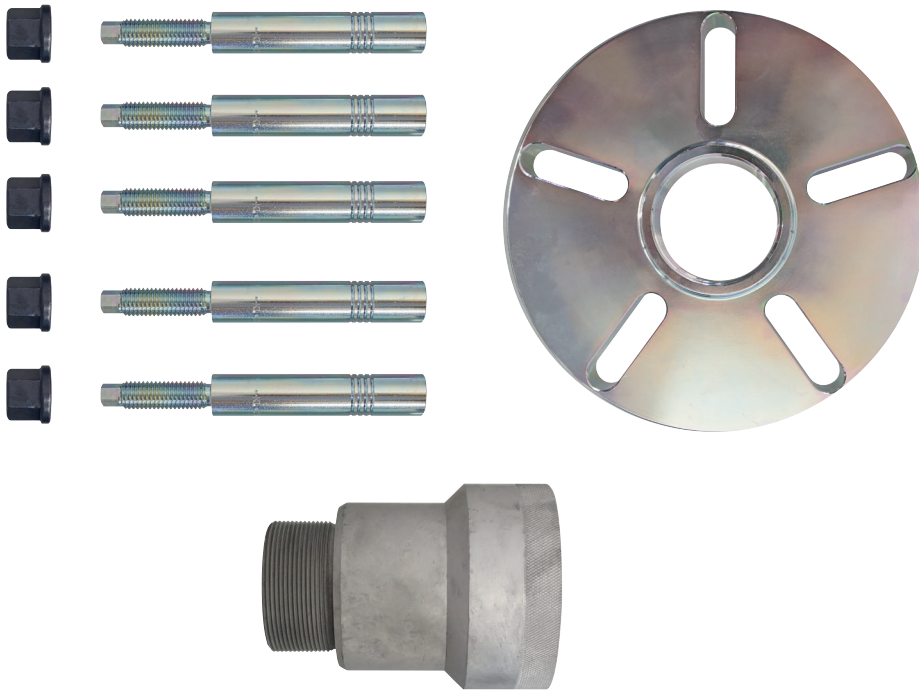


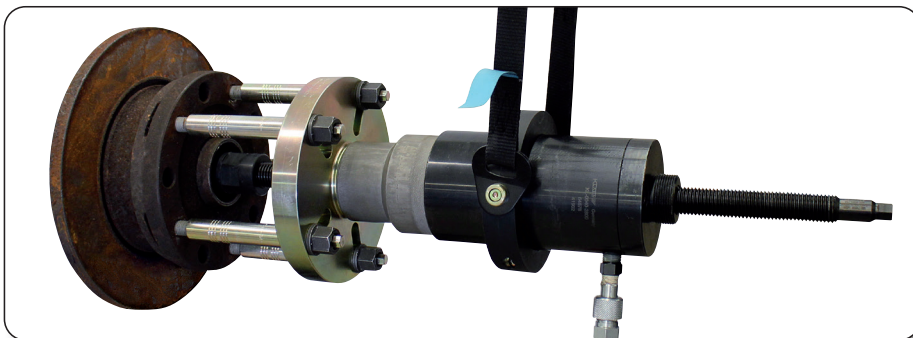


KL-0174-371 / -372

Ford Transit Puller Set



Operating instructions EN
 ⚠ Read and understand before use!



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Version 1 - 07/2021



ENGLISH

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1. FOR YOUR SAFETY



Read and understand these operating instructions **before using** the perforated disc set, and observe all safety and warning instructions! Misuse can result in **DEATH** or **SEVERE INJURIES** ! These operating instructions are an integral part of the perforated disc set. Keep them at a safe place for future reference, and always pass them on to subsequent users of the perforated disc set! The perforated disc set 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 perforated disc set **may 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 perforated disc set!

1.2 Obligations of the owner

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

➤ The owner of the perforated disc set **must** ensure that **only** trained personnel in specialised vehicle workshops use the perforated disc set!

➤ The owner of the perforated disc set **must** ensure that the instructions for use are available to the user and that the user has completely read and understood the instructions for use **before** using the perforated disc set!

➤ The owner of the perforated disc set **must** ensure that the user is familiar with the basic regulations on work safety and accident prevention, and that the personal protective equipment is available to him/her!

1.3 Intended use

The perforated disc set ...

➤ **may only** be used to force off wheel hubs with brake disc off the stub axle on the rear axle!

➤ **may only** be used to force seized U shafts out of the wheel hub on the front axle!

➤ **may only** be used to pull off bolted wheel bearing units with wheel hub and brake disc on the front axle!

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

➤ **may only** be used to a **max. load of 28 tonnes!**

➤ **may only** be used with a manual drive or a manually operated **GEDORE Automotive** hydraulic cylinder/pump combination with a pressure gauge for safe pressure control!

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

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

1.4 Reasonably foreseeable misuse

The perforated disc set ...

➤ **must never** be used to remove and install silent blocks!

➤ **must never** be used for purposes other than those for which it is intended!

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

➤ **must never** be used with a machine-operated hydraulic cylinder/pump combination!

➤ **must never** be used for batch processing with many forcing in/out processes within a few minutes!

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

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

⚠ Use the perforated disc set **always** as intended. Any other use can result in **DEATH** or in **SEVERE INJURIES**!

1.5 Personal protective equipment

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



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

When using the perforated disc set, flying parts or particles can cause **SEVERE INJURIES** to your **eyes**!



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

When working with the perforated disc set, 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 perforated disc set to protect yourself against dropping parts!

When working with the perforated disc set, dropping parts can cause **SEVERE INJURIES** to your **feet and toes**!

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1.6 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 SEVERE INJURIES . |
| | Indicates a hazardous situation which, if not avoided, could cause MODERATE or MINOR INJURIES . |
| | Indicates a situation which, if not avoided, can cause damage to the tool or an object in its vicinity. |
| | Note on important information and useful tips. |

1.7 Basic warnings

⚠ WARNING - Danger to life from MISUSE

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

- When using the perforated disc set, flying parts or particles can cause **SEVERE INJURIES** to your **eyes**!
- When working with the perforated disc set, sharp edges and crushing between parts can cause **SEVERE INJURIES** to your **hands**!
- When working with the perforated disc set, dropping parts can cause **SEVERE INJURIES** to your **feet and toes**!
- Always wear **EYE PROTECTION** (for example to DIN EN 166, OSHA 29 CFR 1910.133, ANSI Z87) when using the perforated disc set to protect yourself against flying parts or particles!
- Always wear **PROTECTIVE GLOVES** (for example to DIN EN 388, OSHA 29 CFR 1910.138, ANSI 105) when using the perforated disc set to protect yourself against sharp edges and crushing between parts!
- Always wear **SAFETY SHOES** (for example to DIN EN ISO 20345, OSHA 29 CFR 1910.136, ANSI Z41) when using the perforated disc set to protect yourself against dropping parts!
- Read and understand these operating instructions **before using** the perforated disc set and observe all safety and warning instructions for **safe use**!
- Always** work with the perforated disc set in accordance with the basic regulations on work safety and accident prevention!
- Only** use the perforated disc set as described in these operating instructions!
- Always** observe the vehicle-specific application procedures in the vehicle manufacturer's repair guide!
- Never** use the perforated disc set if it is damaged or has loose parts or unauthorised modifications!
- Never** use the perforated disc set with an inadmissible drive. Drive it **exclusively** with a manual drive or a manually driven **GEDORE Automotive** hydraulic cylinder/pump combination with pressure gauge for safe pressure control!
- Never** use the perforated disc set for batch processing with numerous forcing in/out processes within a few minutes!
- Always** wear your personal protective equipment (*safety goggles, protective gloves, safety shoes*) during work!
- Never** hit the perforated disc set with a hammer or anything similar!

⚠ WARNING - Danger to life from OVERLOAD

OVERLOADING can cause the perforated disc set to slip, break and thus drop or be hurled about. This can cause **DEATH** or **SEVERE INJURIES!**

- ✔ **Never** exceed the **maximum loading capacity** of the perforated disc set!
- ✔ **Never** use the perforated disc set if it is damaged or has loose parts or unauthorised modifications!
- ✔ **Never** use the perforated disc set with a machine-operated drive or a machine-operated hydraulic cylinder / pump combination!
- ✔ Use the perforated disc set **exclusively** with a manual drive or a manually operated **GEDORE Automotive** hydraulic cylinder / pump combination with a pressure gauge for reliable pressure control!
- ✔ **Never** use the perforated disc set for batch processing with numerous forcing in/out processes within a few minutes!
- ✔ **Always** wear your personal protective equipment (*safety goggles, protective gloves, safety shoes*) during work!

⚠ CAUTION - Danger of injury from DROPPING

There is a risk of the perforated disc set **DROPPING** during preparation and use. This can cause **MEDIUM** or **LIGHT INJURIES!**

- ✔ Avoid dropping the perforated disc set **at all costs**, especially when it is under load!
- ✔ **Always** make sure that the perforated disc set is securely attached to the spring!
- ✔ **As a precaution**, secure the perforated disc set against dropping, for example using the safety retaining belt - **KL-0040-2890** or the mounting device - **KL-0040-288!**
- ✔ **Never** leave the perforated disc set unattended in loaded condition at the wheel hub!
- ✔ Put down the perforated disc set **safely** to prevent it from dropping (for example on a workbench)!
- ✔ **Always** wear your personal protective equipment (*safety goggles, protective gloves, safety shoes*) during work!

ATTENTION - Risk of DAMAGE

There is a risk of **DAMAGING** the vehicle, the wheel bearings, the brake disc and the perforated disc set.

- ✔ **Always** install the wheel bearing in the installation position specified by the manufacturer!
- ✔ **Always** observe vehicle-specific application procedures in the vehicle manufacturer's repair guide.
- ✔ **Never** use the perforated disc set for batch processing with numerous forcing in/out processes within a few minutes!
- ✔ **Never** clamp the perforated disc set in a vice.

1.8 Basic safety instructions

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

- ✔ Read and understand these operating instructions **before using** the perforated disc set and observe all safety and warning instructions for **safe use!**
- ✔ **Always** observe the vehicle-specific application procedures in the vehicle manufacturer's repair guide!
- ✔ **Always** work with the perforated disc set in accordance with the basic regulations on work safety and accident prevention!
- ✔ **Never** use the perforated disc set when you are tired or under the influence of alcohol, drugs, or medication!
- ✔ **Before each use**, check the perforated disc set **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!
- ✔ Due to its high weight, **always** carry, lift, and position the perforated disc set with the help of a second skilled person!
- ✔ **Before using** the perforated disc set, make sure that **no** unauthorised persons are in the immediate environment!
- ✔ **Always** observe the **max. loading capacity** when using the perforated disc set, and **never** exceed it!
- ✔ **Always** keep hair, clothing, and gloves away from moving parts!

- ✔ **Never** use the perforated disc set with an unauthorised drive. Drive it **only** with an approved drive!
- ✔ **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 perforated disc set, and contact **GEDORE Automotive GmbH if necessary!**
- ✔ **Always** use the perforated disc set as intended. Non-compliance will invalidate any warranty claim and may significantly reduce its durability!

1.9 Work environment

For your safety, **only** use the perforated disc set 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.

1.10 Emissions

Molybdenum disulphide paste and hydraulic oil can drip or escape when using the perforated disc set and thus pose a hazard to the environment.

- ✔ **Immediately** remove leaking hydraulic oil as well as excess molybdenum disulphide paste (using oil binding agents or a rag, for example).
- ✔ In case of skin contact with hydraulic oil, clean the affected area **immediately** with degreasing soap and water.
- ✔ Dispose of pollutants such as hydraulic oil and molybdenum disulphide paste in an **environmentally friendly** manner.
- ✔ Safety data sheets *as per (EC) Ordinance No. 1907/2006 about hydraulic oil (Alsus Hyd HLP 32)* and molybdenum disulphide paste (**MOLYKOTE(R) G-N PLUS PASTE**) can be found on the manufacturer's website in the internet (**World Wide Web**).

1.11 Maintenance

Missing and improper maintenance can cause damage and breakage of the perforated disc set. This can cause **DEATH** or **SEVERE INJURIES!** Perform maintenance on the forcing device **at regular intervals** and **only** when the device is depressurised and/or de-energised!

Prior to each use:

- ✔ **Prior to each use**, check the perforated disc set **carefully** for damage, loose parts or unauthorised modifications!
- ✔ **Prior to each use** of the perforated disc set, check the thrust spindle for contamination and damage. If necessary, clean it and subsequently lubricate it **only** with molybdenum disulphide paste! (For example, **GEDORE Automotive** molybdenum disulphide paste - **KL-0014-0030**)

Recommended: Every 12 months:

- ✔ Have the perforated disc set professionally checked **every 12 months** by authorised **GEDORE Automotive GmbH** specialists!

1.12 Troubleshooting

Only perform troubleshooting on the perforated disc set when it is depressurised!

Problem: Hydraulic oil escapes from the hydraulic coupling between hydraulic cylinder and hand pump.

Reason: Hydraulic coupling contaminated or loose.

Remedy: Clean and retighten the hydraulic coupling. Top up lacking hydraulic oil (**HLP 32**) at the hand pump.

2. Product description

2.1 KL-0174-371 - Perforated disc set Ford Transit

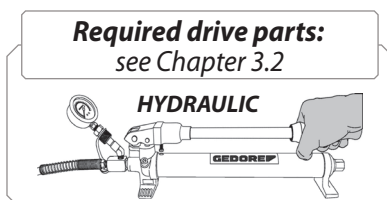
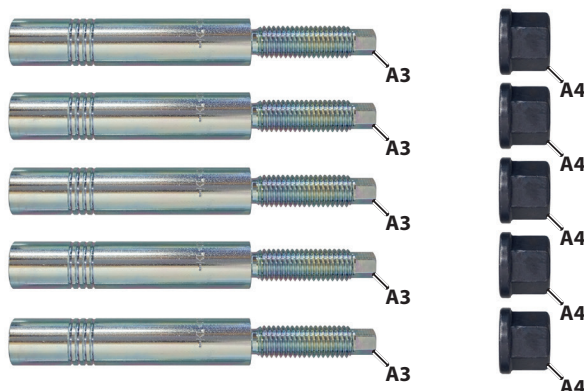
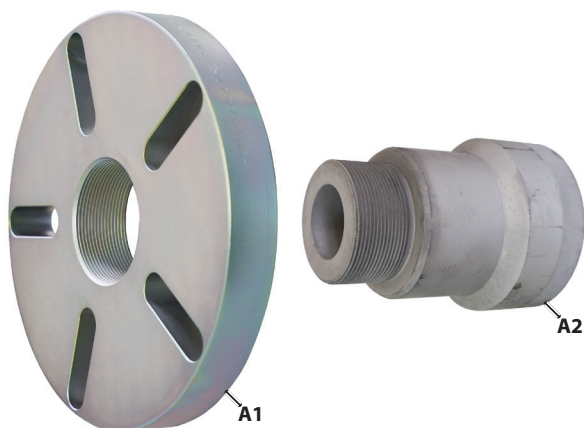
Fits with the rear and front axle on Ford Transit/Tourneo (year of manufacture 2000-2006 / 2006-2014) with front-wheel drive and a hole circle diameter of 160 mm at the wheel hub.

The perforated disc set enables a seized wheel hub with brake disc to be quickly and professionally forced off the stub axle on the rear axle and a seized U shaft to be forced out of the wheel hub on the front axle. This is necessary, for example, when you replace the wheel bearing and the brake disc on the rear axle, as these are located behind the wheel hub. All work can be carried out directly on the vehicle within a few minutes.

Required drive parts:

KL-0040-2800 - hydraulic cylinder 28 tonnes, **KL-0215-35 M28** - hydraulic pump, **KL-0040-2812-1** - pull/thrust spindle M24, **KL-0040-2812-5** - thrust nut M24, **KL-0174-3701** - thrust piece short

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2.1.1 Scope of delivery / component overview

| Item | Part no. | Description | Qty. |
|------|-------------|----------------------------------|------|
| A1 | KL-0174-330 | Perforated disc size 3 (5 holes) | 1 |
| A2 | KL-0174-572 | Adapter 2-1/4" to 2-3/4" | 1 |
| A3 | KL-0174-767 | Pull bolt type M, M14x2.0 mm | 5 |
| A4 | KL-0174-701 | Hexagon collar nut M14 | 5 |

2.1.2 Specifications

Max. load: 28t

Adapter retainer: 2¼"-14 UNS

Hole circle Ø: 100 ... 170 mm

Perforated disc outer Ø: 190 mm

Perforated disc fastening: 5 holes

2.2 KL-0174-372 - Supplementary kit Ford Transit, closed wheel bearings

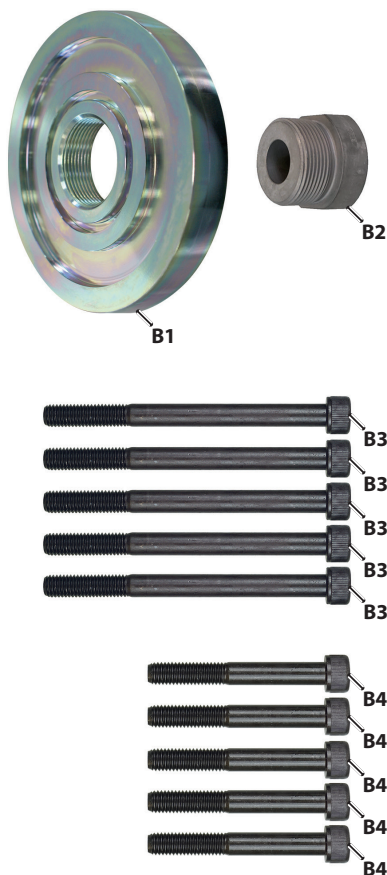
Fits with the front axle on Ford Transit/Tourneo (as of YOM 2014) with rear-wheel drive and a hole circle diameter at the brake disc fixing screws of 97.5 mm and 111 mm. Particularly suitable for vehicles with wheel bearing units without centre bore in closed design on the front axle.

This supplementary kit enables quick and professional removal of the bolted wheel bearing unit with wheel hub and brake disc on the front axle, as well as subsequent removal and insertion of the wheel hub on the wheel bearing unit, especially for closed wheel bearings without centre bore. For example, this is required when replacing the wheel bearing and brake discs, as these are located behind the wheel hub. All work can be carried out directly on the vehicle within a few minutes. Time-consuming removal and installation of the wheel bearing housing and subsequent wheel alignment are not necessary.

Required set of tools + drive parts:

KL-0174-371 - perforated disc set Ford Transit, **KL-0040-2800** - hydraulic cylinder 28 tonnes, **KL-0040-2812-1** - pull/thrust spindle M24, **KL-0040-2812-5** - thrust nut M24

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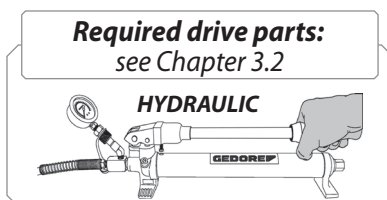


2.2.1 Scope of delivery / component overview

| Item | Part no. | Description | Qty. |
|------|----------------|-----------------------------|------|
| B1 | KL-0040-8501 A | Thrust ring Ø 137 mm | 1 |
| B2 | KL-0040-8621 | Pressure adapter | 1 |
| B3 | KL-0039-1823-4 | Cheese-head screw M10 x 120 | 5 |
| B4 | KL-0186-9000-3 | Cheese-head screw M10x75 | 5 |

2.2.2 Specifications

Max. load: 28t



3. PREPARATION

⚠ WARNING

Misuse or overloading the perforated disc set can cause it to slip, break and thus drop or be hurled about. This can cause **DEATH** or **SEVERE INJURIES!**

➤ **Prior to using** the perforated disc set, read and understand **all** safety instructions and warnings listed in **Chapter 1** and **always observe** them for **safe use!**

➤ Use the perforated disc set **as intended** and described in these operating instructions. **Always** observe the vehicle-specific application procedures in the repair manual of the vehicle manufacturer!

➤ Before **each use**, check the perforated disc set **carefully** for damage, loose parts, or unauthorised modifications. Never use it if you notice any such deficiencies!

➤ **Always** wear your personal protective equipment (*safety goggles, protective gloves, safety shoes*) during work!

3.1 Checking the scope of delivery

Prior to using the perforated disc set, check to ensure that all the parts included in the scope of delivery (*see chapter 2.*) are available, and follow the instructions below.

3.2 Assembling drive parts

⚠ WARNING

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

➤ Use the perforated disc set **exclusively** with a manual drive or a manually operated **GEDORE Automotive** hydraulic cylinder / pump combination with a pressure gauge for reliable pressure control!

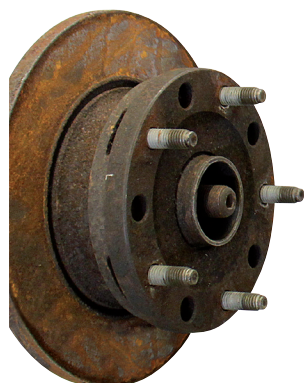
1) Assemble the required drive parts for the perforated disc set as shown in **Fig 1**.

① *For other pressure plates see the GEDORE Automotive catalogue.*

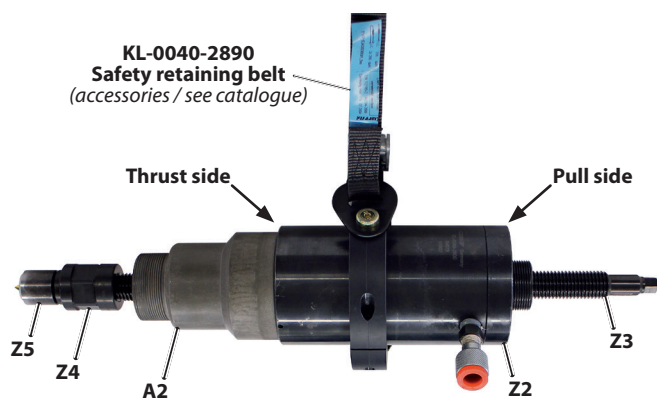
Fig 1: Required drive parts



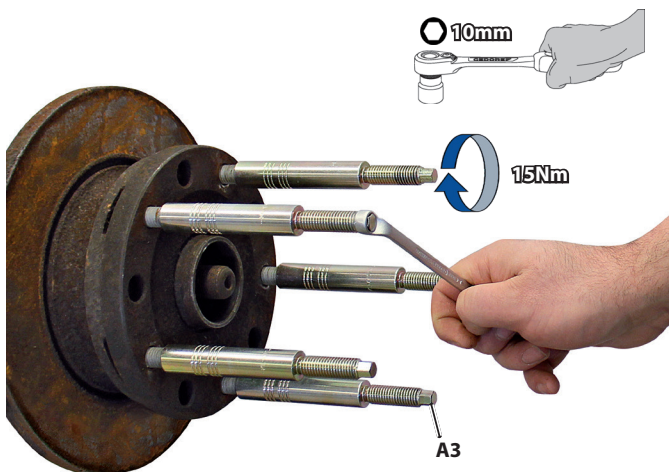
📷2: Preparing the vehicle.



📷3: Preparing the hydraulic cylinder [Z2].



📷4: Fitting the pull bolts [A3].



3.3 Preparing the vehicle

- 1) Lift the vehicle safely and prepare all necessary parts for the subsequent work in accordance with the manufacturer's instructions. 📷2

For example:

Removing the wheel, removing the brake calliper, unscrewing the central nut.

4. TYPICAL APPLICATIONS

4.1 Pulling the wheel bearing unit with brake disc off the rear axle with front drive, using KL-0174-371

Forcing out the U shaft at the front axle with front drive, using KL-0174-371

This typical application describes **pulling the wheel bearing unit with brake disc off** the rear axle on vehicles with front drive. In connection with the perforated disc set - **KL-0174-371**.

- ❗ **Forcing out the U shaft** at the front axle in vehicles with front drive uses basically the same principle.

- 1) Prepare the hydraulic cylinder [Z2] for the further work as shown in 📷3.

- ❗ The safety retaining belt - **KL-0040-2890**, which is available as an *accessory*, or the mounting device **KL-0040-288** makes it possible to secure the perforated disc set against dropping.

⚠️ WARNING

There is a risk of the perforated disc set breaking if it is not properly attached to the wheel hub. Parts flying about can cause **DEATH** or **SEVERE INJURIES**.

- The perforated disc set must **always** be secured with all 5x pull bolts [A3]!

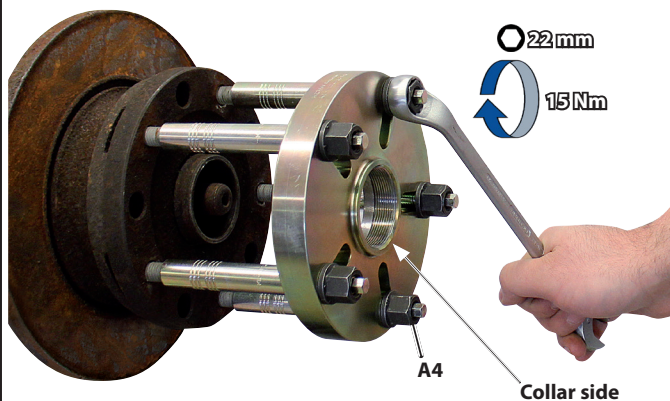
⚠️ ATTENTION

If the pull bolts [A3] are screwed in at different heights, there is a risk that the contact of the perforated disc [A1] is askew, which can damage the perforated disc set.

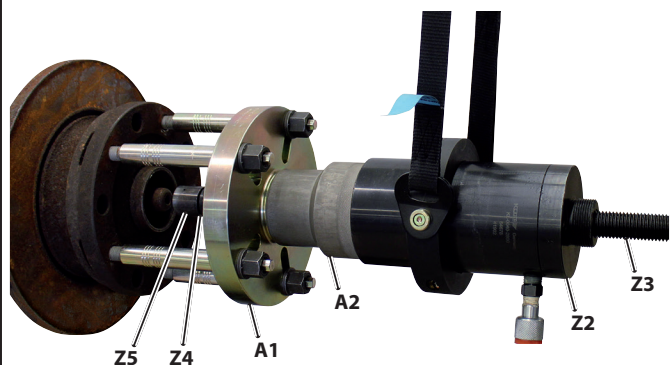
- Screw the pull bolts [A3] **always** completely onto the wheel bolts!

- 2) Screw all pull bolts [A3] completely onto the wheel bolts on the vehicle side and tighten them with **15Nm** 📷4

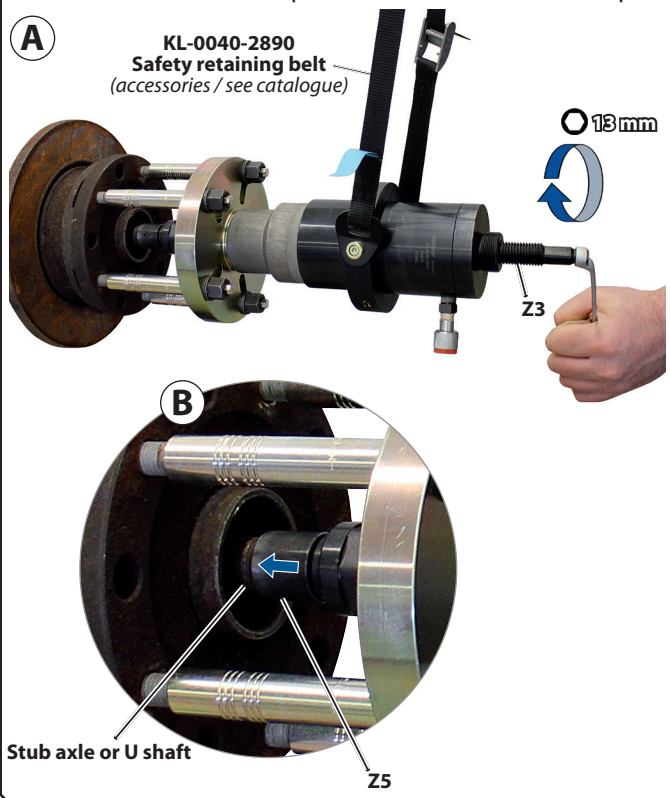
📷5: Fit and secure the perforated disc [A1].



📷6: Screw the hydraulic cyl. [Z2] into the perforated disc [A1].



📷7: Screw in the thrust spindle [Z3] until it hits the stop.



⚠️WARNING

There is a risk of the perforated disc set breaking if it is not properly attached to the wheel hub. Parts flying about can cause **DEATH** or **SEVERE INJURIES**.

▼ The perforated disc set must **always** be secured with 5x collar nuts [A4] on all 5x pull bolts [A3]!

3. Fit the perforated disc [A1] as shown in **📷5** on the pull bolts [A3] and screw them on with the collar nuts [A4] tightened to **15 Nm**.

ⓘ The perforated disc [A1] must be installed with the collar side towards the outside. **📷5**

4. Screw the prepared hydraulic cylinder [Z2], as shown in **📷6**, into the perforated disc [A1] until it is just before the stop.

Next, screw the thrust spindle [Z3] into the hydraulic cylinder [Z2] until the thrust piece [Z5] is in full contact with the stub axle / the U shaft. **📷7**

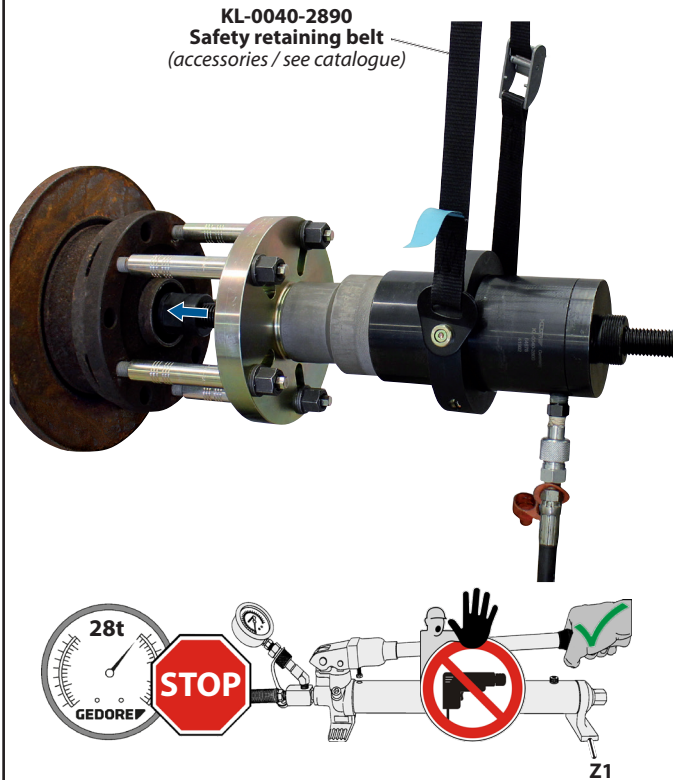
⚠️CAUTION

There is a risk of the perforated disc set dropping when the wheel bearing unit with brake disc is pulled off. This can cause **MEDIUM** or **LIGHT INJURIES!**

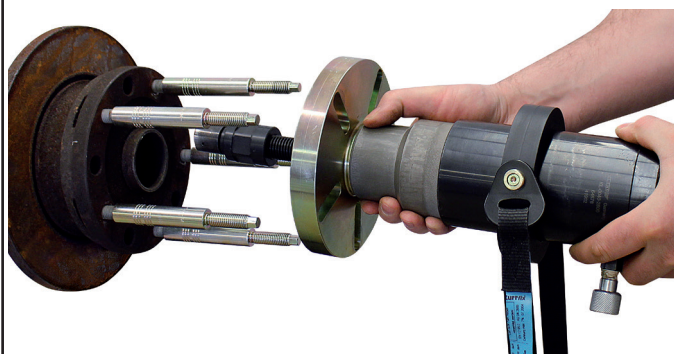
▼ As a **precaution**, secure the perforated disc set on the vehicle against dropping, for example using the safety retaining belt - **KL-0040-2890** or the mounting device - **KL-0040-288!**

5. First secure the perforated disc set on the vehicle against dropping, for example using the safety retaining belt - **KL-0040-2890** or the mounting device - **KL-0040-288!** **📷7**

📷8: Pull off the wheel bearing unit with brake disc and/or force out the U shaft.



📷9: Dismount the perforated disc set.



⚠️WARNING

There is the risk of the perforated disc set breaking when a machine-operated drive is used. Parts flying about can cause **DEATH** or **SEVERE INJURIES**.

- ✔ Use the perforated disc set exclusively with a manually operated **GEDORE Automotive** hydraulic cylinder/pump combination with a manometer for reliable pressure control!
6. Connect the hydraulic pump [Z1] with the hydraulic cylinder [Z2].

⚠️CAUTION

There is a risk of the perforated disc set dropping when the wheel bearing unit with brake disc is pulled off. This can cause **MEDIUM** or **LIGHT INJURIES!**

- ✔ As a **precaution**, secure the perforated disc set on the vehicle against dropping, for example using the safety retaining belt - **KL-0040-2890** or the mounting device - **KL-0040-288!**

⚠️WARNING

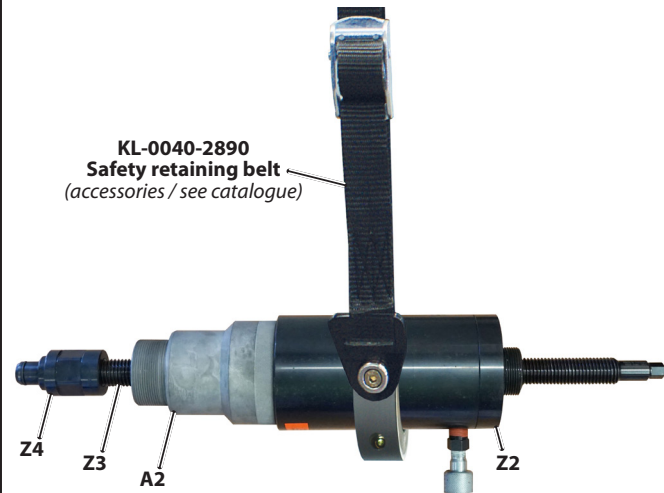
During the removal of the wheel bearing unit with brake disc there is a risk of breaking the perforated disc set, and thus a risk of parts being hurled about. This can cause **DEATH** or **SEVERE INJURIES**.

- ✔ **Never** exceed the **maximum load** of the perforated disc set of **28t!**
 - ✔ **Constantly** watch the pressure on the pressure gauge of the hydraulic pump [Z1] while you are pulling off.
 - ✔ **Never** stand in the axial extension of the thrust spindle [Z3] while you are pulling off.
- 7) Actuate the hydraulic pump [Z1] while you are watching the pressure on the pressure gauge, and force off the wheel bearing unit with brake disc from the rear axle and/or force out the U shaft at the front axle. **📷8**

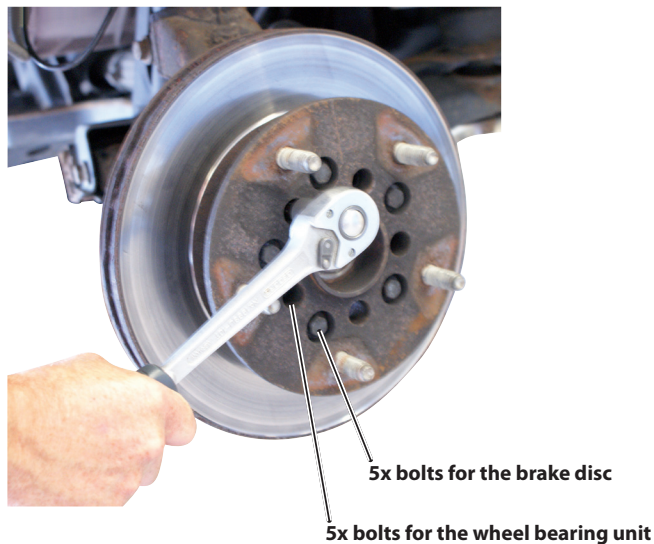
- ⓘ The maximum stroke of the hydraulic cylinder [Z2] is 50mm! As soon as this value is reached: Interrupt the forcing process, relieve the pressure at the hydraulic pump [Z1], rotate the thrust spindle [Z3] until the thrust piece [Z5] is in contact again. Continue the forcing process.

8. Dismount the perforated disc set **📷9** and carry out the further work on the vehicle in accordance with the manufacturer's instructions.

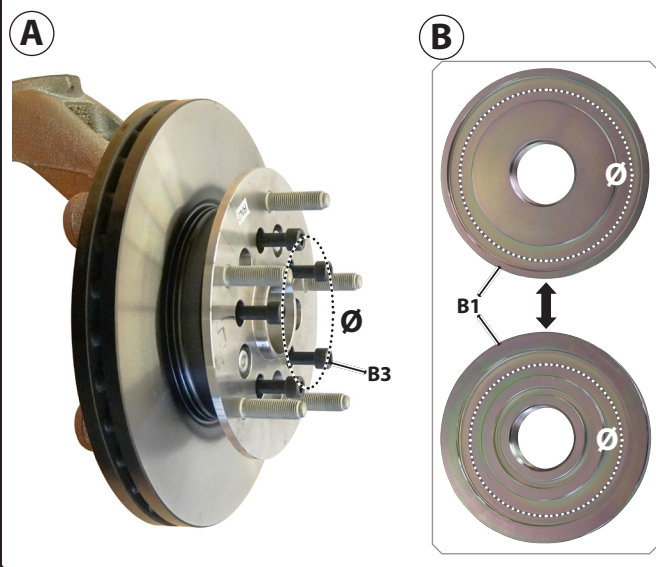
📷 10: Preparing hydr. cyl. [Z2].



📷 11: Unscrewing the fastening screws.



📷 12: Screwing cheese-head screws [B3] into steering knuckles.



4.2 Removing wheel hub bearing unit on the front axle with rear drive, using KL-0174-371 + KL-0174-372

Preparing the tool

1) Prepare the hydraulic cylinder [Z2] for the further work as shown in 📷 10.

ⓘ The safety retaining belt - KL-0040-2890, which is available as an accessory, or the mounting device KL-0040-288 makes it possible to secure the perforated disc set against dropping.

4.2.1 Pulling off the wheel hub bearing unit with brake disc

This typical application describes the **pulling of the wheel hub bearing unit with brake disc off the steering knuckle** on the front axle of vehicles with rear drive. In connection with the perforated disc set - KL-0174-371 + KL-0174-372.

ATTENTION

If the cheese-head screws [B3] are screwed in at different heights, there is a risk that the contact of the thrust ring [B1] is askew, which can damage the perforated disc set.

➤ **Ensure** that the cheese head screws are screwed to the same height [B3].

1) To start with, unscrew **only** the fastening screws of the wheel bearing unit. 📷 11

Next, screw the five cheese head screws [B3] at the same height as shown in 📷 12A into the mounting holes in the wheel bearing unit that became free.

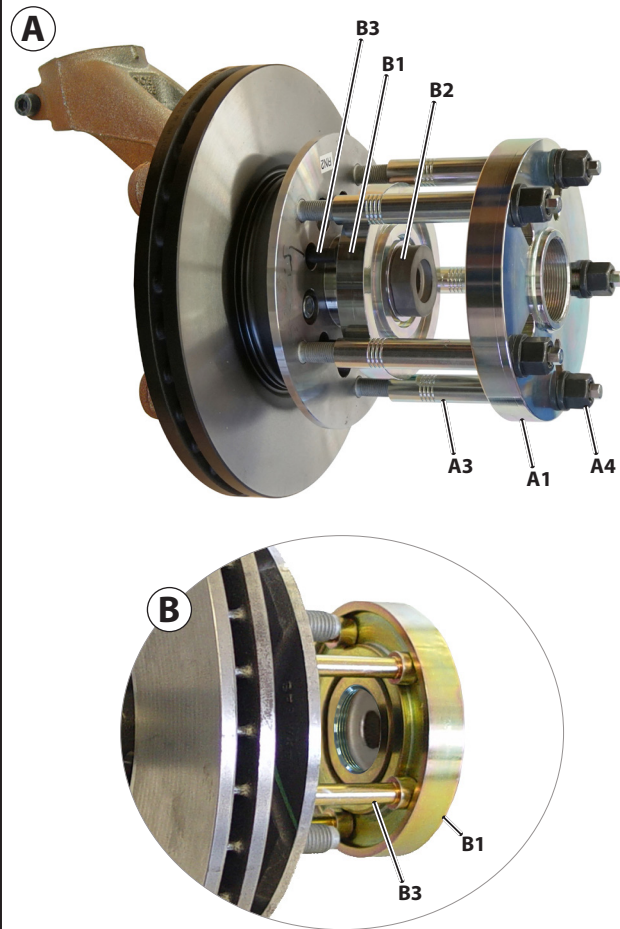
ATTENTION

There is a risk of damaging the perforated disc set if the thrust ring [B1] is positioned with the wrong side on the cheese head screws [B3].

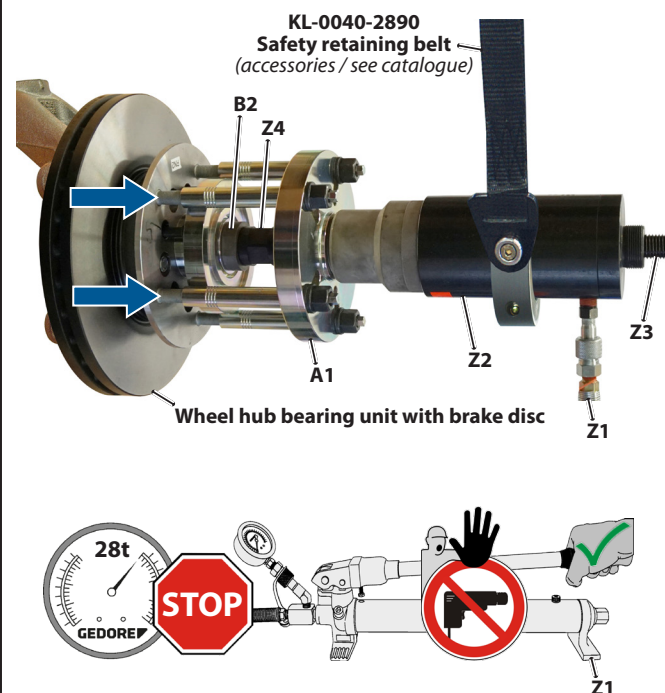
➤ The thrust ring [B1] has two application sides. Please bear in mind that the thrust ring [B1] must be aligned as required by the hole circle Ø of the cheese head screws [B3] that have already been screwed in.

2) First check which **groove** (front or back) on the thrust ring [B1] is needed 📷 12B. To do this, hold the thrust ring [B1] against the cheese head screws [B3] 📷 12A that have already been screwed in, and align it to match them.

13: Assembling and positioning the perforated disc set.



14: Insert the prepared hydraulic cylinder [Z2], pull off the wheel hub bearing unit with brake disc.



3) Mount all the necessary components of the perforated disc set, as shown in **13A**, on the wheel hub bearing assembly with brake disc.

ⓘ Ensure that the cheese-head screws [B3] are engaged completely and neatly in the groove at the thrust ring [B1] **13B**.

4) Screw the prepared hydraulic cylinder [Z2] as shown in **14** into the already mounted perforated disc [A1]. Next, screw the thrust spindle [Z3] into the hydraulic cylinder [Z2] until the thrust nut [Z4] is in full contact with the pressure adapter [B2].

⚠ WARNING

There is the risk of the perforated disc set breaking when a machine-operated drive is used. Parts flying about can cause **DEATH** or **SEVERE INJURIES**.

✔ Use the perforated disc set exclusively with a manually operated **GEDORE Automotive** hydraulic cylinder/pump combination with a manometer for reliable pressure control!

5) Connect the hydraulic pump [Z1] with the hydraulic cylinder [Z2].

⚠ CAUTION

There is a risk of the perforated disc set dropping when the wheel hub bearing assembly is pulled off. This can cause **MEDIUM** or **LIGHT INJURIES!**

✔ As a precaution, secure the perforated disc set on the vehicle against dropping, for example using the safety retaining belt - **KL-0040-2890** or the mounting device - **KL-0040-288!**

⚠ WARNING

During the removal of wheel hub/bearing units, there is a risk of the wheel hub perforated disc set breaking and parts flying about. This can cause **DEATH** or **SEVERE INJURIES**.

✔ **Never** exceed the **maximum load** of the perforated disc set of **28 tonnes!**

✔ **Constantly** watch the pressure on the pressure gauge of the hydraulic pump [Z1] while you are pulling off.

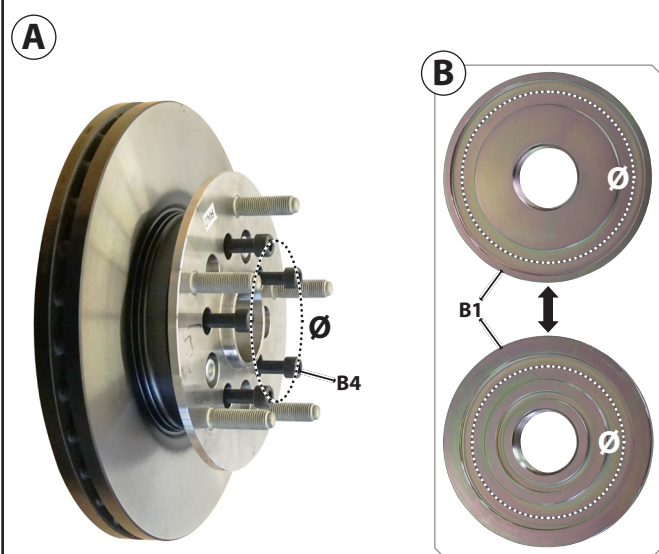
✔ **Never** stand in the axial extension of the thrust spindle [Z3] while you are pulling off.

6) While you are operating the hydraulic pump [Z1], watch the pressure on the pressure gauge and pull the wheel hub bearing unit with brake disc off the steering knuckle. **14**

ⓘ The maximum stroke of the hydraulic cylinder [Z2] is 50mm! As soon as this value is reached: Interrupt the forcing process, relieve the pressure at the hydraulic pump [Z1], rotate the thrust spindle [Z3] until the thrust nut [Z4] is in contact again. Continue the forcing process.

7) Dismount the perforated disc set and continue with **Chapter 4.2.2 / Forcing off the brake disc**.

📷 15: Screwing cheese-head screws [B4] into brake disc.



4.2.2 Forcing off the brake disc

This typical application describes the **forcing of the brake disc off the wheel hub bearing unit brake** on the front axle of vehicles with rear drive. In connection with the perforated disc set - **KL-0174-371 + KL-0174-372**.

ATTENTION

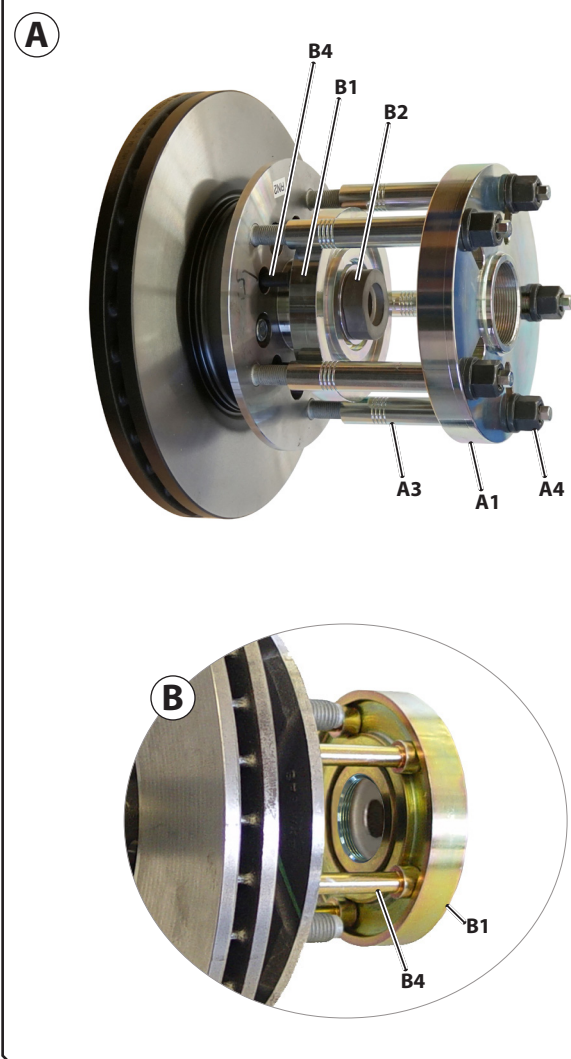
If the cheese-head screws [B4] are screwed in at different heights, there is a risk that the contact of the thrust ring [B1] is askew, which can damage the perforated disc set.

► **Ensure** that the cheese head screws are screwed to the same height [B4].

1) To start with, unscrew the fastening screws of the brake disc. (See 📷 11)

Next, screw the five cheese head screws [B4] at the same height as shown in 📷 15A into the mounting holes in the brake disc that became free.

📷 16: Assembling and positioning the perforated disc set.



ATTENTION

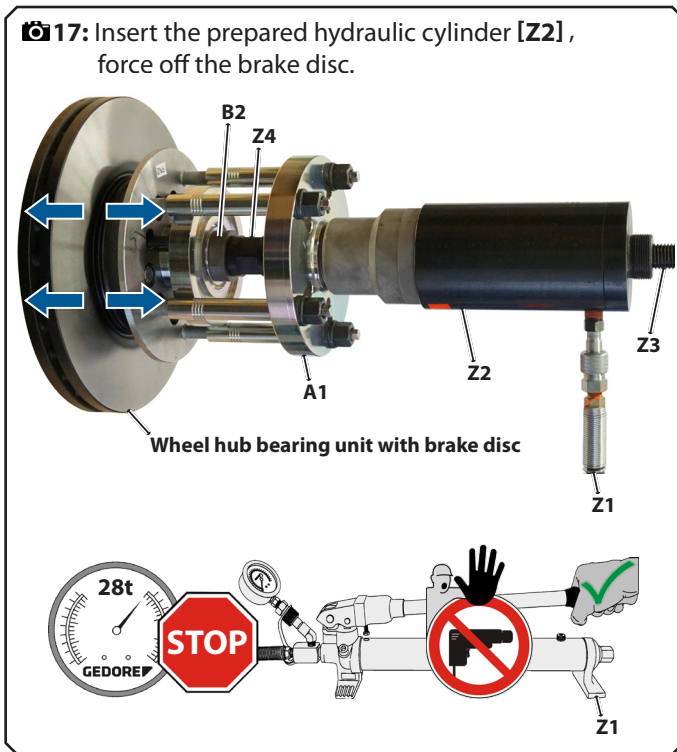
There is a risk of damaging the perforated disc set if the thrust ring [B1] is positioned with the wrong side on the cheese head screws [B4].

► The thrust ring [B1] has two application sides. Please bear in mind that the thrust ring [B1] must be aligned as required by the hole circle Ø of the cheese head screws [B4] that have already been screwed in.

2) First check which **groove** (front or back) on the thrust ring [B1] is needed 📷 15B. To do this, hold the thrust ring [B1] against the cheese head screws [B4] 📷 15A that have already been screwed in, and align it to match them.

3) Mount all the necessary components of the perforated disc set, as shown in 📷 16A, on the wheel hub bearing assembly with brake disc.

ⓘ Ensure that the cheese-head screws [B4] are engaged completely and neatly in the groove at the thrust ring [B1] 📷 16B.



- 4) Screw the prepared hydraulic cylinder [Z2] as shown in **📷 17** into the already mounted perforated disc [A1]. Next, screw the thrust spindle [Z3] into the hydraulic cylinder [Z2] until the thrust nut [Z4] is in full contact with the pressure adapter [B2].

⚠️ WARNING

There is the risk of the perforated disc set breaking when a machine-operated drive is used. Parts flying about can cause **DEATH** or **SEVERE INJURIES**.

- Use the perforated disc set exclusively with a manually operated **GEDORE Automotive** hydraulic cylinder/pump combination with a manometer for reliable pressure control!

- 5) Connect the hydraulic pump [Z1] with the hydraulic cylinder [Z2].

⚠️ CAUTION

There is a risk of the perforated disc set dropping when the brake disc is forced off. This can cause **MEDIUM** or **LIGHT INJURIES!**

- Put down the perforated disc set **safely** to prevent it from dropping (for example on a workbench)!

⚠️ WARNING

When forcing off the brake disc, there is a risk of the perforated disc set breaking and parts flying about. This can cause **DEATH** or **SEVERE INJURIES**.

- Never** exceed the **maximum load** of the perforated disc set of **28t!**

- Constantly** watch the pressure on the pressure gauge of the hydraulic pump [Z1] while you are forcing off.

- Never** stand in the axial extension of the thrust spindle [Z3] while you are forcing off.

- 6) While you are operating the hydraulic pump [Z1], watch the pressure on the pressure gauge and force the brake disc off the wheel hub bearing unit. **📷 17**

- ① The maximum stroke of the hydraulic cylinder [Z2] is 50mm! As soon as this value is reached: Interrupt the forcing process, relieve the pressure at the hydraulic pump [Z1], rotate the thrust spindle [Z3] until the thrust nut [Z4] is in contact again. Continue the forcing process.

- 7) Dismount the perforated disc set and carry out the further work on the vehicle in accordance with the manufacturer's instructions.

5. CARE AND STORAGE

⚠️ ATTENTION

Improper care and storage can damage the perforated disc set. **Never** use cleaning agents to clean the perforated disc set. This could destroy the device. After use, clean all parts only with a dry and clean cleaning cloth. Never immerse the perforated disc set in water, solvents, or cleaning liquids. To protect them against corrosion, lightly rub all metal parts after use with an anti-corrosion oil or wax that is suitable for tool care. Store the perforated disc set and the operating instructions in the packaging at a dry and clean place.

6. REPAIR

⚠️ WARNING

If you detect damage on the perforated disc set, stop using it for safety reasons! Professional inspection and repair may only be carried out by specially trained specialist personnel at **GEDORE Automotive GmbH**. Improper repair can result in **DEATH** or **SEVERE INJURIES**.

7. ENVIRONMENTALLY COMPLIANT DISPOSAL

Dispose of the perforated disc set 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.

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