

AUTOOL[®]

AUTOOL AST609

Pulsating Brake Fluid Bleeder

User Manual



www.autooltech.com

Copyright Information

All rights reserved by AUTOOL TECH. CO., LTD. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of AUTOOL. The information contained herein is designed only for the use of this unit. AUTOOL is not responsible for any use of this information as applied to other units.

Neither AUTOOL nor its affiliates shall be liable to the purchaser of this unit or third parties for damages, losses, costs, or expenses incurred by purchaser or third parties as a result of: accident, misuse, or abuse of this unit, or unauthorized modifications, repairs, or alterations to this unit, or failure to strictly comply with AUTOOL operating and maintenance instructions.

AUTOOL shall not be liable for any damages or problems arising from the use of any options or any consumable products other than those designated as Original AUTOOL Products or AUTOOL Approved Products by AUTOOL.

Other product names used herein are for identification purposes only and may be trademarks of their respective owners. AUTOOL disclaims any and all rights in those marks.

This unit is made for the purpose of persons who have special techniques and certifications.

Manual are either trademarks, registered trademarks, service marks, domain names, logos, company names of or are otherwise the property of AUTOOL or its affiliates. In countries where any of the AUTOOL trademarks, service marks, domain names, logos and company names are not registered, AUTOOL claims other rights associated with unregistered trademarks, service marks, domain names, logos, and company names. Other products or company names referred to in this manual may be trademarks of their respective owners. You may not use any trademark, service mark, domain name, logo, or company name of AUTOOL or any third party without permission from the owner of the applicable trademark, service mark, domain name, logo, or company name. You may contact AUTOOL by visiting AUTOOL at <https://www.autooltech.com>, or writing to aftersale@autooltech.com, to request written permission to use Materials on this manual for purposes or for all other questions relating to this manual.

Before you operate the brake maintenance device, please read this manual and the safety instructions thoroughly.

Keep the operator's manual close to the device. If you loan the brake maintenance device to another person, please give them the operator's manual as well.

Inform the user before operating the brake maintenance device about the correct safety and handling procedures.

For your safety

This manual describes the operation and use for the brake maintenance device in PRO 1 series. The equipment for each individual brake maintenance device in the series is different. Observe the notes and the arrangement of the controls for the different versions.

Work performed incorrectly can lead to injury or property damage!

- The brake maintenance device should only be operated by trained persons. Use by unauthorized persons is prohibited.

Brake fluids are toxic and can lead to serious injury!

- Avoid all contact with brake fluid.
- Wear safety goggles to minimize the risk of injury from splashing.
- Wear suitable, protective gloves to minimize the risk of injury caused by skin contact.
- In case of skin contact with brake fluid, wash off immediately with water.
- Remove contaminated clothing.
- Do not carry any rags or anything else that has been in contact with brake fluid in your clothes.
- Before any work is performed on the brake maintenance device, disconnect the power cord and plug.
- Only plug the brake maintenance device in, when the device is turned off.
- Do not make design changes to the brake maintenance device.
- Before each use, make sure to check the brake maintenance device, its hoses, cables, and connectors. If there is any damage, do not use the brake maintenance device. Repairs are to be carried out by a specialist. Never open the brake maintenance device.
- The brake maintenance device must not be damp and should not be operated in a humid environment.

Proper Usage

The brake maintenance device is to be used exclusively for filling and draining of brake fluid for brakes and clutches on motor vehicles. Any other use is considered beyond the device's intended purpose and is prohibited.

Foreseeable Misuse

Operation with other liquids other than brake fluid can damage the brake maintenance device and is therefore prohibited.

For misuse, the manufacturer is not liable for any damage. Any risk is carried solely by the user / operator.

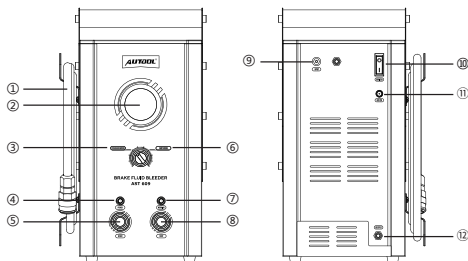
Operating Principle

Brake fluid is taken from its container by a pump operating at up to 3.0 bar pressure and is continuously pumped into the brake fluid reservoir. The individual wheel brake cylinders can then be drained of their used brake fluid until the new brake fluid comes through.

You thus avoid the regular emptying and filling operations, in contrast to conventional systems and also avoid any resulting water absorption in the brake fluid.

The pump used to fill the brake fluid reservoir is equipped with pressure monitoring. Should it not be possible to build pressure or should the pump pull in air, the pump switches itself off automatically.

Operating / Device Schematic



- 1-Output pipe; 2-Pressure gauge; 3-Standard mode; 4-Power indicator; 5-Switch-ON; 6-Fast mode; 7-Working indicator; 8-Switch-OFF; 9-Connector of Input pipe; 10-Power switch; 11-Power interface; 12-Connector of Output pipe;

The adapter (Different versions are available.), used to connect to the brake fluid reservoir, is not shown.

Technical Data

Voltage: 220-240V 50/60Hz or 110-120V 50/60Hz;

Max. Power: 35W;

Max. Flow Rate: 1.2L/M;

Working Pressure: 0.6 - 3.0 bar;

Container Empty Protection: Yes;

Filling Hose Length: 3.5m;

Noise: \cong 70dB;

Dimension in mm: 207x240x360mm;

Deployment / Workplace

The brake maintenance device should be installed on a flat surface. Make sure that the filling hose is not under any mechanical tension, for example when the vehicle is raised on a hydraulic lift.

With the startup procedure and operation, the area around the brake maintenance device becomes its workplace. Otherwise, there is no fixed workplace for the brake maintenance device.

Startup Procedure

The startup procedure describes the connection of the brake maintenance device to the containers with brake fluid, as well as the bleeding of the brake maintenance device. Bleeding of the device must be carried out with the initial startup procedure.

The safety instructions in the section "For your safety" must be strictly observed.

- Before the initial startup procedure, make sure that the local voltage is the same as the information on the brake maintenance device's rating plate. The rating plate is located on the back of the brake maintenance device.

Only operate the brake maintenance device when the information matches.

- Position the brake maintenance device on a stable, level surface.
- Unscrew the lid from the container.
- If the brake maintenance device is not equipped with a container (e.g. Pro1 Mini), please place a container in the holder of the brake maintenance device, secure the container against falling out.
- Feed the suction hose and the pressure balance hose down to the base of the container. One line is used for suction. The other line allows for the excess pressure to flow back into the container.
- To bleed the brake maintenance device, do not connect the adapter to the vehicle, but only to the filling hose and position it over a collection container.
- Turn the "ON/OFF" switch ON. Press the "Start" button and hold. The pump starts to deliver the brake fluid.
- Place the adapter over a collection container until the brake fluid flows without any air bubbles.
- Turn the "ON/OFF" switch OFF and wait for the pressure regulator drops to 0 bar. Remove the adapter.
- The brake maintenance device is now ready for use, even when the pressure gauge displays 0 bar. The pressurized side of the brake maintenance device should be free of bubbles.

Operation

Exchanging brake fluid

- The safety instructions in the section "For your safety" must be strictly observed.
- Before starting any work, please note the instructions for the vehicle manufacturer for the maximum filling pressure and any other specific instructions.
- In general, always follow the recommended instructions and guidelines for bleeding the brake system as mandated by the manufacturer for each type of vehicle.
- Factory settings for the pressure regulator are set to 1.6-2.0 bar. This ensures that the brake fluid reservoir will not become deformed and that no leaks occur at the secondary cuff. Bleeding or exchanging brake fluid with a lower or higher working pressure can be adjusted using the pressure regulator (Max. 3.0 bar).

1-Install the supplied adapter, or the appropriate adapter according to the instructions on the brake fluid reservoir.

2-Connect the filling hose to the already installed adapter.

3-Supply power to the brake maintenance device and turn the "ON/OFF" switch ON.

4-Press the "Start" button and hold until the pressure is at least 1.0 bar. The operating pressure can be adjusted with the pressure regulator.

With the pressure built-up successfully, release the "Start" button and the brake maintenance device will still work.

With the pressure built-up unsuccessfully, release the "Start" button and the brake maintenance device will stop working immediately.

Possible cause:

- New brake fluid in the container is not enough.
- The pressure is set too low by the pressure regulator.

5-Check that the adapter is correctly seated and tight where it connects to the brake fluid reservoir. If brake fluid leaks, immediately switch off the brake maintenance device and find the cause.

6-Now bleed the brakes, one-by-one, beginning with the back right brake and finishing with the front left brake. To do this, open the valve on the wheel brake cylinder. Catch the old brake fluid with the collection bottle. As soon as the new, bubble-free brake fluid begins to flow out of the drain hole, the valve can be closed again.

7-Then turn the "ON/OFF" switch OFF, to stop the brake maintenance device working.

8-On the pressure gauge check that the pressure has gone down to 0 bar.

Note:

Usually the brake maintenance device automatically gets rid of the remaining pressure. However, if during the refilling process, the pressure was regulated lower, there will still be pressure remaining. The pressure does not go down to 0 bar. The pressure regulator must be unloaded first. After turning off the device, turn the pressure regulator to the right until the release point for the remaining pressure is reached. The working pressure drops to 0 bar.

9-Uncouple the depressurized filling hose from the adapter. Remove the adapter from the brake fluid reservoir.

Important:

After completing the bleeding process or exchanging brake fluid, should the operation of the brake or clutch pedal be too long or the pressure behind the operation be to "soft", repeat depressing the pedal several times, each time applying stronger pressure to the pedal or clutch. If the situation remains unchanged, the bleeding procedure needs to be carried out again.

Warranty

There are 3 years warranty of the main unit from the date of the customer received the AUTOOL product and 1 year warranty for accessories.

Warranty Access

- Repair or replace the equipment will be done according to the specific fault conditions;
- We guarantee that all replacement parts, accessories or equipment are brand new;
- Within 90 days after the customer receives the product, if the product has faulty, the buyer can provide videos and pictures, we will bear the shipping costs and provide free replacement parts for the customer.

Warranty is not Covered on the Condition Listed Below

- Product is bought through non-official AUTOOL purchase channel.
- Product failure is caused by incorrect use of the product, use for other wrong purpose or human factors.

Disclaimer: All information, illustrations, and specifications contained in this manual, AUTOOL reserves the right of modify this manual and the machine itself with no prior notice. The physical appearance and color may differ from what is shown in the manual, please refer to the actual product. Every effort has been made to make all descriptions in the book accurate, but inevitably there are still inaccuracies, if in doubt, please contact your dealer or AUTOOL after-service centre, we are not responsible for any consequences arising from misunderstandings.

版权所有！未征得深圳市偶然科技有限公司的书面同意，任何公司或个人不得以任何形式（电子、机械、影印、录制或其他形式）对本说明书进行复制和备份。本手册专为偶然公司产品的使用而计，对于将之用于指导其他设备操作而导致的各种后果，本公司不承担任何责任。

因使用者个人或第三方的意外事故，滥用、误用该设备，擅自更改，或修理该设备，或未按偶然公司的操作与保养要求而导致设备损坏、遗失所产生的费用及开支等，偶然公司及其分支机构不承担任何责任。

正式声明：本说明书所提及之其他产品名称，目的在于说明该设备如何使用，其注册商标所有权仍属原公司。

本设备供专业技术人员或维修人员使用。

注册商标

偶然公司已在中国及海外若干国家进行了商标注册，其标志为**AUTOOL**。本手册所提及之偶然公司其它商标、服务标志、域名、图标、公司名称均属偶然及其下属公司之产权。在偶然公司之商标、服务标志、域名、图标、公司名称还未注册之国家，偶然公司声明其对未注册商标、服务标志、域名、图标、公司名称之所有权。本手册所提及之其它产品及公司名称的商标仍属于原注册公司所有。在未得到拥有人的书面同意之前，任何人不得使用偶然公司或所提及的其它公司之商标，服务标志，域名，图标，公司名称。您可以访问偶然网址：www.autooltech.com，或发送邮箱至：aftersale@autooltech.com，与偶然公司进行联系，征得其手册使用权之书面同意。

用制动液以外的其它液体运行会损坏制动液交换机，必须禁止。

对于错误应用的情形，制造商不对产生的损坏承担任何责任。由此产生的风险仅由操作者/承运方承担。

请您在使用制动液交换机前，完整阅读本使用说明书及安全须知。始终将使用说明书保存在随手可取的地方。当您制动液交换机转交给第三方时，请一并转交使用说明书。

请以符合安全规范且专业的方式使用和处理制动液交换机。

安全指引

本使用说明书描述了制动液更换机的操作和运行。只有在您完整阅读使用说明书和安全须知，并且严格遵循其中所含指示的前提下，才能实现制动液交换机的无风险运作。

违规工作可能导致健康伤害或财产损失！

- 只允许由接受过培训的人员操作制动液交换机。禁止未经准许的人员操作。

制动液是有毒的，可能导致健康严重受损！

- 务必避免与制动液接触。
- 配戴护目镜，使喷溅液体造成的损伤危险最小化。
- 配戴合适的保护手套，使皮肤接触造成的损伤危险最小化。
- 皮肤接触到制动液时，立即用水冲洗。
- 脱去被污染的衣物。
- 不要将抹布或其它被制动液浸湿的东西装入衣服随身携带。
- 在制动液交换机上进行所有工作前，拔下电源插头。
- 只有在制动液交换机已断路的情况下将插头插入插座。
- 不要在制动液交换机上进行任何受制于结构形式的变更。
- 每次使用前，请仔细检查制动液交换机。如若发现异常，不得继续使用制动液交换机。烦请专业人员进行维修，请勿擅自打开制动液交换机。
- 不允许打湿制动液交换机，也不允许在潮湿的环境下运行此设备。

按规定使用

制动液交换机仅规定用于填注和排出汽车制动设备和离合器设备中的制动液。任何其它使用或范围外的使用均视为未按规定使用，必须禁止。

可预见的错误应用

用制动液以外的其它液体运行会损坏制动液交换机，必须禁止。

对于错误应用的情形，制造商不对产生的损坏承担任何责任。由此产生的风险仅由操作者/承运方承担。

功能原理

通过泵将制动液从新液储存罐中吸出，以指定的压力持续泵压到汽车制动液容器中。然后，在各个车轮制动分泵上，按照车辆原厂规定的次序依次将旧的制动液排出，直至新制动液流出。

与传统的压迫式制动液交换机相比，此脉动式制动液交换机可有效地避免加注过程中产生气泡、优化或避免人工排气流程。

内置压力监控装置。如果无法形成压力或泵吸入空气，则泵断路，防止将气体注入汽车制动液容器中。

布置/工位

将制动液交换机放置在一个平整平面上。确保填注软管未处于机械应力下，比如将车辆提升到升降台上时。

启动和操作时，工位位于制动液交换机周围。其它情况下，未对制动液交换机的固定工位进行规定。

首次启动/设备自排空

启动描述了制动液交换机与装有制动液的新液储存罐的连接，以及制动液交换机的排空。任何情况下，必须在首次启动时进行排空。

● 首次启动前，将本地电源电压与制动液交换机铭牌上的电压说明进行比较。铭牌位于制动液交换机背面。电源电压与说明一致时方可启动制动液交换机。

● 将制动液交换机牢固地放置在平整平面上。

● 旋出新液储存罐顶盖的加注密封盖。

● 将新液储存罐放在制动液交换机的支架中。防止翻倒。

● 将抽吸软管和压力平衡软管插入新液储存罐直至底部。抽吸软管用于吸取。剩余压力通过压力平衡软管回流到新液储存罐中。

● 为了排空制动液交换机，不要将适配器安装在车辆上，而是只联结在填注软管上，通过一个收集器固定。

● 接通制动液交换机的电源，打开“电源”开关。长按“开始”键，泵开始运行。

● 通过收集器固定适配器，直到制动液无泡溢出。

● 关闭“电源”开关，待压力计缓慢下降至0bar后，拆下适配器。

● 制动液交换机现在已准备就绪。

操作/运行

更换制动液

● 必须严格遵守安全指引中的规范。

● 开始工作前，注意汽车制造商有关最大填注压力的提示及特殊工作指南。

● 原则上，对于每一种型号的汽车，制造商提供的排空制动设备的指南和准则始终是有有效的。

● 如果制造商提供的排空制动设备指南和准则中无特殊说明工作压力值，调压器可调节至1.6-2.0bar。

如果需要特定的工作压力，可通过调压器进行调节（最大3.0bar）。

1· 将附加的适配器，或者按照说明书选择合适的适配器安装在车辆的制动液容器上。

2· 将填注软管连接在已安装的适配器上。

3· 接通PRO 1制动液交换机的电源，打开“电源”开关。

4· 按住“开始”键，直至压力至少达到1.0bar。可用调压器将工作压力调节至所需值（建压）。

如果压力成功建立，松开“开始”键，制动液交换机应持续运行。

如果压力未能建立，松开“开始”键，制动液交换机将立即停止运行。可能原因：

● 新液储存罐中制动液储量不足。 ● 调压器设定压力过低。

- 5· 检查制动液容器上的适配器是否处于正常位置，以及是否密封。如有制动液溢出，应立即切断制动液交换机，并查明原因。
- 6· 现在，请按照制造商提供的排空制动设备指南和准则，逐一排空制动分泵。如果制造商提供的排空制动设备指南和准则中无特殊说明更换次序，可从右后方开始，最终到左前方制动分泵结束。打开各车轮制动分泵上的排气螺栓，并用接油壶收集旧制动液。一旦新的无泡制动液从排出孔溢出，可将排气螺栓关闭。
- 7· 关闭“电源”开关，制动液交换机停止运行。
- 8· 用压力计检验工作压力是否缓慢下降至0bar。

注意：通常情况下，关闭电源开关后，制动液交换机会逐渐消除存在的工作压力，压力计缓慢下降至0bar。如果关闭电源开关后工作压力仍然存在（也就是说，压力无法下降至0bar），可在制动液交换机关机状态下，通过多次顺、逆时针旋转调压器，使工作压力下降至0bar，方可进行下一步操作。

- 9· 将无压的填注软管与适配器断开，从制动液容器上拆卸适配器。
- 10· 现在制动液容器已被填充满。用一根合适的吸油管从中提取一定量的制动液，直至达到制动液容器中允许的液位范围。
- 11· 关闭制动液容器。

注意：如果在排空过程或制动液更换后，证实操纵制动踏板或离合器踏板的路径过长，或压力形成过“软”，则必须在多次用力操纵制动踏板或离合器踏板后重新进行一次排空过程。

技术参数

电压：220-240V 50/60Hz 或 110-120V 50/60Hz；

最大功率：35W；

最大流量：1.2升/分；

工作压力：0.6 - 3.0 bar；

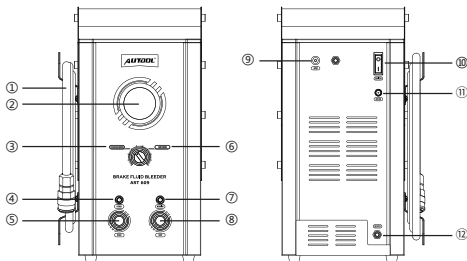
缺油保护：支持；

填注软管长度：3.5m；

噪音：≤70dB；

主机尺寸：250×185×280mm；

整机结构



- 1-输出油管； 2-压力表； 3-标准模式； 4-电源指示灯； 5-开始开关； 6-快速模式； 7-工作指示灯；
8-停止开关； 9-输入油管接口； 10-电源开关； 11-电源接口； 12-输出油管接口；

售后保修

AUTOOL 整机自客户签收日起享有3年保修期，附件1年保修期。

保修方式：

- 根据具体的故障情况对设备进行修理或更换；
- 我方保证所有更换的部件、附件或设备都是全新；
- 在客户收到产品90天内出现故障同时提供视频和图片，我方承担运费并免费提供相应配件给客户更换。收到产品超过90天，客户承担相应的费用，我方免费提供配件给客户更换。

以下情况不再免费保修范围：

- 非正规渠道购买AUTOOL的产品；
- 未按产品说明书要求使用和维护造成的损坏。

声明：偶然公司保留更改产品设计与规格的权利，届时恕不另行通知。实物外观与颜色可能与说明书中显示的有差别，请以实物为准。我们已尽最大努力力求使书中所有描述准确，但仍难免有不妥之处，如有疑问，请联系经销商或偶然售后服务中心，本公司不承担任何因误解而产生的后果。

AUTOOL[®]

深圳市偶然科技有限公司

广东省深圳市宝安区北八路航城锦驰产业园

📍 Shenhua Innovation Park, Baoan, Shenzhen, China

🌐 www.autooltech.com

✉ aftersale@autooltech.com

☎ +86-400 032 0988 / +86-755-27807580

FC CE  RoHS
Made in China

