

**⚠ WARNING! READ THE FOLLOWING INFORMATION AND INSTRUCTIONS VERY CAREFULLY. NOT DOING SO COULD LEAD TO SERIOUS INJURY AND/OR AFFECT YOUR LEGAL RIGHTS.**

## SAFETY INFORMATION

Brakes are a critical safety related component of a bicycle. Improper set up or use of brakes may result in reduced braking power and, thus, loss of control of the bicycle which could ultimately cause serious injury or even death.

Bleeding is one of the most important steps to assure the perfect functioning of any hydraulic braking system. The goal of bleeding is to remove the air in the braking system. Any air inside a hydraulic braking system reduces its performance. **FORMULA STRONGLY RECOMMENDS THAT YOU AVOID BLEEDING YOUR BRAKES YOURSELVES BUT HAVE AN EXPERT MECHANIC PERFORM THIS DELICATE AND CRUCIAL FUNCTION FOR YOU.** Should you decide to perform it yourself, follow these instructions very carefully and please remember that you do so at your own risk.

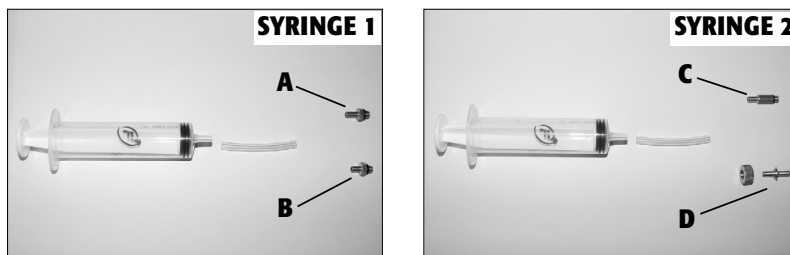
Use only DOT.4 fluids with your Formula brakes. Do not use a fluid other than the DOT.4 fluids suggested. Doing so will damage the system and make the brakes unsafe to use.

**⚠ WARNING! The DOT.4 fluid used in this braking system may be dangerous to your eyes or skin upon contact. ALWAYS WEAR APPROPRIATE GLOVES AND GOGGLES WHEN BLEEDING YOUR FORMULA BRAKES. In case of accidental contact, rinse your eyes and/or skin abundantly with running water. In case of contact with your eyes seek immediate medical assistance.**

DOT.4 fluids also damage painted surfaces. If any fluid comes in contact with a painted surface, wipe it off immediately and clean with isopropyl alcohol. Do not allow any brake fluid to come in contact with the brake rotors. If this occurs, clean the rotors with isopropyl alcohol. Do not allow any brake fluid to come in contact with the brake pads. If this occurs, the pads are contaminated and must be replaced. Do not touch the braking surface of any rotor with your bare hands, because the oils from your fingers will degrade its performance. Always wear gloves, or handle the rotor by its spokes. Disc brakes become very hot during use. Do not touch the caliper or rotor immediately after use. Make sure the brake has cooled down before making any adjustments.

## BLEEDING PROCEDURE (ORO, B4, 4 RACING XC/FR/DH, EXTREME)

1:



- Assemble the syringes as illustrated in the figure, using the connectors as specified here below:

### SYRINGE 1

CONNECTOR **A**: ORO, B4, 4 RACING, EXTREME

CONNECTOR **B**: EVOLUZIONE

### SYRINGE 2

CONNECTOR **C**: ORO, B4, 4 RACING, EXTREME

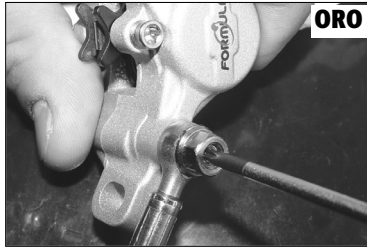
CONNECTOR **D**: EVOLUZIONE

2:



- Fill SYRINGE **1**, with approximately 20 ml of DOT4 oil, using the connector **A**.

**3:**



- Remove the security dowel on the calliper attachment screw.



**WARNING! Take care with the O-ring seal**

**4:**

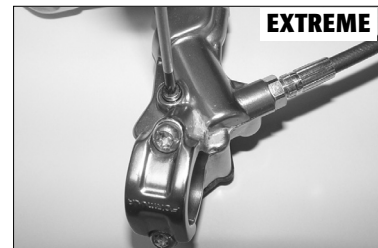
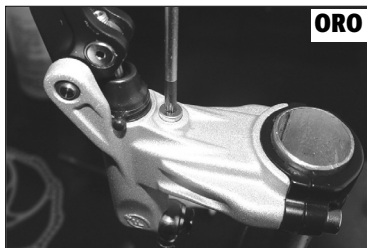


- Insert the suction syringe (SYRINGE 1) into the hole and the brake disc as a spacer for the calliper.



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**5:**



**ORO:**

- Overturn the pump, placing the lever in a vertical position.
- Remove the pump tank screw.

**4 RACING XC - B4:**

- Hold the brake lever in an upright position.
- Use a screwdriver to remove the pump cover.
- Remove the pump bleeder screw.

**EXTREME:**

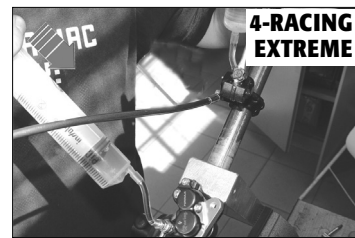
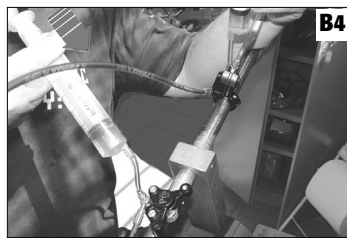
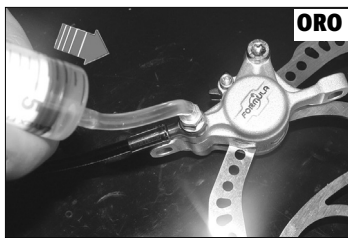
- Turn the pump over (180°).
- The pump cover does not need to be removed for this type of brake.
- Remove the pump bleeder screw.

**6:**



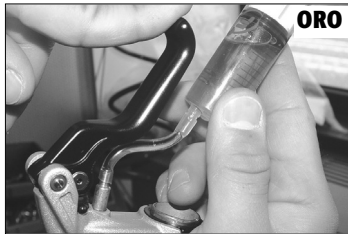
- Screw the second suction syringe (SYRINGE **2**, using the connector **C**) – filled with a minimum amount of oil - into the hole.

7:



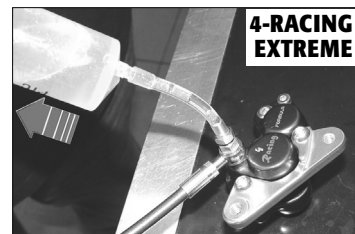
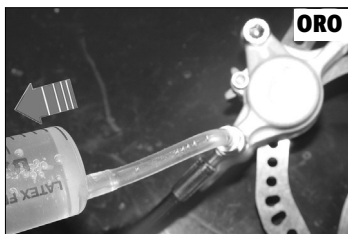
- With both syringes inserted into the holes, press down on SYRINGE 1 on the calliper to pass the oil through, making sure you always leave a small amount of oil in the syringe itself.

8:



- Move the pump lever to its limit position to close the connection with the tank.

9:



- Keeping SYRINGE 2 in an upright position, create pressure by pulling the plunger of SYRINGE 1 upward. Repeat this operation 3-4 times, making sure that any air present in the form of bubbles has been expelled from the calliper and collected in SYRINGE 1 (when there is no air left in the calliper, the suction movement of SYRINGE 1 becomes harder).

**⚠ WARNING! Make sure that, during the suction stage, the level inside the pump syringe does not descend too far. Although closed, the pump piston o-ring is devised to work when pressurized and not when depressurized, which means that a blow-by may occur at this stage. If the level descends too far, move the lever away from the handlebar and keep a low pressure on the syringe, refill the syringe connected to the pump.**

10:

- Hold down the lever and release it slowly, pressing down on SYRINGE 1 on the calliper at the same time. This way the oil will begin to flow.  
Pass oil from SYRINGE 1 to SYRINGE 2, 2-3 times to make sure that the air has been bled out perfectly.

11:

- Remove SYRINGE 1 from the calliper and refit the grub screw.

**⚠ WARNING! Tighten the bleeder valve correctly making sure you do not damage the inner o-ring.**

12:



**⚠ WARNING! Before removing SYRINGE 2 from the pump, test the brake action a few times and press down on the brake itself to make sure that the diaphragm is in the correct position.**

- Remove the SYRINGE 2 from the pump.

**⚠ WARNING! Be careful of any oil leakage from the tank.**



- Check the amount of oil and top up if required.
- Refit the pump tank screw.

**⚠ WARNING! After bleeding the air, make sure that no oil has dripped onto the brake pads due to the incorrect operation of the braking system. If there is any oil on the brake pads, replace them before use.**

## BLEEDING PROCEDURE (EVOLUZIONE)

**1:**

- Assemble SYRINGE 1 as illustrated previously, using CONNECTOR B.



**2:**

- Remove the breather situated on the caliper using an 8mm wrench, after having removed the rubber cap.



**3:**

- Insert the empty syringe with the union in the breather hole.



**4:**

- Place the pump horizontally and remove the cover, as shown in the figure.



**5:**

- Utilising the empty syringe, suck out all the old fluid.
- Remove the syringe, empty it and fill it with 20ml of DOT 4 brake fluid or superior.
- Refit the syringe in the hole, position it vertically and introduce new oil until the tank is full.

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**6:**

- Move the lever to the handlebar with an elastic.



**7:**

- Keep the syringe upwards and suck out the air that may be present in the caliper.

**⚠ WARNING! Check that during the vacuum phase the oil level in the tank does not lower too much. This is due to the structure of the piston gasket.**

**⚠ WARNING! Before removing the syringe it is necessary to free the pump lever that has been previously fixed. Check that the tank is full of oil; if necessary, push the syringe plunger to send up the oil level.**

- Remove the elastic holding the lever against the handlebar.
- Remove the syringe and refit the breather.

**⚠ WARNING! Be careful of any oil leakage from the tank.**

- Fill the tank with DOT4 oil.
- Pull the pump lever a few times.
- Refit the membrane and the cover on the pump.

**8:**

- Put a shim between the pads (2.5mm).
- Pull the brake lever with force for 3-4 times to check the system strength and the presence of air in the tank.

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