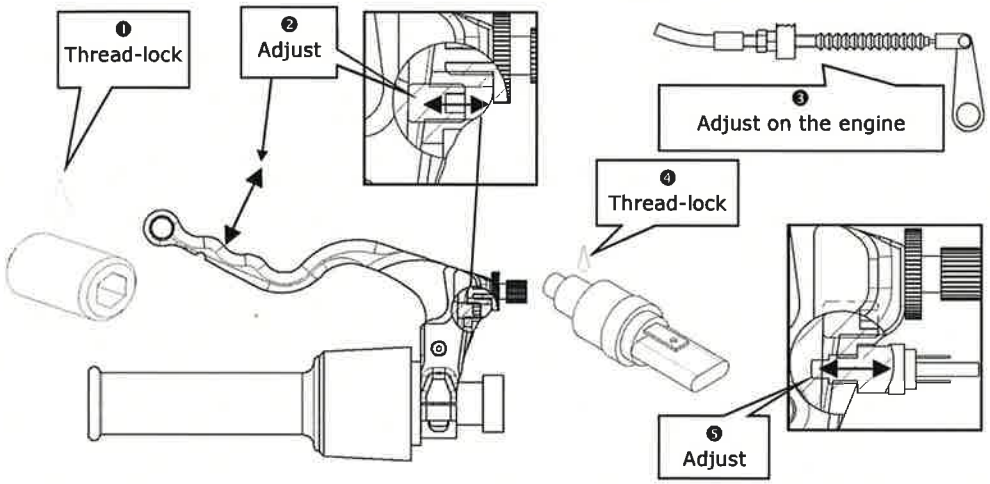
Cable Clutch installation and utilisation

1) Remove the previous system.
2) Install the BERINGER cable clutch (see above instructions concerning the hydraulic master cylinder).
3) Connect the cable.
4) Adjust the clearance of the lever: respect the freedom of the cable when the lever is released.

Instructions and set-up for clutch cable



Rear brake master cylinder MC 12.7

This oscillating master cylinder is entirely mounted with rod ends (aircraft quality)
1) Check pedal position of the boot must NOT touch the pedal
2) If necessary, adjust the pedal position by screwing/unscrewing the ball end
3) Block the locknut
4) **WARNING** Check that the pedal and the piston fully come back in the initial position after pushing



Are not covered by the 1 year guarantee:
- Utilisation for racing or any non-respect of the above-mentioned recommendations shall invalidate the 1year guarantee
- No respect of BERINGER's instructions will cancel the guarantee
- The guarantee shall not cover normal wear, colour ageing, and chromed finish
- Any utilisation with another product that **DOT4**

The best brake is the one properly adapted to the use you want. We stay any time at your disposal for a specific or a race use. Contact us!

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Fax : +33 4 74 04 98 99
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BERINGER

ISO 9001 Registered

ASSEMBLY INSTRUCTIONS GUARANTEE (1year)

→ Must be given to customers

DATE
28 Oct 17
INSPECTOR
Simon

⚠ CAUTION

Brakes are safety parts. You must **read this entirely and respect the instructions for mounting and use. You must also absolutely keep** these instructions, even after the expiry date of the guarantee.

Disc installation and utilisation

1) Firstly, take care to avoid damaging the original assembly screws, etc... when removing the old discs.
2) Check that the new discs are dimensionally compatible with the old ones (diameters, hole drillings).
3) Thoroughly clean the disc mounting position and check that the mounting is not distorted ("out of true" tolerance 0.02 mm).

CAUTION a buckled wheel will distort the disc

4) Remove any packing washers.
5) Tighten the screws, proceeding gradually, in diagonal sequence (use thread locking compound), to the specified torque values:
M5: 0.6 daN.m (4,3 foot-pounds) M6: 1 daN.m (7,3 foot-pounds) M8: 2.5 daN.m (18,1 foot-pounds)
4) The disc must be central in relation to the caliper. It must not rub on either side of the caliper or on its external diameter.
5) *AERONAL DISC*: you have to respect **absolutely** the rotation direction (arrow on the external face of the disc);
6) Check the freedom of rotation of the disc: there must be a 2mm play with any outside part (for example the fixing bolts of the caliper on the fork, ...).
7) *PADS:* - with original calipers : use the BERINGER® corresponding pads.
- with BERINGER 6 piston AEROTEC® calipers : use BERINGER® pads Ref: 1100S (highway use) / 1100R2 (racing use).
- with BERINGER 4 piston axial calipers : use BERINGER® pads Ref: 2654S (highway) / 2654R2 (race).
- with BERINGER 4 piston radial AEROTEC® calipers: use BERINGER® pads Ref: 1200S (highway) / 1200R2 (race).
10) It is **dangerous** not to mount and use the above recommended pads in the BERINGER® calipers as well as in original calipers.

NOTA In certain cases, for example CBR1000 DUAL, VFR-87, 660 XTZ, etc... it is necessary to grind down smoothly the adapter supporting the caliper so that there remains enough clearance (≥ 1mm) with the disc. In fact, to improve the performances, the BERINGER® discs are thicker than the original ones and floating.

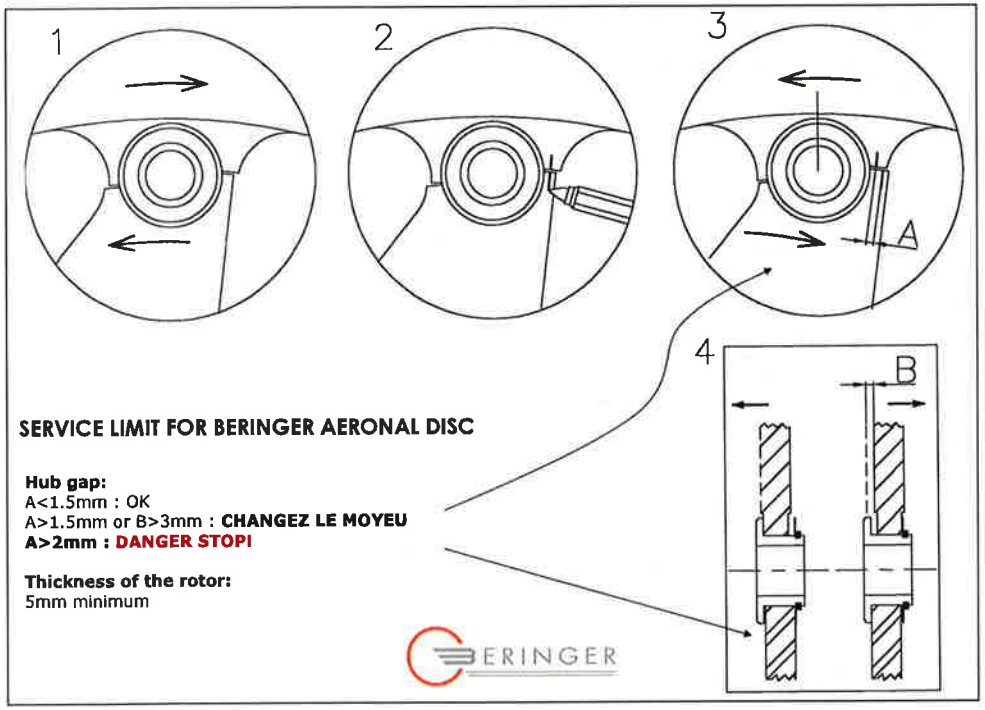
To obtain best results from the braking power and durability (min. thickness 5 mm) of BERINGER® cast iron discs, discs and pads **must** be RUN-IN (fixed, floating, drilled or smooth) for 100 to 300 km, depending upon your riding, using **progressively applied** braking power, without **excessively** heating the discs (avoid violent, repeated or continuous braking). A **perfectly smooth** surface on the discs will indicate that the running in period is completed.

BE CAREFUL The first brakings must be absolutely very light. They are reserved to remove the coating from the braking track. In case of non respecting this, a risk exists of damaging pads and discs (vibrations) not covered by the guarantee. During the running-in period, the braking power will be reduced temporarily.

11) Use brake pads adapted to your style of riding: after the replacement of the pads, you must apply the instructions of the following chapter : *'Installation and utilisation of calipers'*.
12) **Do not forget the running in, after each change of pads.**
13) You must often inspect the friction area of the braking track: it must be brilliant or blue or dark brown. If the area turn to dull (as sandpapered), there's a risk of rapid wear of both discs and pads. This can happen if you do many low brakings or if you ride in the rain for a long time. In that case, it's advisable to do some powerful brakings in order to laminate the pads friction surface and put down a new protective deposit on the discs (see chapter concerning *braking pads*).
14) For cleaning the discs, you must **NEVER** use thinner, neither high pressure cleaner nor basic chemical product. Use water with soap. Rinse with clear water without pressure.

Chrome finish: some parts are delivered in chrome finish. This surface treatment is dedicated to an occasional use of the motorbike. Water neither corrosive substances must never lie on the chrome (example: snow salt....) This would cancel the warranty. The damages caused by pea gravels are not covered by the guarantee.





SERVICE LIMIT FOR BERINGER AERONAL DISC

Hub gap:
A<1.5mm : OK
A>1.5mm or B>3mm : **CHANGEZ LE MOYEU**
A>2mm : DANGER STOP!

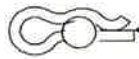
Thickness of the rotor:
5mm minimum

Calipers installation and utilisation



BERINGER® calipers are installed as direct replacements of the original parts, with no adapter plate (except for special kits). However, some calipers are supplied with packing shims to compensate any inaccurately machined fork barrels. It should be pointed out that BERINGER® 6-piston calipers need to be perfectly aligned with the discs.
During assembly, particular care should be given to the following points:

1) The assembly screw threads (use thread locking compound) must penetrate the entire tapped hole in the calipers, without protruding on the other side (assembly screws must never touch the discs).
Tighten to torque M10: 4 daN.m. (29 foot-pounds) M8: 2.5 daN.m (18,1 foot-pounds)
2) The disc must be central in relation to the caliper. It must not rub on either side of the caliper or on its external diameter.
3) **Use only DOT 4 approved brake fluid.** Never use non-mineral silicone *"racing"* fluid (non-miscible).
4) For perfect fluid purging, it is recommended that the caliper be removed from the fork and that a packing shim be inserted between the pads (to prevent the pistons from coming out completely). The caliper should then be rotated through all positions, and tapped lightly to cause any air bubbles to rise to the bleed valve(s).
Tighten torque : *bleed nipple* : 1 daN.m (7.5 foot-pounds) *feeding screw* : 1.7 daN.m (12,7 foot-pounds)
5) **You must bleed the master-cylinder** (even if it has not been changed).
6) After been pushed down, the piston of the master-cylinder must come back quickly, entirely, freely and smoothly in its maximum up position of rest so that the braking circuit may be at the atmospheric pressure.
7) **Pads replacement:** - Remove the used pads
- Clean the pistons carefully with a dry and not linty cloth
- Push down the cleaned pistons in their housing
- Put the new pads as shown next depending on the type of calipers and run-in them following the instructions above



- 2 and 4 piston axial calipers: be sure that the b pins are sunk totally deep into the axes supporting the pads
- 4 and 6 piston radial AEROTEC® : unscrew the guide screw, replace the pads (take care of rotating side), put thread lock compound on the screw, tighten to 1,2 daN.m (8,6 foot-pounds)

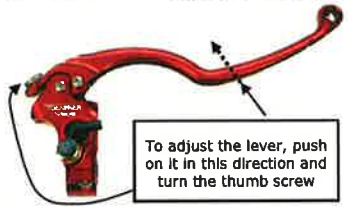


CAUTION From now on there will be an immediate change in braking power. Brake lever operation will occur a considerable deceleration of the motorbike. BERINGER cannot accept any responsibility for the consequences of poorly controlled braking power.

8) For cleaning the caliper, you must **never** use thinner, neither high pressure cleaner nor basic chemical product. Use water with soap. Rinse with clear water without pressure. Do not blow the calipers with compressed air.
9) You must change your brake fluid at least every two years (normal use) or after each race (racing conditions) with **approved DOT 4.**

Chrome finish: some parts are delivered in chrome finish. This surface treatment is dedicated to an occasional use of the motorbike. Water neither corrosive substances must never lie on the chrome (example: snow salt....) This would cancel the warranty. The damages caused by pea gravels are not covered by the guarantee.

Hydraulic master cylinder installation and utilisation





1) Remove carefully the previous master cylinder without introducing air in the calipers.
2) Fit the BERINGER® AEROTEC® RADIAL master cylinder and adjust its position considering the optimum position to grip the lever (the gap can be adjusted with the thumb wheel) and tighten slightly the two fixing bolts.
3) Connect the hose(s) from the calipers to the feeding screw of the master cylinder.
4) Connect the feeding hose of the reservoir.
5) Move the handlebar to the right and the left stop so that you may check the following points:
   - The master cylinder must not enter in contact with some parts of the motorbike (for example cables, air hoses, fairing, ...).
   - The hose(s) must not (in any case) pull the body of the master cylinder.
   - The feeding hose is not nipped and allows the atmospheric pressure of the master cylinder.
6) Unscrew the fixing bolts and adjust the position of the master cylinder to allow an easy upward motion of the air bubbles up to the bleed valve. Screw slightly.
7) Tighten the feeding screw with the recommended torque 1.7 daN.m (12,7 foot-pounds).
8) Bleed the master cylinder with the bleed screw using only **DOT 4 approved** brake fluid coming from a new and closed container; Do not use any other *'racing'* silicon fluid (non miscible).
9) As the bleed valve is opened, move back the pads when rotating the master cylinder to remove the eventual air bubbles from the banjos.
10) To obtain a perfect bleed, it is better to remove the master cylinder from the handlebar, to rotate it in all the possible positions and to tap it slightly to allow any small air bubble to move up to the bleed screw.
11) It is imperative that no air bubble remain in the braking system.
12) Screw the bleed screw with the recommended torque 1 daN.m (7.5 foot-pounds), adjust properly the position of the master cylinder and screw the fixing bolts with the recommended torque: 1 daN.m (7,5 foot-pounds).
13) After depressing it, the piston of the master cylinder must come back quickly, entirely and freely without any bump in its maximum rest position to allow the atmospheric pressure in the braking system. If you push on one piston of the caliper, the braking fluid level must go up in the reservoir of the master cylinder.
14) **For cleaning the master cylinder, you must never use thinner, neither "brake cleaner", nor alcohol, nor pressure cleaner.**
15) Replace the brake fluid at least every two years (normal use of the motorbike) or after each race (competition) and use **homologated DOT4** coming from a new and closed container; Do not use any other *'racing'* silicon fluid (non miscible).

