This is intended as a guide to be used in conjunction with the manufacturers help file supplied with the software that will guide you through the initial setup.

Firstly, you should carry out the instructions on the crank mount/trigger wheel document and fit that part first.

Fit the coil pack to the bracket with the supplied screws and then to the block/bell housing with either the long bolt supplied or the OEM bolt for the coil mount. Fit the HT Leads. Fit the air sensor in a suitable position on the air intake. You can fit the water temp sensor to the stub or keep it as a spare, it is the same as stock BMW.

The 16V throttle position sensor will need to be removed and its plastic mounting holes elongated in such a way as to allow it to be turned further anticlockwise, see pictures. This is to make sure that the ECU can read the position correctly and doesn’t cause errors during setup.

Fit the ECU in a suitable location, preferably rubber mounted and out of the way of heat dirt and water. Fitting of the loom is fairly straight forward, see “loom” image. You may find the loom needs to run between number 1 and 2 throttle bodies as it’s a bit short to get around to the crank and water temp connections. If so, make sure the wires are clear of the throttle arm. There is a good location for the earth wire on the head to the right of the fuel rail.

Important: The main power red wire must go to the battery and be permanently live and the white to the ignition switch. This is needed as the ECU makes any changes and saves info during a shutdown period and that is for a few seconds after the ignition is switched off. In reality, we also use a main isolation switch or removable fuse at the battery to save disconnecting during transport and storage, but the ignition switch must always be turned off first.

The ECU can run the fuel pump (with a set prime time at ign on and cutoff when engine off etc) you will need to retain the round 4 pin plug from the stock loom that connects to the left side of the fuel tank and reuse it (early K100 only). You will need to fit a fuel pump relay and wire it as shown with pin 4 on the AUX connector (Black/Orange) to spade 85 on the relay. (see “fuel-pump” and “aux connector” files.) any automotive pump relay with the correct pins can be used.

Once all the parts are fitted and you are happy that the trigger wheel is concentric and within tolerance to the crank sensor, you can begin the initial setup with the software.

The ECU is pre-loaded with a suitable base map so many of the settings mentioned in the “SXTune Online manual” (or help file) have already been set. But some still need to be made in relation to YOUR installation.

Start the SXTune software and go to the help file by clicking on the “SXT” button and then help and then click on “Contents”. Read through “ECU configuration” The only thing here you should need to do is “check crankshaft trigger calibration is working” and check “throttle position sensor calibration”

Further to the instructions, here’s what to do: Firstly remove the plug to the coils and unplug the fuel pump. With the software running, connect your pc/laptop to the ecu via the CAN\_BUS lead, and turn on the bike ignition switch. Click on the green icon top left to connect to ecu, if it connects ok there will be a red line through the green icon and a tick in the “online” box bottom right. If not, try unplugging the lead and plugging back in or restarting the software. Once connected, go to the left hand menu- Engine Calibration-Sensor setup-digital input setup, and double click. Here you will see some variables, we are looking at “crank sensor synchronisation” and ”tooth counter” It will say “not synchronised” and possibly a number next to tooth counter. Now crank the engine on the starter, coils and fuel pump disconnected, we want to turn the motor over but not fire. Let it turn for a few seconds, you should see an RPM signal at the top of the list, maybe 500rpm and hopefully the tooth counter counting the teeth and “synchronised” or “Crank Sensor Synchronised OK” rather than “not synchronised”. If it doesn’t work straight off, try a couple of times, if no joy it means the sensor can’t see the trigger wheel, possibly not close enough or the trigger wheel is not concentric. Adjust and try again. Also see notes in the help file on troubleshooting this error.

Once that’s sorted, half way down the page you will see “Throttle position %” turn the throttle and see if this figure moves, should be 0 to 99.45% as you open the throttle. (If not, or even if its OK, to be sure) Click on “set TPS minimum” don’t touch the throttle and you should get a prompt to turn the ignition off then on again after 10 seconds. Then hold throttle wide open and click “set max TPS”. Now check the reading is 0% when closed and 99.45% when fully open, if not check the trouble shooting guide. Possible cause may be the position of the TPS not far enough to the left as mentioned earlier.

Once these 2 factors have been confirmed to be calibrated go to “Engine first start up” in the help contents and follow the instructions. In the software you can go to: Scope-General Data to see live data while you proceed. If the bike runs, Great! There is no need to follow the further instructions on that page to calibrate the ECU as this has already been done.

Remember that every time you make a change you should save a new file to the laptop, so you have a copy and can revert to the last one if need be. There is masses of info in the help file, written by the people that built the hardware so please take a look, any problems please feel free to contact us.

Regards,

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