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Originalfassung

DE BETRIEBSANLEITUNG **ABKANTMASCHINE**

Übersetzung / Translation

EN USER MANUAL **BEVELLING MACHINE**

AKM610ECO

CE

Edition: 22.01.2020 – Revision - 00 – RaR - DE/EN

2 SICHERHEITSZEICHEN / SAFETY SIGNS

DE	SICHERHEITSZEICHEN BEDEUTUNG DER SYMBOLE	**EN**	SAFETY SIGNS DEFINITION OF SYMBOLS

DE **CE-KONFORM!** - Dieses Produkt entspricht den EG-Richtlinien.

EN **CE-Conformal!** - This product complies with the EC-directives.

DE Anleitung beachten!

EN Follow the instructions!

DE Persönliche Schutzausrüstung tragen!

EN Wear personal protective equipment!

DE Warnung vor Handverletzungen

EN Warning of hand injuries

DE Warnung vor spitzem (scharfem) Werkzeug

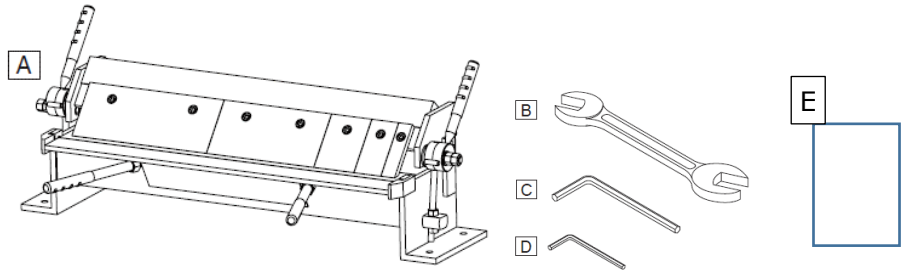
EN Warning of pointed (sharp) tool

DE **Warnschilder und/oder Aufkleber an der Maschine, die unleserlich sind oder die entfernt wurden, sind umgehend zu erneuern!**

EN **Missing or non-readable security stickers have to be replaced immediately!**

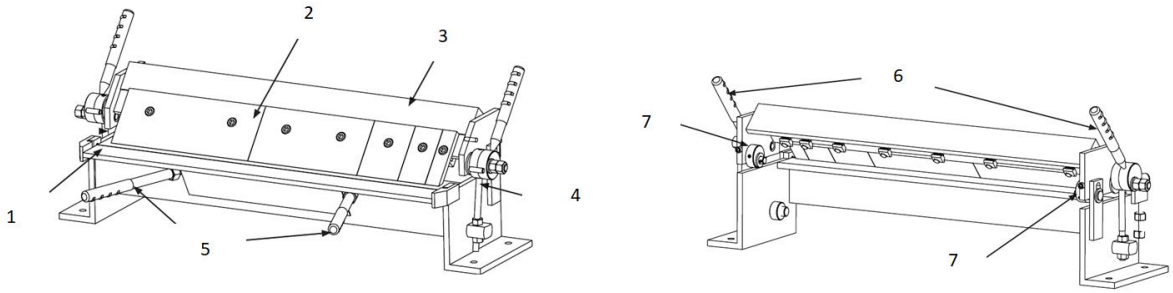
3 TECHNIK / TECHNIC

3.1 Lieferumfang / Delivery content



AKM610ECO			
A	Maschine / machine	**D**	Inbusschlüssel / allen key 6mm
B	Gabelschlüssel / open-end wrench 17/19mm	**E**	Bedienungsanleitung / manual
C	Inbusschlüssel / allen key 8mm		

3.2 Komponenten / Components



AKM610ECO			
1	Biegeleiste / Banding leaf	**5**	Biegegriff / Bending handles
2	Biegesegmente / Clamping finger	**6**	Klemmgriff / Clamping handles
3	Klemmleiste / Clamping leaf	**7**	Rückzugsrad / Setback wheel
4	Klemmdruck-Einstellstange / Clamping pressure adjsutment rod		

3.3 Technische Daten / Technical Data

Parameter / parameters	Wert / value
Biegewinkel / bending angle	0-135°
Biegesegmente / finger size	1", 2", 3", 8", 10"
Max. Biegelänge / max. bending length	600 mm
Max. Blechstärke (Stahl) / max. capacity (steel)	1,0 mm
Max. Öffnungsweite / max. opening width	43 mm
Maschinendimension (L x B x H) / machine dimensions (L x W x H)	760 x 390 x 290 mm
Verpackungsmaße (L x B x H) / packaging dimensions (L x W x H)	795 x 325 x 275 mm
Nettogewicht / net Weight	28kg
Bruttogewicht / gross-weight	31kg

10 PREFACE (EN)

Dear Customer!

This manual contains information and important instructions for the installation and correct use of the bevelling machine AKM610ECO.
Following the usual commercial name of the machine (see cover) is substituted in this manual with the name "machine".

This manual is part of the product and shall not be stored separately from the product. Save it for later reference and if you let other people use the product, add this instruction manual to the product.

Please read and obey the security instructions!

Due to constant advancements in product design, construction pictures and content may diverse slightly. However, if you discover any errors, inform us please.

Technical specifications are subject to changes!

Please check the product contents immediately after receipt for any eventual transport damage or missing parts.

Claims from transport damage or missing parts must be placed immediately after initial product receipt and unpacking before putting the product into operation.

Please understand that later claims cannot be accepted anymore.

Copyright

Customer service contact

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11 SAFETY

This section contains information and important notes on safe commissioning and handling of the machine.

For your personal safety, please read these operating instructions carefully before commissioning. This will enable you to handle the machine safely and prevent misunderstandings as well as personal injury and damage to property. Also observe the symbols and pictograms used on the machine as well as the safety and danger information!

11.1 Intended Use of the Machine

The machine is intended exclusively for the following activities:

For bevelling sheets of steel/aluminium or other metallic materials within the specified technical limits.

HOLZMANN MASCHINEN assumes no responsibility or warranty for any other use or use beyond this and for any resulting damage to property or injuries.

11.1.1 Technical Restrictions

The machine is intended for use under the following ambient conditions:

Rel. Humidity:	max. 65 %
Temperature (operational)	+5° C bis +40° C
Temperature (Storage, Transport)	-20° C bis +55° C

11.1.2 Prohibited Use / Forseeable Misuse

- Operation of the machine without adequate physical and mental aptitude
- Operating the machine without knowledge of the operating instructions
- Changes in the design of the machine
- Operating the machine outside the limits specified in this manual
- Remove the safety markings attached to the machine.
- Modify, circumvent or disable the safety devices of the machine.

The improper use or disregard of the versions and instructions described in this manual will result in the voiding of all warranty and compensation claims against Holzmann Maschinen GmbH.

11.2 User Requirements

The physical and mental suitability as well as knowledge and understanding of the operating instructions are prerequisites for operating the machine. Persons who, because of their physical, sensory or mental abilities or their inexperience or ignorance, are unable to operate the machinery safely must not use it without the supervision or instruction by a responsible person.
Please note that local laws and regulations may stipulate the minimum age of the operator and restrict the use of this machine!
Put on your personal protective equipment before working on the machine.

11.3 General Safety Instructions

To avoid malfunctions, damage and health hazards when working with the machine, in addition to the general rules for safe working, the following points must be observed:

- Before commissioning, check the machine for completeness and function.
- Choose a level, vibration-free, non-slip surface for the installation location.
- Ensure sufficient space around the machine!
- Ensure sufficient lighting conditions at the workplace to avoid stroboscopic effects!
- Only use perfect tools that are free of cracks and other defects (e.g. deformations).
- Remove setting tools from the machine before switching on.
- Keep the area around the machine free of obstacles (e.g. dust, chips, cut workpiece parts etc.).
- Check the strength of the machine connections before each use.
- Never leave the running machine unattended. If necessary, stop the machine before leaving.
- The machine may only be operated, serviced or repaired by persons who are familiar with it and who have been informed of the dangers arising in the course of this work.

- Ensure that unauthorised persons maintain an appropriate safety distance from the machine and, in particular, keep children away from the machine.
- Wear suitable protective equipment (eye protection, dust mask, respiratory protection, ear protection, gloves when handling tools) as well as close-fitting work protective clothing - never wear loose clothing, ties, jewellery, etc. - danger of being drawn in!
- Hide long hair under hair protection.
- Do not remove any sections or other parts of the workpiece from the cutting area while the machine is running!
- Always work with care and the necessary caution and never use excessive force.
- Do not overload the machine!
- Do not work on the machine if you are tired, not concentrated or under the influence of medication, alcohol or drugs!

11.4 Special safety instructions for sheet metal working machines

- Do not move the workpiece when loaded.
- Do not compress springs or other elastic objects. These could come loose dangerously.
- Do not operate the machine beyond its rated capacity.
- Keep hands and feet away from the clamping devices during work.
- Sharp sheet edges can easily cut fingers, hands or other body parts. Always wear leather gloves when handling sheet metal and always deburr the edges.

11.5 Hazard Warnings

Despite their intended use, certain residual risks remain. Due to the structure and construction of the machine, hazardous situations may occur when handling the machines:

DANGER
A safety instruction designed in this way indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING
Such a safety instruction indicates a potentially hazardous situation which, if not avoided, may result in serious injury or even death..

CAUTION
A safety instruction designed in this way indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

NOTICE
A safety notice designed in this way indicates a potentially hazardous situation which, if not avoided, may result in property damage.

Irrespective of all safety regulations, their sound common sense and corresponding technical suitability/training are and remain the most important safety factor in the error-free operation of the machine. Safe working depends first and foremost on you!

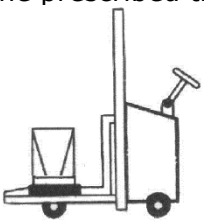
12 TRANSPORT

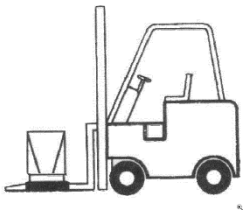
WARNING
Damaged or insufficiently strong hoists and load slings can cause serious injuries or even death. For this reason, check hoists and load slings for sufficient load capacity and perfect condition before use. Attach the loads carefully. Never stand under suspended loads!

CAUTION

Caution, the machine is heavy! Two people are necessary to carry it!

For correct transport, also observe the instructions and information on the transport packaging regarding the centre of gravity, attachment points, weight, transport equipment to be used and the prescribed transport position, etc.





Transport the machine in its packaging to the installation site. To manoeuvre the machine in the packaging, a pallet truck or forklift with appropriate lifting power can be used, for example.

If you transport the machine with a vehicle, ensure adequate load securing!

13 ASSEMBLY

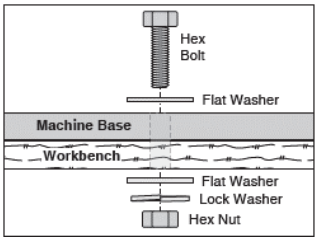
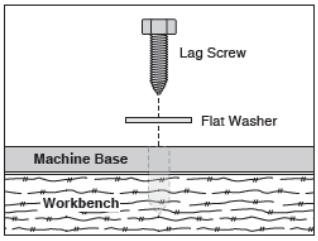
13.1 Preparatory Activities

13.1.1 Checking Scope of Supply

Check the machine immediately after delivery for transport damage and missing parts.

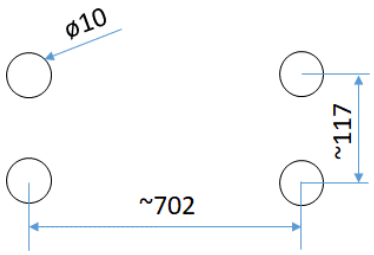
13.1.2 Installation Site

NOTICE: The floor and worktop at the place of installation must be able to support the load of the machine. The minimum space required for the machine is determined by the dimensions of the machine plus a safety area around the machine.
Choose an even, load-bearing subfloor with the appropriate amount of space as the installation location. When setting up the machine, also take into account the working area required to process workpieces! With long workpieces, there must be no crushing or shearing points in the extension area (= danger zone)! The installation site must also meet the ergonomic requirements for a workplace (sufficient lighting conditions, etc.). The base of this unit has fixation holes that allow it to be attached to a workbench or other mounting surface to prevent it from moving during operation and causing accidental injury or damage.

	The most powerful fastening option is "through-hole" mounting, where holes are drilled through the entire workbench - and hexagon bolts, washers and hexagon nuts are used to fasten the machine.
	Another option is "direct mounting" where the machine is fixed directly to the workbench with lag screw and washers.

NOTICE

Required fixing material is not included in the scope of delivery

	Hole pattern of the fixing holes.

13.2 Preparation of the surface

Remove the conservation agent that is applied to protect the parts against corrosion without painting. This can be done with the usual solvents. Do not use nitro solvents or similar agents and under no circumstances use water.

NOTICE

The use of paint thinners, petrol, aggressive chemicals or abrasive cleaners leads to material damage to the surfaces!
The following therefore applies: Use only mild cleaning agents for cleaning

13.3 Assembly the machine

The machine is supplied pre-assembled and it is only necessary to fix it on its place of installation before use.

14 OPERATION

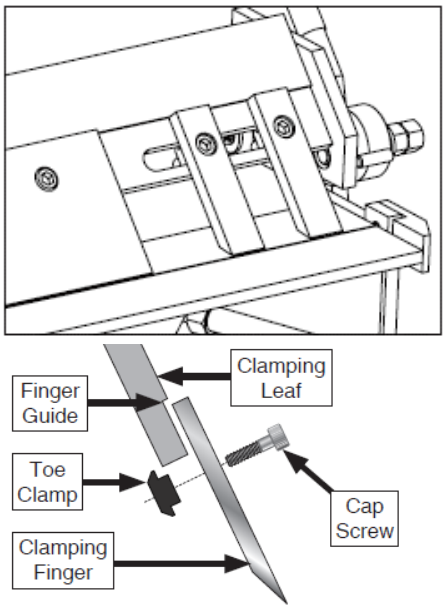
Only operate the machine in perfect condition. Before each operation, carry out a visual inspection of the machine. Safety devices and operating elements must be checked carefully. Check screw connections for damage and firm seating.

CAUTION

The sharp edges of metal sheets can cause cuts during handling. Suitable protective gloves and simple aids (hand magnets, hand vacuum cleaner, carrying clamps, carrying claws) can prevent these injuries.

14.1 Operation

14.1.1 Exchange adjustment of fingers



The fingers can be arranged at a distance from each other for the production of trays or boxes. To do this, you must remove one or more of the fingers so that you can keep the others at a distance according to the inside width of your tray or box.

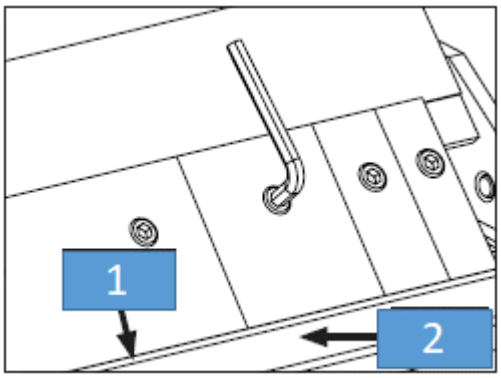
Procedure:

1. loosen the socket head screws from each finger you need to remove.
2. remove the fingers and clamps from the clamp and set them aside.

Note: Fingers must be assembled to match the inside width of your workpiece.

3. align the remaining fingers and tighten the cap screws.

14.1.1 Aligning fingers



To ensure to have a uniform bending result over the entire length, the fingers must be parallel to the clamping surface and the bending block.

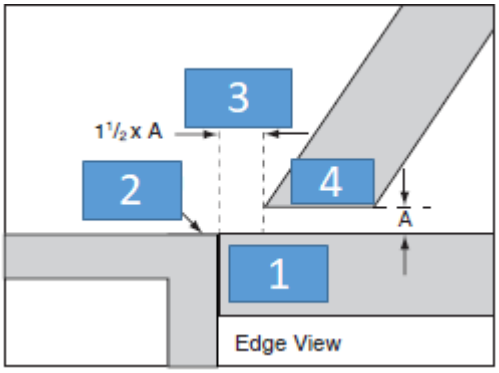
Procedure:

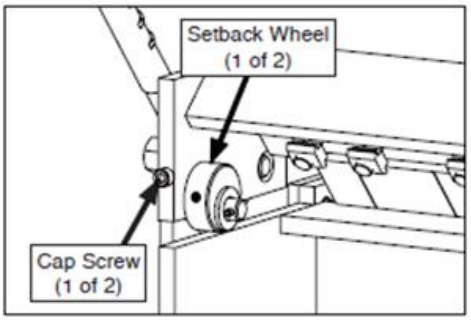
1. lower clamping leaf until the fingers just touch the clamping surface (2).
2. look closely along the bottom edge of each finger to determine if they are aligned with the clamping surface (1) and the bending leaf (2).
3. if not, loosen the cap screw on the offset finger only to the level where it can just be moved up or down.
4. align the fingers parallel to the clamping surface (1) and bending leaf (2) and tighten the cap screw again.

14.1.2 Adjusting Setback

NOTICE

When determining the correct setback distance, the thickness of the folded edges or joints must be taken into account, otherwise the brake may be damaged.



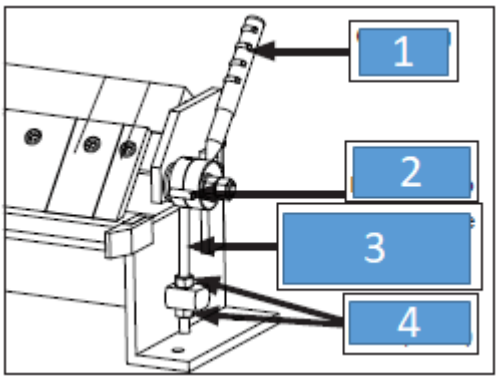


Before you start a bending operation, you should consider the differences in sheet thickness (A) when trying to achieve either sharp or rounded edges.
The degree of rounding can be adjusted by adjusting the set back distance.
The setback distance (3) is the distance from the forward edge of the fingers (4) to the edge of the bending leaf (2). The setback distance (3) is determined by the thickness (A) of the workpiece material and the desired radius of the bend.
The setback distance (3) is normally set to 1.5 times the thickness (A) of the workpiece (thickness of workpiece 0.6mm and thinner) and 2 times the thickness for workpieces thicker than 0.6mm.

Setting procedure:

1. determine the setback required for the bend
2. lift the clamping finger approx. 10mm from the clamping surface.
3. loosen the cylinder screws that secure the setback wheels.
4. turn both setback wheels until desired setback distance is reached.
Note: The setback wheels are eccentric. By turning them a full turn, the clamping leaf is returned to its original position.
Tip: If you find it hard to turn the return wheels with your fingers, insert an Allen key into the holes on the edges of the wheels to gain leverage.
5. lower clamping fingers onto clamping surface and check setback distance.
6. if necessary, repeat steps 1-4 until you reach the desired setback distance.
7. check the alignment of the fingers.

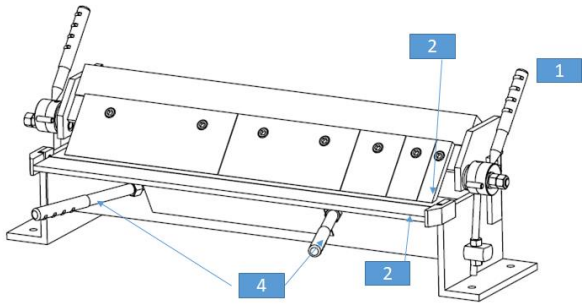
14.1.3 Adjusting clamping pressure



The clamping pressure must be set correctly for different workpiece thicknesses. The ideal pressure has a medium resistance at the clamping handles (1) and locks the workpiece easily - similar to a vice. The pressure is adjusted by turning the adjusting nuts (4) on the clamping pressure adjusting rods (3).

Procedure Adjustment:
1. lower the clamping leaf with the clamping handle until the fingers touch the workpiece.
Tip: It is best if the workpiece used in this procedure has the same width as the upper beam. If not, place two pieces of metal with the same thickness as the workpiece on each end of the clamping area.
When the clamping handles are at the 10 o'clock position (viewed from the right end), the clamping pressure is appropriate for the workpiece. Proceed further with step 4.
Otherwise, loosen the adjusting nuts (4) and rotate both nuts up or down until they are clamped when the clamping handle is at the 10 o'clock position and the fingers contact the workpiece.
3. tighten the adjusting nuts (4)
4. make sure that the clamping pressure is equal on both sides. Check this by lifting one end and checking clamping action of the other end.
If necessary, repeat steps 1-4 until the clamping pressure is reached.
Note: The correct clamping pressure is achieved when the clamping handle (1) "snaps" (or locks) into position against the handle stop (2)

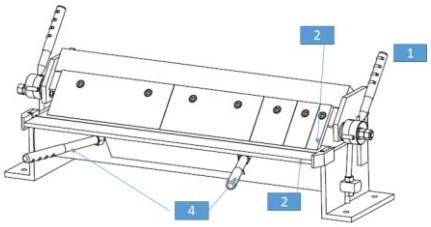
14.1.4 Clamping the workpiece



Place the workpiece between the bending leaf (2) and clamping leaf (1) so that the desired bending edge on the workpiece is at the bending edge of the machine.

Now clamp the workpiece by pulling down the clamping lever (1) to the stop.

14.1.5 Bevelling the workpiece



- Adjustment work done
- Work piece proper clamped

For bevelling, simply pull the handles (4) upwards until the desired bevelling angle is achieved.

15 CLEANING, MAINTENANCE, STORAGE, DISPOSAL

15.1 Cleaning

NOTICE
Wrong cleaning agents can attack the varnish of the machine. Do not use solvents, nitro thinners, or other cleaning agents that could damage the machine's paint. Observe the information and instructions of the cleaning agent manufacturer!

Prepare the surfaces and lubricate the bare machine parts with an acid-free lubricating oil. Regular cleaning is a prerequisite for the safe operation of the machine and its long service life. Therefore, clean the machine after each use.

15.2 Maintenance

The machine is low-maintenance and only a few parts have to be serviced. Nevertheless, malfunctions or defects which could impair the safety of the user must be rectified immediately!

- Before each start-up, make sure that the safety devices are in perfect condition and function properly.
- Check all connections for tightness at least once a week.
- Regularly check that the warning and safety labels on the machine are in perfect and legible condition.

15.3 Storage

NOTICE
Improper storage can damage and destroy important components. Only store packed or unpacked parts under the intended ambient conditions!

When not in use, store the machine in a dry, frost-proof and lockable place to prevent the formation of rust on the one hand and to ensure that unauthorised persons and in particular children have no access to the machine on the other hand.

15.4 Disposal

Observe the national waste disposal regulations. Never dispose of the machine, machine components or equipment in residual waste. If necessary, contact your local authorities for information on the disposal options available.
If you buy a new machine or an equivalent device from your specialist dealer, he is obliged in certain countries to dispose of your old machine properly.

16 ERSATZTEILE / SPARE PARTS

16.1 Ersatzteilbestellung / spare parts order

(DE) Mit Holzmann-Ersatzteilen verwenden Sie Ersatzteile, die ideal aufeinander abgestimmt sind. Die optimale Passgenauigkeit der Teile verkürzt die Einbauzeit und verlängert die Lebensdauer der Maschine.

HINWEIS

Der Einbau von anderen als Originalersatzteilen führt zum Verlust der Garantie!

Daher gilt: Beim Tausch von Komponenten/Teilen nur Originalersatzteile verwenden

Beim Bestellen von Ersatzteilen verwenden Sie bitte das Serviceformular, das Sie am Ende dieser Anleitung finden. Geben Sie stets Maschinetype, Ersatzteilnummer sowie Bezeichnung an. Um Missverständnissen vorzubeugen, empfehlen wir mit der Ersatzteilbestellung eine Kopie der Ersatzteilzeichnung beizulegen, auf der die benötigten Ersatzteile eindeutig markiert sind.

Bestelladresse sehen Sie unter Kundendienstadressen im Vorwort dieser Dokumentation.

(EN) With original Holzmann spare parts you use parts that are attuned to each other shorten the installation time and elongate your products lifespan.

IMPORTANT

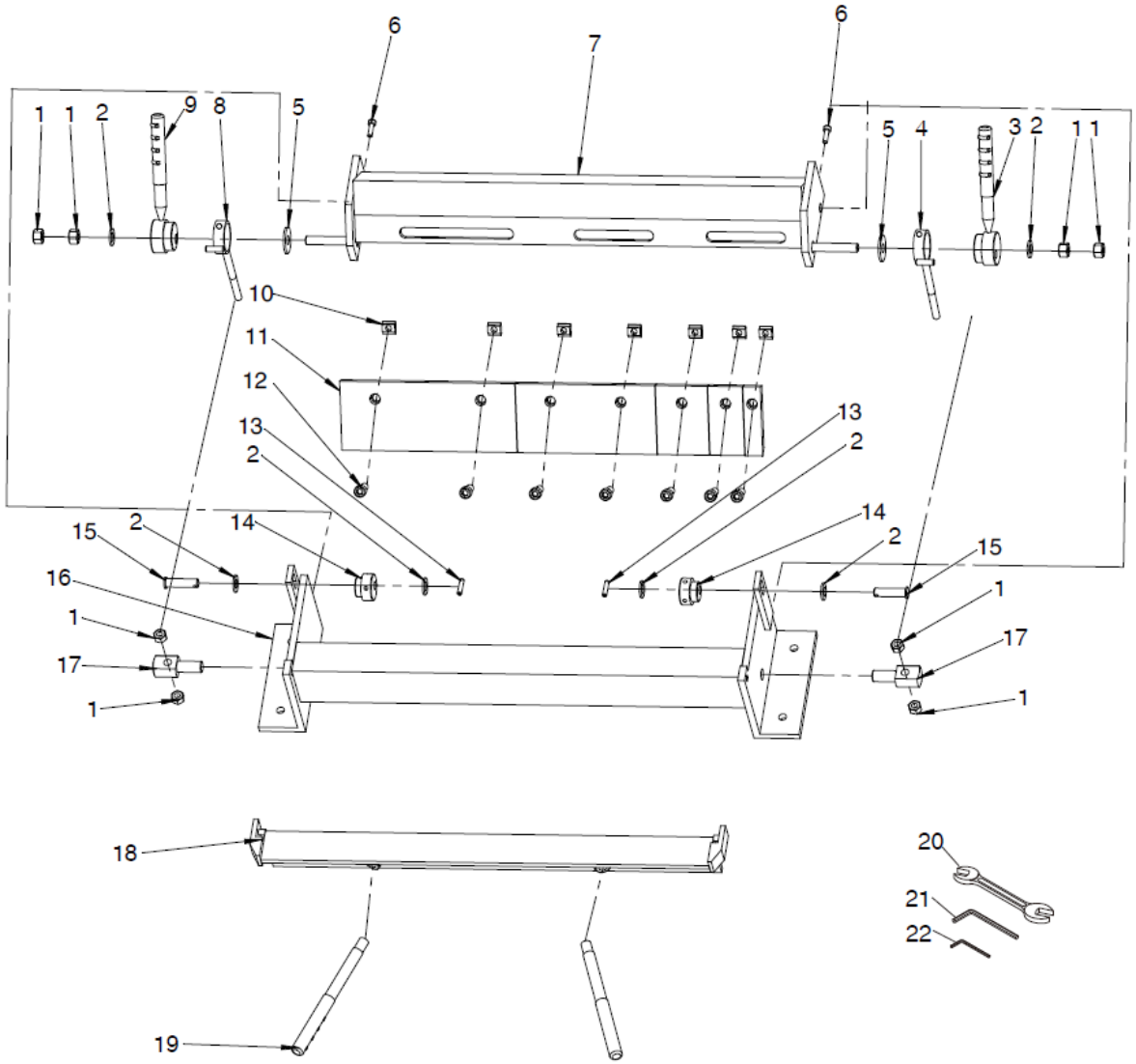
The installation of other than original spare parts voids the warranty!

So you always have to use original spare parts

When you place a spare parts order please use the service formular you can find in the last chapter of this manual. Always take a note of the machine type, spare parts number and partname. We recommend to copy the spare parts diagram and mark the spare part you need.

You find the order address in the preface of this operation manual.

16.2 Explosionszeichnung / Exploded View



PART#	DESCRIPTION
1	HEX NUT M12
2	FLAT WASHER 12MM
3	CLAMPING HANDLE (RIGHT)
4	CLAMPING PRESSURE ADJUSTMENT ROD (RIGHT)
5	FLAT WASHER BIG 12MM
6	CAP SCREW M6
7	CLAMPING LEAF
8	CLAMPING PRESSURE ADJUSTMENT ROD (LEFT)
9	CLAMPING HANDLE (LEFT)
10	TOE CLAMP M10
11	CLAMPING FINGER

PART#	DESCRIPTION
12	CAP SCREW M10
13	ROLL PIN
14	SETBACK WHEEL
15	PIVOT SHAFT
16	STAND
17	SWIVEL ROD BLOCK
18	BENDING LEAF
19	BENDING HANDLE
20	WRENCH 17 X 19MM
21	HEX WRENCH 8MM
22	HEX WRENCH 8MM

17 EU-KONFORMITÄTSERKLÄRUNG / CE-CERTIFICATE OF CONFORMITY

CE

Inverkehrbringer / Distributor / Dystrybutor

HOLZMANN MASCHINEN® GmbH
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Tel.: +43/7289/71562-0; Fax.: +43/7289/71562-4
www.holzmann-maschinen.at

Bezeichnung / Name
Abkantmaschine / bevelling machine
Typ / Model
AKM610ECO
EG-Richtlinien / EC-directives
▪2006/42/EG
Angewandte Normen / applicable Standards
▪ EN ISO 12100:2010;

(DE) Hiermit erklären wir, dass die oben genannten Maschinen aufgrund ihrer Bauart in der von uns in Verkehr gebrachten Version den grundlegenden Sicherheits- und Gesundheitsanforderungen der angeführten EU-Richtlinien entsprechen. Diese Erklärung verliert ihre Gültigkeit, wenn Veränderungen an der Maschine vorgenommen werden, die nicht mit uns abgestimmt wurden.

(EN) Hereby we declare that the above mentioned machines meet the essential safety and health requirements of the above stated EC directives. Any manipulation or change of the machine not being explicitly authorized by us in advance renders this document null and void.

Technische Dokumentation

HOLZMANN-MASCHINEN GmbH
4170 Haslach, Marktplatz 4

Haslach, 22.01.2020
Ort / Datum place/date

HOLZMANN MASCHINEN GmbH
Marktplatz 4, 4170 Haslach
weiterer Standort:
Gewerbepark 8, 4707 Schlüsslberg
www.holzmann-maschinen.at

DI (FH) Daniel Schörgenhuber
Geschäftsführer / Director