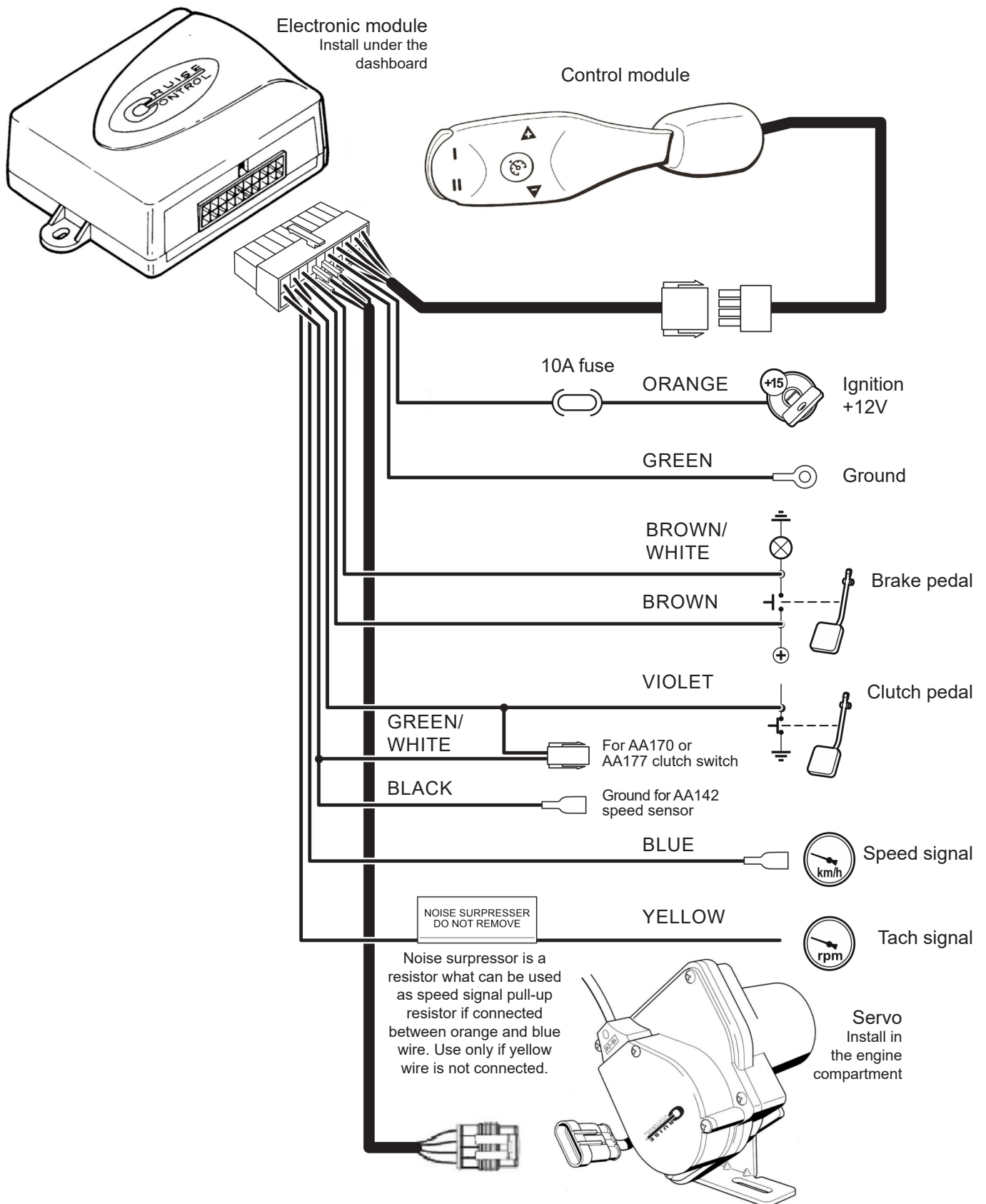


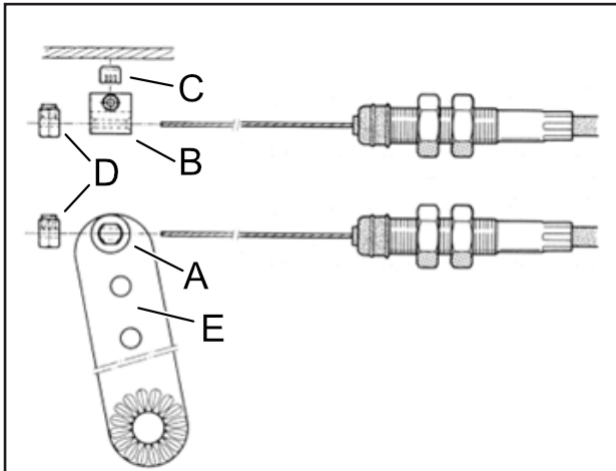
ZEMCO AP500 MECHANICAL CRUISE CONTROL

1 WIRING OVERVIEW



2

CABLE CONNECTION

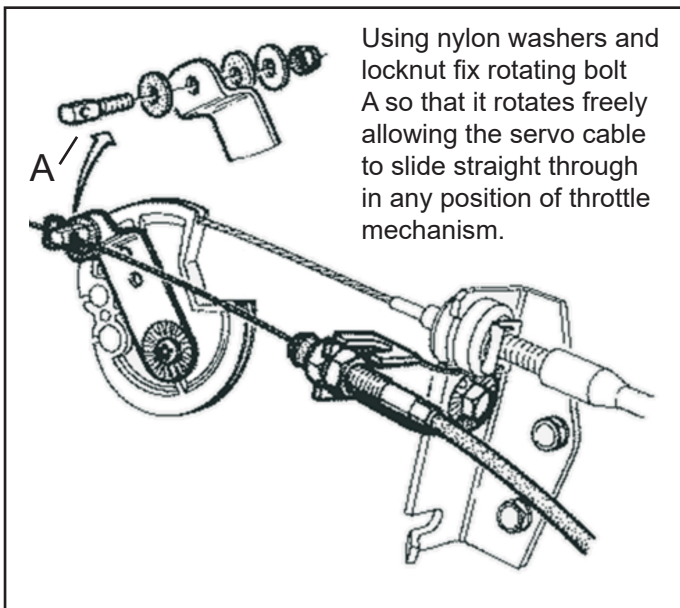


Find a connection point in the throttle mechanism where the cable travel is between 40 and 18 mm. Cable travel can be adjusted by using different installation holes of the bracket E.

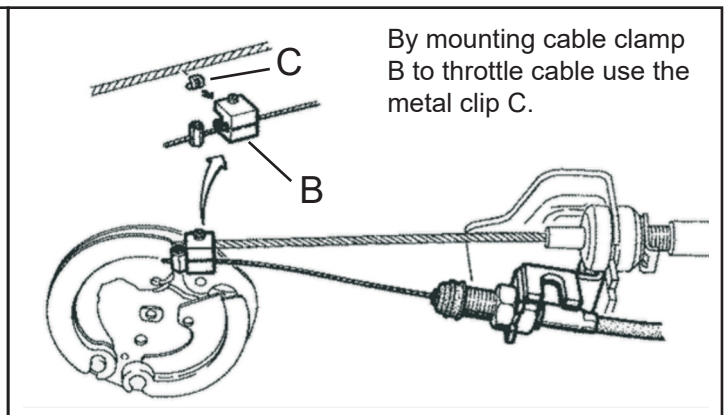
Attach rotating bolt A or cable clamp B to the throttle mechanism, throttle cable or throttle pedal. Push the cable through the hole of A or B and install the end clamp D to ensure the functionality of the cable. Final installation of end clamp is only when the cable is attached to servo

The throttle cables must not be able to become blocked or entangled in any way, as this may result in the throttle/diesel pump not returning to idle!!!

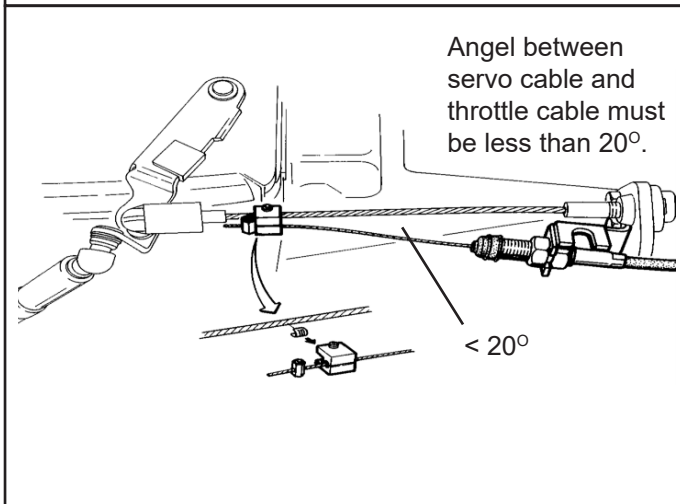
Examples of servo cable attachments on the throttle mechanism:



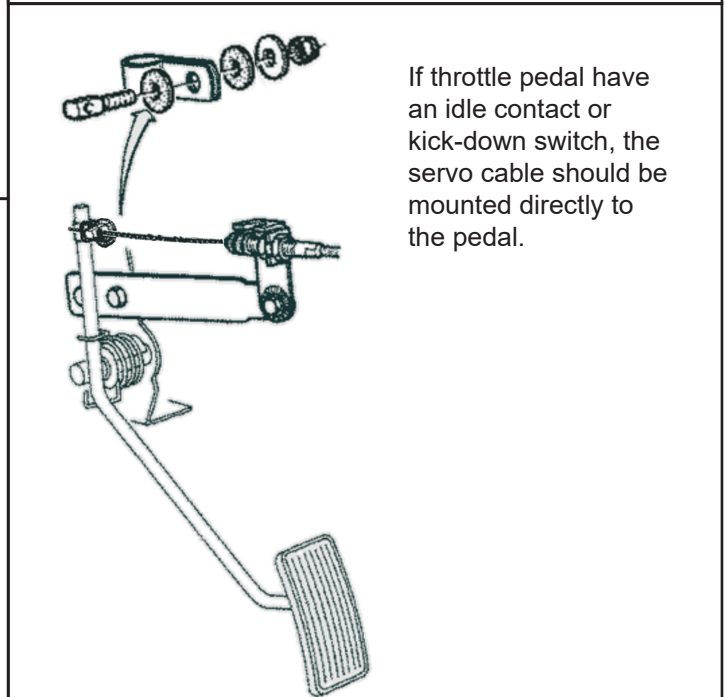
Using nylon washers and locknut fix rotating bolt A so that it rotates freely allowing the servo cable to slide straight through in any position of throttle mechanism.



By mounting cable clamp B to throttle cable use the metal clip C.



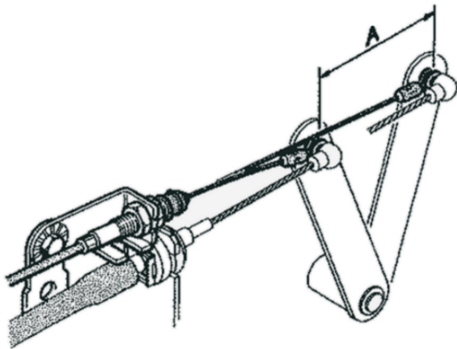
Angel between servo cable and throttle cable must be less than 20°.



If throttle pedal have an idle contact or kick-down switch, the servo cable should be mounted directly to the pedal.

3

SERVO INSTALLATION

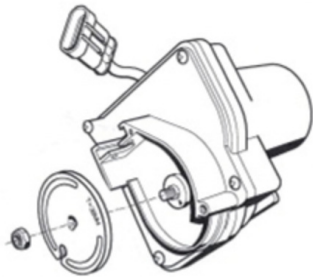


After the throttle attachment is made, use a calliper to determine the stroke A which is the length the servo cable needs to go from idle to full throttle. Based on this length, the choice of pulley to be used is made. Ideally, the stroke of the chosen pulley should be a few millimetres shorter than distance A.

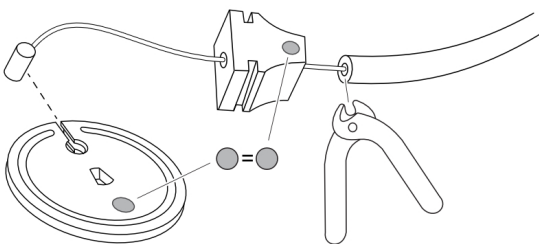
In the hardware kit, you will find 2 pulleys. Each pulley can be mounted 2 ways. This gives you 4 options for the stroke of the servo cable:

Pulley with red dot: 38 mm or 31 mm

Pulley with yellow dot: 24 mm or 18 mm.



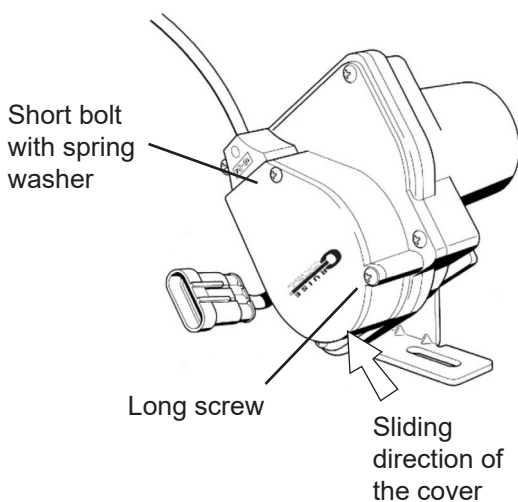
Place the pulley on the axle, with the correct stroke size visible on the outside, secure it with the M6 locknut.



Remove the servo inner cable. If required, shorten the servo outer cable by cutting it at the servo side

Insert the servo outer cable into the triangular plastic block and install the block to the servo so, that the visible colour on it matches the colour on the pulley.

Insert the servo inner cable into the outer cable and insert the nipple of the inner cable into the pulley.



Slide the cover onto the servo and secure it using the bolt with spring washer and screw provided.

Secure the servo in a location where it can be fixed using one of the two black brackets provided. Secure the bracket with the lock washers between the bracket and the M10 nut, with the large serrations against each other and the small serrations on the outside.

Connect the 4-pin plug to the servo harness, route harness through the bulkhead and connect to the main wiring harness following the colour code on the connector housing:

pos. 6: green/ red, pos.7: black,

pos. 16 pink/ red, pos. 17 blue/ red.



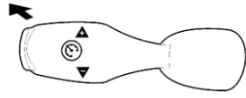
Install the end clamp of the inner cable. Adjust the servo cable with the engine warm because of any cold-start device. After installation, always check the smooth operation of the throttle mechanism, throttle cable and servo cable by operating the throttle mechanism with your foot and by hand.

4

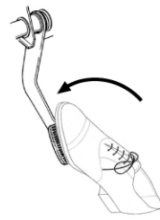
SPEED SIGNAL SETUP



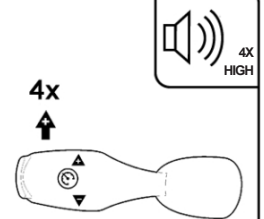
Switch ignition ON and start the engine



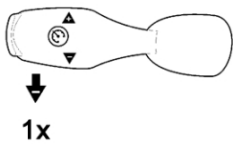
Switch speed limiter ON (push CM back)



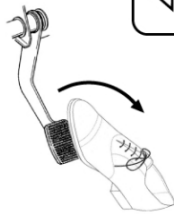
Press and hold the BRAKE pedal



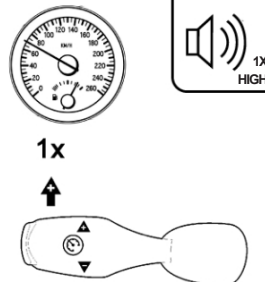
Press the SET key 4 times (lift CM up 4x)



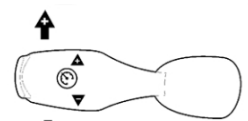
Press the RES key 1 time (press CM down 1x)



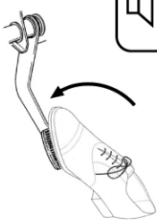
Release BRAKE pedal



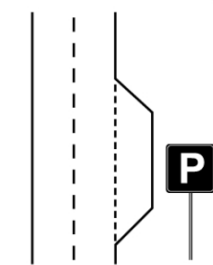
Drive 72 km/h and press the SET key 1 time (CM up 1x)



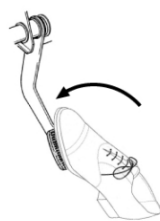
Go to the next step if cruise control takes over smoothly. If not adjust the reaction time *: to increase press CM up, to reduce press CM down



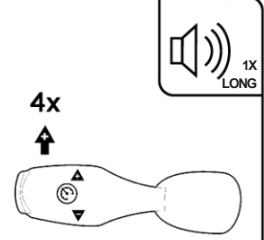
Press briefly BRAKE pedal



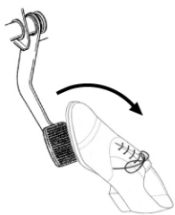
Stop safely the vehicle



Press and hold BRAKE pedal



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



Release BRAKE-setup completed.

* During speed calibration, the reaction time of switching on the Cruise Control can be adjusted directly. The reaction time is properly adjusted if the Cruise Control keeps the speed exactly constant when engaged.

If the speed increases, reduce the reaction time by pressing Control Module up. If the speed decreases on activation, increase the reaction time by pressing Control Module down.


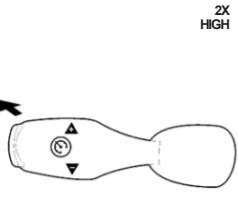
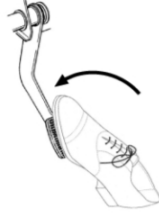
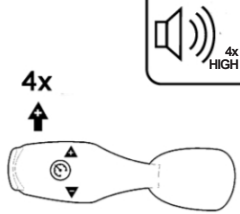
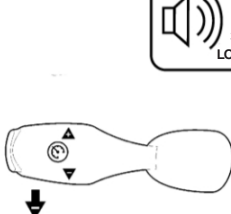
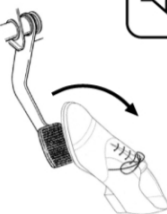
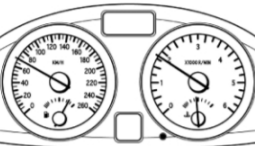
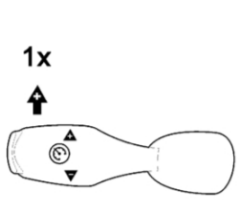
Tap the brake briefly and activate Cruise Control again to now test the reaction time again. Repeat this procedure if necessary.

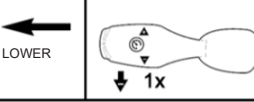
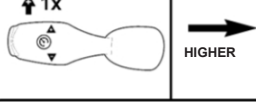
5

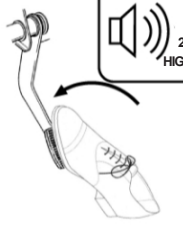
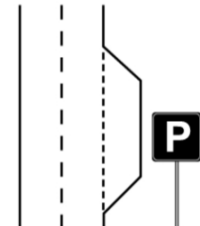
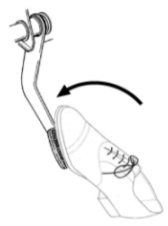
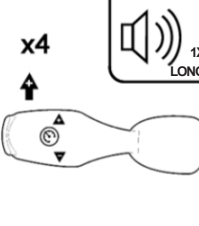
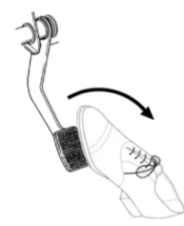
ADJUSTING REACTION TIME Optional!



Reaction time too high cruise control accelerates first when engaged (overshoot).
Reaction time too low cruise control decelerates first when engaged (undershoot).

 <p>Switch ignition ON and start the engine</p>	 <p>Switch cruise control 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 3x RES key (press CM down 3x)</p>	 <p>Release BRAKE pedal.</p>	 <p>Drive at least 70 km/h</p>	 <p>Press SET key 1 time (lift CM up)</p>

 <p>Press RES 1x - to decrease 1 step</p>	<p>HIGH</p> <table border="1"> <tr> <td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td> </tr> <tr> <td>3x</td><td>4x</td><td>5x</td><td>6x</td><td>7x</td><td>8x</td><td>9x</td><td>10x</td><td>11x</td><td>12x</td><td>13x</td><td>14x</td> </tr> </table>	3	4	5	6	7	8	9	10	11	12	13	14	3x	4x	5x	6x	7x	8x	9x	10x	11x	12x	13x	14x	 <p>Press SET 1x - to increase 1 step</p>
3	4	5	6	7	8	9	10	11	12	13	14															
3x	4x	5x	6x	7x	8x	9x	10x	11x	12x	13x	14x															

 <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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6

ADJUSTING SENSITIVITY Optional!



When sensitivity is too high the speed will be steady but you will feel the throttle all the time.
When sensitivity is too low the speed will be continuously moving around the set speed.

Switch ignition ON and start the engine	Switch cruise control ON (push CM back)	Press and hold the BRAKE pedal	Press SET key 4 times (lift CM up 4x)
Press 4x RES key (press CM down 4x)	Release BRAKE pedal.	Drive at least 70 km/h	Press SET key 1 time (lift CM up)

	<table border="1"> <tr> <td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td> </tr> <tr> <td>3x</td><td>4x</td><td>5x</td><td>6x</td><td>7x</td><td>8x</td><td>9x</td><td>10x</td><td>11x</td><td>12x</td><td>13x</td><td>14x</td> </tr> </table>	3	4	5	6	7	8	9	10	11	12	13	14	3x	4x	5x	6x	7x	8x	9x	10x	11x	12x	13x	14x	
3	4	5	6	7	8	9	10	11	12	13	14															
3x	4x	5x	6x	7x	8x	9x	10x	11x	12x	13x	14x															
Press RES 1x - to decrease 1 step	HIGH	Press SET 1x - to increase 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.