

! Dear Customer please choose a part of this document that is particular to the product you purchased.

Disclaimer

This document is the property of 4x4 AirSeals and should not be redistributed or replicated / reprinted, it is for the sole use of visual reference of 4x4 AirSeals customers. Please consult with your vehicles workshop manual and take all necessary precautions with regard to protecting your safety whilst working on your vehicle! Protecting yourself and your vehicles systems from damage, the information below as been collated from our own personal & customer experiences and should be used as a guide only, we are not qualified motor vehicle repairers and we advise that you research the task in hand before commencing with your repair.

4x4 AirSeals - BMW X5 E59; 5 Series E39 Wabco Compressor Piston Seal Repair Kit

! Before carrying out with this step take digital photos of all positions of wiring and air pipe locations e.t.c.

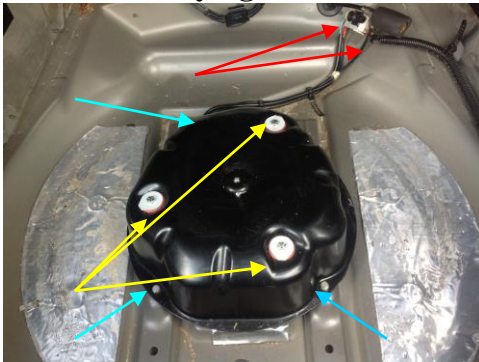


photo 1



photo 2



photo 3



photo 4

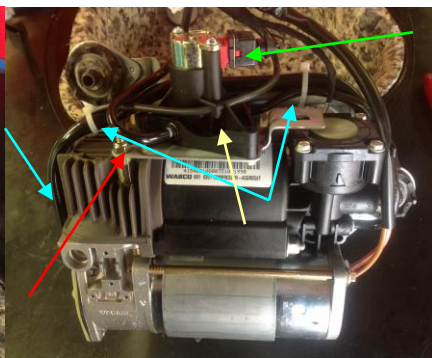


photo 5



photo 6



photo 7

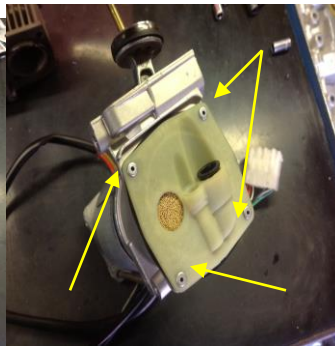


photo 8A



Photo 8B



photo 9

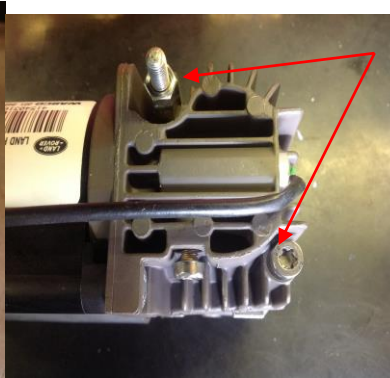


Photo 10



Photo 11

Please check out my website : [www.4x4 AirSeals.com](http://www.4x4AirSeals.com) (technical section) video fitting instructions :

Website video title = L322 Range Rover piston seal replacement part 1 or You tube title = [4x4 AirSeals201303](https://www.youtube.com/watch?v=4x4AirSeals201303)

Website video title = L322 Range Rover piston seal replacement part 2 or You tube title = [4x4 AirSeals201303B](https://www.youtube.com/watch?v=4x4AirSeals201303B)

Please note that these instructions are to be used as a guide only! The BMW X5 E59 Compressor is very similar to the Range Rover L322 2002-2005 compressor which these instructions are based on and steps should be taken to familiarise yourself with your own vehicles onboard systems, model & specification which may or may not be affected with this particular type of repair procedure.

This particular repair item is used on many different types of vehicles of different manufacture, when you have a successfully carried out this repair you may have to reset the dash board alarm message illustrating 'Air Suspension Inactive' on rare occasions this message can be reset by consulting your owner's manual.

In most instances a visit to a diagnostic repair center to reset this **Hard stored message** is necessary.

Please note that this message can also be displayed as result of a malfunction with another component or system of the Air Suspension system which will require further investigation.

Disclaimer: These instructions have been written from my own experience as 'Do It Yourself Mechanic' working on this vehicle, please consult your vehicle workshop manuals together with these guideline instructions to carry out this repair, We will not be held responsible for any damages or issues caused by working on these parts.

- 1 Remove spare wheel from your car (if applicable)
- 2 Refer to photo 1 disconnect white multiplug and compressor air line (arrowed red) removal of the air line is carried out by pushing in the collet while gently pulling out the air pipe ,disconnect the cable ties to be re-used later securing air pipe and electrical wires back to the unit itself. (If applicable)
- 3 Remove 3 off 6mm bolts arrowed blue photo 1; remove compressor unit from vehicle. (If applicable)
- 4 Place compressor unit upside down on bench, with a Stanley knife break the siliconed joint of the silver backing plate the whole way round the circumference until you can remove the back plate completely revealing the compressor.
- 5 Refer to photo 3 using 2 screwdrivers lever behind the white plastic wiring fixing mount gently until the mount detaches from the case you can further dismantle the white block (photo 11) down to its component parts if you wish, if you break the white fitting so it won't remount later you can drill 2 tiny holes in the compressor case and them tie wrap it back on the stud mounts. (If applicable)
- 6 Refer to photo 3 yellow arrow there is 3 off 6mm nuts securing compressor unit in the black case, before removing the nuts! Visualise the position of the 3 washers in photo 2 there is a flat on each washer positioned in a certain way! They will have positioned the same way on reassembly, when you have removed the 3 nuts in photo 3 make sure you know the order of the component parts underneath each bolt as these components act like shock absorbers to the compressor, particularly useful if they all fall out on disassembly and they do not give you chance to study there fitment. Remove the compressor.
- 7 Refer to photo 5! **Before carrying out with this step take digital photos of all positions of wiring and air pipe locations etc.** Remove tie wraps arrowed blue and the main air pipe on the front of the unit arrowed blue (push in collet pull air pipe gently out) this applies to all of the air pipes on the unit including the small 4mm diameter air pipes (just remove from the pipes out of there locating collet no need to completely remove each pipe at this stage. Remove electrical connection arrowed green (there is a wire clip which you can remove which will enable you to remove the connection). Remove the 6mm nut arrowed red. Unclip wire indicated in yellow from its securing hook.
- 8 Refer to photo 6 remove 3 off 6mm bolts securing back plate main frame, remove main frame.
- 9 Refer to photo11 red arrows remove 1 off 10mm nut and using a T27 Torx fitting remove the 6mm bolt securing the motor and cylinder head assembly, gently lift off the cylinder unit revealing the piston seal photo 7. Remove any dust from the cylinder bore and observe the condition of the bore any signs of slight scoring will reduce the longevity of your new seal! Severe scoring will result in complete replacement of the compressor unit as your newly fitted piston seal will be damaged almost immediately depending on the severity and positioning of the scoring in the bore.
- 10 Before removing the piston ring take note of the position of the piston ring in relation to the locating pin (timing pin) in photo 9. Remove the old piston ring by stretching it over the connecting rod piston head pictured in (photo 8B)
- 11 Ensure the piston ring groove is free from dirt and grime or residue dust from the old piston ring! Before fitting the new seal this also applies to the crank housing! If you are feeling particularly brave this pump has a face plate riveted to the front (photo 8A) which can be removed by drilling out the 4 off 3.5mm diameter rivets (arrowed yellow photo 8A) with a 3mm diameter drill, which will allow extensive removal of old piston seal dust from the housing, brake parts cleaner aerosol is particularly useful for this purpose. You will then have to re- rivet the face plate back on!

Otherwise just use an air line and try to maximise dust removal with a face dusk mask of course. Fit your new seal the same way it was removed in relation to the locating pin ,when fitted close the seal with your fingers and visualise that the piston seal locating pin is positioned correctly and that the new piston ring can have a spring type feel, opening and closing slightly within the piston head.

12 Clean the cylinder bore and mating surfaces and if your pump housing is fitted with a round o ring seal then replace this with the new one supplied in the kit, if your compressor as a shaped o ring seal then re-use that seal.

13 Before refitting the cylinder head housing back over the piston you can coat your new piston seal with a slight smear on the outside diameter of the seal with the special lubricant supplied in the kit, this will help your new seal to bed in.

14 Refit your compressor bore housing assembly over the newly fitted piston seal and secure it with the 6mm nut you removed earlier and the T27 Torx bolt! **Do Not Over Tighten** the bolt / nut.

15 Re assemble your compressor in reverse order consulting your own personal photos or notes with regard to cable and pipe routing.

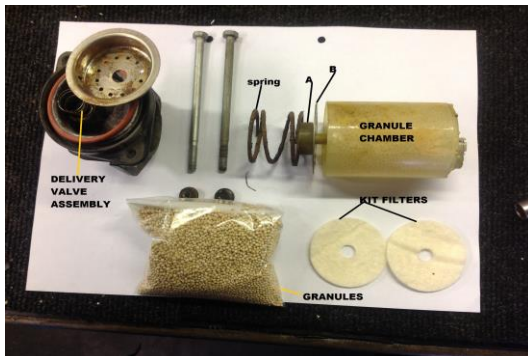
Your newly fitted Piston Seal kit should restore the performance of your compressor once you have removed the message on the dashboard 'Air Suspension Inactive' if you carried out this repair before allowing the compressor to get to the poor stage of displaying the dash board message, then the compressor and air suspension system should perform as intended.

4x4 AirSeals - Wabco Air Dryer Filtration Repair Kit

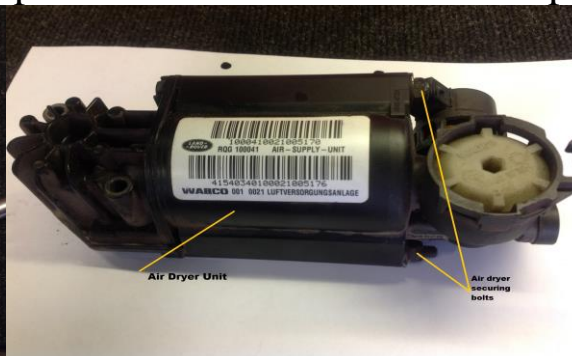
This kit can be fitted in Air suspension compressor Air Dryer Units from vehicles: Jaguar xj8 2003-2007, Range Rover 1322 2002-2006, Land Rover Discovery 2, Audi Allroad 2000-2005, Mercedes S class + many more models.

Please go to our website www.4x4AirSeals.com/technical section and view the video fitting instructions for this kit or go to You Tube and key in [4x4AirSeals201309B](#).

Picture 1



picture 2



picture3



picture 4



Picture 2 Remove 2 off nuts securing air dryer unit to the cylinder head unit then separate the air dryer from the cylinder a spring will assist as you disassemble.

Picture 1 At this stage you will be holding the air dryer in your hand, first step is to remove item A by pulling it of the spigot, then position a suitable container on your bench tip the contents of your air dryer into the container, the metal filter plate will need to be recovered from the medium as we will be re-using the plate.

There is no need to remove the granule chamber from the housing as illustrated in picture 1, clean out the chamber free from condensation and old granules, using thin nosed pliers pull out the filter pad in the bottom of the chamber, making sure there are no loose granules to block any air holes in the bottom.

Fit 1 of your new filter pads into the bottom of the granule chamber, with your finger over the granule chamber center spigot, tip your new bag of granules into the chamber slowly, until they appear near the top of the chamber. Settle the level of the granules then fit your remaining filter pad on top of the granules then place the metal filter plate on top of the pad securing it by refitting item A which is placed hard up onto the face of the metal filter plate this will avoid the contents of the air dryer from falling out while you assemble/inspect the remaining parts.

If you prefer to disassemble the cylinder head and air dryer housing to a more advance stage for cleaning purposes then please refer to pictures **1 ,3 , 4** which clearly show the breakdown of parts , the delivery valve assembly in picture 4 and flow valve assembly in picture 3 require particular attention that you do disturb fitting of these parts.

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