TECHNICAL SPECIFICATIONS FOR RADIAL MASTER CYLINDERS

5 Reasons to Choose an Accossato master cylinder

1. Aesthetic appeal: because the eye deserves attention too. Place multiple Accossato master cylinders of the same model on a table and compare their shape, dimensions, and aesthetics – they will all appear identical!

2. Diverse Range: With over two hundred models of radial master cylinders at your disposal, including standard and "black edition" with colored levers.

3. "Made in Italy" Quality: All Accossato radial master cylinders are manufactured in Italy. Every component is designed to ensure a significant reduction in the lever's passive stroke during braking for the end user. By pulling the lever, the space between initiating the lever and the actual braking moment is reduced by over 50%, compared to any other radial master cylinder.

4. Quality Control: Before being assembled and introduced to the market, all Accossato radial master cylinders undergo 100% control and testing in every part.

5. Stainless Steel Hardware: All fasteners of Accossato radial master cylinders are made of stainless steel. The master cylinder's fixing bracket is designed off-center to reduce master cylinder flex during braking.

Models and Usage Recommendations

Paired with an Accossato brake hose kit and Accossato Racing brake oil, the Accossato radial master cylinder becomes the winning weapon for all sport bikes, making your bike's braking safer. There are multiple versions of brake master cylinders, each with different types of levers and construction technicalities. However, the piston size and lever spacing are crucial factors in choosing the right master cylinder.

In the master cylinder description, you'll find two values, for example, 19 X 18:

1. The first number indicates the piston diameter.
2. The second number indicates the lever spacing.

There is a wide selection of master cylinders with different piston diameters:

- Ø14 mm Piston
- Ø15 mm Piston
- Ø16 mm Piston

  Note: The 16 mm diameter version is ideal for single-disc systems (as the 19 mm version would make the braking too abrupt).

- Ø17 mm Piston
- Ø19 mm Piston

  Note: The 19 mm diameter version is ideal for dual-disc systems.

Possible lever spacings include:

- 16 mm Lever Spacing

  Note: A softer version, allowing for less force on the lever but extending its stroke.

- 18 mm Lever Spacing

  Note: Still a track-oriented version but recommended for road use.

- 19 mm Lever Spacing

Note: A mixed track-road version, although an 18mm spacing is preferable for road use.

- 20 mm Lever Spacing

  Note: The most responsive version (shorter lever stroke). However, at the same force exerted on the lever, the greater distance between the lever fulcrum and the master cylinder axis increases the force required for braking. Not recommended for road use.

- PRS 17-18-19mm

  Note: Suitable for all uses as the lever spacing can be adjusted according to preference and usage.

- PRS 15-16-17 for the clutch master cylinder

  Note: Suitable for all uses as the lever spacing can be adjusted according to preference and usage.

Note: With the same force applied to the lever, the larger the lever spacing, the greater the force required for braking.

Technical Brake Master Cylinder Overview

Warranty The warranty on Accossato master cylinders is valid for a duration of 24 months from the invoice date. Failure to submit these documents does not entitle the user to warranty benefits.

Accossato Radial Master Cylinder Revisions

The revision of the Accossato master cylinder is carried out within 1 working week of receiving the radial master cylinder. The revision includes:

- External inspection of the product
- Disassembly of the master cylinder in all its parts
- Visual inspection under a microscope of each master cylinder component
- Visual inspection inside the master cylinder body
- Replacement of internal seals + oil fitting gasket

- Assembly of all parts
- Static master cylinder test
- Dynamic master cylinder test

The replaced parts are scrapped, and from the moment of revision, the master cylinder acquires an additional 12 months of warranty upon presentation of the invoice.

An additional revision (the second one) does not extend the product warranty. Lever replacement and/or other external components not mentioned are not included in the revision.

In case of a fall, the revision is carried out only if the essential conditions are met for the master cylinder to return to optimal working conditions, equivalent to a new master cylinder.

Master cylinder Serial Numbers

Each purchased Accossato radial master cylinder is unique and possesses a serial number below the master cylinder body bracket or on the side, making it individually identifiable from all other radial master cylinders. Removal of this serial number results in the loss of warranty and assistance.

Piston and Internal Seals

The piston and seals are made with materials designed for sports competition and are thoroughly verified and assembled according to the strictest control procedures in Accossato laboratories.

Master cylinder Body

Master cylinder bodies are made in two different types: forged aluminum or CNC-machined. The treatment is hard oxide, providing high resistance over time.

Stop Light Switch

Available on the “Ready to Brake” model with integrated microswitch. Other versions do not include the switch. Alternatively, an M10x1 hydrostop can be purchased.

Lever Distance Adjustment

All master cylinders have a front adjustment that allows the rider to adjust the lever distance from the handlebar as desired with a simple rotation. A remote cable control can be ordered as an option, to be placed on the clutch side (adjust the lever distance without having to stop at the pit!).

How to Replace an Accossato Brake/Clutch Master cylinder

Before starting the disassembly, remove motorcycle parts that may obstruct tool and master cylinder passage once disassembled (covers, mirrors, etc.). To prevent brake fluid from soiling the bike, cover the areas under the master cylinder with a cloth or absorbent paper.

Disassembly

1. Remove the brake light switch and brake signal cable if present on the old master cylinder.

2. Loosen the liquid outlet fitting enough to move the master cylinder freely without risking damage to the pipes and to later unscrew the tube from the disassembled master cylinder.

   Caution: Protect parts of the motorcycle that may come into contact with brake fluid during this operation.

3. If necessary, disassemble the brake fluid reservoir, leaving the connecting tube attached to the master cylinder.

   Caution: Droplets of liquid may fall on the bike while moving the reservoir.

4. Unscrew the bracket locking screws and move the entire master cylinder assembly away from the handlebar.

   Caution: Perform these disassembly operations with utmost care, ensuring that brake fluid does not come into contact with vehicle parts that may be damaged (e.g., painted parts, plastics, rubber parts).

5. To avoid oil leaks during disassembly, keep the master cylinder higher than all brake system parts. Rotate the master cylinder when possible so that the brake fluid outlet fitting faces upward.

   Use a cloth or absorbent paper to catch any oil leaks.

6. Completely unscrew the brake fluid outlet fitting (previously loosened).

   Caution: Immediately plug the hole with a cloth or paper to prevent oil leakage, always keeping the hole facing upward.

7. Empty the master cylinder and reservoir by pouring and letting the liquid drain into a suitable container.

   Use the plastic cap that protects the hole of the new master cylinder to plug the old master cylinder's hole.

8. Keep or dispose of the old master cylinder assembly and dispose of the liquid according to applicable laws.

Assembly

1. Hand-thread the liquid outlet fitting (1) onto the new ACCOSSATO master cylinder assembly.

Caution: To prevent the fitting from leaking once mounted, it is advisable to replace all copper washers (2) with new ones of the same type.

Before threading the fitting, ensure it is compatible with the new master cylinder (M10x1 thread on master cylinder body).

2. Position the new master cylinder assembly on the handlebar.

3. Arrange the bracket (3) and the reservoir support bracket (12) and screw the two stainless steel screws (4-5). Before tightening the screws, place the lever in the desired position.

   For correct assembly, tighten the screws alternately, i.e., once manually brought close, start tightening the upper screw (4) by half a turn, then move to the lower one (5) and also make half a turn with the key. Repeat the process until a tightening torque of 10 Nm MAX is reached on both screws.

4. Tighten the liquid outlet fitting (1), which was hand-threaded previously, with a torque of 20-23 Nm.

   Caution: Proper tightening torque of the fitting, along with the new copper washers, prevents liquid filament leakage from the connection and is also necessary to avoid thread breakage in the master cylinder body.

5. Mount the reservoir (6) along with the tube (7).

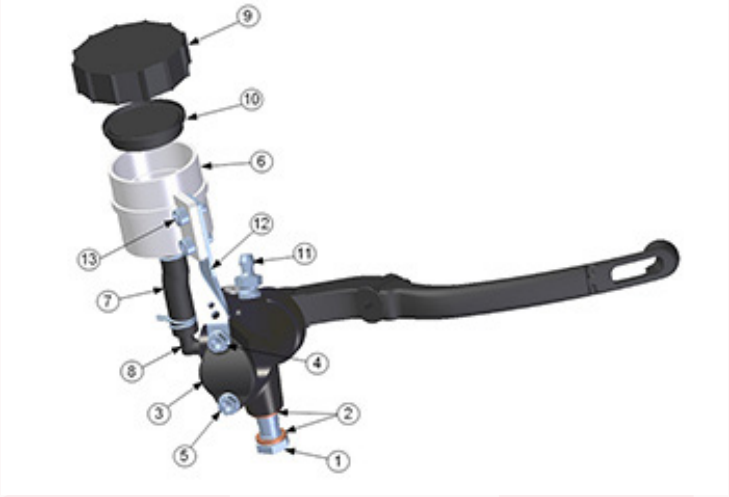
6. Connect the reservoir with the tube to the master cylinder's fitting (8).

7. Secure the reservoir to the bracket (12) with the screws (13).

8. Once the master cylinder assembly is mounted, restore the brake fluid level (use only DOT 4) in the reservoir and perform the bleeding.

   Before performing these operations, check that no "siphons" have formed in the pipes as they would hinder the correct air outflow in the pipes.

   To do this, make sure that the folds and bends of the conduits never exceed the master cylinder's height.



Bleeding the Accossato Brake/Clutch Master cylinder

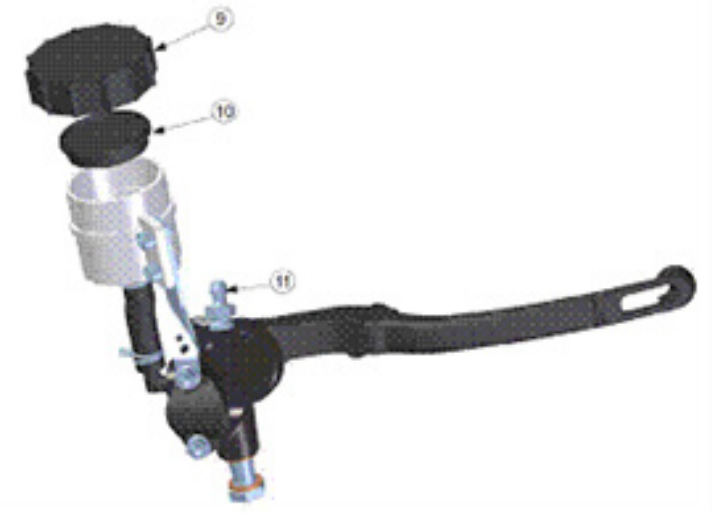
1. Remove the brake fluid reservoir cap (9) and the diaphragm (10).
2. Refill the brake fluid reservoir with new oil.

   Caution: Ensure that the fluid in the system is compatible with the new fluid in the reservoir; otherwise, replace it completely.
3. 3Remove the rubber cap from the bleed screw (11) and connect a rubber tube (preferably transparent to see the passage of liquid and air).

   Caution: Collect the liquid in a suitable container for proper disposal.

Now follow this procedure:

1. Loosen the bleed screw (11).
2. Pull the lever.
3. After 2/3 seconds, close the bleed screw without releasing the lever.
4. Release the lever. Repeat steps 1 to 4 several times.



With the bleed closed, the lever should become progressively harder to pull until, upon opening the bleed, only liquid comes out of the tube without the presence of air bubbles. Remove the oil recovery tube, tighten the bleed screw with a torque of 8-10 Nm. Clean the bleed screw (11) with a cloth and cover it with the rubber cap. After performing this procedure, it is necessary to restore the oil level in the reservoir to the MAX level.

Caution: During the bleeding operation, always check and, if necessary, restore the fluid level in the reservoir to prevent it from running out. Use a damp cloth to clean the parts of the motorcycle that have come into contact with brake fluid.

Caution: On road motorcycles, installing the IDROSTOP command, also sold by ACCOSSATO, is necessary for the brake signal light to function. Dispose of the fluid leaked during the bleeding operation in accordance with applicable laws.

How to Replace an Accossato Brake/Clutch Lever

1. Position the master cylinder to allow easy extraction of the 1.5 mm diameter elastic pin (1) with a suitable pin punch.

2. Caution: Place the adjustment knob on a safe and stable surface, being careful not to bend the threaded pin during the pin extraction operation.

   After removing the elastic pin, extract the adjustment knob (5) from the threaded pin.

3. Continue by removing the safety clip (2) and the pin (3) from the master cylinder - Rotate the threaded pin (6) clockwise (with a screwdriver) until the lever is extracted.

4. Extract the pin (4) and insert it into the new lever.

5. Insert the new lever onto the master cylinder and rotate the threaded pin (6) counterclockwise (with a screwdriver) until the lever is correctly positioned.

6. Now, re-insert the pin (3) into the master cylinder and the safety clip (2).

7. Insert the adjustment knob (5) onto the threaded pin and insert the 1.5 mm diameter elastic pin.

   Caution: Place the adjustment knob on a safe and stable surface, being careful not to bend the threaded pin during the pin insertion operation.

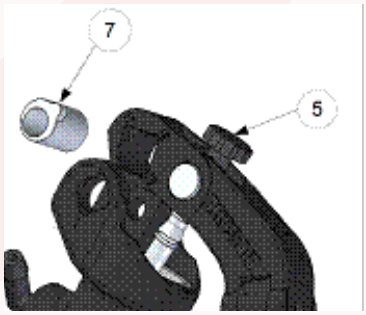
8. Check the correct operation of the lever and the adjustment by tightening and loosening the adjustment knob.

How to Adjust the Lever Spacing on PRS Brake/Clutch Master cylinders

With the Accossato PRS brake/clutch master cylinder, it is possible to adjust the lever spacing without replacing the lever. Example of lever spacing modification from 18 to 17 on the brake lever. Master cylinder adjusted with 18 lever spacing.

1. Position the master cylinder to allow easy extraction of the 1.5 mm diameter elastic pin (1) with a suitable pin punch.

   Caution: Place the adjustment knob on a safe and stable surface, being careful not to bend the threaded pin during the pin extraction operation.



2. After removing the elastic pin, extract the adjustment knob (5) from the threaded pin.

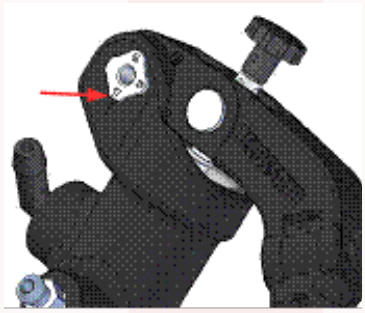
3. Continue by removing the safety clip (2) and the pin (3) from the master cylinder - Rotate the threaded pin (6) clockwise (with a screwdriver) until the lever is extracted.

4. Extract the pin (4) and insert it into the new lever.

5. Insert the new lever onto the master cylinder and rotate the threaded pin (6) counterclockwise (with a screwdriver) until the lever is correctly positioned.

6. Now, re-insert the pin (3) into the master cylinder and the safety clip (2).

7. Insert the adjustment knob (5) onto the threaded pin and insert the 1.5 mm diameter elastic pin.



FAQ

1. **How to handle a fall?**

   Since the radial master cylinder is a safety component, it is strongly discouraged to attempt to resume riding after a fall, especially if malfunctions of the master cylinder are suspected.

2. **Are there Accossato master cylinder overhaul kits?**

   There are no official Accossato overhaul kits to ensure the safety of our customers.

3. **What is the blue seal on the master cylinder?**

   It is the warranty seal on the master cylinder: removing it does not entitle to any assistance or overhaul.

4. **What brake fluid should be used?**

   Accossato recommends using DOT 4 Accossato Racing brake fluid specifically designed for demanding customers who expect maximum performance from their braking system. Exercise

caution when using different brake fluids on the market, especially DOT 5.1 with a high boiling point: this fluid must be removed from the braking system immediately after racing or single use. Failure to remove this fluid promptly may damage the master cylinder seals.

5. **To what torque should the bleed screw be tightened after bleeding?**

   Accossato recommends tightening the bleed screw with a torque wrench to 8-10 Nm. It is discouraged to attempt to tighten the screw by hand without measuring the torque. After bleeding and closing the bleed screw, blow compressed air around the screw to remove any remaining oil trapped in the thread crests and the central hole with a diameter of 3mm.