

## 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

<http://www.KHnet.cz>

Email: [servis@KHnet.cz](mailto:servis@KHnet.cz)

T-mobile: 603 414 975

O2: 601 218 255

Vodafone: 608 227 255

Product: <b>ENGINE COOLING SYSTEM DIAGNOSTIC SET</b>	
Type: <b>HS3310</b>	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

# ENGINE COOLING SYSTEM DIAGNOSTIC SET



# HS3310



## 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 metal surfaces with cloth dipped in paraffin oil.
- Store the machine well lubricated in a dry place to protect it from 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.

## DISPOSAL

- Used cooling 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.

Information about the locations of recycling centres may be found at your local City office or throughout an Internet search.

## 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 damages occurred during shipping due to improper packaging.

**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.

## 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!

Risk of damage.



#### Note:

Additional information.



Use personal safety gear.



Do not smoke during work.



#### General instructions

- Plastic packaging materials pose danger to 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. Never 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 tight spaces or in purely lit 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.
- Never put your hands or legs inside the working area.
- 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 if you feel dizzy or weak.
- Any modifications or improvements to the machine are strictly prohibited. If you discover any cracks or damages to the machine, do not use.

- Never perform any maintenance during operation.
- If you see any unusual sign or hear any strange sound, switch of machine immediately.
- Do not forget to remove all wrenches and screwdrivers from the machine after use.
- 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 non-original spare parts or accessories not approved by the manufacturer may cause damage to the machine or personal injury 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 the machine. 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 not using the machine, store it in a dry and locked place out of reach of children.
- Before use, inspect all safety elements and make sure they work as designed. Make sure all moving parts are in good working conditions.
- Inspect all parts for cracks and damages. Make sure movable parts are not stuck and set properly. 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.
- Before performing any work, wait until the pressure in the circle goes down. Otherwise there is a risk of being burned by the cooling fluid.
- Observe all manufacturer instructions when opening the engine radiator cap or the equalizing container. Always use a towel to protect your hand when opening the radiator cap. Turn the cap to its first depressurising position to let the remaining pressure out and then open fully.



#### **Power equipment**

- When you finished with pressure and leakage testing of the cooling circuit, let the pressure out.

#### **Fire prevention instructions**



Do not smoke or work with an open fire during work.



Use personal protective gear such as gloves and goggles.

## **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 open the reservoir immediately after you finished driving. Wait until the temperature and the pressure in the cooling circuit goes down.
- Before opening the equalizing container, measure its temperature using the supplied one-touch thermometer. Do not open if the temperature is above 60°C.
- Observe all manufacturer instructions when opening the engine radiator cap or the equalizing container. Always use a towel to protect your hand when opening the radiator cap. Turn the cap to its first depressurising position to let the remaining pressure out and then open fully.

**If you do not follow the above-described procedure and open the cap when the coolant is hot, the boiling coolant will splash out and may cause severe burns.**

**The coolant is a poisonous liquid and penetrates your skin easily.**

**If you get sprayed by the coolant fluid wash the skin under running water immediately.**

**Observe the vehicle manufacturer instructions as well as the coolant manufacturer instructions.**

- Choose a suitable reduction adapter, based on your vehicle type and fix it on the radiator (equalizing container) cap's place.
- Connect the speed-coupling of the hand pump hose to the adapter. Slide the end of the hose on the adapter.
- Using the hand pump bring the pressure in the cooling system to value between 1 - 1.14 bar. Observe the reading on the pressure gauge.
- Inspect if the pressure is stable and if it is not leaking out.
- If the pressure goes down, you have a leakage, somewhere in your cooling system.
- When you finish the pressure inspection, let the pressure out by pressing on the release valve.
- Observe the pressure release on the gauge. The pressure gauge must read "0" pressure.
- Slide the speed-coupling socket towards the adapter and pull out the hose.
- Remove the adapter and put the original cap back.
- Wash the adapter under running water and let it dry.
- After you finished the measurements, pump the hand pump to a pressure between 1-1.4 bar and release the pressure by pressing on the release valve to clean any possible deposits. Repeat 2-3 times.