



VAS 6046

Spring compressing tool



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1. READ AND UNDERSTAND FOR YOUR SAFETY



Read and understand these operating instructions **before using** the spring compressing tool, and observe all safety and warning instructions! Misuse can result in **DEATH** or **SEVERE INJURIES** ! These operating instructions are an integral part of the spring compressing tool. Keep them at a safe place for future reference, and always pass them on to subsequent users of the spring compressing tool! The spring compressing tool complies with the recognized rules of technology as well as the relevant safety regulations!

1.1 Target group

These operating instructions are **exclusively** intended for skilled personnel in specialized motor vehicle workshops!

The spring compressing tool **may only be** used by skilled personnel in specialized motor vehicle workshops who are familiar with the basic regulations on work safety and accident prevention!

✔ **Never** allow unauthorized, inexperienced persons, minors and children, or persons with limited physical, sensory, and mental abilities to use the spring compressing tool!

1.2 Obligations of the owner

Pursuant to the German Ordinance on Industrial Safety and Health (*BetrSichV*), employers are obliged to provide their employees with safe work equipment in accordance with the recognized rules of technology and the relevant safety regulations!

✔ The owner of the spring compressing tool **must** ensure that **only** trained personnel in specialized vehicle workshops use the spring compressing tool!

✔ The owner of the spring compressing tool **must** ensure that the instructions for use are available to the user and that the user has completely read and understood the instructions for use **before** using the spring compressing tool!

✔ The owner of the spring compressing tool **must** ensure that the user is familiar with the basic regulations on work safety and accident prevention, and that the personal protective equipment is available to him!

1.3 Intended use

The spring compressing tool ...

... ✔ **may only** be used for compressing and relieving coil springs on passenger car chassis systems!

✔ **may only** be used with matching **spring holders** - VAS 6046/xx or **GEDORE Automotive** spring holders!

✔ **may only** be used on vehicles as specified in **Chapter 2 - Product description!**

✔ **may only** be used up to a **max. load of 27,500 Newton!**

✔ **may only** be used up to a **max. drive torque of 50 Nm!**

✔ **may only** be used by hand with muscle power with a manual drive!

✔ **may only** be used with **GEDORE Automotive** genuine spare parts and accessories!

✔ **may only** be used in the way described in these operating instructions!

⚠ Any other use can result in **DEATH** or **SEVERE INJURIES** !

1.4 Reasonably foreseeable misuse

The spring compressing tool ...

✔ **must never** be used for compressing springs other than intended for it!

✔ **must never** be used together with an impulse or impact screwdriver or any other machine drive!

✔ **must never** be used with a drive other than that intended for it!

✔ **must never** be used for batch processing with many compressing processes within a few minutes!

✔ **must never** be used with a bridged, modified, or removed safety device!

✔ **must never** be modified, converted, or used for other purposes without authorization!

⚠ Use the spring compressing tool **always** as intended. Any other use can result in **DEATH** or in **SEVERE INJURIES**!

1.5 Personal protective equipment

For your safety, **always** wear personal protective equipment when using the spring compressing tool! The spring compressing tool can bring about mechanical hazards such as crushing, cutting and shock injuries.



Always wear **EYE PROTECTION** (for example to DIN EN 166, OSHA 29 CFR 1910.133, ANSI Z87) when using the spring compressing tool to protect yourself against flying parts or particles!

When using the spring compressing tool, flying parts or particles can cause **SEVERE INJURIES** to your **eyes!**



Always wear **PROTECTIVE GLOVES** (for example to DIN EN 388, OSHA 29 CFR 1910.138, ANSI 105) when using the spring compressing tool to protect yourself against sharp edges and crushing between parts!

When working with the spring compressing tool, sharp edges and crushing between parts can cause **SEVERE INJURIES** to your **hands!**



Always wear **SAFETY SHOES** (for example to DIN EN ISO 20345, OSHA 29 CFR 1910.136, ANSI Z41) when using the spring compressing tool to protect yourself against dropping parts!

When working with the spring compressing tool, dropping parts can cause **SEVERE INJURIES** to your **feet and toes!**

1.6 Labeling of the warnings

Warnings warn of potential **hazards**. **Always** observe these warnings to avoid **DEATH** or **INJURIES!**

For better differentiation, warnings in these operating instructions are classified as follows:	
Warning sign	Meaning
	Indicates a hazardous situation which, if not avoided, could cause DEATH or SEVERE INJURIES .
	Indicates a hazardous situation which, if not avoided, could cause MODERATE or MINOR INJURIES .
	Indicates a situation which, if not avoided, can cause damage to the tool or an object in its vicinity.
	Note on important information and useful tips.

1.7 Basic warnings

⚠ WARNING - Danger to life from MISUSE

As a consequence of **MISUSE**, the spring compressing tool and the spring can slip, break, and thus fall down or fling around. This can cause **DEATH** or **SEVERE INJURIES!**

- When using the spring compressing tool, flying parts or particles can cause **SEVERE INJURIES** to your **eyes!**
- When working with the spring compressing tool, sharp edges and crushing between parts can cause **SEVERE INJURIES** to your **hands!**
- When working with the spring compressing tool, dropping parts can cause **SEVERE INJURIES** to your **feet and toes!**
- Read and understand these operating instructions **before using** the spring compressing tool, and observe all safety and warning instructions for **safe use!**
- Always** work with the spring compressing tool in accordance with the basic regulations on work safety and accident prevention!
- Only** use the spring compressing tool as intended and as described in these operating instructions!
- Always** observe the vehicle-specific application procedures in the repair guide of the vehicle manufacturer!
- Never** use the spring compressing tool if it is damaged, has loose parts, or unauthorized modifications!
- Never** use the spring compressing tool with an impulse or impact spanner or another machine-operated drive, **only** drive it by hand with muscle power with a manual drive!
- Never** use the spring compressing tool for batch processing with many compressing processes within a within a few minutes!
- Always** observe the installation position of the chassis spring specified by the vehicle manufacturer!
- Always** wear your personal protective equipment (*safety goggles, protective gloves, safety shoes*) during work!
- Never** beat the spring compressing tool with a hammer or anything similar!

⚠ WARNING - Danger to life from OVERLOAD

As a consequence of **OVERLOAD**, the spring compressing tool and the spring can slip, break, and thus fall down or fling around. This can cause **DEATH** or **SEVERE INJURIES!**

- ✔ **Never** exceed the **maximum loading capacity** of the spring compressing tool!
- ✔ **Never** use the spring compressing tool if it is damaged, has loose parts, or unauthorized modifications!
- ✔ **Never** use the spring compressing tool with an impulse or impact spanner or another machine-operated drive, **only** drive it by hand with muscle power with a manual drive!
- ✔ **Never** use the spring compressing tool for batch processing with many compressing processes within a within a few minutes!
- ✔ Use **only genuine GEDORE Automotive** spare parts and accessories for the spring compressing tool!
- ✔ **Always** wear your personal protective equipment (*safety goggles, protective gloves, safety shoes*) during work!

⚠ WARNING - Danger of injury from FALLING

There is a risk of the spring compressing tool **DROPPING** during preparation and use (overhead, for example). This can cause **SEVERE INJURIES!**

- ✔ **As a basic rule**, ensure that the spring compressing tool is securely attached to the chassis spring!
- ✔ Avoid dropping the spring compressing tool **at all costs**, especially when it is under load!
- ✔ **Never** leave the spring compressing tool unattended in loaded condition on the wheel hub!
- ✔ Put down the spring compressing tool **safely** to prevent it from dropping, for example on a workbench!
- ✔ Clamp the dismantled suspension strut **securely** in a suitable holding device for compressing the coil!
- ✔ **Always** wear your personal protective equipment (*safety goggles, protective gloves, safety shoes*) during work!

ATTENTION - Risk of DAMAGE

The spring compressing device, vehicle and suspension strut can be damaged.

- ✔ **Always** install the spring in the installation position specified by the manufacturer!
- ✔ **Always** observe vehicle-specific application procedures in the repair guide of the vehicle manufacturer.
- ✔ **Prior to each use**, check the moving parts and the spindle of the spring compressing tool for sufficient lubrication. If necessary, lubricate them only with molybdenum disulfide paste (for example **GEDORE Automotive - KL-0014-0030**)!
- ✔ **Never** use the spring compressing tool for batch processing with many compressing processes within a within a few minutes!
- ✔ **Never** clamp the spring compressing tool in a vice.

1.8 Basic safety instructions

For your safety, **always** observe the following safety precautions when using the spring compressing tool in order to avoid injuries and material damage caused by misuse or unsafe handling.

- ✔ Read and understand these operating instructions **before using** the spring compressing tool, and observe all safety and warning instructions for **safe use!**
- ✔ **Always** observe the vehicle-specific application procedures in the repair guide of the vehicle manufacturer!
- ✔ **Always** work with the spring compressing tool in accordance with the basic regulations on work safety and accident prevention!
- ✔ **Never** use the spring compressing tool when you are tired or under the influence of alcohol, drugs, or medication!
- ✔ **Before each use**, check the spring compressing tool **carefully** for damage, loose parts, or unauthorized modifications. **Never** use it if you notice any such deficiencies!
- ✔ Use **only genuine GEDORE Automotive** spare parts and accessories!
- ✔ **Before using** the spring compressing tool, make sure that **no** unauthorized persons are in the immediate environment!
- ✔ **Always** observe the **max. loading capacity** when using the spring compressing tool, and **never** exceed it!

- ✔ **Always** keep hair, clothing, and gloves away from rotating parts!
- ✔ **Be sure to** take off gloves as well as jewellery such as rings and chains which can be drawn into rotating parts, before using the spring compressing tool!
- ✔ **Never** use the spring compressing tool with any other drive than intended!
- ✔ **Always** wear your personal protective equipment (*safety goggles, protective gloves, safety shoes*) during work!
- ✔ Interrupt your work **immediately** if you are unsure about using the spring compressing tool, and contact **GEDORE Automotive GmbH if necessary!**
- ✔ For safety reasons, ensure that a damaged spring compressing tool is no longer used! Professional inspection and repair may only be carried out by specially trained personnel at **GEDORE Automotive GmbH!**
- ✔ **Always** use the spring compressing tool as intended. Non-compliance will invalidate any warranty claim and may significantly reduce its durability!

1.9 Work environment

For your safety, **only** use the spring compressing tool in a safe working environment.

- ✔ The workplace **must** be clean and tidy.
- ✔ The workplace **must** be sufficiently large and illuminated.
- ✔ The workplace **must** be on a solid and non-skidding floor.
- ✔ The workplace **must** be safeguarded against access of unauthorized persons.
- ✔ The workplace **must** have a room temperature between -10°C and +40°C.

1.10 Emissions

Molybdenum disulfide paste can drip when using the spring compressing tool and thus pose a hazard to the environment.

- ✔ **Immediately** remove excess molybdenum disulfide paste, for example with the help a cleaning rag.
- ✔ In case of skin contact with hydraulic oil, clean the affected area **immediately** with degreasing soap and water.
- ✔ **Be sure to** dispose of pollutants such as molybdenum disulfide paste in an environmentally friendly manner.
- ✔ Safety data sheets *in accordance with Regulation (EC) No. 1907/2006*, for molybdenum disulfide paste (**MOLYKOTE® G-N PLUS PASTE**) can be found on the manufacturer's site on the Internet (**World Wide Web**) or, if required, contact **GEDORE Automotive GmbH**.

1.11 Maintenance

Perform maintenance on the spring compressing tool **at regular intervals** and **only** when the tool is not tensioned or compressed! Poor and improper maintenance can damage the spring compressing tool, thus causing **DEATH** or **SEVERE INJURIES!**

Prior to each use:

- ✔ **Prior to each use**, check the spring compressing tool **carefully** for damage, loose parts or unauthorized modifications!

Recommended every 24 months:

- ✔ Have the spring compressing tool professionally checked **every 24 months** by authorized specialists from **GEDORE Automotive GmbH!**

1.12 Troubleshooting

Only perform troubleshooting on the spring compressor when it is tension-free!

Problem: The drive nut of the spindle of the spring compressor is loose, no frictional connection any more.

Reason: The dowel pin of the drive nut is defective, for example from overload of the compressor cylinder.

Remedy: Relieve the compressor cylinder and insert a new dowel pin into the drive nut as described in **Chapter 5**.

2. PRODUCT DESCRIPTION

2.1 VAS 6046 - Spring compressing tool (compressing cylinder)

Universally suitable for coil springs on the front and rear axle of passenger car suspension systems.

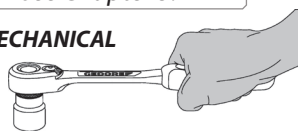
In combination with a matching pair of spring holders - **VAS 6046/xx**, the spring compressing tool enables safe and professional compressing and releasing of coil springs on the front and rear axle of passenger car chassis systems. Required e.g. when removing and installing the the chassis spring.



A

Required drive parts:
see Chapter 3.2

MECHANICAL



2.2 Scope of delivery

Item	Part no.	Description	Qty.
A	VAS 6046	Spring compressing tool (compressing cylinder)	1

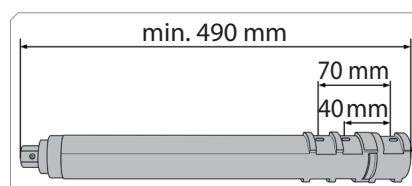
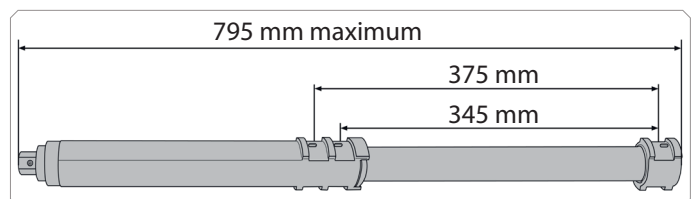
2.3 Specifications

Max. load of spring compressing tool: 27,500 N

Breaking point: 110,000 N

Drive width across flats:Hexagon, 24 mm

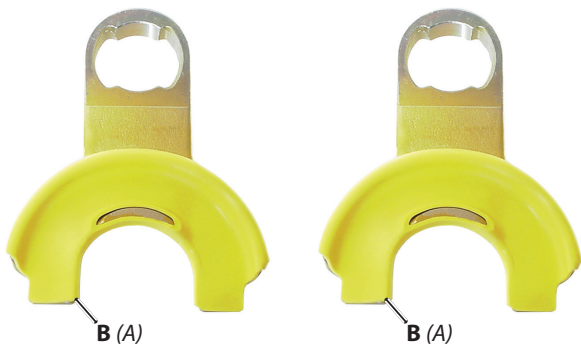
Max. drive torque: 50 Nm



Piston stroke: 305 mm

Weight: 6.9 kg

VAS 6046/1



2.4 Spring retaining pairs

**VAS 6046/1 - Spring holder pair
(Audi A8 Security car)**

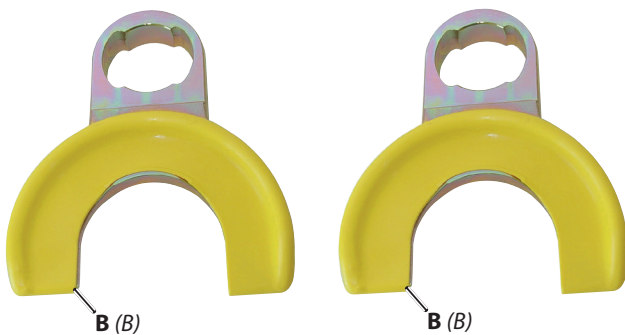
In combination with the spring holder pair, the spring tensioning tool is also suitable for reinforced chassis springs on the Audi A8 security car.

Overview of the single parts:

Item	Part no.	Description	Qty.
B (A)	VAS 6046/1	Spring holder pair Audi A8	1
-	KL-9001-3201 VAG	Spring holder	2
-	KL-9001-1002	Locking bolts	2
-	KL-9001-1003	Pull tab	2
-	KL-9001-2401	Spring holder insert with grooved nails	2

ⓘ Replacement spring holder inserts = Order no.: **VAS 6046/2**

VAS 6046/3



**VAS 6046/3 - Spring holder pair
(VW Touareg)**

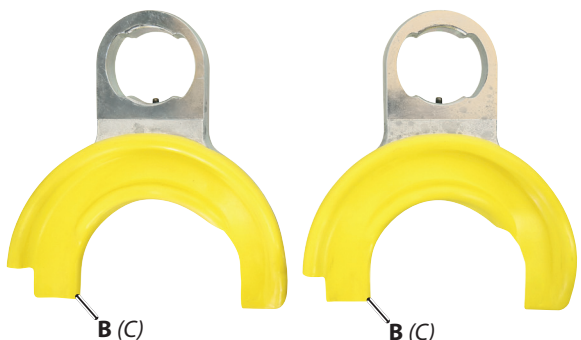
In combination with the spring holder pair, the spring compressing tool is also suitable for suspension springs on VW Touareg (7L, 7P), VW Amarok (2H), Audi Q7 (4L), and Porsche Cayenne (9PA).

Overview of the single parts:

Item	Part no.	Description	Qty.
B (B)	VAS 6046/3	Spring holder pair VW Touareg	1
-	KL-9001-3301 VAG	Spring holder	2
-	KL-9001-1002	Locking bolts	2
-	KL-9001-1003	Pull tab	2
-	KL-9001-2501	Spring holder insert with grooved nails	2

ⓘ Replacement spring holder inserts = Order no.: **VAS 6046/4**

VAS 6046/5



**VAS 6046/5 - Spring holder pair
(VW ID.Buzz)**

In combination with the spring holder pair, the spring tensioning tool is also suitable for chassis springs on the VW ID.Buzz.

Overview of the single parts:

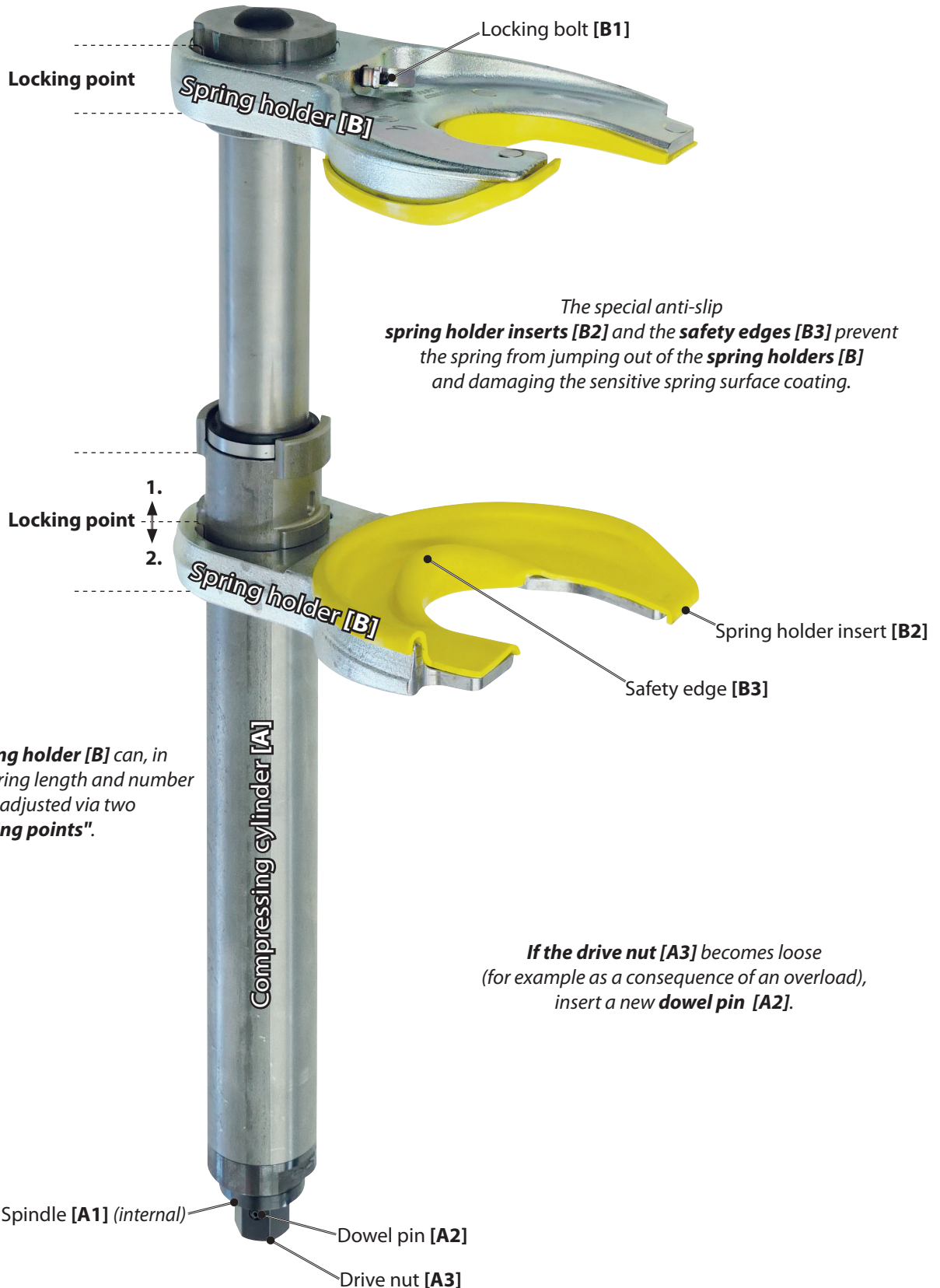
Item	Part no.	Description	Qty.
B (B)	VAS 6046/5	Spring holder pair VW ID.Buzz	1
-	KL-9001-1201 VAG	Spring holder	2
-	KL-9001-1002	Locking bolts	2
-	KL-9001-1003	Pull tab	2
-	KL-9001-2201 VAG	Spring holder insert with pan-head screws	2
-	KL-0028-13/81 Z	Leaflet for USB flash drive	1
-	KL-9001-12 SP/80 Z	USB flash drive (Operating instructions)	1

ⓘ Replacement spring holder inserts = Order no.: **VAS 6046/6**

ⓘ Other spring holder pairs are also available as accessories (for example, **KL-9001-xx**) from **GEDORE Automotive**.

2.5 Component overview

This overview shows basic components, designations, and information on the spring compressing tool.



3. PREPARATION

⚠ WARNING

As a consequence of **misuse** or **overload**, the spring compressing tool and the spring can slip, break, and thus fall down or fling around. This can cause **DEATH** or **SEVERE INJURIES!**

- ✔ **Prior to using** the spring compressing tool, read and understand **all** safety instructions and warnings listed in **Chapter 1**, and **always observe** them for safe use!
- ✔ Use the spring compressing tool **as intended**, and **always** carry out maintenance and repairs in compliance with the regulations on occupational safety and accident prevention as well as the vehicle manufacturer's instructions!
- ✔ **Before each use**, check the spring compressing tool **carefully** for damage, loose parts, or unauthorized modifications. **Never** use it if you notice any such deficiencies!
- ✔ **Always** wear your personal protective equipment (*such as safety goggles, protective gloves, safety shoes*) during work!

3.1 Checking the scope of delivery

Prior to preparing or using the spring compressing tool, check that all parts of the scope of delivery are available (*see chapter 2.*), and follow the instructions below.

3.2 Assembling drive parts

⚠ WARNING

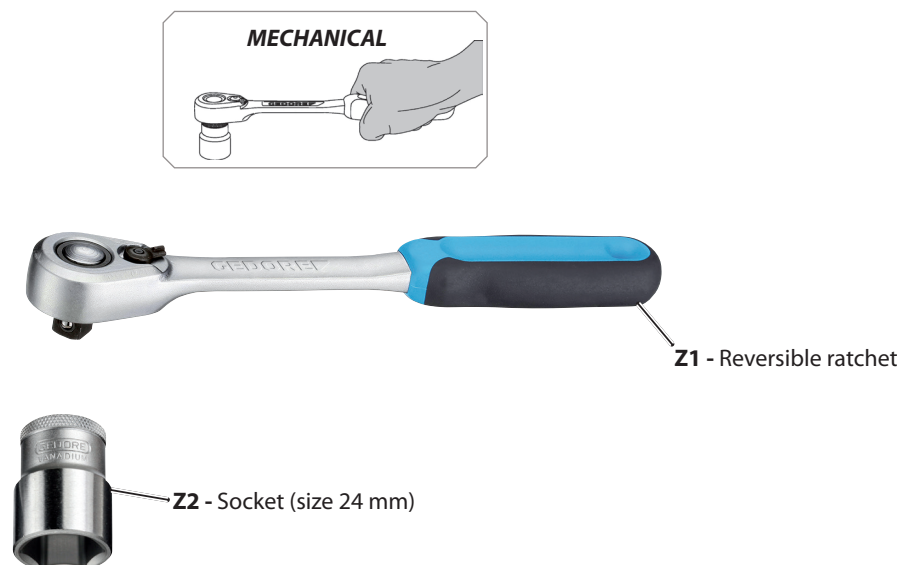
Using a machine-operated drive can cause the spring compressing tool to slip, break and thus drop or be hurled about. This can cause **DEATH** or **SEVERE INJURIES!**

- ✔ **Never** use the spring compressing tool with an impulse or impact spanner or another machine-operated drive, **only** drive it by hand with muscle power with a manual drive!
- ✔ **Never** use the spring compressing tool with any other drive than intended!

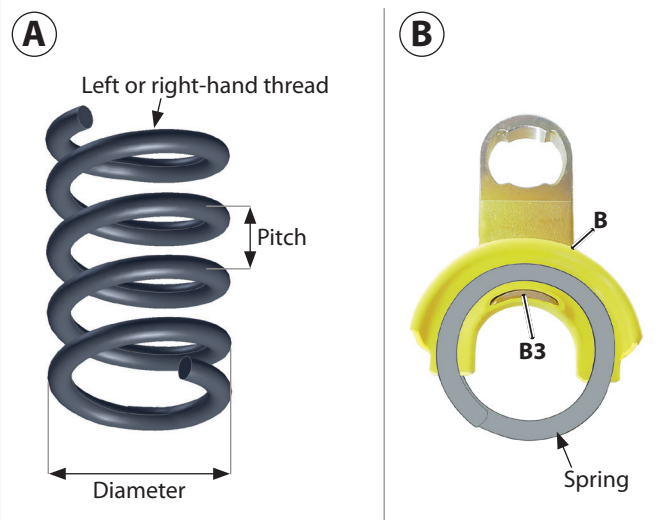
1. Assemble the required drive parts for the spring compressing tool as shown in **📷 1**.

① *Other drive parts are accessible as accessories from **GEDORE Automotive**.*

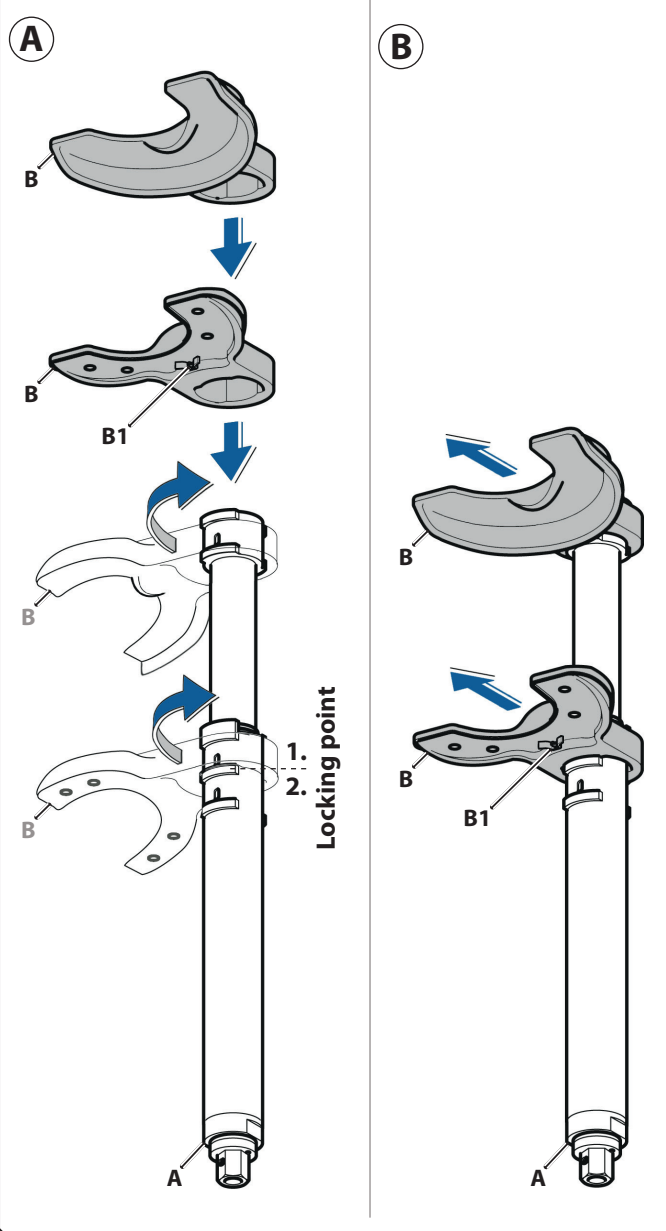
📷 1: Required drive parts



📷 2: Select spring holders [B] which match with the spring.



📷 3: Mount the spring holders [B] to the compressing cylinder [A].



3.3 Preparing the spring compressing tool

⚠️ WARNING

Using wrong spring holders can cause the spring to eject during compressing. This can cause **DEATH** or **SEVERE INJURIES!**

► The spring **must** evenly rest on the spring holders [B]. It must match with the **diameter** and **pitch!** 📷 2A The spring must **fully rest** behind the safety edge [B3]! 📷 2B

1. In **chapter 2.4**, select spring holders [B] which are appropriate for the spring. 📷 2A+B

📷 Other spring holder pairs also available as accessories (for example, KL-9001-xx) from **GEDORE Automotive**.

2. To assemble the spring holders [B], draw the corresponding locking bolt [B1] and insert the spring holder [B] correctly as shown in 📷 3A on the appropriate locking point on the compressing cylinder [A].

Release the locking bolt [B1] and twist the spring holders [B] by **90°** until they snap automatically into the corresponding locking point.

📷 For very long springs, the 2nd locking point on the compressing cylinder [A] can be used. 📷 3A

⚠️ WARNING

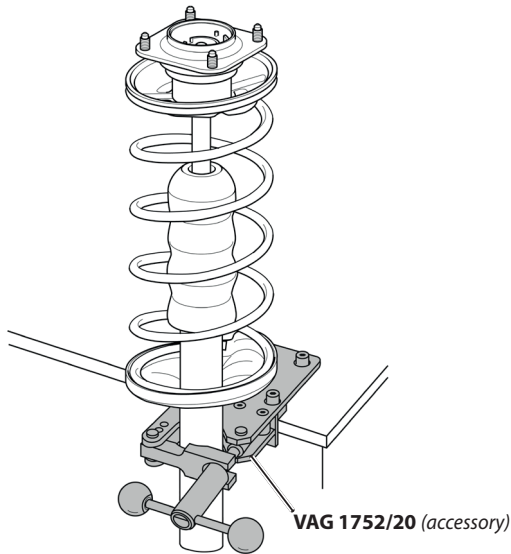
Wrong assembly of the spring holders [B] can cause them to loosen on the compressing cylinder [A], and the spring can eject. As a result, ejected parts and the spring flinging around can cause **DEATH** or **SEVERE INJURIES!**

► **Never** use the spring compressing tool when both spring holders [B] have not snapped correctly into the compressing cylinder [A]!

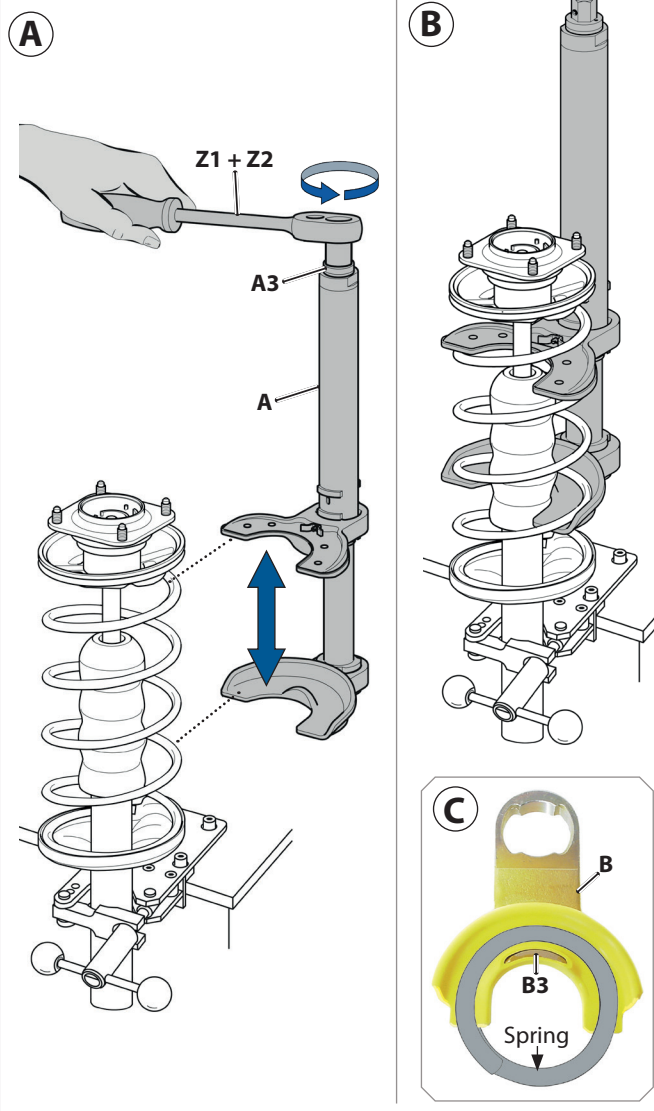
3. Check both spring holders [B] for a safe seat. When the locking bolts [B1] have correctly snapped in, they can no longer be twisted on the compressing cylinder [A]. 📷 3B

📷 If the spring holders [B] can still be twisted on the clamping cylinder [A], the spring holder [B] is installed in the wrong way, or the locking bolt [B1] is defective.

📷 4: Inserting the suspension strut into the appropriate holding unit.



📷 5: Inserting the spring compressing tool correctly positioned to the spring.



4. TYPICAL APPLICATION

This typical application describes the tensioning and relieving of a right-hand coil spring (chassis spring) on a McPherson spring strut. The application on other passenger car suspension systems follows similar principles.

4.1 Spring removal

⚠️ WARNING

The suspension strut and the compressing tool can drop. This can cause **SEVERE INJURIES**.

► **Always** wear your personal protective equipment (safety goggles, protective gloves, safety shoes) when working!

CAUTION

The suspension strut can be deformed and damaged.

► **Never** fix the suspension strut in a conventional vice!

1. Insert the spring strut in an appropriate holding device, for example into the clamping device - **VAG 1752/20** which is available as an accessory. **📷 4**

CAUTION

The clamping cylinder **[A]** can be damaged when relieved and compressed!

► After reaching the end stops, **never** operate the drive nut **[A3]**!

2. To be able to compress as many coils of the spring as possible, extend the spring compressing tool first. To do this, turn the drive nut **[A3]** anticlockwise. **📷 5A**

⚠️ WARNING

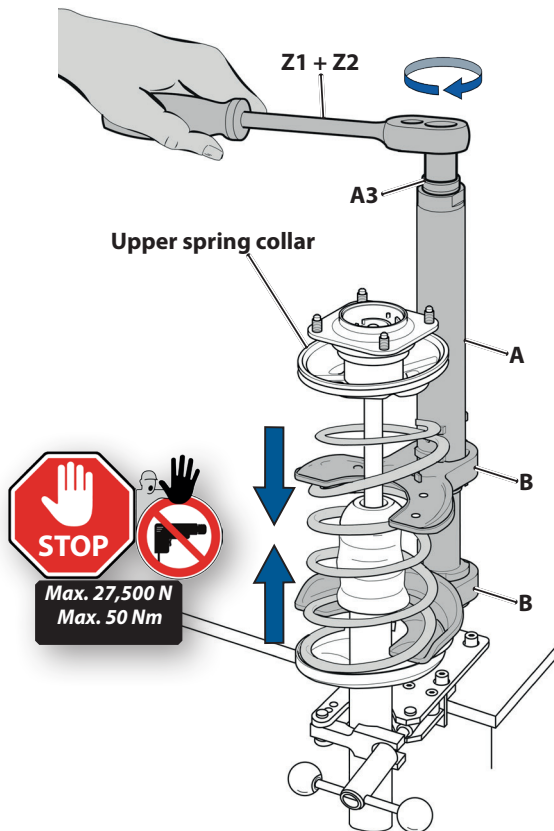
The spring can suddenly eject when the spring compressing tool is applied incorrectly. This can cause **DEATH** or **SEVERE INJURIES!**

► The spring **must** evenly rest on the spring holders **[B]**. It must match with the **diameter** and **pitch!** The spring must fully rest behind the safety edge **[B3]**! **📷 5C**

► **Always** observe the vehicle-specific application procedures in the repair guide of the vehicle manufacturer!

3. Place the spring compressing tool in the correct position on the spring according to the manufacturer's specifications. **📷 5B**

📷 6: Compressing the spring.

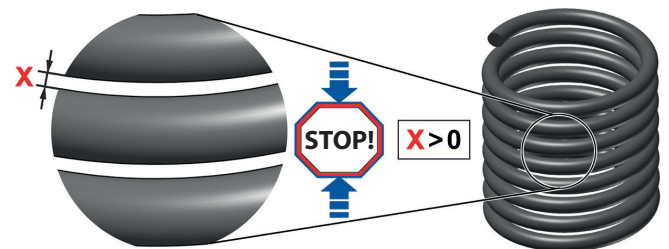
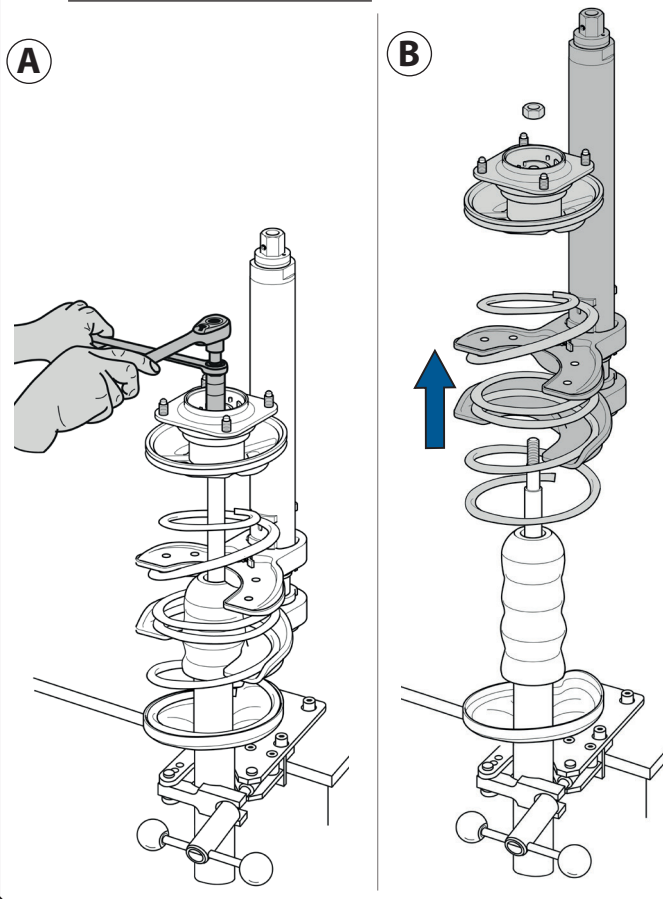


⚠️ WARNING

Very high forces are exerted when preloading springs. Incorrect assembly, overloading, or misuse can cause the spring compressing tool to slip and break, causing the spring to suddenly release itself! As a result, ejected parts and the spring can cause **DEATH** or **SEVERE INJURIES!**

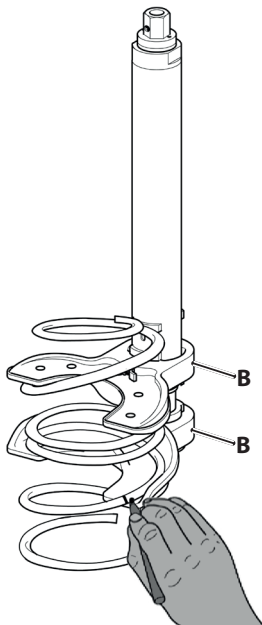
- ▶ **Never** exceed the maximum load of **27,500 Newton** and the **maximum drive torque of 50 Nm** on the spring compressing tool!
- ▶ **Never** use the spring compressing tool with an impulse or impact spanner or another machine-operated drive, **only** drive it by hand with muscle power with a manual drive!
- ▶ Pay attention that the spring **always** rests evenly on the spring holders **[B]**. It must match with the **diameter** and **pitch!** The spring must fully rest behind the safety edge **[B3]!** (see **chapter 3.3 / 📷 2**)
- ▶ **Never** use the spring compressing tool when both spring holders **[B]** have not snapped correctly into the compressing cylinder **[A]!**
- ▶ **Always** observe the vehicle-specific application procedures in the repair guide of the vehicle manufacturer!
- ▶ **Never** use the spring compressing tool for batch processing with many compressing processes within a within a few minutes!
- ▶ Stop the compressing process at the latest when the compressing cylinder **[A]** has reached the end stop or before the spring coils touch each other!

📷 7: Disassemble the spring strut according to the manufacturer's instructions.

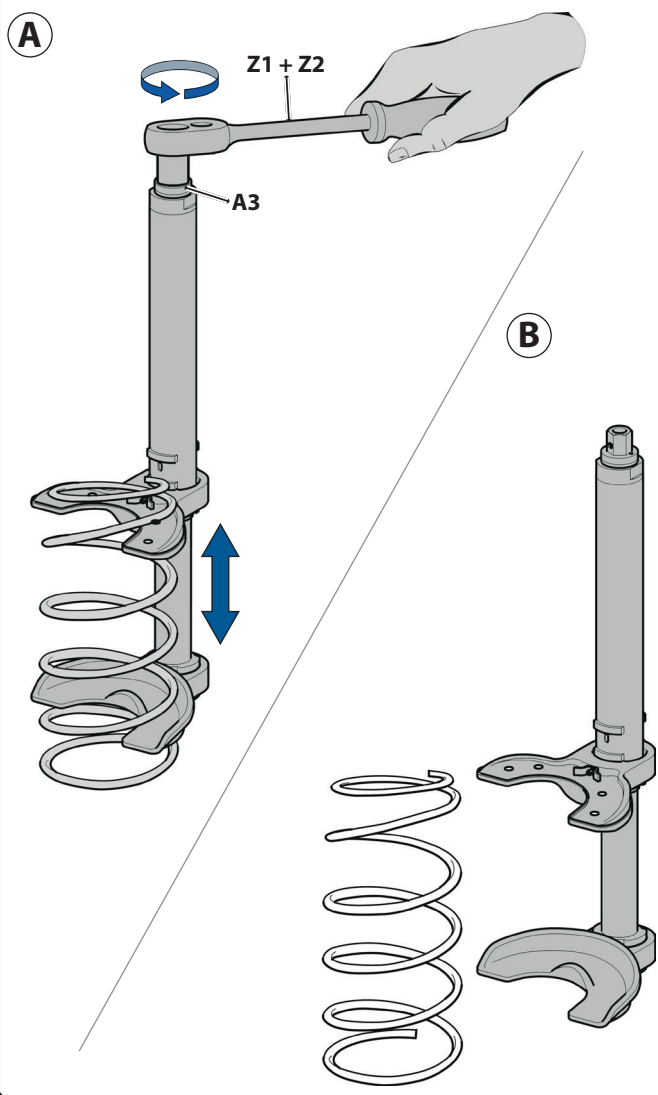


4. To compress the spring, turn the drive nut **[A3]** clockwise until the spring sits tension-free in the spring strut. **📷 6**
- ⓘ If the drive nut **[A3]** on the clamping cylinder **[A]** loosens, insert a new dowel pin **[A2]** as described in **chapter 5**.
5. Disassemble the spring strut according to the manufacturer's instructions **📷 7A** and take the compressed spring carefully out of the spring strut. **📷 7B**
- ⓘ A matching shock absorber-piston rod kit is also available as an accessory (for example, **KL-0056-11 E**) from **GEDORE Automotive**.

📸8: Mark the spring position in the spring compressing tool.



📸9: Fully relieve the spring and take it away.



⚠️WARNING

The spring and the spring compressing tool can drop. This can cause **SEVERE INJURIES**.

► Place the spring with spring compressing tool on a clean and flat work surface.

► **Always** wear your personal protective equipment (safety goggles, protective gloves, safety shoes) when working!

6. It is helpful to mark the position of the spring holders [B] on the old spring in order to facilitate the reattachment of the spring compressing tool when installing the spring. When using a new spring, these can then simply be transferred from the old spring **📸8**.

⚠️CAUTION

The spring compressing tool and the spring may drop when the tension is released. This can cause **MEDIUM** or **LIGHT INJURIES!**

► Release the spring tension on a clean and level work surface.

► Hold the spring compressing tool with spring when releasing the tension!

► **Always** wear your personal protective equipment (safety goggles, protective gloves, safety shoes) when working!

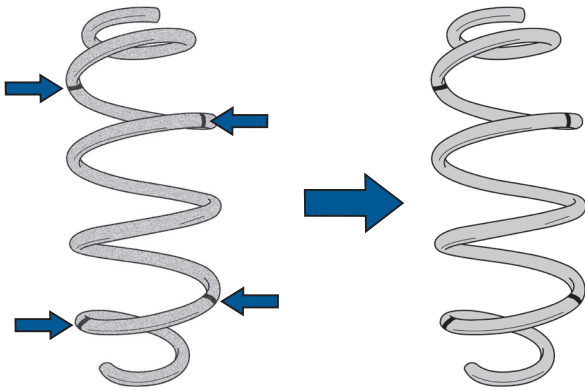
CAUTION

The clamping cylinder [A] can be damaged when relieved and compressed!

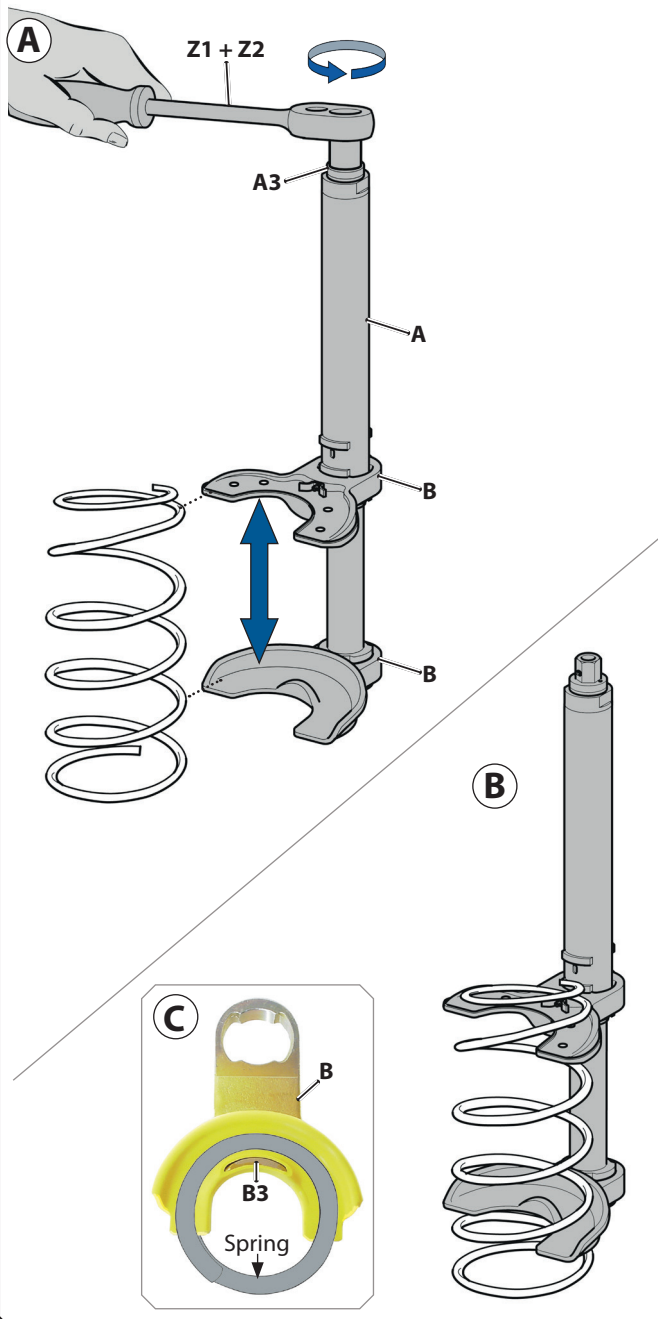
► After reaching the end stops, **never** operate the drive nut [A3]!

7. To relieve the spring tension, turn the drive nut [A3] anticlockwise until the spring can be removed from the spring compressing tool without tension. **📸9**

📷 10: If applicable, copy the markings from the spring.



📷 11: Inserting the spring compressing tool correctly positioned to the spring.



4.2 Spring mounting

1. In order to facilitate the re-attachment of the spring tensioner when installing the spring, transfer the markings made under **chapter 4.1 / item 6.** from the old spring when using a new spring. 📷 10

CAUTION

The clamping cylinder [A] can be damaged when relieved and compressed!

- After reaching the end stops, **never** operate the drive nut [A3]!
2. To be able to compress as many coils of the spring as possible, extend the spring compressing tool first. To do this, turn the drive nut [A3] anticlockwise. 📷 11A

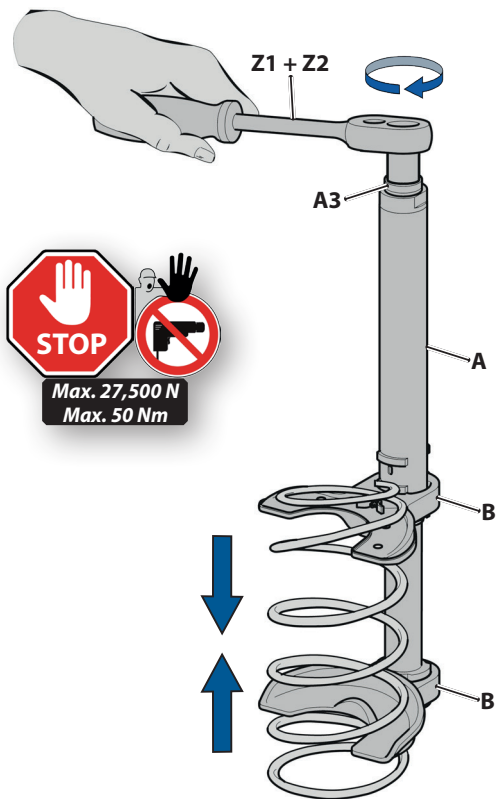
WARNING

The spring can suddenly eject when the spring compressing tool is applied incorrectly. This can cause **DEATH** or **SEVERE INJURIES!**

- The spring **must** evenly rest on the spring holders [B]. It must match with the **diameter** and **pitch!** The spring must fully rest behind the safety edge [B3]! 📷 11C
- Always** observe the vehicle-specific application procedures in the repair guide of the vehicle manufacturer!

3. Place the spring compressing tool in the correct position on the spring according to the manufacturer's specifications. 📷 11B

📷 12: Compressing the spring.

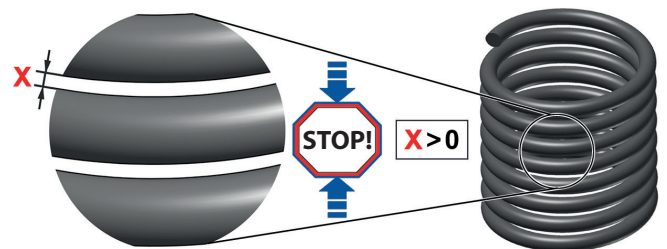
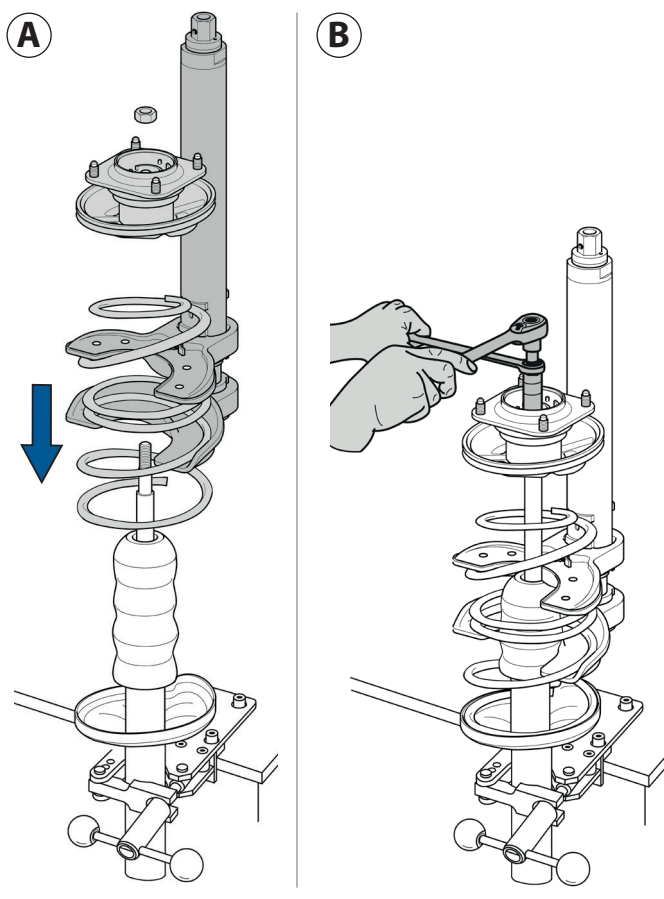


⚠️ WARNING

Very high forces are exerted when preloading springs. Incorrect assembly, overloading, or misuse can cause the spring compressing tool to slip and break, causing the spring to suddenly release itself! As a result, ejected parts and the spring can cause **DEATH** or **SEVERE INJURIES!**

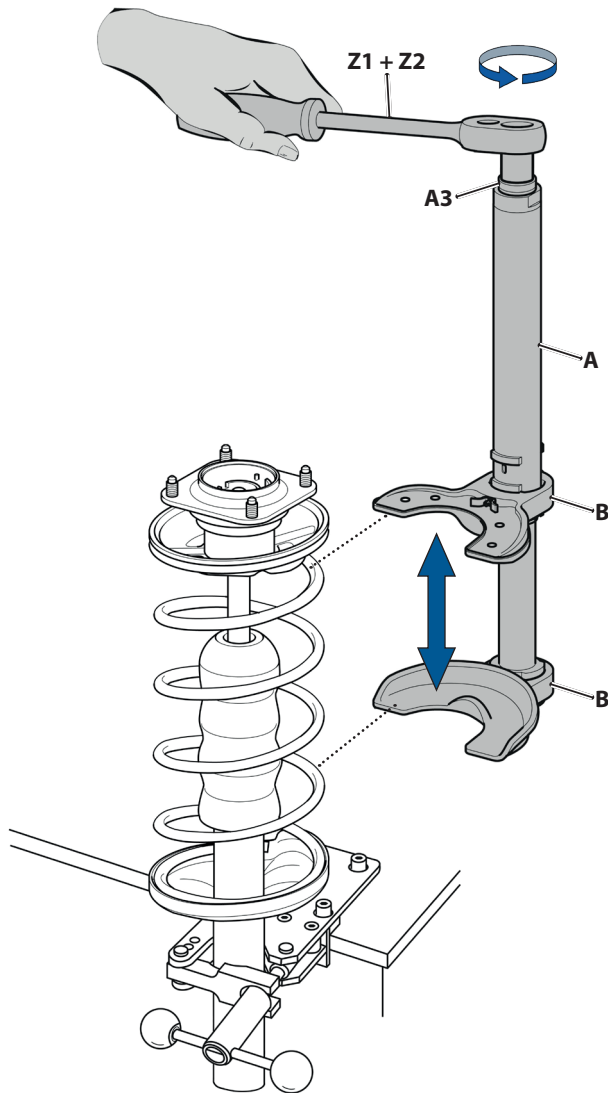
- ▶ **Never** exceed the maximum load of **27,500 Newton** and the **maximum drive torque of 50 Nm** on the spring compressing tool!
- ▶ **Never** use the spring compressing tool with an impulse or impact spanner or another machine-operated drive, **only** drive it by hand with muscle power with a manual drive!
- ▶ Pay attention that the spring **always** rests evenly on the spring holders **[B]**. It must match with the **diameter** and **pitch!** The spring must fully rest behind the safety edge **[B3]!** (see **chapter 3.3 / 📷 2**)
- ▶ **Never** use the spring compressing tool when both spring holders **[B]** have not snapped correctly into the compressing cylinder **[A]!**
- ▶ **Always** observe the vehicle-specific application procedures in the repair guide of the vehicle manufacturer!
- ▶ **Never** use the spring compressing tool for batch processing with many compressing processes within a within a few minutes!
- ▶ Stop the compressing process at the latest when the compressing cylinder **[A]** has reached the end stop or before the spring coils touch each other!

📷 13: Assemble the spring strut according to the manufacturer's instructions.



4. To compress the spring, turn the drive nut **[A3]** clockwise until the spring can be inserted into the spring strut without tension. 📷 12
- ⓘ If the drive nut **[A3]** on the clamping cylinder **[A]** loosens, insert a new dowel pin **[A2]** as described in **chapter 5**.
5. Install the compressed coil carefully into the spring strut 📷 13A and assemble the spring strut according to the manufacturer's instructions 📷 13B
- ⓘ A matching shock absorber-piston rod kit is also available as an accessory (for example, **KL-0056-11 E**) from **GEDORE Automotive**.

📷 14: Relieve the spring compressing tool and take it out of the spring coil.



CAUTION

The clamping cylinder [A] can be damaged when relieved and compressed!

After reaching the end stops, **never** operate the drive nut [A3]!

6. To relieve the spring compressing tool, turn the drive nut [A3] anticlockwise until the spring compressing tool can be removed from the spring coil without tension. **📷 14**

7. Perform all the further work as specified by the manufacturer.

5. MAINTENANCE INSTRUCTIONS

These maintenance instructions describe how to replace the dowel pin [A2] on the drive nut [A3].

⚠️ WARNING

When replacing the dowel pin [A2], the spring compressing tool can slip, fall down, break, and thus, the spring can suddenly relieve! As a result, ejected parts and the spring can cause **DEATH** or **SEVERE INJURIES!**

Always perform troubleshooting on the spring compressing tool when it is tension-free!

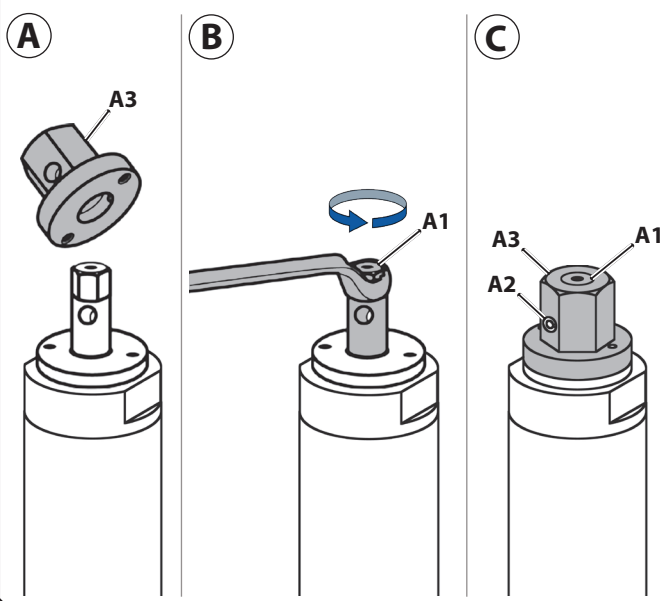
Use the auxiliary drive **only** for relieving the spring compressing tool!

1. If appropriate, relieve the compressing cylinder [A] with the auxiliary drive. To do this, remove the drive nut [A3] **📷 15A** and actuate the auxiliary drive via the spindle [A1] anticlockwise **📷 15B** until the spring compressing tool is absolutely tension-free.

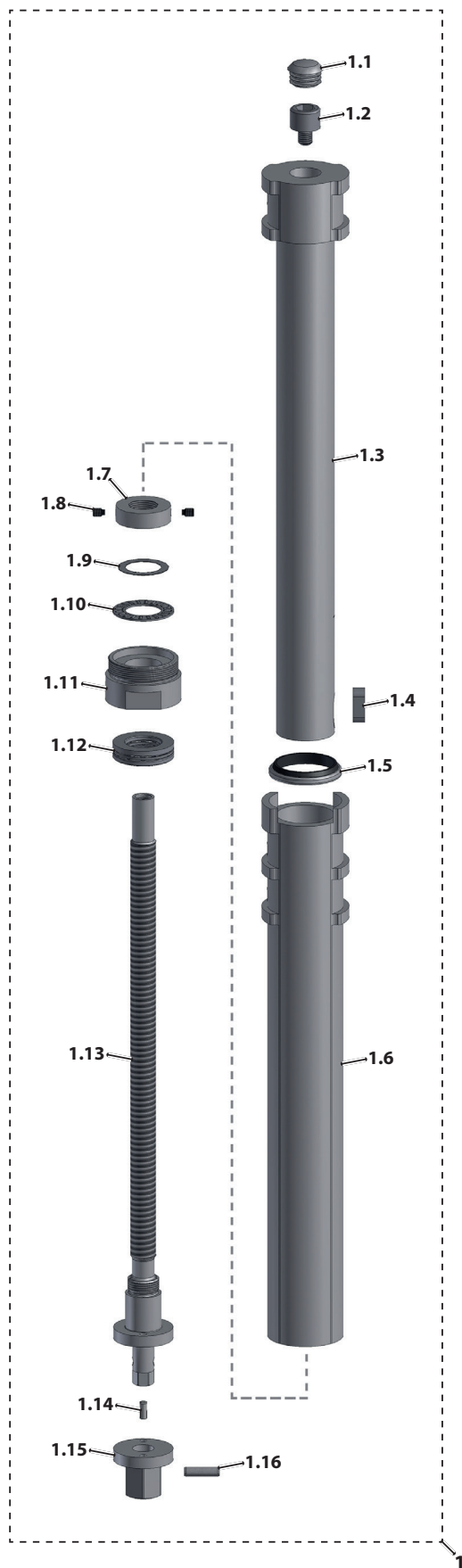
2. Then remove the remainders of the defective dowel pin [A2] from the holes of the drive nut [A3] and spindle [A1].

3. Place the drive nut [A3] on the spindle [A1], so that the holes are exactly aligned with each other. Use a hammer and punch and insert the new dowel pin [A2] into the hole so that it is flush with the drive nut [A3] on both ends. **📷 15C**

📷 15: Replacing the dowel pin [A2] on the drive nut [A3].



16: Single parts overview VAS 6046



6. CARE / STORAGE

CAUTION

Improper care and storage can damage the spring compressing tool. Therefore, **never** immerse the spring compressing tool in water, solvents, or other cleaning liquids. After use, clean all parts **only** with a dry and clean cleaning cloth. To protect against corrosion, rub all metal parts with a tool care oil or wax. Store the spring compressing tool and the operating instructions at a dry and clean place.

7. REPAIR

WARNING

For safety reasons, ensure that a damaged spring compressing tool is no longer used! Professional inspection and repair may only be carried out by specially trained specialist personnel at **GEDORE Automotive GmbH**. Improper repair can result in **DEATH** or **SEVERE INJURIES**.

8. SINGLE COMPONENT OVERVIEW

VAS 6046 - Spring compressing tool (compressing cylinder)

Item	Part no.	Description	Qty.
1	KL-9002-100	Compressor cylinder	1
1.1	KL-9001-0015	Plug	1
1.2	KL-9001-0012	Cap screw M10LH x 12 mm	1
1.3	KL-9002-0002	Piston	1
1.4	KL-9001-0011	Key 10x8 x 25 mm	1
1.5	KL-9001-0014	Scraper ring	1
1.6	KL-9002-0001 VAG	Cylinder pipe	1
1.7	KL-9001-0009	Adjusting collar	1
1.8	KL-9001-0010	Grub screw M6x8 mm	2
1.9	KL-9001-0016	Shim washer 25x35 x 0.1 mm	3
1.10	KL-9001-0008	Axial needle bearing	1
1.11	KL-9001-0006	Bearing housing	1
1.12	KL-9001-0007	Axial needle bearing	1
1.13	KL-9002-0003	Spindle	1
1.14	KL-9001-0005	Notched pin, Ø 5x12 mm	2
1.15	KL-9001-0004	Drive nut SW 24 mm	1
1.16	KL-0014-0016 M	Dowel pin. Ø 6x24 mm	1

9. ENVIRONMENTALLY COMPLIANT DISPOSAL

Dispose of the spring compressing tool and its packaging material in an environmentally compatible way in accordance with the legal requirements. If necessary, ask your local authorities about environmentally friendly disposal options.

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