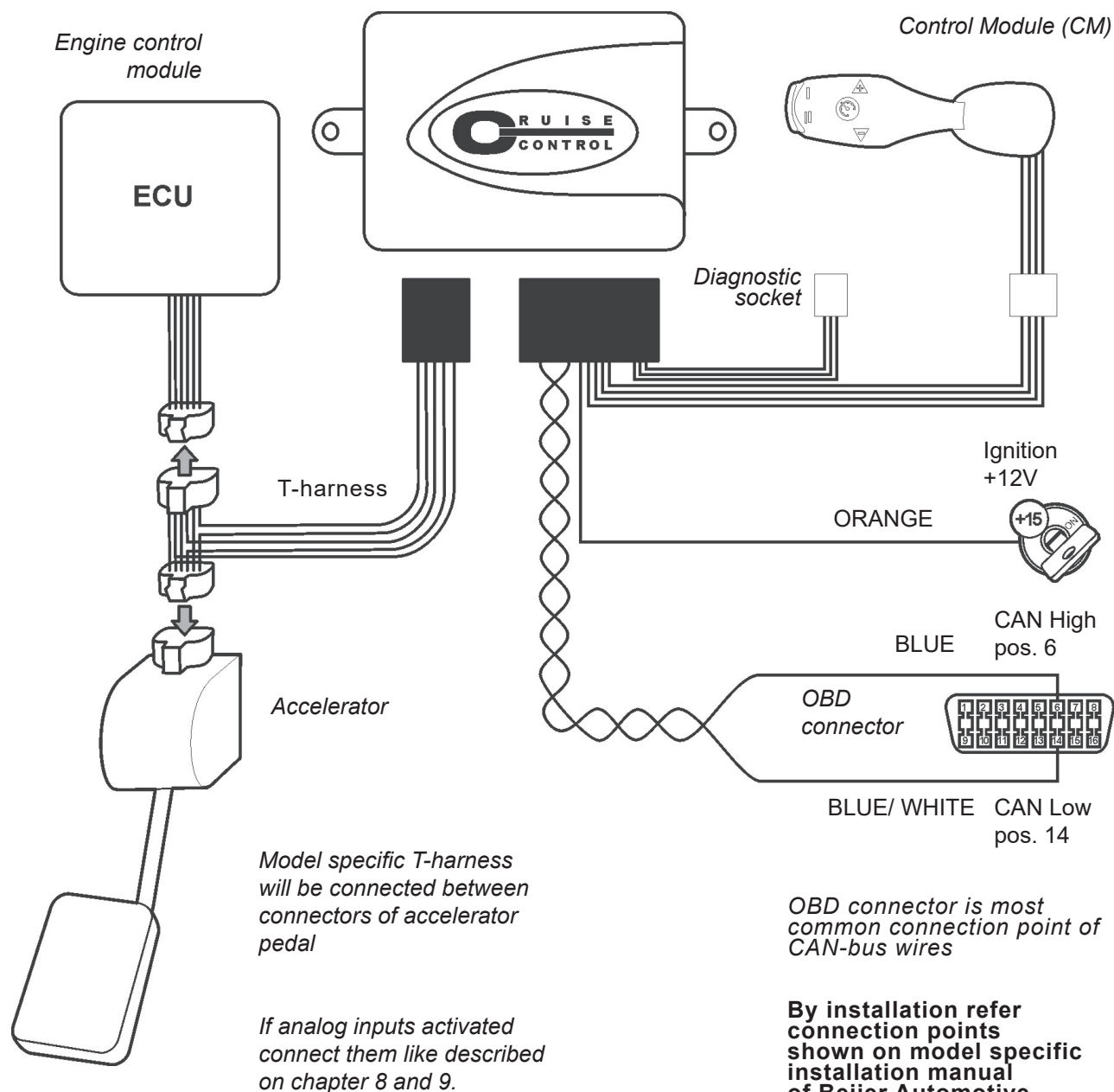


CRUISE CONTROL AP900Ci/ GC90Ci QUICK INSTALLATION MANUAL

1

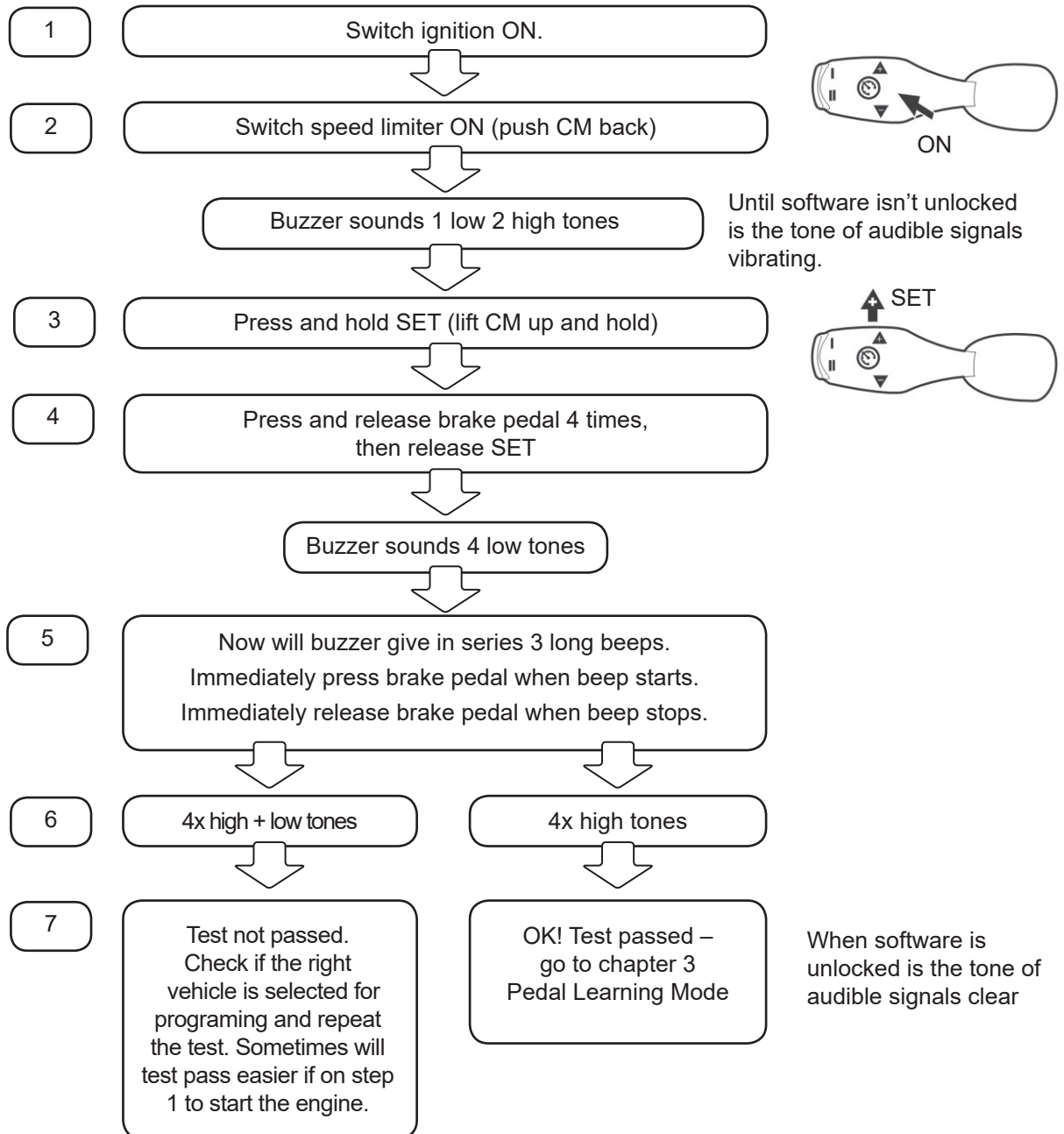
CAN-BUS CONNECTION



The OBD adapter supplied with the GC90Ci kit must not be used. Wires must be soldered behind the OBD connector!

2

SOFTWARE UNLOCK Always required!



Look software unlock video:



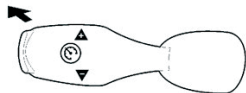
3

PEDAL LEARNING MODE

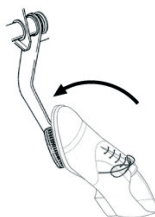
Always required!



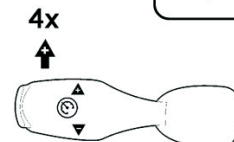
Switch ignition ON.
(don't start the engine)



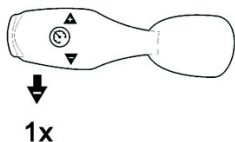
Switch speed limiter ON (push CM back)



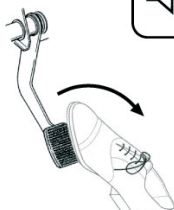
Press and hold the BRAKE pedal



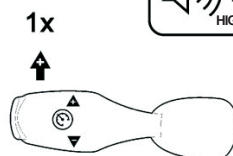
Press the SET key 4 times
(lift CM up 4x)



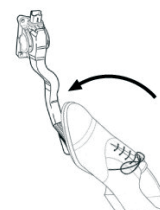
Press the RES key 1 time
(press CM down 1x)



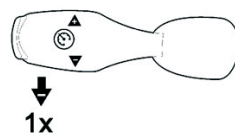
Release BRAKE pedal



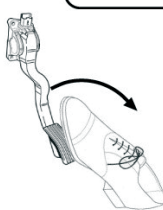
Press the SET key 1 time
(lift CM up 1x)



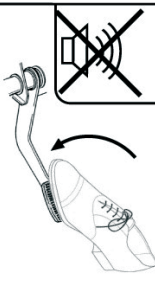
Gently press the accelerator to full throttle
(by some cars 95%*)



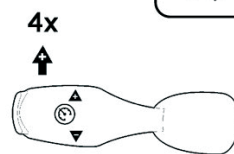
Press 1x RES key
(press CM down 1x)



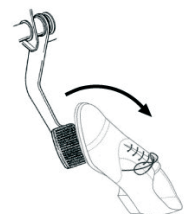
Release accelerator pedal



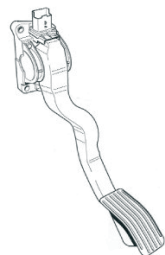
Press and hold the BRAKE pedal



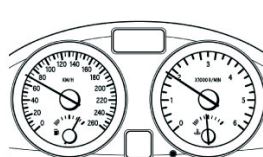
Press the SET key 4 times
(lift CM up 4x)



Release BRAKE pedal



Pedal learning performed



Installation is done!
Go to test drive.



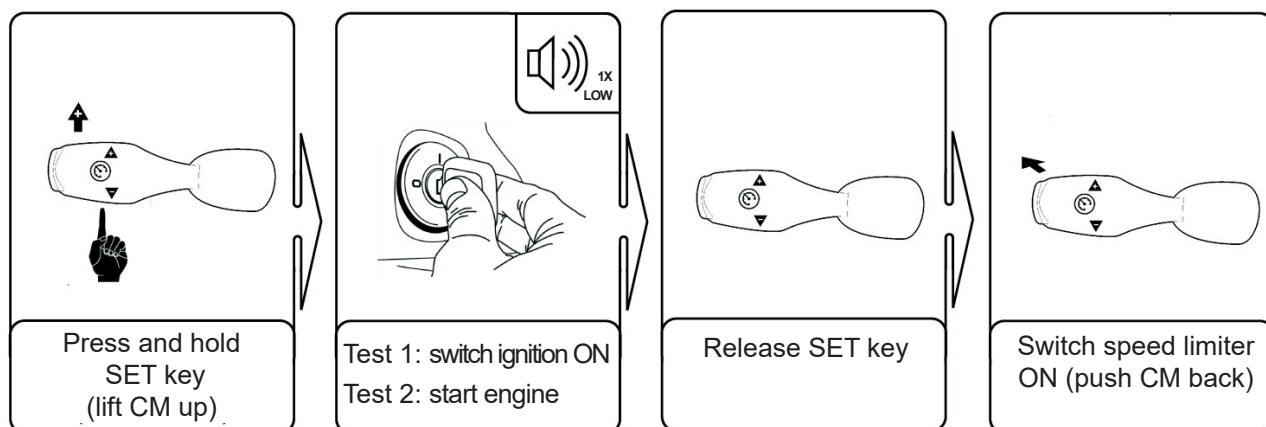
If the programming does not go through as described or the tones do not match, start programming from beginning.

* Pressing the pedal 95% is easy if to insert a piece of cardboard under the pedal

4

DIAGNOSTIC MODE

Optional!



Diagnostics 1: CM, brake signal, clutch signal

Operate every function of CM: lift up, press down, pull forward, press memory buttons- the system must respond to every action with beep signal. If there no signal check CM and the wiring of it.

Press brake pedal- the system must respond with beep signal. If there no signal check connection of CAN wires or by analog connection check brake wires.

Press clutch pedal- the system must respond with beep signal. If there no signal use clutch pedal switch.

Switch the ignition completely OFF to exit Diagnostics

Diagnostics 2: Accelerator pedal control, vehicle speed signal

Press and hold SET key- wait until engine speed increases. Release SET - engine speed remains on constant level. Press and hold RES key- engine speed decreases. If not perform pedal learning.

Press and hold SET key- wait until engine speed increases. Release set and press brake pedal- engine speed drops idle.

Drive at least 30 km/h - when speed signal is received will the system give pulsating beep signals and the led on the central unit is flashing. If not check CAN wires or learn speed or use analog speed signal.

Switch the ignition completely OFF to exit Diagnostics

5

INIT ADJUSTMENT Optional



With the init can be adjusted how aggressive or slow the limit speed is reached.
When the init is set to high, it will first go over the limit speed and then slow down again and stabilize at the limit speed. When the init is set to low, it will first slow down a bit and then stabilize at the limit speed

Switch ignition ON. (don't start the engine)	Switch speed limiter ON (push CM back)	Press and hold the BRAKE pedal	Press SET key 4 times (lift CM up 4x)
Press 3x RES key (press CM down 3x)	Release BRAKE pedal.	Drive at least 40 km/h	Press SET key 1 time (lift CM up)

		<div>3 4 5 6 7 8 9 10 11 12 13 14</div> <div>By every press of CM system responses with number of beeps corresponding to activated init level</div> <div>3x 4x 5x 6x 7x 8x 9x 10x 11x 12x 13x 14x</div>		
Press RES 1x - init decreases 1 step			Press SET 1x - init increases 1 step	

Press briefly BRAKE pedal	Stop safely the vehicle	Press and hold BRAKE pedal	Press SET key 4 times (lift CM up 4x)	Release BRAKE-setup completed.

6

GAIN ADJUSTMENT Optional



Whit the gain can be adjusted how the limiter will react driving on the limit speed.
When the gain is set to high the speed will be steady but you will feel the throttle all the time.
When the gain is set to low the limiter will be continuously moving around the limit speed.

<p>Switch ignition ON. (don't start the engine)</p>	<p>Switch speed limiter ON (push CM back)</p>	<p>Press and hold the BRAKE pedal</p>	<p>Press SET key 4 times (lift CM up 4x)</p>
<p>Press 4x RES key (press CM down 4x)</p>	<p>Release BRAKE pedal.</p>	<p>Drive at least 40 km/h</p>	<p>Press SET key 1 time (lift CM up)</p>

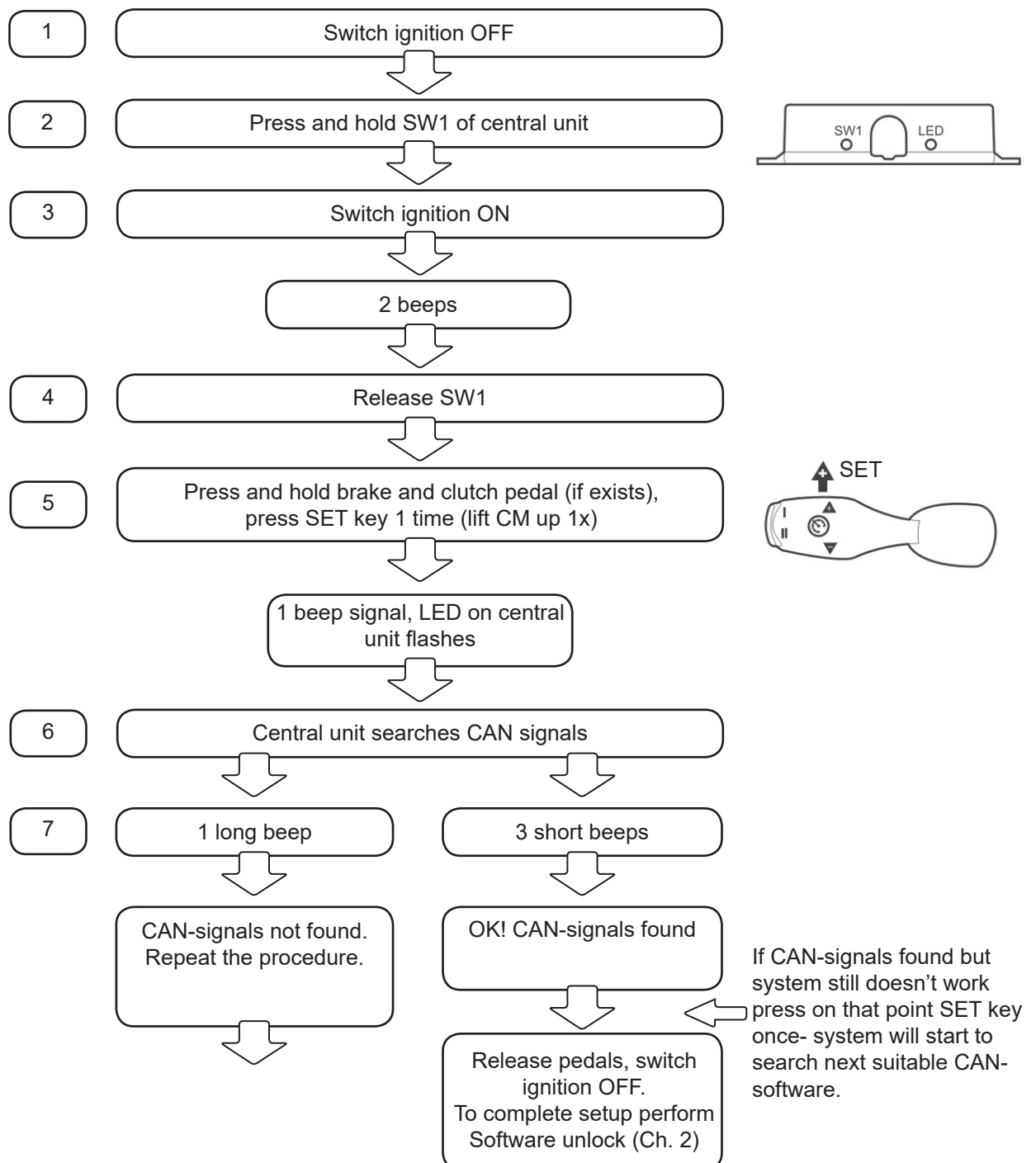
<p>LOWER</p>	<p>↓ 1x</p>	<p>3 4 5 6 7 8 9 10 11 12 13 14</p> <p>By every press of CM system responses with number of beeps corresponding to activated gain level</p> <p>3x 4x 5x 6x 7x 8x 9x 10x 11x 12x 13x 14x</p>	<p>↑ 1x</p>	<p>HIGHER</p>
<p>Press RES 1x - gain decreases 1 step</p>			<p>Press SET 1x - gain increases 1 step</p>	

<p>Press briefly BRAKE pedal</p>	<p>Stop safely the vehicle</p>	<p>Press and hold BRAKE pedal</p>	<p>Press SET key 4 times (lift CM up 4x)</p>	<p>Release BRAKE-setup completed.</p>
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7

CAN SEARCH. Needed to perform only when chapter 2 "Software unlock" will not succeed.

When chapter 2 "Software unlock" will not succeed try to find suitable CAN software with CAN search function. CAN search is successful only if suitable software is stored to internal memory of speed limiter. Because of limited capacity not every software is stored to internal memory. If CAN search isn't successful go to step 8 and install limiter using analog signals.

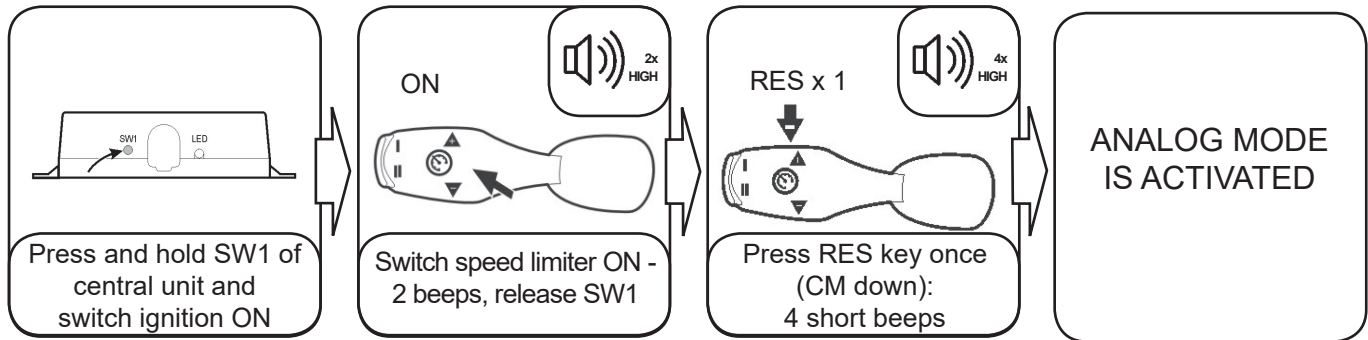


8

ACTIVATING ANALOG MODE

Perform only if CAN signals not available!

When analog mode activated must analog wires be connected according chapter 9.



In analog mode must in addition to T-harness be connected following wires:

ORANGE	ignition (+12V when ignition switched ON)
BLUE	vehicle speed pulse (ground pulses which frequency depends of vehicle speed)
BROWN	hot side of brake switch (+12V always or when ignition ON)
BROWN/WHITE	cold side of brake switch (+12V when brake pedal pressed)
VIOLET	clutch switch wire whree state of ground will change when pedal is pressed (usually grounded when pedal is peressed but is working also when grounded when pedal is not pressed).

Main diagram on chapter 9

When all wires are connected must be performed following setup steps:

Chapter 3: Pedal learning

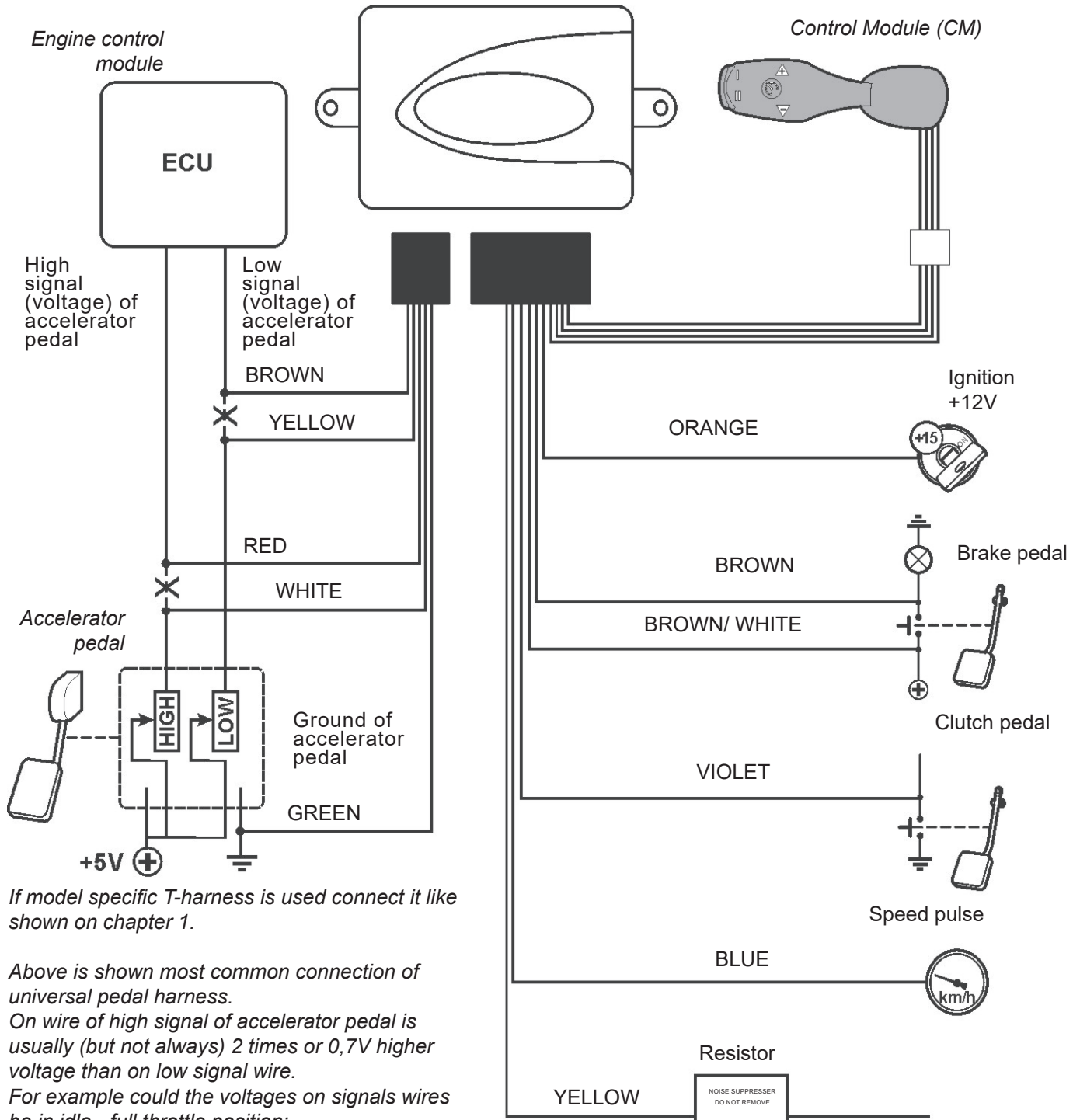
Chapter 10: Learning of speed signal

Optionally can be performed chapter 4 diagnostic and chapter 5 and 6: init and gain adjustment.

If speed limiter is in analog mode but it's needed to activate CAN mode just perform CAN search according chapter 7. When CAN software will be found turns limiter to CAN mode and starts to work without performing "Software unlock".

9

ANALOG CONNECTIONS



If model specific T-harness is used connect it like shown on chapter 1.

Above is shown most common connection of universal pedal harness.

On wire of high signal of accelerator pedal is usually (but not always) 2 times or 0,7V higher voltage than on low signal wire.

For example could the voltages on signals wires be in idle - full throttle position:

High signal: 1,4V - 4,0V

Low signal: 0,7V - 2,0V

or

High signal: 1,3V - 4,2V

Low signal: 0,6V - 3,5V

Yellow wire is not in use.

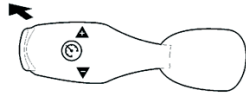
If on dedicated installation manual is recommended to use pul-up resistor to boost speed signal connect the resistor between Orange and Blue wire.

10

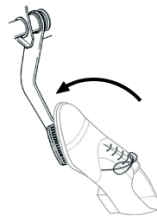
LEARNING OF SPEED SIGNAL



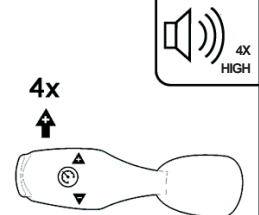
Switch ignition ON
and start the engine



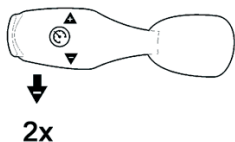
Switch speed limiter
ON (push CM back)



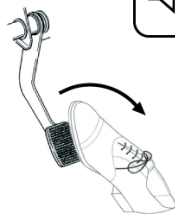
Press and hold the
BRAKE pedal



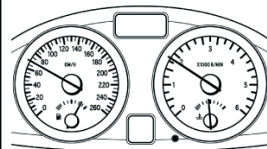
Press the SET key
4 times
(lift CM up 4x)



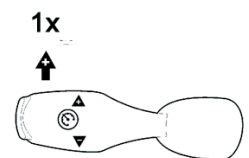
Press the RES key
2 times
(press CM down 1x)



Release BRAKE
pedal



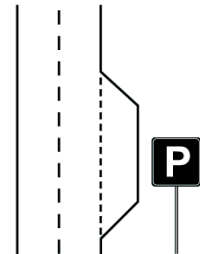
Drive 72 km/h



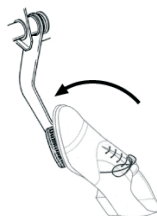
Press the SET key
1 time
(lift CM up 1x)



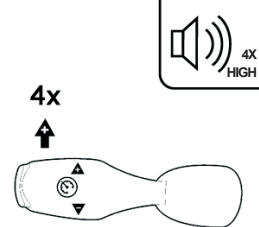
Press briefly BRAKE
pedal



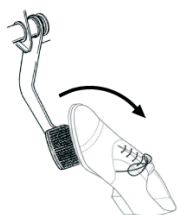
Stop safely the
vehicle



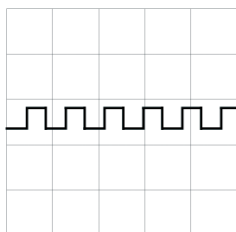
Press and hold
BRAKE pedal



Press SET key 4
times
(lift CM up 4x)



Release BRAKE-
setup completed.



Procedure
completed

Learning of speed signal must be
performed in analog mode but with
the same procedure is possible to
calibrate speed signal also in CAN
mode.

The Cruise Control is equipped with an error code generator. In case Cruise Control switches off or does not switches on for an abnormal reason will error code indicated with beeps:

Number of beeps	Description of error
1	control function is pressed for more than 20 seconds
2	acceleration speed is more then 9 kph per second
3	speed drops below 33 km/h
4	speed exceeds 250 km/h
5	speed drops below 75% of the current set speed
6	speed exceeds 150% of the current set speed
7	throttle pedal not calibrated
8	speed increases abnormally