Summary

WIRING

Kill SW

Coil

GND

GND

12V Battery

Pickup

GND

12 11 10 9 8 7 6 5 4 3 2 1

Select

Tacho * GND

Curve N°1 or N°2 *

* optional

V14R1C1

Connector

1	output	To ignition coil	
2	output	*unused*	(connected To ignition coil)
3	input	*unused*	(connected to Ground)
4	input	**Ground frame (=minus from battery)**	
5	input	**+12Vdc from battery**	
6	input	Kill switch	
7	input	Analog Pickup	
8	input	Pickup Ground or Hall Sensor Ground	
9	input	Digital Hall Effect Sensor *	
10	input	*not connected*	
11	output	Tachometer *	
12	input	Curve Selection *	

*Options

KILL SWITCH

The ignition uses the Kill switch input as a selector between 2 functions:

- [Setup](#)

- [Stop engine](#)

Setup Mode

1) Turn the **Kill Switch ON** (*connector pin 6 connected to ground*) **PRIOR** to power on the ignition box.

2) **Power on** the ignition box with a 6 to 12v battery.

> **Warning**: The Power and Ground connections MUST BE SECURE.
> **A power outage during the setup process may cause the ignition box to brick !**

When the ignition box detects that the kill switch is already grounded, it turns into SETUP Mode.

3) The **Led** blinks 5 times meaning grounded Kill switch has been detected.
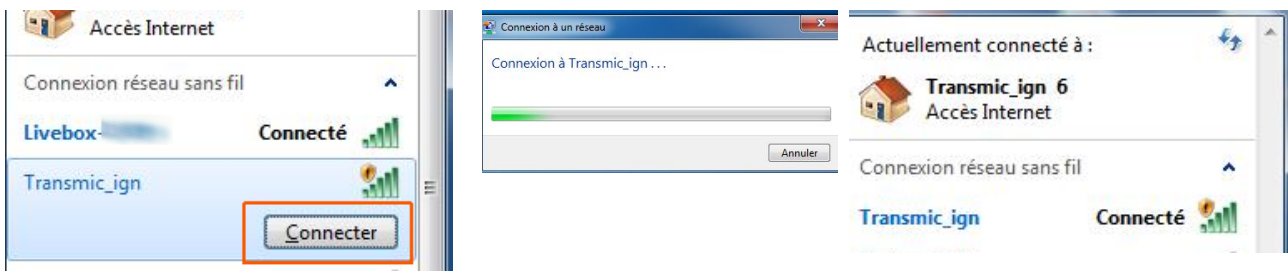Then wait for the WiFi server to start,
then blinks 5 times again meaning "*Wifi Ready*" and finally flashes once every 5 seconds.

4) The ignition box starts a **WiFi AP** (*Access Point*)

5) On your phone, laptop, PC, whatever, go to the **Wifi setting** and search for a new SSID called "**Transmic_ign**"
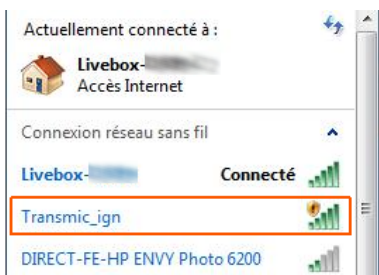
6) **Connect** to it. Password is required: it's "**password**"

8) Once your device is connected to the AP, open up a **browser**
and head over to **http://192.168.4.1/setup** (http not https !)

9) Once connected your browser should display:

TRANSMIC.FR

TCI V14R0C0

You are now connected
to your ignition box.
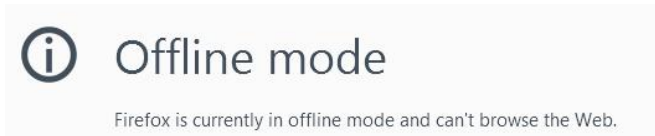Options: 5
Serial: 2405 ©

[configuration]

Documentation:
https://transmic.fr/tci14

10) Turn the **Kill Switch OFF for Running mode**.

V14R1C1

Troubleshooting WiFi connection

- Ignore any browser message saying it's not connected to internet:

(i) Offline mode
Firefox is currently in offline mode and can't browse the Web.

Indeed, it's connected ONLY to the Ignition box, not to the web.
(*It's impossible to reach Google and the ignition box at the same time*)

- You can see available SSID with a Wifi Analyzer as NetSpot for Android or Wifi-Analyzer for W10

- You can test the network connection from your laptop to the ignition box:

    Open a command Prompt:

    Type "cmd" into the address bar of File Explorer and hit Enter
    or Press Windows+R to open "Run" box. Type "cmd" and then click "OK"
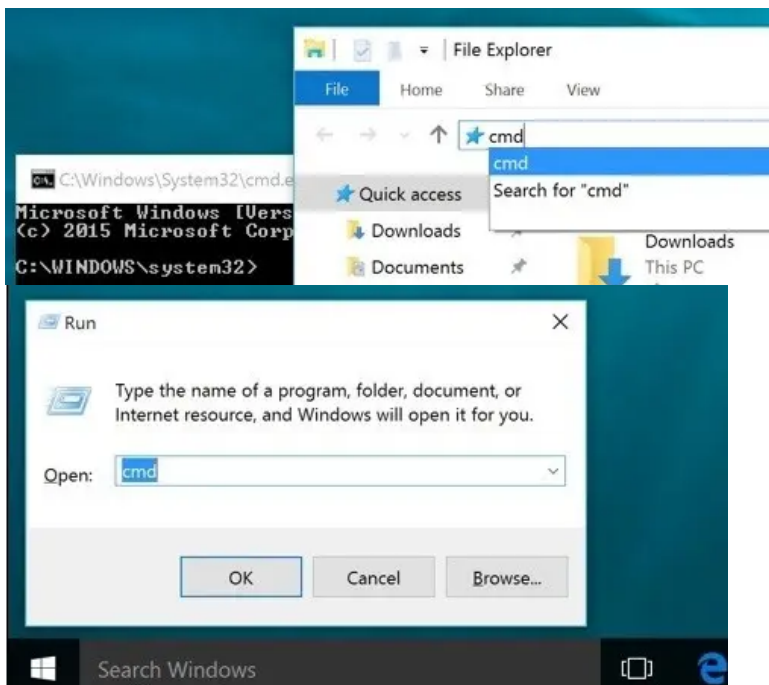
    ping the ignition box, it should replies:

    C:\>**ping 192.168.4.1**
    Pinging 192.168.4.1 with 32 bytes of data :
    Reply from 192.168.1.1 : bytes=32 time<1ms TTL=64
    Reply from 192.168.1.1 : bytes=32 time<1ms TTL=64
    Reply from 192.168.1.1 : bytes=32 time<1ms TTL=64

Clear DNS cache

Windows:	in MsDos console:	C:\>**ipconfig /flushdns**
MacOS:	in Terminal :	sudo dscacheutil -flushcache
Linux:	in Terminal:	sudo systemd-resolve –flush-caches

Troubleshooting display

Console URL is http:// NOT http**S**:// but some browsers like Chrome automatically switch to secure https://
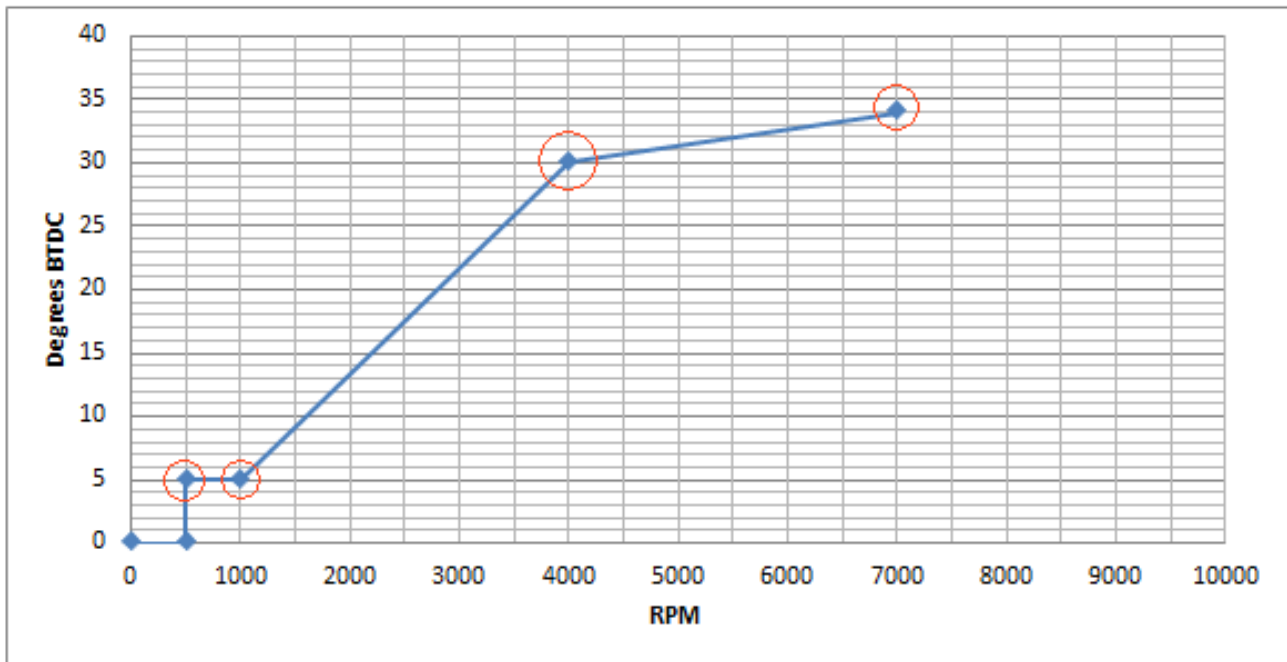
- Use Firefox. *Close all Firefox windows than relaunch it.*

- or Use a lightweight, portable browser as *QtWeb*

- or *disable* **HSTS** In Chrome

Ignition Timing

Assuming you want this ignition curve:

One can define this curve with 4 points but you can use up to 13 points.

0 to 500rpm is hard coded at 0° BTDC or ATDC for no kickback.

The curve above is defined by 4 pairs of values

```
500   rpm   =      5°  BTDC
1000  rpm   =      5°  BTDC
4000  rpm   =     30°  BTDC
7000  rpm   =     34°  BTDC
```

Those 4 couples of values MUST be filled out in the form consecutively and in ascending order of RPM along with the pickup position.

Use this Windows software to draw the curve: Interactive_Graph.exe with Video

Pickup Type

Default: 0

MENU	PICKUP TYPE	PICKUP POSITION
STROKES	SHAFT	CYLINDERS
ADVANCE TIMING	ADVANCE 0-500rpm	AUTO SPARK
DWELL	BYPASS	CONSOLE
MODIFY	UPDATE	

[0]

◉ 0: Analog Pickup Coil (VR-PN)
○ 1: Analog Pickup Coil (VR-NP)
○ 2: Digital Hall Effect Sensor *

[Send]

*option*

Select the type of pickup attached to the Ignition box:

When the LEADING edge of the magnet passes in front of the pickup coil, a wave is produced and another wave of opposite voltage is generated when the FALLING edge of the magnet leaves the pickup coil.

Depending on the wiring, the first pulse at Leading Edge can be positive (then negative at Falling edge), or the exact opposite.

0 = VR stands for Variable Reluctor aka pickup coil/trigger coil (Analog signal) **Positive** first (PN)
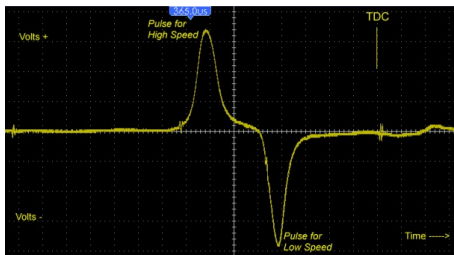
1 = Variable Reluctor (Analog signal) Negative first (**NP**)
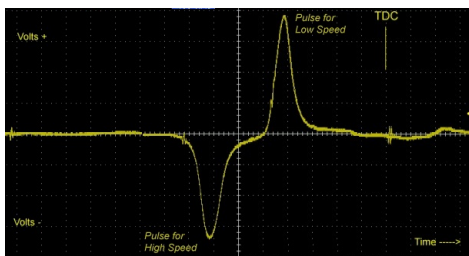
2 = Hall Effect Sensor (Digital signal)

This ignition box **works best with Positive first pickup** (**VR-PN**)
If the pickup is internally grounded into the stator there is no choice, the pickup output is either PN or NP

But if both pickup wires are available, then just swap the wires to change the polarity
in order to get a **Positive first** signal (PN) on connector **pin7**.

V14R1C1

VR Pickup

Analog **VR pickup** is connected between **pins 7 and 8(gnd)**
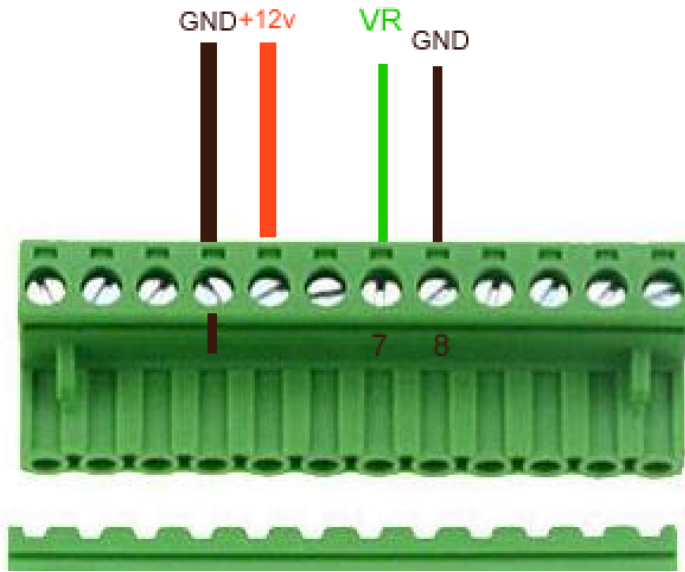
To avoid ElectroMagnetic Interference (EMI) it's safer to connect the pickup sensor through a shielded cable.
Shield grounded on ignition box side only.
Twisted pair is better.

Hall Sensor

A **Hall Sensor** can be connected between **pins 9 and 8(gnd)**
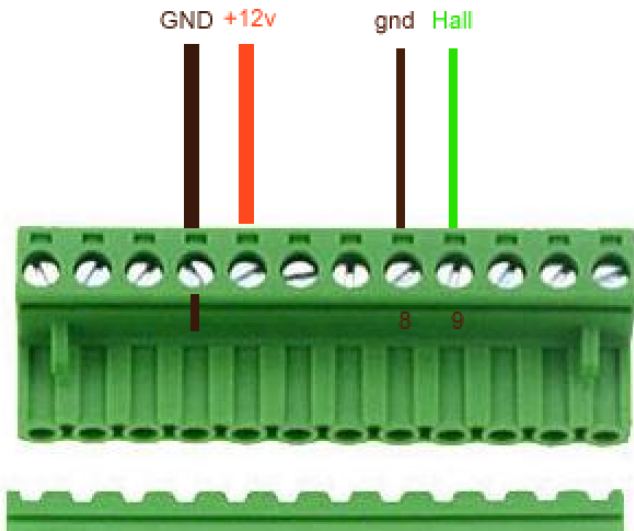
[Pickup Type](#) must be set to [**2**] for use of a Hall sensor.
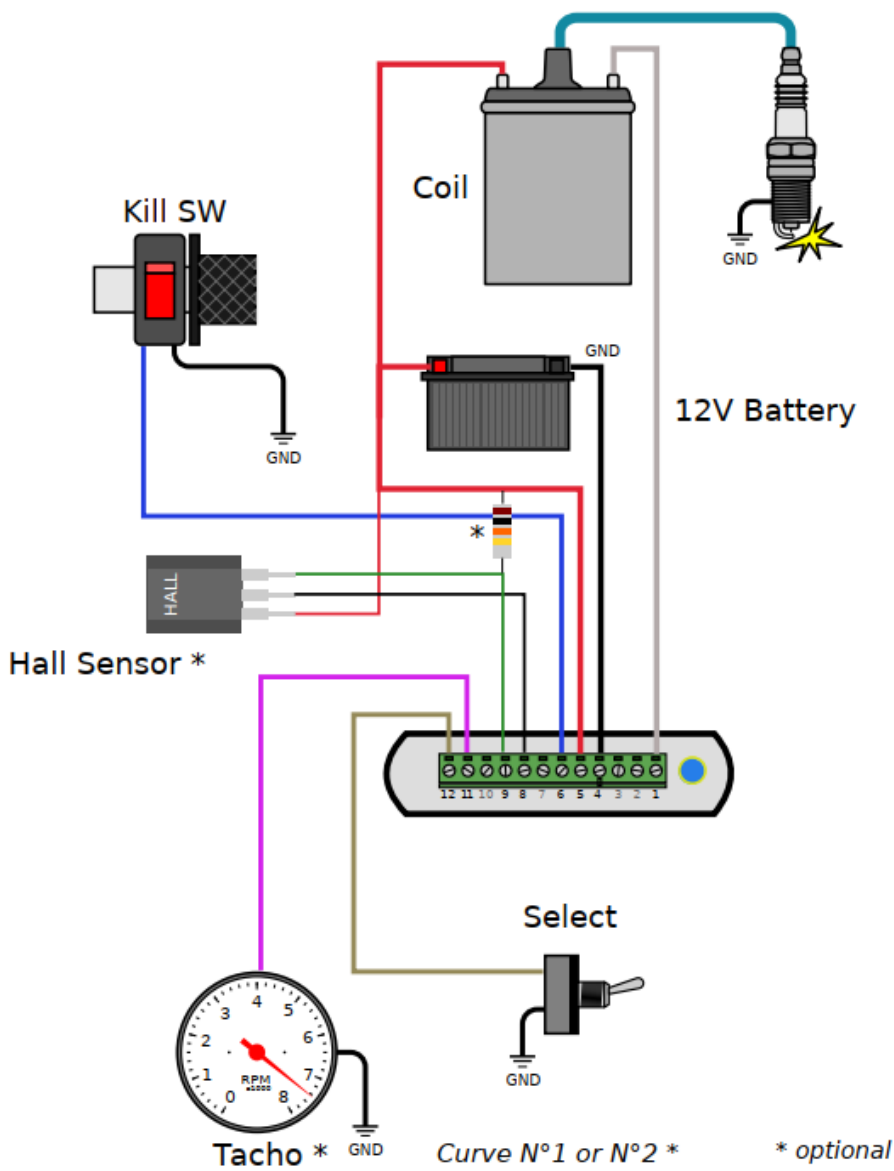
2 types of Sensors

- Hall sensors with **open-collector** output, give a floating voltage when no magnet.
They needs a pull-up resistor.

+5V to +12V

Hall
Open collector

2K to 10K

VCC
GND
VOUT
GND

1
3
2

OUTPUT

GND
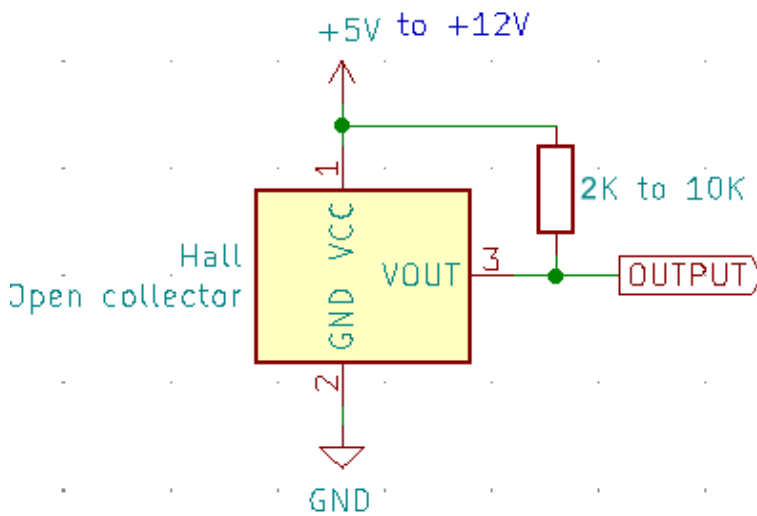
- Hall sensors with **built-in pull-up resistor** give positives voltage when no magnet.

+5V to +12V

Hall
Internal PU resistor

VCC
GND
VOUT
GND

1
3
2

OUTPUT

GND
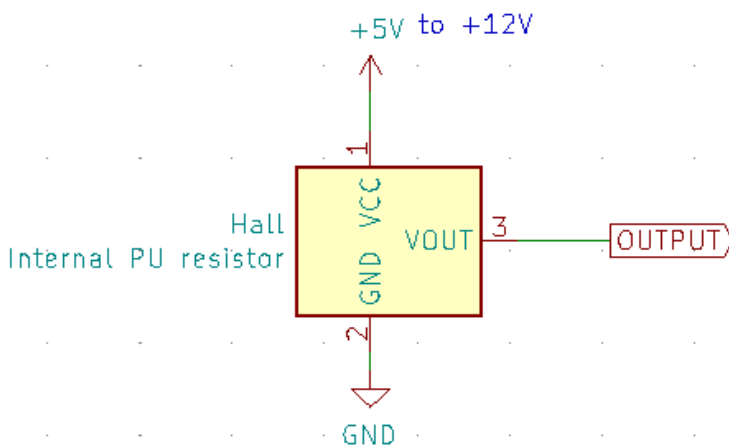
Hall sensors require a +5v to +12vdc supply voltage.

*You can even connect an **Optical Sensor** as long as it puts out a CLEAN square signal similar to the one above.*

See Appendix 2 for Position

Output of a Hall sensor
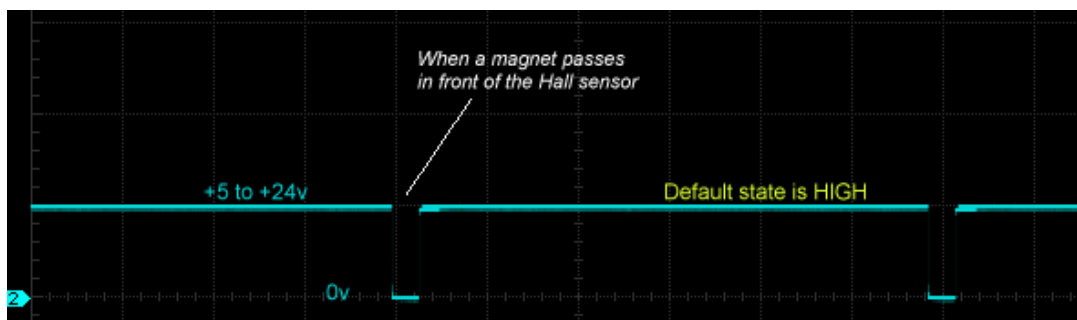
Timing

The ignition box uses the **rising edge** of the Hall sensor signal.

*You can even connect an **Optical Sensor** as long as it puts out a CLEAN square signal similar to the one above.*

Points

Points can be connected between **pins 9 and 8(gnd)**

First step:

Modify the wiring:
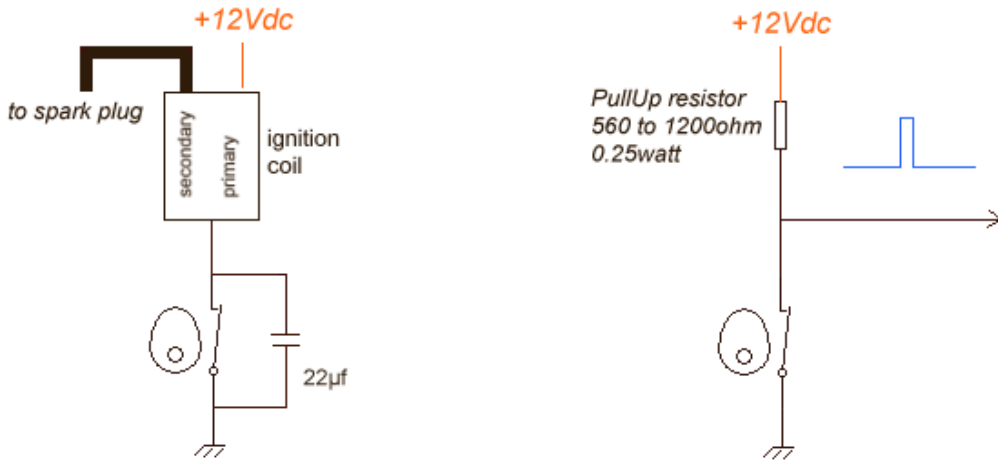
Second step:

Most conventional points have a mechanical advance with weights that change the timing depending on RPM. Now that TCI will be controlling the timing, you will need to lock out these mechanism.

2 possibilities:

A) You move the points or lock the mechanical timing to the **farthest advanced position**.

ie: If the mechanical system can shift the points until 30° BTDC. lock the points in this position and tell the TCI : "*Pickup Position is 30°* "

B) If Points don't have mechanical system or if you choose to lock the mechanical system for NO advance, then tell the TCI "*Pickup Position is at TDC*" by entering 360°

Pickup Position

MENU	PICKUP TYPE	PICKUP POSITION
STROKES	SHAFT	CYLINDERS
ADVANCE TIMING	ADVANCE 0-500rpm	AUTO SPARK
DWELL	BYPASS	CONSOLE
MODIFY		

[USERPOS]

BTDC

45 ⌄ °

Send

- Go back to the browser and first thing first, enter the **Pickup Position** then click **Send**

Formula is: ***Pickup position = Base advance + Magnet Length***

Magnet Length:

Base advance is generally 5 to 15° BTDC

See Appendix 1,2,3 to find the physical position of the pickup relative to TDC.

Current value appears in blue on the form.

- The **Led flashes** when value is processed.

V14R1C1

Shaft

Default: 0

MENU	PICKUP TYPE	PICKUP POSITION
STROKES	SHAFT	CYLINDERS
ADVANCE TIMING	ADVANCE 0-500rpm	AUTO SPARK
DWELL	BYPASS	CONSOLE
MODIFY		

[USERSFT]

○ 0: CrankShaft
○ 1: CamShaft
○ 2: 2pulses/rev

[Send]

- Select if the pickup is placed :

    - **0**: on the **crankshaft** via the flywheel (2stk) with 1 pulse per rotation

    - **0**: on the **crankshaft** via the flywheel (4stk) with 1 pulse per rotation with wasted spark.
    (*one spark occurs during the compression stroke and another during the exhaust stroke.*)

    - **1**: on the **camshaft** (4stk) with 1 pulse per 2 rotations.

    - **2**: on the **crankshaft** with 2 pulses per rotation

Current value appears in blue on the form.

Advance Timing

Default: Empty

- Proceed now to enter the advance timing.

We want to setup:
```
500  rpm    =     5°   BTDC
1000 rpm    =     5°   BTDC
4000 rpm    =     30°  BTDC
7000 rpm    =     34°  BTDC
```

Enter values <u>consecutively</u> in <u>ascending</u> order of RPM !

Pair 500:5 first etc etc…

7000 being the <u>last value</u> (*as the firmware stops reading when it meets a null value*),

7000 will act as the <u>hard rev-limiter</u>: No more sparks at 7001 RPM !

MENU	PICKUP TYPE	PICKUP POSITION
STROKES	SHAFT	CYLINDERS
ADVANCE TIMING	ADVANCE 0-500rpm	AUTO SPARK
DWELL	BYPASS	CONSOLE
MODIFY		

Stored Values:

Timing Curve 1:

0	500
4	5
8	1000
12	5
16	3000
20	40
24	8000
28	30
32	0
36	0
40	0
44	0

Curve N°1 or N°2*

USERTIM

RPM

`3000`

ADV

`14` °

Curve

`0` (0=curve N°1)

Send
Option

RPM can be entered with a 100rpm step but RPM will be measured with **1rpm** precision.

Timing can be entered with a precision of 1° but the processor calculate all timing values between the points you entered using linear interpolation so an **accuracy of 0.1°** is done at this step.

Any timing values will be COMPLETELY OFF IF PICKUP POSITION IS FALSE: **PICKUP POSITION IS KEY**

See Appendix 1 for Position

Curve N°1 is stored from addresses 0 to 100

V14R1C1

Dwell

Dwell time is the charge time for the ignition coil.

It vary with different types of ignition coil and is typically 2 milliseconds for many modern coils to 4 or 5 milliseconds for older ignition coils.

Spark appends when the current flow is stopped **after** Dwell time.

MENU	PICKUP TYPE	PICKUP POSITION
STROKES	SHAFT	CYLINDERS
ADVANCE TIMING	ADVANCE 0-500rpm	AUTO SPARK
DWELL	BYPASS	CONSOLE
MODIFY		

[3]

——————●——————— 3ms

Send

Current value appears in blue on the form.

Keep in mind that the longer the Dwell time, the lower the max RPMs

Select curve

Default: curve N°1

If you bought the 2 curves option, then connect a switch between connector **pin 12 and ground**.

When the switch is **open** (or no switch connected), **curve N°1** will be used.

If switch is **on** (*pin 12 connected to ground*) <u>BEFORE</u> turning on the ignition box, then **curve N°2** will be used.

You cannot change the curve while running.

MENU	PICKUP TYPE
STROKES	SHAFT
ADVANCE TIMING	ADVANCE 0-500rpm
DWELL	BYPASS
MODIFY	

PICKUP POSITION	
CYLINDERS	
AUTO SPARK	
CONSOLE	

Curve N°1 or N°2*

500 => 14

RPM

3000

ADV

14 °

Curve

1 (0=curve N°1)

Send
*Option

96	0
100	0

Timing Curve 2:

104	501
108	5
112	1001
116	8
120	3001
124	30
128	10001
132	40
136	0
140	0
144	0
148	0
152	0
156	0
160	0
164	0
168	0
172	0
176	0
180	0
184	0
188	0
192	0
196	0
200	0
204	0

Settings:

Curve N°2 is stored at addresses 104 to 204

V14R1C1

Security

Pin 10 is a security input for Neutral, clutch or sidestand switches.

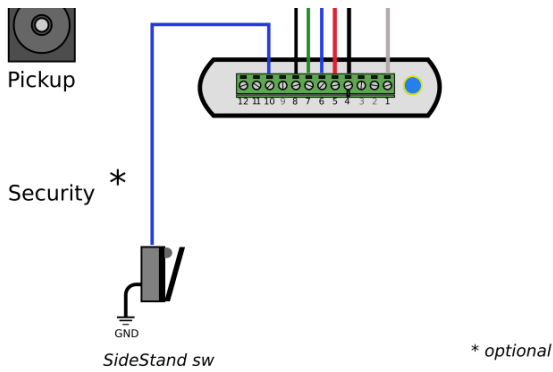It can be configured in 3 ways:

|		
0 = input unused	No security	
1 = gnd2run	pin10 MUST be grounded in order to run the ignition.	
2 = gnd2kill	pin10 kill the ignition when grounded.	

To use more then one security, use diodes to make a "OR" gate:
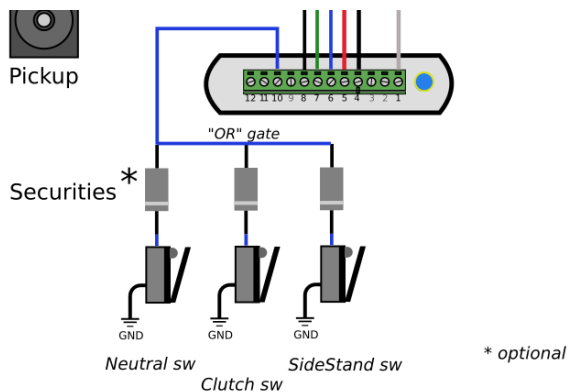
Read

- To display the values that have been set, click on the **Read** button on the **Menu** page :

MENU	PICKUP TYPE	PICKUP POSITION
STROKES	SHAFT	CYLINDERS
ADVANCE TIMING	ADVANCE 0-500rpm	AUTO SPARK
DWELL	BYPASS	CONSOLE
MODIFY		

Read

Dump

Home

Clear Timing

Clear All

Factory Restore
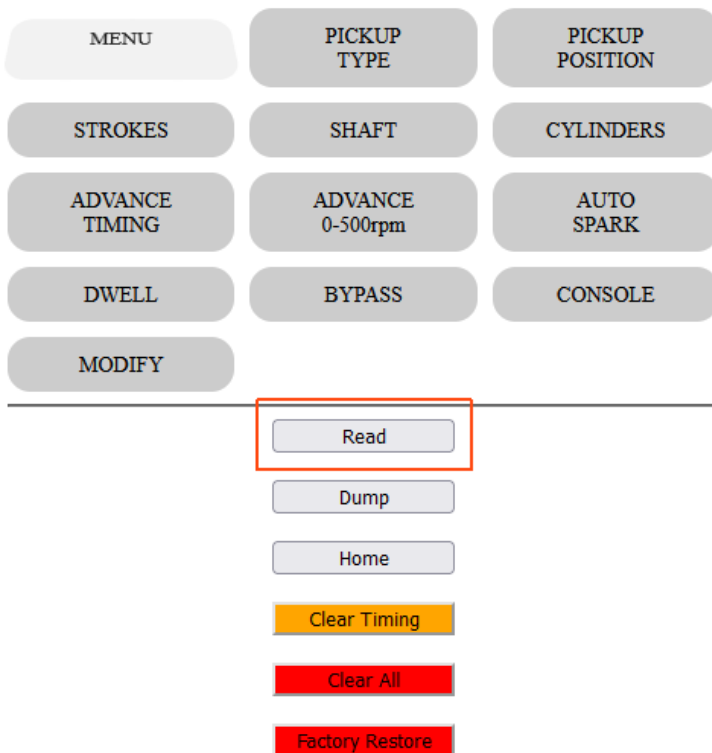
Stored Values:

Timing Curve:

0	500
4	5
8	1000
12	5
16	4000
20	30
24	7000
28	34
32	0
36	0
40	0
44	0
48	0
52	0
56	0
60	0
64	0
68	0
72	0
76	0
80	0
84	0
88	0
92	0
96	0
100	0

✔ exit (at 32)

Stored Values:

Timing Curve:

0	500
4	5
8	1000
12	5
16	4000
20	30
24	0
28	0
32	0
36	0
40	7000
44	34
48	0
52	0
56	0
60	0
64	0
68	0
72	0
76	0
80	0
84	0
88	0
92	0
96	0
100	0

✘ exit (at 24)

| 204 | 0 | |

Settings:

208	0	Autospark (TCI)
212	0	Pickup Type
216	50	Pickup Position
220	0	DwellType (TCI)
224	3	Dwell (TCI)
228	0	Console output
232	0	Bypass (TCI)
236	0	Adv 0-500rpm
240	0	
247	0	Shaft
248	5	Starts

Home

Dump

Read EEPROM addresses and display them in HEX values for <u>debug</u> purpose.
Click on the **Dump** button on the **Menu** page :

MENU	PICKUP TYPE	PICKUP POSITION
STROKES	SHAFT	CYLINDERS
ADVANCE TIMING	ADVANCE 0-500rpm	AUTO SPARK
DWELL	BYPASS	CONSOLE
MODIFY		

Read

Dump

Home

Clear Timing

Clear All

Factory Restore

Dump EEPROM Hex Values:

```
0     F4 01 00 00 05 00 00 00
8     40 1F 00 00 28 00 00 00
16    34 21 00 00 28 00 00 00
24    00 00 00 00 00 00 00 00
32    00 00 00 00 00 00 00 00
40    00 00 00 00 00 00 00 00
48    00 00 00 00 00 00 00 00
56    00 00 00 00 00 00 00 00
64    00 00 00 00 00 00 00 00
72    00 00 00 00 00 00 00 00
80    00 00 00 00 00 00 00 00
88    00 00 00 00 00 00 00 00
96    00 00 00 00 00 00 00 00
104   00 00 00 00 00 00 00 00
112   00 00 00 00 00 00 00 00
120   00 00 00 00 00 00 00 00
128   00 00 00 00 00 00 00 00
136   FE 00 00 00 00 00 00 00
144   00 00 00 00 00 00 00 00
152   00 00 00 00 00 00 00 00
160   00 00 00 00 00 00 00 00
168   00 00 00 00 00 00 00 00
176   00 00 00 00 00 00 00 00
184   00 00 00 00 00 00 00 00
192   00 00 00 00 00 00 00 00
200   00 00 00 00 00 00 00 00
208   00 00 00 00 00 00 00 00
216   32 00 00 00 00 00 00 00
224   02 00 00 00 00 00 00 00
232   00 00 00 00 00 00 00 00
240   00 00 00 00 01 00 00 00
```

Home

V14R1C1

Modification

Say you want to modify the advance timing for 7000rpm and set 35° instead of 34°

In *Read* mode above, we saw that RPM 7000 is stored at address 24 and timing for 7000rpm is at address 28.

Since we want to modify the advance timing at line 28, we now have to enter :

Line   **28**
New value   **35**
then   **Send**

Same thing to change any other values.

Remember: **All timing values must be in <u>ascending</u> order of RPM !**

Use Read button to check that.

Add points

Say you want **to add** one advance timing of 34° @ 8000rpm

In *Read* mode above, we saw that last RPM 7000 is stored at address 24 and timing for 7000rpm is at address 28.

The next 2 **empty** slots available are:

24	7000
28	34
32	0
36	0
40	0

Address **32** for RPM and Address **36** for timing

We now have to enter :
Line	**32**
New value	**8000**
then	**Send**

Line	**36**
New value	**34**
then	**Send**

Remember: **All timing values must be in <u>ascending</u> order of RPM !**

Use Read button to check that!

Clear points

Say you want to remove the last advance timing of 34° @ 7000rpm

In *Read* mode above, we saw that last RPM 7000 is stored at address 24 and timing for 7000rpm is at address 28.

24	7000
28	34
32	0
36	0
40	0

To zero out those values we now have to enter :

Line	**24**
New value	**0**
then	**Send**

Line	**28**
New value	**0**
then	**Send**

Remember: All timing values must be **consecutive** and in ascending order of RPM !
Use Read button to check that.

Stored Values:

Timing Curve:

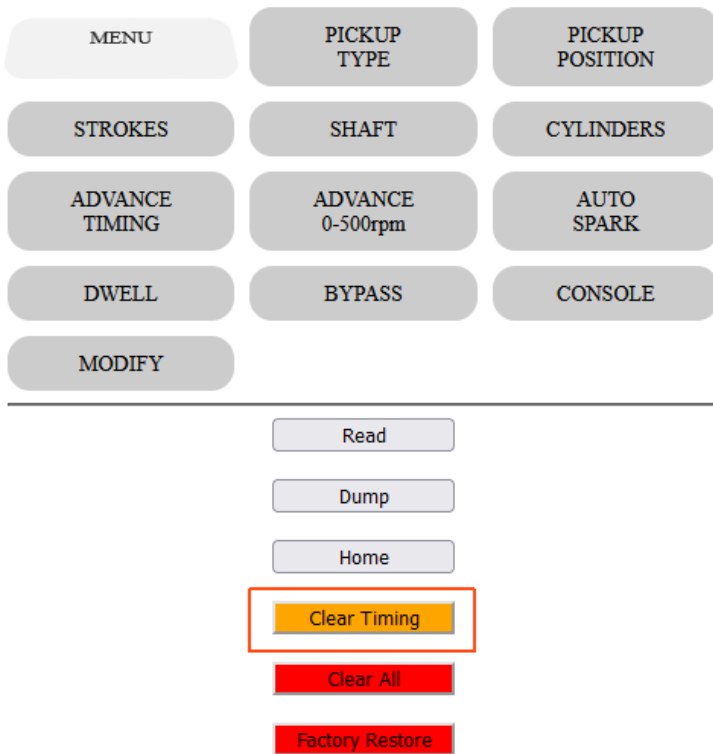|	
0	500
4	5
8	1000
12	5
16	4000
20	30
24	0
28	0
32	0
36	0
40	7000
44	34
48	0
52	0
56	0
60	0
64	0
68	0
72	0
76	0
80	0
84	0
88	0
92	0
96	0
100	0

✗ — exit

Clear Timing

This button will **clear TIMING values** WITHOUT confirmation.
Pickup position, polarity, shaft, dwell etc are kept.

MENU	PICKUP TYPE	PICKUP POSITION
STROKES	SHAFT	CYLINDERS
ADVANCE TIMING	ADVANCE 0-500rpm	AUTO SPARK
DWELL	BYPASS	CONSOLE
MODIFY		

Read

Dump

Home

Clear Timing

Clear All

Factory Restore

Browser shows :

Timing values cleared!

Please restart the ignition box.

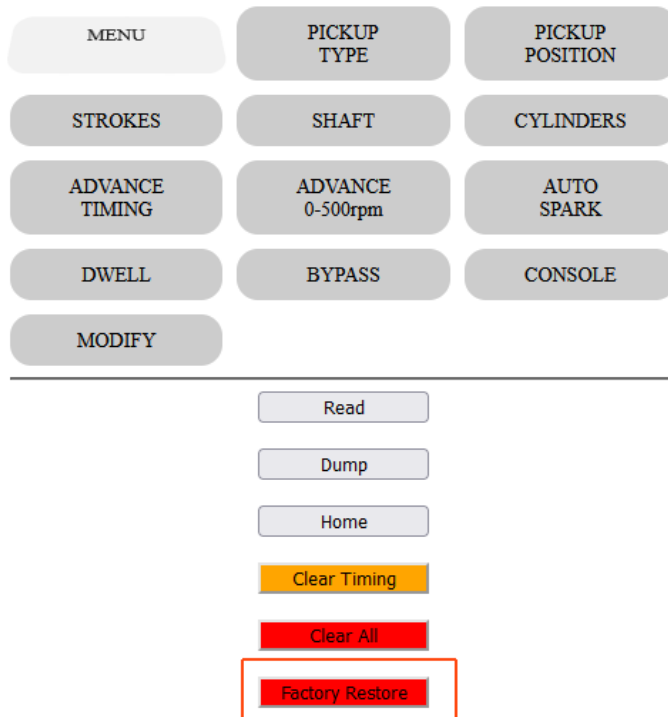This box now has no Advance Curve and cannot operate until you set timing values.

Restart the ignition box. (power off/power on)

Don't forget the Kill switch position if you want to return in Setup mode….

Clear All

This button will **clear ALL values** WITHOUT confirmation. (Paid options are kept)
Timing, Pickup position, polarity, shaft, dwell etc are zeroed.

MENU	PICKUP TYPE	PICKUP POSITION
STROKES	SHAFT	CYLINDERS
ADVANCE TIMING	ADVANCE 0-500rpm	AUTO SPARK
DWELL	BYPASS	CONSOLE
MODIFY		

Read

Dump

Home

Clear Timing

Clear All

Factory Restore
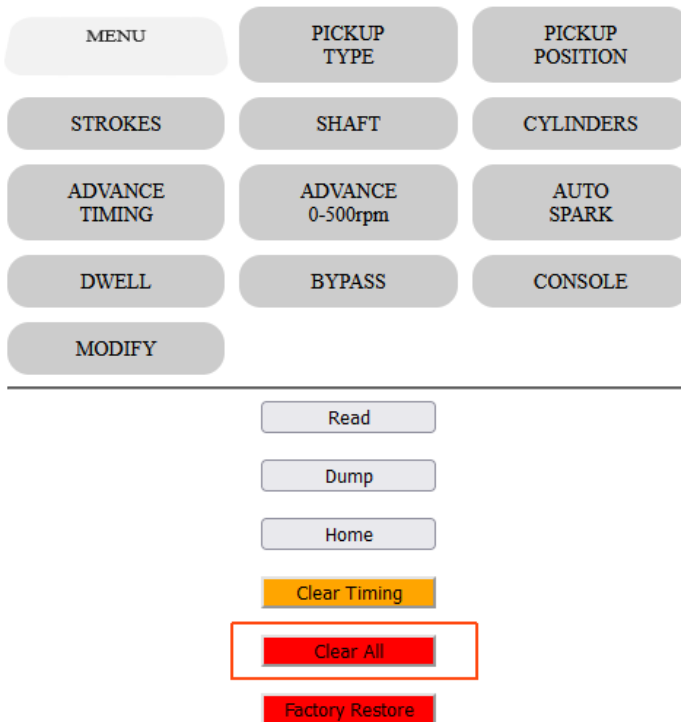
Browser shows :

EEPROM values cleared!

Please restart the ignition box.

This box is now *empty* and cannot operate until you set values. '

Restart the ignition box. (power off/power on)

Don't forget the Kill switch position if you want to return in Setup mode….

V14R1C1

Factory Restore

This button will **Restore Factory Default** WITHOUT confirmation. (Paid options are kept)

Timing, Pickup position, polarity, shaft, dwell etc are set to default values.

Browser shows :

Init All done!

This box now have a default Advance Curve which is not the one you need...
Tune the values before to start the engine!

Restart the ignition box. (power off/power on)

Don't forget the Kill switch position if you want to return in Setup mode....

Advanced settings

If you don't need those Extra settings, just let them to their default value.

Advance at kick start

Default: 0
Range of values: 0 to 10

For an easier Manual Kick start and to avoid kick backs, you can delay the advance between 0 to 500rpm to send the spark a few degrees **After** Top Dead Center (ATDC)

Current value appears in blue on the form.

AutoSpark

This **autotest function** is usable on TCI and DCCDI only.

On **Running mode**, the box fires the ignition coil by itself at 300/1000/3000/10000rpm WITHOUT any pickup connected.

This way you can test the ignition box, wiring, ignition coil, sparkplug wire and sparkplug.

Of course, remove the sparkplug from the cylinder head and connect the metal part to the frame.

MENU	PICKUP TYPE	PICKUP POSITION
STROKES	SHAFT	CYLINDERS
ADVANCE TIMING	ADVANCE 0-500rpm	AUTO SPARK
DWELL	BYPASS	CONSOLE
MODIFY		

[0]

○ 0: Off
○ 1: 300rpm
○ 2: 1000rpm
○ 3: 3000rpm
○ 4: 10000rpm

Send

Current value appears in blue on the form.

Bypass

This function bypass the advance timing and trigger a spark AS SOON AS a pickup pulse has been detected.

This function comes handy when you want to know the pickup position with a Timing Lamp :
Remove the sparkplug out of the engine and connect it to the metal frame, then rotate the engine with a drill machine.

With points and mechanical advance system, TCI in Bypass mode is acting as a simple Transistorized Ignition.

/!\ **Don't use the function on a running engine fitted with pickup or hall sensor** otherwise the spark will append way too soon and can harm the piston !!
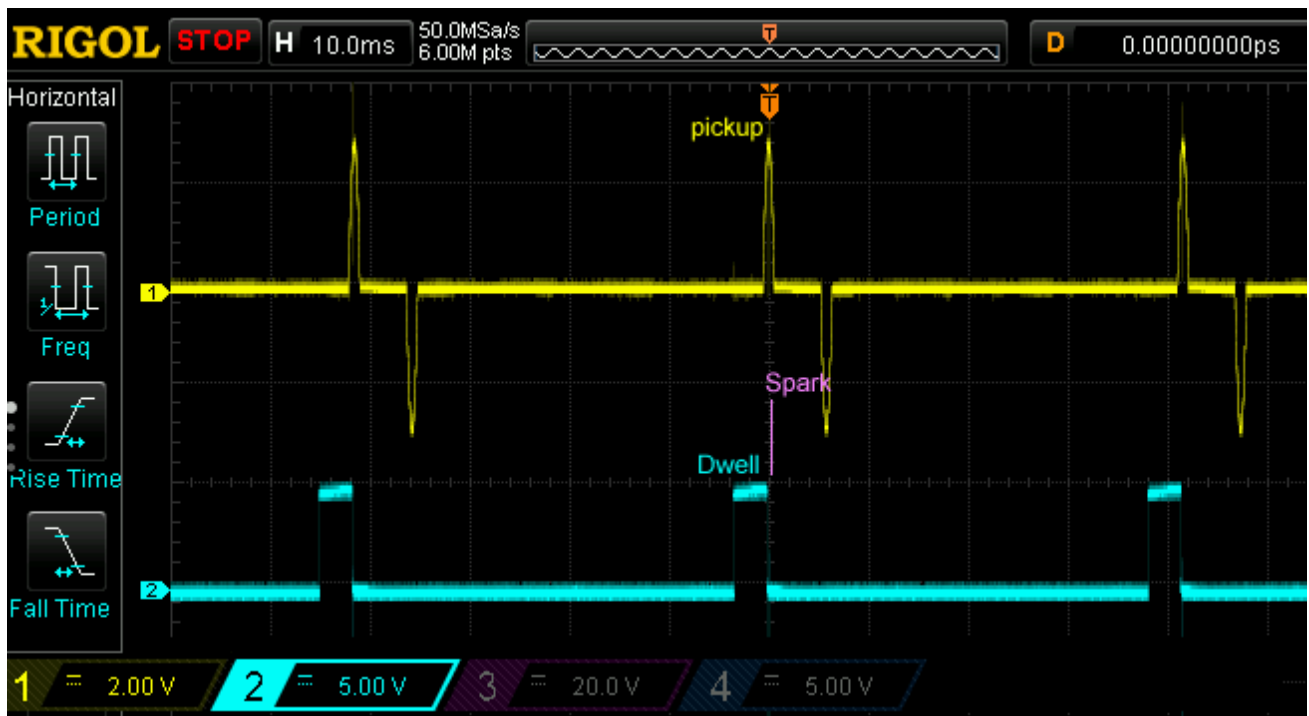
MENU	PICKUP TYPE	PICKUP POSITION
STROKES	SHAFT	CYLINDERS
ADVANCE TIMING	ADVANCE 0-500rpm	AUTO SPARK
DWELL	BYPASS	CONSOLE
MODIFY		

[0]

○ 0: Off
○ 1: On

Send

Current value appears in blue on the form.

V14R1C1

Console

Enable the Console output:

- Turn the ignition box in **Setup Mode**

- Go to "**CONSOLE**", check "1" to enable the console output, press Send

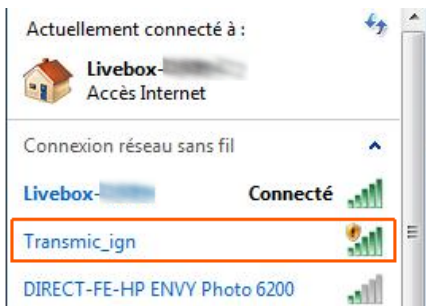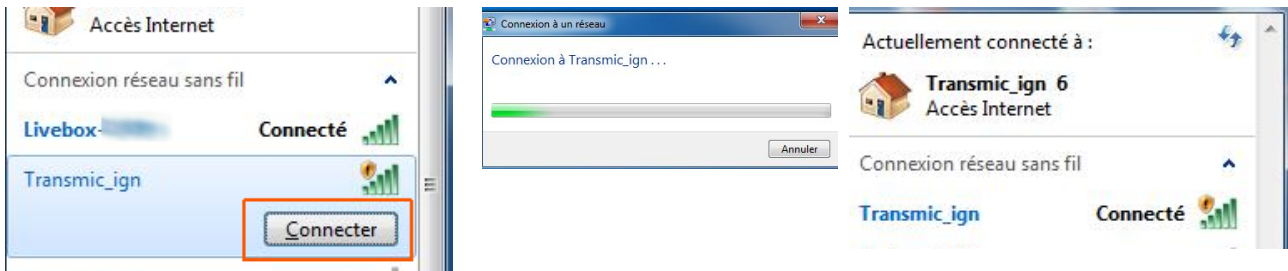| DWELL	BYPASS	CONSOLE
MODIFY		

[0]

○ 0: Off
○ 1: On

Send

Current value appears in blue on the form.

- Power **off** the ignition box

- **Disconnect** the **Kill** wire from ground

1) **Power on** the ignition box, it goes in "**Run Mode**"

2) The **LED** flashes once if curve N°1 is selected or flashes twice for curve N°2

4) The ignition box also creates a **WiFi AP** (*Access Point*)

5) On your phone, laptop, PC, whatever, go to the **Wifi setting** and search for a new SSID called **Transmic_ign**
You can see available SSID with a Wifi Analyzer as <u>*NetSpot for* Android</u> *or* <u>Wifi-Analyzer for W10</u>

Actuellement connecté à :
Livebox-▓▓▓▓
Accès Internet

Connexion réseau sans fil ▲

Livebox-▓▓▓▓   Connecté

Transmic_ign

DIRECT-FE-HP ENVY Photo 6200

6) **Connect** to it. Password is required: it's "*password*"

7) **Start** the engine

8) Once your device is connected to the AP, open up a **browser** and head over to
- Up to TCIv12r7c0   http://**192.168.4.1**
- From TCIv12r7c1   http://**192.168.4.1/console**

9) After a few seconds, the browser should display both the **RPM and the advance timing** in degrees BTDC followed by 2 bargraphs

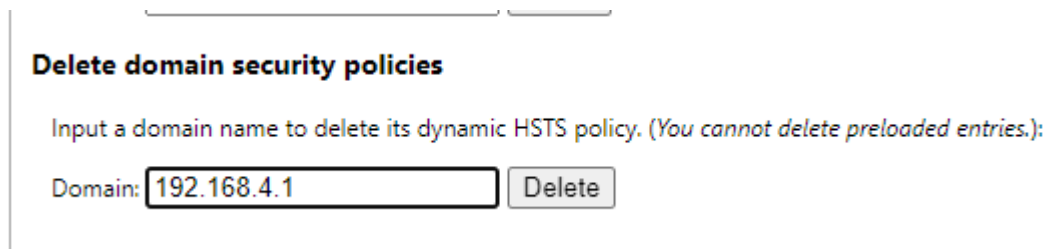**Display appears ONLY when the engine is running.**

> *Because of the impact on Ignition box performance, please use it for debug only and disable this function when you are done with it!*

Troubleshooting

<u>Workarounds</u>

- Use Firefox. *Close <u>all</u> Firefox windows than relaunch it.*

- Use a lightweight, portable browser as *QtWeb*

- In Chrome, disable **HSTS** (*HTTP Strict Transport Security*) that forces to open websites in HTTPS:
      - Write **chrome://net-internals/#hsts** in the address bar.
   - Scroll down the page to :

Delete domain security policies

Input a domain name to delete its dynamic HSTS policy. (*You cannot delete preloaded entries.*):

Domain: 192.168.4.1 | Delete |

      - add **192.168.4.1** and hit **Delete** to disable Force https for this particular website.

Running Mode

1) **Disconnect** the **Kill** wire from ground if you previously went into **Setup Mode**

2) **Power on** the ignition box, it goes in normal "**Run Mode**"

3) The **LED** stays On waiting for pickup signal.

4) Start the engine. The LED **blinks** in time **with RPM**.

5) When the engine runs, if **Kill** wire is connected **to ground** then it **stops** the engine.
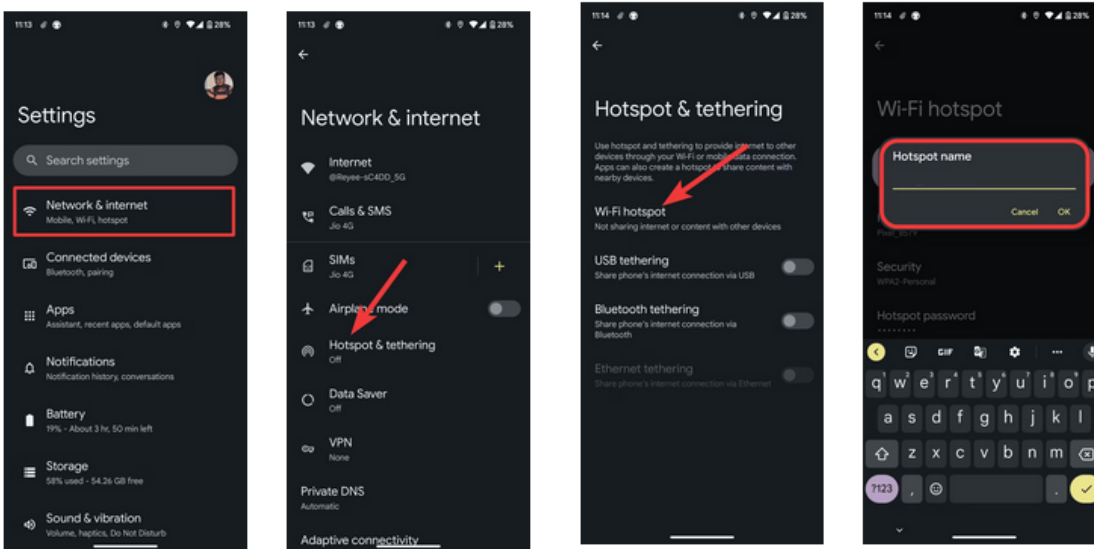
Update firmware

1) Turn the ignition box in "**Setup**" mode

2) Under "**UPDATE**" tab, check "**Enabled**" > **Send**

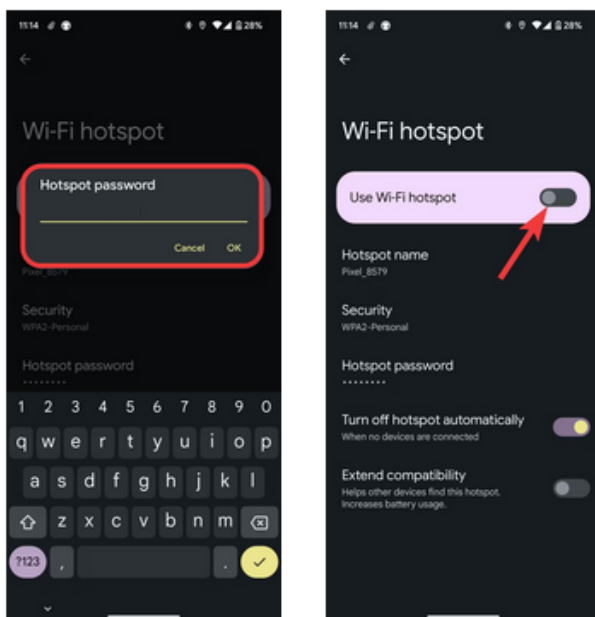| DWELL	BYPASS
MODIFY	UPDATE

[0]

○ 0: Disabled
○ 1: Enabled

Send
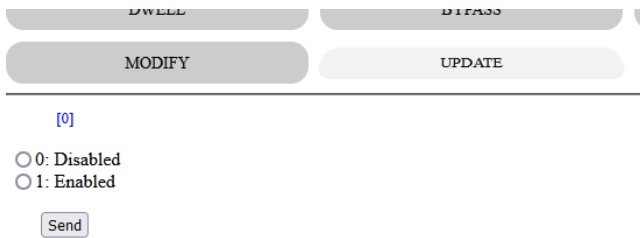
Android

3) On your SmartPhone pull down from the top of the screen and navigate
to **Settings** > Tap **Network & Internet** > Go to **Hotspot & tethering**

Tap **WiFi hotspot** and set **Hotspot name = transmic**

Set the "**Hotspot password**" to **update4ignition** > **Turn on** the Wifi hotspot

V14R1C1

Security should be WPA2
Band should be 2.4GHz
Video : https://youtu.be/mYplGVcX2sQ?t=74

4) Check that your smartphone can reach the internet server :

> Open a browser > go to http://update.transmic.fr/

> You should read smth like :

Last Firmwares Versions

Type	CDI	TCI
V14		v14r0c0

5) Connect **KILL** wire to ground on the ignition box

6) **Restart** the ignition box

The **Led** blinks 5 times meaning grounded Kill switch has been detected.

7) Led flashes every second while searching for the wifi hotspot.

   Led goes off when connected to hotspot and while trying to reach the update server.

[Understanding update status with led (video)](#)

A new firmware is available :

LED is on while downloading data from the network. Off while writing data to the box.

After 30-45 seconds, the led turns off and the ignition box restart.

Because the kill wire is still connected to ground, the box will restart in Setup mode, open a wifi AP and display the updated version on the home page.

Remove the kill wire from the ground.

Power off the ignition box.

There is no firmware available :

The Led blinks continuously 3 times per second indicating the update control has been completed.
Remove the kill wire from the ground.

Power off the ignition box.

IPhone

To change the Hotspot name you have to change your iPhone's name (!!!)
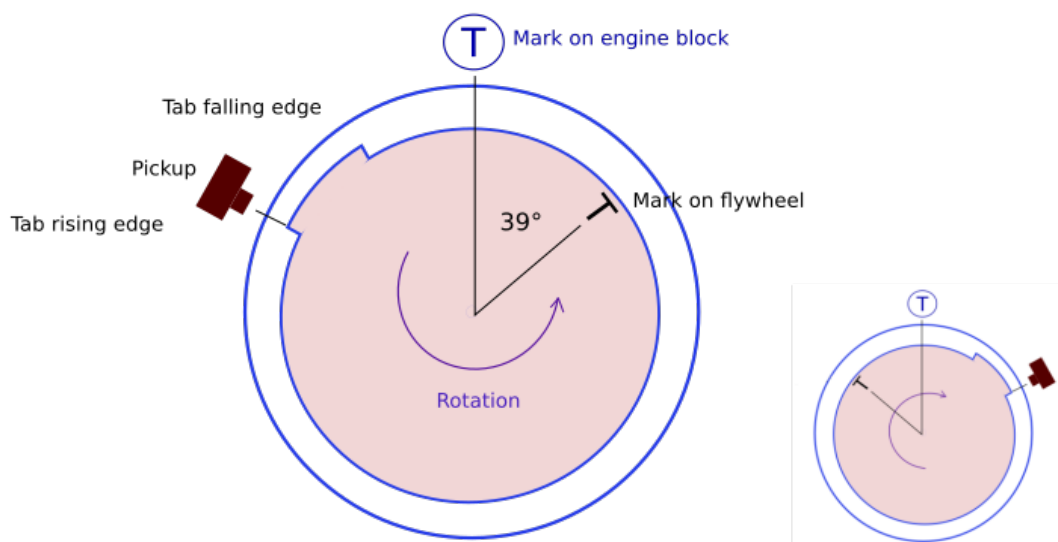*Settings > general > About > Name*

Enable your hotspot:
Settings > Cellular > Personal Hotspot > wifi Password > done > Allow others to join
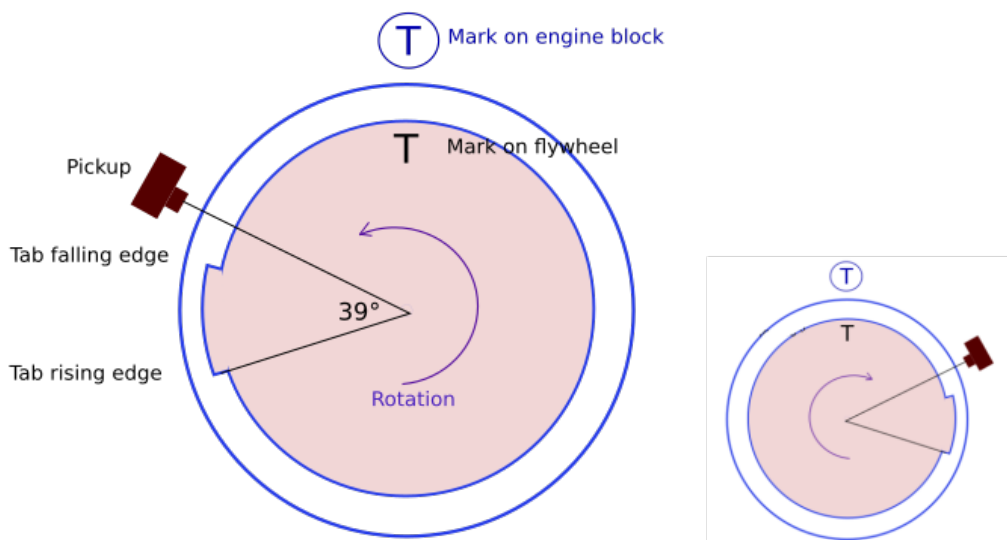

V14R1C1

Appendix 1

Find the physical position of the analog **pickup** relative to Top Dead Center.

In the example below the pickup is set at 39° BTDC

Method N°1
Pickup aligned with rising edge

Method N°2
Engine at TDC

Leading|Rising edge generate pulse for high revs
Trailling|Falling edge generate pulse for idle.
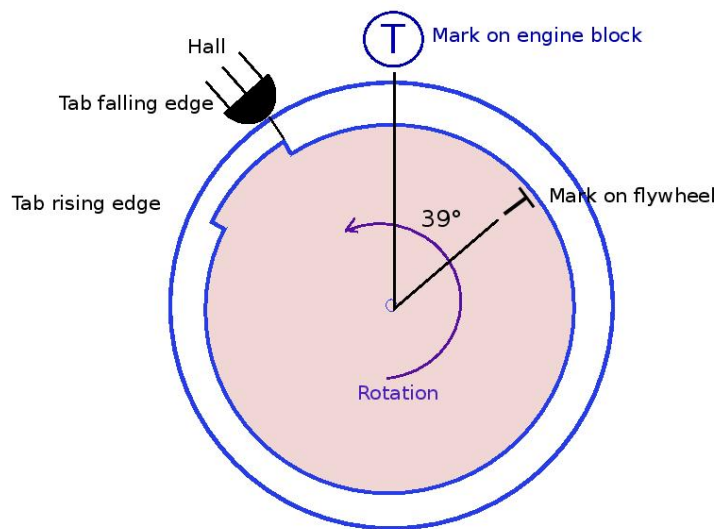
calageTDC_pickup_2methods.svg

Read timing from flywheel: https://transmic.fr/2021/09/23/read-timing-from-flywheel/
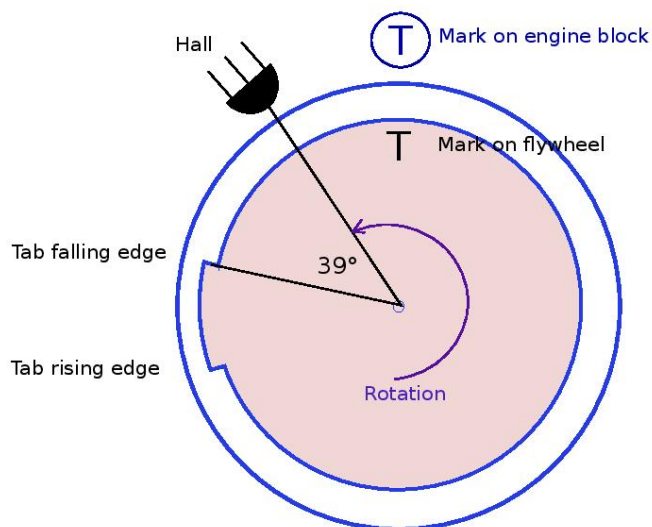
Appendix 2

Find the physical position of the digital **Hall Sensor** relative to Top Dead Center.

In the example below the sensor is set at 39° BTDC

Method N°1
Hall sensor aligned with falling edge

Method N°2
Engine at TDC

Appendix 3

A) Remove the sparkplug, find the TDC position with a *dial indicator gauge* or a *caliper rule*:

B) Align the pickup with the beginning of the magnet on the rotor and measure the travel of the piston with the caliper rule:
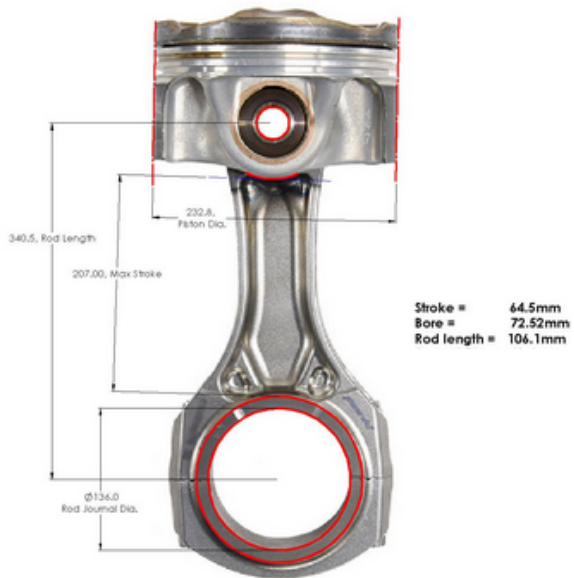
C) Use an online timing calculator to convert millimeters into degrees:

https://lambretta-images.com/tuningh/port-timing-calculators/degrees-to-mm-timing-calculator/
or
http://www.ajcshop.fr/Calculettes/html/calculette-convertisseur-allumage.htm

ie:

Stroke =   64.5mm
Bore =   72.52mm
Rod length =   106.1mm

=>

1	->	64.5	Course en mm
2	->	106.1	Longueur de bielle (entraxe) en mm
3	->		Diamètre (D) du volant en mm (uniquemer
4	->	0.67	Avance en mm
	Calculer	10.25	Avance en degrés (angle α) (renseigner 1, 2, 4) Le résultat est en ° et centièmes de °

Appendix 4

Tries and errors and Timing Lamp

First method:

For example, if you set the "*Pickup position*" to 40° BTDC plus some timing points then with your Timing Lamp you measure MORE advance than what is set in the user interface (ie you measure 35° instead of 30°@3000rpm) then INCREASE the "*Pickup position*" (40° → 45°)

If you set the "*Pickup position*" to 40° BTDC and with your Timing Lamp you measure LESS advance than what is set in the user interface (ie you measure 25 instead of 30°@3000rpm) then LOWER the "*Pickup position*" (40° → 35°)

Second method:

Set a FLAT advance timing with a SAFE value:
Example: 10° BTDC from 500 to 4000rpm

Run the bike and measure the timing with a Timing Lamp.

If you measure say 15° BTDC (instead of 10°) that mean the "*Pickup Position*" is off by 5°.
Increase the "*Pickup Position*" by 5.

If you measure say 5° BTDC (instead of 10°) that mean the "*Pickup Position*" is off by 5°.
Lower the "*Pickup Position*" by 5.