



11/2021

Telescopic Spring Compressor (Patented)



KL-9002 SP E
KL-9002 E
KL-9002

EN

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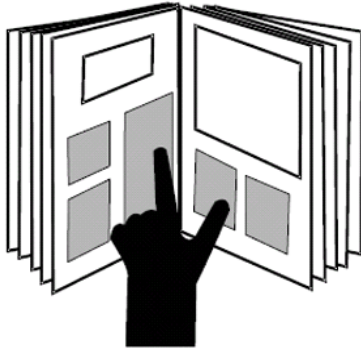
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1. Essential Safety Notices


⚠ Before using the telescopic spring compressor, it is imperative that you read and understand the instruction manual. Misuse can lead to **SERIOUS** or **FATAL INJURIES**.

This instruction manual is part of the telescopic spring compressor. Store the instruction manual in a safe place for any further use and give it to the subsequent users of the telescopic spring compressor.

All specific vehicle 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
	DANGER	Indicates a hazardous situation which, if not avoided, may result in serious or fatal injuries .
	ATTENTION	Indicates a situation which, if not avoided, may result in damage to the telescopic spring compressor or its functioning, or to objects in its vicinity.

⚠ DANGER

Do not exceed the maximum load capacity as there is the risk of a failure of the tool and debris/broken parts becoming projectiles.

ATTENTION

Risk of damage to the 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 any work that is carried out on the vehicle.

1.2 Personal Protective Equipment

ALWAYS wear personal protective equipment when using the telescopic spring compressor. The telescopic 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 telescopic spring compressor.

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



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


- Working with the telescopic 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 telescopic spring compressor.

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

1.3 Intended Use

 The telescopic spring compressor is only designed to be used for compressing the **right-hand wound** suspension coil springs found in passenger car chassis systems.

The telescopic spring compressor may only be used according to the directions and provisions specified in the instruction manual.


The spring compressor must only be used in specialised professional passenger car workshops.

The telescopic spring compressor must only be used for compressings suspension-/damper struts up to a maximum load of **27500 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 telescopic spring compressor.

-  Misuse can result in extremely severe injuries or even death.
- NEVER overload the telescopic spring compressor.
 - ALWAYS check the telescopic spring compressor prior to EACH use in order to ensure that it is in good order and condition.
 - ALWAYS replace all defective, damaged or worn parts prior to using the tool.
 - ONLY use original spare parts and accessories from GEDORE Automotive on the telescopic spring compressor.

1.5 Work Environment

Work with the telescopic spring compressor should only be carried out in a safe work environment.

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

1.6 Appropriate Users

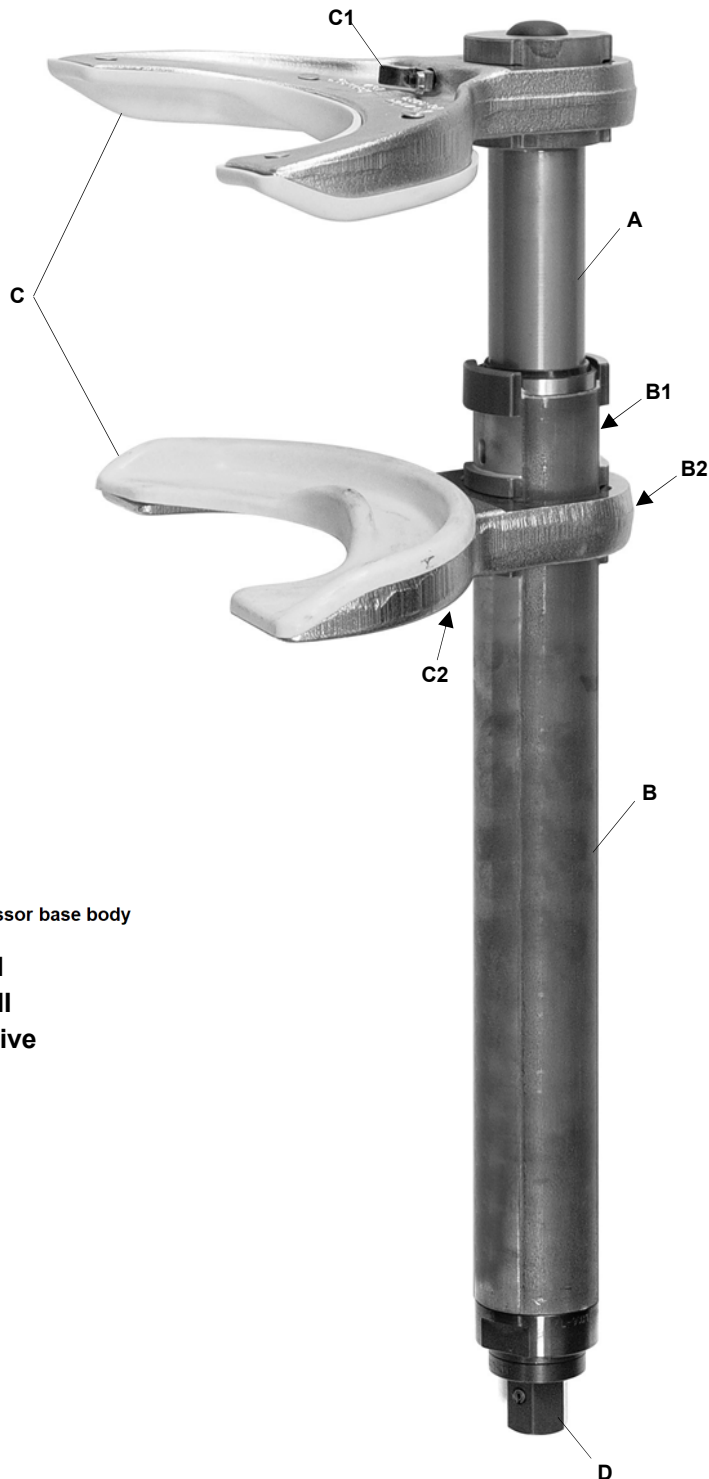
This instruction manual is designed for technicians in workshops.

DO NOT allow children to use the telescopic spring compressor.

Purchasers/employers purchasing the telescopic spring compressor MUST ensure that any person/employee using the telescopic 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 telescopic spring compressor for reference at all times.

2. Product Description

3.1 KL-9002 SP Telescopic Spring Compressor (Patented)



- A Piston
- B Cylinder } Compressor base body
- B1 Locking position I
- B2 Locking position II
- C Jaws with protective inserts
- C1 Locking device
- C2 Locking device
- D Drive nut

Field of Application

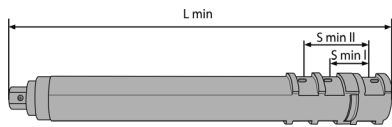
The telescopic spring compressor is universally suitable for the **right-hand wound** coil springs with spring \varnothing 70 - 210 mm* that are found in passenger car suspension systems.

* in conjunction with jaws available as accessories

Fig. 1: **Dimensions**

KL-9002-100 (Compressor base body)

Specification of the minimum jaw openings at locking position I and II



Specification of the maximum jaw openings at locking position I and II

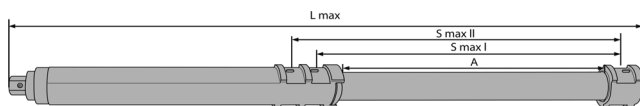


Fig. 2: **Checking the Delivery.**

Compressor base body



Pair of jaws (size 1) with protective inserts



Pair of jaws (size 2) with protective inserts



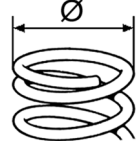
Fig. 3: **Identifying and choosing the appropriate jaws.**

“A”



“B”

Identify spring-Ø



“C”

Identify spring pitch



3.2 Technical Data

• **Dimensions:**

L min.	Overall length min.	475 mm
L max.	Overall length max.	715 mm
A	Working travel (piston stroke)	305 mm
SPF	Free-wheeling of the spindle at	735 mm
S min.I	Jaw opening min. (Position I) (distance between jaws)	40 mm
S min.II	Jaw opening min. (Position II) (distance between jaws)	72 mm
S max.I	Jaw opening max. (Position I) (distance between jaws)	328 mm
S max.II	Jaw opening max. (Position II) (distance between jaws)	361 mm

Load capacities:

Maximum load: 27,500 N
 Breaking point: 110,000 N

Weight:

Compressor base body: 6.9 kg
 Compressor base body with jaws size 1 and 2: 13.4 kg

Drive:size (waf) 24 mm

Spring-Ø (min / max): 100 - 175 mm

3. Checking the Delivery/Mounting the Telescopic Spring Compressor

Before the first commissioning of the telescopic 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 (size 1) with protective inserts

Pair of jaws (size 2) with protective inserts

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 correctly as there is a risk of the spring disengaging itself and being ejected from the spring compressor during the compression process.

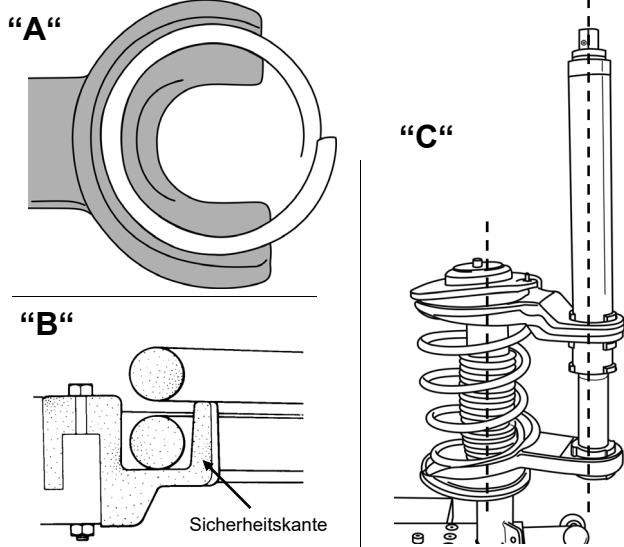
1. Choose the suitable jaws (**Fig. 3 A**).

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 should 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, a special jaw will be needed (see accessories) 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)

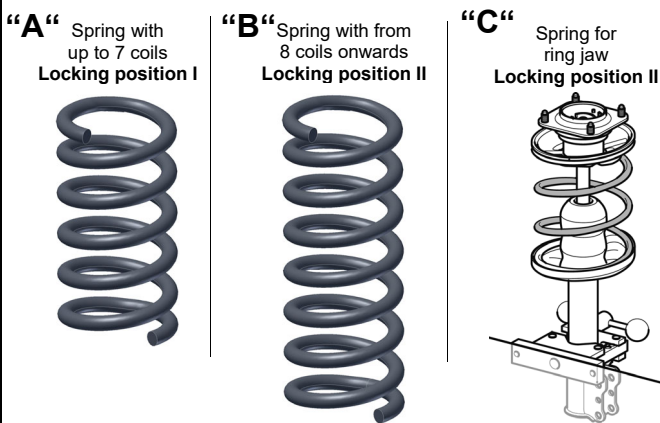
Note: On some vehicles, compressing the spring is only possible with the aid of specially designed jaws that encompass the upper spring plate. (see technique 2 and accessories)

3.3 Determination of the Suitable Jaw-Locking Position on the Compressor Base Body

Use locking position I for springs having a total number of coils of up to 7 coils. (Fig. 5 A)

Use locking position II for springs having a total number of coils from 8 coils onwards; for example, on SUVs (Fig. 5 B) and when using a ring jaw (Fig. 5 C).

Fig. 5: Identifying the correct locking position.

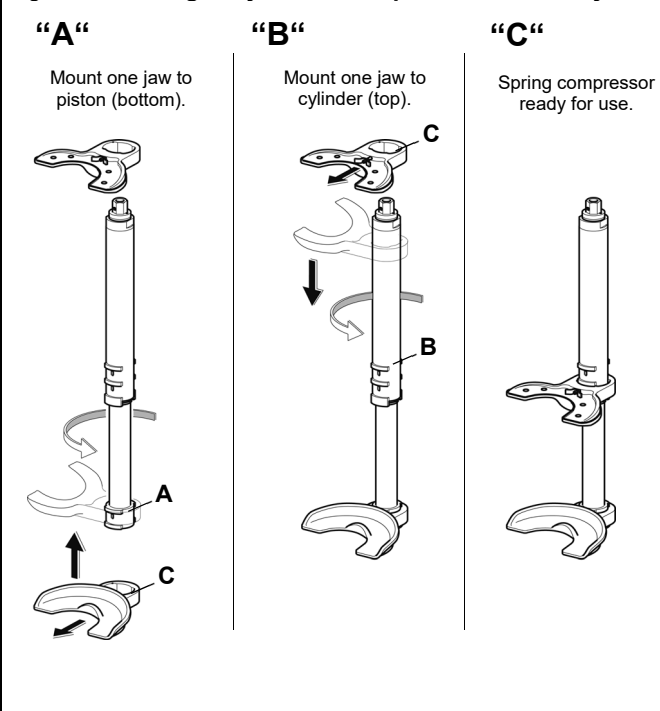


3.4 Mounting the Jaws on Compressor Base Body

⚠ DANGER

Considerable forces are exerted when springs are being compressed. If jaws are not mounted and fixed correctly, there is the risk that the telescopic spring compressor could fail and fall to pieces. This will lead to parts or the spring becoming projectiles.

Fig. 6: Mounting the jaws on compressor base body.



Mount the jaws to the compressor base body. To do this, slide one of the jaws "C" (with the locking device "C1" in pulled position), into locking position on piston "A". Rotate the jaw 90° so as to allow the locking bolt to latch into place automatically. (Fig. 6 A) Following the same principle, mount the second jaw to locking position I, respectively locking position II (as identified under point 2.3) on cylinder "B". (Fig. 6 B)

Check and make sure that the jaws are securely fixed and prevented from twisting. For this, hold the compressor base body with one hand and try to move the jaws back and forth with the other hand. While doing so, the jaws should not twist, neither the one on the piston nor the other on the cylinder.

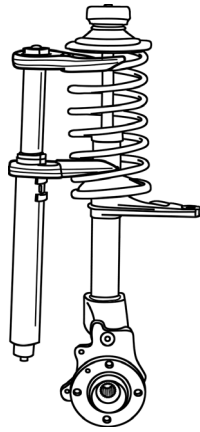
Note:

If a jaw on the compressor base body can be twisted, either the jaw has been mounted incorrectly (wrong direction) or the locking bolt is defective.

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 17)

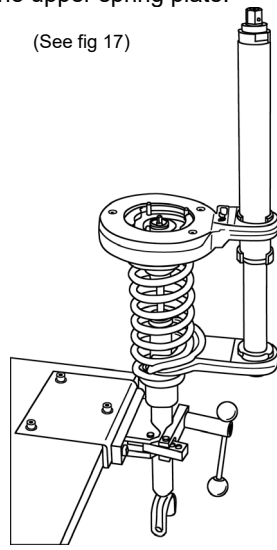


Fig. 8: Clamping a suspension-/damper strut into holding fixture.

KL-0055-60 Holding Fixture (Accessory)

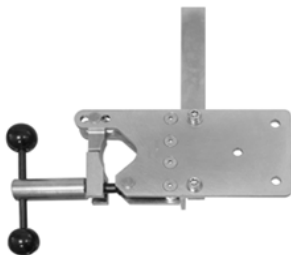
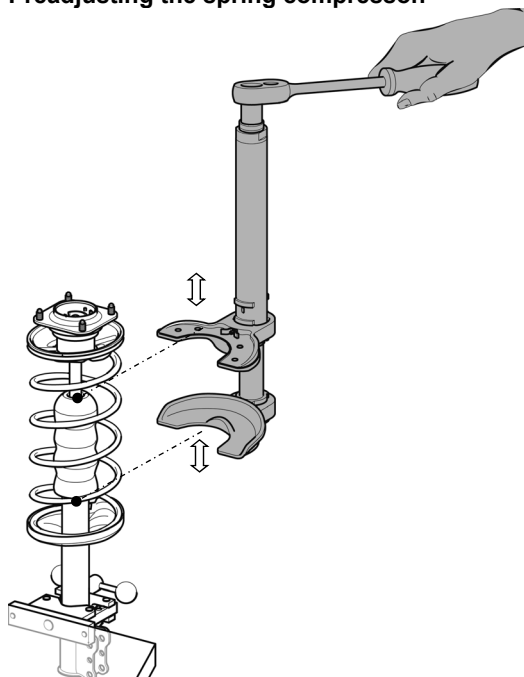


Fig. 9: Preadjusting the spring compressor.



4. Removing and Installing a Spring

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

Two different techniques are shown which are to be applied to depending on the type of jaw 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 jaws that encompass the upper spring plate.

Note: The compression of a rear axle spring in-situ on the vehicle can be carried out following the same principle as in technique 1. The proceeding is similar, however, the suspension-/damper strut will not have to be dismantled and reassembled. During the whole compression/decompression processes, pay attention to the space available. Make sure that the compressor body and the jaws are not positioned too close to the vehicle/car body parts, and that they are not pressed against the latter.

⚠ DANGER

Considerable forces are exerted when springs are being compressed. Non-observance of the following instructions can lead to a failure of the telescopic spring compressor which will result 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 spindle with molybdenum disulphide paste, for example **KL-0014-0030**.
- Only use molybdenum disulphide paste, for example **KL-0014-0030**, as a lubricant.
- Only use Original GEDORE Automotive spare parts.

ATTENTION

Stop turning the drive nut, once the telescopic spring compressor/the compressor piston has been retracted to limit stop, otherwise the telescopic spring compressor could be damaged.

- Once the spring compressor, respectively the compressor piston, has been retracted to limit stop, make sure that the drive nut is rotated only in the opposite direction.

Note: Always perform any work on 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 Holding Fixture

⚠ DANGER

Suspension-/damper struts that are not fixed correctly 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 telescopic spring compressor into a vice.

Clamp the removed MacPherson 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. Turn the drive nut by means of a 1/2" reversible ratchet in conjunction with a socket 24 mm (waf) and adjust the spring compressor so as to enable it to compress as many coils as possible. (Fig. 9)

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

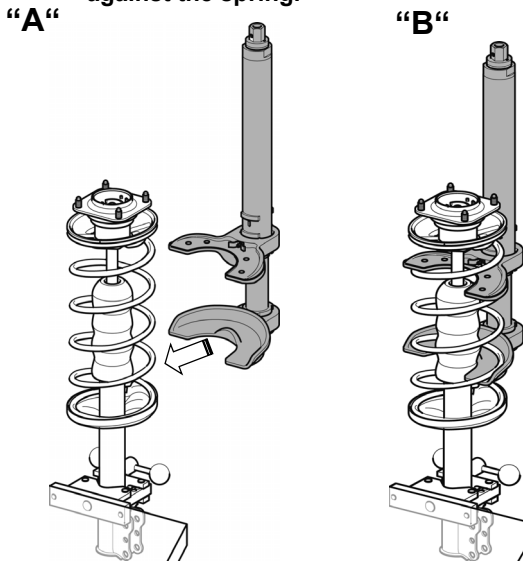


Fig. 11: Compressing the spring.

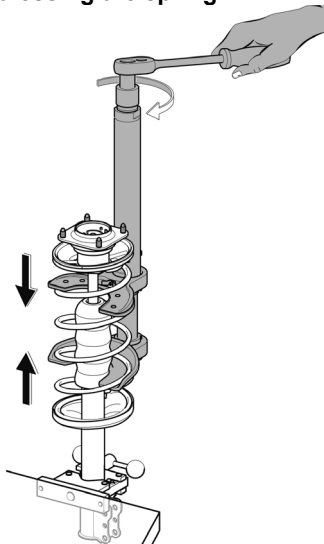
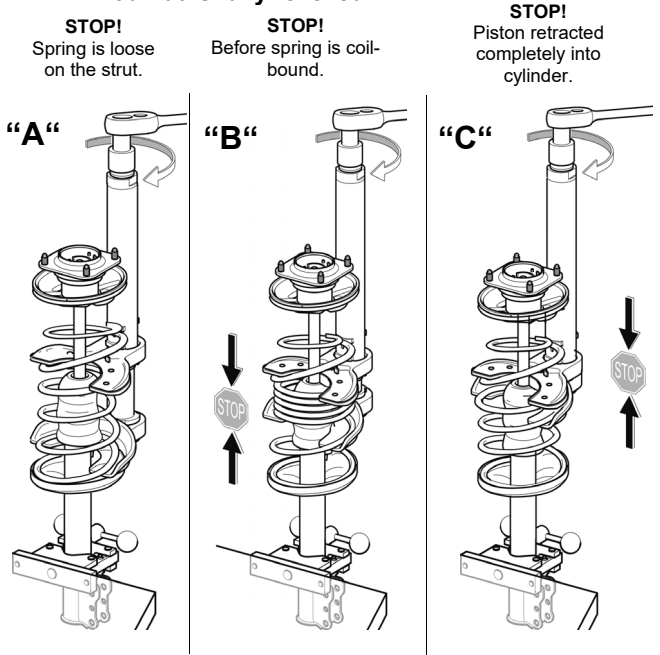


Fig. 12: Compressing the spring until pressure on piston rod nut is fully relieved.



2. **DANGER**

Make sure that the telescopic spring compressor is positioned correctly, otherwise there is a risk of the spring disengaging itself and being ejected from the spring compressor during the compression process.

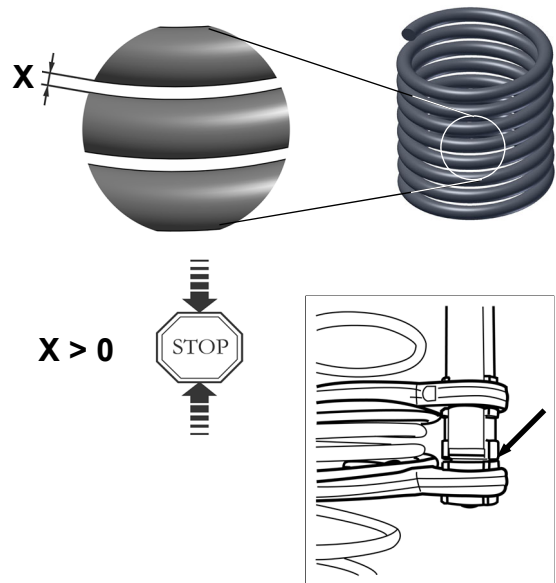
- Be sure that the spring is accurately seated in the jaw (in diameter and in pitch). (Fig. 4 A)
- The safety lip must engage behind the spring. (Fig. 4 B)
- In the event of compressing a conical spring, a special jaw will be needed (see accessories) to compensate for the distance to the base body in 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 the telescopic spring compressor against the spring (see Fig. 10 A and B).

3. **DANGER**

Do not exceed the maximum load capacity of the telescopic spring compressor as there is the risk of a failure of the tool and debris/broken parts becoming projectiles.

- Stop compressing the spring at the latest when the respective minimum opening distance (I or II) has been reached, that is when the piston has been retracted completely into the cylinder, but in any case before the coils touch each other.



To compress the spring, turn the drive nut clockwise (as shown in Fig. 11) by means of a 1/2" reversible ratchet in conjunction with a socket 24 mm (waf). Then, 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 a pressure on the piston rod nut, the operation must be cancelled. In this case, the spring can not be removed.
- If the drive nut comes loose on the spindle, release the spring compressor from pressure via the auxiliary drive, and insert a new shear pin into the drive nut. (See Fig. 13 and Chapter 5)

Fig. 13: If necessary, release the spring from pressure via the auxiliary drive.

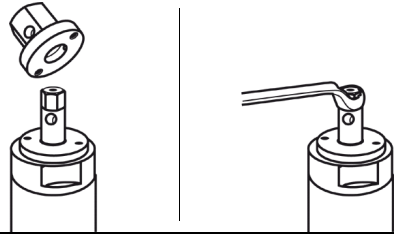


Fig. 14: Removing the compressed spring.

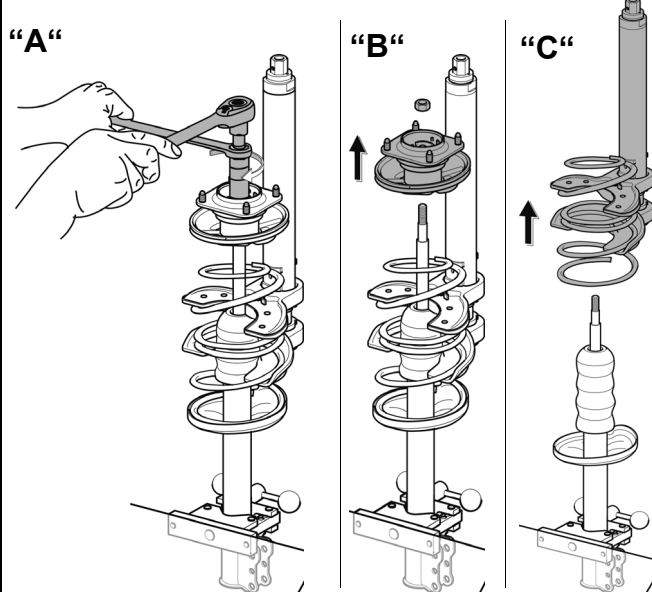


Fig. 15: Marking the position of the jaws.

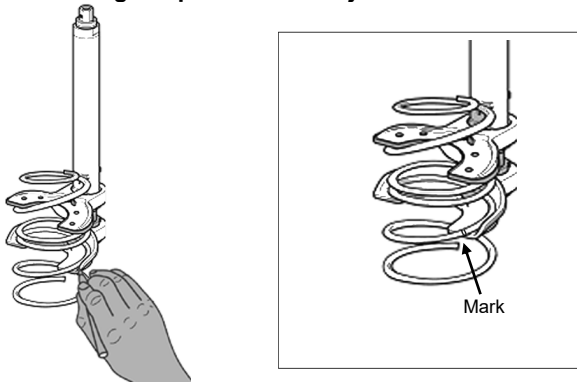
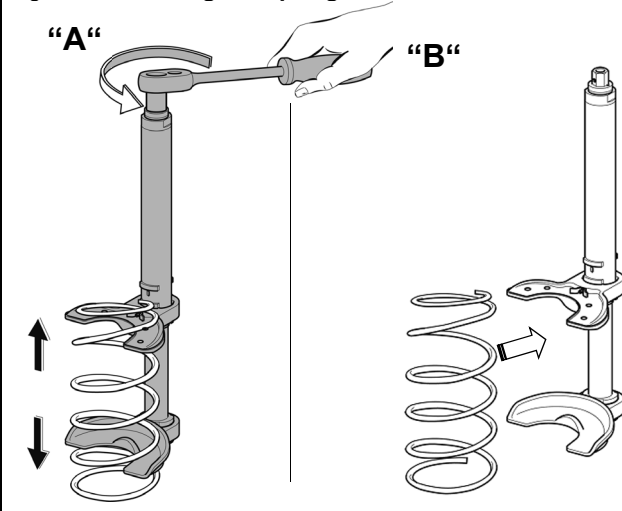


Fig. 16: Releasing the spring.



4. ATTENTION

Do not compress the spring via the auxiliary drive, as this could damage the spindle.

- The auxiliary drive may only be used for releasing spring pressure. It must not be used for compressing a spring.

If necessary, release the telescopic spring compressor from pressure via the auxiliary drive (as shown in Fig. 13) and insert a new shear pin into the drive nut.

(See chapter 5)

5. Loosen piston rod nut; for example, by means of the **KL-0056-100 K** tool set. Remove strut mount and upper spring plate. (Fig. 14 A and B)

6. Remove compressed spring along with spring compressor from strut. (Fig. 14 C)

7. Use paint to mark the positions of the jaws on the spring. (Fig. 15)

8. ATTENTION

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

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

Note: The telescopic spring compressor features a free-wheel at the opening limit stop in order to prevent damage to the drive spindle. If, while being opened, the telescopic spring compressor is turned beyond the maximum opening distance, the drive nut will automatically go into free-wheeling mode.

- To exit the free-wheeling, manually compress the piston and cylinder while turning the drive nut clockwise at the same time.

If a spring is still in place in the spring compressor, it will be necessary to pre-compress this spring by means of another spring compressor.

To release the spring from pressure, turn the drive nut counter-clockwise by means of a 1/2" reversible ratchet in conjunction with a socket 24 mm (waf) (Fig. 16A) until the jaws do no longer touch the spring. Stop the decompression process as soon as the maximum opening of 328 mm (locking position I), respectively 361 mm (locking position II), has been reached.

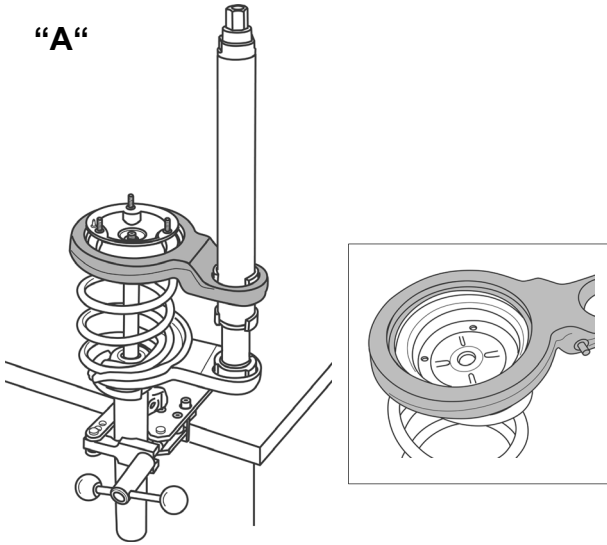
Note: If it is not possible to release, respectively open, the telescopic spring compressor far enough so that the jaws are no longer in contact with the spring and the spring can be removed, the decompression operation must be cancelled. In this case, it will be necessary to compress the spring again and to reassemble the MacPherson suspension/damper strut according to the manufacturer's instructions. Changing the spring is not possible.

9. Remove telescopic spring compressor from spring. (Fig. 16 B)

Fig. 17: Applying the telescopic spring compressor against the spring.

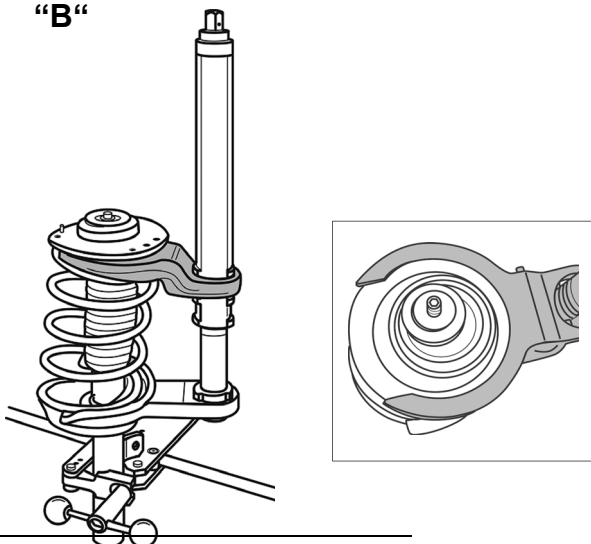
Compressing the spring via the upper spring plate.

“A”



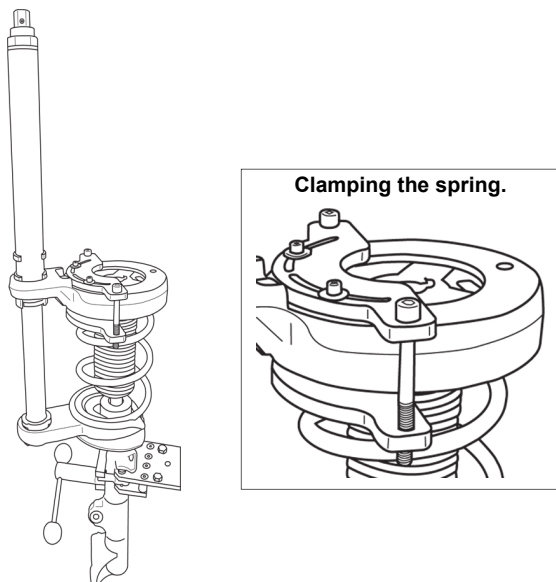
Compressing a spring: Peugeot 206.

“B”



Compressing a spring: Mercedes W204, X204 with KL-9001-313.

“C”



(Technique 2): Removing a spring using the special jaws that encompass the upper spring plate.

1. Turn the drive nut by means of a 1/2" reversible ratchet in conjunction with a socket 24 mm (waf) and adjust the spring compressor so as to enable it to compress as many coils as possible.

2. **⚠ DANGER**

Make sure that the telescopic 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) (Fig. 4 A).
- The safety lip must engage behind the spring (Fig. 4 B).
- In the event of compressing a conical spring, a special jaw will be needed (see accessories) 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). (Fig. 4 C).

Apply telescopic spring compressor against spring (see Fig. 17).

Note: The plastic adaptor rings are specially adapted to the shape of the relative upper spring plate. When positioning the ring jaw on the suspension-/damper strut, make sure that it is accurately seated on the spring plate.

Note for KL-9001-313 (W204, X204):

- Choose the suitable adaptor ring, insert it into ring jaw KL-9001-3134.
On W204, use adaptor ring KL-9001-3131.
On X204, use adaptor ring KL-9001-3132.

• **⚠ DANGER**

Make sure that the spring is securely clamped and held in the ring jaw KL-9001-3134, otherwise there is a risk of the spring disengaging itself from the jaws.

Always secure the spring with the aid of the clamping device of ring jaw KL-9001-3134 as shown in Fig. 17 C. This will prevent the spring from disengaging itself from the jaws.

Fig. 18: Compressing the spring.

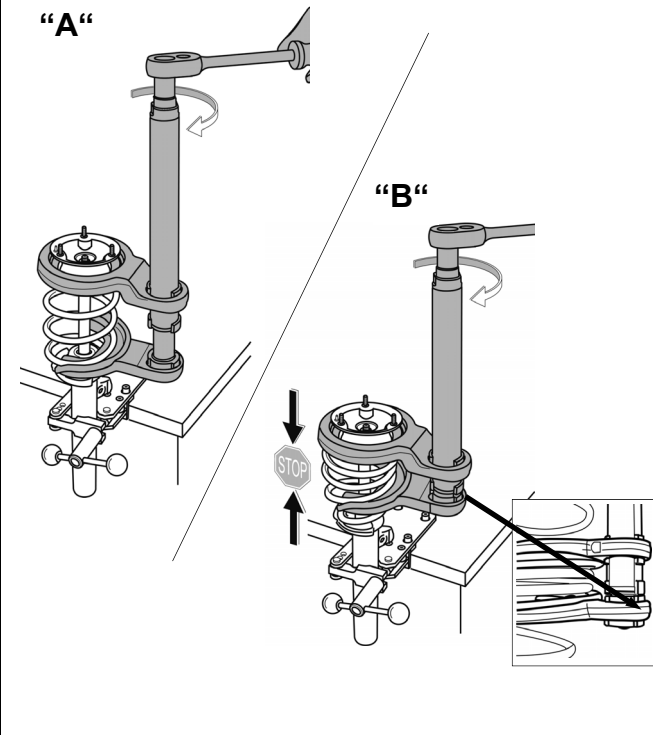


Fig. 19: If necessary, release spring pressure via the auxiliary drive.

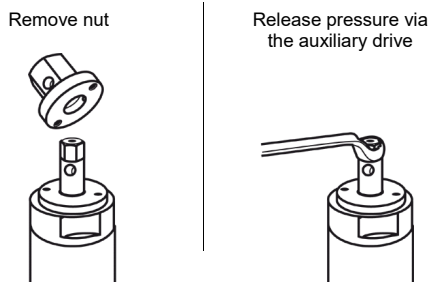
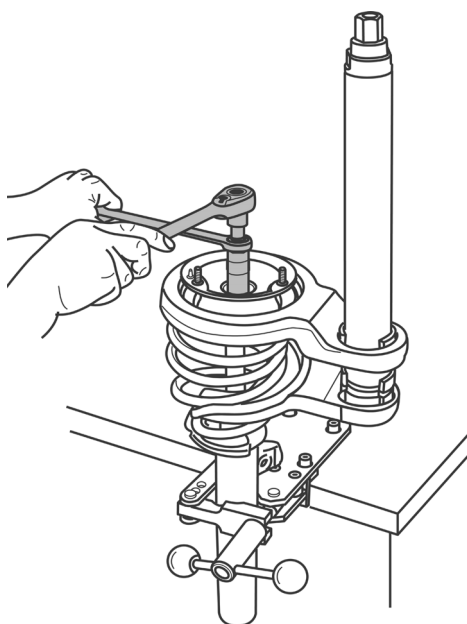


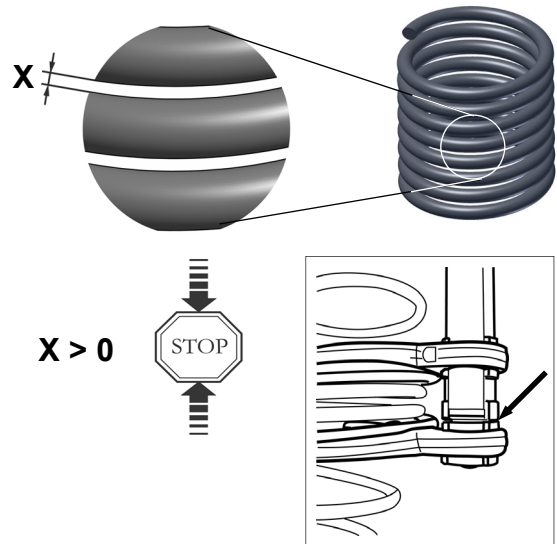
Fig. 20: Loosening the piston rod nut.



3. **DANGER**

Do not exceed the maximum load capacity as there is the risk of a failure of the tool and debris/broken parts becoming projectiles.

- Stop compressing the spring at the latest when the relative minimum opening distance (I or II) has been reached, that is when the piston has been retracted completely into the cylinder, but in any case before the coils touch each other.



To compress the spring, turn the drive nut clockwise (as shown in Fig. 18) by means of a 1/2" reversible ratchet in conjunction with a socket 24 mm (waf). 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 in such a manner that there is no longer a pressure on the piston rod nut, the compression operation must be cancelled. In this case, the spring cannot be removed.
- If the drive nut comes loose on the spindle, release the spring compressor from pressure via the auxiliary drive and insert a new shear pin into the drive nut. (See Fig. 19 and Chapter 5)

4. **ATTENTION**

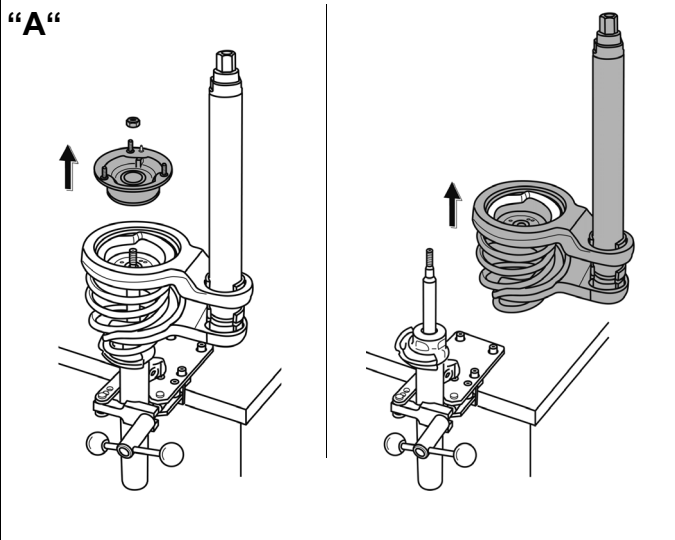
Do not compress the spring via the auxiliary drive, as this could damage the spindle.

- The auxiliary drive may only be used for releasing spring pressure. It must not be used for compressing a spring.

If necessary, release the telescopic spring compressor from pressure via the auxiliary drive (as shown in Fig. 19) and insert a new shear pin into the drive nut. (See chapter 5)

5. Loosen piston rod nut; for example, by means of tool set **KL-0056-100 K** (accessory) (Fig. 20)

Fig. 21: Removing the compressed spring.



- Remove strut mount and upper spring plate. **(Fig. 21 A)**
Remove compressed spring along with telescopic spring compressor from strut. **(Fig.21 B)**

- Use paint to mark the positions of the jaws on the spring. **(Fig. 22)**

8. **Note:**

The telescopic spring compressor features a free-wheel at the opening limit stop in order to prevent damage to the drive spindle. If, while being opened, the telescopic spring compressor is turned beyond the maximum opening distance, the drive nut will automatically go into free-wheeling mode.

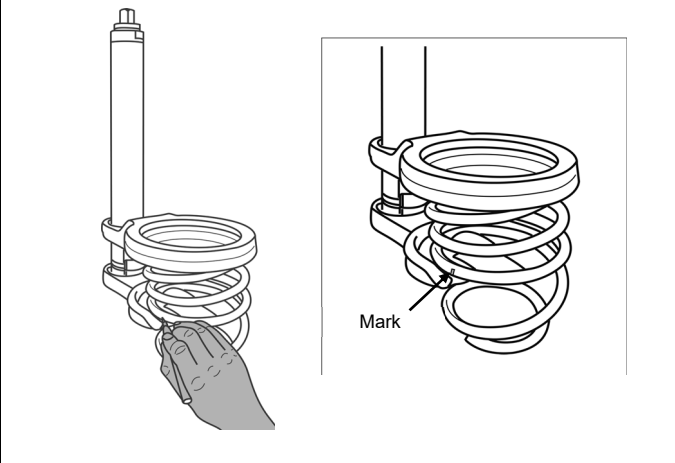
To exit the free-wheeling, manually compress the piston and cylinder while turning the drive nut clockwise at the same time.

If a spring is still in place in the spring compressor, it will be necessary to pre-compress this spring by means of another spring compressor.

To release the spring from pressure, turn the drive nut counterclockwise by means of a 1/2" reversible ratchet in conjunction with a socket 24 mm (waf) **(Fig. 23)** until the jaws do no longer touch the spring. Stop the decompression process as soon as the maximum opening distance of 328 mm (locking position I), respectively 361 mm (locking position II), has been reached.

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

Fig. 22: Marking the position of the jaws.



- Remove telescopic spring compressor from spring.

Note for KL-9001-313: Loosen clamping device of ring jaw KL-9001-3134 and remove spring compressor from spring.

Fig. 23: Releasing the spring.

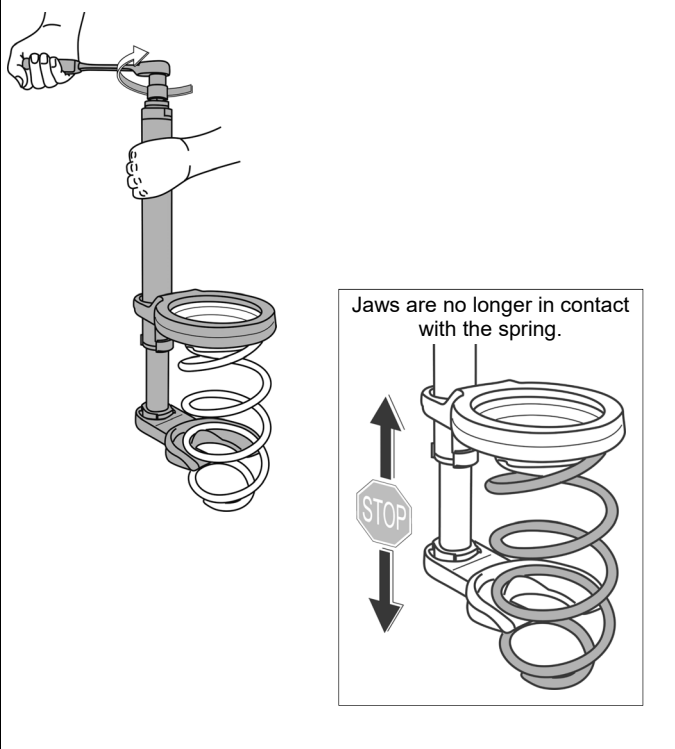


Fig. 24: Pre-adjusting the telescopic spring compressor.

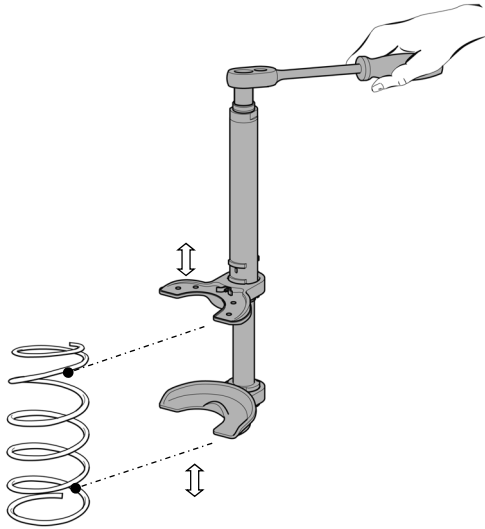


Fig. 25: Apply the telescopic spring compressor against the spring.

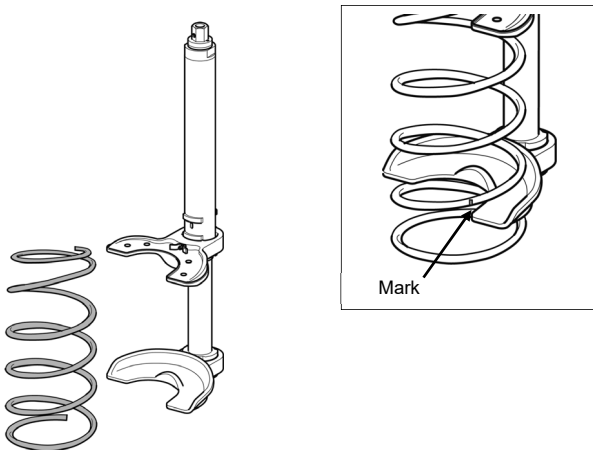
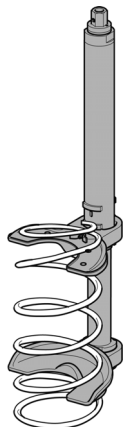


Fig. 26: Telescopic spring compressor applied against spring.



4.3 Installing a Spring

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

1. Turn the drive nut by means of a 1/2" reversible ratchet in conjunction with a socket 24 mm (waf) and adjust the telescopic spring compressor so that the jaws can be positioned on the spring at exactly the same place as they were when removing the spring. (Fig. 24)

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**

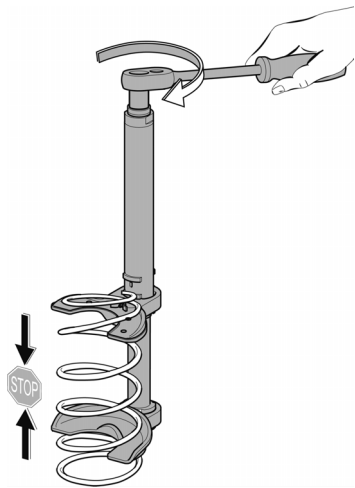
Make sure that the telescopic spring compressor is positioned correctly, otherwise there is a risk of the coil spring coming loose and falling off or being ejected from the spring compressor during the compression process.

- 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 a conical spring, a special jaw will be needed (see accessories) 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)

Position the telescopic spring compressor at exactly the same place as it was when the spring was removed. (Fig 25)

3. Turn the drive nut clockwise by means of a 1/2" reversible ratchet in conjunction with a socket 24 mm (waf) until the lower jaw with its compressing surface accurately rests against the spring. (Fig 26)

Fig. 27: **Compressing the spring.**



4. **⚠ DANGER**

Do not exceed the maximum load capacity as there is the risk of a failure of the tool and debris/broken parts becoming projectiles.

- Stop compressing the spring at the latest when the relative minimum opening distance (I or II) has been reached, that is when the piston has been retracted completely into the cylinder, but in any case before the coils touch each other.

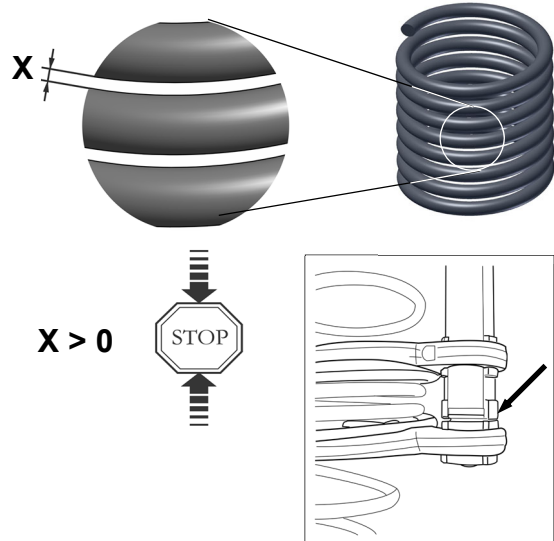
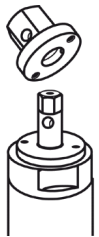


Fig. 28: **If necessary, release spring pressure via the auxiliary drive.**

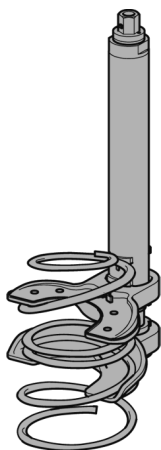
Remove nut



Release pressure via the auxiliary drive



Fig. 29: **Spring compressed**



To compress the spring, turn the drive nut clockwise as shown in **Fig. 27** by means of a 1/2" reversible ratchet in conjunction with a socket 24 mm (waf).

Note: The telescopic spring compressor features an auxiliary drive.

5. **ATTENTION**

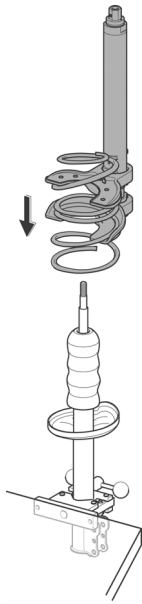
Do not compress the spring via the auxiliary drive, as this could damage the spindle.

- The auxiliary drive may only be used for releasing spring pressure. It must not be used for compressing a spring.

If the drive nut comes loose on the spindle, release the spring compressor from pressure via the auxiliary drive and insert a new shear pin into the drive nut.

(See Fig. 28 and Chapter 5)

Fig. 30: **Positioning the spring on the suspension-/damper strut.**



6. Stop the compression process as soon as the upper spring plate and strut mount can be placed on the piston rod. **(Fig. 30)**

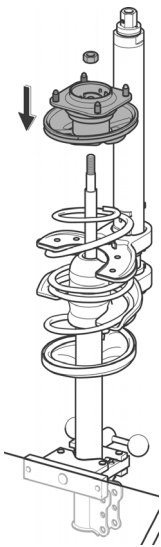
Place the telescopic spring compressor along with the spring on the suspension-/damper strut.

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

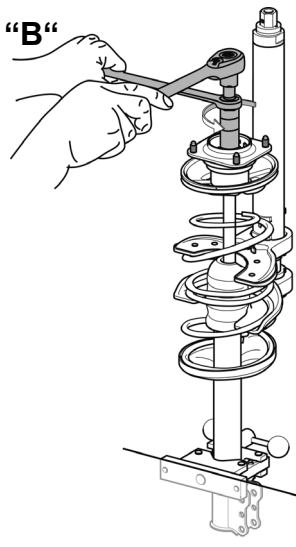
7. Assemble the suspension strut according to the manufacturer's instructions. Make sure the spring is seated correctly. **(Fig. 31)**

Fig. 31: **Assembling the suspension strut.**

“A”



“B”



8. ATTENTION

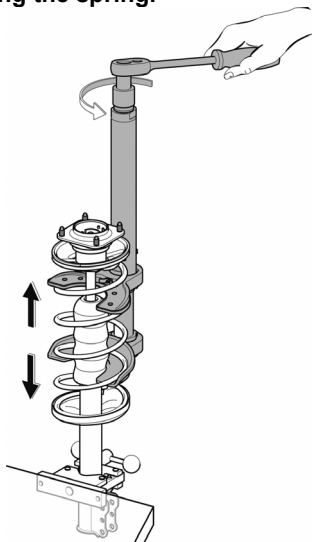
When releasing a spring, there is the risk of damage to the jaws.

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

To release spring pressure, turn the drive nut counterclockwise by means of a 1/2" reversible ratchet in conjunction with a socket 24 mm (waf) **(Fig. 32)** until the jaws do no longer touch the spring.

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

Fig. 32: **Releasing the spring.**



9. Remove spring compressor from spring.

Fig. 33: Pre-adjusting the telescopic spring compressor.

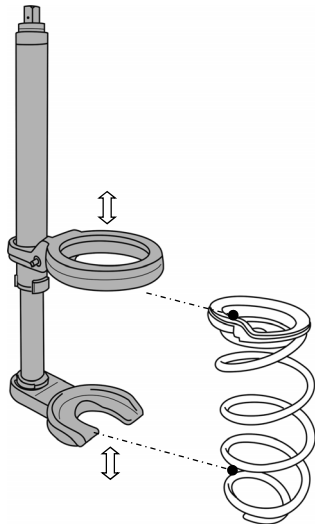


Fig. 34: Applying the telescopic spring compressor against the spring.

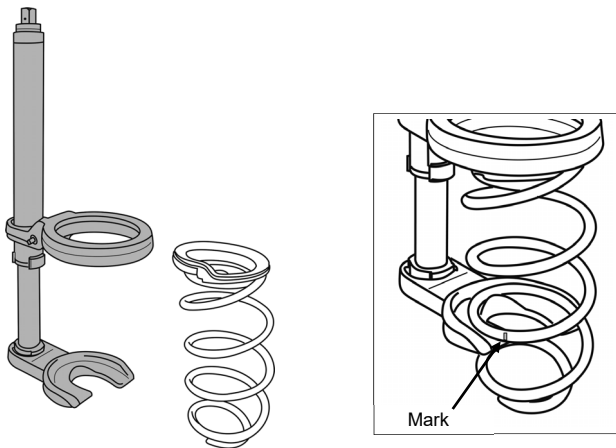
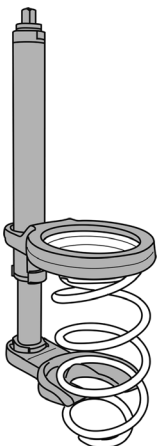


Fig. 35: Telescopic spring compressor applied against the spring.



(Technique 2): Installing a spring using the special jaws that encompass the upper spring plate.

1. Turn the drive nut by means of a 1/2" reversible ratchet in conjunction with a socket 24 mm (waf) and adjust the telescopic spring compressor so that the jaws can be positioned on the spring at exactly the same place as they were when removing the spring. **(Fig 33)**

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 telescopic spring compressor is positioned correctly, otherwise there is a risk of the 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 jaw (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 a conical spring, a special jaw will be needed (see accessories) 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)**

Position the telescopic spring compressor at the same place as it was when the spring was removed. **(Fig 34)**

Note for KL-9001-313 (W204, X204):

- Choose suitable adaptor ring and insert it into ring jaw **KL-9001-3134**.
On **W204**, use adaptor ring **KL-9001-3131**. On **X204**, use adaptor ring **KL-9001-3132**.

• **⚠ DANGER**

Make sure that the spring is securely clamped and held in the ring jaw **KL-9001-3134**, otherwise there is the risk of the spring disengaging itself from the jaws.

Always secure the spring with the aid of the clamping device of ring jaw **KL-9001-3134** as shown in **Fig. 17 C**. This will prevent the spring from disengaging itself from the jaws.

3. To pre-compress the spring, turn the drive nut clockwise by means of a 1/2" reversible ratchet in conjunction with a socket 24 mm (waf), and pre-compress the spring approximately 10 cm.

4. Place the telescopic spring compressor along with the spring on the suspension-/damper strut.

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

Fig. 36: **Compressing the spring.**

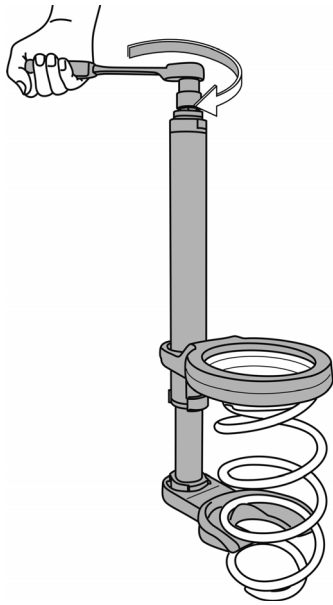


Fig. 37: **If necessary, release spring pressure via the auxiliary drive.**

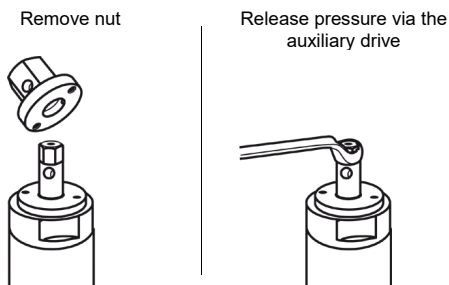
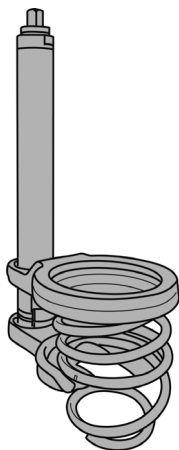


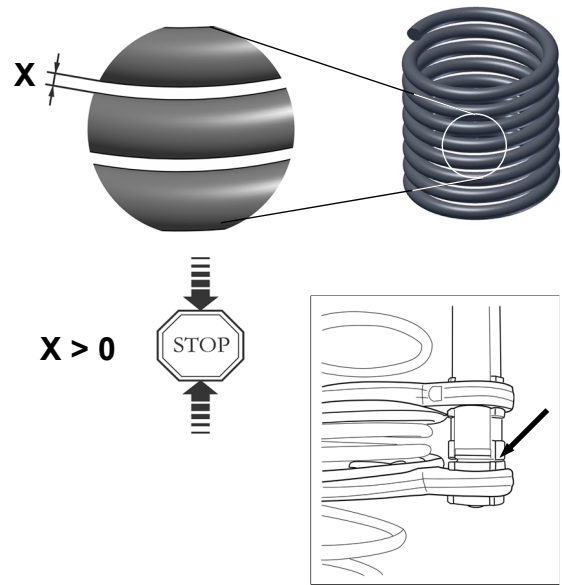
Fig. 38: **Spring compressed.**



5. **⚠ DANGER**

Do not exceed the maximum load capacity as there is the risk of a failure of the tool and debris/broken parts becoming projectiles.

- Stop compressing the spring at the latest when the minimum opening distance (I or II) has been reached, that is when the piston has been retracted completely into the cylinder, but in any case before the coils touch each other.



To compress the spring, turn the drive nut clockwise as shown in **Fig. 36** by means of a 1/2" reversible ratchet in conjunction with a socket 24 mm (waf).

Note: The telescopic spring compressor features an auxiliary drive.

6. **ATTENTION**

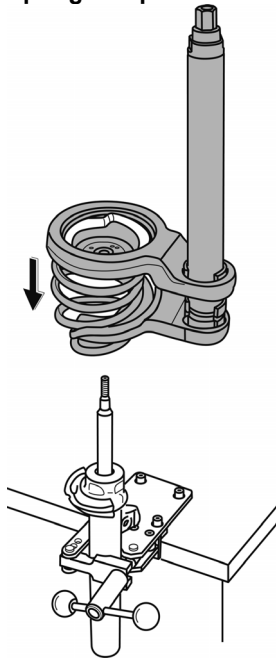
Do not compress the spindle via the auxiliary drive, as this could damage the spindle.

- The auxiliary drive may only be used for releasing spring pressure. It must not be used for compressing a spring.

If the drive nut comes loose on the spindle, release the spring compressor from pressure via the auxiliary drive and insert a new shear pin into the drive nut.

(See Fig. 37 and Chapter 5)

Fig. 39: **Spring compressed.**

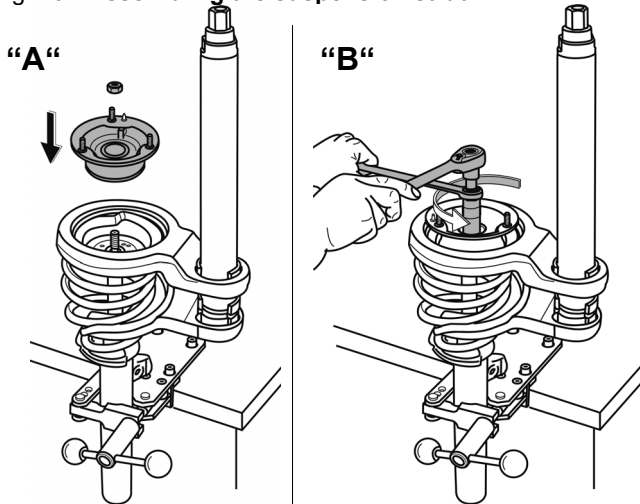


7. Stop the compression process as soon as the strut mount can be placed on the piston rod. **(Fig. 39)**

Note: Be sure that the piston rod has been extended completely.

8. Assemble the suspension strut according to the manufacturer's instructions. Make sure the spring is accurately seated. **(Fig. 40)**

Fig. 40: **Assembling the suspension strut.**



9. **ATTENTION**

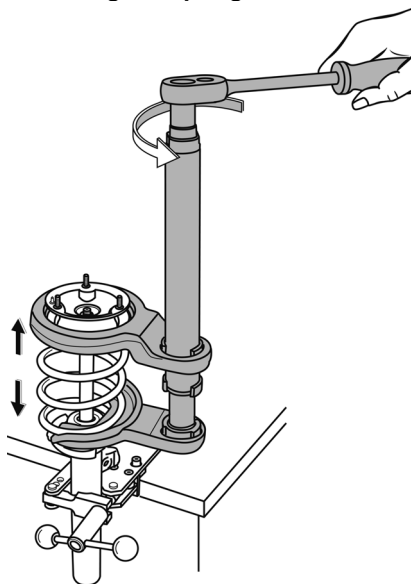
When releasing spring pressure, there is the risk of damage to the jaws.

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

To release the spring from pressure, turn the drive nut counter-clockwise by means of a 1/2" reversible ratchet in conjunction with a socket 24 mm (waf) **(Fig. 41)** until the jaws do no longer touch the spring.

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

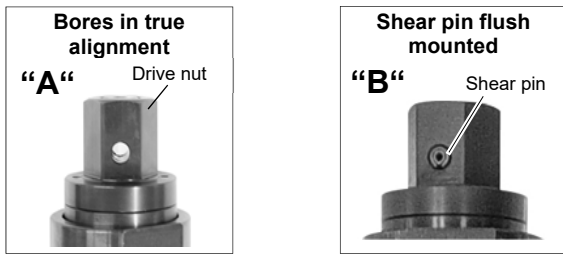
Fig. 41: **Releasing the spring.**



10. Remove telescopic spring compressor from spring.

Note for KL-9001-313: Loosen clamping device of ring jaw **KL-9001-3134** and remove spring compressor from spring.

Fig. 42: Insertion: Drive nut shear pin.



Pair of jaws.



Pair of jaws with extended attachment axle.



Pair of plastic protective inserts.



Pairs of special jaws.



5. Inserting the Drive Nut Shear Pin

1. Remove all residue of the old shear pin from the bores so that the bore holes in the drive nut and in the spindle are free from any dirt and debris.
2. Place the drive nut onto the spindle in such a manner that the bores in the drive nut and in the spindle are in true alignment. **(Fig. 42 A)**
3. Insert the shear pin into the bore hole making sure that it is flush fitting in the drive nut on both sides. **(Fig. 42 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

Pairs of Jaws

Part No.	For spring-Ø	Weight	Suitable for:
KL-9001-10 (Size 0)	70-125 mm	Pair 2.5 kg	Audi, Chrysler, Daewoo, Daihatsu, Fiat, Ford, Honda, Kia, Lada, Lancia, Mazda, Mercedes, Mitsubishi, Nissan, Opel/Vauxhall, Porsche, Rover, Saab, Seat, Škoda, Subaru, Suzuki, Toyota, Volvo, VW etc.
KL-9001-13 (Size 3)	165-210 mm	Pair 4.3 kg	Alfa Romeo, Audi, BMW, Chrysler, Citroën, Fiat, Ford, Kia, Lancia, Mazda, Mitsubishi, Nissan, Peugeot, Renault, Rover, Subaru, Toyota, Volvo etc.

Pairs of Jaws With Extended Attachment Axle Designed for conical and hard-to-reach springs.

Part No.	For spring-Ø	Weight	Suitable for:
KL-9001-16 (Size 0) <i>Accessories</i>	70-125 mm	Pair 3.0 kg	VW, e.g. Golf V rear axle, Volvo
KL-9001-17 (Size 1) <i>Accessories</i>	100-163 mm	Pair 3.7 kg	Nissan Pathfinder, Seat Arosa, VW Lupo, Mercedes etc.
KL-9001-18 (Size 2) <i>Accessories</i>	135-175 mm	Pair 3.7 kg	Audi, BMW, Honda, Renault Toyota, Nissan Mercedes W203, Mitsubishi, Peugeot etc.

Pairs of Plastic Protective Inserts (Patented)

8 «Grooved Nails KL-9001-2002» per pair of protective inserts included.

Pair of protective inserts		For pair of jaws	
Part No.		Part No.	
KL-9001-20	Size 0	KL-9001-10	Size 0
KL-9001-21	Size 1	KL-9001-11	Size 1
KL-9001-22	Size 2	KL-9001-12	Size 2
KL-9001-23	Size 3	KL-9001-13	Size 3

Pairs of Special Jaws

Part No.	For spring-Ø	Weight	Suitable for:
KL-9001-14 (Size 4)		Pair 3.0 kg	Citroën C 15 rear axle, Peugeot 305 Break rear axle
KL-9001-15 (Size 5) <i>Accessories</i>	70-116 mm	Pair 3.0 kg	Mercedes W210 4Matic, Alfa Romeo, Chrysler, Nissan, VW Lupo rear axle, etc.
KL-9001-33 SP (Size 1B) <i>Accessories</i>	100-163 mm	Pair 3.2 kg	Porsche Cayenne, VW Touareg
KL-9001-32SP (Size 1) <i>Accessories</i>		Pair 3.7 kg	Audi A8 (armoured) rear axle

KL-9001-1920



KL-9001-1920 Jaw, Size 6

Suitable for Peugeot 206 (1998 onwards)

This newly developed jaw that is used in conjunction with cylinder body **KL-9001-100** or **KL-9002-100** and jaw **KL-9001-1800 SP** (size 2, extended design with protective insert), allows removal and installation of a spring on the front suspension strut to be performed within just a few minutes.

Note: The spring together with the upper spring plate have to be compressed until pressure on the strut mount has been relieved.

Part No.	Spring-Ø	Weight	Suitable for:
KL-9001-1920 (Size 6)	165 mm	1.9 kg	Peugeot 206 front axle

KL-9001-91



BMW

KL-9001-91 Jaw Set for BMW

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

Designed to compress and decompress front springs.

Part No.	Description	Spring-Ø	Suitable for:
KL-9001-1900	Ring Jaw	165 mm	BMW E46 (3 Series) BMW E39 (5 Series)
KL-9001-1910	Adaptor Ring for KL-9001-1900		BMW E46 (3 Series), BMW E39 (5 Series)
KL-9001-1310	Jaw (Size 3)	165 - 210 mm	Universal application.
KL-9001-2301	Protective Insert (Size 3) for KL-9001-1310		Universal application.

KL-9001-94



BMW

KL-9001-94 Jaw Set for BMW E87/E90

Suitable for BMW E87 and E90.

Designed to compress and decompress front springs.

Part No.	Description
KL-9001-1900	Ring Jaw
KL-1579	Adaptor Ring for Ring Jaw, BMW E90
KL-9001-1700 SP	Jaw (Size 1), extended design with protective insert

KL-9001-92



Mercedes

KL-9001-92 Jaw Set for Mercedes

Suitable for Mercedes C-Class (W 203), CLK (W 209)

Designed to compress and decompress front springs.

Part No.	Description	Spring-Ø	Suitable for:
KL-9001-3100	Ring Jaw	196 mm	Mercedes C-Class (W203) Mercedes CLK (W209)
KL-9001-3110	Adaptor Ring for KL-9001-3100		Mercedes C-Class (W203) Mercedes CLK (W209)
KL-9001-1810	Jaw (Size 2A), extended design	135-175 mm	Universal application.
KL-9001-2201	Protective Insert, Size 2		Universal application.

KL-9001-93 A



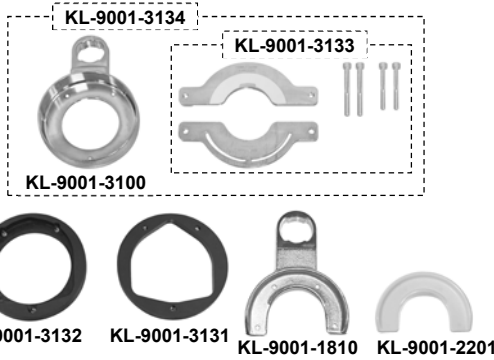
KL-9001-93 A Jaw Set for Mercedes W211, W230

Suitable for Mercedes W211 and W230 front axle.

Designed to remove and install front springs. Used in conjunction with spring compressor **KL-9002**.

Part No.	Description
KL-9001-1600 SP	Jaw (Size 0), extended design with protective insert
KL-9001-312 A	Ring Jaw with Adaptor Ring (Composed of ring jaw KL-9001-3100, adaptor ring KL-9001-3121)

KL-9001-313



KL-9001-313 Jaw Set for Mercedes W204/X204
Suitable for Mercedes C-Class (W204) and GLK (X204).

Designed to compress and decompress front springs.

Part No.	Description
KL-9001-3134	Ring Jaw with Clamping Device
KL-9001-3132	Adaptor Ring, Mercedes X204
KL-9001-3131	Adaptor Ring, Mercedes W204
KL-9001-1810	Jaw, Size 2A, extended design
KL-9001-2201	Protective Insert, Size 2

KL-9001-3134	Ring Jaw with Clamping Device
<i>composed of:</i>	
KL-9001-3100	Ring Jaw
KL-9001-3133	Clamping Device

KL-9001-314

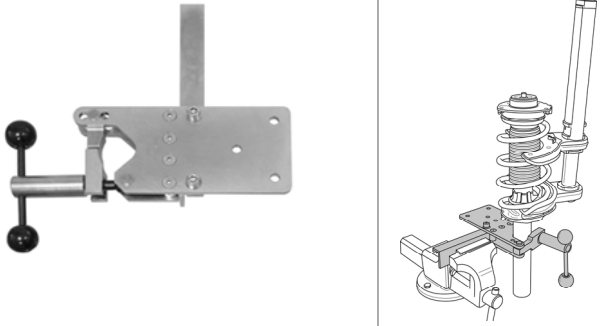


KL-9001-314 Jaw Set for Mercedes W212
Suitable for Mercedes E-Class (W212).

Designed to compress and decompress front springs

Part No.	Description
KL-9001-3100	Ring Jaw
KL-9001-3140	Adaptor Ring W212
KL-9001-1810 SP	Jaw with protective insert (Size 2A), extended design

KL-0055-60



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

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

This holding fixture can either be screw-fitted to a workbench or clamped into a vice thus enabling quick, safe and professional repair to be carried out.

Strut axles should NOT be clamped directly into a vice for assembly work (risk of deformation).

KL-9002 SP E



KL-9002 SP E - Telescopic Safety Spring Compressor,
in a Foam Insert

- Like the **KL-9002 SP**, but supplied in a foam insert.

The foam insert of the **KL-4999-13...-Series** included in the kit allows for the safe and clearly arranged storage of the tool components.

Part No.	Description	Qty.
KL-9002 SP E	Telescopic Safety Spring Compressor, in a Foam Insert	1
<i>composed of:</i>		
KL-9002 SP	Telescopic Safety Spring Compressor	1
KL-4999-1322	Foam Insert	1

KL-9002 SP K

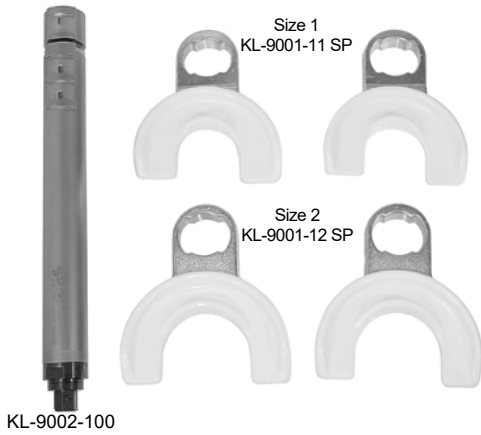


KL-9002 SP K Telescopic Safety Spring Compressor,
in a Storage Case

- Like the **KL-9002 SP E**, but supplied in a plastic storage case.

Part No.	Description	Qty.
KL-9002 SP K	Telescopic Safety Spring Compressor, in a Storage Case	1
<i>composed of:</i>		
KL-9002 SP E	Telescopic Safety Spring Compressor, in a Foam Insert	1
KL-4999-1395	Storage Case	1

Spare Parts: KL-9002 SP Telescopic Safety Spring Compressor



8. Maintenance and Repair by the GEDORE Automotive Service Centre

For safety reasons, as soon as damage is noticed on the telescopic 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 telescopic spring compressor, please contact the GEDORE Automotive Service Centre.

9. Spare Parts List KL-9002 SP (Patented)

Part No.	Description	Qty.
KL-9002 SP	Telescopic Spring Compressor (Patented)	1
<i>composed of:</i>		
KL-9002-100	Compressor Base Body	1
KL-9001-11 SP	Pair of Jaws (Size 1), with Protective Inserts	1
KL-9001-12 SP	Pair of Jaws (Size 2), with Protective Inserts	1

Part No.	Description	Qty.
KL-9001-11 SP	Pair of Jaws (Size 1), with Protective Inserts	1
<i>composed of:</i>		
KL-9001-11	Pair of Jaws (Size 1)	1
KL-9001-21	Pair of Protective Inserts (Size 1), with Grooved Nails	1

Part No.	Description	Qty.
KL-9001-12 SP	Pair of Jaws (Size 2), with Protective Inserts	1
<i>composed of:</i>		
KL-9001-12	Pair of Jaws (Size 2)	1
KL-9001-22	Pair of Protective Inserts (Size 2), with Grooved Nails	1

Pos.	Part No.	Description	Qty.	KL-9001-0033	KL-9001-0035
	KL-9002-100	Compressor Base Body	1		
<i>consists of:</i>					
1	KL-9002-0001	Cylinder Tube	1		
2	KL-9002-0002	Piston	1		
3	KL-9002-0003	Spindle	1		
4	KL-9001-0004	Drive Nut, (waf) 24 mm	1		•
5	KL-9001-0005	Grooved Pin, Ø5x12 mm	2	(10)•	•
6	KL-0014-0016 M	Shear Pin, Ø6x24 mm	1	(5)•	•
7	KL-9001-0006	Bearing Housing	1		
8	KL-9001-0007	Axial Needle Bearing	1		•
9	KL-9001-0008	Axial Needle Bearing	1		
10	KL-9001-0009	Set Collar	1		
11	KL-9001-0010	Setscrew, M6x8 mm	2		•
12	KL-9001-0011	Feather Key, 10x8 x 25 mm	1		
13	KL-9001-0012	Hexagon Socket Screw, M10LH x 12 mm	1		•
14	KL-9001-0014	Wiper Ring	1		•
15	KL-9001-0015	Plug	1		•
16	KL-9001-0016	Shim Ring, 25x35 x 0.1 mm	3		•

KL-9001-0033 Shear Pin Set

(For scope of delivery, see table)

KL-9001-0035 Repair Kit (Small Kit)

(For scope of delivery, see table)

10. Environmentally Safe Disposal

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

Compressor Base Body KL-9002-100

