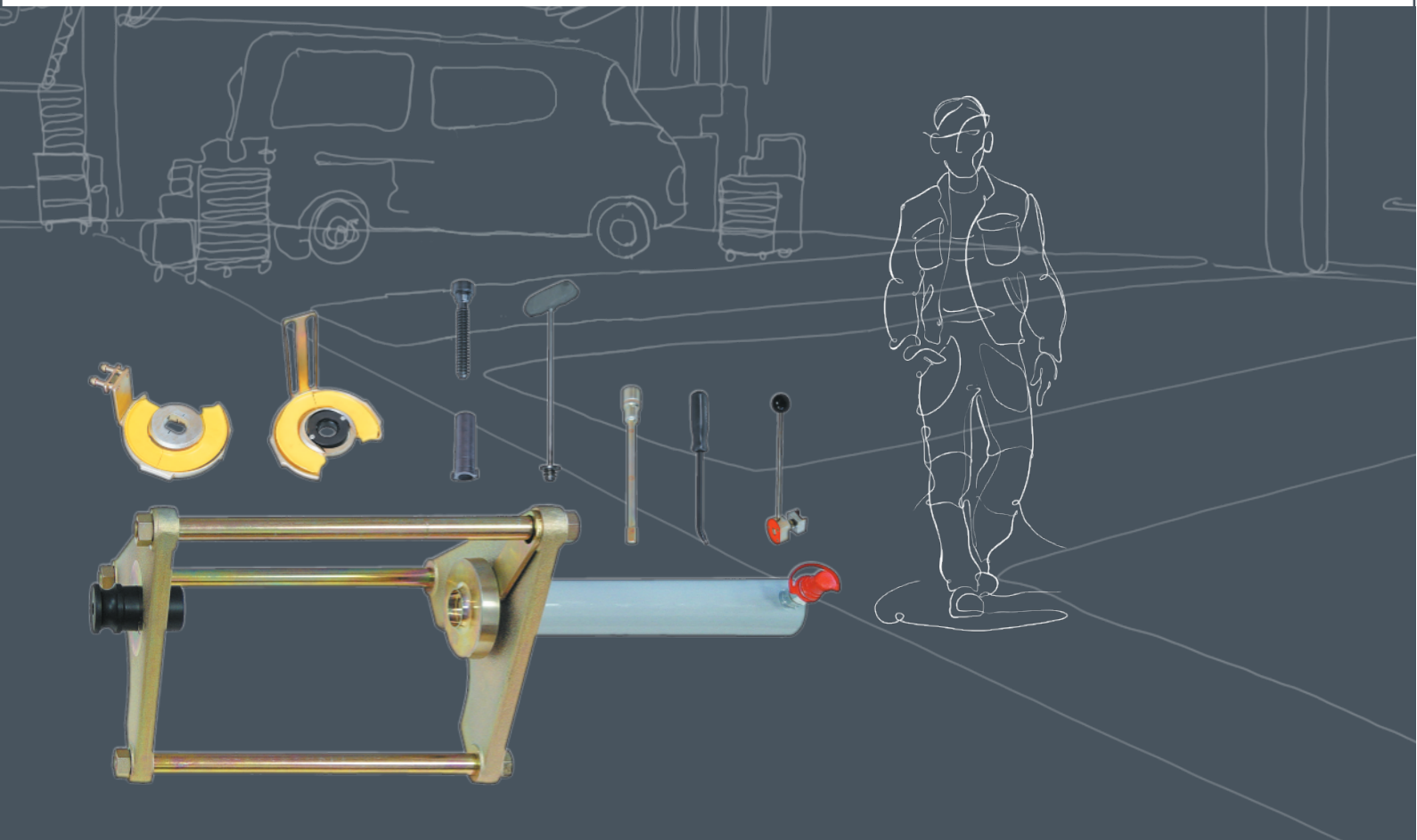


VOLKSWAGEN

AKTIENGESELLSCHAFT



Operating Instructions

Spring-compressing system series - VAS 6274.. / VAS 6907..

GEDORE
KLANN EXPERIENCE





ENGLISH

US

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Masthead

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1. Product description

1.1 VAS 6274 ... / VAS 6907 ... - Spring-compressing system series

Suitable for right-hand coil springs on the rear axle of VW-Audi and Porsche.

The spring-compressing system series VAS 6274 ... / VAS 6907 ... can be used for installing and removing right-hand coil springs on the rear axle. Required, for example, for repair work on the rear axle and for removing and installing the fuel tank.

Typical work sequence:

The spreader is used between the upper axle link and the vehicle body to keep the wheel suspension in its current position. Using spindle and pistons, the pressure plates mechanically preload the chassis spring. This requires T handle, socket wrench and retaining wrench as auxiliary tools.

Since the mechanical clamping device is too short to release the chassis spring outside the vehicle axle, the hydraulic clamping device is required for preloading and releasing the removed chassis spring. Depending on the vehicle, the centering sleeve is used to center the spindle.

Address of the manufacturer:

If you have any questions about the spring-compressing system, please contact:

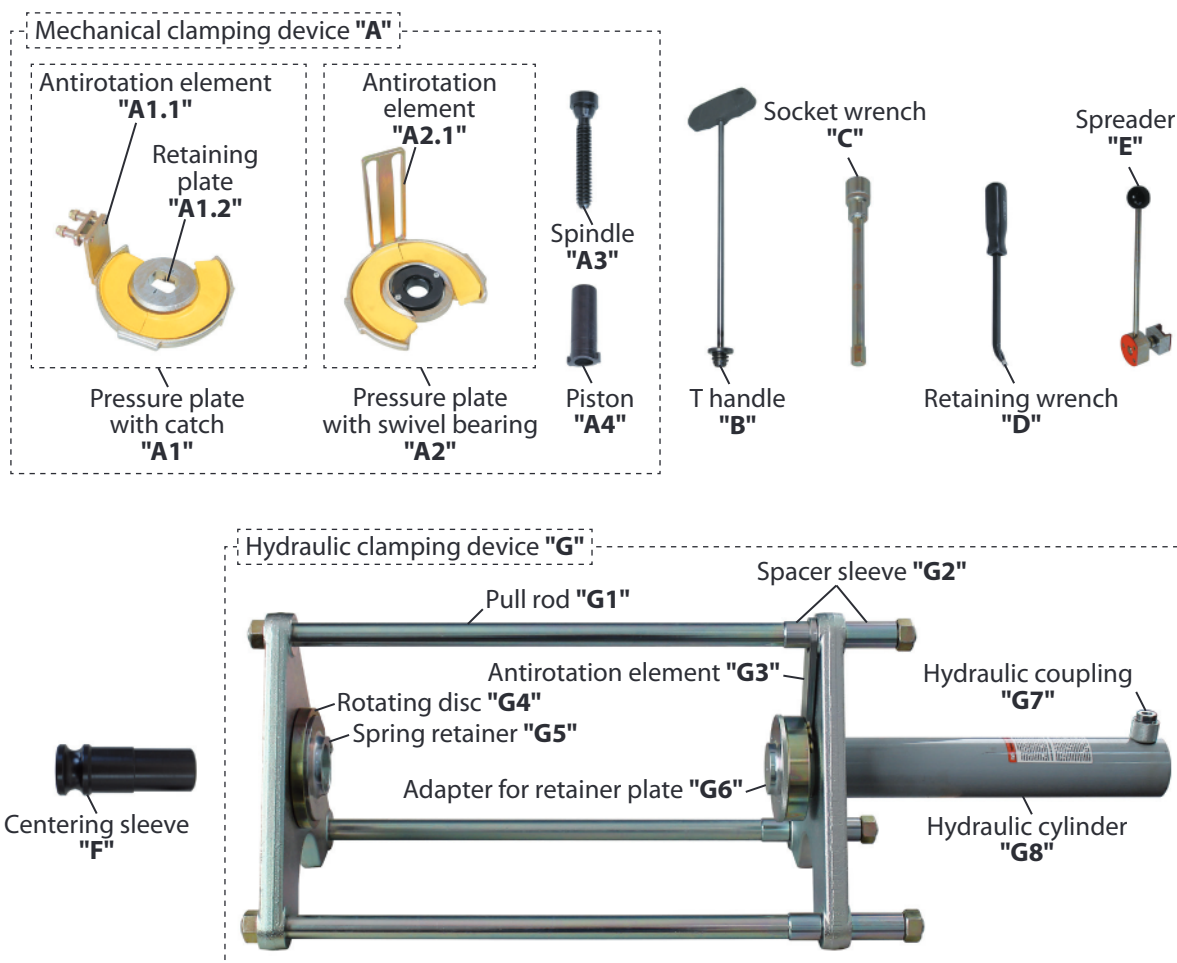
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1.2 Specifications

Mechanical clamping device "A":	
Max. load:	20,000 N*
* 31,000 N when using the piston VAS 6274/12-6 / KL-0028-3102 VAG and/or VAS 6274/12-7 / KL-0028-3101 VAG	

Hydraulic clamping device "G":	
Max. operating pressure:	700 bars
Max. pressure force:	10 tonnes
Max. stroke:	257 mm
Overall length:	760 ... 910 mm
Weight:	25 ... 26 kg

2. Basic safety instructions

⚠ WARNING

Read and understand the operating instructions before you start using the spring-compressing system. The operating instructions are part of the spring-compressing system. Misuse can cause **SEVERE INJURIES** or **DEATH**.

Keep these operating instructions at a safe place for future reference, and always pass them on to subsequent users of the spring-compressing system.

2.1 Target group

These operating instructions are addressed to trained motor-vehicle mechanics or car mechatronics in specialized car workshops.

Never allow unauthorized persons or minors to use the spring-compressing system.

The purchaser of the spring-compressing system **must** ensure that the user has read and understood the operating instructions completely before he or she uses the spring-compressing system.

The operating instructions **must** be available at all times to the user of the spring-compressing system.

2.2 Intended use

The spring-compressing system is **only to be used** to remove and install right-hand coil springs on the rear axle of VW-Audi and Porsche.

The spring-compressing system **may only be used** up to a **maximum load of 20,000 N***.

* 31,000 N when using the piston - VAS 6274/12-6 / KL-0028-3102 VAG and/or VAS 6274/12-7 / KL-0028-3101 VAG.

The spring-compressing system **may only be used** by trained motor-vehicle mechanics or car mechatronics in specialized car workshops.

The spring-compressing system **may only be used** in the way that is described in the operating instructions.

The **basic** vehicle-specific application sequence is described in the repair guide of the vehicle manufacturer.

- Any other use can cause **severe injuries** or even **death!**

2.3 Misuse/abuse

Never use the spring-compressing system to compress springs that are not intended to be used with this system.

Never use a machine (such as an impact screwdriver) to drive the mechanical clamping device "A".




Never use the hydraulic clamping device "G" as a pressing device (to press in or out bearings and sleeves, for example).

Never subject the spring-compressing system to technical modifications or additions or conversions that could have even the slightest effect on safety.

- **Always** read and observe **all** warnings, safety instructions and other instructions for the operation and maintenance of the spring-compressing system!
- The spring-compressing system **may only be used** in the way that is described in **Chapter 2.2 - Intended use**. Any other use can cause **severe injuries** or even **death!**




2.4 Personal protective equipment

Always wear your personal protective equipment when you use the spring-compressing system. The spring tensioning system can bring about mechanical hazards such as crushing, cutting and shock injuries.

-  **EYE PROTECTORS** (see OSHA 29 CFR 1910.133 and ANSI Z87) **must** be worn when using the spring-compressing system, to protect against flying objects.
 - Particles can be thrown up when working with the spring-compressing system, and cause severe injuries to your eyes.
-  **PROTECTIVE GLOVES** **must** be worn when using the spring-compressing system.
 - Working with the spring-compressing system can cause skin abrasions and crushing.
-  **SAFETY SHOES** with anti-slip sole and steel toe cap (see OSHA 29 CFR 1910.136 and ANSI 241) **must** be worn when using the spring-compressing system.
 - Dropping parts can cause injuries to feet and toes.

2.5 Basic warnings

For better differentiation, warnings in these operating instructions are classified as follows:

Warning sign	Signal word	Meaning
	WARNING	Indicates a hazardous situation which, if not avoided, can cause severe or even fatal injuries .
	CAUTION	Indicates a hazardous situation which, if not avoided, can cause medium or light injuries .
	ATTENTION	Indicates a situation which, if not avoided, can cause damage to the spring-compressing system or its functions or an object in its vicinity.
		Indicates important information and useful tips for use.

WARNING

Exceeding the maximum load and improper use of the spring-compressing system can cause the mechanism to break, which can result in severe injuries or death from fragments and the chassis spring being hurled about.

- **Very high forces** are exerted when chassis springs are tensioned. Please read **carefully all** related instructions, warnings and safety instructions for the operation of the spring-compressing system.
- **Never** exceed the maximum load of **20,000 N*** of the mechanical clamping device "A"!
 - * 31,000 N when using the piston - **VAS 6274/12-6 / KL-0028-3102 VAG** and/or **VAS 6274/12-7 / KL-0028-3101 VAG**.
- The mechanical clamping device "A" may only be operated **manually** with muscular force!
- The **basic** vehicle-specific application sequence is described in the repair guide of the vehicle manufacturer..
- When you leave the workplace, ensure that the chassis spring is **never tensioned** in the spring-compressing system.
- **Always** wear your personal protective equipment (protective goggles, protective gloves, safety shoes) when you use the spring-compressing system.

Using an unsuitable hydraulic pump can cause severe injuries.

- **Only operate** the hydraulic clamping device "G" with approved hydraulic pumps that meet the corresponding specifications.

⚠ CAUTION

During transport, preparation and operation of the spring-compressing system, parts can drop down and cause injuries to the feet.

- The storage area for the spring-compressing system **must** be sufficiently large, safe against falling down and tidy.
- **Always** wear your personal protective equipment (safety shoes) when you use the spring-compressing system.

CAUTION

Vehicle and tool can be damaged.

- Use **only** molybdenum disulfide paste as lubricant for the spindle "A3"! (e.g. KL-0014-0030)
- **Only** the data specified by the vehicle manufacturer apply for any work on the vehicle.
- The **basic** vehicle-specific application sequence is described in the repair guide of the vehicle manufacturer..
- Ensure that work on vehicles is carried out **only** in compliance with the instructions and safety regulations of the vehicle manufacturer.

2.6 Handling**⚠ WARNING**

Observe the following safety precautions to avoid injuries and damage to property as a result of misuse and unsafe handling of the spring-compressing system. Misuse can cause **severe injuries** or **death**.

- **Never** exceed the maximum loadability of the spring-compressing system!
- Very high forces are exerted when chassis springs are tensioned. Please read **carefully all** related instructions, warnings and safety instructions for the operation of the spring-compressing system.
- **Before each use**, ensure that the spring-compressing system is in a technically perfect condition. Damaged or worn parts **must** be replaced before use.
- Use **only** genuine GEDORE Automotive spare parts and accessories for the spring-compressing system!

2.7 Work environment

Safe work with the spring-compressing system is only possible when the working environment is safe.

- The workplace **must** be clean and tidy.
- The workplace **must** be sufficiently large and protected.
- The workplace **must** be on a solid nonskidding floor.
- The room temperature at the workplace **must** be between -10° and +40° degrees Celsius.

2.8 Emissions

Molybdenum disulfide paste and hydraulic oil (HLP 32) can emerge when using the spring-compressing system, thus posing a danger to the environment.

- The workplace **must** be equipped with a liquid-resistant floor covering and an oil separator.
- Any leaked hazardous substances **must** be collected immediately with a suitable container, binding agent or rag and disposed of in an environmentally compatible manner.

2.9 Malfunctions

Maintenance and repair work on the hydraulic clamping device "G" may only be carried out when the system is pressureless.

Type of the malfunction: Hydraulic oil can emerge at the hydraulic coupling "G".

Measure: If necessary, clean the hydraulic coupling "G", retighten and/or engage it correctly.

Fig. 1: Preparing the hydraulic clamping device "G".

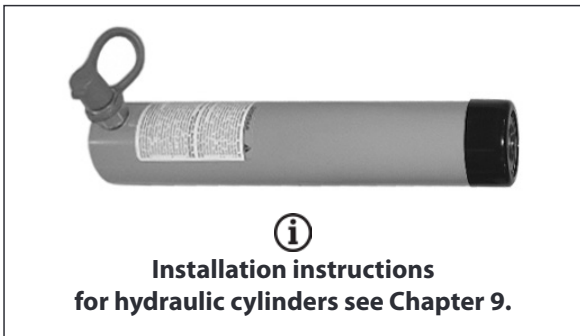
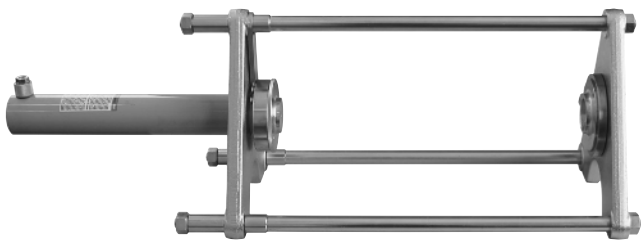
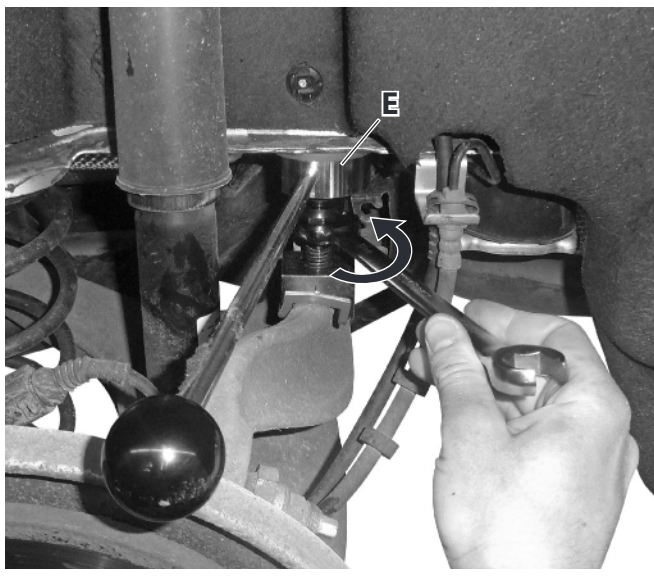


Fig. 2: Lubricating spindle "A3" with molybdenum disulfide paste.



Fig. 3: Inserting the spreader "E" in the correct position.



3. Preparing the spring-compressing system

Prior to using the spring tensioning system for the first time, check and ensure that all parts of the scope of delivery are available. Follow the assembly instructions.

3.1 Checking the scope of delivery (see Chapter 8.)

3.2 Preparing the tool

⚠ CAUTION

During transport, preparation and operation of the spring-compressing system, parts can drop down and cause injuries to the feet.

- The storage area for the spring-compressing system **must** be sufficiently large, safe against falling down and tidy.
- **Always** wear your personal protective equipment (such as safety shoes) when you use the spring-compressing system.

1. Prepare the spring-compressing system for the vehicle you work on **in accordance with the repair guide of the vehicle manufacturer** and arrange it for subsequent work.
2. Prepare the hydraulic cylinder of the hydraulic clamping device "G" in accordance with the assembly instructions (see Chapter 9.). (Fig. 1)

⚠ CAUTION

Spindle "A3" and piston "A4" can be damaged.

- Use **only** molybdenum disulfide paste as lubricant for the spindle "A3"! (e.g. KL-0014-0030)
3. If necessary, clean the spindle "A3" and lubricate it with molybdenum disulfide paste (e.g. KL-0014-0030). (Fig. 2)

3.3 Preparing the vehicle

1. Prepare the vehicle in accordance with the manufacturer specifications (for example: Safely raise the vehicle, remove the wheels, etc.).

⚠ CAUTION

There is a risk of damaging brake lines, cables and various parts on the vehicle.

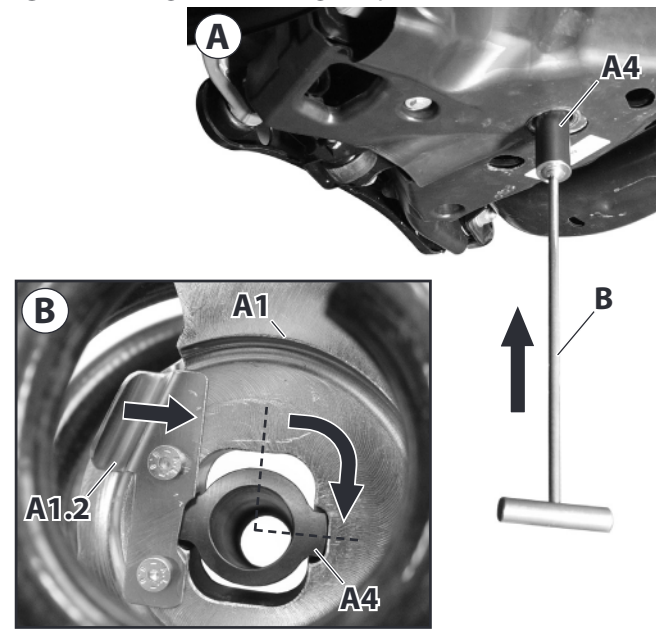
- For each individual vehicle, the spreading device "E" **must** be prepared in accordance with the repair guide of the vehicle manufacturer and be used in the correct position.
2. As required by the vehicle, insert the spreading device "E" in the correct position between the body and the upper axle link.

Using a 19-mm fork wrench, lightly preload the spreader "E" to retain the wheel suspension at its current position. (Fig. 3)

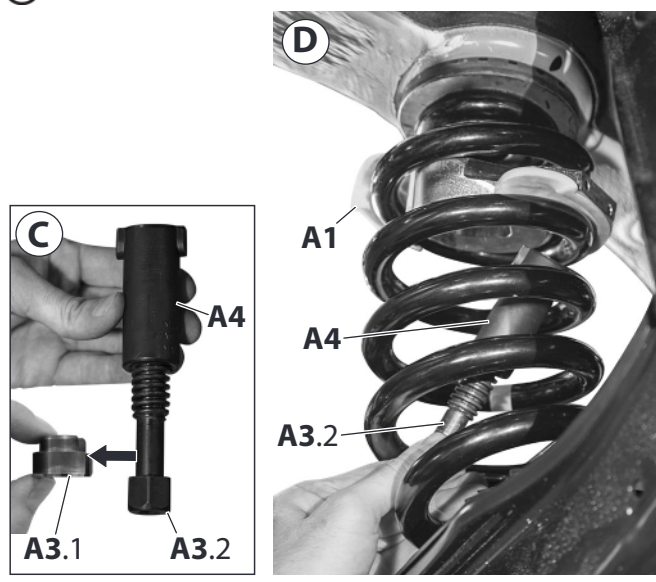
Fig. 4: Inserting the pressure plate with catch "A1".



Fig. 5: Inserting and securing the piston "A4".



i When using **VAS6274/15A** (KL-0028-13 A VAG):



4. Typical application

This typical application describes the removal / installation of a right-hand coil spring at the rear axle of an Audi A6 (C6).

i Always observe!

Very high forces are exerted when chassis springs are tensioned. Please read **carefully all** related instructions, warnings and safety instructions for the operation of the spring-compressing system.

The **basic** vehicle-specific application sequence is described in the repair guide of the vehicle manufacturer.

4.1 Removing the chassis spring

1. Insert the pressure plate with catch "A1" in the upper section of the chassis spring. (**Fig. 4**)

Note:

The anti-rotation lock "A1.1" can be unscrewed if lack of space prevents the pressure plate with lock "A1" from being inserted into the chassis spring. However, the anti-rotation lock **must** be screwed back on with **10 Nm** before the chassis spring is tensioned!

⚠ WARNING

The chassis spring can be released abruptly when the piston "A4" is not installed properly. This can cause severe and even fatal injuries.

- The piston "A4" **must** completely and properly engage in the catch of the pressure plate "A1".
- After the piston "A4" has been inserted, it **must always** be secured with the retaining plate "A1.2" against falling out.

2. Using the T-handle "B", guide piston "A4" through the hole in the lower transverse link (**Fig. 5 A**) into the upper pressure plate with lock "A1". Rotate the piston through **90°** to insert it. Next, use the retaining plate "A1.2" to secure the piston "A4" against falling out (**Fig. 5 B**). Unscrew and remove the T-handle "B".

Note:

When using **VAS6274/15A** (KL-0028-13 A VAG), you **must** guide the piston "A4", together with the spindle "A3.2" but without the spindle attachment "A3.1" (**Fig. 5 C**), manually between the spring coils (**Fig. 5 D**) into the upper pressure plate with lock "A1", and secure it.

Fig. 8: Rotating pressure plates "A1" and "A2" to position.

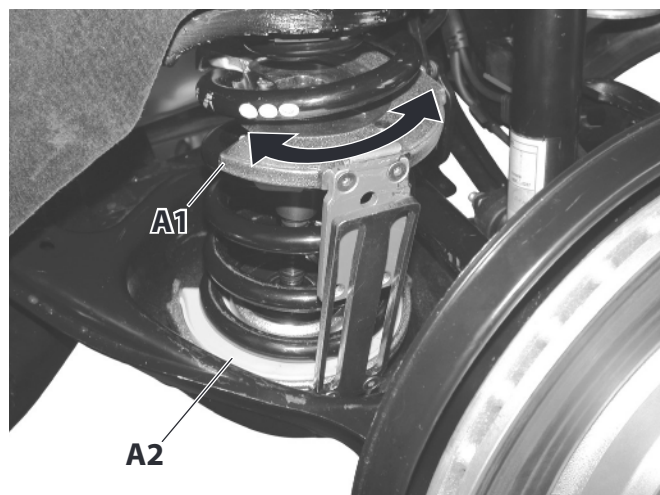
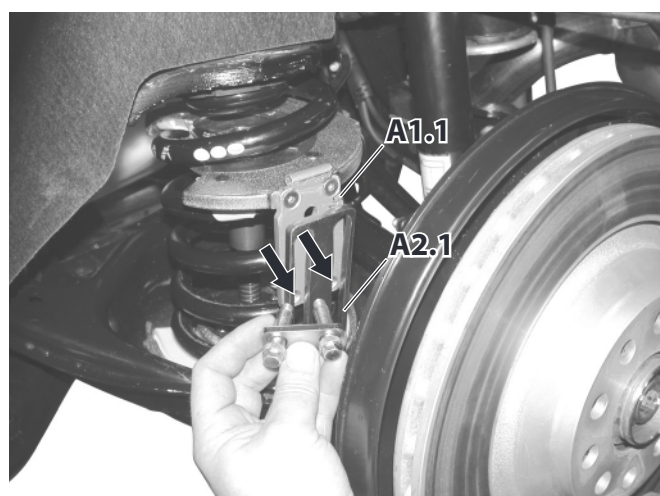


Fig. 9: Screwing antirotation elements "A1.1" and "A2.1" together.



- In order to be able to tension the different chassis springs to as small a dimension as possible, as many spring coils as possible must be tensioned.

To do this, rotate the pressure plate with catch "A1" upwards as far as possible, and the pressure plate with swivel bearing "A2" as far as possible downwards in the chassis spring. (Fig. 8)

Note:

If, for space reasons, the pressure plate with catch "A1" cannot be turned upwards or the pressure plate with swivel bearing "A2" cannot be turned downwards, the corresponding antirotation element "A1.1" or "A2.1" can be unscrewed, the pressure plate turned into position and, subsequently, the anti-rotation device screwed on again with 10 Nm.

⚠ WARNING

The chassis spring can be released abruptly when the antirotation elements "A1.1" and "A2.1" are not installed properly. This can cause severe and even fatal injuries.

- The chassis spring may only be tensioned when both antirotation elements "A1.1" and "A2.1" are properly secured on the pressure plates "A1" and "A2" and are screwed together with the two collar screws.

- Rotate the pressure plates "A1" and "A2" such that the antirotation elements "A1.1" and "A2.1" are on top of each other.

Next, connect the antirotation elements "A1.1" and "A2.1" with the two collar screws with each other, and tighten the collar screws with 5 Nm. (Fig. 9)

Note:

If necessary, you can unscrew the antirotation element "A1.1" and/or "A2.1" from the corresponding pressure plate "A1" and/or "A2", respectively, relocate it by 90° and/or 180°, and tighten it again with 10 Nm.

Fig. 10: Inserting the retaining wrench "D".

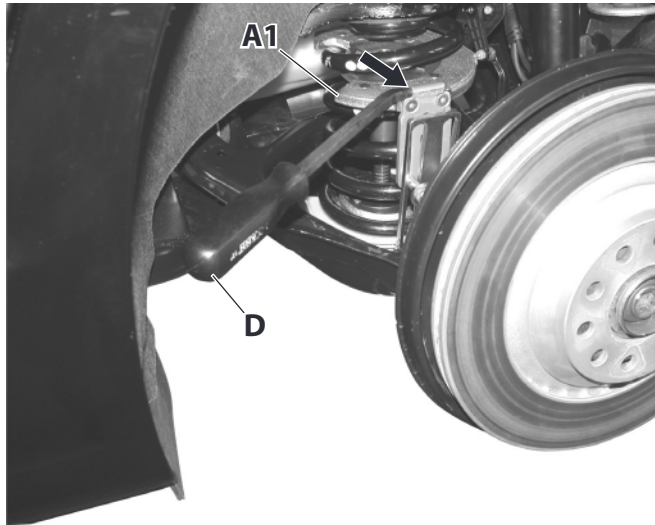


Fig. 11: Preloading the chassis spring.

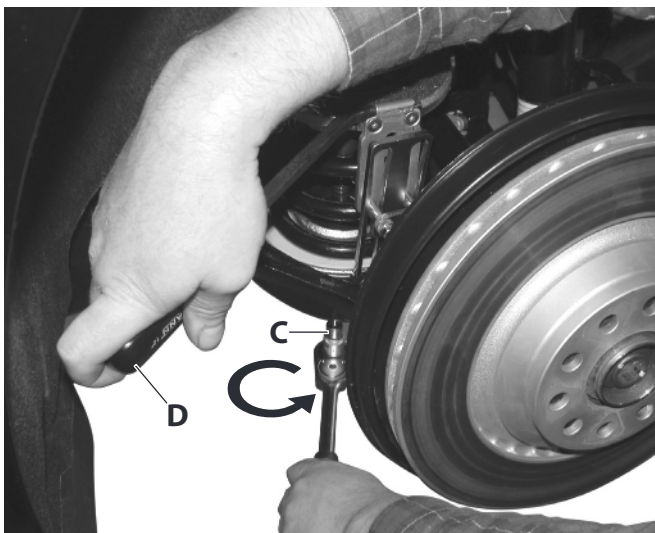
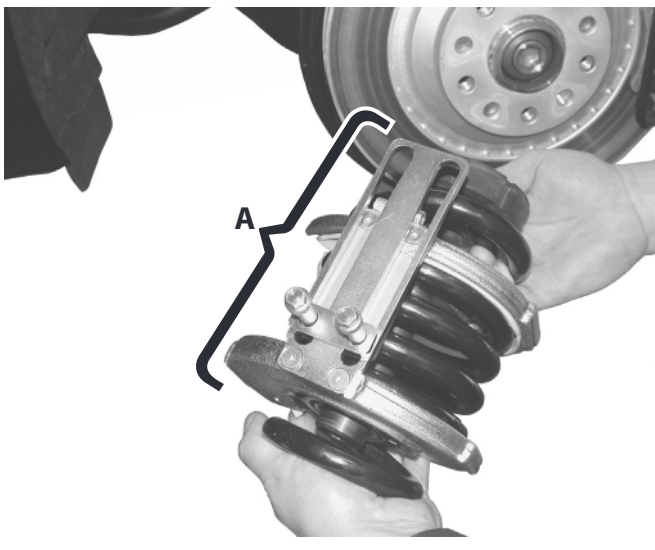


Fig. 12: Removing the mechanical clamping device "A" with the chassis spring from the axle.



7. Insert the retaining wrench "D" completely into the upper pressure plate with catch "A1". (Fig. 10)

⚠ WARNING

If the maximum load is exceeded or the spring-compressing system is used improperly, there is a risk of the mechanical clamping device "A" breaking. This can lead to severe and even fatal injuries, caused by fragments or the chassis spring being hurled about.

- **Never** exceed the maximum load of **20,000 N*** of the mechanical clamping device "A"!

* **31.000 N** when using the piston - VAS 6274/12-6 / KL-0028-3102 VAG and/or VAS 6274/12-7 / KL-0028-3101 VAG.

- The mechanical clamping device "A" **may only be operated manually** with muscular force!

8. Preload the chassis spring until the mechanical clamping device "A" rests, together with the chassis spring, without any tension in the vehicle axle.

To do this, rotate the spindle "A3" with the socket wrench "C" and a 1/2-in reversible ratchet clockwise, while you are counterholding the upper pressure plate with catch "A1" via the retaining wrench "D". (Fig. 11)

Note:

Terminate the clamping process at the latest before piston "A4" touches the lower pressure plate with swivel bearing "A2", the collar screws of the antirotation elements "A1.1" and "A2.1" have reached the limit stop, or the spring coils of the chassis spring are in contact with each other.

⚠ WARNING

The chassis spring can be released abruptly when the chassis spring is not released properly. This can cause severe and even fatal injuries.

- **Never** release the chassis spring outside the vehicle axle or the hydraulic clamping device "G" via the mechanical clamping device "A". The mechanical clamping device is too short!

9. Carefully remove the mechanical clamping device "A" with the preloaded chassis spring from the axle. (Fig. 12)

Fig. 13: Clamping the preloaded chassis spring.

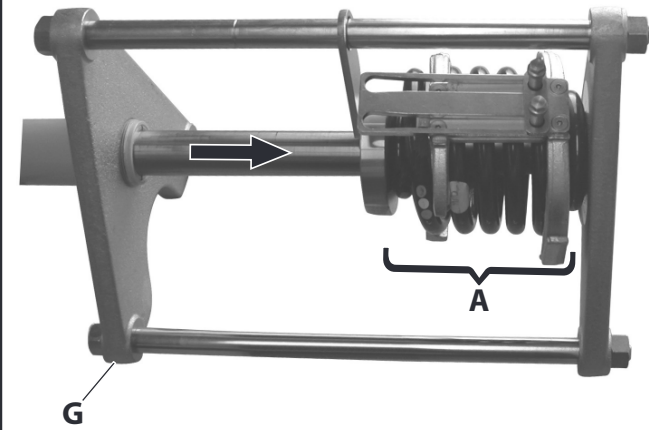


Fig. 14: Marking the position of the antirotation element "G3" and of the pressure plates "A1" and "A2".

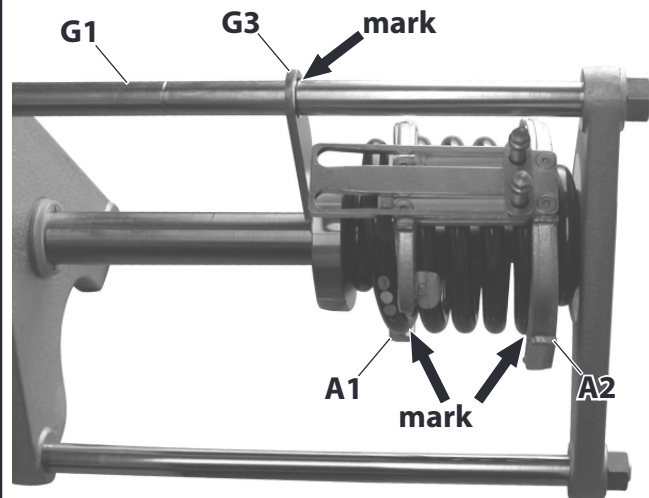
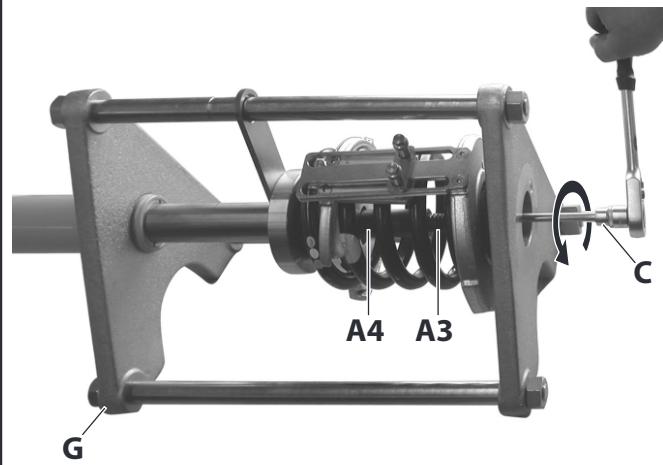


Fig. 15: Releasing the mechanical clamping device "A".



⚠ WARNING

The chassis spring can be released abruptly when the chassis spring is not inserted properly into the hydraulic clamping device "G". This can cause severe and even fatal injuries.

- **Ensure** that the chassis spring is inserted in the **correct position**, as required by the vehicle and the repair guide of the vehicle manufacturer.

- **Ensure** that the hydraulic clamping device "G" holds the chassis spring **completely and safely** at full circumference!

Using an unsuitable hydraulic pump can cause severe injuries.

- **Only operate** the spring-compressing system with approved hydraulic pumps that meet the corresponding specifications.

10. Insert the mechanical clamping device "A" with the preloaded chassis spring into the hydraulic clamping device "G" in the correct position, and clamp it **lightly** with a controlled actuation of the hydraulic pump. (**Fig. 13**)

11. Using a felt tip pen, mark the position of the antirotation element "G3" on the pull rod "G1" and the position of the pressure plates "A1" and "A2" on the chassis spring. (**Fig. 14**)

Note:

These markings make it easy to preload the chassis spring and to reinsert the pressure plates "A1" and "A2" at the same position.

These markings are merely transferred when a new chassis spring is used.

⚠ WARNING

Improper use of the spring-compressing system bears the risk of breaking the mechanical clamping device "A". This can lead to severe and even fatal injuries, caused by fragments or the chassis spring being hurled about.

- The mechanical clamping device "A" **may only be operated manually** with muscular force!

12. Unscrew the spindle "A3" with the socket wrench "C" and a 1/2-in reversible ratchet anticlockwise from the piston "A4".

Next, remove the spindle "A3" from the mechanical clamping device "A". (**Fig. 15**)

Note:

The chassis spring is now only retained by the hydraulic clamping device "G".

Fig. 16: Slowly releasing the chassis spring.

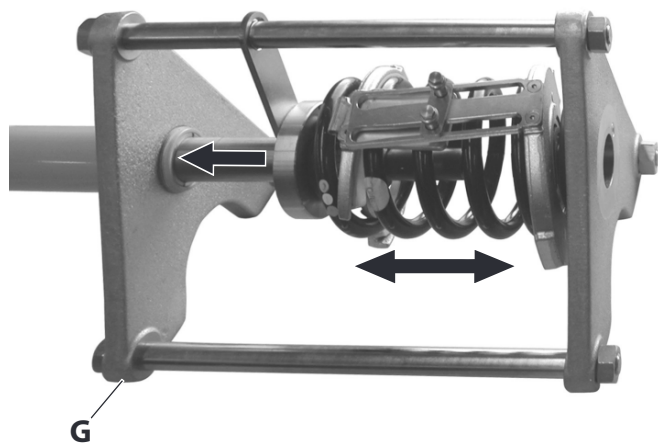


Fig. 17: Unscrewing the collar screws of the antirotation elements "A1.1" and "A2.1".

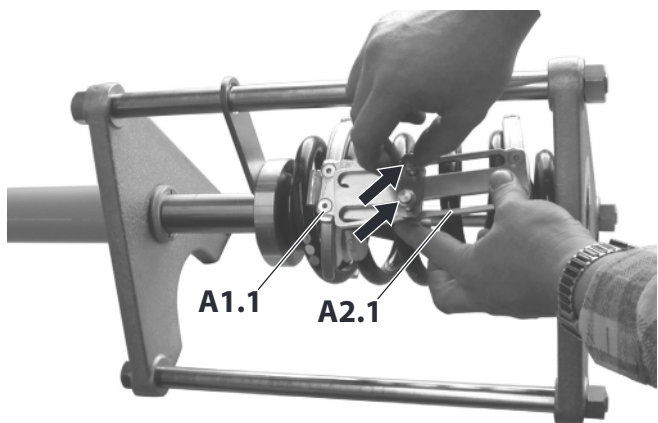
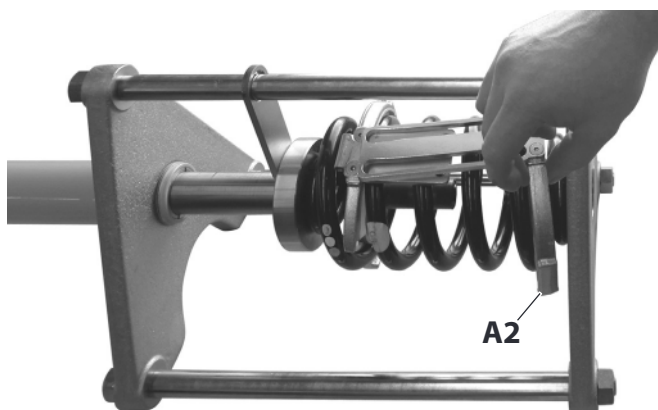


Fig. 18: Removing the pressure plate with swivel bearing "A2".



13. Slowly open the drain valve at the hydraulic pump and release the chassis spring to the extent that it is still securely held in the hydraulic clamping device "G". (**Fig. 16**)

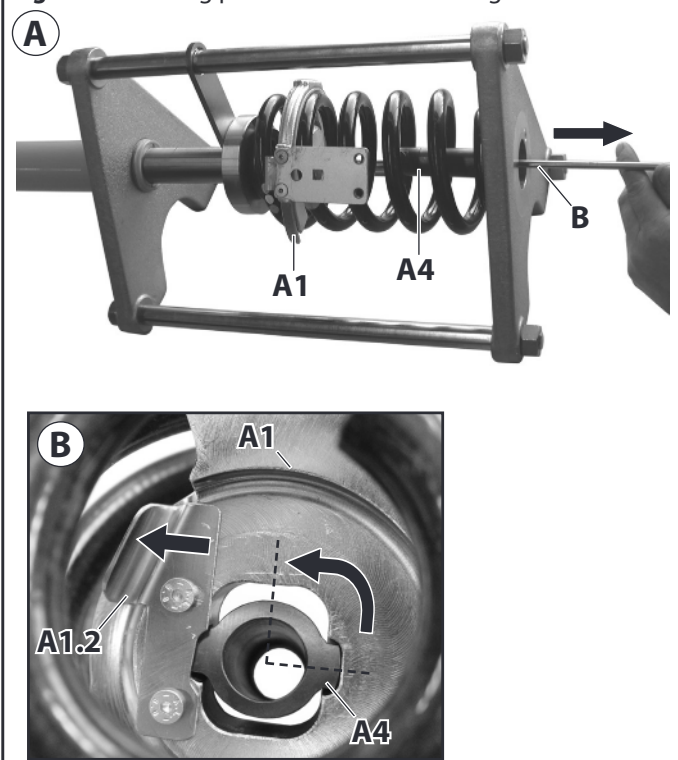
Note:

Stop the releasing process at the latest before the collar screws of the antirotation elements "A1.1" and "A2.1" have reached the limit stop.

14. Unscrew both collar screws of the antirotation elements "A1.1" and "A2.1". (**Fig. 17**)

15. Remove the pressure plate with swivel bearing "A2" from the chassis spring. (**Fig. 18**)

Fig. 19: Unlocking piston "A4" and removing it.

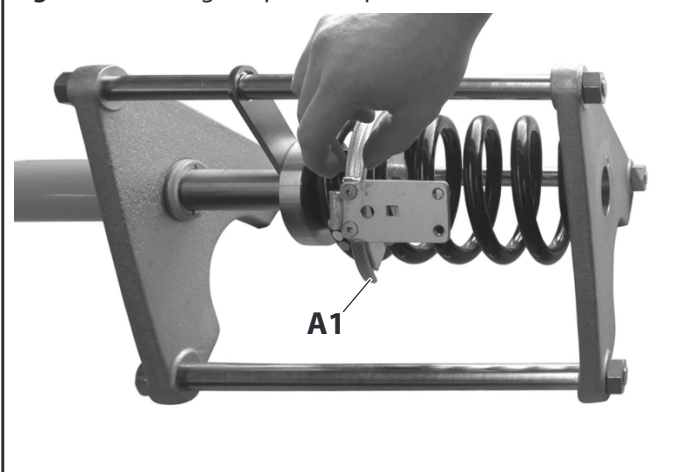


16. Screw the T handle "B" into the piston "A4". Next, unlock the retaining plate "A1.2". (Fig. 19 A+B)

Remove piston "A4" with the help of the T handle "B" from the pressure plate with catch "A1". (Fig. 19 A).

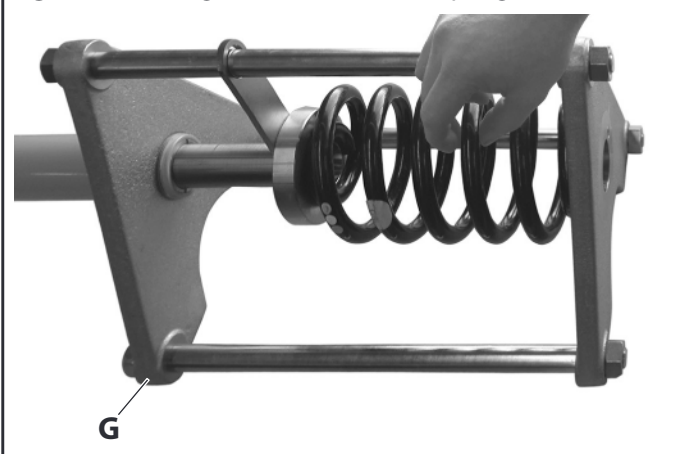
17. Remove the pressure plate with catch "A1" from the chassis spring. (Fig. 20)

Fig. 20: Removing the pressure plate with catch "A1".



18. Slowly open the drain valve on the hydraulic pump, and remove the chassis spring from the hydraulic clamping device "G". (Fig. 21)

Fig. 21: Removing the released chassis spring.



19. Carry out the repair work on the vehicle in accordance with the manufacturer specifications.

Fig. 22: Clamping the chassis spring in the correct position.

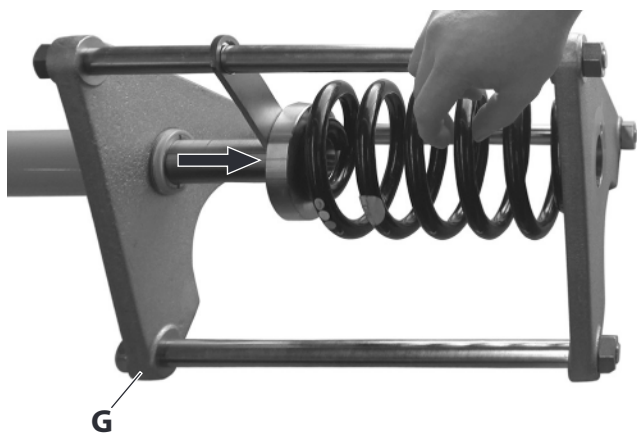


Fig. 23: Inserting the pressure plate with catch "A1".

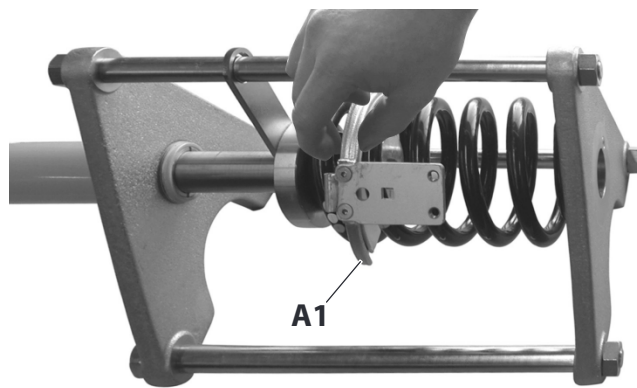
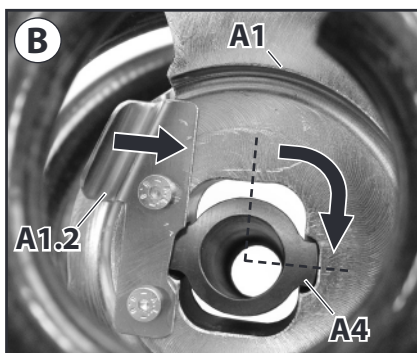
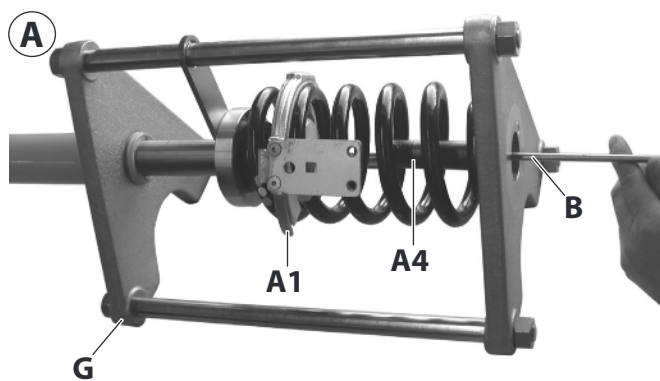


Fig. 24: Inserting and securing the piston "A4".



4.2 Installing the chassis spring

⚠ WARNING

The chassis spring can be released abruptly when the chassis spring is not inserted properly into the hydraulic clamping device "G". This can cause severe and even fatal injuries.

- **Ensure** that the chassis spring is inserted in the **correct position**, as required by the vehicle and the repair guide of the vehicle manufacturer.
- **Ensure** that the hydraulic clamping device "G" holds the chassis spring **completely and safely** at full circumference!

1. Insert the chassis spring into the hydraulic clamping device "G" in the correct position, and clamp it **lightly** with a controlled actuation of the hydraulic pump. (**Fig. 22**)

2. Insert the pressure plate with catch "A1" in the upper section of the chassis spring. (**Fig. 23**)

⚠ WARNING

The chassis spring can be released abruptly when the piston "A4" is not installed properly. This can cause severe and even fatal injuries.

- The piston "A4" **must** completely and properly engage in the catch of the pressure plate "A1".
- After the piston "A4" has been inserted, it **must always** be secured with the retaining plate "A1.2" against falling out.

3. Guide the piston "A4" with the T handle "B" through the bore in the hydraulic clamping device "G" into the upper pressure plate with catch "A1". (**Fig. 24 A+B**)

Rotate the piston "A4" through 90° to insert it into the catch of the pressure plate "A1", and secure it with the retaining plate "A1.2" against falling out. (**Abb. 24 B**).

4. Screw the T handle "B" out of the piston "A4", and remove it subsequently from the hydraulic clamping device "G".

Fig. 25: Inserting the pressure plate with swivel bearing "A2".

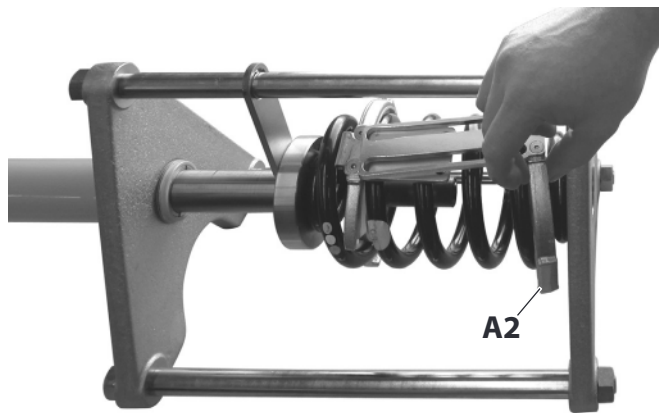


Fig. 26: Rotating pressure plates "A1" and "A2" to position, and screwing the antirotation elements "A1.1" and "A2.1" together.

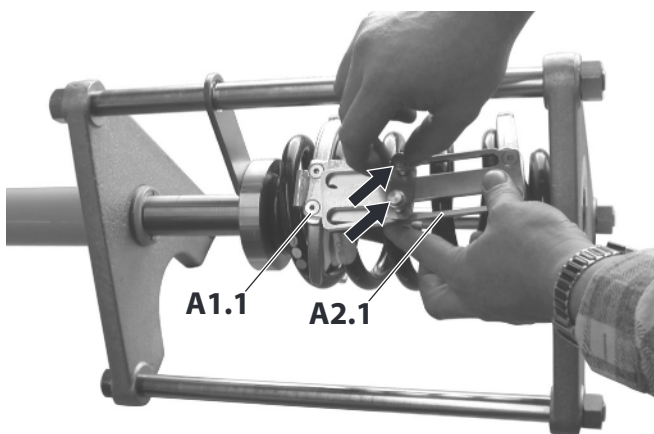
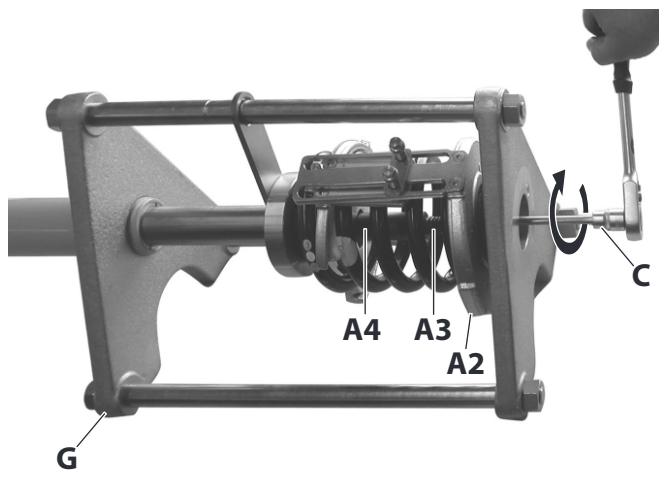


Fig. 27: Screwing spindle "A3" into the piston "A4".



5. Insert the pressure plate with swivel bearing "A2" into the bottom section of the chassis spring. (Fig. 25)

⚠ WARNING

The chassis spring can be released abruptly when the antirotation elements "A1.1" and "A2.1" are not installed properly. This can cause severe and even fatal injuries.

- The chassis spring **may only** be tensioned when both antirotation elements "A1.1" and "A2.1" are properly secured on the pressure plates "A1" and "A2" and are screwed together with the two collar screws.

6. Rotate pressure plates "A1" and "A2" in the chassis spring such that they match the felt tip pen markings made before (see Chapter 4.1 / para 11.), and that the antirotation elements "A1.1" and "A2.1" are on top of each other.

Next, connect the antirotation elements "A1.1" and "A2.1" with the two collar screws with each other, and tighten the collar screws with 5 Nm. (Fig. 26)

⚠ WARNING

Improper use of the spring-compressing system bears the risk of breaking the mechanical clamping device "A". This can lead to severe and even fatal injuries, caused by fragments or the chassis spring being hurled about.

- The mechanical clamping device "A" **may only be operated manually** with muscular force!

CAUTION

Spindle "A3" and piston "A4" can be damaged.

- Screwing spindle "A3" into the thread of the piston "A4" **must** be easy, not requiring any force.
- Use **only** molybdenum disulfide paste as lubricant for the spindle "A3"! (e.g. KL-0014-0030)

7. Guide the spindle "A3" with the socket wrench "C" through the bore into the hydraulic clamping device "G". Next, screw spindle "A3" into the piston "A4" until it is in a light contact with the pressure plate with swivel bearing "A2". (Fig. 27)

Fig. 28: Inserting the centering sleeve "F" .

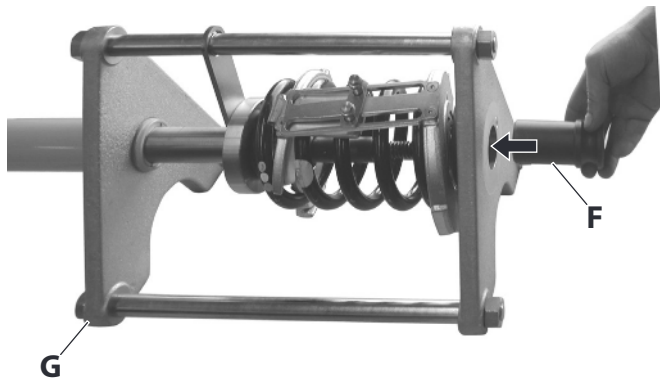


Fig. 29: **Slowly** releasing the chassis spring, while turning the spindle "A3" to follow.

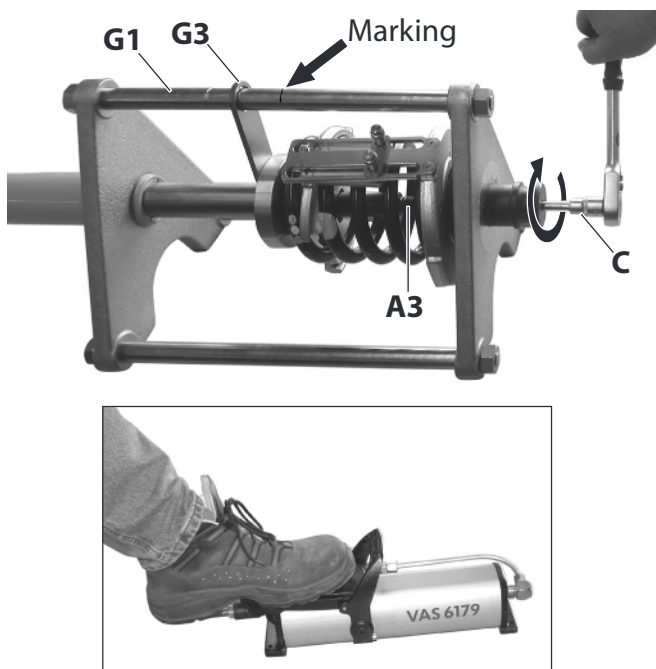
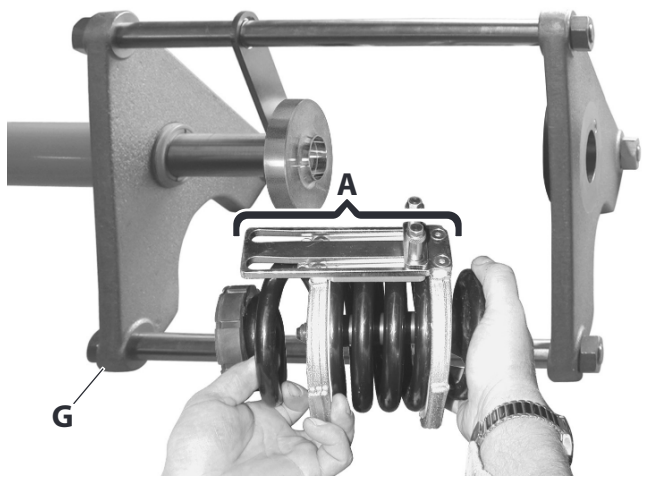


Fig. 30: Removing the mechanical clamping device "A" with the preloaded chassis spring.



- As required by the vehicle, insert centering sleeve "F" into the hydraulic clamping device "G" such that the flange of the spindle "A3" is guided in the centering sleeve "F". (Fig. 28)

⚠ WARNING

Using an unsuitable hydraulic pump can cause severe injuries.

- **Only operate** the spring-compressing system with approved hydraulic pumps that meet the corresponding specifications.
- **Always** wear your personal protective equipment (such as protective goggles) when you use the spring-compressing system.

- Actuate the hydraulic pump in a controlled way, and **slowly** preload the chassis spring. At the same time, rotate the spindle "A3" with the socket wrench "C" clockwise to the extent that the antirotation element "G3" is aligned with the previously made felt tip penmarking (see Chapter 4.1 / para 11.) on the pull rod "G1". (Fig. 29)

⚠ WARNING

Improper use of the spring-compressing system bears the risk of breaking the mechanical clamping device "A". This can lead to severe and even fatal injuries, caused by fragments or the chassis spring being hurled about.

- **The mechanical clamping device "A" may only be operated manually** with muscular force!

- Next, preload the chassis spring via spindle "A3" with the help of the socket wrench "C" to the extent that the chassis spring is almost free of tension in the hydraulic clamping device "G".

Note:

Terminate the clamping process at the latest before piston "A4" touches the lower pressure plate with swivel bearing "A2", the collar screws of the antirotation elements "A1.1" and "A2.1" have reached the limit stop, or the spring coils of the chassis spring are in contact with each other.

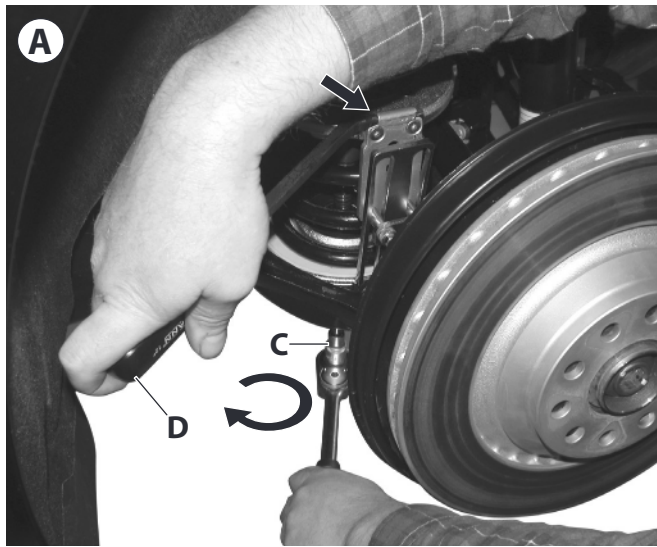
⚠ WARNING

The chassis spring can be released abruptly when the chassis spring is not released properly. This can cause severe and even fatal injuries.

- **Never** release the chassis spring outside the vehicle axle or the hydraulic clamping device "G" via the mechanical clamping device "A". The mechanical clamping device is too short!

- Remove the centering sleeve "F". Next open the drain valve on the hydraulic pump slowly and remove the mechanical clamping device "A" with the preloaded chassis spring from the hydraulic clamping device "G". (Fig. 30)

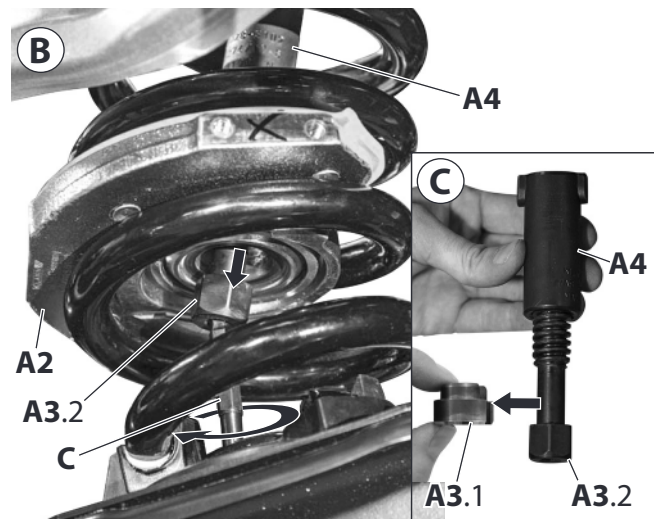
Fig. 31 Inserting the preloaded chassis spring in the correct position and releasing the chassis spring in the axle.



12. Insert the preloaded chassis spring in accordance with the manufacturer specifications in the correct position. (Fig. 31 A)

13. Insert the retaining wrench "D" completely into the upper pressure plate with catch "A1". (Fig. 31 A)

i When using VAS6274/15A (KL-0028-13 A VAG):



⚠ WARNING

Improper use of the spring-compressing system bears the risk of breaking the mechanical clamping device "A". This can lead to severe and even fatal injuries, caused by fragments or the chassis spring being hurled about.

• *The mechanical clamping device "A" may only be operated manually with muscular force!*

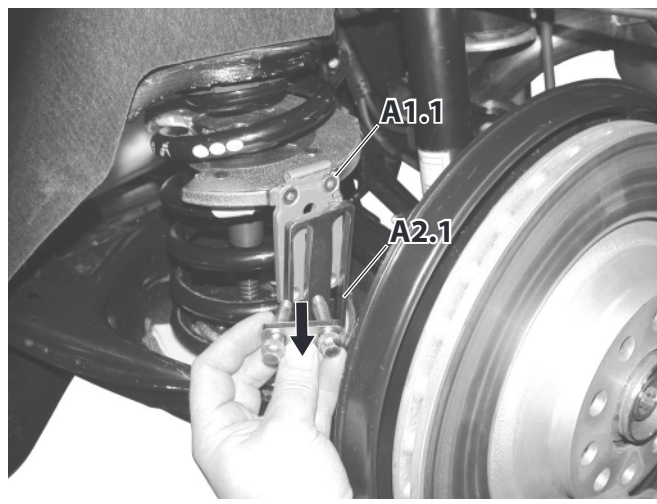
14. Rotate the spindle "A3" with the socket wrench "C" and a 1/2-in reversible ratchet anticlockwise. At the same time, counterhold the upper pressure plate with catch "A1" via the retaining wrench "D" and release the chassis spring to the extent that spindle "A3" can be removed through the bore in the bottom transverse link. (Fig. 31 A)

Note:

When using VAS6274/15A (KL-0028-13 A VAG), use the socket wrench "C" and a 1/2" reversible ratchet to loosen the chassis spring via spindle "A3.2" (Fig. 31 B) until the spindle attachment "A3.1" can be removed from the spindle "A3.2". (Fig. 31 C)

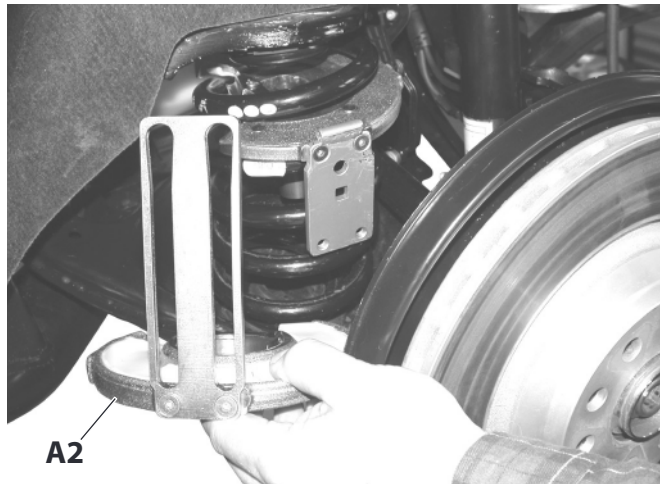
Subsequently, screw spindle "A3.2" **without** the spindle attachment "A3.1" as far as possible into piston "A4".

Fig. 32: Unscrewing the collar screws of the antirotation elements "A1.1" and "A2.1".



15. Unscrew both collar screws of the antirotation elements "A1.1" and "A2.1". (Fig. 32)

Fig. 33: Removing the pressure plate with swivel bearing "A2".



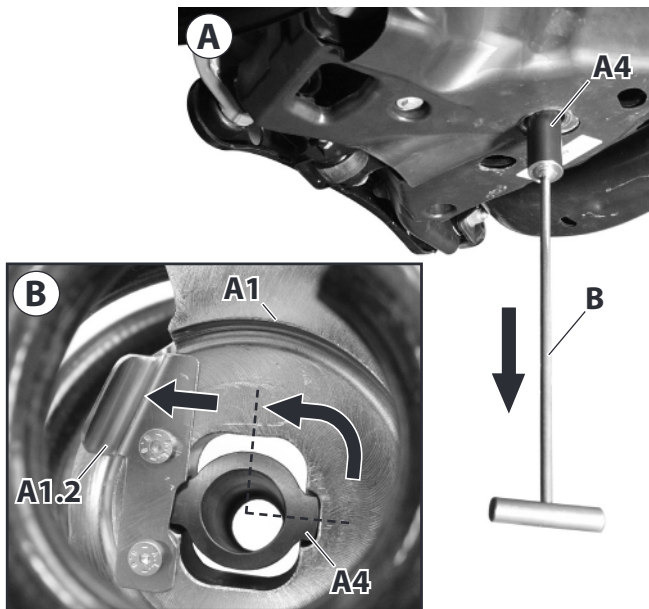
16. Rotate the pressure plate with swivel bearing "A2" in the chassis spring upwards, and remove it. **(Fig. 33)**

Note:

If space restrictions do not allow the pressure plate with swivel bearing "A2" to be rotated upwards and to be removed, you can unscrew the antirotation element "A2.1", rotate the pressure plate with swivel bearing "A2" upwards and remove it.

Next, screw the antirotation element "A2.1" back on and tighten it with **10 Nm**.

Fig. 34: Unlocking piston "A4" and removing it.



17. Screw the T handle "B" into the piston "A4". Next, unlock the retaining plate "A1.2". **(Fig. 34 A+B)**

Remove piston "A4" with the help of the T handle "B" from the pressure plate with catch "A1". **(Fig. 34 A)**.

Note:

When using **VAS6274/15A** (KL-0028-13 A VAG), you **must** manually remove piston "A4" together with spindle "A3.2" through the spring coils. **(Fig. 34 D)** Subsequently, put the spindle attachment "A3.1" in the correct position back on spindle "A3.2". **(Fig. 34 C)**

i When using **VAS6274/15A** (KL-0028-13 A VAG):

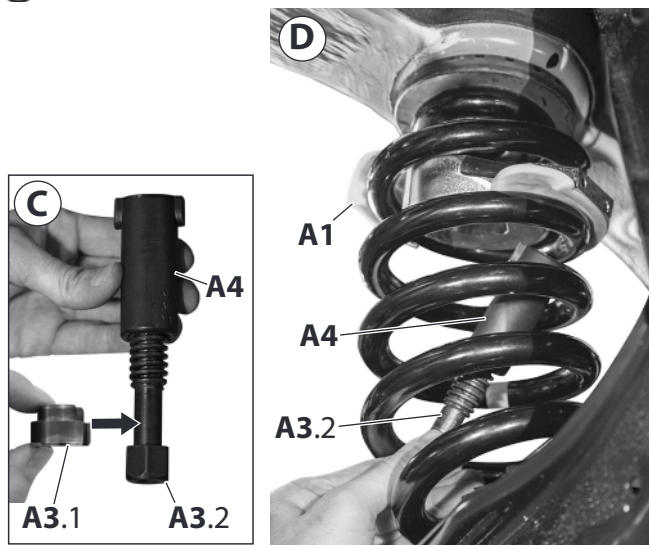
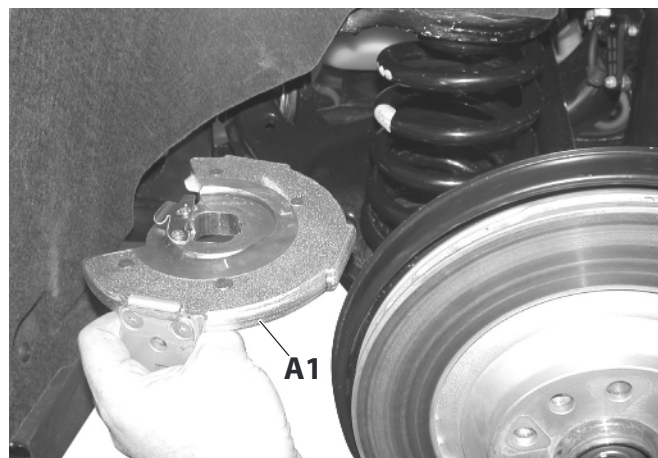


Fig. 35: Removing the pressure plate with catch "A1".



18. Rotate the pressure plate with catch "A1" in the chassis spring downwards, and remove it. (Fig. 35)

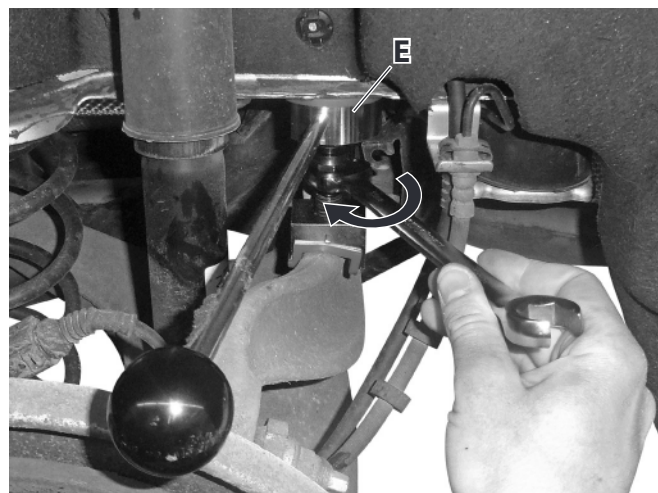
Note:

If space restrictions do not allow the pressure plate with catch "A1" to be rotated downwards and to be removed, you can unscrew the antirotation element "A1.1", rotate the pressure plate with catch "A1" downwards and remove it.

Next, screw the antirotation element "A1.1" back on and tighten it with **10 Nm**.

19. Using a 19-mm fork wrench, release the spreader "E" and remove it. (Fig. 36)

Fig. 36: Removing the spreader "E".



20. Complete the vehicle in accordance with the manufacturer specifications. (Fig. 37)

Fig. 37: Complete the vehicle in accordance with the manufacturer specifications.



5. Care and storage

CAUTION

Benzene and chemical solvents can damage plastic parts. After each use, clean all parts with a clean cloth only.

To protect them against corrosion, lightly rub all metal parts after use with an anti-corrosion oil or wax that is suitable for tool care.

Store the spring-compressing system at a dry and clean location.

6. Service and maintenance

If necessary, clean the spindle "A3" and lubricate it with molybdenum disulfide paste (e.g. KL-0014-0030).

⚠ WARNING

Improper repair of the spring-compressing system can cause severe and even fatal injuries.

Only specifically trained specialists are allowed to check and repair the spring-compressing system if any damage is detected on the spring-compressing system.

Please contact **GEDORE TOOLS, INC.**

7187 Bryhawke Circle, Suite 700 // North Charleston, SC 29418, USA

Phone: +1-843 / 225 50 15

Fax +1-843 / 225 50 20

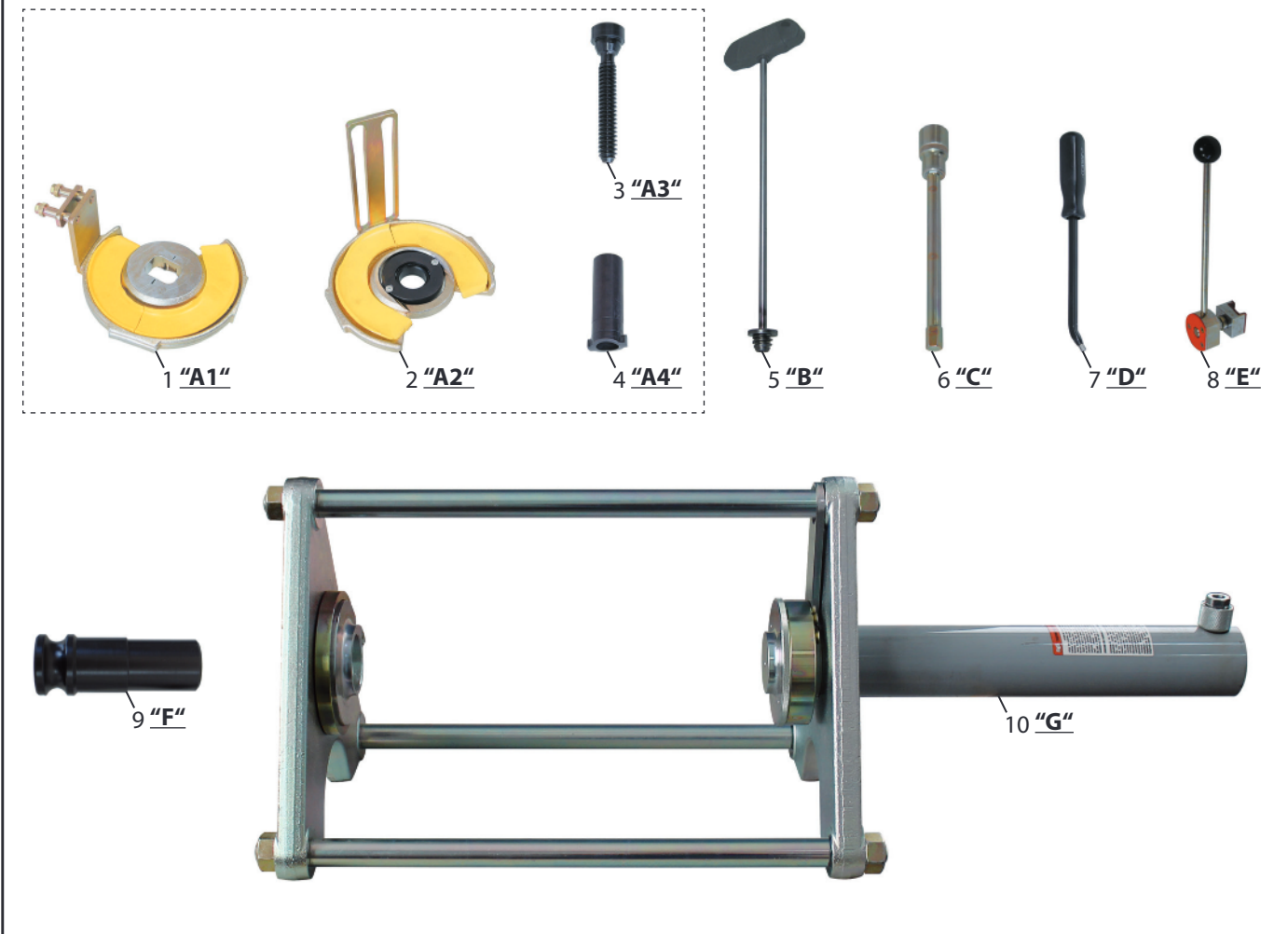
E-mail: info@gedoretools.com

7. Environmentally compliant disposal

Dispose of tools and packaging material in accordance with legal requirements in an environmentally friendly manner.

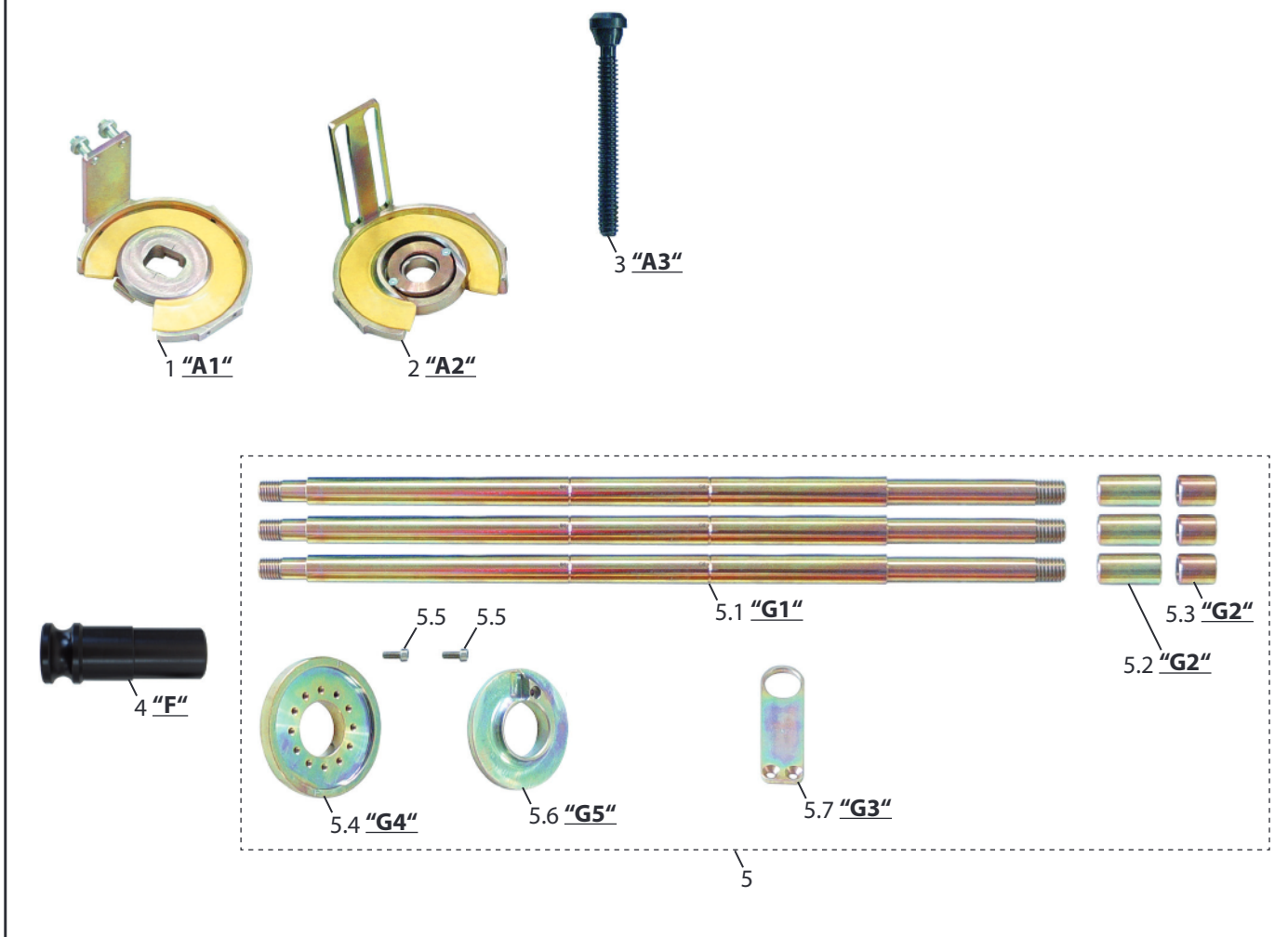
8. Scope of delivery

VAS 6274 (KL-0028-1 VAG) - spring-compressing system Audi A6 (C6)



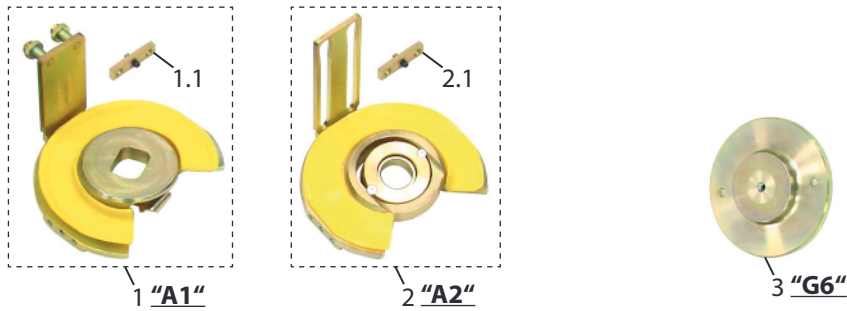
Item	VAS no.	GAM no.	Description	Quantity
-	VAS 6274	KL-0028-1 VAG	Spring compressors system Audi A6 (C6)	1
	<i>consisting of:</i>			
1	VAS 6274/1	KL-0028-1120 VAG	Pressure plate with catch	1
2	VAS 6274/2	KL-0028-1110 VAG	Pressure plate with swivel bearing	1
3	VAS 6274/3	KL-0028-1002 VAG	Spindle	1
4	VAS 6274/4	KL-0028-1001 VAG	Piston	1
5	VAS 6274/5	KL-0028-1903 VAG	T handle	1
6	VAS 6274/6	KL-0028-1901 VAG	Socket wrench	1
7	VAS 6274/7	KL-0028-1902 VAG	Retaining wrench	1
8	VAS 6274/8	KL-0028-400 VAG	Spreader	1
9	-	KL-0028-2005	Centering sleeve	1
10	VAS 6274/9	KL-0028-200 VAG	Hydraulic clamping device	1
without figure	-	KL-0028-500 VAG	Plastic suitcase	1

VAS 6274/10 (KL-0028-7 VAG) - supplementary kit Audi A4 (8K) / A5 (8T)



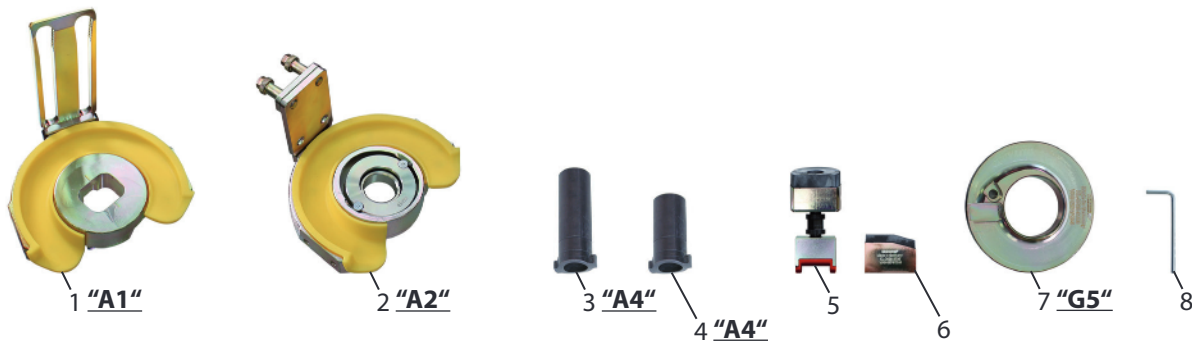
Item	VAS no.	GAM no.	Description	Quantity	
-	VAS 6274/10	KL-0028-7 VAG	Supplementary kit Audi A4 (8K) / A5 (8T)	1	
	<i>consisting of:</i>				
1	VAS 6274/10-2	KL-0028-7120 VAG	Pressure plate with catch	1	
2	VAS 6274/10-1	KL-0028-7110 VAG	Pressure plate with swivel bearing	1	
3	VAS 6274/10-4	KL-0028-7002 VAG	Spindle	1	
4	-	KL-0028-2105	Centering sleeve	1	
5	VAS 6274/10-3	KL-0028-2104 M	Conversion kit for hydraulic clamping device	1	
	5.1	-	KL-0028-2104	Pull rod	3
	5.2	-	KL-0028-2110	Spacer sleeve 50 mm	3
	5.3	-	KL-0028-2111	Spacer sleeve 30 mm	3
	5.4	-	KL-0028-2112	Rotating disc	1
	5.5	-	KL-1280-2401-6	Cheese-head screw M6 x 14 mm	2
	5.6	-	KL-0028-2113	Spring retainer	1
	5.7	-	KL-0028-2007 A	Antirotation element	1
without figure	-	KL-0028-713 VAG	Plastic suitcase	1	

VAS 6274/11 (KL-0028-8 VAG) - supplementary kit Audi Q5 (8R)



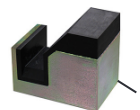
Item	VAS no.	GAM no.	Description	Quantity
-	VAS 6274/11	KL-0028-8 VAG	Supplementary kit Audi Q5 (8R)	1
	<i>consisting of:</i>			
1	VAS 6274/11-2	KL-0028-8120 VAG	Pressure plate with catch	1
1.1	VAS 6274/11-4	KL-0028-8119 VAG	Spacer	1
2	VAS 6274/11-1	KL-0028-8110 VAG	Pressure plate with swivel bearing	1
2.1	VAS 6274/11-4	KL-0028-8119 VAG	Spacer	1
3	VAS 6274/11-3	KL-0028-2215	Adapter for retainer plate	1
without figure	-	KL-0028-813 VAG	Plastic suitcase	1

VAS 6274/12 (KL-0028-31 VAG) - supplementary kit Audi Q7 (4M), VW Touareg, Porsche Cayenne (PO536)



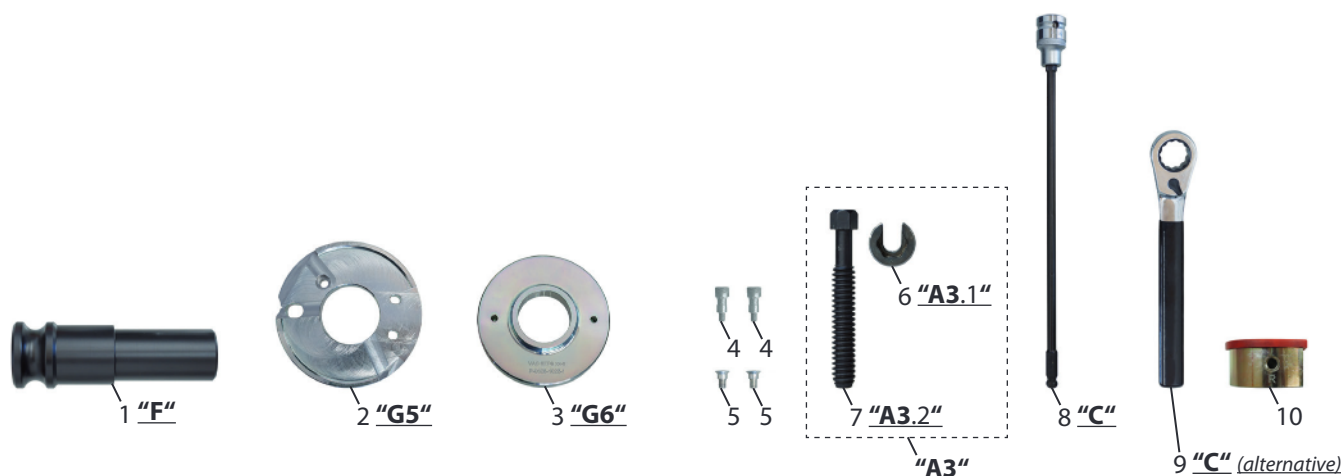
Item	VAS no.	GAM no.	Description	Quantity
-	VAS 6274/12	KL-0028-31 VAG	Supplementary kit Audi Q7 (4M), VW Touareg, Porsche Cayenne (PO536)	1
	<i>consisting of:</i>			
1	VAS 6274/12-2	KL-0028-3120 VAG	Pressure plate with catch	1
2	VAS 6274/12-1	KL-0028-3110 VAG	Pressure plate with swivel bearing	1
3	VAS 6274/12-7	KL-0028-3101 VAG	Piston (89 mm)	1
4	VAS 6274/12-6	KL-0028-3102 VAG	Piston (69 mm)	1
5	VAS 6274/12-4	KL-0028-3105	Spreader (without handrail)	1
6	VAS 6274/12-5	KL-0028-3106 VAG	Supporting plate (for spreader "E")	1
7	VAS 6274/12-3	KL-0028-3103 VAG	Spring retainer	1
8	-	GEDORE 42 3	3-mm angle screwdriver	1
without figure	-	KL-0028-313 VAG	Plastic suitcase	1

VAS 6274/13 (KL-0028-310 VAG) - supplement Audi Q5 (FY)



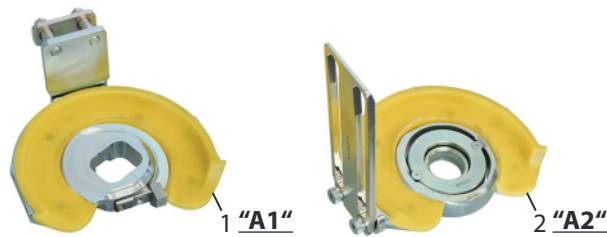
Item	VAS no.	GAM no.	Description	Quantity
-	VAS 6274/13	KL-0028-310 VAG	Supplement Audi Q5 (FY)	1
	<i>consisting of:</i>			
1	VAS 6274/13	KL-0028-3107 VAG	Supporting plate (for spreader "E")	1

VAS 6274/15A (KL-0028-13 A VAG) - supplement VW ID.3 1st (MEB platform)



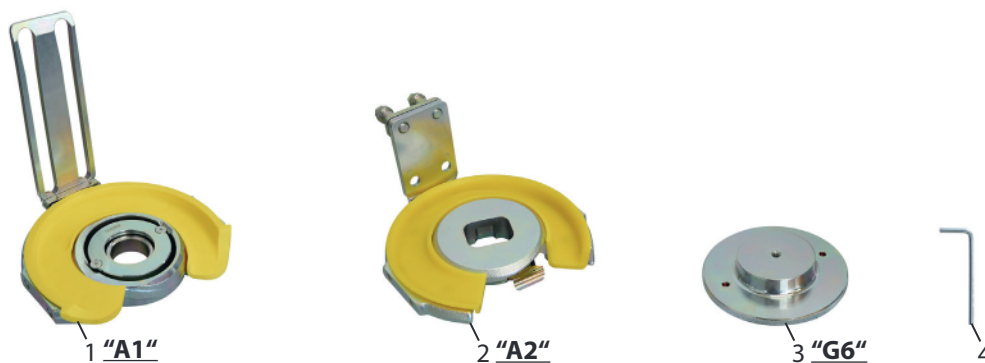
Item	VAS no.	GAM no.	Description	Quantity
-	VAS 6274/15A	KL-0028-13 A VAG	Supplement VW ID.3 1 st (MEB platform)	1
	<i>consisting of:</i>			
1	VAS 6274/15-7	KL-0028-1307	Centering sleeve	1
2	VAS 6274/15-6A	KL-0028-1306 A VAG	Spring retainer centering disc	1
3	VAS 6274/15-5	KL-0028-1305 VAG	Adapter for spring retainer with magnet	1
4	-	KL-0028-1413	M6 knurled screw (spare part) with collar (for pressure plate "A2")	2
5	-	KL-0028-3124	M6x13.5 countersunk screw (spare part) with collar (for pressure plate "A1")	2
6	VAS 6274/15-2A	KL-0028-1302 A VAG	Spindle attachment with magnet	1
7	VAS 6274/15-1A	KL-0028-1301 A VAG	Spindle	1
8	VAS 6274/15-3	KL-0028-1303 VAG	8-mm socket wrench with ball head	1
9	VAS 6274/15-4	KL-0028-1304 VAG	19-mm 15° ring ratchet wrench	1
10	VAS 6274/15-8	KL-0028-1308 VAG	Supporting plate (for spreader "E")	1
without figure	-	KL-0028-13 A/80 Z	USB flash drive (<i>OPERATING INSTRUCTIONS</i>)	1
	-	KL-0028-13/81 Z	Leaflet for USB flash drive	1
	-	KL-0028-139 A VAG	Plastic suitcase	1

VAS 6274/16 (KL-0028-14 VAG) - Pressure plates VW ID.3 1st (MEB platform)



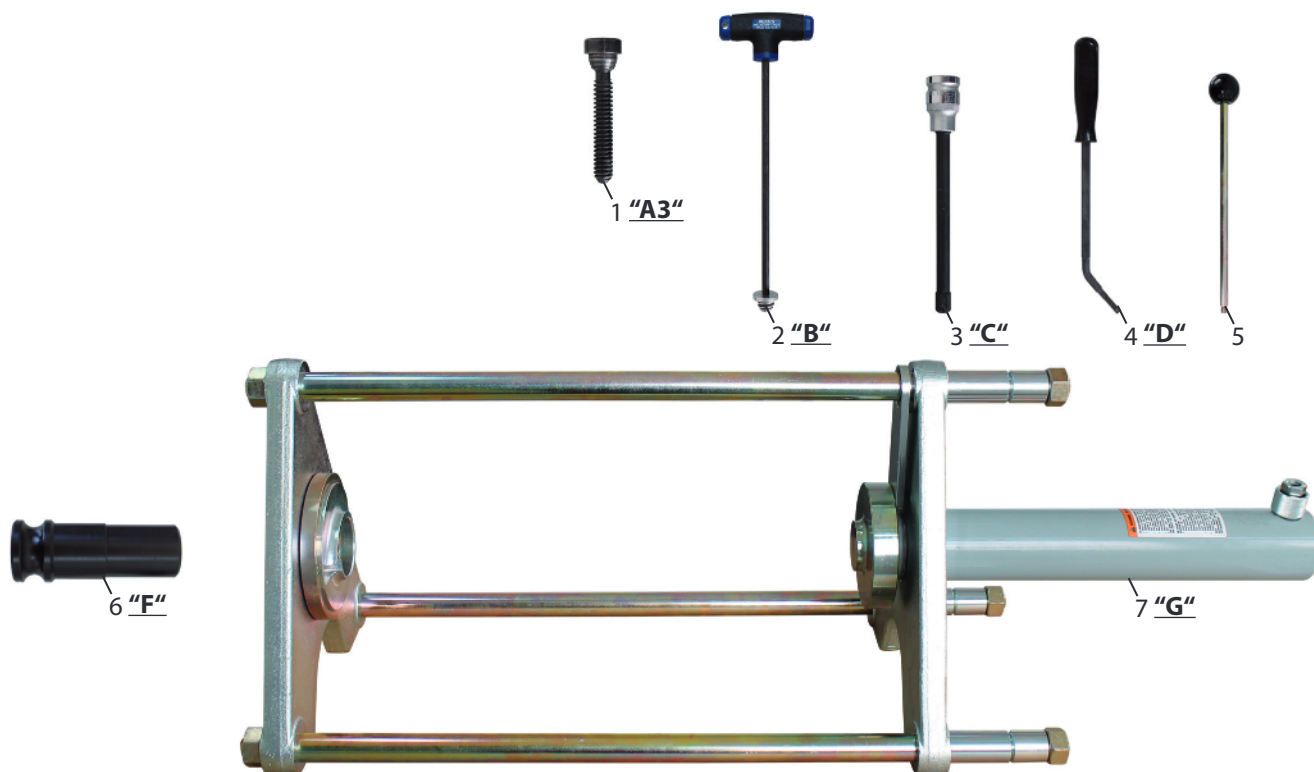
Item	VAS no.	GAM no.	Description	Quantity
-	VAS 6274/16	KL-0028-14 VAG	Pressure plates VW ID.3 1st (MEB platform)	1
	<i>consisting of:</i>			
1	VAS 6274/16-2	KL-0028-1420 VAG	Pressure plate with catch	1
2	VAS 6274/16-1	KL-0028-1410 VAG	Pressure plate with swivel bearing	1
without figure	-	KL-0028-14/80 Z	USB flash drive (OPERATING INSTRUCTIONS)	1
	-	KL-0028-13/81 Z	Leaflet for USB flash drive	1
	-	KL-0028-149 VAG	Plastic suitcase	1

VAS 6274/17 (KL-0028-15 VAG) - Pressure plates Audi Q6



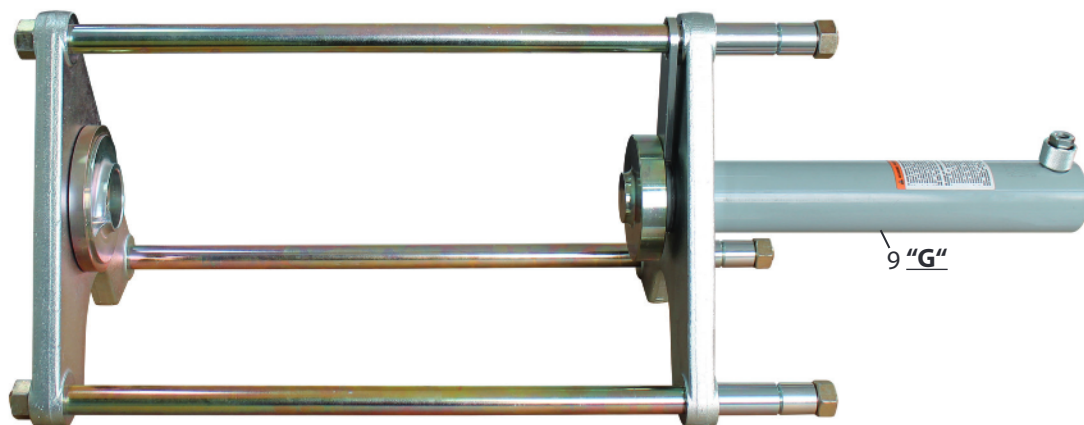
Item	VAS no.	GAM no.	Description	Quantity
-	VAS 6274/17	KL-0028-15 VAG	Pressure plates Audi Q6	1
	<i>bestehend aus:</i>			
1	VAS 6274/17-2	KL-0028-1520 VAG	Pressure plate with catch	1
2	VAS 6274/17-1	KL-0028-1510 VAG	Pressure plate with swivel bearing	1
3	VAS 6274/17-3	KL-0028-1515	Adapter for retainer plate Ø54 mm	1
4	-	GEDORE 42 3	3-mm angle screwdriver	1
without figure	-	KL-0028-15/80 Z	USB flash drive (OPERATING INSTRUCTIONS)	1
	-	KL-0028-13/81 Z	Leaflet for USB flash drive	1
	-	KL-0028-159 VAG	Plastic suitcase	1

VAS 6274/VW (KL-0028-12 VAG) - spring-compressing system VW Touareg



Item	VAS no.	GAM no.	Description	Quantity
-	VAS 6274/VW	KL-0028-12 VAG	Spring compressors system VW Touareg	1
	<i>consisting of:</i>			
1	VAS 6274/3	KL-0028-1002 VAG	Spindle	1
2	VAS 6274/5	KL-0028-1903 VAG	T handle	1
3	VAS 6274/6	KL-0028-1901 VAG	Socket wrench	1
4	VAS 6274/7	KL-0028-1902 VAG	Retaining wrench	1
5	VAS 6274/14	KL-0028-401 VAG	Handrail (for spreader "E")	1
6	VAS 6274/10-5	KL-0028-2105	Centering sleeve	1
7	VAS 6274/9A	KL-0028-120 VAG	Hydraulic clamping device	1
without figure	-	KL-0028-123 VAG	Plastic suitcase	1

VAS 6907 (KL-0028-9 VAG) - spring-compressing system Porsche Macan



Item	VAS no.	GAM no.	Description	Quantity
-	VAS 6907	KL-0028-9 VAG	Spring-compressing system Porsche Macan	1
	<i>consisting of:</i>			
1	VAS 6907/1	KL-0028-9110 VAG	Pressure plate with catch	1
2	VAS 6907/2	KL-0028-9120 VAG	Pressure plate with swivel bearing	1
3	VAS 6907/3	KL-0028-9130 VAG	Spindle	1
4	VAS 6907/4	KL-0028-9150 VAG	Piston	1
5	VAS 6907/6	KL-0028-9180 VAG	T handle	1
6	VAS 6907/5	KL-0028-9140 VAG	Socket wrench	1
7	VAS 6907/7	KL-0028-9170 VAG	Retaining wrench	1
8	VAS 6907/8	KL-0028-9160 VAG	Spreader	1
9	VAS 6907/9	KL-0028-230 VAG	Hydraulic clamping device	1
without figure	-	KL-0028-9190	Plastic suitcase	1

9. Assembly instructions for hydraulic cylinder

KL-0028-300



KL-0028-300 - hydraulic cylinder with hydraulic coupling

Specifications:

Max. operating pressure: 700 bars
 Max. pressure force: 10 tonnes
 Max. stroke: 257 mm
 Overall height retracted: 349 mm
 External diameter: 57 mm
 Oil volume: 373 cc
 Fastening thread on the cylinder tube: 2 ¼ in -14 UNS
 Fastening thread in the piston: 1 in-8 UNC
 Hydraulic connection thread at the cylinder tube: G ¼ in
 Hydraulic coupling, matching for hydraulic pump: VAS 6179

Technical requirements for the hydraulic pump:

Max. admissible feed rate: 750 cc/min
 Min. admissible feed rate: 170 cc/min
 Max. admissible operating pressure: .. 70 MPa / 700 bars / 10150 psi

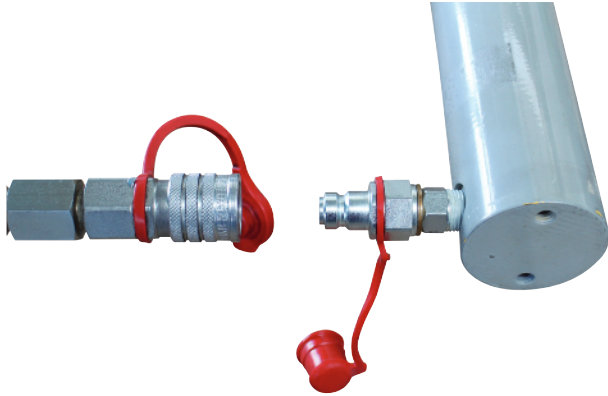
i Regulations and tips

- The connection of a hydraulic pump and a hydraulic cylinder with a hydraulic hose produces a machine which, due to its high pressure force, requires careful operation to avoid accidents.
- Carefully read all associated instructions, warnings and safety instructions for the operation of the hydraulic cylinder.
- The technical requirements of the hydraulic pump and the hydraulic cylinder with equipment must match. *(See above: Technical requirements for the hydraulic pump)*
- When operating the hydraulic cylinder, always use your personal protective equipment such as safety goggles, gloves and safety shoes.
- Work with hydraulic tools may only be carried out by qualified personnel, taking the instructions and safety regulations into account!
- Prior to each use, ensure that the hydraulic oil level and the tightness of the hydraulic system are checked for damage or missing parts.
- Clean the hydraulic couplings before each connection and ensure that they are correctly seated.
- The hydraulic cylinder may only be filled and operated with HLP 32 hydraulic oil.
- Never attach the hydraulic hose to an extended hydraulic cylinder or disconnect it from an extended hydraulic cylinder.
- Never carry the hydraulic equipment on the hydraulic hose during transport.
- Maintenance and repair work on the hydraulic cylinder may only be carried out when the system is depressurised.

i Behaviour in an emergency:

- Shut down the hydraulic pump immediately and secure it against unintentional operation.
- Remove injured person(s) from the danger zone.
- Initiate first aid measures and inform the doctor responsible.

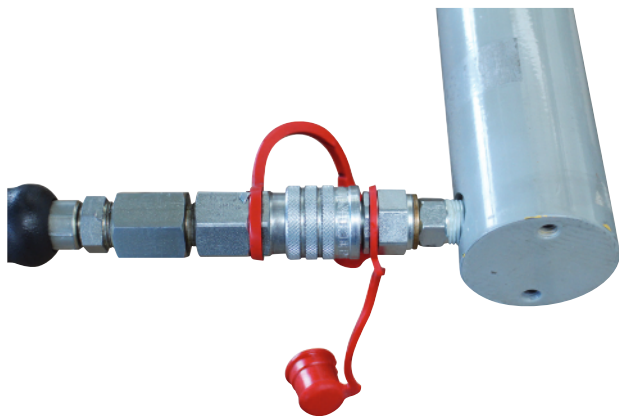
Remove the dust-protection caps and check the hydraulic couplings for contamination.



Connect the hydraulic hose to the hydraulic cylinder.



Hydraulic hose is fully connected.



Preparing the hydraulic system

1. Remove the dust-protection caps from the hydraulic couplings. Next, check for contamination. Clean if necessary.

Note:

Contaminated hydraulic couplings can damage the hydraulic system and lead to malfunctions.

2. Plug the hydraulic coupling of the hose on the hydraulic coupling of the hydraulic cylinder. Pull back the locking mechanism of the coupling to allow it to engage.

The hydraulic coupling is fully engaged when the locking mechanism of the coupling snaps back into its home position and the hydraulic hose can no longer be pulled out of the coupling.

Note:

Never connect the hydraulic hose with pump to an extended hydraulic cylinder. When releasing the hydraulic cylinder, this can cause the hydraulic pump to overflow and hydraulic oil to emerge.

Bleeding the hydraulic system

When hydraulic components are connected, air can accumulate in the system, which can lead to a malfunction.

To bleed the hydraulic system, fully extend and retract the cylinder without load 2 ... 3 times.

Note:

During this process, the hydraulic pump must be positioned higher than the cylinder. Turn the hydraulic pump slightly downwards so that the air can flow back into the oil tank of the pump.

It is essential to observe the specifications of the pump manufacturer!

Checking the hydraulic oil level

Check the filling level of the hydraulic oil at the pump in accordance with the manufacturer's instructions. Top up if necessary.

Note:

Always check the filling level when the hydraulic cylinder is retracted and without pressure. Only use **HLP 32 hydraulic oil** as specified for the hydraulic cylinder.

10. EC DECLARATION OF INCORPORATION / UK DECLARATION OF INCORPORATION**EC DECLARATION OF INCORPORATION (Translation)**

in accordance with EC Directive 2006/42/EC, Annex II B

Name and address of the manufacturer

GEDORE Automotive GmbH
Breslauer Straße 41
78166 Donaueschingen, GERMANY

We hereby declare that the **incomplete machine** described below

Designation: Hydraulic clamping device

Series / type: VAS 6274/9 – KL-0028-200 // VAS 6274/9A – KL-0028-120 // VAS 6907/9 – KL-0028-230

complies with all relevant provisions of the *Machinery Directive 2006/42/EC*.

The declaration loses its validity if the **incomplete machine** is converted or modified without our consent.

Applied harmonised EN standards:

EN ISO 12100:2010 - *Safety of machinery - General principles for design - Risk assessment and risk reduction*

EN ISO 4413:2010 - *Hydraulic fluid power - General rules and safety requirements for systems and their components*

Other technical standards and specifications applied:

EN IEC/IEEE 82079-1:2020 - *Preparation of information for use (instructions for use) of products - Principles and general requirements*

DGUV regulation GS-OA 14 - *Principles for tests and certification of machines and equipment for vehicle maintenance*

DGUV regulation 109-009 - *Vehicle maintenance*

Authorised representative of GEDORE Automotive GmbH for the compilation of all technical documents:

Head of product development, Breslauer Straße 41, 78166 Donaueschingen, GERMANY

Additional information:

The partly completed machine may only be put into operation after it has been established that the machine into which the partly completed machine is to be used, complies with the provisions of the *Machinery directive 2006/42/EC*. The installation instructions in accordance with Annex VI of the *Machine directive 2006/42/EC* have been prepared.

Donaueschingen, 11 November 2022



ppa. Michael Wehler, Head of Global Business Development, GEDORE Automotive GmbH

UK DECLARATION OF INCORPORATION (Original UK Declaration of Incorporation)

in terms of The Supply of Machinery (Safety) Regulations 2008, Annex II 1B

Name and address of manufacturer

GEDORE Automotive GmbH
Breslauer Straße 41
78166 Donaueschingen, GERMANY

We hereby declare that the **incomplete machine** described below

Designation: Spring-compressing system series

Series / Type: VAS 6274/9 – KL-0028-200 // VAS 6274/9A – KL-0028-120 // VAS 6907/9 – KL-0028-230

conforms to all relevant provisions of the Supply of Machinery (Safety) Regulations 2008.

The declaration loses its validity if the **incomplete machine** is converted or modified without our consent.

Designated (GB) or harmonised (NI) standards applied:

EN ISO 12100:2010 - *Safety of machinery - General principles for design - Risk assessment and risk reduction*

EN ISO 4413:2010 - *Hydraulic fluid power - General rules and safety requirements for systems and their components*

Other technical standards and specifications applied:

EN IEC/IEEE 82079-1:2020 - *Preparation of information for use (instructions for use) of products - Part 1: Principles and general requirements*

Authorised representative for compiling the technical documents:

GEDORE Torque Ltd. / Tannery Ln, Gosden Common / Guildford GU5 0AJ, United Kingdom

Additional information:

The incomplete machine may only be put into operation when it has been determined that the machine with which the incomplete machine is to be used complies with the provisions of the *Machinery (Safety) Regulations 2008*. The assembly instructions were created in accordance with Annex VI of the *Machinery (Safety) Regulations 2008*.

Donaueschingen, 11 November 2022



ppa. Michael Wehler, Head of Global Business Development, GEDORE Automotive GmbH

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