



VW AIR-COOLED BRAKE MASTER CYLINDER BENCH BLEEDING: WHAT IT IS AND HOW IT WORKS

Bench bleeding the master cylinder before it's installed in the car is an important step in ensuring you have good brakes on your Beetle. It's almost impossible to completely "prime" the master cylinder in the car, and any trace of air left in it will produce unusual and unexpected problems with your braking system. It takes time to do it right - don't rush it.

Note: Before beginning work, be sure the master cylinder can be maintained in a level configuration during this procedure.



1950-1964 Brake Master Cylinder Single Circuit 19mm Bore, Part Number: 384-382

1. Remove the cap from the brake fluid reservoir and suck all of the brake fluid out with a large syringe with a length of clear plastic tubing attached

CAUTION: Be very careful not to spill any brake fluid on the painted finish of the car. Brake fluid is an excellent paint remover! Also, be sure to wear goggles at all times when handling brake fluid -- it is very harmful to the eyes.

2. Disconnect the rubber brake lines under the reservoir from the metal lines that run down through the body and remove the reservoir (with brake lines attached) from the car.

Note: You will want to place a drip pan on the floor before you do this, as there will be residual fluid in the lines that will drip onto the floor. You may get some drips on the paint work under the reservoir too - have some paper towels or rags ready to wipe them off before they damage the

paint. Any fluid left there WILL strip the paint and eventually cause rust in the bodywork. If contact occurs, immediately flood the affected area with water.

3. Remove the brake light switches from the old master cylinder and install them on the new one.
4. Screw the plastic fittings supplied in the bench bleeding kit with the new master cylinder into the holes where the brake lines connect.
5. Position the master cylinder in a vise so that the jaws clamp on the mounting flange and the attachments for the brake hoses to the fluid reservoir are oriented upward. Take care not to damage the flange. **DO NOT** tighten the vise jaws on the master cylinder body!
6. Attach the hoses from the fluid reservoir to the fittings onto the master cylinder.

Note: You will need to rig up a device to hold the fluid reservoir securely in place above the master cylinder. The bench bleeding process takes a while, and you won't be able to hold it and do everything else you have to do at the same time.

7. Fill the fluid reservoir with new brake fluid up to the seam. Leave the cap off of the reservoir.
8. Wait until fluid starts to drip from the two plastic fittings (this may take 15 or 20 minutes). Don't try to rush the process by pumping the piston yet - that will only result in more mixing of the air and fluid inside the master cylinder.

9. Once fluid is dripping from each of the two plastic fittings, attach a piece of clear plastic tubing about 18 inches long to each fitting and run the other end of the tubes into a jar about one-third full of brake fluid.
10. Note: This jar must be placed so that the ends of the tubes are ABOVE the fittings in the master cylinder.



**Brake Bleeder Kit & Vacuum Pressure Pump,
Part Number: 119-020**