

Safety and Environmental Guidelines:

Note: The safety advice listed below is applicable to general service and diagnostic work on braking systems. Also observe any recommendations from the axle or vehicle manufacturer concerning towing, jacking-up and securing the vehicle.

CAUTION: KNORR-BREMSE IS NOT LIABLE FOR ANY INJURIES OR DAMAGES CAUSED BY IMPROPER USE OF SPECIFIED SERVICE KITS AND/OR SERVICE TOOLS. FURTHERMORE, MISUSE OF TOOLS OR INCORRECT INSTALLATION OR APPLICATION OF SERVICE KITS MAY RESULT IN DAMAGE OR POTENTIALLY UNSAFE VEHICLE OPERATIONS. IN THIS CASE, KNORR-BREMSE DOES NOT HAVE ANY WARRANTY OBLIGATIONS.

Before and during working on or around compressed air systems and devices, the following precautions should be observed:

- 1 Always wear safety glasses when working with air pressure.
- 2 Never exceed the vehicle manufacturer's recommended air pressures.
- 3 Never look into air jets or direct them at anyone.
- 4 Never connect or disconnect a hose or line containing pressure; it may whip as air escapes.
- 5 When removing or servicing a product, ensure all pressure related to the specific system it is contained in has been depleted to 0 bar. Be aware that if the vehicle is equipped with an air dryer system, it can also contain air pressure along with its purge reservoir, if fitted, even after pressure has been drained from the other reservoirs.
- 6 If it is necessary to drain the air pressure from reservoirs, etc., keep away from brake actuator push rods and levers since they may move as system pressure drops. On vehicles fitted with air suspension, it is advised when undertaking such work, to support the chassis from sudden lowering and therefore prevent any possibility of being trapped between the chassis and axle or ground.
- 7 Park the vehicle on a level surface, apply the parking brakes, and always chock the wheels as depleting vehicle air system pressure may cause the vehicle to roll.
- 8 When working under or around the vehicle, and particularly when working in the engine compartment, the engine should be shut off and the ignition key removed. Where circumstances require that the engine be running, EXTREME CAUTION should be taken to prevent personal injury resulting from contact with moving, rotating, leaking, heated or electrically charged components. Additionally, it is advisable to place a clear sign on or near the steering wheel advising that there is work in progress on the vehicle.
- 9 When working on vehicles equipped with air suspension, to guard against injury due to unexpected downward movement of the chassis caused by sudden pressure loss in the suspension system, ensure that the vehicle chassis is mechanically supported with a 'prop' between the chassis and the axle or between the chassis and the ground.
- 10 Examine all pipework for signs of kinks, dents, abrasion, drying out or overheating. Be aware that kinks in pipework may result in air pressure being trapped in the pipework and associated equipment. Replacement hardware, tubing, hose, fittings, etc. must be of equivalent size, type and strength as original equipment and be designed specifically for such applications and systems. Check the attachment of all pipework; it should be installed so that it cannot abrade or be subjected to excessive heat.
- 11 Components with stripped threads or damaged/corroded parts must be replaced completely. Do not attempt repairs requiring machining or welding unless specifically stated and approved by the vehicle or component manufacturer.
- 12 Never attempt to install, remove, disassemble or assemble a device until you have read and thoroughly understood the recommended procedures. Some units contain powerful springs and injury can result if not properly dismantled and reassembled. Use only the correct tools and observe all precautions pertaining to use of those tools.
- 13 Before removing any device note its position and the connections of all pipework so that the replacement/serviced device can be properly installed. Ensure that adequate support or assistance is provided for the removal/installation of heavy items.
- 14 Only use genuine replacement parts, components and kits as supplied by Knorr-Bremse or the vehicle manufacturer. Only use the recommended tools as specified in related Knorr-Bremse instructions.
- 15 The serviced or replaced product must be checked for correct function and effectiveness.
- 16 If products have been dismantled, serviced or replaced, whose performance could affect braking performance or system behaviour, this should be checked on a roller dynamometer. Bear in mind that a lower performance may be experienced during the bedding-in phase if new brake pads/linings and/or brake discs/drums have been fitted.
- 17 The use of impact screwdrivers or impact wrenches in conjunction with Knorr-Bremse service tools for air disc brakes is not permitted. The service tools are not designed for such use. It is likely that the tools or the vehicle will be damaged and there is a serious risk of injury – see Caution on previous page.
- 18 Do not use compressed air to clean the disc brake. Avoid air contamination of brake dust.
- 19 Prior to returning the vehicle to service, make certain that all components and the complete brake systems are leak free and restored to their proper operating condition.

Welding

To avoid damage to electronic components when carrying out electrical welding, the following precautions should be observed:

- 1 In all cases, before starting any electrical welding, remove all connections from any electronic control units or modules, noting their position and the order in which they are removed.
- 2 When re-inserting the electrical connectors (in reverse order) it is essential that they are fitted to their correct assigned position - if necessary this must be checked by PC Diagnostics.

**Disposal of Waste Equipment by Business Users in the European Union**

This symbol on the product, packaging or in user instructions, indicates that this product must not be disposed of with other general waste. Instead, it is your responsibility to dispose of the waste electrical and electronic parts of this product by handing them over to a company or organisation authorised for the recycling of waste electrical and electronic equipment. For more information about arrangements for waste equipment disposal please contact your Knorr-Bremse distributor or local Knorr-Bremse representative.

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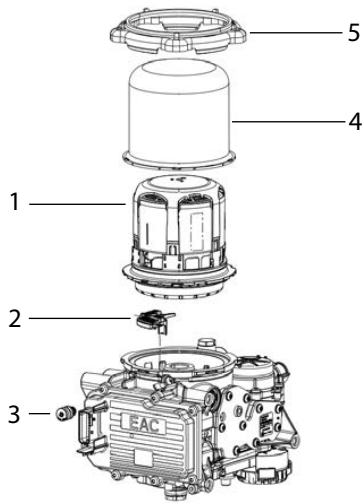
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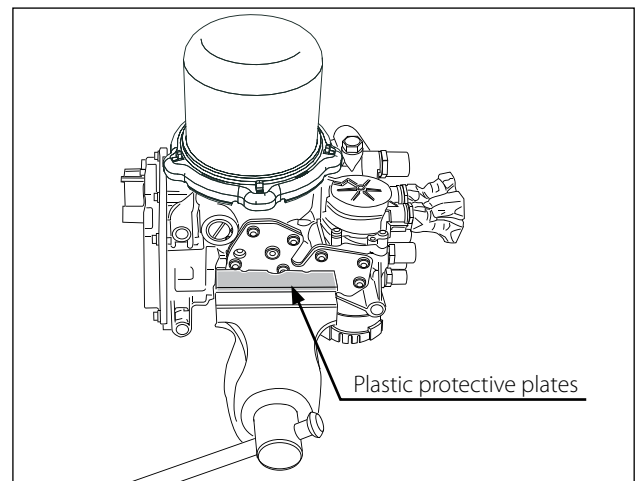
Legend:

- 1 - Desiccant cartridge interior
- 2 - Main sieve
- 3 - Locking screw
- 4 - Desiccant cartridge housing
- 5 - Bayonet ring

2.2 General notes

Dismantle and assemble the bayonet ring (5) and locking screw (3) on a clean workbench in case an exchange is not possible on the vehicle. All the following description steps can be performed on the workbench or the vehicle.

Clean the EAC2.5 and clamp it in a suitable bench vice; use plastic protective plates in order not to damage the device.



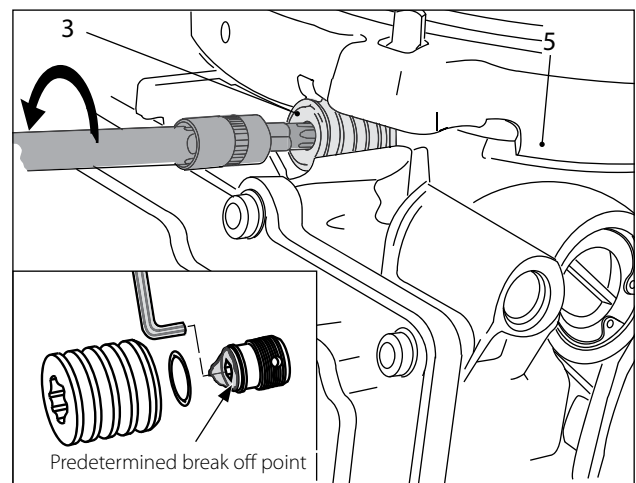
2.3 Removal of bayonet ring (5), desiccant cartridge housing (4), desiccant cartridge interior (1), locking screw (3) and main sieve (2).

Remove the locking screw (3) - Torx T30

If the Torx drive slips because the hexalobular socket of the locking screw is worn out, take the next bigger bit size and drive it into the socket of the screw by means of a hammer.

Unscrew the locking screw.

If the locking screw breaks off at the pre-determined break-off point, the remainder of the locking screw can still be removed with a 5mm Allen key.

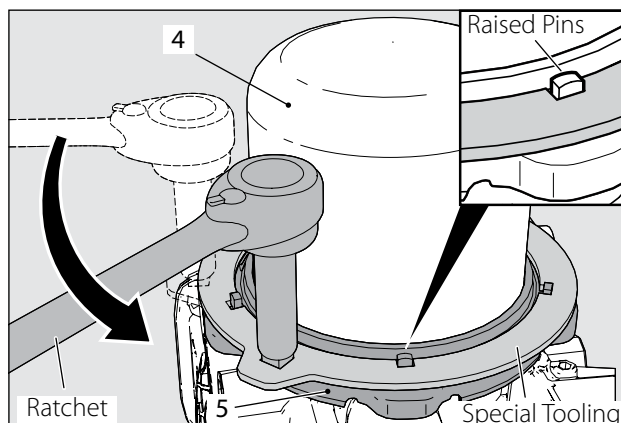


 See page 2 for disposal.

Slide the special tooling (K162153K50) for the bayonet ring (5) over the desiccant cartridge housing (4) whilst making sure the raised pins of the bayonet ring slot into the five grooves of the special tooling.

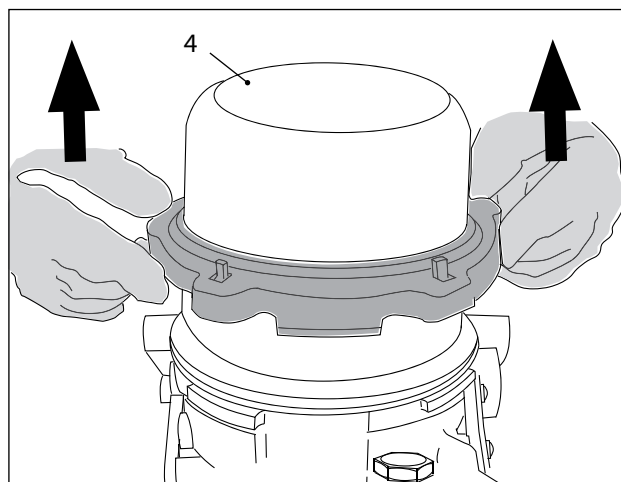
Place the square end of the ratchet into the square hole of the special tooling and turn anti-clockwise until the bayonet ring loosens.

For more details please refer to Y314790 service instruction.

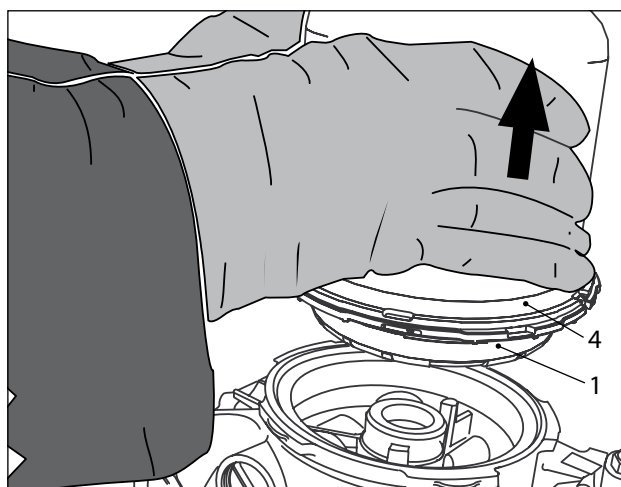


Slide the bayonet ring over the desiccant cartridge housing.

 See page 2 for disposal.



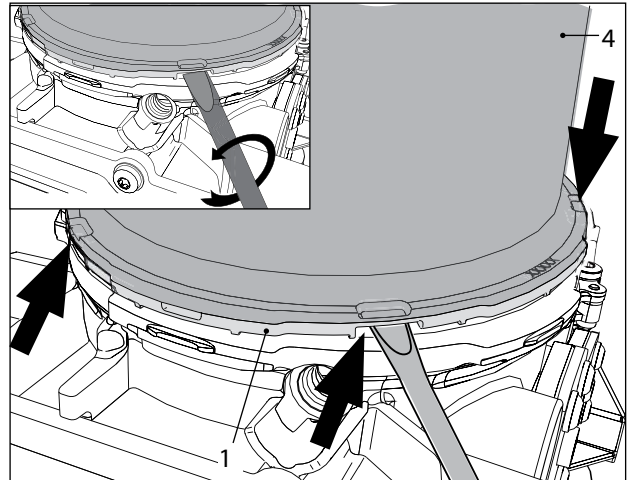
Remove the desiccant cartridge housing along with the desiccant cartridge interior (1) from the valve block.



If it is not possible to remove the assembly from the valve block by hand, insert a flat headed screwdriver in one of the three grooves - see arrows in diagram.

Rotate or lever lightly with the screwdriver.

It should now be possible to remove the assembly.

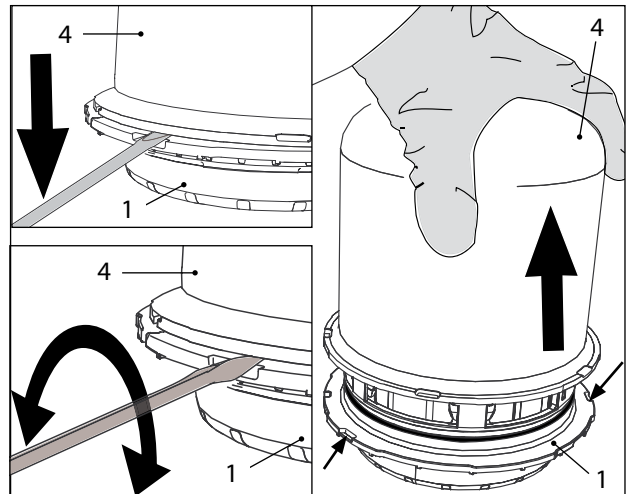


Avoid scrapes and deformations at the valve block. Risk of corrosion.

The slots in the desiccant cartridge interior (1) allow it to be removed from the desiccant cartridge housing (4) - see arrows.

Position a flat-headed screwdriver in one of these slots, lever the desiccant cartridge housing using one of the illustrated methods.

The desiccant cartridge housing can then be removed from the desiccant cartridge interior.

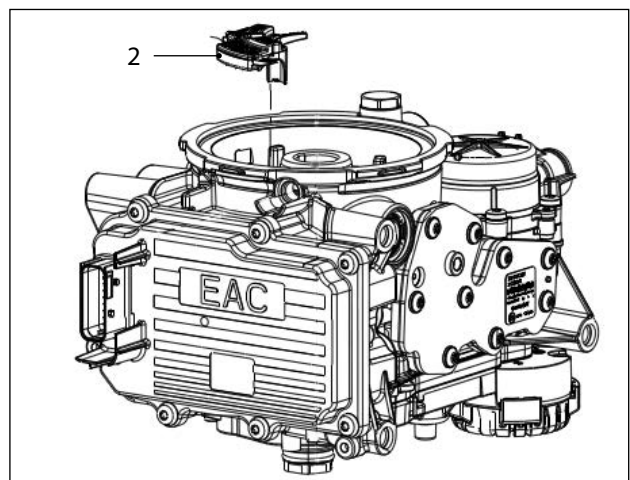


See page 2 for disposal.

Remove main sieve (2)

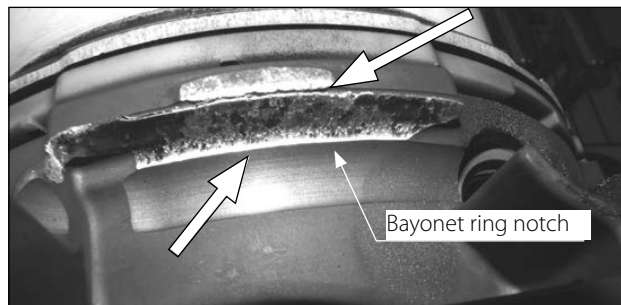


See page 2 for disposal.

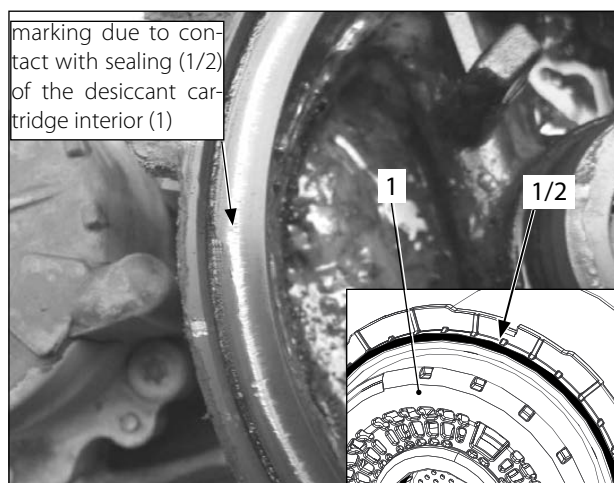


2.4 Visual checking of the valve block

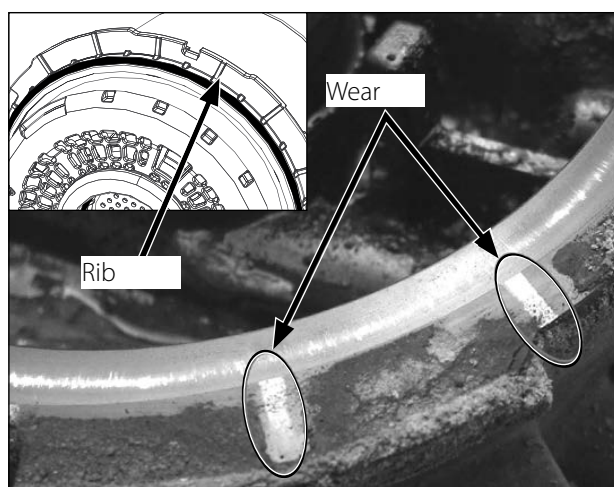
By removing the bayonet ring it is possible to check the valve block. If the protective surface is worn down to the base metal or if the bayonet ring notch has any damage, see arrows, the EAC2.5 must be replaced - see Product and Part Number Identification section of this document.



Wear of the sealing area as shown in the adjacent picture is permissible - see picture.



Wear caused by the ribs of the desiccant cartridge interior (1) are permitted - see picture.




2.5 Clean and check

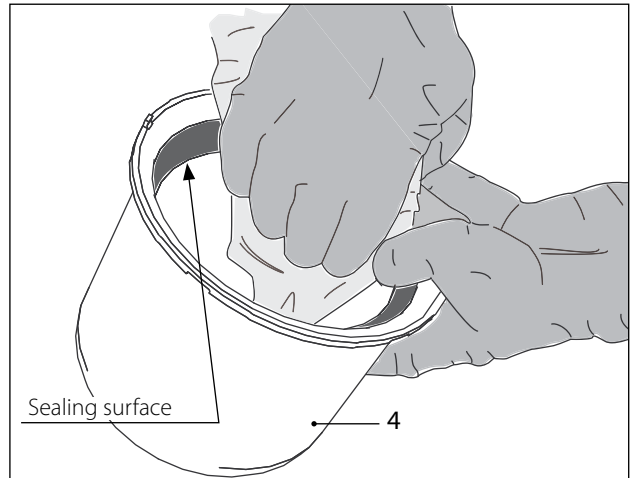
Clean inside and outside of the desiccant cartridge housing (4).

Check all of the inside surface for corrosion.

Check sealing surface for damage.

 If corrosion is found inside the desiccant cartridge housing or there is damage to the sealing surface, the desiccant cartridge housing must be renewed.

 See page 2 for disposal.

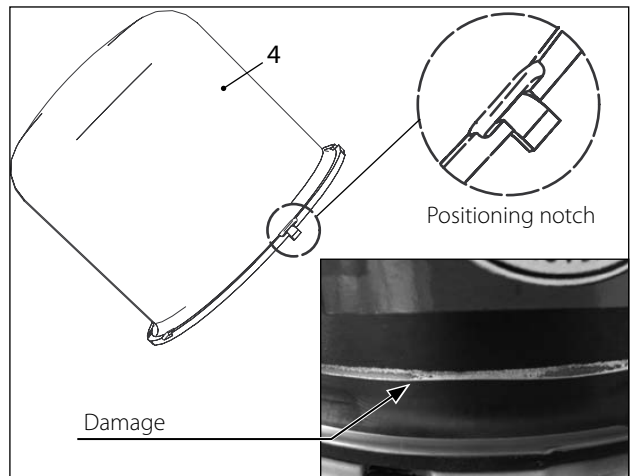


Check whether the positioning notch is still intact on the desiccant cartridge housing (4).

If this is missing, the desiccant cartridge housing (4) must be renewed.

If any damage is noted on the outside of the desiccant cartridge housing, for example as shown in the diagram, the desiccant cartridge housing must be renewed.

Apply lubricant ¹ to the sealing surface of the desiccant cartridge housing.

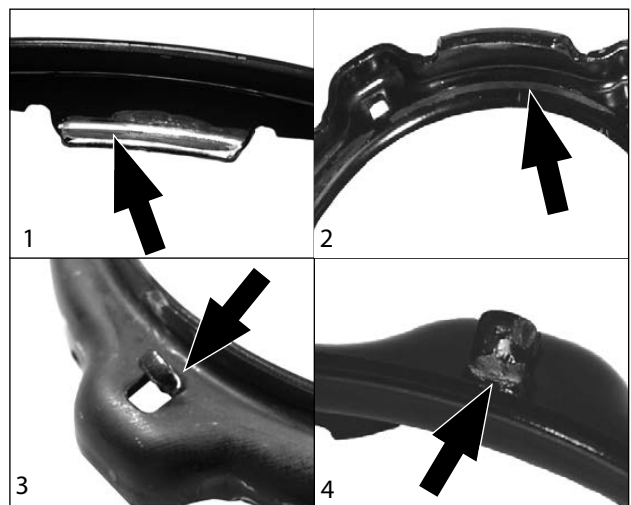


Clean the bayonet ring.

Replace the bayonet ring if the following damage is noted.


- Worn protective surface of the bayonet ring - see figures 1 & 2
- If three or more bayonet ring clips are bent, contain cracks or are missing - see figure 3 & 4

 See page 2 for disposal.




¹ Recommended lubricant: truck engine oil, truck gearbox oil, standard bearing grease. Used or aggressive lubricants are not allowed to use!

Close openings of the safety valve (A) and the non-return valve (B) with a lint free cloth or alternatively with sticky tape to help prevent any dirt from entering. Clean the chamber (grey), the sealing surfaces (C), the thread and seal area (D) of the locking screw (3) and the bayonet ring notches (E) - see arrows in diagram.

 Compressed air must not be used under any circumstances in the chamber area (grey) since this may cause dirt to enter the safety valve (A) or the non-return valve (B) resulting in a malfunction.

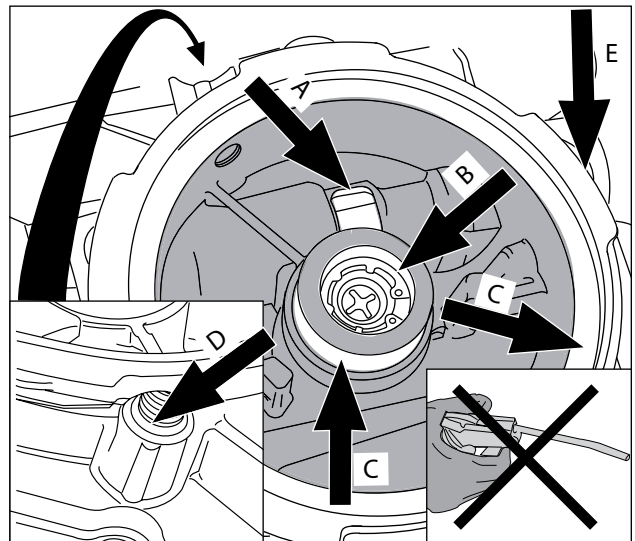
Ensure that there is no dirt remaining in the chamber area.

 Any dirt residue in the safety valve (A) or in the non-return valve (B) should be removed with a lint free cloth.

Check sealing surfaces (C), inner thread and sealing area (D) for the locking screw for scratches.

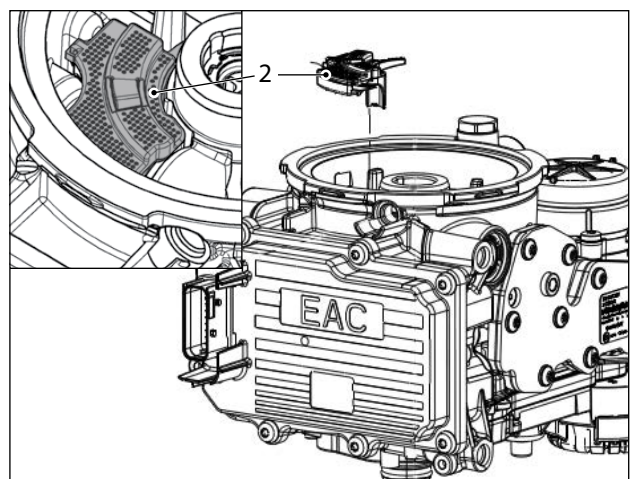
Check also valve block - see **Visual checking of the valve block** section of this document

 The EAC2.5 must be replaced if any such damage is noted to the valve block - see **Product and Part Number Identification** section of this document.



2.6 Mounting of bayonet ring (5), desiccant cartridge housing (4), desiccant cartridge interior (1) locking screw (3) and main sieve (2)

Insert main sieve (2)

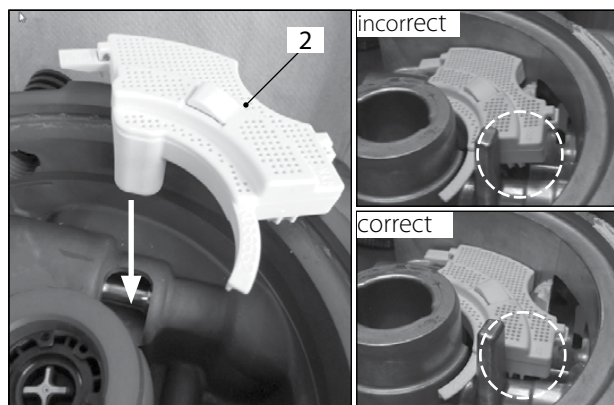


Note: there are two valve block variants and therefore two different installation situations.

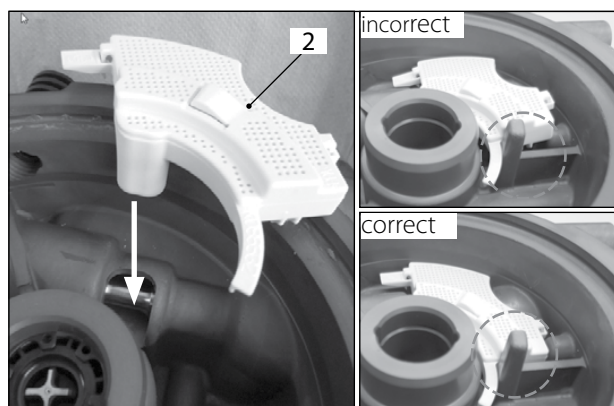
Installation situation 1. **Valve block variant 1 from KW29/2013**



It is important with both valve block variants, to insert the locking finger of the main sieve (2) thoroughly into the opening for the safety valve - see arrow. If the main sieve has not been inserted correctly it may become damaged when the desiccant cartridge assembly (1+4) is fitted. This will result in a malfunction of the EAC 2.5.



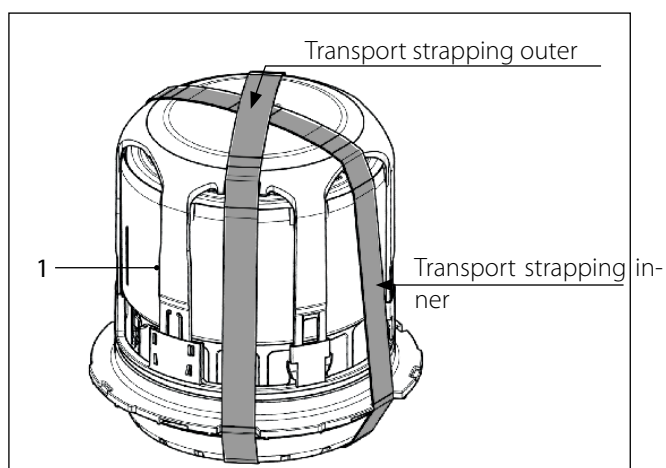
Installation situation 2. **Valve block variant 2 up to KW28/2013.**



Before fitting the new desiccant cartridge interior (1) the strapping must be removed.



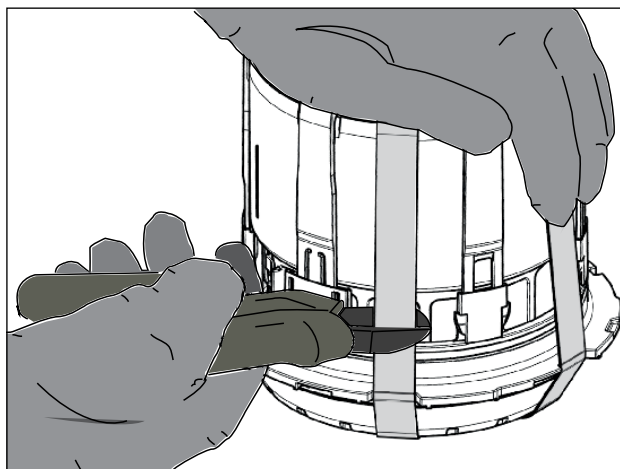
Warning, strapping is under tension. Wear safety glasses and gloves



Position the tool in the lower third of the transport strapping - see diagram. Cut through first the "transport strapping outer", then the "transport strapping inner".

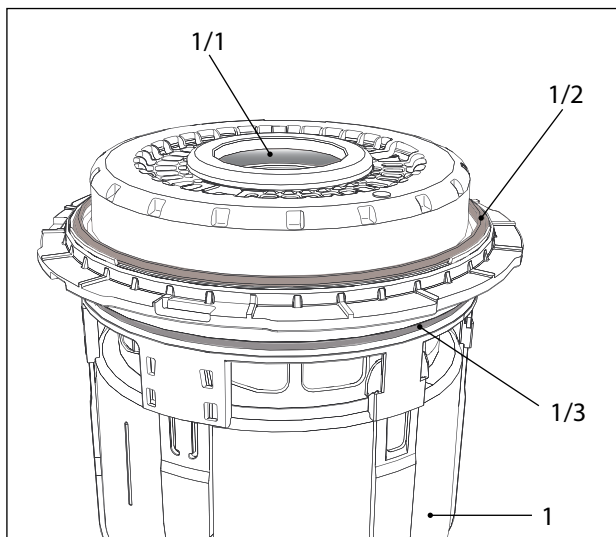


See page 2 for disposal.

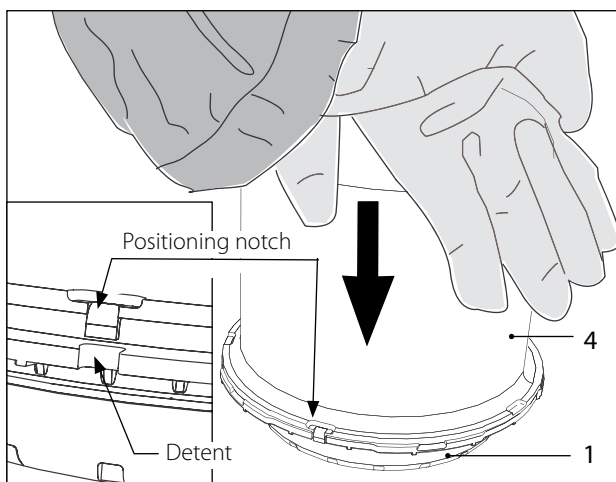


Apply lubricant ¹ to the sealing elements 1/1 - 1/3 in the desiccant cartridge interior (1).


Note: do not alter the position of the sealing elements.



Align the positioning notch of the desiccant cartridge housing (4) directly over the desiccant cartridge interior (1) detent and push the housing to engage.

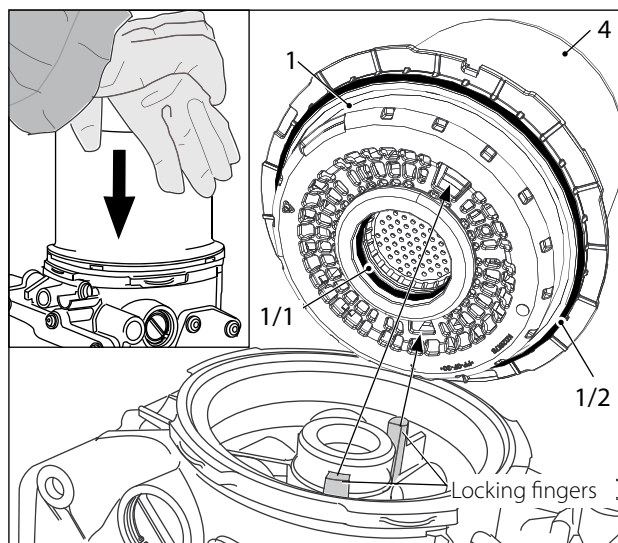


¹ Recommended lubricant: truck engine oil, truck gearbox oil, standard bearing grease. Used or aggressive lubricants are not allowed to use!

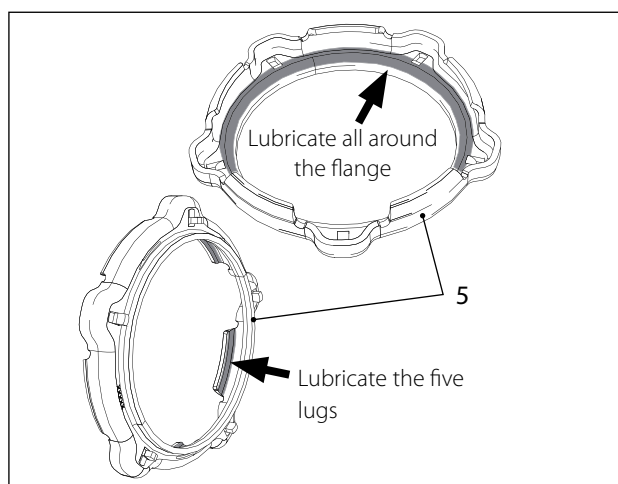
 It is important that the two fingers of the valve block are aligned with the detents in the desiccant cartridge interior - see diagram.

Push the assembly on to the valve block.

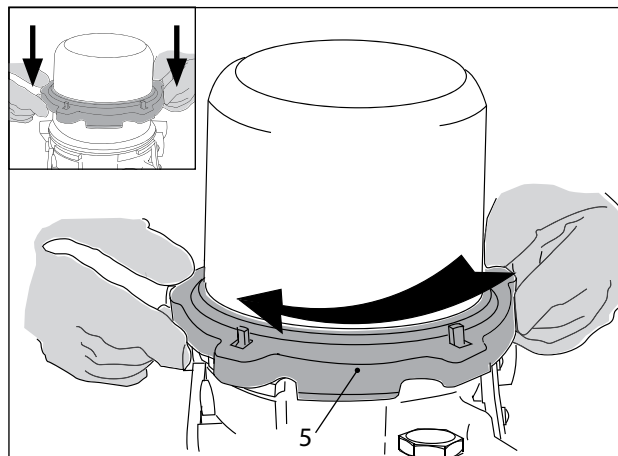
Note: To minimise the necessary force required, make sure that the desiccant cartridge's sealing elements (1/1) and (1/2) are sufficiently lubricated.



Apply lubricant¹ to the bayonet ring (5) in the highlighted places.



Fit bayonet ring and turn in a clockwise direction until it clicks into place.

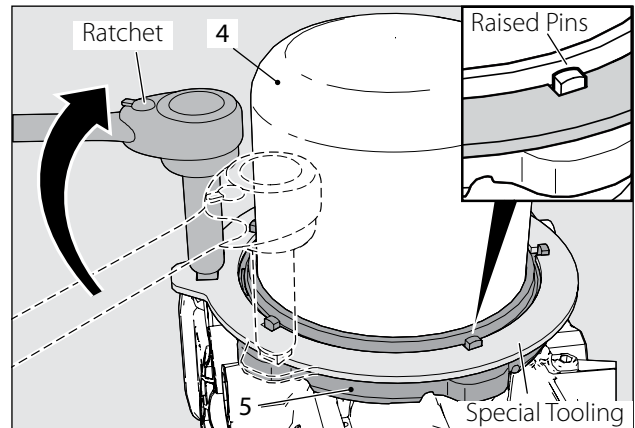


¹ Recommended lubricant: truck engine oil, truck gearbox oil, standard bearing grease. Used or aggressive lubricants are not allowed to use!

Slide the special tooling (K162153K50) for the bayonet ring (5) over the desiccant cartridge housing (4) whilst making sure the raised pins of the bayonet ring slot into the five grooves of the special tooling.

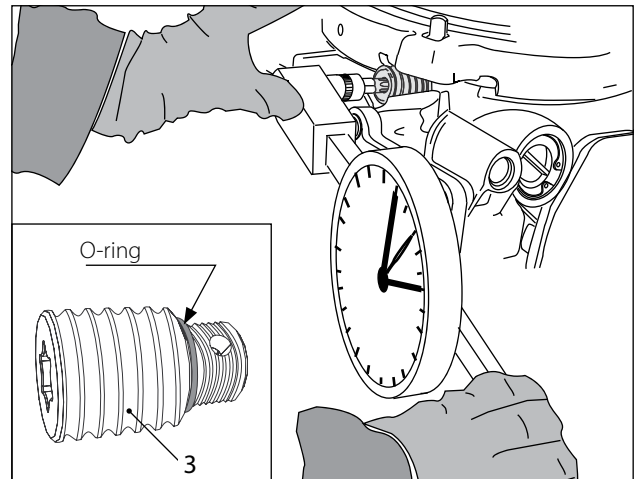
Place the square end of the ratchet into the square hole of the special tooling and turn clockwise until the bayonet ring locks into place.

For more details please refer to Y314790 service instruction.



Grease the O-ring on the new locking screw (3). Alternatively lubricate the O-ring sealing area in the valve block.

Tighten securely to a torque of 5^{+1} Nm - Torx T30



Reset the cartridge predictive maintenance to 0 using an appropriate diagnostics tool.

Revision Details

Rev. 003	March 2022	Updated lay-out

KEEP IT RUNNING

Up-to-date information on our products can be found on our website truckservices.knorr-bremse.com



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Note

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If service work is carried out on a vehicle based on information provided herein, it is the responsibility of the workshop to ensure the vehicle is fully tested and in full functional order before the vehicle is returned into service. Knorr-Bremse accepts no liability for problems caused as a result of appropriate tests not being carried out.

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