

Operating Instructions

Original Operating Instructions for the NEWROX BK 81, BK 81-S
Knife Sharpening Machine

Keep these Operating Instructions for use later!



It is essential that users read and observe the Operating Instructions!

Manufacturer



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1.0 Explanation of the layout of the Operating Instructions

Mandatory signs



It is essential that users read and observe the Operating Instructions!



Wear protective goggles!



Disconnect the mains plug!



Other mandatory instructions!

Warning signs



Caution!

Risk of trapping and crushing injuries to fingers from rotating discs

> Do not touch or grasp rotating discs



Caution!

Danger from electric voltage

Warning signs



Caution!

Fire hazard from guard or knife rest contacting rotating grinding wheel or polishing disc

- > Adjust guard and knife rest so that the grinding wheel or polishing disc runs freely



Caution!

Various hazards

Prohibitory signs



Forbidden!

Do not wash the machine with a water spray or jet!

Instructions

INSTRUCTION Hints for the user and other important information and instructions

Other signs

- > Instructions are always indicated with an arrow
- 1) Lists are always indicated with a number in a single bracket

1.1 Foreword

These Operating Instructions apply to the BK 81, BK 81-S Knife Sharpening Machine for grinding knives in catering operations, and meat and foodstuffs processing. The Knife Sharpening Machine has been conceived, designed and constructed by Newrox AG, CH-4147 Aesch and is marketed in the EU by this company. The Knife Sharpening Machine is brought to the market in compliance with the requirements of the Machinery Directive and current directives, standards and regulations. According to them the BK 81, BK 81-S Knife Sharpening Machine complies with all relevant, basic safety and health requirements.

Because, by definition, the BK 81, BK 81-S Knife Sharpening Machine is a machine (Chapter I, Article 1, Sect. 2 (a) Machinery Directive), the operating instructions are based on the

Machinery Directive 2006/42/EG

Prior to placing it on the market, the Knife Sharpening Machine has been subjected *inter alia* to a risk assessment on the basis of EN 1050. The residual risk from the risk assessment was taken into account in the form of safety and conduct instructions.

To confirm conformity of the BK 81, BK 81-S Knife Sharpening Machine, Newrox AG has issued a

declaration of conformity according to the Machinery Directive,

to which a copy of the Operating Instructions is attached; the Operating Instructions thus become an integral part of placing the BK 81, BK 81-S Knife Sharpening Machine on the market. The CE mark is located on the type plate of the Knife Sharpening Machine.

1.2 Declaration of conformity

**Newrox AG
CH - 4147 Aesch / Switzerland**

EG Declaration of Conformity
in accordance with Directive 2006/42/EG

Directive 2006/42/EG applies to this product.

We declare herewith on our sole responsibility that we satisfy the obligations of Directive 2006/42/EG and that the products comply with the requirements of the directive.

In the event of any change to the product not approved by us, this declaration loses its validity.

Product designation: Knife Sharpening Machine
Type: BK 81+BK 81-S
Year of manufacture:
Serial Numbers:

Placed on the market by:
Newrox AG
Hauptstr. 105
CH-4147 Aesch

Authorised agent of EU:
Paul Schöndorf
Metallwaren GmbH
Am Untergrün 4
D-79232 March
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Further applicable Directive: EMV Directive 2004/108/EG

Standards used	:	EN 12100	Status 08.2013
		EN 13854	Status 01.2020
		EN 60204-1	Status 06.2019
		EN 14118	Status 07.2018

Aesch, 14. Juli 2021

(Signature Ceo)
Newrox AG

2.0 Scope of supply

- 1) Sharpening machine
- 2) Operating Instructions with Brief Instructions
- 3) Mains cable
- 4) Polishing paste
- 5) Oilstone
- 6) Hexagon key, 2.5 mm
- 7) Hexagon key, 6 mm
- 8) Ring spanner 10-13 mm

Supplemental cope of supply by version S

- 1) 2 support bracket for scissors
- 2) Attachment screw

2.1 Accessories

- | | |
|-------------------|--------------------|
| 1) Work bench | Order No.: SM-1020 |
| 2) Dust extractor | Order No.: SM-1010 |

3.0 Safety instructions before commissioning



Only put the Knife Sharpening Machine into operation when it has been correctly connected, and the user is thoroughly aware of its functions and of potential hazards

Commissioning shall only be carried out by an authorised, instructed specialist appointed by the operating authority.

Further procedures and measures

- 1) Check the scope of supply for transport damage and, where appropriate, take steps to repair or replace damaged parts.
- 2) Check that the Operating Instructions are present and complete. Do not use the machine without the Operating Instructions. The Operating Instructions must be available at the machine.
- 3) The Brief Instructions supplied are intended for use at the machine. They are not intended to replace the Operating Instructions. The Operating Instructions must still be read and observed.
- 4) Check functions on the basis of the Operating Instructions.
- 5) When the machine is handed over to the user, it is essential that he or she is instructed on the basis of the Operating Instructions.
- 6) Recommissioning after maintenance work:



Before recommissioning, the user or the repair personnel must make sure that the Knife Sharpening Machine can be correctly returned to service in accordance with the Operating Instructions.

In particular the electrical connection must comply with connection data, and the grinding wheel must rotate in the specified direction.

3.1 Safety concept

The hazard points and the risks arising from them have been assessed in a risk analysis. The residual risks are described below in these Operating Instructions with explanations and recommendations how they can be avoided by the operating authority and the user.

Residual hazards and risks can never be entirely excluded due to potential malicious or improper use. The residual risk arising from the Knife Sharpening Machine is reduced by warning labels on the machine calling *inter alia* for the user to wear protective goggles, and by recommendations in the Operating Instructions.

There is always a possibility of components failing due to defects in materials or inadequate strength. For the Knife Sharpening Machine, no recognisable danger for the user or repairer would arise from such causes.

Decisive for the protection of the user and third parties is the safety-optimised design and construction, and modern safety concept for the grinding and polishing processes.

The machine has the following safety features:

- 1) The grinding wheel rotates towards the cutting edge so that neither the knife nor limbs can be drawn in.
- 2) There are very small clearances between the guard and the polishing disc to prevent limbs being drawn in.
- 3) Short run-down times for the discs.
- 4) Foodstuffs hygiene is possible and sustainable because a non-porous grinding wheel (metal not ceramic) is used.

3.2 What to do in the event of an accident

- 1) Switch the machine off
- 2) Call for first-aid assistance and have wounds dressed
- 3) Inform your supervisor
- 4) Describe how the accident happened (accident log)
- 5) Inform Newrox AG about the hazard

3.3 Hazard points and types of hazard

The risk assessment for the BK 81, BK 81-S Knife Sharpening Machine found the following hazard points related to the grinding and polishing processes.

Figure showing hazard points



Fig. 1

Dangers and residual risks at hazard points during operation

Hazard point 1

The greatest danger is that through an operating error (knife blade is placed the wrong way round against the grinding wheel) the wheel will grab the knife and pieces will break off and be ejected. For this reason a guard and a knife support are incorporated. In addition, there is an arrow label to show the correct direction of rotation. To minimise the remaining residual risk, a further label on the machine and a symbol in the Operating Instructions instruct the user to wear protective goggles.

The likelihood of body parts being caught up, drawn in, crushed or abraded is very low due to the protective measures adopted, and so presents a very small danger.

Hazard point 2

The likelihood of body parts being caught up, drawn in, crushed or abraded is very low due to the protective measures adopted, and so presents a very small danger. To protect against ejected particles (dust), we recommend that dust extraction is used, and the user is instructed to wear protective goggles.

Consideration of general hazards

User

For the user the residual risks are relatively low, because hazard points that result from process motions are avoided by the safety concept described above.

Maintenance and repair personnel

Maintenance and repair personnel are far more exposed, because they must work on the machine when it is open and protective equipment switched off.

The machine can be operated by a third party. The machine can also be operated by Maintenance or repair personnel. Therefore:



Caution!

Risk of trapping and crushing injuries to fingers from rotating discs

> Do not touch or grasp rotating discs



Caution!

Danger from electric voltage

> Before opening the housing disconnect the mains plug!

For maintenance and repair personnel, appropriate measures must be taken to avoid hazards, for example, by means of a clear instruction to disconnect from the mains before opening the machine. In principle, all hazards that apply to the user could also affect maintenance and repair personnel.

Other hazards

Other dangers arise from electrical energy – protective measures:

Besides the above hazards, fundamentally the danger of electric shock can arise from any machine operated by electric power as a result of the failure protection systems or wear.

Here, protective measures are correct operation, repeated inspection of the equipment to ensure that type-related requirements remain fulfilled, regular maintenance and repair, and the notification and rectification of faults and damage.



Caution!

Hazards due to dust

The small amount of abraded material can be removed by connecting a dust extractor.

INSTRUCTION

> If a dust extractor is not connected, wear a dust-protection mask. In Germany the operating authority must ensure that the work safety regulations and the instructions and regulations of the Berufsgenossenschaft (BGR), and in Switzerland those of the Schweizerischen Versicherungsanstalt (SUVA) are strictly observed. Similarly, if the machine is used in another country, the relevant work safety regulations there must be observed. In addition, suitable personal protective equipment (PPE), for example ear defenders, protective goggles, and dust-protection masks must be available; such equipment must also comply with relevant EU directives.

3.4 Intended use

Section 4.0 defines “Requirements of the operating personnel” and provides useful information to aid their selection. A substantial part of proper use and avoiding incorrect use is already covered there. In the construction of the machine, it is assumed that the machine will be used for the intended purpose. This has led the designer to construct the machine so that improper use is prevented or at least very difficult.

The BK 81, BK 81-S Knife Sharpening Machine has been designed and constructed for grinding knives in catering operations, in meat and foodstuffs processing, and for sharpening-service providers.

It is only suitable for use as a stationary, bench-mounted unit.

- 1) The BK 81, BK 81-S Knife Sharpening Machine is intended exclusively for commercial use.
- 2) The BK 81, BK 81-S Knife Sharpening Machine is suitable for steel-bladed knives with hardness in the 50 - 65 HRC range.
- 3) The BK 81, BK 81-S Knife Sharpening Machine may only be used when it is in perfect technical condition (see Section 5.0, Technical Data).
- 4) When installing and commissioning the machine, the ambient conditions must be observed, in particular with regard to electrical safety (degree of protection, protection class, connection to the mains).
- 5) The machine must always be switched off after use
- 6) In the event of faults in the power supply and/or damage to the electrical or mechanical equipment, the BK 81, BK 81-S Knife Sharpening Machine must be switched off immediately and the main switch secured against uncontrolled switching back on.
- 7) Any faults or damage found must be corrected without delay.
- 8) The connection data, conditions for use, and performance data defined under proper use may not be changed.
- 9) The BK 81, BK 81-S Knife Sharpening Machine may not be modified or otherwise changed without prior consultation with and written approval from Newrox AG.
- 10) The protective equipment installed by Newrox AG must – except when expedient for maintenance or repair – always be present, correctly installed and fully functional. Protective equipment must never be circumvented or rendered ineffective.
- 11) Safety components such as limit switches, valves and other control system components may not be rendered non-functional.
- 12) The operating authority and the user must take suitable measures to forbid or prevent uncontrolled access to the immediate vicinity of the BK 81, BK 81-S Knife Sharpening Machine (even when it is out of service).
- 13) Persons who are under the influence of alcohol, other drugs or medications which impair their reactions may not use, repair or maintain the BK 81, BK 81-S Knife Sharpening Machine.

3.5 Improper use

Axes, scissors and related objects may not be ground on this machine! Scissors only with version „S“. The machine is not suitable for knives with a serrated edge!

Accidents can only be avoided and trouble-free operation of the BK 81, BK 81-S Knife Sharpening Machine ensured if these Operating Instructions are strictly observed by the operating authority and the user.

Observing the Operating Instructions:

- 1) reduces downtime and repair costs
- 2) extends the useful life of the BK 81, BK 81-S Knife Sharpening Machine
- 3) ensures safe, ecologically sound operation

The Operating Instructions must be kept in a known location in the vicinity of the machine so that they are accessible to the user at all times.

The Operating Instructions must be read, understood and observed in all points both by the personnel responsible for the machine and by those using it.

4.0 Requirements of the operating personnel

This product is intended exclusively for commercial use.

Users or operating personnel should be persons who, on the basis of their specialist training, knowledge and experience, their knowledge of relevant national legal regulations, and of the Operating Instructions are able to:

- 1) assess the work with which they have been entrusted,
- 2) carry it out safely,
- 3) recognise potential hazards,
- 4) and take the measures necessary to eliminate the accident potential associated with operation.

Minimum age

Persons under the age of 18 who are under instruction, undergoing training, or under supervision are not permitted to carry out any work on the Knife Sharpening Machine. This does not apply to youths who are at least 16 years old if:

- 1) it is necessary for them to operate the Knife Sharpening Machine in order to achieve a training objective;
- 2) the protection of such youths is assured by the presence of an experienced specialist;
- 3) and the work equipment, tools and protective equipment used exclude the possibility of injury.

Training

The operating authority must train users and operating personnel regularly in the following subjects:

- 1) Observance and use of the Operating Instructions and legal requirements,
- 2) Proper use of the Knife Sharpening Machine,
- 3) Yearly instruction in occupational safety and accident prevention,
- 4) Behaviour in an emergency, and safety and hazard warnings for users and operators.

5.0 Technical data for the BK 81

Designation	Knife Sharpening Machine	
Type	BK 81, BK 81-S	
Serial number		
Year of manufacture		
Machine type	Bench-mounted unit with electric motor drive for a grinding head and a separate polishing disc.	
Associated secondary production processes	Motor, sheet-metal work, metal machining, electrical system for drive and controls, polishing disc manufacture	
Processing time	Depends on the type of grinding operation to be carried out on the knife or similar object and the composition of the blade material	
Operating personnel	One person suitably trained and instructed on the Knife Sharpening Machine, where appropriate with reference to BG guidelines or SUVA rules	
	Motor connection	230 V, 250 VA
	Degree of protection	IP 20
	Protection class	I
Protective equipment	Guard for the grinding wheel, housing, electrical protective equipment	
External dimensions	Length 310 mm, width 360 mm, height 245 mm	
Total weight ready for use	13 kg	
Noise level	A-weighted equivalent continuous sound pressure level: <80 dB(A) Noise level at workplace: <80 dB(A)	
Control system	ON-OFF switch	

6.0 Description and function of the BK 81, BK 81-S Knife Sharpening Machine

The Knife Sharpening Machine is a metal-cutting machine designed to bring handheld knives in foodstuffs processing or sharpening services to optimum sharpness. The machine and its grinding unit (grinding wheel) are designed to ensure uniform grinding results under different types of use and handling.

The prerequisite is that the knives, due to the process used in their manufacture and their material, are suitable to provide optimum results in the Knife Sharpening Machine. This presupposes that the operator has been suitably instructed, and that the unit is in perfect working order.

6.1 Description of the machine

Grinding and polishing discs are driven by a motor with two shaft ends. The polishing disc is mounted directly on the right-hand shaft end. The grinding wheel is driven by a timing belt from the left-hand shaft end. Both discs rotate in the same direction.

Operation of the Knife Sharpening Machine is explained in detail in Section 10 of these Operating Instructions.

A drawing in Section 12.7 shows an exploded view of the machine with its individual components numbered. A table on the page following the drawing lists the parts against their numbers as shown in the drawing. There is a wiring diagram on the page after that.

6.2 Purpose of the machine

Two operations can be carried out using the Knife Sharpening Machine:

- 1) Grinding – the knife is drawn between the grinding wheel and the rest, alternately from the left and the right until a grinding burr is formed.
- 2) Polishing – afterwards the burr on the cutting edge caused by grinding is polished away.

7.0 Transport

For transport and loading no special conditions have to be fulfilled. The packing, loading and load-securing measures that are normal for goods of this type apply.

The Knife Sharpening Machine and its parts are packed by Newrox AG so that in normal transport by road, rail or air freight no damage can occur that is likely to cause an undetectable safety risk during unloading, installation or operation. Should, however, damage occur during transport, this is the responsibility of the transport company, which must provide evidence of appropriate insurance and approval to Newrox AG or the operating authority.

It is a precondition that all vehicles and equipment within the transport chain comply with current work safety and accident-prevention regulations, and that the persons involved have the necessary technical qualifications and competence.

INSTRUCTION

Following transport of the Knife Sharpening Machine or its components and sub-assemblies, it is essential that, before the machine is installed, an inspection for transport damage is carried out to determine whether the machine and parts are defect free for subsequent operation.

8.0 Installation and initial commissioning

Installation and initial commissioning of the Knife Sharpening Machine are carried out by the purchaser or operating authority. The operating authority must ensure that the operating personnel is instructed in all aspects of its use.

These actions must be carried out in accordance with the Operating Instructions. The components and sub-assemblies of the Knife Sharpening Machine do not give rise to any hazard, e.g. from auxiliary materials.

The general work safety and accident-prevention regulations for the country in which the machine is installed apply.

8.1 Requirements of the installation location

The machine is only suitable for use in dry rooms in the temperature range from +10 to +30 degrees Celsius.

The Knife Sharpening Machine is a bench-mounted unit which requires a mounting sufficiently stable for its weight and use.

The mounting surface must be flat and horizontal. In particular, it must be in a room that permits safe operation of the Knife Sharpening Machine.

8.2 Cleaning after installation

INSTRUCTION Keep the machine and its surroundings clean!

9.0 Assembly and commissioning

This section indicates the main work steps that it is important for the operator to follow in order to ensure danger-free switching on and off, grinding and polishing.



In the event of a fault or a warning, the person responsible for the Knife Sharpening Machine must always be notified. Correction of a fault by the Operator or a person not authorised to do so is a potential danger to the operator and third parties.

The machine is supplied assembled and ready to use.

- 1) Remove the machine from its packing.
- 2) Check that it is complete – see Section 2.0, Scope of supply.
- 3) Connect the mains lead

9.1 Control elements

The ON-OFF switch is on the left side of the machine.

Press the green button: ON

Press the red button: OFF

The dust extractor (available as an accessory) is switched on and off with the machine. For it to operate, its plug must be connected to the appropriate socket, and the dust extractor tube to the nozzle on the machine.



Fig. 2

10.0 Handling

The Operating Instructions must be used to ensure proper use of the Knife Sharpening Machine and to recognise faults. The Brief Instructions supplied are intended for use at the machine. They are not intended to replace the Operating Instructions. The Operating Instructions must still be read and observed.

10.1 Grinding and polishing procedure



Wear protective goggles!



Caution!

Do not use the machine to sharpen axes, hatchets, wavy-edged knives etc. This machine is only suitable for meat knives, kitchen knives etc. that do not have grooves or a wavy edge. Excessive pressure on the grinding wheel will cause blueing of the knife.

- 1) Stand in front of the machine.
- 2) Start with the handle as close as possible to the grinding wheel.
- 3) Without pressure, draw the handle to the right, away from the grinding wheel.
- 4) The blade should contact the grinding wheel in the middle of its width. Raise the handle progressively as you move the knife so as to give the blade the required form. Important! The blade must not become discoloured.



Fig. 3

- 5) Allow the tip of the knife to grind out with the grinding wheel in the middle of the blade width (do not draw the knife beyond the grinding wheel).



Fig. 4

- 6) You can grind just the tip of the knife – it is not always necessary to grind the whole blade.
- 7) Repeat the whole procedure for the other side of the knife. This time the knife handle must be to the left of the grinding wheel.



Fig. 5

Important! Repeat the grinding operations until there is a fine grinding burr all the way along the cutting edge. Next, the blade must be polished.

- 8) Apply abrasive paste to the polishing disc.



Fig. 6



Caution!

Fire hazard from guard or knife rest contacting rotating grinding wheel or polishing disc

> Adjust guard and knife rest so that the grinding wheel or polishing disc runs freely



Caution!

Danger of knife “catching” due to an operating error!

> Never place the knife blade the wrong way round against the polishing disc!

- 9) Polish the blade on both sides, working horizontally from the middle of the ground zone, until the grinding burr has been removed.



Fig. 7



Fig. 8

- 10) Before using the knife again, clean off particles of grinding dust and polishing paste.

Grinding procedure of scissors (only possible with BK 81-S)

Only for household-, handycraft-, paper-, carpet- and dressmaker scissors without spike or mikrospike! **Only for top side grinding of scissor.** Not for innerface or spike grinding.

- 1) Replace the scissors stop!



Fig. 9

- 2) Unscrew scissor or, when it is not possible, swing open.
- 3) If necessary: Clean, derust, whetting inner face.



Fig. 10

- 4) Grinding top side. Put scissor with innerface on bearing area.
- 5) Begin grinding from the handle, without pressure.



Fig. 11

- 6) Draw scissor to the right. Control grinding pattern. Repeat the operation until there is a fine grinding burr all the way along the cutting edge.



Fig. 12

- 7) Drawing off the burr with an oelstone.
- 8) Clean scissor, oil, replace and adjust it. Control the tips to overlap. Otherwise trim the tips until there overlap.

10.2 Instructions for use

For the operator of the Knife Sharpening Machine, the operating authority must write work instructions and hang them up or otherwise make them available at the place where the machine is installed/used.

11.0 Faults and fault rectification

INSTRUCTION

In the event of a fault, danger for the operator only arises if he or she acts contrary to the Operating Instructions, for example, makes an unauthorised intervention and tries to correct the fault himself (herself).

The rectification of faults is to be carried out exclusively by persons authorised to do so by the operating authority, or by NEWROX Service.

Fault	Possible cause	Remedy
Machine does not run	- No power	- Check mains connection
	- Build up of dirt in the machine due to poor maintenance	Attention! Observe safety instructions - Disconnect the mains plug! Clean the machine as described in Section 12.4
	- Timing belt broken	Check as follows: - Disconnect the mains plug! - Turn the polishing disc with your finger (if the grinding wheel does not turn as well, the timing belt is broken or has jumped its pulleys. Contact the supplier and have the belt replaced.)
Machine vibrates severely	- Polishing disc is out of balance, e.g. due to moisture	Attention! Observe safety instructions - Disconnect the mains plug! - Change polishing disc as described in Section 12.5.
Knives not being properly sharpened	- User error	- Contact the supplier
	- Grinding wheel worn out	Attention! Observe safety instructions - Disconnect the mains plug! - Change grinding wheel as described in Section 12.5.

12.0 Maintenance, repairs, cleaning and care

The term “corrective maintenance” describes all measures aimed at conserving and reinstating the proper condition, and to determining and assessing the current state of the technical means of a system or the system itself.

The above measures are sub-divided into:

Inspection (determining the current state)

E.g. checking compliance with occupational safety and accident-prevention regulations, checking settings or reference values.

Maintenance (conservation of the intended condition)

E.g. cleaning, replacing auxiliary materials and substances, replacing small wear parts (seals), retightening loose parts.

Repair work (reinstating the intended condition).

E.g. repairs following faults, failures or damage, or replacement of parts subject to wear. After repair work, a functional test must be carried out and documented in a report.

The operating authority must keep a logbook describing all maintenance and repair work. The inspections called for by occupational safety and accident-prevention regulations are to be documented by filing the relevant inspection reports. This calls for accessible files containing the relevant, up-to-date technical rules and regulations.

The logbook must contain the contents specified above and be kept up to date.

12.1 Maintenance personnel (qualification and authorisation)

We recommend that repairs and corrective maintenance are carried out by persons authorised by Newrox.

We accept no responsibility for unauthorised maintenance personnel that do not come from Newrox AG.

12.2 Safety instructions for repair work

In order to avoid danger for maintenance personnel and third parties, the hazards mentioned in Section 3.3, arising from the various measures necessary for repairs and corrective maintenance, must be taken into account. In addition, the instructions and work instructions given in Section 12.3 must be followed.

12.3 Instructions and work instructions

- 1) All repair and corrective maintenance work must be carried out in good time, properly and completely.
- 2) Before starting repair and corrective maintenance work, inform the user of the Knife Sharpening Machine and the safety officer appointed by the operating authority. Third parties who could come into the effective area of the Knife Sharpening Machine should also be informed.
- 3) Secure the maintenance area, before starting repairs and corrective maintenance, in accordance with the occupational safety and accident-prevention regulations.
- 4) When you switch the Knife Sharpening Machine off, secure the main switch against unintentional or negligent switching back on.
- 5) Ensure that there are only authorised persons in the working area.
- 6) For exchange/replacement use only new, identical and tested components, spare parts and operating materials in original-equipment quality as listed in Newrox AG Technical Documentation. The installation of used or untested components is forbidden for safety reasons.
- 7) Every time before you (re)commission the machine, make sure that all protective devices are properly installed and have been tested to ensure that they function correctly.
- 8) Inform affected personnel from the operating authority before recommissioning the Knife Sharpening Machine.

12.4 Cleaning and care

Cleaning and care may only be carried out by persons authorised to do so by the operating authority.



Disconnect the mains plug!



Forbidden!

Do not wash the machine with a water spray or jet!

After about 20 hours operation, the interior of the machine must be cleaned to remove grinding debris. To clean the grinding machine, remove the screws holding the housing cover. Use a vacuum cleaner to remove grinding debris, then replace the cover (take care not to pinch the cable) and tighten the cover screws. Take care not to over tighten the screws. To clean the outside of the housing, use a pH-neutral cleaning agent.

After cleaning and care with a liquid, do not put the machine back into operation immediately – allow the unit to dry after cleaning, or use dry cloths to wipe it dry.

12.5 Instructions for changing grinding wheels and polishing discs

Grinding wheels and polishing discs may only be changed by Newrox Service or persons authorised to do so by the operating authority.

Use only original grinding wheels, polishing discs and abrasive paste, otherwise the quality of the results cannot be guaranteed. The grade of the grinding wheel, the polishing disc and the abrasive paste are precisely adapted to each other.

Changing the **grinding wheel** (see drawing in Section 12.9)



Disconnect the mains plug!

- 1) Undo the four screws, Pos. 157, holding the cover, Pos.14
- 2) Remove the cover and place it on the left beside the machine
- 3) Take care that the cable connections are not disturbed
- 4) Hold the shaft, Pos. 012, with a 19 mm open-ended spanner in the middle and undo the nut Pos. 160
- 5) Remove the grinding wheel, Pos. 13, and replace it with a new one
- 6) Use the new self-locking nut supplied, Pos.160, to secure it, Tightening torque: 35 Nm
- 7) Replace the cover – take care of the cable connections – fit the four screws and tighten them **gently**
- 8) Check that the grinding wheel and polishing disc turn freely without rubbing on the housing

Changing the **polishing disc** (see drawing in Section 12.9)



Disconnect the mains plug!

- 1) Undo the four screws, Pos. 157, holding the cover, Pos.14
- 2) Remove the cover and place it on the left beside the machine
- 3) Take care that the cable connections are not disturbed
- 4) Undo the screw, Pos.159 (left-hand thread), while holding the polishing disc, Pos.107, with the other hand
- 5) Remove the screw, Pos.159
- 6) Remove washers, Pos.169 and 161, and clamping disc, Pos. 008, remove the polishing disc, Pos. 107, and replace it with a new one
- 7) Replace the clamping disc and washers, and tighten the screw, Pos.159
- 8) Replace the cover taking care of the cable connections, then fit the four screws and tighten them **gently**
- 9) Check that the grinding wheel and polishing disc turn freely without rubbing on the housing

12.6 Preventive maintenance and repair plan

Task	How often	Material, procedure
Clean interior	Every 20 hours operation	See Section 12.4, Cleaning and care
Change polishing disc	When worn to \varnothing 165 mm	See Section 12.5, Changing the polishing disc
Change grinding wheel	Every 10,000 grinding operations	See Section 12.5, Changing the grinding wheel
Maintenance and change timing belt	Every 5 years	Contact the supplier

12.7 Testing

The Knife Sharpening Machine must be tested every time before commissioning or recommissioning, e.g. after repair work, to ensure the safety devices function and that the machine operates correctly. Similarly, a regular test (generally once a year) is to be carried out. Use the test report, below, for these tests.

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Test Report for BK 81.BK 81-S Knife Sharpening Machine

Reason for test: Regular First time / Before recommissioning

Scope of test: Visual and functional test Other

Type of machine: _____ Manufacturer: Year of manufacture: _____ Type: _____

Machine No.: _____ Operating hours: _____ Electrical connection: _____ Location: _____

Test items (in the event of a defect, mark the test item with a cross and describe the defect in the box, below)

Documentation: Test log Operating / assembly instructions Works log

Markings: Labels Hazard point markings

Labels: Warning labels Direction arrows CE marking

Components and Installation Supports Power supply Covers

equipment Electrical Manual Drive Other

(e.g. mains and isolation switch, safety switch, switch lock,
limit switch, drive, main switch)

Control items: Overload fuses, control systems, regulation, measurement devices

Leads Drive / consumers Display / signals

Control elements

Illumination of workplace Insulation / contact protection

Power failure Other

Safety distances Safety distances Crushing and shearing points

Access Access / working posture Other

Other items: External condition Working and auxiliary substances Sound / Noise

Emissions Maintenance / Inspection First aid

State of tooling (grinding wheel, polishing disc)

Result of test

Minor defects: (correction at next maintenance)

Substantial defects: (correction of defects before next use)

Dangerous defects: (it is recommended that the unit is temporarily taken out of use)

Overall result: Test object has no defects has defects

Description of defects:

Retesting Yes No

Sticker applied Yes No

Test date:

Next test:

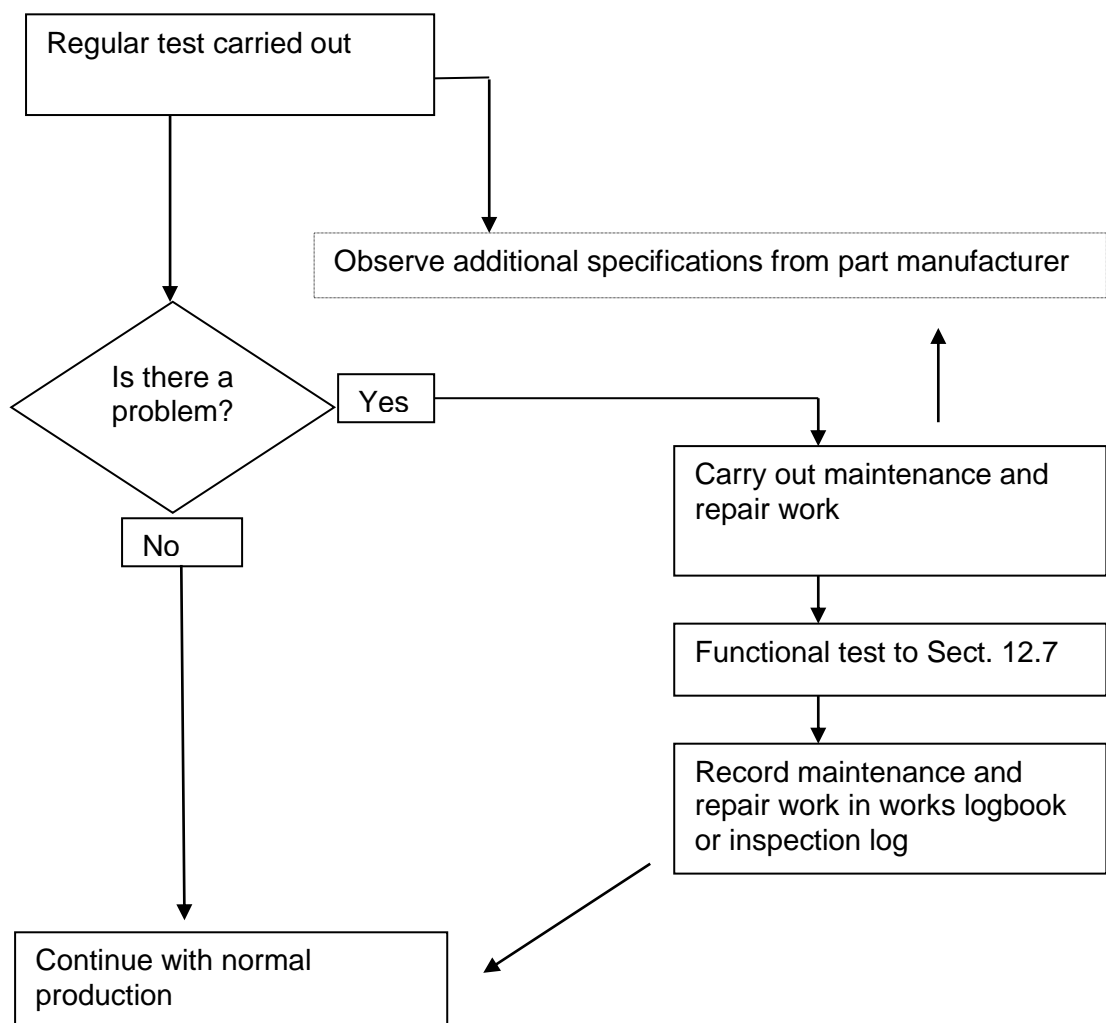
Inspector: Name

Signature:

12.8 Maintenance and repair procedure

The maintenance and repair procedure for the Knife Sharpening Machine depends on consistent, regular testing of the items given in Sections 12.6 + 12.7.

Procedure diagram for maintenance and repair work



12.9 Drawings and plans

Parts and spare parts list

Pos.	Description	Quantity	Order number
1	Baseplate	1	8101
2	Motor rail	2	8102
3	Bearing housing	1	8103
4	Base stop	1	8104
252	Rest head 0°, 5°, 10°	1	81252
6	Sliding plate, spring plate	1	8106
7	Extraction nozzle	1	8107
8	Clamping disc	2	8108
9	Spacer	1	8109
10	Dust protection plate	1	8110
11	Dust guide plate	1	8111
12	Shaft	1	8112
13	Grinding wheel	1	8113
14	Cover	1	8114
15	Protection plate, polishing disc	1	8115
16	Knife rest	1	8116
17	Spacer tube	2	8117
18	Earthing shoe	1	8118
50	Electric motor EBSR 63K2	1	8150
51	Button	1	8151
52	Connector block Type 0712	1	8152
53	Relay	1	8153
54	Capacitor	1	8154
100	Buffer	4	81100
101	Buffer washer	4	81101
103	Ball bearing	2	81103
104	Timing belt pulley Z20	1	81104
105	Timing belt pulley Z25	1	81105
106	Timing belt	1	81106
107	Polishing disc	1	81107
108	Cable sleeve	1	81108
109	Rubber section	1	81109
150	Socket cap screw	4	81150
151	Socket cap screw	1	81151
152	Hex. hd. screw	4	81152
153	Hex. hd. screw	1	81153
154	Socket cap screw	4	81154
155	Countersunk screw	4	81155
156	Hex. hd. screw	4	81156
157	Raised csk. screw	15	81157

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Pos.	Description	Quantity	Order number
158	Hex. hd. screw	1	81158
159	Hex. hd. screw	1	81159
160	Hex. nut, self-locking	2	81160
161	Washer	2	81161
162	Washer	4	81162
163	Washer	4	81163
164	Serrated washer	8	81164
165	Acorn nut	2	81165
166	Parallel key	1	81166
167	Serrated washer	4	81167
168	Toothed washer	1	81168
169	Serrated washer	2	81169
170	Spring washer	1	81170
171	Washer	1	81171
200	Label, Newrox BK 81"	2	81200
201	Label "Wear protective goggles"	1	81201
202	Label "Disconnect mains plug"	1	81202
203	Type plate	1	81203
204	Label "Caution electric voltage"	1	81204
205	Label "Direction arrow"	2	81205
206	Earth label	2	81206
250	Polishing paste	1	81250
251	Oilstone	1	81251
253	Mains cable	1	81253
254	Hexagon key 2,5	1	81254
255	Hexagon key 6	1	81255
256	Ring spanner 10-13		81256
301	Scissors stop 85°- only for Version „S“	1	81S05
302	Scissors stop 75°- only for Version „S“	1	81S06

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Parts list for exploded drawing

Pos.	Description	Pos.	Description
1	Baseplate	150	Socket cap screw
2	Motor rail	151	Socket cap screw
3	Bearing housing	152	Hex. hd. screw
4	Base stop	153	Hex. hd. screw
252	Tilting head stop 0°, 5°, 10°	154	Socket cap screw
6	Sliding plate, spring plate	155	Countersunk screw
7	Extraction nozzle	156	Hex. hd. screw
8	Clamping disc	157	Raised csk. screw
9	Spacer	158	Hex. hd. screw
10	Dust protection plate	159	Hex. hd. screw
11	Dust guide plate	160	Hex. nut, self-locking
12	Shaft	161	Washer
13	Grinding wheel	162	Washer
14	Cover complete	163	Washer
15	Protection plate, polishing disc	164	Serrated washer
16	Knife rest	165	Acorn nut
17	Spacer tube	166	Parallel key
18	Earthing shoe	167	Serrated washer
		168	Toothed washer
50	Electric motor EBSR 63K2	169	Serrated washer
51	Button	170	Spring washer
52	Connector block Type 0712	171	Washer
53	Relay	200	Label, Newrox BK 81"
54	Capacitor	201	Label "Wear protective goggles"
		202	Label "Disconnect mains plug"
100	Buffer	203	Type plate
101	Buffer washer	204	Label "Caution electric voltage"
		205	Earth label
103	Ball bearing		
104	Timing belt pulley Z20	301	Scissors stop 85°- only for Version „S“
105	Timing belt pulley Z25	302	Scissors stop 75°- only for Version „S“
106	Timing belt		
107	Polishing disc		
108	Cable sleeve		
109	Rubber section		

13.0 Instructions for disposal

When disposing of the machine, observe local legal requirements.

The machine contains no hazardous substances (possible exception: materials that may be incorporated in electrical components)

14.0 List of drawings and diagrams supplied

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Parts list for exploded drawing	Page 37
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