Operating Instructions

Planer-Thicknesser

- ADH 26 C 230V, 400V
- ADH 31 C 230V, 400V
- ADH 41 C 400V

ADH 26 C

ADH 31 C

ADH-SERIES

Imprint

Product identification

Planer-Thicknesser	Item number
ADH 26 C 230V	5904026
ADH 26 C 400V	5904027
ADH 31 C 230V	5904031
ADH 31 C 400V	5904032
ADH 41 C 400V	5904041

Manufacturer

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Indication regarding the operating instructions

Original instructions

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Indication regarding the copyright

Subject to technical modifications and error.

Content

1 Introduction

You have made an excellent choice in purchasing a HOLZSTAR Planer-Thicknesser.

Carefully read the operating instructions prior to commissioning.

They describe correct commissioning, intended use and safe as well as efficient operation and maintenance of the Planer-Thicknesser.

The operating instructions form part of the Planer-Thicknesser. Always keep them at the Planer-Thicknesser´s location of use. Please also observe the local accident prevention regulations and general safety regulations for the use of the Planer-Thicknesser.

1.1 Copyright

1.2 Customer service

Please contact your specialist retailer if you have any questions regarding your Planer-Thicknesser or require any technical information. Your specialist retailer will be happy to support you with specialist advice and information.

Germany:
Stürmer Maschinen GmbH
Dr.-Robert-Pfleger-Str. 26
D-96103 Hallstadt / Germany

Repair service:
Fax: 0951 96555-111
E-Mail: service@stuermer-maschinen.de
Internet: www.holzstar.de

Spare parts orders:
Fax: 0951 96555-119
E-Mail: ersatzteile@stuermer-maschinen.de

Please submit any information and experiences you make during application of the machine as these may be valuable for product improvements.

1.3 Disclaimer

All data in this operation manual has been compiled on the basis of the state-of-the-art, valid standards and guidelines as well as our many years of expertise and experience.

The manufacturer shall not be liable for damage in the following cases:

- Failure to comply with the operation manual,
- Unintended use
- Deployment of untrained staff
- Conversions at one's own responsibility
- Technical modifications
- Use of unauthorised spare parts

The actual scope of delivery may deviate from the descriptions and illustrations in this document as a result of special variants, optional extras or recent, technical modifications. The obligations defined in the supply contract shall apply in addition to the general terms and conditions and the manufacturer's general terms and conditions as well as the statutory regulations valid at the time of the conclusion of the contract.

2 Safety

This section provides an overview of all important safety packages for personal protection as well as safe and reliable operation. The individual sections contain additional, task-specific safety information.

2.1 Legend of symbols

Safety instructions

Safety instructions in this operation manual have been highlighted with symbols. Safety instructions are indicated by signal terms that express the degree of risk involved.

WARNING!

This combination of symbol and signal term indicates a potentially dangerous situation which may cause death or serious injury if not averted.

DANGER!

This combination of symbol and signal term indicates a immediate dangerous situation which may cause death or serious injury if not averted.

ATTENTION!

This combination of symbol and signal term indicates a potentially hazardous situation which may cause minor or light injuries if it is not averted.

IMPORTANT!

This combination of symbol and signal term indicates a potentially dangerous situation which may cause material damage or harm the environment if it is not averted.

NOTE!

This combination of symbol and signal term indic tes a potentially dangerous situation which may cause material damage or harm the environment if it is not averted.

Tips and recommendations

Tips and recommendations

This symbol highlights useful tips and recommendations as well as information for efficient and reliable operation.

Observe the safety information in these operating instructions to minimise the risk of personal injury as well as material damage and prevent hazardous situations.

2.2 Operator responsibility

Operators are defined as the persons who operate the machine for commercial or profit-based purposes or provide the machine to third parties for use or application and bear the legal product responsibility in terms of the protection of users, staff or third parties during operation.

Obligations of the operator:

If the machine is used for commercial purposes, operators are subject to the legal stipulations in terms of occupational safety. For this reason, the safety instructions in these operating instructions as well as the safety, accident prevention and environmental protection regulations valid at the installation location must be complied with. In this process, the following shall apply in particular:

- Operators shall obtain information about valid occupational safety regulations and determine additional hazards as part of a risk assessment which result from the specific operating conditions at the machine's installation location. Said risk assessment shall be reflected in operating instructions for machine operation.
- During the entire machine operating time operators must check whether the operating instructions they created meet current standards and adapt the operating instructions where necessary.
- Operators shall clearly manage and specify the responsibilities for installation, operation, troubleshooting, maintenance and cleaning.
- Operators must make sure that all persons handling the machine have read and understood these operating instructions. Operators must also regularly train staff and notify of the hazards.
- Operators shall provide staff with the required protective equipment and wearing the required protective equipment shall be mandatory.

Operators shall also be responsible for maintaining the machine in a technically perfect condition. For this reason, the following shall apply:

- Operators shall make sure that the maintenance intervals described in these operating instructions are complied with.
- Operators shall regularly check that the safety equipment is fully functional and complete.

2.3 Operating staff qualification

The different tasks described in these operating instructions require different levels of skills in terms of the qualifications of operating staff working with the machine.

WARNING!

Risk from inadequately qualified persons!

Inadequately qualified persons are unable to assess the risks when handling the machine, thus putting themselves and others at risk of severe injuries.

- All work must be carried out by qualified persons only.
- Keep inadequately qualified persons and children away from the work area.

Exclusively persons of whom it can be expected that they reliably complete assigned tasks shall be authorised to carry out any tasks. Persons whose reactions have been impaired shall not be authorized, e.g. drug users, users under the influence of alcohol or medication.

These operating instructions specify the following personal qualifications for the different tasks:

Operating staff:

Operating staff has undergone an induction by the operator about the entrusted tasks and potential hazards resulting from improper behaviour. Tasks which go beyond normal operation may only be carried out by the operator if they are listed in the operation manual and the operator has made him/herself familiar with them.

Qualified electrician:

Due to the electrician's specialised training, know-how, experience and knowledge of pertinent standards and regulations the electrician is in a position to work on the electrical systems, and autonomously identify and avoid potential hazards.

Specialist staff:

As a result of specialist training, expertise, experience and skills in terms of the relevant standards and regulations, specialist staff is able to complete the tasks they are entrusted with and independently identify hazards and avert risks.

Manufacturer:

Certain work must be carried out by manufacturer specialist staff only. Other staff is not permitted to carry out this work. Contact our customer service to have the work carried out.

2.4 Personal protective equipment

Personal protective equipment is intended to protect the health and safety of persons at work. Staff must wear the personal protective equipment indicated in individual sections of these operating instructions when carrying out the different tasks on the machine.

The personal protective equipment is described in the following section:

Head protection

The industrial helmet protects the head against falling objects and bumping into stationary objects.

Hearing protection

The hearing protection protects the ears against damages of hearing due to noise.

Eye protection

Protective glasses protect the eyes against projected parts and splashes of liquid.

Protective dust-mask

The dust protection mask protects the respiratory tract from wood chips and wood dust.

Protective gloves

The protective gloves provide protection for the hands against sharp-edged components, as well as against friction, abrasions or deeper injuries.

Safety boots

The safety boots protect the feet against crushes, falling parts and slipping over on slippery underground.

Protective clothes

Protective work clothing means tight-fitting clothing with low tear resistance.

CAUTION!

Impurged, possibly contaminated body protection products can cause illnesses.

Clean them after each use and once a week.

2.5 Safety labels on the Planer-Thicknesser

The following safety labels and instructions are attached to the Planer-Thicknesser s (Fig. 1) and must be observed.

Fig. 1: Safety labels
1 Warning of danger | 2 Warning of dangerous electrical voltage | 3 Warning of hand injuries | 4 Warning of danger of entanglement I 5 Ground symbol | 6 Mandatory signs

If safety labels on the machine are damaged or missing, this can cause errors, personal injury and material damage. The safety symbols attached to the machine must not be removed. Damaged safety symbols must be replaced immediately.

As soon as the signs are not clearly visible and comprehensible at first glance, the machine must be stopped until new signs have been attached.

2.6 For your own safety

WARNING!

- A planer-thicknesser is a dangerous machine that can cause serious injury if left unattended. It is therefore essential that you follow the following safety instructions:
- The planer-thicknesser may only be put into operation and operated by persons who are familiar with the planer-thicknesser and are aware of the dangers involved in working with the planer.
- Persons under 18 years of age may only use the planer-thicknesser within the scope of a vocational training and under the supervision of a trainer.

WARNING!

Always disconnect the planer-thicknesser from the electrical power supply when carrying out adjustment, inspection, cleaning or maintenance work.

The European standards must be observed when installing, operating, maintaining and repairing the planer-thicknesser. For the European standards not yet transposed into the respective national law, the still valid country-specific regulations must be applied.

Operators of planer-thicknesser outside the scope of the European Standards are obliged to comply with the safety and accident prevention regulations applicable in the country of operation. If necessary, appropriate measures must be taken to comply with the country-specific regulations before the planer-thicknesser is put into operation.

DANGER!

Do not use your fingers to look for end position switches in order to be able to switch on the planer-thicknesser in a way other than intended.

Safety during operation

Before using the planer-thicknesser, make sure that the following is true

- There is no danger to persons.
- No things are damaged.
- Do not work in any way that could compromise safety.
- Use personal protective equipment such as a dust mask, ear protection, protective goggles.
- The residual hazards listed below basically exist on planer-thicknessers and cannot be completely averted by safety devices.

ENTANGLEMENT HAZARD!

Ensure that no parts of the body or clothing can be caught by the machine and pulled in during operation. Wear tight-fitting clothing and if necessary a hair net.

Danger due to insecure position.

For long workpieces, use suitable workpiece supports on both sides of the planer-thicknesser. Avoid an unfavorable posture. Make sure that you stand securely. Keep the working area clean.

Danger to other persons in the working area

Keep the unauthorised persons, especially children, away from the danger area. Point out the hazards of the planer-thicknesser to persons who will help you when working on the planer-thicknesser.

Danger from touching the rotating cutter head

Always keep sufficient distance to the cutter head. Switch off the planer-thicknesser when it is not in use.

Risk of the workpiece hitting back

The workpiece is picked up by the cutter head and thrown against the operator. Work only with the non-return device functioning correctly. Only use sharp planing knives. Check the workpiece for foreign objects before starting work.

Protective gloves

Use protective gloves when changing the planing knife.

Consider work area’s environment

Do not expose tools to rain. Do not use tools in damp or-wet location. Keep work area well lighted. Do not use tools in the presence of flammable liquids or gases. Keep the unauthorised persons, especially children, away from the danger area. Point out the hazards of the planer-thicknesser to persons who will help you when working on the planer-thicknesser.

Risk due to defects in the planer-thicknesser

Before each use, check the planer-thicknesser for damage or dismantled, defective protective covers and protective devices. Do not use the planer-thicknesser if a part is defective. Replace the blunt planing knives immediately. There is a risk of kickback if a blunt planing knife gets caught in the surface of the workpiece.

Danger of overloading the planer-thicknesser

Only operate the planer-thicknesser in the specified power range. Use the planer only for the purpose for which it is intended.

Before each switch-on, make sure that there are no objects such as tools in the planer-thicknesser.

2.7 Safety equipment

Undervoltage release

In the event of an electrical power failure, an undervoltage relay is triggered. This prevents the planer-thicknesser from starting up again on its own as soon as electrical voltage is present again. To reset the machine, it must be restarted.

Overload protection

The planer-thicknesser has a built-in overload protection. The overload protection switches off the planer-thicknesser if the motor has become too hot. To switch the planer-thicknesser on again:

- Let the motor cool down for about ten minutes.
- Switch the machine on again

Automatically switch-off by opening

A microswitch switches off the machine when the table is opened.

A microswitch switches the machine off when the chip catcher is opened in the "Thickness planing" mode.

The machine cannot start if the tables of the dressing machine and the chip catcher are not closed during operation of the planer.

Chip catcher

The chip catcher covers the cutter head when operating as a thicknesser and prevents access to the cutter head below the tables when operating as a planer device. The chip catcher can be fixed in both positions - for the planer device and for the thickness device.

Separator devices

Separator devices between the cutter head and the feed roller (or discharge roller) are used to avoid contact and access to the cutter shaft underneath the tables of the planer

Motor brake

Electronic brake for electrodynamic braking of motors. Ensures tool braking in less than 10 seconds after motor switch-off.

2.8 General safety instructions

This machine is equipped with several safety devices designed to protect both the operator and the machine. However, this cannot yet cover all safety aspects and thus the operator. Before you put the machine into operation, you must read and fully understand this chapter. In addition, the operator must also consider other aspects of the hazard in relation to the environmental conditions and the material

Note the following:

- Before connecting the device to the mains, make sure that all safety elements are activated and check their positions and function.
- If it is necessary to remove the doors or protective covers, turn off the switch and disconnect the plug from the outlet.
- The non-return device must move freely and its operation must be checked regularly (several times a day).
- Do not connect the appliance to the mains if the door or protective cover has been removed.
- To avoid operating errors, familiarize yourself with the location of the switches on the machine before switching them on.
- Memorize the position of the emergency stop switch so that you can use it immediately at any time.
- Be careful not to touch any switches while the machine is in operation.
- Never touch a rotating tool with your hands or other objects.
- If you are not working on the machine, switch off the machine at the MAIN switch and disconnect the plug from the socket.
- Before cleaning the machine, switch off the machine and unplug the machine.
- Switch off the machine before carrying out maintenance work on the machine and disconnect the plugs from the machine.
- Do not modify the machine in a way that poses a risk to safe operation.
- Carry out regular inspections in accordance with the instructions for use.
- Check and ensure that the machine is not subject to any malfunctions caused by the user.
- After the work is finished, adjust the machine so that it is ready for use in another production series.
- If there is a power failure, switch the machine off immediately.
- Do not paint, soil, damage, alter or remove the safety plates. If they become illegible or are lost, contact the production line and replace the plates.
- Always keep the working area clear. Overcrowded areas and workbenches cause injury.
- Consider the surroundings of the work area. Do not expose tools to rain. Do not use tools in damp or wet locations.
- Keep the work area well lit.
- Do not use tools near flammable liquids or gases.
- Therefore, remove objects such as rings, watches, bracelets, ties, etc. before starting work, as they may get caught on different parts of the machine.
- Protect and secure your hair properly so that it cannot be caught by moving parts on the machine.
- Wear shoes that are recommended or required by the health and safety regulations of all countries.
- Always wear the necessary safety equipment (safety glasses, apron, safety shoes, hearing protection, etc.).
- Wear a helmet if there are obstacles above your head - in the work area.
- Always wear a dust mask while working on material that generates dust during the process.
- Never wear loose work clothing.
- Do not work on the machine under the influence of drugs or alcohol and when you are tired.

3 Indended Use

The Planer-Thicknesser is designed for dressing and planing boards and mouldings made of solid wood or similar wood materials, e.g. wood fibre surfaces, boards made of wood parts, chipboards, plywood, laminated and non-laminated surfaces with rectangular or square cross section. The permissible dimensions of the workpieces must be observed. Machining of other materials is not intended and not permitted. The machine is designed for operation by only one worker.

The machine must be operated with a suitable extraction system. It is suitable for private use, not for industrial use.

Intended use also includes compliance with all the information in these instructions. Any use beyond the intended use or any other use is considered misuse.

WARNING!

Danger in case of misuse!

A misuse of the Planer-Thicknesser can result in dangerous situations.

- Only operate the Planer-Thicknesser in the power range given in the technical specifications.
- Never operate the machine without the safety devices.
- Never work up other materials that do not correspond to those which are required for the intended use.
- Only operate the Planer-Thicknesser in a technically flawless status.
- Never machining several workpieces at the same time.

Every workpiece must be inspected for foreign objects such as screws or nails before machining. The planer-thicknesser is designed and built for use in a non-hazardous environment. If the planer-thicknesser is used in a different way than mentioned above, if it is modified without the approval of HOLZSTAR®woodworking machines, the planer-thicknesser will no longer be used as intended.

WARNING!

Severe injuries due to improper use.

Modifications and changes to the operating values of the planer are prohibited. They endanger people and can cause damage to the planer.

Always keep the operating instructions close to the planer.

All persons involved in installation, commissioning, operation and maintenance must have the necessary qualifications to observe these operating instructions exactly. In case of improper use may cause danger to persons, the planer thickness and other material assets can be endangered, the function of the dressing plane may be impaired.

Stürmer Maschinen GmbH assumes no liability for constructive and technical changes to the planer thicknesser. Claims of any kind for damage due to improper use are excluded.

WARNING!

The planer-thicknesser may only be operated with functioning safety devices.

Switch off the planer immediately if you discover that a safety device is faulty or has been dismantled!

All additional equipment provided by the operator must be equipped with the prescribed safety devices. must be equipped.

You as the operator are responsible for this!

4 Technical Data

4.1 Operating conditions

Relative humidity	30% to90%
Operating temperature range	+5°C to +40°C
max. height above sea level	1000 m

The machine is not intended for outdoor use.

The machine is not intended for operation under explosive conditions.

4.2 Type plate

Fig. 2: Type plate ADH 26 C

4.3 Table

Model	ADH 26 C 230 V / 400 V	ADH 31 C 230 V / 400 V	ADH 41 C
Length (product) [mm]	1120	1300	1620
Width/Depth (product) [mm]	630	720	920
Height (product) [mm]	960	1010	1010
Net weight [kg]	170	210	260
Input power drive motor [kW]	2,3 / 2,2	2,84 / 2,77	3,73
Output power drive motor [kW]	1,7	2,2	3
Electrical connection[V]	230 / 400	230 / 400	400
Phase (s) [Ph]	1 / 3	1 / 3	3
Rated frequency [Hz]	50	50	50
Length planing table [mm]	1120	1295	1640
Width planing table [mm]	275	325	425
Working height [mm]	830	850	850
Max. depth of planing [mm]	3	3	3
Length thicknessing table [mm]	545	545	600
Width thicknessing table [mm]	258	308	408
Min. working height thicknessing [mm]	5	5	5
Max. working height thicknessing [mm]	225	225	225
Max. depth of thicknessing [mm]	3	3	3
Feed speed [m/min]	5,5	7	7
Number of planing knives	3	3	3
Planing shafts-Ø [mm]	70	70	70
Planing shaft speed [1/min]	5200	5200	5200
Max. planing width [mm]	258	308	408
Extraction port Ø [mm]	100	100	120

The values given refer to emissions and do not necessarily mean safe working values.

While there is a correlation between the value of emissions and the exposure values, these values cannot be used to reliably determine whether additional measures are necessary or not.Factors influencing the actual exposure of the worker include the characteristics of the work, the area, other noise sources, etc., e.g. the number of machines and other adjacent processes. The maximum permissible exposure values may also vary in different countries. This information should help the machine user to better assess the risk and the risk rate.

Specifications concerning noise of the device		
Level of noise A in the place of operation (LpAeq)	Without load	LpAeq = 81,7 dB(A)
	With load	LpAeq = 89,5 dB(A)
Level of acoustic power A (LWA)	without load	LWA = 94,5 dB (A)
	with load	LWA = 103 dB (A)

5 Transport, packaging, storage

5.1 Delivery and transport

Delivery

After delivery, check the planer-thicknesser for visible transport damage. If you discover any damage to the planer-thicknessers, report it immediately to the transport company or dealer.

Carefully unpack the machine and all loose objects from the wooden box and inspect them for damage. Read the operating instructions thoroughly to familiarize yourself with proper assembly.

Remove the screws securing the machine to the shipping skip. Remove the protective layer from the table, bed rollers, feed rollers, cutter head, and loose items packed with the machine. The coating can be removed with a soft cloth moistened with kerosene. Do not use acetone, petrol or paint thinner for this purpose.

Do not use solvents to clean plastic parts.

Transport

Improper transport is accident-prone and can cause damage or malfunctions for which we do not grant any liability or guarantee.

Transport the scope of delivery secured against shifting or tilting with a sufficiently dimensioned industrial truck to the installation site.

WARNING!

Severe or fatal injuries may occur if parts of the machine tumble or fall down from the forklift truck, pallet truck or from the transport vehicle.
Follow the instructions and information on the transport box.

Note the total weight of the machine. The weight of the machine is indicated in the "Technical data" of the machine. When the machine is unpacked, the weight of the machine can also be read on the rating plate.

Only use transport devices and load suspension gear that can hold the total weight of the machine.

WARNING!

The use of unstable lifting and load suspension equipment that might break under load can cause severe injuries or even death. Check that the lifting and load suspension gear has sufficient load-bearing capacity and that it is in perfect condition.

Observe the accident prevention regulations issued by your Employers Liability Insurance Association or other competent supervisory authority, responsible for your company.

Fasten the loads properly.

General risks during internal transport

WARNING: DANGER OF TIPPING

The device may be lifted unsecured by a maximum of 2cm.

Employees must be outside the danger zone, the reach of loads.
Warn employees and, if necessary, advise employees of the hazard.

Devices may only be transported by authorized and qualified persons. Act responsibly during transport and always consider the consequences. Refrain from daring and risky actions.

Gradients and descents (e.g. driveways, ramps and the like) are particularly dangerous. If such passages are unavoidable, special caution is required.

Before starting the transport check the transport route for possible danger points, unevenness and disturban-ces as well as for sufficient strength and load capacity.

Danger points, unevenness and disturbance points must be inspected before transport. The removal of danger spots, disturbances and unevenness at the time of transport by other employees leads to considerable dangers.

Careful planning of internal transport is therefore essential.

Transport with a forklift/lift truck:

For shipping, the device packed in a carton is delivered on a pallet so that it can be transported with a forklift truck or pallet truck.

The forks of the forklift truck must be at least 1200 mm long.

WARNING!

When lifting and transporting the machine, make sure that there are no persons in the danger area who could be injured by falling or tilting the machine!

NOTE!

During transport, the machine must be protected from excessive vibration and moisture by appropriate means.

Transport by crane

Prepare 2 ropes or belts with the necessary load capacity and length.

The ropes are hung on the crane hook; the crane must have the respective load capacity.

The ropes are then attached to the areas of the planing and thicknessing machine reinforced for crane transport, and the machine is then lifted by crane. Make sure that the centre of gravity of the machine is taken into account.

Align the ropes well; if necessary, move the crane slightly to ensure vertical and stable lifting;

Do not tilt the machine. Lifting the machine must be slow and without jolting or swinging.

Put down the machine with the crane on the selected place.

Unpacking

Step 1: Remove all parts from the carton. Do not throw away the carton or packaging material until the machine is set up and running satisfactorily.

Step 2: Inspect the contents for transport damage. Report any damage to your dealer.

Tools required for assembly:

1x	Cross-point Screwdriver (approx. 2 ft)
1x	Phillips-head screwdriver
1x 4mm	hex-wrench (included in delivery)
1x 5mm	hex-wrench
1x 6mm	hex-wrench (included in delivery)
1x 10mm	box wrench
1x 13mm	box wrenchr

NOTE!

The use of socket spanners and ratchets speeds up the assembly time, but is not necessary.

5.2 Packaging

All packaging materials and packaging aids used in the planer-thicknesser are recyclable and must always be recycled.

Cardboard packaging components are crushed and sent for waste paper collection.

The films are made of polyethylene (PE) and the padding parts of polystyrene (PS). You hand these materials over to a recycling collection point or to the disposal company responsible for you.

5.3 Storage

WARNING!

Keep the planer-thicknesser in a safe place so that it cannot be operated by unauthorised persons and so that nobody can injure themselves on the standing planer-thicknesser.

Store the planer-thicknesser thoroughly cleaned in a dry, clean and frost-free environment. Cover the machine with a protective tarpaulin.

Ambient temperature range: -25 °C to +55 °C.

6 Description of device

The illustrations in these operating instructions serve the general comprehension and may deviate from the actual type.

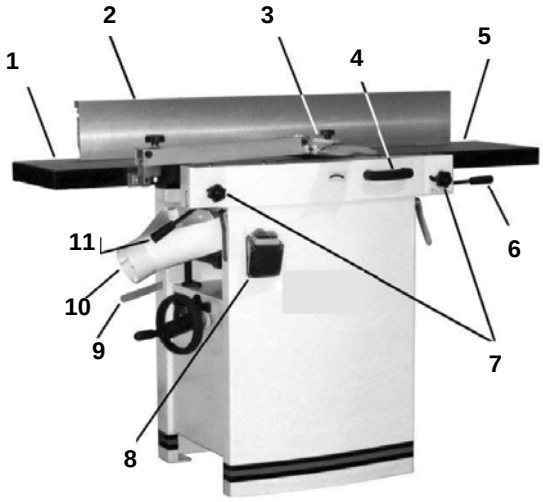

Fig. 3: Planer-Thicknesser ADH 26 C

1 Thicknesser outfeed table
2 Thicknesser fence
3 Cutter head guard
4 Table tilt handle
5 Thicknesser infeed table
6 Infeed table lifting handle
7 Thicknesser table lock knob
8 ONN/OFF Switch, Electrical connection
9 Power feed ONN/OFF handle
10 Dust hood
11 Outfeed table lifting handle

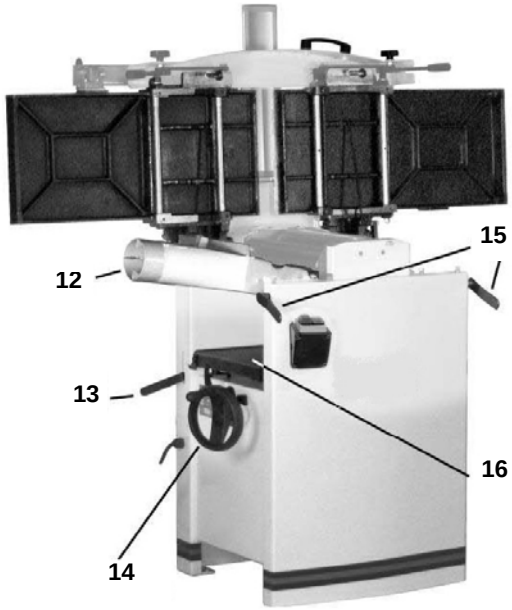

Fig. 4: Planer-Thicknesser ADH 26 C

12 Dust hood

13 ONN/OFF Switch, Electrical connection

14 Planer table height adjustment

15 Table lock

16 Planer table

7 Setting up and connection

7.1 Requirements for the place of operation

The Planer-Thicknesser must be installed securely on a level and firm surface. Ensure that there is sufficient freedom of movement for working. The place of operation should meet the following criteria:

- The underground must be even, solid and vibration-free.
- The underground must not allow any lubricants to pass through.
- The installation or working area must be dry and well ventilated.
- No machines causing dust or chips should be operated near the machine.
- There must be sufficient space for the operating personnel, for material transport and for adjustment and maintenance work (see installation plan).
- The place of operation must have good lighting.
- There must be an extraction device with sufficient dimensions for the machine.

7.2 Setting up of the Planer-Thicknesser

CAUTION!

Risk of injury from an improperly installed machine!
Check the stability of the machine after setting it up on stable ground.

CAUTION!

Observe the weight of the machine!
The machine may only be set up by two persons together.
Check the correct dimensioning and load-bearing capacity of the supporting equipment.

ATTENTION!

In order to ensure sufficient stability of the machine, it should be fixed to the ground with screws.

The planer-thicknesser is delivered in a carton and is already largely assembled. Only a few parts have to be assembled after delivery.

Only use the parts included in the scope of delivery.

Do not make any changes to the parts.

After unpacking from the carton, lift the machine and park it at the desired location.

Remove the protective agent. This can be done with the usual solvents. Do not use nitro solvents or similar and do not use water.

7.3 Electrical connection

DANGER!

Risk of death due to electric shock!

Contact with live components may result in fatal injury. Switched-on electrical components can make uncontrolled movements and lead to serious injuries.

- Disconnect the mains plug before making any adjustments to the machine.

ATTENTION!

All work on the electrical installation may only be carried out by a qualified electrician.

Only use the planer-thicknesser in a dry environment. Only operate the planer-thicknesser on an electrical supply that meets the following requirements:

- The mains voltage and the current frequency of the power supply must correspond to the specifications on the type plate.
- Fuse protection with a residual current circuit breaker (RCD).
- Use a socket outlet with earthing contact (properly earthed socket outlet).
- Lay the mains cable in such a way that it does not interfere with work and cannot be damaged.
- Protect the power cord from heat, aggressive liquids, and sharp edges.
- After the electrical connection, make sure that the cutter head moves in the correct direction. If this is not the case, invert the two phase wires at the power input.

NOTE!

Make sure that an inertial fuse (min. C characteristic) is required for commissioning the ADH 31C - 230V.

Check motor direction of rotation

After the electrical connection, check that the direction of rotation of the spindle corresponds to the direction indicated on the plate. If the direction of rotation is incorrect, the connections of the phase lines must be replaced.

8 Operation

WARNING!

Danger to life!

There is a danger to life for the operator and other persons if they do not comply with the following rules.

- The Planer-Thicknesser may only be operated by an instructed and experienced person.
- The operator must not work when under the influence of alcohol, drugs or medication.
- The operator must not work if he is overtired or suffers from illnesses affecting his concentration.
- The Planner Thicknesser may only be operated by one person. Other persons must stay away from the work area during operation.

ATTENTION!

Health hazard!

Wood dust and chips can damage the lungs when inhaled.

The machine may only be operated with a suitable extraction system.

ATTENTION!

Before commissioning, check the electrical connection, cables and contacts.

Wear hearing protection

Wear a dust mask!

Wear safety boots!

Wear protective clothes!

Use protective goggles!

- Always ensure an sufficient working area and free movement to the machine and its peripherals.
- Place tools and other objects in a designated location at a sufficient distance from the machine.
- Provide sufficient lighting in the work area that does not create shadows or a stroboscopic effect. A value for safe and high quality work is set by the hygienic standards the minimum before intensity 500 lux.
- Never place tools or other objects on the worktable or covers.
- Always keep the work area clean and tidy.

8.1 Operating elements

Disconnect the unit from the power source before making any adjustments:

- Blade heads are dangerously sharp.
- Be extremely careful when working with the machine.

ATTENTION!

Failure to do so may result in serious injury.

8.1.1 Conversion from planer to thickness function

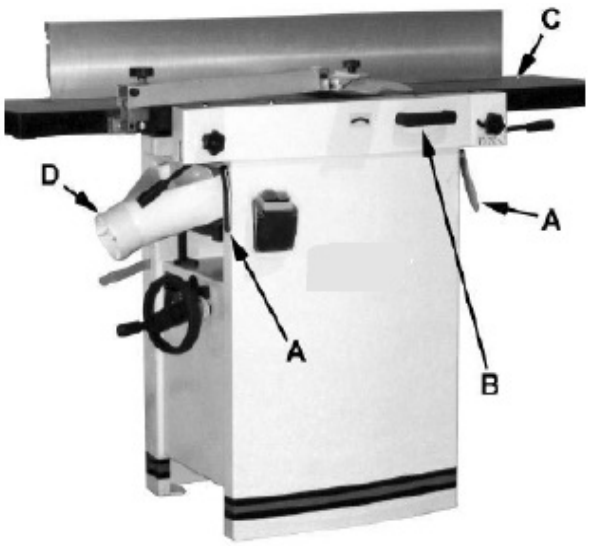

Fig. 5: Operating elements

ATTENTION!

The machine must be switched off at the ON/OFF switch before switching from planer operation to thickness operation.

Step 1: Release both housing locks (Pos. A, Fig. 5) by rotating the handles toward the operator, then pulling away from the machine.

Step 2: Raise the table (Pos. C, Fig. 5) using the handle (Pos. B, Fig. 5).

Table is heavy. Use care when raising. Failure to comply may cause serious injury.

When raised, the table should be in the vertical position as shown in Fig. 6, Pos. C. The latch (Pos. E, Fig. 6) should be engaged, preventing the table from an accidental forward fall.

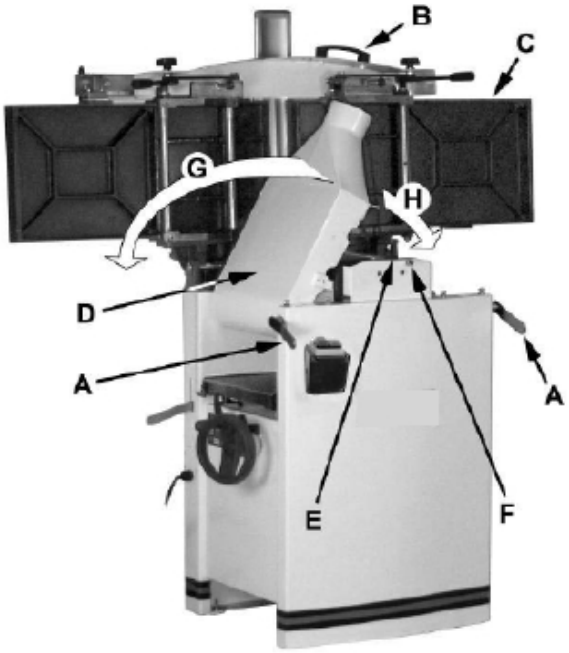

Fig. 6: Conversion to thickness function

Step 3: Position the dust chute (D, H Fig. 6) to the right.

Use extreme care to avoid contact with cutter head knives.

NOTE!

The planer table may need to be lowered to allow clearance needed to position the dust collector.

8.1.2 Conversion from thickness to planer function

Step 1: Pull the release knob (Pos. F, Fig. 6) and reposition the dust chute (Pos. D & Pos. G, Fig. 6) to the left. It should be positioned as shown in Fig. 5, Pos. D).

NOTE!

Table is heavy. Use care when lowering. Failure to comply may cause serious injury.

Step 2: Release the latch (Pos. E, Fig. 6) and bring the table forward using the tilt handle (Pos. B, Fig. 6). It should be positioned as shown in Fig. 2, Pos. C.

Step 3: Lock the table (Pos. C, Fig. 6) by pushing the lock handles (Pos. A, Fig. 6) in toward the machine and rotating down (away from the operator).

Power connection

Step 1: Plug the power cord into the wall outlet when a properly sized plug is connected.

Step 2: Press the green on button (Pos. A, Fig. 7).

Step 3: Press the red off button (Pos. B, Fig. 4) to stop.

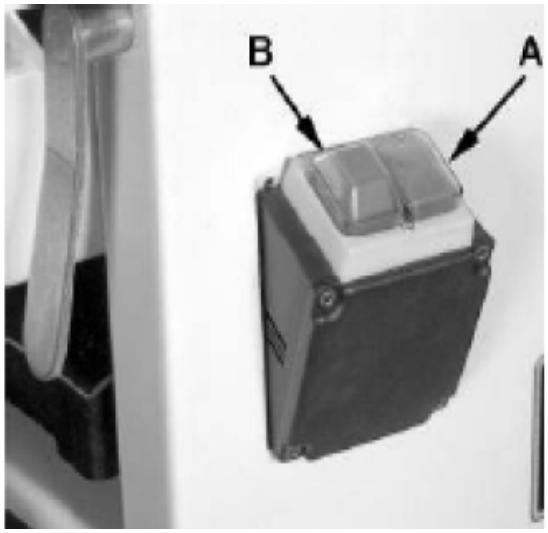

Fig. 7: START and STOP Buttons

A START button
B STOP button

8.1.3Controls and Adjustments of the planer

Power feed

Placing the planer power feed handle (Pos. D, Fig. 8) in the up position turns the planer power feed on (see arrow). Placing the handle in the down position turns the power feed off.

Table lock

Turn the table lock (Pos. E, Fig. 8) clockwise to lock the height adjustment handwheel (Pos. F, Fig. 8) and secure the planer table (Pos. C, Fig. 8) in its selected position.

ATTENTION!

After completing the adjustment work, tighten all locking elements again.

Turn the table lock (Pos. E, Fig. 8) counterclockwise to release and permit table adjustment.

Table height adjustment

Step 1: Unlock the table lock (E).

Step 2: Rotate the height adjustment handwheel (Pos. F, Fig. 8) clockwise to raise the planer table (Pos. C, Fig. 8), counterclockwise to lower.

Step 3: Lock the table lock (Pos. E, Fig. 8). Each revolution of the handwheel (Pos. F, Fig. 8) results in a 4mm up or down movement of the table (Pos. C, Fig. 8).

A scale on the handwheel column indicates the amount of handwheel rotation. A pointer (Pos. B, Fig. 8) indicates the table position relative to the cutter head on the scale (A) located on the side of the cabinet.

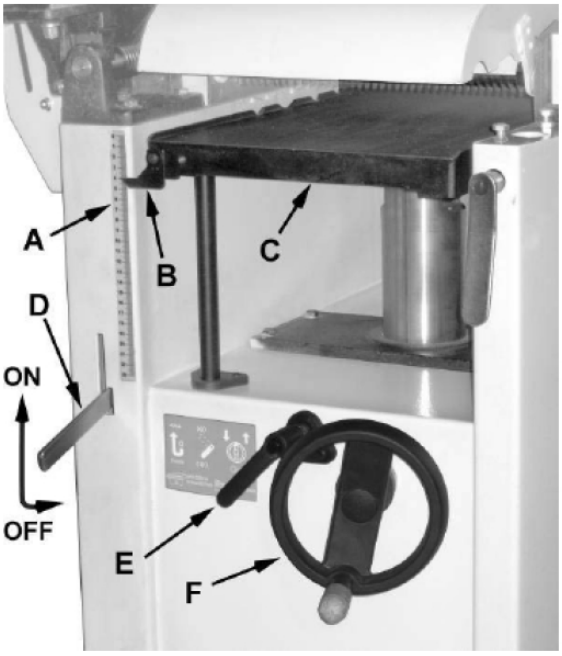

Fig. 8: Operating elements

8.1.4Controls and Adjustments of the thicknesser

Outfeed Table Height Adjustment

Lock knob (Pos. C, Fig. 9) and lifting handle (Pos. B, Fig. 9) control the height adjustment of the outfeed table (Pos. A, Fig. 9).The outfeed table is initially adjusted at the factory and should not be repositioned except during certain adjustments.

Infeed Table Height Adjustment

Lock knob (Pos. D, Fig. 9) and lifting handle (Pos. E, Fig. 9) control the height adjustment of the infeed table (Pos. F, Fig. 9).To adjust:

Step 1: Loosen lock knob (Pos. D, Fig. 9).

Step 2: Raise the lifting handle (E) to raise the infeed table for a shallow depth of cut. Lower the handle for a deeper cut.

Step 3: Tighten the lock knob (Pos. D, Fig. 9).

NOTE!

A depth of cut of 1.5mm or less is recommended.

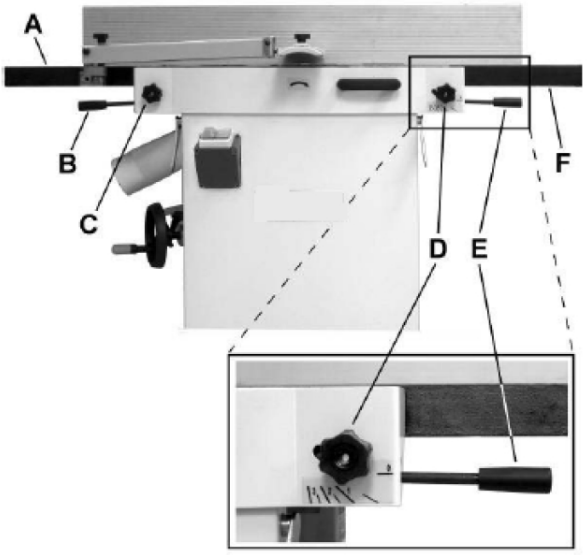

Fig. 9: Thicknesser

Cutter head guard

Properly positioned, the cutter head guard (Pos. H, Fig. 10) should rest against the fence (Pos. A, Fig. 10).

Fence movement

The fence (Pos. A, Fig. 10) can be moved forward (Pos. B, Fig. 10) or backward (Pos. C, Fig. 10) across the width (Pos. W, Fig. 10) of the table. It also tilts up to 45 degrees backwards (Pos. D, Fig. 10).

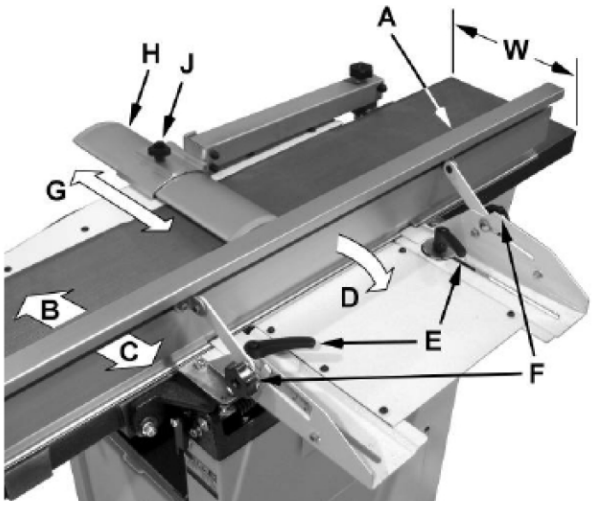

Fig. 10: Thicknesser

Step 1: Loosen the lock knob (Pos. J, Fig. 10), slide the guard into position, then tighten the lock knob.

Step 2: To slide fence forward or backward:

When edge jointing, the fence assembly should nperiodically be moved to different positions to distribute wear on the cutter head knives. This is done as follows:

Step 2.1: If necessary, loosen the cutter head guard (Pos. H, Fig. 10) to permit the fence assembly to move freely without being constrained by the guard.

Step 2.2: Loosen two fence assembly locking handles (Pos. E, Fig. 10).

Step 2.3: Move the entire fence assembly to the desired position; then re-tighten the handles (Pos. E, Fig. 10).

Step 2.4: Readjust and secure the cutter head guard. Tilt the fence backward.

Step 2.5: The fence (Pos. A, Fig. 10) can be tilted backward (Pos. D, Fig. 10) up to 45°(that is, for a total included angle of 135° from table surface) as follows:

a) Loosen locking handles (Pos. F, Fig. 10).

b) Tilt the fence back (Pos. A & Pos. C, Fig. 10) to the desired angle up to 135 degrees.

Tips and recomendations

You can use a reference piece or a measuring instrument to facilitate the alignment of the stop.

c) Tighten the locking handles (Pos. F, Fig.10).

d) Readjust and secure the cutter head guard.

ATTENTION!

The machine must be switched off at the ON/OFF switch before switching from planer to thickness operation.

8.2 Adjustments

8.2.1Table and knife adjustments

For accurate jointing, at least three things must be true:

- Infeed and outfeed tables must be coplanar.
- Knives or knife inserts must be set in the cutter head so that the highest point of their arc is level with the outfeed table.

- On the standard cutter head, knives must be parallel with the outfeed table across the entire length of the knives.

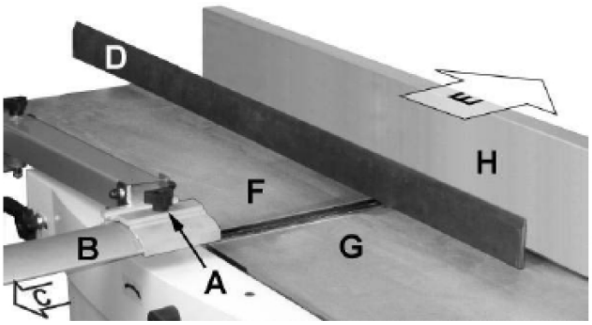

Fig. 11: Table setting

These alignments are explained below:

Coplanar Alignment

Definition of coplanar

When the infeed table is set to the same level as the outfeed table and together both tables form a "perfect" flat surface, the tables are said to be coplanar.

For optimum performance of the jointer, the infeed and outfeed tables must be coplanar. If they are not, the finished workpiece may have a slight taper or twist across jointed its width or length.

The tables have been set coplanar at the factory, but they should be double-checked by the operator.

Also, as the machine undergoes use, the tables should be checked occasionally and adjusted if necessary.

The procedure described below uses a steel straight edge to set the tables, which should be accurate enough for most purposes.

Important: The tables must be locked in position when performing the following test:

Step 1: Disconnect the thicknesser from power source.

Step 2: Loosen the lock knob (Pos. A, Fig. 11) and slide the cutter head guard (Pos. B & Pos. C) to clear the table.

Step 3: Slide the fence assembly back (Pos. H & Pos. E, Fig. 11) as far as it will go, or remove it from the machine entirely.

Step 4: Rotate the cutter head to avoid knife interference.

Step 5: Place a straight edge (Pos. D, Fig. 11) across the front of the outfeed table (Pos. F, Fig. 11) and extending over the infeed table (Pos. G, Fig. 11). Note the position of the infeed table (Pos. G, Fig. 11). Note the position of the straight edge in Figure 9 with respect to the fence (Pos. H, Fig. 11).

Step 6: Raise the infeed table (Pos. G, Fig. 11) until it contacts the straight edge (Pos. D, Fig. 11). The straight edge should be straight and level over both tables.

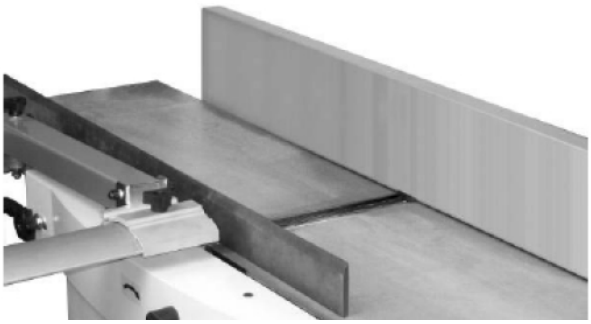

Fig. 12: Table setting

Step 7: Move the straight edge to the back of the output table as shown in Fig.12 and perform the test for this as well.

If the straight edge is not level, the front or rear table must be adjusted to make the tables coplanar. If alignment is required as described in the previous section, proceed as follows:

Disconnect the device from the power source before making any adjustments. Failure to do so may result in serious injury.

Step 1: Disconnect power from machine.

Step 2: Unlock both cabinet lock handles (Pos. A2, Fig. 13).

Step 3: Raise the table (D) fully upright. Adjustment is performed by means of four setscrews (Pos. B2, Fig. 13) that adjusts the table pitch and tilt at the back (towards the fence) and two hex cap screws (Pos. A1, Fig. 13) that adjusts the table toward the front.

Adjustment can consist of a front adjustment, rear adjustment or (more probable) a combination of both.

Adjustment of the rear area:

Required tools:

- 13 mm. wrench
- 4 mm. hex wrench

Step 1: With a 13mm wrench, loosen three hex cap screws (B1).

Step 2: Using a 4mm hex wrench, make very slight adjustments of 1/8 to 1/4 turns to four setscrews (B2) as required.

- A clockwise turn will raise the table;

- A counterclockwise turn will lower the table;
- Adjusting the two right setscrews will have greatest adjustment impact to the table's right side;
- Adjusting the two left setscrews will have greatest adjustment impact to the table's left side.

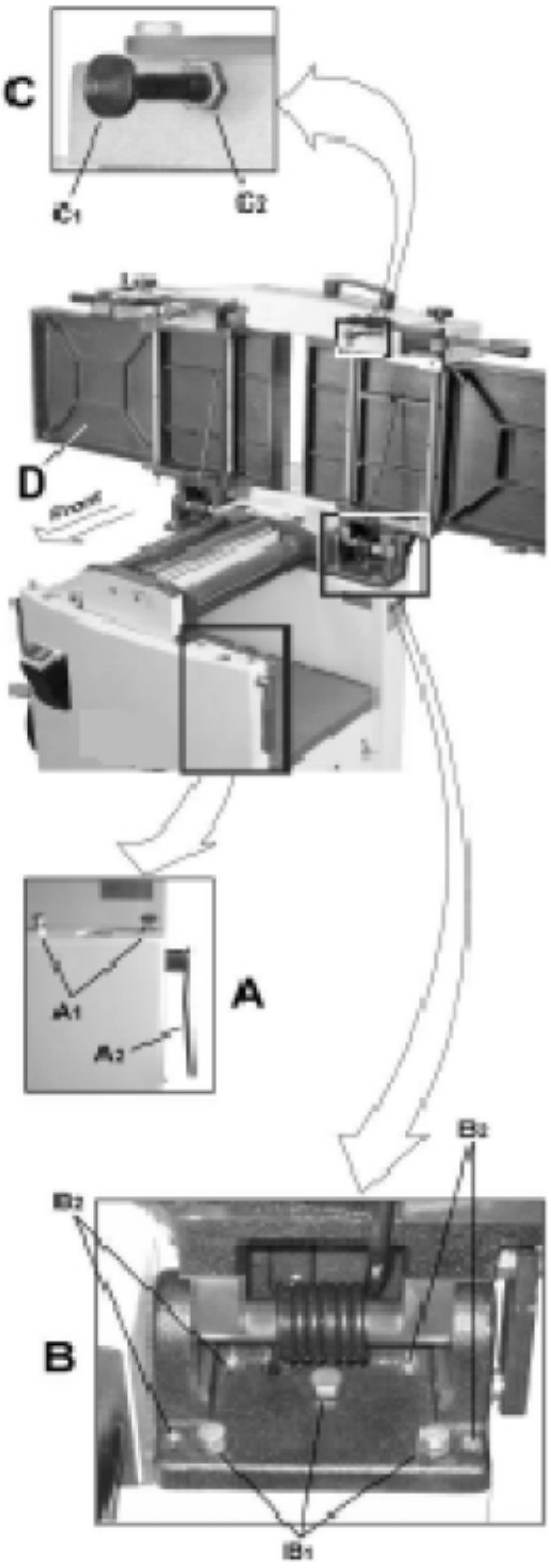

Fig. 13: Adjustment of rear and front area

Step 3: When adjustment is complete, tighten the hex cap screws (Pos. B1, Fig. 13).

Adjustment of the front area:

Required tools:

- 2 x 13 mm. wrench

Step 1: Hold the hex cap screws (A1, Fig. 13) in place with one wrench while using the other to loosen the locking hex nuts.

Step 2: Adjust the screws (Pos. A1, Fig. 13) slightly from 1/8 to 1/4 turn.

Step 3: Loosen the three hex head screws (Pos. B1, Fig. 13) with a 13 mm socket wrench:

- A counterclockwise turn willraise the table;
- A clockwise turn will lower the table.
- Adjusting the right screw will have greatest adjustment impact to the table's right side;
- Adjusting the left screws will have greatest adjustment impact to the table's left side.

Step 4: When adjustment is complete, secure by tightening the hex nut while maintaining the position of the screw with the second wrench.

It may be necessary to repeat the exercise in this section more than once to achieve coplanar alignment.

NOTE!

If the table does not lock properly after adjustment, the thicknesser table lock lever must be adjusted.

8.2.2 Setting cutter head knives

NOTE!

Before performing any adjustments in this section, the infeed and outfeed tables must be coplanar.

DANGER!

Cutter head knives are dangerously sharp! Use extreme caution when inspecting, removing, sharpening or replacing knives into the cutter head. Failure to comply may cause serious injury

Step 1: Disconnect machine from the power source.

Step 2: Remove the cutter head guard (Pos. B, Fig. 11).

Step 3: Carefully number each knife blade (Pos. C, Fig. 14 and Fig. 15) with a magic marker to differentiate each.

NOTE!

To rotate the cutter head the cutter head pulley must be turned. This requires removing the panel on the back of the cabinet for access.

Step 4: Rotate the cutter head (Pos. E, Fig. 14 and Fig. 15) and determine the 12 o'clock position of knife number one.
The 12 o'clock position is the highest point a blade will reach in the cutting arc (Pos. C, Fig. 15).

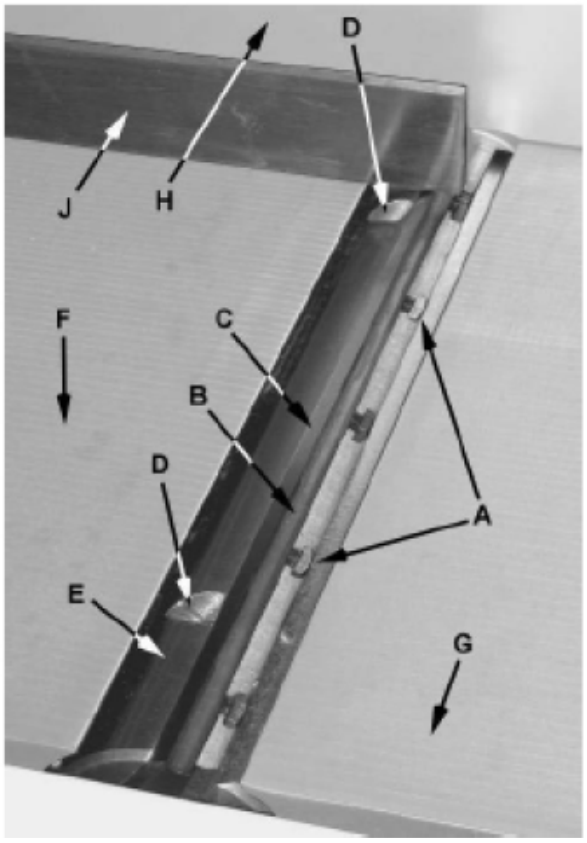

Fig. 14: Cutter head

Step 5: Set a straightedge (Pos. J, Fig. 14) on the outfeed table (Pos. F, Fig. 14) near the fence (Pos. H, Fig. 14).

- One end of the straightedge should be positioned over the cutting knife (C) near the end of the blade as shown in Fig. 12.
- Use care when handling the straight edge near the blades to prevent damage.

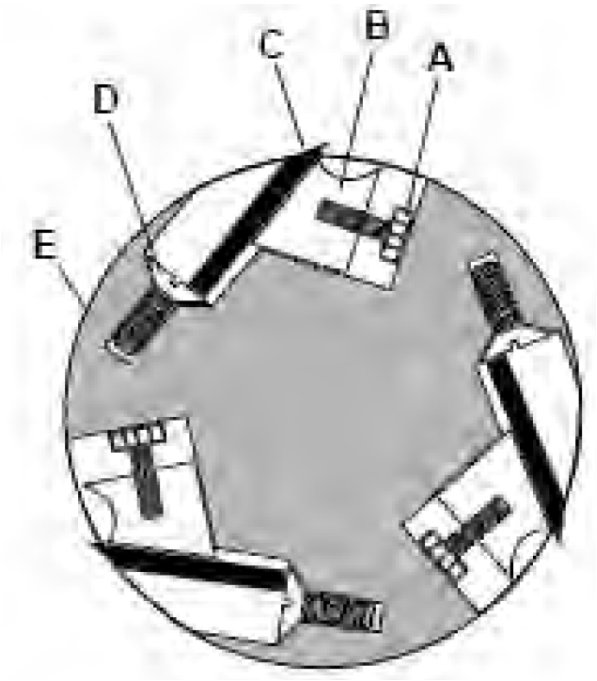

Fig. 15: Cutter head cross-section

Step 6: Note the position of the knife blade with respect to the straight edge, then move the straight edge to the other side of the table and again note the position of the knife blade with respect to the straight edge. Blade number one must be at the same height at each end and must also be at the same height as the outfeed table (bottom of straight edge). If this is not the case, adjustment is required as follows:

Step 6.1: Slightly loosen five gib lock screws (Pos. A, Fig. 14) by turning into the lock bar (Pos. B, Fig. 14), clockwise as viewed from the infeed table (Pos. G, Fig. 14).

Step 7: Adjust the knife height by turning jack screws (Pos. D, Fig. 14) upon which the knives rest. To lower the knife, turn the screw clockwise. To raise, turn the screw counterclockwise.

Step 8: When the knife is at the proper height, alternately tighten the five gib lock screws (Pos. A, Fig. 14).

Step 9: Repeat steps 4 – 8 for knives two and three.

ATTENTION!

- For workpieces with different thicknesses, first machine the stronger side (risk of wedging).
- Divide greater material removal into individual infeed steps.
- If wedging occurs, reduce infeed.
- Clean the worktable regularly.
- Make sure that the workpieces are free of resin or dirt.
- Do not treat the worktable with lubricating oil or grease.
- Use roller supports or extensions for long workpieces.
- Always machine workpieces to their full length.
- Do not machine bent or deformed workpieces.

8.2.3 Replacement of cutting knives

Disconnect machine from power source before making any adjustments. Failure to comply may cause serious injury.

Step 1: Disconnect machine from the power source.

Step 2: Remove the cutter head guard (Pos. B, Fig. 9).

DANGER!

Cutter head knives are dangerously sharp! Use extreme caution when inspecting, removing, sharpening or replacing knives into the cutter head. Failure to comply may cause serious injury

Step 3: Turn all five screws (Pos. A, Fig. 14 and Fig. 15) into the lock bar (Pos. B, Fig. 14 and Fig. 15) by turning in a clockwise direction as viewed from the infeed table (Pos. G, Fig. 14 and Fig. 15).

Step 4: Carefully remove the cutter knife (Pos. C, Fig. 14 and Fig. 15) and lock bar (Pos. B, Fig. 14 and Fig. 15).

Step 5: Repeat for remaining two knives.

Step 6: Thoroughly clean all surfaces of the cutter head, knife slots and lock bars of any dust or debris.

Step 7: Insert replacement knife (Pos. C, Fig. 15) into the knife slot, making sure it faces the proper direction.

Step 8: Insert lock bar (Pos. B, Fig. 15) and tighten just enough to hold in place.

Step 9: Repeat steps for other two knives.

8.2.4 Thicknesser table lock handle adjustment

For best performance, the thicknesser table lock handles (Pos. A2, Fig. 13) should be approximately in the fully down position when in the locked position. If adjustment is required:

Step 1: Disconnect machine from power source.

Step 2: Unlock the lock handle (Pos. A2, Fig. 13) and raise the table to the upright position.

Step 3: Loosen locking nut (Pos. C2, Fig. 13) with an 18 mm. wrench.

Step 4: Adjust the table locking shaft (Pos. C1) in increments of 1/4 turns or less. Turn clockwise to tighten the lock handle performance and counterclockwise to loosen.

Step 5: Tighten the locking nut (Pos. C2, Fig. 13).

Step 6: Test the locking function and repeat if necessary.

Replacing the belts

Required tools:

- 1 x 4 mm. hex wrench
- 2 x 13 mm. wrenches

To replace the cutter head drive belt and/or the planer feed-roller belt, the thicknesser fence assembly and two back panels must first be removed as described below.

Step 1: Disconnect machine from power source.

Step 2: Remove the thicknesser fence assembly (Pos. A, Fig. 16) by first loosening and removing two lock handle assemblies (Pos. B, Fig. 16). A 4 mm. hex wrench is helpful, but not necessary.

Step 3: Remove two button head socket screws (Pos. C, Fig. 16) and upper back panel (Pos. D, Fig. 16).

Step 4: Remove four button head socket screws (Pos. O, Fig. 16) and lower back panel (Pos. P, Fig. 16).

Cutter head drive belt replacement

Step 5: Loosen four motor mount screws (Pos. L, Fig. 16). Lift the motor and rest it in the horizontal slot side of the motor mount opening. This will create a slack in the cutter head drive belt (Pos. F, Fig. 16).

Step 6: Remove the cutter head drive belt (Pos. F, Fig. 16) from around the cutter head pulley (Pos. E, Fig. 16) and motor pulley (Pos. M, Fig. 16).

Step 7: If the feed-roller belt (Pos. K, Fig. 16) is to be replaced, continue. Otherwise proceed to step 11.

Feed-roller belt replacement

NOTE!

If the feed-roller belt is to be replaced, steps 1–5 must be performed to remove the cutter head drive belt before the feed-roller belt can be replaced.

Step 8: Place the power feed handle (Pos. J, Fig. 16) in the down (off/disengaged) position, which provides belt slack for the next step.

Step 9: Remove the feed-roller belt (Pos. G, Fig. 16) from around the feed-roller pulley (Pos. K, Fig. 16) and motor pulley (Pos. M, Fig. 16).

Step 10: Loop the new belt around the smaller (inner) motor pulley (Pos. M, Fig. 16) and feed-roller pulley (Pos. K, Fig. 16).

NOTE!

The lower stretch of the feed-roller pulley must be positioned between the beltbrake plates (Pos. N, Fig. 16).

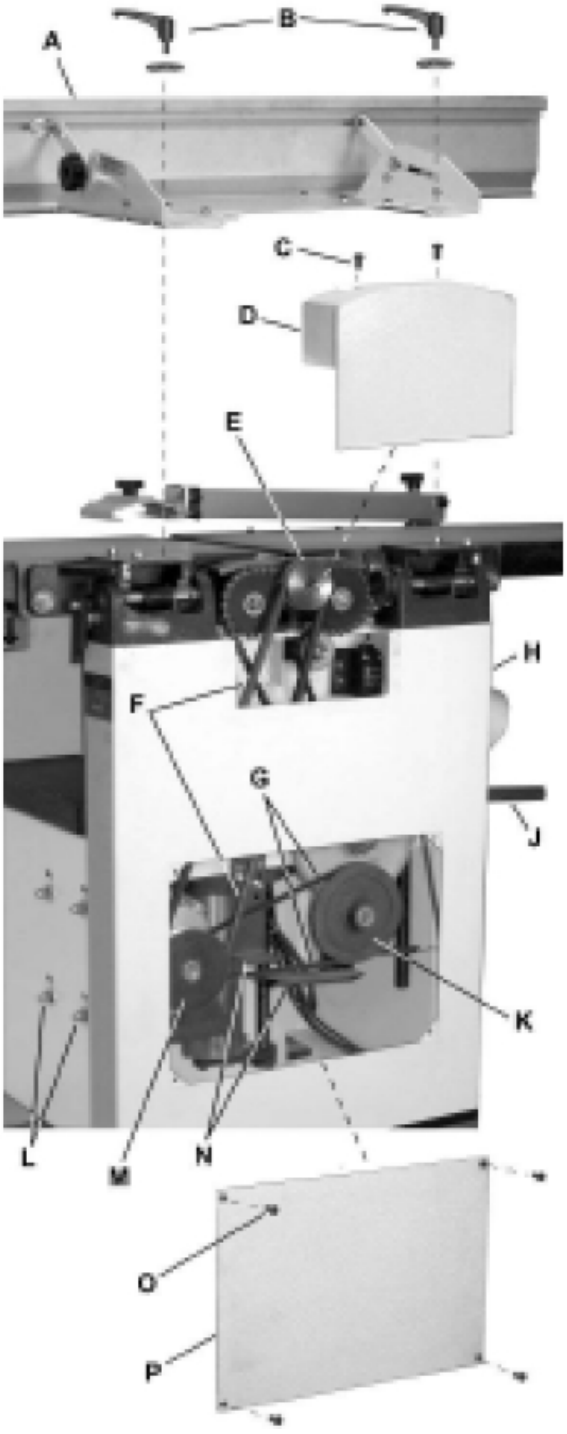

Fig. 16: Belt replacement

Concluding Steps

Step 11: Replace the cutter head drive belt (Pos. F, Fig. 16) by looping it around the cutter head pulley (Pos. E, Fig. 16), then the larger (outside) motor pulley (Pos. M, Fig. 16).

Step 12: Slide the motor so the mounting screws (Pos. L, Fig. 16) rest back in the vertical slot openings, then tighten the mounting screws.

Step 13: Replace the lower back panel (Pos. P, Fig. 16) and secure with four button head socket screws (Pos. O, Fig. 16).

Step 14: Replace the upper back panel (Pos. D, Fig. 16) and secure with two button head socket screws (Pos. C, Fig. 16).

Step 15: Replace the jointer fence assembly (Pos. A, Fig. 16) and secure with two lock handle assemblies (Pos. B, Fig. 16).

8.2.5 Adjustment of the planer table

DANGER!

Disconnect machine from power source before making any adjustments.

Failure to comply may cause serious injury.

Checking planer table parallel to cutter head

The planer table is set parallel to the cutter head at the factory and no further adjustment should be needed. If your machine is planing a taper, first check to see if the knives are properly adjusted in the cutter head (see „Setting cutter head knives“) and make adjustments if necessary.

After the knives are confirmed to be properly set, check to see if the work table is set parallel to the cutter head as follows.

Step 1: Disconnect machine from power source.

Step 2: Rotate the cutter head such that one of the knife blades (Pos. A, Fig. 17) is at the 6 o'clock position.

Step 3: Place a gauge block (Pos. B, Fig. 18) or another measuring device on the work table (Pos. C, Fig. 18) at one edge (Pos. D, Fig. 18) directly under the cutter head.

Fig. 17: Cutter head cross-section

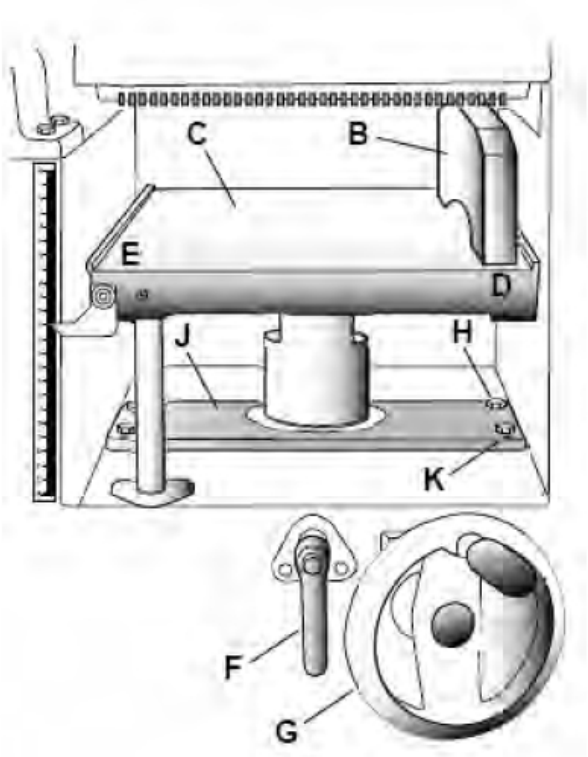

Fig. 18: Planer table adjustment

Step 4: Unlock the table lock handle (Pos. F, Fig. 18).

Step 5: With the handwheel (Pos. G, Fig. 18), gently raise the table (Pos. C, Fig. 18) until the gauge block (Pos. B, Fig. 18) makes slight contact with the tip of the knife blade, then lock the table.

Step 6: Move the gauge block (Pos. B, Fig. 18) to opposite end of table (Pos. E, Fig. 18).

NOTE!

If the distance from the table to tip of the knife blade is the same at both ends, the table is parallel to the cutter head.

Adjusting work table parallel to cutter head:

If the work table is not parallel to the cutter head, perform the adjustment procedure as follows:

Step 7: With a 13 mm. wrench, loosen four hex cap screws (Pos. H, Fig. 18) located at each corner of the column support (Pos. J, Fig. 18).

Step 8: Bring the table parallel to the cutter head by adjusting four setscrews (Pos. K, Fig. 18) located at each corner of the column support (Pos. J, Fig. 18) next to the hex cap screws (Pos. H, Fig. 18).

Step 9: Repeat steps 3 – 6, and if further adjustment is necessary, repeat steps 8, 9.

Step 10: When the table is determined to be parallel to the cutter head, tighten the hex cap screws (Pos. H, Fig. 18).

8.3 Initial start up

ATTENTION!

Before initial operation, the machine must be connected to a dust collector.

- Do not put the machine into operation until you have familiarised yourself with the contents of the operating instructions (instructions for use).
- Make sure that the electrical cables are not damaged to avoid injury from electric current.
- Check regularly that the safety covers are correctly fitted and not damaged.
- Repair damaged covers immediately or have them replaced by a qualified person.
- Do not operate the unit with the cover removed.
- Do not use tools that are distorted, broken, or blunt.
- Always use the tool that is suitable for the specified work and corresponds to the machine.
- Specifications. The tools, knife blocks, must comply with EN 847-1.
- Replace blunt tools as soon as possible as blunt tools can cause injury or damage.
- Never use the tools at higher speeds than those recommended by the manufacturer.
- Stop all operation of the machine before replacing tools and unplug the power cord from the power outlet.

Never remove safety devices, covers or limit switches before operation.

After assembly and adjustments are complete, the planer-thicknesser can be tested.

Step 1: Turn on the power supply on the main control panel.

Step 2: Press the start button.

Step 3: If there is a problem, press the stop button.

The the planer-thicknesser should run smoothly with little or no vibration or friction.

Examine and correct the source of any interference before further use:

Step 1: DO NOT attempt to inspect or adjust the planer-thicknesser for sources of interference during operation.

Step 2: Wait until the planer is switched off and all working parts are at a complete standstill.

Step 3: Disconnect the power plug.

Step 4: Correct the fault.

8.4 Changing mode of operation

ATTENTION!

When changing the operating mode (planer to thicknesser and back) the machine must be turned off and at a complete standstill.

8.5 Thicknesser operations

ATTENTION!

- Observe general safety instructions.
- Observe the direction of rotation of the machine.
- Cover the cutter head with the blade guard (when machining a workpiece, push it on only as far as necessary).
- Only machine short or small workpieces with a tool, e.g. a guide rod.
- Check workpieces for foreign bodies and defects, e.g. nails, adhesions, cracks, metal objects or other foreign bodies.
- In the case of conical surfaces, first work with a small infeed.
- If the machine comes to a sudden standstill, e.g. power failure, belt breakage or similar, stop work immediately.

Correct operating position

The operator must be positioned offset to the infeed table (see Fig. 19).

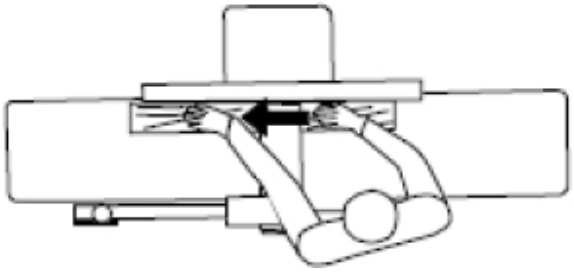

Fig. 19: Correct operating position

Step 1: At the start of the cut, the left hand holds the workpiece firmly against the infeed table and fence while the right hand pushes the workpiece in a smooth, even motion toward the cutter head.

Step 2: After the cut is under way, the new surface rests firmly on the outfeed table. The left hand is transferred to the outfeed side (Figure 19) and presses down on this part of the workpiece, at the same time maintaining flat contact with the fence. The right hand presses the workpiece forward and before the right hand reaches the cutter head it should be moved to the work on the outfeed table.

Surface treatment

The purpose of planing on a jointer is to produce one flat surface (Fig. 20). The other side can then be milled to precise, final dimensions on a thickness planer resulting in a board that is smooth and flat on both sides and each side parallel to the other.

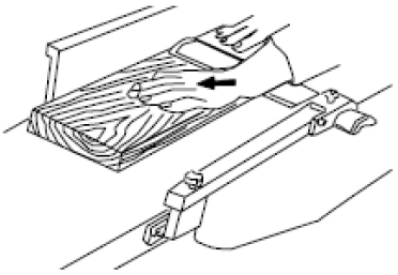

Fig. 20: Position of the operator to the infeed table

Step 1: If the wood to be jointed is cupped or bowed, place the concave side down, and take light cuts until the surface is flat.

Step 2: Never surface pieces shorter than 12 inches or thinner than 3/8 inch without the use of a special work holding fixture.

Step 3: Never surface pieces thinner than 3 inches without the use of a push block.

Step 4: Cuts of approximately 1/16“ at a time are recommended, which provides for better control over the material being surfaced. More passes can then be made to reach the desired depth.

Direction of grain

Tips and recommendations

Avoid feeding work into the planer against the grain!

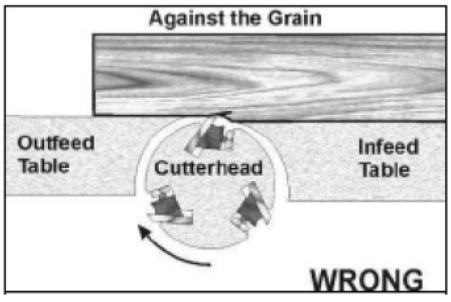

Fig. 21: Work against the grain direction.

The planer against the grainmay result in chipped and splintered edges. Feed with the grain to obtain a smooth surface, as shown in Fig. 22.

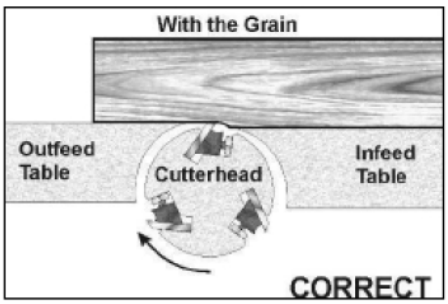

Fig. 22: Operation in grain direction

8.6 Thicknessing

Thicknessing (or edging) is the process of creating a finished, flat edge surface that is suitable for joinery or finishing (Figure 23). It is also a necessary step prior to ripping stock to width on a table saw.

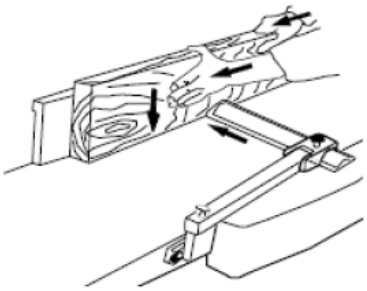

Fig. 23: Stopper for fine boards

Never edge a board that is less than 3 inches wide, less than 1/4 inch thick, or 12 inches long, without using a push block.

When edging wood wider than 3 inches lap the fingers over the top of the wood, extending them back over the fence such that they will act as a stop for the hands in the event of a kickback.

Position the fence (move forward) to expose only the amount of cutter head required.

When workpiece is twice the length of the jointer infeed or outfeed table use an infeed or outfeed support.

To edge:

Step 1: Make sure the fence is set to 90°. Double check it with a square.

Step 2: Inspect stock for soundness and grain direction (see „Direction of grain“).

Step 3: If the board is bowed (curved), place the concave edge down on the infeed table.

Step 4: Set the infeed table for a cut of approximately 1.5mm.

Step 5: Hold the stock firmly against the fence and table, feed the stock slowly and evenly over the cutter head.

8.7 Beveling

Beveling an edge is the same operation as edge thicknessing, except that the fence is tilted to a specified angle.

Make certain material being beveled is over 12 inches long, more than 1/4 inch thick and 1 inch wide.

Beveling process:

Step 1: Use a bevel gauge to determine the desired angle. Then set the fence to the same angle.

Step 2: Inspect stock for soundness and grain direction (see „Direction of grain“).

Step 3: Set the infeed table for a cut of approximately 1.5 mm.

Step 4: If the board is bowed (curved), place the concave edge down on the infeed table.

Step 5: Feed the stock through the cutter head, making sure the face of the stock is completely flat against the fence and the edge is making solid contact on the infeed and outfeed tables (Figure 24).

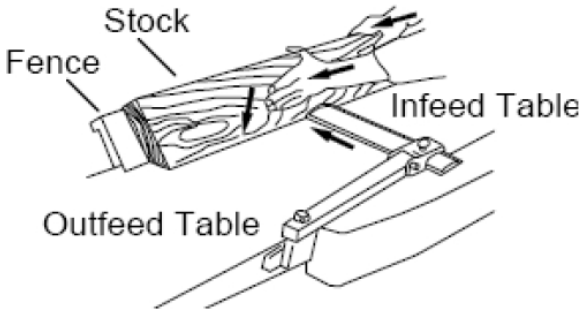

Fig. 24: Beveling process:

For wood wider than 3 inches – hold with fingers close together near the top of the stock, lapping over the board and extending over the fence. For wood less than 3 inches wide – use beveled push blocks and apply pressure toward the fence. Keep fingers near top of push block.

Several passes may be required to achieve the full bevel will probably take several passes.

8.8 Planer operations

ATTENTION!

The workpiece should be dressed before machining on the planer-thicknesser.

ATTENTION!

In the case of workpieces with different thickness at both ends, first add the end with the greater thickness in order to avoid wedging.

Depth of cut

Thickness planing refers to the sizing of lumber to a desired thickness while creating a level surface parallel to the opposite side of the board. Board thickness that the planer will produce is indicated by the scale and the depthof- cut gauge . Preset the planer to the desired thickness of the finished workpiece using the gauge. The depth-of-cut is adjusted by raising or lowering the planer table (Pos. C, Fig. 8) using the handwheel (Pos. F, Fig. 8).

The quality of thickness planning depends on the operator's judgment about the depth of cut.

The depth of cut depends on the width, hardness, dampness, grain direction and grain structure of the wood.

The maximum thickness of wood that can be removed in one pass is 1/8” for planning operations on workpieces up to 5-1/2” wide.

The workpiece must be positioned away from the center tab on the rollercase to cut 1/8”.

The maximum thickness of wood that can be removed in one pass is 1/16” for planning operations on workpieces from 5-1/2” up to 12" wide.

For optimum planning performance, the depth of cut should be less than 1/16”.

The board should be planed with shallow cuts until the work has a level side. Once a level surface has been created, flip the lumber and create parallel sides.

Plane alternate sides until the desired thickness is obtained. When half of the total cut has been taken from each side, the board will have a uniform, moisture content and additional drying will not cause it to warp.

The depth of cut should be shallower when the workpiece is wider.

When planning hardwood, take light cuts or plane the wood in thin widths.

Make a test cut with a test piece and verify the thickness produced.

Check the accuracy of the test cut before working on the finished product.

DANGER OF ENTANGLEMENT!

There is a danger of entanglement due to the rotating feed rollers! Keep sufficient distance to the inside of the planer. Use a feeding aid if you want to push small workpieces into the machine.

Precautions

A planer-thicknesser is a precision woodworking machine and should be used on quality lumber only.

Do not plane dirty boards; dirt and small stones are abrasive and will wear out the blade.

Remove nails and staples. Use the planer to cut wood only. Avoid knots. Heavily cross-grained wood makes knots hard. Knots can come lose and jam the blade. Any article that encounters planer blades may be forcibly ejected from the planer creating a risk of injury.

Preparing the work

A planer-thicknesser works best when the lumber has at least one flat surface. Use a jointer to create a flat surface.

Twisted or severely warped boards can jam the planer. Rip the lumber in half to reduce the magnitude of the warp.

The work should be fed into the planer in the same direction as the grain of the wood.

Sometimes the wood will change directions in the middle of the board. In such cases, if possible,

cut the board in the middle so the grain direction is correct.

Do not plane a board that is less than 6“ long. It is recommended that when planning short boards you butt them end to end to avoid kickback and reduce snipe.

Equipment of the work process

The planer-thicknesser is supplied with planer blades mounted in the cutter head and infeed and outfeed rollers adjusted to the correct height. The planer feed is automatic; it will vary slightly depending on the type of wood.

Preparation:

Feed rate refers to the rate at which the lumber travels through the planer.

The operator is responsible for aligning the work so it will feed properly.

Raise or lower the rollercase to get the depth of cut desired.

The surface that the planer produces will be smoother if a shallower depth of cut is used.

Stand on the side that the handle is attached.

Boards longer than 24” should have additional support from free standing material stands.

8.9 Planing

Step 1: Position the workpiece with the face to be planed on top.

Step 2: Turn the planer on.

Step 3: Turn the power feed on.

Step 4: Rest the board end on the infeed roller plate and direct the board into the planer.

Sep 5: Slide the workpiece into the infeed side of the planer until the infeed roller begins to advance the workpiece.

Step 6: Let go of the workpiece and allow the automatic feed to advance the workpiece.

Step 7: Do not push or pull on the workpiece. Move to the rear and receive the planed lumber by grasping it in the same manner that it was fed.

CAUTION!

To avoid the risk of injury due to kickbacks, do not stand directly in line with the front or rear of the planer-thicknesser.

Step 8: Do not grasp any portion of the board that has not gone past the outfeed roller.

Step 9: Repeat this operation on all of the boards that need to be the same thickness.

Avoiding snipe

Snipe refers to a depression at either end of the board caused by an uneven force on the cutter head when the work is entering or leaving the planer.

Snipe will occur when the boards are not supported properly or when only one feed roller is in contact with the work at the beginning or end of the cut.

Precautions for avoiding snipe:

Push the board up while feeding the work until the outfeed roller starts advancing it.

Move to the rear and receive the planed board by pushing it up when the infeed roller looses contact with the board.

When planning more than one board of the same thickness, butt the boards together to avoid snipe.

Make shallow cuts. Snipe is more apparent when deeper cuts are taken.

Feed the work in the direction of the grain. Work fed against the grain will have chipped, splintered edges.

9 Care, maintenance and repair

DANGER!

Risk of fatal injury due to electric shock!

Contact with live components may result in fatal injury. Switched-on electrical components can make uncontrolled movements and lead to serious injuries.

- Before starting cleaning and maintenance work, switch off the machine and pull out the mains plug.
- Connections and repairs to the electrical equipment may only be carried out by a qualified electrician.

The following safety instructions should be observed:

- Read the maintenance instructions carefully and completely.
- Keep your fingers away from belts and pulleys when cleaning.
- When replacing electrical parts, turn the machine off at the main switch and unplug it from the wall outlet. Defective parts should only be replaced with original spare parts.
- Safety devices such as covers, limit switches should not be removed or otherwise obstructed or blocked by each other.
- Do not switch on the machine until all covers that have been removed for maintenance have been returned to their original positions.
- Always keep the maintenance area, including the workplace, clean.

- Maintenance work must be carried out by qualified personnel in accordance with the instructions issued by the machine manufacturer.
- Only use original spare parts to replace parts or tools.
- Use only specified types or lubricating oils and greases or those that comply with them.
- If a belt in the belt kit is longer than specified, replace the entire kit completely.
- Do not use compressed air to clean the machine or remove chips.

9.1 Blade care

WARNING!

Blades are extremely sharp! Use caution when cleaning or changing. Failure to comply may cause serious injury!

The condition of the blades will affect the precision of the cut. Observe the quality of the cut that the planer produces to check the condition of the blades.

Dull blades will tear, rather than cut the wood fibers and produce a fuzzy appearance.

Raised grain will occur when dull blades pound on wood that has varying density. A raised edge will also be produced where the blades have been nicked. When gum and pitch collect on the blades, carefully remove with a strong solvent. Failure to remove gum and pitch build up may result in excessive friction, blade wear and overheating. When blades become dull, touch up blades.

9.2 Sharpening the knives

WARNING!

Blades are extremely sharp! Use caution when cleaning or changing. Failure to comply may cause serious injury!

Step 1: Disconnect the machine from the power source.

Step 2: Remove the blade guard and belt cover.

Step 3: To protect the infeed table from scratches, partially cover the sharpening stone with paper (Figure 25).

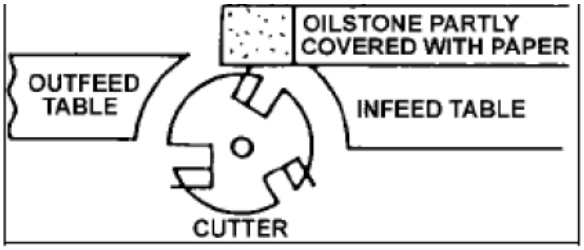

Fig. 25: Sharpening the knives

Step 4: Lay the stone on the infeed table.

Step 5: Lower the infeed table and turn the cutter head by turning the cutter head pulley. The infeed table height is set properly when the stone's surface is flush with the knife bevel.

Step 6: Keep the cutter head from rotating by grasping the cutter head pulley while sliding the stone back and forth across the table.

Step 7: Take the same amount of passes for all three blades.

When the blades have been sharpened and still are not cutting efficiently, trying to touch up the blades further will only cause the formation of a second beveled edge. When this starts to happen, it is time to replace blades with another set. It is recommended to keep a second set of blades on hand so that they may be installed while the first set is being professionally sharpened.

9.3 Care after work

CAUTION!

Health hazard!

Wood dust and chips can damage the lungs when inhaled.

Wear a dust mask when emptying the collection container and when cleaning the exhaust system.

Use protective gloves!

Wear a dust mask!

NOTE!

Never use strong cleaning agents for any cleaning tasks. This may damage or destroy the device.

Step 1: Disconnect the mains plug from the socket.

Step 2: Empty and clean the suction device.

Step 3: Clean the machine from chips and planing dust with compressed air and/or with a dry cloth.

Step 4: Spray or oil all unpainted metal surfaces with a little anti-rust spray.

Step 5: Oil the shaft and bearings.

Step 6: Check the machine for damage to the safety devices and the planing knife. If necessary, carry out or arrange for the repair to be carried out in accordance with the safety instructions.

Step 7: Check the machine regularly:

- Appropriate tension of the drive belt.
- Loose bolts and nuts.
- Worn or damaged switches.
- Worn or damaged planing knives.

Step 8: Check the drive belt every 3 months, monthly if used daily, replace if worn or damaged.

9.3.1 Functional testing

A functional test should be carried out before each use.

Step 1: The drive belt must be tensioned.

Step 2: The planing knife must rotate freely and must not jam.

Step 3: Check the connecting cable for damage.

9.3.2 Suction

Check the suction system daily for sufficient function. If the extraction system does not function or functions only to a limited extent, it must be repaired. Only then may planer-thicknesser be put into operation.

9.3.3 Lubrication

Use a good grade of light grease on the steel adjusting screws located in the raising and lowering mechanisms of the work tables.

The cutter head ball bearings are lifetime lubricated and need no further care.

9.4 Maintenance and repair

Maintenance and repair work may only be carried out by qualified personnel.

If the planner thicknesser does not function properly, contact a specialist dealer or our customer service. The contact details can be found in chapter 1.2 Customer service.

All protective and safety devices must be reinstalled immediately after completion of repair and maintenance work.

9.5 Retensioning the chain

Wear protective gloves!

Step 1: Disconnect the power plug from the socket.

Step 2: Remove the jointer fence (A, Fig.16) by first loosening and removing two locking levers (B, Fig.16).

Step 3: Remove the two button head screws (C, Fig.16) and the upper back plate (D, Fig.16).

Step 4: Loosen the screw (F, Fig.26) and push the gear to the left to increase the tension of the chain (G, Fig.26).

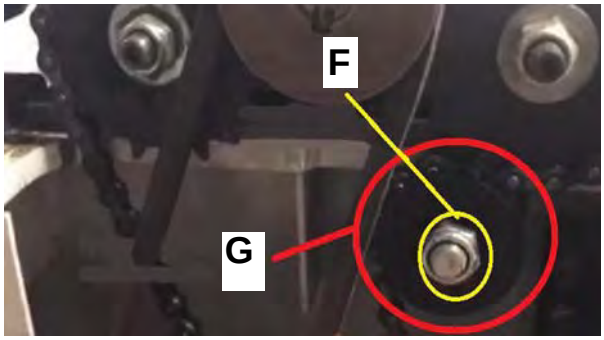

Fig. 26: Loosen gear

Step 5: Tighten the screw (F, Fig.26) once the gear is in the correct position (Fig.27).

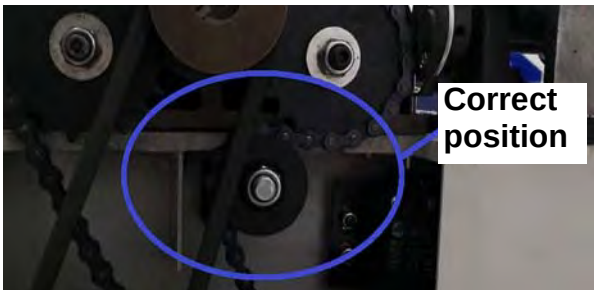

Fig. 27: Correct position of the gear

Step 6: Mount the upper back panel (D, Fig.16) and the stop (A, Fig.16) back to the machine.

10 Troubleshooting tables

10.1 Troubleshooting table - Thicknesser

Fault	Possible cause	Solution
The finished workpiece is concave at the end of the workpiece after machining.	The knife is set higher than the discharge table.	Adjust the cutting head knives and the output table to each other. (See Setting the Cutting Head Knives)
After machining, the finished workpiece is concave at the beginning of the workpiece.	The outfeed table is higher than the knife.	Adjust the cutter head knive with outfeed table.
Chip out.	Cutting against the grain direction.	If possible, always cut with the grain direction.
	Blunt knives.	Sharpen or replace the knives/knife inserts.
	The workpiece feed is too fast..	Use a slower feeding speed.
	Cutting to deepty.	Make shallower cuts.
	Knots, imperfections in wood.	Inspect wood closely for imperfections; use different stock if necessary
Structure is fibrous.	The wood has a high moisture content.	Allow the wood to dry or use a drying chamber.
	Blunt knives.	Sharpen or replace the knives/knife inserts.
The cutter head slows down during operating.	The workpiece is conveyed too quickly or too much pressure is exerted on the workpiece.	Feed more slowly or apply less pressure to workpiece.
„Chatter“ marks on the workpiece.	The knives are inserted incorrectly.	Insert the knives correctly. Check that the knife slots are clean.
	Feeding workpiece too fast.	Feed workpiece slowly and consistently.
Uneven knife marks on the workpiece.	Knives are nicked or incorrectly adjusted.	Adjust the knives. Replace the nicked knifes.

10.2 Troubleshooting table - Planer

Fault	Possible cause	Solution
Snipe NOTE: Snipe can be minimized but not eliminated.	The knife is set higher than the output table.	Align the cutting head knives and the output table. (See „Setting the Cutting Head Knives“)
	Insufficient support of a long board.	Support a long board with extension rolls.
	Uneven feed roller pressure from front to rear.	Adjust the feed roller tension.
	Blunt knives.	Sharpen or replace the knives.
	Lumber not butted properly	Butt end to end each piece of stock at the pass through.
Structure is fibrous..	The wood has a high moisture content.	Allow the wood to dry or use a drying chamber.
	Blunt knives.	Sharpen or replace the knives/knife inserts.
Torn grain	Too heavy a cut..	Adjust proper depth of cut
	The knives cut against the grain.	.Cut in grain direction.
	Blunt knives.	Sharpen or replace the knives
Rough / Raised Grain	Blunt knives.	Sharpen or replace the knives
	Too heavy a cut..	Adjust proper depth of cut
	Moisture content too high.	Make sure that the wood dries.
Rounded, glossy surface	Blunt knives.	Sharpen or replace the knives
	Feed speed too slow	Increase the speed.
	Cutting depth too shallow.	Increase the depth.

Fault	Possible cause	Solution
Poor feeding of lumber.	Uneven feed roller pressure.	Adjust the feed roller tension.
	Planer bed is rough or dirty.	Clean the incline and remove any residue.
	The transmission V-belt slips.	Tighten the transmission V-belt.
	The surface of the feed rollers is clogged.	Clean the pitch and remove the residue from the teeth.
Uneven depth of cut side to side	Knife projection	Adjust the knife protection.
	Cutter head not level with bed.	Adjust the table bed level.
Board thickness does not match depth of cut scale.	Depth of cut scale uncorrect	Adjust depth of cut scale.

10.3 Mechanical Troubleshooting - Planer-Thicknesser

Fault	Possible cause	Solution
Chain jumping.	Inadequate tension.	Adjust the chain tension.
	Sprockets misaligned	Align sprockets
	Sprockets are worn.	Replace the sprockets.
Machine does not start / does not restart	No incoming power.	Check that the device is connected to the power supply, the START button is pressed completely, and the STOP button is released.
	The automatic overload reset has not restarted.	If the overload switch on the circuit breaker in the motor starter is overloaded, it takes time for the machine to cool down before restarting. Allow the machine to cool down sufficiently before restarting. If the problem persists, check the ampere setting on the motor starter in the electrical box.

Fault	Possible cause	Solution
Machine does not start	Planer frequently trips.	Perform a less deep cut feed. If a cut that is too deep is not the problem, check the amp setting on the overload relay. Adjust the full load amperage on the motor as indicated on the motor plate. If the amp setting is correct, there is probably a loose electrical wire. Check the amp setting on the motor starter.
	Building circuit breaker trips or fuse blows.	Make sure that the planer is connected to a circuit with the correct design. If the circuit size is correct, there is probably a loose electrical wire. Check the amp setting on the motor starter.
	Loose electrical connection.	Go through the entire electrical system of the planer, including the motor connections, and check the strength of the individual parts. Check for signs of arcing, which is a sure sign of loose connections or circuit overload.
	Motor starter failure	Check the motor starter for burnt or failed components. If damage is found, replace the motor starter. If the motor starter is OK but still not working, you have two options: Have the motor starter tested for function by a qualified electrician or buy a new starter and determine whether the problem was when it was replaced.
	Switch or motor failure - how to distinguish	If you have access to a voltmeter, you can distinguish a starter fault from a motor failure by first checking the input voltage at 220 +/- 20 V and the voltage between the starter and the motor at 220 +/- 20 V. The voltage between the starter and the motor should be checked first. If the input voltage is wrong, you have a supply voltage problem. If the voltage between starter and motor is correct, there is a motor problem.
	Motor failure.	If the electric motor is doubtful, you have two options: Have the motor checked for function by a qualified electrician, or remove the motor and take it to a high-quality electrical workshop and have it checked.
	Miswiring of the unit.	Check again that all electrical connections are correct and tight. All electrical connections except the motor are properly tightened. The electrical connections other than the motor are factory pre-assembled and tested. Double check the motor connections as the highest error probability. If the problems persist, check the factory assembled wiring

11 Disposal, recycling of used devices

Please take care in your own interest and in the interest of the environment that all component parts of the machine are only disposed of in the intended and permitted way.

11.1 Decommissioning

Immediately decommission used machines in order to avoid later misuse and endangering of the envi-ronment or of persons.

Step 1: Eliminate all environmentally hazardous operating materials from the used device.

Step 2: If required, disassemble the machine into easy-to-handle and usable components and parts.

Step 3: Dispose of machine components and operating materials by the disposal channels provided.

11.2 Disposal of electrical equipment

Please note that electrical equipment contains a variety of recyclable materials and environmentally harmful components.

Contribute to the separation and proper disposal of these components. In case of doubt, please contact your municipal waste disposal. If necessary, the help of a specialised waste disposal company should be used for processing.

11.3 Disposal of lubricants

The disposal instructions for the lubricants used are provided by the lubricant manufacturer. If necessary, ask for the productspecific data sheets.

11.4 Disposal via municipal collection points

Disposal of used electrical and electronic equipment (Applicable in the countries of the European Union and other European countries with a separate collection system for these appliances).

The symbol on the product or its packaging indicates that this product should not be treated as normal household waste, but must be returned to a collection point for the recycling of electrical and electronic equipment. By helping to properly dispose of this product, you are protecting the environment and the health of others. Environment and health are endangered by improper disposal. Material recycling helps to reduce the consumption of raw materials. For more information about recycling this product, contact your local community, municipal waste management, or the shop where you purchased the product.

12 Spare parts

DANGER!

Risk of injury due to the use of wrong spare parts!

Dangers may result for the user and damages as well as malfunctions may be caused by using wrong or damaged spare parts.

- Only use original spare parts of the manufacturer or spare parts admitted by the manufacturer.
- Always contact the manufacturer in case of uncertainties.

Tips and recommendations

The manufacturer's warranty will become null and void if non-permissible spare parts are being used.

12.1 Ordering spare parts

The spare parts may be purchased with the authorised dealer or directly with the manufacturer. Please find the corresponding contact data in Chapter 1.2 Customer service.Indicate the following basic information for requests or orders of spare parts:

- Type of device
- Item No.
- Position No.
- Year of construction:
- Quantity
- Required mode of dispatch (mail, freight, sea, air, express)
- Address of dispatch

Spare part orders which do not include the above indications may not be taken into consideration. If the indications regarding the mode of dispatch are missing, the product is dispatched at the discretion of the supplier. You will find information regarding the device type, item No. and year of construction on the type plate which is fixed on the device.

Example

The cutter head protection for the the planer-thicknesser ADH 26 C - 230V must be ordered. The cutter head protection has the number 33 in the spare parts drawing 1.

By ordering spare parts, send a copy of the spare parts drawing (1) with the marked part (cutter head protection) and marked positon number (33) to the dealer or spare parts department and provide the following information:

- Type of device: **Planer-Thicknesser ADH 26 C 230V**
- Item number: **5904026**
- Drawing number: **1**
- Position number: **33**

12.2 Spare parts drawings Planer-Thicknesser ADH 26 C

The following drawings are intended to identify the required spare parts in the event of service. If applicable, submit a copy of the parts drawing including the highlighted components to your authorised retailer.

Spare parts drawing 1

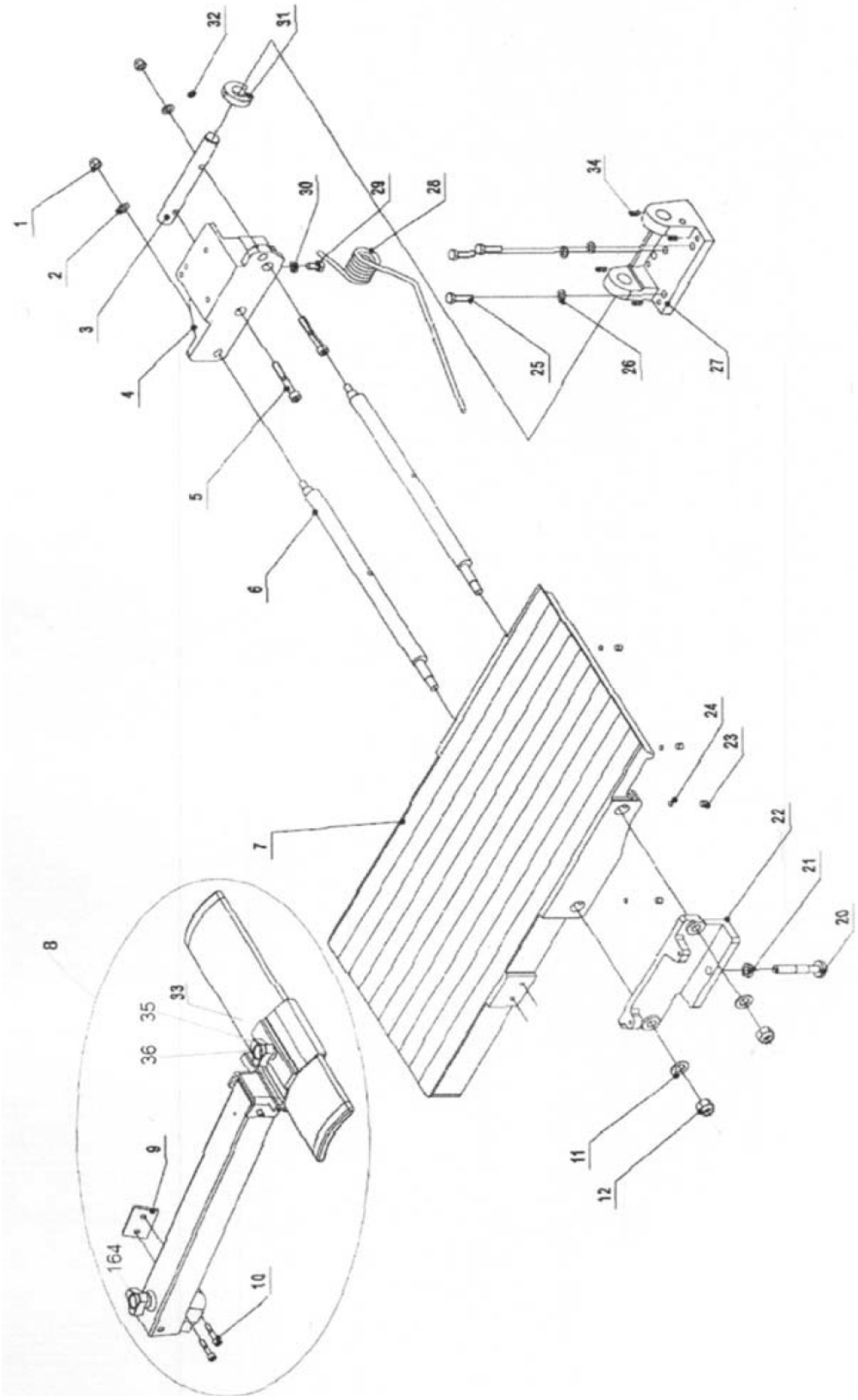

Fig. 28: Spare parts drawing 1 - ADH 26 C

Spare parts drawing 2

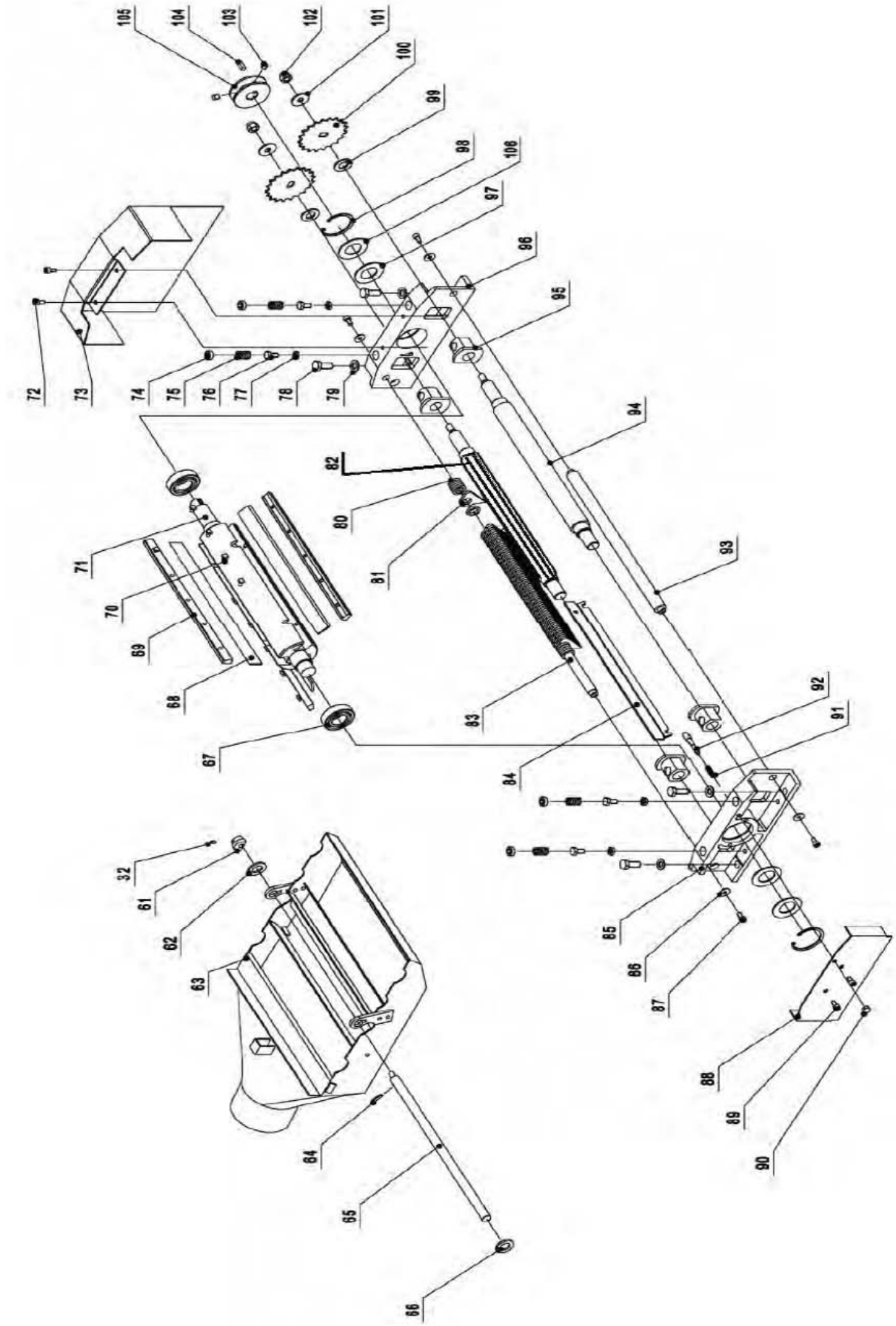

Fig. 29: Spare parts drawing 2 - ADH 26 C

Spare parts drawing 3

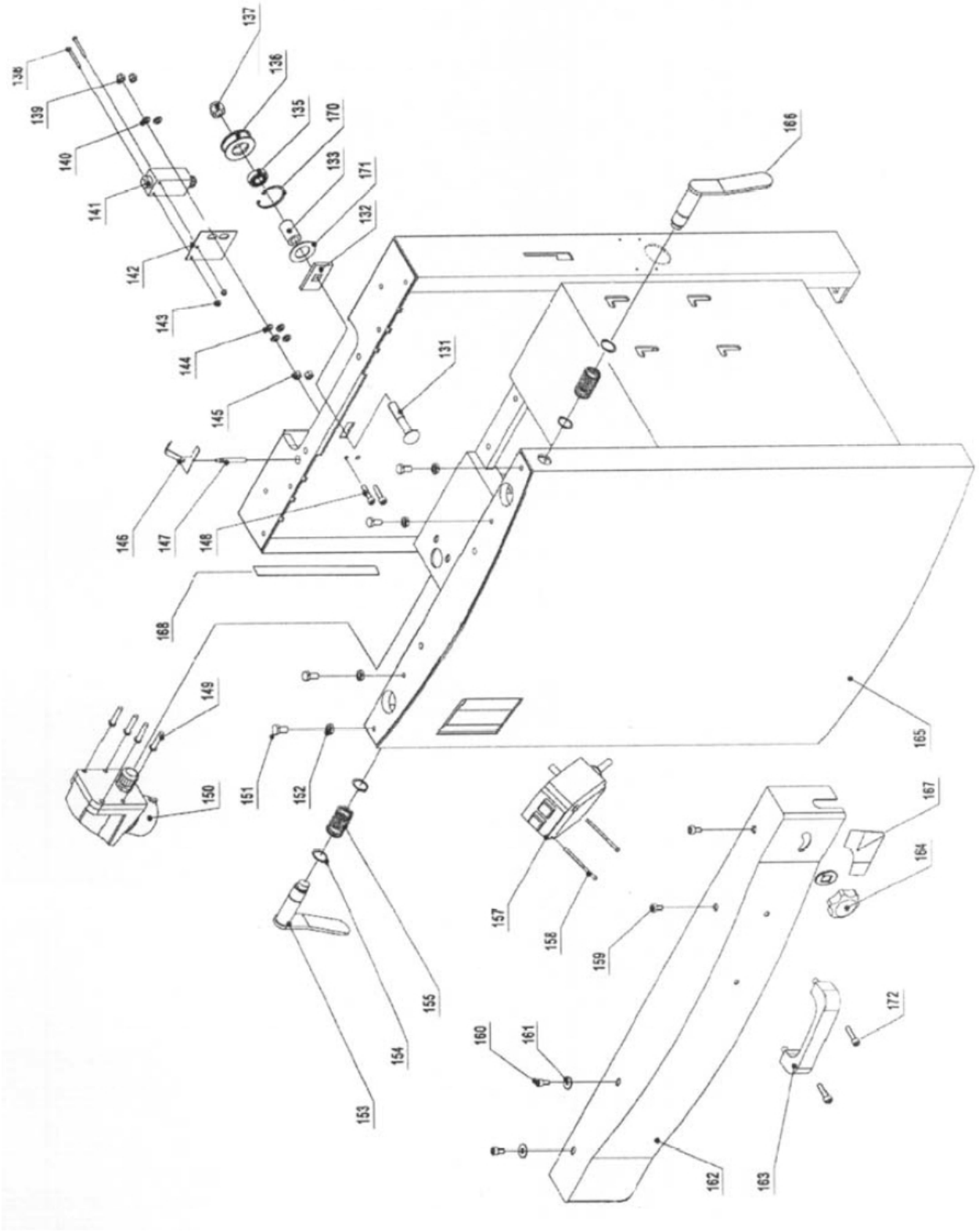

Fig. 30: Spare parts drawing 3 - ADH 26 C

Spare parts drawing 4

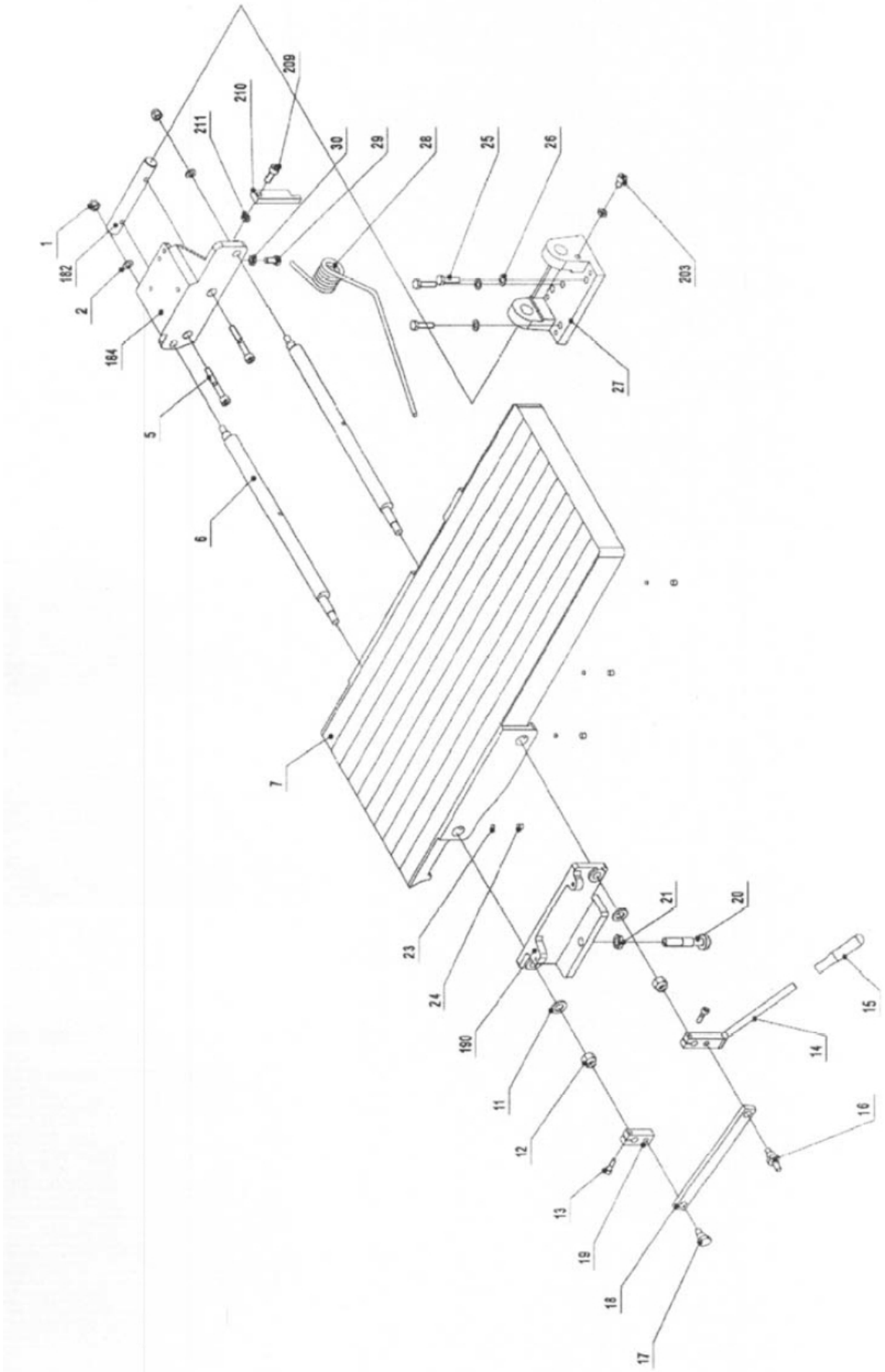

Fig. 31: Spare parts drawing 4 - ADH 26 C

Spare parts drawing 5

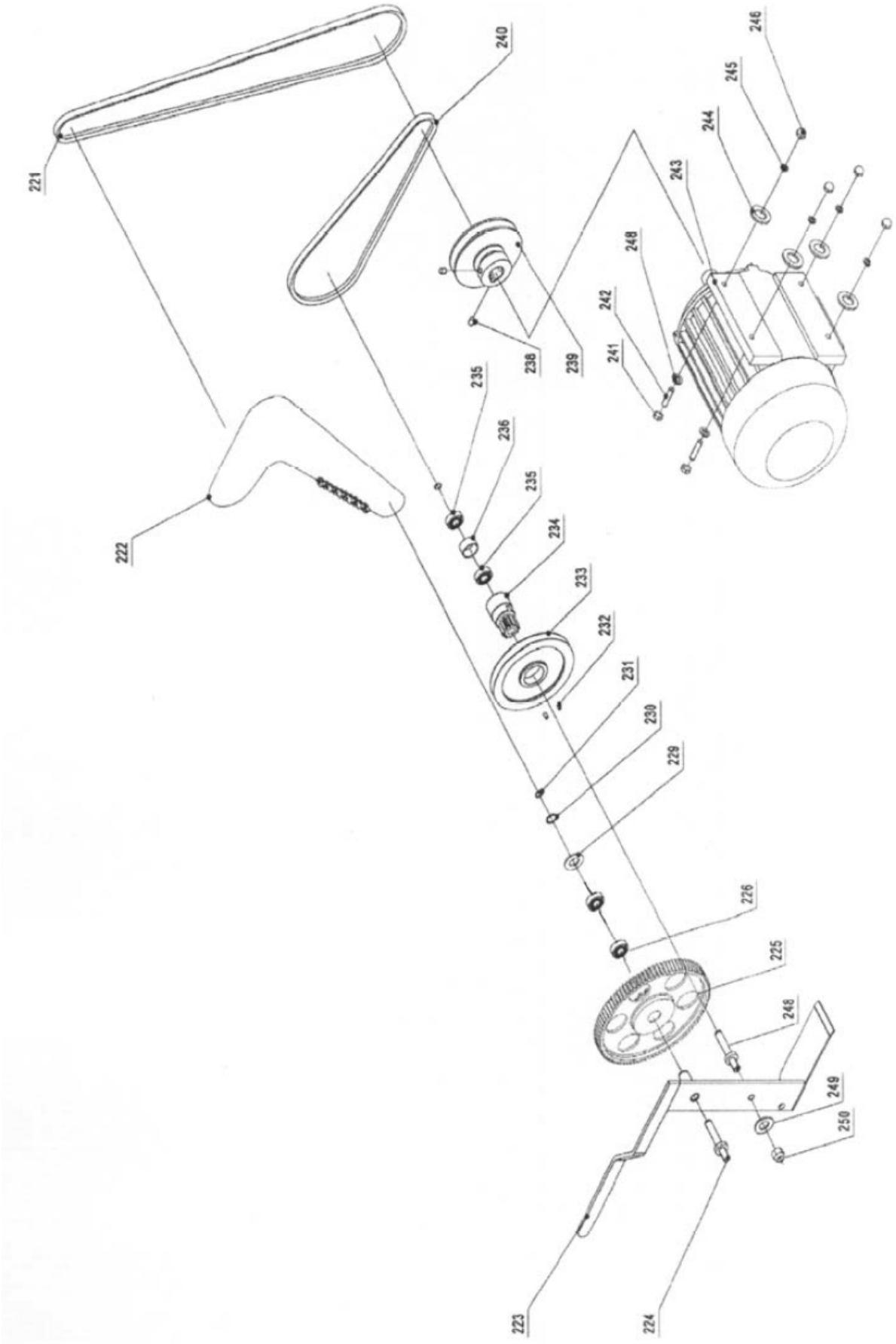

Fig. 32: Spare parts drawing 5 - ADH 26 C

Spare parts drawing 6

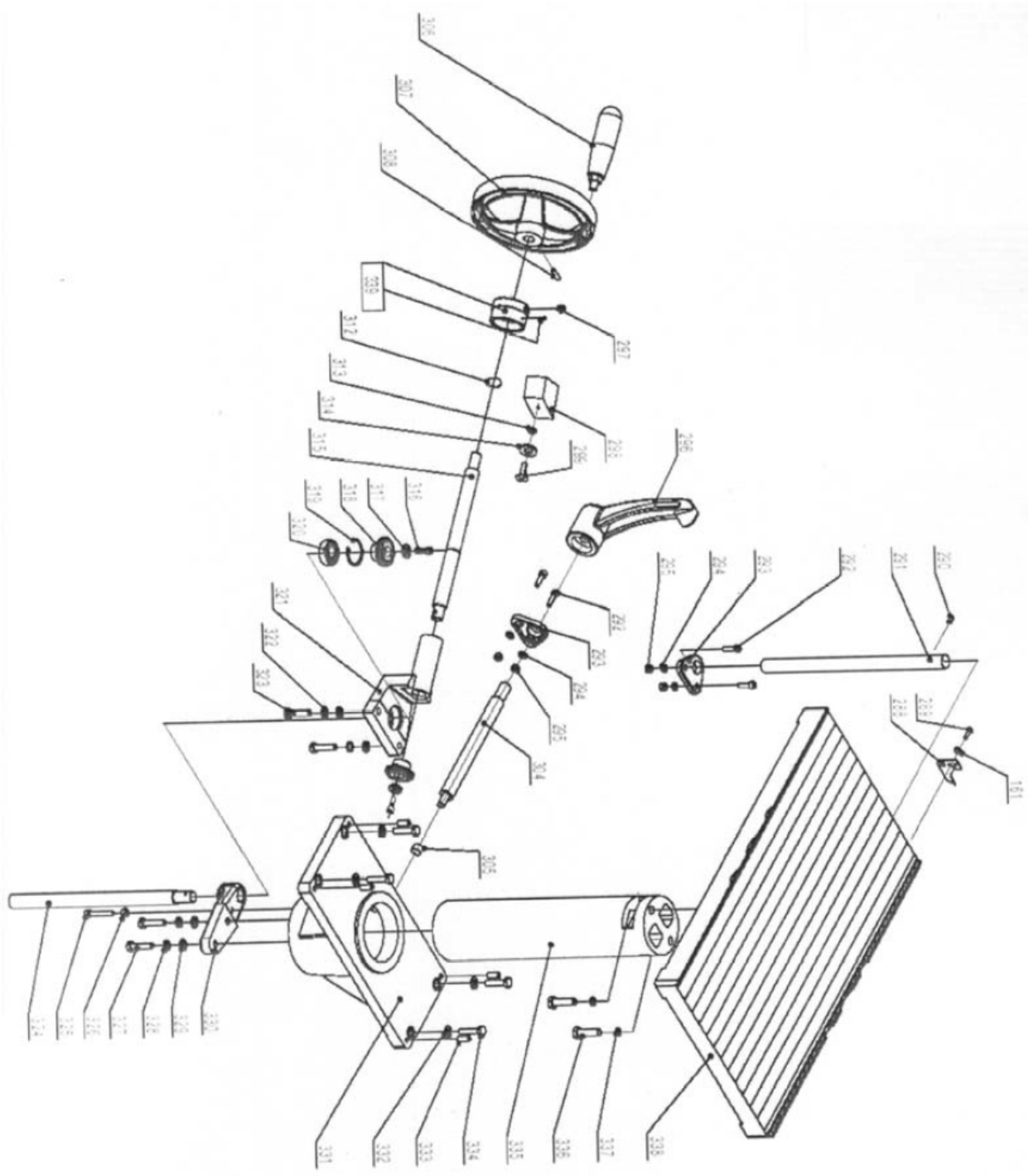

Fig. 33: Spare parts drawing 6 - ADH 26 C

Spare parts drawing 7

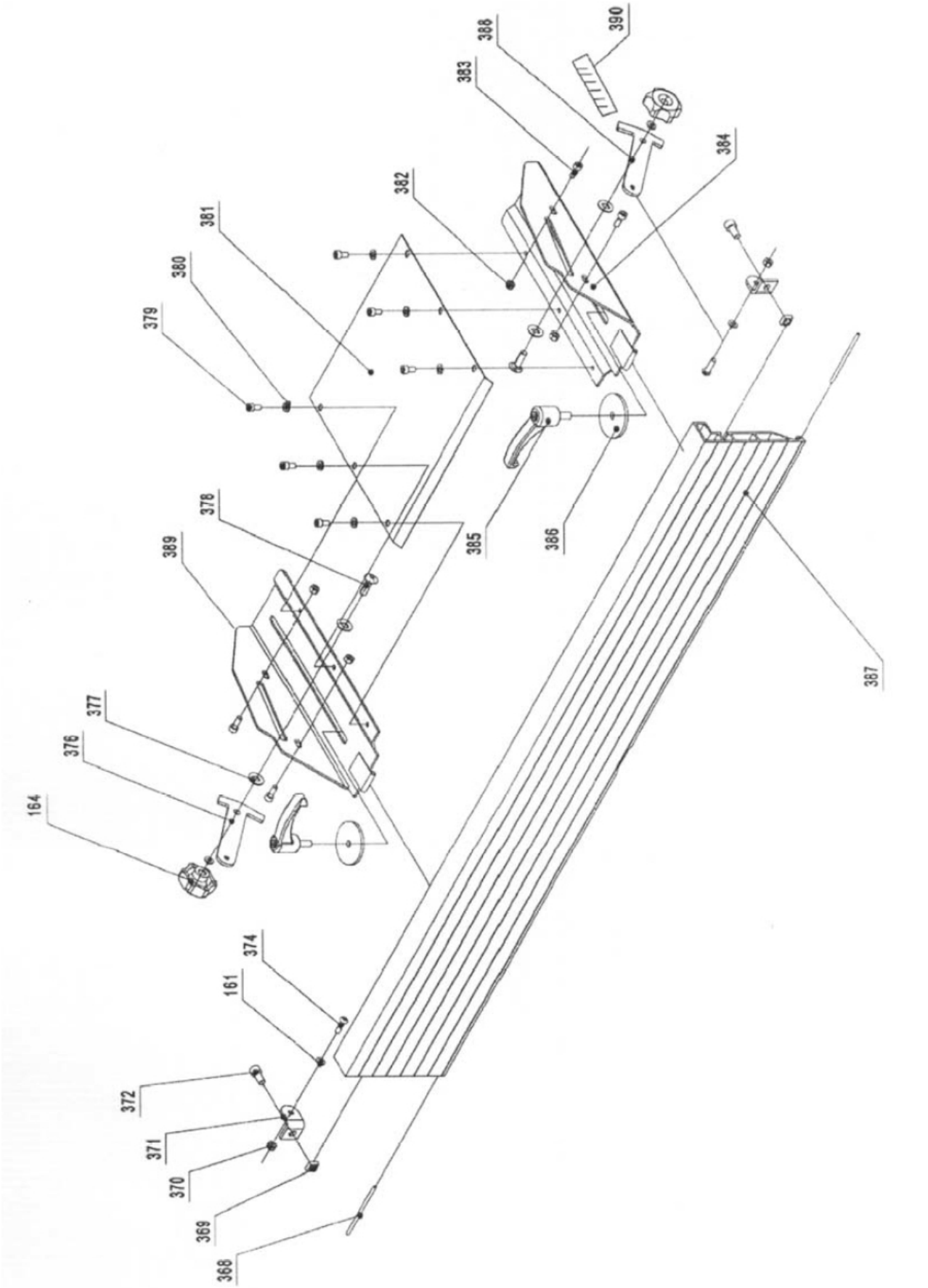

Fig. 34: Spare parts drawing 7 - ADH 26 C

12.3 Spare parts drawings Planer-Thicknesser ADH 31 C

The following drawings are intended to identify the required spare parts in the event of service. If applicable, submit a copy of the parts drawing including the highlighted components to your authorised retailer.

Spare parts drawing 1

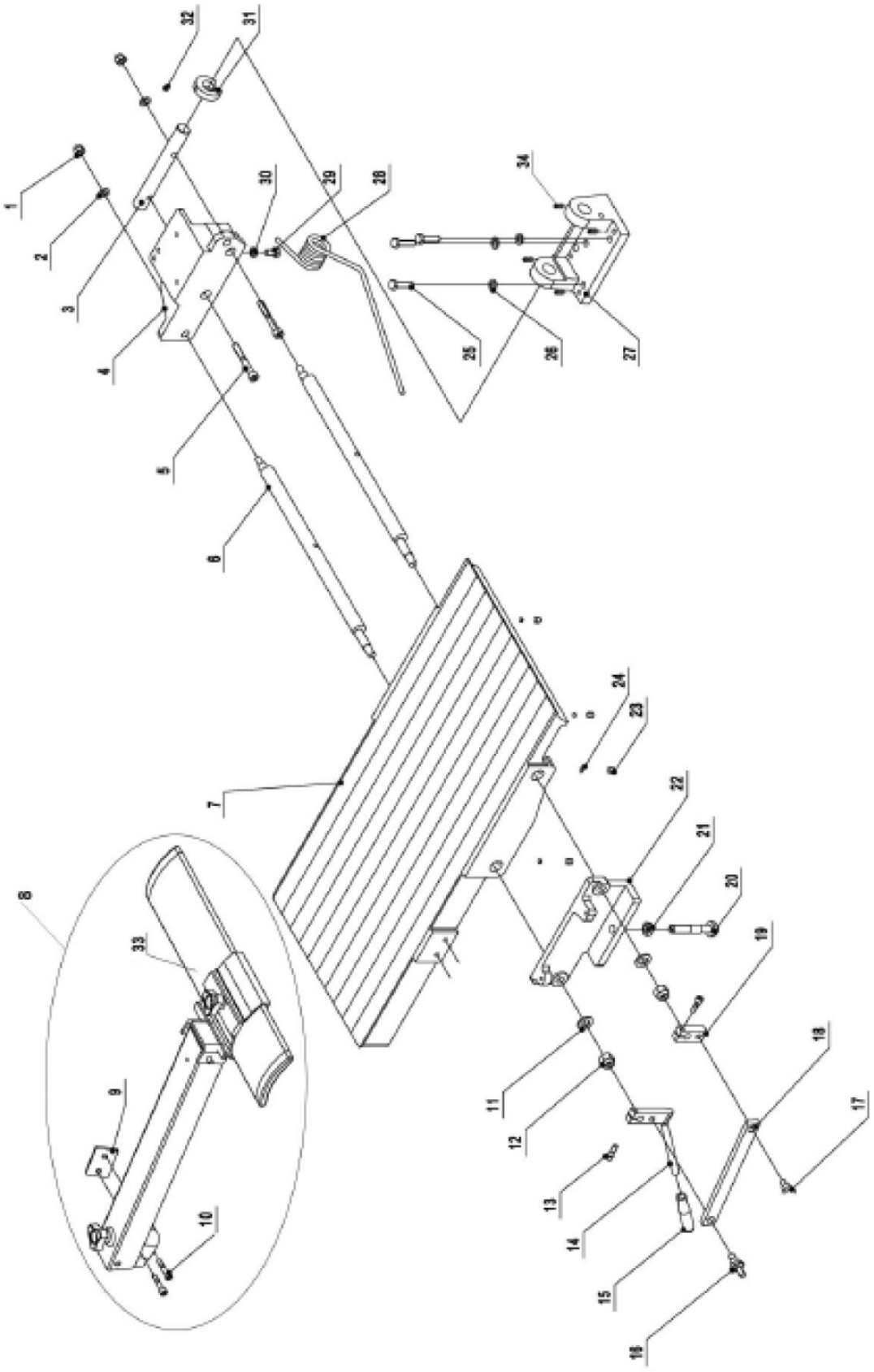

Fig. 35: Spare parts drawing 1 - ADH 31 C

Spare parts drawing 2

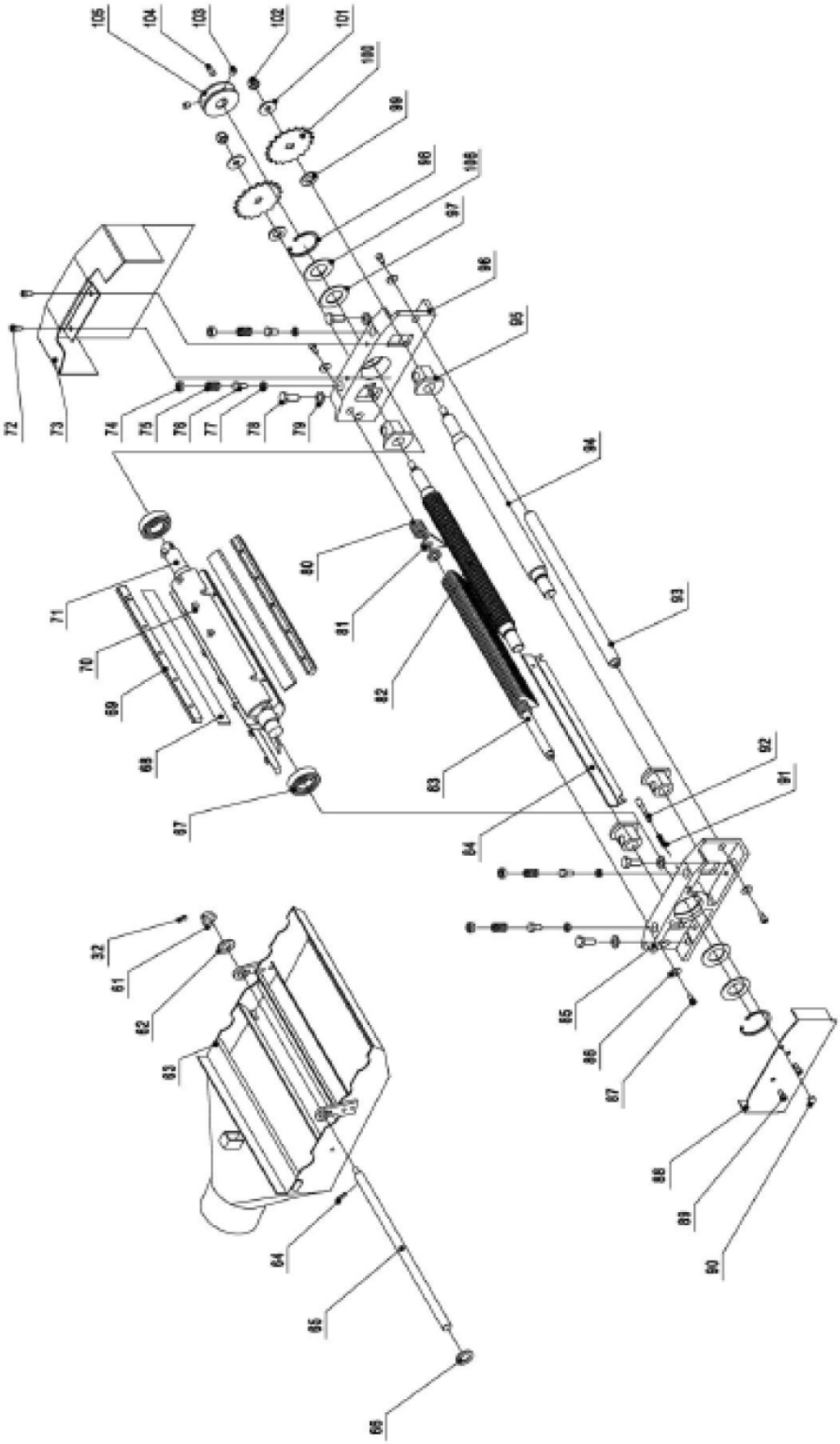

Fig. 36: Spare parts drawing 2 - ADH 31 C

Spare parts drawing 3

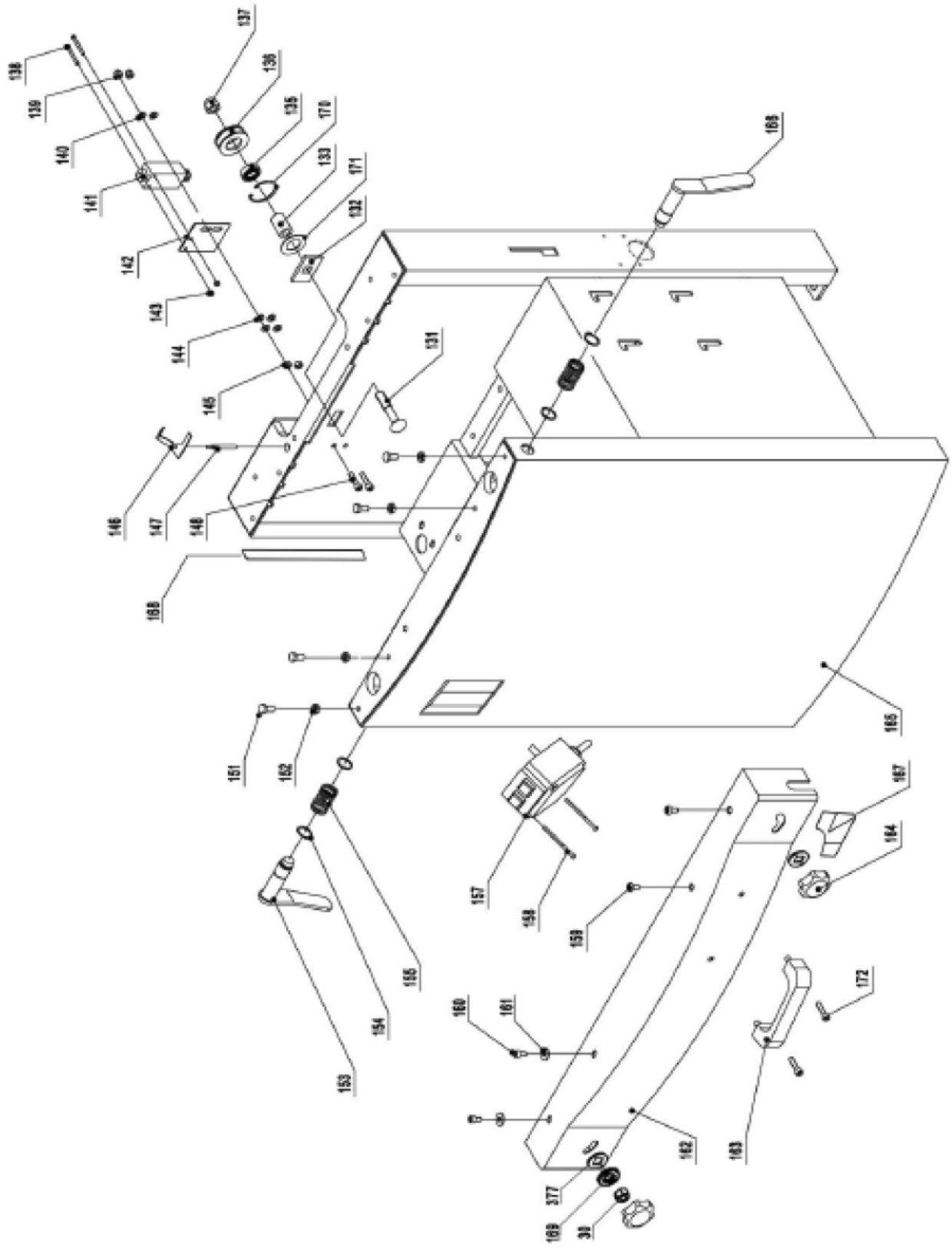

Fig. 37: Spare parts drawing 3 - ADH 31 C

Spare parts drawing 4

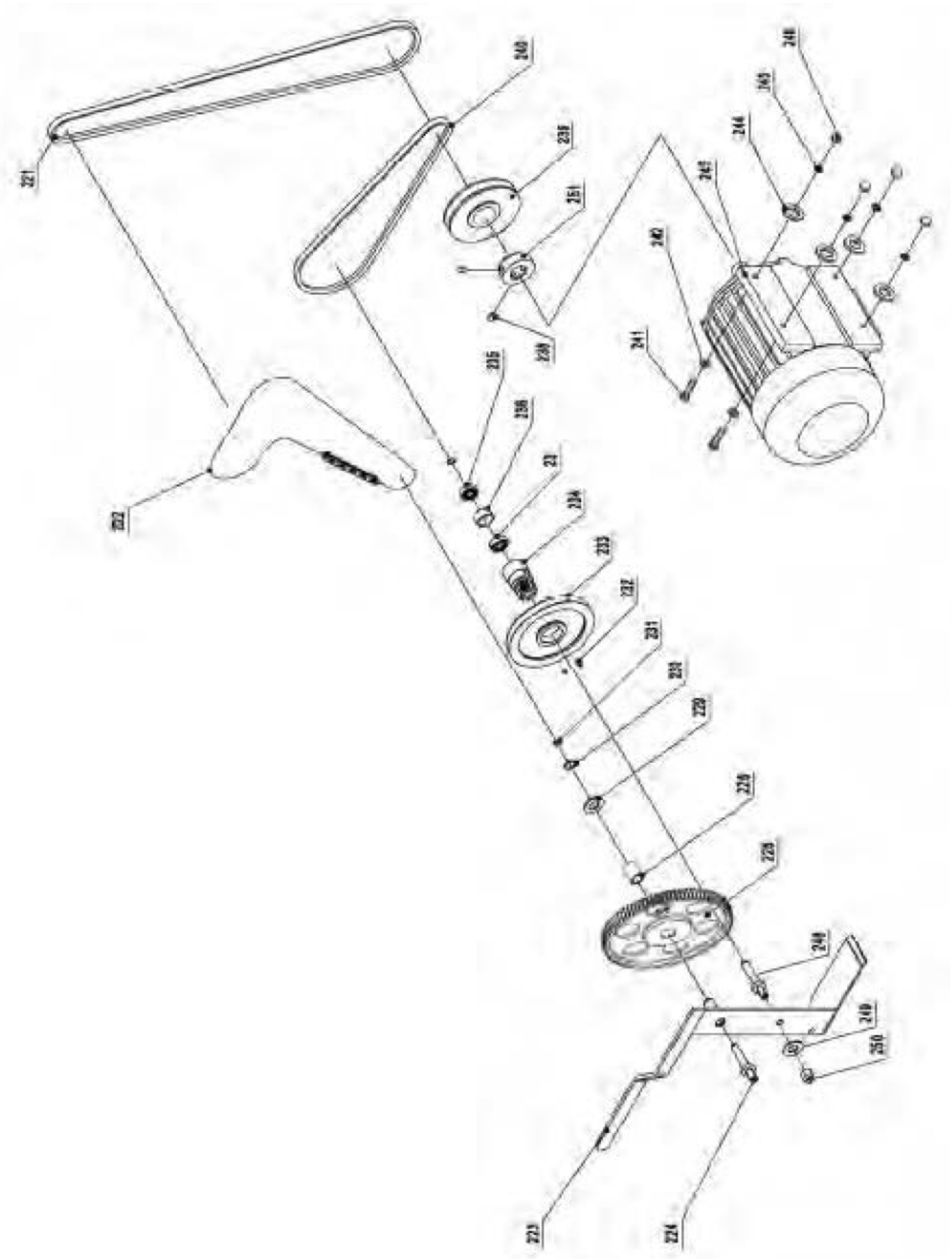

Fig. 38: Spare parts drawing 4 - ADH 31 C

Spare parts drawing 5

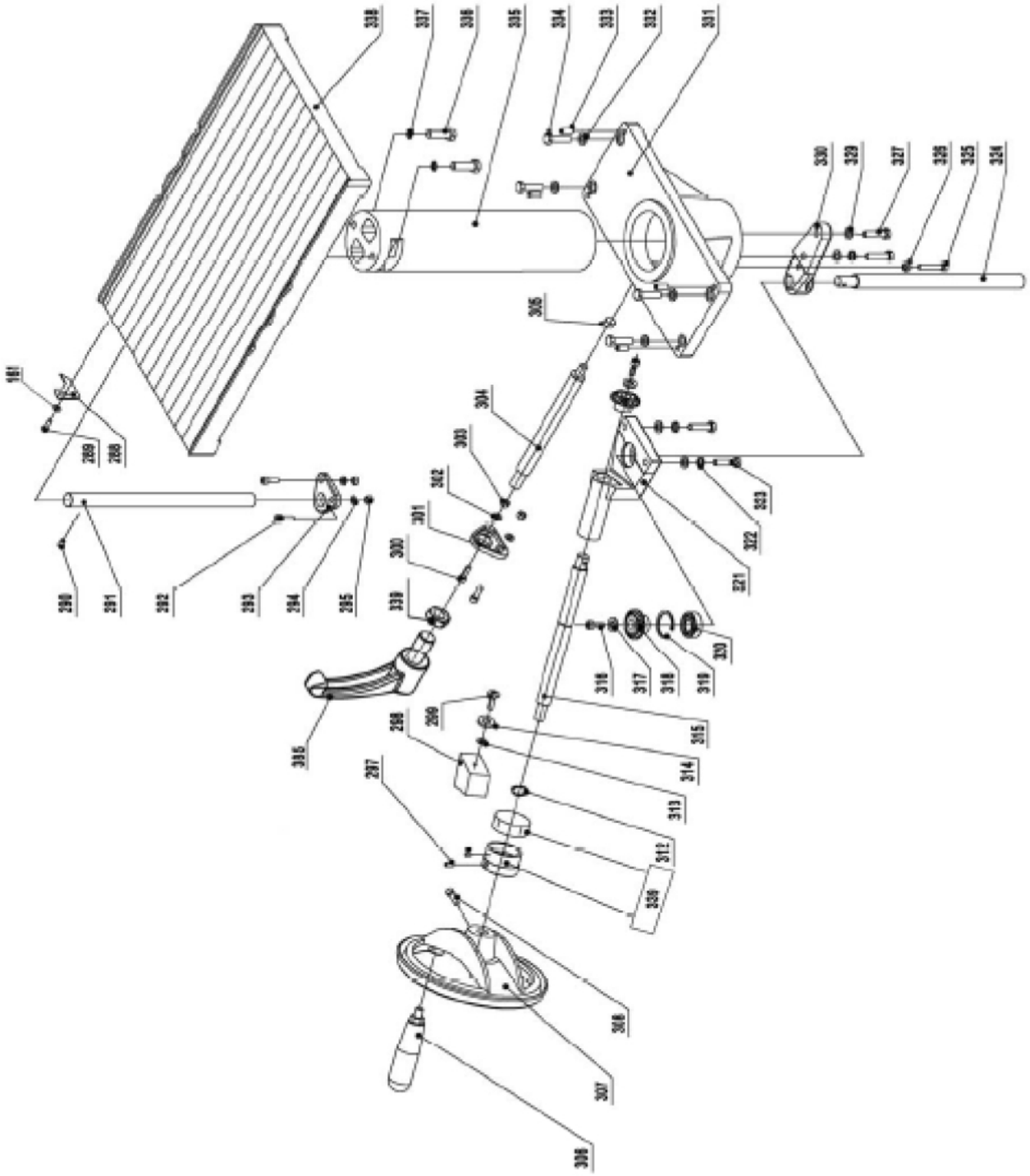

Fig. 39: Spare parts drawing 5 - ADH 31 C

Spare parts drawing 6

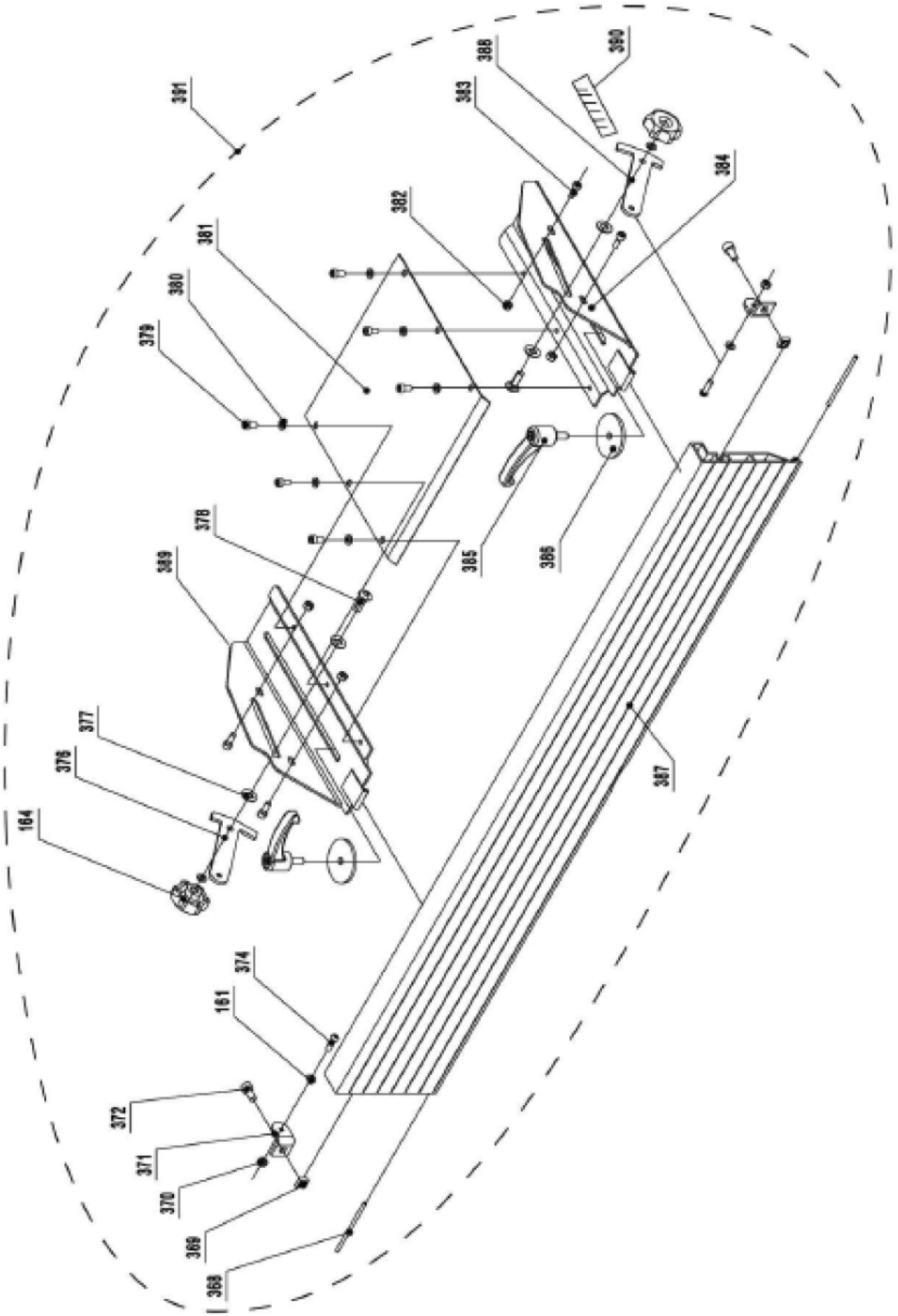

Fig. 40: Spare parts drawing 6 - ADH 31 C

12.4 Spare parts drawings Planer-Thicknesser ADH 41 C

The following drawings are intended to identify the required spare parts in the event of service. If applicable, submit a copy of the parts drawing including the highlighted components to your authorised retailer.

Spare parts drawing 1

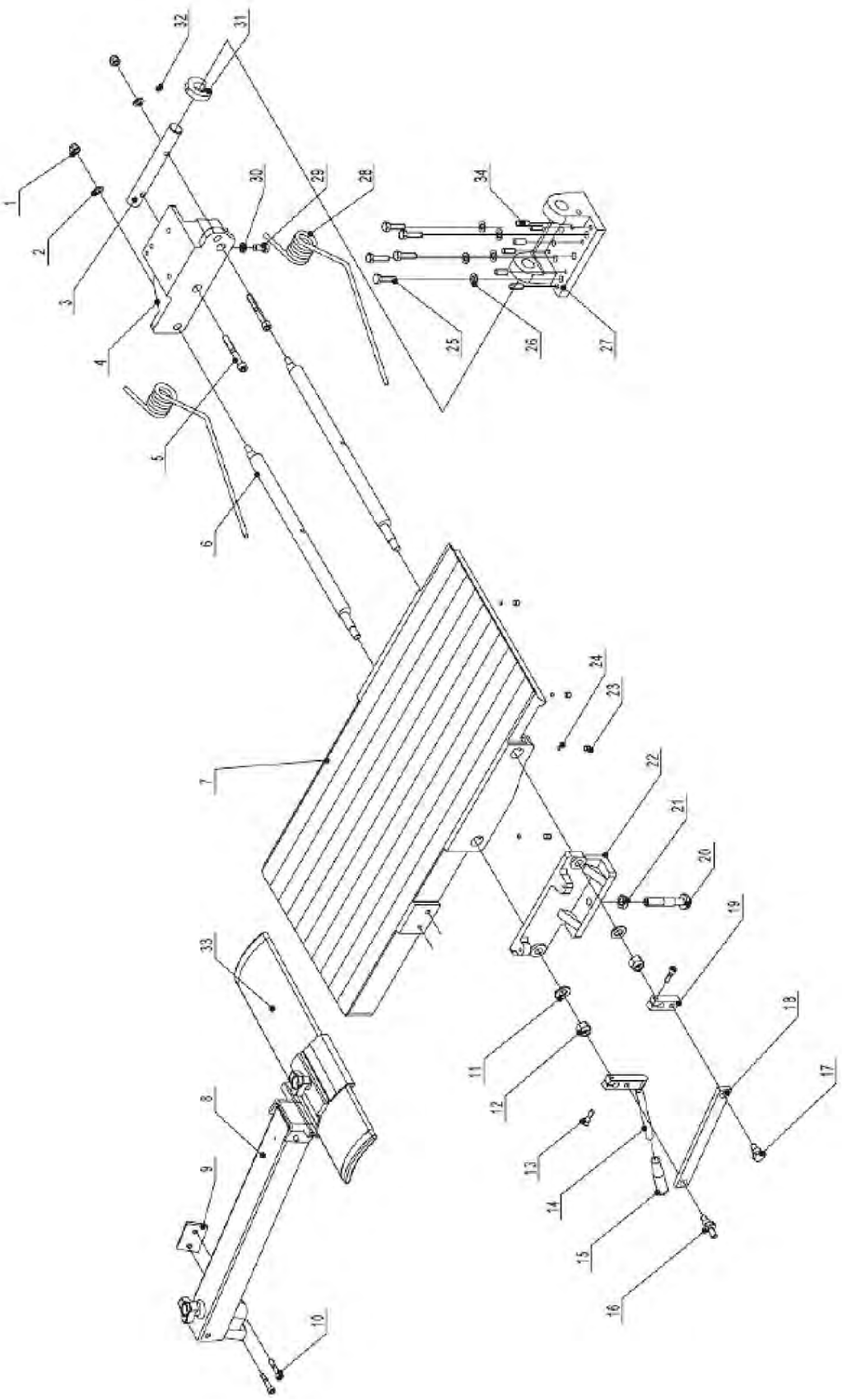

Fig. 41: Spare parts drawing 1 ADH 41 C

Spare parts drawing 2

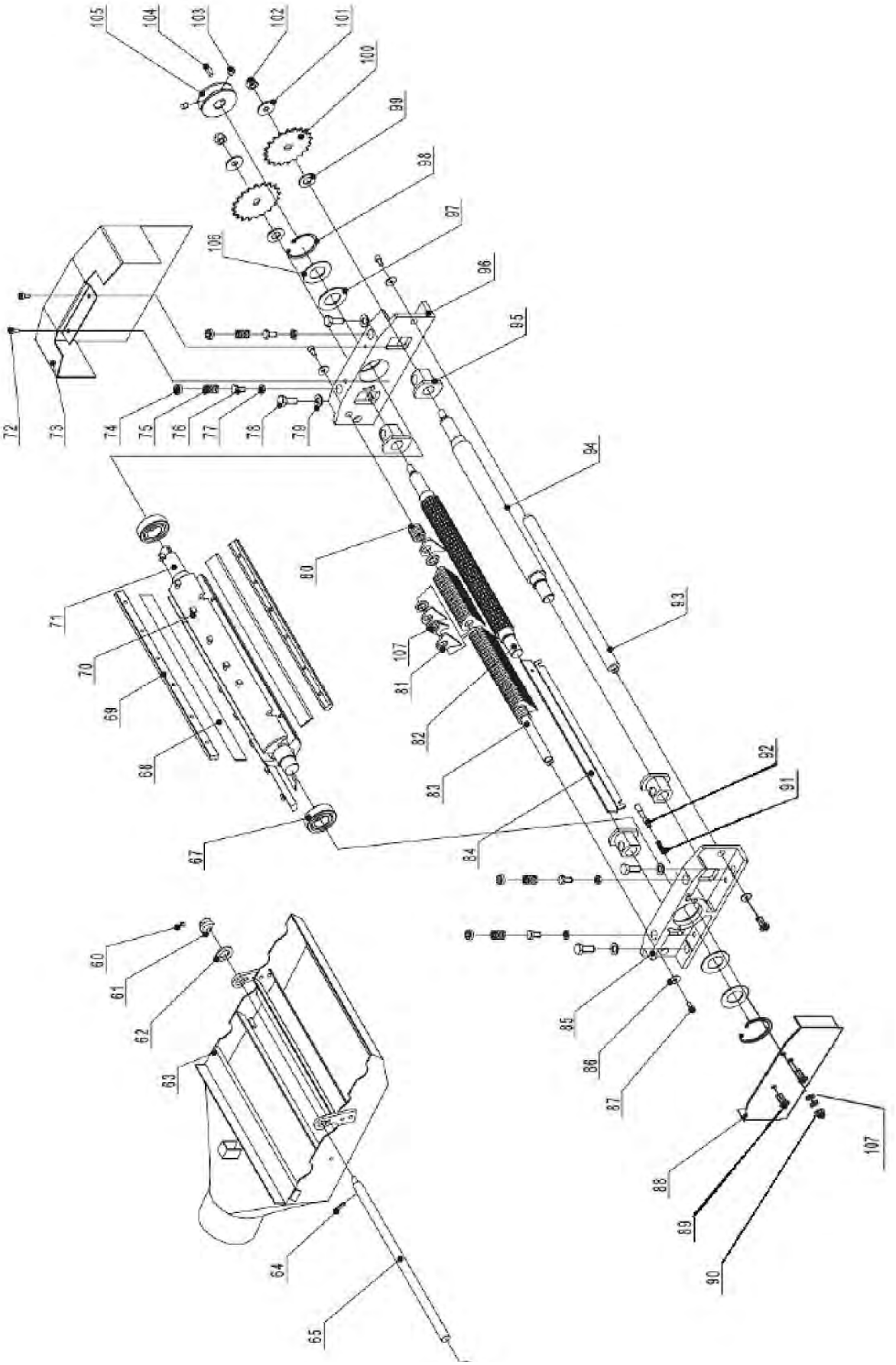

Fig. 42: Spare parts drawing 2 - ADH 41 C

Spare parts drawing 3

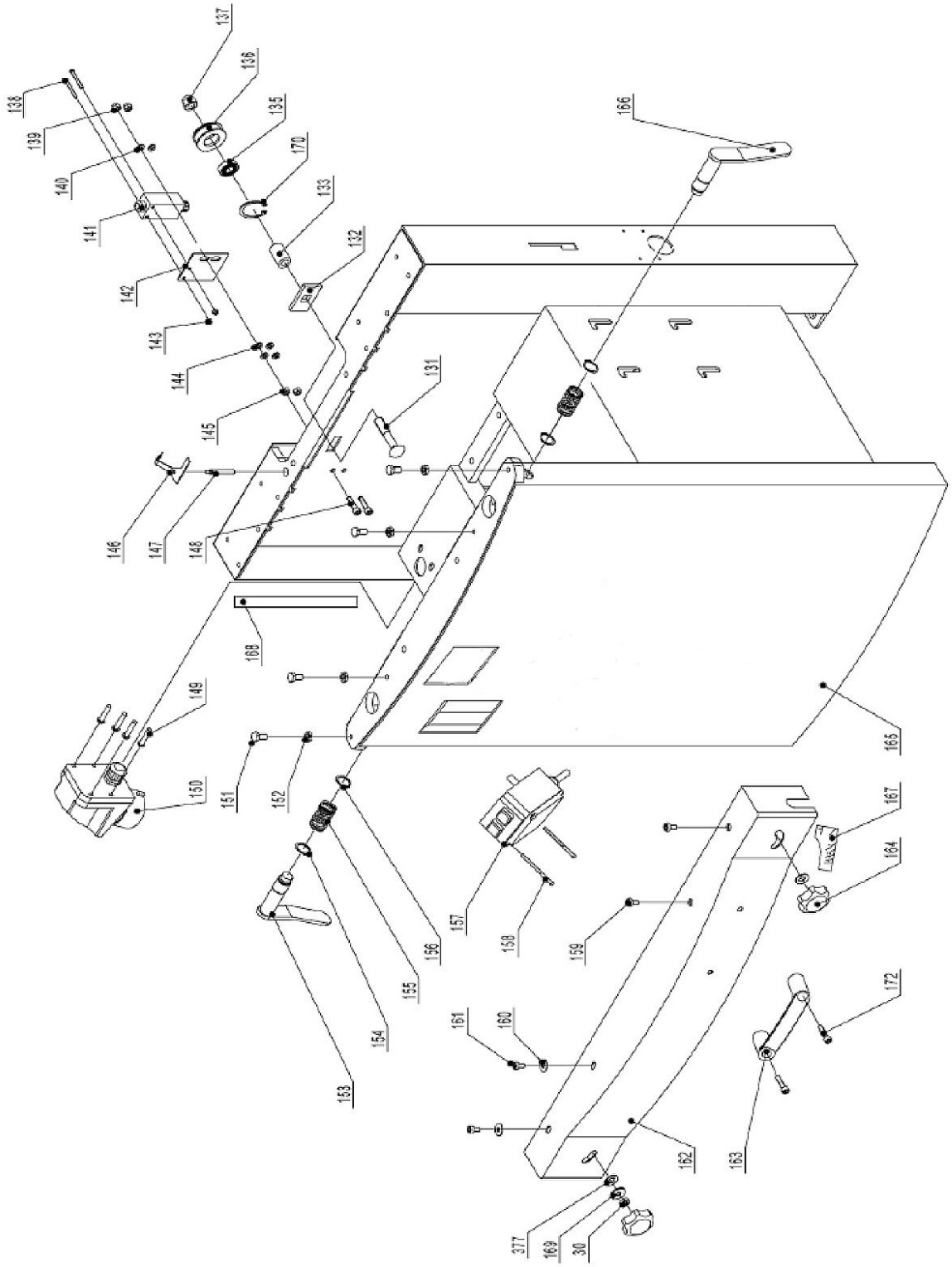

Fig. 43: Spare parts drawing 3 - ADH 41 C

Spare parts drawing 4

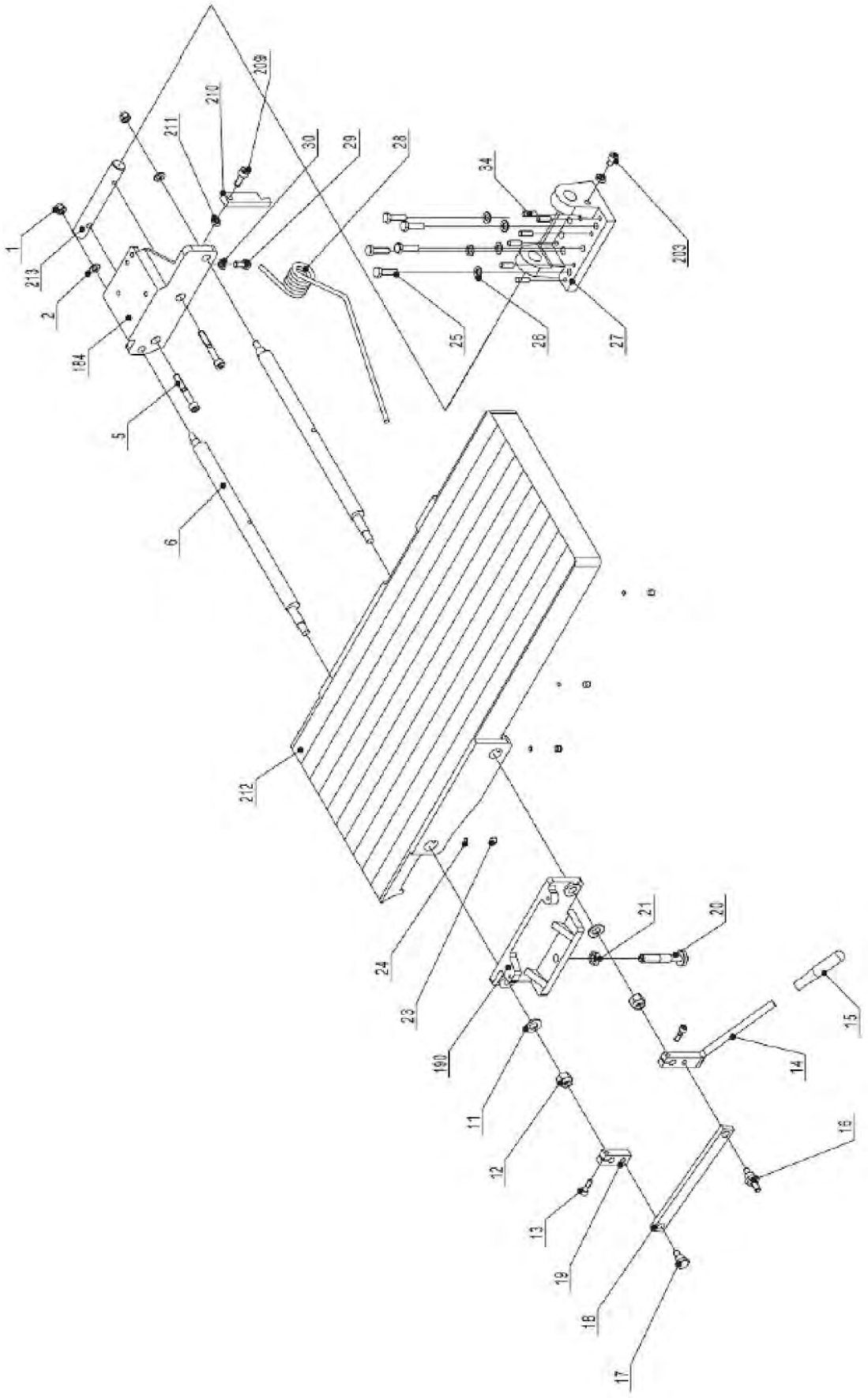

Fig. 44: Spare parts drawing 4 - ADH 41 C

Spare parts drawing 5

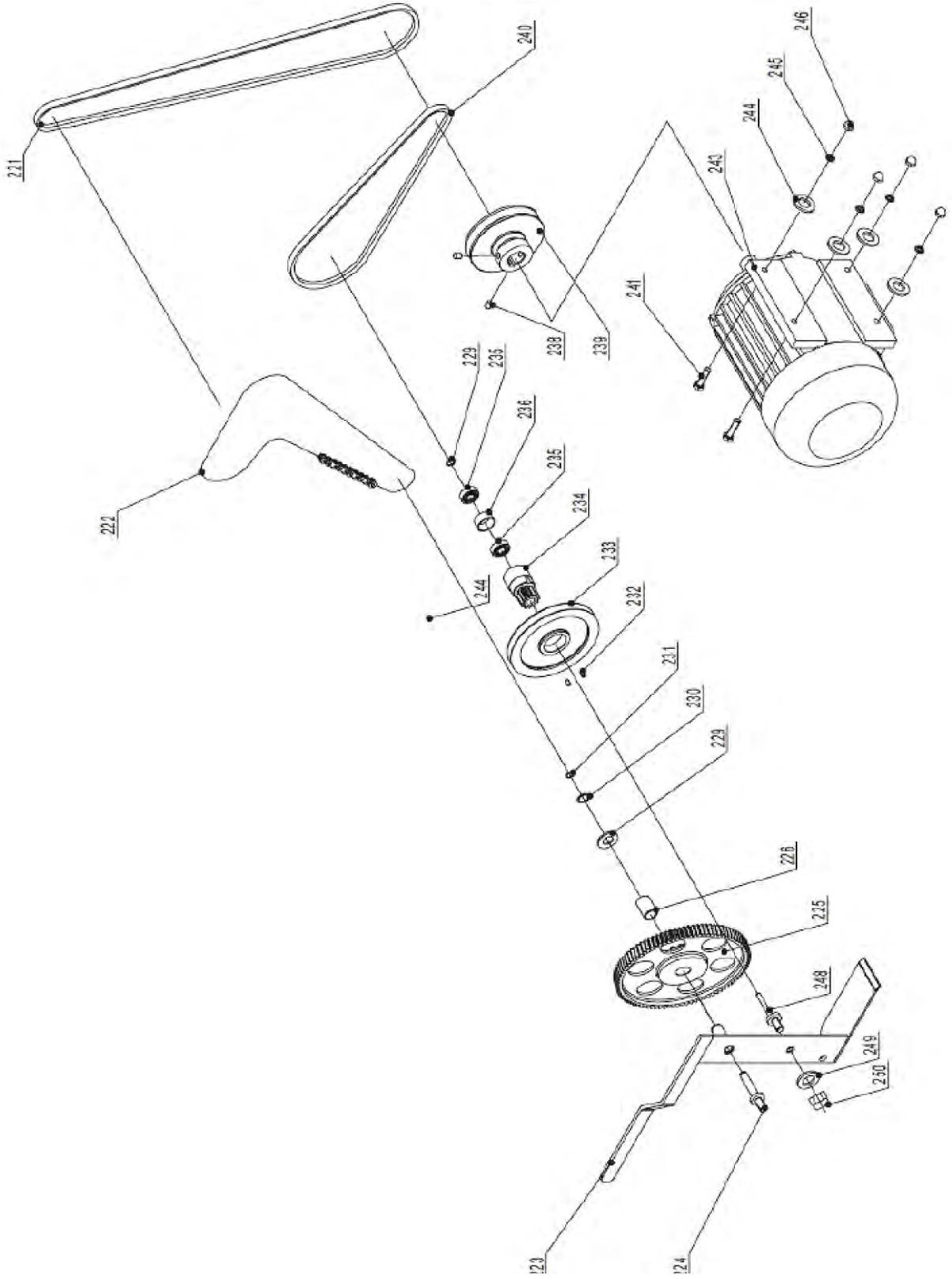

Fig. 45: Spare parts drawing 5 - ADH 41 C

Spare parts drawing 6

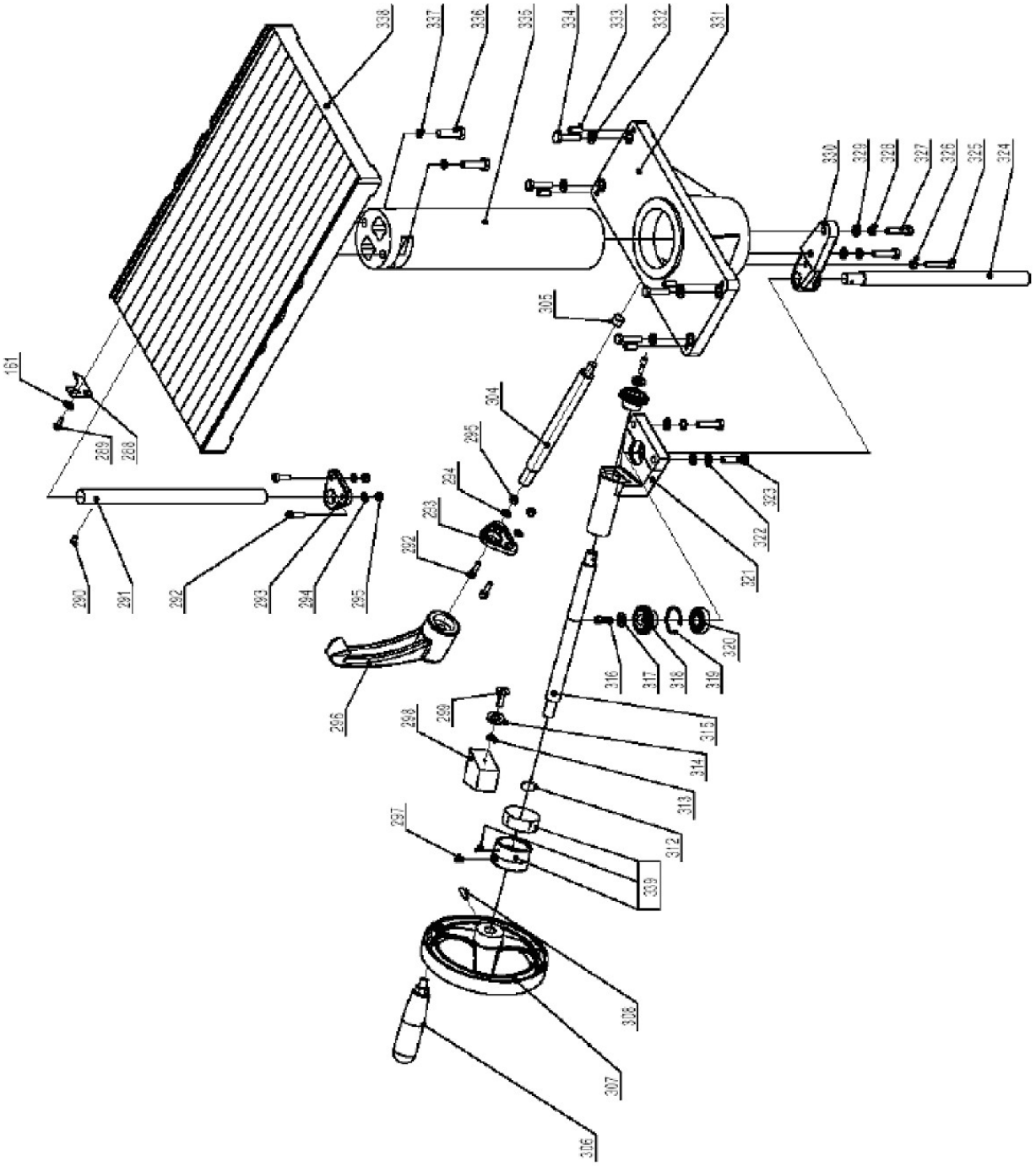

Fig. 46: Spare parts drawing 6 - ADH 41 C

Spare parts drawing 7

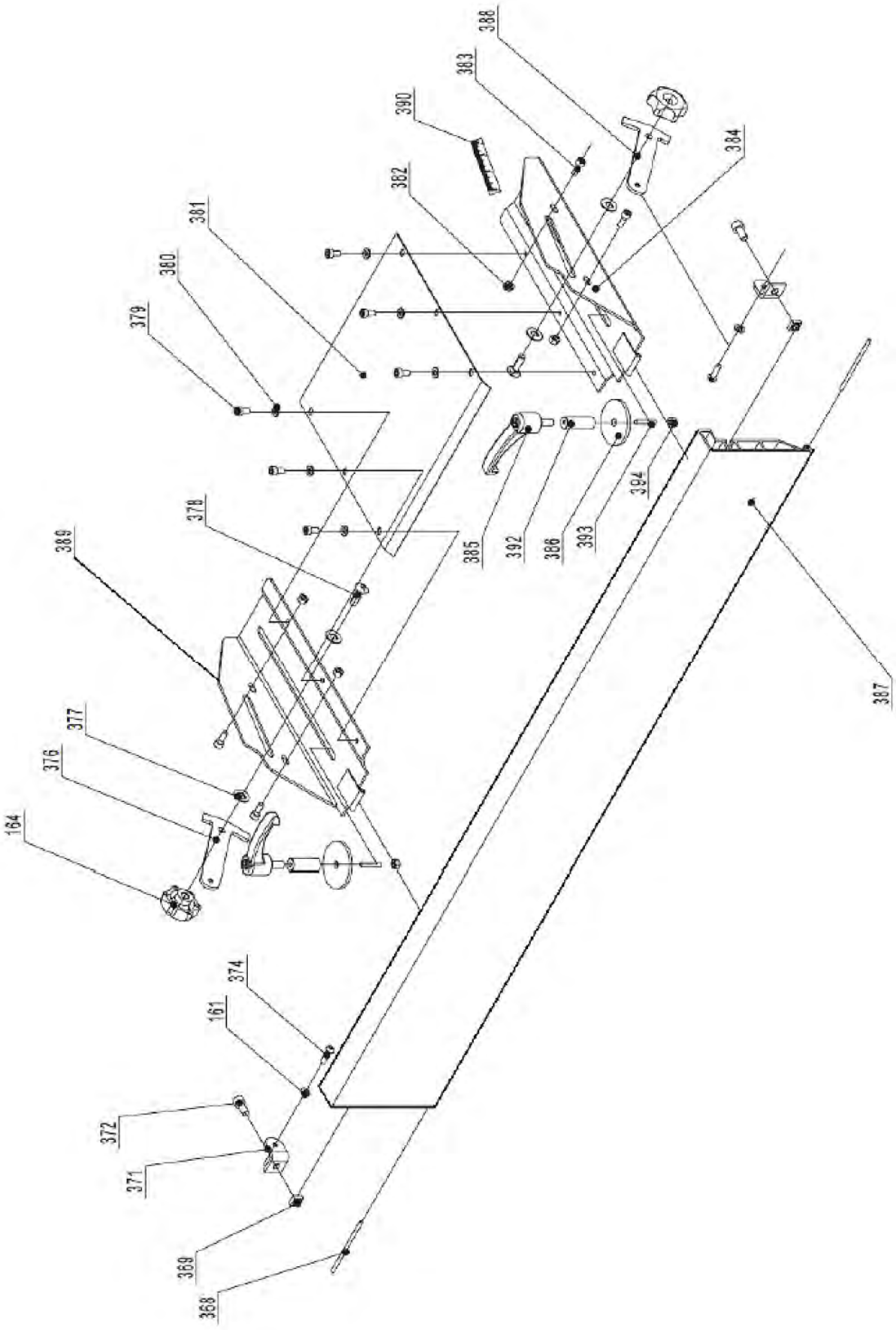

Fig. 47: Spare parts drawing 7 - ADH 41 C

13 Electrical circuit diagrams

Models ADH 26 C 230 V and ADH 31 C 230 V

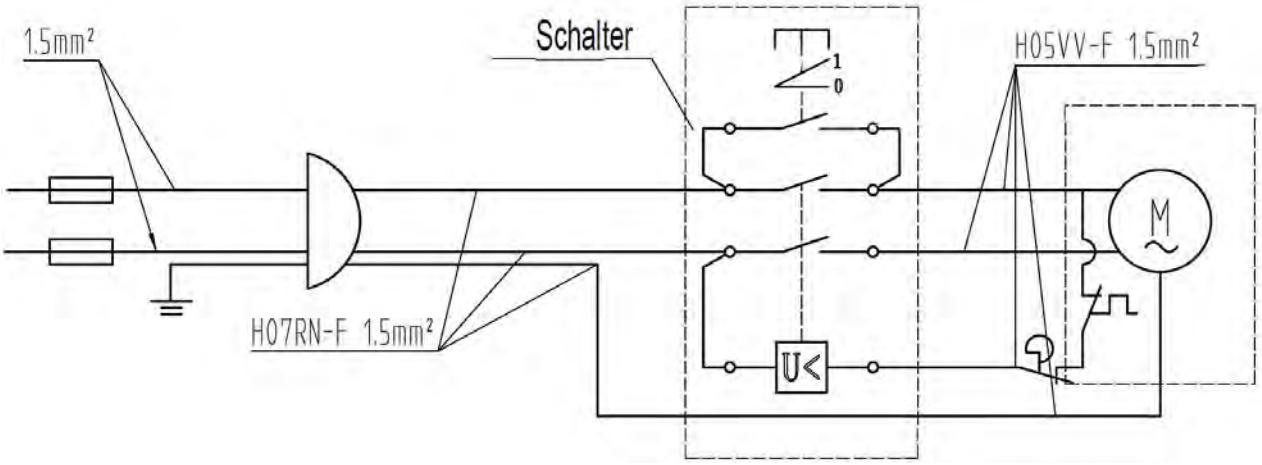

Fig. 48: Electrical circuit diagram ADH 26 C and ADH 31 C

Models ADH 26 C 400 V, ADH 31 C 400 V and ADH 41 C

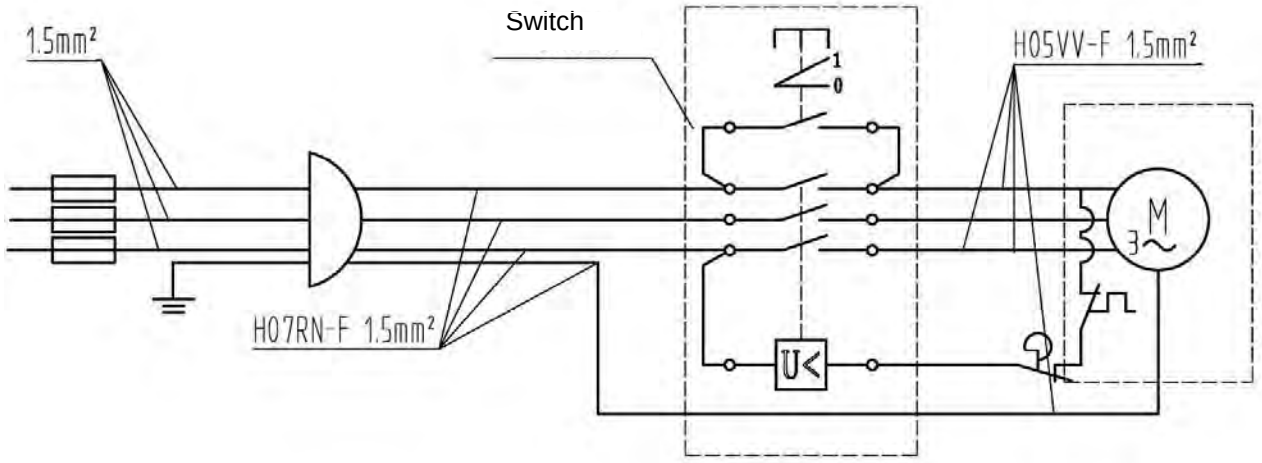

Fig. 49: Electrical circuit diagram ADH 26 C and ADH 31 C 400 V Models and ADH 41 C

14 EC Declaration of Conformity

According to machine directive 2006/42/EC Annex II 1.A

Manufacturer/distributing company: Stürmer Maschinen GmbH
Dr.-Robert-Pfleger-Str. 26
D-96103 Hallstadt

herewith declares that the following product

Product group: Holzstar® Woodworking machines

Maschine type: Planer-Thicknesser

Designation of the machine *:	**Item number *:**
☐ ADH 26 C 230 V	☐ 5904026
☐ ADH 26 C 400 V	☐ 5904027
☐ ADH 31 C 230 V	☐ 5904031
☐ ADH 31 C 400 V	☐ 5904032
☐ ADH 41 C	☐ 5904041

Serial number*: _____

Year of manufacture*: 20____

* please fill in according to the information on the type plate

corresponds, on the basis of its design and construction, as well as the version that we have put into circulation, with the relevant fundamental health and safety requirements of (subsequent) EU Directives.

Relevant EU Directives:	2014/30/EU	EMC-Directive
	2012/19/EU	WEEE-Directive

The following harmonized standards have been applied:

DIN EN 60204-1:2019-06	Sicherheit von Maschinen - Elektrische Ausrüstung von Maschinen - Teil 1: Allgemeine Anforderungen
DIN EN ISO 12100:2011-03	Sicherheit von Maschinen - Allgemeine Gestaltungsleitsätze - Risikobeurteilung und Risikominderung (ISO 12100:2010)
EN 861:2012-09	Sicherheit von Holzbearbeitungsmaschinen - Kombinierte Abricht- und Dickenhobelmaschinen

Responsible for the documentation: Kilian Stürmer, Stürmer Maschinen GmbH,
Dr.-Robert-Pfleger-Str. 26, D-96103 Hallstadt

Hallstadt, 11.02.2021

Kilian Stürmer
Managing Director


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OPTIMUM
stürmer
stürmer