

# Operating instructions (EN)

# KL-0042-96 K

Bearing Inner Ring Puller Kit



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# Address of the manufacturer

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(i) This table of contents contains interactive elements with which the desired **chapters** can be accessed quickly and conveniently on digital devices with just one *click*.

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### 1. READ AND UNDERSTAND FOR YOUR SAFETY



Read and understand these operating instructions **before using** the puller (*bearing inner ring puller*), and observe all safety and warning instructions! Misuse may lead to **MODERATE** or **LIGHT INJURIES**! These operating instructions are an integral part of the puller. Keep them at a safe place for future reference, and always pass them on to subsequent users of the puller! The puller 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 puller **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 puller!

# 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 puller **must** ensure that **only** trained personnel in specialised vehicle workshops use the injector puller.
- The owner of the puller **must** ensure that the instructions for use are available to the user and that the user has completely read and understood the operating instructions for use **before** using the puller.
- The owner of the puller **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!

#### 1.3 Intended use

The puller ...

- **may only** be used for the removal of bearing inner rings.
- **may only** be used by hand with muscle power with a **manual drive**!
- **may only** be used with **GEDORE Automotive** genuine spare parts and accessories!
- **may only** be used in the way described in these operating instructions!
- Any other use may result in **SEVERE INJURY**!

# 1.4 Reasonably foreseeable misuse

The puller ...

- **▼** must never be used for pulling other parts than those intended for it!
- **▼** must never be used with a machine-operated drive or a drive other than that intended for it!
- ▼ must never be used for batch processing with many pulling 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!
- **Always** use the puller as intended, any other use may result in **SEVERE INJURY**.





(Translation of the operating instructions)

# 1.5 Personal protective equipment

For your safety, **always** wear personal protective equipment when using the puller! The puller 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 puller to protect yourself against flinging parts or particles!

Flinging parts or particles may cause **INJURIES** to your **eyes!** 



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

**▼**Sharp edges and crushing between parts may cause **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 puller to protect yourself against dropping parts!

**▼** Dropping parts can cause **INJURIES** to your **feet and toes!** 

# 1.6 Labelling of the warnings

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

For better	For better differentiation, warnings in these operating instructions are classified as follows:			
Warning sign	Meaning			
<b>AWARNING</b>	Indicates a hazardous situation which, if not avoided, could cause <b>DEATH</b> or <b>SEVERE INJURIES.</b>			
<b>A</b> CAUTION	Indicates a hazardous situation which, if not avoided, could cause MODERATE or MINOR INJURIES.			
ATTENTION	<b>Indicates</b> a situation which, if not avoided, can cause damage to the tool or an object in its vicinity.			
(i)	Note on important information and useful tips.			

# 1.7 Basic warnings

#### **ATTENTION** - Danger of injury from MISUSE

As a consequence of **MISUSE**, the puller can slip, break, and thus fall down or fling around. This can cause **MEDIUM** or **LIGHT INJURIES**!

- ▼Read and understand these operating instructions before using the puller, and observe all safety and warning instructions for safe use!
- **▼ Always** work with the puller in accordance with the basic regulations on work safety and accident prevention!
- **▼Only** use the puller as intended and as described in these operating instructions!
- **▼ Always** observe the vehicle-specific application procedures in the repair guide of the vehicle manufacturer!
- **Never** use the puller if it is damaged or has loose parts or unauthorised modifications!
- **▶ Never** use the puller with an impulse or impact wrench or another <u>machine-operated</u> drive, **only** drive it by hand with muscle power with a <u>manual</u> drive!
- **▼ Never** use the puller for batch processing with many pulling processes within a few minutes!
- **▼ Always** wear your personal protective equipment (safety goggles, protective gloves, safety shoes) during work!
- **▼ Never** beat the puller with a hammer or anything similar!

#### **ATTENTION - Risk of DAMAGE**

The puller may be **DAMAGED**!

- **▶ Prior to each use**, check the moving parts and the threads for sufficient lubrication If necessary, lubricate them only with molybdenum disulphide paste (for example **GEDORE Automotive KL-0014-0030**)!
- **▼ Never** use the puller for batch processing with many pulling processes within a few minutes!
- **▼ Never** clamp the puller in a vice.





# 1.8 Basic safety instructions

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

- ▼Read and understand these operating instructions before using the puller, 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 puller in accordance with the basic regulations on work safety and accident prevention!
- **▼ Never** use the puller when you are tired or under the influence of alcohol, drugs, or medication!
- **▶ Before each use**, check the puller **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 puller, make sure that **no** unauthorised persons are in the immediate environment!
- **▼ Never** use the puller with any other drive than intended!
- **▼ 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 puller and contact GEDORE Automotive GmbH, if necessary!
- For safety reasons, ensure that a damaged puller is no longer used! Professional inspection and repair may only be carried out by specially trained personnel from **GEDORE Automotive GmbH!**
- **► Always** use the puller 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 puller in a safe work 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** be at room temperature between -10°C and +40°C.

#### 1.10 Emissions

Molybdenum disulphide paste can drip when using the puller and thus pose a hazard to the environment.

- **▶ Immediately** remove excess molybdenum disulphide paste, for example with the help a cleaning rag.
- **▼**In case of skin contact with hydraulic oil, clean the affected area **immediately** with degreasing soap and water.
- **Be sure to** dispose of pollutants such as molybdenum disulphide paste in an environmentally friendly manner.
- ► Safety data sheets in accordance with Regulation (EC) No. 1907/2006, for molybdenum disulphide paste (MOLYKOTE® G-N PLUS PASTE) can be found on the manufacturer's site on the Internet (World Wide Web) or, if required, contact GEDORE Automotive GmbH.

#### 1.11 Maintenance

Perform maintenance on the puller **at regular intervals** and **only** when the tool is not tensioned or compressed! Poor and improper maintenance can damage the puller, thus causing **DEATH** or SEVERE INJURIES!

#### Prior to each use:

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







# 2. PRODUCT DESCRIPTION

#### 2.1 KL-0042-96 K - Bearing inner ring puller kit with collet chuck size 3+4+5+6 (Ø 44-60 mm)

Universal fit for wheel bearings or ball and roller bearings on gear shafts wit a bearing inner ring diameter of 44-60 mm. For example for wheel bearings from VW-Audi, Seat, Skoda, Mercedes, Ford, Lancia, Renault and at shift, automatic as well as for DSG gearboxes.

For fast and precise pulling of the bearing inner rings of ball and roller bearings. For example, the bearing inner ring nearly always remains on the wheel hub when removing a wheel bearing. Without suitable tools, removing the bearing inner ring is nearly impossible. Auxiliary tools as grinder, chisel and welding torch have a high accident hazard. With the puller kit, the bearing inner rings can be pulled in a fast and safe manner within few seconds.









# 2.2 Scope of delivery/component overview

ltem	Part no.	Description	Qty.
-	KL-0042-900	Bearing inner ring puller basic tool	1
А	KL-0174-817	Spindle M20x1,5 size 22	1
B1	KL-0174-851	Thrust piece, 34mm diameter	1
B2	KL-0174-854	Thrust piece, 48mm diameter	1
С	KL-0042-9001	Clamping sleeve	1
D	KL-0042-9002	Handle	1
Е	KL-0042-9004	Special ring spanner size 36mm	1
F1	KL-0042-9031	Collet chuck size 3, 44 - 48mm diameter	1
F2	KL-0042-9041	Collet chuck size 4, 48 - 52mm diameter	1
F3	KL-0042-9051	Collet chuck size 5, 52 - 56mm diameter	1
F4	KL-0042-9061	Collet chuck size 6, 56 - 60mm diameter	1
-	KL-0014-0030	Molybdenum disulphide paste, 50g	1
-	KL-0042-9099	Case with foam insert	1

#### 2.3 Accessories

Item	Part no.	Description
F5	KL-0042-9071	Collet chuck size 7, 60 - 64mm diameter
F6	KL-0042-9081	Collet chuck size 8, 64 - 68mm diameter
F7	KL-0042-9091	Collet chuck size 9, 68 - 72mm diameter

(i) Other accessories see GEDORE Automotive catalogue!





### 3. PREPARATION

# **A**CAUTION

As a consequence of **MISUSE**, the puller can slip, break, and thus fall down or fling around. This can cause **MEDIUM** or **LIGHT INJURIES**!

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

# 3.1 Checking the scope of delivery

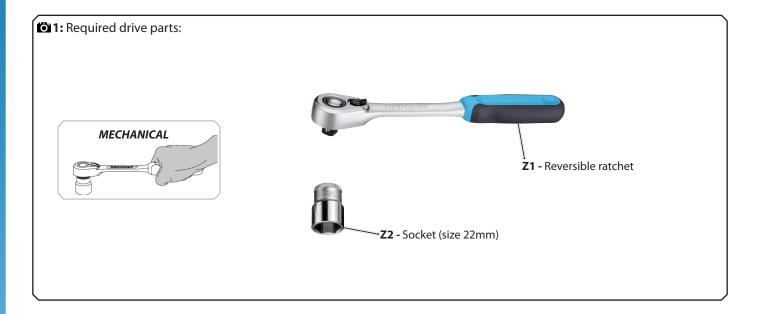
Prior to preparing or using the puller, check that all parts of the scope of delivery are available (see chapter 2.), and follow the instructions below.

# 3.2 Assembling drive parts

# **ACAUTION**

Using a machine-operated drive can cause the puller to slip, break, and thus drop or be hurled about. This can cause **MEDIUM** or **LIGHT INJURIES**!

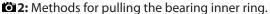
- **▼ Never** use the puller with an impulse or impact spanner!
- ▼ Never use the puller with a machine-operated drive or any other drive than intended! Drive it only by hand and with muscle power; only use a manual drive or a manually operated GEDORE Automotive hydraulic cylinder / pump combination with a pressure gauge for safe pressure control!
- 1. Assemble the required drive parts for the puller as shown in 1.
- (i) For other drive components see the GEDORE Automotive catalogue.

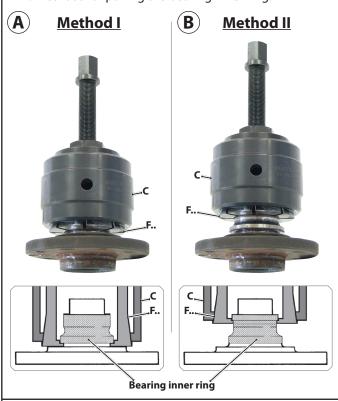




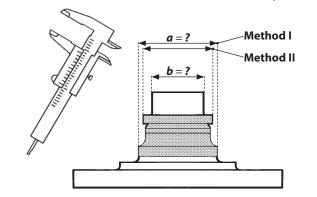
(Translation of the operating instructions)



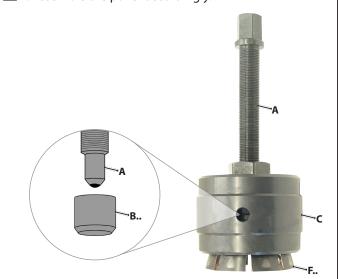




**3:** Determine suitable collet chucks and thrust piece.



**6** 4: Assemble the puller accordingly.



# 3.3 Preparing the puller

There are **two methods** to pull a bearing inner ring with the puller:

- With method I, the collet chuck [F..] engages directly behind the bearing inner ring, if this is possible. ☼2A
- With method II, the collet chuck [F..] engages directly in a groove on the bearing inner ring, if one is available. <sup>©</sup> 2B
- 1. In order to determine a suitable collet chuck [F..], measure the bearing inner ring diameter (a=?) on the surface to be clamped, optionally according to method I or II. ©3

The suitable collet chuck **[F..]** must now be in the corresponding clamping range.

2. In order to determine a suitable thrust piece [B..], measure the shaft diameter (b=?) on which the bearing inner ring is positioned. © 3 The suitable thrust piece [B..] now has to be at least 1 mm smaller than the shaft diameter.

3. Assemble the puller as shown in 64.

Therefore, screw the clamping sleeve **[C]** onto the determined collet chuck **[F..]** for a few turns.

Then screw the spindle [A] into the collet chuck to such an extent that the selected thrust piece [B..] can be put on.

# 3.4 Preparing the ball bearing or roller bearing

 Remove all loose parts of the ball or roller bearing in order to access the bearing inner ring. Remove grease and oil residues on the bearing inner ring for example by using a cleaning cloth.



(Translation of the operating instructions)

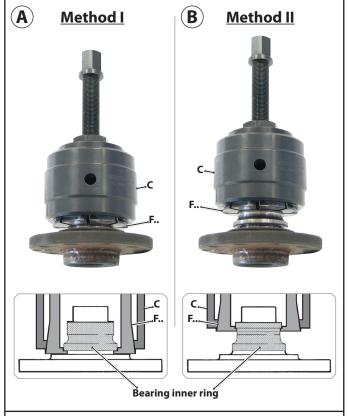




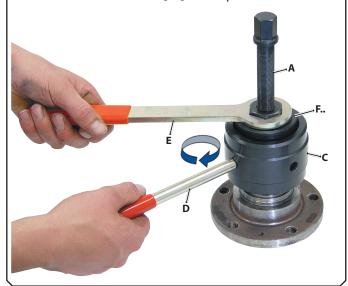




**©16:** Put the puller in accordance with **method I** or **II** onto the bearing inner ring.



#### **7:** Close the collet chuck [F..] on the puller.



### 4. TYPICAL APPLICATION

This typical application describes the pulling of a bearing inner ring from a ball or roller bearing on a **wheel hub 5.** The procedure with **gear shafts 5** always follows the same principle.

- 1. Put the puller in accordance with **method I** or **II** onto the bearing inner ring. **©** 6A+B
- (i) With **method I**, the collet chuck [F..] engages directly behind the bearing inner ring, if this is possible. (ii) 6A

  With **method II**, the collet chuck [F..] engages directly in a groove on the bearing inner ring, if one is available. (ii) 6B

#### CAUTION

The collet chuck [F..] can slip when pulling on the bearing inner ring and hurl about.

- ▼While closing the collet chuck [F..] please always check
  the correct position corresponding to method I or II on the
  bearing inner ring 16A+B.
- 2. In order to close the collet chuck [F..], turn clamping sleeve [C] clockwise by using grip [D] as shown in 107. Hold the collet [F..] with the ring spanner [E] against it.



(Translation of the operating instructions)

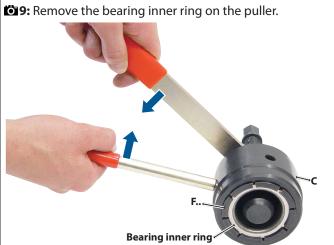




# CAUTION

The collet chuck [F..] can slip when pulling on the bearing inner ring and hurl about.

- **► Always** pay attention to the correct position of the collet chuck **[F..]** on the bearing inner ring.
- Never use the puller with an impulse or impact wrench or another <u>machine-operated</u> drive, **only** drive it by hand with muscle power with a manual drive!
- 3. In order to pull the bearing inner ring, turn spindle [A] by using a reversible ratchet with socket spanner [Z..] clockwise as shown in [38]. Hold the collet [F..] with the ring spanner [E] against it.
- **4.** In order to remove the bearing inner ring from the puller, turn spindle **[A]** anti-clockwise as shown in **©9** to open collet chuck **[F..]** . Hold the collet **[F..]** with the ring spanner **[E]** against it.
- **5.** Perform all the further work as specified by the manufacturer.



# 5. CARE / STORAGE

#### CAUTION

Improper care and storage can damage the puller. Therefore, **never** immerse the puller 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 puller and the operating instructions at a dry and clean place.

#### 6. REPAIR

#### **AWARNING**

For safety reasons, ensure that a damaged puller is no longer used! 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 puller 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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