

Bleeding SmartBrake

Guide for Technicians

This guide describes how to prepare, bleed and inspect the SmartBrake hydraulic braking system.

It is intended as a supplement to “**Information for the Installer – SmartBrake**” and to the bleeding instructions provided by the manufacturer of the installed brake caliper.

1. Before starting

Always use **mineral oil approved for the installed brake caliper**.

Do not use DOT brake fluid, and do not mix different types of mineral oil.

Before starting:

- Protect the brake disc, rim, tyre and brake pads from mineral oil.
- Remove the brake pads and install an appropriate bleed block if required by the caliper manufacturer.
- Make sure that the syringes, hoses and tools are clean.
- The SmartBrake bleed port uses a **SRAM/Avid bleed fitting**.
- Use a **Torx T10** tool for the SmartBrake bleed screw.

2. Deactivate SmartBrake

SmartBrake must be deactivated before bleeding.

Press and hold the activation button for approximately three seconds. The unit will flash red twice, and the motor will retract completely.

This is important because the piston must be fully retracted to allow sufficient mineral oil to enter the hose and hydraulic system.

For a **SmartBrake Hybrid** installation, make sure that the adjustment screw underneath the Hybrid brake lever is fully backed out before bleeding.

3. Open the SmartBrake unit

The SmartBrake bleed port is located underneath the top cover.

1. Remove all nine T10 self-tapping screws for plastic from the underside of the brake unit.
2. Carefully lift off the top cover.
3. Make sure that no internal cables or connectors are pulled, disconnected or damaged.

4. Bleeding the system

Position the SmartBrake unit so that **the SmartBrake bleed port is the highest point in the hydraulic system.**

The caliper should be positioned lower than the SmartBrake unit. Avoid loops or elevated sections in the brake hose where air could become trapped.

1. Connect a syringe containing the correct mineral oil to the caliper bleed port.
2. Connect a second syringe to the SmartBrake bleed port.
3. Keep both syringes as upright as possible, with any air inside the syringes positioned at the top.
4. Slowly push mineral oil from the caliper towards the SmartBrake unit.
5. Carefully move the mineral oil backwards and forwards between the syringes several times.
6. Gently tap the caliper, hose connections, brake hose and SmartBrake unit to release trapped air bubbles.
7. Carefully move and reposition the brake hose so that trapped air can travel upwards towards the syringe connected to SmartBrake.
8. On a SmartBrake Hybrid system, gently operate the Hybrid brake lever several times to release air trapped in this part of the system.

Continue until no additional air bubbles appear in either syringe.

Make sure that neither syringe becomes sufficiently empty for air to enter the hydraulic system.

5. Completing the bleeding procedure

Keep the SmartBrake bleed port as the highest point in the system throughout the closing procedure.

1. Check that no additional air bubbles are entering the syringes.
2. Close the clamp or valve on the hose connected to the SmartBrake syringe. Do not apply additional pressure to the syringe.
3. Disconnect the syringe from the caliper and install the caliper bleed screw according to the caliper manufacturer's instructions.
4. Reopen the hose connected to the SmartBrake syringe.
5. Check again for air bubbles. If necessary, gently tap the hose and SmartBrake unit.
6. Make sure that mineral oil is present all the way up to the SmartBrake bleed-port opening.
7. Close the hose, disconnect the syringe and carefully install the SmartBrake bleed screw.

Important: SmartBrake bleed screw

The SmartBrake bleed screw must only be turned **gently until it is seated**.

Do not overtighten it.

Overtightening can compress or deform the seal incorrectly. This may allow the system to draw air in and out, even though the bleed port appears to be sealed and there is no visible external leakage.

Clean away any mineral oil and carefully inspect the bleed ports and hose connections.

6. Reinstalling the top cover

Before reinstalling the top cover, check that all internal cables are correctly positioned.

No cables should be trapped between the top and bottom sections of the housing.

1. Carefully position the top cover.
2. Check that it is correctly aligned around the complete SmartBrake unit.
3. Reinstall the nine self-tapping screws for plastic.

When using a drill or electric screwdriver, use a low speed and **torque setting 1**. The screws must only be tightened gently.

Check that the top cover sits completely flush against the bottom housing around the entire unit.

Should there still be a visible gap, tighten the relevant screws carefully by hand using a screwdriver.

7. Inspection after bleeding

Before the bicycle is handed over or used:

- Activate SmartBrake and check that the brake responds quickly and consistently.
- Check that the brake releases fully when it is deactivated.
- Check that the hydraulic response does not feel soft or spongy.
- Check that all brake levers and controllers operate as intended.
- Test the brake while the bicycle is stationary.
- Carry out a test at low speed in a safe area.
- Inspect all bleed ports, hoses, splitters and hydraulic connections for leakage.
- Check that all hoses, cables, covers and the SmartBrake unit are securely and professionally installed.

Activate the parking brake and leave it applied for a minimum of **30 minutes**.

After 30 minutes, carry out another inspection for leakage, paying particular attention to:

- The SmartBrake bleed port
- The caliper bleed port
- Brake-hose connections
- Hydraulic splitters
- Connections used in the Hybrid system

The brake must not be handed over or used if:

- The braking response is delayed
- The hydraulic pressure changes
- The brake feels soft or spongy
- There are any signs of leakage