

Operators Manual

!WARNING!:

To minimise all possible risks and dangers it is essential that all operators using this machine read and understand this Manual prior using the machine for the first time. This Manual can not cover the entire scope of possible situation, therefore it is important to be very careful when using or maintaining this machine.



HL-1

DiaKat®

Lance-type propane hot-air burner

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1. Introduction

In this chapter you will find general information about the HL-1.



To insure optimal safety read this Manual prior to first use of the machine. The machine may be used only by properly trained and experienced persons.

1.1 Manufacturer

The HL-1 is manufactured by:

Huddy Diamonds s.r.o.

Ledarská 8

Prague 4

147 00

Czech Republic

Tel.: +420 244 461 926

Fax.: +420 244 461 927

V In case of any queries or problems contact Huddy Diamonds s.r.o.

1.2 Warranty

The warranty for parts and cost of repair is 12 month. The warranty is valid only if the machine is used accordingly to its specification in compliance with this Manual and maintenance schedule.

The warranty is invalid if the machine is:

- used for other work than that for which it is designed
- inadequately maintained
- unprofessionally (incorrectly) maintained
- subject to changes or alterations not approved by the manufacturer
- the warranty do not cover wear and tear parts which have to be regularly changed.

1.3 Disclaimer

The manufacturer of the HL-1 will not accept any responsibility in case of unforeseen situations, accidents or damages caused by:

- not adhering to warnings or regulations placed on the machine or contained in the Manual
- using the machine for purposes or under conditions other than those for which is designed and which are described in the Manual
- changes or alterations not approved by the manufacturer including of not using original spare parts recommended by the manufacturer
- incorrect or inadequate maintenance

The manufacturer will not accept responsibility for any subsequent damages such as loss of production, disruption of production etc.

2. Safety

This chapter contains safety rules and regulation concerning the HL-1. Read this chapter very carefully prior to using or maintaining the machine. Make yourself familiar with all safety legislation, rules and regulations for this type of work valid in the country of use.

2.1 Safety symbols

The following symbols are used in this Manual



Hints for easier operation



Possible problems warning



Danger of damage if instructions are not adhered to.



Danger of severe injury if instructions are not adhered to.

2.2 Operation

The HL-1 may be operated only by qualified and well instructed personal.



Safety rules and regulations contained in this Manual must be unconditionally adhered to.

Any breach of any of the rules, regulations and safety instructions may lead to unacceptable risks of damages or injuries.

Operators (with out exception) must be familiar with the contents of this Manual.

2.3 Maintenance

The maintenance of the HL-1 must be carried out only by qualified personnel.



The Safety rules and regulations contained in this Manual must be observed with out any exception.

Any breach of this rule may have serious consequences.

Persons carrying out maintenance of this machine must be thoroughly familiar with all the contents of this Manual.

2.4 Safety rules

When manufacturing the HL-1 all possible care was taken to implement various EU regulation concerning safety, however when the machine is used incorrectly or by unqualified person it is possible that dangerous situation may arise.



Be always alert.

The use of butane gas with this machine is prohibited.

2.4.1 Safety – general

Observe the following general safety rules:

- Avoid loose clothing and hair.

- Operator must use the following safety aids:
 - Safety helmet
 - Ear protectors
 - Face shield
 - Safety gloves
- When using the HL-1 it is necessary to insure that no persons are within the range of flying debris or the hot air stream.
- Keep hands well away from hot parts of the HL-1.
- Use the HL-1 only in open space.
- Before using the HL-1 remove from the intended working area all flammables such as paper, plastic etc
- Do not use the HL-1 in proximity of explosive materials such as gas, fuels or near any potentially dangerous substance or place.
- When the burner of the HL-1 is alight no person other than the operator should be within 3 m of the machine.
- Before leaving the machine unattended it must be fully switched and closed off.
- When the machine is not in use close off the gas supply.
- Immediately after use the machine is still hot, let it cool down before cleaning transporting or maintaining the machine.
- Before next use change all damaged parts if necessary.
- Maintenance of the HL-1 can be carried out only by correctly trained personnel.
- Appropriate fire extinguisher must be at the work site when using the HL-1.

3. Connecting the HL-1

3.1 Connecting the gas and compressed air hoses.

1. Connect the compressed air hose by means of the coupling provided.
2. Screw on the gas hose to the gas inlet on the HL-1.



Warning! The gas connection have left thread.

4. Description

This chapter contains the description of the HL-1.

4.1 Designation

Do to the weather conditions and constant use cracks occur in tar roads. If this is not treated, the eventual widening of the cracks can lead to serious damage to the road surface. Various sealing compounds are used to fill and repair such cracks. If those compounds are to be applied it is necessary to properly clean and dry out the cracks. The HL-1 was developed precisely for this purpose.

4.2 Functioning

By heating the compressed air when passing through the coiled section the HL-1 is creating strong stream of hot air (approximately 300° C). This strong stream slightly widens the cracks. The cracks are deeply cleaned all loose debris are blown out and the cracks are thoroughly dried. This ensures good adhesion of the sealing compound.

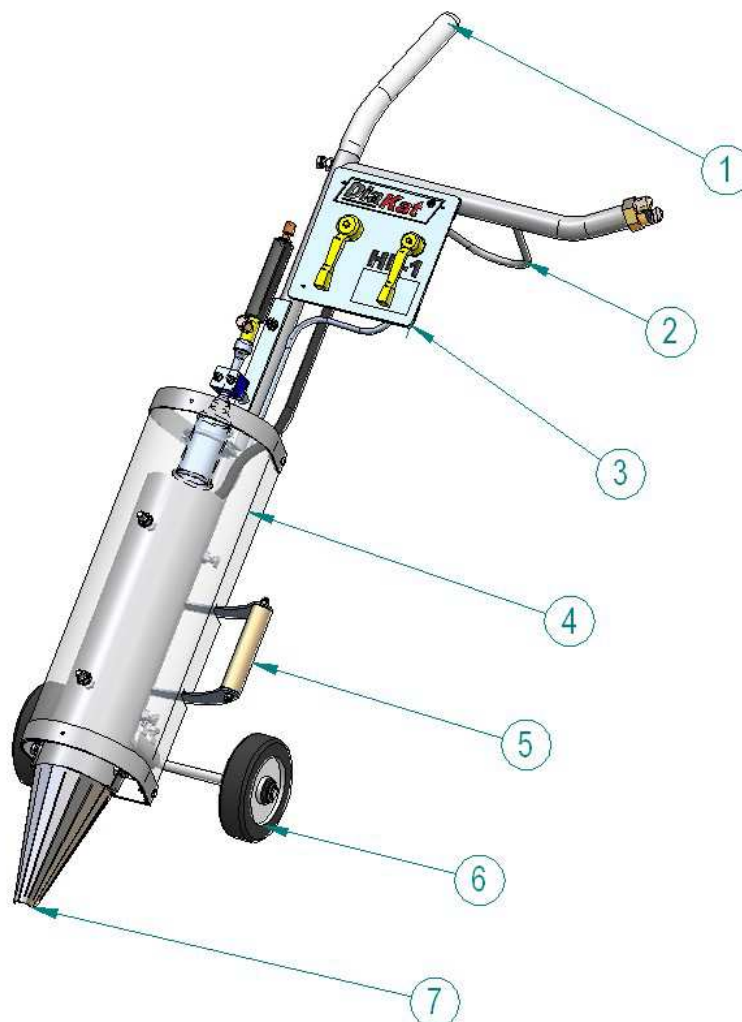
4.2.1 Preparing for use

When the HL-1 is not used all the valves should be closed.

To make the machine ready for use do the following:

Open the gas bottle valve. Switch on the compressor. Partially open the compressed air control valve. Open the gas control valve. Light the burner.

4.3 Description of the machine

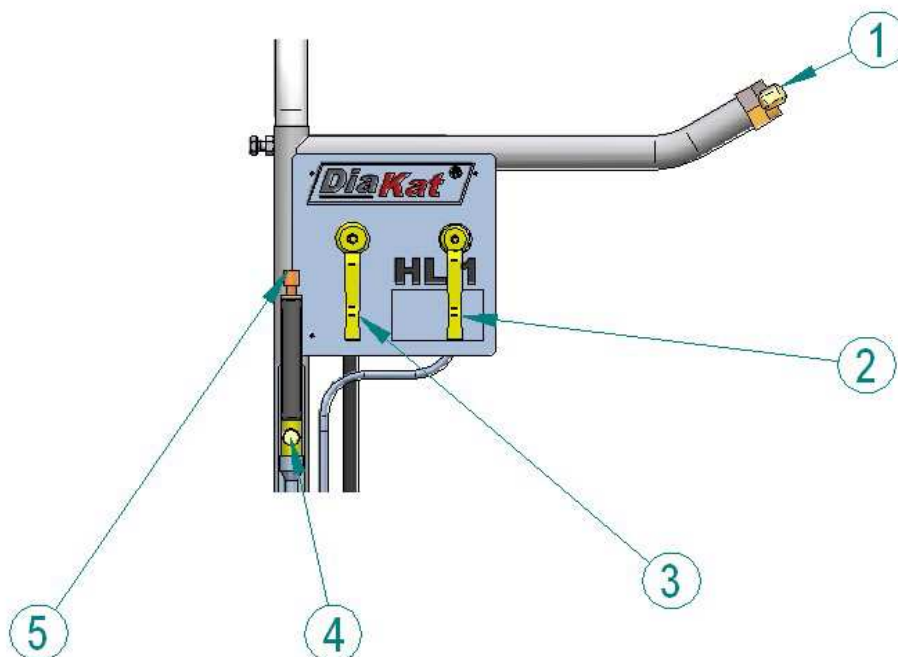


Pic.1 Description of HL-1 main parts

- 1 – Handle
- 2 – Rest
- 3 – Control panel
- 4 – Perforated cover

- 5 – Handle
- 6 – Wheels
- 7 – Stream nozzle

4.4 Description of control elements



Pic.2 Description of control elements

- 1 – compressed air coupling
- 2 – cold air control valve
- 3 – hot air control valve

- 4 – gas control valve
- 5 – gas connection 3/8“ thread - left

5. Safe operation

The Safe operation of the HL-1 is described in this chapter.

5.1 Important!



Non-compliance with the rules from chapter 2 „safety“ may cause serious safety risks.

5.2 General

5.2.1 Getting ready

When using the HL-1 the following safety aids must be used



Helmet



Ear protection



Face shield



Gloves

No loose clothing must be worn.



Not using the personal protection aids may lead to serious injury.

5.3 Launching the machine

In this chapter it is described how to launch the HL-1 after connecting it (chapter 3)



All persons operating or maintaining the HL-1 must familiarise themselves with this manual and they must understand it.

5.3.1 Pre start check up, description of control elements

The following check has to be made prior commencing work

1. Check up if all valves are closed.
2. Check up all connections of the gas hose.
3. Start the compressor.
4. Open the gas bottle.
5. Check up all possible gas leakages. (Use the special spray)
6. Check if the gas pressure is 3.5 bar min. and the compressed air pressure between 6-7 bars.



Make sure that no other person than the operator is within 3m off the HL-1.

5.3.2 Start

If and when all the check ups where carried out you can start the HL-1 as follows:

- 1) Slightly open the hot air valve (3).
- 2) Open the gas valve (4).
- 3) Light the burner.
- 4) Fully open the hot air valve (3).
- 5) The heat can be regulated by means of cooling air valve (2).

5.4 Shut down



Do not leave running machine unattended!

5.4.1 Shut down

- 1) Close the gas valve (4). Heating is stoped.
- 2) Close the gas bottle.
- 3) Wait until the HL-1 cools off.



For optimal cooling down we recommend to leave the compressed air valves (2&3) opened for 10 min.

- 4) Close the hot air and cooling air valves (3&2).



Attention! The HL-1 must be cold before it is stored next to combustible materials.

6. Gas Bottles

6.1 General

The source of the gas are gas bottles, they are not a part of the delivery

6.2 Connecting of a gas bottle

1. Check if the cap nut on the hose have undamaged seal.
2. Connect the hose to the bottle, use the appropriate spanner and tighten adequately.



Attention! The cap nuts have left hand thread.



Observe all instruction given by your gas supplier.

3. With the aid of a special spray check for gas leakages.
 - Check if all valves on the HL-1 are shut off.
 - Open the gas bottle in order to pressurize the hose., then shut off the bottle again.
 - Now with the aid of the spray check for possible leakages at all connections.
 - Repeat this procedure every time you connect a new bottle to the HL-1.



Use only propane gas.



Gas bottles may not be in close proximity off the stream nozzle.



Your gas supplier will give you an advice on storing the gas bottles.

7. Trouble shooting

This chapter deals with resolving of possible problems.

7.1 Safety



Maintenance and service may be carried out only by properly trained personal.



All above mentioned safety rules and regulations must be adhered to!

7.2 Possible faults and remedies thereof.

1. Check the following list and ascertain which description fits you problem.
2. The numbered faults have possible remedies listed next to it in the table below.

1. The stream nozzle is to hot.
2. The hot air stream is not hot enough.

Fault	Remedy
1. The stream nozzle is too hot	1. The ratio of compressed air to gas is too small. 2. The compressor's output is inadequate. 3. Gas pressure is too high. 4. There is a restricted flow in the air hose.
2. The hot air stream is not hot enough	1. Too low gas pressure. 2. The gas bottle is frozen, replace with another bottle and consult the gas supplier.

8. Set up

This chapter deals with possible set ups of the HL-1

8.1 Gas pressure

The gas pressure must be set to 3.5 bars.

8.2 Compressed air pressure

The compressor must deliver air compressed to 6-7 bars.

9. Maintenance

This chapter deals with maintenance of the HL-1.

9.1 Safety when carrying on repairs

abide by the following safety rules



Maintenance of the HL-1 may be carried out only by properly trained and qualified personnel.



Make sure that the gas bottle is closed before you start any work on the HL-1.



All above mentioned safety rules and regulations must be adhered to!



Let the supplier check your HL-1 at the beginning of the season

To ensure trouble free operation of the HL-1 it is necessary to regularly carry out the following maintenance

9.2 Daily maintenance

1. Check the gas system, pay particular attention to mechanical damages.



It is absolutely necessary to immediately repair any eventual damage.

2. Check visually and with the aid of special spray the whole of gas distribution.



The gas bottle may not be connected with out the appropriate seal.



it is prohibited to smoke in the close proximity off the HL-1



Bottles and the HL-1 must be in a safe distance from any open fire.

When checking for leakages use special leakage identification spray .

- Check if all valves on the HL-1 are shut off.
- Open the gas bottle
- The gas hose is now pressurized, close the gas bottle.
- Check all connection for leakages

Reminder

- Regularly check the availability of the spray and insure it.



Any leakages must be repaired immediately.

9.3 Yearly maintenance

Let the supplier check your HL-1 at the beginning of the season

10. Storing and transport

This chapter deals with storing and transporting the HL-

10.1 Transport



The HL-1 must be properly cooled of before transport..

10.2. Storing

1. Gas bottles must be stored accordingly to the legislation of the country where used.
2. The HL-1 must be stored in a dry place
3. Plug the air and gas hoses to prevent dirt entering.

11. Disposal

The disposing of the HL-1 must be in accordance with the legislation of the pertinent country.