at standstill) and adjusted accordingly.
- Mount the fastening screws of the signal transmitter unit and those of the trigger wheel with medium-strength threadlocker.
- Tightening torque of trigger wheel : 4 Nm
- Tightening torque of signal transmitter unit : 6 Nm
- Since ignition and mixture formation influence each other, the carburetors may have to be readjusted.

Note for retrofitting a dual ignition

When retrofitting a dual ignition, the adapter harness of the control unit of the single ignition is replaced by the one for the dual ignition. Now the 2nd ignition coil can be connected and mounted.

- **For the ignition cables, make sure that one ignition cable from each of the ignition coils goes to the right cylinder and one to the left cylinder.**

Please proceed with care. Incorrect installation can lead to serious accidents and damage to the vehicle. Please note that we cannot accept any warranty for vehicle-specific tolerances. In individual cases, it may be necessary to adapt our product. Please have work on safety-relevant components (e.g. brakes, wheels, lines, chassis) carried out by qualified personnel only. These installation instructions have been compiled by us to the best of our knowledge. We recommend checking all unsecured bolts regularly and retightening them if necessary. Make sure that your handlebars and wheels can move freely at all times.