



PEUGEOT SPORT

208 R2

USER GUIDE SYSTEM

Update : 20th of May 2020



PEUGEOT SPORT

— RACING SHOP —

Summary

- Global system overview

- Looms..... P3
- Mandatory sensors..... P4

- Driver system overview

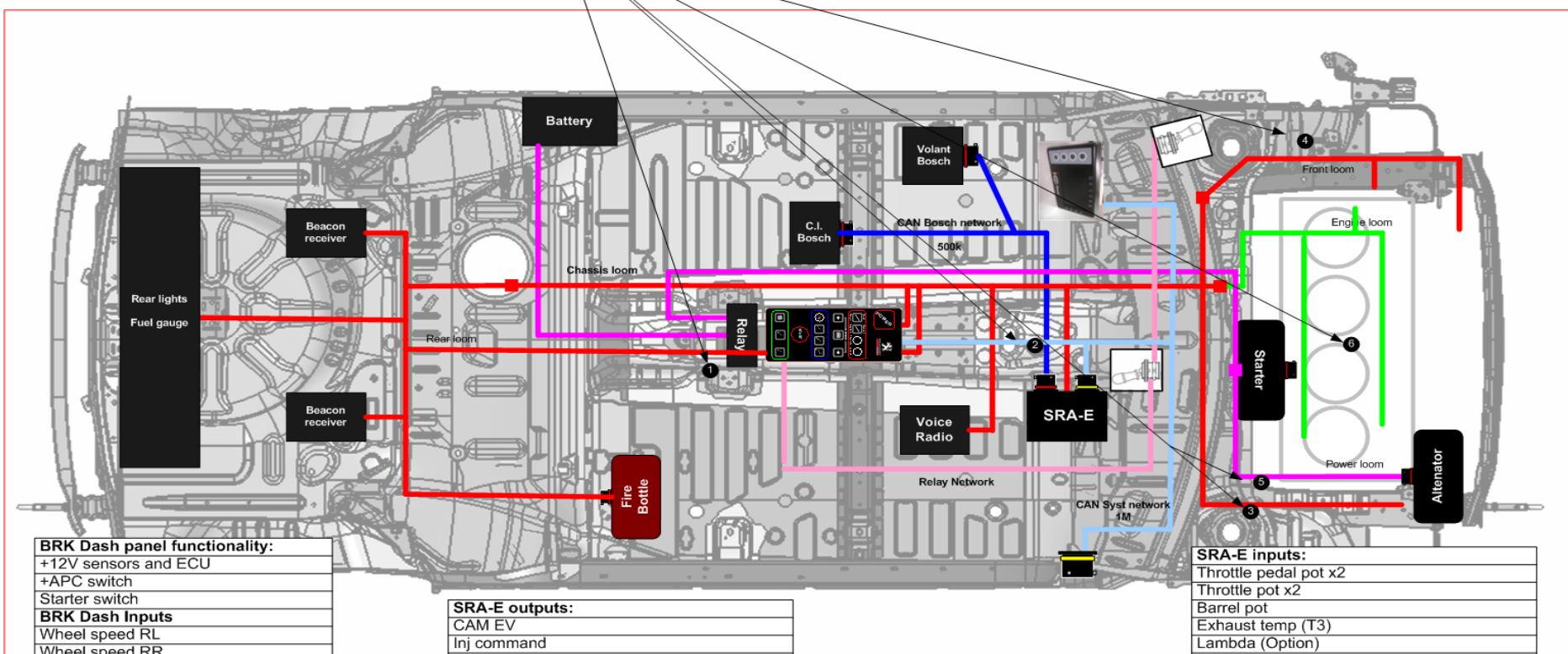
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Global system overview - Looms

MPDU inputs:
Brake Pressures:
Front & Rear
Engine Oil Pressure
GearBox Oil Temp
Lock Shift button
MPDU outputs:
5V Sensors



BRK Dash panel functionality:
+12V sensors and ECU
+APC switch
Starter switch
BRK Dash Inputs
Wheel speed RL
Wheel speed RR
Wheel speed FL
Wheel speed FR

SRA-E outputs:
CAM EV
Inj command
Ign command
5V power
Gbox Neutral Protection

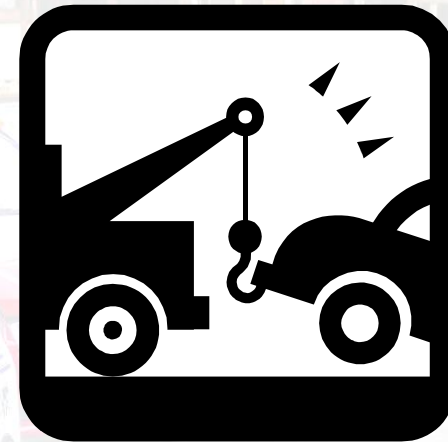
SRA-E inputs:
Throttle pedal pot x2
Throttle pot x2
Barrel pot
Exhaust temp (T3)
Lambda (Option)
Up switch (Gbox)
Knock sensor
P0, Poil, Fuel Press
T0 temp
Water temp

Global system overview – essentials sensors

Essentials sensors :

The following sensors are essentials for the smooth operation of the car. If one them is not working it may generate some engine and gearbox trouble :

- Barrel position
- Throttle pedal position
- Throttle body angle
- Car's speed
- Water temperature (Teau)
- Atmospheric pressure (P0)
- External temperature (T0)
- Knocking sensor
- Oil pressure sensor (Poil)



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Functions

Dashboard display

Gearbox lock (R←N←1)

High beam / Dipped beam // Flash

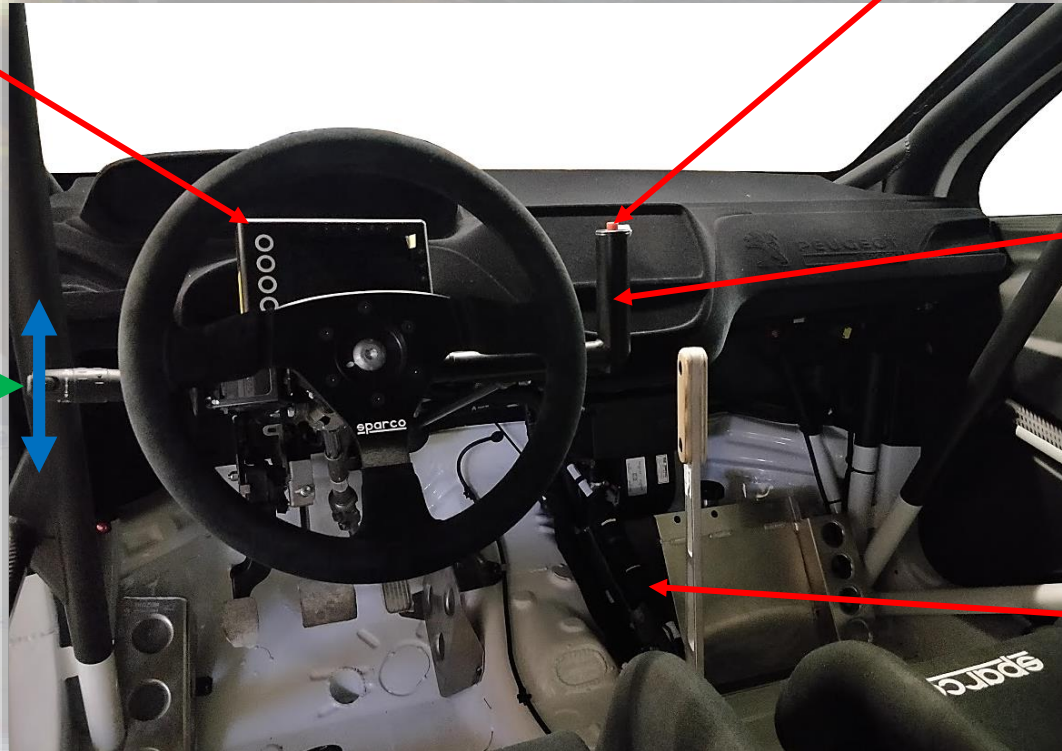
GB's control :

Pull => upshift

Push => downshift

Wipper's speed

ECU



Functions - BRK

Power

Mode : Road / Stage
Surface : Gravel / Tarmac

Blinkers // Simultaneous right and left press = hazard light
One press => working during 25s
(Hazard light stops if press on left or right)

Lights
1st press => parking light
2nd press => dipped beam
3rd press => stop

Starter

Heater // Engine fan test

Horn / crank

Throttle mapping (throttle :1->2->3->2->1)

Unused

Scroll pages

Short press => scroll page
Long press => switch from driver mode to mechanic mode

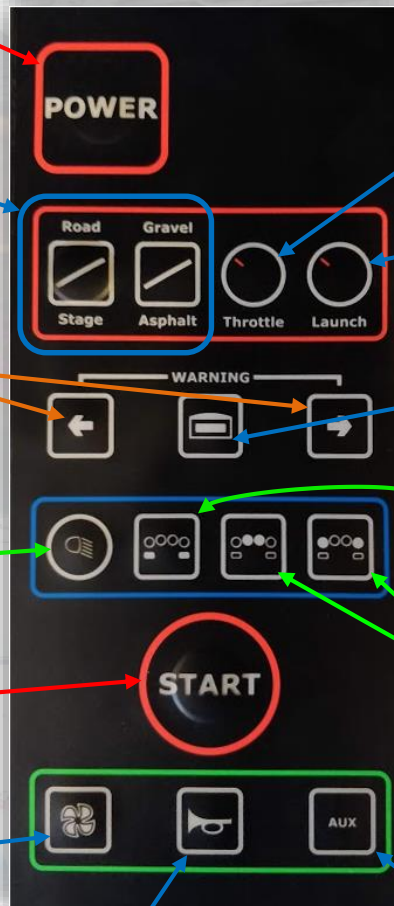
Anti fog lights

- Turn ON the lights (parking or dipped beam)
- Press the anti fog button

Ramp of headlight

- Turn on the high beam
- Press the button in the left to turn ON the inside lights
- Press the button on the right to turn ON the outside lights

Aux // Fuel tank draining



Driver overview

➤ Reverse gear unlock command

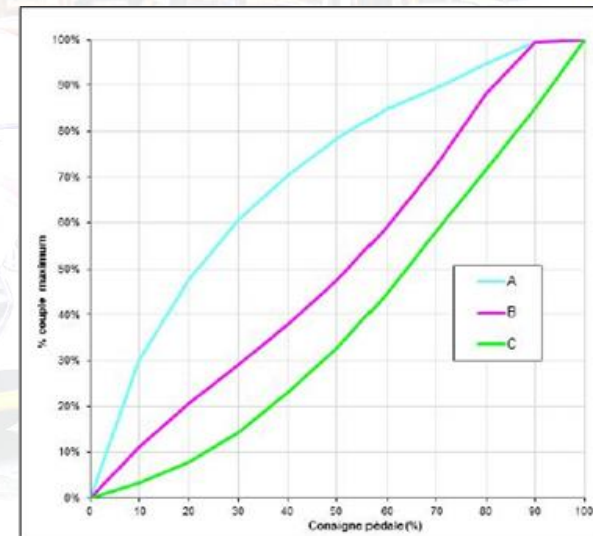
- Press the button and use the gearbox shift
- Disabled over 30km/h and 3500rpm
- Necessary for : 0 → R and 1 → 0



➤ Pedal / throttle body mapping

- Several pedal / throttle body mapping are available in stage mode :
 - Tarmac : 1, 2 or 3
 - Gravel : 1, 2 or 3

	1 Throttle		2 Throttle		3 Throttle	
	Throttle 1		Throttle 2		Throttle 3	
	Rapport		Rapport		Rapport	
	1/2	3/4/5	1/2	3/4/5	1/2	3/4/5
Asphalt	A	A	B	A	C*	B
Gravel	B	A	B	B	C*	B



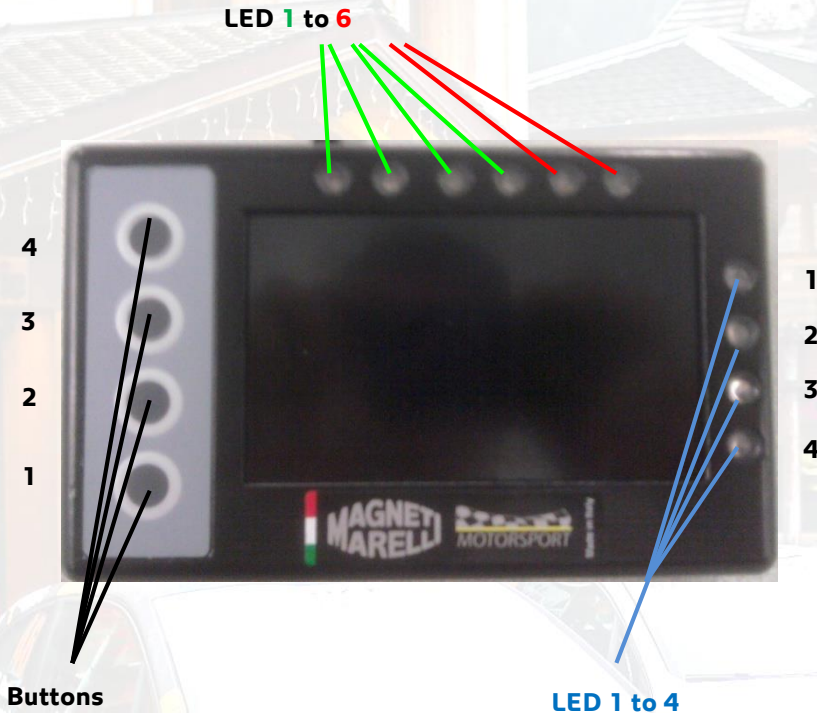
* : **C** = throttle body opening limited to 60°



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Dashboard display



Information given by the dashboard display

➤ Rev information

- **LED 1 to 4**, approaching the upshift rev
- Progressive lightening of **LED 1 to 4**
- **LED 5** => time to shift
- **LED 6** => over rev

➤ Alarms

➤ **LED 1 et 2**

- LED 2 fix : low level alarm
- LED 2 blink : high level alarm
- LED 1 and 2 blink : very high level alarm, risk of damage

➤ **LED 4** : Information

- LED 4 fix : shift a gear up to save fuel (road mode only)

➤ Buttons

- **1** : Scroll pages
- **2** : Resetting the fuel consumption
- **3** : Unused
- **4** : Acknowledge the alarm

LED lighting depending on the gear engaged:

	R/N	1	2	3	4	5
Led 1	2000	6950	7000	7050	7250	7500
Led 2	2000	7050	7300	7350	7450	7700
Led 3	2500	7300	7600	7650	7700	7900
Led 4	3000	7600	7850	7900	7950	8100
Led 5	3500	7950	8000	8050	8100	8300
Led 6	3600	7950	8000	8050	8100	8500



Gearbox

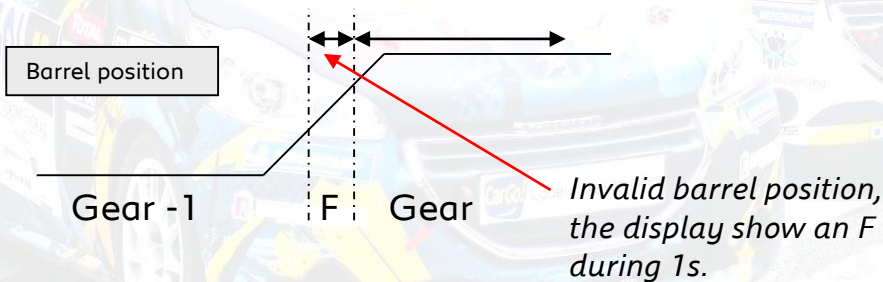
Barrel position

If the barrel position sensor is replaced, the following procedure must be followed:

Make sure the gearbox is mechanically in neutral gear then turn the sensor until you have the voltage between 0.995 V and 1.005 V on the first "mechanic" page.



Incorrect adjustment of the position of the barrel sensor can lead to difficulties in shifting and a reduction in the service life of the gearbox parts.



If the system detects an incorrect barrel position during more than one second, it will display the default gear "5".

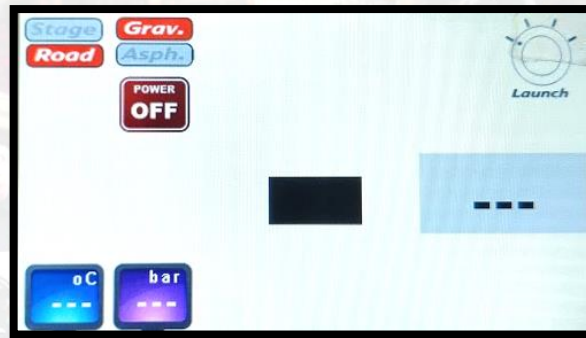


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CAN connection lost

CAN connexion loss

- If the connection between the ECU and the dashboard display is lost, the hazard lights will be ON.
- The display will not have any value, as shown below :



- Except the loss of information on the display, it does not cause any failure as long as the engine is running. However once the car is turned off it can be impossible to restart because the ECU does not have the engine rev information.
- If this loss is related to the ECU, replacing it will solve the problem. Only a technical adviser from Peugeot Sport has the equipment to reload an acquisition table in an ECU.
- If this loss of CAN comes from an electrical problem, such as a grounding defect; the connection will return once the electrical problem has been resolved.



Accessories

Fuel pump

- Operation during 10 seconds after a press on Power;
- Operation when the engine is running ;
- The pump can be forced to drain the fuel tank: Power OFF, hold down the Aux button and press Power.

Radiator fan(s)

- Operation if the water temperature is above 80 ° , stop if the temperature is below 75 ° ;
- Shutdown 3 seconds after engine stall ;
- The fan(s) can be forced: Power OFF, hold down the Fan button and press Power.

Engine Crank :

- To raise the oil pressure before starting and to **do the VVT learning** ;
- It permit also to dewatering engine when the spark plugs are dismounted ;
- Power OFF, press the horn button and then press the Start button within 5 seconds ;
- You must press the Start button until you reach 5bar of oil pressure.



Throttle body and pedal calibration

➤ Before the calibration

- Engine stop ;
- Gearbox in neutral gear.

➤ Procedure

- Main switch OFF ;
- Depress the accelerator pedal fully and hold;
- Main switch ON ;
- Wait for a message to appear on the dashboard;
- Follow the instructions ;
- If the instructions are not followed, the procedure is canceled.

➤ The calibration must be done after :

- any throttle body or pedal replacement;
- any engine replacement;
- any ECU replacement;
- any mapping change.

**Learning
in progress...** 

Pedal MAX okay

Please, Lift OFF

**Learning
in progress...** 

LEARNING PEDAL

Please WAIT...

**Learning
in progress...** 

**PDL MIN OKAY
THROTTLE in progress...**

Please WAIT...



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Display – Starting page

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Loading.....

Soft Name :
0123

Layout Name :
0123

Software's name

Display configuration's name



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Display – Stage mode

Mode

Surface

Stage

Road

Grav.

Asph.

POWER OFF

Throttle

0123

Water temperature

Oil pressure

Lights

Gear engaged

Throttle mapping selected

Engine rev

Oil pressure alarm

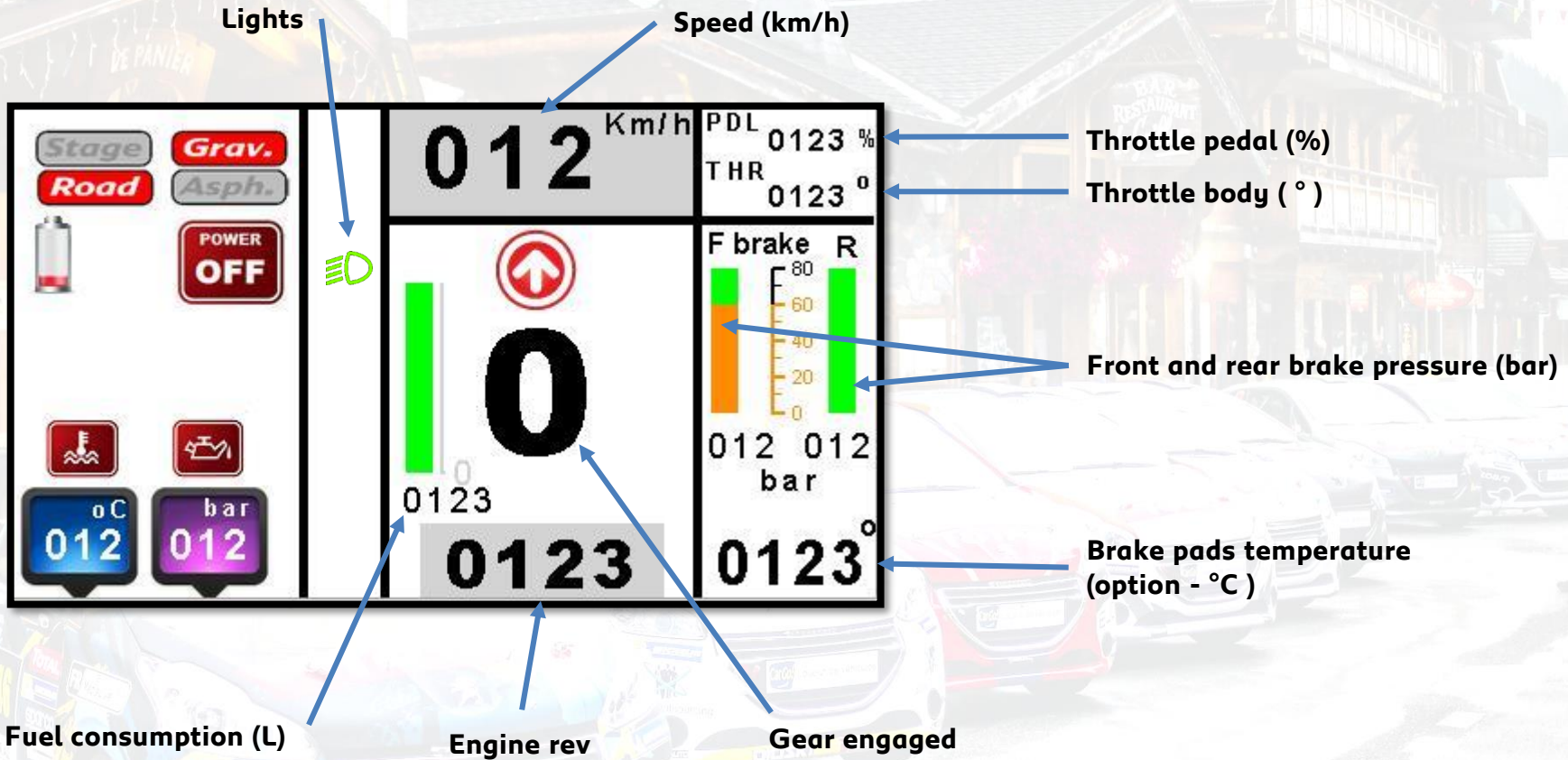
Water temperature alarm



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Display – road mode



Display – Mechanic mode

Barrel sensor setting

Gear engaged



Tension on the two barrel's strips

In case of replacement of the barrel sensor, you must follow the procedure explained bellow :

- Make sure the gearbox is mechanically in neutral gear.
- Unscrew a little the two screws of the sensor then turn it until the voltage displayed on the first page "mechanic" is between 0.995 V and 1.005 V.
- Then tight the two screws.



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Display – Mechanic mode

Diagnosis

➤ Engine diagnosis

➤ Spark plug not connected : one of these icons will be displayed at the top right of the screen with the number of the spark plug concerned. Cylinder 1 is on the flywheel side.



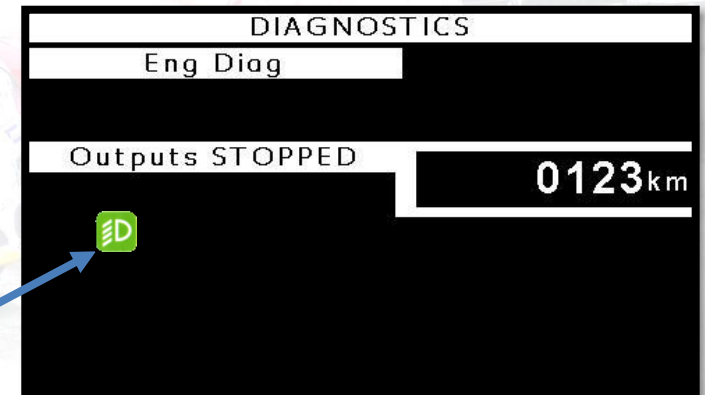
➤ Synchronisation

- If you lose engine synchronisation, one of these icons will appear.
- In case of wrong rev signal : if the value is zero while the Start button is pressed, an alarm will be displayed.

































➤ Outputs stopped

- In case of current protection by the BRK, an alarm will be displayed.
- The output that has been stopped will be displayed on the diagnostics page.



Diagnosis

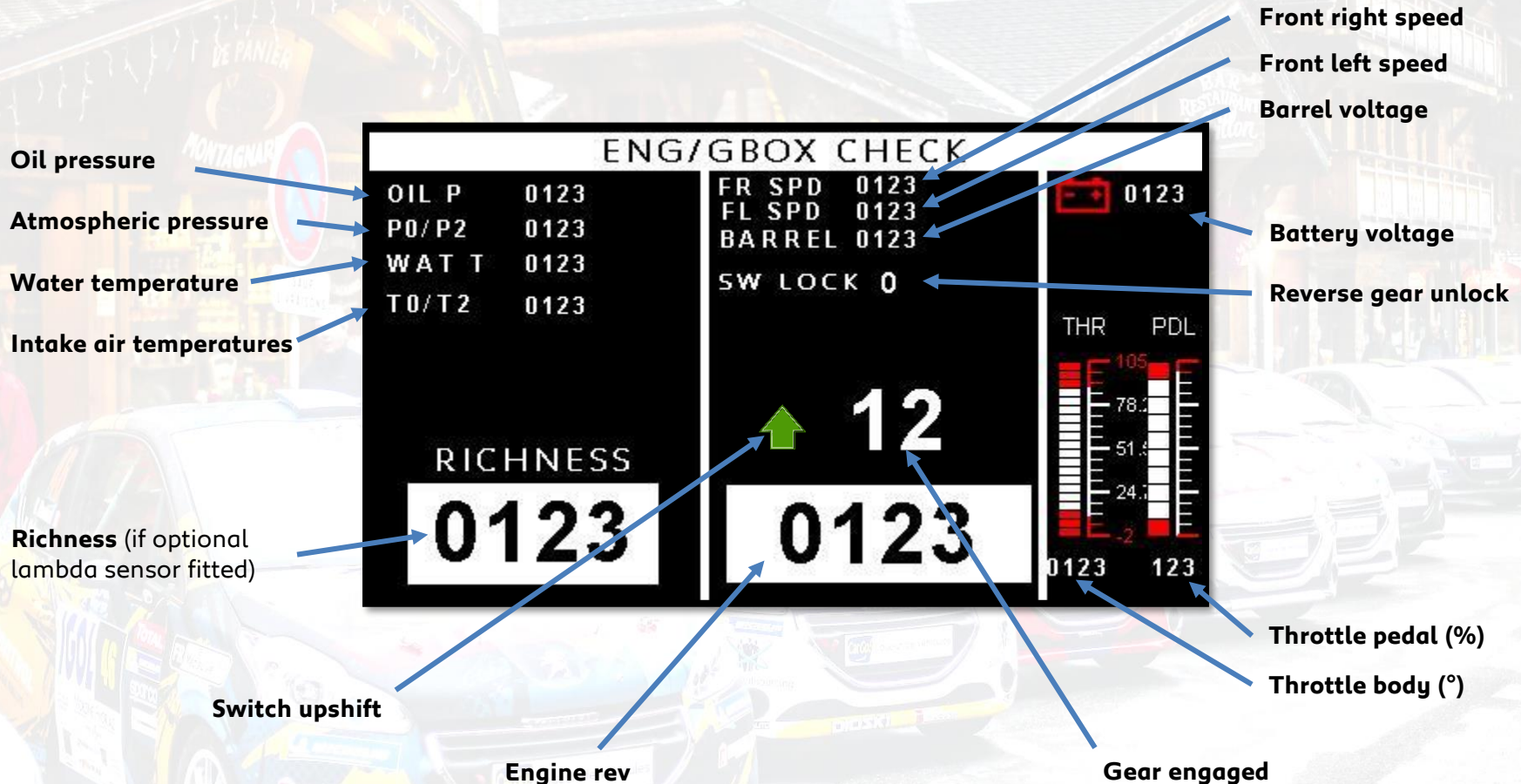
➤ Icons

	Right blinker		Lambda (option)		Day lights		Radio
	Left blinker		Rear anti fog light		Horn		Tripmaster
	Front anti fog		Reverse light		ECU		Reverse gear unlock
	Low beam		Map light		Injection		Radiator fan
	Parking lights		Stop light		Throttle body		Starter
	Ramp of headlight - exterior		Fuel pump		Electrical windows		Beacon
	Ramp of headlight - interior		Wipers		Inertial unit		
	High beam		Heating		Electro valve		



Display – Mechanic mode

Engine / Gearbox check



Display – Mechanic mode Chassis

Front left speed

Front right speed

Car speed*

Front brake pressure

Rear brake pressure

CHASSIS CHECK		
Wheel Speed	Brake Pressure	Pedals
0123 0123	Av 0123	0123 1:
0123	Ar 0123	0123 2:
Steer	Barrel	Throttle
0123	1: 0123	1: 0123
	U: 0123	2: 0123

Throttle pedal (2 strips)

Throttle body (2 strips)

Steering angle (option)

Barrel voltage (2 strips)

Gear engaged



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Display – Mechanic mode BRK console

SW CHECK/FCT BRK		Strategies Activation				
	Main1	L light	Crank: APC OFF, Horn 5s timer ON, Press Start to crank			
	APC1	R light		Fuel Pump: Hold AUX on and +APC off/on		
	Main2	Lights				
	APC2	LoBeam	Fans: same here w/ Pulsor			
	Fuel P	HiBeam				
	FAN	FOG				
	Heater	Outlet	<table border="1"> <tr> <td>THR 1</td> </tr> <tr> <td>THR 2</td> </tr> <tr> <td>THR 3</td> </tr> </table>	THR 1	THR 2	THR 3
	THR 1					
	THR 2					
	THR 3					
	AUX1	Inlet				
	AUX2	STOP				
	Horn	STAGE	ST 1			
Hazard	ASP	ST 2				
Revers	GRA					

Auxiliaries functions reminder

Throttle mapping

BRK's button check:

● must appear if the button is pressed

BRK's function check:

■ must appear is the function is activated

Warning : some function are only activated with POWER ON



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Messages and alarms

ALARMS				
Parameter	Condition	Secondary Condition	Message	LED
Learning throttle	Apprento >= 4	ROAD N=0 VEH=0	THROTTLE	
Learning throttle max	Apprento >= 3	ROAD N=0 VEH=0	PED MIN	
Learning throttle min	Apprento >= 2	ROAD N=0 VEH=0	PED MAX	
High water temperature alarm	TEAU >= 110°C		WATER	Led 2 - blink
Low oil Pressure alarm	POil <= 2.5 bars		OIL P	Led 2 - blink
Low Vbatt light alarm	DDU_VBAT <= 11.7 Volt	N > 3000	BATT	Led 2 - blink
Active handbrake	P_HB >= 30 bars		PARK	
High current BRK output OFF	HICUROFF >= 1		HI OFF	Led 2 - blink
Low current BRK output OFF	LOCUROFF >= 1		LO OFF	Led 2 - blink

WARNING				
Parameter	Condition	Secondary Condition	Message	LED
Throttle body in short circuit			DEF PAP	
Oil pressure sensor in short circuit	Poil <= 1.1 bar		DEF PHUI	
Water temperature sensor in short circuit	Teau >= 105 °C		DEF TEAU	
VVT sensor / electrovalve short circuit			DEF VVT	
Barrel sensor in short circuit			DEF GEAR	



Wintax : Channel list - 1

Nom du canal <i>Channel name</i>	Unité <i>Unity</i>	Description	Description	Frequence <i>Frequency</i>	Valeur par défaut <i>Default value</i>
A_X*	g	Accélération longitudinale	<i>Longitudinal acceleration</i>	50Hz	0
A_Y*	g	Accélération latérale	<i>Lateral acceleration</i>	50Hz	0
Barrillet	Volt	Valeur de la position barrillet	<i>Barrel position elaborated value</i>	1Hz	
Brk_Fonct		Info fonctions BRK	<i>Brk Info Functions</i>	1Hz	
Brk_SW		Info interrupteurs BRK	<i>Brk Info Switches</i>	1Hz	
D_volant*	°	Angle de volant	<i>Steering wheel angle</i>	10Hz	0
DDU_Vbatt	Volt	Tension batterie sur le dashboard	<i>Dashboard display Vbatt</i>	1Hz	
Diag_Team		Diagnostic de courant d'entrée analogique Team	<i>Current Team analog input diagnostic</i>	5Hz	
DiagAcqAna0		Diagnostic de courant d'entrée analogique	<i>Current analog input diagnostic</i>	5Hz	
Distance	m	Distance écoulée	<i>Distance elapsed</i>	5Hz	
FlagBobCC		Diagnostic de court-circuit bobine	<i>Coils short circuit diagnostic</i>	10Hz	
FlagInjCC		Diagnostic de court-circuit injecteur	<i>Injectors short circuit flags</i>	10Hz	
LEVEL	L	Consommation d'essence	<i>Fuel consumption</i>	1Hz	0
Lim_all	rpm	Limiteur à l'allumage	<i>Ignition limiter</i>	20Hz	
Lim_inj	rpm	Limiteur à l'injection	<i>Injection limiter</i>	20Hz	
OilPmp_Cmd	%	Commande de l'EV de pompe à huile	<i>Oil pump EV command</i>	20Hz	
PO	mbar	Pression atmosphérique	<i>Barometric pressure</i>	5Hz	1000
P_Frein_A_M	bar	Pression frein à main	<i>Hand brake pressure</i>	1Hz	0
P_FreinAR	bar	Pression frein arrière	<i>Rear brake pressure</i>	20Hz	0
P_FreinAV	bar	Pression frein avant	<i>Front brake pressure</i>	20Hz	0
Pap	°	Angle d'ouverture boitier papillon	<i>Throttle position</i>	20Hz	18
Pdl	%	Pourcentage pédale accélérateur	<i>Throttle pedal position</i>	20Hz	10
Poil	bar	Pression d'huile	<i>Oil pressure</i>	20Hz	7
Qinj	µL	Quantité d'essence injectée	<i>Fuel injection weight</i>	20Hz	

* : options



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Wintax : Channel list - 2

Nom du canal <i>Channel name</i>	Unité <i>Unity</i>	Description	Description	Frequence <i>Frequency</i>	Valeur par défaut <i>Default value</i>
Rapport_BV		Rapport BV pour affichage	<i>Gear for dashboard data</i>	1Hz	5
Regime	rpm	Régime moteur	<i>Engine speed</i>	20Hz	
Richesse		Richesse moteur	<i>Lambda richness</i>	20Hz	1
RxBufDiag1BRK0		Canaux de diag sorties BRK éteintes	Output BRK OFF diagnostic	1Hz	
RxBufDiag2BRK0		Canaux de diag sorties BRK éteintes	Output BRK OFF diagnostic	1Hz	
Swshift_State		Etat commande changement de rapport	<i>Shifter switch state</i>	50Hz	
T0	°C	Température d'admission	<i>Intake temperature</i>	1Hz	20
T_frein	°C	Température plaquette	<i>Brake pad temperature</i>	1Hz	
Teau	°C	Température du liquide de refroidissement	<i>Coolant temperature</i>	1Hz	89
Vbatt	Volt	Tension de la batterie	<i>Battery Voltage</i>	20Hz	
VitAVD_filt	Km/h	Vitesse de roue AVD	<i>Front right car speed</i>	20Hz	0
VitAVG_filt	Km/h	Vitesse de roue AVG	<i>Front left car speed</i>	20Hz	0
Vref1_Corr	Volt	Tension de référence 1	<i>Reference voltage 1</i>	1Hz	5
Vref2_Corr	Volt	Tension de référence 2	<i>Reference voltage 2</i>	1Hz	5
Vrs_diag		Diagnostic	<i>Diagnostic</i>	20Hz	
VVEH	Km/h	Vitesse véhicule	<i>Car speed</i>	20Hz	0
VVT1_Error	°crk	Différence entre consigne et position VVT1	<i>Delta target - phase VVT1</i>	20Hz	
VVT1_Phase	°crk	Position came VVT1	<i>VVT1 cam phase</i>	20Hz	
VVT1_Target	°crk	Consigne f(N/pap) de position VVT1	<i>VVT1 position's target</i>	20Hz	
VVT2_Error	°crk	Différence entre consigne et position VVT2	<i>Delta target - phase VVT2</i>	20Hz	
VVT2_Phase	°crk	Position came VVT2	<i>VVT2 cam phase</i>	20Hz	
VVT2_Target	°crk	Consigne f(N/pap) de position VVT2	<i>VVT1 position's target</i>	20Hz	



Wintax : Channel list - Intensities



Nom du canal <i>Channel name</i>	Unité <i>Unity</i>	Description	Description	Valeur d'utilisation moyenne <i>Average using value</i>
I_AB	A	Courant consommé : anti-brouillard	<i>Current consumption : antifog light</i>	0,35
I_BALISE	A	Courant consommé : cellule infrarouge	<i>Current consumption : infrared sensor</i>	
I_CARTE	A	Courant consommé : lecteur de carte	<i>Current consumption : map light</i>	
I_CODE	A	Courant consommé : code	<i>Current consumption : dipped headlights</i>	8,5
I_COIL	A	Courant consommé : bobines	<i>Current consumption : coils</i>	1,8
I_DIURNE	A	Courant consommé : feux diurnes	<i>Current consumption : day light</i>	0
I_ECUs	A	Courant consommé : calculateur	<i>Current consumption : ECU</i>	1
I_ESG	A	Courant consommé : essuie-glace	<i>Current consumption : wipper</i>	
I_GMV1	A	Courant consommé : ventilateur radiateur 1	<i>Current consumption : radiator fan 1</i>	12
I_GMV2	A	Courant consommé : ventilateur radiateur 2	<i>Current consumption : radiator fan 2</i>	12
I_INJ	A	Courant consommé : injecteurs	<i>Current consumption : injectors</i>	3,5
I_KLAXON	A	Courant consommé : klaxon	<i>Current consumption : horn</i>	
I_LAMBDA	A	Courant consommé : sonde lambda	<i>Current consumption : lambda sensor</i>	1,06
I_PESS	A	Courant consommé : pompe à essence	<i>Current consumption : fuel pump</i>	7,5
I_PHARE	A	Courant consommé : plein phare	<i>Current consumption : high beam headlight</i>	9
I_POINTE	A	Feux de pointe (rampe de phare)	<i>Lamp Pod Inner Light</i>	
I_PULS	A	Courant consommé : chauffage	<i>Current consumption : heater</i>	
I_RADIO	A	Courant consommé : radio	<i>Current consumption : radio</i>	-
I_RECUL	A	Courant consommé : feux de recul	<i>Current consumption : reverse light</i>	0,7
I_STARTER	A	Courant consommé : démarreur	<i>Current consumption : starter</i>	11
I_STOP	A	Courant consommé : feux stop	<i>Current consumption : brake light</i>	5,5
I_TRIP	A	Courant consommé : tripmaster	<i>Current consumption : tripmaster</i>	
I_VANOS	A	Courant consommé : déphaseur d'AAC	<i>Current consumption : camshaft dephaser</i>	2,3
I_VEILL	A	Courant consommé : veilleuses	<i>Current consumption : position light</i>	0,6
I_VEILLar	A	Courant consommé : veilleuses arrières	<i>Current consumption : rear position light</i>	
I_VERROU	A	Courant consommé : déverrouillage MAR	<i>Current consumption : unlocking reverse gear</i>	1,36
I_VIRAGE	A	Courant consommé : rampe de phare	<i>Current consumption : ramp of headlight</i>	



PEUGEOT SPORT



RACING SHOP

Wintax : BRK output shutdown

-  The output is shutdown at this moment.
-  The output has been shutdown previously in the data opened.
- A LOW OFF output correspond to a low amparage componant.
- A HI OFF output correspond to a hi amparage componant.

SORTIES BRK ETEINTE

LOW OFF



Lambda	
Card Reader	
Beacon	<input type="checkbox"/>
GBX Lock	<input type="checkbox"/>
Rear Fog Light	<input type="checkbox"/>
Reverse Light	<input type="checkbox"/>
Night Light	<input type="checkbox"/>
Left Turn	<input type="checkbox"/>
Right Turn	<input type="checkbox"/>
Trip	<input type="checkbox"/>
Sensor Supply	<input type="checkbox"/>
DRL	<input type="checkbox"/>

HI OFF

FAN2	<input type="checkbox"/>
WT Oil Pump	<input type="checkbox"/>
Blower	<input type="checkbox"/>
Window	<input type="checkbox"/>
Radio	<input type="checkbox"/>
Stop Light	<input type="checkbox"/>
Fuel Pump	<input type="checkbox"/>
Horn	<input type="checkbox"/>
HighBeam Light	<input type="checkbox"/>
Corner Light	<input type="checkbox"/>
Point Light	<input type="checkbox"/>
Front fog	<input type="checkbox"/>
LowBeam R	<input type="checkbox"/>
Wiper	<input type="checkbox"/>
FAN1	<input type="checkbox"/>
Injector	<input type="checkbox"/>
Throttle	<input type="checkbox"/>
Starter	<input type="checkbox"/>
COIL	<input type="checkbox"/>
ECU	<input type="checkbox"/>

* : chart only valid with the User_208R2_2019

Wintax : Engine synchronisation diagnosis

-  Diagnosis happening
-  Diagnosis happened previously in the opening data.

Vrs_Diag	Vrs_Status
	Vrs_Status=0h
VRS_NOSMOT	<input type="checkbox"/> No Smot signal
VRS_NOCAM	<input type="checkbox"/> No Scam signal
VRS_NOISE	<input type="checkbox"/> Signal noisy
VRS_CAMOUTOFWIND	<input type="checkbox"/> Cam wrong position
VRS_SMOT_RECOVERY	<input type="checkbox"/> Signal Smot recovered
VRS_SYNCLOST_BYSMOT	<input checked="" type="checkbox"/> Engine synchronisation lost
VRS_VIRTUAL_TOOTH	<input type="checkbox"/> Damaged teeth on the target
VRS_SYNCLOST_GAP	<input type="checkbox"/> Missing teeth on the target
VRS_WRONG_CAM	<input type="checkbox"/> Scam target error
VRS_UNPHASED_CAM	<input type="checkbox"/> Scam target unphased

