



04/2019

## Spring Compressor



KL-2000  
KL-2000 SP

EN

[www.gedore-automotive.com](http://www.gedore-automotive.com)

### GEDORE Automotive GmbH

Breslauer Straße 41  
78166 - Donaueschingen  
Postfach 1329  
78154 Donaueschingen - GERMANY

T +49 (0) 771 / 8 32 23-0  
F +49 (0) 771 / 8 32 23-90  
info.gam@gedore.com  
www.gedore-automotive.com

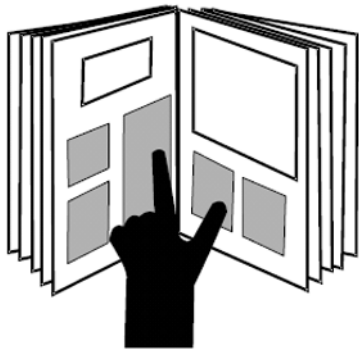
### GEDORE TOOLS, INC.

Only for USA, Canada & Mexico  
Sólo para EE.UU., Canadá y México  
Seulement pour les USA, le Canada et le Mexique

7187 Bryhawke Circle, Suite 700  
North Charleston, SC 29418, USA  
Phone +1-843 / 225 50 15  
Fax +1-843 / 225 50 20  
info@gedoretools.com

### GEDORE WELTWEIT / GEDORE WORLDWIDE

Weltweite GEDORE Servicestellen / Niederlassungen finden Sie im Internet unter: [www.gedore.com](http://www.gedore.com)  
Worldwide GEDORE service centers / offices are listed on the Internet at: [www.gedore.com](http://www.gedore.com)



English



2 - 24

### Impressum

Im Zuge der Verbesserung und Anpassung an den Stand der Technik behalten wir uns Änderungen im Hinblick auf Aussehen, Abmessungen, Gewichte und Eigenschaften sowie Leistungen vor.

Damit ist kein Anspruch auf Korrektur oder Nachlieferung bereits gelieferter Produkte verbunden. Streichungen können jederzeit vorgenommen werden, ohne dass ein rechtlicher Anspruch entsteht.

Alle Hinweise zur Benutzung und Sicherheit sind unverbindlich. Sie ersetzen keinesfalls irgendwelche gesetzlichen oder berufsgenossenschaftlichen Vorschriften.

Für Druckfehler übernehmen wir keine Haftung.

Ein Nachdruck, auch auszugsweise, bedarf der vorherigen schriftlichen Zustimmung durch **GEDORE Automotive GmbH**.

Alle Rechte weltweit vorbehalten.

Wir verweisen auf unsere Allgemeinen Geschäftsbedingungen, ersichtlich im Impressum unter [www.gedore-automotive.com](http://www.gedore-automotive.com).

© Copyright by **GEDORE Automotive GmbH Donaueschingen (GERMANY)**

### Impressum/Legal Notice

As part of our commitment to continuous product improvement and adaptation to state-of-the-art technology, we reserve the right to make modifications to our products with regard to design, dimension, weight, features and performances at any time and without prior notice.

Thus, the right to adjustments or replacement deliveries of goods already delivered is excluded. Cuts and cancellations can be made by us at any time without notice and no legal claims against us may arise or be derived from this.

All indications regarding use and safety are given for information only and without any commitment. In no case do they substitute for legal provisions or the regulations of the Employer's Liability Insurance Association.

Errors and omissions excepted.

Any reproduction, also in extracts, is subject to the prior written consent of **GEDORE Automotive GmbH**.

All rights reserved.

We refer to our General Terms and Conditions of Sale under 'Imprint' at [www.gedore-automotive.com](http://www.gedore-automotive.com).

© Copyright by **GEDORE Automotive GmbH Donaueschingen (GERMANY)**

### Impressum/Mentions légales

En raison des améliorations continues que nous apportons à nos produits et pour assurer leur adaptation constante à l'évolution des techniques, nous nous réservons le droit de procéder à des modifications de nos produits quant à l'apparence, aux dimensions, aux poids, aux caractéristiques et aux performances à tout moment sans préavis et sans obligation de modifier ou de remplacer des produits précédemment livrés.

Des suppressions peuvent être effectuées à tout moment et sans préavis sans qu'elles puissent donner lieu à réclamation.

Toutes les instructions d'utilisation et conseils de sécurité sont donnés sans engagement de notre part. Ils ne se substituent en aucun cas aux réglementations légales en vigueur ou à celles émises par les associations professionnelles.

Le plus grand soin possible a été apporté à la rédaction de ce document. Toutefois, nous n'assumons aucune responsabilité pour des erreurs, omissions ou défauts d'impression éventuels.

Une reproduction, même en partie, ne peut être effectuée qu'après autorisation écrite préalable de **GEDORE Automotive GmbH**.

Tous droits réservés.


Vous trouverez nos conditions générales de vente, sous Impressum/Mentions légales sur [www.gedore-automotive.com](http://www.gedore-automotive.com).

© Copyright by **GEDORE Automotive GmbH Donaueschingen (GERMANY)**

**Table of Contents** 


	<b>Page</b>
<b>1. Essential Safety Notices</b> .....	<b>4</b>
1.1 Safety Notices and Warnings .....	4
1.2 Personal Protective Equipment .....	4
1.3 Intended Use .....	5
1.4 Safe and Proper Use .....	5
1.5 Work Environment .....	5
1.6 Appropriate Users .....	5
<b>2. Product Description</b> .....	<b>6</b>
2.1 KL-2000 SP - Spring Compressor .....	6
2.2 Technical Data .....	7
<b>3. Checking the Delivery/Assembling the Spring Compressor</b> .....	<b>7</b>
3.1 Scope of Delivery (Fig. 2) .....	7
3.2 Identifying and Choosing the Appropriate Jaws .....	7
3.3 Mounting the Jaws on Compressor Base Body .....	8
<b>4. Removing and Installing a Spring</b> .....	<b>9</b>
4.1 Clamping a Suspension-/Damper Strut into the holding fixture .....	9
4.2 Removing a Spring .....	9
Technique 1: Removing a spring using the jaws that engage the spring coils .....	9
Technique 2: Removing a spring using the special jaws that encompass the upper spring plate .....	12
4.3 Installing a Spring .....	15
Technique 1: Installing a spring using the jaws that engage the spring coils .....	15
Technique 2: Installing a spring using the special jaws that encompass the upper spring plate .....	18
<b>5. Inserting the Drive Nut Shear Pin</b> .....	<b>21</b>
<b>6. Care and Storage</b> .....	<b>21</b>
<b>7. Accessories</b> .....	<b>21</b>
<b>8. Maintenance and Repair by the GEDORE Automotive Service Centre</b> .....	<b>23</b>
<b>9. Spare Parts List KL-2000 SP</b> .....	<b>23</b>
<b>10. Environmentally Safe Disposal</b> .....	<b>24</b>

## 1. Essential Safety Notices

-  Before using the spring compressor, it is imperative that you read and understand the Instruction Manual. Misuse can lead to **SERIOUS INJURIES** and even **DEATH**.  
This Instruction Manual is part of the spring compressor. Keep the Instruction Manual in a safe place for future reference and pass it on to subsequent users of the spring compressor.  
All vehicle-specific data stated herein are supplied under reserve and without commitment.

### 1.1 Safety Notices and Warnings

For better differentiation, the warning notices in this Instruction Manual are classified as follows:

Warning sign	Sign reads	Meaning
	<b>DANGER</b>	Indicates a hazardous situation which, if not avoided, may result in <b>serious</b> or <b>fatal injuries</b> .
	<b>ATTENTION</b>	Indicates a situation which, if not avoided, may result in damage to the spring compressor or its functioning, or to objects in its vicinity.

#### **DANGER**

Do not exceed the maximum load capacity of the spring compressor, otherwise there is a risk that it could fail/break and debris/broken parts becoming projectiles.

#### **ATTENTION**

Risk of damage to vehicle and tool.

- Lubricate spindles with molybdenum disulphide paste **KL-0014-0030** (accessory).
- Any work on vehicles should only be performed by qualified specialist personnel observing and complying with the directions, provisions, and safety regulations specified by the vehicle manufacturer.
- Always refer to the vehicle manufacturer's data and instructions as only these apply to all work that is carried out on the vehicle.

### 1.2 Personal Protective Equipment

**ALWAYS** wear personal protective equipment when using the spring compressor. The spring compressor can cause mechanical hazards leading to injuries such as contusions, cuts or concussions.



**EYE PROTECTION** (see OSHA 29 CFR 1910.133 and ANSI Z87) designed to protect you from flying debris/objects must be worn when using the spring compressor.

- Particles may be ejected at very high speed while working with the spring compressor and could cause serious injuries to your eyes.



**SAFETY GLOVES** must be worn when using the spring compressor.


- Working with the spring compressor can cause skin abrasions and contusions.



**SAFETY SHOES/BOOTS** with slip resistant soles and steel-toe caps (see OSHA 29 CFR 1910.136 and ANSI 241) must be worn when using the spring compressor.

- Falling parts can cause serious injuries to feet and toes.

### 1.3 Intended Use

 The spring compressor is only designed to compress the **right-hand wound** coil springs that are found in passenger car chassis systems.

The spring compressor may only be used in the manner as described in this Instruction Manual.

The spring compressor may only be used in specialised professional passenger car workshops/garages.

The spring compressor must only be used for compressing MacPherson-type suspension/damper struts up to a maximum load of **8 500 N**.

- Any other use can result in severe injuries or even death.

### 1.4 Safe and Proper Use

Take the following safety precautions to prevent injuries and damage that could be caused by improper handling or unsafe use of the spring compressor.

 Misuse can result in extremely severe injuries or even death.

- NEVER overload the spring compressor.
- ALWAYS check the spring compressor prior to EACH use in order to ensure that it is in good order and condition.
- ALWAYS replace all damaged and worn parts prior to using the spring compressor.
- ONLY use the original spare parts and accessories from GEDORE Automotive on the spring compressor.

### 1.5 Work Environment

For safety reasons, work with the spring compressor should only be carried out in a safe and secure work environment.

- The workplace should always be clean and tidy.
- The workplace should be sufficiently large and must be secured.

### 1.6 Appropriate Users

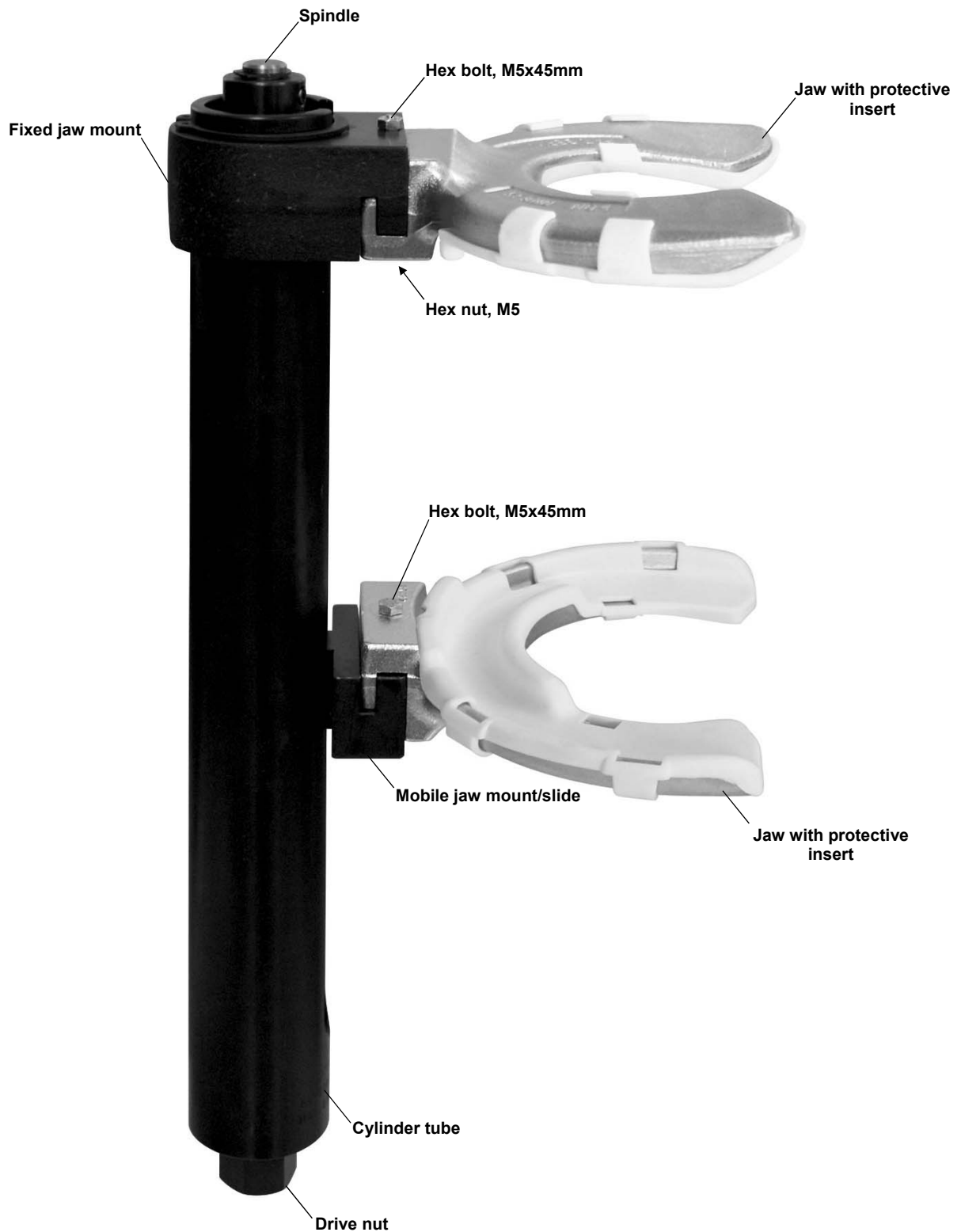
This Instruction Manual is designed for technicians in workshops.

DO NOT allow children to use the spring compressor.

Purchasers/employers purchasing the spring compressor **MUST** ensure that any person/employee using the spring compressor have read and understood this Instruction Manual prior to using the tool. This Instruction Manual **MUST** be made available to the users of the spring compressor for reference at all times.

## 2. Product Description

### 2.1 KL-2000 SP - Spring Compressor



### Field of Application

The **KL-2000 SP** spring compressor comes with the pairs of jaws **KL-1510 SP (size 1N)** and **KL-1520 SP (size 2N)** equipped with protective inserts, thus allowing the user to professionally remove/install **right-hand wound** coil springs (with a spring Ø of 70-240mm\*) and shock absorbers on passenger car chassis systems.

\* in conjunction with jaws available as accessories.

Note: The **KL-2000** Spring Compressor is like the **KL-2000 SP**, but comes without the protective inserts.

Fig. 1: Dimensions.

KL-2000-100 Compressor base body

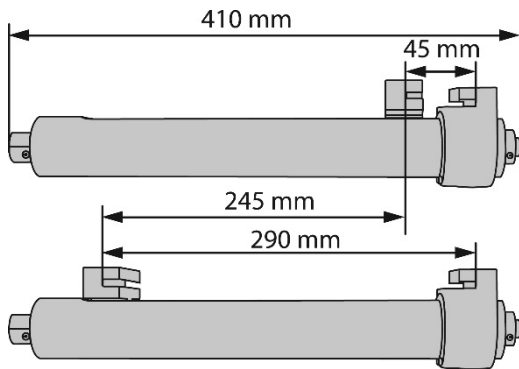


Fig. 2: Checking the Delivery.

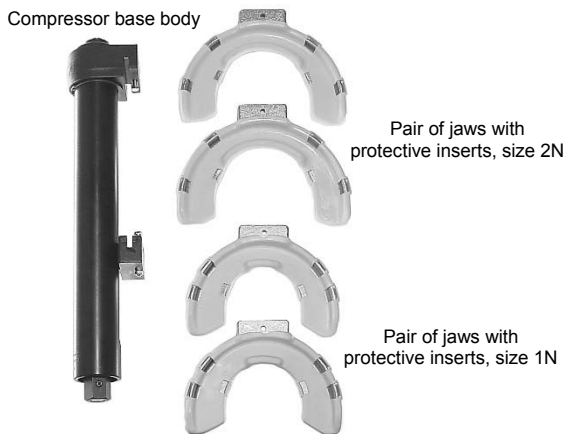
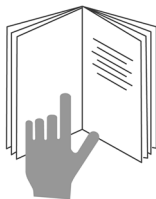


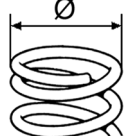
Fig. 3: Identifying and choosing the appropriate jaws.

“A”



“B”

Identify spring Ø



“C”

Identify spring pitch



## 2.2 Technical Data

### • Dimensions:

Overall length	410mm
Working travel (stroke)	245mm
Min. opening (distance between jaws):	45mm
Max. opening (distance between jaws):	290mm

### • Load capacities:

Maximum load capacity:..... 8 500 N  
 Breaking point: ..... 32 000 N

### • Weight:

Compressor base body: ..... 4.8kg  
 Compressor base body with jaws size 1N and 2N: ..... 8.6kg

• Drive: ..... waf 24mm

• Spring Ø (min / max): ..... 80-195mm

## 3. Checking the Delivery/Assembling the Spring Compressor

Before the first commissioning of the spring compressor, check and confirm you have all the parts listed in the scope of delivery. Then, read and follow the mounting instructions.

### 3.1 Scope of Delivery (Fig. 2)

- Compressor base body
- Pair of jaws with protective inserts, size 1N
- Pair of jaws with protective inserts, size 2N

### 3.2 Identifying and Choosing the Appropriate Jaws.

#### ⚠ DANGER

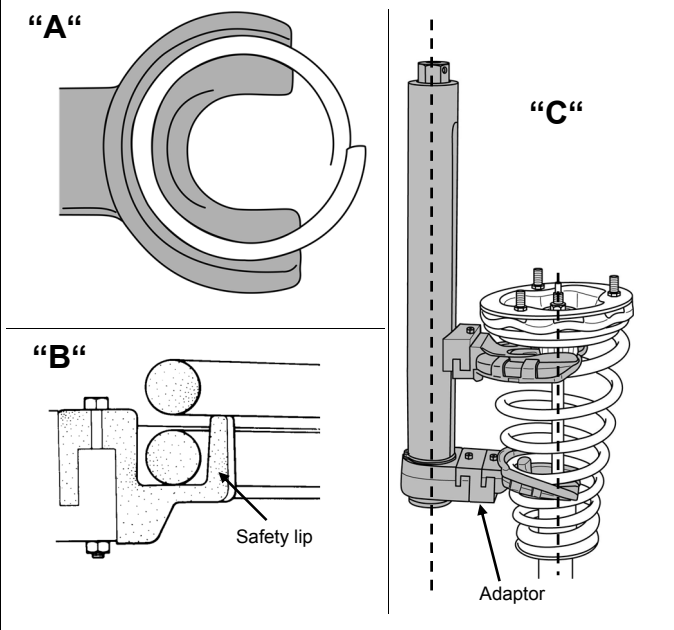
Considerable forces are exerted when springs are being compressed. Never use jaws that do not fit properly as there is a risk of the coil spring coming loose and falling off or being ejected from the spring compressor during the compression process.

1. Choose the suitable jaws. (Fig. 3 A).

**Note:** The correct jaws can also be identified manually.

2. Determine the suitable jaws on the basis of the following criteria:
  - Spring diameter (Fig. 3 B)
  - Spring pitch (Fig. 3 C)

Fig. 4: Suitable jaw identified.



- The identified jaw must comply with the following criteria:
  - suitable for right-hand wound coil springs,
  - suitable to allow the spring to be accurately seated in the jaw (in diameter and in pitch), (Fig. 4 A),
  - suitable to allow the safety lip to engage behind the spring. (Fig. 4 B).
  - In the event of compressing conical springs, use the **KL-1590-1** adaptor (accessory) along with a jaw to compensate for the distance to the base body in order to ensure that the longitudinal axis of the spring and of the base body are parallel to each other (in true alignment). (see Fig. 4 C)

**Note:** On some vehicles, compressing the spring is only possible with the aid of specially designed jaws (see accessories).

Fig. 5: Mounting the jaws to base body (applies to standard springs).

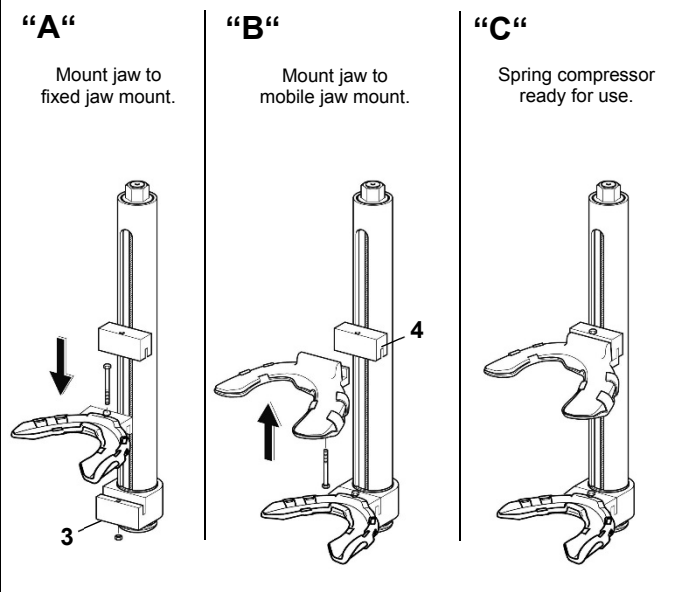
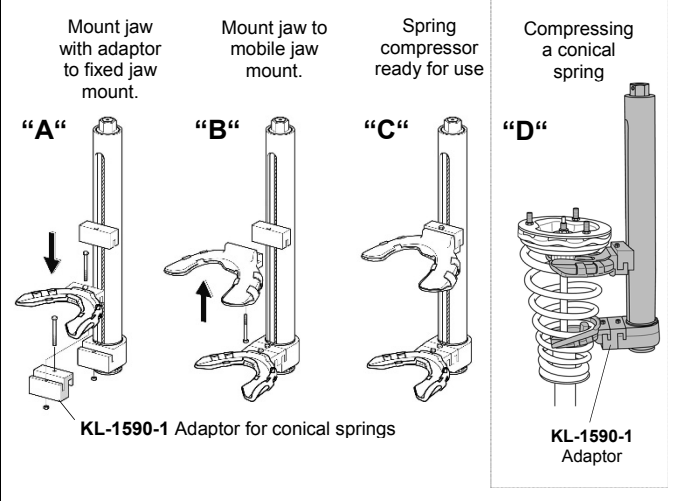


Fig. 6: Mounting the jaws to base body (applies to conical springs).



### 3.3 Mounting the Jaws to Compressor Base Body.

#### **⚠ DANGER**

Considerable forces are exerted when springs are being compressed. If the jaws are not properly mounted and fixed/secured with the specified hex bolts/nuts, there is a risk that the spring compressor could fail and break into pieces. This will lead to debris/parts or the spring becoming projectiles.

- Always check to ensure that the profiles of the jaws fit accurately into the profiles of the jaw mounts on the base body. If using the adaptor, also make sure it is correctly engaged in the jaw/jaw mount. Secure with the hex bolts and nuts.

Assemble spring compressor with the suitable pair of jaws. Mount jaws to spring compressor as shown in **Fig. 5 A and B**; secure with hex bolts and nuts.

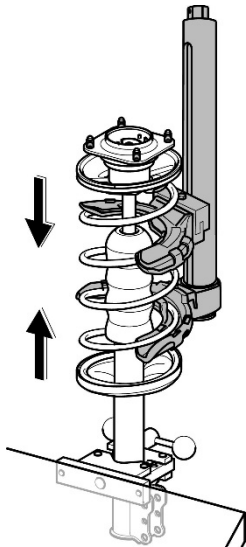
When compressing conical springs, additionally use the **KL-1590-1** adaptor (accessory), secure with hex bolts and nuts. (Fig. 6 A, B, C and D)



Fig. 7: Compressing a spring.

**Technique 1:**

Compressing a spring via the spring coils.



**Technique 2:**

Compressing a spring via the upper spring plate.

(see Fig. 16)

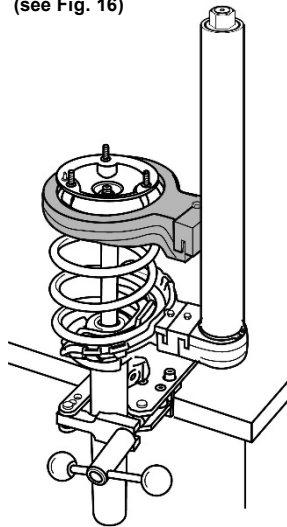
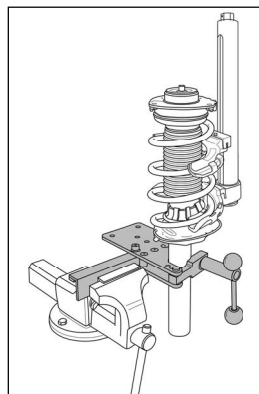
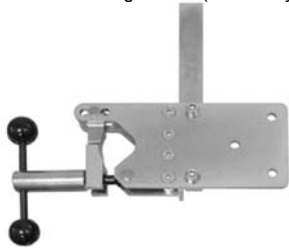


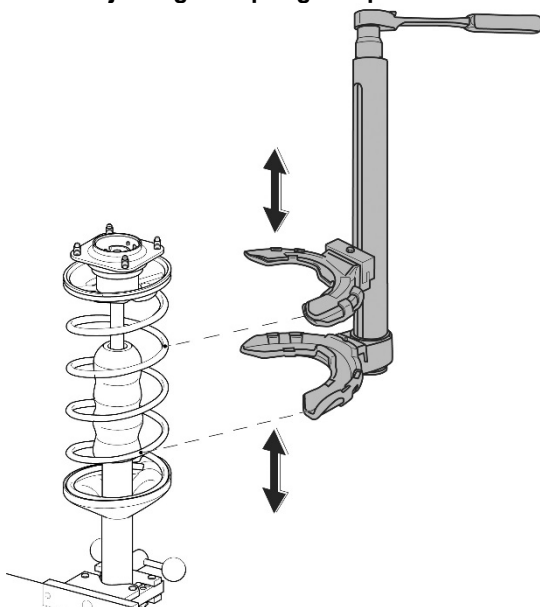
Fig. 8: Clamping the suspension-/damper strut into holding fixture.

KL-0055-60  
Holding Fixture (Accessory)



## Removing a Spring (Technique 1)

Fig. 9: Preadjusting the spring compressor.



## 4. Removing and Installing a Spring

The following instructions describe the procedure of removing/installing a right-hand wound coil spring from/to a suspension-/damper strut.

The examples show two different techniques which are to be applied depending on the type of jaws used. (Fig. 7)

**Technique 1:** Removing and installing a spring using the jaws that engage the spring coils.

**Technique 2:** Removing and installing a spring using the special jaw that encompasses the upper spring plate.

**Note:** Compressing a rear axle spring on the vehicle can be carried out according to the same principle as described in technique 1. The procedure is similar, however, with the difference that dismantling/reassembling the suspension/damper strut is not necessary. During the whole compression and decompression processes, pay attention to the space available. Make sure that the base body and the jaws do not touch the vehicle/car body parts, and that they are not pushed against these.

### **⚠ DANGER**

Considerable forces are exerted when springs are being compressed. Strictly adhere to the following instructions. Non-observance can lead to hazardous situations such as breakage of the spring compressor resulting in debris/parts or the spring becoming projectiles.

- Never use the spring compressor if it is damaged or defective.
- Never use a hammer on the tool.
- Lubricate the spindle with molybdenum disulphide paste, for example KL-0014-0030.
- Only use molybdenum disulphide paste, for example KL-0014-0030, as lubricant.
- Only use Original GEDORE Automotive spare parts.

### **ATTENTION**

Stop turning the drive nut once the spring compressor has reached its limit stop (that is when the mobile jaw mount has been slid against the fixed one until limit stop). Failure to do so will result in damage to the spring compressor.

- Once the spring compressor has reached its limit stop, that is when the mobile jaw mount has been slid against the fixed one until limit stop, make sure that the drive nut is rotated only in the opposite direction.

**Note:** Always perform all work on the vehicle/vehicle components in strict compliance with the directions, provisions, and safety regulations specified by the vehicle manufacturer.

### 4.1 Clamping a Suspension-/Damper Strut into the holding fixture.

#### **⚠ DANGER**

Suspension-/damper struts that are not properly fixed can come loose and fall off the spring compressor while the spring is being compressed.

- Do not clamp neither the suspension-/damper strut nor the spring compressor into a vice.

Clamp the removed suspension-/damper strut into holding fixture KL-0055-60 (accessory). (See Fig. 8)

### 4.2 Removing a Spring

#### Technique 1: Removing a spring using the jaws that engage the spring coils.

##### 1. **ATTENTION**

When opening the jaws, there is a risk of damage to the base body.

- When opening the jaws on the base body, make sure that there is no pressure being exerted on the limit stop once the maximum opening distance has been reached.  
(Stop turning the drive nut counter-clockwise.)

Using a 1/2" reversible ratchet with a 24mm (waf) socket, turn the drive nut and adjust the spring compressor so as to enable it to grasp and compress as many coils as possible. (Fig. 9)

Fig. 10: Applying the spring compressor against the spring.

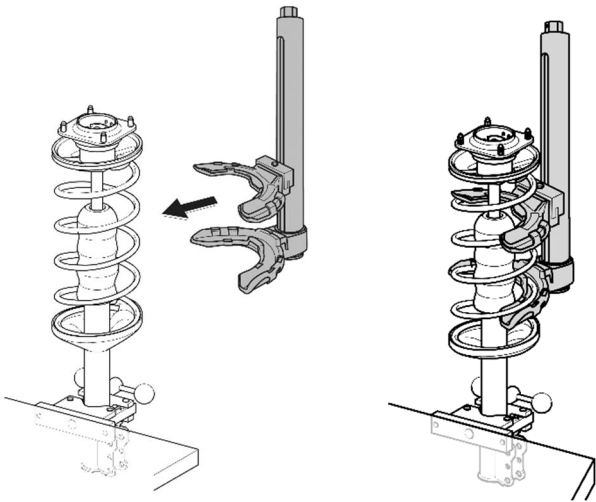


Fig. 11: Compressing the spring.

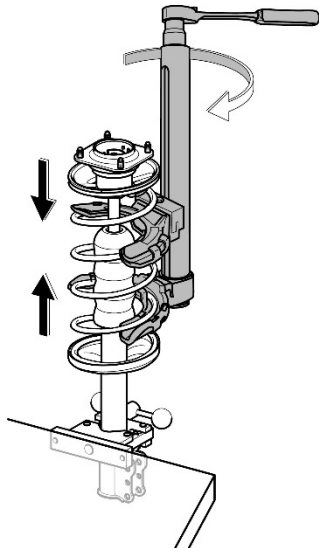
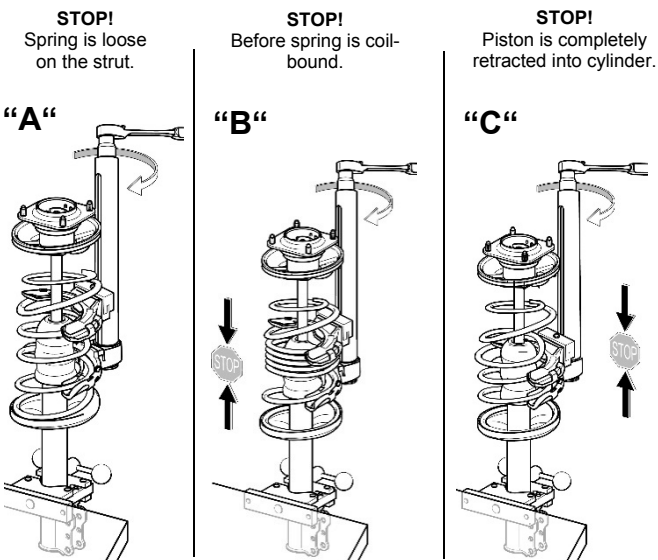


Fig. 12: Compressing the spring until pressure on piston rod nut is fully released.



## 2. **⚠ DANGER**

Make sure that the spring compressor is correctly positioned, otherwise there is a risk of the coil spring coming loose and falling off or being ejected from the spring compressor during the compression process.

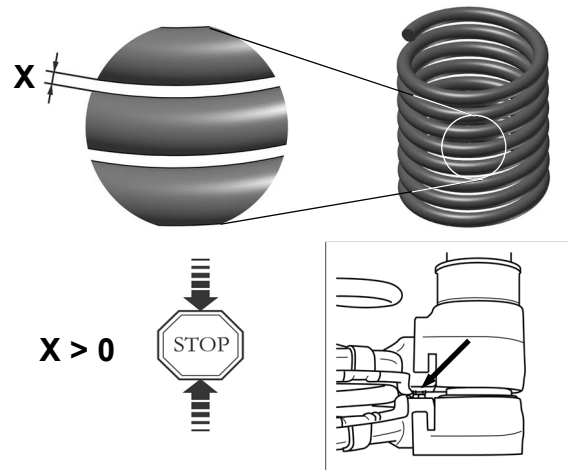
- The spring must be accurately seated in the jaws (in diameter and in pitch). (See Fig. 4 A)
- The safety lip must engage behind the spring. (See Fig. 4 B)
- In the event of compressing conical springs, use the **KL-1590-1** adaptor (accessory) along with a jaw to compensate for the distance to the base body in order to ensure that the longitudinal axis of the spring and of the base body are parallel to each other (in true alignment). (See Fig. 4 C)

Apply spring compressor against spring. (see Fig. 10 A and B).

## 3. **⚠ DANGER**

The maximum load capacity of the spring compressor must not be exceeded, otherwise there is a risk that the tool could fail and break into pieces. This will lead to debris/parts becoming projectiles.

- At the latest, stop compressing the spring once the minimum opening distance has been reached - that is when the mobile jaw mount touches the fixed jaw mount - but in any case before the spring coils touch each other.

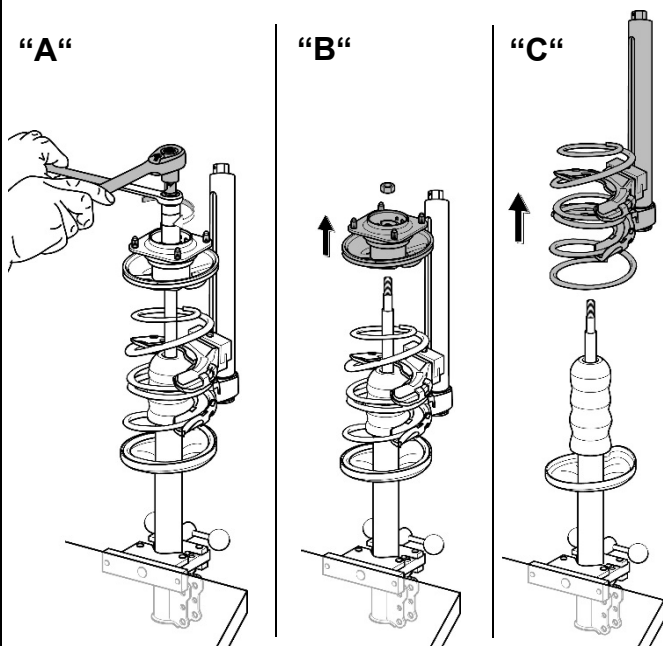


To compress the spring, turn the drive nut clockwise (as shown in Fig. 11) using a 1/2" reversible ratchet with a 24mm (waf) socket. Compress the spring until the pressure on the piston rod nut has been completely relieved. (Fig. 12 A, B and C)

### Note:

- If it is **not possible** to compress the spring in such a manner that there is **no longer** any pressure on the piston rod nut, the compression process must be **aborted**. In this case, the spring **cannot** be removed.

Fig. 13: Removing the compressed spring.



4. Loosen piston rod nut, for example by means of the **KL-0056-100 K** tool set. Remove strut mount and upper spring plate. **(Fig. 13 A and B)**

5. Remove compressed spring along with spring compressor from suspension strut. **(Fig. 13 C)**

6. Use paint to mark the positions of the jaws on the spring. **(Fig. 14)**

**7. ATTENTION**

When decompressing the spring, there is a risk of damage to the jaws.

- When decompressing the spring, make sure that the jaws with their outer face do not touch the spring.
- When decompressing the spring, there is the risk of damage to the base body.
- When decompressing the spring, make sure that there is no pressure being exerted on the limit stop once the maximum opening distance on the base body has been reached.  
(Stop turning the drive nut counter-clockwise.)

To decompress the spring, turn the drive nut counter-clockwise using a 1/2" reversible ratchet with a 24mm (waf) socket **(Fig. 15 A)** until the jaws do no longer touch the spring. Stop the decompression process as soon as the maximum opening distance of 290mm has been reached.

**Note:** If it is not possible to release, respectively, open the spring compressor far enough so that the jaws are no longer in contact with the spring and the latter can be removed, the decompression process must be aborted. In this case, the spring needs to be compressed again and the suspension-/damper strut must be reassembled according to the manufacturer's instructions.

Changing the spring is not possible.

8. Remove spring compressor from spring. **(Fig. 15 B)**

Fig. 14: Marking the positions of the jaws.

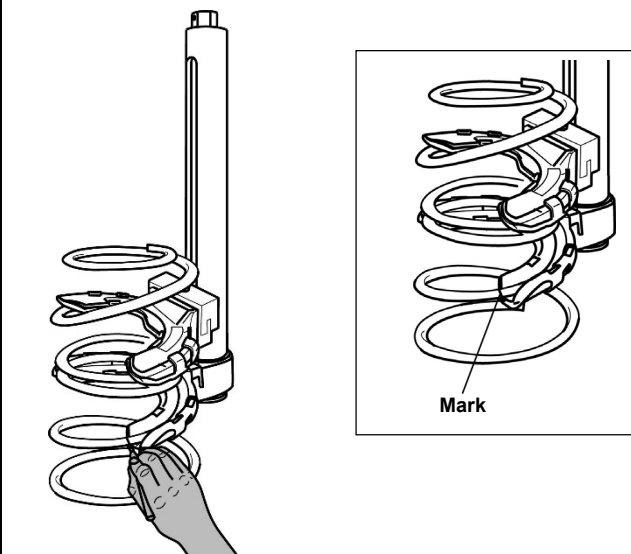
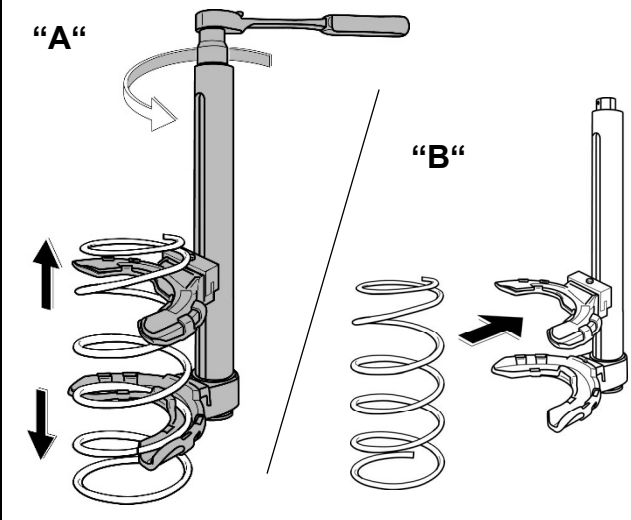


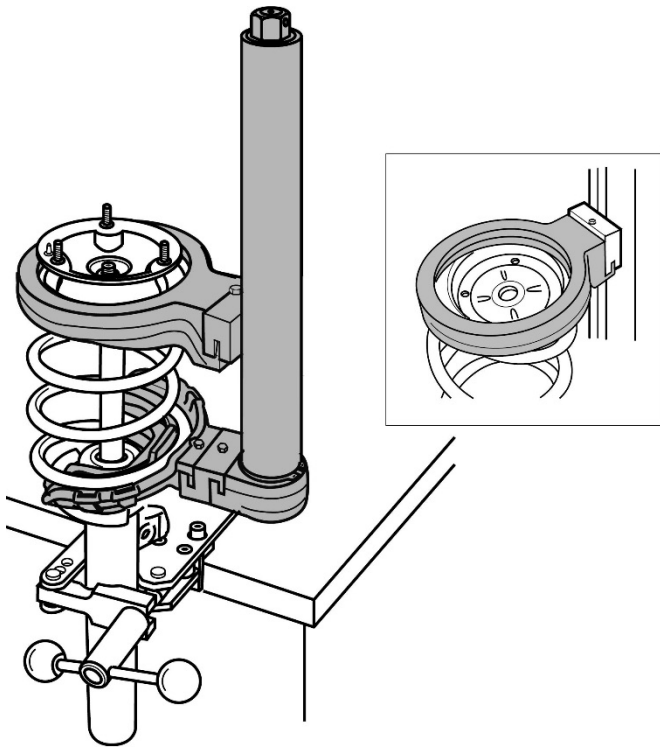
Fig. 15: Decompressing the spring.



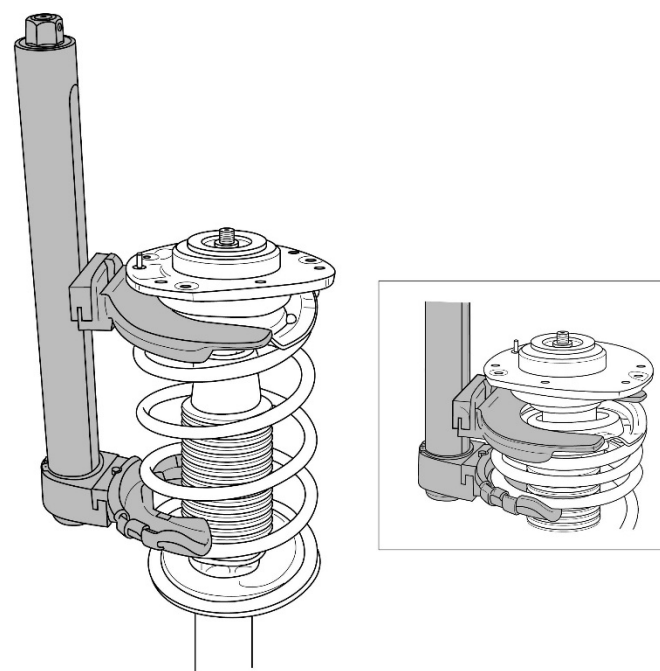
## Removing a Spring (Technique 2)

Fig. 16: Applying the spring compressor against the spring.

Compressing a spring via the upper spring plate.



Compressing a spring: Peugeot 206.



## Technique 2: Removing a spring using the special jaw that encompasses the upper spring plate.

### 1. **ATTENTION**

When opening the jaws, there is a risk of damage to the base body.

- When opening the jaws on the base body, make sure that there is no pressure being exerted on the limit stop once the maximum opening distance has been reached. (Stop turning the drive nut counter-clockwise.)

Using a 1/2" reversible ratchet with a 24mm (waf) socket, turn the drive nut and adjust the spring compressor so as to enable it to grasp and compress as many coils as possible.

### 2. **⚠ DANGER**

Make sure that the spring compressor is positioned correctly, otherwise there is a risk of the coil spring coming loose and falling off or being ejected from the spring compressor during the compression process.

- Be sure that the spring is accurately seated in the jaws (in diameter and in pitch). (See Fig. 4 A)
- The safety lip must engage behind the spring. (See Fig. 4 B)
- In the event of compressing conical springs, use the **KL-1590-1** adaptor (accessory) along with a jaw to compensate for the distance to the base body in order to ensure that the longitudinal axis of the spring and of the base body are parallel to each other (in true alignment). (See Fig. 4 C)

Apply spring compressor against spring. (See Fig. 16).

**Note:** The plastic adaptor rings of the ring jaws are specially adapted to the shape of the respective upper spring plates. When positioning the ring jaw on the suspension-/damper strut, make sure that it fits properly the shape of the spring plate.

Fig. 17: Compressing the spring.

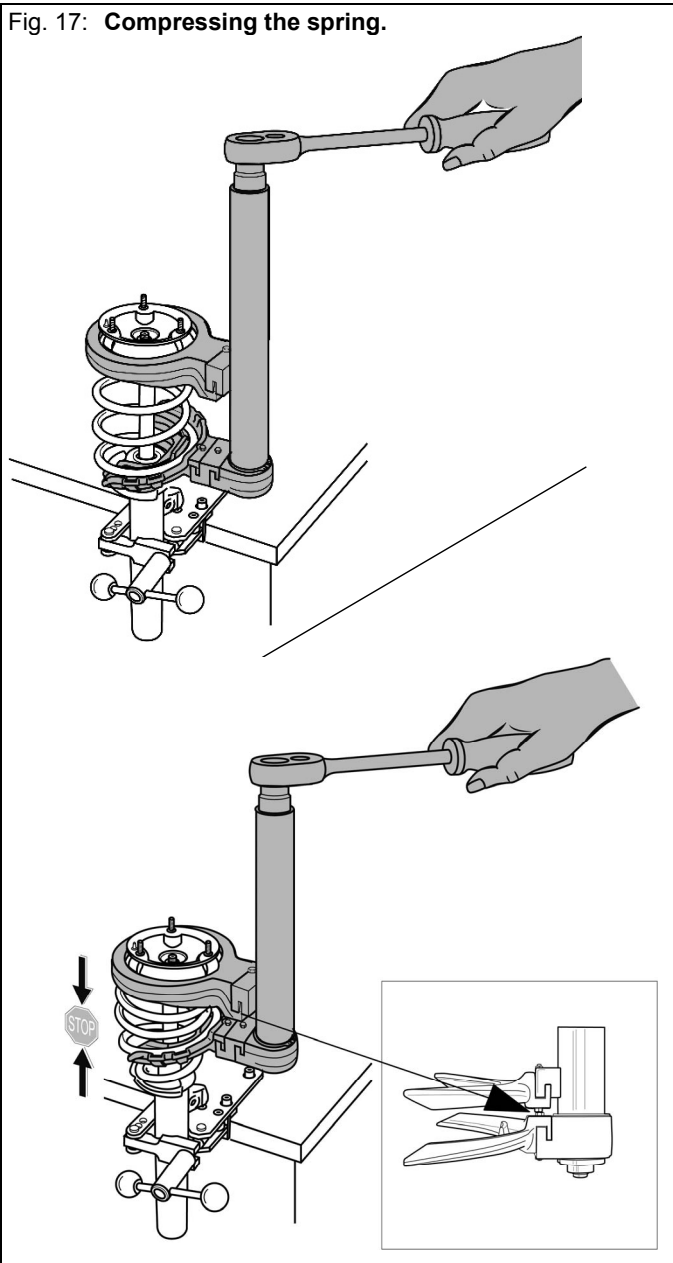
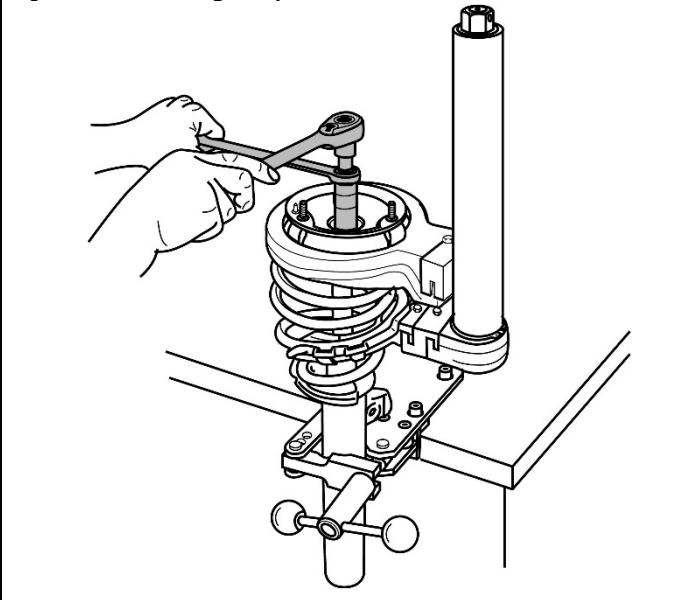


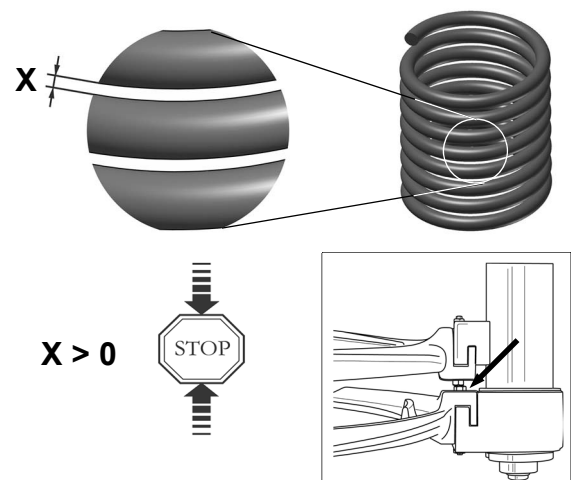
Fig. 18: Loosening the piston rod nut.



### 3. **DANGER**

The maximum load capacity of the spring compressor must not be exceeded (see technical data), otherwise there is a risk that the tool could fail and break into pieces. This will lead to debris/parts becoming projectiles.

- At the latest, stop compressing the spring once the minimum opening distance has been reached - that is when the mobile jaw mount touches the fixed jaw mount - but in any case before the spring coils touch each other.



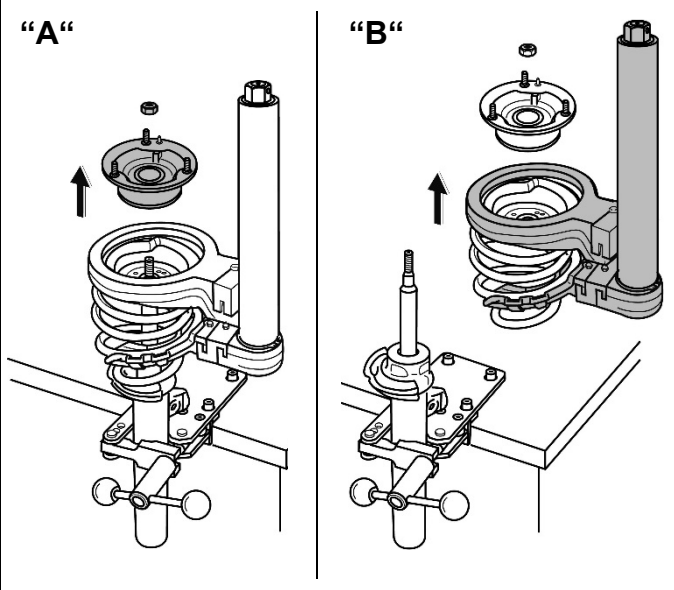
To compress the spring, turn the drive nut clockwise using a 1/2" reversible ratchet with a 24mm (waf) socket as shown in **Fig. 17**. Compress the spring until the pressure on the piston rod nut has been completely relieved.

#### Note:

- If it is **not possible** to compress the spring until there is **no longer any pressure** on the piston rod nut, the compression process **must be aborted**. In this case, the spring **cannot** be removed.

### 4. Loosen piston rod nut; for example, by means of the **KL-0056-100 K** tool set (accessory). (**Fig. 18**)

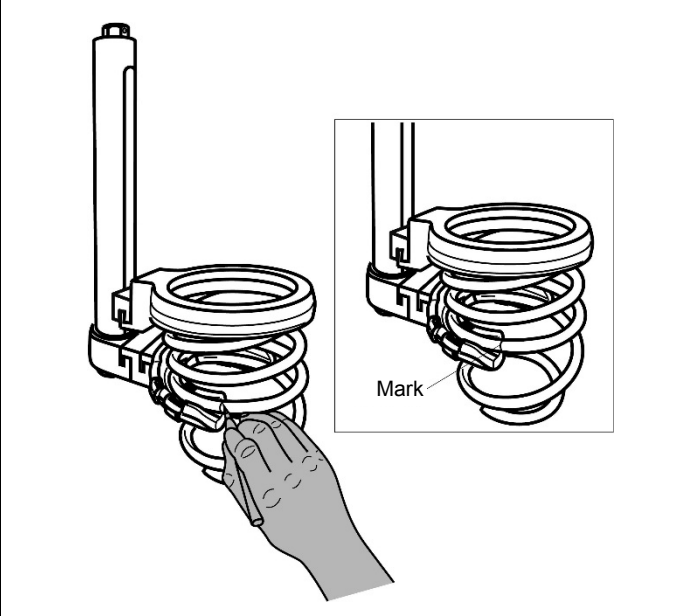
Fig. 19: Removing the compressed spring.



- Remove strut mount and upper spring plate. **(Fig. 19 A)**  
Remove compressed spring along with spring compressor from strut. **(Fig.19 B)**

- Use paint to mark the positions of the jaws on the spring. **(Fig. 20)**

Fig. 20: Marking the position of the jaws.



## 7. ATTENTION

When decompressing the spring, there is a risk of damage to the base body.

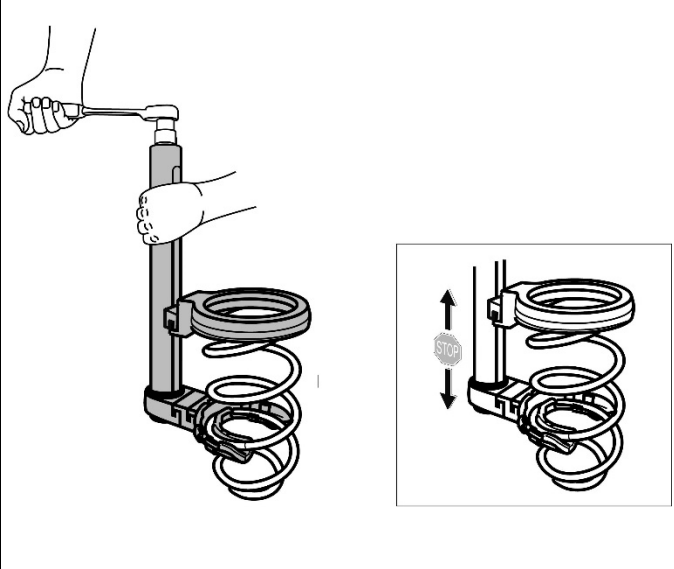
- When decompressing the spring, make sure that there is no pressure being exerted on the limit stop once the maximum opening distance on the base body has been reached.

(Stop turning the drive nut counter-clockwise.)

To decompress the spring, turn the drive nut counter-clockwise using a 1/2" reversible ratchet with a 24mm (waf) socket until the jaws do no longer touch the spring. **(Fig. 21)** Stop the decompression process as soon as the maximum opening distance of 290mm has been reached.

**Note:** If it is not possible to release, respectively open, the spring compressor far enough so that the jaws are no longer in contact with the spring and the latter can be removed, the decompression process must be aborted. In this case, the suspension-/damper strut needs to be reassembled according to the manufacturer's instructions. Changing the spring is not possible.

Fig. 21: Decompressing the spring.



- Remove spring compressor from spring.

## Installing a Spring (Technique 1)

Fig. 22: Preadjusting the spring compressor.

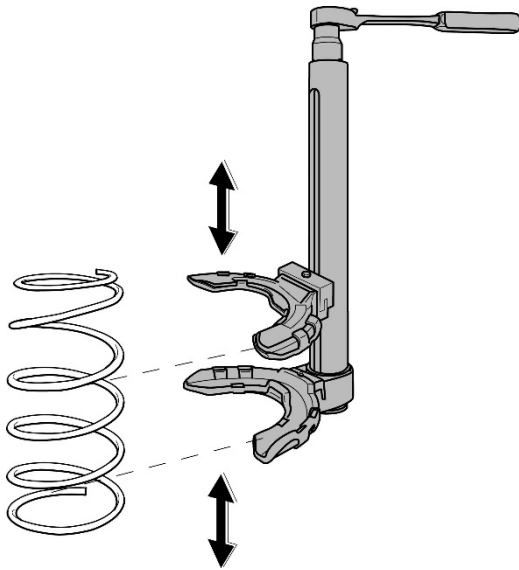


Fig. 23: Applying the spring compressor against spring.

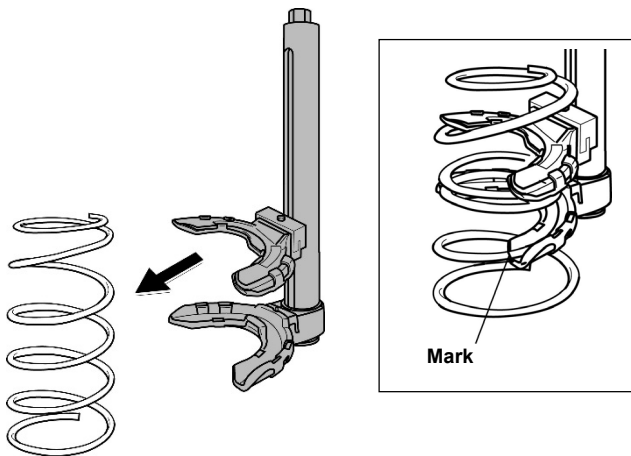
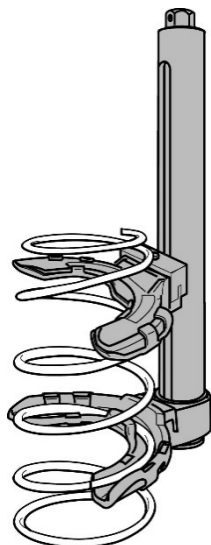


Fig. 24: Spring compressor applied against spring.



## 4.3 Installing a Spring

**Technique 1: Installing a spring using the jaws that engage the spring coils.**

- Using a 1/2" reversible ratchet with a 24mm (waf) socket, turn the drive nut and adjust the spring compressor so that the jaws can be positioned on the spring at exactly the same place as they were when the spring was removed. **(Fig. 22)**

**Note:** If a **new spring** is used, remember to copy the marks for positioning the jaws from the old spring to the new one.

### 2. DANGER

Make sure that the spring compressor is positioned correctly, otherwise there is a risk of the coil spring coming loose and falling off or being ejected from the spring compressor during the compression process.

- Be sure that the spring is accurately seated in the jaws (in diameter and in pitch). **(See Fig. 4 A)**
- The safety lip must engage behind the spring. **(See Fig. 4 B)**
- In the event of compressing conical springs, use the **KL-1590-1** adaptor (accessory) along with a jaw to compensate for the distance to the base body in order to ensure that the longitudinal axis of the spring and of the base body are parallel to each other (in true alignment). **(See Fig. 4 C)**

Apply spring compressor against spring at exactly the same position as it was when the spring was removed. **(Fig. 23)**

- Using a 1/2" reversible ratchet with a 24mm (waf) socket, turn the drive nut clockwise until the jaws with their clamping surface properly fit the spring. **(Fig. 24)**

Fig. 25: Compressing the spring.

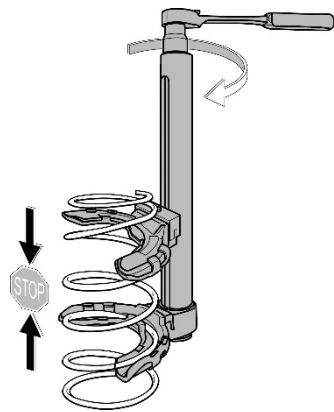


Fig. 26: Spring compressed.

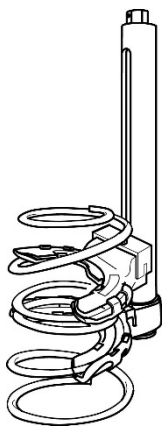
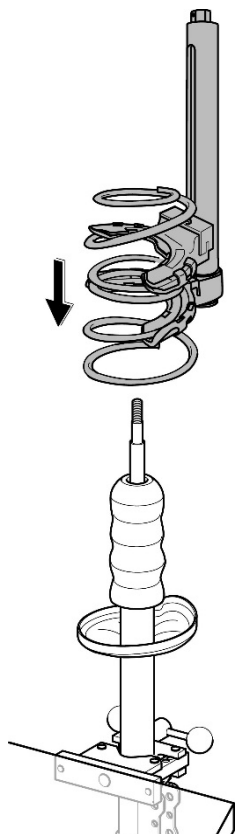


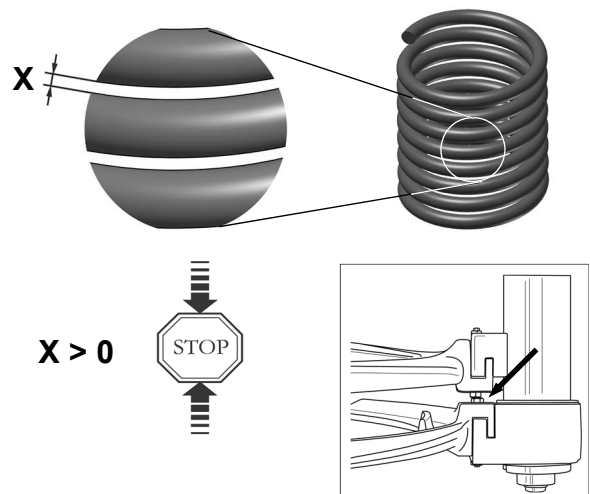
Fig. 27: Positioning the spring on the suspension/damper strut.



#### 4. **⚠ DANGER**

The maximum load capacity of the spring compressor must not be exceeded (see technical data), otherwise there is a risk that the tool could fail and break into pieces. This will lead to debris/parts becoming projectiles.

- At the latest, stop compressing the spring once the minimum opening distance has been reached, that is when the mobile jaw mount touches the fixed jaw mount, but in any case before the spring coils touch each other.



To compress the spring, turn the drive nut clockwise using a 1/2" reversible ratchet with a 24mm (waf) socket, as shown in Fig. 25.

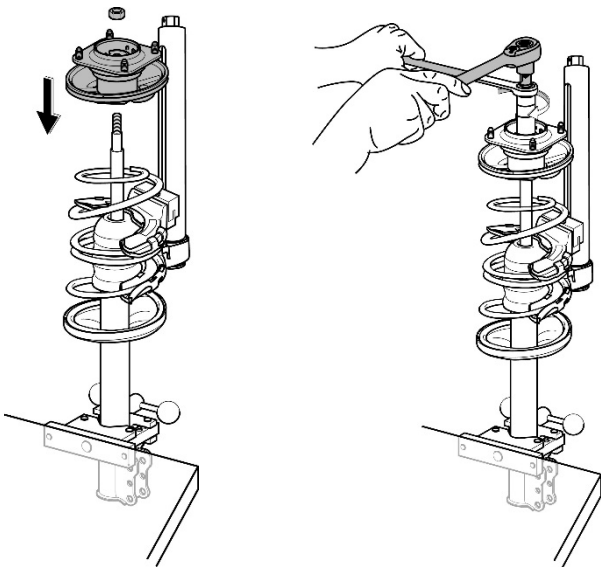
5. Stop the compression process as soon as the upper spring plate and strut mount can be placed on the piston rod. (Fig. 27)

Place spring compressor along with spring onto suspension-/damper strut.

**Note:** When assembling the suspension-/damper strut, make sure that the piston rod has been extended completely. Pull out the piston rod if necessary.



Fig. 28: **Assembling the suspension strut.**



6. Assemble suspension strut according to the manufacturer's instructions. Make sure that spring is correctly seated. **(Fig. 28)**

**7. ATTENTION**

When decompressing the spring, there is a risk of damage to the jaws.

- When decompressing the spring, make sure that the jaws with their outer face do not touch the spring.

To decompress the spring, turn the drive nut counter-clockwise using a 1/2" reversible ratchet with a 24mm (waf) socket until the jaws do no longer touch the spring **(Fig. 29)**.

**Note:** Make sure that the spring is correctly seated in the lower and upper spring plate.

Fig. 29: **Decompressing the spring.**

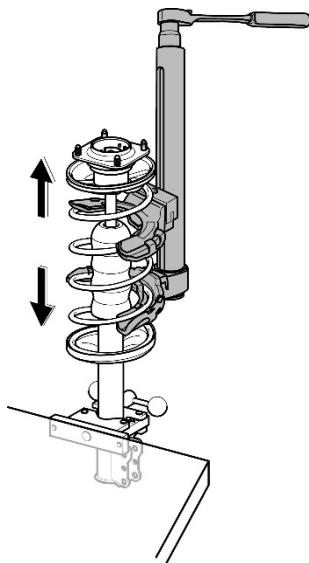
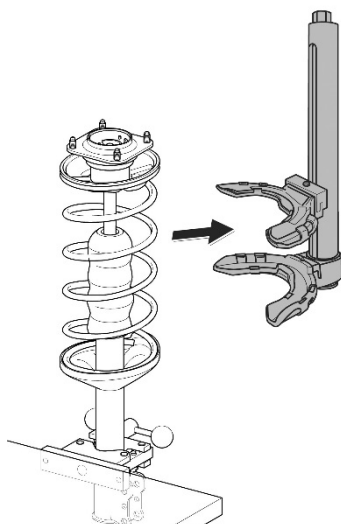


Fig. 30: **Removing the spring compressor from spring.**



8. Remove spring compressor from spring. **(Fig. 30)**

## Installing a Spring (Technique 2)

Fig. 31: Preadjusting the spring compressor.

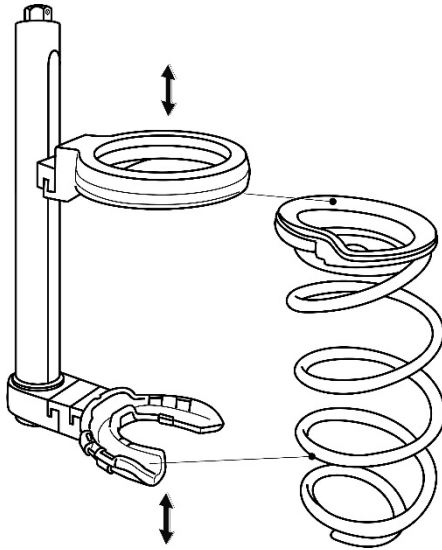


Fig. 32: Applying the spring compressor against spring.

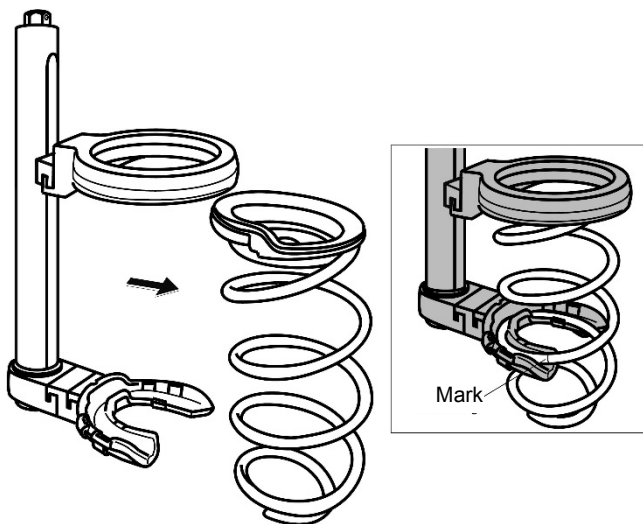
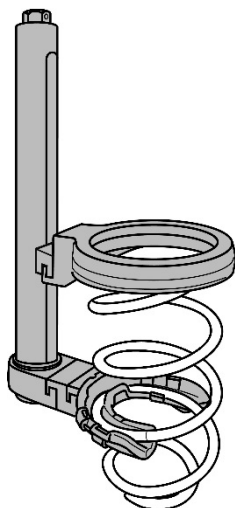


Fig. 33: Spring compressor applied against spring.



## Technique 2: Installing a spring using the special jaw that encompasses the upper spring plate.

1. Using a 1/2" reversible ratchet with a 24mm (waf) socket, turn the drive nut and adjust the spring compressor so that the jaws can be applied against the spring at exactly the same position as when the spring was removed. **(Fig. 31)**

**Note:** If a **new** spring is used, remember to copy the marks for positioning the jaws from the old spring to the new one.

### 2. **⚠ DANGER**

Make sure that the spring compressor is positioned correctly, otherwise there is a risk of the coil spring coming loose and falling off or being ejected from the spring compressor during the compression process.

- Be sure that the spring is accurately seated in the jaws (in diameter and in pitch). **(See Fig. 4 A)**
- The safety lip must engage behind the spring. **(See Fig. 4 B)**
- In the event of compressing conical springs, use the **KL-1590-1** adaptor (accessory) along with a jaw to compensate for the distance to the base body in order to ensure that the longitudinal axis of the spring and of the base body are parallel to each other (in true alignment). **(See Fig. 4 C)**

Apply spring compressor against spring at exactly the same position as when the spring was removed. **(Fig. 32)**

3. To pre-compress the spring, turn the drive nut clockwise using a 1/2" reversible ratchet with a 24mm (waf) socket. Pre-compress approximately 10cm.

4. Place spring compressor along with spring onto suspension-/damper strut.

**Note:** When assembling the suspension-/damper strut, make sure that the piston rod has been completely extended. Pull out the piston rod if necessary.

Fig. 34: **Compressing the spring.**

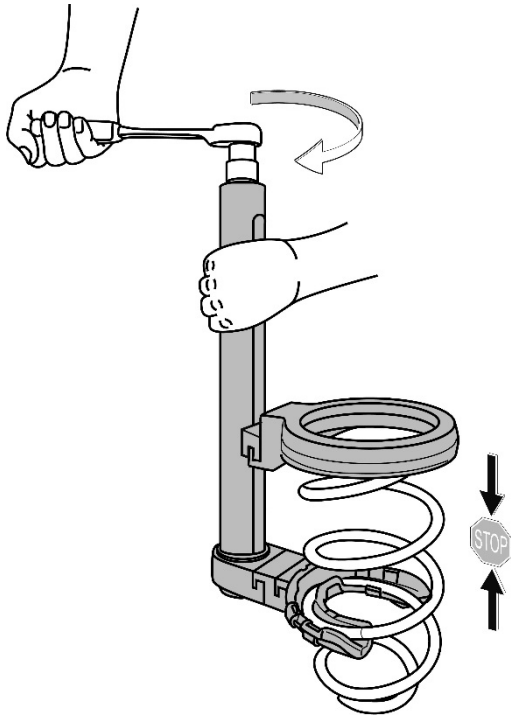
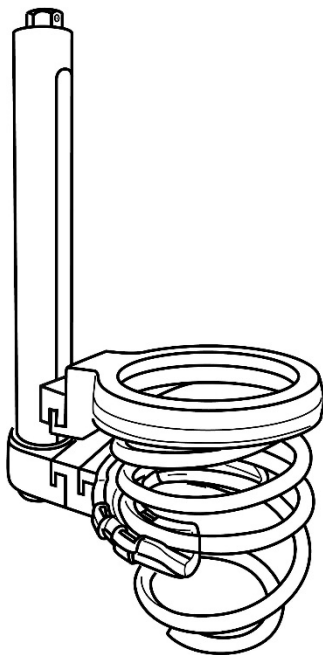


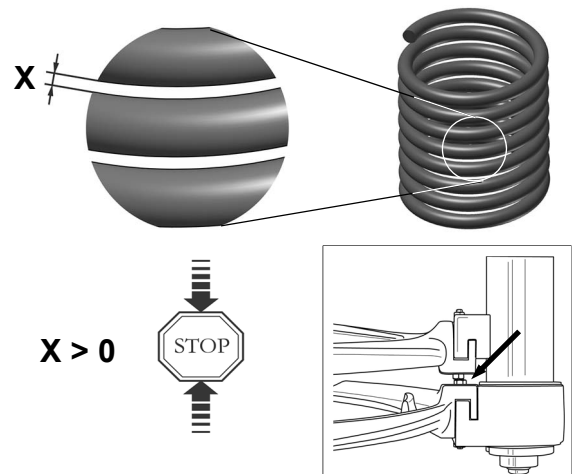
Fig. 35: **Spring compressed.**



5. **⚠ DANGER**

The maximum load capacity of the spring compressor must not be exceeded (see technical data), otherwise there is a risk that the tool could fail and break into pieces. This will lead to debris/parts becoming projectiles.

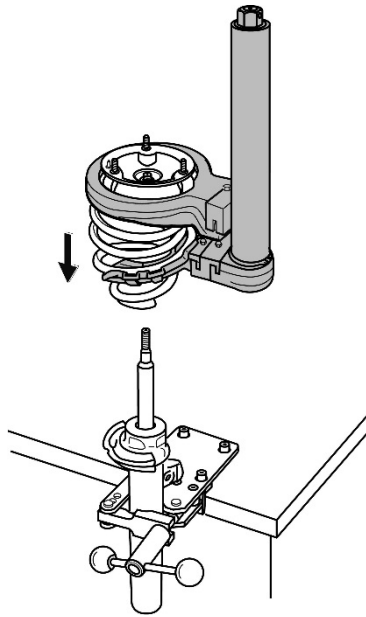
- At the latest, stop compressing the spring once the minimum opening distance has been reached - that is when the mobile jaw mount touches the fixed jaw mount - but in any case before the spring coils touch each other.



To compress the spring, turn the drive nut clockwise using a 1/2" reversible ratchet with a 24mm (waf) socket, as shown in Fig. 34.

**Note:** The spring compressor features an auxiliary drive.

Fig. 36: Positioning the spring on suspension-/damper strut.

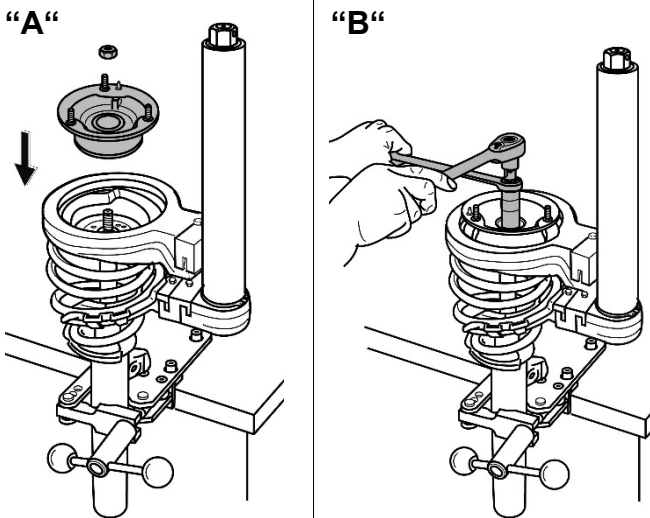


- Stop the compression process as soon as the strut mount can be placed onto the piston rod. (Fig. 36)

**Note:** Be sure that the piston rod is completely extended.

- Assemble suspension strut according to manufacturer's instructions. Make sure that spring is correctly seated. (Fig. 37)

Fig. 37: Assembling the suspension strut.



## 8. ATTENTION

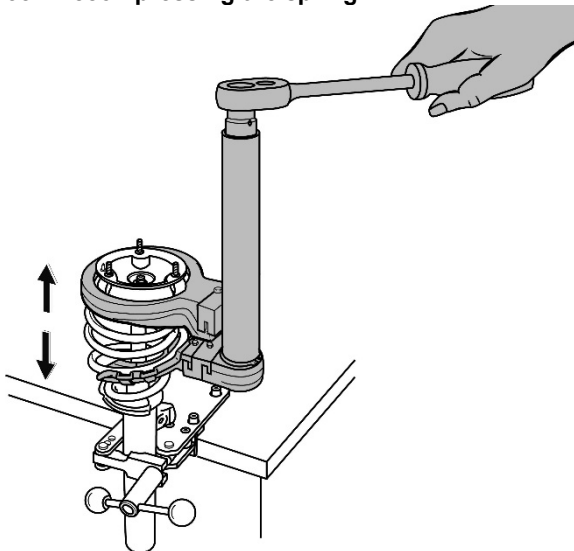
When decompressing the spring, there is a risk of damage to the jaws.

- When decompressing the spring, make sure that the jaws with their outer face do not touch the spring.

To decompress the spring, turn the drive nut counter-clockwise using a 1/2" reversible ratchet with a 24mm (waf) socket until the jaws do no longer touch the spring. (Fig. 38).

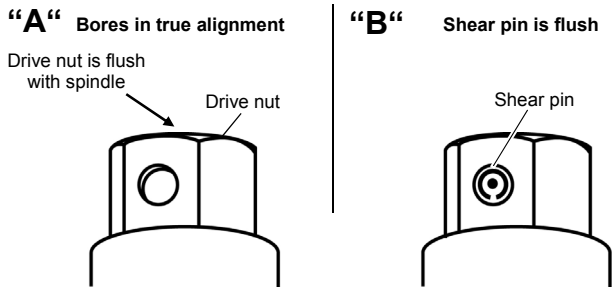
**Note:** Make sure that the spring is correctly seated in the lower and upper spring plate.

Fig. 38: Decompressing the spring.



- Remove spring compressor from spring.

Fig. 39: Inserting the drive nut shear pin.



## Accessories

### KL-1502 - Pair of Jaws, Size 0C



### KL-1512 - Pair of Jaws, Size 1A



### KL-1514 - Pair of Jaws, Size 1B



### KL-1516 SP - Pair of Jaws with Protective Inserts, Size 1C



### KL-1518 A SP - Pair of Jaws with Protective Inserts, Size 1D



### KL-1510 - Pair of Jaws, Size 1N



### KL-1525 SP - Jaw with Protective Insert, Size 2B



### KL-1520 - Pair of Jaws, Size 2N



## 5. Inserting the Drive Nut Shear Pin

1. Remove all residue of the old shear pin from the bores so that both the bore hole in the drive nut and in the spindle are free from any dirt and debris.
2. Place drive nut on spindle making sure that it is flush on the top with the spindle and that the bore hole in the drive nut and in the spindle are in true alignment with each other. (Fig. 39 A)
3. Insert shear pin into the bore hole making sure that it is fitted flush with the drive nut on both sides. (Fig. 39 B)

## 6. Care and Storage

**ATTENTION** Petroleum ether and chemical solvents can damage seals. Always clean all parts after their use with a clean cloth only.

In order to protect against corrosion, lightly lubricate all parts after their use and store them in a clean and dry place.

## 7. Accessories

### KL-1502 - Pair of Jaws, Size 0C

Universally suitable

For spring Ø	70-110mm
Weight (pair)	1.1kg

**KL-1502 SP - Pair of Jaws with Protective Inserts, Size 0C (not shown)**  
Like KL-1502, however comes with protective inserts.

### KL-1512 - Pair of Jaws, Size 1A

Suitable for Audi A4 front axle, Audi A8 rear axle, Porsche, Saab 90/900, Chrysler, Vauxhall/Opel etc.

For spring Ø	80-150mm
Weight (pair)	1.9kg

**KL-1512 SP - Pair of Jaws with Protective Inserts, Size 1A (not shown)**  
Like KL-1512, however comes with protective inserts.

### KL-1514 - Pair of Jaws, Size 1B

Suitable for Audi A8 front axle.

For spring Ø	85-150mm
Weight (pair)	2.0kg

**KL-1514 SP - Pair of Jaws with Protective Inserts, Size 1B (not shown)**  
Like KL-1514, however comes with protective inserts.

### KL-1516 SP - Pair of Jaws with Protective Inserts, Size 1C

Suitable for Audi A4 (model 2001 onwards) rear axle wishbone. These jaws allow the removal and installation of rear axle springs to be performed within just a few minutes without having to loosen the wishbone or lower the axle. This technique eliminates the need for performing a wheel alignment after springs have been removed/installed.

For spring Ø	80-150mm
Weight (pair)	1.9kg

### KL-1518 A SP - Pair of Jaws with Protective Inserts, Size 1D

Suitable for Volvo XC 90 (model 2015 onwards), front axle.

For spring Ø	110-125mm
Weight (pair)	1.9kg

### KL-1510 - Pair of Jaws, Size 1N

Universally suitable

For spring Ø	80-165mm
Weight (pair)	1.9kg

**KL-1510 SP - Pair of Jaws with Protective Inserts, Size 1N (not shown)**  
Like KL-1510, however comes with protective inserts.

### KL-1525 SP - Jaw with Protective Insert, Size 2B

Suitable for BMW 3 Series E46, BMW 5 Series E39.

For spring Ø	155-195mm
Weight (piece)	0.9kg

### KL-1520 - Pair of Jaws, Size 2N

Universally suitable

For spring Ø	155-195mm
Weight (pair)	1.9kg

**KL-1520 SP - Pair of Jaws with Protective Inserts, Size 2N (not shown)**  
Like KL-1520, however comes with protective inserts.

### KL-1530 - Pair of Jaws, Size 3N.



### KL-1550 - Pair of Jaws, Size 5.



### KL-1561 - Jaw, Size 6



### KL-1571 - Ring Jaw for BMW.



### KL-1581-R - Ring Jaw for Renault.



### Pair of Protective Inserts.



### KL-1540 - Jaw Set (4-piece set) Size 4.



### KL-1570-1 - Jaw Set for BMW.



### KL-1579-2 - Jaw Set for BMW E90.



### KL-1530 - Pair of Jaws, Size 3N

Universally applicable

For spring Ø	180-240mm
Weight (pair)	3.0kg

### KL-1550 - Pair of Jaws, Size 5

Suitable for Citroën C 15 rear axle, Peugeot 305 Break (estate car) rear axle.

Weight (pair)	2.3kg
---------------	-------

### KL-1561 - Jaw, Size 6

Suitable for Ford Probe, Mazda 323, 626, MX6, Mitsubishi Galant with electronically-pneumatically controlled strut, Peugeot 206.

Special recess	110mm
Inner Ø	180mm
Weight (piece)	1.3kg

### KL-1571 - Ring Jaw, BMW

Suitable for BMW 8 Series E31 and, if used in conjunction with the adaptor ring KL-9001-1910, also suitable for BMW 3 Series E46 (models 1998 onwards), BMW 5 Series E39 (models 1995 onwards).

Recess Ø	139mm
Inner Ø	165mm
Weight (piece)	2.3kg

### KL-1581-R - Ring Jaw, Renault

Suitable for Renault Laguna and Safrane, Lancia Gamma in conjunction with jaw in size 3, Hyundai.

Special recess	162mm
Inner-Ø	238mm
Weight (piece)	2.5kg

### Protective Inserts

Protective Inserts	for jaws
Part No.	Part No.
KL-1502-S (1 pair with 6 grooved nails)	KL-1502
KL-1512-S (1 pair)	KL-1512
KL-1514-S (1 pair)	KL-1514
KL-1510-S (1 pair)	KL-1510
KL-1520-S (1 pair)	KL-1520
KL-1521-S (1 piece)	KL-1525

### KL-1540 - Jaw Set (4-piece set), Size 4

Suitable for VW Golf, Bora vehicles with all-wheel drive (4 Motion).

These specially shaped jaws are indispensable for the removal and installation of rear axle springs. *consists of:*

Part No.	Description
KL-1541	Jaw, size 4, bottom left
KL-1543	Jaw, size 4, top left
KL-1545	Jaw, size 4, bottom right
KL-1547	Jaw, size 4, top right

### KL-1570-1 - Jaw Set, BMW (German Utility Model)

Suitable for BMW E46 (3 Series from 1998 onwards), E39 (5 Series from 1995 onwards).

The KL-1570-1 jaw set is designed to compress front springs. Set is used in conjunction with ring jaw KL-1571. *consists of:*

Part No.	Description	Spring-Ø
KL-1525	Jaw, size 2B	155-195mm
KL-1521-S	Protective insert, size 2N	155-195mm
KL-9001-1910	Adaptor ring for BMW E46	160mm

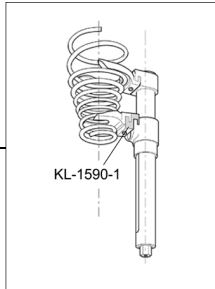
### KL-1579-2 - Jaw Set, BMW E90

Suitable for BMW E90/E91/E92/E93, front axle.

Designed to remove and install front coil springs. *consists of:*

Part No.	Description
KL-1511 SP	Jaw with protective insert, size 1N
KL-1590-1	Adaptor for conical springs
KL-1579-1	Ring jaw with adaptor ring, BMW E90 (Consists of ring jaw KL-1571 and adaptor ring KL-1579)

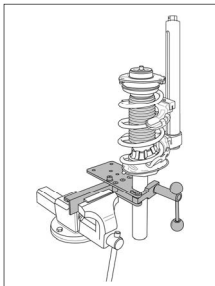
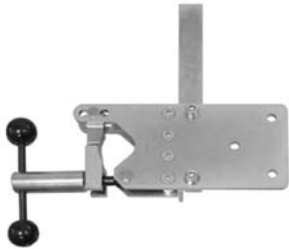
**KL-1590-1**



**KL-1590-2**



**KL-0055-60**



**KL-0056-100 K**



**Piston rod- / Retaining tool profiles**



**Example of use:**



**KL-1590-1 - Adaptor for Conical Springs**

Suitable for Alfa Romeo, Chrysler, Nissan, Seat Arosa, VW Lupo etc. Designed to extend jaws for distance compensation.

**KL-1590-2 - Adaptor Set**

Used to extend the jaws for distance compensation, for example, when compressing the rear axle spring on a VW Lupo. Also suitable for barrel springs. (consists of 2 x KL-1590-1).

**KL-0055-60 - Holding Fixture for Suspension Struts (German Utility Model)**

For MacPherson suspension struts, shock-absorbers and steering systems.

This holding fixture is either screw-fitted to a workbench or clamped into a vice, thus enabling quick, safe and professional repairs to be carried out. Strut axes **should NOT** be clamped directly into a vice for assembly work (risk of deformation).

**KL-0056-100 K - Shock Absorber Piston Rod Tool Set Universal application.**

Indispensable tool set used to lock the shock absorber piston rod in position while loosening or tightening the piston rod nut, e.g. on MacPherson-type suspension strut systems.

**Scope of Delivery:**

**Special Hexagon Sockets, Length 82mm, drive  $\text{O}_{\text{mm}} 19 / 22$**

Part No.	Description	Application:
KL-0056-17	Special Hex Socket, Size (waf) 17mm	VW-Audi, Seat, Fiat
KL-0056-18	Special Hex Socket, Size (waf) 18mm	VW-Audi, Seat, Citroën, Fiat, Opel/Vauxhall, Peugeot, Renault, Jap. cars
KL-0056-19	Special Hex Socket, Size (waf) 19mm	VW-Audi, Seat, Citroën, Fiat, Opel/Vauxhall, Peugeot, Renault, Jap. cars
KL-0056-21	Special Hex Socket, Size (waf) 21mm	VW-Audi, BMW, Mercedes, Jap. cars, Volvo
KL-0056-22	Special Hex Socket, Size (waf) 22mm	VW-Audi, Seat, Citroën, Fiat, Opel/Vauxhall, Peugeot, Renault
KL-0056-24	Special Hex Socket, Size (waf) 24mm	Opel/Vauxhall

**Counter-Hold Tools, Drive  $\text{O}_{\text{mm}} 10$**

Part No.	Description	Suitable for:
KL-0056-37	Insert Torx®	T50 Opel/Vauxhall, Volvo
KL-0056-45	Insert $\text{O}$	11mm Japanese passenger cars
KL-0056-51	Insert $\bullet$	6mm BMW, Seat, Fiat, Citroën, Peugeot, Opel/Vauxhall, Renault, Jap. cars
KL-0056-52	Insert $\bullet$	7mm VW-Audi, Seat, Fiat, Citroën, Mercedes, Peugeot, Renault
KL-0056-71	Insert 2-flat	5,2mm VW-Audi, Nissan
KL-0056-72	Insert 2-flat	6mm VW-Audi, Renault
KL-0056-74	Insert 2-flat	7mm VW-Audi, Seat, Fiat
KL-0056-75	Insert 2-flat	8mm Seat, Fiat
KL-0056-96	Insert XZN	12mm Opel/Vauxhall

**Pin Spanner, Drive  $\text{O}_{\text{mm}} 22$**

Part No.	Description
KL-0050-0015	Strut Nut Socket with Pins, 14mm, VW-Audi
KL-0050-51	Strut Nut Socket with Pins, Mercedes W203

**Combination Spanner / Ratchet Ring Spanner**

Part No.	Description
6000830	Combination Spanner $\text{O}_{\text{mm}} 10$
KL-4111-1922	Ratchet Ring Spanner $\text{O}_{\text{mm}} 19$ and $\text{O}_{\text{mm}} 22$

**Plastic Storage Case**

Part No.	Description
KL-0056-1090	Plastic Storage Case (440×340×100mm)

## 8. Maintenance and Repair by the GEDORE Automotive Service Centre

For safety reasons, as soon as damage is noticed on the spring compressor, immediate steps must be taken to prevent it from being used. For professional inspection and repair of the tool, please contact the GEDORE Automotive Service Centre.

**Address:**

GEDORE Automotive GmbH  
Breslauerstr. 41  
DE- 78166 Donaueschingen  
Phone: + 49 (0) 771 83 22 371

Email: info@gedore-automotive.com

For additional information concerning the use of our spring compressor, please contact the **GEDORE Automotive Service Centre**.

### Spare Parts: KL-2000 SP – Spring Compressor.

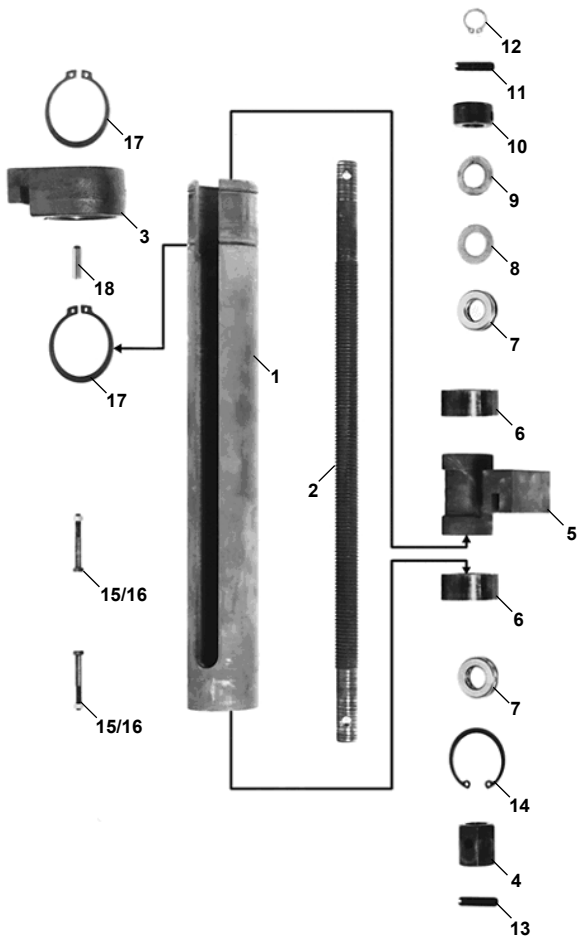


### 9. Spare Parts List KL-2000 SP

Part No.	Description
<b>KL-2000 SP</b>	<b>Spring Compressor incl. Pairs of Jaws with protective inserts in Size 1 and Size 2</b>
<i>consists of:</i>	
<b>KL-2000-100</b>	<b>Compressor Base Body</b>
KL-1510 SP	Pair of Jaws with Protective Inserts, Size 1N
KL-1520 SP	Pair of Jaws with Protective Inserts, Size 2N

Pos.	Part No.	Description	Quantity	KL-2000-0035	KL-2000-0040	KL-2000-0041
	<b>KL-2000-100</b>	<b>Compressor Base Body</b>	<b>1</b>			
<i>Composed of:</i>						
1	KL-2000-0001	Cylinder Tube	1			
2	KL-0014-0002	Spindle	1		•	•
3	KL-0014-0003	Fixed Jaw mount	1			
4	KL-0014-0004	Drive Nut	1		•	•
5	KL-2000-0005	Mobile Jaw Mount	1		•	•
6	KL-0013-0006	Bearing Ring	2		•	•
7	KL-0014-0014	Thrust Bearing	2	(1)•	•	•
8	KL-0014-0020	Shim Ring, 0.25mm	1	•	•	•
9	KL-0014-0021	Shim Ring, 0.5mm	1	•	•	•
10	KL-0014-0013	Pressure Ring	1	•	•	•
11	KL-0014-0017 M	Clamping Sleeve, 6x28mm	1	•	•	•
12	KL-0014-0028	Circlip A 15	1	•	•	•
13	KL-0014-0016 M	Shear Pin, 6x24mm	1	•	•	•
14	KL-0014-0023	Circlip J 40	1		•	
15	KL-0014-0025	Hex Nut, M5	2	•	•	•
16	KL-0015-0010 A	Hex Bolt, M5x45 mm	2	•	•	•
17	KL-0014-0022	Circlip A 50	2		•	•
18	KL-0013-0020	Dowel Pin	1			
-	KL-0014-0030	Molybdenum disulphide paste 50g (not shown)	1		•	

### Components: Compressor base body KL-2000-100.



**KL-2000-0035 Repair Kit (Small Kit)**  
(For scope of delivery, see table above)

**KL-2000-0040 Repair Kit (Big Kit)**  
(For scope of delivery, see table above)

**KL-2000-0041 Repair Kit (Big Kit)**  
**without Molybdenum disulphide paste**  
(For scope of delivery, see table above)

### 10. Environmentally Safe Disposal

Recycle/dispose of the spring compressor and its packaging material in compliance with the legal rules and regulations in force.