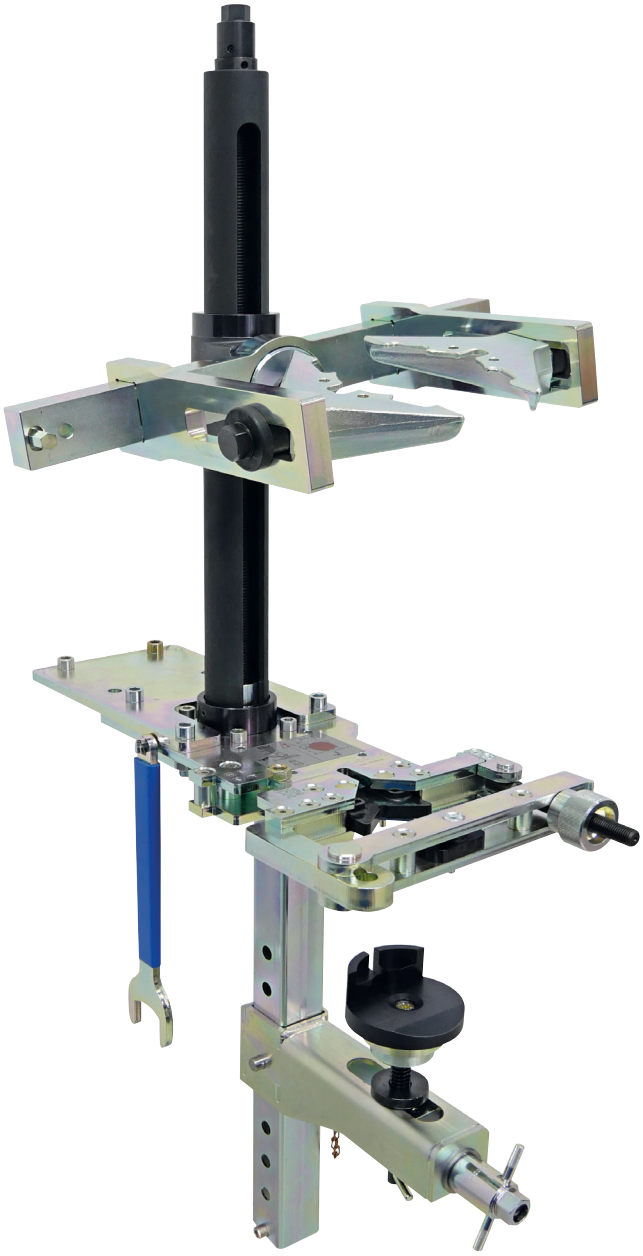
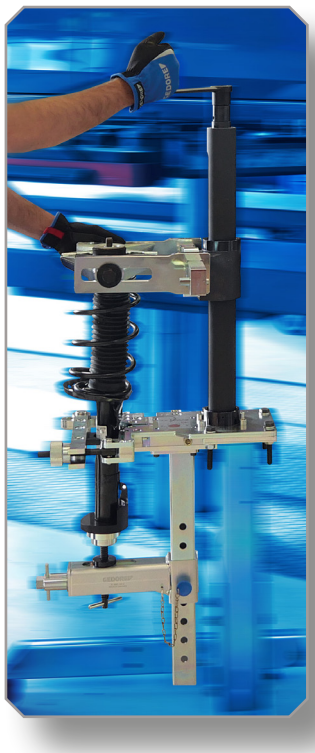
GEDORE
KLANN EXPERIENCE

Operating instructions EN

KL-5501 C

Stationary spring compressor





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ENGLISH EN

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Imprint

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TABLE OF CONTENTS

ⓘ This table of contents contains interactive elements that allow you to quickly and conveniently access the desired **chapters** on digital devices with just one ***click*** .

1. READ AND UNDERSTAND THE SAFETY INSTRUCTIONS

These operating instructions are part of the stationary spring compressor and serve to familiarise you with this special tool. Read and understand these operating instructions before using the special tool and follow all instructions, regulations and notes for safe use. Keep the operating instructions in a safe place so that you or subsequent users can access it at any time. Be aware that misuse of the special tool can, in the worst case, lead to **DEATH** or **SERIOUS INJURY**! Stop work immediately if you are unsure about how to use the special tool and, if necessary, contact **GEDORE Automotive.**

1.1 Target group

These operating instructions are intended **exclusively** for trained specialists with comprehensive expertise in the repair of motor vehicles.

- The special tool **may only** be used in automotive workshops by trained specialists who have the necessary expertise in handling special automotive tools and are familiar with the applicable regulations on occupational safety, accident prevention, as well as environmental protection.
- The special tool **must never** be used by unauthorised, inexperienced, underage persons, as **well as** persons with physical, sensory or mental disabilities, **nor** by persons who are tired or under the influence of medication, alcohol, drugs or similar intoxicating substances.

1.2 Obligations of the owner

According to *the Ordinance on Industrial Safety and Health,* employers are obliged to provide their employees with safe work equipment! The special tools from GEDORE Automotive comply with the recognised rules of technology as well as relevant safety regulations at the time of placing on the market.

- **The owner** of the special tool **must ensure that only** trained specialists in automotive workshops use the special tool!
- **The owner** of the special tool **must ensure** that the user has the relevant instructions available and has read and understood them in full **before** using the special tool!
- **The owner** of the special tool **must ensure** that the user has the necessary expertise in handling special automotive tools, is familiar with the applicable regulations on occupational safety, accident prevention and environmental protection, and has the necessary personal protective equipment at their disposal!

1.3 Intended use

The stationary spring compressor ...

... may only be used on McPherson struts in cars and vans!
... may only be used on McPherson struts for wrenching the spring above the upper spring plate!
... may only be **loaded** up to a **maximum load of 15,000 newtons**!
... may only be driven by with a **maximum torque of up to 40 Nm**!
... may only be used manually by muscle power with a manual drive!
... may only be used with **GEDORE Automotive** original spare parts and accessories!
... may only be used in the manner described in this operating instructions!
⚠ Any other use may result in **DEATH or SERIOUS INJURY** !

1.4 Reasonably foreseeable misuse

The stationary spring compressor ...

... must never be used to tension other springs or suspension struts or in any other way than intended!
... must never be used for wrenching springs directly over the spring coils!
... must never be used **with an impulse or impact wrench, a mechanical drive or any other drive than that intended for the specific application!**
... must never be used for serial processing with many repetitive clamping operations!
... must never be used with a bypassed, modified or removed safety device!
... may never be altered, modified or misused without authorisation by **or**!
⚠ **Always** use the special tool as intended. Any other use may result in **DEATH or SERIOUS INJURY** !

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1.5 Personal protective equipment (PPE)

For your safety, wear personal protective equipment when using the special tool! The special tool can cause mechanical hazards such as crushing, cutting and impact injuries.

Wear **EYE PROTECTION** *(e.g. DIN EN 166, OSHA 29 CFR 1910.133, ANSI Z87)* when using the special tool to protect against flying parts or particles!

- When using the special tool, flying parts or particles can **cause SERIOUS INJURY to your eyes** !

Wear **PROTECTIVE GLOVES** *(e.g. DIN EN 388, OSHA 29 CFR 1910.138, ANSI 105) when* using the special tool to protect against sharp edges and crushing between parts!

- When using the special tool, sharp edges and crushing between parts can **cause SERIOUS INJURY to your hands** !

Wear **SAFETY SHOES** *(e.g. DIN EN ISO 20345, OSHA 29 CFR 1910.136, ANSI Z41) when* using the special tool to protect against falling parts!

- When using the special tool, falling parts can **cause SERIOUS INJURY to your feet and toes** !

1.6 Labelling of warning notices

Warnings indicate **potential hazards** which, if ignored, could result in **DEATH** or **SERIOUS INJURY** in the worst case scenario and must therefore be observed without fail. In these operating instructions, warnings are classified as follows for better differentiation and recognisability:

warning sign	significance
⚠WARNING	**Indicates** a **potentially hazardous situation** which, if not avoided, could result in **DEATH or SERIOUS INJURY**!
⚠CAUTION	**Indicates** a **hazardous situation** which, if not avoided, could result in **moderate** or **minor injury**!
ATTENTION	**Reference** to a **situation** which, if not avoided, may lead to damage to the tool or objects in its vicinity!
ⓘ	**Reference** to important information and useful tips.

1.7 Working environment

Only use the special tool in a safe working environment and **do not** expose it to extreme temperatures, direct sunlight, as well as extreme humidity or moisture!

- The workplace **must** be clean and tidy.
- The workplace **must** be sufficiently large and well lit.
- The workplace **must** have a stable and non-slip surface.
- The workplace **must** be secured against access by unauthorised persons.
- The workplace **must** have a room temperature between -10°C and +40°C.

1.8 Emissions

Molybdenum disulphide paste may drip when using the special tool and pose a hazard to the environment.

- Remove any **excess** molybdenum disulphide paste **immediately** , e.g. with a cleaning cloth.
- In case of skin contact, **immediately** clean the affected area with grease-dissolving soap and water.
- **Always** dispose of hazardous substances such as molybdenum disulphide paste **in an environmentally friendly manner**.
- Safety data sheets *in accordance with Regulation (EC) No. 1907/2006* for molybdenum disulphide paste **(MOLYKOTE® G-N PLUS PASTE)** can be found on the manufacturer's website (**World Wide Web**) or, if necessary, **by contacting GEDORE Automotive** .

1.9 Basic safety, warning and handling instructions

⚠WARNING **⚠CAUTION** **ATTENTION**

Failure to comply can lead to life-threatening situations, injuries and damage!

When using the special tool, always observe the following safety, warning and handling instructions and strictly adhere to all measures to avoid life-threatening situations, injuries as well as damage to property caused by hazards, misuse, abuse or improper handling.

- **Use only by qualified personnel:** The special tool may only used in automotive workshops by trained specialists who have the necessary expertise and are familiar with the applicable regulations.
- **Do not use when tired or intoxicated:** The special tool must never be used by unauthorised or restricted persons, as well as by persons who are tired or under the influence of intoxicating substances.
- **Read the instructions: The** special tool must be used in accordance with this operating instructions as well as any instructions for accessories, and all instructions, regulations and notes contained therein must be strictly observed.
- **Comply with applicable safety regulations:** The special tool must always be used in accordance with the applicable regulations on occupational safety, accident prevention and environmental protection.
- **Wear personal protective equipment:** When using special tools, always wear the necessary protective equipment, such as safety goggles, protective gloves and safety shoes.
- **Only use original parts:** The special tool may only be used with original spare parts and accessories from GEDORE Automotive.
- **Check before use:** Before use, the special tool must be checked for damage, loose parts, unauthorised modifications, as well as suitability for the intended application.
- **Regular safety checks:** For safety reasons, the special tool should undergo a safety check every 24 to months by authorised specialist personnel from GEDORE Automotive.
- **Do not use if damaged or defective:** The special tool must not be used if it is damaged or otherwise defective and must be checked and repaired before the next use.
- **Repairs or maintenance only by qualified personnel:** For safety reasons, the special tool may only be repaired or maintained by specially trained personnel from GEDORE Automotive.
- **Stop work immediately if handling is unsafe:** The special tool must not be used if handling is unsafe. If necessary, refer to the instructions or seek assistance from GEDORE Automotive.
- **Regular cleaning and lubrication:** The special tool, especially the moving parts and the spindle, must be checked regularly for contamination, cleaned if necessary and treated with approved lubricants.
- **Do not use power tools:** The special tool must never be used with power drives, but only in accordance with its intended use with a manual drive using muscle power.
- **Follow vehicle-specific application procedures:** Special tools must always be used in accordance with the vehicle manufacturer's instructions and specifications when performing vehicle-specific application procedures.
- **Secure the immediate working environment:** The special tool may only be used if there are no unauthorised persons in the immediate working environment.
- **Ensure stability:** Before use, always check that**the** special tool is stable and secure.
- **Never exceed the maximum load:** The special tool must never be overloaded or operated with a load higher than the maximum permissible load.
- **Never use for serial processing:** The special tool must never be used for serial processing, especially not for processes that are repeated quickly and carried out at short intervals.
- **Never leave unattended under load:** The special tool must never be left unattended, especially when under load .
- **Avoid harmful forces:** The special tool must never be subjected to blows, clamping or other harmful forces, especially when under load .
- **Cleaning after use:** After use, the special tool may only be cleaned with a clean, dry cleaning cloth. Immersion in water, solvents or other cleaning fluids is strictly prohibited.
- **Environmentally sound disposal:** Special tools and packaging materials must always be disposed of in an environmentally sound manner in accordance with legal requirements. If in doubt, contact the local authorities.
- **Exclusion of liability, warranty and guarantee:** The special tool must always be used in accordance with the safety regulations. In the event of non-compliance or misuse, the user assumes sole responsibility and GEDORE-Automotive excludes any liability, warranty or guarantee claims.
- **Disclaimer regarding documentation:** The special tool and its use are described in detail in these instructions; however, technical changes, errors, omissions, inaccuracies, mistakes, as well as damage or consequences resulting from incorrect use or misuse can never be ruled out.

1.10 Maintenance

Perform maintenance on the special tool regularly and only when it is not under load! Inadequate or improper maintenance can cause damage to the special tool and result in life-threatening situations, serious injuries as well as property damage during use.

Before each use:

- **Before each use, carefully** check the special tool for damage, loose parts or unauthorised modifications and, in particular, check that bolt connections are tight.
- **Before each use** , check **the** moving parts and the spindle for free movement and contamination using a special tool. If necessary, clean and then lubricate them exclusively with molybdenum disulphide paste, e .g. **KL-0014-0030 from** GEDORE-Automotive.

Recommended every 24 months:

- Have the special tool inspected **every 24 months** by authorised GEDORE Automotive specialists.

1.11 Troubleshooting

Only carry out troubleshooting on special tools when they are not under load!

Problem: Drive nut on spring compressor is stiff.
Cause: Spindle contaminated or insufficiently lubricated, or incorrect lubricant used.
Remedy: Clean the spindle, check for damage and lubricate **exclusively** with molybdenum disulphide paste, e.g. **KL-0014-0030 from** GEDORE-Automotive.

Problem: Drive nut on spring compressor loose, no longer providing a secure grip.
Cause: Drive nut tension pin defective, e.g. due to overloading of the spring compressor.
Remedy: Insert a new tension pin into the drive nut as described in **section 5.**

1.12 Care / Storage

ATTENTION

Improper care and storage can cause damage to special tools.

- **Never** immerse the special tool in water, solvents or other cleaning fluids.
- Clean the special tool **exclusively** with a dry and clean cleaning cloth.
- Protect the special tool **only** with special acid-free oils or greases for tool maintenance.
- **Be sure to** store the special tool in a dry and clean place together with the accompanying operating instructions.

1.13 Repair

⚠WARNING

Improper repair of the special tool may result in **DEATH** or **SERIOUS INJURY**.

- If damage, loose parts or unauthorised modifications to the special tool are detected, it must no longer be used for safety reasons!
- Repairs may only be carried out by specially trained personnel at **GEDORE Automotive**!
- **Only** use original spare parts and accessories from **GEDORE Automotive** for the special tool!

If necessary, please contact us at **GEDORE Automotive** for professional inspection and repair of the special tool.

1.14 Environmentally friendly disposal

Dispose of the special tool and packaging material in an environmentally friendly manner in accordance with legal requirements. If necessary, check with your local authority for environmentally friendly disposal options.

2. PRODUCT DESCRIPTION

2.1 Stationary spring compressor - KL-5501 C

Universally compatible with almost all McPherson struts on the market.

For example, in suspension struts with right- or left-hand coils, conical coils, eccentric coils, coils with a low number of turns, coils with a strong or varying coil pitch, as well as suspension struts with tension stop coils or electronic control and sensor technology.

The stationary spring compressor enables professional and safe tensioning of McPherson struts.

The unique design with variable spring plate mounting, adjustable support and adjustable holding device with one-hand operation allows the suspension spring to be tensioned without directly interfering with the spring itself.

As in the vehicle, the spring is tensioned against the lower spring plate via the upper spring plate. The suspension strut is held in place without damage via the damper tube. This means that the spring shape and spring rate are irrelevant.

The adapter plate allows the spring compressor to be mounted either on a workbench or on a tool/assembly trolley.

In addition, the mounting kits available as accessories enable the spring compressor to be attached specifically to the **KL-4999-120 A / -121 A** mounting trolley or to a vertical wall.

In addition, a mobile work stand is available as an accessory for flexible and location-independent use of the spring compressor.

2.2 Technical data

Maximum load: ..... 15,000 N

Maximum drive torque: ..... 40 Nm

Drive wrench size: ..... 24 mm (hexagonal)

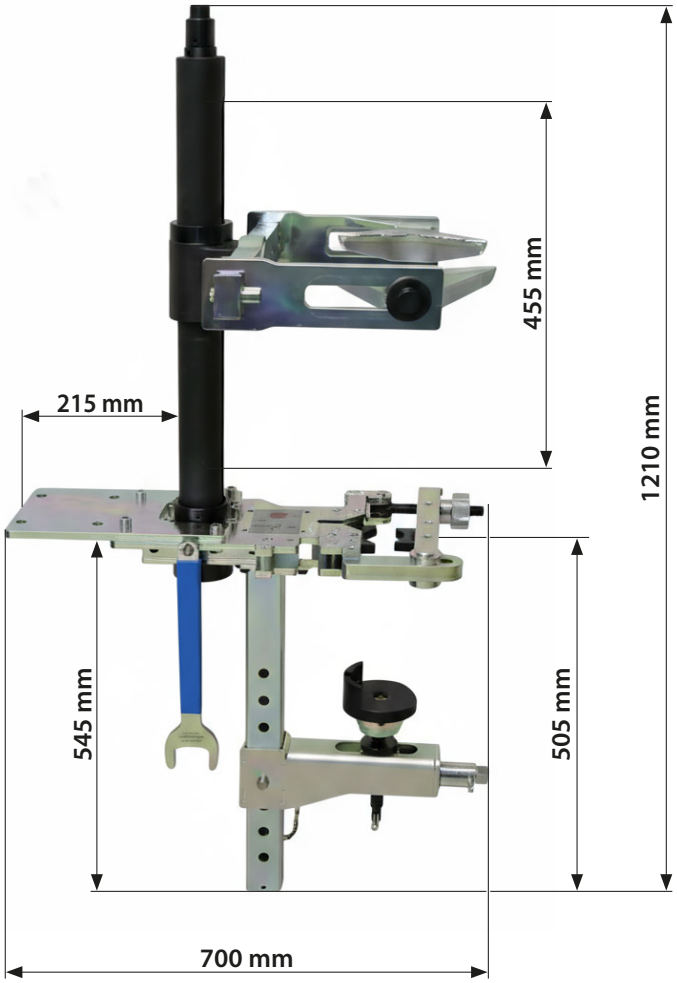
Effective working travel: ..... 570 mm

Minimum permissible spring plate diameter: ..... 125 mm

Maximum permissible spring plate diameter: ..... 220 mm

Total weight: ..... 46 kg

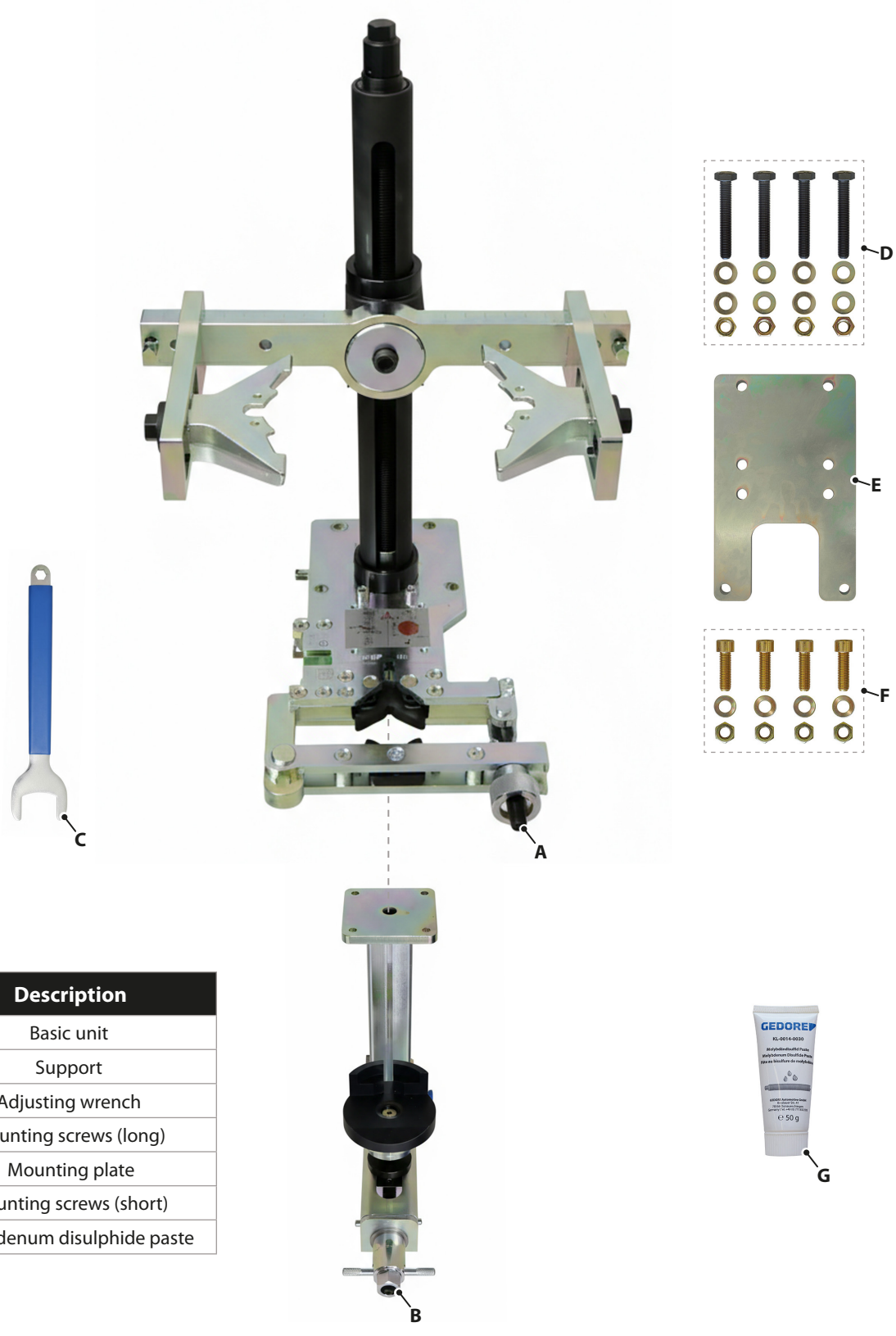
Dimensions: .....



2.3 Scope of delivery

⚠ The scope of delivery must be checked for completeness before use!

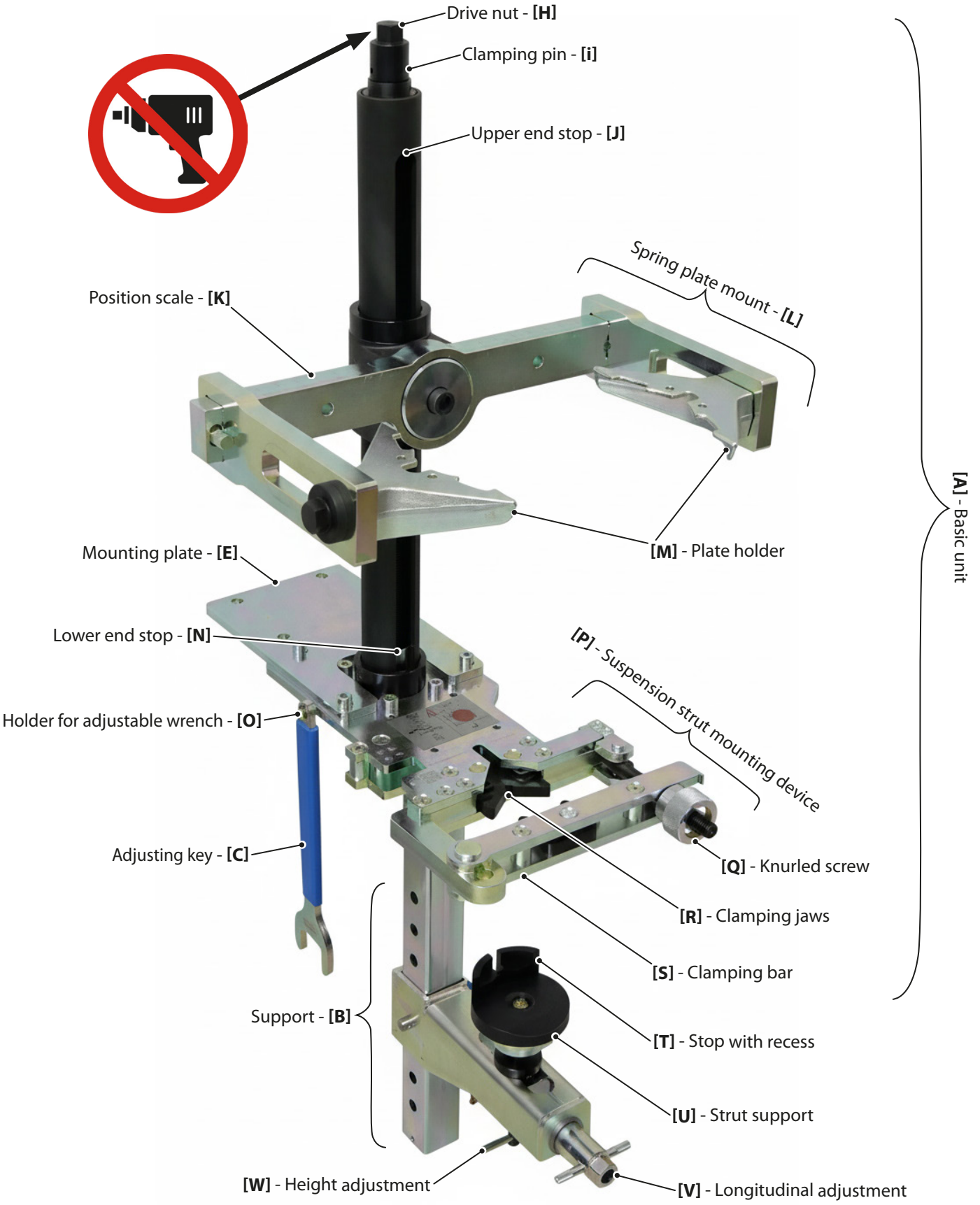
ⓘ A helpful overview of components can be found in **Chapter 2.4**, and a detailed single part overview can be found in **Chapter 7**.



Pos.	Description
A	Basic unit
B	Support
C	Adjusting wrench
D	Mounting screws (long)
E	Mounting plate
F	Mounting screws (short)
G	Molybdenum disulphide paste

2.4 Component overview

ⓘ The overview shows the main components of the spring compressor and their designations.



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3. INITIAL ASSEMBLY

ⓘ This chapter describes the initial assembly and secure fastening of the spring compressor.

3.1 Assembling the spring compressor

1: Safely set down the base unit [A] and unscrew the 4x fastening screws...

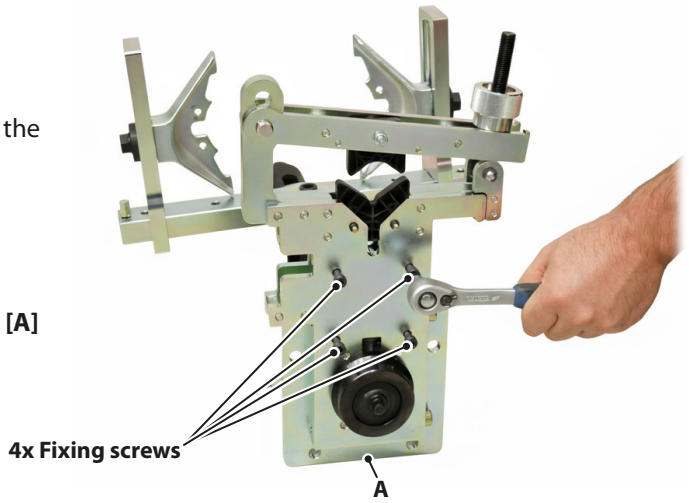
⚠WARNING

During installation, heavy parts of the spring compressor may fall or physically overload the person performing the work. This can result in SERIOUS INJURY!

- **Always lift heavy parts of the spring compressor with the help of a second specialist!**

1. With the assistance of a second qualified person, place the base unit **[A]** securely on a non-slip surface.

2. Unscrew the **4x fixing screws** on the base unit **[A]** and set them aside for later use.



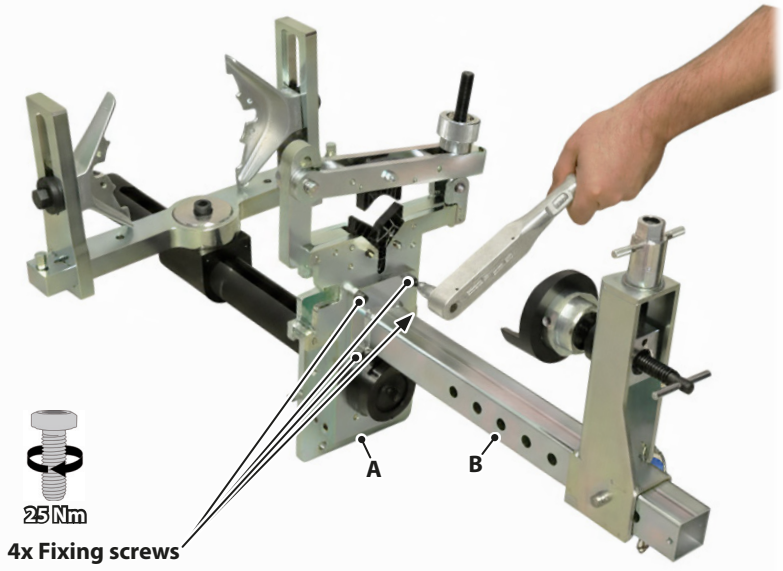
2: Attach the support [B] to the base unit [A] in the correct position...

⚠WARNING

Incorrect assembly may cause the spring compressor to break, resulting in a clamped suspension strut or other parts being ejected in an uncontrolled manner. This may result in DEATH or SERIOUS INJURY.

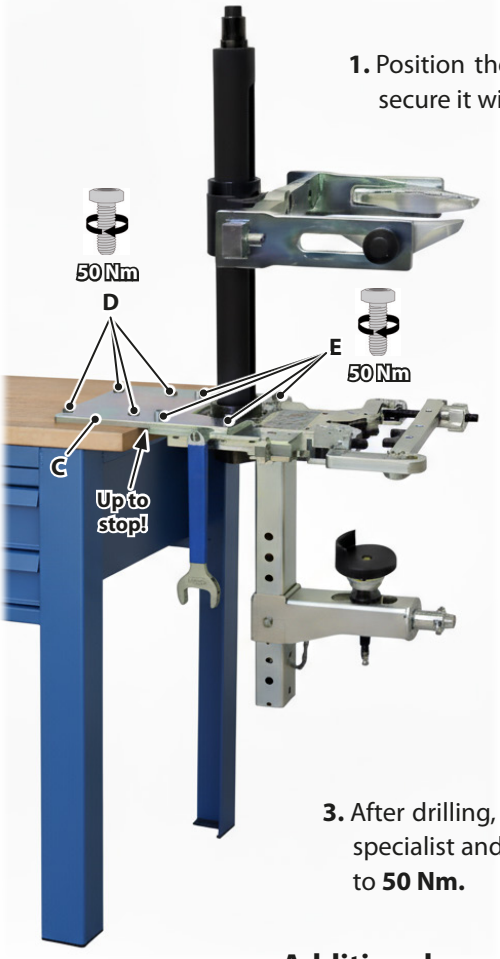
- **Assemble the spring compressor exactly according to the specifications!**
- **Only use the spring compressor with GEDORE original parts!**

3. Position the support **[B]** correctly on the base unit **[A]** with the help of a second specialist, as shown, and fasten it using the **4x fixing screws**. **Tighten** the **fixing screws** crosswise to **25 Nm** .



3.2 Attaching the spring compressor

3: Secure the spring compressor to a workbench or workshop trolley, for example...



1. Position the mounting plate **[C]** correctly on **the spring compressor** as shown and secure it with the **4x** short mounting screws **[E]** . The screws **[E]** crosswise to **50 Nm.**

⚠WARNING

When securing, heavy parts of the spring compressor may fall or physically overload the person performing the work. This can lead to SERIOUS INJURIES!

- **Heavy parts of the spring compressor should only be lifted with the help of a second specialist.**

2. With the help of a second specialist, place the spring compressor on a stable work surface and mark the **4** holes **(Ø 12 mm)** to be drilled.

ⓘ The thickness of the worktop should be between **25 and 50 mm**.

3. After drilling, reattach the spring compressor to the worktop with the help of a second specialist and secure it with the **4x** long mounting screws **[D]** . The screws **[D]** crosswise to **50 Nm.**

Additional mounting options for the spring compressor in combination with the appropriate accessories.

GEDORE workshop trolley

Required accessories:
KL-5501-210

Mobile work frame

Required accessories:
KL-5501-500

Wall mounting

Required accessories:
KL-5501-211 or KL-5501-212

ⓘ For further information and accessories, see ***www.gedore-automotive.com*** .

4. PREPARING

ⓘ This chapter describes the preparatory measures to be taken before using the spring compressor.

4.1 Check the stability of the spring compressor

4: Pull and press the spring compressor firmly to check its stability...

⚠WARNING

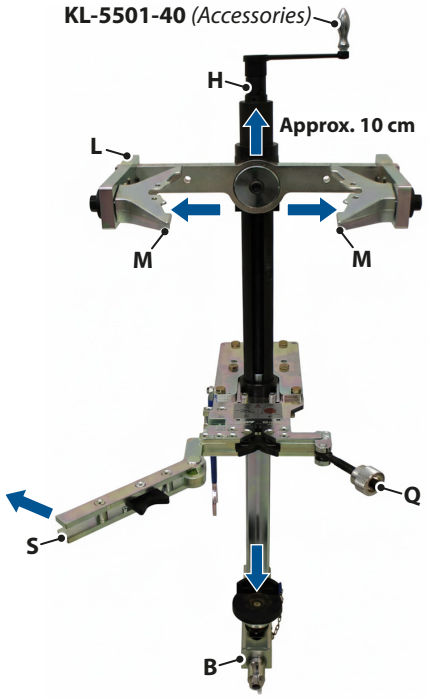
Incorrect assembly may cause the spring compressor to tip over or fall, resulting in a clamped suspension strut as well as other parts being ejected in an uncontrolled manner. This may result in DEATH or SERIOUS INJURY.

- **Before each use, check that the spring compressor is securely fastened and cannot tip over!**

1. To check the stability, hold the spring compressor firmly in the upper area and pull and push it forcefully forwards, backwards, to the right and to the left. The spring compressor must not wobble and must not tip over when mounted on a workbench or workshop trolley.

4.2 Prepare the spring compressor

5: Assemble the drive parts and move the spring compressor to its initial position...



1. To operate the spring compressor, attach a suitable reversible ratchet with a **24 mm** socket wrench insert to the drive nut **[H]**. Optionally, for faster and more convenient operation, use the hand crank - **KL-5501-40**, which is available as an accessory.

ⓘ To make it easier to insert a suspension strut, always return the spring compressor to its initial position first.

2. Move the spring plate mount **[L]** to approximately **10 cm** before the upper end stop by turning the drive nut **[H]** counterclockwise.
3. The two plate holders **[M]** as far as they will go to the right and left.
4. The support **[B]** to the stop, pulling out the plug-in pin.
5. Open the suspension strut holder by **loosening** the knurled screw **[Q]** and **folding open** the clamping bar **[S]** .

5. APPLICATION EXAMPLE

ⓘ This chapter uses an application example to describe how to safely wrench and detension a coil spring on a McPherson-suspension strut during removal and installation.

5.1 Spring removal

6: Fix the suspension strut in the correct position in the spring compressor...

⚠WARNING

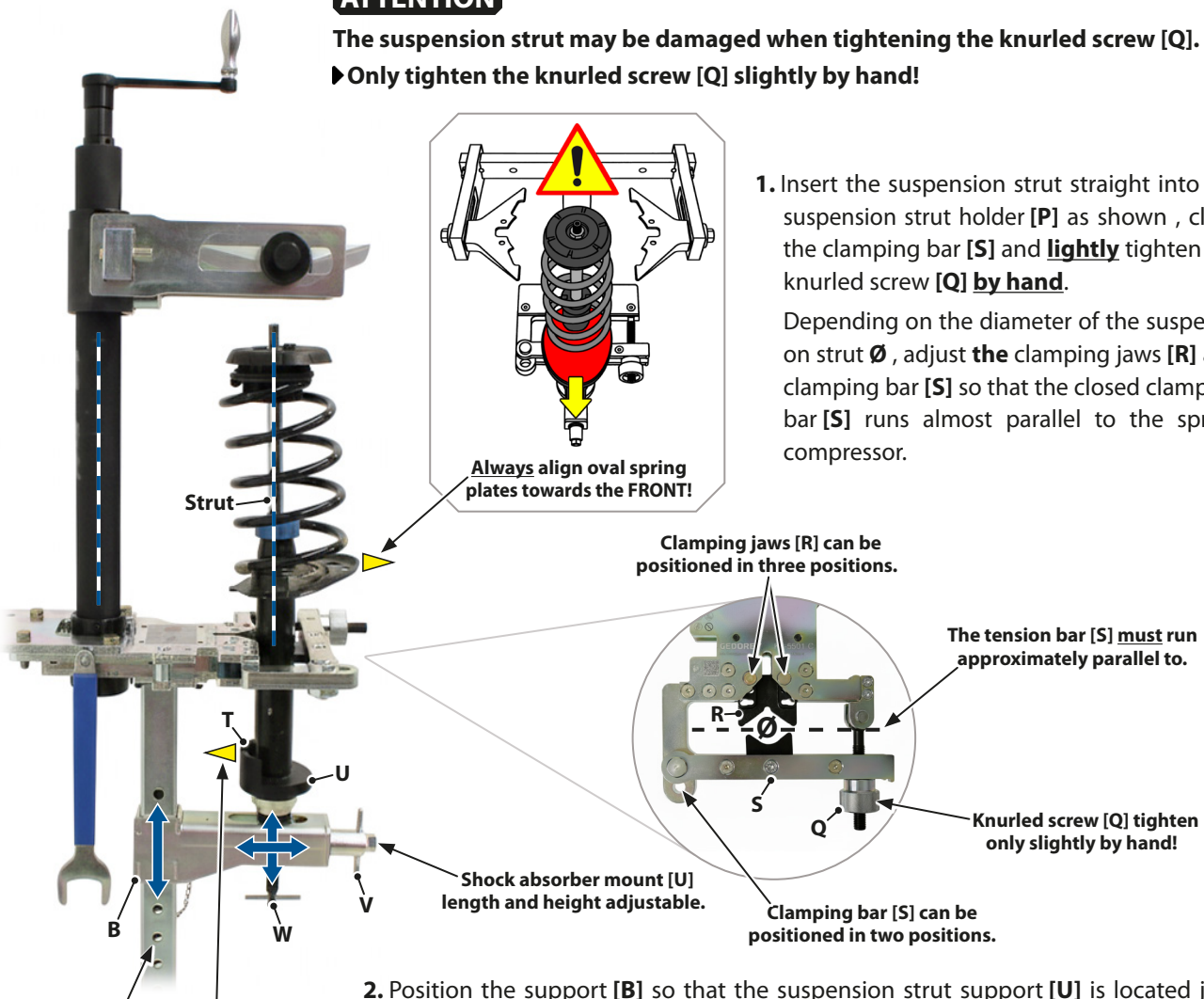
Incorrect fastening can cause the suspension strut to slip off the spring compressor and be ejected in an uncontrolled manner. This can result in DEATH or SERIOUS INJURY.

- **The suspension strut must be fixed straight and securely in the spring compressor!**
- **The stop [T] on the suspension strut mount [U] must be aligned towards the REAR!**
- **Struts with oval lower spring plates must always be aligned towards the FRONT!**

ATTENTION

The suspension strut may be damaged when tightening the knurled screw [Q].

- **Only tighten the knurled screw [Q] slightly by hand!**



1. Insert the suspension strut straight into the suspension strut holder **[P]** as shown , close the clamping bar **[S]** and **lightly** tighten the knurled screw **[Q] by hand**.

Depending on the diameter of the suspension strut **Ø** , adjust **the** clamping jaws **[R]** and clamping bar **[S]** so that the closed clamping bar **[S]** runs almost parallel to the spring compressor.

2. Position the support **[B]** so that the suspension strut support **[U]** is located just below the suspension strut.

Then adjust the suspension strut support **[U]** using the height adjustment **[W]** as well as the longitudinal adjustment **[V]** until the suspension strut rests securely on the entire surface.

ⓘ Unusual suspension strut designs may require additional accessories; see **Chapter 6** or ***www.gedore-automotive.com*.**

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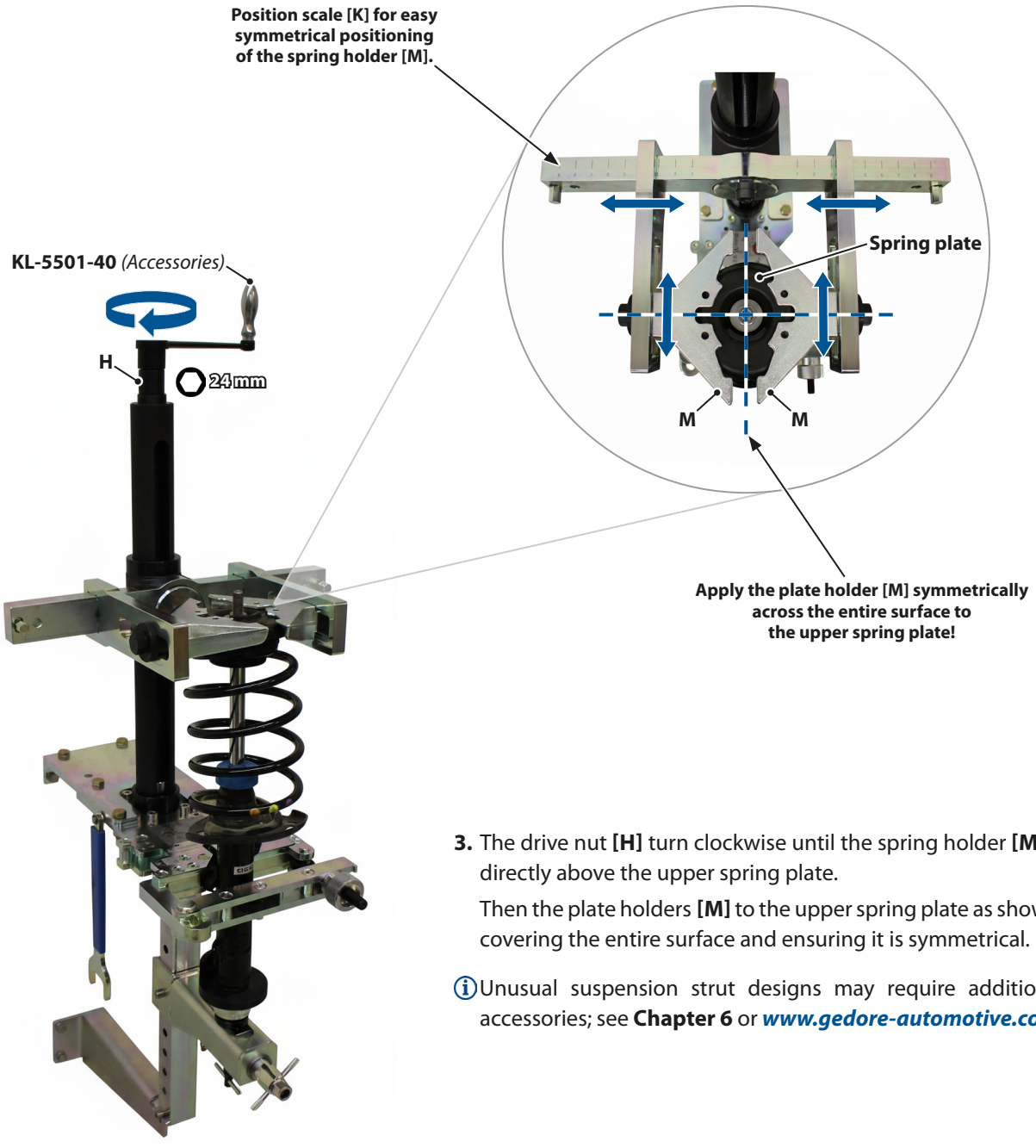
7: Position the spring holder correctly on the upper spring plate...

⚠WARNING

If incorrectly attached, the spring retainers [M] on the upper spring plate may slip off, causing the spring as well as other parts to be ejected in an uncontrolled manner. This can result in DEATH or SERIOUS INJURY.

- **Spring holder [M] must never be applied directly to the spring!**
- **Spring holder [M] may only be attached to the upper spring plate!**
- **The spring retainers [M] must be positioned symmetrically on the upper spring plate!**
- **Spring holder [M] must rest securely on the entire surface of the upper spring plate!**



3. The drive nut **[H]** turn clockwise until the spring holder **[M]** is directly above the upper spring plate.

Then the plate holders **[M]** to the upper spring plate as shown, covering the entire surface and ensuring it is symmetrical.

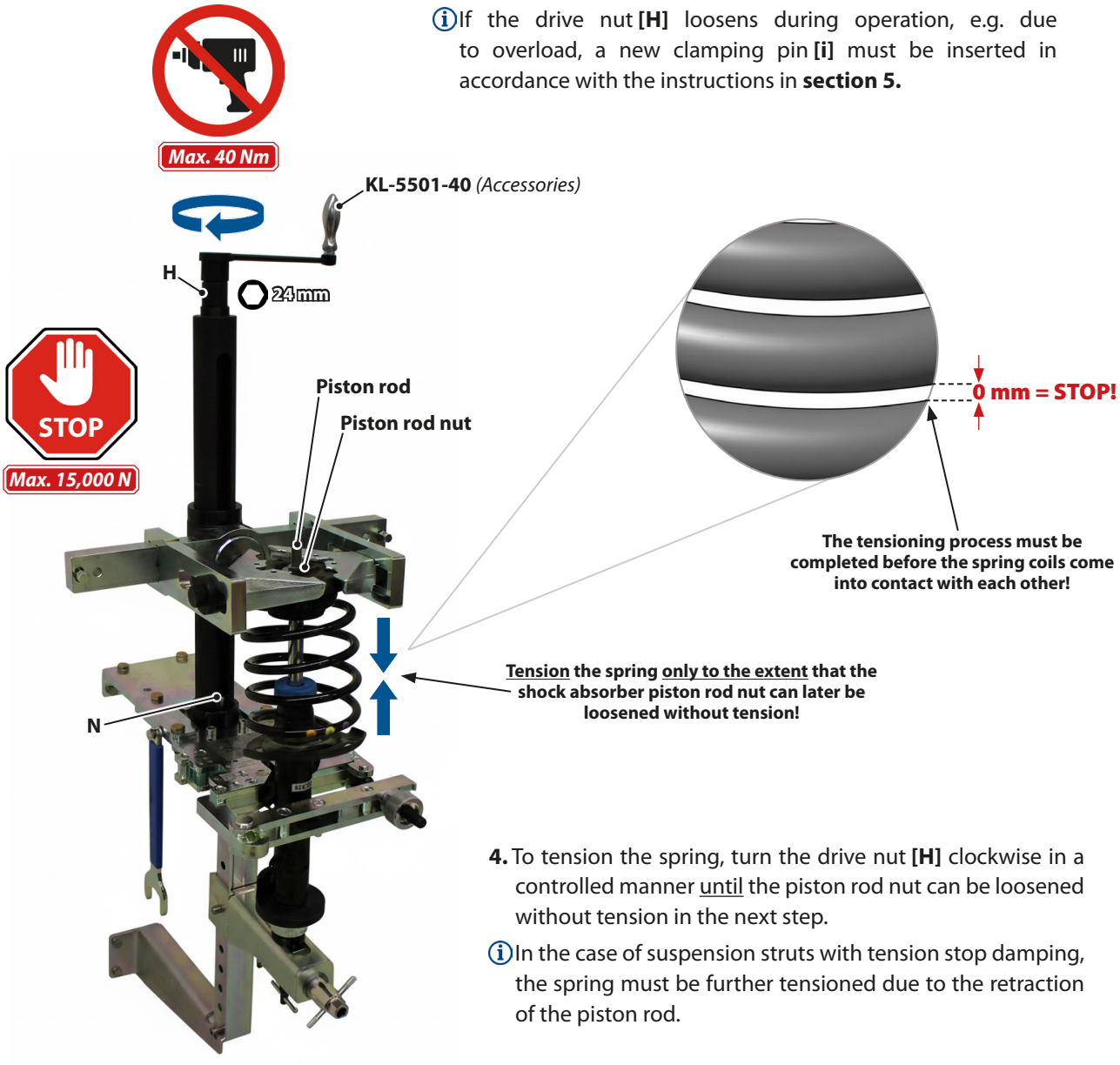
ⓘ Unusual suspension strut designs may require additional accessories; see **Chapter 6** or ***www.gedore-automotive.com*.**

8: Tension the spring carefully...

⚠WARNING

Very high forces are involved when tensioning springs! Overloading or misuse can cause the spring compressor to break, resulting in the spring strut as well as other parts being ejected in an uncontrolled manner. This can lead to DEATH or SERIOUS INJURY.

- **The maximum load of 15,000 newtons on the spring compressor must never be exceeded!**
- **The drive nut [H] must never be operated with a drive torque exceeding 40 Nm!**
- **The spring compressor must never be operated with an impact wrench or other mechanical drive!**
- **The spring compressor may only be driven by hand using muscle power with a manual drive!**
- **The tensioning process must be stopped at the latest when the spring compressor has been retracted to the lower end stop [N] or before the spring coils touch each other!**



ⓘ If the drive nut **[H]** loosens during operation, e.g. due to overload, a new clamping pin **[i]** must be inserted in accordance with the instructions in **section 5.**

4. To tension the spring, turn the drive nut **[H]** clockwise in a controlled manner until the piston rod nut can be loosened without tension in the next step.

ⓘ In the case of suspension struts with tension stop damping, the spring must be further tensioned due to the retraction of the piston rod.

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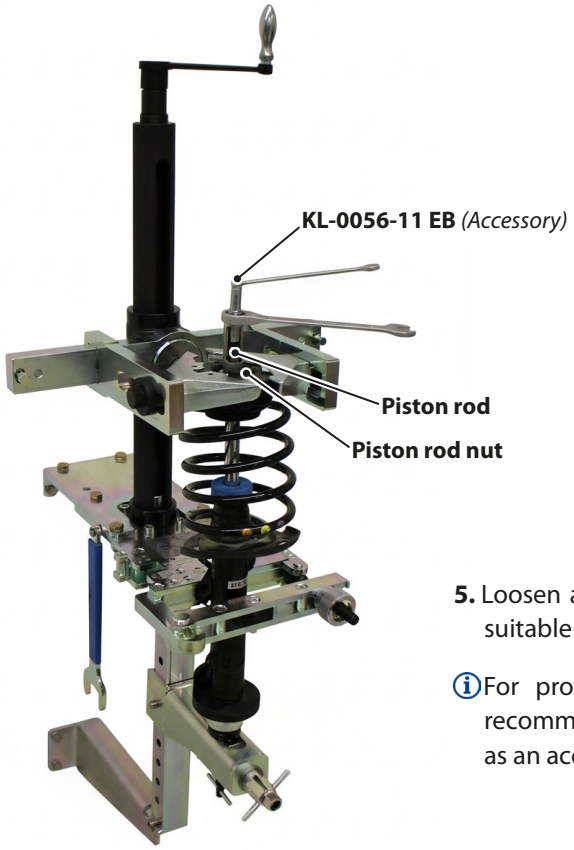
9: Loosen the piston rod nut according to the manufacturer's specifications...



CAUTION

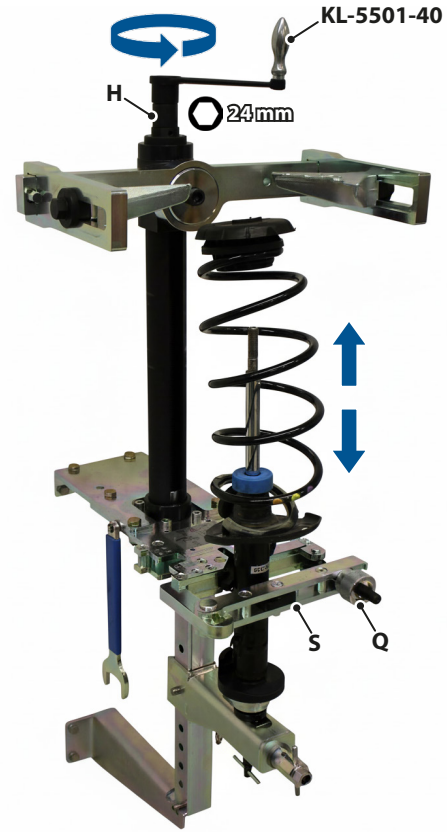
When loosening the piston rod nut, the piston rod may suddenly retract from the suspension strut. This may cause INJURY to your hands.

- **In the case of suspension struts with rebound damping, the spring must be tensioned further due to the retraction of the piston rod so that the piston rod nut can be loosened without tension!**

5. Loosen and remove the piston rod nut on the suspension strut using a suitable tool in accordance with the manufacturer's specifications.

ⓘ For professional loosening and tightening of piston rod nuts, we recommend the shock absorber piston rod set - **KL-0056-11 EB**, available as an accessory, see **GEDORE Automotive Catalogue**.

10: Relax the spring in a controlled manner...



6. To release the spring, turn the drive nut **[H]** counterclockwise in a controlled manner until the spring and spring plate can be removed without tension.

CAUTION

When removing the suspension strut, the spring, spring plate or other parts may fall down. This can cause INJURIES to the legs and feet.

- **Before removing the suspension strut, the spring and other loose parts must first be removed.**
- **Personal protective equipment, such as safety footwear, must always be worn at work.**

7. To remove the suspension strut, loosen the knurled screw **[Q]** and **open** the clamping bar **[S]** .

5.2 Installing the spring

11: Fix the suspension strut in the correct position in the spring compressor...

⚠WARNING

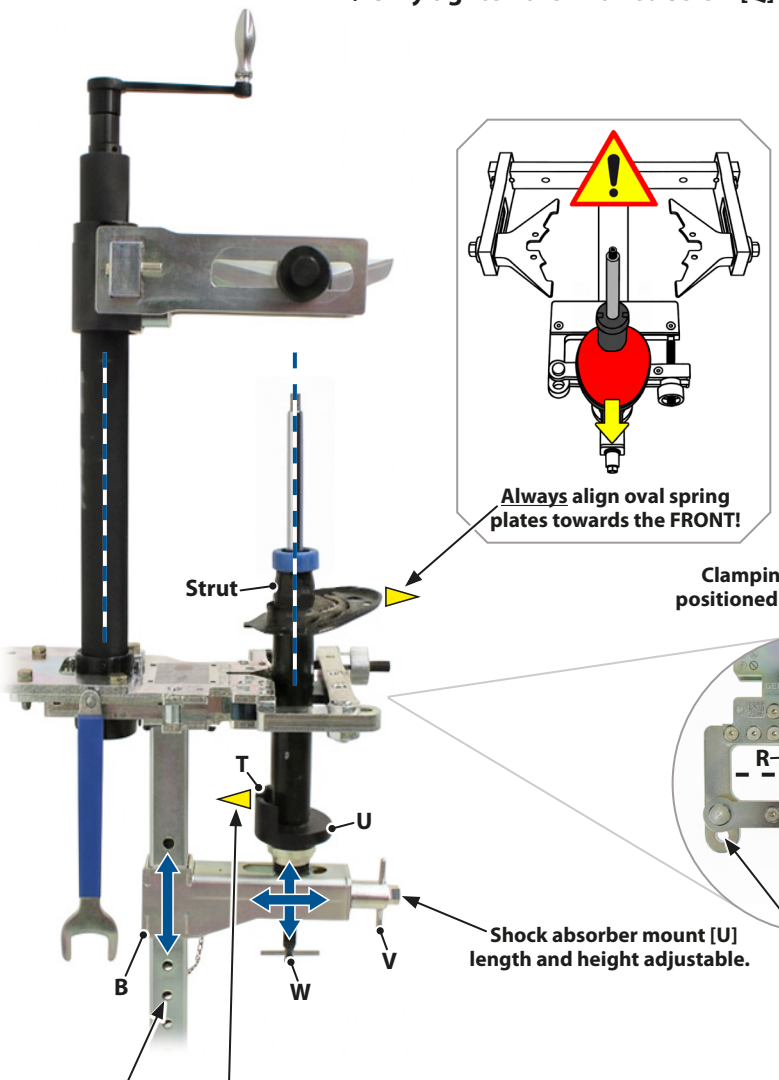
Incorrect fastening can cause the suspension strut to slip off the spring compressor and be ejected in an uncontrolled manner. This can result in DEATH or SERIOUS INJURY.

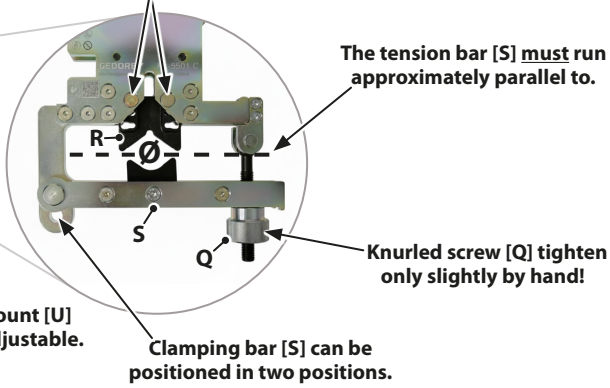
- **The suspension strut must be fixed straight and securely in the spring compressor!**
- **The stop [T] on the suspension strut mount [U] must be aligned towards the REAR!**
- **Struts with oval lower spring plates must always be aligned towards the FRONT!**

ATTENTION

The suspension strut may be damaged when tightening the knurled screw [Q].

- **Only tighten the knurled screw [Q] slightly by hand!**





1. Insert the suspension strut straight into the suspension strut holder **[P]** as shown , close the clamping bar **[S]** and **lightly** tighten the knurled screw **[Q] by hand**.

Depending on the diameter of the suspension strut **Ø** , adjust **the** clamping jaws **[R]** and clamping bar **[S]** so that the closed clamping bar **[S]** runs almost parallel to the spring compressor.

2. Position the support **[B]** so that the suspension strut support **[U]** is located just below the suspension strut.

Then adjust the suspension strut support **[U]** using the height adjustment **[W]** as well as the longitudinal adjustment **[V]** until the suspension strut rests securely on the entire surface.

ⓘ Unusual suspension strut designs may require additional accessories; see **Chapter 6** or ***www.gedore-automotive.com*** **.**

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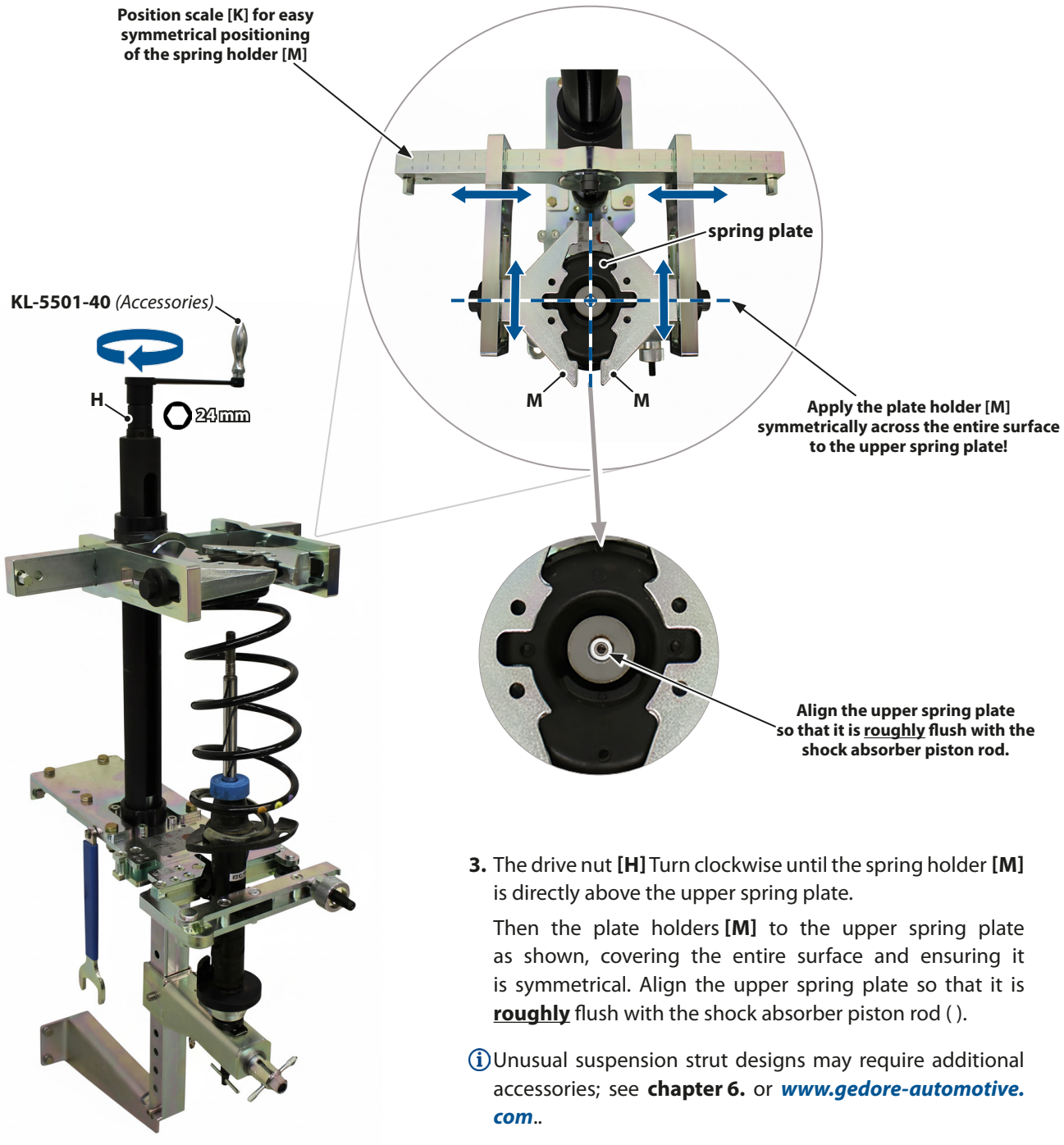
12: Position the spring holder correctly on the upper spring plate...

WARNING

If incorrectly attached, the spring retainers [M] on the upper spring plate may slip off, causing the spring as well as other parts to be ejected in an uncontrolled manner. This can result in DEATH or SERIOUS INJURY.

- **Spring holder [M] must never be applied directly to the spring!**
- **Spring holder [M] may only be attached to the upper spring plate!**
- **The spring retainers [M] must be positioned symmetrically on the upper spring plate!**
- **Spring holder [M] must rest securely on the entire surface of the upper spring plate!**



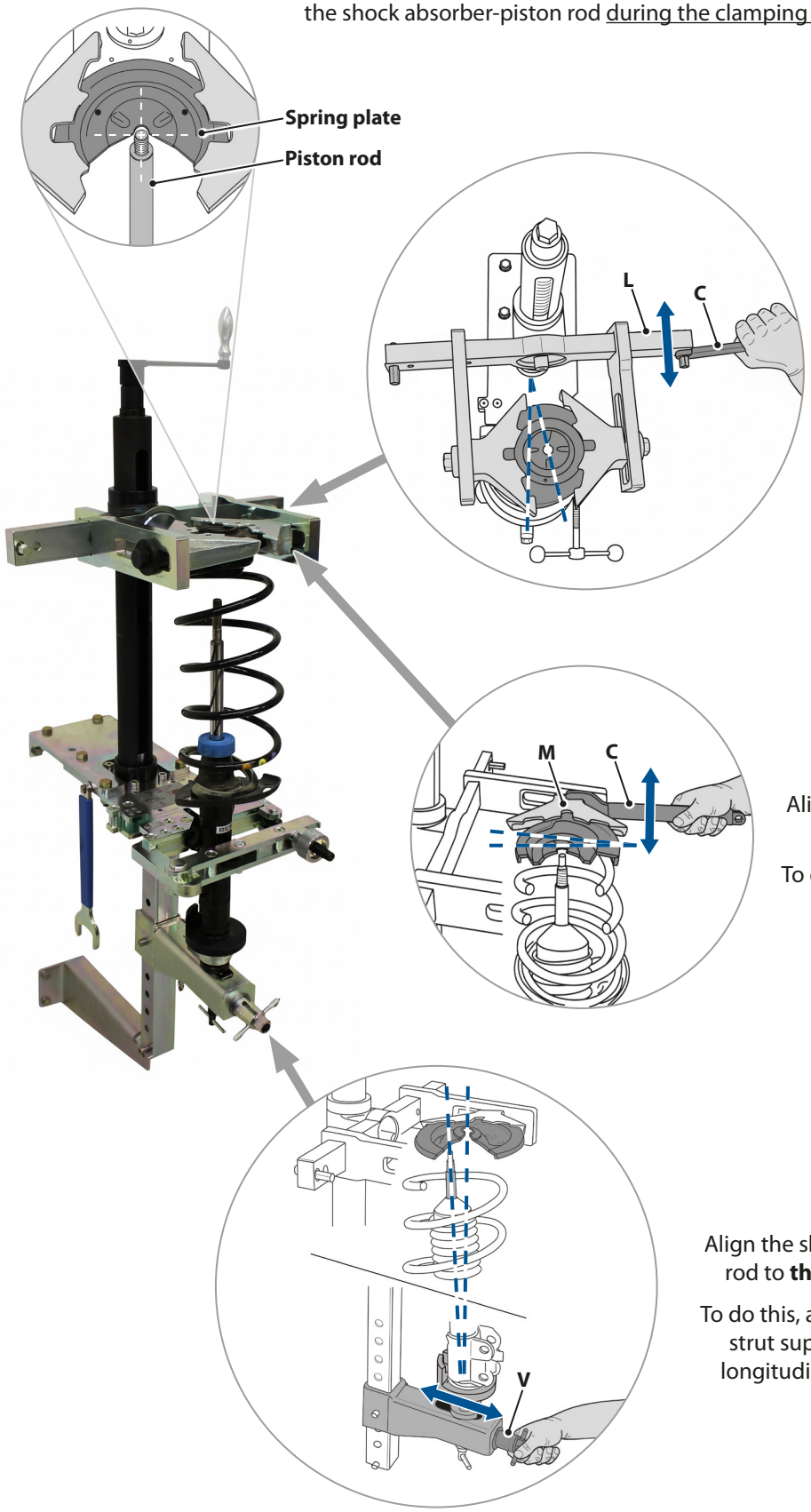
3. The drive nut **[H]** Turn clockwise until the spring holder **[M]** is directly above the upper spring plate.

Then the plate holders **[M]** to the upper spring plate as shown, covering the entire surface and ensuring it is symmetrical. Align the upper spring plate so that it is **roughly** flush with the shock absorber piston rod ( ).

Unusual suspension strut designs may require additional accessories; see **chapter 6.** or ***www.gedore-automotive.com***..

13: Align the upper spring plate and shock absorber piston rod...

4. This point shows the various options for precisely aligning the upper spring plate and the shock absorber-piston rod during the clamping process.



Align the spring plate to **the RIGHT** or **LEFT**.

To do this, swivel the spring plate mount **[L] accordingly** using the adjustment key **[C]** .

Align the spring plate to **the TOP** or **BOTTOM**.

To do this, tilt the plate holder **[M]** with the adjustment key **[C] accordingly** .

Align the shock absorber piston rod to **the FRONT or REAR**.

To do this, adjust the suspension strut support **[U]** using the longitudinal adjustment **[V]**.

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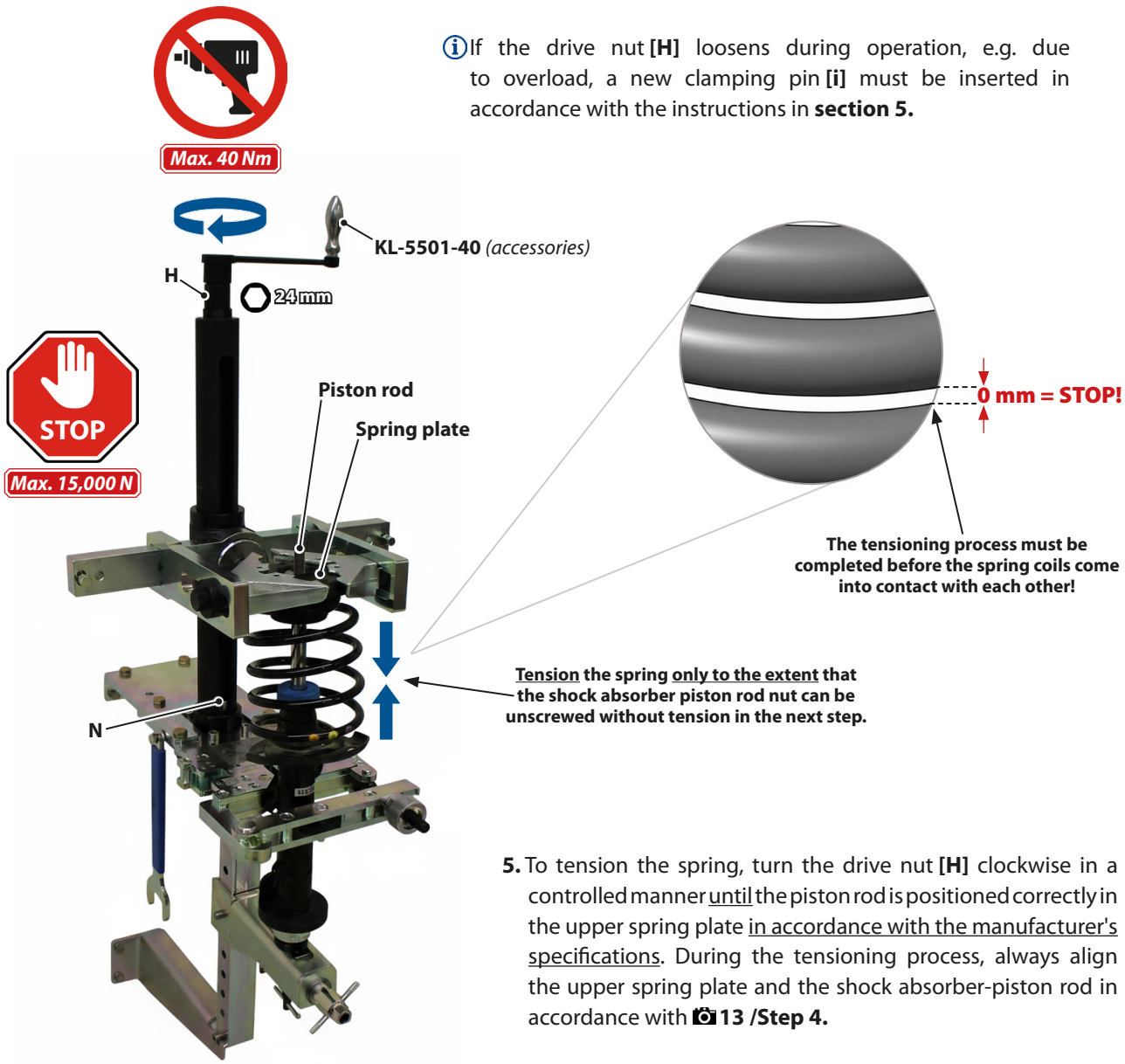
14: Check spring tension...

WARNING

Very high forces are involved when tensioning springs! Overloading or misuse can cause the spring compressor to break, resulting in the spring strut as well as other parts being ejected in an uncontrolled manner. This can lead to DEATH or SERIOUS INJURY.

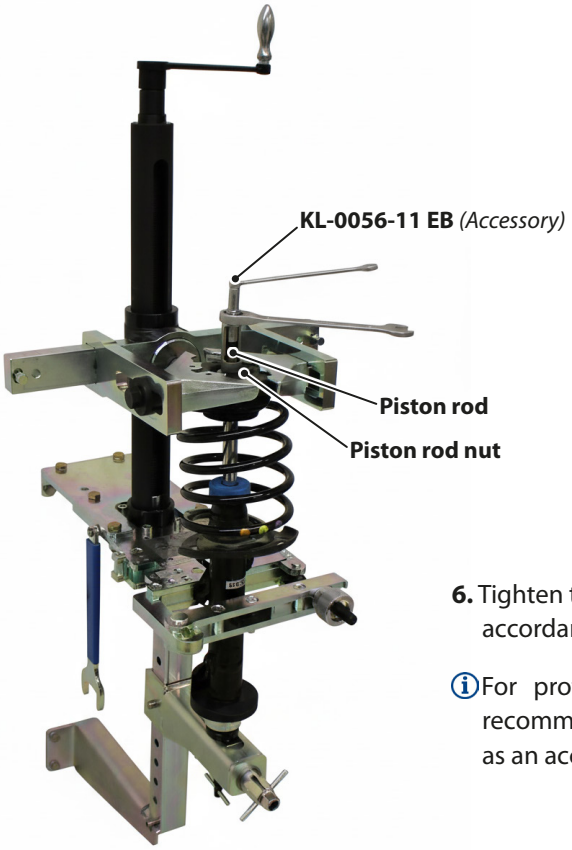
- **The maximum load of 15,000 newtons on the spring compressor must never be exceeded!**
- **The drive nut [H] must never be operated with a drive torque exceeding 40 Nm!**
- **The spring compressor must never be operated with an impact wrench or other mechanical drive!**
- **The spring compressor may only be driven by hand using muscle power with a manual drive!**
- **The tensioning process must be stopped at the latest when the spring compressor has been moved to the lower end stop [N] or before the spring coils touch each other!**



ⓘ If the drive nut **[H]** loosens during operation, e.g. due to overload, a new clamping pin **[i]** must be inserted in accordance with the instructions in **section 5.**

5. To tension the spring, turn the drive nut **[H]** clockwise in a controlled manner until the piston rod is positioned correctly in the upper spring plate in accordance with the manufacturer's specifications. During the tensioning process, always align the upper spring plate and the shock absorber-piston rod in accordance with **13 /Step 4.**

15: Screw on the piston rod nut according to the manufacturer's specifications...



ATTENTION

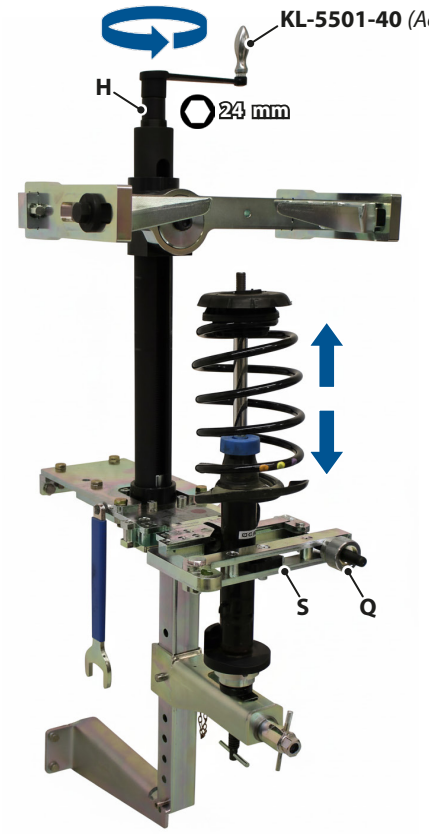
The suspension strut may be damaged.

- **Always observe the tightening torque specified by the vehicle manufacturer for the piston rod nut!**

6. Tighten the piston rod nut on the suspension strut using a suitable tool in accordance with the manufacturer's specifications.

ⓘ For professional loosening and tightening of piston rod nuts, we recommend the shock absorber piston rod set - **KL-0056-11 EB**, available as an accessory, see **GEDORE Automotive Catalogue**.

16: Release the spring compressor in a controlled manner and remove the suspension strut...



7. To release the spring compressor, carefully turn the drive nut **[H]** anticlockwise until the suspension strut can be removed without tension in the next step.

⚠CAUTION

The suspension strut may fall when removed. This may cause INJURY to the legs and feet.

- **Personal protective equipment, such as safety footwear, must always be worn at work.**

8. To remove the suspension strut, loosen the knurled screw **[Q]** and **open** the clamping bar **[S]** .

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6. REPLACE THE CLAMPING PIN

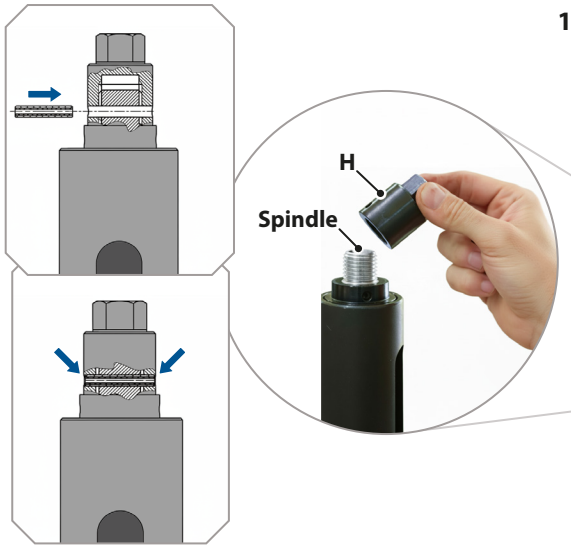
ⓘ This chapter describes how to replace the clamping pin **[i]** on the drive nut **[H]**, if it has come loose, e.g. as a result of overload.

17: Replace the grub pin [i] on the drive nut [H]...

ATTENTION

The spindle on the spring compressor may be damaged.

- **The auxiliary drive must never be used to tension the spring!**
- **The auxiliary drive is used exclusively to relieve and counteract the spring compressor when replacing the tensioning pin [i] on the drive nut [H]!**

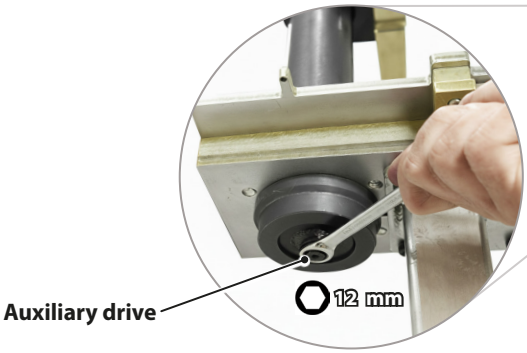


1. Unscrew the drive nut **[H]** clockwise on the spindle of the spring compressor. If necessary, hold the auxiliary drive in place with a suitable tool.

2. Completely remove the remains of the defective clamping pin **[i]** from the holes.

3. Unscrew the drive nut **[H]** counterclockwise until the holes in the drive nut **[i] and** the spindle are precisely aligned. If necessary, hold the auxiliary drive in place with a suitable tool.

4. Drive the new tension pin **[i]** - **KL-5501-1114 M** *(accessory)* completely into the hole using a hammer and punch, so that it is flush with the drive nut on both sides.



7. ACCESSORIES AND MORE

ⓘ This chapter shows the various accessories for the spring compressor as well as a conversion kit for upgrading from previous models.

Further current accessories can be found on the homepage at ***www.gedore-automotive.com*** .

7.1 Accessories for the KL-5501 C

18: KL-5501-40 - Hand crank, 24 mm

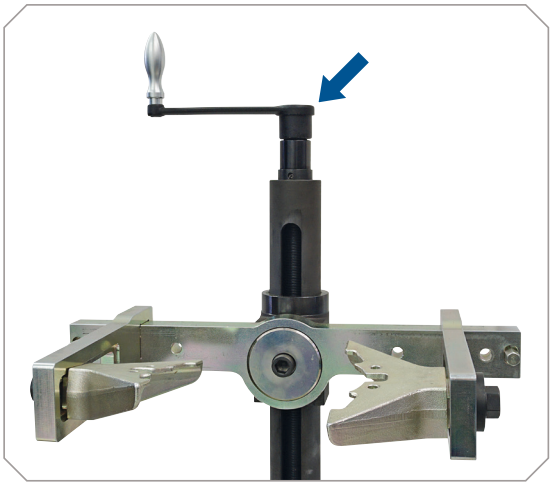
The hand crank enables quick and easy operation of the **KL-5501...** stationary spring compressor when compressing and decompressing a McPherson-suspension strut. • To do this, simply place the hand crank over the 24 mm drive hexagon on the spring compressor.

Technical data

Wrench size: ..... 24 mm / hexagon

Total length:..... 195 mm

Scope of delivery



19: KL-5501-1435 A - Mounting adapter for shock absorbers with fork mount

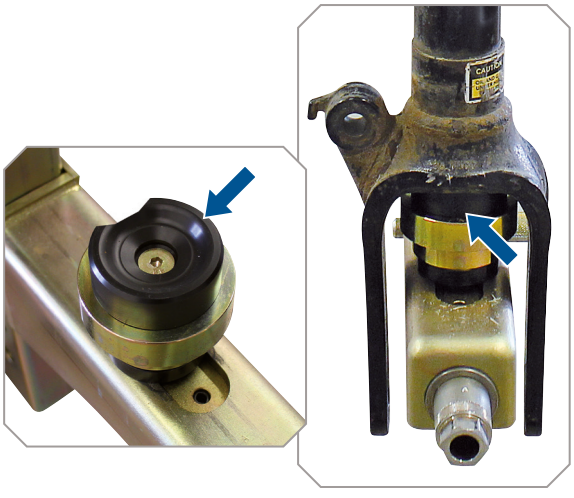
Suitable for suspension struts with fork mounts. Fitted, for example, in Mercedes M-Class (W164, W166), R-Class (W251); Audi Q7 (4LB); VW Touareg (7L, 7P); Porsche Cayenne (9PA, 92A), Panamera (970); etc.

The adapter enables suspension struts with fork mounts to be securely attached to the lower support on **the KL-5501** spring compressor**.** • To do this, the adapter is mounted on the spring compressor in place of the **KL-5501-1431** plastic support.

Technical data

Outer diameter: ..... Ø57 mm

Scope of delivery



20: KL-5501-31 - spring plate adapter, Ø 60 / 90 mm

Suitable for Renault Clio IV (BH/KH); Nissan Qashqai II (J11); VW (MEB platform) ID.3, ID.4; Audi Q4 e-tron; Škoda Enyaq iV.

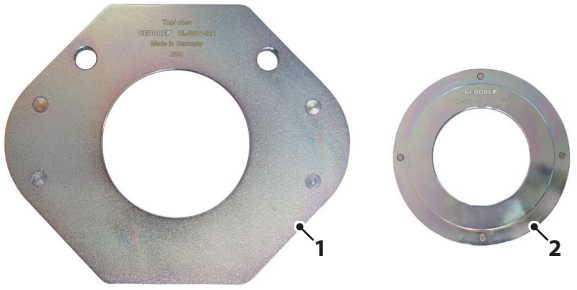
The spring plate adapter enables the **KL-5501** spring compressor to be securely attached to the upper spring plate on the front axle suspension strut**.** • To do this, simply place the **Ø90 mm** plate holder on the upper spring plate. Depending on the spring plate, the diameter can be further reduced by inserting the **Ø60 mm** adapter ring.

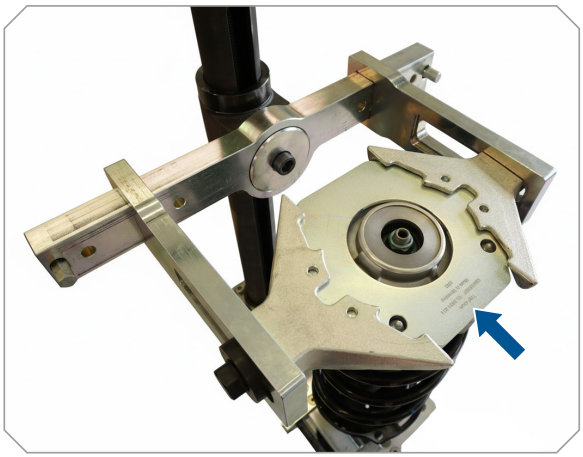
Technical data

Inner diameter: ..... Ø90 + Ø60 mm

Scope of delivery

Pos.	Part no.	Description	quantity
1	KL-5501-311	Plate holder Ø90 mm	1
2	KL-5501-312	Plate adapter from Ø90 to Ø60 mm	1





21: KL-5501-32 - Mounting plate BMW/Toyota for KL-5501

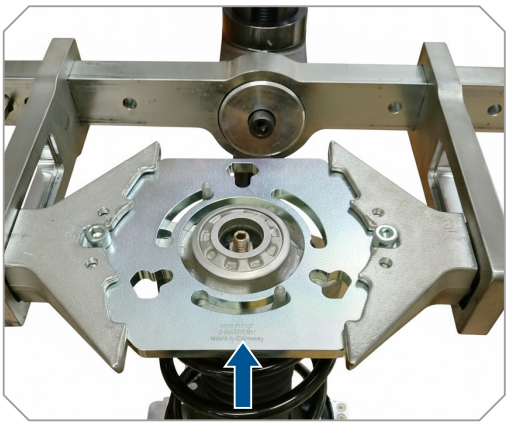
Suitable for McPherson struts from BMW, Toyota and Lexus, especially for models with stud bolts on the upper spring plate (strut bearing). Installed, for example, in BMW 1 Series (E81, E87, E88, E82), 2 Series (G42, G87), 3 Series (G20, G21, G28, G80, G81), 3 Series (E90, E91, E92, E93), 4 Series (G22, G23, G26, G82, G83), 5 Series (E60, E61), X1 (E84), X3 (G01, F97, G08), X4 (G02, F98), Z4 (G29); Toyota Avalon (XX50), Auris (E180), Avensis II (T25), Camry (XV70), Corolla (E170, E180), Corolla (E210, MZEA12, ZRE212, ZWE211), Crown (S180, S200), Mark X (GRX120, GRX121, GRX130), Prius (ZVW30), RAV4 (XA50), Reiz (ZRE152), Majesta (S180, S200); Lexus CT 200h (ZWA10), ES (XV70), GS (S190), IS (GSE20, GSE22), LS 500 (V35A, VXFA50, GVF50), NX (AZ20) and more...

The support plate enables the **KL-5501 spring** compressor to be securely attached to the upper spring plate on the suspension strut**.** • To do this, simply place the support plate on the upper spring plate before attaching the spring retainers. • The two screws on the support plate ensure that the spring retainers are securely centred.

Technical data

Dimensions: ..... 248 x 170 mm

Scope of delivery



7.2 Upgrade options for KL-5501 and KL-5501 B

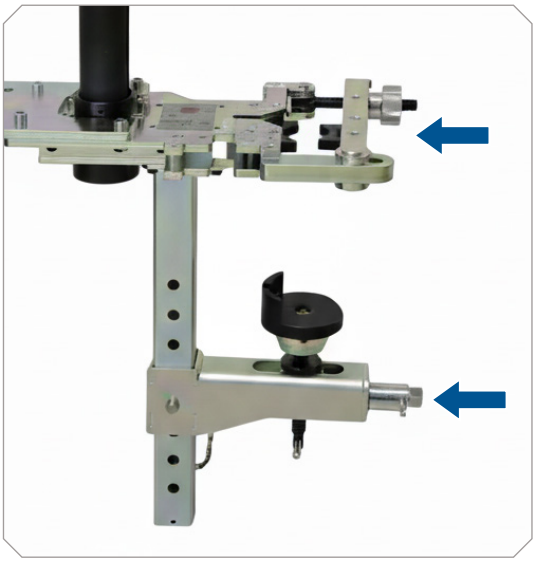
22: KL-5501-194 - Conversion kit to KL-5501 C

Suitable for stationary spring compressors KL-5501 and KL-5501 B.

This conversion kit allows the **KL-5501** or **KL-5501 B** stationary spring compressors to be upgraded to almost the same improved functional level as the **KL-5501 C**.

All modifications at a glance:

- Optimized clamping unit for easy clamping of state-of-the-art electronically controlled suspension strut designs.
- Slimmer clamping jaws for effortless fixing of suspension struts with a very small contact surface on the shock absorber tube.
- Improved adjustment nut with toggle for faster alignment of the lower shock absorber support.

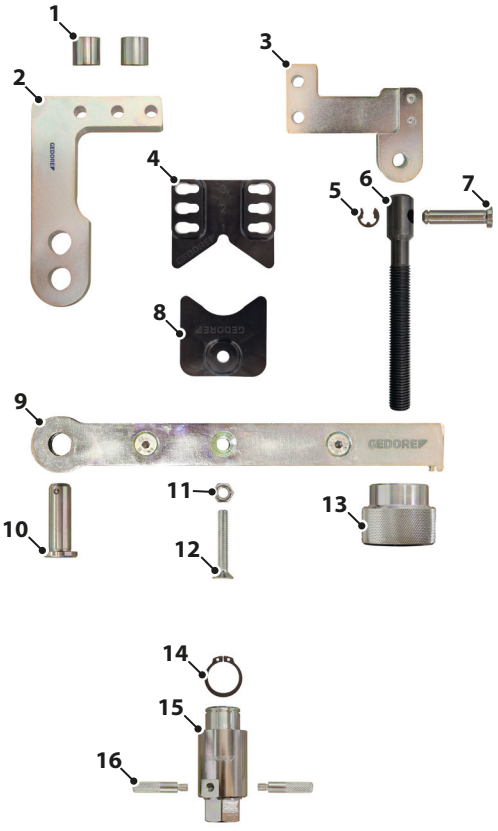


Recommended accessories

Plastic cover Ø100 mm - **KL-5501-1431 A**

Scope of delivery

Item	Item no.	Description	Quantity
1	KL-5000-1006	Spacer	2
2	KL-5501-1941	Groin	1
3	**KL-5501-1942**	**Spindle mount**	**1**
-	KL-5501-1942-1	Adapter clamping unit	1
-	KL-5501-1942-2	Plate 1	1
-	KL-5501-1942-3	Disc 2	1
-	KL-5501-1942-4	Countersunk screw M6x40	2
4	KL-5000-1021	3-way plastic holder	1
5	KL-0055-0011	Retaining ring Ø8 mm	1
6	KL-5000-104	Spindle M16	1
7	KL-5000-106	Bolt	1
8	KL-5000-1022	Plastic pressure piece	1
9	**KL-5000-101**	**Clamping unit**	**1**
-	KL-5000-1011	Clamping bar with recess	1
-	KL-5000-1012	Clamping bar thread	1
-	KL-5501-1207	Countersunk screw M8 x 40 mm	2
-	KL-0040-2584	Cylinder screw M6 x 10 mm	2
10	KL-5000-103	Staking pin with pressure piece	1
11	KL-0035-0003	SK nut M8	1
12	KL-5000-1023	Countersunk screw M8 x 50 mm	1
13	KL-5501-105	Clamping nut M16	1
14	KL-9055-1004	Retaining ring A24	1
15	KL-5501-1415 A	SK union nut	1
16	KL-5501-1427	Lever	2



23: KL-5501-1431 A - Plastic cover for slanted suspension struts, Ø 100 mm

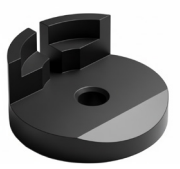
Suitable for stationary spring compressors KL-5501 and KL-5501 B.

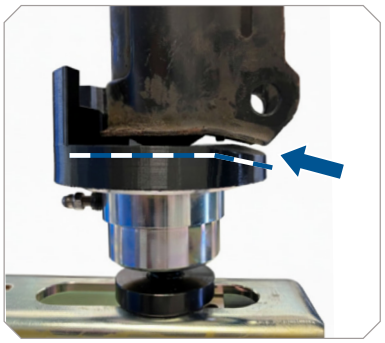
This plastic support allows the stationary spring compressors **KL-5501** or **KL-5501 B** to be upgraded to the optimized spring strut support of the **KL-5501 C**. The support enables secure placement of suspension struts with a partially bevelled support surface on the underside. To do this, simply mount the support on the spring compressor on the lower support instead of the previous plastic support **KL-5501-1431**.

Technical specifications

Outer diameter: ..... Ø100 mm

Scope of delivery

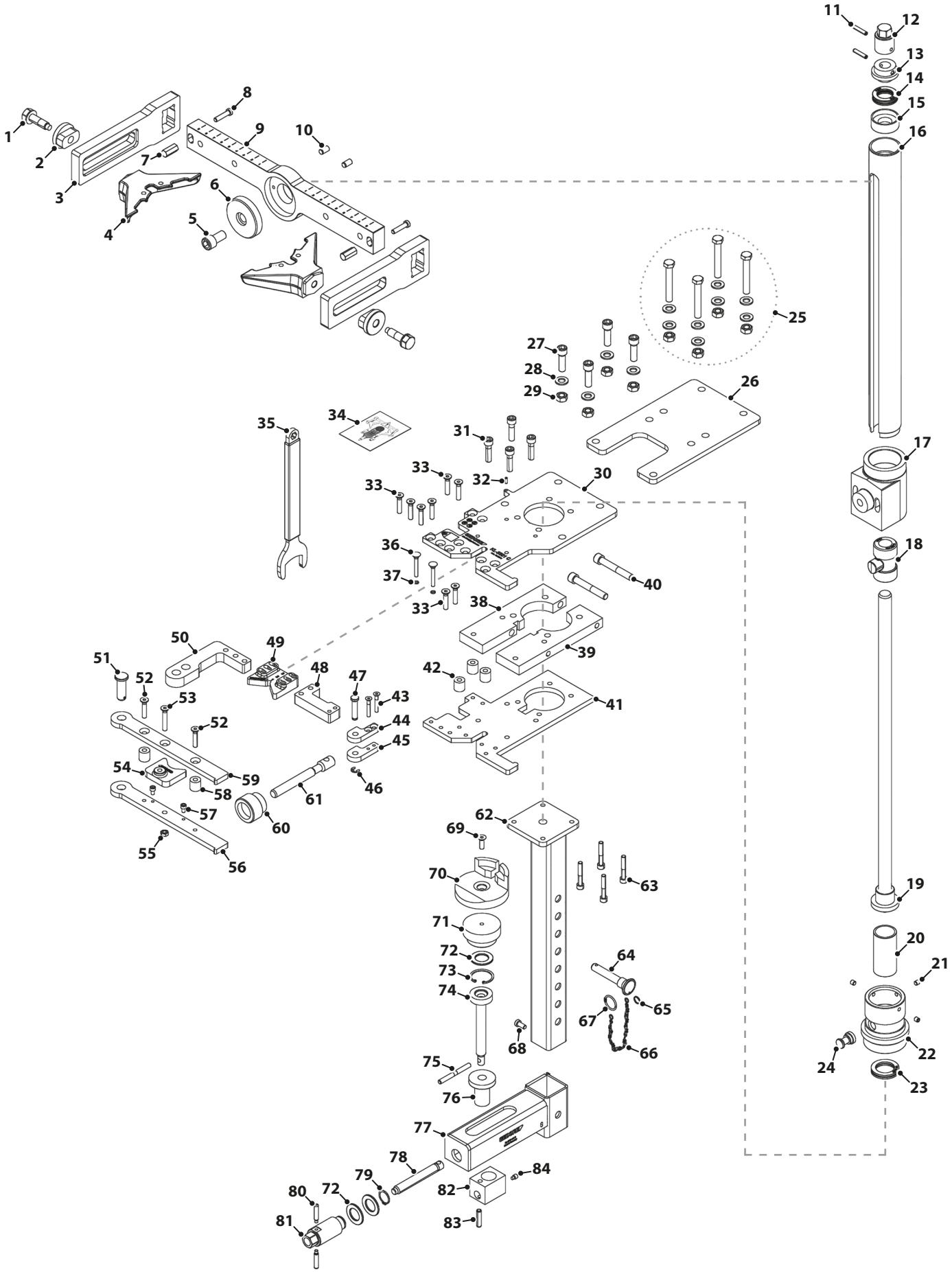




8. SINGLE PART OVERVIEW

KL-5501 C - Stationary spring compressor

Pos.	Part no.	Description	Quantity
1	KL-5501-1307	Special hexagon screw	2
2	KL-5501-1306	Slotted nut	2
3	KL-5501-1303 A	Guide plate	2
4	KL-5501-1304	Plate holder	2
5	KL-5501-1105	Cylinder screw M16 x 30 mm	1
6	KL-5501-1104	Disc Ø80 mm	1
7	KL-5501-1308	Hexagon stop	2
8	KL-5501-1309	Cylinder screw M8 x 35 mm	2
9	KL-5501-1301 B	Cross plate	1
10	KL-5501-1302	Cylindrical pin Ø10 x 20 mm	2
11	KL-5501-1114 M	Clamping pin Ø4/Ø6 x 32 mm pre-assembled	2
12	KL-5501-1113	Drive nut	1
13	KL-5501-1112	Pressure ring	1
14	KL-0027-0011	Axial bearing	1
15	KL-5501-1111	Bearing seat	1
16	KL-5501-1101	Guide tube	1
17	KL-5501-1103	Holder	1
18	KL-5501-1102	Driver	1
19	KL-5501-1110	Spindle with screw connection	1
20	KL-5501-1108	Spacer sleeve	1
21	KL-5501-1117	Threaded pin M8x8 mm	3
22	KL-5501-1109 C	Bearing housing	1
23	KL-0028-1115	Axial needle roller bearing	1
24	KL-5501-1116 B	Bolt	1
25	KL-5501-151	Fastening screw set M12x80 mm (4 pieces)	1
-	**KL-5501-123**	**Adapter plate set**	**1**
26	KL-5501-1231	Adapter plate	1
27	KL-5501-1232	Cylinder screw M12x40	4
28	KL-0066-0004	Washer Ø12	4
29	KL-0035-0023	Hexagon nut M12	4
30	KL-5501-1206 C	Base plate, top	1
31	KL-0041-3804-3	Cylinder screw M10 x 40 mm	4
32	KL-5501-1218	Clamping pin Ø4 x 12 mm	1
33	KL-5501-1207	Countersunk screw M8 x 40	8
34	KL-5501 B/81 Z	Sticker "Observe alignment"	1
35	KL-5501-15	Open-end spanner	1
36	KL-5501-1216	Stake pin	2
37	KL-0120-5034	O-ring Ø5.28 x 1.78 mm	2
38	KL-5501-1226 B	Clamping jaw with through hole	1
39	KL-5501-1225 B	Threaded clamping jaw	1
40	KL-5501-1227	Cylinder screw M12 x 80 mm	2
41	KL-5501-1201 A	Base plate at the bottom	1
42	KL-5000-1006	Spacer	3
43	KL-5501-1942-4	Countersunk screw M6x40	2
44	KL-5501-1942-2	Plate 1	1
45	KL-5501-1942-3	Disc 2	1
46	KL-0055-0011	Retaining ring Ø8 mm	1
47	KL-5000-106	Bolt	1
48	KL-5501-1942-1	Adapter clamping unit	1
49	KL-5000-1021	3-way plastic holder	1
50	KL-5501-1941	Bar	1
51	KL-5000-103	Staking pin with thrust piece	1
52	KL-5501-1207	Countersunk screw M8 x 40 mm	2
53	KL-5000-1023	Countersunk screw M8 x 50 mm	1
54	KL-5000-1022	Plastic pressure piece	1
55	KL-0035-0003	Hexagon nut M8	1
56	KL-5000-1012	Clamping bar thread	1
57	KL-0040-2584	Cylinder screw M6 x 10 mm	2
58	KL-5000-1006	Spacer	2
59	KL-5000-1011	Clamping bar with recess	1
60	KL-5000-105	Clamping nut M16	1
61	KL-5000-104	Spindle M16	1
62	KL-5501-1401	Guide tube	1
63	KL-5501-1217	Cylinder screw M8 x 50 mm	4
64	KL-5501-1412 A	Plug pin	1
65	KL-5501-1412-1 A	Key ring Ø15 mm	1
66	KL-5501-1413	Chain with S-hook	1
67	KL-0180-3052	Key ring Ø25 mm	1
68	KL-0255-0012	Cylinder screw M8 x 20 mm	1
69	KL-5501-1432	Countersunk screw M8 x 25 mm	1
70	KL-5501-1431 A	Plastic cover Ø100 mm	1
71	KL-5501-1425 A	Support plate	1
72	KL-5501-1416	Sliding disc Ø42x25x3 mm	3
73	KL-5501-1428	Retaining ring I42	1
74	KL-5501-1423	Support spindle Tr18x4 with thread	1
75	KL-5501-1424	Cross handle	1
76	KL-5501-1419	Threaded bushing	1
77	KL-5501-1411 C	Boom without support spindle	1
78	KL-5501-1421 C	Spindle, 125 mm	1
79	KL-9055-1004	Retaining ring A24	1
80	KL-5501-1427	Lever	2
81	KL-5501-1415 A	Hexagon union nut	1
82	KL-5501-1418 A	Slider	1
83	KL-0206-1003	Clamping pin Ø8 x 36 mm	1
84	KL-5501-1420	Threaded pin M8 x 12 mm	1
-	KL-0014-0030	Molybdenum disulphide paste	1



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