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BEDIENUNGSANLEITUNG
MODE D`EMPLOI
USER MANUAL
MANUAL DE INSTRUCCIONES

HOLZMANN FS 160L

Revision 2 / 21.06.2011 / DE/EN/FR/ES

ENGLISH

Dear Customer!

This manual contains Information and important instructions for the installation and correct use of the milling machine FS 160L.

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

Please read and obey the security instructions!

Before first use read this manual carefully. It eases the correct use of the machine and prevents misunderstanding and damages of machine and the user's health.

Due to constant advancements in product design and construction pictures and content may di-verse slightly. However, if you discover any errors, inform us please with the product feedback form.
Technical specifications are subject to changes!

DEUTSCH

Sehr geehrter Kunde!

Diese Bedienungsanleitung enthält Informationen und wichtige Hinweise zur Inbetriebnahme und Handhabung der Tischfräsmaschine FS 160L.

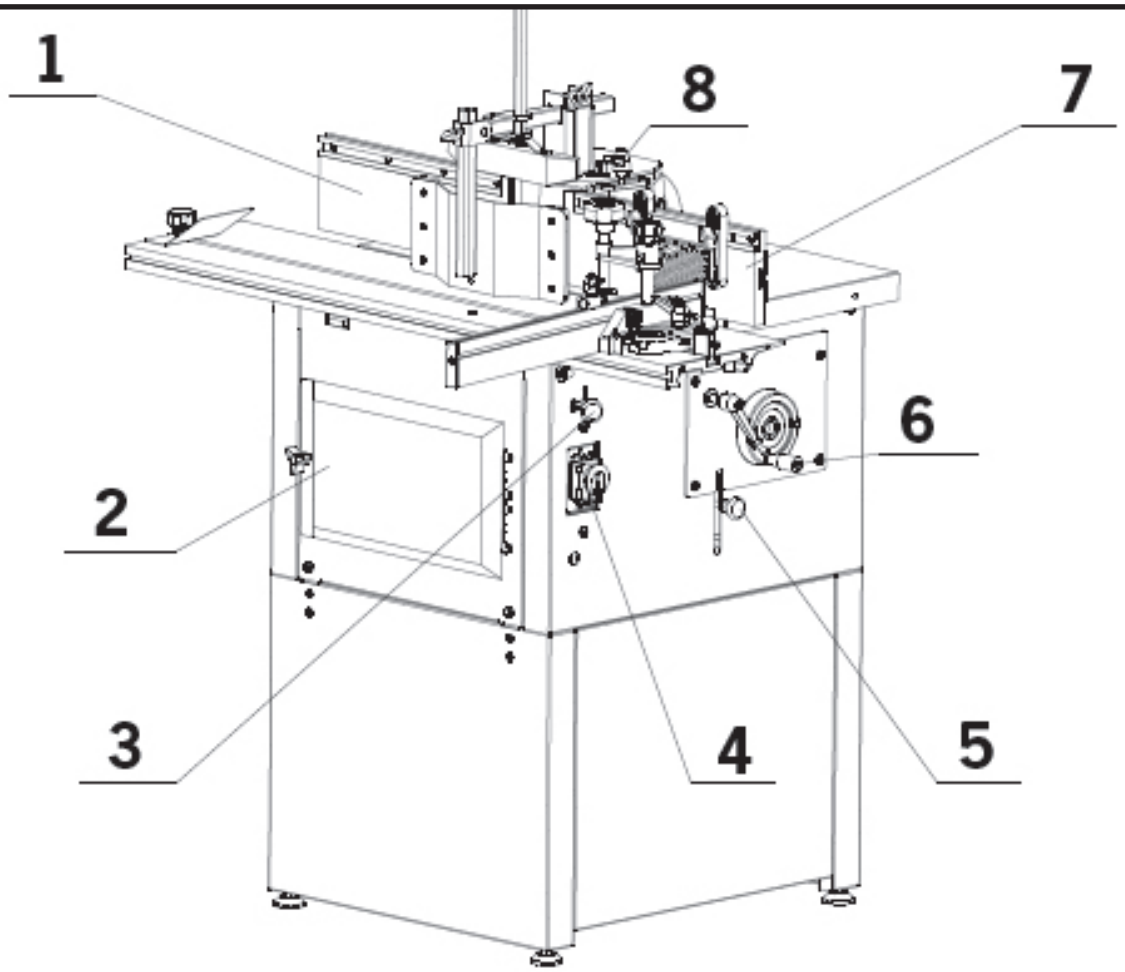
Die Bedienungsanleitung ist Bestandteil der Maschine und darf nicht entfernt werden. Bewahren Sie sie für spätere Zwecke auf und legen Sie diese Anleitung der Maschine bei, wenn sie an Dritte weitergegeben wird!

Bitte beachten Sie die Sicherheitshinweise!

Lesen Sie vor Inbetriebnahme diese Anleitung aufmerksam durch. Der sachgemäße Umgang wird Ihnen dadurch erleichtert, Missverständnissen und etwaigen Schäden wird vorgebeugt. Halten Sie sich an die Warn- und Sicherheitshinweise. Missachtung dieser kann zu ernsten Verletzungen führen.

Durch die ständige Weiterentwicklung unserer Produkte können Abbildungen und Inhalte geringfügig abweichen. Sollten Sie jedoch Fehler feststellen, informieren Sie uns bitte über E-Mail oder Fax mit Produktinformationsformular am Ende dieser Anleitung.
Technische Änderungen und Irrtümer vorbehalten!

A



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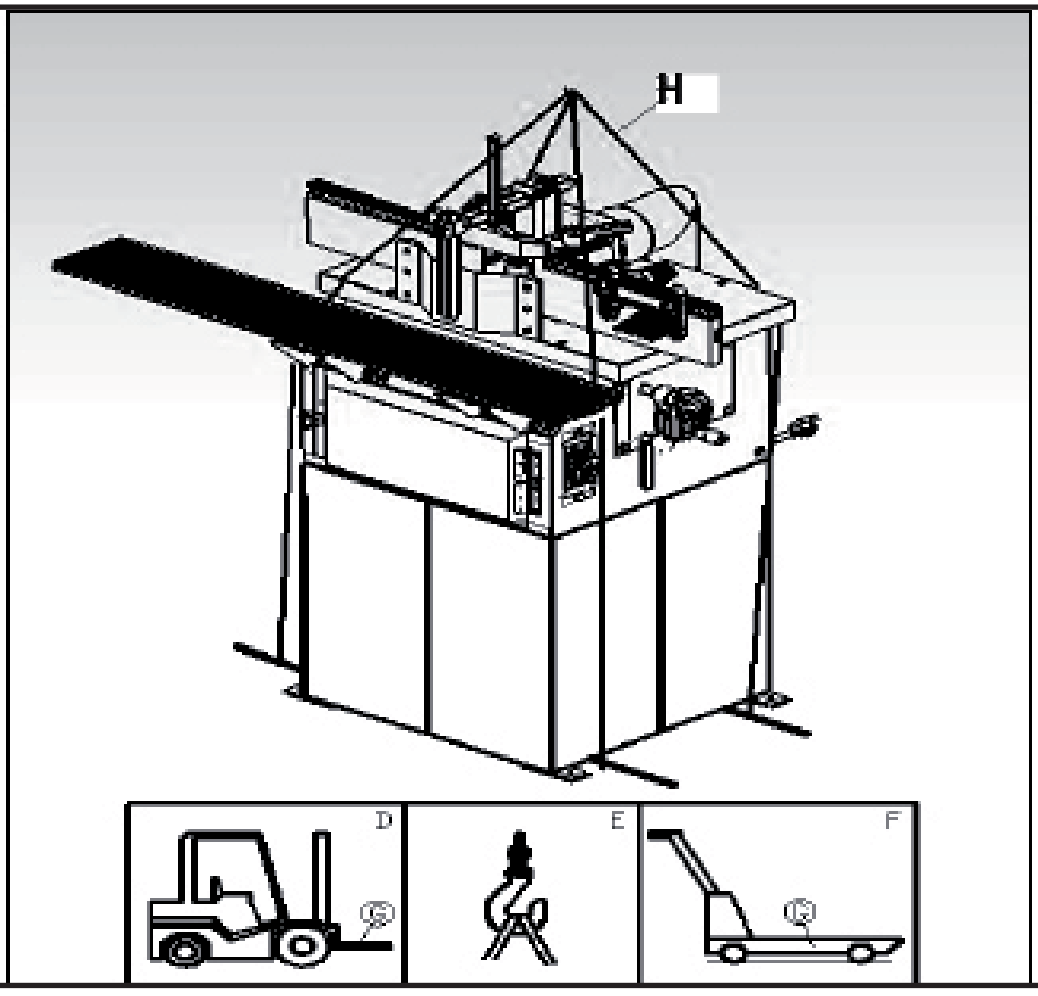

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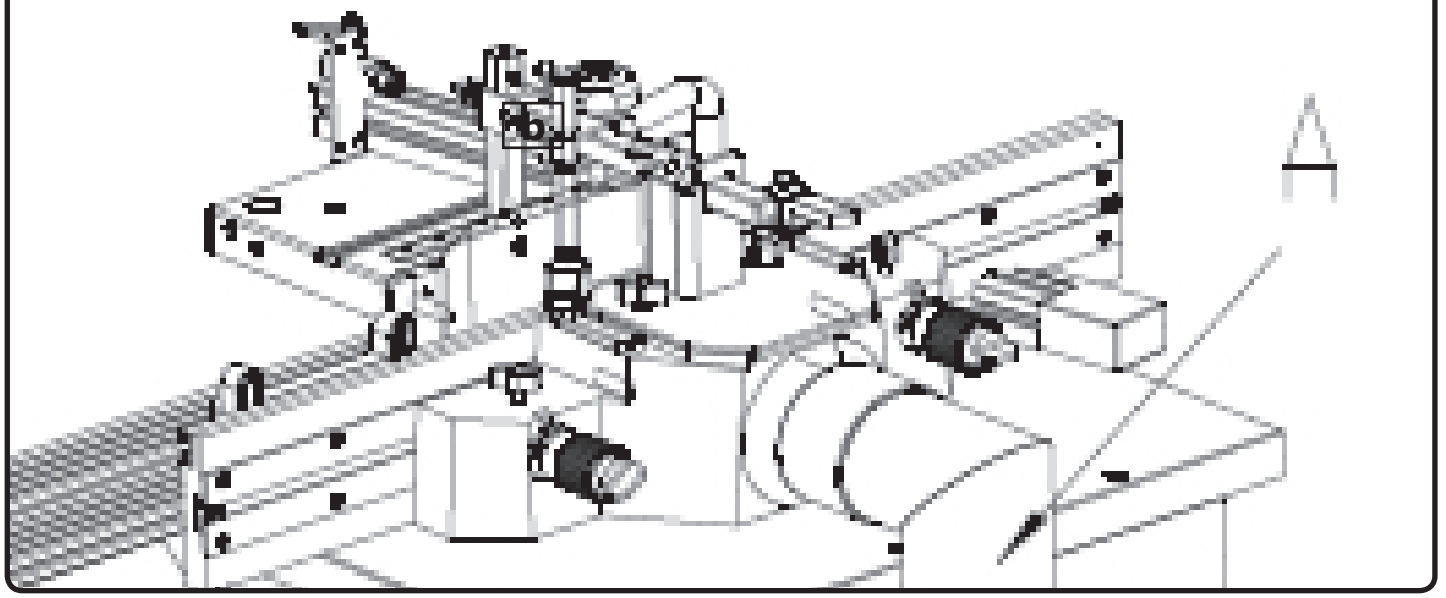

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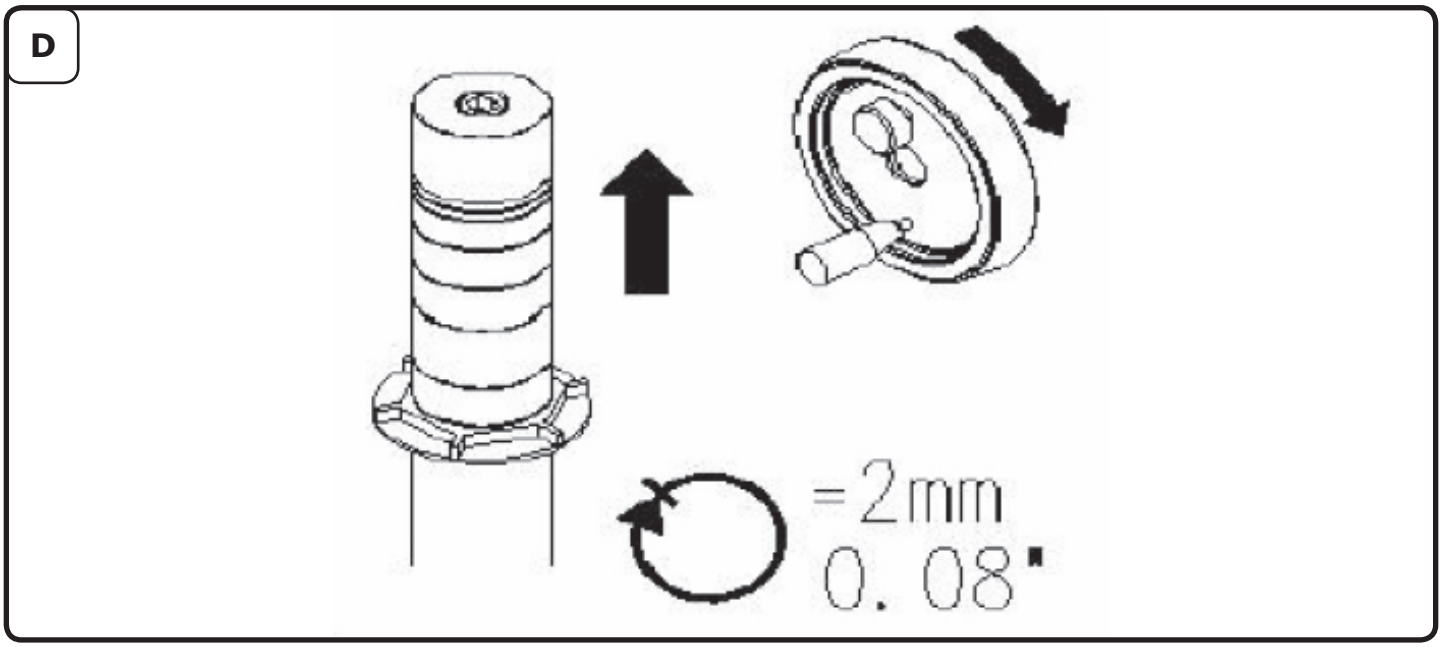

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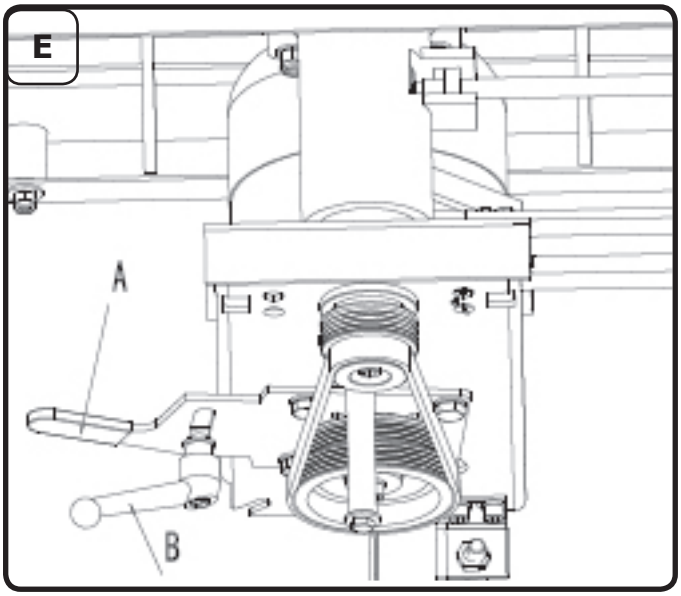

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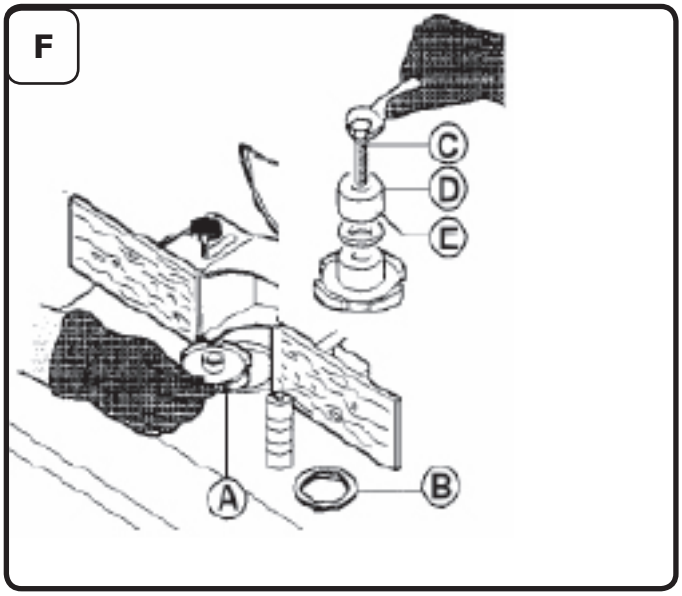
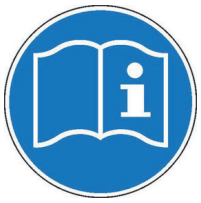


1. SAFETY RULES

READ THE MANUAL

Read and understand the owner's manual and labels affixed to the machine. Learn its application and limitations as well as the specific potential hazards peculiar to it



AVOID DANGEROUS CONDITIONS

Keep working area and the ground clean and free of oil and other materials!
Assure that the working area is sufficiently lighted!
Don't use the machine outside!
The use of the machine is forbidden if you are tired, not concentrated as well if you are under the influence of medicaments, alcohol and other drugs. Reduce distraction sources in the working area. BEWARE: Routine leads to insufficient attention.

OPERATOR

The machine shall be used only by trained persons wiht an age of at least 18 years.
Non authorized personnel, especially children, shall be kept away from the machine! Make your workshop childproof.

CLOTHING

When working with the machine, don't wear loose clothing, long hair openly or loose jewellery like necklaces etc. Loose objects might be catched by rotating parts and cause serious injuries.

SAFETY EQUIPMENT

Use proper safety clothing and devices when operating the machine (safety glasses, ear protectors)!

WOOD DUST HAZARD

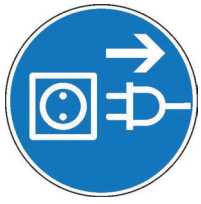
Never use the machine without an adequate connection to a dust collecting system. When working with treated materials, wear additionally a breathing mask.
Wood dust might contain toxic chemical ingredients and harm your respiratory system.

ELECTRIC CONNECTION

Assure yourself that your feeding current complies with the requirements of the motor - check the typeplate.
Electric checks and the electric installation of the machine may only be performed by a qualified electrician.
DO NOT touch leading machine parts.

DISCONNECT FROM POWER SUPPLY

Prior to any Cleaning, Check, maintenance or tool change shut the machine of and disconnect it from the power supply in order to prevent unintended start up of the machine.



NEVER FORCE YOUR MACHINE

It will do a better job if used at its designed output rate.

Forcing your machine shortens it`s lifespan, may cause machine defects and poses a security risk.

DO NOT OVERREACH

Keep proper footing and balance at all times.

SECURE SMALL WORKPIECES

When processing small workpieces, fix them with a suitable device like a vice, downholder, to avoid accidents.
Do not fix or feed small workpieces by hand.
Keep your hands away from dangerous area, allways guide the workpiece or tool securely.

MAINTAIN TOOLS WITH CARE

Assure yourself to keep your working tools always sharp and in best working condition.
Defect or blunt tools pose a security risk.

MAINTAIN SAFETY GUARDS, COMPONENTS AND SIGNS

Assure yourself, that all safety guards and safety devices of your machine are working in best condition. Damaged Safety guards have to be repaired before using the machine again.
Check the function of the machines Safety components like Emergency OFF Buttons and Disconnectors in regular intervals.
Defect Safety components have to be replaced immediately.
Check the condition of the Safety signs and operation rule plates on your machine. Replace missing or non-readable ones.

NEVER LEAVE MACHINE RUNNING UNATTENDED

Before leaving the machine, shut it off and wait until the motor and all rotating parts stop.

REMOVE UNUSED TOOLS, KEYS, WRENCHES

Form a habit to check that there are no tools, keys, wrenches ... on the machine/tool before you start the machine.

Remove all accessories and tools from the machine before you switch it on.

SPECIFIC SPINDLE SHAPER SAFETY RULES

When installing a new cutter, keep the unused segment of the cutter below the table.

Adjust the guides as near as possible to the cutter

After installing a new cutter, always rotate the spindle - with the machine being unplugged - by hand in order to **check that the cutter runs freely** and does not touch any machine part.

Always ensure that the cutter, the fence, the spindle height and tilt and all other adjustable components are fixed and tightened properly before operation.

Do not forget to unblock the spindle after installing a new cutter.
Use only cutters that are certified and comply with the

machines technical requirements like max. diameter, spindle diameter and especially check whether the cutter is designed for the spindle rotation speed of the milling machine.

Always feed the work towards the cutter in the direction opposite of the cutter rotation.
Your hands must not come nearer than 12 inches (~ 30cm) to the cutters. Never reach directly across or over the cutters. Never reach behind the cutter to grap the workpiece.

Beware of material kickbacks! The danger of kickbacks is increased when: the workpiece has knots, holes or foreign objects in it. Warped or uneven workpieces should be planed before shaping or profiling them with the spindle shaper.
Never force a workpiece through the shaper when feeling resistance - high danger of kickback! Let the cutters do the work and reduce the feeding speed.
Keep your cutters evenly sharp. Blunt or uneven cutters increase kickback probability dramatically.

Never attempt to remove too much material in one pass. You will enjoy better working results and a higher safety level if you split the work into multiple passes.

INTENDED USE

This machine is intended to be used for straight profiling and shaping of wood with different cutters. The machine is not designed for shaping along curves.

The workplace must have:

Sufficient lighting conditions to prevent shadows or eye strain.
Access to a suitable dust collecting system!
A clean, level underground that is vibration resistant!
Enough place around the machine for safe handling and feeding of the material.
A proper, compatible electric supply circuit.

Humidity: max. 90% for max. 25°C
max. 70% for max. 40°C

Do not use the machine outdoors.
Do not use the machine in workplaces with explosion and fire hazard.

RESIDUAL RISKS

The work with a spindle moulder always contains a certain risk that can never be eliminated entirely. This is a non complete shortlist indicating some of the most dangerous remaining residual risks:

Risk of personal injury due to workpiece kickback.
Risk of injury through rotating cutterheads.
Risk of electrocution when touching leading machine components.

You can minimize these residual risks by following all security, maintenance and operation rules.

MACHINE MISUSE

Any use that does not comply with the security rules, workplace requirements, maintenance guidelines or operation rules described in this manual.

HOLZMANN Maschinen cannot be made liable for any damages to machine and person being a direct or indirect consequence of inproper use of the machine.

2. MACHINE SPECIFICATION

The FS 160L is a High Quality spindle moulder for the sophisticated private user.

MACHINE OVERVIEW

1. Outfeed fence
2. motor compartment door
3. sliding table lock
4. ON/OFF/Emergency OFF Button
5. Spindle rotation lock
6. spindle height adjustment wheel
7. infeed fence
8. fence securing bolt

TECHNICAL DATA

Motor power S1/S6	1.5kW / 2.1kW
supply voltage	230V or 400V
Spindle diameter	30mm
Spindle travel	110
Spindle speeds	1400/4000/ 6000/9000 rpm
table opening	170mm
max. tool Ø	
below table	144mm
above table	160mm
max. tool height	105mm
dust port Ø	100mm
Table size	600x400mm

3. ASSEMBLY

DELIVERY CONTENT

The machine is shipped partly disassembled. When you unpack the machine check it for: Transport damages

Please report transport damages immediately to the forwarding company that delivered the machine to you, filing a freight claim.
Hidden Transport damages shall be reported immediately after discovering it, but latest 48h after machine delivery.

When unpacking check the delivery content:

spindle ring	18pcs
table ring	2pcs
fence assembly	1pcs
change spindle with 12mm router collet	1pcs
sliding table	1pcs
main machine body	1pcs

TRANSPORT & UNPACKING

While transporting or handling the machine, be most careful and let this activity be
done by qualified personnel especially trained for this kind of activity.
While the machine is being loaded or unloaded, make sure that no person or subject gets crushed by the machine !
Do not enter the area under the machine lifted by a crane or a high-lift trolley!

See Fig. B:

The machine or its individual parts may only be lifted by means of an approved lifting device with verified lifting capacity.
Prepare a high-lift truck (D) or a manual lifting carriage (F) with sufficient lifting capacity,
- put the forks (G) below the machine, as shown in the picture.
Should you use a crane (E) or a similar hoisting equipment, proceed as follows:
- prepare four lifting belts (H) or steel ropes at least 2 m long with sufficient lifting capacity,
- fix the ropes to the hook of the crane with the required capacity,
- place the other end of the ropes on the lifting rods put under the machine (rods are not part of delivery),
- after lifting the machine slightly, check the stability of the machine hanging on the ropes.
- lift the machine carefully and slowly and then move it without any rapid changes of the movement to the selected place.

CONNECTION OF THE EXHAUSTING SYSTEM

See Fig. C:
Work on the machine only with the exhaustion system connected and running!
For the proper functioning of the machine, exhaustion equipment with minimum exhaustion capacity of 570 m3/hour and minimum speed of air in the pipes equal to 20m/sec for dry particles and 790 m3/hour and minimum speed of air in the pipes equal to 28m/sec for wet particles is necessary.
Switch on the machine drive and exhaustion system at the same time!
Use flexible exhausting hoses with diameters equal to 100 mm The exhausting hose is connected to exhausting outlet whose location on machine is as follows:
For the moulding machine the exhausting hose is fitted onto the outlet from the moulding tool cover which also forms the exhausting connector (A). The hose diameter is 100 mm.

CONNECTION TO POWER SUPPLY

Damaged power supply cables must be replaced by the competent specialist immediately. Operation with damaged cables is dangerous to life and is therefore forbidden!
Before putting the machine into operation make sure that the voltage and frequency specified on the machine type plate comply with the values of the mains to which it is connected.
Overvoltage protection shall be provided by the end user.
Before adjustment and replacement of tools and before any adjustment work, alterations and maintenance work, always turn off the switch and disconnect the plug from supply socket.
This machine must be grounded. Inspect and be sure that the power socket of your workplace is reliably grounded.
If you do not have the specific knowledge and experience, let the electric connection be checked by a certified electrician!

4. OPERATION

! IMPORTANT

Shut the machine off with the red button of the main switch and wait until the spindle rotation has stopped entirely before performing any adjustments or setups.
For some setups you need to unplug the machine additionally to avoid the danger of unintentional machine start up.

SPINDLE HEIGHT ADJUSTMENT

See Fig. D:

Set the height of the moulding spindle by means of the hand wheel located on the rear right side of the stand and secure it with the arresting screw.
One full turn is 2mm.

SPINDLE SPEED CHANGE

See. Fig. E:

To change the spindle speed, loosen the lock handle (A) and pivot the motor assembly towards the spindle. Reposition the belt to the desired speed and tension the knob(B) back again.

INSTALL CUTTER TOOLS

See Fig. F:

Only use moulding cutter tools that are designed for manual feeding and may be clamped firmly and safely. Only tools conforming to EN847-1:2005 and marked shall be used.
Before mounting tool (A) make sure that spacing rings (E) are clean and not damaged. Make sure that the fastening method is proper. The moulding tool is fixed and clamped by bolt (nut) (C), through spindle ring (D) and spacing rings (E) on the moulding spindle!
Adjust the hole in the table according to the diameter of moulding tool (A) by table rings (B).
When installing the moulding tools, the cover of guard needs to be opened. Loose the two locking knobs to open the cover. After installation, close the cover and lock it through the locking knobs.

Warning: Always close the cover of guard and lock it securely after tools are installed.
Always install the cutter tools as low as possible!
Make it a habit to check immediately after cutter tool installation the free run of the cutter tool. Turn it by hand, it shall not touch the fence or hooding at any time.

FENCE ADJUSTMENT

The fence is a two-piece adjusting system. Each fence is independently adjustable to compensate for different cutting thicknesses and special milling applications.

If you remove the entire edge of a workpiece you should not position the two fences in line, but position the outgoing fence by that mm more in front the cutter tools cut away from the workpiece.

INSTALL ROUTER COLLET SPINDLE

Remove original spindle by fixing spindle and loosening the spindle nut. Install the router collet spindle. Loosen spindle again!

OPERATION ADVICES

>> Before starting the machine up, check distance between tool and table as well as fence. Check all tightening levers and knobs being tightened properly.
>> Turn the machine on by pressing the green button 4 (See Fig. A).
>> Beware of material kickback! To prevent the material to kick upwards, you should adjust the guide rail to workpiece height + max. 5mm.

5. MAINTENANCE

! WARNING

Always switch off the motor and disconnect the plug from the power supply prior to any maintenance, upkeep, checks or cleaning.

>> Visual check of machine, machine parts, power cable, cutting tools for any damage.

Clean the machine regularly after every operation! Clean especially the table, the fence faces and the mitre gauge.
Do not clean wood chips etc. by hand but rather use a suitable brush tool and/or pressure air.

Check regularily:

Bolts and connection loose
On/OFF Switch functioning?
Safety components in proper condition?
Tools sharp?

Lubrication:

Protect the table against rust with regular applications of light oil.

Add some grease onto the ways of the sliding table.

Check every month the condition of the V-belt. Check for cracks and glazing.
Avoid the V-belt and pulleys to become dirty or greasy - this could cause belt slips during operation.
You should replace at least once a year the V-belt.

6. TROUBLESHOOTING

! IMPORTANT

Before performing any checks:

Disconnect the machine from the power supply to avoid the danger of unintentional machine start up.

No faults should occur while the machine is used correctly and maintained duly. If the exhausting hose is blocked with chips, the machine should be switched off before handling. If a workpiece becomes jammed, turn off the machine immediately!
A blunt knife often causes that the electric motor becomes heated excessively. If the machine vibrates excessively, check its setting and anchoring, possibly also clamping and balancing of the tools used.

Problem:
Machine does not start

Possible Cause and Solution:
1.Fuse blown or circuit breaker triggered. Replace fuse and/or reset circuit breaker.
2. power cord damaged - Replace it.
3. Microswitch activated - Check if belt change access door is closed properly!

Problem:
Overload kicks out frequently
1. Extension cord, power supply cord not dimensioned adequately! - Replace!
2. Too high material feed rate - Reduce feed rate, adjust to machine output performance.
3. Cutter head is dull - Replace cutterhead knives, use only sharp cutters!

4. For 400V Motors: Phases might be switched or motor does not receive full power through one phase. - Let a certified electrician check your power plug, power socket and cable.

Problem: Cutter does not come up to full speed
1. Inadequate/Volatile power source - Contact your electric power provider
2. Extension cord too long /to small mm² - Let this be checked and solved by a certified electrician.

Problem: Cuts are unsatisfactory
1. Dull cutters - Replace cutters
2. Debris, gum, pitch on cutter edge -Clean remove.
3. wrong combination of Cutter, Feed rate and spindle speed

Problem: Machine vibrates
1. Cutterhead damages - Replace
2. machine stands on uneven surface Stand must be solidly on level, hard, vibration-free surface. Bolt to floor for additional vibrations reduction.
3. defective V-belt - Replace
4. V-belt tensioned incorrectly - tension correctly (not to hard and not loose)
5. Bent/damaged pulley - May occur if belt tensioned too hard - Replace pulley

Problem: Spindle does not raise freely Sawdust or dirt in raising mechanism- Clean the raising mechanism.

Problem: Edge splits on cross grain cuts
1. Cutting technique - Make cross grain cut first, then finish off with grain direction cut + support end of cut with scrap woodblock.

Problem: Raised areas on shaped edge
1. Variable pressure applied by operator on workpiece during cut - Feed constantly, adjust fences and guide rail properly.

Problem: cutting depth not uniform
1. Fence misalignment-alignoutfeed fence
2. Side pressure onto workpiece not uniform - Guide workpiece with constant pressure against fence

Problem: work burns
1. Too deep cutting per one pass - Especially for hardwood take light cuts and attain full depth with several passes. Do not force the work, feed moderately slow and steadily.

7. GUARANTEE & SERVICE

Please consult our troubleshooting section for initial problem solving. Feel free to contact your HOLZMANN reseller or us for Customer Support!

Warranty claims based on your sales contract with your HOLZMANN retailer, including your statutory rights, shall not be affected by this guarantee declaration.

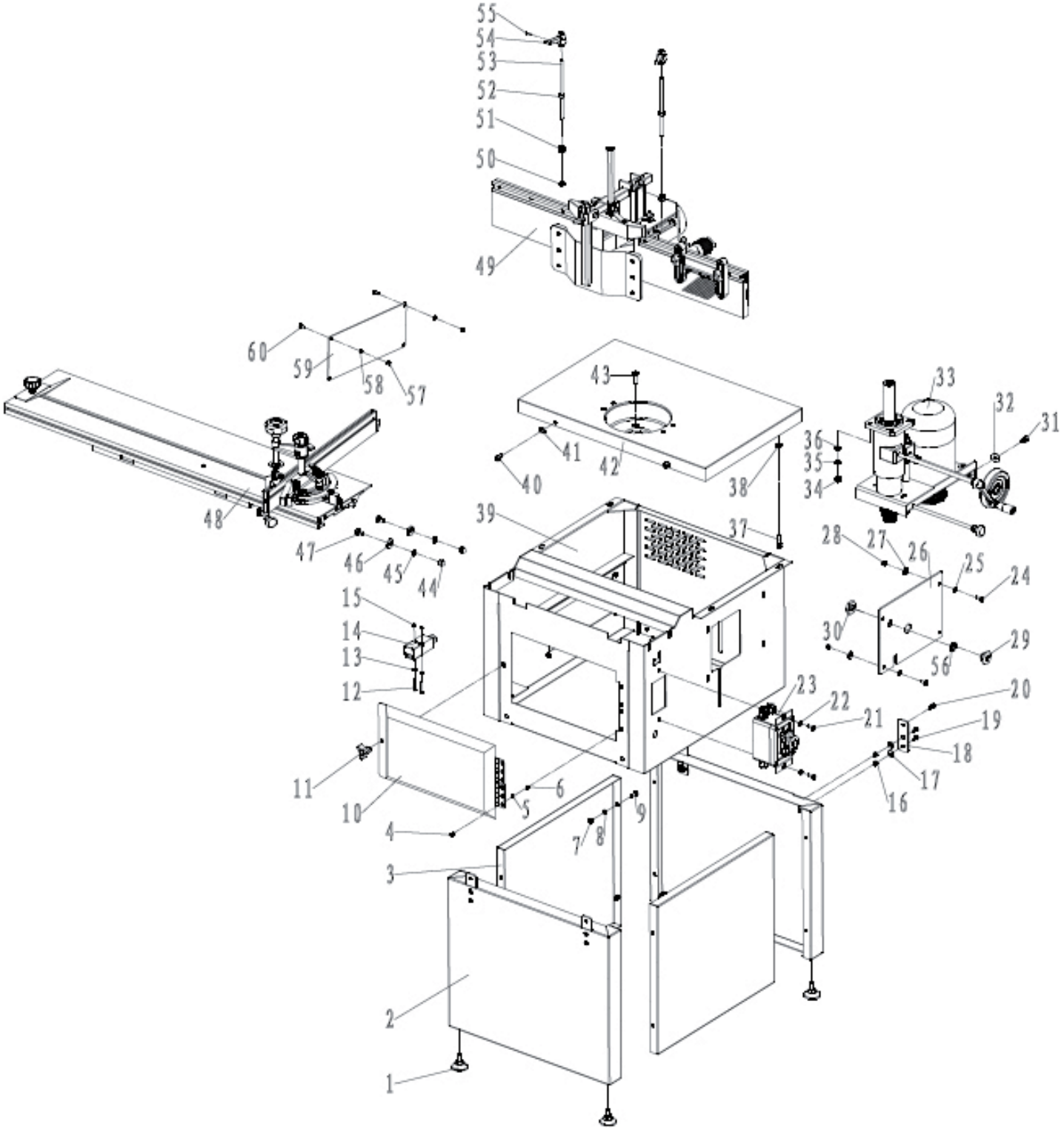
GUARANTEE TERMS (APPLICABLE FROM March 09th ,2011)

HOLZMANN-MASCHINEN grants guarantee according to following conditions:
A) The guarantee covers the correction of deficiencies to the tool/machine, at no charge, if it can be verified adequately that the deficiencies were caused by a material or manufacturing fault.
B) The guarantee period lasts 12 months, and is reduced to 6 months for tools in commercial use. The guarantee period begins from the time the new tool is purchased from the first end user. The starting date is the date on the original delivery receipt, or the sales receipt in the case of pickup by the customer.
C) Please lodge your guarantee claims to your HOLZMANN reseller you acquired the claimed tool from with following information:
>> Original Sales receipt and/or delivery receipt
>> Service form (see back section of manual) filed, with a sufficient deficiency report
>> for spare part claims: a copy of the respective exploded drawing with the required spare parts being marked clear and unmistakable.
D) The Guarantee handling procedure and place of fulfilment is determined according to HOLZMANNs sole discretion in accordance with the HOLZMANN retail partner. If there is no additional Service contract made including on-site service, the place of fulfilment is principally the HOLZMANN Service Center in Haslach, Austria.
Transport charges for sendings to and from our Service Center are not covered in this guarantee.
E) The Guarantee does not cover:
- Wear and tear parts like belts, provided tools etc., except to intial damage which has to be claimed immediately after receipt and inital check of the machine.
- Defects in the tool caused by non-compliance with the operating instructions, improper assembly, insufficient power supply, improper use, abnormal environmental conditions, inappropriate operating conditions, overload or insufficient servicing or maintenance.
- Damages being the causal effect of performed manipulations, changes, additions made to the machine.
- Defects caused by using accessories, components or spare parts other than original HOLZMANN spare parts.
-Slight deviations from the specified quality or slight appearance changes that do not affect functionality or value of the tool.
- Defects resulting from a commercial use of tools that - based on their construction and power output - are not designed and built to be used within the frame of industrial/commercial continuous load.
F) Claims other than the right to correction of faults in the tool named in these guarantee conditions are not covered by our guarantee.
G) This guarantee is voluntary. Therefore Services provided under guarantee do not lengthen or renew the guarantee period for the tool or the replaced part.

SERVICE AVAILABILITY & SPARE PARTS

After Guarantee and warranty expiration specialist repair shops can perform maintenance and repair jobs.
But we are still at your service as well with spare parts and/or machine service. Place your spare part / repair service cost inquiry by filing the SERVICE form to be found in the back section of this manual and send it:

via Mail to service@holzmann-maschinen.at
via Fax to +43 7248 61 116 6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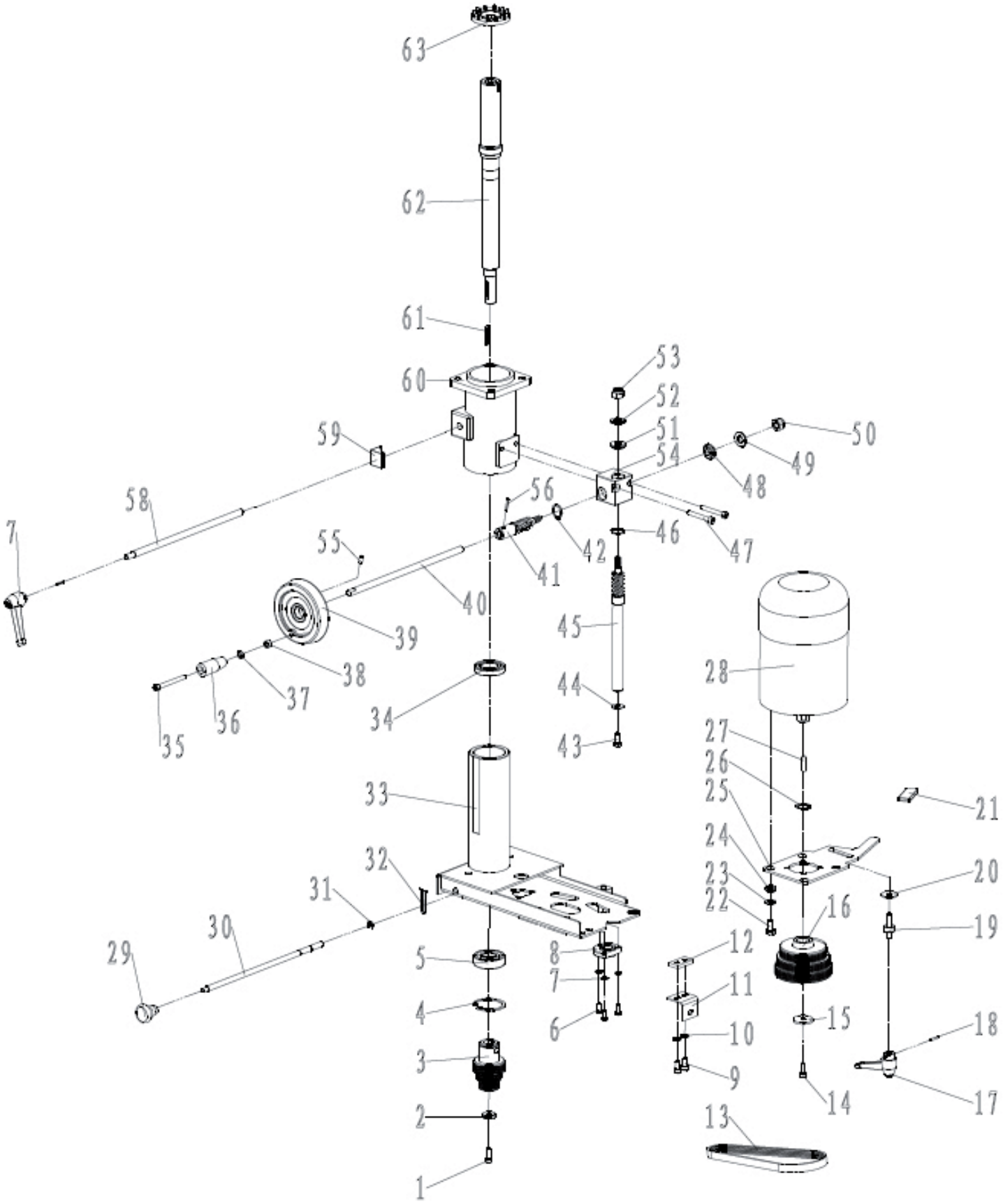
No.	Code	Description	Beschreibung	Qty	No.	Code	Description	Beschreibung	Qty
1	TS2000 814	Underprop	Nivellierfuß	4	2	TS2000 801	lower leg	Maschinenabdeck	2
3	MX1607	Cover board	Maschinenwand	2	4		screw M4x10	Schraube M4x10	4
5		Washer4	Beilagscheibe4	4	6		Hex Nut M4	6-kanrmutter M4	
7		Hex Nut M6	6-kantM6	8	8		Washer 6	Beilagscheibe 6	8
9		hex bolt M6x16	6-kantbolzen M6x16	8	10	MX1613	protective cover	Wartungstüre	1
11	MX1612	Door knob	Türknauf	12	12		Screw M4x30	Schraube M4x30	2
13		Washer 4	Beilagscheibe4	2	14		Interlock switch	Ausschalter	1
15		Hex Nut M4	Sechskantmutter	2	16		Hex Nut M6	6-Kantmutter M6	8
17		Washer6	Beilagscheibe6	8	18	TS2000 806		Linking plate	4
19		Screw M6X16	Schraube M6x16	8	20		Hex bolt M6x12	6-kantschraube M6x12	4
21		Scew M6x16	Schraube M6x16	2	22		Washer 6	Beilagscheibe 6	2
23		Switch Assembly	Schalter/Stecker	1	24		Screw M6x15	Schraube M6x16	4
25		Washer6	Beilagscheibe 6	8	26	MX1604	faceplate	Verkleidung	1
27		large washer6	Beilagscheibe6	8	28		hex nut M6	6-Kantmutter M6	4
29	MX1608	Bush	Gewindehülse	1	30	MX1601	hex nut	6-Kantmutter	1
31		Screw M8x25	Schraube M8x25	32	32		large washer 8	Beilagscheibe 8	1
33	MX1610	moulder assembly	Fräseinheit		34		Hex Nut M8	Sechskantmutter M8	4
35		springwasher8	Federscheibe8	1	36		washer 8	Beilagscheibe 8	4
37		screw M8x25	Schraube M8x25	1	38		washer 8	Beilagscheibe 8	4
39	MX1606	Box Assembly	Maschinenrahmen	1	40		screw M8x12	Schraube M8x12	2
41		Washer8	Beilagscheibe8	2	42	MX1601	table	Tisch	
43		Screw M8x30	Schraube M8x30	4	44		hex nut M8	6-kantmutter M8	4
45		Dentiform washer8	Sicherungsscheibe8	4	46		large washer 8	Beilagscheibe 8	4
47		square neck bolt M8x16	Vierkantschraube M8x16	4	48	MX1605	sliding table ass.	Schiebetisch	1
49	MX1603	moulder fence ass.	Fräshaube komplett	1	50		Washer 8	Beilagscheibe 8	2
51		hex flange nut M8	Flanschmutter M8	2	52		Hex Nut M8	6-kantmutter M8	2
53	MX1611	Locking shaft	Festziehgew.stange	2	54	MX161016	locking handle	Fixiergriff	2
55		spring pin 3x16	Spannstift 3x16	2	56	M1605	bush	Hülse	1
57		Hex nut M5	6-Kantschraube M5	4	58		Washer 8	Beilagscheibe 8	4
59	MX160608	Window plate	Abdeckplatte	1	60		screw M5x12	Schraube M5x12	4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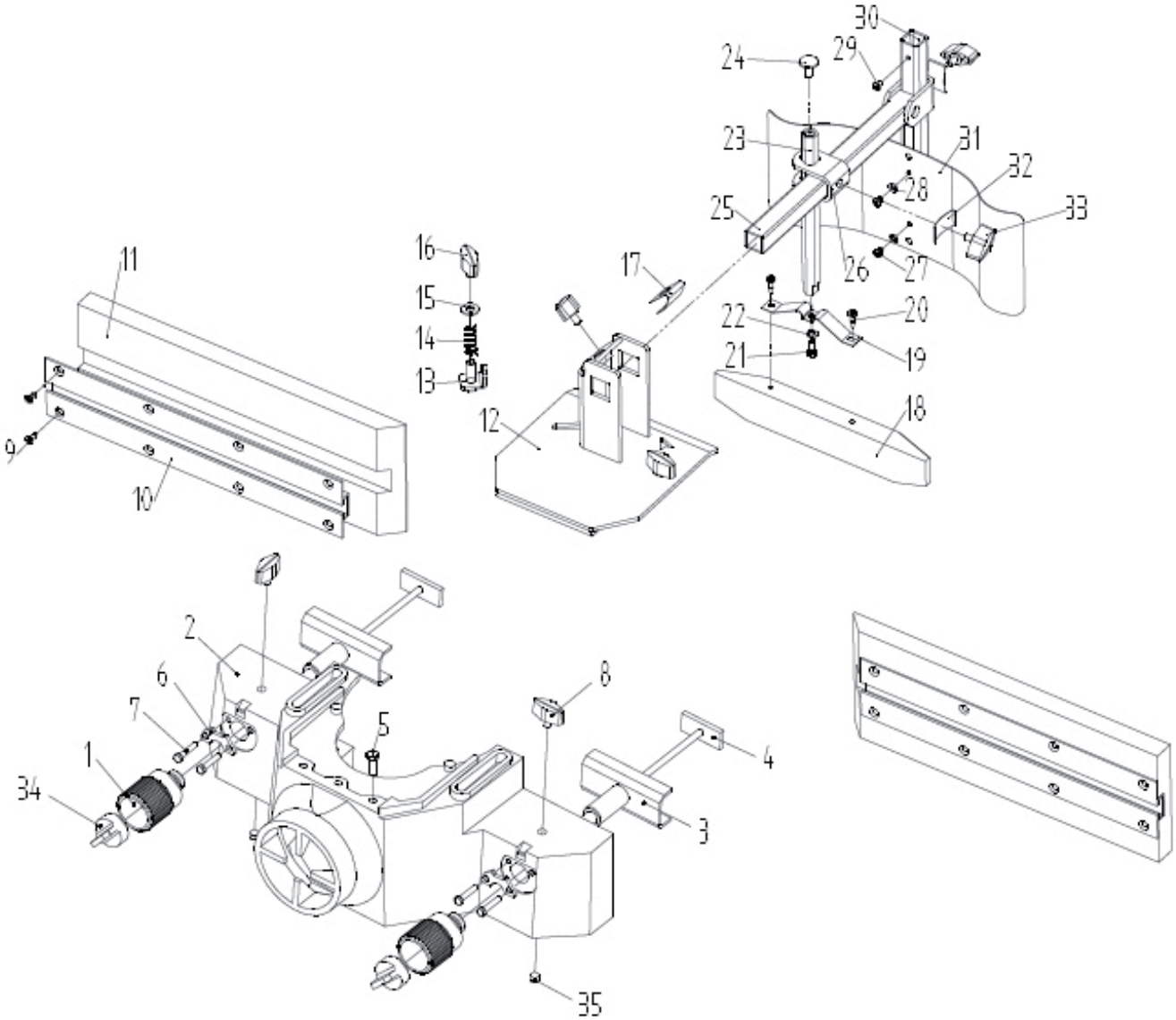
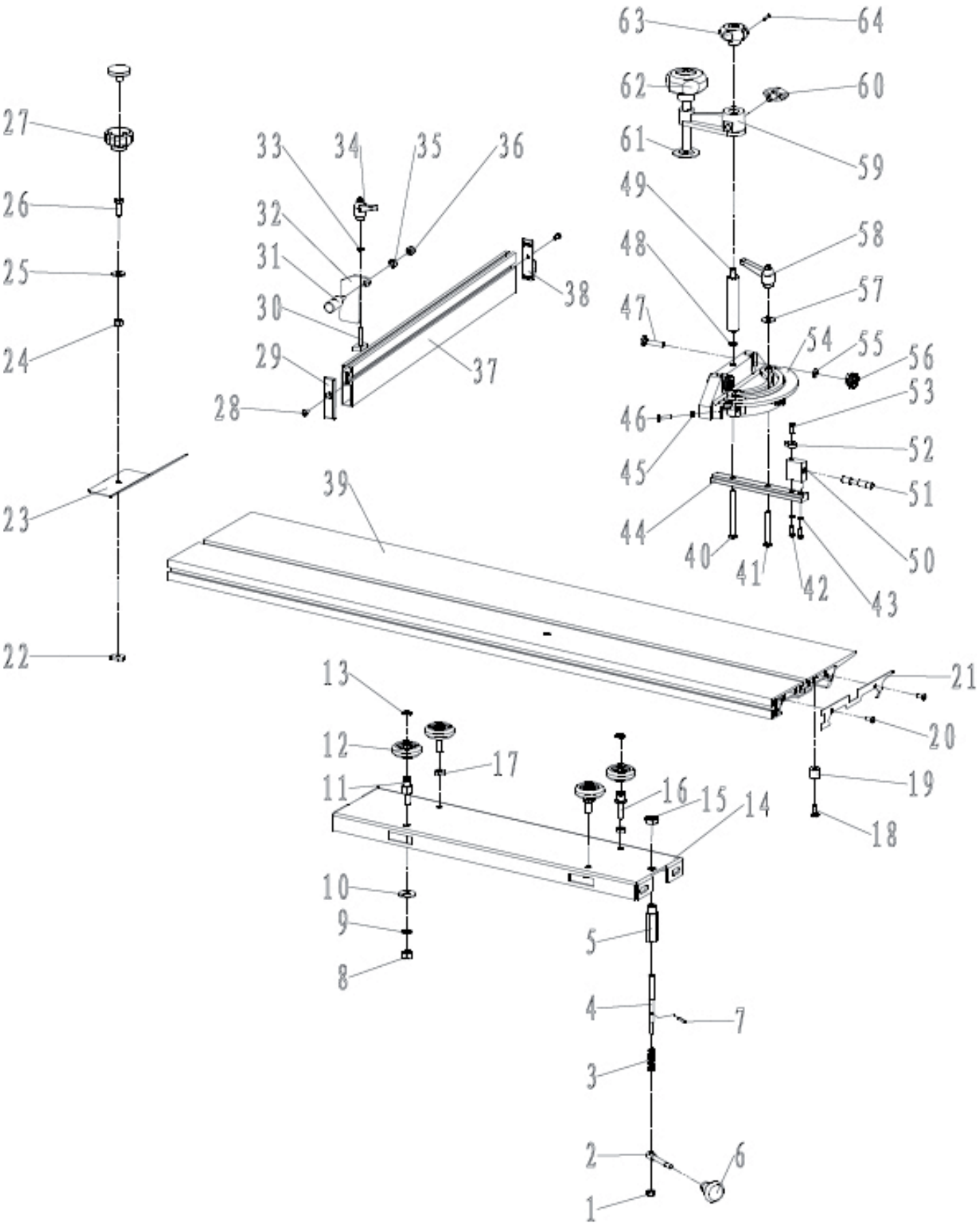
No.	Code	Description	Beschreibung	Qty	No.	Code	Description	Beschreibung	Qty
1		screw M6x16	Schraube M6x16	1	2	MX161007	circular washer	Rundscheibe	1
3	MX161007	driven pulley	Spindelriemenscheibe	1	4		C-Ring Ø47	C-Ring Ø47	1
5		Bearing 6204	Lager 6204	1	6		hex bolt M5x12	6-kantschraube M5x12	3
7		Washer 5	Beilagscheibe 5	3	8	MX161010	nut bush	Mutternhülse	1
9		Screw M6x14	Schraube M6x14	3	10		Washer 6	Beilagscheibe 6	2
11	MX161014	angle plate	Winkelblech	1	12	MX161015	plate	Platte	1
13		Flachriemen	Flachriemen		14		screw M6x16	Schraube M6x16	1
15	K4390617	Large Washer	Beilagscheibe	1	16	MX161008	motor pulley	Motorriemenscheibe	1
17	MX161016	Locking handle	Fixierhebel	1	18		spring pin 3x16	Spannbolzen 3x16	1
19	MX161021	Locking bolt	Klemmbolzen	1	20		large washer 8	Beilagscheibe 8	1
21	MX161027	handle coat	Griffüberzug	1	22		Hex Bolt M8x16	6-kantschraube M8x12	4
23		Washer 8	Beilagscheibe 8	4	24	MX11022	space bush	Abstandshülse	4
25	MX161020	rotation plate	Schwenplatte	1	26		C-Ring Ø19	C-Ring Ø19	1
27		Key 6x25	Motorstift 6x25	1	28	MX161006	motor	Motor	1
29	TS200 731	hand grip	Handknauf	1	30	MX161012	locking pole	Arretierstange	1
31		C-Ring 6	C-Ring 6	1	32	MX161004	spring clip	Federklemme	1
33	MX161003	Motor rack	Führungshülse	1	34		Bearing 6005	Lager 6005	1
35		Screw M6x60	Schraube M6x60	1	36		handle bush	Griff	
37		Washer 6	Beilagscheibe 6	1	38		hex nut M6	6-kantmutter M6	1
39	K41923	hand wheel	Handrad	1	40	MX161025	rotation pole	Stange	1
41	MX161026	gear shaft	Getriebewelle	1	42		C-Ring Ø18	C-Ring Ø18	1
43		hex bolt M6x16	6-kantschraube M6x16	1	44		large washer6	Beilagscheibe 6	1
45	MX161005	gear shaft	Getriebewelle	1	46		C-Ring Ø18	C-Ring Ø18	1
47		screw M6x45	Schraube M6x45	2	48	MX161023	gear bush	Gewindebuchse	1
49		bearing	Lager	1	50		hex locking	6-kant Sicherung	1
51	MX161023	gear bush	Gewindehülse	1	52		bearing	Lager	1
53		hex locking nut M10	6-kant Sicherungsmutter M10	1	54	MX161024	gear box	Getriebegehäuse	1
55		set screw M6x12	Wurmschraube M6x12	1	56		spring pin 3x20	Spannbolzen 3x20	1
57	MX161016	locking handle	Fixierhebel	1	58	MX151009	locking pole	Arretierstange	1
59	MX1018	locking block	Fixiereinheit	1	60	MX161002	oriented stand	Spindelgehäuse	1
61		Key 5x30	Stiftschlüssel 5x30	1	62	MX161001	spindle	Frässpindel	1
63	MX161002	fan cap	Abschlusskappe	1					



No.	Code	Description	Beschreibung	Qty	No.	Code	Description	Beschreibung	Qty
1	MX160324	Adjusting wheel	Einstellknauf	2	2	MX160316	exhaustion socket	Fräshaube	1
3	MX160321	guide rack	Führungswange	2	4	MX160320	T-shaped bolt	Anschlagspanner	1
5		screw M6x10	Schraube M6x10	4	6	MX160323	metal plate	Zwischenplättchen	2
7		hex bolt M5x12	6-kantschraube M5x12	4	8	MX160313	rhombic handgrip	Sterngriff	3
9		screw M4x12	schrauben M4x12	16	10	MX160309	T-shaped rail	T-Nuten Führung	2
11	MX160318	horiz. wood board	Fräsanschlag Holz	2	12	MX160315	turing rack	Haubenabdeckung	1
13	MX160318	lockingsheet metal	Spannfederhalter	2	14	MX160309	spring	Feder	1
15		Washer 8	Beilagscheibe 8	2	16	MX160317	Rhombic handgrip	Sterngriff	2
17	MX160301	Saucer	Klemmscheibe	2	18	MX160307	wood board	Niederhalter Holz	1
19	MX160312	M-shaped plate	M-Form Blechhalterung	1	20		screw M4x16	Schraube M4x16	2
21		hex bolt M5x12	6-kantschraube M5x12	1	22		Washer 5	Beilagscheibe 5	1
23	MX160310	hexangular leader	6-kant Führungsstange	1	24		bolt M8x10	Abdeckkappe M8x10	1
25	MX160310	square leader assy	Vierkantführung	1	26	MX160306	Capstan	T-Halterung	1
27		screw M4x6	Schraube M4x6	2	28		washer 4	Beilagscheibe 4	2
29		screw M4x6	Schraube M4x6	1	30	MX160302	standpipe	Vierkanthalterung	1
31	MX160304	spring prot. board	Rückschlagschutz	1	32	MX160311	locking patch	Klemmplatte	2
33	MX160301	rhombic handgrip	Sterngriff	1	34	MX160322	locking knob	Sterngriff	2
35		set screw M8x10	Stellschraube M8x10	2					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No.	Code	Description	Beschreibung	Qty	No.	Code	Description	Beschreibung	Qty
1		hex nut M6	6-kantmutter M6	1	2	TS2000741	pin pole	Steckerstift	1
3	TS2000735	spring	Feder	1	4	TS2000734	locking pole	Arretierbolzen	1
5	TS2000742	pole bush	Bolzenhülse	1	6	TS2000720	locking handle	Fixierknauf	1
7		spring pin 3x16	Spannstift 3x16	1	8		hex nut M8	6-kantmutter	1
9		dentiform washer 8	Sicherungsscheibe 8	2	10		large washer 8	Rundscheibe 8	2
11	TS2000728	eccentric pole	Exzenterstange	2	12	K4190117	trolley	Führungsrad	4
13		C-Ring Ø10	C-Ring Ø10	4	14	TS2000714	table support	Tischträger	1
15		hex thin nut M12	6-kantmutter M12	2	16	TS2000737	homocentric pole	Radachsenstange	2
17		hex thin nut M8	6-kantmutter M8	2	18		screw M6x16	Schraube M6x16	2
19	TS2000511	nylon bush	Kunsstoffhülse	2	20		screw M4x10	Schraube M4x10	4
21	TS2000510	guide rail insert	Abdeckung	2	22	TS2000613	square nut	vierkantmutter	1
23	TS2000612	stopping plate	Stopperplatte	1	24		hex nut M6	6-kantmutter M6	1
25		large washer 6	Beilagscheibe 6	1	26		hex bolt M6x20	6-kantmutter M6x20	1
27	TS2000614	handle assembly	Sternknauf	1	28		screw M4x10	Schraube M4x10	2
29	TS2000513	fence insert	Endkappe Anschlag	1	30	TS2000514	T-shaped bolt	T-Stab	1
31	TS2000513	stopping bolt	Stoppbolzen	1	32	TS2000514	locking plate	Anschlag	1
33		Washer 5	Beilagscheibe 5	1	34	TS2000517	small handle	Fixierhebel	1
35		Washer 6	Beilagscheibe 6		36		locking hex nut M6	Sicherungsmutter M6	1
37	TS2000505	fence	Gehrungsanschlag	1	38	TS2000506	fence insert	Endkappe Anschlag	1
39	TS2000509	guide rail	Schiebetisch	1	40		screw M6x70	Schraube M6x70	1
41		screw M6x50	Schraube M6x50	1	42		screw M4x12	Schraube M4x12	2
43		spring washer	Federscheibe	2	44	TS2000501	T-shaped plate	T-Nut Einlage	1
45		hex nut M4	6-kantmutter M4	3	46		screw M4x16	Schaube M4x16	3
47		square neck bolt M6x30	Vierkantbolzen M6x30		48		washer 6	Beilagscheibe 6	1
49	TS2000512	erection shaft	Stangenhalterung	1	50	TS2000503	fixed support	Bolzenstiftgehäuse	1
51	TS2000502	stopping pole	Stopper	1	52	TS2000508	pointer	Zeiger	1
53		screw M4x12	Schraube M4x12	1	54	TS2000508	miter gauge	Gehrungsanschlag	1
55		washer 6	Beilagscheibe 6	2	56	TS2000607	Locking button	Fixierbolzen	2
57		large washer 6	Rundscheibe 6	1	58	K4190102	small handle	Fixiehebel	2
59	K4391304	Rocker	Halterung	1	60	K4391305	rhombic handgrip	Sterngriff	1
61	K4190116	press plate	Druckstempel	1	62	K4391302	press handle	Niederhalterknauf	1
63	TS2000517	handle	Drehknauf	1	64		spring pin 3x16	Spannbolzen 3x16	1

KONFORMITÄTSERKLÄRUNG / DECLARATION OF CONFORMITY

CE

Inverkehrbringer / Distributor
HOLZMANN MASCHINEN GmbH
4170 Haslach, Marktplatz 4
AUSTRIA

Hereby we declare, that the below mentioned machine complies with all relevant safety and health requirements of the below stated directives. Any manipulation of the machine not explicitly approved by us in written form renders this document null and void.

Hiermit erklären wir, dass die nachfolgend genannte(n) Maschine(n) den grundlegenden Sicherheits- und Gesundheitsanforderungen der angeführten EG-Richtlinien entspricht. Diese Erklärung verliert ihre Gültigkeit, wenn Veränderungen an der Maschine vorgenommen werden, die nicht mit uns ausdrücklich schriftlich im Vorfeld abgestimmt wurden.

MACHINE TYPE / MASCHINENTYPE

single spindle vertical moulding machine / Vertikalspindel Tischfräsmaschine

MODEL NAME / MODELLBEZEICHNUNG

HOLZMANN FS 160L

DIRECTIVES / RICHTLINIEN

2006/42/EC Annex I
2006/95/EC

Haslach 10.03.2011
Place,/Ort Date/datum

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Klaus Schörgenhuber, CEO