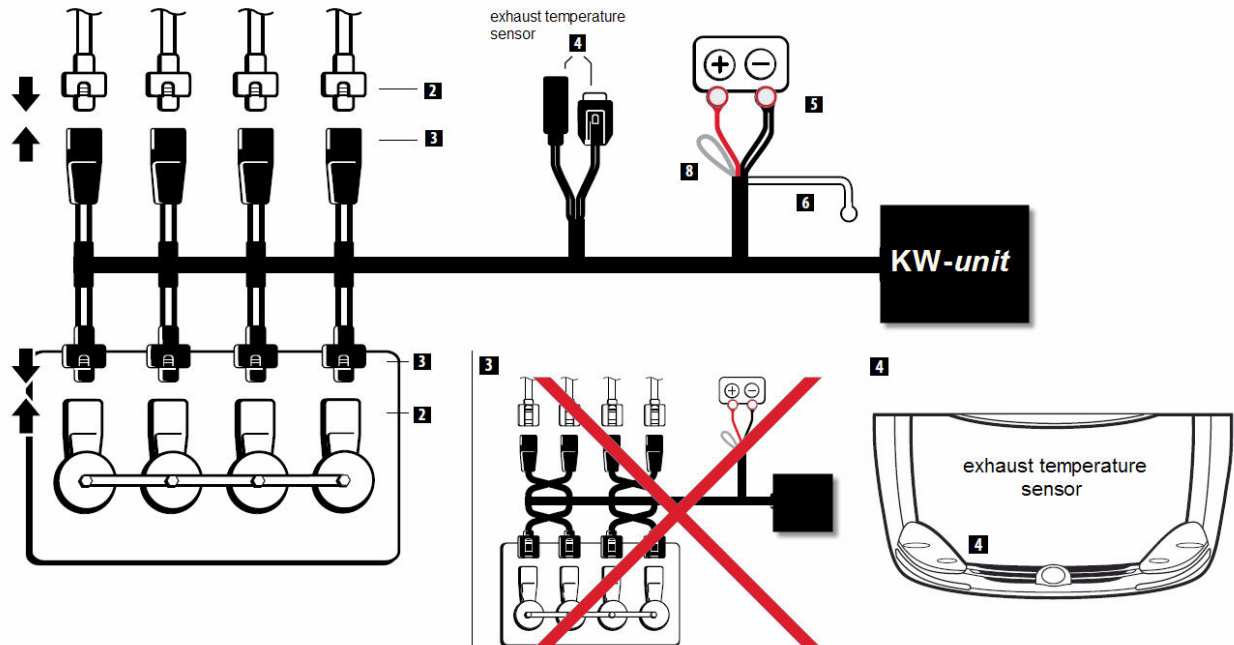


## Instruction manual

VW Amorok 20 BiTDI Piezo  
and other cars with the same engine



Please open the hood of the car.

Remove the engine cover. Then you can see the 4 injector plugs. Loosen the plugs and attach the fitting plugs of the **KW-unit**.

Put the original plugs on the plug clutch of the **KW-unit**.

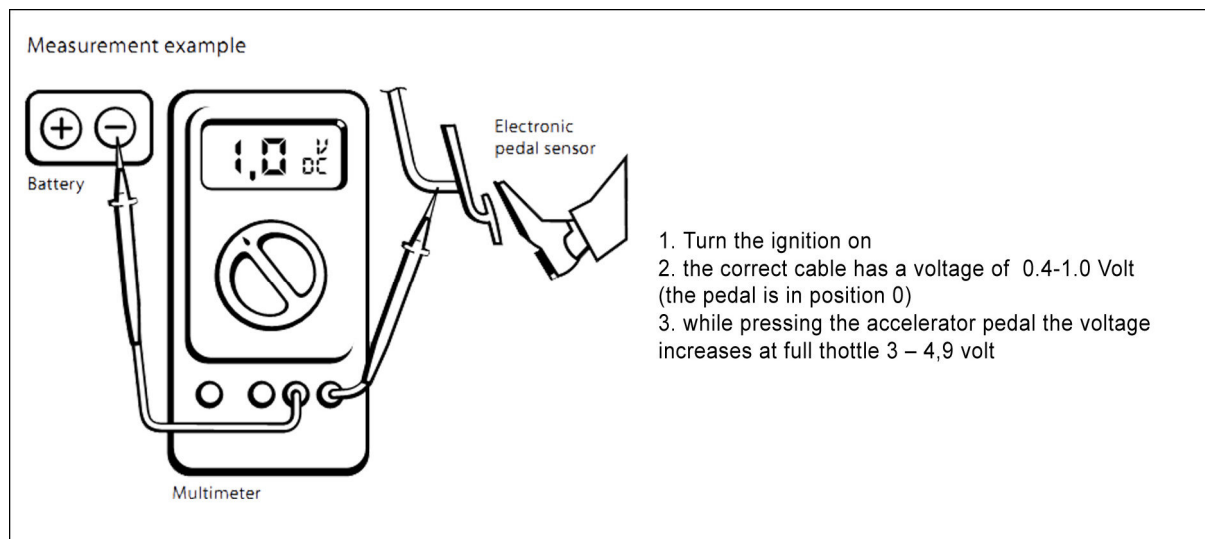
Disconnect the plug connection at the exhaust temperature sensor, it is situated before the turbocharger. Plug in the connectors of the **KW-unit** wiring loom.

Shift now the cable of the **KW-unit** in such a way that the cover of the engine can be installed correctly. Secure all the cables with cable straps.

Connect the black and the red single cable of the **KW-unit** to the battery of the car. The black one to the vehicle mass and the red one with battery plus (12V). Solder the reference signal wire (white wire of the **KW-unit**) on the reference signal. (see "Connection for reference signal")

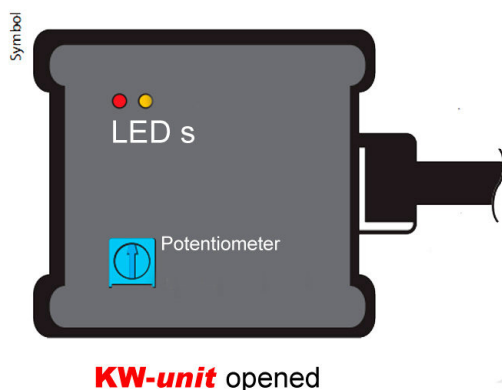
## Connection for reference signal

The white cable has to be connected to the accelerator pedal of the car. There are some cables with different colors. We can't give you the exact information which color is the right one, because those are changing within the production of your model. Therefore it's necessary to have a circuit tester to get the correct voltage. This voltage gives the KW-unit the information to calculate the suitable fuel quantity.



## Control of function

LED: = ON = flashing = OFF



### 1 Ignition on (do not start engine)

- rt - power supply correct
- rt - power supply not correct or electronic defect
- ge - LED flashes slowly on idle setting of electronic pedal sensor (0,5 – 1 V)
- flashing frequency raises on full loading setting (3 V-4,9 V)
- ge - Reference signal connected incorrect (> 5 V)
- ge - Reference signal connected incorrect (< 0,5 V)

### 2 Start engine

- rt - the flashing frequency raises according to engine speed
- rt - check wiring loom; if installed correct, electronic defect
- rt - electronic defect
- ge - Switch closed position (off) = original power
- ge - Switch open position (on) = power enhancement

Start the engine and make a road test.

### **Fine adjustment of the KW-unit:**

Due to original tolerances of manufacturing the preset characteristic map of the **KW-unit** may offer too much or too less power enhancement.

An increased characteristic map causes more soot creation, engine misfires, bumpy idle running (variations of revolution speed), "bucking", stop or emergency mode of engine (several less power) or flashing of defect control lights.

You can remedy the problems by fine adjustment of the **KW-unit** with the potentiometer (some of the electronics has DIL – switches instead of the potentiometer). The adjustment does not adversely effect the power enhancement.

The adjustment is described on the following figure.

Fasten the **KW-unit** in the engine compartment.

Secure the **KW-unit** against rattling and scrubbing. Install again all linings and covers.  
**Protect the KW-unit against wetness!**

If you have questions, please contact us:

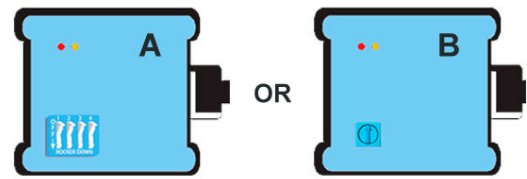
0049 (0)2404/677666

We wish you much fun with the first test run!

## Adjustment of the **KW-unit**

**Please open the KW-unit box.**

Now you see either a row of DIL- switches or a potentiometer.



### A: DIL-switches

An adjustment of the performance is given by the DIL- switches you will find after opening the **KW-unit**.

Normally the DIL-switches are protected by a silicon coverage.

The switches are in the standard position of 100%.

The silicon protection you can remove. **100% is our testet enhancement of power.** Here is the description you can use to get another characteristic adjustment.



| N° 1 | N° 2 | N° 3 | N° 4 |             |
|------|------|------|------|-------------|
| 0    | 0    | 0    | 0    | <b>100%</b> |

### Stronger

Set **DIL 4 "off"**. Raise the characteristic map with DIL1 and DIL2. (Switch setting as on the chart) by 10%.

Have a test-drive. Repeat this procedure until all problems are solved.

| N° 1 | N° 2 | N° 3 | N° 4 |              |
|------|------|------|------|--------------|
| 1    | 1    | 0    | 0    | <b>130 %</b> |
| 0    | 1    | 0    | 0    | <b>120 %</b> |
| 1    | 0    | 0    | 0    | <b>110 %</b> |

### Reduction

Set **DIL 4 "on"**. Reduce the characteristic map with DIL1 and DIL2 (Switch setting as on the chart) by 10%.

Have a test-drive. Repeat the procedure until all problems are solved.

| N° 1 | N° 2 | N° 3 | N° 4 |              |
|------|------|------|------|--------------|
| 0    | 0    | 0    | 0    | <b>100 %</b> |
| 1    | 0    | 0    | 1    | <b>90 %</b>  |
| 0    | 1    | 0    | 1    | <b>80 %</b>  |
| 1    | 1    | 0    | 1    | <b>70 %</b>  |

### B: Potentiometer

#### Normal characteristic

The fine adjustment can be done with the potentiometer.

The figure shows the standard adjustment of the potentiometer made at production, normal characteristic map = 100%.

**Normal characteristic map = Original Power enhancement + 20%!**

#### Stronger

Turn the potentiometer to the right in small steps (clockwise)

Have a test-drive. Repeat the procedure until all problems are solved

#### Reduction

Turn the potentiometer to the left in small steps (anti-clockwise)

Have a test-drive.

Repeat the procedure until all problems are solved.

