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BEDIENUNGSANLEITUNG OPERATING INSTRUCTIONS

Version
BA-20-30-120-2017-02-28

BA-20-30-120

Abzieher mit gleitenden, immer parallelen Abzughaken
Pullers with sliding, parallel jaws

DE
EN
FR
ES



GÜLTIG FÜR / VALID FOR

20er, 20-1+, 20-10+, 20-2+, 20-20+, 20-3+, 20-30+, 20-1+S, 20-10+S, 20-2+S, 20-20+S, 20-3+S, 20-30+S, 20-1+S-T, 20-10+S-T, 20-10-V, 20-2+B, 20-20+B, 20-3+B, 20-30+B, 20-3-H, 20-30-H, 20-4-AV, 20-40-AV, 20-5, 20-4-H, 20-40-H, 20-5-H, 20-ST+, 20-ST-S, 219-1, 30er, 30-1+, 30-10+, 30-2+, 30-20+, 30-3+, 30-30+, 30-1+S, 30-10+S, 30-2+S, 30-20+S, 30-3+S, 30-2+B, 30-20+B, 30-3+B, 30-30+B, K-2030-10, K-2030-10+S, K-2030-10-S, K-2030-10-S-T, K-2030-20, K-2030-20-B, K-2030-20-S, 30-20+T, 120er, 120-1, 120-10, 120-2, 120-20, 120-3, 120-30, 120-ST,

⚠ VERLETZUNGEN VERMEIDEN.
Sie müssen diese Bedienungsanleitung lesen und verstehen, bevor Sie die Abzieher benutzen.

⚠ AVOID INJURY.
You **MUST** read and understand these Operating instructions before using the pullers.

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1. Important Safety Information

Read and understand these Operating instructions before using the puller. **SERIOUS INJURIES** or **DEATH** can result from incorrect use. The Operating Instructions are part of the puller. They must be kept in a safe place for later use and be passed along with the puller if it is sold, loaned, or otherwise transferred.

The puller should be used only by **TRAINED PERSONNEL** who have been taught how to safely use and handle the puller. Using the puller without proper training may result in **SERIOUS INJURIES** or **DEATH**. If you are unsure of which puller or attachment to select, or the proper use of the selected puller, contact KUKKO.

1.1. Safety Warnings

Throughout this manual **WARNING**, **CAUTION**, **NOTICE** and the **SAFETY ALERT SYMBOL** will be used.



Indicated a hazardous situation which, if not avoided, could result in death or serious injury.



Indicated a hazardous situation which, if not avoided, could result in minor or moderate injury.



Addresses practices not related to personal injury. Relates to property damage or damage to the puller.



This is the safety alert symbol. It is used to alert you to the potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠ WARNING
OVERLOAD HAZARD INCORRECT usage and not to OBEY the TECHNICAL DATA (see section 10) can lead to break during use and cause SERIOUS INJURY or DEATH . NEVER use electric or pneumatic torque multipliers, impact wrenches or impact drivers. NEVER lengthen the driver tool for the puller. NEVER hit the drive tool with a hammer.

⚠ WARNING
ELECTRICAL HAZARD Contact with live electrical parts or circuits could result in SERIOUS INJURY or DEATH . ALWAYS DISCONNECT electricity before using puller on or near electrical parts or circuits.

⚠ WARNING
HYDRAULIC HAZARD Niels, Kevin, Schultes?????????????????????WEITERE?????????????????????unten Halle Was muss bei Hydraulikprodukten beachtet werden? Welche anderen Gefahrenquellen gibt es bei den Produkten aus dem USA-Sortiment?



1.2. Personal Protective Equipment

Always wear personal protective equipment as listed when using the puller. The puller can slip or break causing **SERIOUS INJURIES**.

EYE PROTECTION (see ANSI Z87.1) designed to protect you from **FLYING OBJECTS INJURY** to your eyes.

- Particles may fly upward during work with the puller and cause **SERIOUS INJURY** to your eyes.

SAFETY GLOVES must be worn when using the puller.

- The puller can slip or break during use causing **SERIOUS INJURY** to your fingers and hands.

SAFETY SHOES with slip-resistant soles and steel toe caps (see ASTM F2413.05) must be worn when using the puller.

- Falling parts can cause **SERIOUS INJURY** to your feet and toes.

PROTECTIVE SAFETY COVERS should be utilized when using the puller (see Section 8, Optional Accessories)

- For added safety, KUKKO highly recommends the use of a Protective Safety Cover when using the puller.
- High forces exerted on the part being pulled can cause breakage and flying debris, resulting in **SERIOUS INJURIES**.
- Safety covers provide maximum active-safety protection from suddenly detaching ball bearings, driving pinions, or other small parts.

1.3. Intended Use

? The puller is designed to remove pulleys, ball bearings, gear wheels, and other components from shafts and axles.

- **DO NOT** use the puller for any other purpose.
- **MISUSE** can lead to **SERIOUS INJURY** or **DEATH**.
- **DO NOT** allow children to use the puller.

1.4. Handling

⚠ WARNING

ELECTRICAL SHOCK HAZARD

Always **DISCONNECT** electricity before using the puller on or near electrical parts or circuits.

Take the following safety precautions to prevent injuries and damage caused by improper handling and unsafe use of the puller.

Improper handling can result in **SERIOUS INJURY** or **DEATH**.

- **ALWAYS** check the puller for damage before use.
- **ALWAYS** replace damaged or worn parts before use.
- **ALWAYS** use only KUKKO original spare parts and accessories.
- **NEVER** use electric or pneumatic torque multipliers or impact wrenches.
- **NEVER** use electric, pneumatic, percussion drivers.
- **NEVER** heat the puller.
- **NEVER** modify any parts of the puller, especially the jaws.
- **NEVER** bend over the part being pulled during the pulling process.
- **DO NOT** allow children to use the puller.

1.5. Work Environment

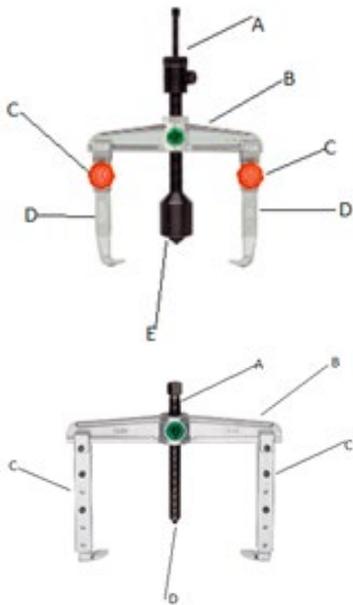
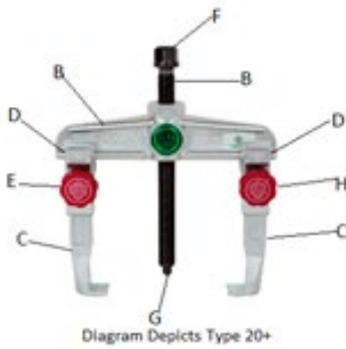
ALWAYS use the puller in a safe work environment.

- Keep the work area clean and tidy.
- Use the puller in a large and secured area.





2. Product Description

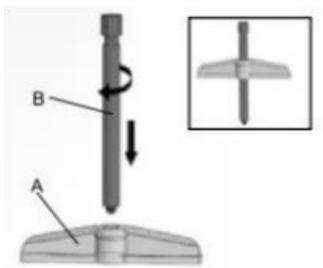


PARTS	TYPE/SERIES/MODEL
A: Crossarm B: Forcing Screw C: Jaws D: Clamps E: KUKKO Quick Adjust F: Drive Hex G: Forcing Screw point	20-1+, 20-10+, 20-2+, 20-20+, 20-3+, 20-30+, 20-4+, 20-40+, 20- 5+, 20-1+S-T, 20-10+S-T, 20-1+S, 20-10+S, 20-2+S, 20-20+S, 20-3+S, 20-30+S, 20-1+S-T, 20-10+S-T
A: Hydraulic forcing screw point B: Crossarm C: KUKKO Quick Adjust D: Jaws E: H: Hydraulic Forcing Screw Point	20-2-B, 20-20-B, 20-3-B, 20-30-B, 20-4-B, 20-40-B, 20-4-H, 20-40-H, 20-5-H
A: Forcing Screw B: Clamps C: Jaws D: Forcing Screw point	20-4-AV, 20-40-AV, 20-5

3. Preparing the Puller for Use



ALWAYS assemble the pullers on a work bench. During the assembly of the puller, parts can fall off and cause INJURIES.



3.1. Assembling the forcing screw

All Types

- REMOVE the net of the forcing screw before each use
- Screw the forcing screw (B) into the crossarm (A)



3.2. Assembling the Jaws on the Crossarm

PINCH HAZARD. Take the following precautions to prevent pinch injuries to your fingers when sliding the jaws on the crossarm:

- ALWAYS perform the assembly on a work bench.
- DO NOT grasp in between the jaws when sliding the jaws on the crossarm with your fingers.
- Hold the crossarm horizontally so that the jaws cannot slip down.

The jaws can subsequently slip back off the crossarm and fall on feet or legs causing INJURIES.

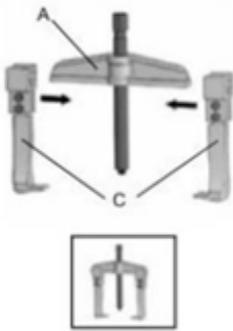
NOTE: There are different jaws with various clamping methods. Each clamping method is explained in the following instructions. Follow the instructions for the model you have purchased.



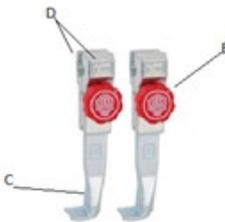
Type 0-P (for Puller 20-1) Pulling legs with screw clamp

Loosen the screw connection (E, H) until you can push the pulling legs onto the traverse easily.

EN



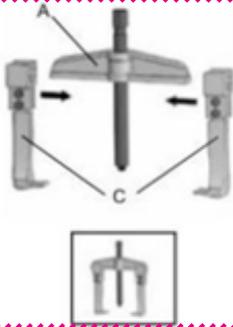
Push the pulling legs (C) onto the traverse (A)



Type 2-P (for the 20 Series) Pulling legs with KUKKO Quick Adjust

Loosen the clamp (D) on the pulling leg (C) by turning the Quick Adjust (E) clockwise.

SIEHE BILD OBEN,
NUR MIT QUICK
ADJUST



Push the pulling legs (C) onto the traverse (A)

3.3. Clamping the Jaws on the Crossarm



ALWAYS seat the Jaws securely. Loose Jaws can slip off the crossarm and cause INJURIES



Type 20-1

Pulling legs with screw clamp

Tighten the screw connection (H) slightly. The pulling legs(C) can still be adjusted using manual pressure.



Type 2-P

Pulling legs with Quick Adjust

To adjust the clamp properly:

1. Turn Quick Adjust (E) clockwise until pressure release on clamps (D)
2. Turn Quick Adjust (E) counterclockwise to put pressure on clamps (D)



4. Safety Use

⚠ WARNING

OVERLOAD HAZARD.

The puller may break if it is overloaded causing damage, SERIOUS INJURY, or DEATH

ALWAYS take the following precautions to avoid damage, serious injury, or death:

- NEVER use electric or pneumatic torque multipliers or impact wrenches
- NEVER use electric, pneumatic or percussion drivers.
- NEVER lengthen the drive tool for the puller.
- NEVER hit the drive tool with a hammer.
- If maximum force has been applied, and the part has not moved, use a puller with a larger capacity.
- DO NOT hit the part with a hammer in an attempt to jar it loose.
- ALWAYS use a Protective Safety Cover when using the puller.



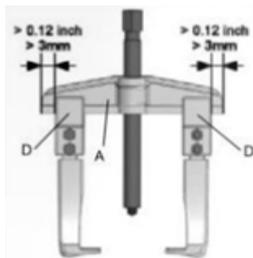
For added safety, KUKKO highly recommends the use of a Protective Safety Cover (shown in photo) when using the puller.

Cover the puller setup and part to be pulled with the Protective Safety Cover* before applying force. High forces exerted on the part being pulled can cause breakage and flying debris. Safety covers provide maximum active-safety protection from suddenly detaching ball bearings driving pinions or other small parts.

*See Section 7, Optional Accessories. Protective Safety Cover available at www.xxxxx.com, part number XXX

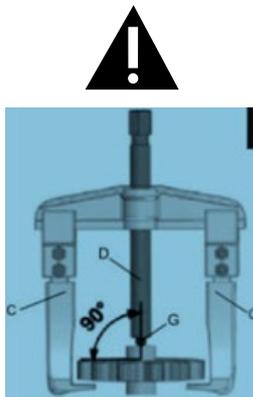
4.1. Setting for Pulling

ALWAYS slide the jaws COMPLETELY onto the crossarm



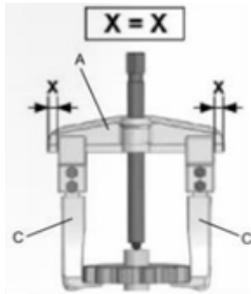
If the clamps are not positioned completely onto the crossarm, the jaws can slip under pressure, causing damage and SERIOUS INJURY

For all puller types, there must be minimum distance of 0.12 inches (3mm) from the clamps (D) to the end of the crossarm (A)



BEFORE pulling, take the following safety precautions:

- Position the jaws (C) so that they are in contact with the part to be pulled
- Firmly tighten the jaws (C) so that the forcing screw operates centrally along the axis of the puller
- Position the forcing screw (D) with the forcing screw point (G) at a 90° angle directly on the part to be pulled.
- Correctly position the puller so that it is vertical to the part to be pulled.



ALWAYS position both jaws (C) so that they are the same distance away (X) from the ends of the crossarm (A)

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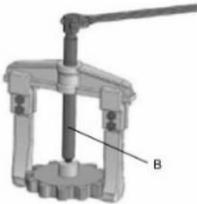
4.2. The Pulling Process



During the pulling process, puller parts and component parts can fall or suddenly detach causing INJURIES

ALWAYS take the following precautions to prevent INJURY:

- Wear personal protective equipment (see Safety section 1.2)
- Secure component parts and pullers from falling
- **Cover the puller set up with Protective Safety Cover**
- **Only apply maximal force load as indicated in technicle data sheet**



Types 20-1 and Types 20-P

Screw the forcing screw (B) on hand-tight and then use a suitable drive tool, such as a wrench, to build up slight pressure on the component part



Continue pulling until the part to be pulled is completely loose.

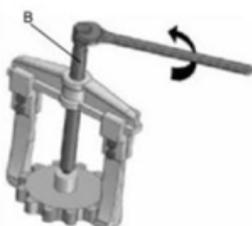
5. Removing the Puller

⚠ WARNING

Component party may suddenly become loose and shatter causing particles to fly upward when you remove the pullers from the component part. This may cause DEATH or SERIOUS INJURY. ALWAYS take the following precautions:

- ALWAYS wear personal protective equipment when using the puller (see Section 1.2)
- If maximum force has been applied, and the part has not moved, use a puller with a larger capacity. (ggf. Verweis)
- Cover the puller setup and part with a protective safety cover* before applying force. High forces exerted on the part being pulled can cause breakage and flying debris.

*Protective Safety Cover available at www.XXX.com , part number XXX



If the part to be pulled does not come loose, unscrew the forcing screw (B) with extreme caution until you can remove the puller from the component part. Then select a larger puller designed for the load.



NOTICE

6. Care and Storage

DO NOT use cleaning solvents or chemicle solvents to clean the puller. Hey can degrade the mechanism's permanent lubrication.

Use ONLY a clean cloth to clean all party of the puller after every use.

Alternatively use K69....

Store the puller in a dry, clean location.

7. Optional Accessories

There is a wide range of KUKKO accessories for the puller. The most essential accessory parts are displayed below. Accessories are available at www.KUKKO.com and in the KUKKO General Catalogs.



Protective Safety Cover
Part No. XXX



Hydraulic Pressure forcing screw
Part No. XXXX

jaws for various applications and extensions
KUKKO Fett



Additional hazards and risks may be associated with using accessory parts with your puller. To AVOID INJURY you must read and understand the Operating Instructions or Safety Information provided with the accessory party before using it with your puller.

8. Maintenance Repair

Damaged parts can be exchanged through KUKKO customer service (see last page of this manual for telephone number).

9. Environmentally Friendly Disposal

Dispose of the puller and packaging material in accordance with applicable provisions of law.

10. Technical Data

11. Customer Service

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