SERVICE MANUAL – C42 CALIPER

V2024_02

CONTENT

1. General information

1. Read the manual completely before using the products and follow the instructions contained in these instructions when installing, using and maintaining the product in order to avoid personal injury and damage to property.
2. The installation and maintenance of Trickstuff products require a basic knowledge of handling bicycle components and should only be performed by qualified bicycle mechanics. During installation or maintenance, clean working conditions must be ensured so that dirt entry into the brake systems is avoided.
3. If any of the instructions in this manual are unclear, do not proceed with installation or maintenance. Contact your local Trickstuff dealer or the Trickstuff support-team.

2. Safety

The installation, use and maintenance of Trickstuff products requires that you have read and understood the following safety instructions.

1. General safety instructions

- Always follow the instructions in the manual when working on Trickstuff products.
- We recommend for the use of Trickstuff brakes only Trickstuff products.
- When working on the system, pay attention to appropriate personal protective equipment such as gloves and safety goggles.
- Trickstuff products are to be used exclusively in accordance with their intended use. Otherwise the user assumes the responsibility.

Warning!
Improper installation, use and maintenance of components pose a considerable risk and can lead to accidents with serious injuries including death.

2. Brake pads and brake discs

- Visually inspect the brake pads and rotors before each ride:
  - Worn brake pads and/or brake discs can lead to sudden brake failure.
  - Lubricants such as oil or grease on the brake pad or brake disc can limit the effectiveness of the brake.
  - Corrosion can cause the friction material to detach from the backing plate, resulting in brake failure. Replace brake pads that show signs of rust immediately.

TRICKSTUFF® GMBH
SCHWABENMATTEN 17A
79292 PFAFFENWEILER
GERMANY
TECH-SUPPORT@TRICKSTUFF.DE

  - Brake pads should not be under a minimum thickness of 0.5mm.
  - Brake discs must not show any deformations or cracks and must be mounted in the correct direction of rotation.
  - Brake discs must have a minimum thickness of 1.6mm.
- In case of damage to the brake pads and/or brake discs, stop using them immediately and replace them with new brake pads or brake discs.
- Brake pads may only be used with a compatible caliper.
- Before working on brake calipers or brake discs, make sure that they are no longer hot and that the brake discs are no longer spinning. Heat and rotation can cause burns, bruises, cuts and other injuries.
- When installing brake pads, only use the original pad spring, pad retaining bolt and safety clip.
- Check the functionality of the brake after mounting or replacement of brake pads and/or brake discs.

3. Brake

Warning!
If the brake is used with deficiencies it can fail and lead to accidents with serious injuries including death.

- Check the brake before and after each use of your bike and check for damages.
- If there is damage or signs of damage, the brakes must not be used. If in doubt, contact your local Trickstuff dealer or the Trickstuff support-team.
- If the brake leaks oil under high or low pressure, do not continue riding and contact the Trickstuff support-team immediately.
- The brake must be compatible with all parts of the bike. The maximum system weight of the brake must not be exceeded.
- Trickstuff brakes are only as good as the pilot who uses them. Proper braking technique is essential. Improper braking can lead to accidents with serious injuries.
  - Permanent braking should be avoided. When braking, do not drag the brake steadily, but brake in bursts if the ground will allow. Continuous heat input from a permanently dragging brake can cause the brake to overheat, preventing sudden braking and thus leading to serious accidents with risk of injury. Likewise, permanent braking on changing ground conditions such as rolling gravel, wet ground, loam, rocks, road markings, etc. can cause loss of control.
  - Excessive pulling of the front brake can lead to rollover.

3. Tools

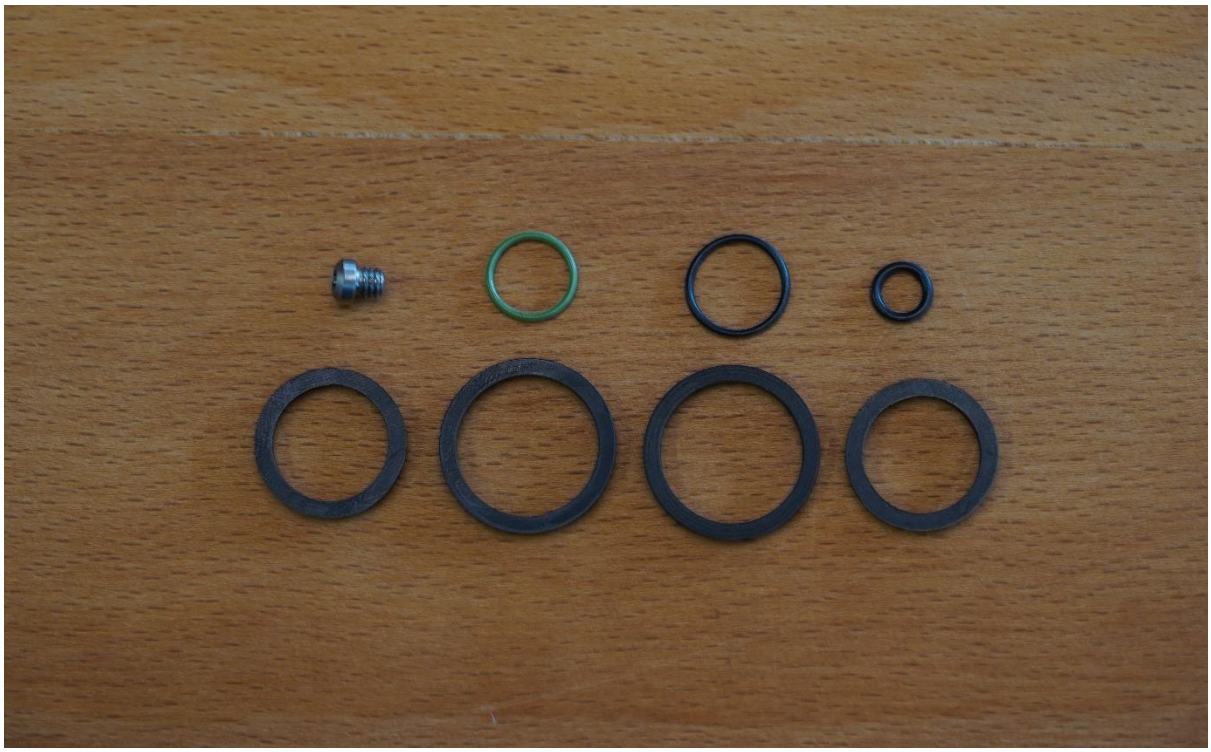
- TX10 key
- TX25 key
- TX30 key
- SW8 open-end-wrench
- HEX2,5mm key
- HEX4mm key
- Torque wrench (15Nm)
- Air compressor (optional)
- Old piece of inner tube (optional)
- Shop-towels
- Toothpick
- Medium strength thread locker (e.g. Loctite 243)
- Assembly grease (e.g. Interflon assembly grease)

TRICKSTUFF® GMBH
SCHWABENMATTEN 17A
79292 PFAFFENWEILER
GERMANY
TECH-SUPPORT@TRICKSTUFF.DE

Service-Kits:

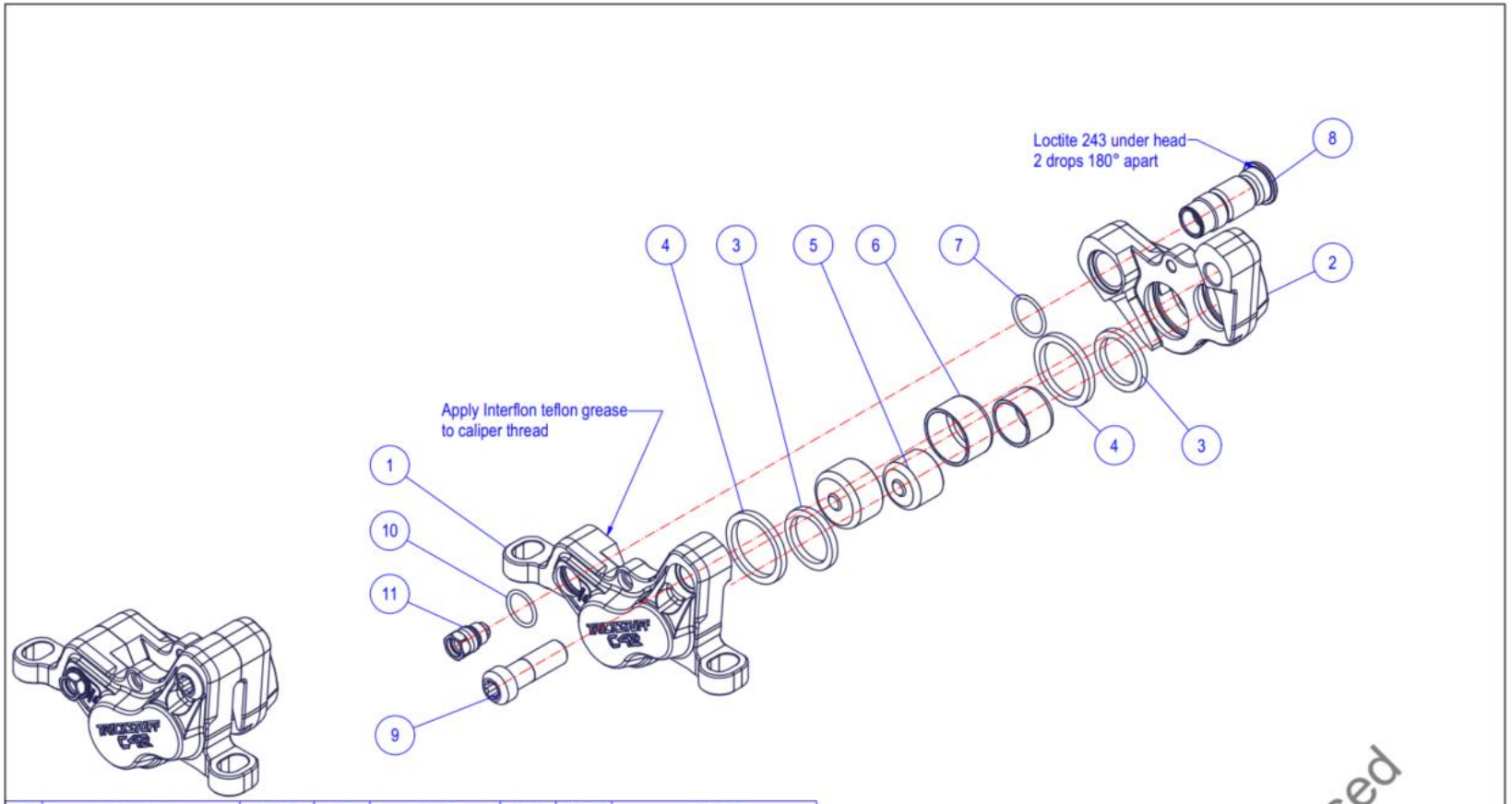
To service the brake caliper, one service kit is required for each brake caliper (i.e. two kits for one set of brakes).

- Regular service, without pistons: KIT SEALS C42 CALIPER OIL ASM



- Extended service including exchange of pistons (e.g. when damaged):
  KIT SEALS & PISTONS C42 CALIPER OIL ASM

TRICKSTUFF® GMBH
SCHWABENMATTEN 17A
79292 PFAFFENWEILER
GERMANY
TECH-SUPPORT@TRICKSTUFF.DE



POS.	DESCRIPTION	WEIGHT	QTY.	ART.NO.	TOOL	TORQUE	ADHESIVE
1	C42 caliper half, outer	35,96 g	1	BLCA42RX?0000S			
2	C42 Caliper half inner	30,83 g	1	BCCA42QX?0000S			
3	K-Ring C41/C42 Ø14 oil	0,25 g	2	BSNNK14ON0000S			Interflon assembly grease
4	K-Ring C41/C42/MXA Ø17 oil	0,3 g	2	BSNNK17ON0000S			Interflon assembly grease
5	Steel piston C41/C42 Ø14	4,35 g	2	BGIS4X14N0000S			Interflon assembly grease
6	Steel piston C41/C42/MXA Ø17	5,79 g	2	BGIS4X17N0000S			Interflon assembly grease
7	O-RING Ø10.5X1 NBR 70	0,04 g	1	BSNNO42ON0000S			
8	Yoke screw C42 M10x0.75 hollow	11,27 g	1	BSSSY42XN0000S	HEX4	15Nm	Interflon assembly grease (caliper thread) Loctite 243 (under head)
9	Yoke screw C42/C41 M7x0.75	8,46 g	1	BSSSY4XXN0000S	TX30	15Nm	-
10	O-RING Ø9x1 FKM 75	0,05 g	1	BSNFO42OO0000S			
11	BLEED VALVE C42 WITH O-RING	2,08 g	1	BSSSV42AX0000S	WS7	3Nm	-

	Article number: BLCA42PXL0000S	Weight: 110 g	Date: 28.11.2023	A3	
TRICKSTUFF Trickstuff GMBH Schwabenmatten 17A 79292 Pfaffenweiler www.trickstuff.de	Project: C42		Scale: 1 : 1		
	Title: C42 caliper, PM, Bionol		Drawing number: 10056252		
	This document shall not be copied nor be made available to any third parties without our written consent !		Old drawing no:		

TRICKSTUFF® GMBH
SCHWABENMATTEN 17A
79292 PFAFFENWEILER
GERMANY
TECH-SUPPORT@TRICKSTUFF.DE

Overview M4-/M5 connectors:

	Caliper					Pump	
Product	C21	C22	C41	C42	MXA	DIRETTISSIMA/ MAXIMA	PICCOLA
Connector	M5	M4	M5	M4	M5	M4	M5

You will also need the appropriate tools to remove the brake from the bike in accordance with the operating instructions.

Note: Trickstuff brakes are designed for use with organic, biodegradable Trickstuff "Bionol" oil. Never use DOT brake fluids (e.g. DOT4/5/5.1/etc.), otherwise the seals of the brake system will be damaged and the brake can no longer be used without an inspection.

Note: Only use new Bionol. Drained Bionol should not be reused.

TRICKSTUFF® GMBH
SCHWABENMATTEN 17A
79292 PFAFFENWEILER
GERMANY
TECH-SUPPORT@TRICKSTUFF.DE

4. Service brake caliper

The following service manual includes service for the whole brake caliper, its disassembly and exchange of all seals.

Preparation

1. Fix your bike in a bike stand and dismount the wheels.
2. Remove the brake caliper from your bike using adequate tools.
3. Remove the brake pads from your caliper using a HEX2.5mm key.

TRICKSTUFF® GMBH
SCHWABENMATTEN 17A
79292 PFAFFENWEILER
GERMANY
TECH-SUPPORT@TRICKSTUFF.DE

4. Put the Trickstuff Triple-B-Tool or an 8mm wrench in the disc groove and pump out the caliper pistons until they contact the tool. This makes removal of the caliper pistons

easier later on.

TRICKSTUFF® GMBH
SCHWABENMATTEN 17A
79292 PFAFFENWEILER
GERMANY
TECH-SUPPORT@TRICKSTUFF.DE

5. Use a TX25 key to separate the brake hose from the caliper. Soak up leaking oil with a shop towel. Discard the two used O-rings from the banjo fitting.
   Note: Please dispose of the to-be-replaced parts according to your local recycling

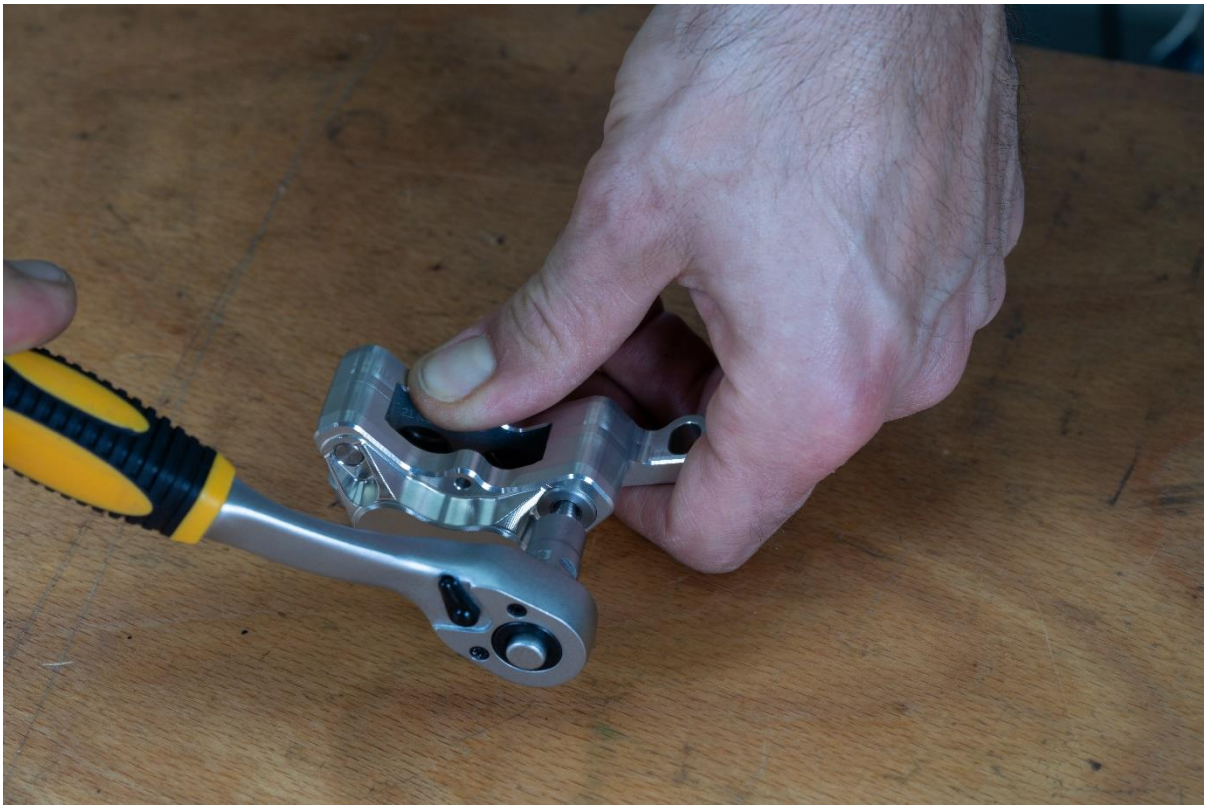
guidelines.

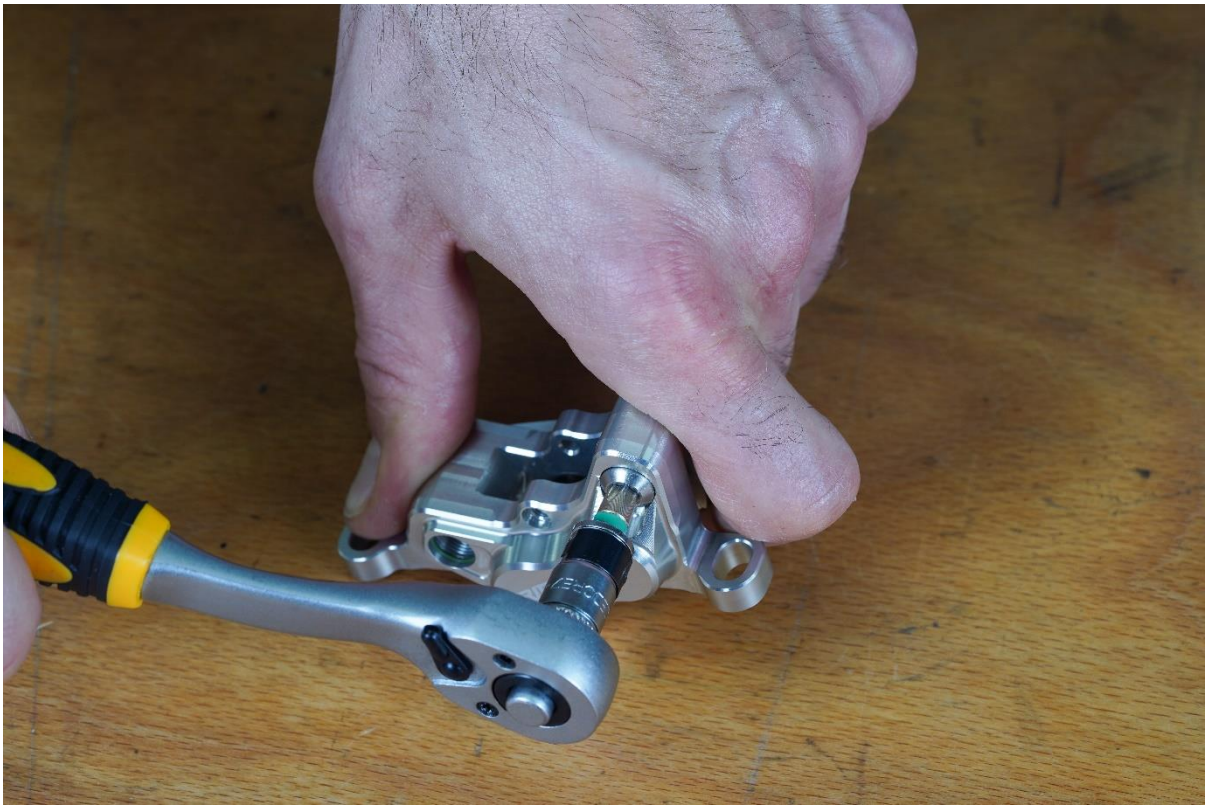
Disassembly of the brake caliper

1. Remove the bleed valve with a SW7mm open-end-wrench and replace the O-ring.

TRICKSTUFF® GMBH
SCHWABENMATTEN 17A
79292 PFAFFENWEILER
GERMANY
TECH-SUPPORT@TRICKSTUFF.DE

2. Remove both caliper bolts using a TX30 key and a HEX4 mm key. To avoid slipping try as shown in the images below. Confirm full insertion of the 4mm tool before turning to avoid deformation of the bolt.





TRICKSTUFF® GMBH
SCHWABENMATTEN 17A
79292 PFAFFENWEILER
GERMANY
TECH-SUPPORT@TRICKSTUFF.DE

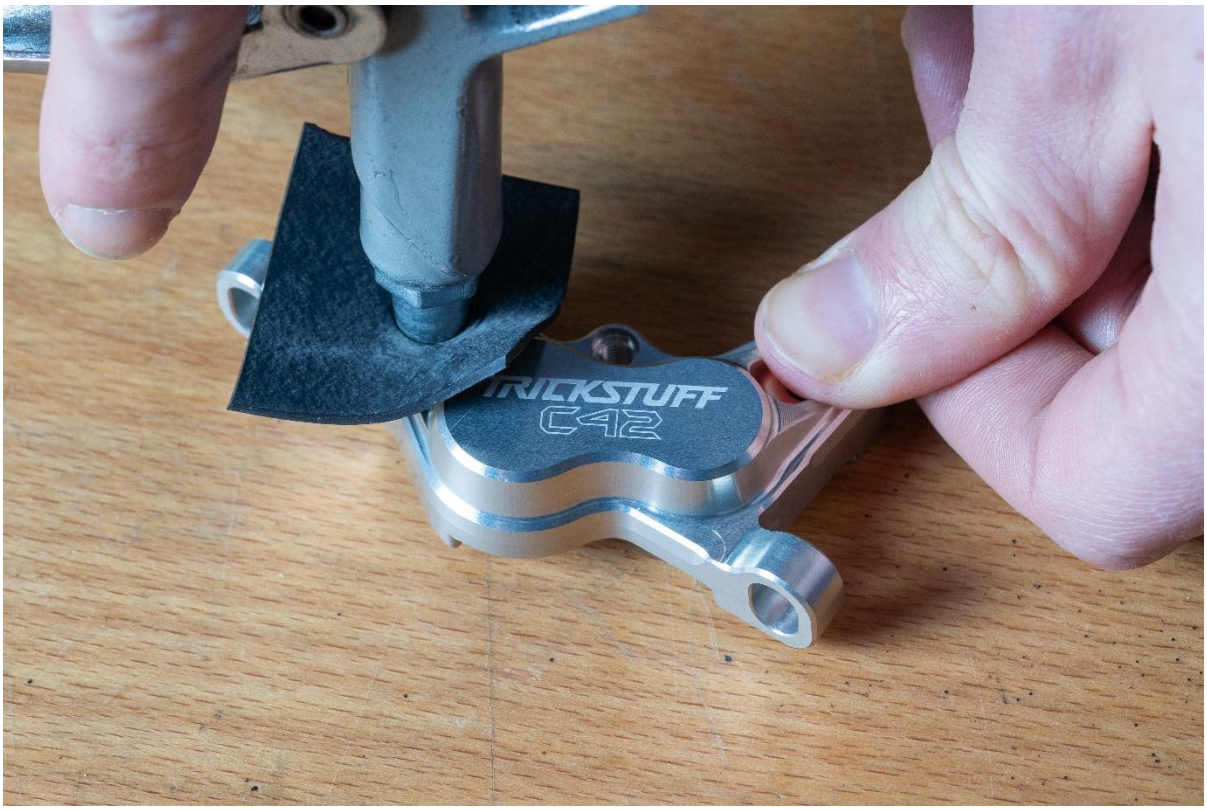
3. Discard the caliper half seal O-ring (black) and the hollow-bolt-O-ring as shown in the images below. Also remove Loctite residue from the hollow M10 caliper bolt.

TRICKSTUFF® GMBH
SCHWABENMATTEN 17A
79292 PFAFFENWEILER
GERMANY
TECH-SUPPORT@TRICKSTUFF.DE

4. Lay the now separated caliper halves with the piston bores facing down on a flat surface, preferably wood. Press them down flat and use compressed air to push the caliper pistons out of the caliper halves. Use a plastic nozzle to avoid scratching the caliper halves. Alternatively you can use an old piece of rubber innertube with a hole to avoid contact between your steel nozzle and the aluminium brake calipers. Induce the compressed air from the bores meant for the hollow M10 caliper bolt. In some cases the air pressure needs to be maintained for a few seconds.

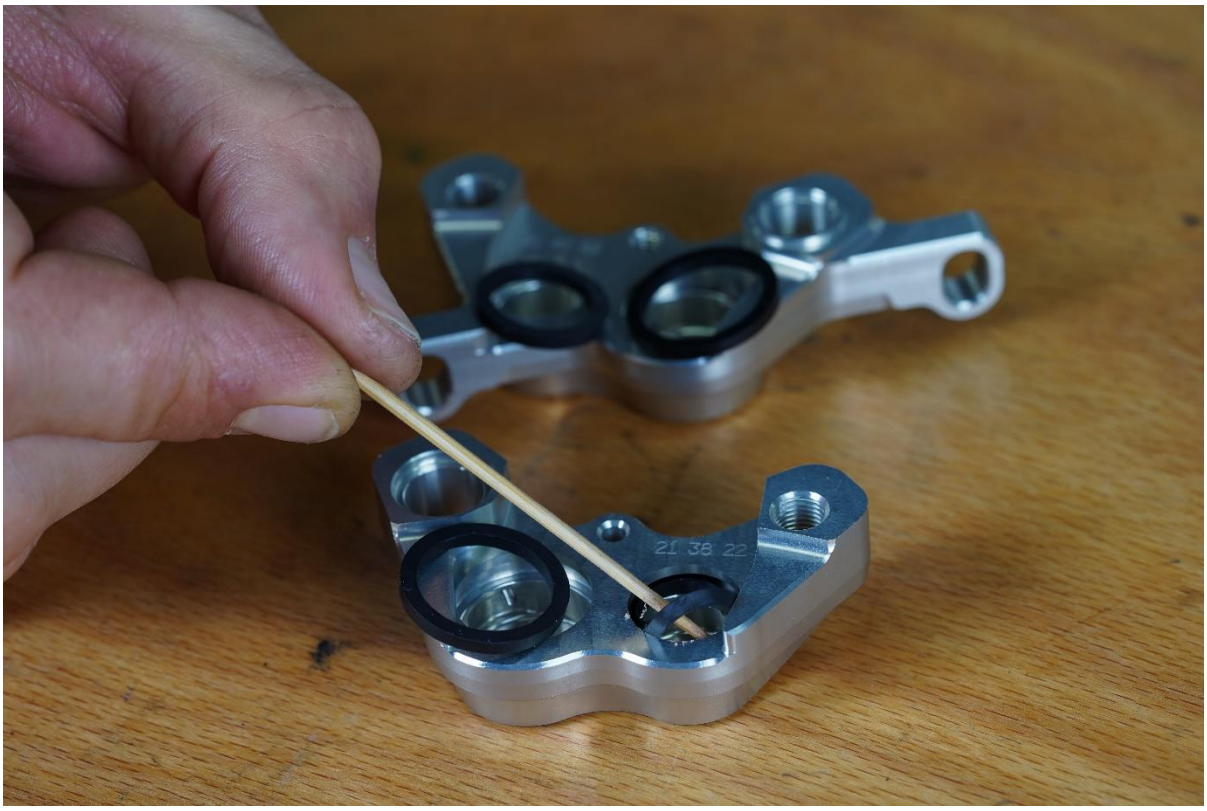
   Note: When working with compressed air, always use personal safety measures like ear-protection and safety goggles.
   In case you don't have access to an air compressor, you can alternatively use pliers to carefully remove the pistons. This process damages the piston surface and all pistons need to be replaced after removal. In this case, purchase the "Seals and Pistons" kit.

TRICKSTUFF® GMBH
SCHWABENMATTEN 17A
79292 PFAFFENWEILER
GERMANY
TECH-SUPPORT@TRICKSTUFF.DE



TRICKSTUFF® GMBH
SCHWABENMATTEN 17A
79292 PFAFFENWEILER
GERMANY
TECH-SUPPORT@TRICKSTUFF.DE

5. Remove the caliper pistons and soak up leaking oil with a shop towel. Visually inspect your caliper pistons for surface damage (scratches/tool marks/deformation) and replace them if you find them damaged.
6. Next, remove and discard the K-rings from the calipers. Use a toothpick or a similar soft tool to avoid scratching sealing surfaces.

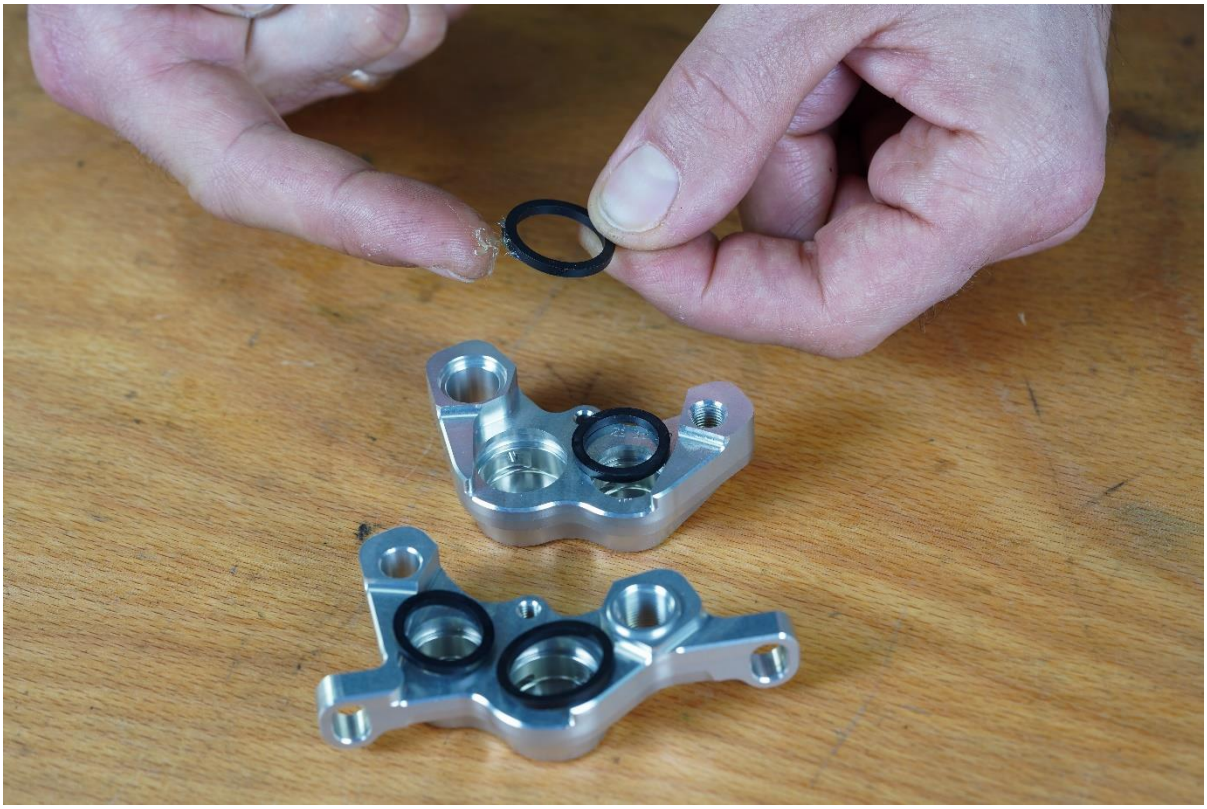


7. Clean the caliper halves with warm water and a liberal amount of washing-up liquid. Works best in combination with a soft brush and a lot of clean water for rinsing afterwards. Before assembly, make sure everything is properly dried and no water residue remains. You can dry the caliper halves with compressed air or by putting them on a household radiator for some time.

TRICKSTUFF® GMBH
SCHWABENMATTEN 17A
79292 PFAFFENWEILER
GERMANY
TECH-SUPPORT@TRICKSTUFF.DE

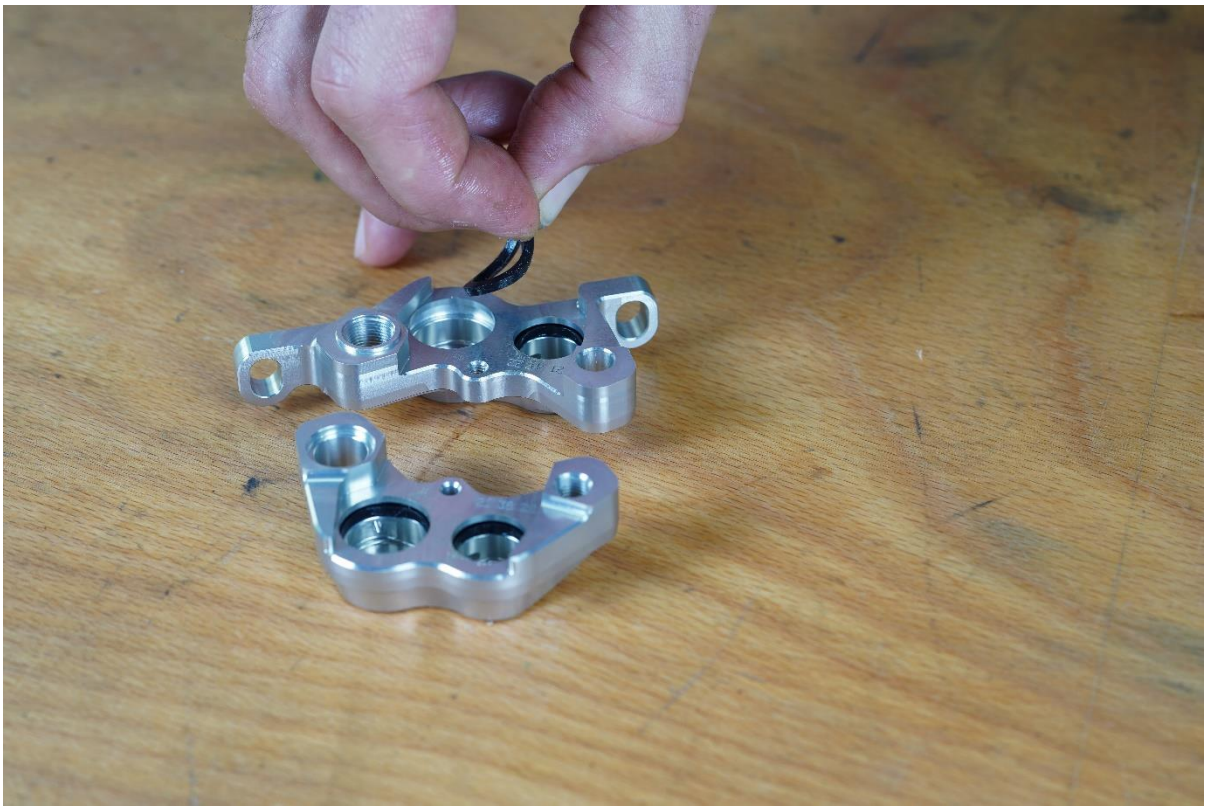
Assembly of the brake caliper

1. First mount the K-rings. Apply assembly grease (e.g. Interflon Assembly Grease) to the K-rings before installation, the amount of grease should be similar to the amount shown in the image below.



TRICKSTUFF® GMBH
SCHWABENMATTEN 17A
79292 PFAFFENWEILER
GERMANY
TECH-SUPPORT@TRICKSTUFF.DE

2. Install the K-rings into the grooves. Check for correct seating and that they are not twisted.



TRICKSTUFF® GMBH
SCHWABENMATTEN 17A
79292 PFAFFENWEILER
GERMANY
TECH-SUPPORT@TRICKSTUFF.DE

3. Next mount the caliper pistons. Put them on top of the bore onto the K-ring and turn them ½ turn manually to hereby lube the circumference. Then push them in manually until they stop. If you encounter higher resistance, take the piston back out and confirm correct seating of the seal. Then start the piston installation over again.

TRICKSTUFF® GMBH
SCHWABENMATTEN 17A
79292 PFAFFENWEILER
GERMANY
TECH-SUPPORT@TRICKSTUFF.DE

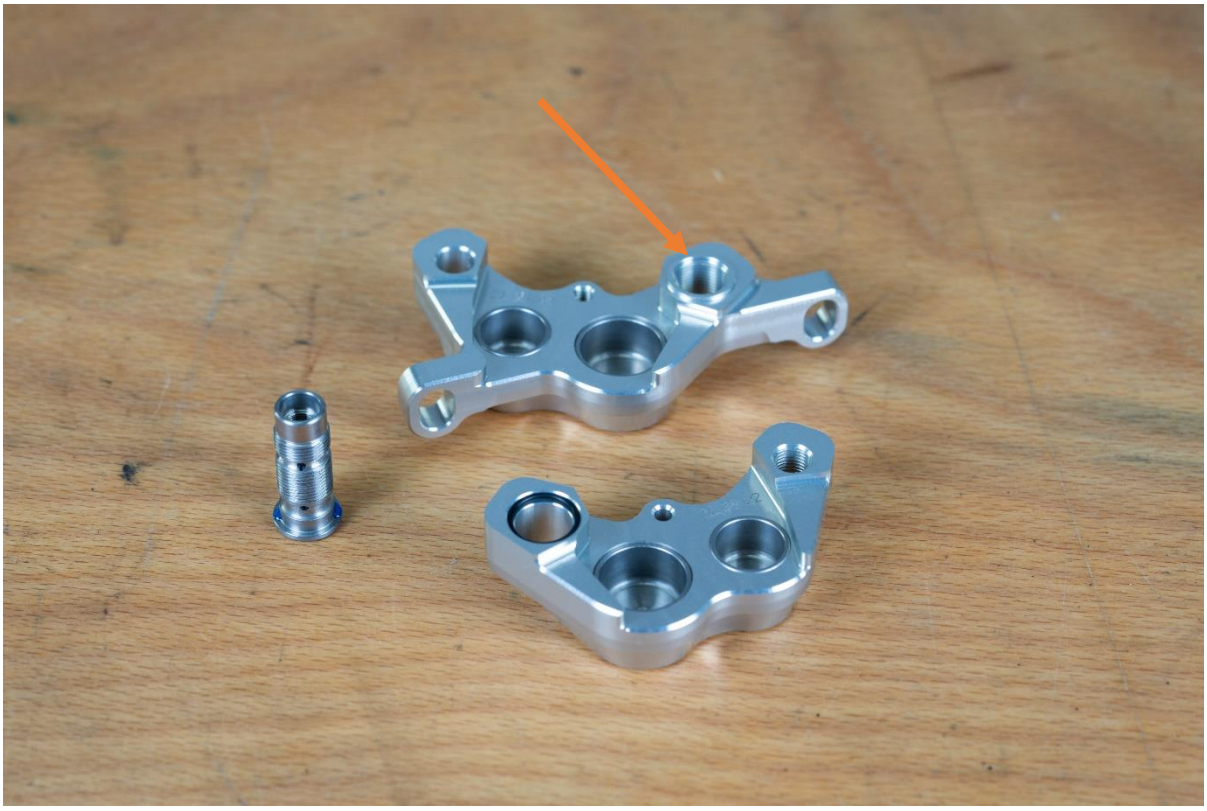
4. Remove excess grease with a shop towel.
5. Install a new green hollow screw O-ring in the groove of the outer caliper half.

TRICKSTUFF® GMBH
SCHWABENMATTEN 17A
79292 PFAFFENWEILER
GERMANY
TECH-SUPPORT@TRICKSTUFF.DE

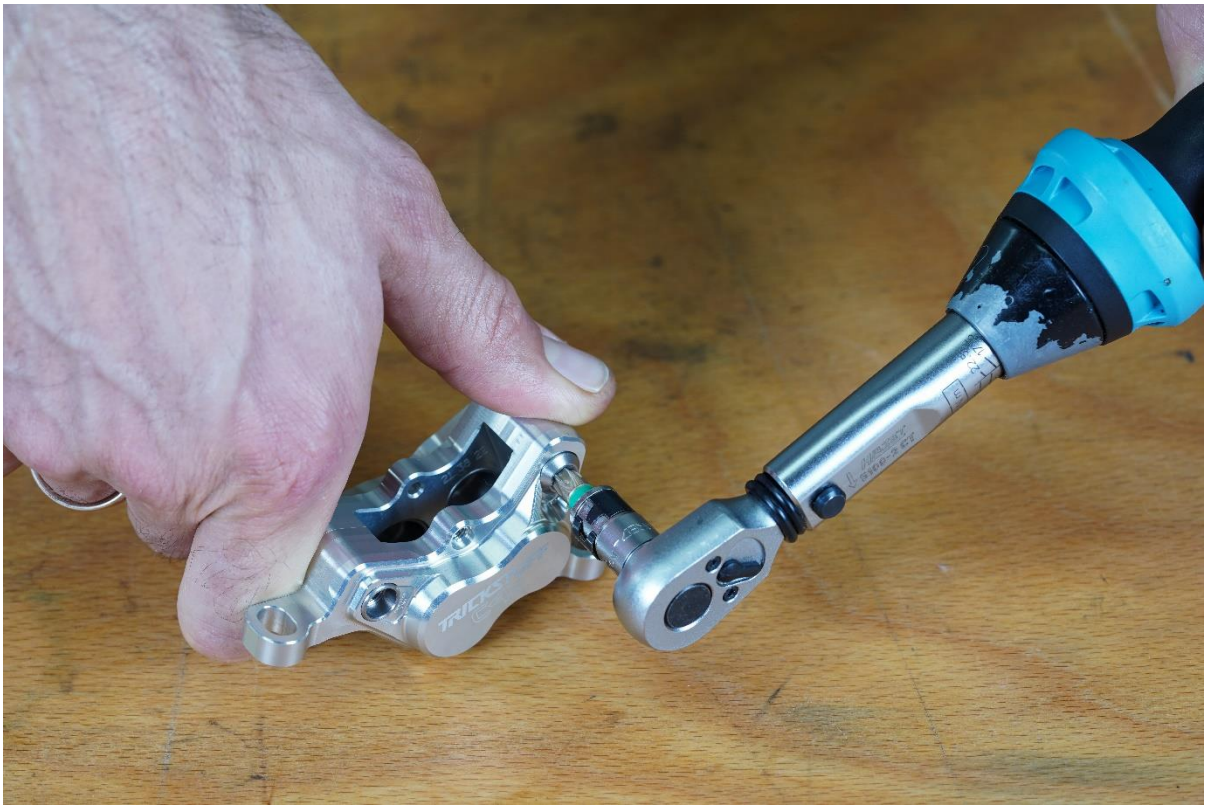
6. Install a new caliper half seal. Check the sealing surfaces for damages and cleanliness

TRICKSTUFF® GMBH
SCHWABENMATTEN 17A
79292 PFAFFENWEILER
GERMANY
TECH-SUPPORT@TRICKSTUFF.DE

7. Apply two drops of medium strength thread locker (e.g. Loctite 243) between the bolt head and shaft as shown in the image below. Also apply grease to the inside thread of the outer caliper half, see mark in the image below.

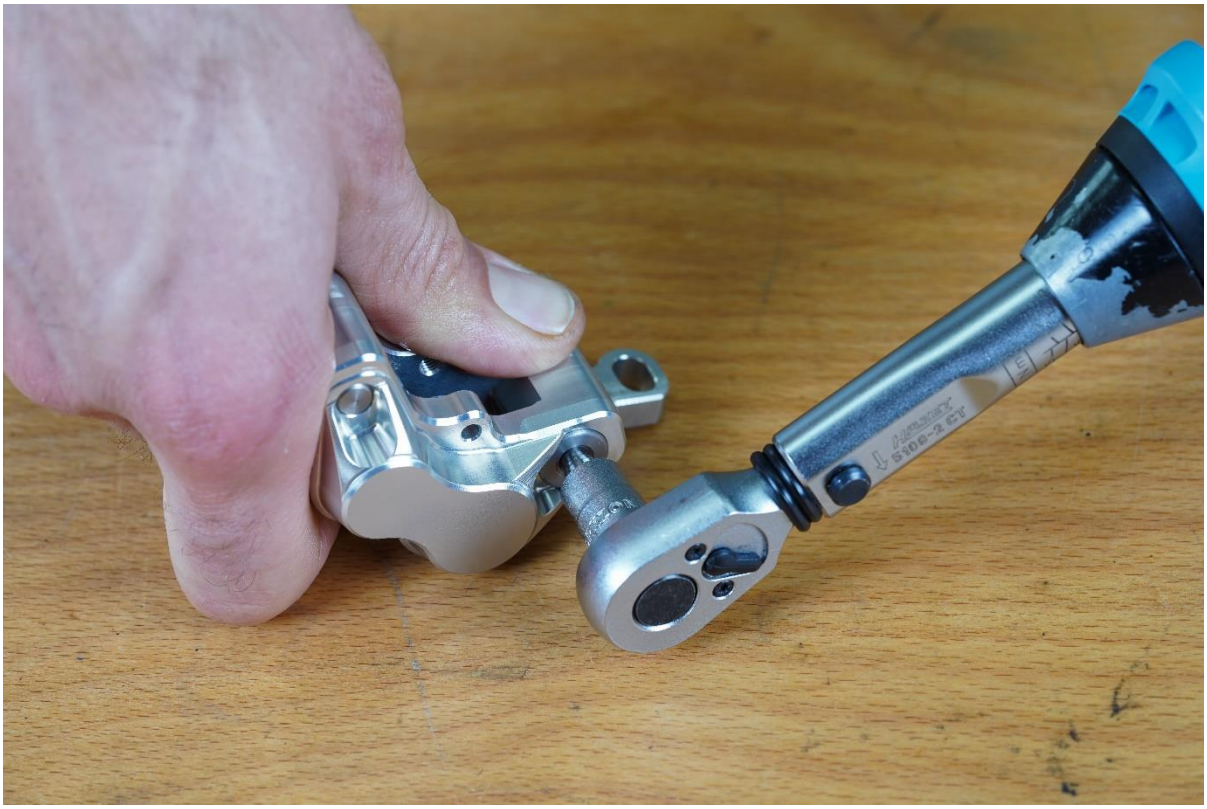


8. Put both caliper halves together and install the caliper bolts with a TX30 key and a HEX4mm key. When assembling the caliper halves, confirm the correct position of the caliper half seal.
   Note: It helps to first snug the bolts up slightly to then properly align the caliper halves. You can use a soft face plastic hammer to align them and increase the torque step by step. Final torque-down happens in the next step.



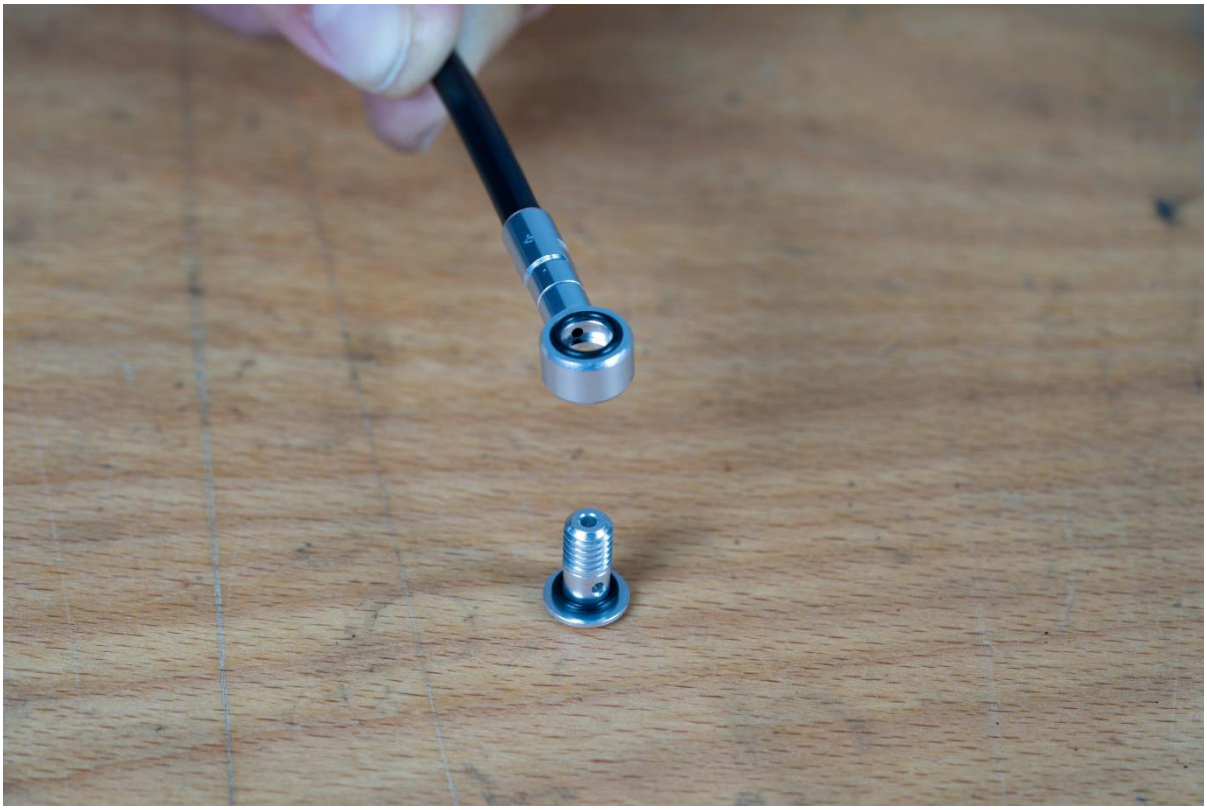
TRICKSTUFF® GMBH
SCHWABENMATTEN 17A
79292 PFAFFENWEILER
GERMANY
TECH-SUPPORT@TRICKSTUFF.DE

9. Use a calibrated torque wrench with a TX30 key and HEX4mm key, each with 15Nm to torque down the caliper bolts.



TRICKSTUFF® GMBH
SCHWABENMATTEN 17A
79292 PFAFFENWEILER
GERMANY
TECH-SUPPORT@TRICKSTUFF.DE

10. Use a 7mm open-end-wrench to install the bleed valve with a new O-ring back into the hollow caliper screw. Correct torquing happens during bleeding procedure later on.
11. To connect the brake hose to the caliper, first install two new O-rings to your banjo fitting, one per side.



TRICKSTUFF® GMBH
SCHWABENMATTEN 17A
79292 PFAFFENWEILER
GERMANY
TECH-SUPPORT@TRICKSTUFF.DE

12. Install the brake hose to the brake caliper using a TX25 key and 3Nm.

13. Bleed the brake system according to the respective manual.
14. Install the brake pads and the pad retaining bolt with the safety clip. Mount the caliper back on the bike and properly align it to the disc.

Technical changes, errors or misprints excepted.

TRICKSTUFF® GMBH
SCHWABENMATTEN 17A
79292 PFAFFENWEILER
GERMANY
TECH-SUPPORT@TRICKSTUFF.DE