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updated 08.03.2011
program version: 20.070311

USER MANUAL
PSR-P01 PROGRAMMABLE CDI IGNITION

PSR-P01 is programmable CDI and is specially designed to work with PVL and Selettra ignition with inner rotor. It does not work with original PVL, or Selettra ignition coil and require ignition coil for CDI ignitions. PSR-P01 also requires small 12V Ni/MH 2600mA battery, which is charged from CDI, at revolutions above 8000rpm.

Race engines usually run above 8000rpm and that means, battery will never be discharged while race and caused not running engine. Virtually battery will never need recharge, only when not in use for very long time. PSR-P01 automatically switch off from battery, when engine not running, to prevent discharging when not in use.

PSR-P01 greatly improves spark strength at low revs, which enable easier starting and idle running.

<u>Very important!</u>
Resistor spark plugs must be used, because they produce less electromagnetic disturbances.

TECHNICAL DATA

<u>Limit values:</u>
- minimum revs	500 RPM
- maximum revs	20000 RPM
- minimum supply voltage	8 Volts
- maximum supply voltage	16 Volts
- max. supply voltage for 1 minute	35 Volts
- current draw	25 mAmp
- maximum continuous current for shift light output	1 Amp
- peak current for shift light output	5 Amp

Circuit is protected against reverse supply voltage (wrong connection).

<u>Features:</u>
- CDI charged from hi voltage charging coils (generator)
- running with PVL and Selettra rotor/stator without pickups
- store and load function for 2 ignition maps
- external switch for changing ignition map while riding
- shift light output
- quick shift (shift kill)
- tachometer output
- advance/retard whole ignition curve
- rev limit

- timing compensation curve
- fast processing for high accuracy - delays from 1us

1. HOW TO ENTER MENU

PCDI must be connected to power supply. Connect **programmer** to **PCDI** and wait few seconds for activation of **programmer** and then press `enter`. With pressing `+` or `-` you can move through menu and select with pressing `enter` .
Exit menu with selecting *Exit.*

2. MENU ORGANISATION

Load Ign. Curve   - load previously saved ignition curve set (from #1 to #2)
Save Ign. Curve   - save new ignition curve set (from #1 to #2)
Set Ign. Curve   - ignition curve parameters submenu
Advance   - advance/retard whole ignition curve
Shift Light   - shift light
Shift Kill Time   - shift kill time
Rev Limit   - rev limit
Remote SW   - activating/deactivating external switch
Power Jet   - power jet
Compensation Curve   - timing compensation curve
Exit

3. LOAD IGN. CURVE

Enter menu and move to *Load Ign. Curve* with pressing `+` or `-` and then press `enter` .
Now you can select position number of previously saved ignition curve set, with pressing `+` or `-` and then press `enter` .

4. SAVE IGN. CURVE

Enter menu and move to *Save Ign. Curve* with pressing `+` or `-` and then press `enter` .
Now you can select position number to which you want to save your ignition curve set, with pressing `+` or `-` and then press `enter` .

5.   Change IGNITION CURVE

Enter menu and move to *Ignition Curve* with pressing $\boxed{+}$ or $\boxed{-}$ and then press $\boxed{\text{enter}}$.
Now you are in submenu for setting ignition curve.
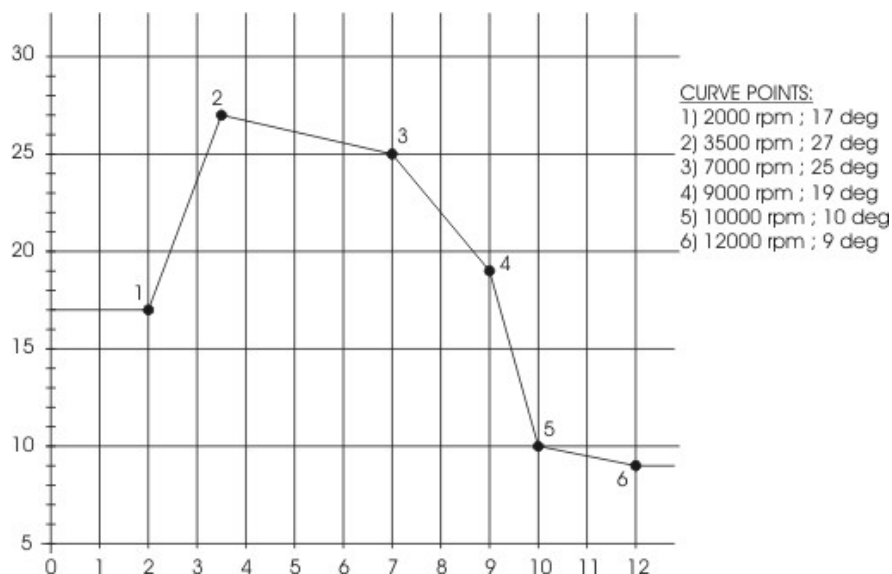
Submenu organisation:
Nr. of Points   - number of ignition curve points (from 4 to 10)
1)   - first ignition curve point
2)   - second ignition curve point
...   ...
...   ...
Exit Curve   - exit submenu

<u>Important!</u>
To avoid wrong processing, don't make unreasonable curve course.
Every time you make any changes to ignition curve, it is automatically saved to #0 position.
Later you can save it to any other position number from #1 to #2.

Curve Example with six curve points:

CURVE POINTS:
1) 2000 rpm ; 17 deg
2) 3500 rpm ; 27 deg
3) 7000 rpm ; 25 deg
4) 9000 rpm ; 19 deg
5) 10000 rpm ; 10 deg
6) 12000 rpm ; 9 deg

5.1.   Change NUMBER OF IGNITION CURVE POINTS

Move to *Nr. of Points* with pressing $\boxed{+}$ or $\boxed{-}$ and then press $\boxed{\text{enter}}$.
Now you can select number of ignition points, with pressing $\boxed{+}$ or $\boxed{-}$ and then press $\boxed{\text{enter}}$.

5.2.   Change PARAMETERS OF IGNITION CURVE POINT

Move to point you want to change, with pressing $\boxed{+}$ or $\boxed{-}$ and then press $\boxed{\text{enter}}$.

Now you can change rev point with pressing $\boxed{+}$ or $\boxed{-}$ (in 100 rpm steps) and then press $\boxed{\text{enter}}$.
Now you can change advance angle with pressing $\boxed{+}$ or $\boxed{-}$ (in 0.1deg steps) and then press $\boxed{\text{enter}}$.

6.   Set ADVANCE

With this setting is possible to advance or retard whole ignition curve. When setting is positive then ignition curve is advanced and when setting is negative than ignition curve is retarded. With *Advance 0.0deg*, ignition curve is unchanged.
Enter menu and move to *Advance* with pressing $\boxed{+}$ or $\boxed{-}$ and then press $\boxed{\text{enter}}$.
Now you can set advance with pressing $\boxed{+}$ or $\boxed{-}$ (in 0.1deg steps) and then press $\boxed{\text{enter}}$.

7.   Set SHIFT LIGHT

Enter menu and move to *Shift Light* with pressing $\boxed{+}$ or $\boxed{-}$ and then press $\boxed{\text{enter}}$.
Now you can change rev point with pressing $\boxed{+}$ or $\boxed{-}$ (in 100 rpm steps) and then press $\boxed{\text{enter}}$.

8.   Set SHIFT KILL TIME

Enter menu and move to *Shift Kill Time* with pressing $\boxed{+}$ or $\boxed{-}$ and then press $\boxed{\text{enter}}$.
Now you can change kill time with pressing $\boxed{+}$ or $\boxed{-}$ (in 10 ms steps) and then press $\boxed{\text{enter}}$.

9.   Set REV LIMIT

Enter menu and move to *Rev Limit* with pressing $\boxed{+}$ or $\boxed{-}$ and then press $\boxed{\text{enter}}$.
Now you can change rev limit with pressing $\boxed{+}$ or $\boxed{-}$ (in 100 rpm steps) and then press $\boxed{\text{enter}}$.

10.   Set REMOTE SW

Enabling or disabling external switch for changing ignition curves while riding.

Enter menu and move to *Remote SW* with pressing $\boxed{+}$ or $\boxed{-}$ and then press $\boxed{\text{enter}}$.
Now you can enable or disable external switch with pressing $\boxed{+}$ or $\boxed{-}$ and then press $\boxed{\text{enter}}$.

11.   Set POWER JET parameters

Enter menu and move to *Power Jet* with pressing $\boxed{+}$ or $\boxed{-}$ and then press $\boxed{\text{enter}}$.
Now you are in submenu for selecting *Power Jet* parameters.

Submenu organisation:
Power Jet ON RPM   - revs for activating power jet
Power Jet OFF RPM   - revs for deactivating power jet
Exit   - exit submenu

Example:
Power jet ON (RPM) = 8000rpm
Power jet OFF (RPM) = 10000rpm

Power jet is switched on, when revs are above 8000rpm.
Power jet is switched off, when revs are above 10000rpm.

11.1.   Set POWER JET ON RPM

Enter menu and move to *Power Jet ON RPM* with pressing $\boxed{+}$ or $\boxed{-}$ and then press $\boxed{\text{enter}}$.
Now you can change rev limit with pressing $\boxed{+}$ or $\boxed{-}$ (in 100 rpm steps) and then press $\boxed{\text{enter}}$.

11.2.   Set POWER JET OFF RPM

Enter menu and move to *Power Jet OFF RPM* with pressing $\boxed{+}$ or $\boxed{-}$ and then press $\boxed{\text{enter}}$.
Now you can change rev limit with pressing $\boxed{+}$ or $\boxed{-}$ (in 100 rpm steps) and then press $\boxed{\text{enter}}$.

12.   Set COMPENSATION CURVE

Stator has only charging coils and no pickup. Trigger timing is not constant, because signal is taken from charging coils. Compensation curve is needed to correct possible timing error.

Important!
Do not make any changes, if you are not sure about procedure. Unit is already compensated and normally does not need corrections.

To check, if timing is correct, flat ignition curve must be programmed to 23deg. Check with stroboscope light, if marks on the rotor and stator are aligned.

Enter menu and move to *Compensation Curve* with pressing $\boxed{+}$ or $\boxed{-}$ and then press $\boxed{\text{enter}}$.
Programmer will show information *Read instructions!!!* and then press $\boxed{+}$.

Submenu organisation:
  1)   500 RPM; 0,0 deg
  2) 1000 RPM; 0,0 deg
  3) 2000 RPM; 0,0 deg
  4) 3000 RPM; 0,0 deg
  5) 4000 RPM; 0,0 deg
  6) 5000 RPM; 0,0 deg
  7) 6000 RPM; 0,0 deg
  8) 7000 RPM; 0,0 deg
  9) 8000 RPM; 0,0 deg
10) 10000 RPM; 0,0 deg
11) 12000 RPM; 0,0 deg
12) 14000 RPM; 0,0 deg
13) 16000 RPM; 0,0deg
14) 18000 RPM; 0,0 deg
15) 20000 RPM; 0,0 deg
Exit   - exit submenu

Move through submenu with pressing ⊞ or ⊟ to the point you want to change and press
enter . Set compensation angle with pressing ⊞ or ⊟ and press enter to confirm.

13.   MONITORING

Connect red wire to the + battery supply, or start the engine.
Connect **programmer** to **PSR-P01** and wait few seconds for activation of **programmer.** Fist
information displayed on the **programmer** is software version.

With **programmer** you can watch revs, calculated advance ignition angle.

Information!
You can connect, or disconnect **programmer** any time you want, without any harm. It is not
important, if motor running, or not and if power supply is connected, or not.

Important!
Do not use too much force when connecting, or disconnecting **programmer** unit!