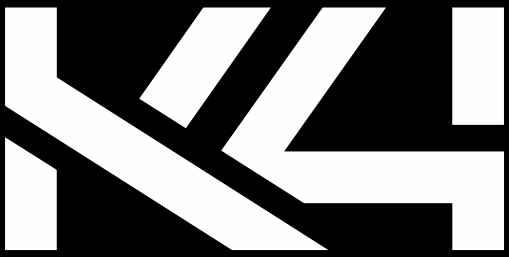
TSPROF



TSPROF K4 SHARPENING SYSTEM

USER MANUAL

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WARNING!

Before using the TSPROF K4 sharpening system, thoroughly read this User Manual (hereinafter referred to as the Manual). Incorrect use of the System may lead to its breakdown. Strict adherence to the rules of this Manual will prevent injuries and damage to the System.

The manufacturer is not responsible for any damage caused by improper use of the System.

2. Purpose

The TSPROF K4 sharpening system (hereinafter referred to as the System) is a universal sharpening system that provides double-sided sharpening of knives without removing the blade from the clamps for sharpening the back side of the blade.

3. Specifications

General specifications

Swivel mechanism	Automatic locking
Maximum distance between clamps	160 mm
Acceptable deviation after rotation	±0.1°
Mounting point for clamps	20 mm
Lateral load for 0.1° clamping arm deviation	more than 30N (3 kg)
Sharpening angle adjustment mechanism	3-stage
Angle setting accuracy	up to 0.01° ±0.003°
Dimensions assembled, without abrasive holder DxWxH, mm	370 x 230 x 245
Weight	5.8 kg

Abrasive holder

Assembled length	730 mm
Guide rod diameter	8 mm
Length of abrasives	from 20 to 215 mm
Maximum allowable weight of abrasive stone	250 g
Maximum travel of the guide rod	360 mm

Clamps

The standard kit includes TSPROF Quick clamps.

Maximum clamping force	300N
Maximum knife spine thickness	7 mm
Quick clamps jaw width	24 mm
Minimum sharpening angle*	12°
Maximum sharpening angle*	39.5°
Screwdriver size for clamps	not required

* when the clamped blade width sticking out from the edge of the clamp jaws is 17 mm, abrasive stone thickness is 4 mm and blade spine thickness is 2.4 mm. Angles may vary depending on knife and abrasive specifications.

Angle finder

Type	electronic angle finder
Resolution	0.1°
Measuring accuracy	±0.1°
Mounting method	Special rail
Battery	Li-pol, 180mah, 3.7V
Charging port	USB Type C
Operating time	at least 8 h
Time to full charge	15-20 minutes

4. Safety requirements

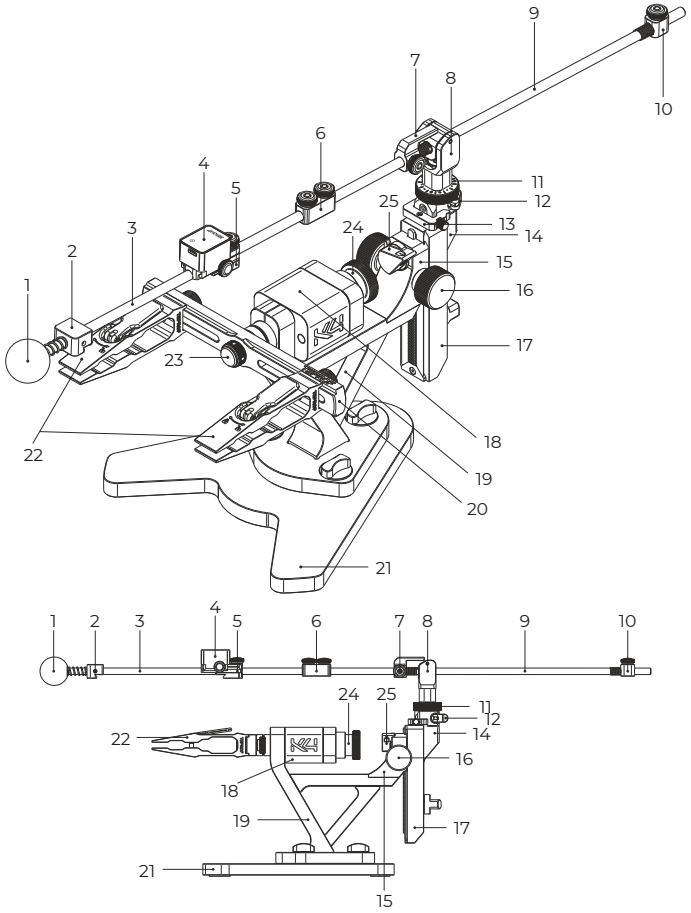
- Before using the System, be sure to read this User Manual carefully. Use of the device by persons not familiar with this manual is strictly prohibited.
- The System is not intended for use by persons (including children) with reduced physical, mental or intellectual abilities, or lack of experience and knowledge, unless they are supervised or instructed by a person responsible for their safety.
- The System may be operated by minors only under adult supervision.
- Before starting work with the System, prepare the workplace. There must be no foreign objects in the working area of the System. The workplace must be well illuminated.
- Make sure that the System is stable on the surface. When using a C-clamp, make sure that the clamp is well tightened and the body is securely fixed to the work surface.
- To prevent cuts, do not touch the cutting edge of the knife with your hands. It is recommended to wear cut-resistant gloves when working with the System.
- During sharpening work, beware of accidental activation of the swivel mechanism, if the locking force is weak or excessive pressure is applied to the abrasive holder. Adjust the locking force so that a certain amount of force is required to turn the arm. WARNING Excessive locking of the swivel mechanism reduces the service life of the sharpening system and can cause malfunctions.
- Do not leave exposed, uncovered knives or the system prepared for use within the reach of children and animals.

Your TSPROF K4 has a number of features:

- The abrasive holder with Axicube Shift electronic angle finder allows you to monitor the sharpening angle in real time and track any changes in angle with an accuracy of 0.1°, e.g. when changing abrasives. The display is easy to read in all lighting conditions. The angle finder sensor is vibration resistant. The angle finder is mounted on a special rail and can be removed from the rod to reduce the load on the abrasive.
- The steel guide rod of the abrasive holder allows the abrasive stone to be securely fixed both with and without the backing plate. The abrasive holder rod remains straight after assembly, both when free and under load. The rod is equipped with spring assisted stroke limiters, which prevent the abrasive stone from coming off the blade surface during work. Reliable fixation of moving elements without using a screwdriver is realized by means of cylindrical bushings with holes, which are shifted by turning the nuts. A sleeve-coupling with a hole is used to connect the guide and the abrasive holder, allowing visual verification of correct positioning of the rod ends.
- The rack and pinion height adjuster is made of aircraft aluminum and allows a three-stage setting of the sharpening angle. Coarse adjustment (accuracy up to 1°) is performed using the sliding block, fine adjustment (accuracy up to 0.1°) with the rack and pinion mechanism, and ultra-fine adjustment (up to 0.01°) with the micro-feed mechanism. The use of a steel helical rack in the height adjuster design allows smooth operation of the gear-rack tooth pair. Position locks of moving elements allow to securely lock the slider and rack positions in one movement.
- The height adjuster has a removable thickness compensator, which allows you to quickly set the desired angle when changing the stone. A spring-loaded ball allows the abrasives to be inserted and removed from the compensator without damaging the contact surfaces.
- The micro feed unit changes the angle in increments of less than 0.1°, which is especially useful for deburring and working with very fine abrasives. An eccentric lever locks the microfeed. The unlocked position of the lever indicates that you must lock it before starting work. Turning the adjustment wheel produces distinct clicks, and each click indicates a 0.01°* change in angle. Turning the wheel clockwise decreases the angle, and turning it counterclockwise increases the angle.
- The hinge unit ensures smooth rod movement without play and allows using the parking position to set the rod with the abrasive holder in the non-working position.
- Swivel mechanism. A trapezoidal thumbscrew at the back of the rotary mechanism smoothly adjusts the force required to flip the arm with clamps. The mechanism also includes a full swivel lock, which proves useful during knife reprofiling, prolonged coarse sharpening when the knife experiences heavy loads and vibrations, and when sharpening especially long blades, giving extra protection against accidental swiveling.
- The TSPROF Quick eccentric clamp securely holds knives with thicknesses from 1 to 7 mm. A fast and easy way to clamp a knife with a force of 300 N without using screwdrivers.
- Removable clamping arm. You can remove the knife without removing it from the clamps at any stage of sharpening to check the condition of the cutting edge and return the knife to its original position in the sharpening system. You will not need to set the sharpening angle again, position the knife in the clamps or find the angle of the bevel.

*Depending on the chosen angle, the value can range from 0.008° to 0.013°.

5. Design

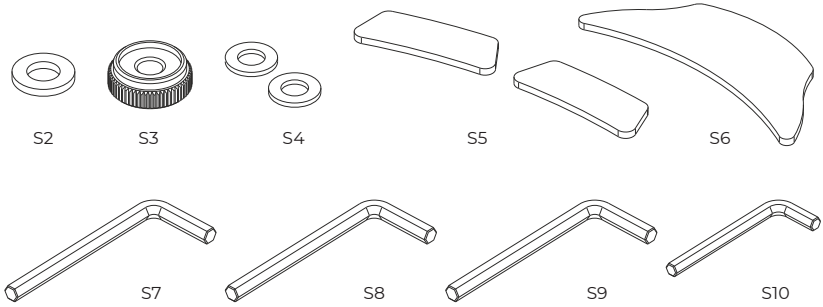


(Fig. 1)

1	Ball handle
2	Near abrasive stop
3	Abrasive holder
4	Axicube Shift electronic angle finder
5	Far abrasive stop
6	Connecting sleeve
7	Stroke limiter with parking
8	Hinge unit
9	Abrasive holder guide rod
10	Spring assisted stroke limiter
11	Micro feed wheel
12	Micro feed locking lever
13	Abrasive thickness compensator

14	Quick angle adjustment slider
15	Rack and pinion height adjuster body
16	Height adjustment knob
17	Rack and pinion height adjuster slider
18	Swivel mechanism
19	Support leg
20	Swivel mechanism arm
21	Base
22	TSPROF Quick clamps
23	Swivel arm locking screw
24	Swivel adjustment screw
25	Height adjuster locking lever

6. Spare parts kit



(Fig. 2)

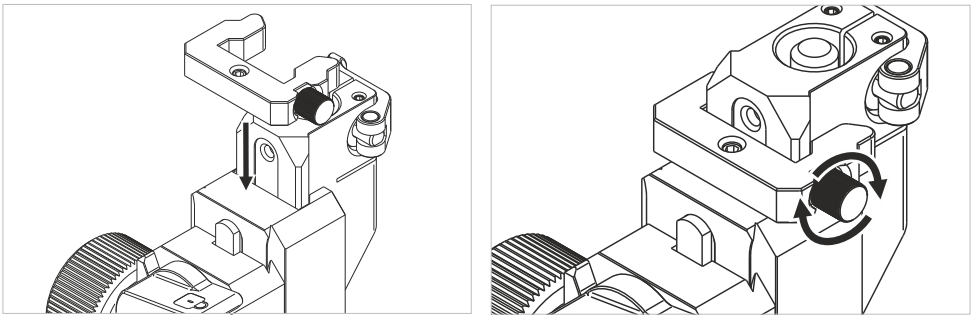
S1	Gripper (bag with lock) 70x100	1
S2	Washer M6 DIN 125 polyamide	1
S3	Adjustment nut M6 K-4	1
S4	Washer M5 DIN 125 polyamide	2
S5	Anti-slip pad pad 29,5x11	2
S6	Anti-slip pad 57,5x24	1
S7	Hexagonal L-key 3.0 mm	1
S8	Hexagonal L-key 2.5 mm	1
S9	Hexagonal L-key 2.0 mm	1
S10	Hexagonal L-key 1.5 mm	1

7. Preparation for work

7.1 Remove the cardboard box with the abrasive holder, hinge unit, abrasive thickness compensator and spare parts kit from the box.

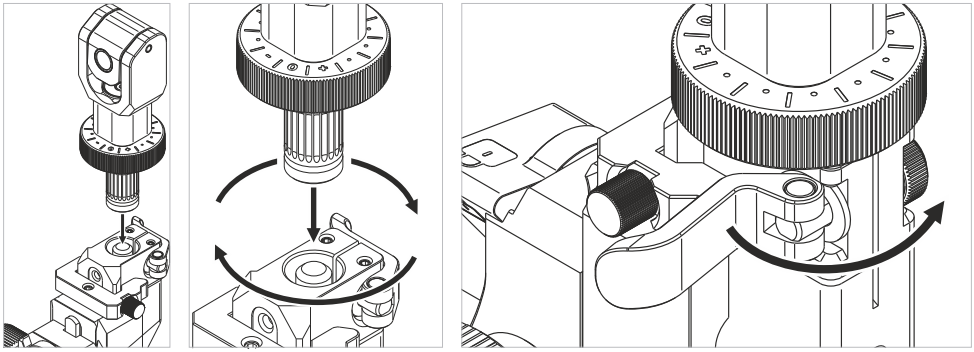
7.2 Using a 3 mm hexagonal key, loosen the screws of the retaining strips counterclockwise and remove the sharpening system from the box.

7.3 If necessary, mount the compensator on the rack and pinion height adjuster slider so that the contact ball is located at the bottom. (Fig. 3)



(Fig. 3)

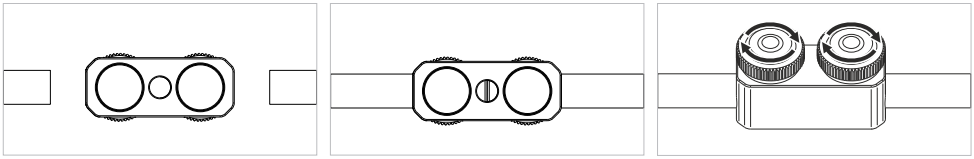
◆ Install the micro feed hinge unit into the socket on the rack and pinion height adjuster, screw clockwise and secure with the micro feed locking lever. (Fig. 3)



(Fig. 4)

7.4 Assemble the abrasive holder

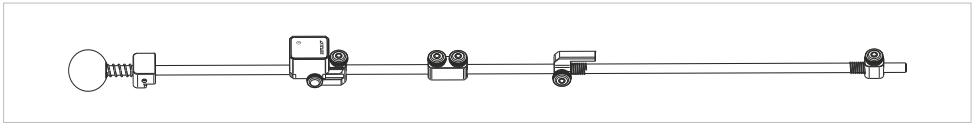
7.5 Place the abrasive holder and the guide rod into the coupling until they meet, check the position through the inspection hole as shown in the figure and secure with the nuts by turning them clockwise. (Fig. 5)



(Fig. 5)

◆ The Axicube Shift angle finder abrasive stop can be installed as a far abrasive stop or as a near abrasive stop.

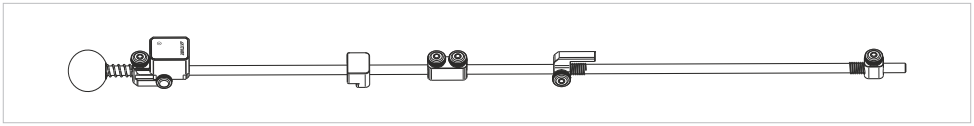
Assembly option A. Standard. (Fig. 6)



(Fig. 6)

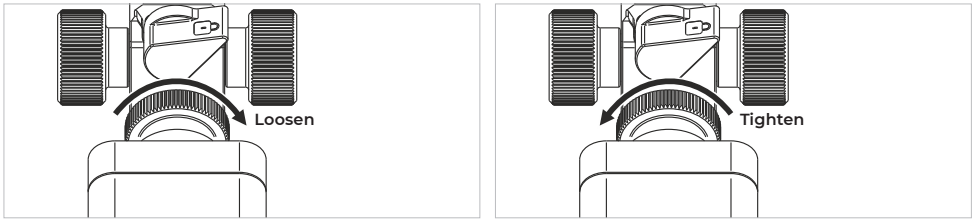
Assembly option B. Reverse.

For convenient fixation of the far stop on the holder, unscrew the set screw with the spring-loaded ball and install the thumbscrew from the spare parts kit. (Fig. 7)



(Fig. 7)

7.6 Set the desired arm locking force by turning the adjustment screw at the back of the swivel mechanism. Clockwise rotation of the screw increases the locking force; counterclockwise rotation loosens it. Adjust the locking force so that a certain amount of force is required to rotate the arm.



(Fig. 8)

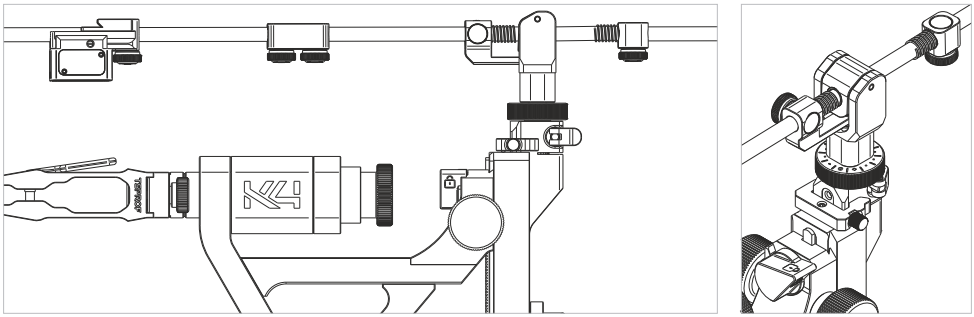
CAUTION!

Excessive locking of the swivel mechanism reduces the service life of the sharpening system and can cause malfunctions. For finishing sharpening operations, you can reduce the locking force when flipping the arm. For long roughing operations, the adjusting screw can be tightened until the swivel mechanism is completely locked.

CAUTION!

A retaining ring is installed inside the adjustment screw, preventing it from being fully unscrewed from the swivel mechanism housing. When the screw reaches its limit during unscrewing, avoid applying extra force; otherwise, thread galling may occur, causing the adjustment screw to jam.

7.7 Place the rod with the abrasive holder in the hinge unit, positioning the springs, stroke limiter and parking limiter as shown. The protruding part of the parking limiter should rest completely on the parking disk inside the hinge unit. (Fig. 9)



(Fig.9)

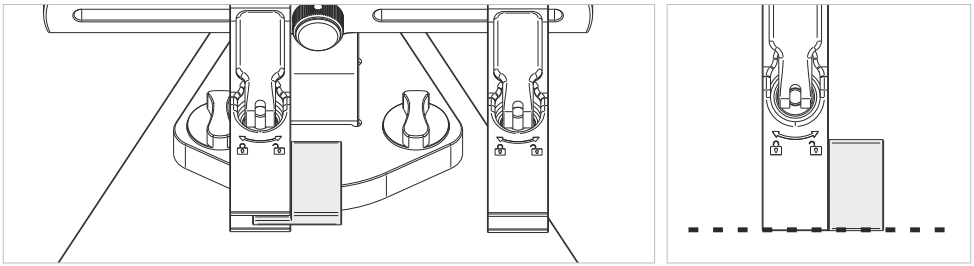
8. Calibration of the angle finder and setting the sharpening angle

The correct operation of the electronic angle finder requires calibration. To do this, use the calibration prism included in the kit.

Calibration sequence:

8.1 Place the clamp as close as possible to the axis of rotation of the swivel mechanism arm.

8.2 Place and fix the calibration prism in the clamp so that the front edge of the prism does not protrude beyond the jaws of the clamp. (Fig. 10)

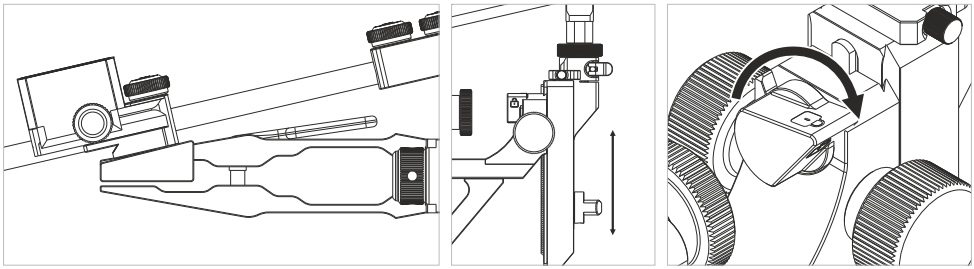


(Fig. 10)

8.3 Place the abrasive holder with the installed angle finder onto the prism, and use the stroke limiters to adjust its position so that it does not extend beyond the prism.

8.4 Adjust the position of the height adjuster so that there is no gap between the abrasive holder stop and the prism. The absence of a gap can be checked by viewing against the light.

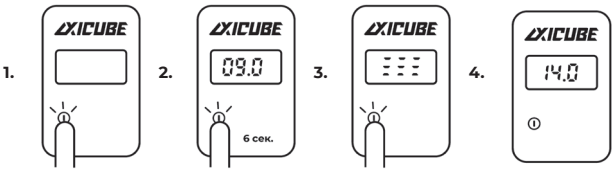
8.5 Secure the position of the height adjuster. (Fig. 11)



(Fig. 11)

8.6 Calibrate the angle finder:

- Turn the angle finder on;
- Press and hold the button for 6 seconds;
- Wait until the display starts flashing and then release the button (it will flash and show «===»);
- Press the button again and the display will show 14°. (To cancel the calibration, do not press the button for 10 seconds).



(Fig. 12)

The electronic angle finder is set up and ready for use. When you turn it on again, you do not need to calibrate it.

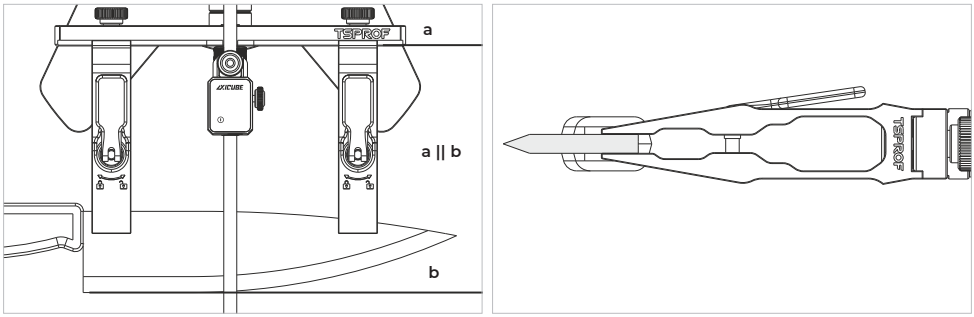
Important! When changing the position of the System, moving it to another surface, it is necessary to recalibrate it to avoid deviation of the electronic angle finder readings from the real values.

Note. The angle finder is programmed in such a way that regardless of the angle of inclination of the surface on which the angle finder is placed, after calibration, the display will always show a value of 14.0°.

9. Operating procedure

9.1 Clamping the knife

9.1.1 Position the knife so that the longest straight section of the blade is as parallel to the arm as possible. (Fig. 13)



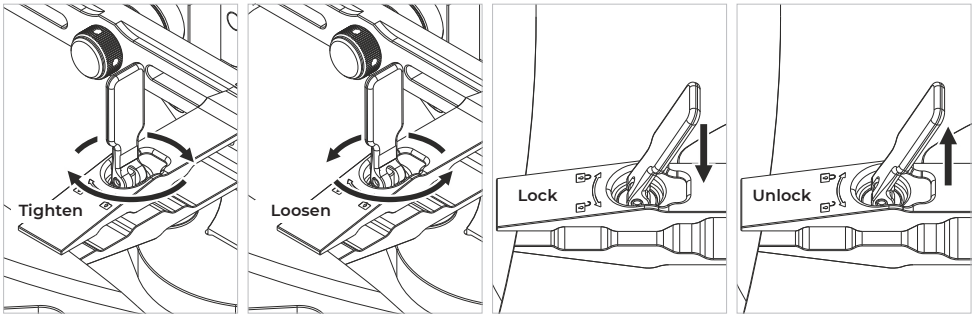
(Fig. 13)

To prevent scratches on the knife, it is recommended to cover the knife with masking tape before clamping.

9.1.2 If necessary, adjust the distance between the jaws of the clamp so that the jaws are close to the surface of the knife but not touching it. No adjustment is necessary when sharpening knives of the same thickness.

9.1.3 Position the knife in the clamps and secure it with the eccentric levers.

9.1.4 To remove the knife, unlock the clamp by lifting the eccentric levers.



(Fig. 14)

CAUTION!

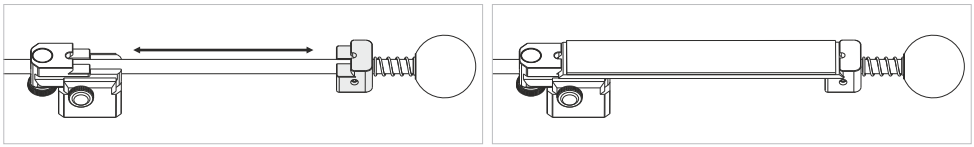
Do not overtighten the clamp jaws. When properly fixed, the clamp jaws should be parallel and firmly pressed against the knife surface without bending backward.

9.2 Setting the abrasive

9.2.1 Adjust the position of the far stop of the abrasive holder to match the length of the stone.

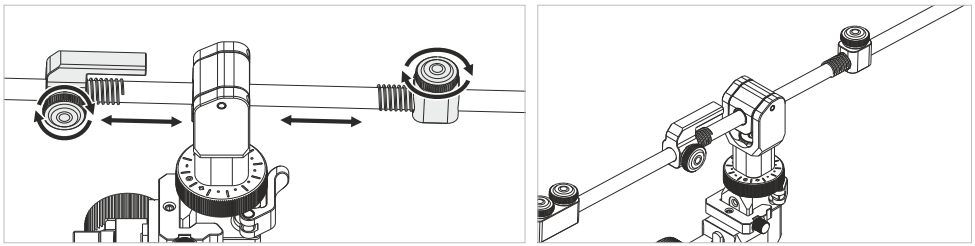
9.2.2 Insert the abrasive into the abrasive holder.

The K4 abrasive holder allows you to install abrasives **up to 215 mm long and weighing no more than 250 g.**



(Fig. 15)

9.2.3 Set the stroke limiters of the abrasive holder so that the maximum area of the abrasive working surface is used during sharpening and so that the abrasive does not come off the cutting edge of the knife during work.



(Fig. 16)

9.3 Setting the sharpening angle

The system has a three-stage sharpening angle adjustment:

1. Quick adjustment using the slider. Allows fast setting of the sharpening angle with an accuracy of up to 1°, and with some practice, up to 0.1°.

- Loosen the locking screw of the slider.
- Without releasing the screw, set the desired angle by referring to the electronic angle finder.
- Secure the locking screw of the slider.

2. Adjustment using the rack and pinion height adjuster. Thanks to the helical gear, very smooth and precise angle setting is possible with an accuracy of up to 0.1°.

- Loosen the locking lever of the height adjuster.

◆ Set the desired sharpening angle by moving the adjustment knob.

◆ Secure the locking lever of the height adjuster.

3. Micro feed. The micro feed wheel allows you to fine-tune the sharpening angle (with an accuracy of 0.01°). This precision is crucial during finishing steps to ensure you are processing the edge, not the bevels.

◆ Loosen the micro feed locking lever.

◆ Use the micro feed wheel to change the sharpening angle. One click equals approx. 0.01°*. Turning the wheel counterclockwise increases the sharpening angle, clockwise decreases it.

*Depending on the currently set angle, the value can be between 0.008° and 0.013°.

◆ Secure the micro feed locking lever.

Select the appropriate sharpening angle for your knife. The table below will help you with this:

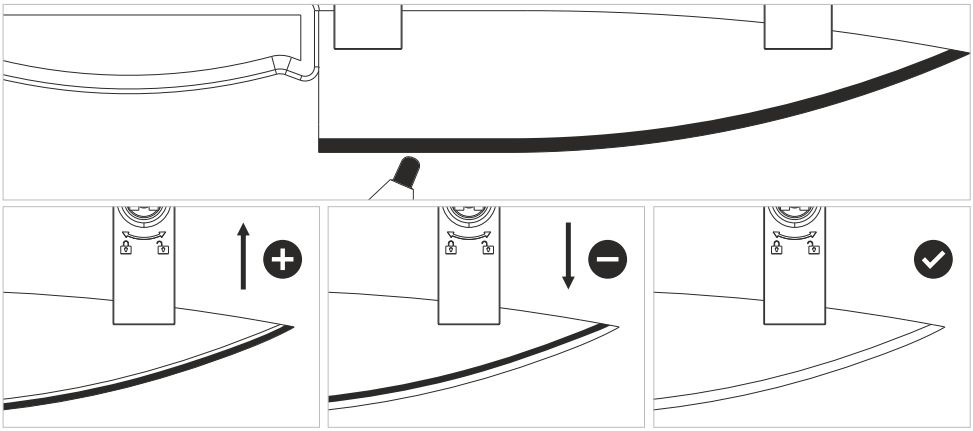
	13 | 15	16 | 20	21 | 22	23 | 25	26 | 29	30 | 34	35 | 40	41 | 45	46 | 50	51 | 55	56 | 60
Fillet knife												
Chef's knife												
Cleaver												
Hunting knife												
Folding knife (EDC)												

9.4 You can also sharpen the knife at its existing sharpening angle. To do this:

◆ paint the knife's secondary bevel with a marker;

◆ run an abrasive over the painted part;

◆ adjust the sharpening angle so that, when moving the abrasive, it completely removes the paint from the secondary bevel.



(Fig. 17)

9.5 Sharpening the knife.

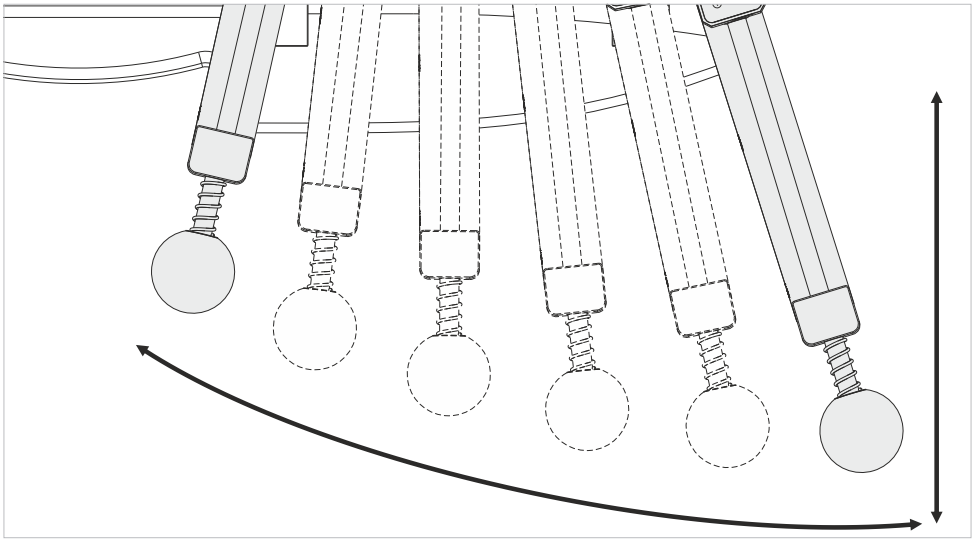
Each knife, steel type, and abrasive has its own characteristics. Below are general sharpening principles that may be adjusted depending on the specific features of the knife.

Sharpening is performed with back-and-forth movements, with an abrasive stroke length of 30–80 mm along the cutting edge. The abrasive is moved along both sides of the cutting edge until symmetrical bevels are formed on each side of the blade.

Transition to the next abrasive stone occurs after a burr is formed along the entire length of the cutting edge on each side of the blade.

CAUTION!

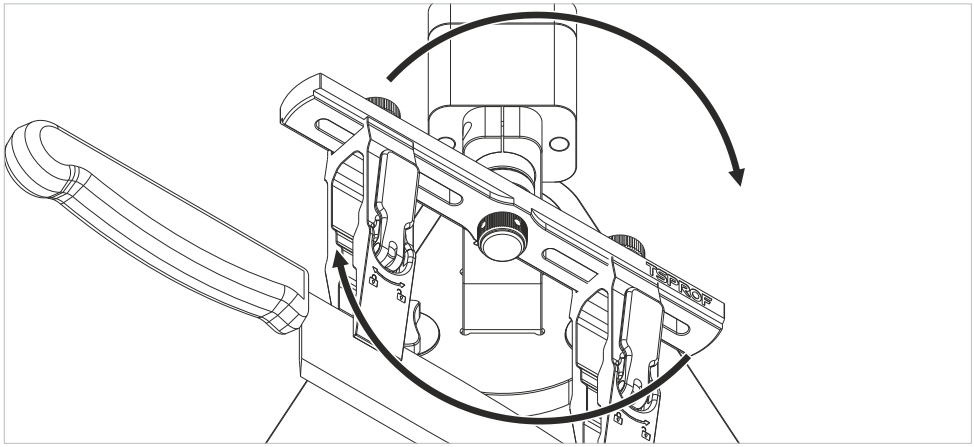
Sharpening a knife does not require pressure, regardless of the stage. Avoid applying strong pressure with the abrasive to the cutting edge of the knife. Quality sharpening takes place under its own weight of the abrasive and the abrasive holder.



(Fig. 18)

9.6 Abrasives of different grit sizes are used at each stage, from the coarsest (F120) to the finest (F1000 and above). Choose the abrasive according to the condition of the knife, the sharpening task and the desired result.

- When completing each step of sharpening one side of the knife, move the abrasive holder aside and set it in the parking position.
- Visually monitor the symmetry of the width of the knife's secondary bevel, on both sides.
- Holding the central part of the clamping arm, turn the arm with the clamped knife 180°.
- Continue sharpening the back side of the knife.



(Fig. 19)

CAUTION!

Be careful when turning the knife over. Remember that a knife is a potentially dangerous tool. Be attentive and remain focused throughout the sharpening session. Observe the position of your hands and the direction of the knife point.

9.7 Compensating for angle differences when working with abrasives of different thicknesses.

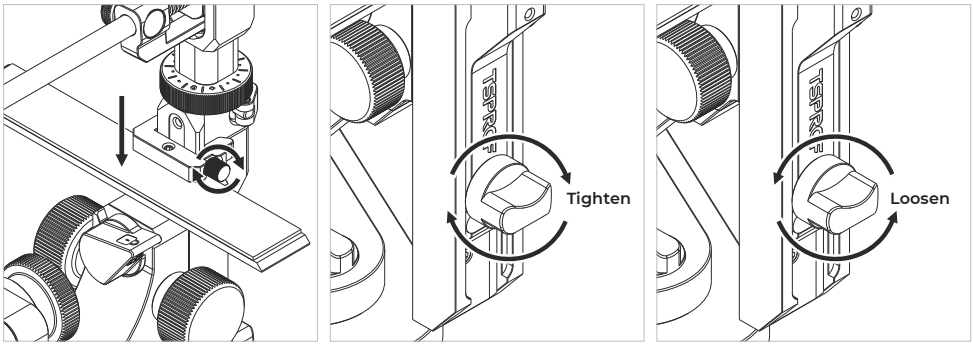
Use one of the following options to compensate for differences in abrasive thickness:

Option A. Using an electronic angle finder

- Place the abrasive and set the desired sharpening angle.

◆ When changing the stone, turn on the angle finder and check if the angle has changed. If necessary, adjust the angle to the desired value.

Option B. Using a thickness compensator.



(Fig. 20)

◆ Place the abrasive in the abrasive holder and set the desired sharpening angle.

◆ Loosen the abrasive compensator locking screw.

◆ Remove the abrasive from the holder, position it as shown in the figure, lower the compensator onto it and fix the compensator locking screw.

◆ Place the abrasive in the abrasive holder and sharpen with the current abrasive.

◆ When replacing the abrasive stone, before inserting it into the holder, loosen the slider locking screw and adjust the angle so that the compensator is tight against the working surface of the abrasive as shown in the illustration.

◆ After changing the position of the slider, tighten the slider locking screw and carefully remove the abrasive stone. Place the abrasive stone in the holder and continue sharpening. Repeat the action for all abrasives that have a clear difference in abrasive thickness.

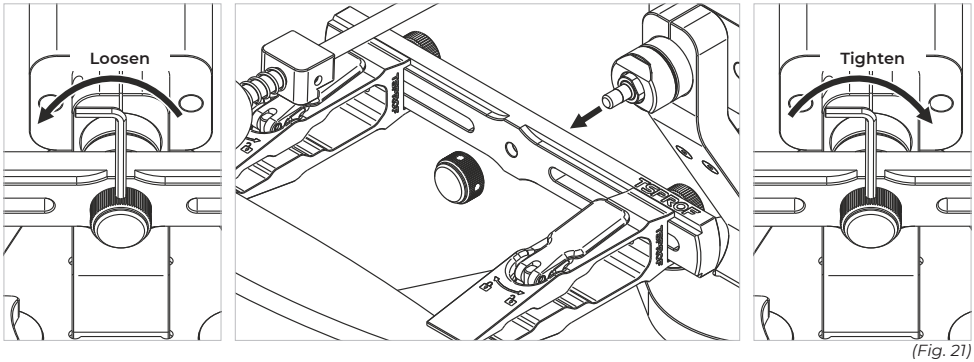
9.8 Removing and installing the clamping arm.

In order to check the sharpening result with a microscope and for the safety of the workplace during long sharpening operations, it is possible to remove the arm with the knife fixed in the clamps.

1. To remove the arm, loosen the locking nut using a 3 mm L-shaped hexagonal wrench, then unscrew the nut counterclockwise.

2. Carefully remove the arm with clamps and clamped knife from the axis and perform an optical inspection.

3. After performing the optical inspection, install the arm on the axis of the rotary mechanism, screw the nut and tighten it 10-15° clockwise using a wrench.



(Fig. 21)

CAUTION!

Do not leave the exposed blade in the clamps unattended.

Even when the blade is locked in place, it remains a source of potential danger. After finishing work or during breaks, always remove the knife from the clamps or remove the arm and put the knife in a safe place.

There are many nuances to quality knife sharpening.
Learn about knife sharpening and our company's products on our social media channels:

instagram.com/ tsprof_en

facebook.com/ tsprofEN/

youtube.com/c/ TSPROFSharpening

reddit.com/r/tsprof/

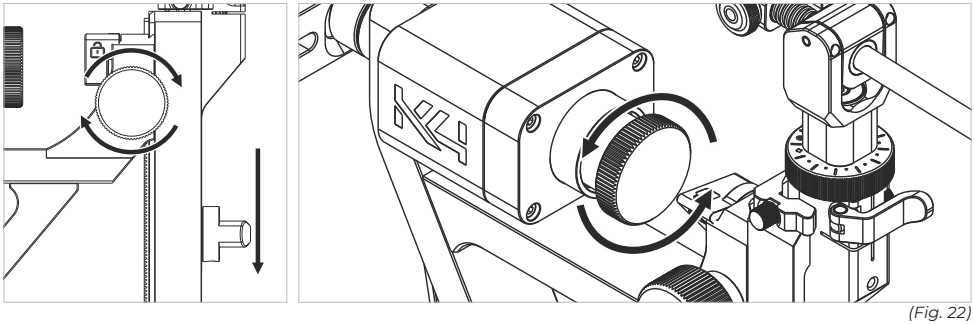
10. Sharpening system operating rules

- Use liquid oils (I-20A or its analogs) for the lubrication of moving mating surfaces of the System.
- Before operation, check the condition of the System. In case of malfunctions, contact the Manufacturer for all repair issues.
- Movement of the abrasive stone holder during sharpening should be even, smooth, without sudden movements or excessive pressure on the abrasive holder.

11. Cleaning and maintenance

11.1 When storing the System for a long period of time:

- Set the height adjuster to the lowest position.
- Loosen the swivel mechanism spring by turning the locking force adjustment screw counterclockwise.



(Fig. 22)

- Loosen the tension of the Quick clamps by turning the eccentric lever counterclockwise.

11.2 After finishing work, remove metal shavings and any contaminants from the System and thoroughly clean all surfaces. Wipe the areas subject to corrosion (all uncoated elements of the System, including screws and springs) with a cloth slightly moistened with oil (I-20A or its analogs).

11.3 Control the operation of the abrasive holder rod in the bushing. In case of squeaking, sticking, jamming and uneven sliding, scratches on the rod, thoroughly clean the outer surface of the rod and the inner surface of the bushing of the hinge unit, using a damp cloth or rags. Lubricate the rod-bushing friction pair with industrial oil I-20A (or its analogs). Test the operation.

If heavy burrs appear, treat with fine-grit sandpaper, then clean the surface and lubricate it.

11.4 Periodically lubricate the spring tension adjustment screw with industrial oil I-20A (alternatively lithium complex grease MC 1510 BLUE EP 2/3) to facilitate its rotation.

12. Troubleshooting

WARNING!

All TSPROF products are delivered in good condition, fully operational and do not require any further adjustment. If you have any questions about the operation of the system contact us via phone +1 (839) 333-53-59 (USA), or via e-mail customerservice@tsprof.com

This section contains information intended for experienced users.

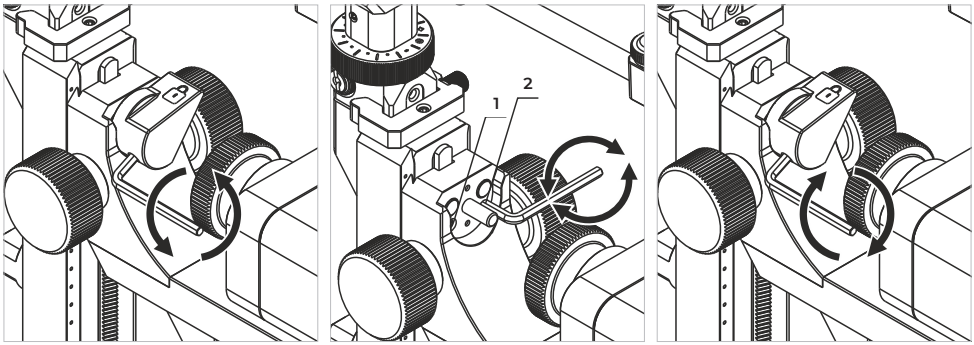
If you do not have basic skills in mechanical device maintenance, it is **not recommended** to follow the instructions provided in this section.

12.1 Adjusting the smooth running of the rack and pinion height adjuster.

I. Using a 2mm L-shaped hex key, remove the rack and pinion height adjuster locking lever.

II. Adjust the pressure screws 1 and 2 as shown in the figure to achieve even pressure between the rack housing and the slider.

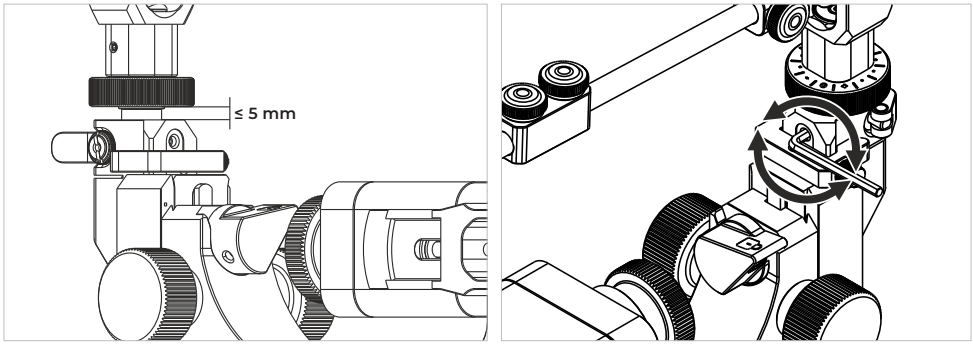
III. Install the height adjuster's position locking lever and secure with the screw, using a 2mm hex key.



(Fig. 23)

12.2 Micro feed clicks adjustment.

Make sure that the gap between the micro feed adjustment wheel and the slider does not exceed 5 mm. Using a 2 mm hex key, adjust the screw position so that the micro-feed clicks are clear and easily noticeable, while maintaining smooth travel of the adjustment wheel.



(Fig. 24)

12.3 Adjusting the micro feed locking force with the eccentric lever.

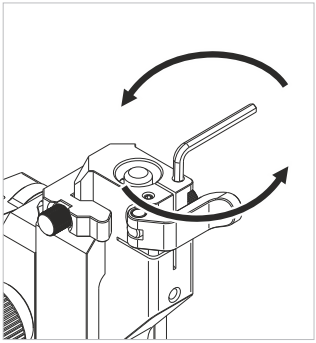
I. Unscrew the micro feed unit counterclockwise and remove it from the mounting hole (fig. 25)

II. Loosen the screws on the top plane of the rack and pinion slider using a 1.5 mm hex key.

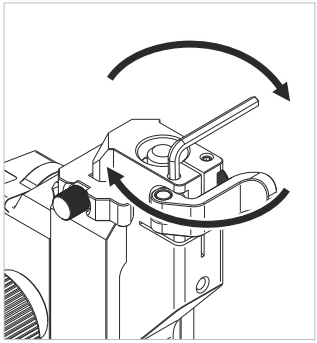
III. Install the micro feed into the mounting hole, screw clockwise to leave a gap of approximately 3-5 mm between the adjustment wheel and the upper plane of the slider.

IV. To adjust the micro feed locking force, manually tighten the eccentric lever axis nut clockwise when the eccentric lever is set aside. Then move the eccentric lever to the closed position. When a comfortable locking force is achieved, move the lever to the «open» position.

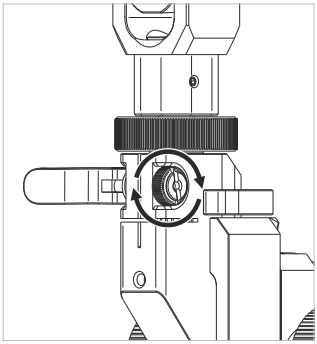
V. Remove the micro feed and tighten the screws on the top plane of the rack and pinion height adjuster slider to secure the axis of the eccentric lever.



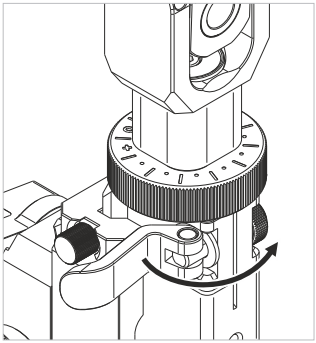
(Fig. 25)



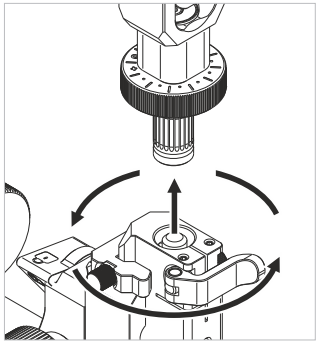
(Fig. 25.1)



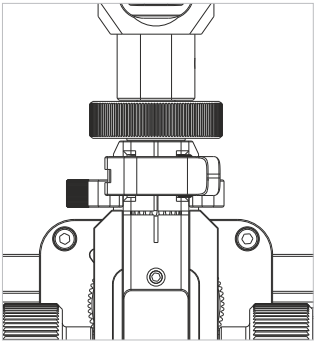
(Fig. 25.2)



(Fig. 25.3)



(Fig. 25.4)



(Fig. 25.5)

12.4 Replacing the battery of the Axicube Shift electronic angle finder.

I. Use a 1.5 mm hex key to remove the battery compartment cover located on the side of the electronic angle finder body. (Fig. 26)

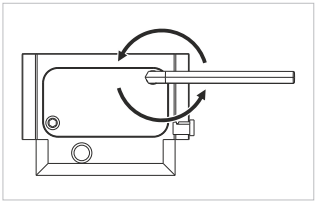
II. Remove the anti-vibration plug from the battery compartment.

III. Carefully remove the wires connecting the battery to the device and disconnect the plug connection. (Fig. 26.1)

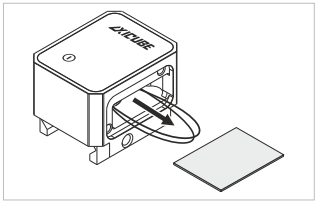
IV. Remove the battery and replace it with a new one.

V. Connect the contact plugs and neatly place the wires inside the battery compartment.

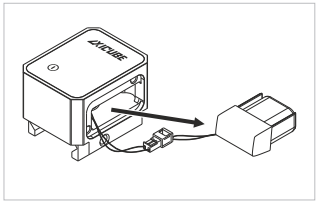
VI. Install the anti-vibration plug over the wires. Secure the battery compartment cover by tightening the screws with a 1.5 mm hex key. (Fig. 26.4)



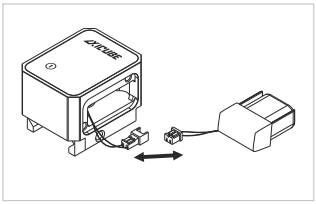
(Fig. 26)



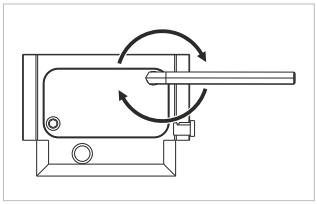
(Fig. 26.1)



(Fig. 26.2)



(Fig. 26.3)



(Fig. 26.4)

13. Storage and transportation

Store the system in its original packing in a dark, dry place protected from dust, at a temperature of +5 to +40°C. In case of storage and operation in a humid climate, put some silica gel bags in the box with the system and treat the places of possible corrosion with industrial oil.

In order to avoid corrosion and change of operating characteristics of the System elements, it is recommended to use neutral synthetic oil compositions for lubrication.

Transportation by all means of transportation is allowed at temperatures from -40°C to +50 °C. In case of transportation of the System at sub-zero temperatures, its use is allowed only after staying at least 3 hours at room temperature.

14. Disposal

Dispose of the System and packaging in accordance with the regulations and rules governing the handling of industrial and consumer waste.

Paper, polymer, and metal waste must be sorted in accordance with the separate waste collection standards approved in your region.

The electronic angle finder must be disposed of separately from the sharpening system. It is prohibited to dispose of electrical devices together with household waste. Contact hazardous waste collection points. Contact your local municipal authorities regarding disposal, or certified companies specializing in the disposal of such devices in your region.

15. Warranty

Please refer to the Manufacturer's website for current warranty terms and conditions. In case of discrepancies, the terms and conditions posted on the Manufacturer's website shall prevail.

The warranty period for the product is 1 year from the date of sale, but not more than 1.5 years from the date of manufacture.

The warranty period can be extended according to special programs from the Manufacturer. The date of sale is the date of registration of shipping documents and/or the date of filling in the warranty card.

This warranty entitles the Buyer to repair the product free of charge in case of defects related to materials and assembly. All types of repairs, including warranty and post-warranty repairs are performed only at the Manufacturer's production sites.

The warranty does not cover packaging materials.

Warranty repair of partially or completely disassembled equipment is excluded. Such repair is possible on a paid basis.

Warranty repair is not carried out in the following cases:

- when the equipment is used for purposes other than those specified in the user manual;
- in case of external mechanical damage to the equipment;
- in case of defects due to non-compliance with storage and transportation rules, force majeure circumstances, as well as unfavorable atmospheric or other external influences on the equipment, such as rain, snow, high humidity, heat, aggressive media, etc.;
- in case of damage caused by non-compliance with the operating conditions stipulated in the user manual or by independent design changes;
- when foreign objects get into the equipment;
- in case of defects and breakdowns due to untimely scheduled technical and preventive maintenance, including cleaning and lubrication of the equipment in accordance with the operating instructions.

14. Certificate of acceptance

Acceptance information
Tekhnostudia Profil

TSPROF K4 device | Factory №_____

Is certified as fit for operation and compliant with the manufacturer's design documentation, as well as with the following specifications:

Difference in readings when flipping the arm: not more than ±0.1°;

1. Arm deflection under a 10 N load applied to the edge of the arm:— not more than 0.2° (with the adjustment screw fully tightened);— not more than 0.3° (with the adjustment screw fully loosened);

2. Arm deflection under a 30 N load applied to the axis at the clamps edge: not more than 0.2°.

3. Arm deflection under a frontal load of 10 N: not more than 0.2 mm;

4. No slipping of the rack-and-pinion height adjuster's knob under torque up to and including 0.9 N·m.

Date _____

QC inspector _____

Stamp

TSPROF

+1 (839) 333-5359 | sales@tsprof.com

Manufacturer:
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ul. Koltsevaya, 8, s. Pervomayskiy,
Zavialovskiy rayon, Udmurt Republic,
Russian Federation, 426014

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