



Manual

Recording Compression Tester B SK

Petrol Engines 3-17.5 bar, with self-tightening tips

60915000SK





SAFETY NOTICE

**To understand the functioning of the tools,
is it necessary to read the manual in advance!**

- ▶ Read these instructions before assembling, during installation and throughout use and in the proper sequence.
- ▶ Always refer to the OEM manufacturer's instructions and service manuals for the latest data and to maintain the correct sequence.
- ▶ These work instructions and the recommended tools are meant to serve as aides only and are by no means a guarantee for certain results.
- ▶ This tool kit is a special collection and it has been tested and used successfully on several occasions. It is of the utmost importance to maintain the correct procedure as per the instructions.
- ▶ The use of the tools should only be carried out by qualified personnel!

Pictograms and their meaning:



ATTENTION

Special caution

CONTROLLABLE COMPRESSION PRESSURE TESTER FOR PETROL ENGINES

(with self-tightening tips)

60915000SK

Controllable Compression Pressure Tester SPCS 17,5 SK is a small-size and easy-to-use measuring instrument (with record function) for compression pressure measurements in internal combustion engine cylinders.

In this model of the tester thread connections were replaced by self-tightening tips what considerably facilitates and quickens taking of measurement. Design and equipment enable its application in different types of spark ignition vehicles.

A pushbutton switch for starting the starter that allows for one-person operation of the tester while taking measurement is installed in the tester holder.

Equipment:

• instrument for compression measurement with holder and wires	917 100 00
• hose with non-return valve	917 002 00
• 160 mm – M14 x 1,25 rigid tip	917 010 00
• Measuring reduction M18 x 1,5	917 011 00
• Logging diagrams 100 pcs in set	917 105 00
• Package – wooden case	917 300 00
• 90° angle joints	917 014 90

Additional equipment:

• M10x1 (130 mm) contact tip	917 030 80
• M12x1,25 (130 mm) contact tip	917 031 80
• 135° angle joint	917 014 45
• 260 mm rigid extension	917 012 00
• set of conic rubbers 5 pcs	916 020 00



Technical specifications

Compression pressure measuring range	3 – 17,5 kg/cm ²
what corresponds to	2,94 – 17,17 Bar
Diagram scale interval	0,5 kg/ cm ²
Scale length	40 mm
Diagram dimensions	47 mm x 46 mm
Inkless diagram – recording with scribe	
Number of records on one diagram	8
Pressure hose	300 mm
M14x1,25 contact tip	160 mm
M18x1,5 measuring reduction	

Instructions for use of the tester

Each diagram is provided for 8 independent records. Pushing the steelyard on the rear panel of the instrument, the tape with a diagram is pushed into another position.

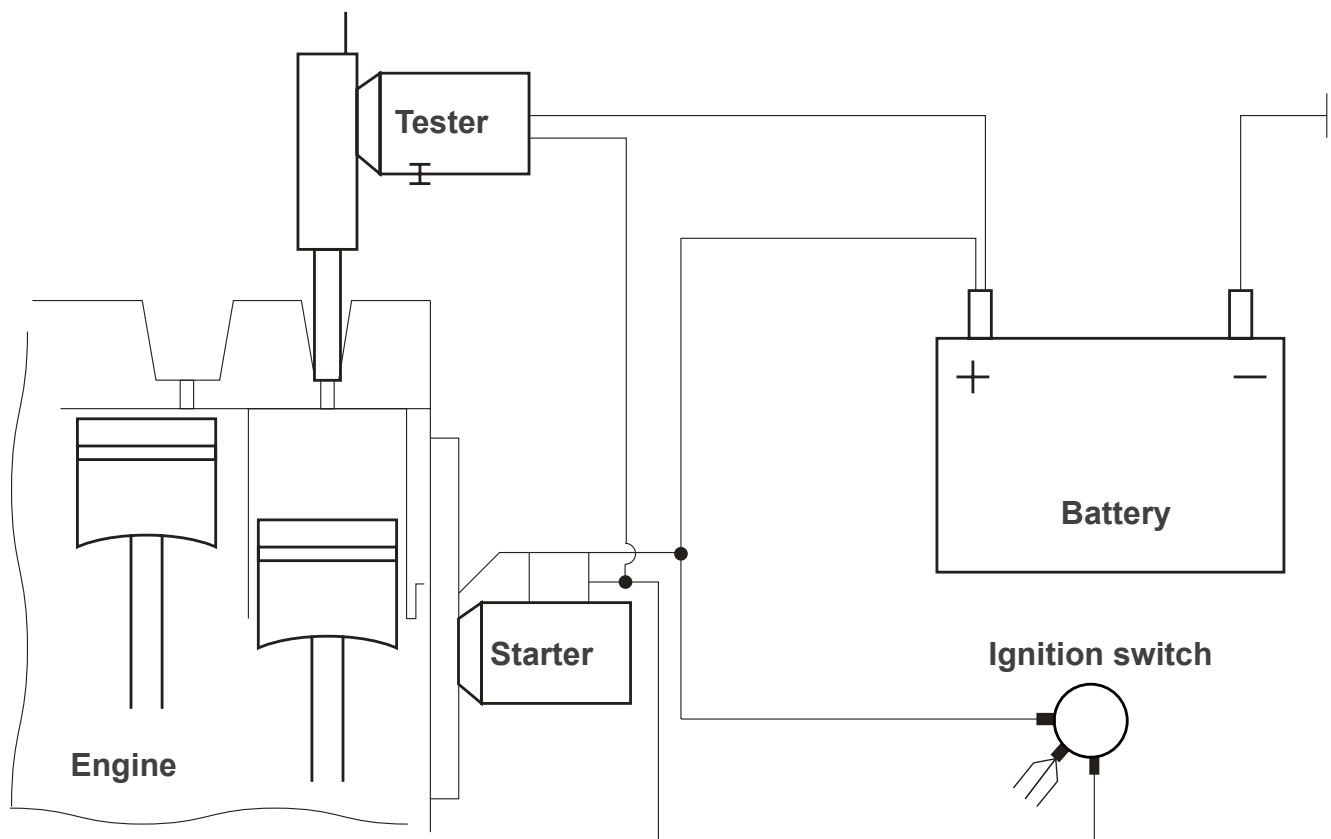
Before starting measurements, place a new sheet with a diagram.

Compression pressure measurement is carried out through the ignition plug hole.

Measurements should be taken with engine temperature of approx. 80°C as follows:

1. Unscrew all plugs from the engine
2. Start the engine with a starter for a few seconds to remove residues of fuel and other impurities from a compression chamber.
3. Prepare the tester for measurement – put clean diagrams, deaerate the tester – press a pushbutton of the deaeration valve (on the instrument's "square"), check initial setting of the pointer.
4. Connect the socket to the vehicle electrical system as shown on the diagram, as follows:
 - connect ends of both cables equipped with plugs to clamps on the holder,
 - connect the other ends of cables – one to an appropriate battery pole (the one, which is not connected to the vehicle frame) and the other to the starter in the place of a connection of the cable, which is connected to the ignition switch.
5. Screw in a rigid tip into the plug hole and connect to the tester.
6. Start the starter (with switch on the holder) with full throttle (acceleration pedal floored) until the pointer swings to the extreme (full scale deflection).
7. Deaerate the tester – the pointer must return to the point of departure.
8. Push the diagram tape onto another position – the tester is prepared for another measurement.

Electrical diagram





ASSESSMENT OF MEASUREMENT RESULTS

1. Measurement values in accordance with nominal values

If pressure measurement does not show any deviations from nominal values and deviations for consecutive cylinders, and when increment of pressure observed on the tester during the measurement is the highest and all others cause gradual increase of pressure to a maximal value, it means that a condition of sealing parts (piston rings, valves) is good. If, however, it is noticed that during measurement, pressure is constantly and slowly increasing, it can be presumed that engine valves have been worn out to certain extent.

2. Final, underrated pressure values

The pressure value lower than the nominal value on all cylinders signifies wear-and-tear of sealing parts (pistons, piston rings or valves). If underrated values have been obtained only on two adjacent valves, it can be presumed that sealing under the head between those cylinders had been damaged.

If we want to identify the type of damage for the cylinder on which higher decrease of pressure has been noticed – pour some diesel oil (approx. 12 ml) into the cylinder through the injector hole and start the engine and take the measurement again. If identical results are obtained in both measurements – valves are damaged, if the result has substantially risen in the second measurement – there is leakage on piston rings, whereas negligible increase of results in the second measurement indicates leakage of valves and rings.

In currently used petrol engines, compression pressure differentiates within the range 6 to 14 kg/cm². While evaluating measurement results, it is more important that maximal values for all cylinders are the same than being equal to nominal values.



NOTE

If self-acting falling of a pointer to a departure position is noticed during measurement, one should:

- check leaktightness of connections
- unscrew a release valve – wash it in extraction naphtha and blow it through with compressed air – probably it is dirty
- unscrew a non-release valve holder - wash valve elements with extraction naphtha, blow it through with compressed air and screw in again (mind a valve head and a spring)



ATTENTION

All repairs and adjustments are impermissible – result in void of warranty.

To check or repair the instrument, it should be dispatched to the manufacturer, and particularly an instrument with a hose.

List of functional materials spare parts

1. logging diagram 100 pcs	917 105 00
2. non-return valve (set)	917 050 00



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