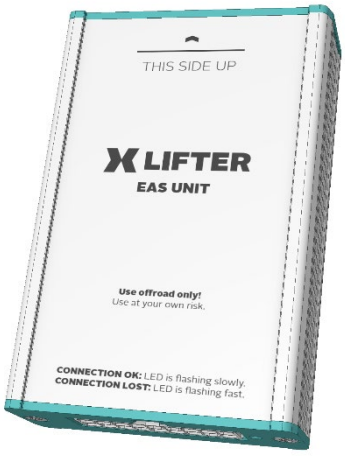
X LIFTER

World’s first
Air-suspension controller with self-levelling
for selected Land Rover® vehicles



Installation guide

(Range Rover Sport L494 2014-2019)

Model X2 New Generation, Firmware 2.03

Table of contents:

Congratulations on your XLifter purchase!

Welcome to the installation of your XLifter, the Swiss Army knife for your vehicle's air suspension. This guide provides step-by-step instructions and essential safety tips for a smooth setup. Read it carefully to get the most from XLifter and ensure a safe and successful installation.

Your adventure with enhanced suspension control begins here.

Thank you for trusting XLifter.

1. Legal disclaimer

You are provided with XLifter, an air-suspension controller designed for Land Rover vehicles ("the **device**" or "**XLifter**"). XLifter enables the adjustment of the vehicle's air-suspension system and its electronic programming.
Please note that XLifter is an aftermarket product **not officially approved for vehicles on public roads** as per Act no. 361/2000 Coll, as amended. **Its use on public roads or in any context deemed unauthorized by local regulations, whether in the Czech Republic or elsewhere, is at the user's discretion**. The manufacturer bears no liability for compliance with road operation technical requirements under Act No. 56/2001 Coll and regulation no. 341/2014 Coll.
Installation and use of XLifter may affect the warranty of your vehicle's air suspension subsystem components or the vehicle's warranty as a whole. It is the user's responsibility to consult with the local dealership or warranty provider regarding the potential impact of XLifter on the vehicle's warranty. Evaluating the risk of warranty impact is solely up to the user. The manufacturer bears no liability for any warranty issues that may arise as a result of using XLifter.
By installing XLifter, the user releases the manufacturer from any liability related to the product's impact on other vehicle systems, whether mechanical or electronic**. The device is intended for controlled conditions, such as low-speed operations and off-road use, and should be used with caution.**
Users also accept the responsibility to inform any future owners of the vehicle about the installation of XLifter and its intended use.
By proceeding with the installation of XLifter, you acknowledge and agree to the terms outlined above. XLifter is recommended for off-road use only and not for operation on public roads.

2. Safety information

This guide is essential for the safe installation and use of XLifter. Follow these instructions for safe installation and operation. Please ensure installation is performed by or under the supervision of a person familiar with this guide.

Understanding Safety Symbols:

⚠ This symbol signifies potential warnings, hazards, or unsafe practices. When accompanied by the word "warning," it highlights situations where disregarding instructions could lead to injury or damage to the vehicle or its systems. Please read any text associated with this symbol and follow the provided instructions to mitigate risks.

General installation warnings:

⚠ **Battery Considerations:** While disconnecting the battery is a recommended precaution, be aware that it may introduce complexities such as the need for recalibration of certain vehicle systems. Following this installation guide allows for safe installation without necessarily disconnecting the battery, provided that caution is exercised.

⚠ **Handling Vehicle Components:** Take extra care when removing or installing trim panels and other vehicle components to avoid damaging clips or loosening connections. Apply force carefully to prevent breakage.

⚠ **Securing Electrical Connections:** Make sure all connectors and their locks are securely fastened. Improper or loose connections may cause unanticipated malfunctions or potential damage to the vehicle's electrical system.

⚠ **Sale of Vehicle:** Inform any new owner that XLifter is installed and provide them with this manual, ensuring it remains with the vehicle for reference.

⚠ **Before installation:** Thoroughly review the XLifter user guide to familiarize yourself with its features and safety instructions.

3. XLifter EAS unit installation

3.1. Package contents

1x XLifter EAS unit with 3M fasteners	1x Cable harness with bypass plug
1x Extra 3M fastener	1x Compressor temperature lead
1x XLifter control module	1x Quick-splice connector
1x Velcro strip for mounting the control module	1x XLifter sticker
1x Installation manual	1x User manual

3.2. Installation - General Description and overview

The XLifter device consists of two main components: the control module and the XLifter EAS installation unit (where EAS stands for Electronic Air Suspension). The control module, a display unit with buttons, is used to manage all settings and inform the user of the operating status. The EAS unit is responsible for adjusting the wheel height sensor signals and vehicle tilt measurements. Communication between the control module and the EAS unit is wireless.

The control module can be placed anywhere inside the vehicle that allows easy access, according to user preference. It needs to be connected to a switched 12V power supply, such as a cigarette lighter socket. Advanced users can cut off the power connector and wire the cable directly to an appropriate 12V connection point or use a custom power harness in selected vehicles (available separately). Concealing all cables gives a neater installation and keeps the lighter socket free for other uses.

There is a range of 3D printable mounting frames at https://www.xlifter.com/xlifter-accessories/

The XLifter EAS unit is installed close to the original air suspension control module, referred to as the Chassis Control Module (CHCM) in the latest generation vehicles. Both units are connected via the supplied cable harness. After installation, the XLifter EAS unit is mechanically secured to the vehicle's body and functions as an accurate tilt sensor.

Before installation, watch the XLifter installation video and review the FAQ:

The video guide is on XLifter's YouTube channel (if available for your model)

www.xlifter.com/installation/ contains the video guides and installation hints (planned for 4Q 2027)

https://www.xlifter.com/faq/ contains **the XLifter FAQ** (frequently asked questions).

Here's a quick installation overview:

- Install the XLifter EAS unit.
- Connect the cable harness.
- Connect compressor temperature lead (optional)
- Plug the control module power into 12V socket.
- Set the vehicle type and run the calibration procedure.

3.3. XLifter EAS Unit Installation – Range Rover Sport L494

The XLifter EAS unit mounts near the Land Rover Chassis Control Module (CHCM), behind the trim panel on the right side of the loadspace.

Estimated installation time:

- Installing the XLifter EAS unit should take approximately 30–60 minutes.

Tools required:

- Standard flat-blade screwdriver
- Slip-joint pliers for crimping the quick-splice connector.

Step 1: Disconnect the battery (see the vehicle manual)

(Alternatively, remove fuses 55R and 56R before fitting the cable loom)

⚠ Battery disconnection and reconnection can be a complex procedure. Upon reconnection, resetting the electric window one-touch function and recalibrating the electric parking brake and tailgate may be required. If the vehicle has a stolen vehicle tracking system, put it into service mode before disconnection and take it out of service mode after reconnecting the battery. Please refer to the relevant Land Rover documentation/user manual – BATTERY AND CHARGING SYSTEM – GENERAL INFORMATION 414-00.

⚠ Alternatively, install the XLifter EAS unit without disconnecting the battery. Follow the procedure precisely: power down the vehicle (ignition, infotainment, etc. off) and remove fuses 55R and 56R from the loadspace fuse box before fitting the cable loom! Otherwise, microscopic sparking when connecting the plugs may degrade the contacts and reduce connection reliability.

Step 2: Remove the rear fuse box trim panel (right side of the loadspace)

a) Pull the rear fuse box cover panel towards the centre of the loadspace to release the clips.
b) Remove the adjacent rear panel containing the buttons and disconnect its two connectors.

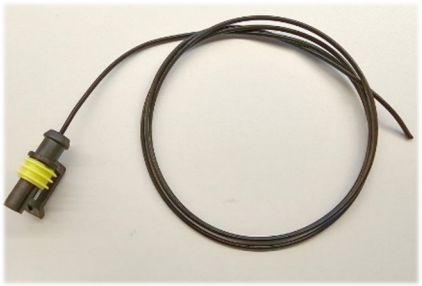
Step 3: Install the compressor temperature lead (optional)

XLifter's compressor temperature monitoring warns of possible overheating during frequent height adjustments. It also helps identify air-suspension problems that cause the compressor to run for extended periods.

To enable this feature, connect the temperature lead to the specified wire using the supplied T-splice connector. This is best done by a qualified automotive electrician. If unsure, skip this step and disable monitoring in the XLifter Service menu.

ⓘ You can do this later, but access is easier before fitting the XLifter cable loom.

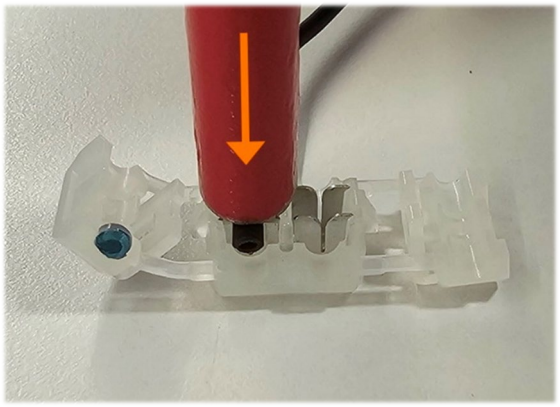
⚠ If the battery is still connected, do not unplug the GY connector for easier access; doing so may require recalibration of the adaptive cruise control.

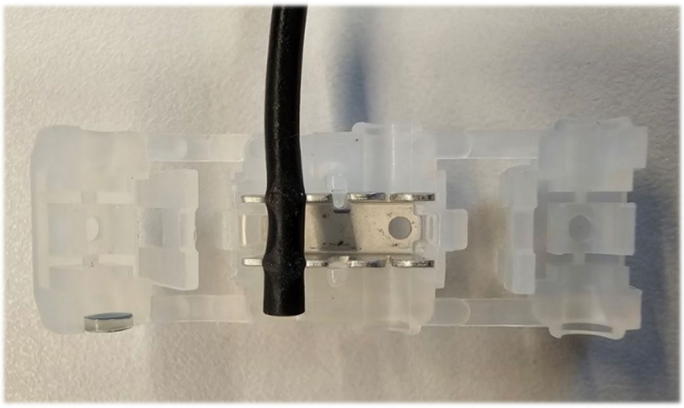


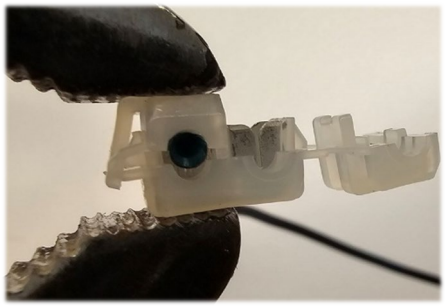
a) Shorten the supplied XLifter compressor temperature lead to approximately 30 cm.

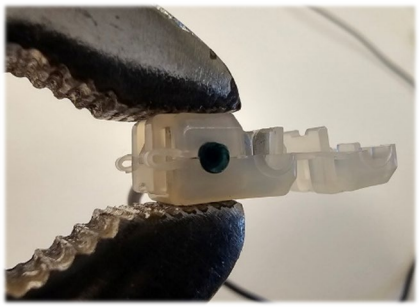
b) Crimp the lead into the supplied quick-splice connector.

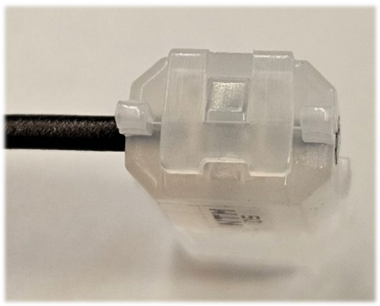
- One end of the splice connector is closed, as marked by the green dot in the pictures. Position the wire as shown and use a flat tool to press it partway into the connector. It should stay in place temporarily.
- Use slip-joint pliers (also known as water pump pliers or a pliers wrench) to press the connector housing fully closed. Make sure the lock engages.
- Do not use needle-nose pliers; they are unsuitable. Use only pliers with parallel jaws!



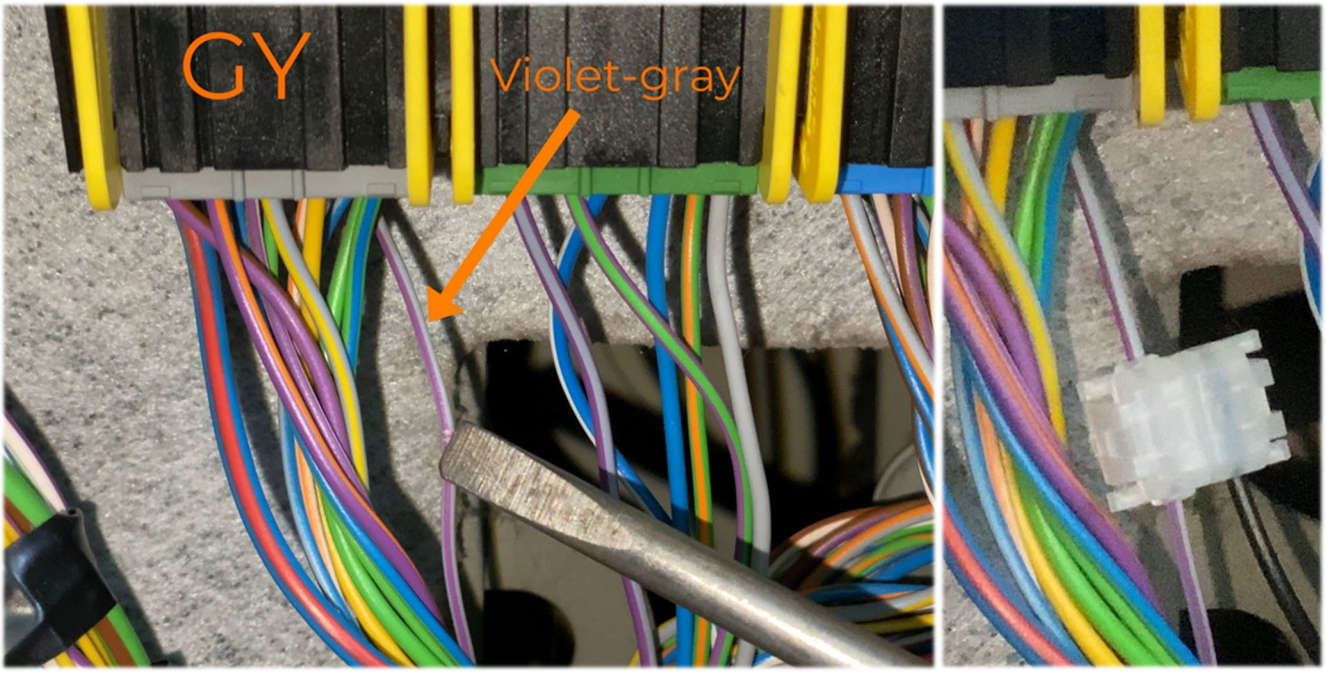








Locate the **GY connector** on the LR Chassis Control Module (first from the left) and find the **violet/grey wire**. Double-check the wire **colour**. Insert it into the open slot of the quick-splice connector, close the housing and crimp it firmly with pliers, as described above.



Step 4: Install the XLifter EAS unit.

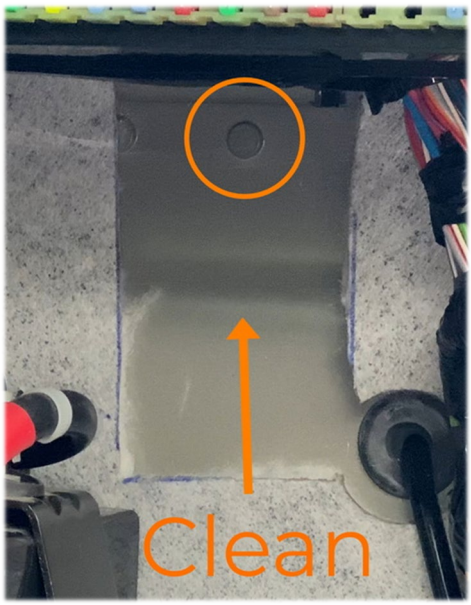
The best location for the XLifter EAS unit is below the rear junction box. Cut away a small area of insulation to make room for it. The levelling firmware is optimised for this orientation. You can also install the EAS unit to any suitable place, provided that shown orientation is kept the same (Connector down and engraved side facing towards loadspace, paraller with the vehicle.

ⓘ You can install the EAS unit or cable loom first. Fitting the EAS unit first makes it easier to connect the loom immediately afterwards.

a) Position the EAS unit below the fuse box as shown and mark the area to cut. Allow an extra 1 cm at the bottom for the cable loom connection.

b) Cut out the marked insulation along the left, bottom and right edges, up to the top. Keep the removed piece, for example behind the battery, in case XLifter is removed later.

c) Remove dust and degrease the mounting surface with a cleaner such as isopropyl alcohol. Secure mounting is essential because the EAS unit contains the inclinometer. Note the small rivet at the top centre of the exposed area.



d) Prepare the extra 3M fastener for the EAS unit:

- Separate the two halves of the supplied fastener.
- Peel the protective backing off one half and off the upper fastener on the EAS unit, then stick their adhesive faces together.
- Cut the other half in two, leaving the protective backing on. Attach both pieces to the fastener you just fitted, with a gap of about 15 mm between them. This leaves room for the rivet so the fastener bonds to the surface around it, rather than just to its head.

e) Peel off the remaining protective backing and press the EAS unit firmly onto the metal, in the position shown in step b). Keep the rivet between the upper fastener pieces and ensure their full adhesive surfaces contact the metal. Press firmly for a few seconds to secure the unit.

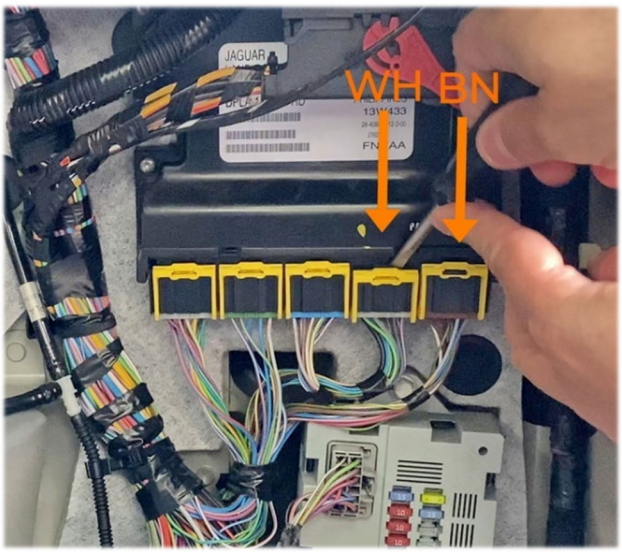
Step 5: Install the XLifter cable loom and connect the EAS unit.

a) If the battery is still connected, make sure the vehicle is asleep, with the ignition and infotainment screens off.

b) Remove fuse 55R (15 A) and fuse 56R (10 A, if fitted) from the rear loadspace fuse box. This is essential: connecting plugs while the CHCM is powered causes sparking and may damage the contacts.

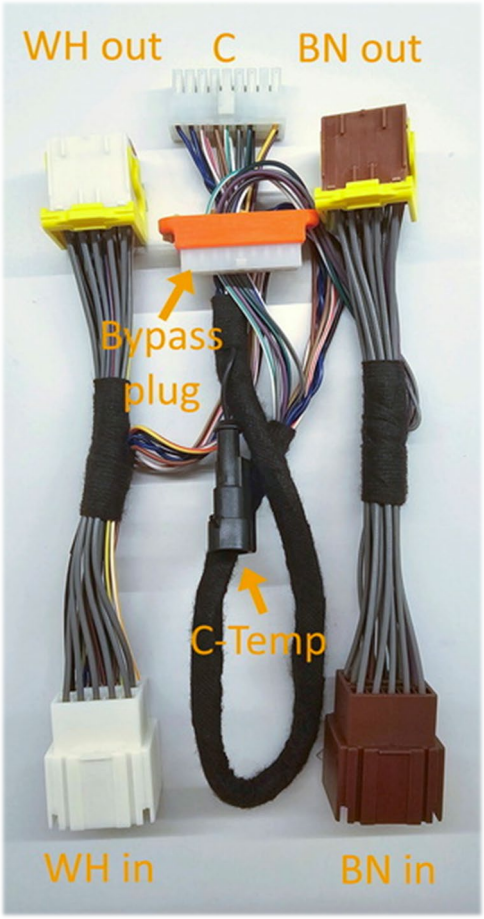
c) Unplug the two rearmost connectors from the LR CHCM:

- These connectors are nearest to the junction box and are colour-coded white (WH) and brown (BN).
- Release both yellow levers with a small flat-blade screwdriver. Push them down to unlock the connectors, then pull the connectors downwards to remove them.



d) Install the XLifter cable loom.

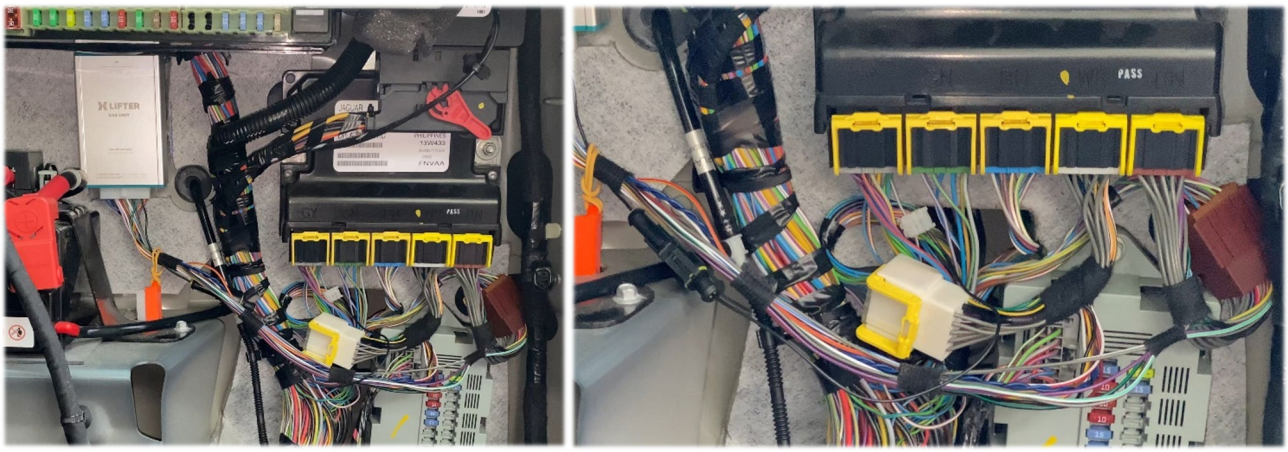
- Connect the XLifter loom to the LR CHCM: match the white (WH) plug to the WH slot and the brown (BN) plug to the BN slot.
- Align and gently push each plug in from below. Its yellow lever will move as it enters. Push the lever up until it clicks to lock the plug.
- Connect the vehicle harness to the XLifter loom, white to white and brown to brown. Ensure each latch clicks. If it does not, gently push the plugs together and try again.
- Tidy the cables and position the connectors around the lower fuse box, not in front of it, so they do not obstruct refitting the loadspace trim panels.



e) Refit fuses 55R (15 A) and 56R (10 A) in the loadspace fuse box.

f) Connect the XLifter EAS unit.

- Plug connector C on the XLifter cable loom into the XLifter EAS unit.
- Make sure the connector clicks into place. Gently pull the connector, not the wires, to check that it is secure. Check that all wires are seated correctly and no pins are loose. Press the connector firmly into place.
- The EAS unit's LED should start flashing within 10 seconds of connecting the loom. It normally turns off after 5 minutes when the vehicle is asleep and starts flashing again when the ignition is turned on.
- If you fitted the compressor temperature lead, connect the Superseal connectors (black with yellow rubber seals).



Step 6: Complete the XLifter EAS unit installation.

The hardest part is complete. Check everything before refitting the trim panels.

Test the basic XLifter functions before finishing reassembly.

a) If you disconnected the battery, reconnect it according to the vehicle's user manual**.**

b) Turn on the ignition. The EAS unit's status LED should flash twice per second, indicating that it is ready to connect to the control module.

c) Check the dashboard for air-suspension errors:

- A suspension error may appear if the vehicle was not fully asleep during installation.
- To clear these errors, turn off the ignition and lock the vehicle with the remote key. Allow it to go to sleep with the dashboard and infotainment screens off. Then unlock the vehicle and turn on the ignition; the errors should clear.
- If you have a diagnostic tool, check for CHCM height sensor signal errors and clear them.

d) Follow the quick check in chapter 4.1. Confirm that the control module connects to the EAS unit, the temperature reading is correct and no dashboard errors appear.

e) Once everything works correctly, refit the trim panels:

- Refit all trim panels in the reverse order of removal.
- Remember to reconnect the two connectors on the rear panel.
- Check that the clips are aligned before pressing the panels into place to avoid damaging them.
- Where applicable, refit the door and tailgate opening seals in their correct positions.

4. Control module quick start and calibration.

The control module needs an ignition-switched 12 V supply, such as the cigarette lighter socket below the climate controls. It communicates wirelessly with the EAS unit over a range of 10 metres.

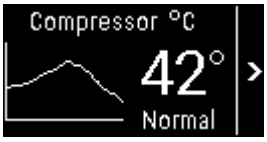
Mount the control module using the supplied Velcro, now or later. For a neater installation, wire it directly to a switched 12 V supply. Mounting frames: https://www.xlifter.com/xlifter-accessories/

4.1. Control module quick check.

Powering up and checking the control module:

- Turn on the ignition.
- Plug the 12 V power plug into the cigarette lighter socket.
- The control module should display an animated logo followed by a wireless search indicator for the EAS unit.
- The modules are pre-paired and should connect within 10 seconds (up to 20 seconds if the EAS unit or battery has just been connected).

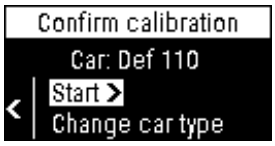
- Once connected, the home screen appears, showing zero lift and “Not Calibrated”.
- If you fitted the temperature lead, press ◀ to check the reading. It should be near ambient temperature unless the compressor ran during installation. Press ▶ to return home.



4.2. Select the vehicle type and calibrate XLifter.

Before first use, select the vehicle type and calibrate XLifter.

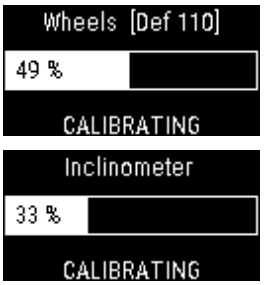
1. **Press ▶ three times** to reach **“Confirm calibration”** via the main and Settings menus. The menu items are pre-selected.



2. **Setting the vehicle type:**
   - The default vehicle type is “Def 110” (New Defender 110). Change it to **“RRS 2013-22**”.

   1. Use ▲▼ to select “**change car type**”, then press ▶.
   2. Use ▲▼ to **select your vehicle type**, then press ▶.
      - Def 90, 110 or 130 – L663 (only Defender 110 is supported in firmware 2.x)
      - Discovery 5 - L462
      - **RRS 2013-22 – Range Rover Sport L494. Select this option!**

3. **Calibrate XLifter.**



After selecting the vehicle type, you return to “Confirm Calibration”. Follow chapter 5 (Calibration) of the XLifter user manual or the supplied calibration leaflet.

- Make sure the vehicle is on a flat surface.
- Set the original Land Rover height to “Standard”.
- Enable tight tolerance mode.
- When ready, press ▶ to start calibration.
- Calibration takes approximately 30–60 seconds. “Success: XLifter calibrated” confirms that the normal wheel heights have been recorded and the inclinometer zeroed. Press ▶ to return to the home screen.

Congratulations! The installation is complete.

5. Removing XLifter from the vehicle.

To remove XLifter, reverse the installation procedure, noting the following:

- For temporary removal, leave the loom in the vehicle. Disconnect connector C from the EAS unit and insert the bypass plug into the free connector C.
- To release the EAS unit from the 3M fastener, pull it straight towards the centre console, perpendicular to its printed side. Do not pull sideways. Leave any fasteners attached to the original EAS unit in place; they are firmly bonded. If transferring XLifter to another vehicle, use a new 3M SJ3550 reclosable fastener, 25 mm wide with 39 heads per cm^2 (not supplied).

6. Wrapping up and next steps.

Your XLifter installation is complete. Thank you for following this guide.

Now read the user guide to learn how to operate XLifter and understand its limitations. It will help you use the system safely and avoid unnecessary strain on vehicle components.

For further support and troubleshooting, visit https://www.xlifter.com/faq/.

Thank you for choosing XLifter. We’re glad to have you on board and wish you many great overlanding adventures. Enjoy the journey!