

KL-0146-20

Support Device



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1. READ AND UNDERSTAND FOR YOUR SAFETY



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

1.1 Target group

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

The support device **must only be** used by skilled personnel in specialised motor vehicle workshops who are familiar with the basic regulations on work safety and accident prevention!

✔ **Never** allow unauthorised, inexperienced persons, minors and children, or persons with limited physical, sensory, and mental abilities to use the support device!

1.2 Obligations of the owner

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

✔ The owner of the support device **must** ensure that **only** trained personnel in specialised vehicle workshops use the support device!

✔ The owner of the support device **must** ensure that the operating instructions are available to the user and that the user has completely read and understood the operating instructions **before** using the support device!

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

1.3 Intended use

The support device ...

✔ **must only** be used to support passenger car engines during disassembly and assembly of the timing belt or the timing chain side engine mount!

✔ **must only** be used up to a **max. load capacity of 100 - 300 kilogram**, depending on the type of mounting!

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

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

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

1.4 Reasonably foreseeable misuse

The support device ...

✔ **must never** be used to support other loads than those intended!

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

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

⚠ Use the support device **always** as intended. Any other use can result in **DEATH** or in **SERIOUS INJURIES**!

1.5 Work environment

For your safety, **only** use the support device in a safe working environment.

✔ The workplace **must** be clean and tidy.

✔ The workplace **must** be sufficiently large and illuminated.

✔ The workplace **must** be on a solid and non-skidding floor.

✔ The workplace **must** be safeguarded against access of unauthorised persons.

✔ The workplace **must** have a room temperature between -10°C and +40°C.

1.6 Personal protective equipment

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



Always wear **EYE PROTECTION** (see DIN EN 166, OSHA 29 CFR 1910.133, ANSI Z87) when using the support device to protect yourself against parts or particles flying about!

When using the support device, flying parts or particles can cause **SEVERE INJURIES** to your **eyes**!



Always wear **PROTECTIVE GLOVES** (e.g. DIN EN 388, OSHA 29 CFR 1910.138, ANSI 105) when using the support device to protect yourself against sharp edges and crushing between parts!

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



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

When working with the support device, dropping parts can cause **SEVERE INJURIES** to your **feet and toes**!

1.7 Labelling of the warnings

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

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

1.8 Basic warnings

WARNING - Danger to life from MISUSE

MISUSE can cause the support device to slip, break, and thus drop or be hurled about. This can cause **DEATH** or **SEVERE INJURIES**!

- Read and understand these operating instructions **before using** the support device, and observe all safety and warning instructions for **safe use**!
- Always work with the support device in accordance with the basic regulations on work safety and accident prevention!
- The support device must **only** be used to support the engine during disassembly and assembly of the timing belt or the timing chain side engine mount! Other engine or gearbox mounts must **on no account** be loosened or disassembled!
- Use the support device **only** as described in these operating instructions, as intended!
- Always** observe the vehicle-specific application procedures in the repair guide of the vehicle manufacturer!
- Never** use the support device if it is damaged or has loose parts or unauthorised modifications!
- Always** wear your personal protective equipment (*safety goggles, protective gloves, safety shoes*) during work!
- Never** hit the support device with a hammer or anything similar.

⚠ WARNING - Danger to life from OVERLOAD

OVERLOAD can cause the support device to slip, break, and thus drop or be hurled about. This can cause **DEATH** or **SEVERE INJURIES**!

- ✔ Depending on the type of mounting, observe the relevant **maximum load capacity** of the support device that must **never** be exceeded!
- ✔ **Never** use the support device if it is damaged or has loose parts or unauthorised modifications!
- ✔ **Always** wear your personal protective equipment (*safety goggles, protective gloves, safety shoes*) during work!

⚠ WARNING - Danger of injury from DROPPING

The support device and the engine can **DROP** during use. This can cause **DEATH** or **SEVERE INJURIES**!

- ✔ The support device must **only** be used to support the engine during disassembly and assembly of the timing belt or the timing chain side engine mount! Other engine or gearbox mounts must **on no account** be loosened or disassembled!
- ✔ **Always** make sure that the support device is securely attached to the bracket!
- ✔ The support device **must always** be mounted on the bracket by means of both tensioning hooks!
- ✔ The support device **must** be mounted at a sufficiently stable position on the bracket!
- ✔ **Never** leave the support device unattended in loaded condition on the vehicle!
- ✔ **Always** check the stability of the support device before use!
- ✔ **Always** wear your personal protective equipment (*safety goggles, protective gloves, safety shoes*) during work!

ATTENTION - Risk of DAMAGE

The vehicle can get **DAMAGED**.

- ✔ **Always** observe the vehicle-specific application procedures in the repair guide of the vehicle manufacturer.
- ✔ **Never** clamp the support device in a vice.

1.9 Basic safety instructions

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

- ✔ Read and understand these operating instructions **before using** the support device, and observe all safety and warning instructions for **safe use**!
- ✔ **Always** observe the vehicle-specific application procedures in the repair guide of the vehicle manufacturer!
- ✔ **Always** work with the support device in accordance with the basic regulations on work safety and accident prevention!
- ✔ **Never** use the support device when you are tired or under the influence of alcohol, drugs, or medication!
- ✔ **Before each use**, check the support device **carefully** for damage, loose parts, or unauthorised modifications. **Never** use it if you notice any such deficiencies!
- ✔ Use **only genuine GEDORE Automotive** spare parts and accessories!
- ✔ **Before using** the support device, ensure that **no** unauthorised persons are in the immediate environment!
- ✔ **Always** observe the **max. load capacity** when using the support device, and **never** exceed it!
- ✔ **Always** wear your personal protective equipment (*safety goggles, protective gloves, safety shoes*) during work!
- ✔ Interrupt your work **immediately** if you are unsure about using the support device, and contact **GEDORE Automotive GmbH if necessary**!
- ✔ If damage to the support device is detected, do no longer use it for safety reasons! Professional inspection and repair may only be carried out by specially trained personnel from **GEDORE Automotive GmbH**!
- ✔ **Always** use the support device as intended; non-compliance will invalidate any warranty claim and may significantly reduce its durability.

2. PRODUCT DESCRIPTION

2.1 KL-0146-20 - Support device

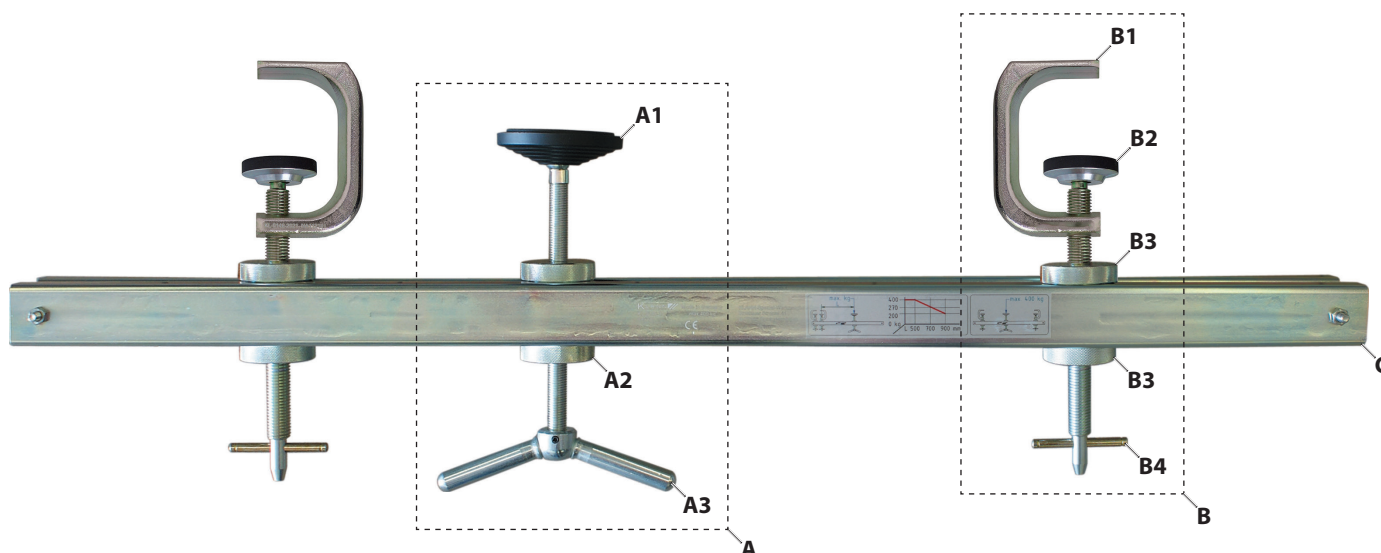
Universal fit to support passenger car engines.

As easy and safe support of passenger car engines, e.g. when replacing the timing belt, water pump or engine mount.

With its special design, the individually adjustable and broad tensioning hooks, the correspondingly large support surfaces and the unique fixing of the support device on the vehicle frame, the engine is fixed and supported in its position by means of the 100 mm support plate. For the mechanic this means that he is free to access the engine from the top and bottom, while it is securely held even e.g. when turning the engine shafts, when loosening and tightening fastening screws, etc. The tensioning hooks can be turned by 360° and can be arranged universally, depending on vehicle condition.

After the support device, or rather the tensioning hooks, have been mounted on the vehicle, they are clamped on the vehicle and on the support device. Shifting or even slipping off of the support device is thus prevented. The support device offers a high degree of safety and a universal range of application without requiring any other accessories, such as vehicle-specific retainers, etc.

Recommended accessories: KL-0146-21 - Mounting fixture



2.2 Scope of delivery

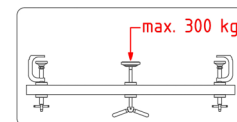
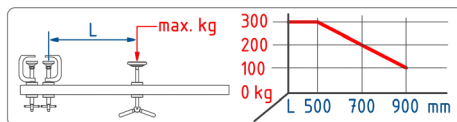
Item	Description	Qty.
A	Support spindle	1
A1	Articulated base plate (Ø 100mm)	1
A2	Knurled nut	1
A3	Spindle	1
B	Tensioning hook	2
B1	Hook	1
B2	Articulated base (Ø 60mm)	1
B3	Knurled nut	2
B4	Spindle	1
C	Base frame	1

i Detailed overview of individual parts: See Chapter 8.

2.3 Specifications

Max. load capacity

(depending on position of tensioning hook):..... 100 ... 300kg



Overall length:..... 1100mm

Tensioning hook width:..... 50mm

Tensioning range of the tensioning hooks: approx. 70mm

Max. height offset of the tensioning hooks:..... approx. 90mm

Height adjustment support plate: 120mm

Weight: 16.5kg

3. PREPARATION

⚠ WARNING

Misuse and/or **overload** can cause the support device to slip, break and thus drop or fling around. This can cause **DEATH** or **SEVERE INJURIES**!

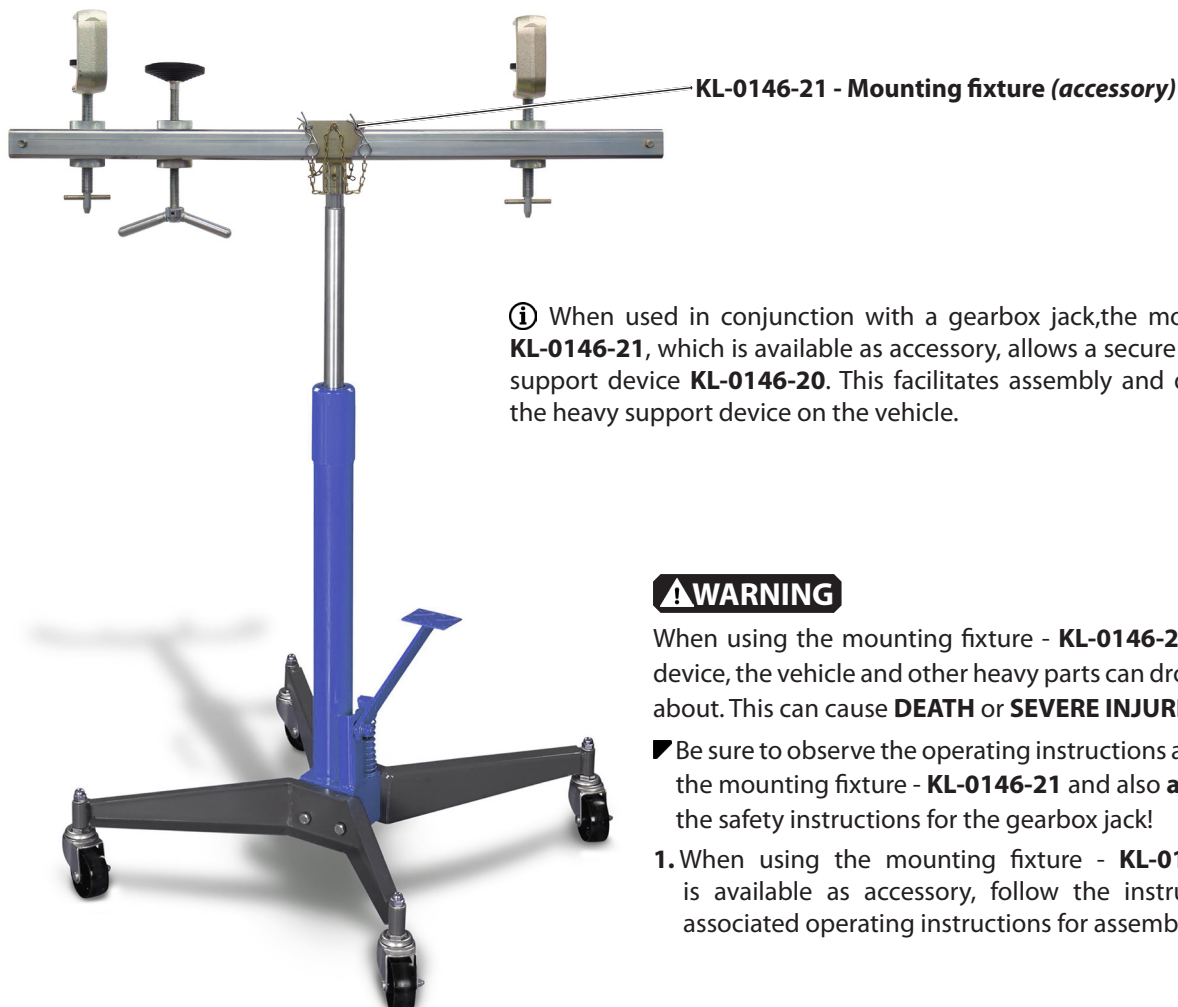
- ✔ **Prior to using** the support device, read and understand **all** safety instructions and warnings listed in **Chapter 1**, and **always** observe them **for safe use**!
- ✔ Use the support device **as intended** and **always** carry out maintenance and repair work in compliance with the regulations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

3.1 Checking the scope of delivery

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

3.2 Preparing the support device (*Only necessary when using KL-0146-21!*)

📷 1: Preparing the support device...



❗ When used in conjunction with a gearbox jack, the mounting fixture **KL-0146-21**, which is available as accessory, allows a secure holding of the support device **KL-0146-20**. This facilitates assembly and disassembly of the heavy support device on the vehicle.

⚠ WARNING

When using the mounting fixture - **KL-0146-21**, the support device, the vehicle and other heavy parts can drop or be hurled about. This can cause **DEATH** or **SEVERE INJURIES**!

- ✔ Be sure to observe the operating instructions associated with the mounting fixture - **KL-0146-21** and also **always** observe the safety instructions for the gearbox jack!

1. When using the mounting fixture - **KL-0146-21**, which is available as accessory, follow the instructions in the associated operating instructions for assembly.

4. TYPICAL APPLICATION

This typical application describes how to support a passenger car engine with the support device.

2: Mount the support device by means of the tensioning hooks [B] at a suitable position of the bracket.

WARNING

In the event of **inadequate** fastening of the support device on the bracket, it may slip and drop down together with heavy parts. This can cause **DEATH** or **SEVERE INJURIES**!

► The support device **must always** be mounted on the bracket by means of both tensioning hooks [B]!

► The support device **must** be mounted at a sufficiently stable position on the bracket!

1. Depending on the circumstances, mount the support device on the vehicle according to the **type of mounting A or B**.

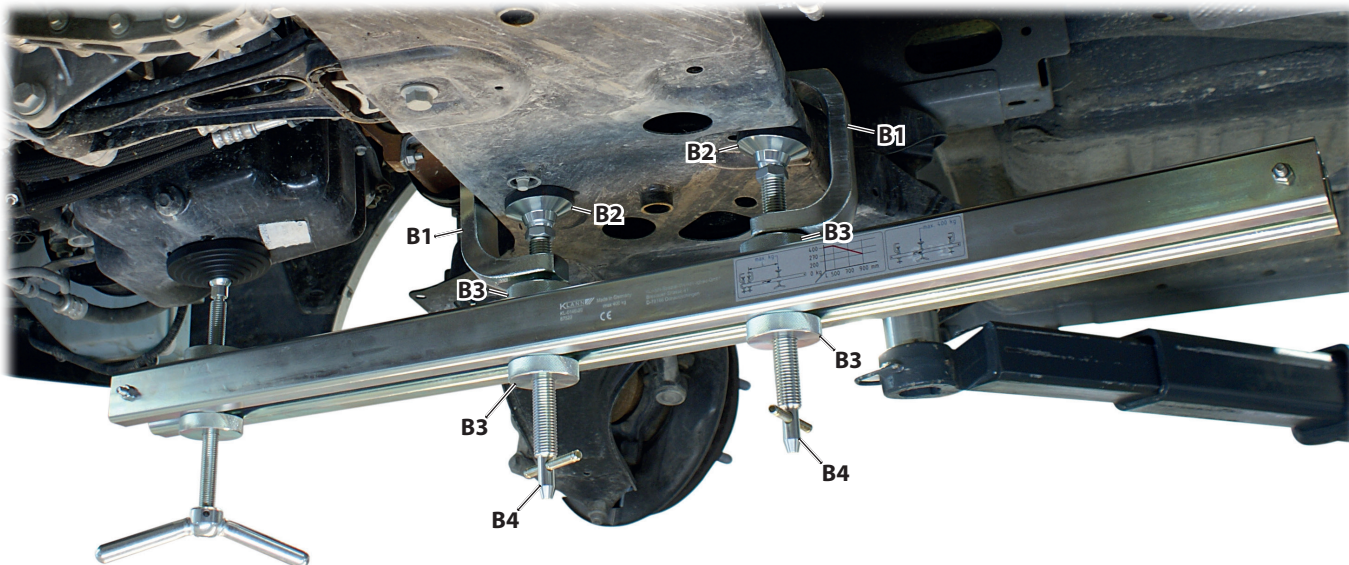
To do so, mount the hooks [B1] at a sufficiently stable position of the bracket and clamp them properly by means of the articulated bases [B1] by screwing in the spindle [B4].

Now bring the support device in balance by adjusting the two knurled nuts [B3]. Then adequately tighten the knurled nuts [B3].

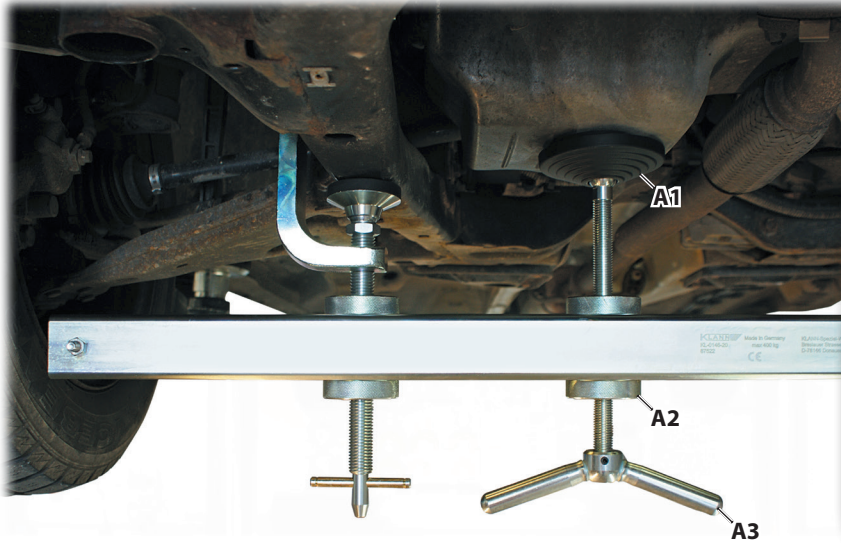
Mounting type A: Tensioning hooks [B] mounted on the left + right



Mounting type B: Tensioning hooks [B] mounted on one side

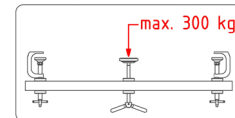


3: Apply the support plate **[A]** at a suitable position of the engine and carry out work on the vehicle according to manufacturer's instructions.

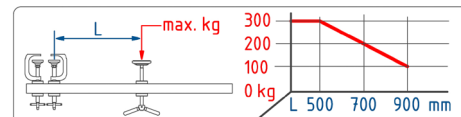


Max. load capacity:

Tensioning hooks **[B]** mounted on the left + right



Tensioning hooks **[B]** mounted on one side



⚠ WARNING

High forces may occur when supporting the engine. This can cause the support device to drop and parts to drop or hurl about. This can cause **DEATH** or **SEVERE INJURIES**!

- ✔ The support device must **only** be used to support the engine during disassembly and assembly of the timing belt or the timing chain side engine mount! Other engine or gearbox mounts must **on no account** be loosened or disassembled!
 - ✔ Depending on the type of mounting (**A** or **B**), observe the corresponding **maximum load capacity** of the support device which must **never** be exceeded!
 - ✔ **Always** work with the support device in accordance with the basic regulations on work safety and accident prevention!
3. Apply the articulated base plate **[A1]** to a sufficiently stable position on the engine by screwing in the spindle **[A3]**. Then tighten the knurled nuts **[A2]** adequately.
- Use the support device with consideration and carry out work on the vehicle according to manufacturer's instructions.

5. CARE / STORAGE

⚠ ATTENTION

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

6. REPAIR

⚠ WARNING

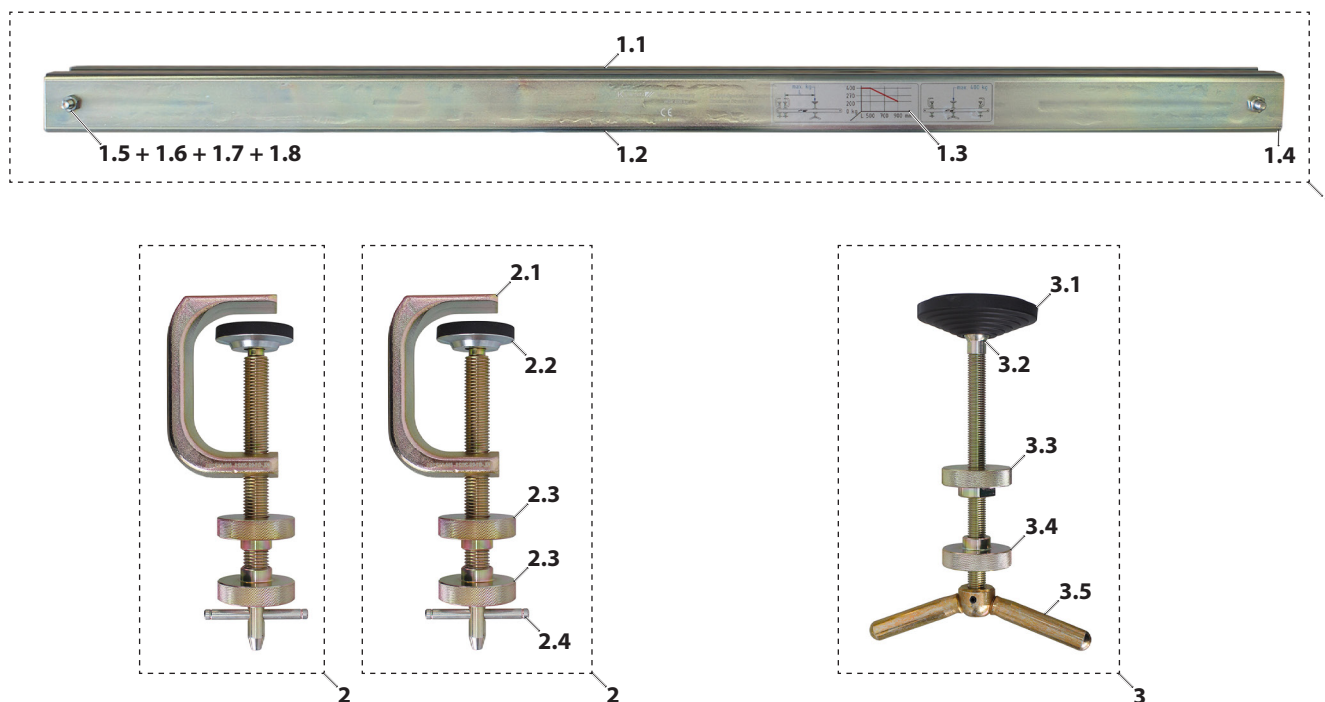
If damage to the support device is detected, do no longer use it for safety reasons! Professional inspection and repair may only be carried out by specially trained experts from **GEDORE Automotive GmbH**. Improper repair can result in **DEATH** or **SEVERE INJURIES**.

7. ENVIRONMENTALLY COMPLIANT DISPOSAL

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

8. SINGLE COMPONENT OVERVIEW

Fig. 4: KL-0146-20 - Support device



Item	Part no.	Description	Qty.
1	KL-0146-201	Base frame	1
1.1	KL-0146-2011	Brace	1
1.2	KL-0146-2012	Brace, labelled	1
1.3	KL-0146-2015	Stress profile sticker	1
1.4	KL-0146-2016	Lamellar plug	4
1.5	KL-0146-2014	Hexagon head screw M8 x 95	2
1.6	KL-0035-0003	Hex nut M8	2
1.7	KL-0035-0004	Washer Ø 8mm	2
1.8	KL-0146-2013	Spacer bushing	2
2	KL-0146-202 A	Tensioning hook	2
2.1	KL-0146-2021	Hook	2
2.2	KL-0146-2024 A	Articulated base (Ø 60mm)	2
2.3	KL-0146-2023	Knurled nut	4
2.4	KL-0146-2022 A	Spindle	2
3	KL-0146-203	Support spindle	1
3.1	KL-0146-2031	Articulated base plate (Ø 100mm)	1
3.2	KL-0146-2036	Ball studs	1
3.3	KL-0146-2033	Knurled nut, tight	1
3.4	KL-0146-2035	Knurled nut	1
3.5	KL-0146-2030	Spindle, dowelled	1

9. EC DECLARATION OF CONFORMITY / UK DECLARATION OF CONFORMITY

EC DECLARATION OF CONFORMITY (Translation)

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

Name and address of the manufacturer

GEDORE Automotive GmbH
 Breslauer Straße 41
 78166 Donaueschingen, GERMANY

We hereby declare that the product described below

Designation: Supporting Device

Series / type: KL-0146-20

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

The declaration loses its validity if the product is converted or modified without our consent.

Applied harmonised EN standards:

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

Other technical standards and specifications applied:

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

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

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

Donaueschingen, 26 October 2022



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

UK DECLARATION OF CONFORMITY (Original UK Declaration of conformity)

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

Name and address of manufacturer

GEDORE Automotive GmbH
 Breslauer Straße 41
 78166 Donaueschingen, GERMANY

We hereby declare that the product described below

Designation: Supporting Device

Series / Type: KL-0146-20

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

The declaration loses its validity if the product is converted or modified without our consent.

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

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

Other technical standards and specifications applied:

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

Authorised representative for compiling the technical documents:

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Donaueschingen, 26 October 2022



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