



Landrover D3/D4/RRS **Shortened Height Sensor rods**

Green Oval Experience (G.O.E.) accepts no responsibility for injury or damage due to fitment or use of this product. Moreover, it is highly likely that use of this product may void parts of your vehicle warranty, and it will compromise your vehicle's on-road handling. Although many users throughout the world have used this type of product over thousands of kilometres without incident, G.O.E. cannot recommend use of these rods for on-road travel (ie bitumen or gazetted road travel) or for extended periods, and use of this product is entirely at the purchaser's discretion and risk.



Product Description

The GOE height sensor rods are designed to replace the original rods. Each rod provides 2 height ranges (see below for details): standard and +50mm. The rods are laser-cut from HDPE for accuracy and are impervious to rot, rust or other environmental conditions. The rubber grommets are replaceable. We recommend using a dry lubricant spray (such as CRC Dry Glide) or white lithium grease to assist fitting.

Initial Fitting Instructions

To initially install the new rods, it is easier to remove the relevant wheel to do the fitting. Once you are familiar with the positions of the various items, they can be re-fitted without taking off the wheel. However, **WE STRONGLY RECOMMEND** that you still place a jack under the nearest chassis point to each wheel to prevent the vehicle lowering if you accidentally move the sensor arm. Alternatively, you can pull the fuses for the EAS (within the battery compartment) or disconnect the battery, disabling the system.

NOTE: The shorter pair of the new rods are for the front, the longer pair are for the back. There is no difference between the driver-side and passenger-side rods.

1. Set the car to "off-road" height – switch off the engine.
2. Jack up the vehicle and remove the front passenger wheel.
3. Locate the sensor rod and arm. See Figure 1.
4. Identify the chassis peg – see Figure 2.
5. Spray some dry lube or apply lithium grease onto the top and bottom of the original rod.
6. Remove the original rod by pulling the top of the rod from the chassis peg, pushing the sensor arm down until it is vertical to the ground, and then carefully separating the rod from the sensor arm. Be careful not to bend the sensor arm whilst removing the rod. A small flat-

- blade screwdriver may help if the rod is over-tight, but be careful not to tear the rubber¹.
7. Spray some dry lube on the new rod's grommets and attach the new rod – the shorter ones are for the front:
 1. For the D3 and D4: the double headed end is attached to the chassis peg, the single to the sensor arm. For normal use, use the last of the double-headed holes - see Figure 3.
 2. For the RRS: the rear rods fit the same as the D3 and D4 (Figure 3), BUT the front rods are reversed, ie the double-headed end attaches to the sensor arm.

Repeat the above procedure for each wheel (use the 'b' figures for reference to the rear wheels where applicable).

Regular Swap-over

Once fitted, the procedure for swapping between the two ride heights is relatively straight-forward and with practice, can be accomplished within a matter of seconds.

NOTE: Your vehicle will actively try to adjust the suspension height approximately 3sec after you remove the top connection of the rod from the chassis peg. This could result in injury if any part of your body is still under the vehicle. With practice it is possible to swap over the connection in a matter of seconds and not trigger any movement of the car, however we strongly recommend placing the Land Rover jack under the chassis rail (just touching the rail) near each wheel when swapping over. Alternatively you can remove the EAS fuse or disconnect the battery.

1. Set the vehicle to “off-road” height - switch off the engine.
2. Disable the EAS or place a jack under the nearest chassis rail.
3. Apply some dry lube or lithium grease to the chassis peg.²
4. Prise off the top hole of the rod from the chassis rail and attach the other one. This operation can be done with the wheels on. For the front wheels, access is easier if the wheels are turned to full lock. For the rear, it is easier to get on the ground under the rear door, but with practice it can be done from the wheel arch. However – ***remember – the vehicle will attempt to re-adjust the height after around 3 seconds!***

New Heights

Typically, you will only swap over to the shortened setting when the terrain requires it, following the procedure above for “regular swap-over”. You will find that the new settings are:

- access height (new) == normal height (old)
- normal height (new) == off-road height (old)
- off-road height (new) == extended height (old)
- extended height (new) == emergency height (old)
- emergency height (new) == Not applicable³.

1 While you have the original rods off, you can open up the holes a little to make swapping the rods a little easier. A 9.5mm drill bit will open it up sufficiently, whilst still giving a snug fit.

2 Do NOT attach rods dry. You may twist the rubber grommet out of it's hole. If this happens, remove the rod and refit the grommet (a flat-blade watchmaker's screwdriver helps here) and regrease.

3 With the new rods, if your vehicle goes into extended mode (due to grounding, bogging etc) and you then try to select “emergency height”, the car will not change height significantly (as you are already at the old “emergency height”), however the compressor will continue to operate. If continued, this can cause the compressor to overheat and shut down,

When using the new off-road height, try to avoid applying significant power when on full lock, especially when in reverse, as this will increase wear to the front outer CV joints. ***In fact this advise should be followed regardless of which rods or positions are selected.***

Re-fitting the original rods can be done in a matter of minutes, to return the vehicle to standard condition. We recommend that you keep the original rods in your glovebox, so that this can be done whenever required. Keeping a small can of dry-lube spray onboard is also recommended.

Over time, the rubber grommets may eventually deteriorate. New ones can easily be fitted to the rods with a small watchmaker's screwdriver. You can order grommet kits from GOE.

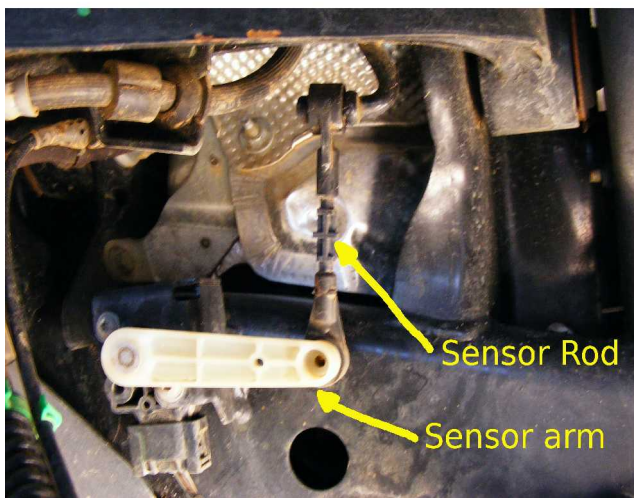


Figure 1a: Front set-up (D3 and D4)

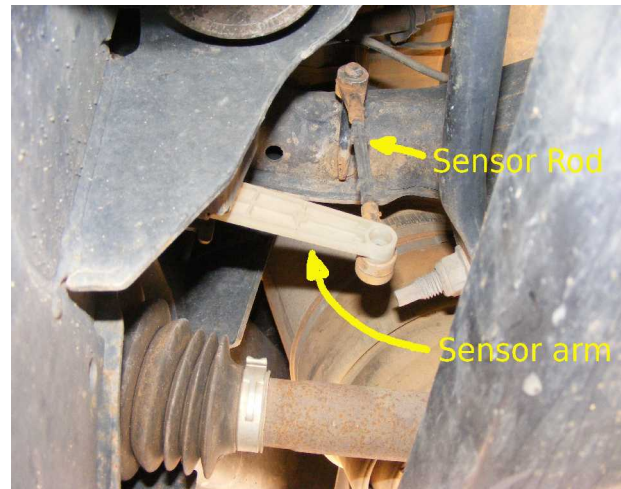


Figure 1b: Rear set-up

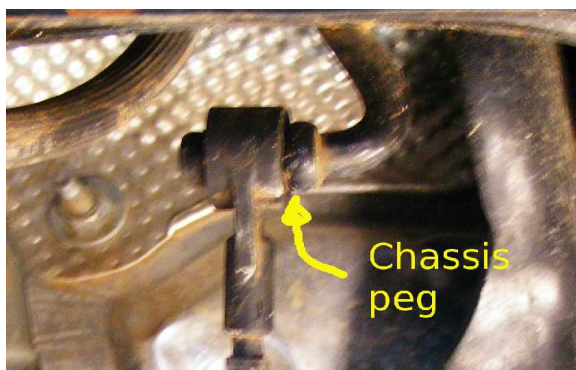


Figure 2: chassis peg



Figure 3: new rod attached in 'normal'

Tips On selecting Heights

When running with the rods on the extra height setting, keep the following in mind:

1. Most of your off-road travel can be done at your new “standard height” which is of course, equivalent to your old off-road height. You can now travel at this height and comfortably exceed the old 50kph limit. However, please be aware that stability of the vehicle will be decreased at high speed and you may trigger DSC intervention if you attempt high-speed

so avoid selecting this.

cornering.

2. Only select the new off-road height when actually required to negotiate an obstacle that you might otherwise ground the car on, and proceed slowly (walking pace is advised – and note that the 50kph limit will now be back in effect). Firstly, this will reduce wear and tear on drive components, but more importantly, when the car is this high, you will have reduced wheel articulation and a much harsher ride. The car may “bounce” more easily and lose it's line.
3. Be aware that every time you change the Terrain Response setting, the car will attempt to raise to off-road height. Bearing point 2 above in mind, if you don't actually need this height, you can immediately override the height adjustment by selecting “normal” height with the EAS switch.
4. The air compressor has a thermal cut-out protection scheme – repeated varying of the heights may trigger this and you will have to switch off and wait 5 ~ 10 minutes for the compressor to cool.
5. Remember to apply power cautiously when reversing with full lock – the front outer CV joints are under maximum stress during this manoeuvre.