



RDS

MOUNTING INSTALLATION

Version 1,5

NOTE: Read the entire manual before installation, this will make understanding and installation easier.



Part. 28004.

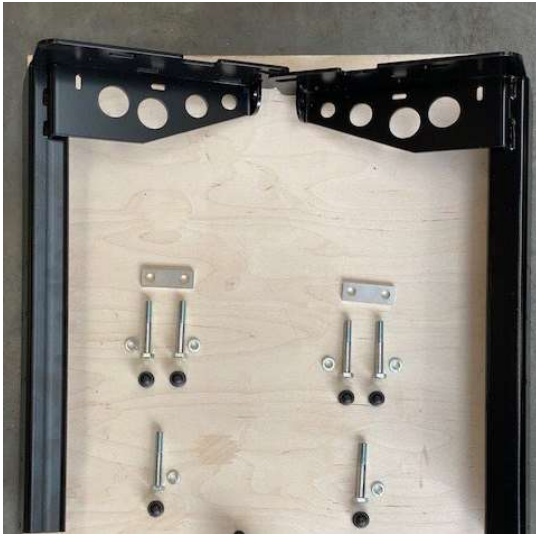
MB Sprinter 2019 – Rear door system.

Kit includes: Lift bracket - Door bracket - RDS - Remote control - Mounting screws.

Installation on lift.

Mount the 2 brackets on the lift, with the supplied screws and spacers.

Note: On the Autolift Onda, 2 spacers must be placed to keep distance from the lift.



Place spacer between bracket and lift.



Mount the bracket and tighten the 3 M10 X 60 With 25 NM.

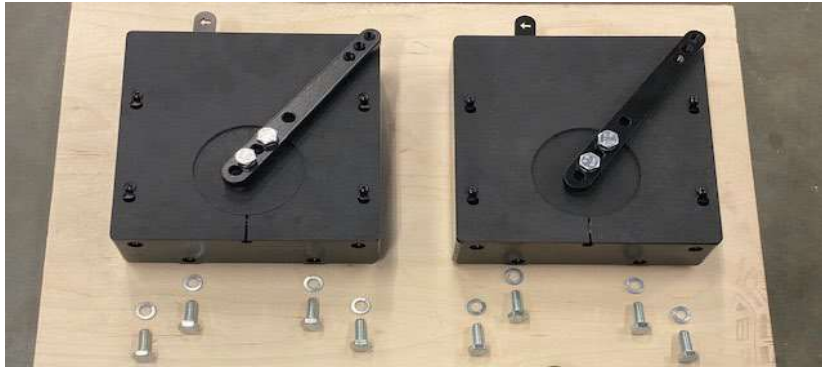
Note: On MB Sprinter, the bracket must be placed in the highest position.



Hydraulic pump rod holder is installed.

Alternative. Can be placed on the left or right D-Pillar.

Install RDS on top of the bracket.

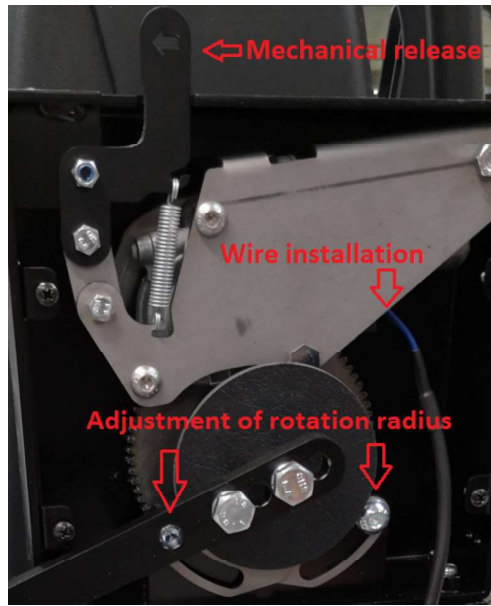


Remove RDS cover so that it is possible to fit cable, and make adjustment.
Do not mount cover until installation is complete, and all adjustments to the door pull are finished.

Plastic cover

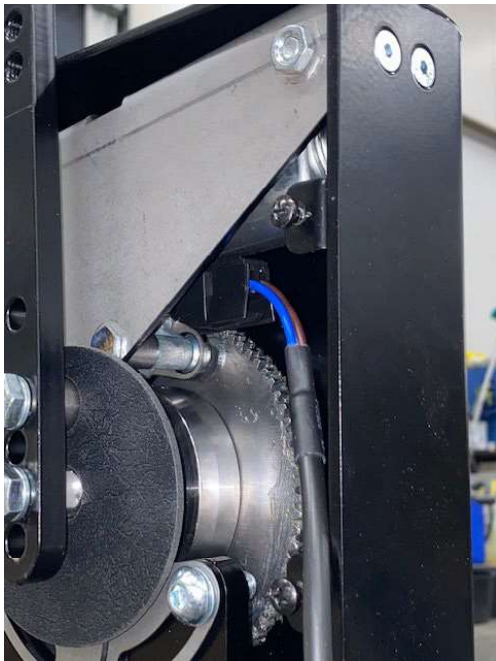


RDS overview



RDS is mounted with 4 X M10 X 30mm and tighten with 30 NM
Fastens in full forward position. (Toward front car)

**Pull wires from both RDS motor to RDS ECU (Control box) Location around pump station.
Pay attention when installing cables in the plug. "Place the colors correctly."**



The plug is mounted on motor.

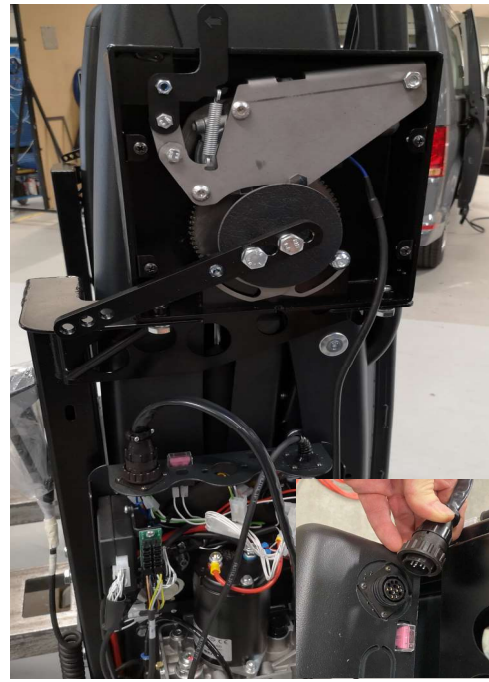


Note cutout for cord.

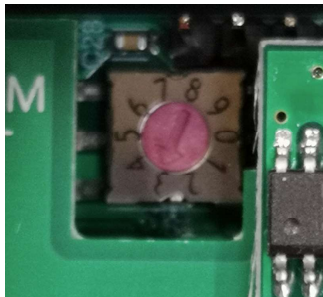
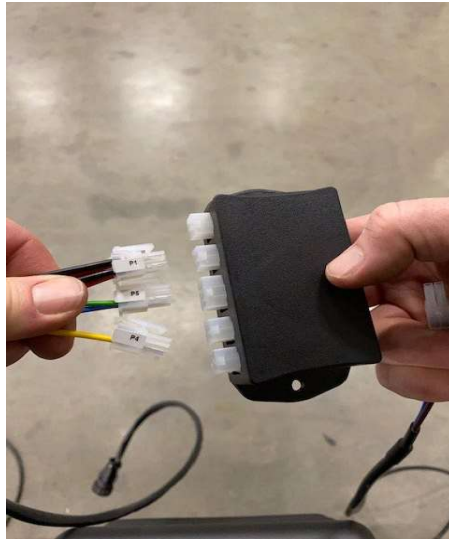
Wire are drawn to ECU



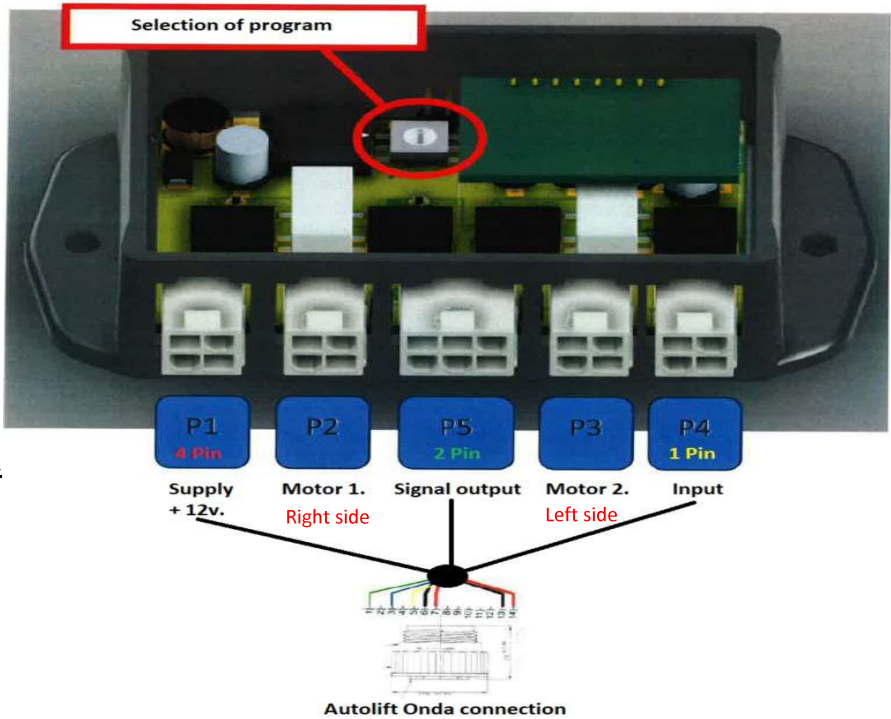
Fit the included 14 pin connector in the lift and lead the cable to ECU.



Fit cables. Door 1 - Door 2 - Lift Input/Output in the correct positions. See also schedule.



Attention Sprinter program 1



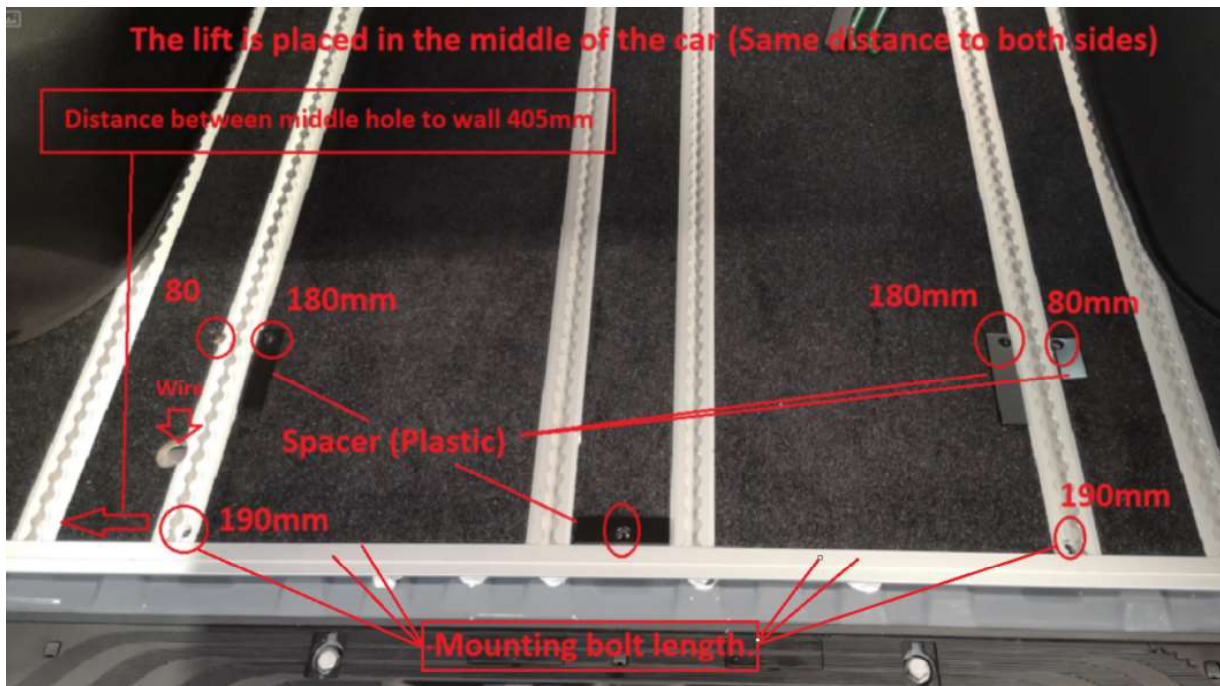
Startup and program selection.

After power is connected, the right program can be selected by turning the rotary switch with a small flat screwdriver. The LH-101 responds with two beeps when a new program is selected.

Prg.	Door type	Lift	
1	RDO – Right opens first	Autolift SKY/ONDA	Sprinter, etc.
2	RDO – Left opens first	Autolift SKY/ONDA	
3	HDO	Autolift SKY/ONDA	

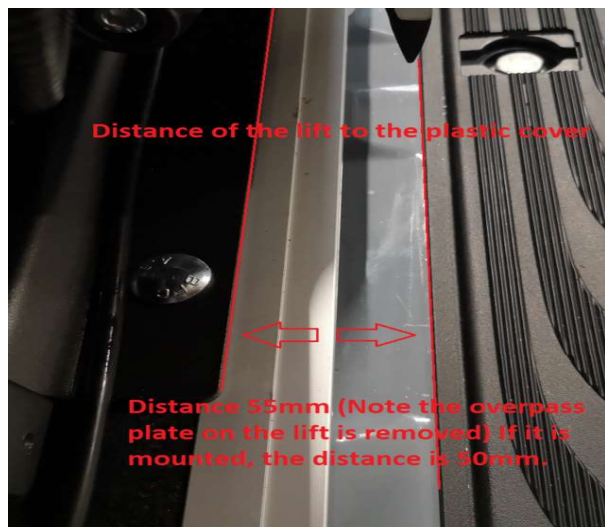
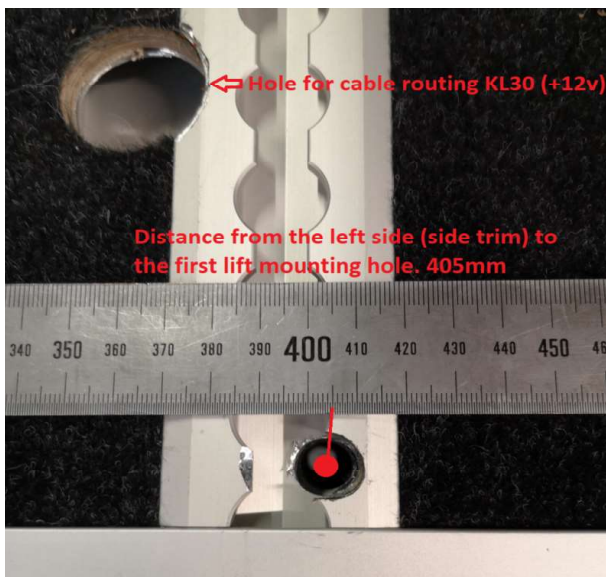
Installation in the car.

Lift installation in the car



Lift location in relation to sides and rear end.

Note that bolt length depends on floor thickness. This example has a 30mm floor.



Distance from plastic edge to lift 55mm

Image: Autolift Onda installed.

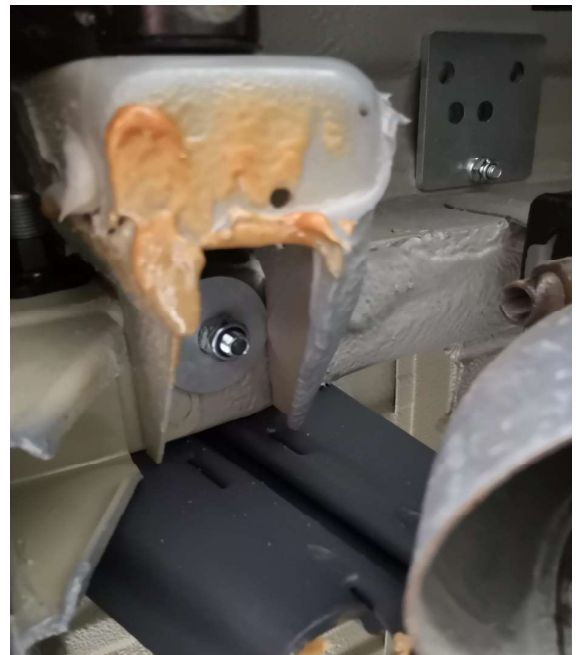


Attention.

This page of information is experience, and guide line from the workshop Handimobil/Autoproducts.
Further information on lift installation, follow the Autolift instructions.



Reinforcements mounted on the left side.
(Reinforcement plates are not included)



Reinforcements mounted on the right side.

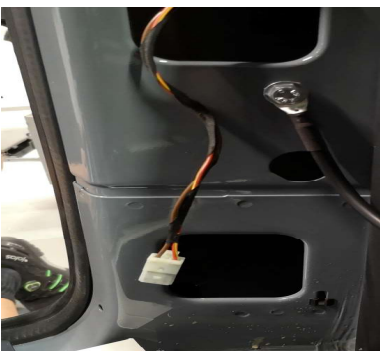


Reinforcements mounted in the middle position (Under the spare wheel)



Reinforcements mounted on the right side.

Note: Bolts are tightened with 25 NM and treated with rust protection.



Ground connection on D-Pillar (Left side)

Installation on the car.

RDS door bracket installation.

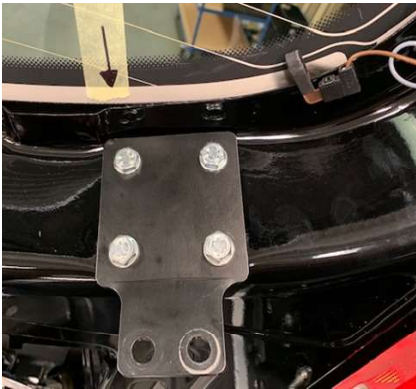
Left side



Remove plastic cover on the left door.



Fasten door handle in the left door with screw.



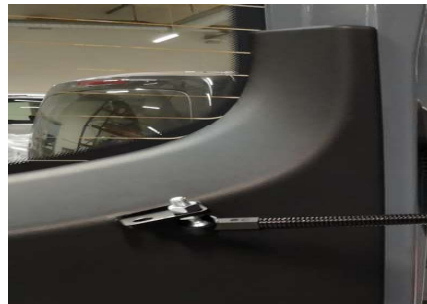
Bracket left door. Use the supplied screws.
Note position.



RDS Bracket and fixing bracket.

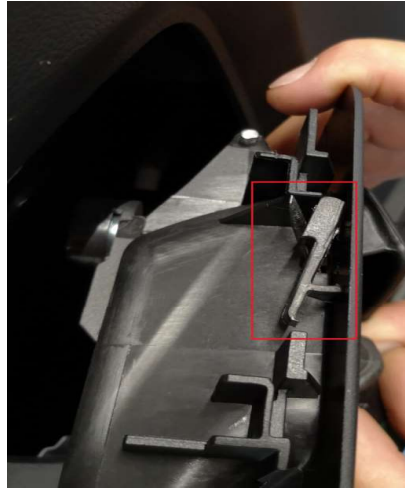


Inside door. Inside door. Use bracket with threaded holes for attachment.

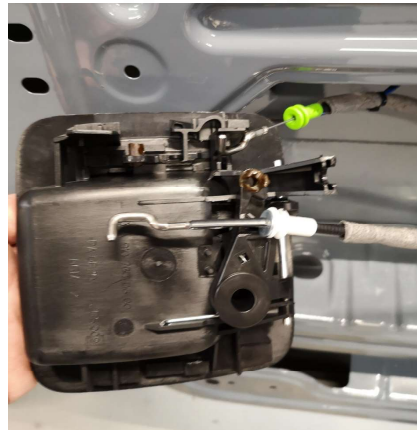
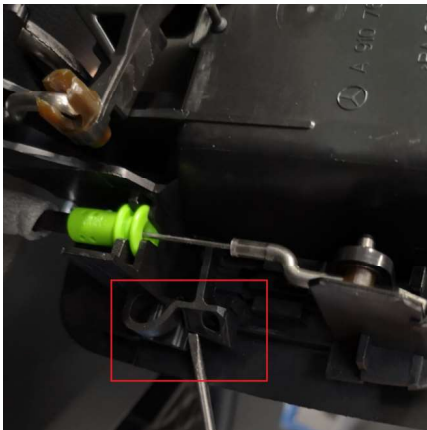


Install plastic cover with cut-out for bracket.

RDS door bracket installation.
Right side.



Remove plastic cover on door. Be careful with door handle (See picture with release clip)



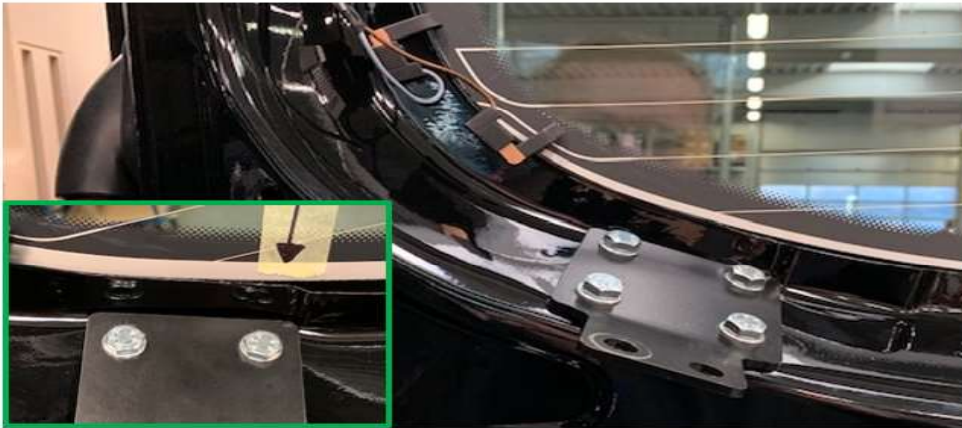
Disconnect the 2 wires (Green and White)
Green wire must be fixed in the door, in position "Door unlocked"



White wire must be led to the top position of the door (See picture). This must be fixed with a pipe and washer 5X30mm (Included)

It is important that the wire is routed to this position. If the system has faults, it must be possible to access the wire.

RIGHT DOOR:



Mount the RDS bracket on the Right door. Same procedure as left side.

Install the plastic cover and installation in the right door is complete.

Mount the 2 pull arms.



Length of pull-arm (Mid ball to mid ball) 360mm.
This can vary depending on the position of the lift,
and RDS motor position on bracket.



Adjustment of rear doors.



Length of pull-arm (Mid ball to mid ball) 360mm.

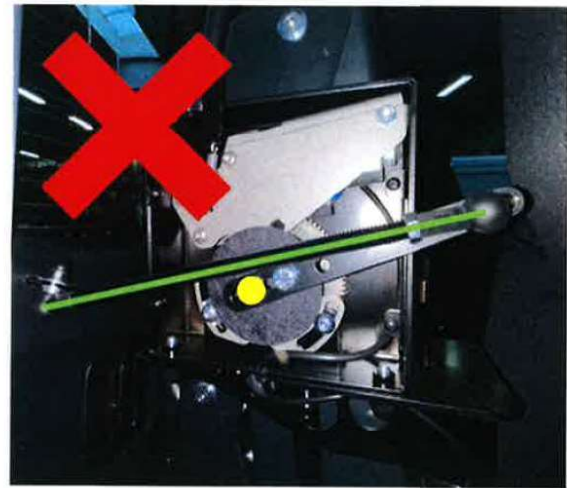
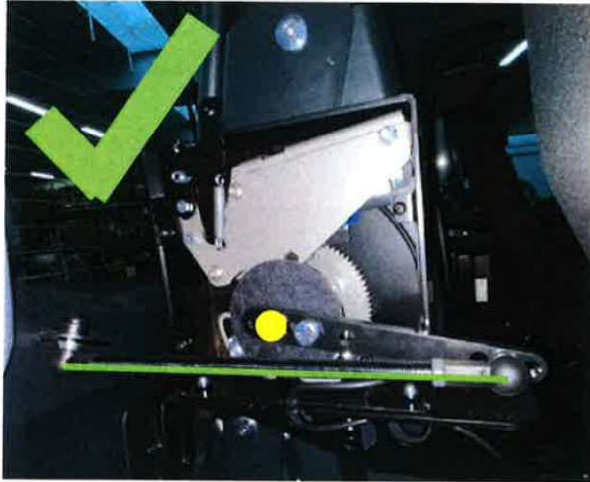


Adjust RDS pull-arm so that it stops in a horizontal position. See next page with procedure.

End stop adjustment.

When the pull arm is adjusted, the end stop must be adjusted, so that the ring gear moves towards the mechanical stop.

(Note: ECU/Controller cuts off power when the power increases / ring gear moves towards the stop)

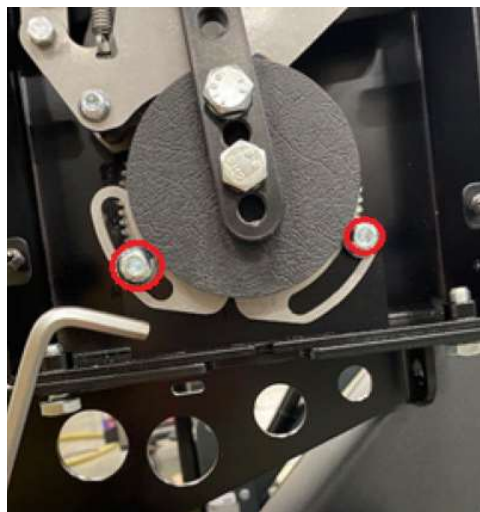


The arm that connects door and door opener MUST ALWAYS be below the pivot point of the motor arm (the yellow dot).

If the connecting arm is bent, then it is always the straight line between the two elbow joints that applies (the green line).

If proper alignment cannot be achieved, the door opener mounting bracket (the large leg) must be raised to the upper position.

End stop adjustment.



Remote control.

LH-101 (ECU) has a built-in FM receiver for remote control and "Smart control" program. Range 5 m – user must always be close to the car and have an unobstructed view of the appliances being operated. There is also the possibility of operating the LH-101 via wired buttons. Langhøj can supply a set of foil buttons for mounting directly on the LH-101 box. Alternatively, wires can be pulled to another position in the car.



Smart functions.

The following Automatic features can be set by dialing certain codes on the remote control. For the purpose of these codes, each button has a number that. The break between each press must be min. 0.6 sec and max 2 sec.

Function	Key code	Confirmation beeps
Aut. Locking of hand transmitter after 5 min without use.	Enable: 1-2-3-1-2-3	•
	Disable: 3-2-1-3-2-1	•
USER: aut. lock eft. 5 min	Unlock: 4-1	o
Auto Locking of hand transmitter 2 min after engine started (+13.7V)	Enable: 1-1-1-1-1-1	•
	Disable: 2-2-2-2-2-2	•
Alarm for Service check Default setting: Disabled. The feature is activated the first time the code for reset is entered (3-1-2-1-2)	Enable / Reset: 3-1-2-1-2	•
	Disable: 3-1-4-2-4	•

o : Confirmation for user: 3 beeps • : Confirmation for installer: 6 quick beeps
These settings are remembered even if the power supply is disconnected.

Default settings in new box:

Automatic locking of system 2 min after starting the car: **Disabled**.

Automatic locking of system after 5 min without use: **Disabled**

Alarm for Service: Not Active (the function is activated the first time the reset code is pressed).

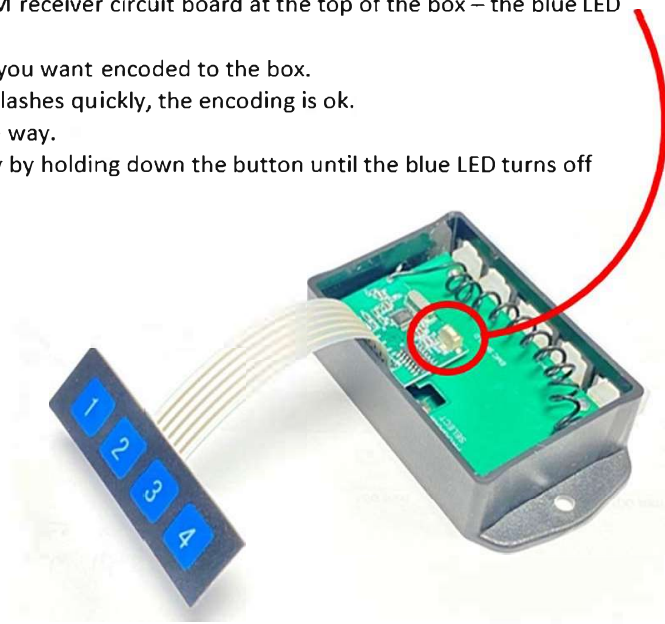
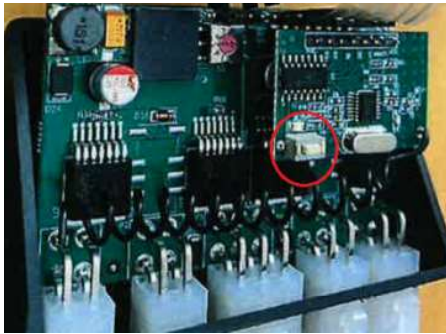
Note.

We do not recommend function: Automatic locking when car battery is over 13.7 volts on: EV (electric cars) and cars where an external charger is connected.

Encoding hand transmitters

Encoding can be done when power is connected to the LH-101. Procedure:

1. Press and release the button on the small FM receiver circuit board at the top of the box – the blue LED gives 1 blink
2. Press a button on the handtransmitter that you want encoded to the box.
3. If the blue LED lights up for 1 sec. and then flashes quickly, the encoding is ok.
4. Multiple transmitters are added in the same way.
5. All transmitters can be erased from memory by holding down the button until the blue LED turns off (approx. 5 sec).



Optional wired control panel for backup operation

For the situation where a wireless remote control is lost or stops working, all LH-101 control boxes have a socket inside the box that allows for a hard wire connection to operate all 4 buttons of the remote control. As an option Langhøj can supply a set of foil buttons for mounting directly on the LH-101 box. Alternatively, wires can be pulled to another position in the car.

Some converters supply 2 remotes with the car, others supply 1 remote and this hard wired backup solution.



Smart security features

Automatic sleep mode

Automatic locking of the system when the car is started:

Automatic locking must be able to be deactivated by the following key sequence: 2-2-2-2-2-2 (this setting must be remembered even if power to the box is disconnected) Acknowledgments with 3 short beeps.

Automatic locking must be able to be activated by the following key sequence: 1-1-1-1-1-1 (this setting must be remembered even if power to the box is disconnected). Acknowledgments with 3 short beeps.

By default in new boxes, Automatic locking must be activated. How it works:

As long as the voltage on the car is below 13.7 V, the system is unlocked.

The system is locked 120 sec. after the voltage exceeds 13.7 V

Sound signals / Alarms

Bip-bip-bip when "door open" button is activated	This is a signal to the end user: doors are open, you can now deploy the lift.
Biiiiiiiiip as long as button is activated	Illegal act (e.g. lift out while door is not open. Or lift cannot be operated while car is started).
Biiip----biiip----biiip	Voltage has been below 9V check the car's battery
Beep-beep-----beep-beep-----beep-beep-----	Power supply has been interrupted if there is a poor ground connection
Beep-beep—biiiiip----- Beep-beep—bii iip----- Beep-beep—biiiiip-----	Time for annual lift inspection, alarm is stepped up see below (only if this function is activated)

Alarm for annual service inspection

By default, service alert is NOT enabled.

Service alarm is activated and countdown starts when you press the reset service alarm code: 3-1-2-1-2

Service alarm can be deactivated with this code: 3-1-4-1-4

Countdown time for service only takes place while there is power on the box (i.e. it does not count while the box is in stock).

After 365 days, an alarm starts which is stepped up in intensity week by week in the following way:

The alarm sound signal is: 2 short and one long beep repeated twice: (on 0.3 s – off 0.3 s – on 0.3 s – off 0.3 s – on 2 s – off 1 s) x 2

Escalation:

1. After 365 days: 1 alarm (as above)
2. after 365 + 7 days: 2 pieces of alarm
3. after 365 + 14 days: 3 pieces of alarm
4. after 365 + 21 days: 4 pieces of alarm
5. after 365 + 28 days: 5 pieces of alarm
6. after 365 + 35 days: 2 pieces of alarm followed by constant howling for 60 sec.

The alarm above will sound every time a push of a button is completed and released.

Finished installation.



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