

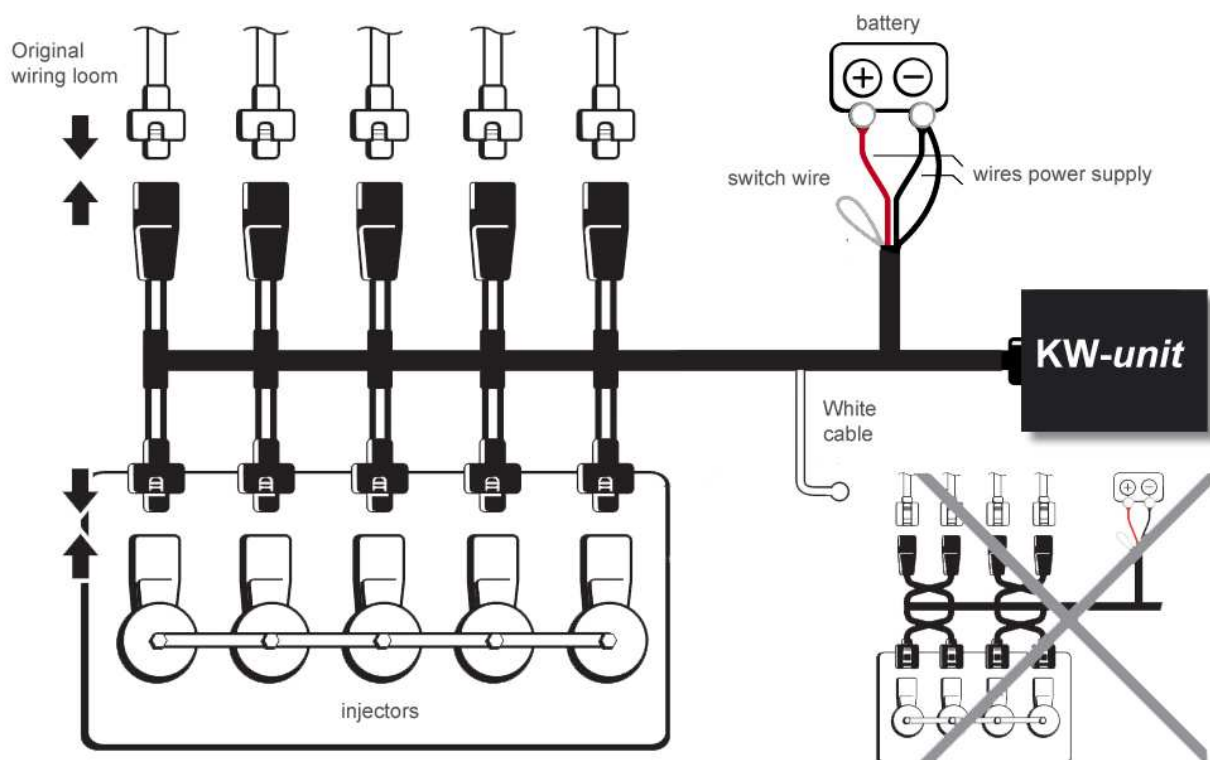
Instruction manual

Ford Ranger 3.2 TDCI 147 kW and other cars with the same engine

Please open the hood of the car.

Remove the engine cover. Among them you see the injectors of the fuel injection system with the attached 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**.

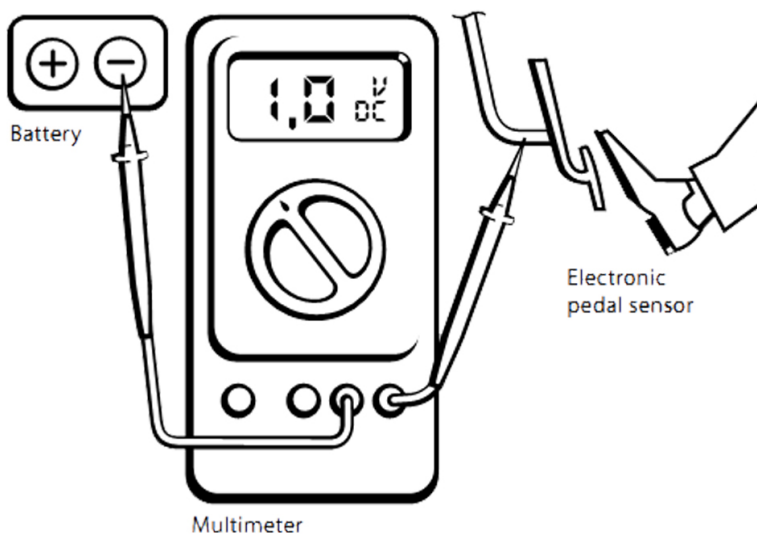


Connection for reference signal – the white cable

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.

Measurement example



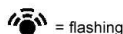
1. Turn the ignition on
2. the correct cable has a voltage of 0.4-1.0 Volt (the pedal is in position 0)
3. while pressing the accelerator pedal the voltage increases at full throttle 3 – 4,9 volt

Control of function

LED:



= ON

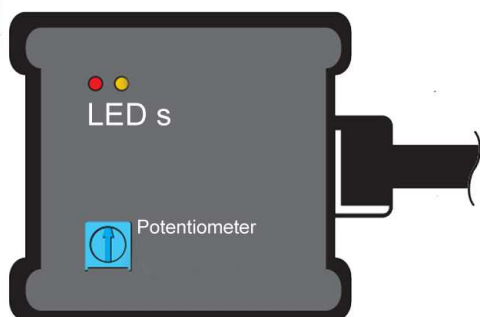


= flashing



= OFF

Symbol

**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 (> 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. The adjustment of the potentiometer does not adversely effect the power enhancement.

Adjustment of the KW-unit


remove the cover of the box, then you can see the potentiometer





Normal characteristic


100 %



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


130 %



- Turn the potentiometer to the right in small steps (clockwise).
- Have a test-drive.
- Repeat this procedure until all problems are solved.

Reduction

50 %



- Turn the potentiometer to the left in small steps (anti-clockwise).
- Have a test-drive.
- Repeat this 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:

0049 (0)2404/677666

We wish you much fun with the first test run!