

# PICCOLA

+

# *C21*

***Manual***

**Initial installation, maintenance and service  
warranty**

# Disc brake PICCOLA with two-piston caliper C21

## About This Manual

We are pleased that you have chosen a PICCOLA-brake, and hope you enjoy on your favorite trails. but before you go to the site, please read this manual thoroughly.

This manual will give you all the information necessary to perform the initial installation and routine maintenance and some repairs. Installation and maintenance of PICCOLA-disc brakes are for the most part

without

Special tools feasible.

**DANGER:** *Work on hydraulic brakes require particularly intensive knowledge and experience. If you are not in a single step to be sure you need the right tools or other equipment, enter the brake necessarily in the hands of a qualified workshop. In the case of improper work on our brakes, we disclaim any liability.*

## Regular check for your safety

The hydraulic brake system of PICCOLA works with correct initial assembly to be maintenance free for a long period. However, the brake system should be checked regularly. Check this with a torque wrench all screwed (the correct torques are given in the installation manual), check the hydraulic system for leaks and check the wear on the brake pads and discs. **Caution after a fall: Check the brake system carefully before proceeding. Are after falls damage to the brake system to recognize (eg leaking brake oil \*), may be driven in any case!**

**annotation** : Piccola brake is operated with vegetable, biodegradable Trickstuff- "Bionol" oil or with Shimano mineral oil. Below for the short term "brake oil" is used.

## Without restriction?

The disc brake PICCOLA is basically just for bikes, especially for mountain bikes of all categories, admitted. The approval also applies to racing.

**The use of the tandem is permitted only if suitable brake discs!**

Basically, the disc types used and diameter adapt to the application and the total weight of rider and bike. Lightweight and small slices, for example, 160 mm front / 140 mm rear, should only light drivers and only

be used in cross-country racing. At a

Total weight of rider and bike about 100 kg are advised to brake disks of at least 180 mm front and rear, to avoid overheating the brakes on steep terrain.

### Attention!

During braking, the kinetic energy of the driver and bike over the friction of the brake pads on the disc in heat energy is converted. Caliper and brake disc heat with him

each stop. can on the window while

**Temperatures of more than 400 ° Celsius are reached. Touch something while driving or immediately thereafter** neither caliper brake disc yet, because you can get burned. Check carefully before working on the braking system, whether the parts have cooled down sufficiently.

PICCOLA brakes are with populate "organic" brake pads. Other Brake pads (so-called. "Sintered" or "ceramic" coverings) conduct more heat in the brake caliper. When using such coverings Trickstuff may refuse to accept liability for any resulting damages.

PICCOLA brakes are designed for use with vegetable, biodegradable **Trickstuff- "Bionol" oil** designed (also possible, but worse. mineral oil, for example Maguraoder Shimano oil). Never use DOT 4 or DOT 5 or DOT 5.1, otherwise the seals of the brake system will be destroyed and the brake can no longer be used.

Use only new brake fluid. Drained brake oil should not be used again. Old brake oil may contain water, whereby the risk that the formation of vapor bubbles in the brake system, which impair the function of the brake.

Do not allow water or air bubbles get into the system, so that no vapor bubbles can occur in the brake. Be careful when bleeding the brake system.

Through continuous constant braking under extreme conditions, the brakes may heat up to the point where the braking effect wears off ("fading"). Therefore, open on long runs again briefly the brake so that it can cool down. The risk of overheating can be reduced by the use of brake discs, which are adapted to the body weight, the driving style and intended use.

Put - if permitted by the surface - always front and rear brakes simultaneously to distribute the load evenly on both brakes.

Disc brakes develop very high deceleration values even at low train at the lever. Make sure that, first carefully familiar with the operation of the brake, so as not to take from misapplication of the risk of falls. Practice proper brakes before you go with your bike in the area.

To achieve an optimum braking effect of the new coverings, they must be carefully slowed down to 10 km / h at least 20 braking from 30 kph km / h.

not bring coverings with grease or oil in contact. the piston with a flat tool to push back into the housing before the exchange of the pads. After

Assembly of the new coverings pull the brake lever several times, until a point of pressure is established.

Read before installation of parts carefully the installation instructions. Loose, worn or damaged parts may pose a risk of injury to the driver. Use for repairs and replacement of parts exclusively PICCOLA-original parts.

## installation instructions

### Note

When removed wheel or remote brake pads, the brake may not be actuated, otherwise the brake piston to closely make the brake disc and can not be mounted. In the extreme case, the slave piston can come out of the caliper housing so far that the oil outlet and inlet air. In this case, the brake should be returned to service Trickstuff.

Too far extended slave piston with a flat hardwood (if necessary with a flat screwdriver) to push back. Make sure that the force is applied evenly on the pistons so that they do not tilt. A piston pushed back diagonally, the piston seal can be damaged, resulting in the brake result in failure. The pistons must be reset without much effort. Is high, the resistance when pushing back the piston, do not force it but check if a piston is jammed and possibly start again.

If the level in the brake system is too high, it may happen that the slave piston not fully push back to let. In this case the Bleed screw on the caliper loose (Not remove entirely! Drain) and excess brake oil. Close locking screw air free!

To clean the brake plenty of warm tap water with detergent and a dry cloth. Do not use brake cleaner - this can damage the seals of the braking system. Disc and pads clean generally during braking itself from normal dirt such as mud.

eighth with mounted brake pads that the pads do not come into contact with the pushing back with oil or fat:

Be careful when handling brake oil (and other lubricating fund items). Are disc or pads stained with brake oil, this interferes with the action of the brake considerably. In general, the brake pads are unusable by contact with brake oil and must be replaced. An oil film on the wafer can be washed off with plenty of water and detergent or with acetone.

### Handling of brake oil

- When handling with brake oil goggles and gloves. Contact with the eyes can cause eye irritation. In contact with eyes, rinse several minutes with running water and seek medical advice.
- Use protective gloves. Skin irritation and discomfort may be caused. In contact with skin, wash the fluid with soap and running water. Join irritation on, consult a doctor.
- Do not drink! Poisoning! vomit swallowed brake oil immediately and consult a doctor. The Bionol used by Trickstuff in the original equipment is less harmful, but should be handled with care nonetheless.
- Keep brake fluid out of reach of children.

- Take care when using oil containers. Keep them in a suitable place.

### **Disposal of old and second-hand brake oil**

Keep yourself in the disposal of brake oil to regulations and laws. Brake oil must not enter the sewage system or into natural waters!

### **Be careful when turning the bicycle**

In the expansion tank of the brake handle can in rare cases with incomplete venting of the brake system or prolonged use

Air bubbles. Turning over of the bicycle (for example, for disassembly of the wheels), these air bubbles from the surge tank in the get high-pressure area of the hydraulic system and affect the function of the brake. Therefore, check after the bike was reversed by repeatedly pressing the brake lever, the function of the brakes. If not appeal the brakes normally, they must be made to work as follows:

If the response to actuation of the lever is bad (soft pressure point):

*Set (see figure in the "Adding brake fluid and bleeding"), the expansion tank, however, is the bike on the back wheel and hit a handlebar, so that the master piston has obliquely upwards about it, and press the brake lever a few times slowly so the bubbles return to the reservoir ( "quick release"). It is recommended then to bleed the brake at rest completely to remove the air bubbles from the container.*

*If the response does not improve, the brake must be vented properly in any case (see section "Adding brake fluid and bleeding").*

## installation

Note: Install disc brakes only with the appropriate components! Be careful with lightweight forks. Not every fork can withstand the high loads by a disc brake in the long run. We recommend the use of spoke wheels with 32 steel spokes spoked 3-cross, and special disc rims. Radially spoked wheels are not permitted! Use for mounting only high quality, just-fit tool!

### Mounting the brake disc

*Tools: Torx TX 25 (or, depending on the type of screw, Torx TX 20), screw locking "low strength"*

*Make sure that the brake ring of the disc is not contaminated during assembly. Wear gloves.*

1. Align the disc to the hub flange and insert the supplied M5 Torx screws. The disc must be mounted so that the webs are loaded in compression (arrow on the brake disc note).
2. Use new bolts with thread lock for assembly. If the screws are mounted without security, there is a risk that they dissolve in operation.
3. Tighten the disc fastening screws crosswise. Use the correct mounting an adjustable torque wrench.

*Tightening torque: 6 Nm.*

#### 4. Note on using the **Trickstuff aluminum brake disc**

**screw:** These screws may only 140-, 160- and 180-are MillimeterBremscheiben used. In 180 discs at most three aluminum screws should be used together with three steel or titanium screws. The Trickstuff aluminum screws have TX20 drive (not TX25). Place the aluminum screws dry (without glue screws, no fat) and tighten them carefully and symmetrically with **4 Nm** firmly.

### Installation of the brake master cylinder on the handlebar

*Tools: Allen wrench 2.5 (using shift lever interfaces may hexagon 3 mm)*

Piccola brake pumps are provided for the assembly of handlebars with 22.2 mm diameter in the clamping area. Soft, the dimensions of the handlebar heavily on these measurements, this can lead to problems with the clamping of the brake levers. The installation of PICCOLA brake pumps only handlebars with 22.2 mm + 0.05 / - 0.07 mm in diameter allowed in the clamping area!

If your handlebars should have undersized, the optional genuine Yamaha Frässchellen help.

1. Remove handlebar end plugs and grips.

**Second** Open the clamping of the brake lever just enough that the lever can be pushed over the handlebars slightly. Loosen, the Schellen

clamping screw. Align the brake pump like this that the brake lever with the index (and, possibly, middle finger) easily accessible from your normal grip position. Make sure that the brake lever does not interfere with the operation of the shift lever. PICCOLA brake pumps are compatible with most of the major manufacturers shifters (Shimano, SRAM).

**Danger:** *The PICCOLA brake pump is not compatible with twist shifter handles!*

3. Pull the lever aligned only to the extent that the brake handles do not move the clamping screw at normal operating out of position. but the handles should not sit absolutely "fixed" so that they can escape in the event of a fall and will not be irreparably damaged (the same applies

the way, for the gear lever). The clamping of the  
PICCOLA brake pump is designed so that the clamping bolt must be lightly applied to the handle  
to clamp on the handlebars.

**Attention!** Enter a small drop of medium strength screw adhesive on the thread of the clip screw, so that they do not loosen during driving. This is especially when using a shift lever interfaces (for direct mounting of the shift lever on the brake pump) useful because the introduced from below the clamp bolt then can be reached only after disassembly of the interface.

4. Make the reach of the levers so that you can easily reach the levers of your normal grip position with your / s brake finger / s. to turn the 2-millimeter Innensechskant adjustment screw on the brake lever until the lever is in a comfortable position for you.

**Attention!** Adjust the handlebars, you can perform a full brake levers still without the lever on the handlebar trigger.

### Mounting the Caliper

*Tools: "low strength" Allen wrench 5 / screw lock*

The PICCOLA brake is available as a post mount version and as flatmount version. This manual only describes the installation of a post mount brake.

Make sure to use only with the brake included stainless steel screws and steel screws similar quality and strength.

1. Insert the wheels with the brake discs installed in the frame and fork. Make sure that the wheels, fit exactly in the dropouts so that they do not change their position in the company.
2. Place the brake caliper with brake pads mounted externally on the disc and align it with the mounting points on the frame, fork or adapter you.
3. Select the appropriate mounting screws. In the delivery screws are included with 16 and 20 millimeters in length. Always place a washer under the screw head (rounded side facing the brake caliper)!
4. Tighten the screws firmly. When mounting  
Screw locking "low strength" (for example, Loctite 222). *Tightening torque 6 Nm*



### Assembly and shortening the brake line

*Tools: Allen key 3 mm*

PICCOLA brakes are supplied on request with cut to length according to customer specifications brake lines.

The pipes are provided with screw-ring fittings.

Tighten the banjo bolts emotional and just as strongly that they are tight and not loosen. **Danger:** *The hollow screws are made of aluminum. Be sure to use precisely fitting tool!*

**Danger:** **The ring fittings are asymmetrical - the hollow screw may only be inserted from the recessed side; the both sides fixed O-rings have different diameters!**

After shortening the brake line or after the new assembly, the hydraulic system must be re-vented.

If you want to cut the line or open in order to thread through the frame, proceed as directed

[http://www.trickstuff.de/de/manuals/PDFs/160216\\_MontageBETAkevlarleitung\\_D\\_KL\\_CK.pdf](http://www.trickstuff.de/de/manuals/PDFs/160216_MontageBETAkevlarleitung_D_KL_CK.pdf)

and

[http://www.trickstuff.de/de/manuals/PDFs/160510\\_BremsleitungimRahmenverlegen\\_CK\\_Kl.pdf](http://www.trickstuff.de/de/manuals/PDFs/160510_BremsleitungimRahmenverlegen_CK_Kl.pdf)

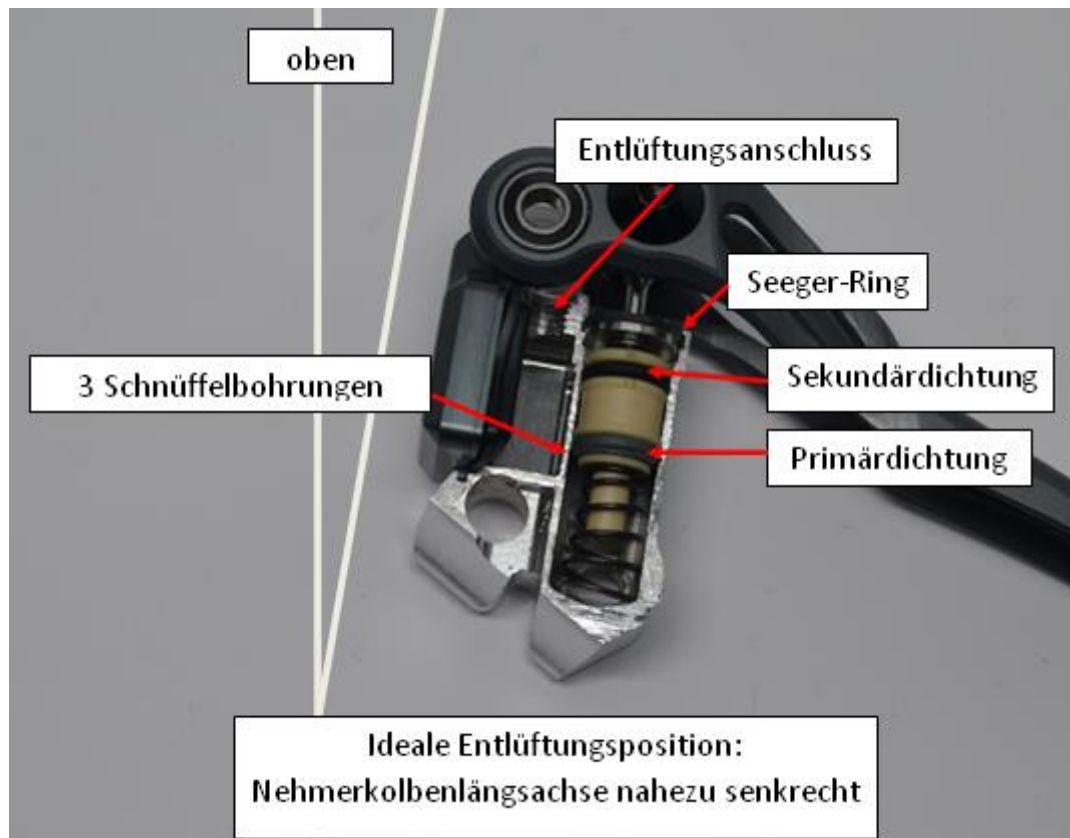
in front.

Both guides are under <http://www.trickstuff.de/de/manuals/index.php> for PDFDownload available.

### Replenishing brake fluid and bleeding

*Tools: Allen wrench 2.5 or 3 / Torx TX10 / Bleed*

1. Use only Trickstuff "Bionol" ( also possible, but less good: mineral oil, for example from Magura, Shimano), never DOT 4, DOT 5.1 or Trickstuff Ferodo "Super Formula"!
2. Fix the bike in a bike racks. Making sure that the bicycle like that the brake levers sit on the highest point of the bicycle.
3. Dismantle the impeller.
4. Loosen the brake lever clamp and adjust brake pump into a nearly vertical upward-facing position. It is important that the brake pump is in this position!



5. the Trickstuff "BBB tool" Press or a flat, absolutely fat-free screw with mounted brake linings, the pistons all the way back into the caliper. then disassemble the brake pads to prevent that they are contaminated with brake oil.

6th **Important:** Now put a Bleedblock one!

7. Preparation of the two syringes: Assemble two syringes with hose and M5 nipple. Pull both syringes approximately halfway air-free with on brake oil.

8. Dismantle the caliper and swing it 90 degrees so that the vent hole facing up. Remove the vent screw on the inside of the caliper (in hex the upper Jochschraube). Then fill the vent hole with a small drop brake oil to the brim and screw in half-filled syringe without air enters.

9. Remove. Bleeder screw on the brake pump and screw the half-filled syringe with the M5 nipple



Possibly, so far reduced lever length of the lever that the nipple can be turned in completely and does not conflict be hexagonal with the lever. Repeatedly press the brake lever slightly. In the brake lever reach possibly the master piston adherent air bubbles in the reservoir. From then do not press the brake lever!

10. Carefully press the brake oil to the lower syringe until the bottom syringe is almost empty (at the caliper) up (brake lever). Holding down both syringes possible upward to emerging air bubbles can be trapped in the syringes and will not be pushed back into the system. Now inflate the liquid from the top down again until the upper syringe almost

is empty. Suck jerk at the  
brake caliper side syringe may pull it out. Air contained in the brake caliper

11. Once leak no more air bubbles, remove the syringe from the brake pump and refit the bleed screw. Do not forget the sealing ring and ensure that creeps under the screw no air bubbles (if necessary, you can press again from the bottom up to ensure that no air is below the vent screw a little liquid). Tighten the bleed screw prudently ( *Torque: 1 Nm*). Take poured forth brake oil with a paper towel.

12. Remove the syringe from the caliper (vent hole should be back up!), Give again a drop of fluid into the open hole and then screw in the plug. Important: This must be no air get under the screw! *Tightening torque: 2 Nm*

13. Check whether a defined pressure point is established. If not, repeat the procedure.

Clean 14 system.

15. Install the caliper, the brake pads and the wheel.
16. Take the bike from the work stand and check the brake system to normal functioning. Check that no leaks are present, in which brake oil leakage.
17. The bicycle, especially the brake system, again with plenty of warm water and detergent, rinse.
18. Setting the caliper drag free.

#### Replacement of brake oil

**We recommend an occasional replacement of brake oil. Use only Trickstuff "Bionol" ( also possible, but less good: mineral oil, for example from Magura, Shimano), never DOT 4, DOT 5.1 or Trickstuff Ferodo "Super Formula".**

Proceed here as described during venting of the brake. Keep yourself in the disposal of brake oil to the regulations and laws. Brake oil must not enter the sewage system or into natural waters!

### Replacing the brake pads

*Tools: Allen wrench 2.5 / BBB tool*

**Danger:** Never drive down to the backing plate from your brake pads. The friction material of the pads should always have a minimum thickness of 0.5 mm for safety reasons. Regularly check the condition of your brake pads! **Once the pads below the minimum thickness, have to they are replaced.**

Note: All PICCOLA disc brakes with the brake pads wear progresses are automatically adjusted. The slave piston move it out of the caliper housing. For this reason, the pistons must be pushed back into the housing before replacing the brake pads so that the new, thicker coatings can be accommodated.

1. Leave the old pads initially in the caliper and push the slave piston careful with the BBB Tool Tool (alternatively, when removed wheel, using a flat screwdriver) all the way back. Make sure that the force is applied evenly on the plunger so that it does not jam. A piston pushed back diagonally, the piston seal can be damaged, resulting in the brake result in failure. The pistons must be reset without much effort. Is high, the resistance when pushing back the piston, do not force it but check if a piston is jammed, and possibly start again. If the level in the brake system is too high, the pistons can not completely push back. In this case, the bleed screw on the caliper Loosen (do not open! ) And brake drain the oil. absorb oil with a kitchen towel, vent screw seal (2 Nm)
2. Now remove the safety clip and the pad retaining screw and pull the worn pads and spring up out of the lining shaft.
3. Insert the new pads with the spring in the lining shaft and secure it to the lining locking screw. not bring coverings with grease or oil in contact.
4. Pull After the replacement of the linings to the brake lever several times, until a point of pressure is established.  
Setting the caliper again, if necessary grinding free.
5. Check the normal function of the brake system.
6. In order to achieve an optimum braking effect of the new coverings, they must cautiously with 30 brake applications from 30 km / h slowed to 10 km / h!

**service**

The service part is intended for use in the service and repair of PICCOLA- Disc brakes. Read the instructions carefully and keep in mind the procedures described. Repairs to the hydraulic system should be carried out by qualified bicycle mechanics with appropriate equipment so as not to endanger the safety of the driver.

**Troubleshooting**

problem	Possible Cause	Troubleshooting
<b>Wheel grinds on the brake lining</b>	Caliper not aligned in the center	Align the caliper such that the disk passes centrally through the coverings
<b>wobbles disc or bent</b>		For deviations up to max. 0.3 mm: direct disc BBB tool. Otherwise: removal of the windshield
<b>Soft pressure point</b>	Air bubbles in the system	pressure release
	Leak in the hydraulic system	Check hydraulic system for leaks and optionally the component (Refer to "fluid loss" below)
	disc bent	direct replacement of the disc or BBB-Tool
	Unevenly worn brake pads	Replacing the brake pads
	Linings excessively worn, thus far adjusted brake pistons	Pistons push back, renew coverings
	Brake disk is radially inclined between the brake pads	Brake disc is "shielded". Possible cause: warped Bremscheibenaufnahme to the hub => new boss! Caliper base to fork or frame-milling not square => Sockets
	Brake disc is inclined in the longitudinal direction between the brake pads	adjust caliper correctly

<b>Pressure point moves in constant train to the handlebars</b>	defective primary seal of the master piston	can replace primary seal factory
	Scratches leak in the piston path	replacement of the pump housing of the fitting
	screw in Kevlar line; Oil seeps into the interlayer of the line	Line cut 2 cm and carefully re-tighten
<b>dehydration</b> Bleed screw on	Caliper leaking	Bleed screw tighten. Possibly. Insert new seal
	One of the ring connections leaking	Replace the O-rings on the ring connection. <b>Note: The Ring ports used in the brake Piccola are asymmetrical</b>  <b>- the hollow screw may only be inserted from the recessed side!</b>
	leaking bleeder valve on the brake pump	Tighten the screw after careful. Possibly. Insert new seal
	leaky secondary seal of the master piston	Sent brake and let Replace seals in the master piston ( <u>Note - this work can only be carried out at the factory!</u> )
	Slave piston leak	Swap rectangular ring / e in the caliper
<b>No or insufficient braking effect</b>	coverings worn	Replacing the pads
	coverings glazed	roughening coatings on abrasive paper on a flat surface, or replacement of the coverings
	oily or dirty coat / disc	Replacement of the coverings, cleaning of the wafer with water / detergent, isopropyl alcohol or acetone
<b>Loud noises</b>	Coverings lie obliquely on the disk	Align the caliper centered over the disk of
	oily pads / disc	Replacement of the coverings, cleaning of the wafer with isopropyl alcohol or acetone. Determine the cause of the spill and eliminate!

	Caliper or disc or wheel is not fixed firmly enough	Tighten screws or quick release
<b>Brake Levers "rattles"</b>	Storage has game	Replacing the ball bearings. Check ball bearings press fit
	missing or defective lever wide lock ball below the lever joint screws	Insert new nylon balls
<b>Sluggish brake lever</b>	Screw adhesive penetrated lever-ball bearing	Install new ball bearings
	pressed tilted ball bearings	Remove ball bearings and replace it correctly
<b>High operating forces, piston does not recover,</b>	Swollen seals because of improper liquid	Replacement of all seals in the hydraulic system. <u>(Danger</u> - <u>this work can be carried out at the factory are running!</u> )

## **Repair of the caliper / replacement of the seals**

*Tools: Allen wrench 2.5 and SW 5 / Torx T10 / hex nut 10 mm / wooden stick / compressed air*

### **New parts needed:**

- new slave piston seals ("Quad Rings")
- New O-ring for sealing the two caliper halves 8x1 NBR

***Danger: This work will be carried out at the factory. No guarantee on full functionality when executed by other!***

Be careful when handling brake fluid. Wear safety goggles and gloves. Work in a well ventilated workplace.

1. Dismantle brake caliper and brake handle of frame / fork or handlebars.
2. Remove the brake pads.
3. Slide about 4 mm thick, flat tool (eg wrench) as a stop for the piston longitudinally in the brake lining shaft. Press the brake piston by carefully "pumping" the brake lever to the outside.

**4th** Remove the brake line on the brake caliper. Be careful when doing with may outflowing brake oil. Pay attention to the two O-rings on the ring connection.

**5. Open the Jochverbindungsschrauben the caliper. Danger: The Yoke bolts are made of titanium - be sure to use extremely precisely fitting tool! You now have a front (outer) and a rear (inner) caliper half.**

**6.** Remove the O-ring in the rear caliper half. When mounting the caliper later a new O-ring, even if the old seal has no visible damage.

**7.** Screw the bleed screw (Torx T10) out of the caliper half. Press the brake piston with compressed air from the two case halves.

**8.** Remove with a wooden stick (eg. As a toothpick) the rectangular rings from the grooves in the caliper half and dispose of them. Already built rectangular rings must not be used again! to expand the rectangular rings Do not use a metal tool to avoid damaging the surface of the caliper.

**9.** Clean all parts with isopropyl alcohol and blow the cleaned parts carefully with compressed air. Make sure that no residue, dirt, hair, etc. remain in the caliper or on the piston surfaces, otherwise the pistons may leak.

**10.** Begin the installation of the caliper so that you can easily wet the new rectangular rings with (new) brake oil before inserting it into the groove in the caliper. Spread a little oil to the groove in the caliper around.

**11.** Gently press the rectangular rings into the grooves in the caliper. Make sure that the rectangular rings in the groove do not twist and that it around well and deep enough to sit.

**12.** Insert the brake caliper halves so prior to the work surface with the openings facing the piston upwards. Fill the piston chambers with a small syringe brimming with brake oil.

**13.** Press the piston carefully into the piston bore. The flasks should be easy to push. Make sure that the force uniformity to the



Piston acts to prevent them from jamming and damage the seal. Is high, the resistance when pushing the piston, do not force it, but make sure that the piston is jammed and possibly start again. Press the plunger all the way into the cylinder bores. absorb overflowing brake oil with a dry cloth.

14. Repeat the installation procedure for the second caliper half.
15. Place a new O-ring into the groove provided in the inner caliper half.

16. Screw the two caliper halves with the Jochverbindungsschrauben.  
*Tightening torque 12 Nm*

**17th** Mount the brake line. To do this, use new seals. ***Danger: The in PICCOLA brake ring used connections are asymmetric - the hollow screw may only be inserted from the two-stage recessed side.***

- 18 Clean now the caliper and the line completely of brake oil. Use this warm water and detergent and wipe the cleaned parts with a dry cloth to carefully. Do not use brake cleaner because this may damage parts of the brake system!

19. Bleed the hydraulic system and check the function of the brake system.

### **Repair of brake pump / replace the seals**

*Tools: Torx T6 and T10 / angled snap ring pliers snap ring ø11 / compressed air*

#### New parts needed:

- new complete master piston with pre-assembled seals - seals can not be mounted manually!
- new membrane
- new snap ring

**Danger: This work will be carried out at the factory. No guarantee on full functionality when executed by other!**

Be careful when handling brake fluid. Wear safety goggles and gloves. Work in a well ventilated workplace.

1. Dismantle brake caliper and brake pump frame / fork or handlebars.
2. Open the expansion tank by removing the small screw Torx T6 at the bottom of the reservoir cover and take down him. then remove the now visible membrane in reservoir. Use for removing any sharp-edged tools.
3. Vacuum with a small syringe, the brake oil from the reservoir. Collect the old brake oil in a suitable container and dispose of it later with environmental regulations.
4. Remove the brake line from the brake handle. Suck effluent brake oil with a dry cloth.
- 5th** Remove the lever from the pump housing by all four black Lever pivot screw (Allen screw 3 mm) solution. **Danger: These screws are made of aluminum and is factory glued. Be sure to use precisely fitting tool and work with tact!**
6. Make straight up the brake lever.
7. Remove the Seeger ring pliers snap ring on the head side of the brake pump and then remove the ball bar with the attached Totwegscheibe.
8. Now the master piston by itself should come from the piston bore. Shine a flashlight into the piston bore, check the surface of the piston bore and the master piston. Are on the surface scratches or marks to see which parts need to be replaced. The piston seals should be replaced regularly!
9. Clean the pump body carefully and blow him with compressed air from you. Make sure that no residue, dirt, hair, etc. remain, otherwise the master piston could be leaking.
- 10. Set the new Membrane fit into the surge tank. **Caution:** Diaphragm is rectangular, not square! Outward curvature! Put the reservoir cap fit onto the membrane without jamming the diaphragm, and secure it with the Torx T6 screw. Tighten the screw carefully on the block.**
11. Fill the piston bore brimming with brake oil. Patience - the oil sinks to the bottom and flows slowly into the reservoir. Again and again, slowly and little top up. If you work slowly and carefully here, the vent is even easier!
12. Place the return spring on the intended spike at the new, gasketed master piston. Press the plunger slowly and donors

carefully into the filled piston bore. Make sure that the master piston does not tilt so as not to damage the seals. Apply not force it - the master piston can be used in the piston bore normally with little force. absorb overflowing oil with a cloth. Make sure that the secondary chamber is filled with oil before they push the plunger completely.

13. Replace the ball hitch with the ball head into the semi-spherical recess in the master piston. Thread the **Totwegscheibe** via the piston rod and secure the master piston with the new Seeger ring - **important sharp edge of the snap ring outwardly! Check the snap ring to secure fit!**

Fasten 11. finger lever with the four lever pivot bolts. White nylon lever wide blocking balls under the two screws do not to forget!

*Tightening torque 2 Nm.*

12. Install the brake line and bleed the hydraulic system. Then check the brake function.

## Warranty Statement

For our brake systems we provide a continuous on the legal requirements, guaranteed for the period of 24 months (from date of purchase). If defects that affect the materials or workmanship of any part of the brake system is present within this period, the damaged part is by presentation of the original purchase documents repaired at the discretion of the Trickstuff GmbH or replaced. We strive to handle warranty claims within a period of 30 days from the receipt of the damaged component (either from an authorized dealer or directly from Trickstuff GmbH).

**1. The warranty excludes:** This warranty does not cover damages caused by accidents, Amendment and negligence are due. The warranty also does not apply to misuse and abuse in lack of execution of a mounted Repairs in incorrect installation, at incorrectly executed or unauthorized Repairs or not installed correctly of parts in use of parts or accessories that are not expressly approved by Trickstuff. Normal wear, fading of anodized colors and wear through the use of the bicycle are also not covered by this warranty. Furthermore, the warranty does not include any expenses that may arise from transporting or from an authorized dealer, or by the length of working to dismantle the brake system. Compensation for loss of use during the repair period

locked out.

is

**Second Buyer:** This warranty extends only to the original purchaser of the brake system granted and not third parties. The purchaser rights under this warranty may not be sold.

**Third duration:** This warranty is valid for the period of 24 months from the date of purchase and ends the end of this period.

**4th Completion:** If a covered by this warranty damage to your brake system is determined immediately consult an authorized dealer or directly to Trickstuff GmbH. The warranty is void if the buyer continues to use the brakes despite a clearly recognizable damage.

**5th damage:** Unless specifically required by this guarantee, which can Trickstuff GmbH under this warranty consequential be held responsible if the complaint is justified by other contracts, wrongful acts or other remedies for any indirect or. The warranty statements above are only valid and replace all other remedies.

**6th Note:** Keep up during installation, maintenance and repair always adhere to the Information in the manual for your PICCOLA brake system.

### Danger:

If you suspect that a covered by the warranty damage is present in your brake system, you immediately contact an authorized dealer or directly to the Trickstuff GmbH. We ask for a detailed description of the problem or the detected damage. When a suspected or identified damage the brake system must not be used!

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