



FITTING INSTRUCTIONS

PUSH BRAKE AND ELECTRONIC ACCELERATOR



PRODUCT CODE → HT-SPEED & BRAKE E / ECO



We just remind you that you're installing a driving device for disable people, so this device will be essential for a life as normal as possible in full autonomy.

Sure of your comprehension, we're certain that you'll install our device with the maximum attention in order to guarantee a trustable and lasting use.

Summary

Introduction	3
Kit parts	3
Doing the support bracket of the lever	4
Fixing the lever to the supporting bracket.....	6
Doing the fixing bracket of the brake pedal.....	7
Position of the junction telescopic rod between the lever and the brake	8
Functional checks.....	9
Brackets painting	10
Definitive installation	11
Electric wirings	12
Installation of the PARK button.....	12
Installation of the accelerator electronic unit	13
What to do if	19
Maintenance	21
Spare parts	22

Introduction

This device is supplied with a standard kit that can be easily adapted to various types of vehicles with automatic gears and an adapted kit for the electronic part.

The special position it is installed in makes it possible to maintain steering wheel adjustments and does not modify knee airbag operation (where present).

SPEED & BRAKE-E / SPEED&BRAKE-E ECO allows the driver to accelerate gradually (by pressing the knob slider) and to brake smoothly and effectively with minimum movements and effort (by pushing the lever forwards).

Kit parts:

- 1 standard or ECO lever
- 1 telescopic rod
- 1 connecting pipe
- 1 connecting pin + M10 ball joint
- 1 lever fixing kit (standard)
- 1 brake pedal fixing kit (standard)
- 1 finishing plate
- 1 main electronic control unit kit
- 1 derivation electronic control unit kit
- 1 harness kit
- 1 activation system button
- 1 PARK button



Hardware bag with:

- 1 Teflon washer, Ø8mm
- 1 bolt, M10, galvanized, white
- 1 bolt, M8, galvanized, white
- 2 self-locking bolts, M8, galvanized, white
- 2 split washers, Ø8mm, galvanized, white
- 2 split washers, Ø6mm, galvanized, white
- 6 washers, Ø8x16mm, galvanized, white
- 2 washers, Ø6x12mm, galvanized, white
- 2 hex head screws M8x50mm, galvanized, white
- 2 hex head screws M8x16mm, galvanized, white
- 2 hex head screws M6x20mm, galvanized, white
- 2 countersunk screws M8x16mm, galvanized, white
- 2 hex head set cone screws, M4x6mm, burnished

General installation instructions

For installation to be correct, you must carry out a series of operations in a precise order.



Disconnect the battery.

Doing the support bracket of the lever

Identify the position where the single-lever is to be installed, considering that this position must allow the driver's seat to slide completely along the original runners or in some cases, where necessary, partially limit its travel.

In addition, consider that there must be a space of about 6 or 7 cm between the knob at the end of the single-lever and the steering wheel, so that the driver's hand does not interfere with the lever while he/she is steering. This distance is valid for all steering wheel shapes (in the case of adjustable steering wheel).

Example of correct positioning (*Picture 1*).



Picture 1



In addition to the indications given, assessing the requirements and usual driving habits of the user is very important when positioning the parts.

After having found the correct position, the lever supporting bracket must be assembled. This can be done using the standard bracket kit that is supplied.

Remove the plastic parts of the vehicle gearstick console (if necessary).

The brackets in the supplied kit must be shaped, welded and/or screwed together (using the M8x16mm countersunk hex screws) so that they can be fixed below the original seat runners of the vehicle, as shown in *Pictures 2,3,4*.



Picture 2



Picture 3



Picture 4



Picture 5

Naturally, the fixing points must be particularly sturdy and must guarantee that the single-lever supporting bracket is fixed safely.

It is also advisable to fix the brackets in a manner that is as non-invasive as possible, namely without cutting the vehicle plastic parts and carpet if possible, but using the space in the area where both meet, as shown in *Picture 5*.

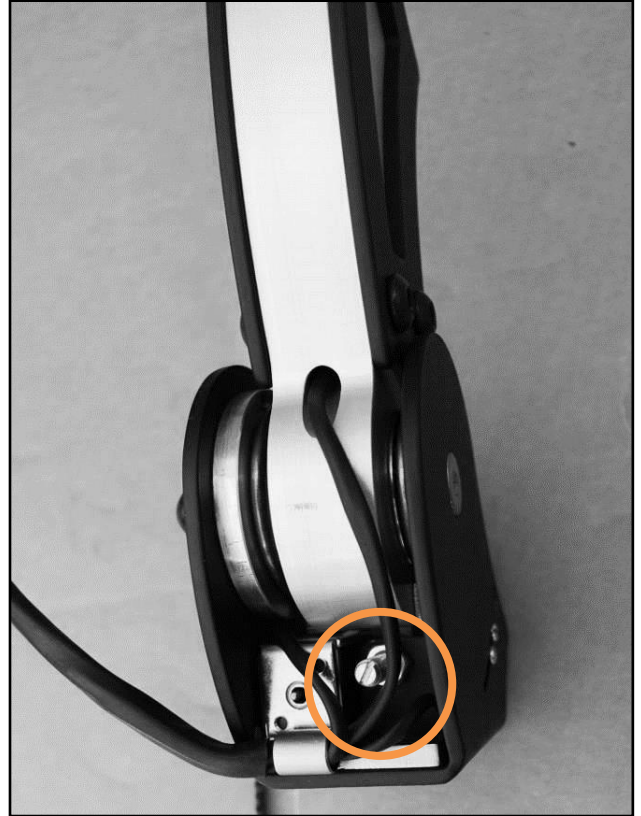
Before fixing the assembled bracket to the vehicle, drill a hole in it using a $\varnothing 7$ mm bit in the place where the single-lever is to be positioned and fixed (*Picture 5*).

Fixing the lever to the supporting bracket

Position the lever on the supporting bracket and fix using the M6x25mm hex head screws together with the washers and split rings Ø6mm (*Picture 7*), tightening them on the M6 threads of the lever.



Picture 7



Picture 8

Adjust the M5 end stop regulator in the lower part of the lever, and position it correctly (*Picture 8*) according to the driver's needs and technical-functional requirements.

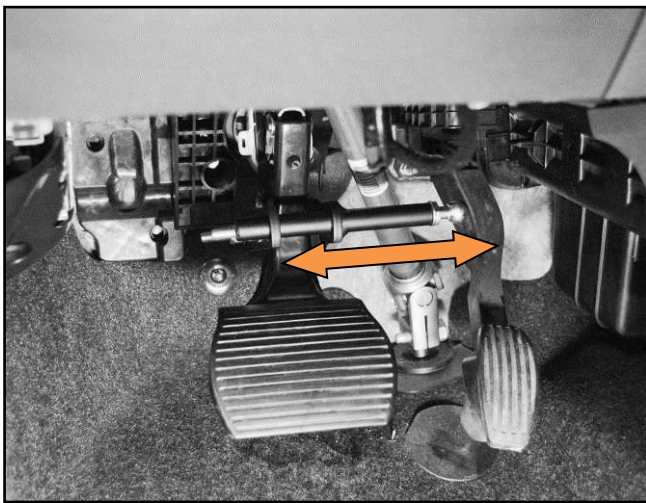
Assembling the fixing bracket to the brake pedal

This bracket connects the original brake pedal of the vehicle to the single-lever by way of the telescopic rod, and it can be assembled using the standard kit that is supplied. It must be shaped so that the telescopic rod remains as close as possible to the plastic parts of the vehicle's gearstick console, and in a manner that does not hinder foot movement between the accelerator pedal and the brake pedal while the vehicle is being driven by an able-bodied person.

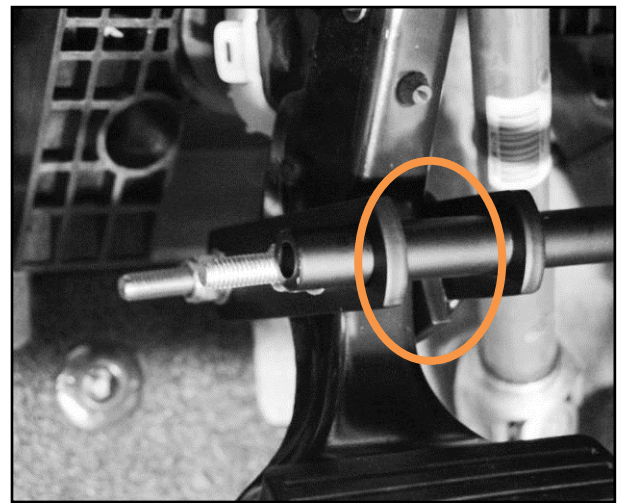
To fix it to the original brake pedal, tighten the pedal between the two parts of the bracket using the two M8x50mm hex head screws and respective Ø8mm washers and M8 self-locking nuts, without making holes in the original pedal.

The two parts of the bracket are connected to each other by the Ø15mm pipe supplied with the kit; the pipe, which has M10 threading at the end, holds the head of the telescopic rod.

Fix the Ø15mm pipe to the two parts by tightening the two M4x6mm threaded caps in the test stage and definitively welding the bracket part that is to the right of the brake pedal (or to the left if the steering wheel is on the left).



Picture 9



Picture 10

When assembling this bracket, consider how the pedal moves as it brakes, and do not allow the bracket to collide with parts of the vehicle, for example plastic parts, accelerator pedal, etc. In addition, it is important to bear in mind that, due to wearing of the vehicle's brakes, the brake pedal stroke may be longer.

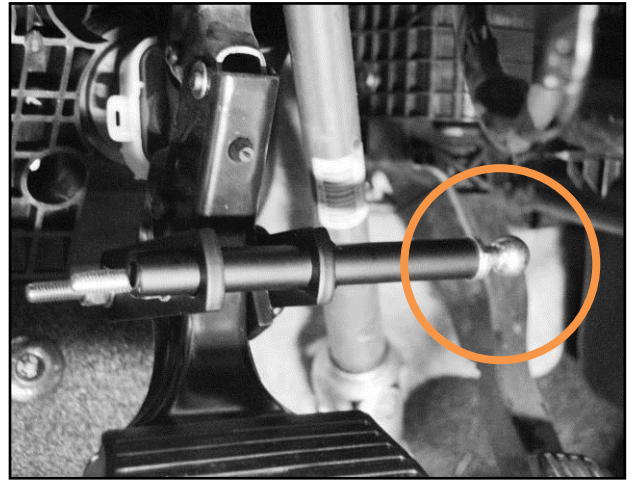
Apply the 30x25x5mm plate in the kit to the bracket to prevent rotation (*Picture 10*) while being pushed. As shown in *Picture 9* the bracket moves sideways, but it must not move more than 130/140mm from the pedal axis to prevent excessive pedal bending and possibly dangerous situations.

Positioning the telescopic rod that connects the single-lever and the fixing bracket to the pedal

The kit includes an M10 ball joint (*Picture 11*).



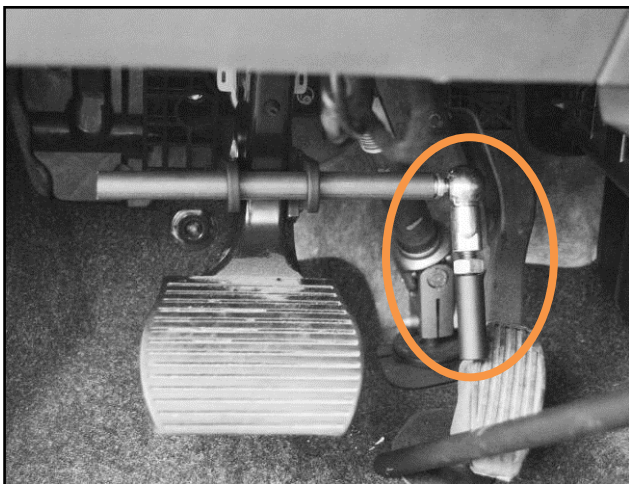
Picture 11



Picture 12

Remove the stop that binds the two parts of the joint, extract the spherical part with threaded rod and screw it into the M10 threaded hole in the Ø15mm pipe of the previously assembled bracket (*Picture 12*).

The other part of the ball joint should be screwed onto the M10 threaded end of the connection, shown in *Picture 13*, while the rod is fixed to the other perforated and M8 threaded end of the connection. The pipe fixed to the single-lever slides along the outside of the rod (*Picture 14*).



Picture 13

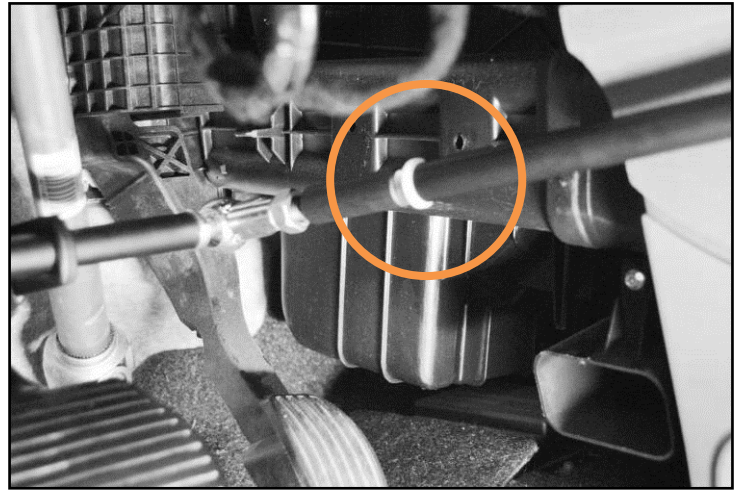


Picture 14

In some cases, to connect the single-lever and the brake pedal well, it may be necessary to move the position of the single lever ball joint (*Picture 17*) by loosening the M6 nuts, removing the threaded cap and tightening everything in the required position again.



Picture 17



Picture 18

The pipe abuts onto the connection, with the Teflon washer positioned as shown in *Picture 18* (the noise when the vehicle is used by an able-bodied person is muffled).

Also make sure that the rod slides freely inside the pipe, without any side friction.

Insert the telescopic rod ball joint part into the spherical part fixed to the brake pedal fixing bracket and carry out an operation check while the vehicle is moving.

Operation check

During the operation check, make sure that the vehicle brakes well and that the assembled brackets do not bend excessively. In addition, there must be a distance of at least 30-40 mm between the single-lever and the dashboard when braking abruptly, with the lever at the end of its run. This space is required for guaranteeing braking even if the brakes are worn.

Painting the assembled brackets

If the functional check has a satisfactory outcome, dismantle the various components and paint the brackets, after having checked the various welds.

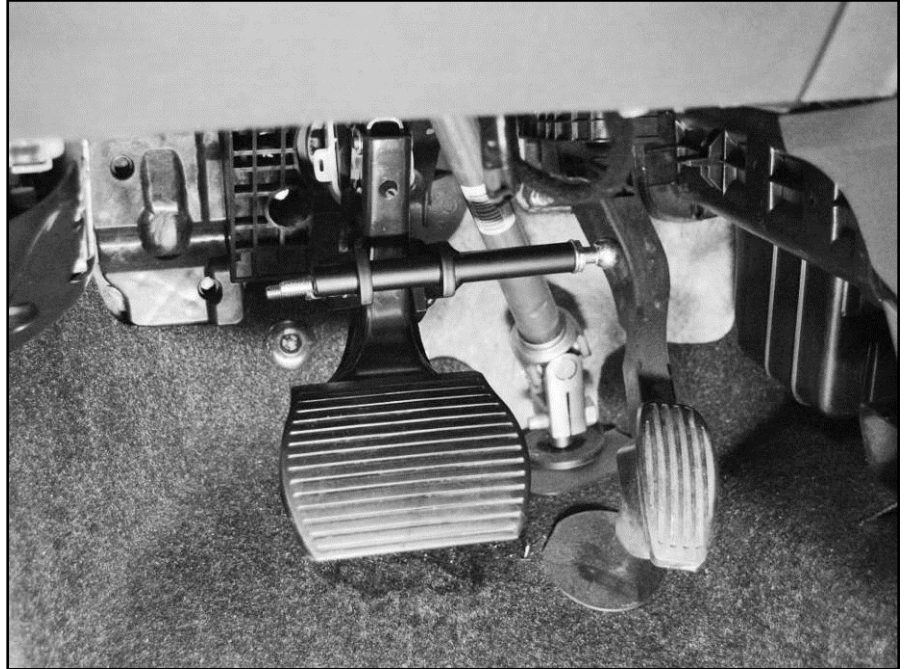
We advise eliminating any burrs and rounding any sharp edges; wash carefully with de-greasing liquid, treat with rust preventer and paint them matt black, as close to the colour of the lever as possible.

Final assembly

Re-position the two brackets, carefully tightening the various nuts and bolts (*Picture 19,20*).



Picture 19



Picture 20

Fix the single-lever to the supporting bracket, tightening the two M6x20mm hex head screws (*Pictures 21,22*)



Picture 21



Picture 22

Fix the connecting telescopic rod between the bracket applied to the pedal and the single-lever by screwing the pipe to the lever ball joint (*Pictures 23,24*).



Picture 23



Picture 24



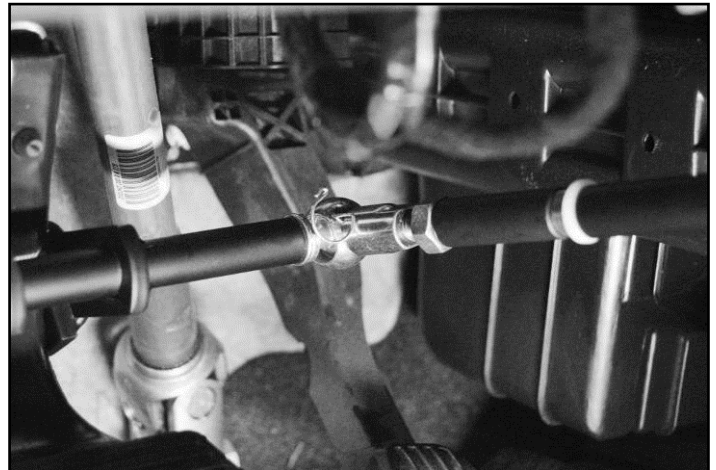
When fixing, it is important to insert strong thread-locking fluid and screw the pipe fully into the ball joint's threaded shank.

The internal sliding rod will be fixed to the connection (do not forget the Teflon washer and lubricate it).

On the opposite side of the connection, the ball joint is inserted into the sphere (use strong thread-locking fluid to tighten the sphere) as shown in *Picture 25*; remember to insert the safety stop as shown in *Picture 26* and rotate it to lock it firmly in position as shown in *Picture 27*.



Picture 25

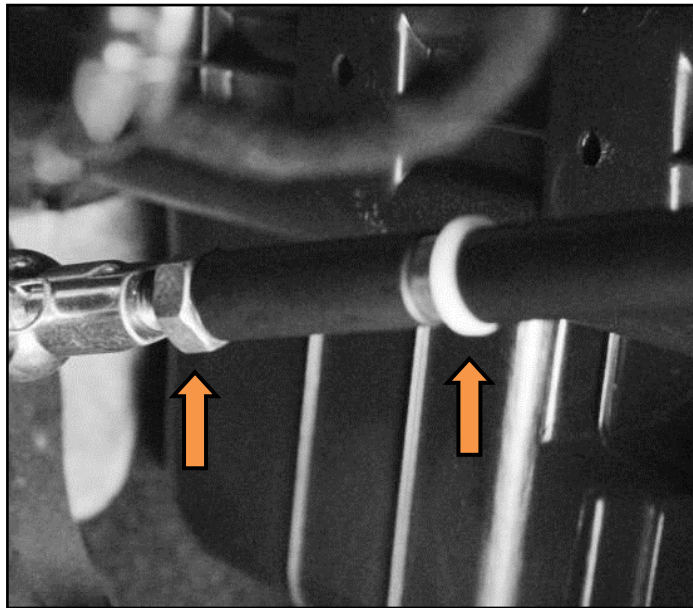


Picture 26

At this point carry out a brake test; if the single-lever, before it pushes the telescopic rod, shows any slack, even if only a few millimetres, it must be eliminated by adjusting the rod or the single-lever stroke end stop (as described previously).

To slack can be eliminated also thanks to the joint between the telescopic rod and the ball joint; after adjusting, tighten the nut (M10) against the ball joint as shown in *Picture 28*.

If you need to push the brake pedal forward gently to install the rod, do not offset the slack but adjust the rod instead. To do this, reduce the lever pressure on the brake pedal bracket using the previously described adjustment option.



Picture 28

Electrical connections

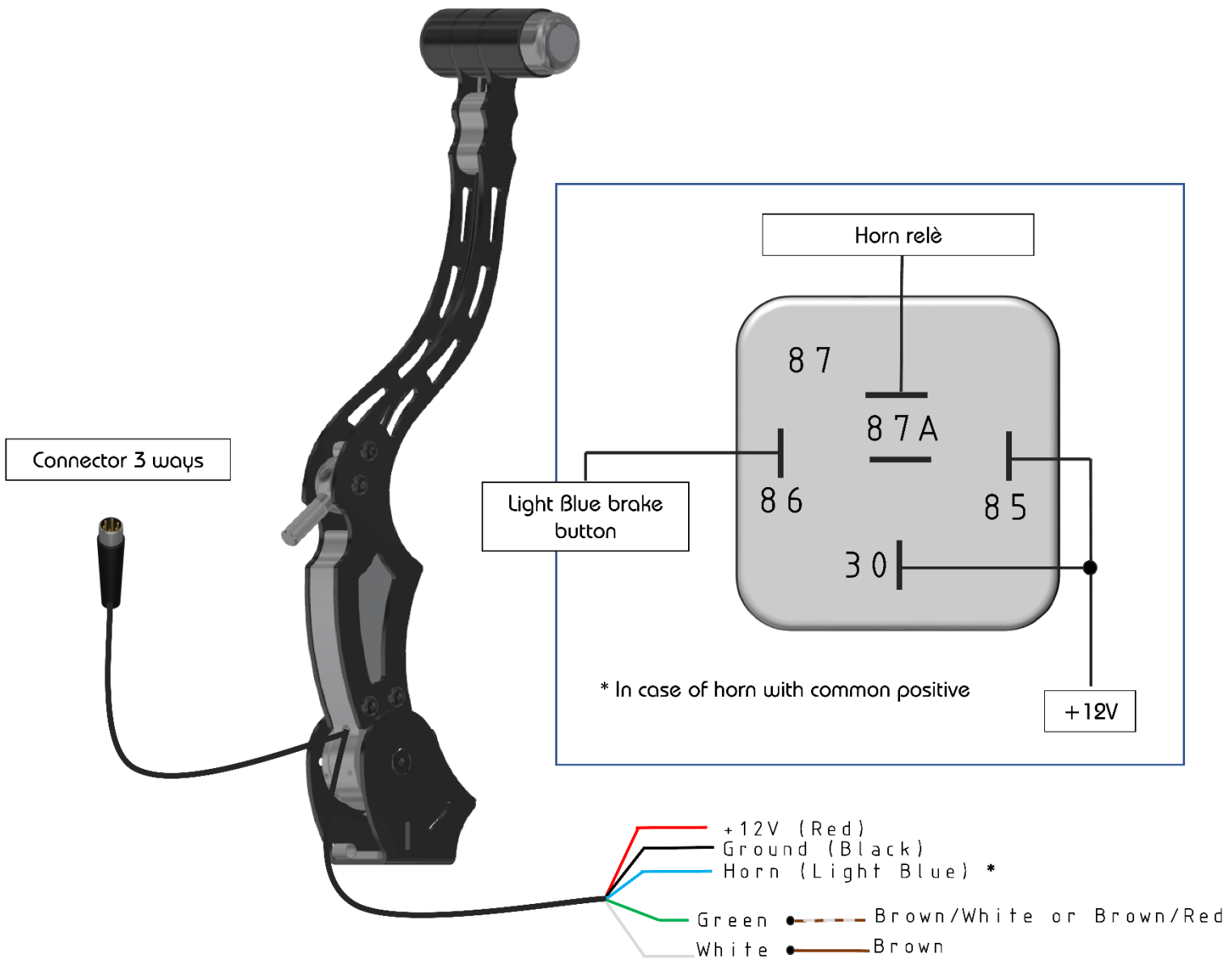
The system has an electric brake block controlled by the red push button positioned near the knob, a black push button that is connected to the vehicle's horn and a knob slider controlled laterally with the thumb for gradual vehicle acceleration (*Picture 29*).



Picture 29

A double insulated cable containing 5 wires of different colours and a double insulated cable fitted to a 3-way round connector (diagram below) come out of the lower part of the single-lever.

SPEED & BRAKE-E / SPEED& BRAKE -E ECO



Black cable (not present in the ECO version) to vehicle ground

Red cable to 12 Volt key-on, with insertion of a 5 Ampère fuse (if possible, use the free slots in the fuse block, alternatively apply an external one not supplied in the kit if not possible)

Light Blue cable (not present in the ECO version) to connect to the cable supplying the horn control relay. This is a negative signal so, in the very rare cases in which the relay is activated by a positive signal, install a small electrical system consisting of a relay to activate the horn as shown in the diagram.



The light blue cable has a very small section, therefore it can only be used to activate the horn control relay and not to directly control the horn. If the horn needs to be controlled directly, an interposing control relay must be added.

Green cable: connect it to the accelerator control unit brown/white cable (SPEED & BRAKE-E).

White cable: connect it to the accelerator control unit brown cable (SPEED & BRAKE-E).

Run the cable exiting from the single-lever below the plastic parts that cover the gearstick console and below the dashboard, connecting it to the connection points to the original system of the vehicle. Do not allow it to come into contact with moving mechanical parts.

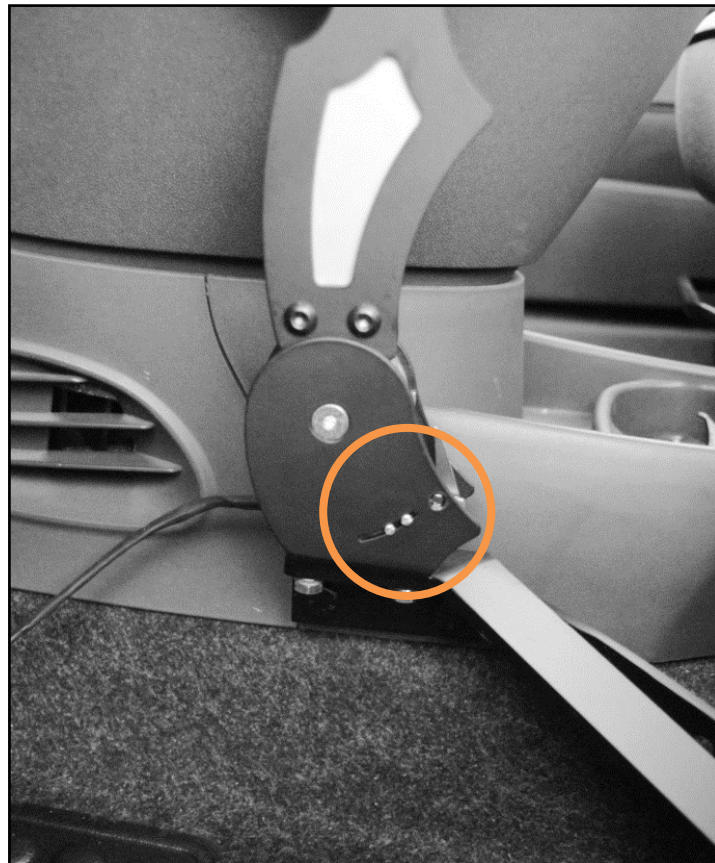
These connections must be tinned and protected with shrink tubing and also fixed along their run using plastic ties.

Make sure the horn is working correctly by pressing the black push button.

Make sure the brake block is working correctly, better if the vehicle is moving. Push the lever forward and press the red push button, then release the lever first and then the push button. The electromagnet that blocks the lever activates. After this, push the lever forward and make sure it is released going back to the home position.

After carrying out these checks, adjust the micro-switch on the lower part of the lever which disables acceleration.

Adjust by loosening the two M2 screws that connect it to the single-lever support (*Picture 30*) and making it slide in the slots; use a flat-blade screwdriver.



Picture 30

It is advisable to adjust the micro-switch so that acceleration is disabled during the final phase of braking; in this manner the user can manage uphill starts at best (simulating start with handbrake engaged).

After adjusting is completed, tighten the M2 screws.

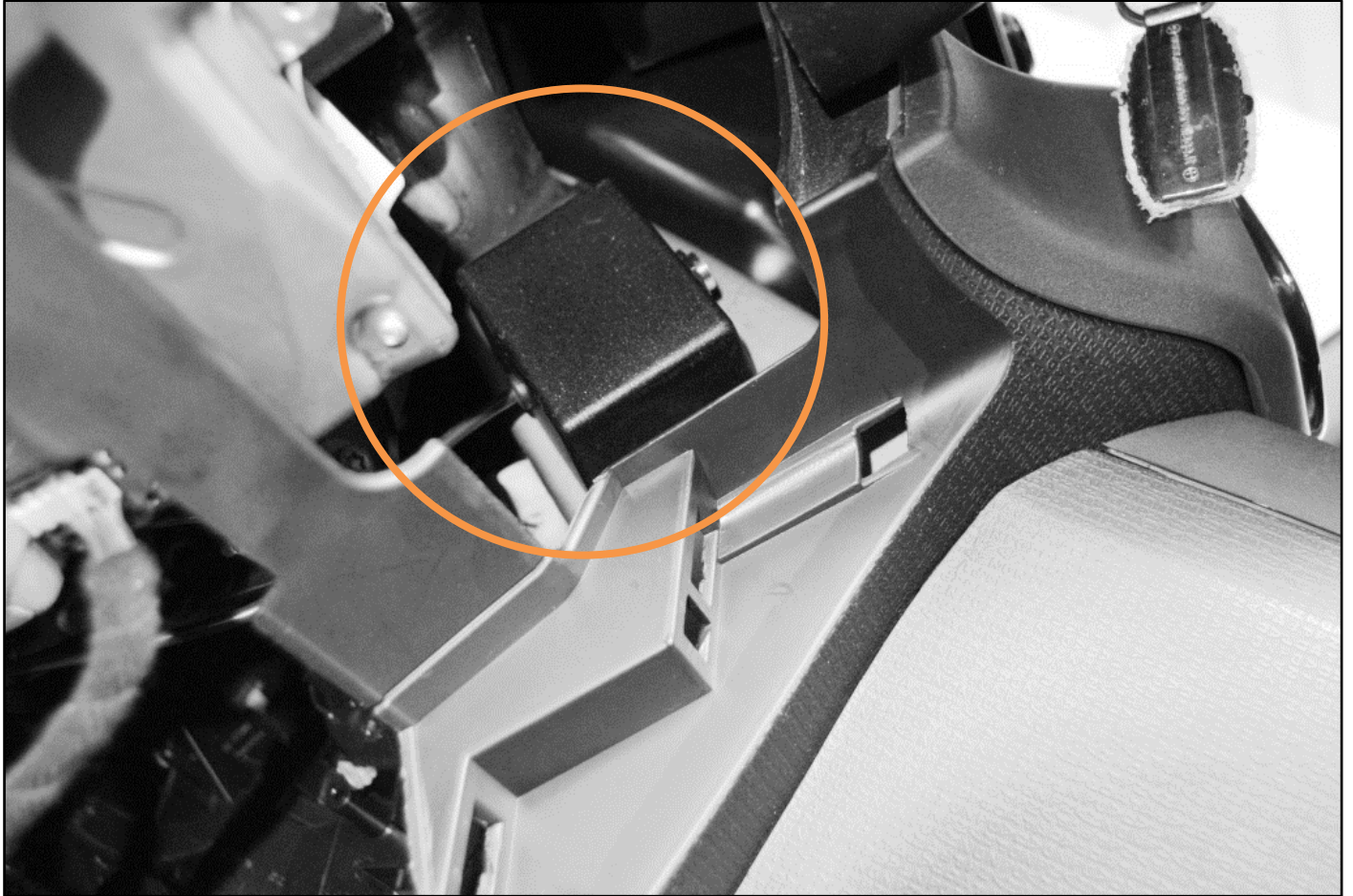


Picture 31

Remove the film on the double-sided tape and fix the finishing plate, after having cleaned the surface carefully (Picture 31).

Very carefully re-assemble the previously removed plastic parts and any other parts.
Should it be required, shape these parts to allow the assembled brackets to pass through.

Place the flanged junction box (which contains the signal amplification control unit and the control connection) under the dashboard on the driver's side or under the central tunnel (*Picture 32*), connecting it to the main control unit (which must also be placed under the dashboard) welding the cables and protecting them with heat-shrink tubing according to the diagram below.

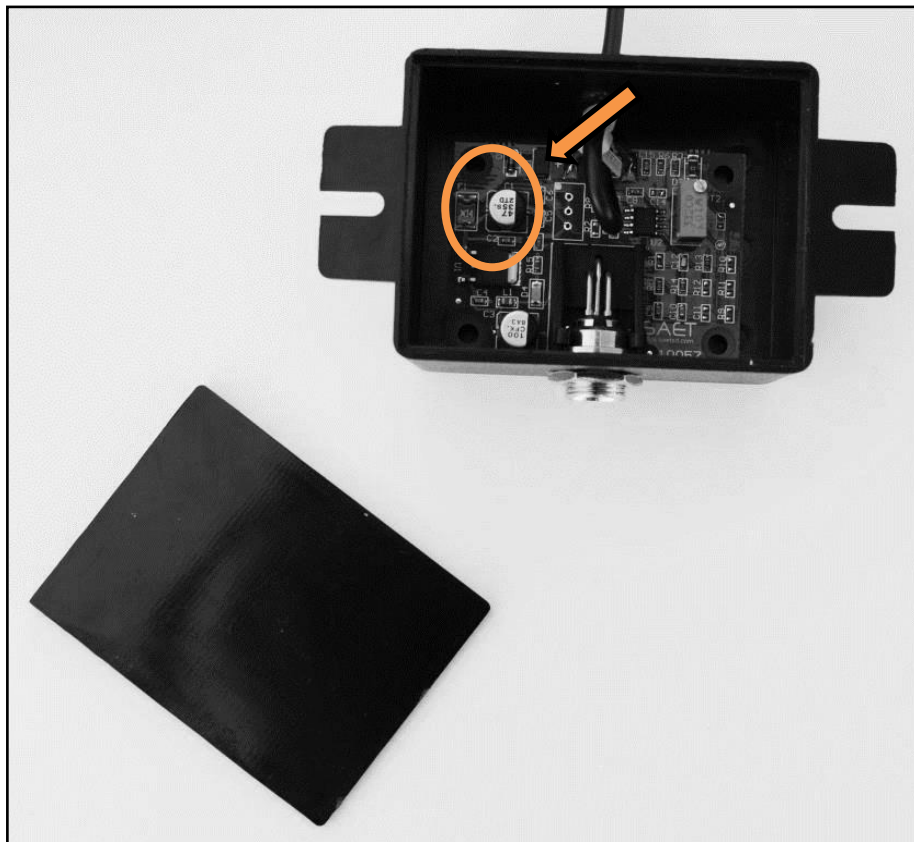


Picture 32

WIRING DIAGRAM

- **White** - double insulated cable with **Red** exiting from the main control unit.
- **Green** - double insulated cable with **Yellow** exiting from the main control unit.
- **Black** - double insulated cable with **Yellow/Green** exiting from the main control unit.

There is an electronic amplification control unit inside the junction box.
 This unit (supplied with basic setting) is equipped with a multi turn adjustment trimmer (*Picture 33*) that can be used, if necessary, to optimise command response.



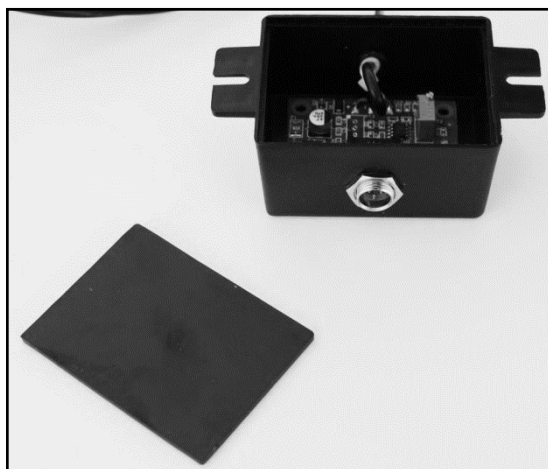
Picture 33

To adjust (when installation is completed), first unscrew the clamping screws of the black junction box (*Picture 34*), and then just press gently on the lower part to open it. After that, rotate the multi turn trimmer (*Picture 35*) counter clockwise to increase sensitivity and clockwise to decrease it.

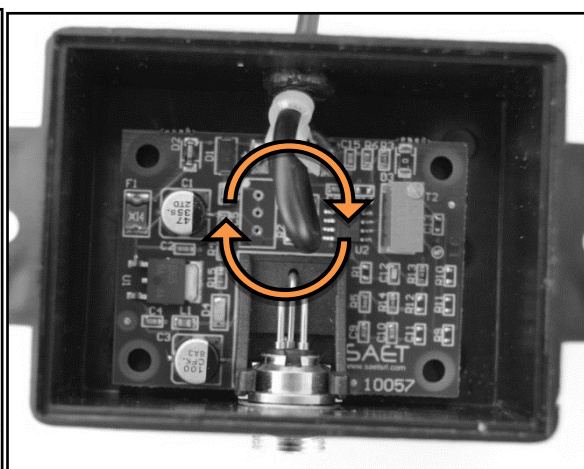


The regulation must be done with system off.

Make a few turns and check the variation with a dynamic test.



Picture 34

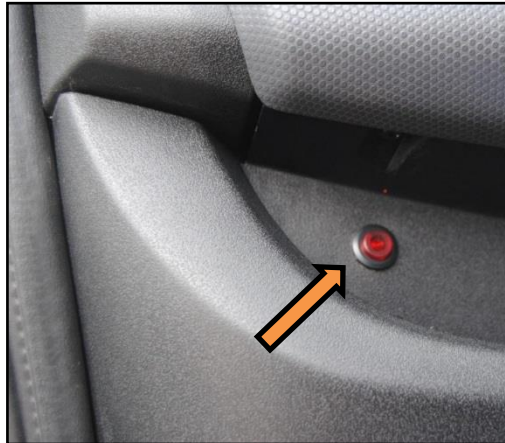


Picture 35

Installing the activation push button and the PARK switch

The device activation push button must be positioned in a place that is visible to the driver, making sure that during use at night the red LED inside the push button does not reflect on the front windscreen, which may disturb the driver.

After identifying the correct position, make a diameter 17 mm hole and insert the push button with wiring (*Picture 36*).



Picture 36

The PARK servo system switch must be positioned in an easily reachable area because it must be activated while driving (*Picture 37*).

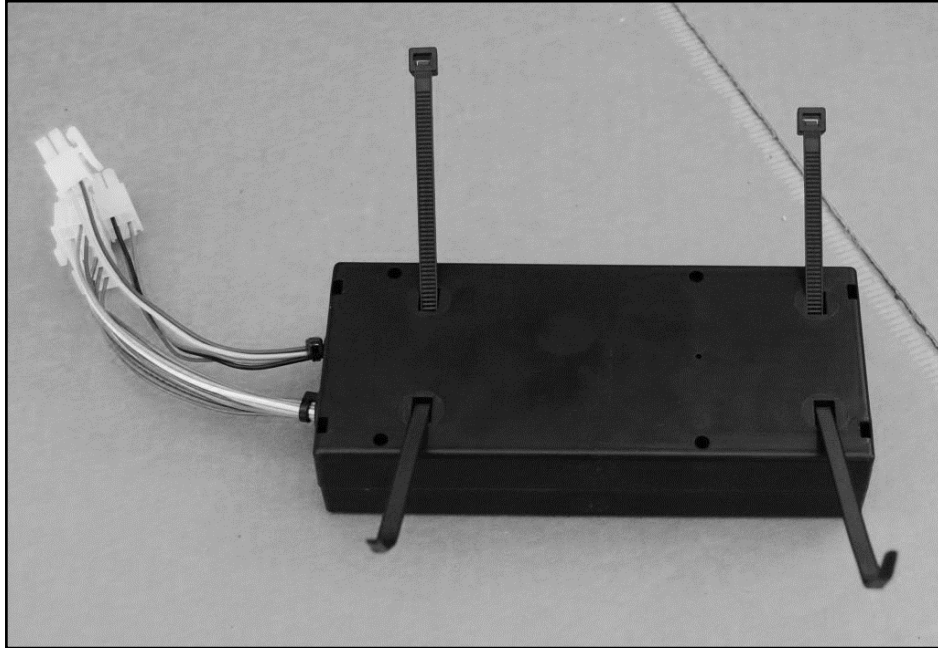


Picture 37

Make a diameter 13 mm hole in the place where the switch is to be positioned, insert the switch with finish plate and tighten the nut on the thread at the back of the switch.

Installing the electronic control unit

The electronic control unit that runs the device must be positioned in the area below the dashboard, considering that it may be necessary to inspect it or check the visual fast diagnosis system. It can be fixed by inserting plastic strips through the appropriate slots in the box that holds the control unit (*Picture 38*); after this tighten the strips onto the wiring or supports in the vehicle, and in the area chosen for fixing.



Picture 38

Electrical connections

Wiring reference diagram on next page (22).

Notes:

- *: way 1 (white wire on calculator side and grey on pedal side) and way 2 (blue wire on calculator side and purple wire on pedal side) are analogue ways that can be parametrised from 0V to 5V. Way 1 should be connected to the original wiring of the accelerator pedal, more specifically to the cable with the higher voltage variation between those two cables that undergo voltage variations during acceleration. As a result, way 2 will be connected to the cable with the lower voltage variation value (the voltage values of way 1 are usually twice those of way 2). Connect the green-yellow cable to the earthing cable on the accelerator pedal wiring. **Never connect it to earth on the chassis.**
PAY ATTENTION: The original Way 1 and Way 2 must be interrupted.

If the vehicle signals are not analogue and linear, or are not within the interval from 0V to 5V, contact CARROZZERIA 71 SRL.


- **: a contact that can be parametrised (pink and green wires) as Kick Down contact (closes at acceleration stroke end) is built into the device. This contact can activate the Kick Down contact if separate and independent from the potentiometer on the original accelerator pedal (see *Example of connection* diagram – page 23).
- ***: there is a servo PARK switch that limits acceleration to make parking easier or to make device use smoother. Connect the black wire of the servo PARK switch, equipped with eyelet, to earth on the chassis. Insert the other black wire, with Faston terminals, into pin 85 of the relay holder.

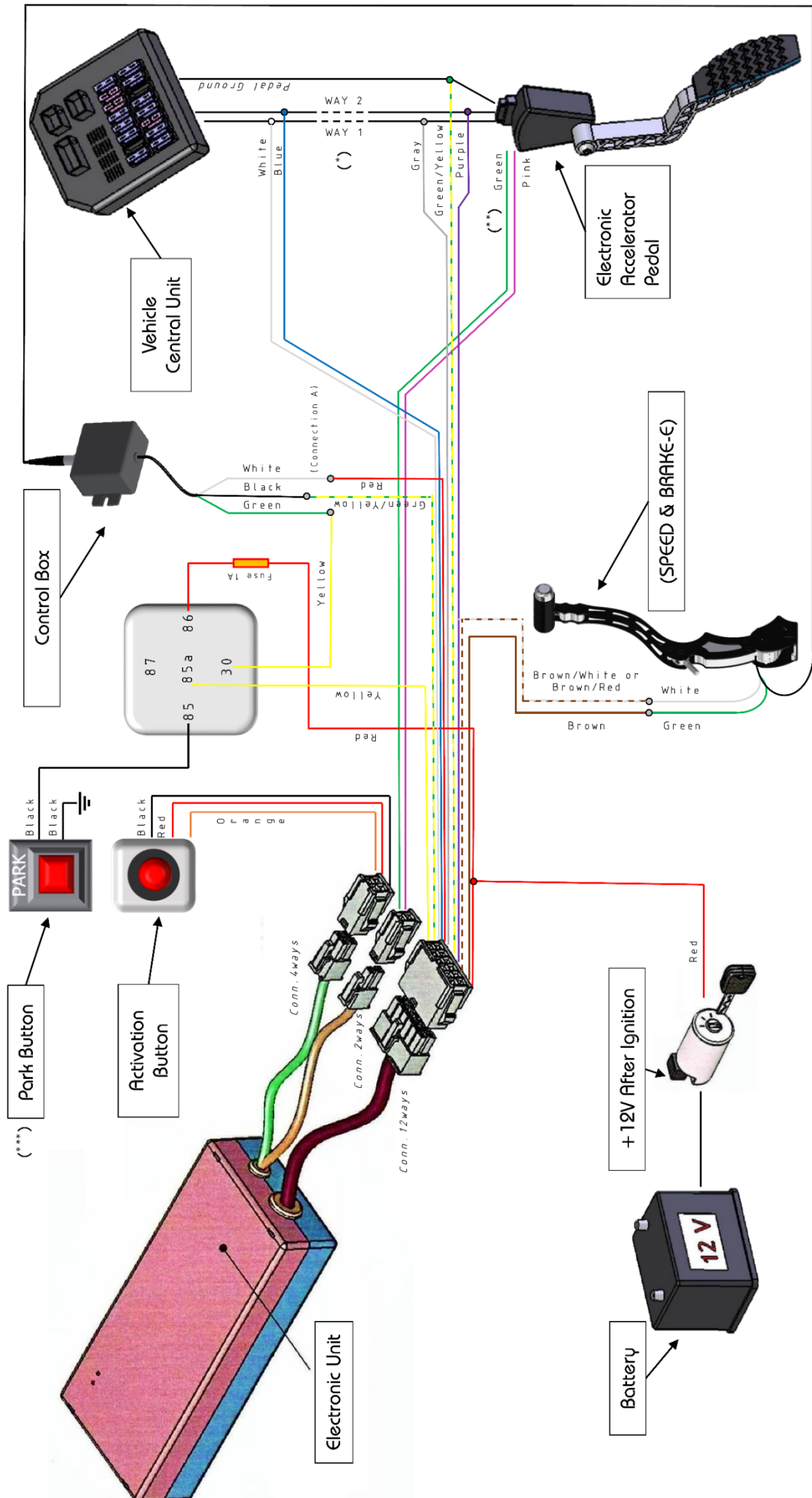
PAY ATTENTION:

Each electrical connection must be made with the utmost care.

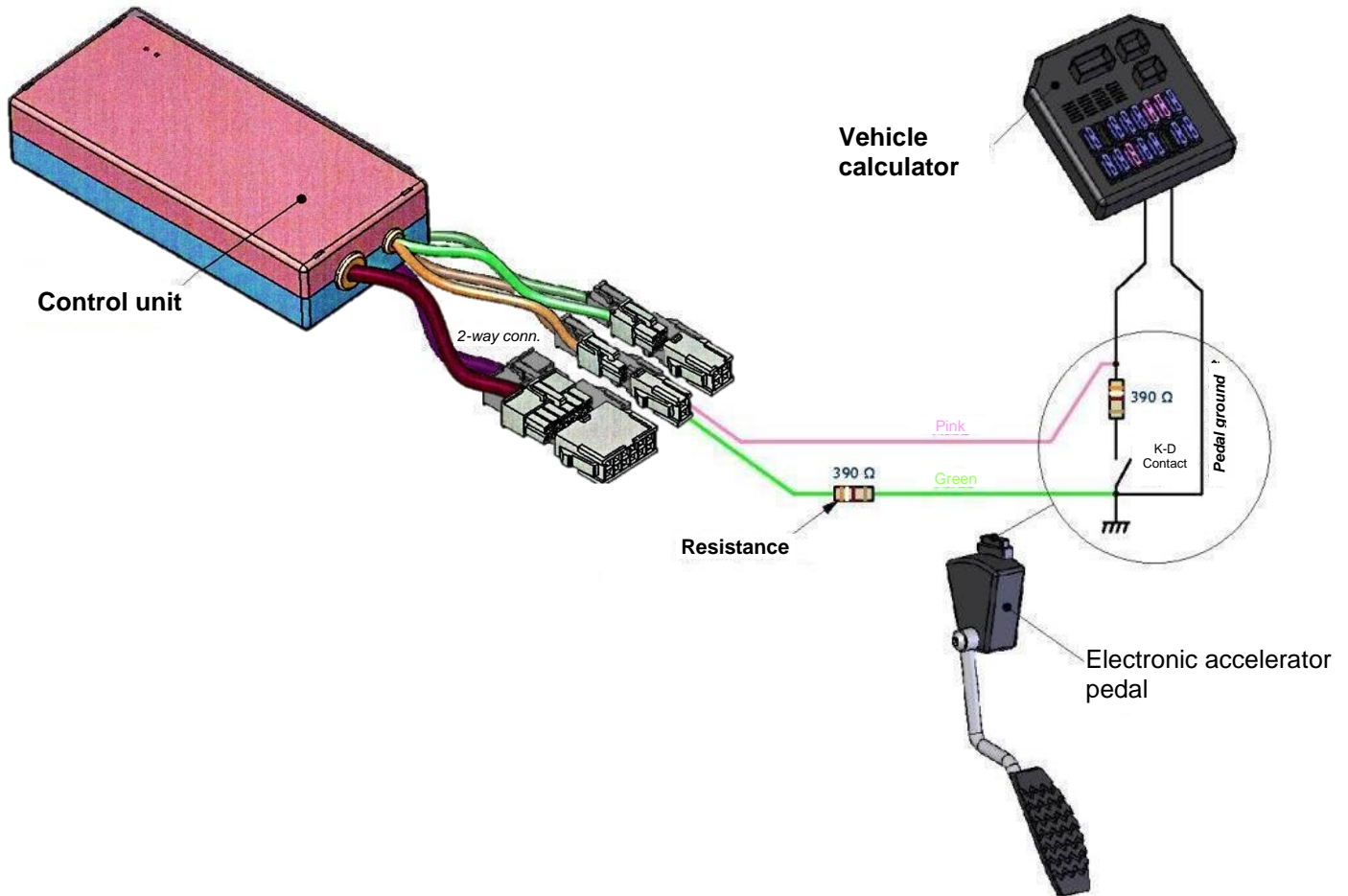
It is mandatory to tin the cables and not use any type of cable clamp. After tinning, it is also essential to cover the tinned part with heat shrink tubing or insulation tape.

We also stress that the wiring must not come into contact with heat sources, moving mechanical parts and chemical agents.

 **During the device installation phase, check the values of way 1 and way 2 and make sure they correspond to those of the vehicle. The values are given on the label applied to the control unit.**



Example of Kick Down contact connection on PEUGEOT and CITROEN cars:



The vehicle's Kick-Down contact closes at the stroke end of the acceleration pedal. It allows the driver to disable the speed limitation device when needed (e.g. to overtake). With Kick-Down contact activated and the 390Ω resistor wired as indicated above, when the round accelerator is pressed fully the speed limitation device is disabled and the acceleration control is fully operational.

At this point, the system is fully fastened. Connect the battery and perform all system operation checks both with vehicle stationary and during a test run.

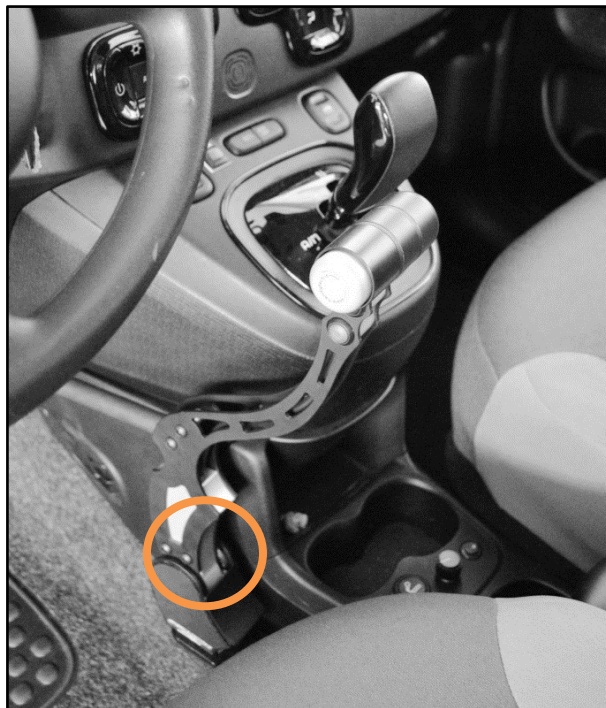
What to do if...

1. After starting the vehicle's engine, the single-lever is in a markedly forward position and is very hard to push.

Make sure the lever has not remained blocked by mistake: if it has, release it.

If the problem persists, the brake block mechanism may be blocked. The hooking pin can be partly seen in the lower part of the lever, behind the casing (*Picture 39*); try to release it with a small screwdriver.

Make sure the spring returns correctly towards the steel hook that is controlled by the electromagnet; the system will not work if the spring does not return or if the spring has yielded, therefore it must be fixed. Lubricating the sliding parts may be enough.



Picture 39

2. The brake block does not engage when the red button is pressed

There may be a problem with the brake block electrical system, and there are two possible solutions:

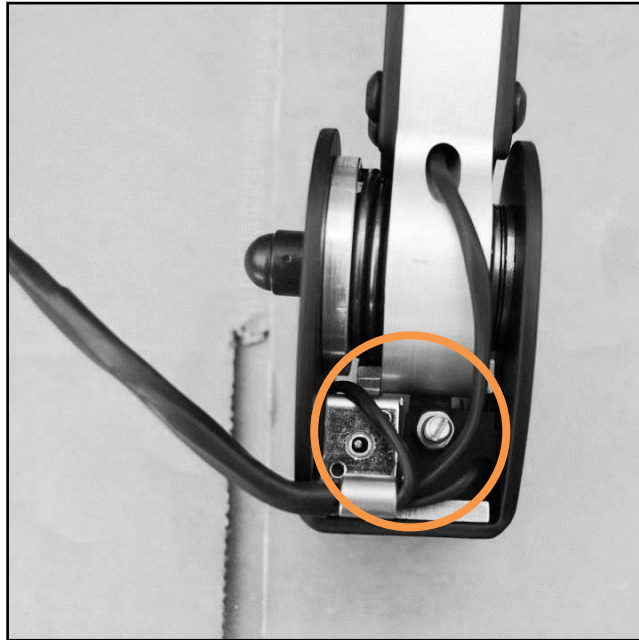
- Check the integrity of the electrical system and the 5 Amp protection fuse.
- Make sure the hooking system and the electromagnet are sliding and moving correctly; adjust them if necessary or simply lubricate the parts.

3. The horn does not sound when the black button is pressed

Check the integrity of the original fuse of the vehicle, if necessary, replace it with one having the same amperage; also check the integrity of the electrical system.

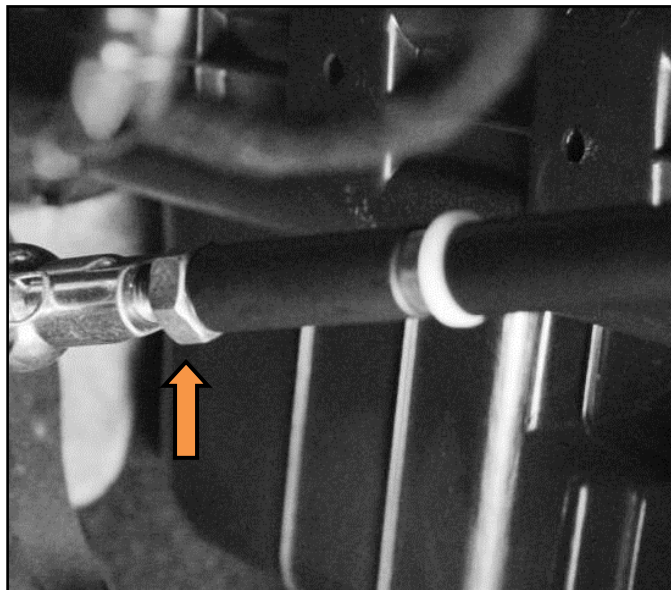
4. The lever has an idle stroke from its home position to the start of braking.

- Check if the lever has cleared its end stop (*Picture 40*), and if necessary adjust the M5 pin.



Picture 40

- This slack can also be eliminated by loosening the M10 bolt on the connecting pipe to the telescopic rod, rotating the head counter-clockwise to offset the slack and tightening the M10 bolt (*Picture 41*).

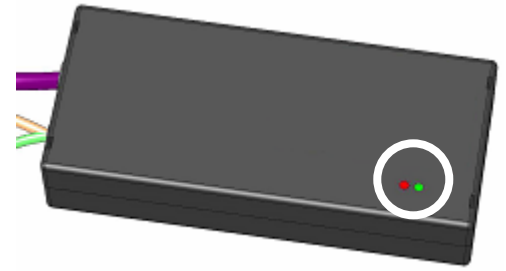


Picture 41

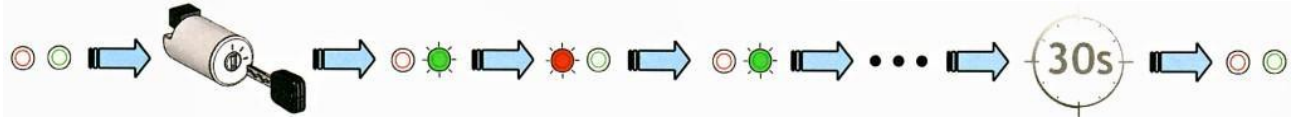
If your system has a problem that is not listed, you must contact Handytech - Carrozzeria 71 s.r.l.

Quick device diagnosis

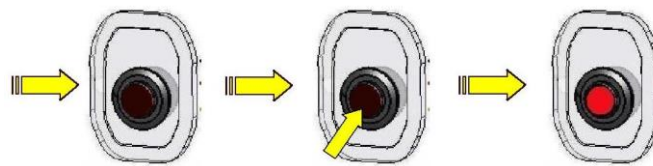
The red and green LEDs on the control unit assure quick and simple system diagnosis.



Energise the system:



- The green and red LEDs flash alternately when the vehicle starts.
- The device can be turned on (by pressing the button) within 30 seconds after starting the vehicle.



- The red LED inside the activation button turns on after switching on.
- If the device is not turned on within 30 seconds after starting the vehicle, the vehicle must be turned off, then restarted to be able to switch on the device.

Device diagnosis:

Function	LED	Switch LED
Contact interrupted		
Contact on - first 30 seconds Device activation waiting time		
Contact on - after 30 seconds Device cannot be activated		
Brake engaged (with device on)		
Accelerator idle (with device on - brake not engaged)		
Accelerator operating (with device on - brake not engaged)		
Acceleration pressed to stroke end (with device on - brake not engaged)		

MAINTENANCE ONLY TO BE CARRIED OUT IN AUTHORISED HANDYTECH CENTRES

First check: Km. 1,500

Check the tightness of +12VCC power and earthing.
Check that the wiring has not been cut or worn by contact with moving parts.
Check correct coupling of the connectors to the control unit and black junction box.
Ensure acceleration is disabled when the single-lever is pushed down.
Check that the signal sent to the control unit arrives without interruption (to do so you only need to accelerate and verify that the system's response is correct).
Check correct operation of the servo PARK switch.
Ensure the control lever moves freely with no obstructions. Clean and lubricate it with silicone spray.
Check correct tightening of all device parts.

Subsequent checks

KM. 25,000 (or after 8 months)

Repeat the checks carried out at 1,500 km.

KM. 50,000 (or after 16 months)

Repeat the checks carried out at 1,500 km.

KM. 75,000 (or after 24 months)

Repeat the checks carried out at 1,500 km.

KM. 100,000 – 125,000 (or at least once a year)

Repeat the checks carried out at 1,500 km.

KM. 150,000

Repeat the checks carried out at 1,500 km.

PAY ATTENTION:

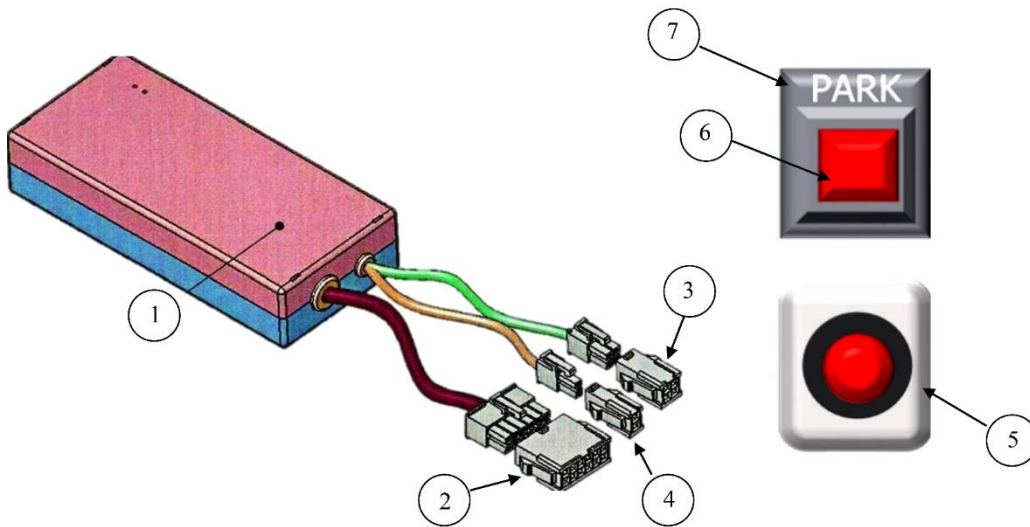
After 2 years, it is advisable, together with CARROZZERIA 71 S.r.l., to check the system's condition and replace any worn parts.

Please note that when the warranty ends the maintenance programme is at your discretion, but our advice is to follow it thoroughly because neglect may cause system faults, problems and dangerous situations while driving.

The device maintenance operations, both when covered by warranty and not, are fully borne by the customer, as specified on the use and maintenance booklet and on the warranty booklet.

GUARANTEE: 24 MONTHS OR 80.000 KM

SPARE PARTS



Reference number	Code	Description	Quantity
1	HT-SPEED & BRAKE-E/R/E-01	Electronic control unit	1
2	HT-SPEED & BRAKE-E/R/E-02	12-way wiring	1
3	HT-SPEED & BRAKE-E/R/E-03	4-way wiring	1
4	HT-SPEED & BRAKE-E/R/E-04	2-way wiring	1
5	HT-SPEED & BRAKE-E/R/E-05	Activation button with LED	1
6	HT-SPEED & BRAKE-E/R/E-06	Servo PARK switch complete with wiring	1
7	HT-SPEED & BRAKE-E/R/M-01	BLACK PARK switch finishing plate	1
*	HT-SPEED & BRAKE-E/R/E-07	Junction box with electronic circuit	1
*	HT-SPEED & BRAKE-E/R/M-02	M10 ball joint (lever)	1
*	HT-SPEED & BRAKE-E/R/M-03	M10 angular ball joint (brake rod)	1
*	HT-SPEED & BRAKE-E/R/E-08	Electromagnet	1
*	HT-SPEED & BRAKE-E/R/M-04	Steel hooking pin (brake block)	1
*	HT-SPEED & BRAKE-E/R/M-05	Partial steel sprocket (brake block)	1
*	HT-SPEED & BRAKE-E/R/M-06	Return spring (brake block)	1
*	HT-SPEED & BRAKE-E/R/M-07	Bushing in synthetic material	1
*	HT-SPEED & BRAKE-E/R/M-08	Telescopic rod fitted with Ø8mm threaded rod + M10 threaded pipe	1
*	HT-SPEED & BRAKE-E/R/M-09	Telescopic rod connection	1
*	HT-SPEED & BRAKE-E/R/M-10	Sheet metal finishing plate (lever)	1
*	HT-SPEED & BRAKE-E/R/M-11	Lever and brake pedal fixing kit (standard)	1
*	HT-SPEED & BRAKE-E/R/M-12	"BLACK" plastic plate for left hand drive	1
*	HT-SPEED & BRAKE-E/R/M-13	"BLACK" plastic plate for right hand drive	1
*	HT-SPEED & BRAKE-E/R/E-09	Micro-switch for accelerator disabling	1
*	HT-SPEED & BRAKE-E/R/M-14	Knob	1

GENERAL TECHNICAL CHARACTERISTICS

Usage temperature:

- Between - 40°C and + 85°C

Power supply:

- 12 V (between 10 and 16 V)

Complies with all the characteristics of MACHINERY DIRECTIVE 2006/42/EC and ELECTROMAGNETIC COMPATIBILITY DIRECTIVE 2009/19/EC.

The device respects these directives:

- 74/60/EEC
- 74/297/EEC
- CEPE/ONU 35R

INSTRUCTIONS FOR IDENTIFYING TIGHTNESS CHANGES IN THE ACCELERATOR PEDAL

N.B. The voltage must be measured while the accelerator pedal is completely released and while it is completely pressed down (until the Kick-down is triggered, if installed).

Of course, the dashboard panel must be on and the engine must be turned off.

We can find 5, 6, 7 or 8 wires on the accelerator pedal.

- Should there be 5 wires, the multimeter will show:
 1. one ground wire, two positive voltages not exceeding 5V and two voltage changes between 0V and 5V.
 2. two ground wires, one positive voltage not exceeding 5V and two voltage changes between 0V and 5V.
- Should there be 6 wires, the multimeter will show:
 1. two ground wires, two positive voltages not exceeding 5V and two voltage changes between 0V and 5V.
- Should there be 7 wires, the multimeter will show:
 1. one ground wire, two positive voltages not exceeding 5V and two voltage changes between 0V and 5V and two kick-down contact wires;
 2. two ground wires, one positive voltage not exceeding 5V, two voltage changes between 0V and 5V and two kick-down contact wires.
- Should there be 8 wires, the multimeter will show:
 1. two ground wires, two positive voltages not exceeding 5V, two voltage changes between 0V and 5V and two kick-down contact wires;

Voltage changes must be measured between the wire or one of the two ground wires on the acceleration pedal and the two voltage change wires.

Voltage changes between released and pressed-down pedal must be constant and gradual.

Any measurement that does not fall within the examples above must be reported to Carrozzeria 71 S.r.l.

If the Kick-down contact is installed on the accelerator pedal, check whether it is a normally closed, normally open contact or whether it works with a resistance.

EXAMPLE

Values measured on a Renault New Clio Dynamic 1.2 with automatic gear shift: there are 6 wires on the accelerator pedal.

- Two ground wires.
- Two 5V fixed voltage wires.
- One wire reading 0.72V with pedal released and 4.30V with pedal fully pressed.
- One wire reading 0.35V with pedal released and 2.13V with pedal fully pressed.

The wire with the largest change (from 0.72V to 4.30V) is always called "**Way 1**".

The wire with the smallest change (from 0.35V to 2.13V) is always called "**Way 2**".

Below is a chart to be filled in and sent to us as soon as possible in case the car in question is not listed in the reserved area.

	With pedal released	With pedal pressed down
Way 1	Volt	Volt
Way 2	Volt	Volt
Kick-down contact		