



## BRAKE FLUID EXTRACTOR

Thank you for choosing this fine product from GRIOT'S GARAGE. YOUR BRAKE FLUID EXTRACTOR is simple to operate and suitable for changing fluids in the main brake system of all cars. It's the easiest way to bleed brakes by yourself without the use of an air compressor.

### USEFUL INSTRUCTIONS

The BRAKE FLUID EXTRACTOR comes with a 1.056 gallon (4 liter) polypropylene/nylon container, main suction tube with fittings, a red in-line valve and a reservoir refill bottle. Start by connecting the main suction tube to the hole in the top of the BRAKE FLUID EXTRACTOR.

Before removing the cap from your vehicle's brake fluid reservoir (master cylinder), clean all dirt off the top of the reservoir. This prevents foreign matter from entering the brake system. Remove the cap from the brake fluid reservoir. Using the pump handle, pump 3 to 5 times to create a vacuum in the container. Use the red rubber fitting on the clear tube to suck out all the old fluid from the reservoir. If you're not getting any suction, adjust the red in-line valve so air and fluid can flow through the tube. Avoid mixing the old and new brake fluid. Fill the blue reservoir refill bottle with new brake fluid and place the tip into the reservoir (master cylinder). New fluid will automatically flow into the reservoir and keep it full while bleeding.

For electronic ABS brake systems, turn the key to the "ACC" position, press the brake pedal and put the gear selector to the "D" position. Do *not* start the engine. The valve will open and allow brake fluid to flow out at the calipers when the bleeder screw is loosened. When changing or repairing the master cylinder, calipers or wheel cylinders, it is necessary to press the brake pedal twice to push out the air that is inside.

**Quick Tip:** Always start with the furthest wheel and work your way in towards the closest wheel in relation to the brake fluid reservoir/master cylinder location. This usually means the right rear, left rear, right front and finishing up with the left front. Put the appropriate size wrench onto the bleeder screw. Place the red rubber fitting, on the end of the clear, plastic tube, onto the bleeder screw. (We recommend that you put some grease, like our Super Impact Grease, item number 45104, around the bleeder screw beforehand to prevent air from leaking through the screw threads.) Pump the handle of the BRAKE FLUID EXTRACTOR 3 to 5 times to create a vacuum. Once under vacuum, loosen the bleeder screw allowing brake fluid to be sucked out. The red, in-line valve on the tube can be opened or closed to control the amount of fluid being extracted. If the suction pressure is too high, air will go into the seal of the wheel cylinder or caliper when the fluid is removed. It will be difficult to push air out from the brake system.

As the old brake fluid flows out, the fluid level will be replenished by the reservoir refill bottle. If the fluid does not flow out smoothly from the bleeder screw because of blockage, press the brake pedal in order to clear out any dirt. When the color of the liquid is clear and the fluid is free from most air bubbles, tighten the bleeder screw to stop the extraction. To prevent air from entering the brake system at the bleeder screw, the red rubber fitting should be removed only after the bleeder screw has been tightened. It is normal to see air bubbles with the brake fluid inside the clear tube during extraction as air will get into the tube through the gap on the threads of the wheel cylinder's nozzle. The tube can now be removed from the bleeder screw.

Repeat the above procedure at every wheel. Some cars are equipped with a brake balancer at the rear wheels. The brake fluid in the wheel cylinders will appear to decrease when there is no load at the rear wheels or when the car is lifted up. The balance rod or the spring valve need to be pressed off in order to have smooth fluid release.



Do not depress the brake pedal of the car while bleeding the brakes unless trying to remove a blockage. Before driving, check the operation of the brakes. The pedal should feel solid when depressed with no sponginess. If in doubt, repeat the whole procedure.

### **WARNINGS AND CAUTIONS!**

**Do not** use the unit to extract or store dangerous chemicals, poisons, acids, alkalis or solvents. **Do not** store either the unit or suction tube near or in areas of high temperatures, open flames, direct sunlight, rain or snow. **Do not** drop, throw or mishandle the BRAKE FLUID EXTRACTOR and **do not** dismantle, tamper with or adapt the unit for any other purpose than for what it was originally intended. Always check your brakes before driving the vehicle after any brake service. Dispose of old brake fluid in accordance with your local rules and regulations. **Keep all oils, solvents and flammables out of the reach of children.**

### **DISCLAIMER**

GRIOT'S GARAGE is not responsible for the misuse of the BRAKE FLUID EXTRACTOR or for any injury or damage incurred to any person or object related to the BRAKE FLUID EXTRACTOR.

### **ANSWERS TO YOUR QUESTIONS**

Should you want to order another BRAKE FLUID EXTRACTOR, or for a complete selection of quality GRIOT'S GARAGE products, please write, use the internet or call us toll-free and ask for item 85700.

*Have fun in your garage!™*

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