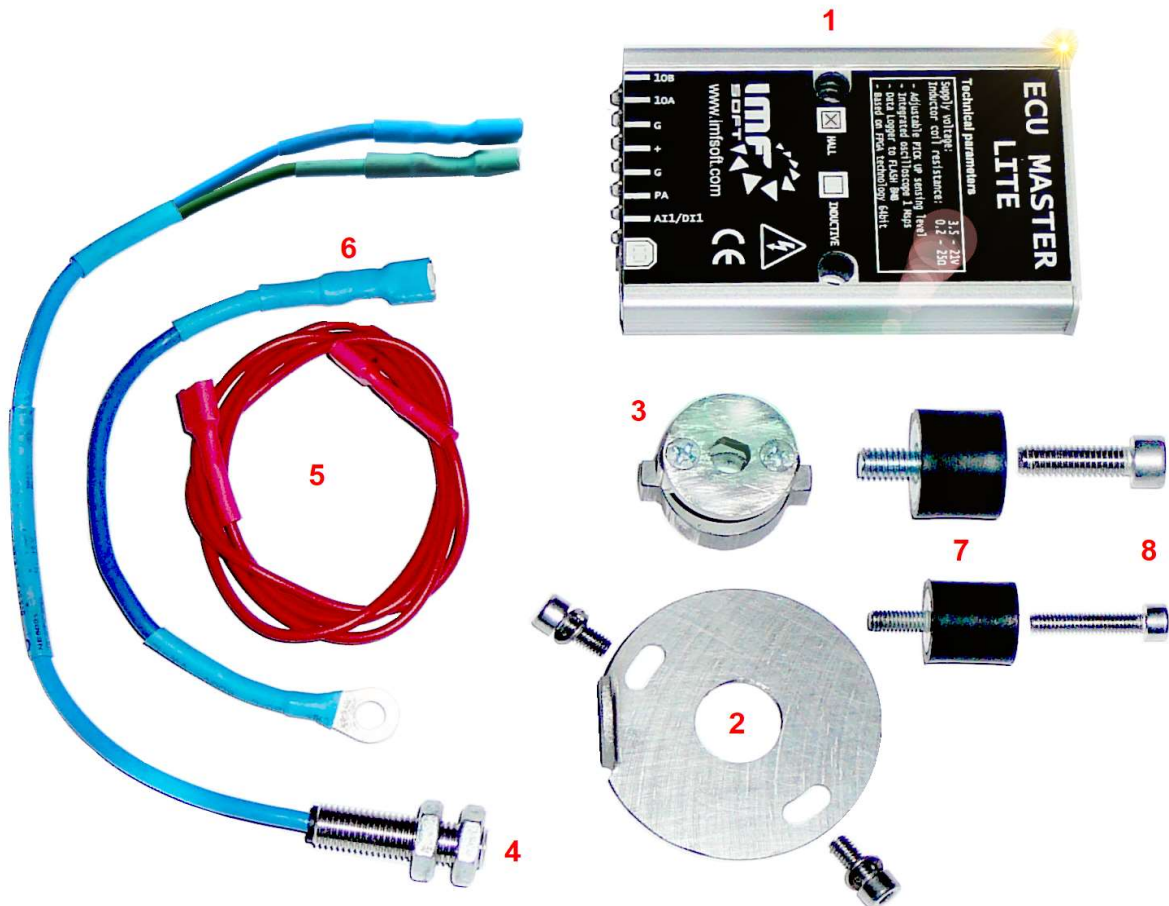


ideas make future

**BMW R50/5 - R100
(09/69-09/80)**

**ENGINE CONTROL UNIT
PLUG and PLAY – KIT
ENGLISH**

Ignition Kit Mounting Instruction Manual BMW R50 to R100 made between 09/1969 to 09/1980



Picture **1** – BMW kit parts

- 1x ECU MASTER LITE 80x55x16 mm (Anodized Aluminum)
- 1x Industrial Pick up Sensor M8x22 mm (Stainless Steel)
- 1x Pick up sensor base 50 mm (Stainless Steel)
- 2x Two parts of Trigger-wheel 30 mm (Steel)
- 1x Silentblock M4 and M6 (vibration limitation)
- 6x Screws, Nuts and Washers (Stainless Steel)
- 3x Connection wires (Red, White, Black)
- 1x USBflash with PC application



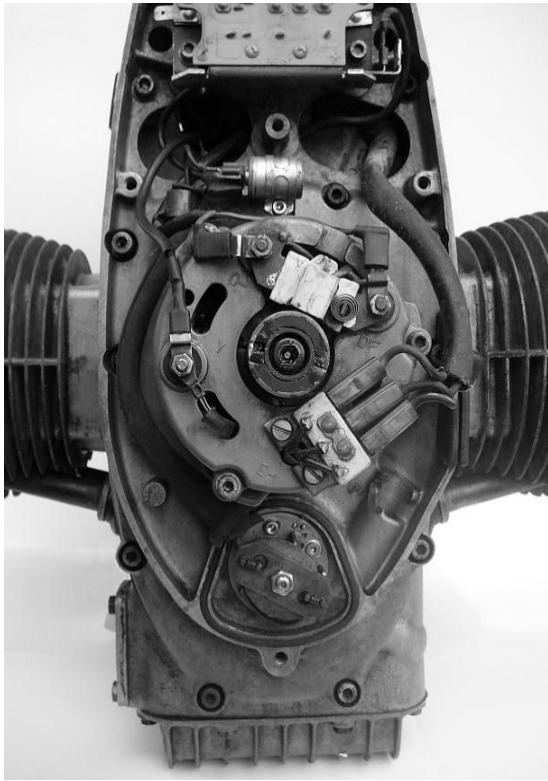
INSTRUCTIONS

1. Turn the ignition off or disconnect battery
2. Remove capacitor, hammer board, hammer cam and its cabling see picture **2**
3. Mount new silent block M6 and M4 (part 7) to previous capacitor position
4. To the silent block fit new MASTER LITE using the screw M6x20 and M4x20 (part 8)
5. Mount sensor holder (part 2) using screws M4x10 and washer nuts
6. Mount trigger wheel (part 3), tighten the screws and tighten the original nut with washer
7. Mount pick up sensor (part 4) to sensor holder (part 2) **Tightening torque 2,5Nm**
8. Tune space between Pick up sensor (part 4) and trigger tooth (part 3) around 0.2-0.3mm
9. Connect pick up sensor (part 4) to unit MASTER LITE – pin **PA** and **G**, picture **3** and **4**
10. Connect red wire (part 5) to unit MASTER LITE : pin „+“ and Ignition coil „+“ pole
11. Connect blue wire (part 6) to unit MASTER LITE : pin **G** and Ground on Alternator
12. Connect the original black wire from ignition coil to unit MASTER LITE : pin **10B** or **10A**
13. Turn the ignition ON or reconnect battery, turn the fuel ON
14. Software loaded in the unit is set to default, you can adjust the ignition maps if you wish.
Now you can enjoy new power of IMFsoft electronic ignition.

*The configuration assumes the use of original ignition coils for the hammer system, which have a primary resistance of around 2.5 ohm. In the case of **using coils for digital ignition from newer BMW models** with a low primary resistance of around 0.5 ohm, it is necessary to use shorten the excitation time at 2 ms in the ignition configuration [XTIME] see Picture **7***



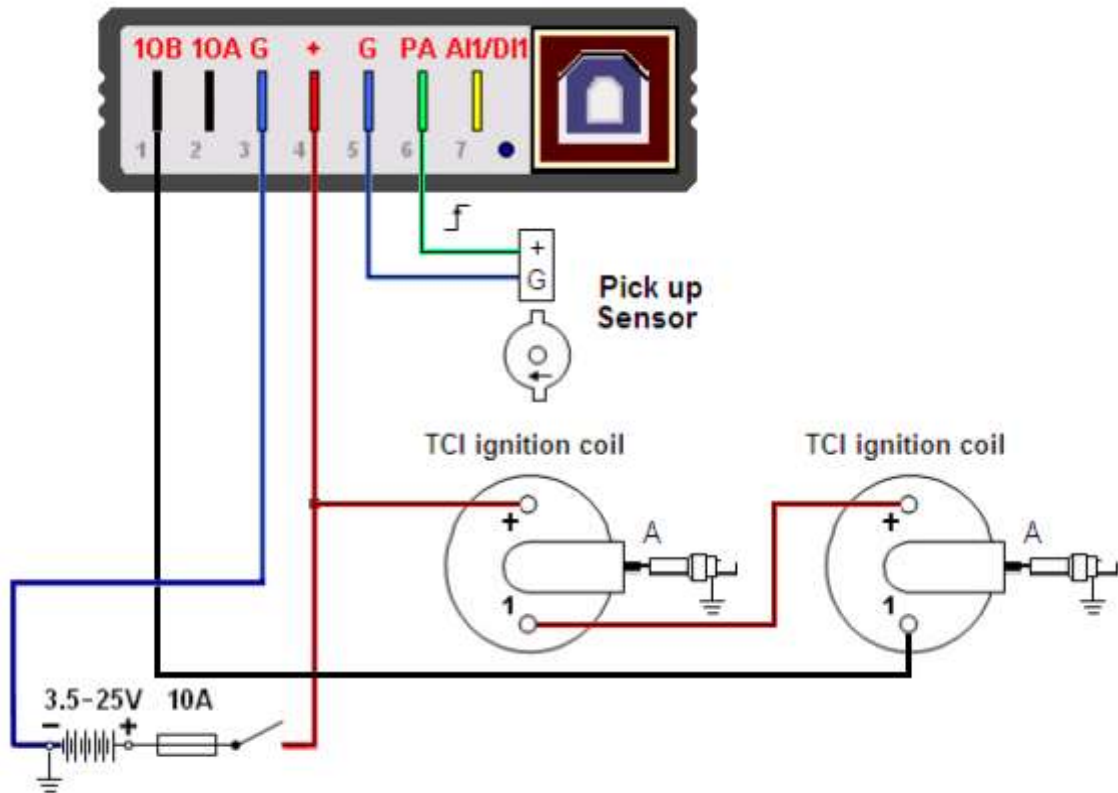
Picture 2 – old hammer ignition



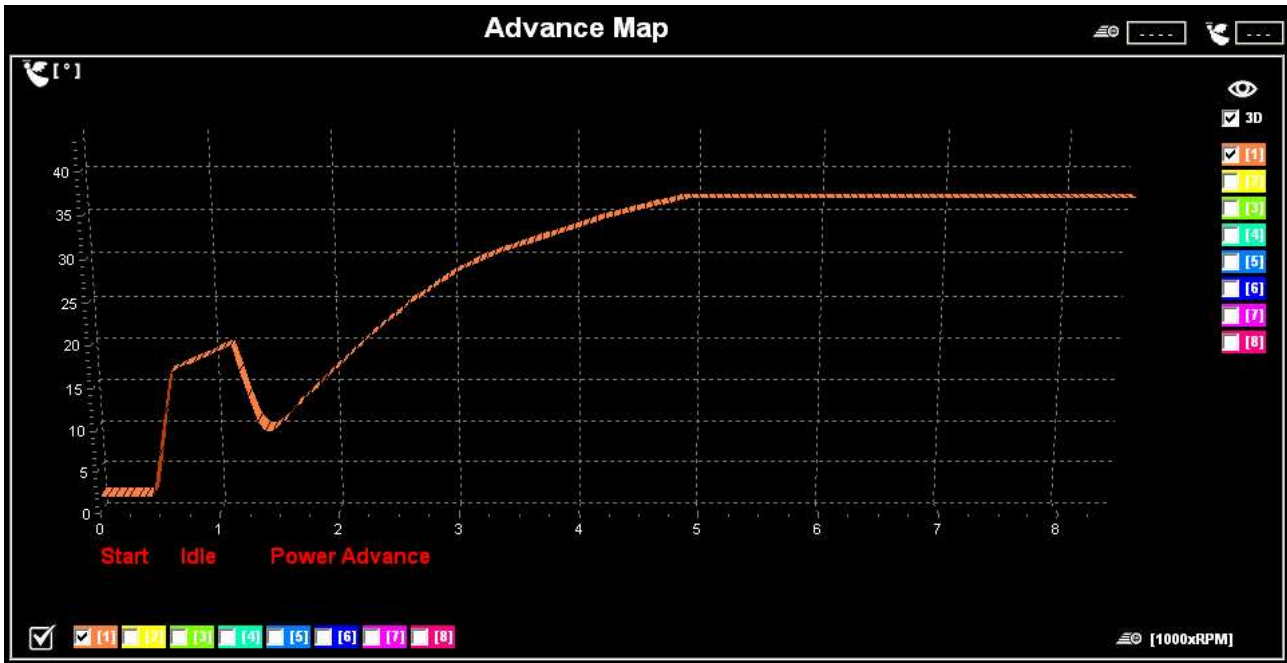
Picture 3 – new installation



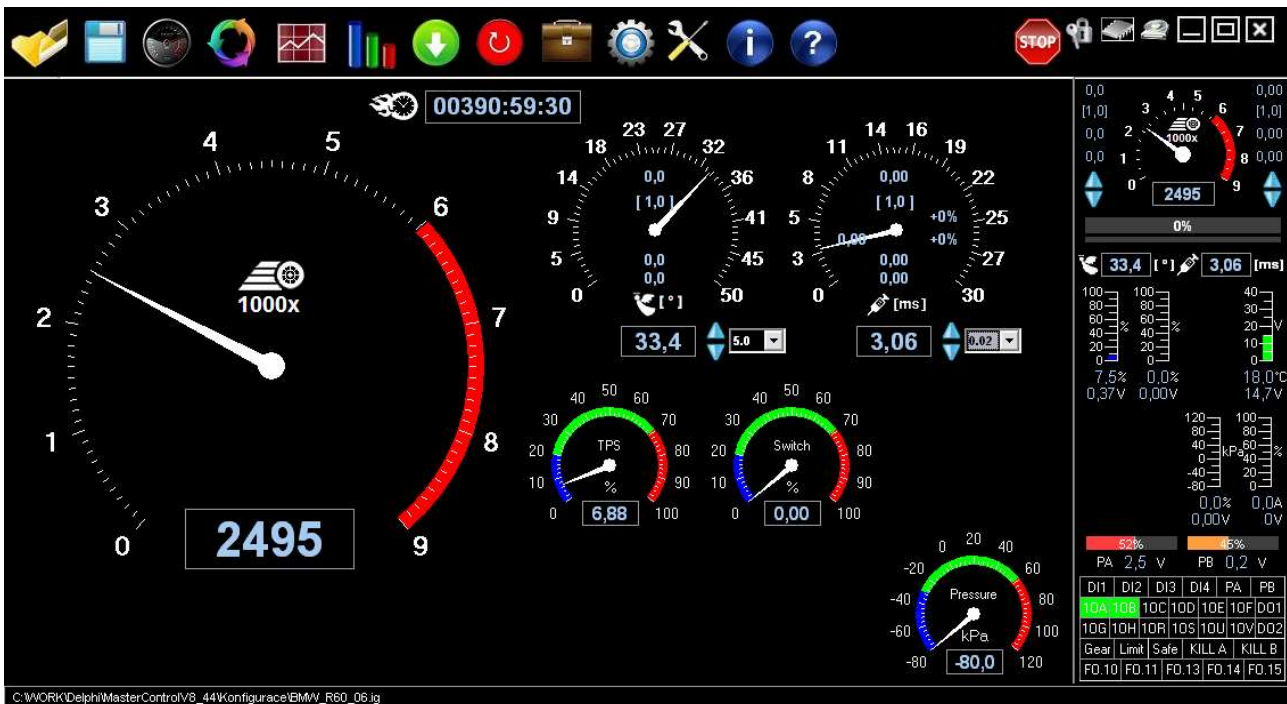
Picture 4 – ECU MASTER connection scheme



Picture 5 – ECU MASTER LITE – default advance curve



Picture 6 – ECU MASTER LITE – user configuration and diagnostics



Picture 7 – ECU MASTER LITE – ignition coil excitation for a digital coil

Outputs - function setting

Index	Function Name	Description	XA	XB	XC	XD	XE	XF	XG	XH	XR	XS	XU	XV	XTIME
FO.1	Capacitive - CDI	XA=angle 10A..XV=10V,XTIME=switch[us]													
FO.2	Inductive - TCI	XA=angle 10A..XV=10V,XTIME=excit[ms]	0	0										2	
FO.3	Injection Coil	XA=angle 10A..XV=10V													
FO.4	Integrate Coil	XA=angle 10A..XV=10V,XTIME=switch[us]													
FO.5	Speed switch	XA=on speed, XTIME=switch time[s]													
FO.6	Speedometer	XA=speed correction..XS													
FO.7	Starter	XA=off speed, XTIME=switch time[s]													
FO.8	Fuel pump	XA=mode, XTIME=start time[s]													
FO.9	Strobe lamp	XA=switch angle, XTIME=light time[us]													
FO.10	Speed regulation	XA=mode, XB=RPM, XC=PWM, XE..XH = PID													
FO.11	Turbo regulation	XA=mode, XB=RPM, XC=PWM, XE..XG = PID													
FO.12	Temp. regulation	XA=mode													
FO.13	Throttle regulation	XA=mode, XC=PWM, XE..XG = PID, map[8]													
FO.14	Signal output	XA=mode, XB=signal index, XC=PWM													
FO.15	Charge regulation	XA=mode, XB=des.voltage, XC=PWM, XE=P													
FO.16															

Real-time data on the right side of the interface includes: 1000rpm tachometer, 99.999% throttle, 99.9 [°] temperature, 99.99 [ms] dwell, 100% battery, 99.9% air flow, 99.9% pressure, 99.9% oxygen, 99.9V PA, 99.9V PB, and a status table for various outputs (D11-D15, PA, PB).

Picture 8 – ECU MASTER LITE – oscilloscope screen

