

WARRANTY CARD

1. KH Trading machines and tools are covered by 6/24 months warranty, starting on the date of purchase, as described in the Civil Code (proof of purchase or invoice receipt must be enclosed with the warranty card when making a claim).
2. This warranty does not cover defects caused by unprofessional handling, machine overloads, not complying with instructions contained in this manual, using accessories that are not approved, unauthorized repair, regular wear and tear and damages occurred during transport. Further, this warranty does not cover parts and accessories such as the motor, carbon brushes, seals and hot-air operated parts and parts that need to be changed regularly.
3. If the repair is to be found as not covered by the warranty policy, all costs including the repair and shipping to and from the repair centre will be paid by the customer, according to valid price list. See www.
4. When making a claim, you must present the warranty card, showing the date of the purchase, the serial number of the machine, vendor stamp and signature of sales clerk, as well as the proof of purchase receipt.
5. Warranty claim shall be made at the vendor shop where you bought your machine or you may mail it to a service centre. The vendor is obligated to fill out the warranty card (date of sale, serial number, vendor stamp and signature). All these information must be filled in at the time of sale.
6. The warranty period will be extended for the period of time for which the machine has been in the service centre possession. If the repair or defect is not covered by the warranty policy, all costs including the repair and shipping will be paid by the owner of the machine / tool. We recommend sending the machine in its original packaging. Please, also enclose brief description of the defect with the packaging.
7. Before sending the machine for repair, clean it thoroughly. If the received machine is dirty, it may be rejected by the service shop or you may be charged a cleaning fee.

SERVICE

Logistic centre Klecany

Topolová 483

250 67 Klecany

Czech Republic

Claim department phone number: 266 190 156

266 190 111

Fax:

260 190 100

T-mobile: 603 414 975

O2: 601 218 255

Vodafone: 608 227 255

<http://www.KHnet.cz>

Email: servis@KHnet.cz

Product: BREAK FLUID VACUUM PUMP WITH ACCESSORIES	
Type: HS998	Serial number (product series):
Date of manufacture:	Repair centre notes:
Date of sale, stamp, signature:	

Without the correctly filled warranty card or without proof of purchase receipt, including the product type (invoice, purchase receipt) no warranty claim will be processed.

uni-max

USER'S MANUAL

BREAK FLUID VACUUM PUMP WITH ACCESSORIES



HS998

Dear customer. Thank you for purchasing equipment from KH Trading, s.r.o.
 Our company is ready to offer you our services - before, during and after you buy our product.
 If you have any question, comment or idea, please contact our business centre. We will do our best to address your comment or question in timely matter.

Before first use, please read this manual carefully. It is your responsibility to study all instructions, necessary for safe use and operation and to understand all risks that may be involved during the use of power machines.

WARNING! Do not try to use this machine before reading this entire manual and before you know how to handle it. Keep this manual for future reference.

Pay special attention to safety instructions. Not complying with safety rules may cause injury to the operating person or to people standing by or it may cause damage to the machine or to the work piece.

Pay special attention to safety notes and safety labels on the machine.

Never remove or damage them.

Please, write information such as the invoice number and the number of the sale receipt here in this box.

DESCRIPTION

Hand operated pump is needed during the break fluid changing procedure and during bleeding operation.
 Your set includes extension pieces for bleeding operation of break systems of common type of vehicles, hoses and break fluid collection container. Negative pressure (vacuum) gauge is calibrated.
 This set enables you to change the break fluid and bleed the system, without using a helper.
 You may use the set not only during break system operations but also in other cases when you need to create vacuum during engine check up (either diesel or gas engines).

TECHNICAL SPECIFICATION

Negative pressure **0 - -600 mm Hg**

The accuracy of instructions, graphs and information contained herein, depends on the printing date. Due to continuous product improvement, the manufacturer reserves the right to change technical parameters of the product, without prior customer notification.

REPAIR AND MAINTENANCE REPORT

Report and maintenance report:

DATE	REPAIR AND MAINTENANCE REPORT	SERVICE SHOP

SAFETY PRECAUTIONS

- **This device may be used by a qualified person, 18 years or older who has been trained in work and environmental safety procedures.**
- **Any person using this equipment must possess a medical certificate demonstrating his eligibility to operate this equipment.**

Symbols used in this manual



Warning!

This symbol informs you about the risk of personal injury or damage to the machine or materials.



Warning!

Danger of damage.



Note:

Additional information.



Use personal safety gear.



Do not use open fire during work.



Do not smoke during work.



General instructions

- Plastic bags and packaging materials pose danger for small children and animals.
- Make sure you know how to control your tool or machine and that you are familiar with its operating procedure. Know the hazards that may occur, if not used correctly.
- If other person is using this machine make sure that he knows how to safely operate this equipment and that he is familiar with hazards and risk that may occur, if not used correctly.
- Pay special attention to safety notes and safety labels on the machine. Do not remove or damage them. If the warning label becomes unreadable, please contact your vendor.
- Keep your working place clean. Dirty and disorganized workplace may cause accidents.
- Never work in poorly lit, narrow or too crowded rooms. Make sure the floor is solid and stable and that you can move around easily. Always keep stable posture.
- Keep focusing and use common sense. Do not continue working if you cannot pay attention.
- Maintain your tools clean and in safe working conditions.
- Handles must be kept free of grease and dirt.
- Make sure no children, unauthorized persons or animals have access to your workshop.
- Do not put legs or hands inside the working space.
- Never leave your machine unattended during operation.
- Use only for purposes for which it has been designed.
- Use personal protective gear such as safety goggles, ear protection, respirator, safe working shoes etc.
- Do not overreach, use both hands.
- Never work under the influence of alcohol or other drugs.

- Do not use the machine/tool if you feel dizzy or weak.
- Any modifications or improvements to the machine are strictly prohibited. DO NOT USE if you discover bent part, crack or other damage.
- Never perform any maintenance during operation.
- If you see any unusual sign or hear any strange sound, switch off the machine immediately.
- Do not forget to remove all wrenches and/or screwdrivers from the machine.
- Before use, make sure all screws are tightened securely.
- Perform maintenance regularly. Before use make sure the machine is in good working conditions and without any damage.
- Use only original spare parts during repairs.
- Using extension pieces or accessories not approved by the manufacturer may cause injuries to the operating personnel.
- Use this machine only for work that could be handled by it. Do not overload tools, accessories or the machine. For large work volume use more powerful machine.
- Do not overload your device. Measure the work load in such way, so it could be done with comfortable speed. Damages due to machine overload are not covered by the warranty policy.
- Do not expose to extremely high temperature or direct sunlight.
- This machine is not designed for use in humid environments or under water.
- If you are not using your machine, store it in a dry place and locked place, out of reach of children.
- Before use make sure that all safety elements work correctly and efficiently. Make sure all moving parts are in good working conditions.
- Before use make sure that no part is cracked or stuck, Make sure all parts are attached and assembled as designed. Also take into consideration other conditions that may have a negative effect on the proper function of your machine.
- If not stated otherwise in this manual, all damaged parts and safety elements must be repaired or changed.



Fine mechanics

- Never use a vise to hold your machine.
- Protect your machine from fall and impact. After work store all tools and equipment back to the briefcase.



Assembly

- Do not use the machine unless completely assembled.



Automotive repair shop equipment

- Before performing any maintenance, shift the gear into neutral, apply the vehicle hand break, or use other means to prevent the vehicle from accidental move.
- Turn of the engine.
- Use eye protective goggles.



Power equipment

- Before performing any maintenance on hydraulic equipment, turn of the air supply and make sure to lower the air pressure slowly. Let the pressure equalize.
- If your machine is equipped with pressurised springs, use suitable device to release them slowly.

CAUTION

If the machine breaks down, send it back to the vendor for quick repair.

Please, enclose brief description of the defect. That makes repair easier. If the machine is still covered by warranty, enclose the warranty card and proof of purchase receipt. After the warranty period expires, we repair your machine for a special price.

To prevent possible damages during shipping, packed the machine carefully or use the original packaging material. We are not liable for shipping damages due to incorrect packaging of your machine. If making a claim at the shipping company the level and method of packaging plays a major role during claim evaluation process.

Note: Pictures and contents in this manual may slightly differ from the actual product or accessories. It is due to continuous improvement of our products. Such small differences have no effect on the product functionality.

MAINTENANCE

- Keep your tools clean. Dirt from tools may enter the inner machine mechanism and cause damages to the tools or machine.
- Do not use aggressive cleaning solution or paint thinners to clean the machine.
- Clean plastic parts with soft cloth dipped in soapy water.
- Clean and lubricate metal surfaces with a cloth dipped in paraffin oil.
- Store the machine well lubricated in a dry place to protect it from corrosion and rust.

Detailed description of the use of this device is not included in this manual, because the manufacturer / distributor assumes that the user is experienced in similar type of work. Also according to the applicable law, this device is considered as a commonly sold and used tool. If the user is unfamiliar with the use of this device, we recommend finding out more information about using this device at the Department of work safety.

Lubrication

- After work, apply few oil drops into the hand pump to lubricate the pump piston.
- Remove (unscrew) the scored screw knob for pressure equalizing and apply few drops of oil inside the hole. Screw the knob back in and press the pump handle several times to evenly distribute the oil inside.

DISPOSAL

- Used hydraulic fluids must be disposed off in accordance with the Law of waste disposal management.

When the operational life of your device is over, dispose off it in accordance with valid rules and regulations. Your product is made of metal and plastic parts that may be recycled when separated.

1. Disassemble all parts.
2. Separate all parts according to the material they are made of (e.g. metals, rubber, plastics, etc.). Take the separated parts to the recycling facility near you for further processing.

More information about dangerous waste disposal may be obtained from your local authority or from the Internet.

ASSEMBLY

- Before throwing the packaging material out, make sure no part is left inside. If so, take it out and install it. Use the part listing for check-up and the installation drawing for guidance.

OPERATION

- Do not vacuum out the condensed fluid. You may damage the inner seal and membrane.
- Make sure the break fluid container is full with break fluid.

The following example shows how to bleed a typical vehicle break system.

You manufacture may recommend a special bleeding procedure.

Before performing any operation, check the procedure recommended by the manufacturer.

Assembling the vacuum pump.

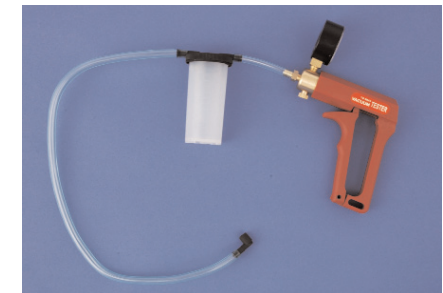
- Connect one of the short hoses to the coupling socket in the bottom of the plastic cap.



- Connect one of the long hoses to the appropriate coupling socket on the upper side of the plastic cap and place it on the collection container.



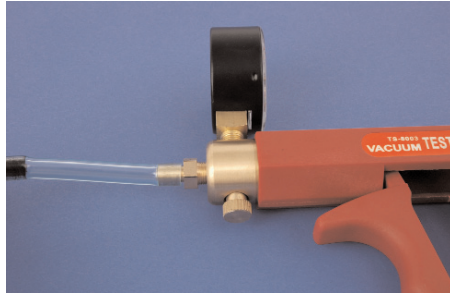
- Connect the other short hose to the remaining coupling socket on the plastic cup (as seen on the picture) and connect it with the pistol (hand pump).
- Place the cap on the collection container and turn it to seal it and lock it in place.



Warning: The cup is sealed with O-ring.

Pressure equalizing screw

- The scored screw knob in the lower part of the pump is used to equalize both pressures.



Checking the value of the created vacuum

- To check the value of the negative pressure (vacuum) created, use the supplied pressure gauge.
- Both scales are calibrated in mercury (Hg) column height. The inner scale is in (mm) and the outer scale in inches.



Bleeding the break system

- To bleed the system follow the sequence below:
- Main brake cylinder - if it is equipped with a socket for hose connection.
- Break callipers in the following order; start with the wheel closest to the main brake cylinder and move on gradually towards the most distant wheel.
- Bleed the main brake cylinder if it is equipped with a socket for hose connection.
If you installed a new brake cylinder you must always bleed the cylinder.
- Choose the suitable hose coupling adapter and slide it into the hose.
- Place the adapter on the bleeding screw.
- Press the pump 10 - 15 times to create the necessary vacuum.
- Check the value of the vacuum on the pressure gauge.
- Turn the bleeding screw 1/4 up to 1/2 of a turn and fill about half of the container with the break fluid.
- Close the bleeding screw to close it.
- Turn the pressure equalizing screw to equalize the pressure in the system with the atmospheric pressure outside.
- Empty the drained fluid from the container.
- Refill the engine break fluid reservoir with new break fluid, all the way to the line marked "max."
- Move on to bleed the next wheel.
- Repeat the above steps until you bleed all wheels.

After you finish your work

- Clean and flush the entire set with water, disassemble all parts and let it dry.
- Remove (unscrew) the scored screw knob for pressure equalizing and apply few drops of oil inside the hole.
Screw the knob back in and press the pump handle several times to evenly distribute the oil inside.

Other possibilities where you may use your set:

There are many other possibilities where you may use your set. It all depends on the technical parameters of the equipment and on the objective that you want to achieve.

Inspection of electronically controlled engine

- You may check the atmospheric pressure sensor (BARO)
- Crankcase ventilation system (PCV)
- Exhaust gases recalculation system (EGR)
- Vacuum sensor (MAP)

Ignition accessories

- Vacuum regulated advanced spark
- RCV valve
- SDV valve

System testing

- Air-condition and heating vehicle systems
- Speed control system
- Headlights positioning system
- Fuel system and fuel tank leakage inspection
- Door control system

Brake system

- ABS bleeding
- Break system bleeding
- Brake fluid draining operations
- Inspection of vacuum operated break booster