HONDA IGNIJET 05

**Programmable ignition and injection unit for Honda motorbikes made between 2000 and 2003.
Detailed description**

1. Hardware

IGNIJET 05 unit is produced in several versions for individual bike types:
1) Version for CBR600F (2000 ÷) and CBR900RR (2000 ÷ 2001) motorbikes.
2) Version for CBR1100XX (2000 ÷) motorbike.
3) Version for VFR800 (1998 ÷) motorbike.
4) Version for CBF900 HORNET (1998 ÷) motorbike.

Description of sensors:

Temperature of water sensor TWS.
An input is ready for standard thermo sensors used on Honda motorbikes.

Air temperature sensor ATS.
An input is ready for standard thermo sensors used on Honda motorbikes. Resistance/temperature function is the same as with water temperature sensors.

Throttle position sensor TPS.
An input is ready for standard TPS sensors used on Honda motorbikes.

Servo position sensor STPS.
There is a servo drive on some bikes (CBR900RR). It mostly propels the exhaust valve. However servo drive can be used well for example as electronic adjustment device for length of suction tubes depending on rpm.
An input is ready for sensors used in standard servos on Honda motorbikes. Servo settings are included in IGNIJET 05.EXE software.

LAMBDA.
An input is ready for standard lambda sensors used in cars and bikes (voltage for stechiometric air-gasoline mixture is 0.4 to 0.8 V). Lambda sensor voltage is not used for lambda air-gasoline mixture regulation, but for displaying lambda sensor voltage on a screen by IGNIJET 05.EXE software.

Air pressure sensor APS.
An input is ready for various APS sensor types used on Honda motorbikes.
If there is no APS in the bike system (CBR600, CBR900) the air pressure sensor feature will be provided by IAPS (measures AP at switching on). In case there is neither APS nor IAPS the unit will adjust air pressure to 100 kPa.

Induction manifold pressure sensor IAPS.
The sensor is the same as APS, but measures induction manifold pressure instead of atmospheric pressure. The value is needed to determine fuel dosage in cases when TPS < 5 % or there is no TPS in the system (is malfunctioning). In case there is no IAPS in the system, the unit determines the dosage using TPS only.

Crankshaft position sensor CKPS.
An input is ready for standard pickup sensors used on Honda motorbikes as CKPS.

Camshaft position sensor CMPS.
An input is ready for standard pickup sensors used on Honda motorbikes as CMPS.

SPEED sensor
An input is ready for standard sensors used on Honda motorbikes as SPEED ones.

Injectors INJ 1, INJ 2, INJ 3, INJ 4.
Injector outputs are ready for standard injector types used on motorbikes (coil resistance approx. 13 Ohm).

Immobiliser control INDICATOR HISS.
Immobiliser indicator is used for gearshift indicator in the IGNIJET 05 unit. When using additional gearshift indicator maximum current is 5 A (bulb up to 50 W). Gearshift indicator revolution is set within IGNIJET 05.EXE software.

One additional Gearshift indicator outlet should be connected to connector (white/red) and the other one should be connected to key switched + 12V.

Revolution indicator output TACHO.
The tachometer indicator output is compatible with major part of board devices used on Honda motorbikes.

FUEL PUMP RELAY output.
Fuel relay activates for about 4 s after the unit is switched on and remains active while the motor is running.

HEAT LAMBDA output.
Controls heating of lambda sensor in relevant models.

SECONDARY AIR valve switch output.
The output switches valve for additional air induction in the exhaust tube to improve emission parameters.

FAULT INDICATOR FI output.
The output switches signal light on the dashboard when a fault is detected.

M+ and M- servo motor outputs.
Outputs for exhaust throttle servo propelling.

NEUTRAL and SIDE STAND blocking inputs.
In case at least one of these inputs is not grounded the unit locks ignition. Blocking feature can be switched off within IGNIJET 05.EXE software.

Induction coils IC 1, IC 2, IC 3, IC4.
Induction coils outputs are ready for standard types, designed for inductive ignition and used on injection-type Honda motorbikes (primary coil resistance approx. 1 to 2 Ohm).

Supply voltage +12 V.
Nominal Supply voltage is 14 V. It must be within 8 - 16 V range. In this range the unit is able to provide optimal control of all the processes.

SENSE GND.
SENSE GROUND is used for connection and supply of sensors.

Reference voltage + 5 V.
Reference voltage +5V is used for the power supply of sensors.

2. IGNIJET05.EXE software

Pull down menus

File - includes items	**New**	- default settings (serial adjustment)
	Open	- opens data file
	Save	- saves data file
	Print	- prints the current settings
	Exit	- exits the program

Warning!!! Clicking New results in automatic default settings of all parameters (serial adjustment) for the motorbike.

Port - includes items	**Com1 to Com10**	- selection of communication line

Device - includes items	**Read**	- reads data from the unit
	Verify	- compares data in PC with data in the unit
	Program	- sends data to the unit and conducts verification

TP map mode - includes options of TP maps control settings mode   **Normal** (separate map control)
- Interlocked (online map control)
- **14->23** (map 14 only)
- **23->14** (map 23 only)

Language - language settings: English, **Czech**, and **German**

Help - includes items	**Help**	- opens assembly guide (this file)
	About the program	- data on the software (version, date)

Icons menus

     - Default settings of the motorbike (serial adjustment)
Warning!!! Clicking this icon results in automatic default settings of all parameters (serial adjustment) for the motorbike.
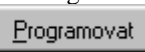
     - Opens data file

     - Saves data file

     - Prints the current settings

     - See pull down menu Device

Ignition tab sheet

Motorbike selection   the software works with units for the following motorbikes:

CBR600F	00´ ÷
CBR900RR	00´ ÷ 01´
CBR1100XX	00´ ÷
VFR800	98´ ÷
CBF900 HORNET	00´ ÷

10 couples of edit boxes for setting advance as function of RPM
Curve of 10 couples for setting advance as function of RPM Collective adjustment of the whole advance curve can be done by collective change tool (+ and **-** buttons with selection **All**)
When the motor is running and PC connected with the unit current segment in the advance curve is highlighted. Use of collective change tool + and **-** button without selection **All** just the current segment will be changed.

Limiter	- sets revolution of classic starting limiter
Gearshift light	- sets revolution of gearshift light
Programming after a change	- automatic programming settings (after every change)

File:	- full path to currently opened file

IAP map tab sheet

MEZ IAP value (0 ÷ 100 %) sets TP position at which IAP map transfers to TP map.
IAP map provides for fuel dosage settings in the range 0 ÷ **MEZ IAP** [%] TP position (in case the TPS is not connected in the range of 0 ÷ 100 %). Standard MEZ IAP value is 5%. This means idle motor run in fact. Idle motor run setting by IAP map displays more stable parameters than setting by TP map.
IAP map includes 10 adjustable revolution options x 10 options for induction underpressure (100% means serial adjustment).
Collective setting of the whole column is possible using the arrows under columns. Collective adjustment of the whole map can be done by collective change tool (+ and **-** buttons with selection **All**)
When the motor is running and PC connected with the unit current segment in the fuel map is highlighted. Use of collective change tool + and **-** button without selection **All** just the current segment will be changed.

TP map 14 and TP map 23 tab sheets

IAP map provides for fuel dosage settings in the range **MEZ IAP** ÷ 100 [%] TP position (in case the IAPS is not connected in the range of 0 ÷ 100 %). Standard MEZ IAP value is 5%. This is basically range over idle run - effective motor performance area. Setting this range by TP map displays more stable parameters than setting by IAP map.
TP map includes 10 adjustable revolution options x 10 options for throttle position (100% means serial adjustment).
Collective setting of the whole column is possible using the arrows under columns. Collective adjustment of the whole map can be done by collective change tool (+ and **-** buttons with selection **All**)
When the motor is running and PC connected with the unit current segment in the fuel map is highlighted. Use of collective change tool + and **-** button without selection **All** just the current segment will be changed.
TP map 14 is designed for fuel dosage of 1.4 cylinders. TP map 23 is designed for fuel dosage of 2.3 cylinders (option **Separate**).
Both maps can be interlocked - i.e. both can be used at the same time from TP map 14 (option **Coupled**)
Warning!!! Maps cannot be interlocked if the revolution columns are not equal!!!
It is also possible to use one map for all the cylinders - either TP map 14 (option **14->23**) or TP map 23 (option **23->14**)

Tab sheet Miscellaneous

Starting plus-injection Asynchronous injection in all the cylinders at the ignition (for motor temperature 80°C - the period is adequately extended for lower temperatures). At the same time under lower motor temperature the injection time will be increased during first 30 s of motor run.

Acceleration plus-injection   - asynchronous plus-injection in all the cylinders when acceleration is needed (acceleration pump).
Threshold   - minimum throttle movement speed needed to activate acceleration plus-injection
Size   - intervals of separate acceleration plus-injections (10 ms period)

Water temperature   - correction curve of the water temperature (100% means serial adjustment for 80°C)

Induction air temperature   - correction curve of the air temperature (100% means serial adjustment for 50°C)

TPS   **- limit TPS voltage values can be set here [mV]**

Set TPS 0   - Measures and sets 0% TPS (supply on, unit connected with PC, no gas)

Set TPS 100   - Measures and sets 100% TPS (supply on, unit connected with PC, full gas)

Tab sheet Servo

Servo tab sheet is active only for motorbikes equipped with servo (CBR900RR).

Servo allowed   - software activation of servo controller

10 adjustable options for revolution/required voltage of servo position sensor
Collective adjustment of the whole servo curve can be done by collective change tool (+ and **-** buttons with selection **All**)
When the motor is running and PC connected with the unit current segment in the servo curve is highlighted. Use of collective change tool + and **-** button without selection **All** just the current segment will be changed.

Hysteresis - fineness of servo driver steps can be set here
!!!Warning!!! - In case you set too low value there is a risk of servo oscillation

Monitor

Monitor is located on the right and lower side of the screen - sensor values and motor operational characteristics can be observed here. Should there be **NO CONNECTION** prompt displayed in the upper right corner, the unit is not connected.

Extended monitor	- monitor extended mode activation Monitor will display voltage of separate sensors and other parameters in this mode.
RPM	- motor revolution [1/min]
TP	- Throttle position [%]
LAMBDA	- Lambda sensor voltage measured [mV]
IAP	- induction tube air pressure [% AP]
TW	- temperature of motor [°C]
AT	- Induction air temperature [°C]
AP	- atmospheric pressure [kPa]
U	- Supply voltage of injectors [V]
Advance	- Ignition advance [°]
Inj. Time 1,4	- time of injection for 1.4 cylinders (front cylinder for two-cylinder bikes [µs]
Inj. Time 2.3	- time of injection for 2.3 cylinders (front cylinder for two-cylinder bikes [µs]
Blocking	- Blocking activation signal
Servo required	- Required value of servo position sensor
Servo measured	- Measured value of servo position sensor
Number of programming	- Number of times the unit has been programmed (applies only for Extended monitor option)