

## Instruction manual

### BMW 135i, 335i, 535i singleturbo >= 04 / 2010

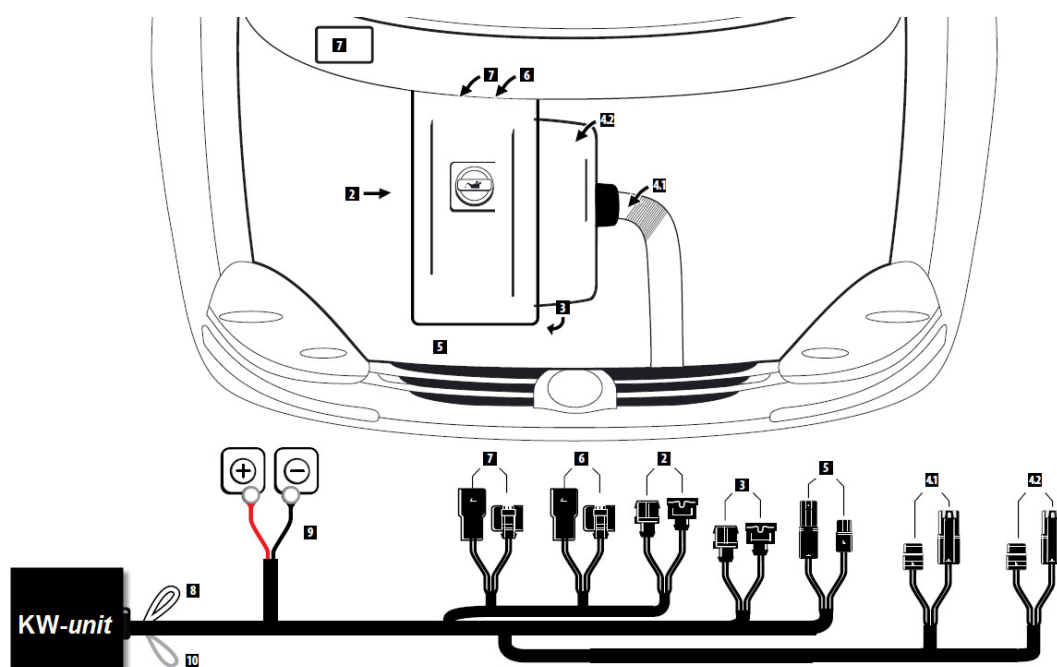
#### And others with the same engine

The **KW-unit** modifies the boost pressure and injection quantity by fine tuning the firing point and duration of the injectors. This is achieved by blue printing and interpreting original electronic signals. These signals are recorded and recalculated to optimize boost pressure, ignition timing, injection characteristics and the control of actuators to optimise performance.


To prevent the engine from damage the power enhancement starts from a certain engine temperature which is saved in the characteristic. Furthermore the power enhancement is reduced or deactivated at the culmination of excessively high engine temperatures.

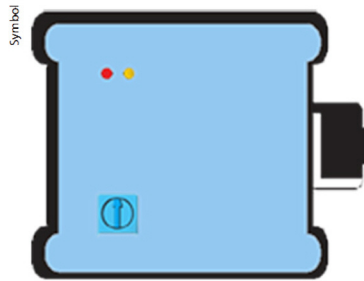
#### Installation:

1. Remove the engine cover and the air filter too.
2. Disconnect the plug connection at the turbo control valve which is situated between the engine and the right suspension strut.
3. Disconnect the plug connection at the coolant temperature sensor, which is situated in central ahead.
- 4.1 Disconnect the plug connection at the boost pressure sensors 1, which is situated in front of the reducing damper.
- 4.2 Disconnect the plug connection at the boost pressure sensors 2, which is situated after the reducing damper
5. Disconnect the plug connection at the camshaft sensor.
6. Disconnect the plug connection at the air mass sensor.
7. Disconnect the plug connection at the rail pressure sensor.
8. Plug in the connectors of the **KW-unit** wiring loom.
9. Please do not connect the white reference wire. This wire is not required.
10. Connect the red wire to +12V (on the suspension-strut dome, remove cover) and the black wire on chassis ground.
11. Switch wire. It is to turn on/off the additional horse power by the remote control. This RC-unit is an extra part you can order.
12. Refit the engine cover.








### Control of function

LED:  = ON  = flashing  = OFF








**KW-unit** opened

#### 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 (> 5V)
- ge  - Reference signal connected incorrect (< 0,5V)

#### 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

### Fine adjustment of the KW-unit additional electronic

Due to original tolerances of manufacturing the preset characteristic map of the **KW-unit** additional electronic may offers too much or too less power enhancement. An inflated characteristic map causes engine misfires, bumpy idle running (variations of revolution speed), “bucking”, stop or emergency mode of engine (severe less power) or flashing of defect control lights. You can remedy these defects by fine adjustment of the **KW-unit** additional electronic with the potentiometer. The adjustment of the potentiometer does not adversely effect the power enhancement.

#### 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%.

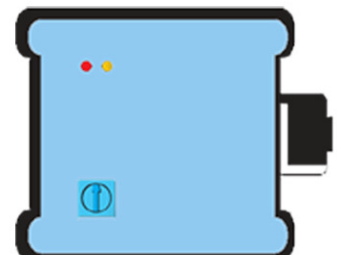
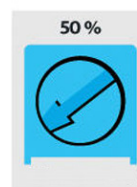
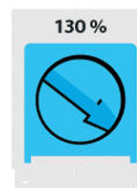
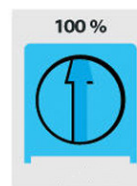
**Normal characteristic map = Original Power enhancement + 20%!**

#### 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.



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. 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:

We wish you much fun with the first test run!