

CALIBRATION MANUAL FOR MECHANICAL CALIBRATION

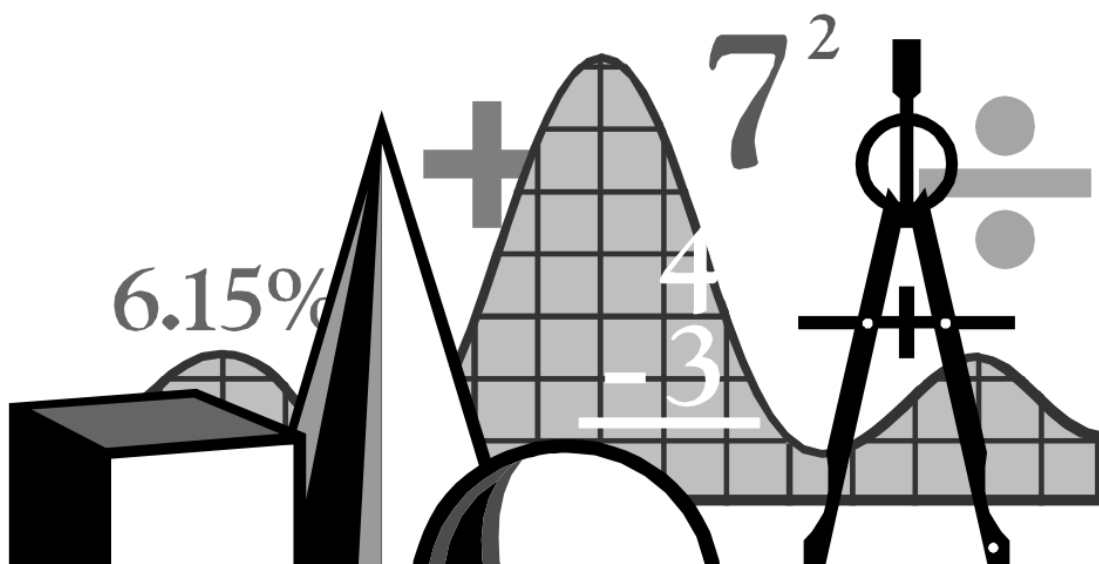


Plate Brake Tester: PBT - 24 - 4757

Despite careful checking, errors in this publication cannot be completely excluded.

This manual was written for users with technical knowledge in vehicle testing.

Assembly Instruction: PBT-24-4757

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English

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1. Calibration

The plate brake tester has several different sensors. These sensors provide an intelligent, low power digital signal. Each digital signal transmits its physical value to the PC program.

The aim of the calibration is the permanent adjustment of the sensors. These settings are stored permanently in the sensor electronics and are provided automatically at startup and at the test procedure.

Changing the settings is only possible in the calibration routine.

The calibration is required and is used to check and set the digital sensors. The sensor is being loaded with a mechanical load. The corresponding value is displayed in the calibration program and can be edited if necessary.

To access the calibration routine is the necessary to have the right calibration tools.

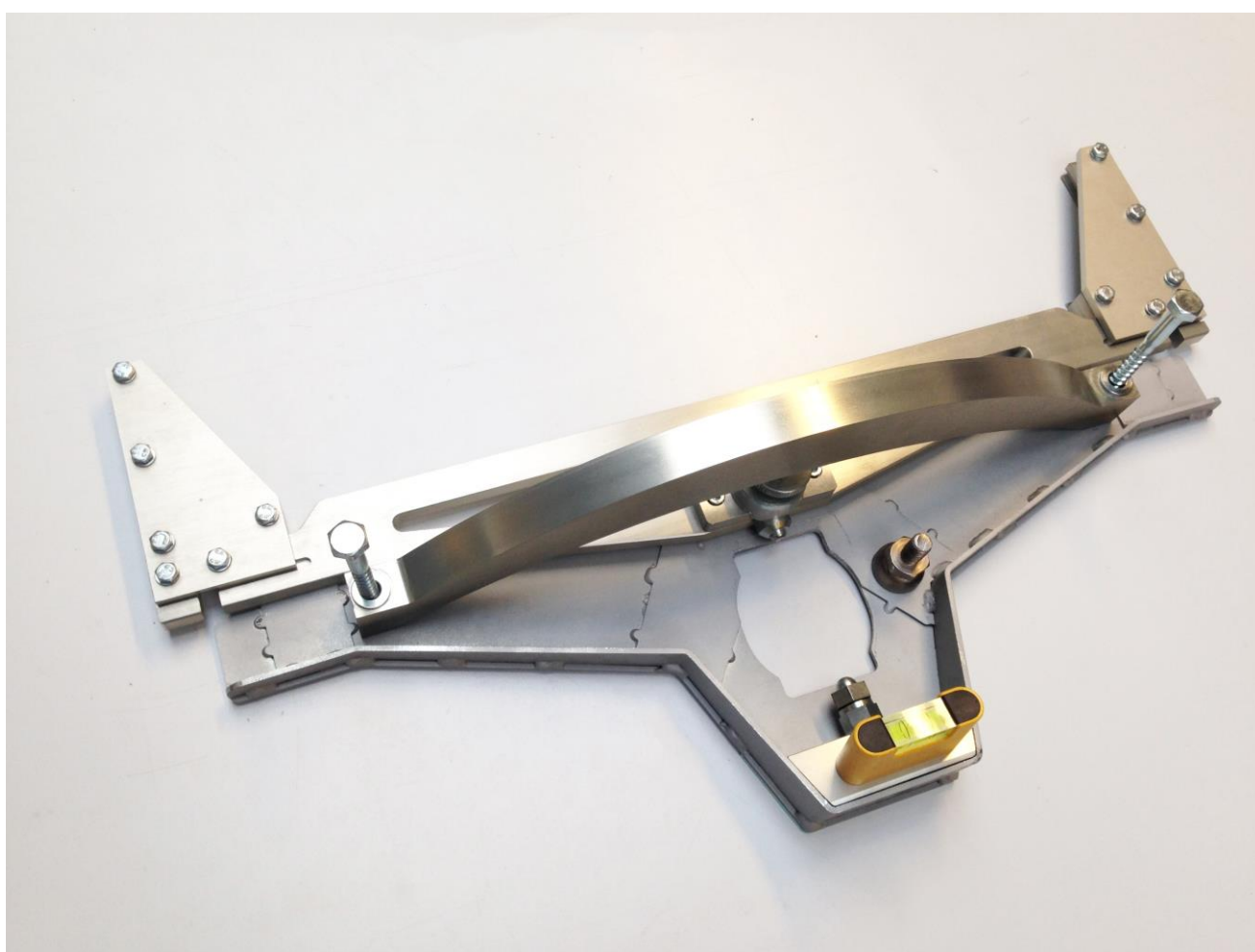
The input and modification of data and values must only be performed by an authorized service partner.

All sensors come factory pre-calibrated.

2. Mechanical Calibration Brake-Sensor

Required Mechanical tools for mechanical calibration:

Calibration tool: 4CS120-01350

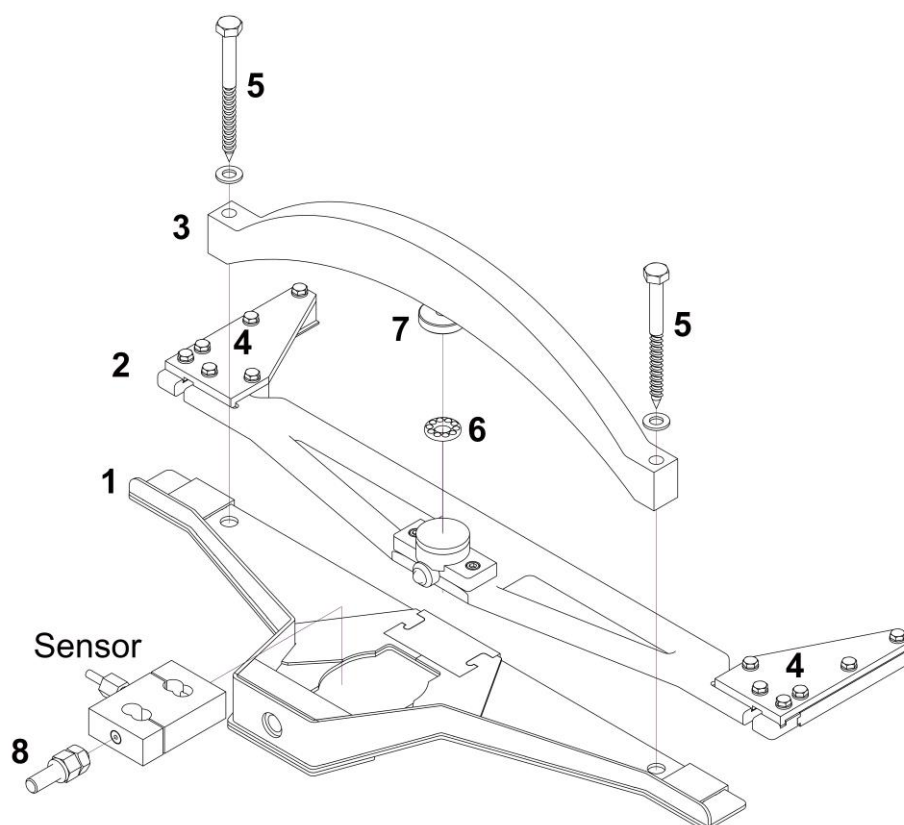


S-Force Sensor with Hand Terminal:
2x 19mm wrench tool

4CS100-00010-0010



Schematic for calibration tool installation:



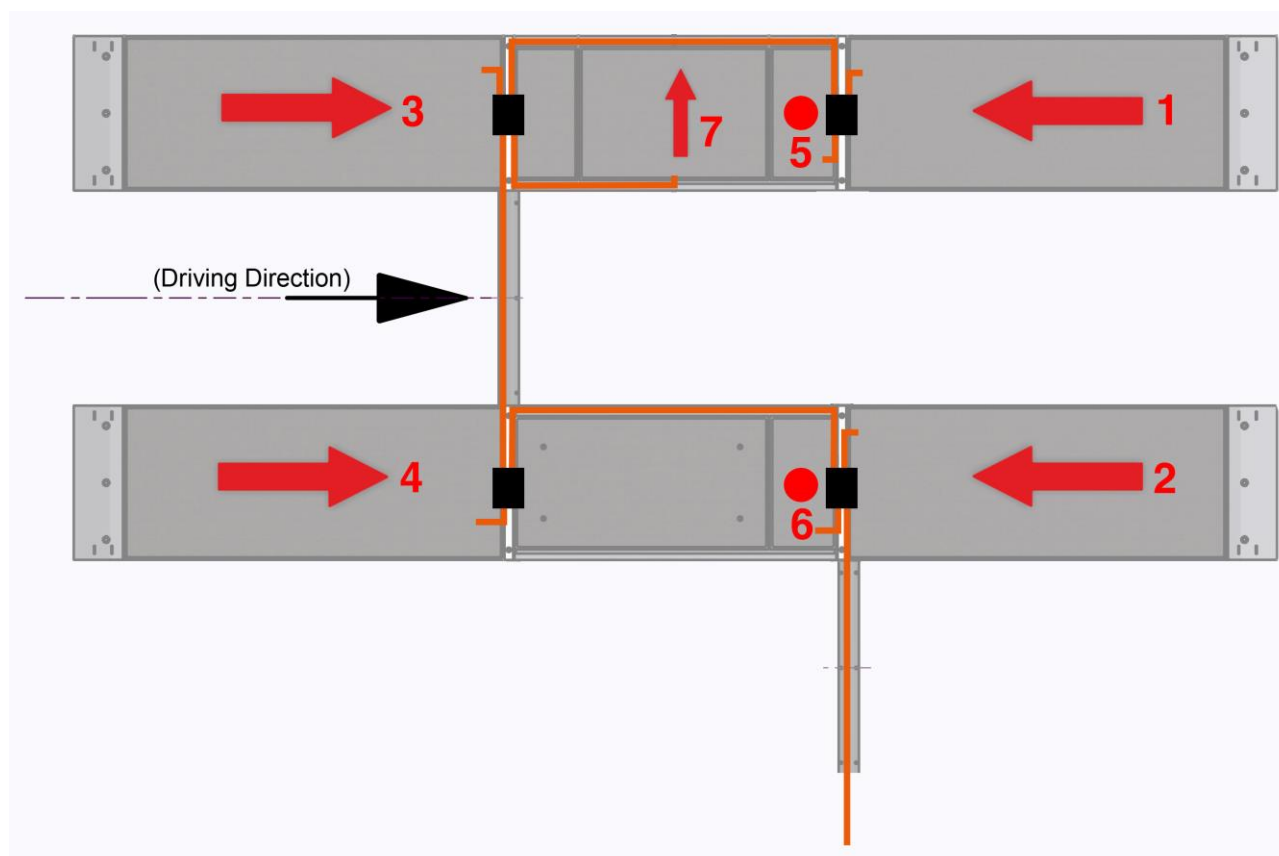
First Step:

- Make sure the PBT is in working condition
- Make sure the normal PBT-software is closed
- Plug in the dongle with the connected PBT (black marked input) to your usb port
- Open the calibration software

The calibration software should find the right com port automatically and you should be able to see the sensors – the circle should turn green and show CX (X for amount of sensors)
(7 Sensors without remote and without radar speed sensor)

Turn off pedal force sensor/remote!!

For calibration you have to teach the plate brake tester in a different orientation.



Attaching the calibration tool:

- Calibration tool must be attached to the sensor side of the brake plates
- First set Part 1 (bottom panel) of the calibration tool in front of the brake plate and let it click into it
- Part 2 (panel mount) must be secured with the M6 (4) screws on the top of the brake plate
- Part 3 (bracket) must be anchored into the ground with the 2 provided screws (5)
- Lay ball bearing (6) between part 1 and part 3 and press firmly with knurled screw (7)
- Control with the water level if the calibration tool is in horizontal and longitudinal level in driving direction, adjust if necessary with knurled screw
- Insert adjustment screw (8) in part 1 and turn the nut all the way backwards
- Both screw slots must be screwed into the S-Force sensor
- Switch the terminal on and if necessary reset to zero
- Make sure no wires are pinched
- Place the S-Force sensor as shown in figure above and fix it in place with the adjustment screw
- Terminal must display zero value
- Adjust with two 19mm wrenches the applied force on the S-Force sensor
- With one wrench you keep the nut in place, with the second you turn the adjustment screw
- The force will be applied through the S-Force sensor, over the top plate through the brake sensor

Calibration Procedure:

Sensor 1: Brake plate front left

Sensor 2: Brake plate front right

Sensor 3: Brake plate rear left

Sensor 4: Brake plate rear right

Sensor 5: Left scale

Sensor 6: Right scale

Sensor 7: Slip

Sensor 8: Remote (/w Pedalforce)

Sensor 9: Speed

- Select the sensor you want to calibrate (e.g. sensor 1 – brake front left)
- Set the setpoint to 5000
- If the sensor is not showing zero press the Button “SetZero_point” – should show Zero afterwards
- Attach calibration tool with reference sensor and display – Turn it on and put on the load of 5000N on the brake plate. (a car should be placed on the brake plates while calibrating)
- Hold the calibration tool load as stable as you can and compare to the value shown in the calibration software.
- If the sensor is off by more than 2% FSK you have to recalibrate the sensor, if not you can stop at this point.
- Hold the calibration tool load at 5000N and then press the Button “SetSetpoint”.
- Now the sensor in the PBT sets itself to 5000N – The sensor of the calibration tool and the sensor value in the calibration software should now show the same values (both 5000).

You can now proceed with the three other brake sensors. Do not forget to select (click) the right sensor in the calibration software.

3. Mechanical Calibration Wheel Alignment - Sensor

For the slip sensor you have to choose the sensor no. 7 and deflect the slip plate to the positive side. The “Setpoint” for slip is **2000**!! Press the Button “SetSetpoint” to calibrate the sensor when the slip plate is fully deflected to the positive side

4. Finishing the calibration procedure

After the calibration you have to teach the plate brake tester in normal orientation.

