

MACHINE FOR PROFESSIONAL SHARPENING OF  
BARBER'S TOOLS

# ADEMS FD Evolution

MANUFACTURER'S CERTIFICATE



Togliatti, 2020

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## 1. PURPOSE AND SCOPE OF APPLICATION

ADEMS FD Evolution household machine is intended for professional sharpening of barber's classic scissors and scissors with convex blades.

## 2. SCOPE OF DELIVERY

Scope of delivery includes:

- household machine ADEMS FD Evolution - 1 pc;
- double-section handling device with a multi-purpose holder - 1 pc;
- power cord - 1 pc;
- metal discs 150 mm - 5 pcs;
- set of abrasive wheels 150 mm  
(240, 320, 600 grit) - 3 pcs of each type;
- (800, 1000, 1200, 1500, 2000 grit) - 2 pcs of each type;
- optional multi-purpose clamp for nippers - 1pc;
- rubber support - 4 pcs;
- Allen key No 3 - 1 pc;
- fastening washer for diamond cup wheel - 1 pc;
- Manufacturer's Certificate - 1 pc.

## 3. TECHNICAL SPECIFICATIONS

Types of sharpened tools	<ul style="list-style-type: none"> <li>✓ Household scissors</li> <li>Classic barber's scissors</li> <li>✓ Convex barber's scissors</li> </ul>
Methods of sharpening	<ul style="list-style-type: none"> <li>✓ Rough sharpening</li> <li>✓ Finishing sharpening</li> <li>✓ Polishing</li> </ul>
Motor power supply voltage, V	110
Lighting power supply voltage, V	12
Nominal motor power consumption, W, not more than	250
Adjustable frequency of wheel revolution, rpm	0...3000
Replaceable wheel diameter, mm	150
Machine dimensions LxWxH, mm	265x345x330
Net weight, kg	20
Packaged weight, gross, kg	22



## 4. SAFETY PRECAUTIONS

### ATTENTION



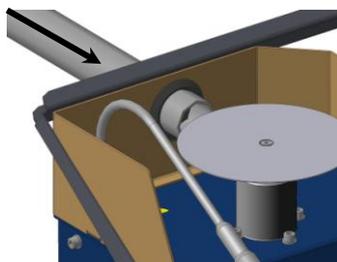
Before you start operation visually check the machine and ensure that power cord and moving parts of the machine are not damaged. It is forbidden to switch the machine on in case there are such damages without eliminating it.



It is recommended to connect the machine to mains socket equipped with grounding wire.



Use protective glasses and face respirator when you operate the machine. Glasses protect only against floating dust and grinding material particles but do not protect against flying debris.



In order to draw floating dust and grinding material off it is recommended to connect dust removal device to the hole of machine dust protection system.

## 5. PRESTARTING PROCEDURES

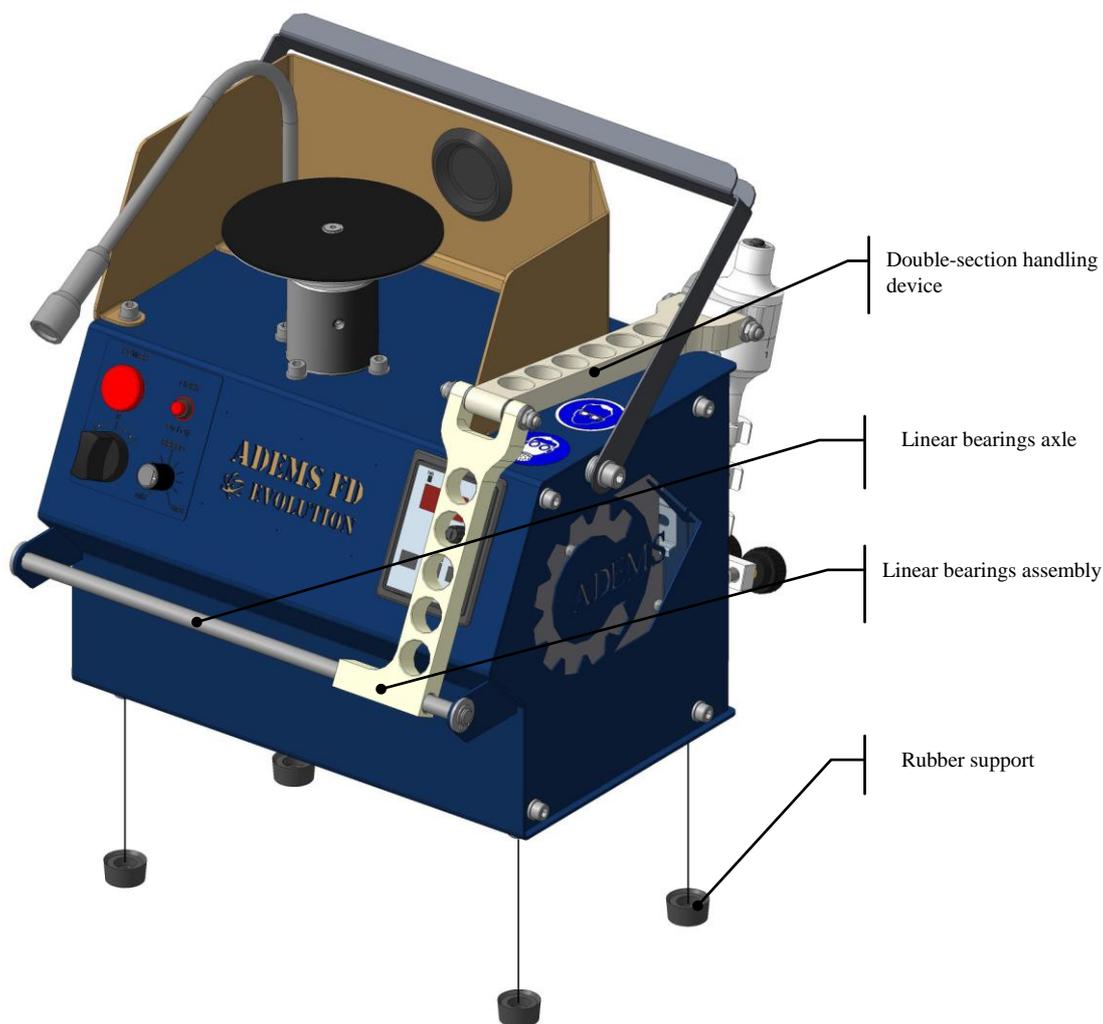


Figure 1 Assembly of ADEMS FD Evolution machine

Withdraw machine from packaging and put it into assigned workplace in close proximity to power source. Power supply cord should not be strained: 20% of its length should rest on the working table. Put rubber supports onto screw heads under the machine body; now machine rests upon the rubber supports.

Make sure that mains parameters in your country correspond to parameters listed on the machine name plate (voltage – 110 V, frequency 60 Hz).

Levers of machine double-section handling device should rotate on its axles free by hand without jamming and sticking! Linear bearing assembly should travel along linear bearings axle free without sticking. If necessary grease rubbing components with lithium grease (LITOL) or TSIATIM-201 solid grease. Thoroughly remove grease surplus with rags in order to avoid caking of abrasive dust.

### ATTENTION

In case in wintertime you bring a machine into heated room from outside or from cold room, do not unpack the machine and do not switch it on for 8 hours. The machine should warm up to ambient air temperature. Otherwise the machine can break down when it is switched on due to moisture condensed on motor parts.

## 6. DESIGN

Design and operating principle are described on the basis of Figure 2.

a)

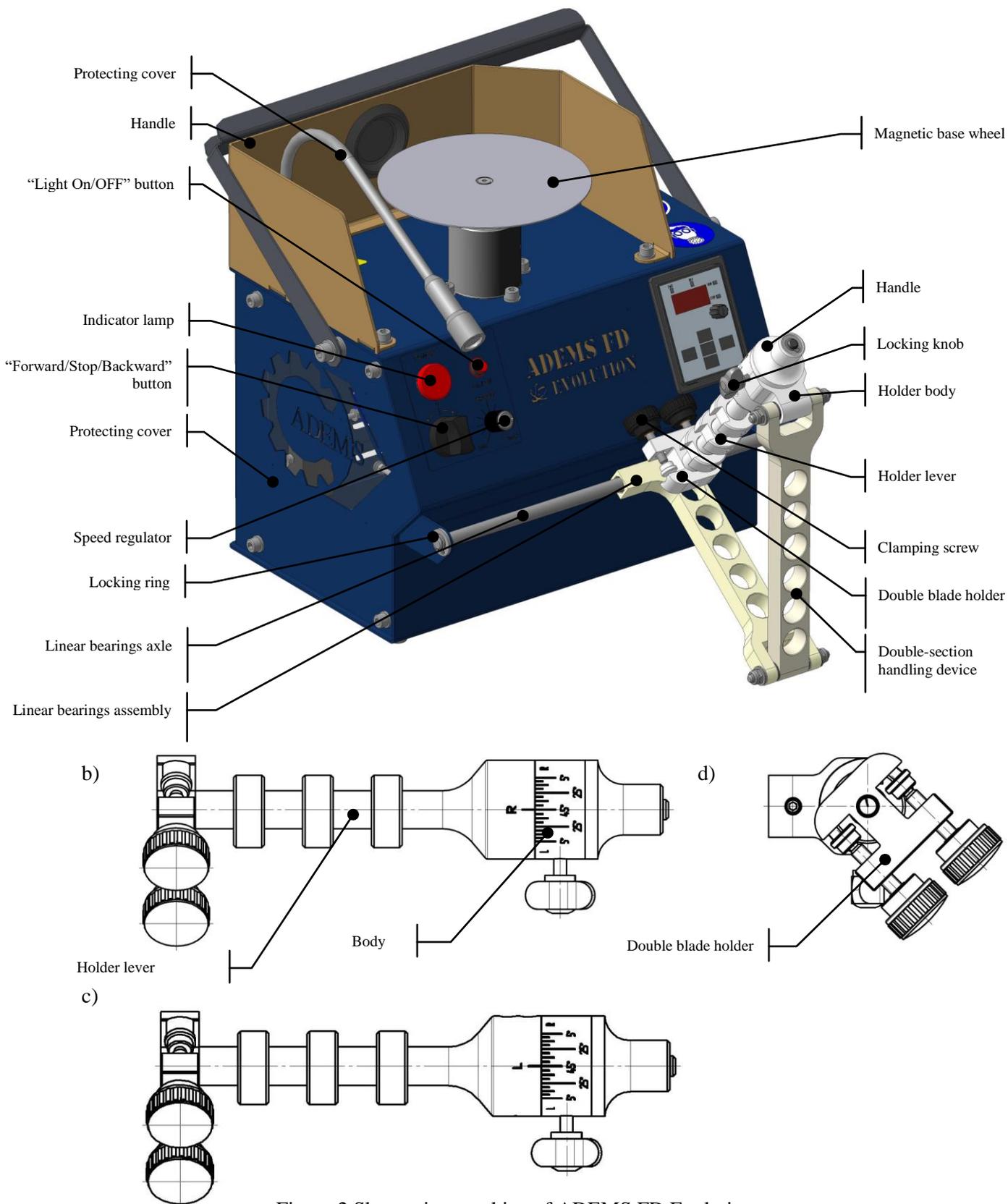


Figure 2 Sharpening machine of ADEMS FD Evolution type  
 a) General view of the machine; b) Holder for right scissors; c) Holder for left scissors;  
 d) Double blade holder.

## 7. OPERATING PRINCIPLE

### STEP 1. Preparation for operation

Cut wheels from grinding material sheets with diameter equal to diameter of metal discs. Prepare surface of metal wheels removing grease with acetone or solvent. Wait till the surface dries. Apply aerosol glue to the metal disc surface. The glue is not included into the scope of our delivery. Carefully apply grinding material wheel that was cut out to glued surface of metal wheel with grinding material side up. Press and align the grinding wheel with edges of metal disc. Use abrasive papers of those values that you need in every specific case. Scope of delivery includes grinding material sheets with the following values: 600, 800, 1000, 1200, 1500 and 2000 grit. Scope of delivery includes 5 metal discs, that is why apply abrasive paper of different values to each metal disc in order to ensure fast replacement of grinding material when you change operations during sharpening of tools. 5-10 minutes later put disc with grinding material onto magnetic base of the machine wheel. Center metal disc towards machine wheel

### STEP 2. Evaluation of scissors

First of all check if scissors subjected to sharpening were ever sharpened before. Also pay attention to the shape of blades: classic or convex.

Then check visually if there are nicks on cutting edges of blades. Fully open throat of scissors trying to feel resistance existing due to nicks.

Check, how scissors tips are closing, if there is a gap between tips or tips are overlapping.

Check cutting of scissors visually.

Make sure that scissors' edges are not damaged.

Make sure that there are no any other damages on blades and screw of the scissors.

Disassemble the scissors and check blades. Wash blades, screw, nut and other components to remove accumulated dirt. Put all the scissors' components into a separate container in order not to lose anything.

Wash bolt hole.

Check cutting edges and the line supporting cutting edge of scissors in order to determine how much metal should be removed during sharpening.

### STEP 3. Angle adjustment

#### For right-hand scissors

Make sure that mark of the blade holder matches the mark on the holder lever as shown in Figure 1d, and blade holder is securely fixed in the position because in case the blade holder is not fixed properly sharpening angle may be wrong.

Release locking knob.

Turn holder lever in such a way that "R" mark matches the mark of necessary sharpening angle (see Figure 1b). Herewith "45°" is the basic value for angle reference (it is the angle between vertical plane and inner surface of scissors' blade – see Figure 2). So in order to set sharpening angle match mark on lever with necessary mark on the body. Increase of tool sharpening angle leads to displacement towards "R" mark on the body. Then holding holder lever in the selected position turn handle clockwise until tight. Finally tighten locking knob.

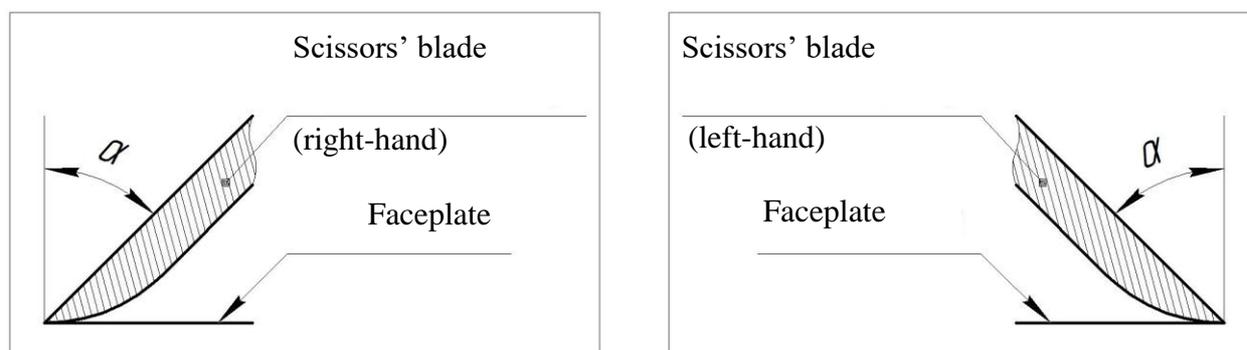


Figure 3 Sharpening angle

### **ATTENTION**

Sharpening angle in this example is given for illustration purposes. User should select value of angle for each scissors himself/herself keeping in mind design of scissors under sharpening and degree of cutting edge wear due to previous sharpening.

#### **For left-hand scissors**

Release locking knob. Turn holder lever in such a way that “L” mark matches the mark of necessary sharpening angle (see Figure 1c).

### **ATTENTION**

When you sharpen left-hand scissors only “45°” value remains unchanged. Increase of sharpening angle leads to displacement towards “L” mark on the body

Then holding holder lever in the selected position turn handle clockwise until tight. Finally tighten locking knob.

### **ATTENTION**

Sharpening angle in this example is given for illustration purposes. User should select value of angle for each scissors himself keeping in mind design of scissors under sharpening and degree of cutting edge wear due to previous sharpening.

### **ATTENTION**

Right-hand scissors should be sharpened with a wheel rotating clockwise, left-hand scissors – with a wheel rotating anti-clockwise.

#### **STEP4. Installation of scissors into clamp**

Take holder lever with your right hand.

Take scissors' blade with your left hand.

Insert blade into cavity of blades holder in such a way that all the cutting edge length is free for sharpening.

Rotating locking knob secure blade in the holder strong enough so it cannot turn.

Make sure that blade is clamped securely.

### **ATTENTION**

In order to prevent scratching and tearing on scissors' blades before you install a blade, make sure that holder has Madeline plate and screw has a backup pad.

#### **STEP 5. Sharpening of classic scissors**

Place metal disc with 600 grit grinding material onto magnetic base of machine wheel.

Selection of the first wheel depends on degree of wear of the scissors under sharpening.

Make sure that rheostat handle is in “min” position. Turn the machine on, placing three-position switch into left position. Smoothly put rheostat handle into position corresponding to necessary amount of revolutions.

Herewith wheel rotates clockwise

### **ATTENTION**

Make sure that you sharpen right-hand scissors! In case of left-hand scissors wheel should rotate anti-clockwise. When sharpening left-hand scissors, put three-position switch into right position



Increase wheel revolution speed up to 1000 rpm (frequency converter reading in its digital display).

Smoothly touch grinding wheel with blade. With manual effort hold the holder in extreme position in order to ensure constant angle of scissors' blade cutting edge. Herewith it is necessary to move the whole holder smoothly from outside toward the center of the wheel. Make several movements.

Lift the holder up and visually make sure that cutting edge is being formed in correct way. In case there is deviation from the existing cutting edge it is necessary to increase or decrease holder angle value (see STEP 3).

After you are sure that angle is correct, continue to sharpen as necessary. Upon completion of work stop the machine placing three-position switch into central (vertical) position. After wheel stops remove metal disc with 600 grit grinding material and put a disc with grinding material with the next grain size. Center it and repeat the operation. In order to compact underlying metal of cutting edge we recommend performing of 3 to 5 changes of wheels increasing grinding material grain size

### **STEP 6. Sharpening of convex scissors**

Place metal disc with 600 grit grinding material onto magnetic base of machine wheel.

#### **ATTENTION**

Selection of the first wheel depends on degree of wear of the scissors under sharpening.

Turn the machine on, placing three-position switch into left position. Herewith the wheel will rotate clockwise.

#### **ATTENTION**

Make sure that you sharpen right-hand scissors! In case of left-hand scissors wheel should rotate anti-clockwise. When sharpening left-hand scissors, put three-position switch into right position.

Increase disk revolution speed up to 1000 rpm (frequency converter reading in its digital display).

Smoothly touch abrasive wheel with blade. Make rotational movements with the holder moving it along its axis from extreme right to extreme left position. Herewith it is necessary to move the whole holder smoothly from outside toward the center of wheel. Make several movements.

Lift the holder up and visually make sure that cutting edge is being formed in correct way. In case there is deviation from the existing cutting edge it is necessary to increase or decrease holder angle value (see STEP 3).

After you are sure that angle is correct, continue to sharpen as necessary. Upon completion of work stop the machine placing three-position switch into central (vertical) position. After the wheel stops remove metal disc with 600 grit grinding material and put a disc with grinding material with the next grain size. Center it and repeat the operation. In order to compact the underlying metal of cutting edge we recommend performing of 3 to 5 changes of wheels increasing grinding material grain size

### **STEP 7. Refinement of blades**



Take blade out from the holder and wet 6000 Grit limescale (not included into delivery scope).



Put blade onto limescale at 45° in such a way that cutting edge is directed away from you.



Put your hands on the blade and apply force of 10... 12 kg under axis in the area of a hole and draw the blade to yourself in order to remove burrs.



Remove moisture from limescale and wet it again. Put the blade on the limescale at 45° again and shuttle until cutting edge support line appears.

Repeat 5-8 times. Perform the same operations with the second blade.

### **STEP 8. Polishing of blades**

After you have got necessary angle of cutting edge and supporting plane of cutting edge, put one blade into a holder again.

Install metal disc with 2000 grit grinding material and set maximum rotation speed of the disc turning speed regulator clockwise. If necessary apply additional diamond paste to grinding material. Put three-position switch to right position to start the machine. Disc with grinding material will start to rotate clockwise.

#### **ATTENTION**

Make sure that you are sharpening right-hand scissors.

In order to start the machine with anti-clockwise rotation of wheel, put three-position switch into left position.

Put holder with blade onto grinding wheel. After blade touches the wheel, start to move the holder smoothly from outside toward the center of the wheel.

In order to provide correct polishing of cutting edge make sure that when you rotate the holder you bring it to extreme positions.

Continue the operation for about 30 seconds. Then lift holder with blade up and inspect the blade visually to ensure that the majority of scratches are removed. Then check it with your hand.

Upon completion of surface polishing repeat the same procedure with the second blade.

#### **ATTENTION**

Ideally polished cutting edge is not always good for a barber. Everything depends on the barber. That is why we recommend asking barbers, what type of edge finish should be performed. All these actions as well as quality of polished cutting edge surface depend on skills of sharpener.

### STEP 9. Assembly of scissors

Now it's time to assemble scissors. Be careful tightening the screw and applying force when you connect blades. Don't forget to grease connection point.

### STEP 10. Testing of cut

After you assembled scissors it is necessary to check if sharpening is correct. One of the most widely spread tests is performed with a sheet of wet multi-layer toilet paper. Pull scissors after you closed it on a piece of paper by 50%. Herewith continue to close blades. Paper should be cut but not tear.

### STEP 11. Trueing (flattening) of scissors' blade

Blade trueing is necessary in case paper jams in some areas of a blade appear during cutting test. Disassemble scissors if it is possible. Check scissors' blade bending degree with a proof bar

#### ATTENTION

Proof bar is not included into the scope of supply.

Scissors' blade made of carbon steel or alloy-treated steel should be flattened using a copper hammer tapping with local heating. In case of inexpensive household scissors it is allowed to flatten blades using a fixture for scissors' blade flattening.

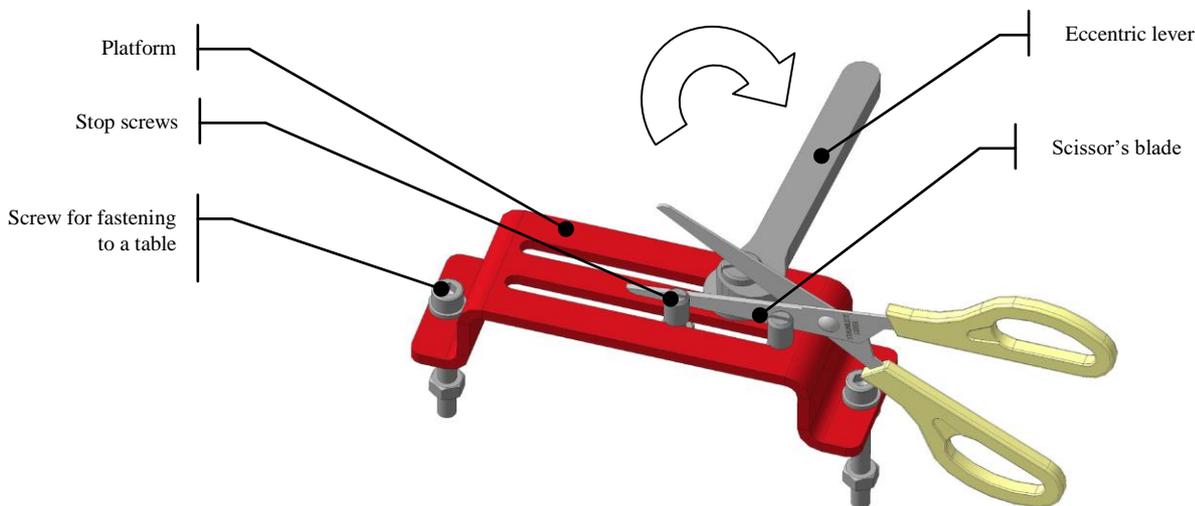


Figure 4 Scissor's blade flattening

Adjust stop screws according to flattening point. Place eccentric lever between stop screws. Insert scissors' blade between stop screws and eccentric lever with butt-end facing the platform.

Turn eccentric lever smoothly cambering scissors' blade.

#### ATTENTION

Sharpener chooses eccentric lever turn angle and cambering of scissors' blade at his/her own discretion.

It is necessary to swap stop screws and eccentric lever around in order to ensure that scissors' blade cambers in the right direction with its butt-end downwards

## 8. ADJUSTMENT, GREASING, SETTING-UP

### ATTENTION

In order to extend service life of bearings it is necessary to remove abrasive dust from axle regularly.

Each time you finish work wipe the machine thoroughly with rags and remove abrasive dust in order to prevent penetration of the dust into rubbing parts. This will exclude early occurrence of backlashes. In case you do not use the machine for long time (more than 2 days) cover it with a dust guard.

### ATTENTION

Dust guard is not included into the scope of our delivery.

Our company improves the machine constantly that is why design of your machine may have insignificant changes not described in the current Manufacturer's Certificate.

## 9. OPTIONS

### 9.1. Set for sharpening of knife packages

In order to extend machine functionality we offer a set for sharpening of knife packages intended for professional sharpening of hair clippers' knife packages.

Scope of delivery includes:

- |   |         |
|---|---------|
| - faceplate with the diameter of 220 mm (plane-cone 0,12 degrees) | - 1 pc; |
| - faceplate cover   | - 1 pc; |
| - grinding powder (silicon carbide F220 – 100 gr.)                | - 3 pc; |
| - grinding powder (aluminum oxide F240 – 100 gr.)                 | - 2 pc; |
| - set of brushes for deburring                                    | - 1 pc; |
| - sprayer   | - 1 pc; |
| - magnet  | - 1 pc; |
| - Allen key No 4  | - 1 pc; |
| - Allen key No 5  | - 1 pc; |
| - screw M5x16 DIN 912   | - 1 pc; |
| - washer 5 DIN 9021   | - 1 pc. |



Figure 5 Set for sharpening of knife packages

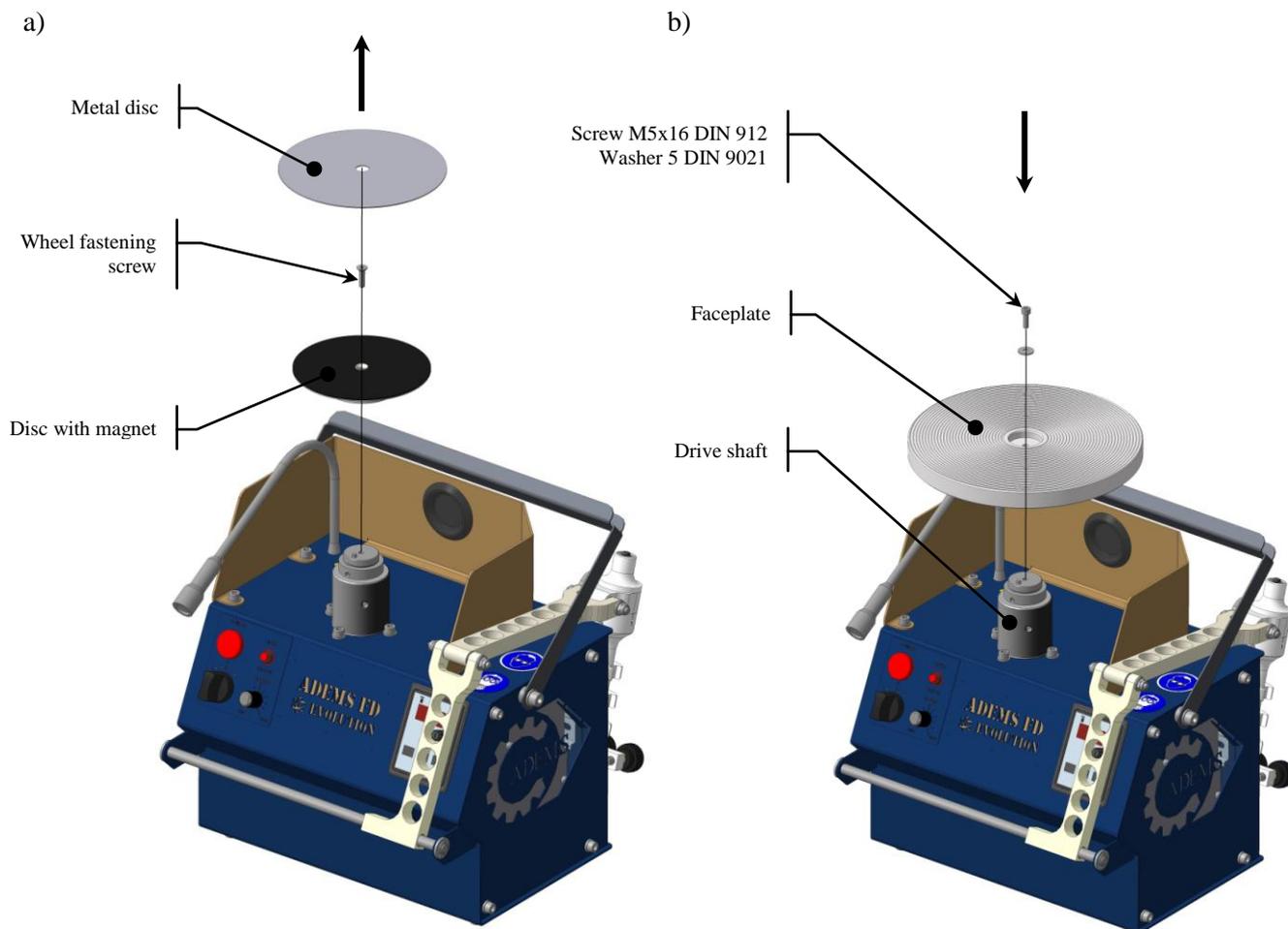


Figure 6 Preparation of a machine for knife packages sharpening  
a) Dismantling of disc with a magnet; b) Faceplate installation

Do the following to prepare machine for sharpening of knife packages:

Unscrew disc fastening screw using Allen key No 4. Dismantle disc with a magnet from drive shaft.

Unscrew 3 cover fastening screws using Allen key No 5 and then dismantle the cover.

Install faceplate instead of dismantled disc with a magnet. Fasten the faceplate using a screw and a washer. Faceplate sides are marked with “П” and “K” signs. “П” means straight profile side, “K” means cone-shaped side.

Sharpener chooses faceplate side for sharpening at his/her own discretion.

Put small amount of machine oil onto shaft in the place of junction with faceplate in order to ensure more comfortable faceplate installation. Install faceplate onto drive shaft aligning hole in the faceplate with a pin on the drive shaft. To facilitate positioning of the pin and the hole put Allen key into side hole of the drive shaft. Make sure that faceplate settled tightly down to shaft end. Fix the faceplate with a fastening screw

#### ATTENTION

Spiral groove parameters, plane or cone of grinding surface as well as faceplate cone angle depends on customer order.

### 9.2. Consumable materials ADEMS FD Evolution set for 3 months

The set is developed by specialists of our company for sharpening of scissors with ADEMS FD Evolution machine. The set includes components enough for 3 months operation.

Scope of delivery includes:

- set of self-adhesive grinding wheels 150 mm (240, 320, 600 grit) - 10 pieces of each type;
- set of self-adhesive grinding wheels 150 mm (800, 1000, 1200, 2000 grit) - 5 pieces of each type;
- metal disc 150 mm - 5 pcs;
- leather polishing wheel 150 mm (1.5...1.8 mm) - 1 pc;
- diamond paste ACM 1/0 (final polishing) - 1 pc;
- diamond plate 125x10x2x16x32 12A220 80/63 - 1 pc;
- proof bar - 1 pc;
- set of waterproof sanding paper sheets (500, 800, 5000 grit) - 5 pieces of each type.



Figure 7 Consumable materials set for 3 months

### 9.3. Consumable materials ADEMS FD Evolution set for 6 months

The set is developed by specialists of our company for sharpening of scissors with ADEMS FD Evolution machine. The set includes components enough for 6 months operation.

Scope of delivery includes:

- set of self-adhesive grinding wheels 150 mm (240, 320, 600 grit) - 20 pieces of each type;
- set of self-adhesive grinding wheels 150 mm (800, 1000, 1200, 2000 grit) - 10 pieces of each type;
- metal disc 150 mm - 5 pcs;
- leather polishing wheel 150 mm (1.5...1.8 mm) - 1 pc;
- diamond paste ACM 1/0 (final polishing) - 1 pc;
- diamond plate 125x10x2x16x32 12A220 80/63 - 2 pcs;
- proof bar - 1 pc;
- set of waterproof sanding paper sheets (500, 800, 5000 grit) - 5 pieces of each type.



Figure 8 Consumable materials set for 6 months

#### 9.4. Consumable materials **ADEMS FD Evolution** set for 12 months

The set is developed by specialists of our company for sharpening of scissors with **ADEMS FD Evolution** machine. The set includes components enough for 12 months operation.

Scope of delivery includes:

- set of self-adhesive grinding wheels 150 mm (240, 320, 600 grit) - 40 pieces of each type;
- set of self-adhesive grinding wheels 150 mm (800, 1000, 1200, 2000 grit) - 20 pieces of each type;
- metal disc 150 mm - 5 pcs;
- leather polishing wheel 150 mm (1,5...1.8 mm) - 1 pc;
- diamond paste ACM 1/0 (final polishing) - 1 pc;
- diamond plate 125x10x2x16x32 12A220 80/63 - 3 pcs;
- proof bar - 1 pc;
- set of waterproof sanding paper (500, 800, 5000 grit) - 5 pieces of each type.



Figure 9 Consumable materials set for 12 months

## 10. WARRANTY CONDITIONS

10.1. Warranty period – 12 months from the date of purchase to the end-user.

10.2. Warranty and post-warranty repair is performed only by the ADEMS specialists.

10.3. This warranty covers only manufacturing defects that occur during the warranty period and under normal use conditions.

10.4. The equipment is accepted for warranty repair if correct documents are attached: Application in free form to the CEO with fields filled in:

- equipment name;
- date of purchase;
- equipment value;
- warranty reason;
- was or was not in use;
- Customer signature;
- serial number indicated on the equipment certificate.

10.5. This warranty does not cover:

- consumable items such as disks, abrasive belts, sandpaper, oil, filters and etc.;
- power cords; in case of insulation damage must be replaced without the owner 's consent.

10.6. Warranty repair is not performed in the following cases:

- serial number appearing on the product or in equipment certificate has being altered, defaced or removed, as well as does not match each other;
- operating and handling that does not comply within the user manual;
- failure due to overload;
- the product was mechanically damaged;
- damage caused by actions of third parties, Acts of God, natural disasters, adverse environment and/or external effects of aggressive media and high temperatures;
- wear-out or damage caused by common use (total or partial resource utilization, severe internal or external contamination, rust);
- damage causes by use contrary to the operating instruction;
- equipment damage due to power surge;
- ingress of foreign bodies into the equipment, which are not wastes accompanying the intended application;
- damages resulting from storage and transportation under conditions that do not comply with ADEMS specifications or normal use;
- any unauthorized repairs, alterations or modifications or any attempt to open the good during the warranty period, as proved by damaged stickers;
- lack of maintenance;
- partial or total disassembly of the product.

10.7. Preventive maintenance of equipment (cleansing, washing and relubrication) during warranty period is a paid service.

10.8. Equipment lifetime is 3 years from the date of manufacture.

10.9. Possible violations of the above warranty conditions are reported to the owner after diagnostics of the equipment by ADEMS specialists.

10.10 The owner of the equipment trusts to carry out diagnostics by ADEMS specialists in his absence.

10.11. ADEMS is not liable under no circumstances for:

- losses or damages that cannot be attributed to ADEMS' violation of the terms of this warranty at the time of purchase of the equipment;
- losses due to owner's fault, loss of marketable state, loss of profit or lost advantage.

10.12. Service options, available spares and standby time may vary depending on the country. If service is required in a country where ADEMS does not have an Authorized Supplier, the number of service options may be limited. If international service is available, ADEMS may repair or replace equipment and spare parts with comparable equipment or spare parts in accordance with local standards.

### ATTENTION

The warranty period is extended for the time the equipment is in warranty repair.



## 11. ACCEPTANCE CERTIFICATE

11.1. Household machine for professional sharpening of barber's scissors ADEMS FD Evolution with serial number 37/\_\_\_\_-20\_\_ is classified as fit for operation.

11.2. Manufacturer's address:

39, Kommunalnaya street, Togliatti, 445043, Russian Federation

11.3. Electric motor serial number \_\_\_\_\_.

11.4. Serial number of the frequency converter \_\_\_\_\_.

If in doubt of equipment integrity, please, contact Machines Warranty Department on the following phone number by WhatsApp, Viber: +7 964-927-69-74.

Date of manufacture \_\_\_\_\_

QC Department Head \_\_\_\_\_

Date of purchase \_\_\_\_\_

Seller's name \_\_\_\_\_

Seller's signature \_\_\_\_\_ / \_\_\_\_\_ /

Print full name

Stamp here \_\_\_\_\_

I confirm that the equipment was checked, in good condition, packaged and has an indefectible exterior when buying.

I have read and understood the terms of warranty service.

Buyer's signature \_\_\_\_\_ / \_\_\_\_\_ /

Print full name



## 12. REMARKS, COMMENTS, NOTES

