

Betriebsanleitung
Instructions for use
Mode d'emploi
Instrucciones para uso
操作说明
Kullanım talimatları

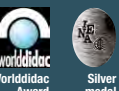
MADE
IN AUSTRIA



Silver medal
Inventions Vienna



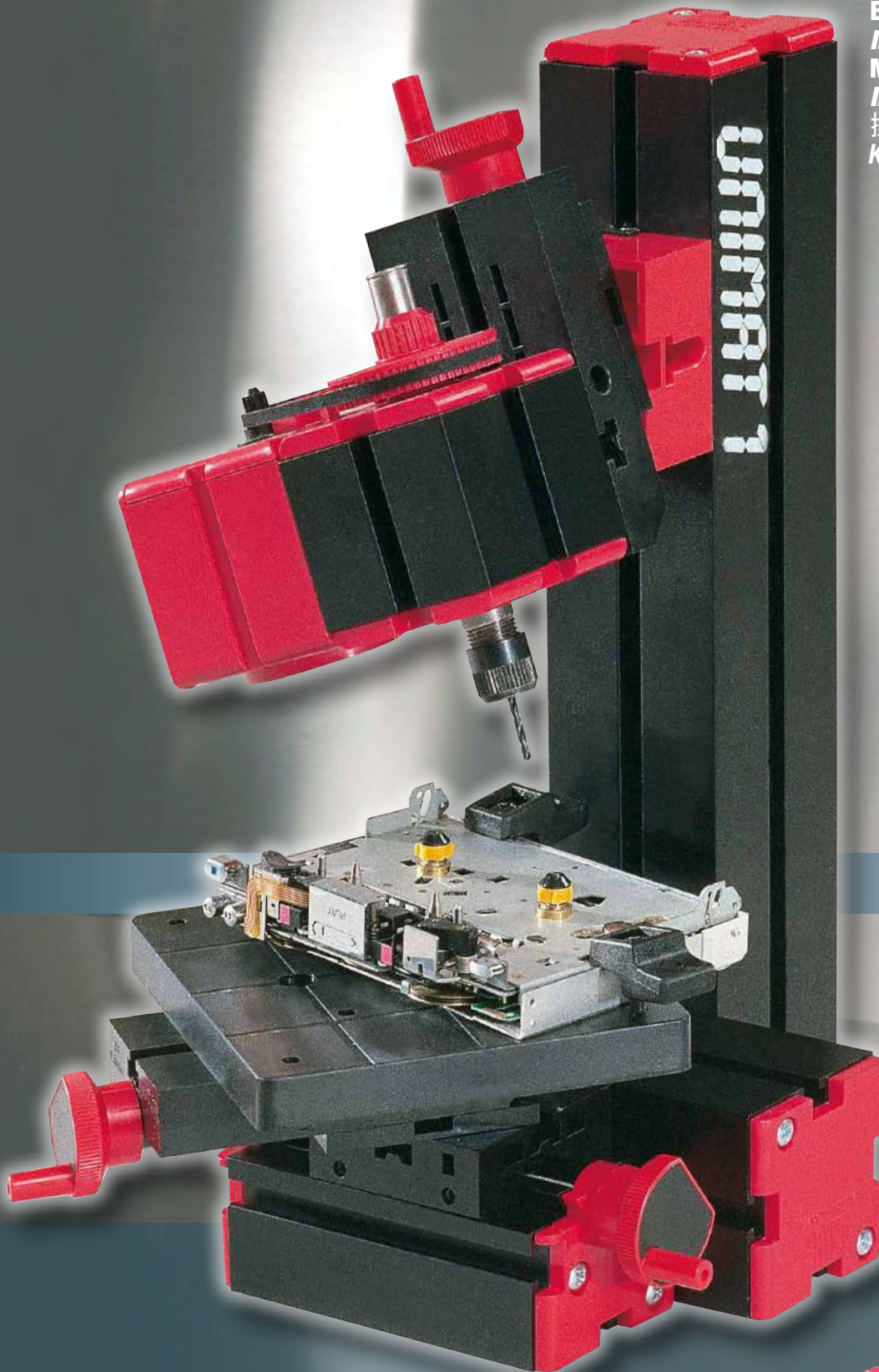
Médaille d'argent
Inventions Genève



Worlddidac
Award



Silver medal
Nuremberg



1

Stichsäge
Jigsaw
Scie sauteuse
Sierra da calar
线锯
Kil testere



2

Schleifmaschine
Sanding machine
Ponçeuse portative pratique
Lijadora manual prática
磨床
Zımpara makinesi



3

Drehselbank
Woodturning machine
Tour à bois
Torno de madeira
木车床
Ahşap işleme tornası

61
Classic



4

Drehbank
Lathe
Tour
Torno de metal
金属车床
Torna



5

Horizontalfräse
Horizontal mill
Fraiseuse horizontale
Fresadora horizontal
卧铣床
Yatay Freze



6

Standbohrmaschine
Drill press
Perceuse verticale
Máquina taladradora
钻床
Matkap

WARNING



WARNUNGEN

Mit Unimat 1 können verschiedene Maschinen zusammengestellt werden: Mit jeder dieser Maschinen kann man sich bei unsachgemäßer Handhabung ernsthaft verletzen. Die Maschinen sind mit scharfem Werkzeug ausgerüstet und können zum Teil schwere Schnittwunden verursachen. EingespANNtes Werkstück kann sich beim Arbeiten lösen. Immer wieder überprüfen, ob Werkzeug bzw. Werkstück fest eingespannt ist! Schutzbrille verwenden! Niemals in rotierendes Werkzeug greifen!

Sollte ein Teil in dieser Packung fehlen oder defekt sein, so fordern Sie es bitte bei uns kostenlos an. Bitte nicht die Packung einsenden. Nur Absender und Teile-Nr. (siehe Stückliste der Bauanleitung) angeben bzw. das Teil beschreiben oder skizzieren. Bei technischen Teilen, wie beispielsweise Motoren, bitten wir Sie, uns diese zur Reparatur bzw. aus Gründen der Qualitätssicherung einzusenden. Der Inhalt kann je nach Vertriebsland variieren. Die Konformitätserklärung finden Sie unter: <http://www.thecooltool.com/rechtliches/>

Niemals in rotierendes Werkstück (Drehselhölzer etc.) greifen! Aufpassen, dass weder offene Kleidung (Ärmel etc.), noch Haare in die Nähe von rotierendem Werkzeug oder Werkstück kommen. Der Antrieb erfolgt über einen 12 V Gleichstrom Motor! Nur unter direkter Aufsicht Erwachsener benutzen. Wie bei jedem Arbeitsplatz ist auf ein sauberes Umfeld zu achten. Erst nach abgeschlossener Montage, insbesondere der Motor-Getriebe-Abdeckung ist die Maschine mit der Stromversorgung zu verbinden.



WARNING

With Unimat 1 it is possible to assemble different types of machines. Each machine can cause severe injuries if handled improperly. The machines are supplied with sharp tools. Handle these with caution to avoid injury. The workpiece can fly out of the chuck when being used. Always make sure that the tool and workpiece are properly secured. Use protection goggles. Never touch the revolving workpiece with any part of your body. Keep hair and clothing well away from moving parts. Propulsion is furnished by a 12 V

Should any part in this box be defective or missing, please send your request to us for a free replacement. Do not send the box. Just your name and address, the part number (see spare parts list of the assembly manual) or a small drawing. Please send us any technical parts such as motors, for repair and quality assurance reasons. The content may vary in different countries. Declaration of conformity: <http://www.thecooltool.com/en/legal/>

direct-current motor. Children should only use the machines under very strict supervision by a responsible adult. Keep workplace clean and tidy. Make sure the assembly of Unimat machine parts is done correctly (especially the coverage of motor and countershaft) before plugging in the transformer. Be sure to ALWAYS disconnect plug from the adaptor when changing from one tool to the other. As with all electronic products, precautions should be taken during handling and use to prevent electric shock.



AVERTISSEMENTS

Unimat 1 permet de réaliser des machines différentes: en cas d'utilisation non conforme, chacune de ces machines peut causer de graves blessures. Les machines sont équipées d'outils tranchants et peuvent dans certains cas provoquer des coupures graves. L'outil en place peut être projeté hors de la machine en cours de travail. Vérifiez toujours si l'outil et la pièce à usiner sont solidement serrés! Utilisez les lunettes protectrices! Ne touchez jamais l'outil en rotation! Ne touchez jamais une pièce en

S'il manquait une pièce dans cette boîte ou si un accessoire était défectueux, veuillez nous demander son remplacement. Ne retournez pas la boîte, mais indiquez le numéro de la pièce (voir liste des pièces détachées du mode d'emploi) ou décrivez ou dessinez-nous la pièce. En ce qui concerne les pièces techniques, par exemple moteurs, nous vous demandons, pour des raisons de garantie de qualité, de nous les envoyer pour réparation. Le contenu peut varier en fonction des pays. Déclaration de conformité européenne: <http://www.thecooltool.com/en/legal/>

rotation (bois de tournage...)! Veuillez à tenir éloignés de l'outil ou de la pièce en rotation les vêtements lâches (manches ...) et les cheveux. Entraînement par un moteur 12 V courant continu. Ne laissez jamais travailler les enfants sans surveillance! La place d'utilisation doit rester propre! N'utilisez le transformateur qu'après l'assemblage complet, surtout des couvertures du moteur et de la broche de réduction!



AVISO

Con Unimat 1 se pueden construir diferentes máquinas: con cada una de estas máquinas corre peligro herirse al servirse de ellas inadecuadamente. Las máquinas están provistas de herramienta afilada que pueden a veces causar cortes graves. La herramienta fijada puede desprenderse de la máquina durante el trabajo. ¡Siempre conviene controlar si la herramienta y el material están fijados adecuadamente! ¡Utilizar las gafas protectoras! ¡Nunca tocar la herramienta rota-

En caso de faltar alguna pieza o de resultar defectuosa, rogamos efectuar el reclamo correspondiente a la dirección indicada sin costo alguno. Por favor no mande el paquete. Solamente describa o diagrama la parte e indique su dirección y el número de la misma (vease la lista de piezas y las instrucciones de armado). Si fuese necesario efectuar una reparación, y por motivos del control de calidad, sírvase remitir al fabricante las piezas técnicas tales como los motores. El contenido puede variar dependiendo del país. Declaración de conformidad: <http://www.thecooltool.com/en/legal/>

toria! ¡Nunca tocar el material que está rotando (madera para torner, ...)! ¡Prestar cuidado a que indumentaria (mangas, ...) o cabello suelto no se hallen demasiado cerca de la herramienta y del material! Propulsion mediante un motor 12 V corriente continua! ¡Niños no deben nunca trabajar con las máquinas sin guardia! Como todas las máquinas también UNIMAT 1 debe ser limpiada y lubricada regularmente. ¡Primeramente ensamblar la máquina y al final conectar a la corriente!



注意

优耐美Unimat 1 可组成不同形式的机器, 每一种机器如使用不当或操作失误时, 可能引起严重伤害。锋利的刀具随同各机器供应, 小心使用操作, 避免受伤。机器加工时工作件有可能从夹头上脱落, 因此务必确定工具及工作件已牢靠地锁紧固定。操作时应戴安全护目镜! 绝不用身体任何部位碰触旋转中的工作件! 勿使头发和衣服靠近运动中的

如果盒内零件有损坏或丢失, 请发送您的要求到下列地址索取免费备件。不需要寄包装盒, 只需要您的名字和地址, 以及零件编号(见组装手册中的备用零件表)或画一个小的零件图。为了维修以及品质保证的原因, 请将技术零件, 如马达寄给我们。盒内内容物有可能依不同国家有所不同。

零件! 动力由一个12V的直流马达提供。儿童使用机器时, 必须有负责的成年人在旁严格监督指导使用。保持工作场所整齐清洁, 在插上变压器前要确认优耐美机器的各零件组装正确(尤其是马达和主轴包含的范围)。确保在变换组装机器时要拔掉电源, 为了防止电击, 在操作和使用电气产品时, 必须遵守注意事项。



UYARILAR

Unimat 1 ile farklı makineler monte etmek mümkündür. Her makine uygunluzuz bir şekilde kurulması durumunda ciddi yaralanmalara neden olabilir. Makineler keskin aletlerle verilir. Yaralanmaları önlemek için dikkatli kullanın. Parça işlenirken talaşlar sıçrayabilir. Takımın ve parçanın düzgün bir şekilde sabitlendiğinden emin olun. Koruma gözlüğü kullanın. Dönen parçanın hiçbir şekilde temas ettirmeyin. Saçlarınızı ve kıyafetlerinizi hareketli parçalardan uzak tutun.

Kutu içeriğindeki bölüm/parçalar eksik ya da kusurluysa lütfen ücretsiz değişime için talebinizi aşağıdaki adrese gönderin. Kutuyu göndermeyin. Adınızı ve adresinizi, parça numarası (montaj klavuzunun yedek parça listesinden bakabilirsiniz) veya küçük bir çizim. Lütfen onarım ve kalite güvencesi için motor gibi teknik parçaları bize gönderin. İçerik ülkelere göre farklılık gösterebilir. Uygunluk beyanı: <http://www.thecooltool.com/en/legal/>

Tahrik, 12 V'luk bir doğru akım motoruyla sağlanır. Çocuklar, yalnızca sorumlu kişinin denetimi altında makineleri kullanılmalıdır. Çalışma alanınızı temiz ve düzenli tutun. Transformatöre takmadan önce, Unimat makine parçalarının (özellikle motor ve yardımcı milin kılıfının) montajının doğru yapıldığından emin olun. Bir takımdan diğerine geçerken HER ZAMAN adaptörü güçten çektiğinizden emin olun. Tüm elektrikli ürünler gibi, elektrik çarpmasını önlemek için kullanım sırasında önlem alınmalıdır.

TECH. SPECS.



Technische Daten

EINZELTEILE

Motorvorgelege U2

Spindelnase: M12x1
Bohrung: 8 mm
Zahnkranz: 23 und 60 Zähne
2 gedichtete u. gefettete Kugellager

Schlitten U9 / U3, U5

Verstellweg: 50 mm / 30 mm
Spindelsteigung 1 mm/U

Motor U4

12 V Gleichstrom
Leistungsaufnahme bis 2 A
Zahnkranz: 10 Zähne
Leerlaufdrehzahl: 20.000 U/min

Reitstock U6

M 12x1
Pinolenhub: 15 mm

Netzteil

prim. 110 - 240 V, 50 - 60 Hz,
sek. 12 V Gleichstrom, 2 A, mit
Temperaturschutz gegen Über-
hitzung (dann Netzstecker ziehen,

sonst kühlt der Trafo nicht ab!)

EINZELMASCHINEN

Drehbank

Spitzenhöhe 25 mm
Spitzenweite 135 mm

Stichsäge

Sägeblatthub: 4 mm
Sägetischfläche: 90 x 90 mm

Schleifmaschine

Schleiftellerdurchmesser: 50 mm

Drehbank

Spitzenhöhe 50mm
Spitzenweite 80mm

Horizontalfräse

Arbeitsbereich:
x=145, y=32, z=32mm

Vertikalfräse

Arbeitsbereich: x=145, y=32,
z=32mm



Technical data

INDIVIDUAL PARTS

Headstock U2

Spindlenose: M12x1
Hole through spindle: 8 mm
Gear rim: 23 and 60 teeth
2 ballbearings

Slide U9 / U3, U5

Travel: 50 mm / 30 mm
screw pitch: 1 mm/r

Motor U4

12 V direct current
Power input up to 2 A
Gear rim: 10 teeth
Nom. rpm.: 20,000 rpm

Tailstock U6

M12x1
Travel of tailstock sleeve: 15 mm

Adaptor

prim. 110 - 240 V, 50 - 60 Hz,
sek. 12 V direct current, 2A, with
temperature protection, which
disconnects the power circuit

under excess temperature (then
disconnect the main plug in order
to interrupt the circuit)

MACHINES

Woodturning lathe

Centre height 25 mm
Distance between centres 135 mm

Jig-saw

Stroke of saw-blade: 4 mm
Table size: 90 x 90 mm

Sanding machine

Diameter of the sanding disc:
50 mm

Lathe

Centre height 50mm
Distance between centres 80mm

Horizontal milling machine

work area: x=145, y=32, z=32mm

Vertical milling machine

work area: x=145, y=32, z=32mm



Caractéristiques techniques

PIÈCES INDIVIDUELLES

Broche de réduction U2

Nez de la broche: M12x1
Alésage: 8 mm
Roue dentée: 23 et 60 dents
2 roulements à billets étanches et
lubrifiés

Chariot U9 / U3, U5

Course de réglage: 50 / 30 mm
filet: 1 mm/t

Moteur U4

12 V courant continu
Puissance absorbée jusqu'à 2 A
Roue dentée: 10 dents
Vitesse à vide: 20.000 t/mn

Poupée mobile U6

M12x1
Course de fourreau: 15 mm

Transformateur

prim. 110 - 240 V, 50 - 60 Hz,
sec. 12 V, 2A, avec coupe-circuit
thermique (ensuite tirez la prise

pour interrompre le circuit élec-
trique)

MACHINES INDIVIDUELLES

Tour à bois

Hauteur de pointes 25 mm
Entre-pointes 135 mm

Scie sauteuse

Course de lame: 4 mm
Surface de plateau: 90 x 90 mm

Ponceuse

Diamètre du disque: 50 mm

Tour

Hauteur de pointes 50mm
Entre-pointes 80mm

Fraisuse horizontale

de travail:
x=145, y=32, z=32mm

Fraisuse verticale

de travail:
x=145, y=32, z=32mm



Informaciones técnicas

PIEZAS SUELTAS

Cabezal U2

Saliente: M12x1
Paso de la barra: 8 mm
Engrane: 23 y 60 dientes,
2 baleros sellados y engrasados

Carro U9 / U3, U5

Recorrido de desplazamiento:
50 mm / 30 mm

Motor U4

12 V Corriente continua
Energía absorbida hasta 2 A
Engrane: 10 dientes
Revoluciones: 20.000 rpm

Contrapunta U6

M12x1
Carrera de pinol: 15 mm

Transformador

prim. 110 - 240 V, 50 - 60 Hz,
seg. 12 V corriente continua, 2 A,

con protección térmica

MAQUINAS SUELTAS

Torno de madera

Altura de puntos 25 mm
Distancia entre puntos 135 mm

Sierra de calar

Carera de la hoja: 4 mm
Superficie de mesa: 90 x 90 mm

Máquina esmeriladora

Diámetro del disco: 50 mm

Banco del torno

Altura de puntos 50mm
Distancia entre puntos 80mm

fresadora horizontal

Distancia: x=145, y=32, z=32mm

fresadora vertical

Distancia: x=145, y=32, z=32mm



技术参数

个别零件

主轴 U2

主轴螺纹: M12x1
主轴孔径: 8 mm
齿轮缘23齿及60齿 2个滚珠
轴承

长滑块 U9

行程: 50 mm
螺距: 1 (M6x1 左螺纹)

马达 U4

12V直流电
输入电流最大2A
齿轮缘: 10齿
额定转速: 20,000转/分钟

尾座 U6

尾座螺纹: M12x1
尾座行程: 15 mm

变压器

输入电压110-240 V
AC, 50-60 Hz
输出电压12V直流电, 输出
电流2A

内附过温自动保护装置 (可
切断主插头以中断电路)

机器

木材车削:

中心高25 mm
中心距135 mm

线锯:

锯条行程: 4mm
锯台面: 90 x 90mm

砂磨机:

砂轮盘直径: 50 mm

车床:

中心高50mm
中心距80mm

卧式铣床:

工作范围: x=145, y=32,
z=32mm

立式铣床:

工作范围: x=145, y=32,
z=32mm



Teknik Bilgiler

BİREYSEL PARÇALAR

Torna Başlığı U2

Mil ucu: M12x1
Mil derinliği: 8 mm
Dişli çemberi: 23 ve 60 diş
2 bilyalı rulman

Kızak U9 / U3, U5

Hareket: 50 mm
Vida aralığı: 1mm/dönme

Motor U4

12 V doğru akım
2A'e kadar güç girişi
Dişli çemberi: 10 diş
Nom. rpm.: 20,000 rpm

Punta başlığı U6

M12x1
Punta kolu hareketi: 15 mm

Adaptör

prim. 110 - 240 V, 50 - 60 Hz,
sek. 12v doğru akım, 2A, aşırı
sıcaklık altında bağlantıyı kesen
sıcaklık koruması ile (daha sonra

devreyi kesmek için ana bağlantıyı
kapatın/ fişi çekin.)

MAKİNELER

Ağaç Tornası

Merkez yüksekliği 25 mm
Merkezler arası uzaklık 135 mm

Kıl testere

Testere bıçağı darbesi: 4 mm
Tabla boyutu: 90x90 mm

Zımpara makinesi

Zımpara disk çapı: 50 mm

Torna

Merkez yüksekliği: 50 mm
Merkezler arası uzaklık 80 mm

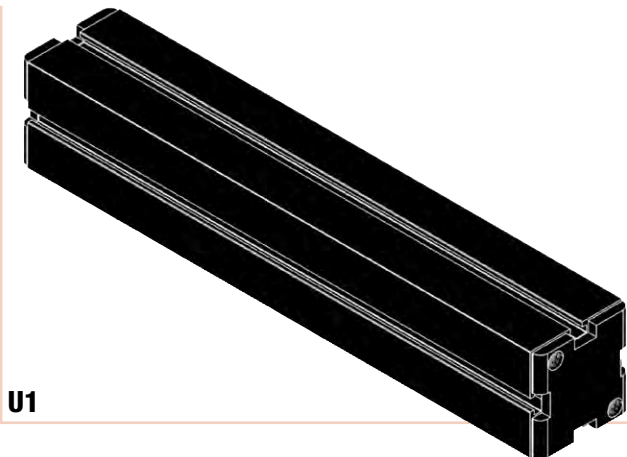
Yatay freze makinesi

Çalışma alanı: x=145, y=32, z=32mm

Dikey freze makinesi

Çalışma alanı: x=145, y=32, z=32mm

		D	GB, USA	F	E	中国	TR	
U0	1	Riemen-Abdeckung	Drive belt cover	Couvert de courroie	Capa protectora	皮带保护罩	Motor kayış kabini	A1A 000 010
U1	1	Maschinenbett, lang	Machine bed, long	Banc, grand	Bancada grande	长基座	Makine yatağı, uzun	A1A 020 000
U2	1	Motorvorgelege	Countershaft	Broche de réduction	Cabezal	主轴	Ara mil	A1A 030 000
U3/U5	2	Querschlitzen	Cross slide	Chariot, petit	Carro, pequeño	小滑块	Çapraz kızak	A1A 060 000
U4	1	Motor	Motor	Moteur	Motor	马达	Motor	162 420 MH-R
U6	1	Reitstock	Tailstock	Poupée mobile	Contrapunta	尾座	Punta başlığı	A1A 040 000
U7	1	Maschinenbett, kurz	Machine bed, short	Banc, petit	Bancada pequeña	短基座	Makine yatağı, kısa	A1A 010 000
U8	1	Schraubstock	Machine vice	Étau	Mordaza	虎钳	Makine yardımcısı	A1A 090 000
U9	1	Längsschlitten	Longitudinal slide	Chariot, grand	Carro, grande	长滑块	Boyunsal kızak	A1A 050 000
U10	3	Zwischenstück	Intermediate piece	Pièce intermédiaire	Pieza intermedia	中介块	Ara parça	A1A 000 100
U13	1	Dreibackenfutter	Three-jaw chuck	Mandrin à trois mors	Mandril de tres mordazas	3爪夹头	3 çeneli torna aynası	A1A 071 000
U14	1	Bohrhebel	Lever for drilling	Levier de perçage	Palanca p. taladrar	钻床压杆	Delme kolu	A1A 000 110
U15A	1	Schraubendreher #2 PH	Screwdriver #2	Tourne-vis #2	Destornillador #2	螺丝刀2#	Tornavida #2	ZWZ 980 030
U15B	1	Inbusschraubendreher 2,5 mm	Screwdriver allen key 2.5 mm	Tourne-vis hexagonale 2,5 mm	Destornillador allen 2,5 mm	内六角扳手 2.5 mm	Tornavida alyan anahtarı 2,5 mm	ZWZ 980 075
U15C	1	Schraubendreher #0 PH	Screwdriver #0	Tourne-vis #0	Destornillador #0	螺丝刀0#	Tornavida #0	ZWZ 980 000
U16	1	Stichsägegehäuse	Jig-saw casing	Boite de scie	Caja de la sierra	线锯盒	Kıl testere kılıfı	A0A 100 080
U17	1	Stichsägeetisch	Jig-saw table	Table de scie	Mesa de la sierra	线锯台面	Kıl testere tablası	A0A 000 300
U18	1	Lehre	Gauge	Calibre	Calibre	标准尺	Torna kalemı	A1Z 120 030
U19	1	Stichsägefuß	Jig-saw base	Pied de scie	Base de la sierra	线锯基座	Kıl testere üssü	A1Z 120 010
U25	2	Aufspannscheibe	Clamping plate	Disque de ponçage	Disco para papel abras.	砂轮盘	Sıkıştırma plakası	A1Z 100 010
U27	1	Drechselaufklage	Woodturning support	Support de tournage	Soporte del torno	木车刀刀座	Ahşap tornası desteği	A1Z 100 020
U28	1	Drechselmesser	Turning chisel	Outil de tournage	Gubia	木车刀	Torna keski	A1Z 100 030
U29	1	Zentrumsfinder	Centre finder	Calibre de centrage	Para localizar centro	中心定位尺	Merkez bulucu	A1Z 100 040
U67	2	Fixierplatte groß	Stabilizing plates	Plaques de fixation	Platos de fijación	固定片	Sabitleme plakası	A1Z 470 010
U80	1	Befestigungswinkel	Stabilizing angle	Angle de fixation	Escuadra de fijación	直角固定座	Sabitleme gönyesi	A1Z 480 000
	1	Bohrtisch	Drilling table		Plato taladrado	钻台面	Delme tablası	A1Z 070 010
ohne Abbildung / without picture / sans figure / sin ilustración / 无图片 / resimsiz								
U24	1	Schleifpapier 100 / 150	Sanding paper 100/150	Disques abrasifs 100/150	Papel de lijar 100/150	砂纸100/150号	Zımpara kağıdı 100/150	A1Z 110 010 / 030
	1	Netzteil 12V	12V adaptor	12V Transformateur	12V Transformador	12 V变压器	12 V adaptör	161 312
	1	Aufkleber	Sticker	Auto-collant	Auto-adhesivos	标签	Etiket	A1A 000 140
	4	Elastikpuffer	Slip stoppers	Anti-glissement	Anti deslizar	防滑垫	Kayma tezgahları	166 EP
	1	1 Set Kunststoffbacken	1 set plastic jaws	1 set mors plastique	1 conjunto mordaza de plástico	塑料夹头1组	1 set plastic çene	A1A 070 031
optional* / optional* / en option* / opcional* / 选配件* / isteğe bağlı*								
U27ML	1	Drechselaufklage Metall	Woodturning support metal	Support de tournage métal	Soporte del torno metal	木车床金属刀架	Metal ahşap tornası desteği	
	1	Sägeblätter Set 10 Stk	Saw blades set 10 pcs	Lame de scie set 10	Hoja de la sierra set 10	10支套装锯条	Testere bıçağı seti 10 adet	162 250
	1	Montageplatte	Mounting plate	Plaque de montage	Plancha basico	固定底板	Montaj plakası	163 403
	2	Micro Zwing	Micro clamp	Micro serre-joints	Micro abrazaderas	微型卡钳	Mikro mengene	162 180 115



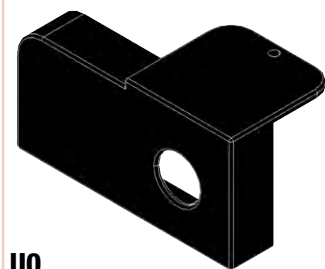
U1



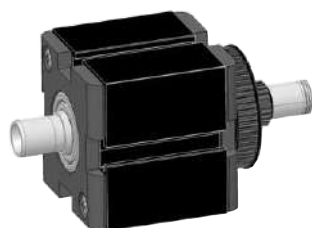
U7



U29



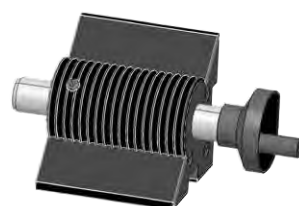
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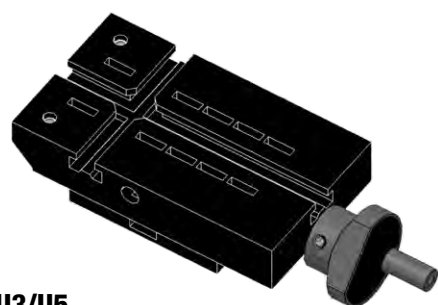
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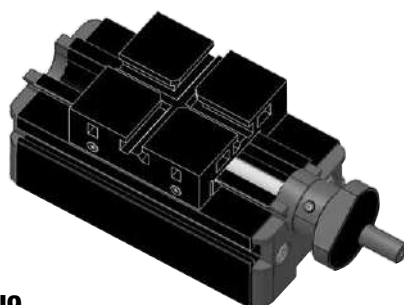
U4



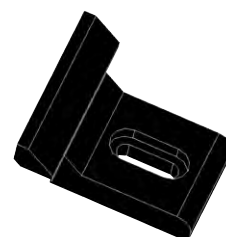
U6



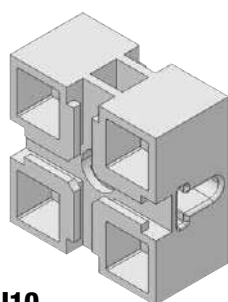
U3/U5



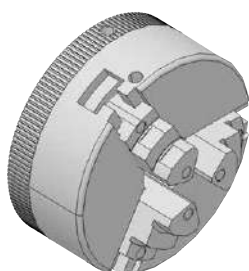
U9



U27



U10



U13



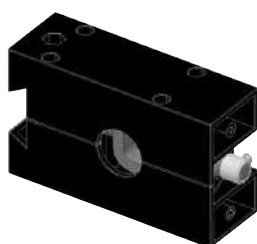
U25



U28



U17



U16



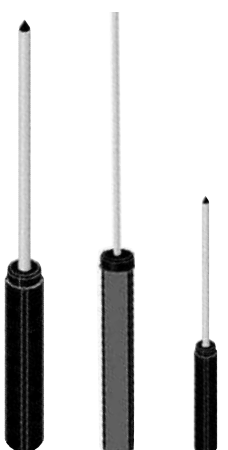
U19



U18



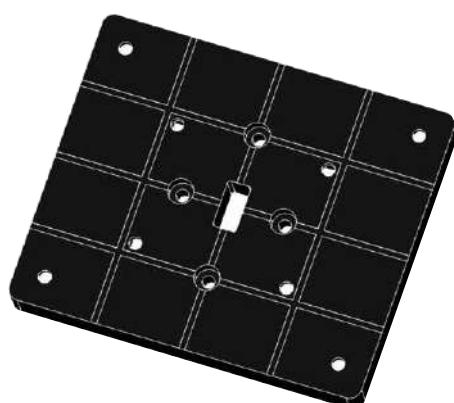
U14



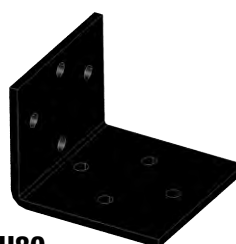
U15A

U15B

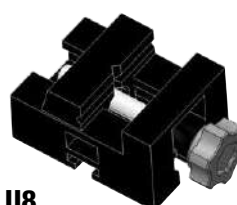
U15C



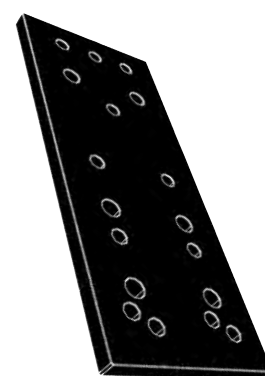
A1Z 070 010



U80



U8



U67

UNIMAT 1 Classic [12-99]

		D	GB, USA	F	E	中国	TR	
U12	1	Spannzange 1 - 6 mm	Collet 1 - 6 mm	Pince 1 - 6 mm	Pinza 1 - 6 mm	夹头 1-6mm	Pens 1-6 mm	A1A 000 150
U12ML	1	Messingspannzange 4 mm	Brass collet 4 mm	Pince métalliques 4 mm	Pinza metálicas 4 mm	铜夹头 4 mm	Pirinç Pens 4 mm	162 460 40
U21	4	Schraube 2,2x13	Screw 2.2x13	Vis 2,2x13	Tornillo 2,2x13	螺钉 2,2x13	Vida 2,2x13	ZSR G32 213
U22	2	Sägeblatt	Saw blade	Lame de scie	Hoja de la sierra	锯条	Kıl testere	ZWZ 500 010
U23	1	Exzenter	Eccentric	Excentrique	Excéntrica	偏心轮	Eksantrik	A1Z 121 000
U23b	1	Exzenterdistanzhülse	Distance washer	Rondelle	Arandela	距离垫圈	Mesafe pulu	A1Z 121 010
U30	4	Schraube 2,9x9,5	Screw 2.9x9.5	Vis 2,9x9,5	Tornillo 2,9x9,5	螺钉 2.9x9.5	Vida 2,9x9,5	ZSR G32 995
U31	10	Schraube M4x10	Screw M4x10	Vis M4x10	Tornillo M4x10	螺钉 M4x10	Vida M4x10	ZSR M40 410
U32	2	Mitnehmerspitze	Driver centre	Entraîneur	Punta de arrastre	中心动轮	Motor merkezi	A1A 101 000
U33	1	Schraube M4x50	Screw M3x50	Vis M3x50	Tornillo M3x50	螺钉 M4x50	Vida M3x50	ZSR M40 450
U34	1	Schraube M3x35	Screw M3x35	Vis M3x35	Tornillo M3x35	螺钉 M3x35	Vida M3x35	ZSR M30 350
U35	5	Schraube M4x25	Screw M4x25	Vis M4x25	Tornillo M4x25	螺钉 M4x25	Vida M4x25	ZSR M40 425
U36	3	Schraube M4x16	Screw M4x16	Vis M4x16	Tornillo M4x16	螺钉 M4x16	Vida M4x16	ZSR M40 416
	2	Schraube M4x14	Screw M4x14	Vis M4x14	Tornillo M4x14	螺钉 M4x14	Vida M4x14	ZSR M40 414
U37	4	Schraube M4x8	Screw M4x8	Vis M4x8	Tornillo M4x8	螺钉 M4x8	Vida M4x8	ZSR M40 408
U38	9	Schraube M4x6	Screw M4x6	Vis M4x6	Tornillo M4x6	螺钉 M4x6	Vida M4x6	ZSR M40 406
	4	Gewindestift M4x6	Grub screw M4x6	Vis M4x6	Tornillo M4x6	螺钉 M4x6	Vida M4x6	ZST 130 406
U40	2	Unterlagplättchen 0,1 mm	Small part 0,1 mm	Plaquette 0,1 mm	Plaquita 0,1 mm	压条 0.1mm	Küçük parça 0,1 mm	A1A 000 170
U41	1	Unterlagplättchen 0,4 mm	Small part 0,4 mm	Plaquette 0,4 mm	Plaquita 0,4 mm	压条 0.4mm	Küçük parça 0,4 mm	A1A 000 190
U43	1	Mutter M4	Nut M4	Ecrou M4	Tuerca M4	螺母 M4	Somun M4	ZMU 340 400
U44	1	Mutter M3	Nut M3	Ecrou M3	Tuerca M3	螺母 M3	Somun M3	ZMU 340 302
U45	1	Zwischenblech	Intermediate plate	Tôle intermédiaire	Lata intermedia	中介片	Ara plaka	A1A 000 160
U46	12	Nutenstein	Slot nut	Boulon «T»	Pernos "T"	单孔螺帽	Yuva somun	A1A 060 040
U47	4	Klemmplatte	Camping plate	Élément «T»	Elemento "T"	双孔螺母	Sıkıştırma plakası	A1A 010 020
U48ML	2	Spannzangenhalter	Collet holder	Porte-pinces	Porta-pinza	夹头固定帽	Pens tutucu	A1A 000 072
U49	2	Spannklauen	Clamping jaw	Mors de serrage	Brida de sujeción	夹板	Sıkıştırma genesi	A1A 000 090
U50	1	Schraube M4x70	Screw M4x70	Vis M4x70	Tornillo M4x70	螺钉 M4x70	Vida M4x70	ZSR M40 470
U51	1	Inbusschlüssel 2 mm	Allen key 2 mm	Clé hexagonale 2 mm	Llave allen 2 mm	内六角扳手 2mm	Alyan anahtarı 2 mm	ZWZ 110 200
U52	2	Stift	Rod	Cheville	Perno	锁杆	Çubuk	ZST 110 345
U53	1	Drehstahl (außen)	Tool for outs. turning	Outil à tourner	Herramienta para tor. exter.	外车刀	Diş torna için alet	A1A 000 080
U55	1	Bohrer 2 mm	Drill 2 mm	Méche 2 mm	Broca 2 mm	钻头 2 mm	Matkap ucu 2 mm	ZWZ 700 020
U56	1	Fräser 3 mm	Milling head 3 mm	Fraise 3 mm	Fresa 3 mm	铣刀头 3 mm	Freze ucu 3 mm	ZWZ560 030
U57	1	Antriebsriemen 87	Drive belt 87	Courroie 87	Correa 87	电机皮带 87	Motor kayışı 87 mm	ZRM 730 087
U62	4	Vierkant Mutter M4	Square nut M4	Ecrou M4	Tuerca M4	螺母 M4	Kare somun M4	ZMU 620 400
U63	1	Drehstahlunterstützung	Fixation for turning tool	Fixation p. outil de tournage	Fijación herramienta de torneado	金属车床车刀固定件	Torna aleti için sabitleme	A1A 000 082
U65	1	Inbusschlüssel 2,5 mm	Allen key 2,5 mm	Clé hexagonale 2,5 mm	Llave allen 2,5 mm	内六角扳手 2.5mm	Alyan anahtarı	ZWZ 110 250
U66	8	Verbindungselement	Connection piece	Pièce de connexion	Elemento de conexión	连接块	Bağlantı parçası	A1A 00 ZINSK
U69	2	Schraube M4x12	Screw M4x12	Vis M4x12	Tornillo M4x12	螺钉 M412	Vida M4x12	ZSR M40 412
U72	1	Gabelschlüssel 14 mm	Fork wrench 14 mm	Clé de fourche 14 mm	Llave de furca 14 mm	扳手 14mm	Çatal pens anahtarı 14 mm	ZWZ 101 400
U74	8	Beilagscheibe	Plain washer	Rondelle	Arandela	垫片	Düz pul	ZSB 250 430
Ua	1	Sägeblatthalterung	Saw blade holder	Fixation de la lame	Fijación de la hoja	锯条固定环	Testere bıçağı tutucu	A0A 00 120
Ub	1	Schraube M2x8	Screw M2x8	Vis M2x8	Tornillo M2x8	螺钉 M2x8	Vida M2x8	ZSR M40 208
	1	Rollkörner	Live center	Contre-pointe tournante	Contra punto giratorio	活顶尖	Merkez	162 450 MH

M4x6	—————	M4x16	—————	M3x40	—————
M4x8	—————	M4x25	—————	M2x8	—————
M4x10	—————	M4x50	—————	2,2x13	—————
M4x12	—————	M4x70	—————	2,2x16	—————
M4x14	—————	M3x35	—————	2,9x9,5	—————



U23



U48ML



U23b



U47



162 450 MH



Ua



U22



U46



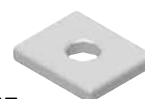
U32



U49



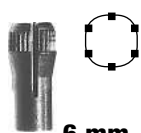
Ub



U45



1 mm



6 mm



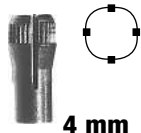
2 mm



5 mm



2,5 mm



4 mm



3 mm



3,5 mm

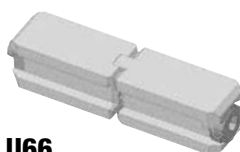
U12



U12ML



U63



U66



U57



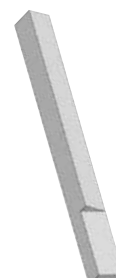
U72



U55



U56



U53



U38



U36



U74



U62



M4x6



U37



U35



U34



U30



U31



U33



U44



Ub



U21



U69



U50



U43



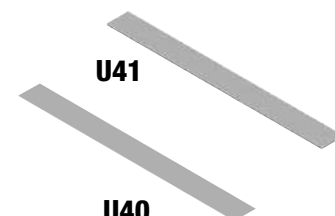
U52



U65



U51



U41

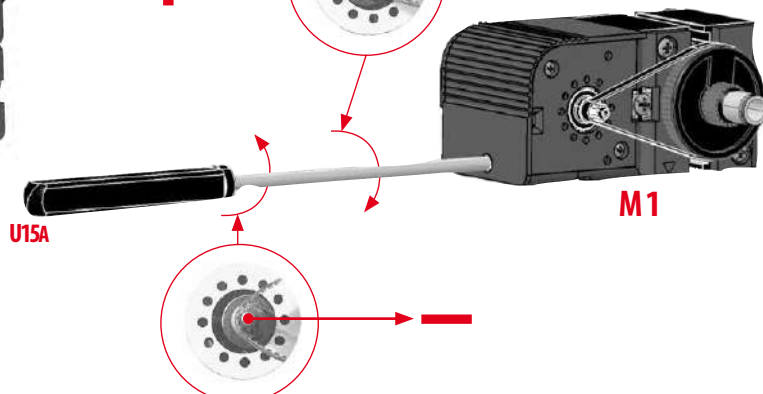
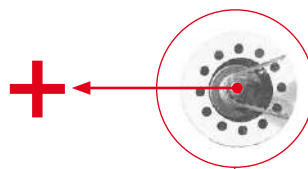
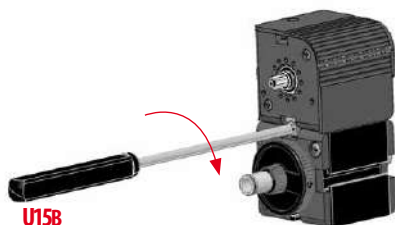
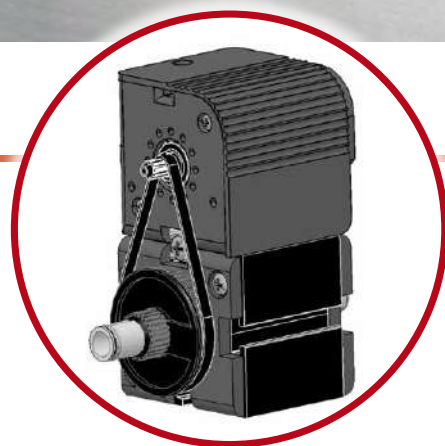
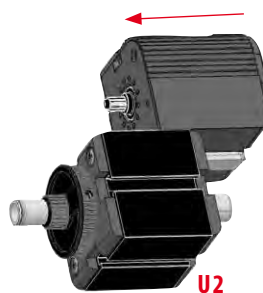
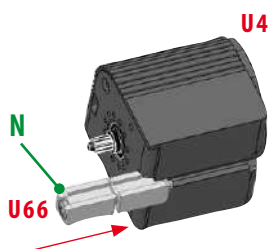
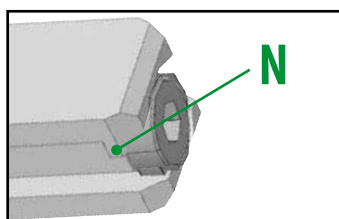
U40

ZSR M40 414

Drehselbank
Woodturning lathe
Tour à bois
Torno de maderá木车
床
Ahşap işleme tornası

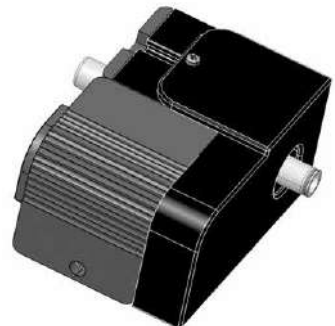
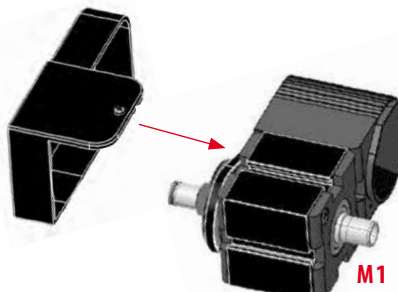
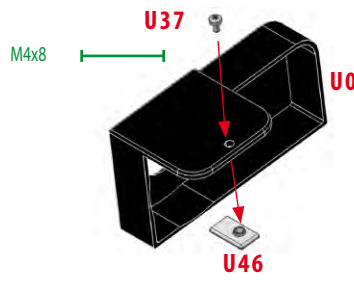


1

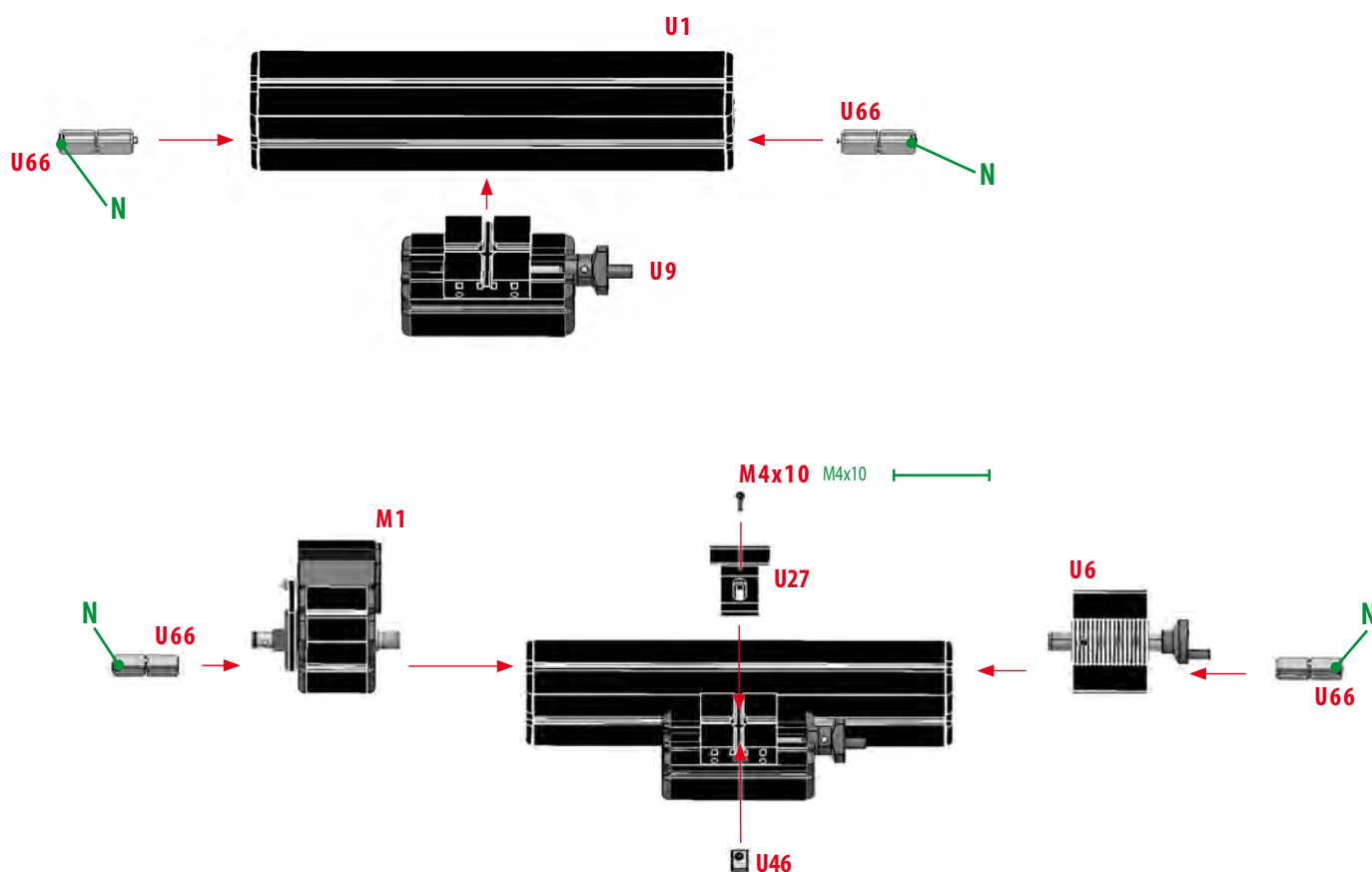
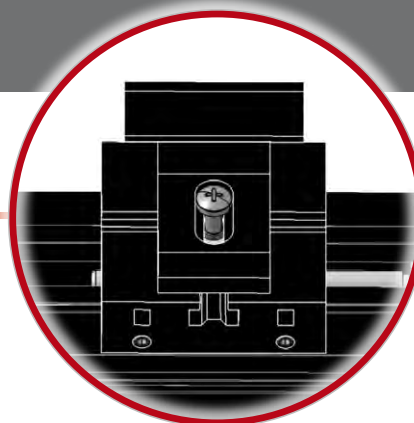


2

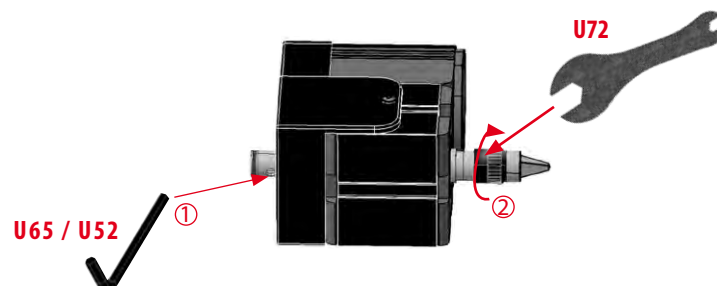
U0 erst auf fertige Maschine montieren / U0 fix only on fully assembled machine / U0 Installez uniquement sur la machine entièrement assemblée / U0 fijar solamente en máquina montada / U0 保护盖只装在组好的机器上 / U0'ı yalnızca tam monte edilmiş makineye sabitleyin



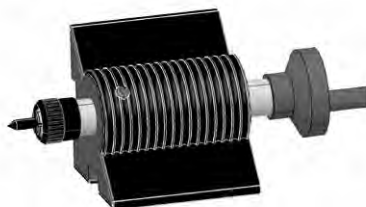
3



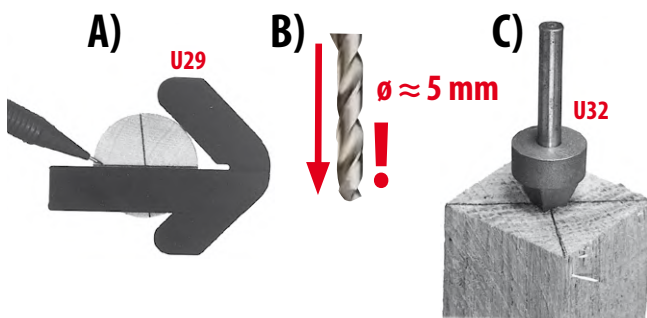
4



162 450 MH



5



A) Ermitteln des Mittelpunktes runder Werkstücke B) Vorbohren! C) U32 mit einem Hammer in den Holzmittelpunkt schlagen (ca. 5 mm).

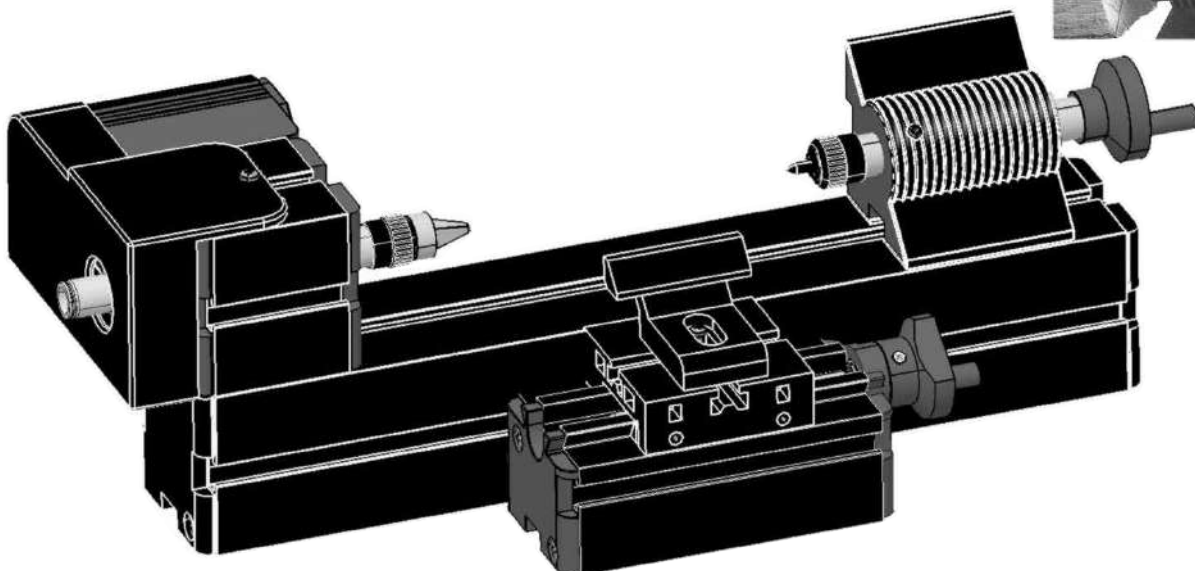
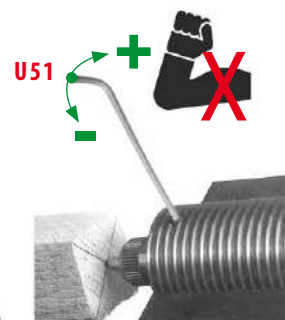
A) Centre finder: determining the center of round workpieces B) predrilling! C) Drive U32 into the centre of workpiece with a hammer (ca. 5 mm).

A) Calibre de centrage: Détermination du centre de pièces à usiner rondes B) préforage! C) Par un coup de marteau, frappez U32 dans le centre de la pièce en bois (env. 5 mm).

A) Mecanismo para encontrar el centro: localiza el centro de pieza de trabajos redondas B) taladrado previo! C) Clavar U32 con un martillo en el centro de la madera (a 5 mm).

A) 中心定位尺: 决定圆形部件的中心 C) 使用锤子于工作物部件中心点位置将U32敲入(深度大于5mm)。

A) Merkez bulucu: dairesel parçanın merkezini belirler. B) ön delme! C) Çekiç yardımıyla U32'yi parçanın merkezine doğru itin.





The Tool

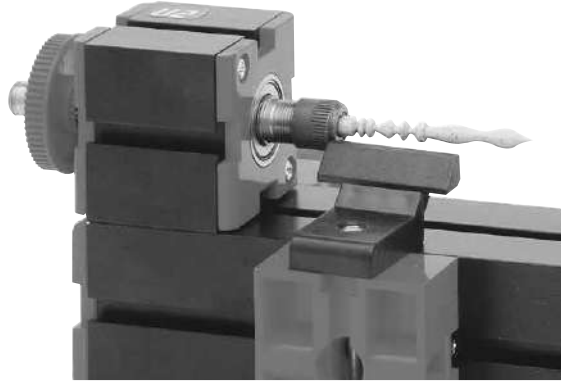
Werkstücke bis $\varnothing 6$ mm mittels Spannzangen fixieren.

Workpieces with up to $\varnothing 6$ mm should be chucked by means of collets.

Fixez les pièces jusqu'à $\varnothing 6$ mm au moyen de pinces.

Fijar con pinzas las piezas de trabajo hasta $\varnothing 6$ mm.

直径在6 mm以内的工件必须使用内孔夹头固定
 $\varnothing 6$ mm'ye kadar olan parçanın pensleriyle sıkıştırılması gerekir.



Querholzdreheln: Holz mit 4 Schrauben U30 auf der Aufspannscheibe U26 festschrauben. Drehselaufgabe U27 entweder auf U1, U9 oder U10 fixieren.

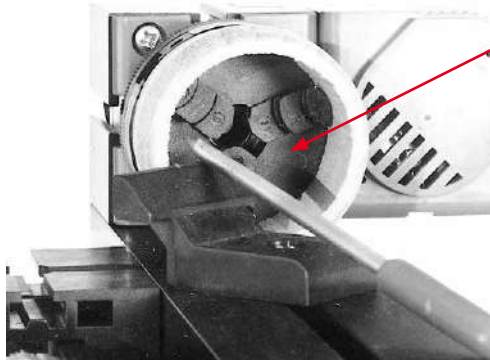
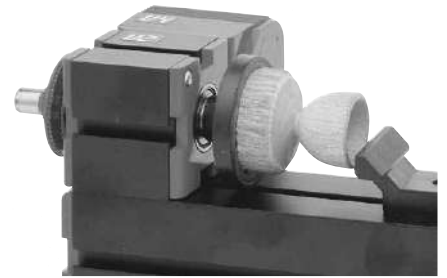
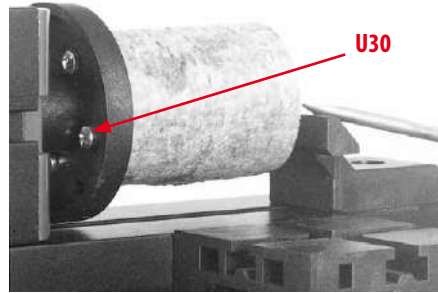
Faceplate turning: Tighten wood to clamping plate U26 with 4 screws U30. Tighten woodturning support U27 to U1, U9 or U10.

Tournage de bois taillé contre les fibres: Fixez le bois au moyen de 4 vis U30 sur le disque U26. Fixez le support de tournage U27 sur U1, U9 ou sur U10.

Tornear traviesas: Fijar la madera con 4 tornillos U30 en el disco para tender U26. Colocar soporte del torno U27 o en U1, U9 o en U10.

面板加工：用4个U30螺丝将木棒固定在面板U26上，将刀架U27固定在U1、U9或者U10上进行加工

Düz ayna tornası: 4 vida yardımı ile sıkıştırma plakasına ahşabı tutturun. Ahşap torna desteği U27'yi U1, U9 veya U10'a sıkıştırın.



Dreibackenfutter

3-jaw chuck

Mandrin à trois mors

Mandril de tres mordazas

3爪卡盘

3 çeneli ayna

Zentrierbohren mit dem Reitstock: Mit dem Handrad von U6 den Bohrer ins rotierende Werkstück drehen.

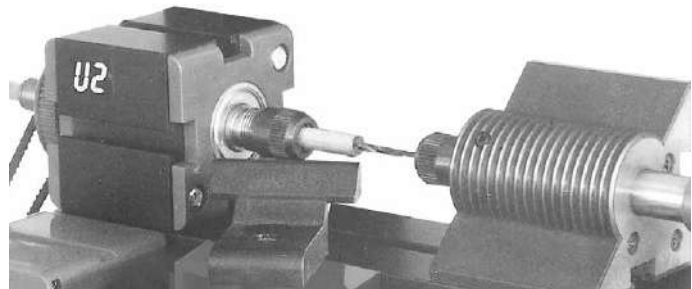
Centre drilling with the tailstock: Drive drill into rotating workpiece with handwheel of U6.

Forage á centrer: Au moyen de la poupée mobile: Enfoncez la mèche dans la pièce à usiner tournante au moyen du volant de U6.

Taladrar centrado con la contrapunta: Tornear el taladro en la pieza de trabajo en rotación con la rueda de mano de U6.

用尾座进行中心孔加工：旋转尾座U6的摇柄，使钻头钻入旋转的工件

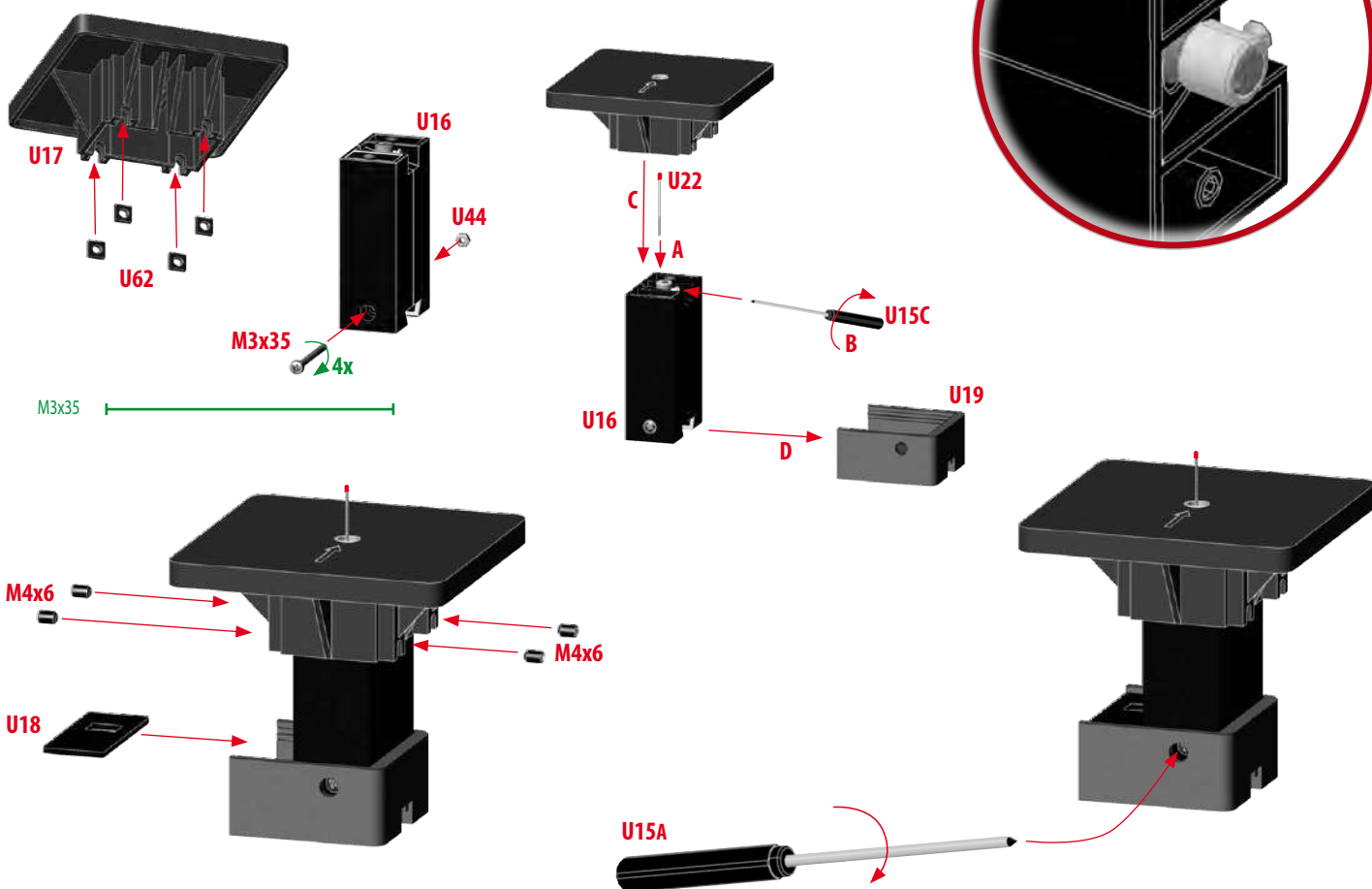
Punta başlığı ile merkez delme: U6 el çarkı ile matkap ucunu dönen parçaya yönlendirin.



Stichsäge
Jig-saw
Scie sauteuse
Sierra de calar
线锯
Kil Testere



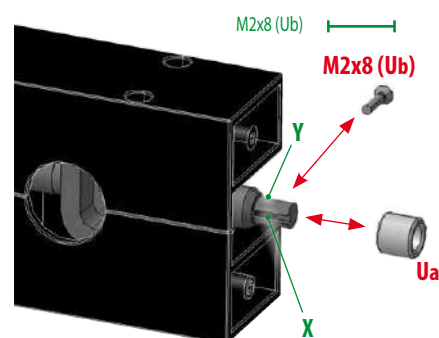
1



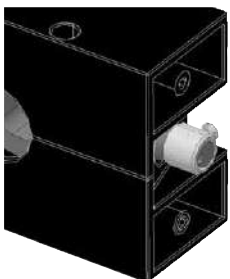
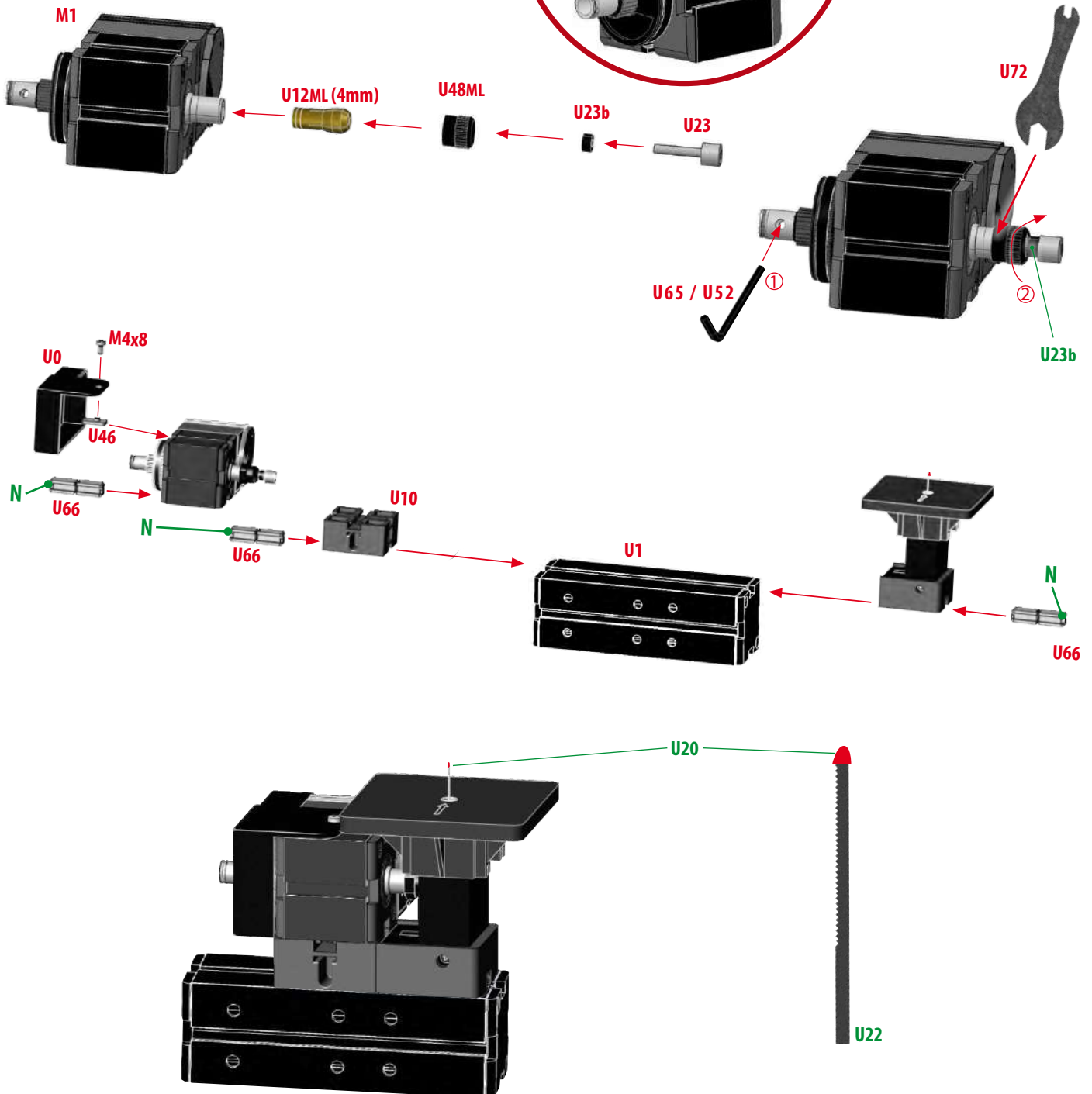
Sägeblatt wechseln: Schraube Ub öffnen, neues Blatt einsetzen, Ub wieder festziehen oder Säge Tisch abnehmen, Schraube Ub komplett entfernen, Buchse Ua abnehmen, Sägeblattrest (X) aus dem Stößel (Y) entfernen; Ua wieder aufsetzen, neues Blatt einsetzen und Ub festziehen.

Change of saw blade: open screw Ub, change blade, fix Ub again or remove saw table, loosen screw Ub completely, remove Ua, clean tappet (Y) from sawblade fragments (X), put Ua back on; fix new blade with Ub.

Changement de la lame de scie: ouvrir vis Ub, remplacer lame, fixer Ub ou enlever la table de scie, retirer complètement la vis Ub, enlever la douille Ua et les restes de la lame de scie (X), remplacer la lame, reserrer Ub.



2



Cambio de la hoja de sierra: abra tornillo Ub, reemplazar hoja, fijar Ub o Quitar soporte de la sierra, apartar tornillo Ub completamente, quitar Ua, limpiar el botador (Y), eliminar los fragmentos de la hoja (X), montar Ua, reem-plazar hoja, fijar Ub.

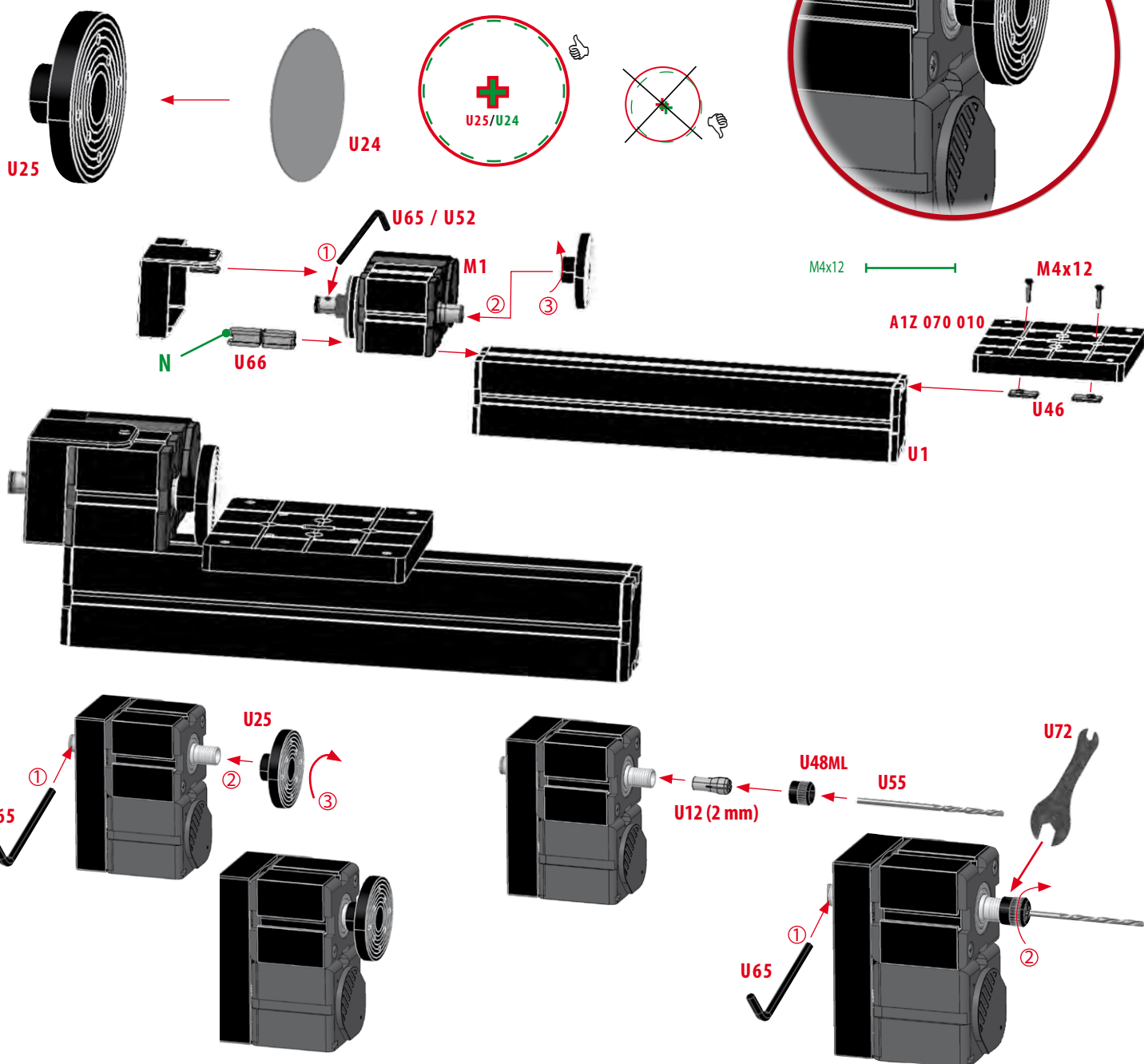
更换锯条：松开Ub，更换锯条，再锁紧Ub，或者卸下线锯台，完全松开螺钉Ub，拔出Ua，清除挺杆（Y）里的锯条碎片（X），将Ua装回原位；用Ub再锁上新锯条。

Testere bıçağının değiştirilmesi: Ub'yi açın, bıçağı değiştirin, Ub'yi tekrar sabitleyin veya testere tablasını çıkarın, Ub'yi tamamen gevşetin, Ua'yı çıkarın, testere bıçağı parçalarını (X) itici koldan temizleyin, Ua'yı tekrar takın; yeni bıçağı Ub'ye sabitleyin.

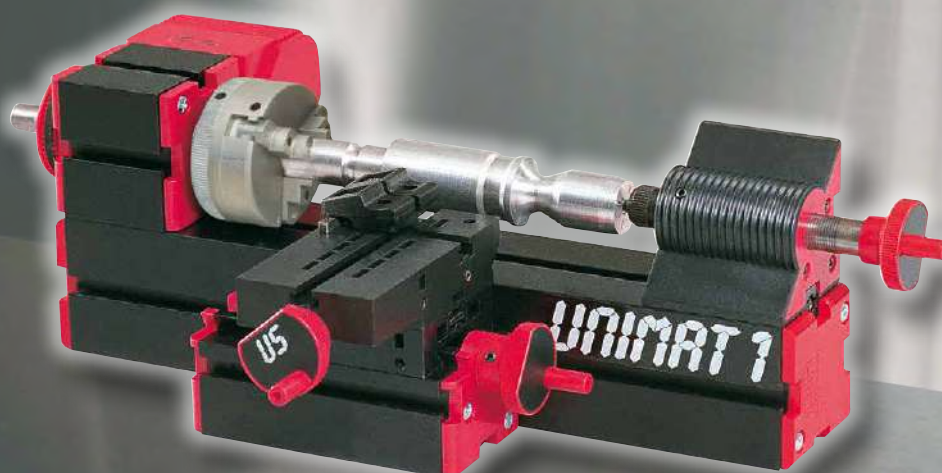
Schleifmaschine
Sanding machine
Ponceuse
Máquina esmeriladora
磨床
Zımpara Makinesi



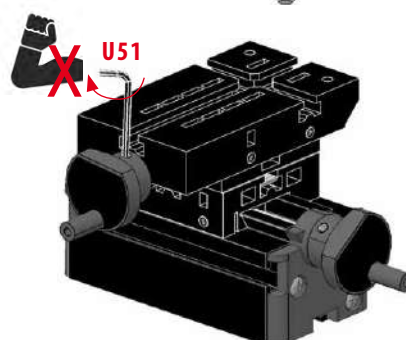
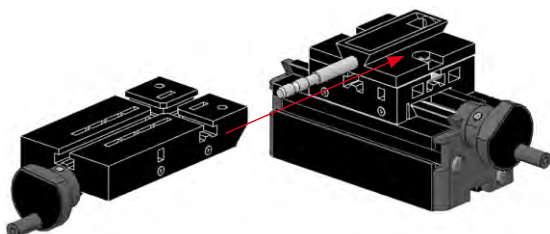
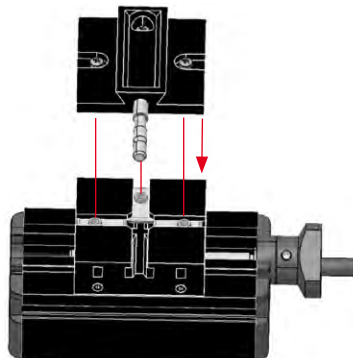
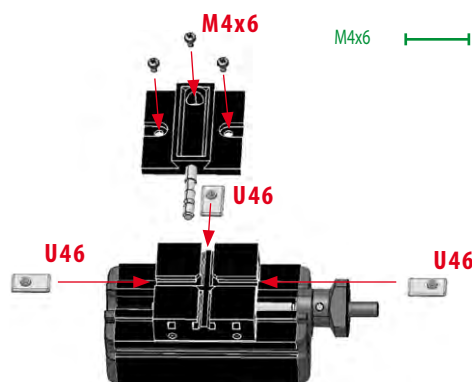
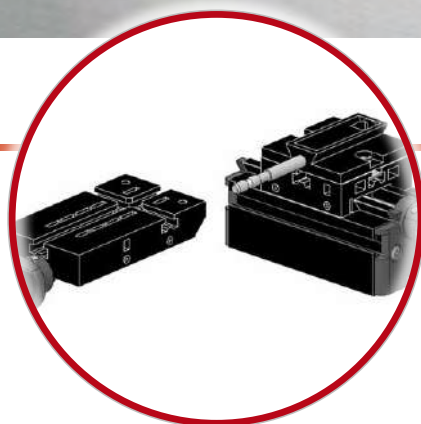
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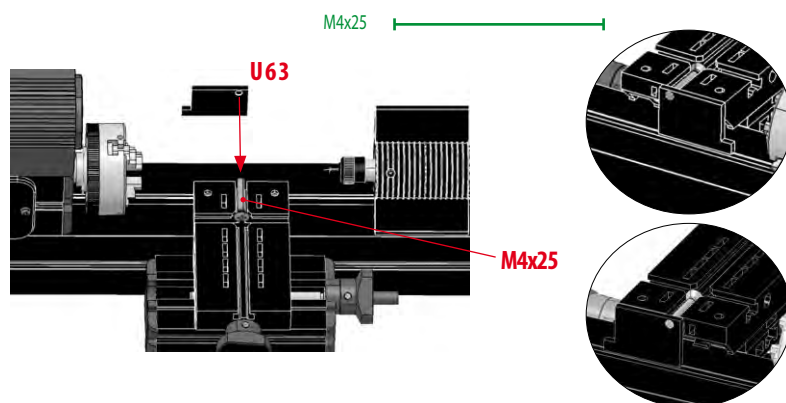
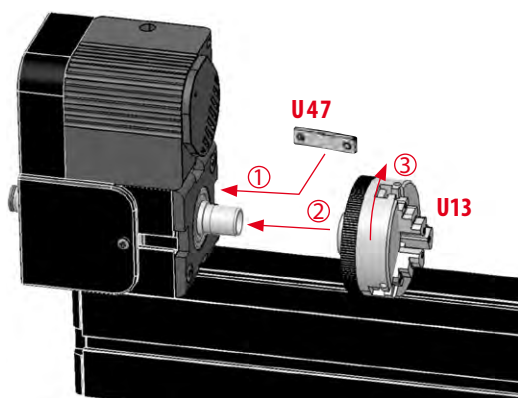
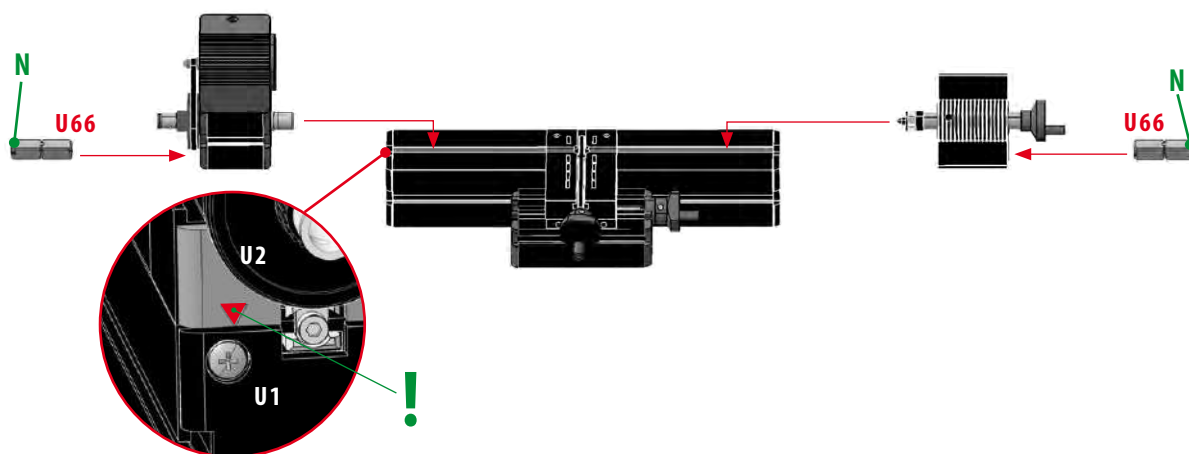
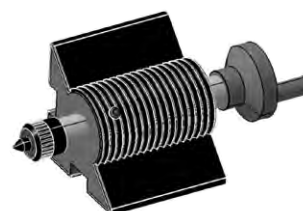
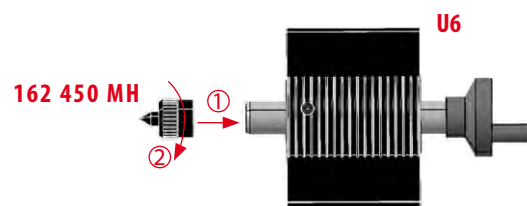
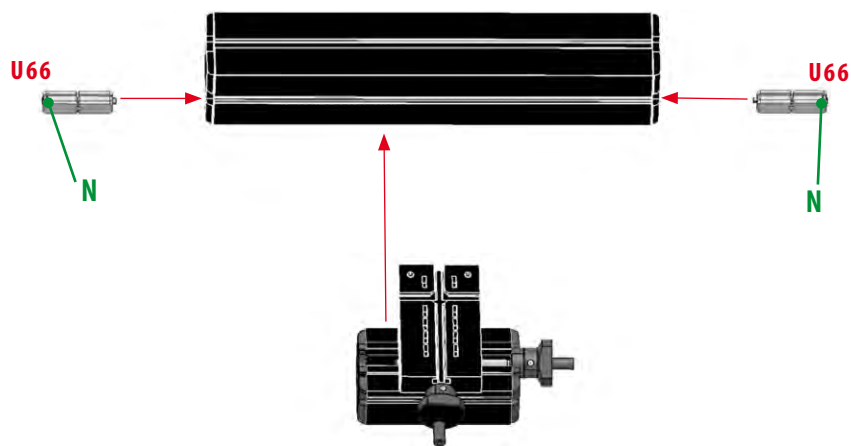
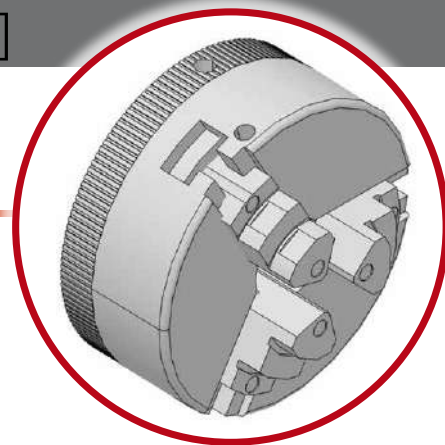
Drehbank
Turning machine
Tour
Torno de metal
金属车床
Torna Makinesi



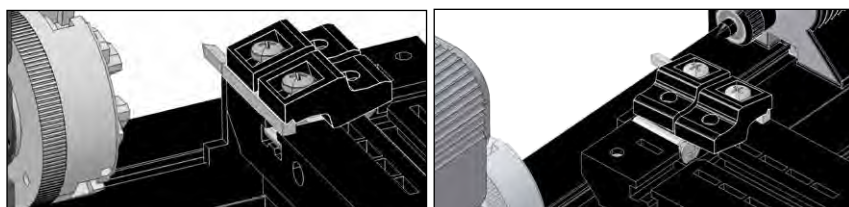
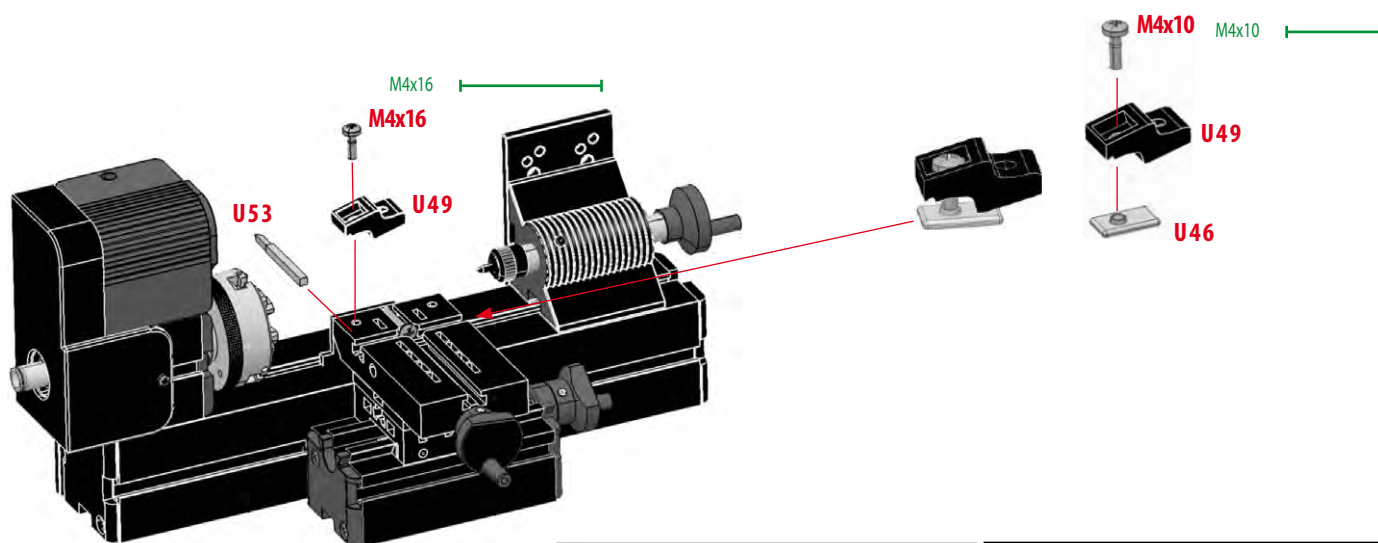
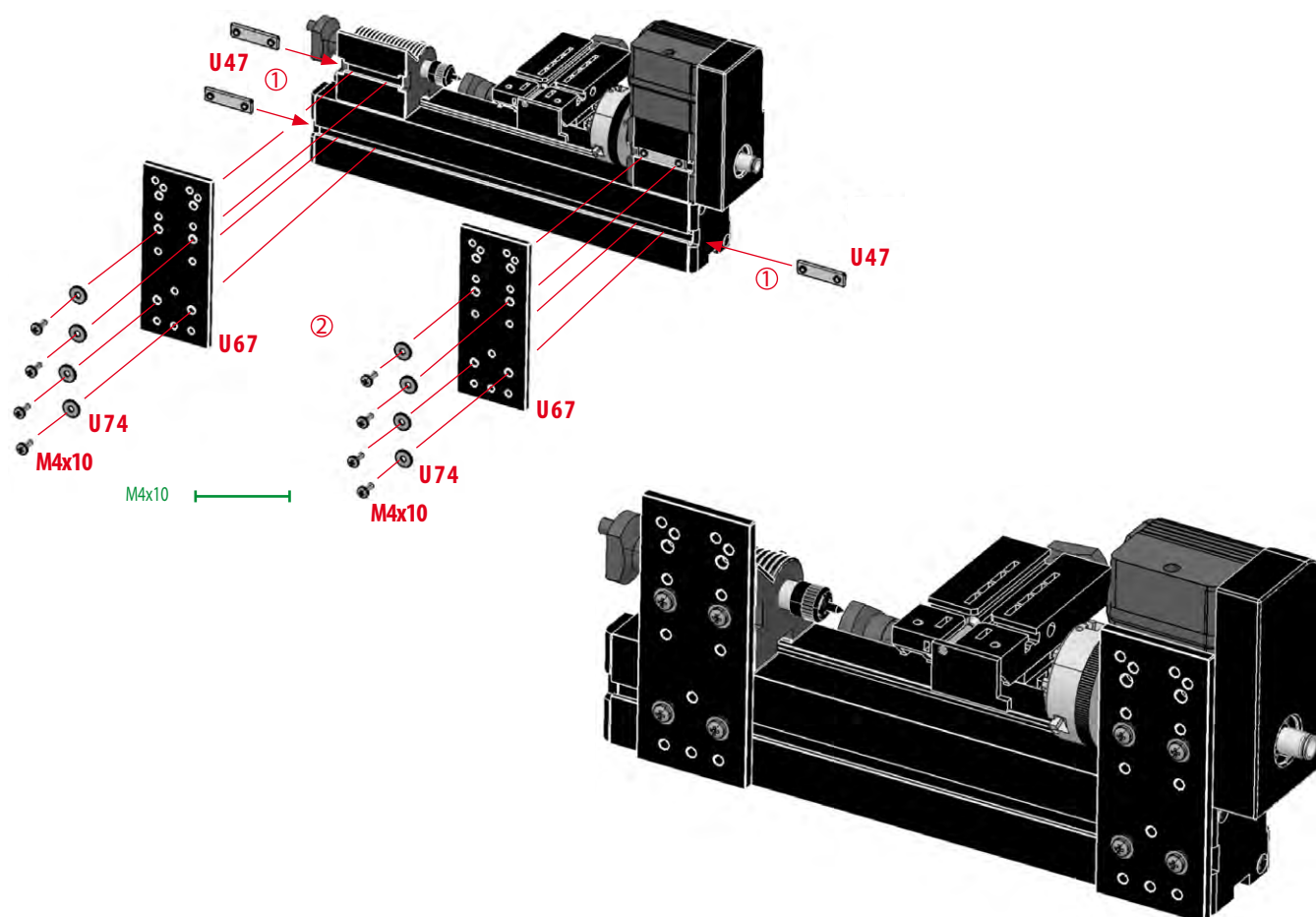
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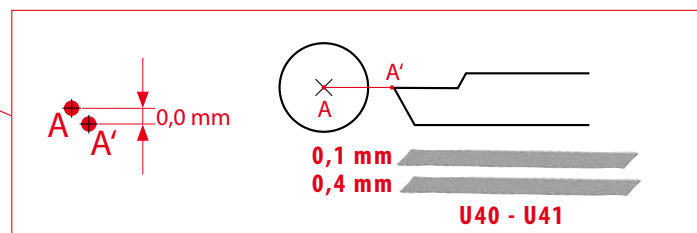
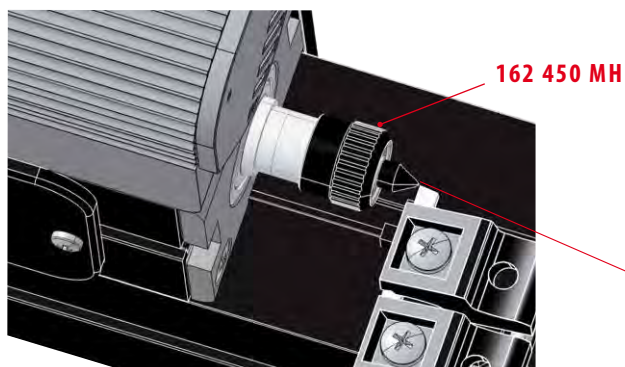
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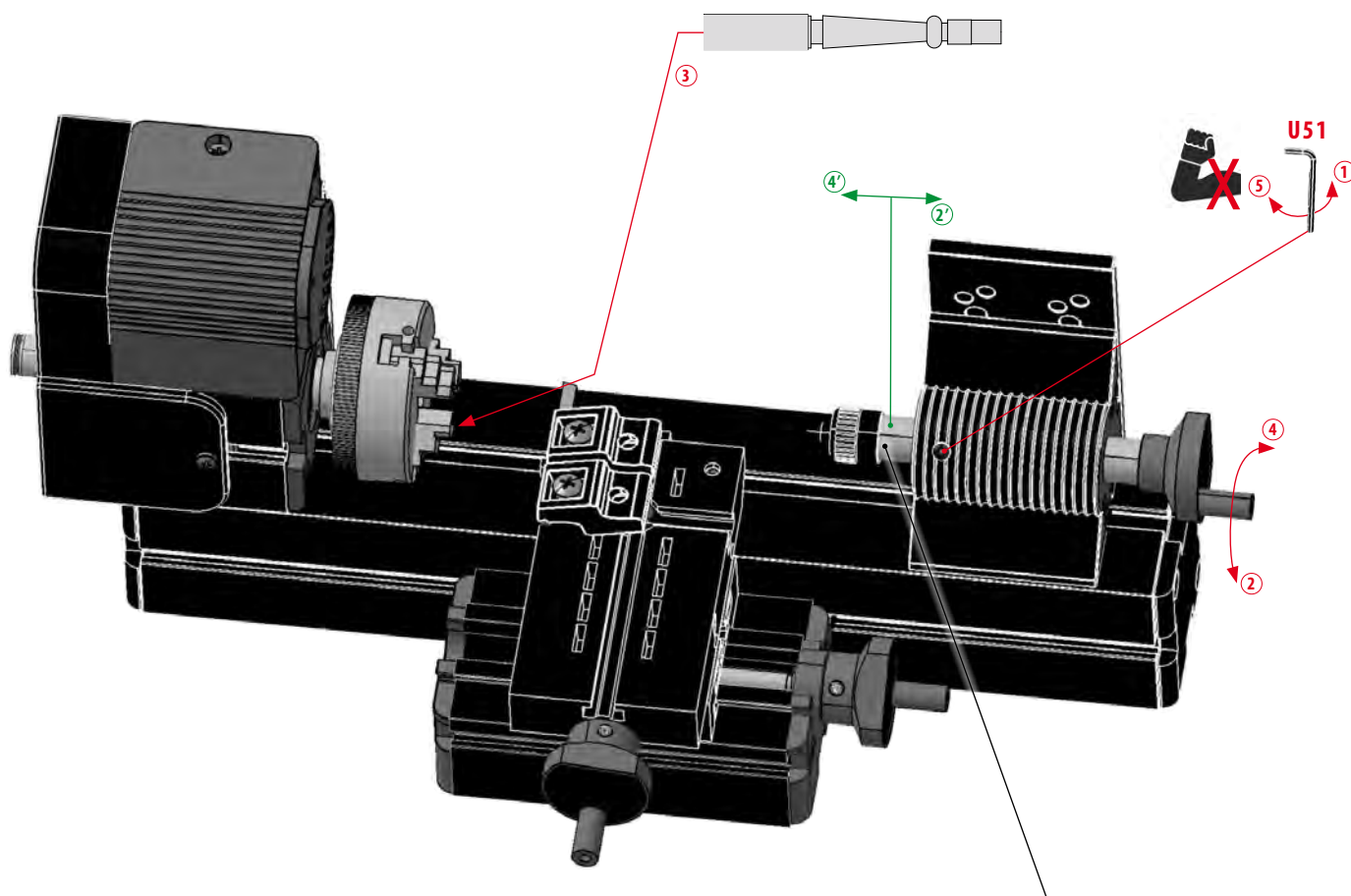
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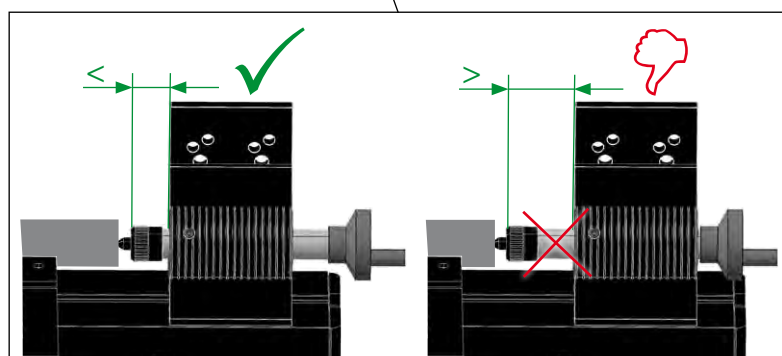


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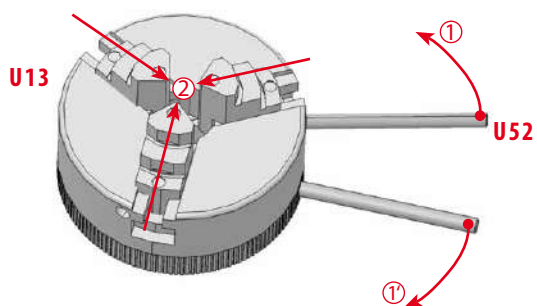
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30 / 33

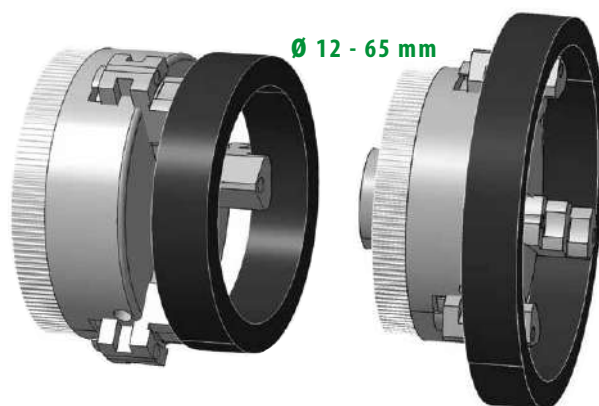
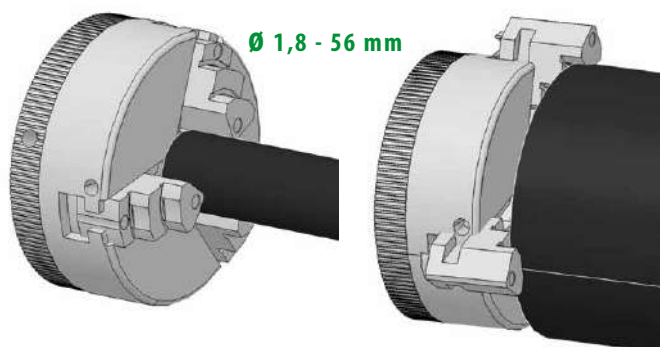
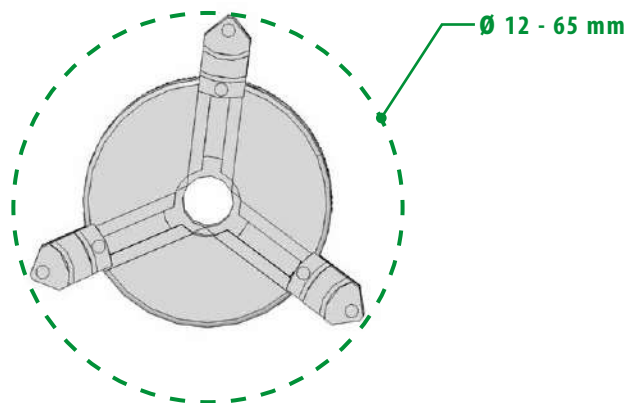
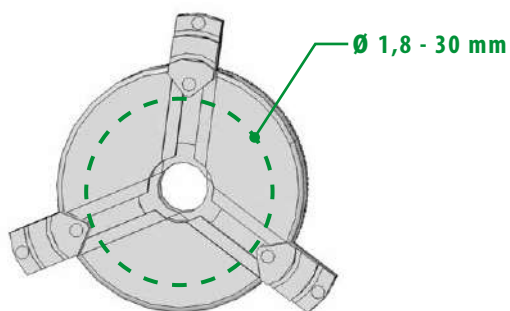
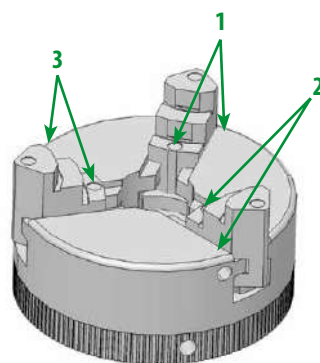
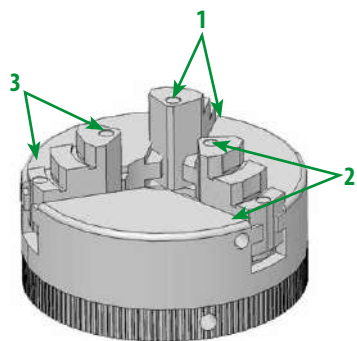
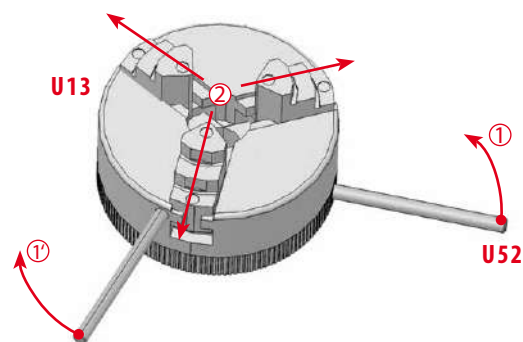


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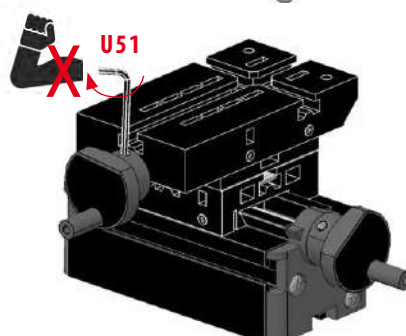
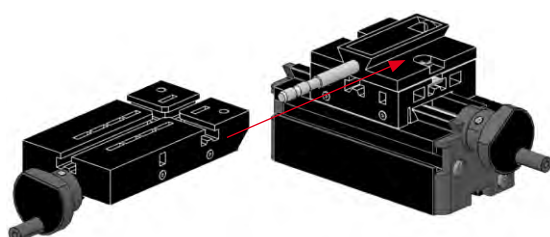
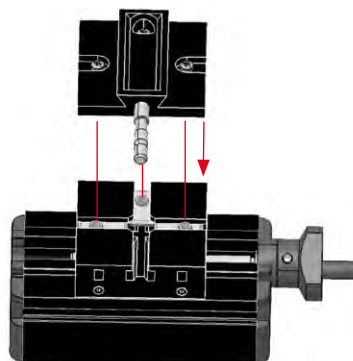
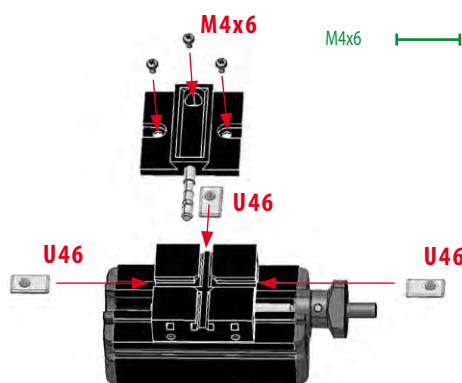
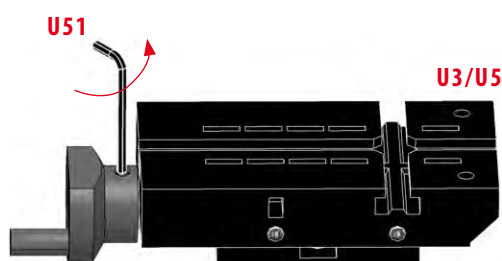
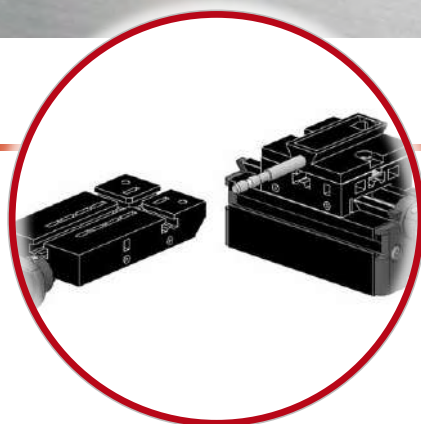




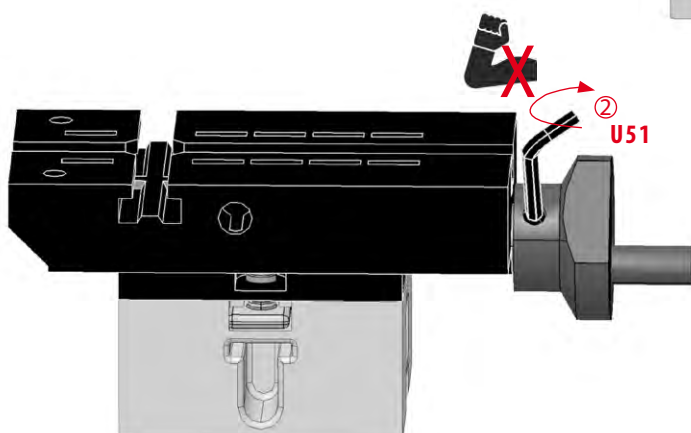
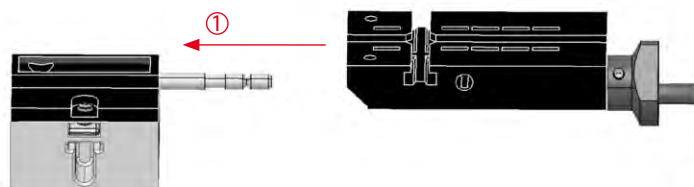
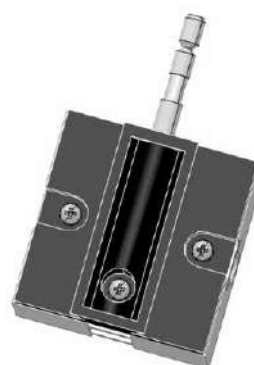
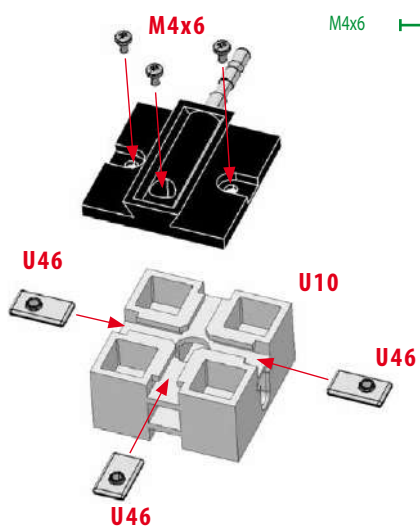
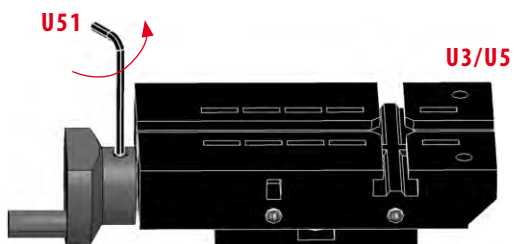
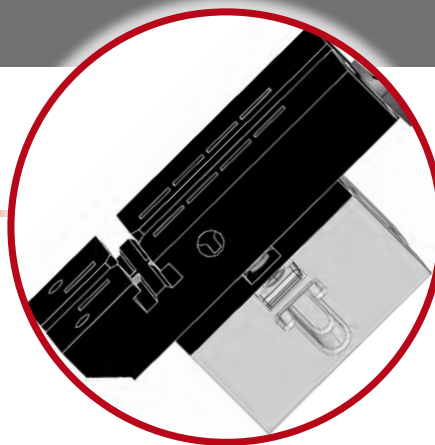
Standbohrmaschine
Vertical drilling machine
Perceuse verticale
Máquina taladradora vertical
立钻床
Dik Matkap Makinesi

Vertikal Fräse
Vertical milling machine
Fraiseuse verticale
Fresadora vertical
立铣床
Dikey Freze Makinesi

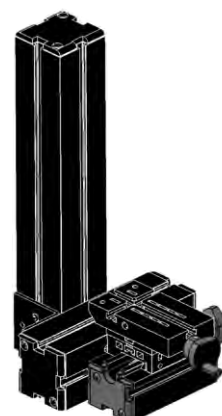
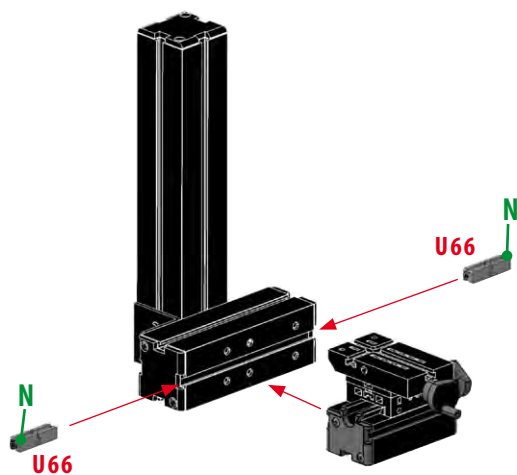
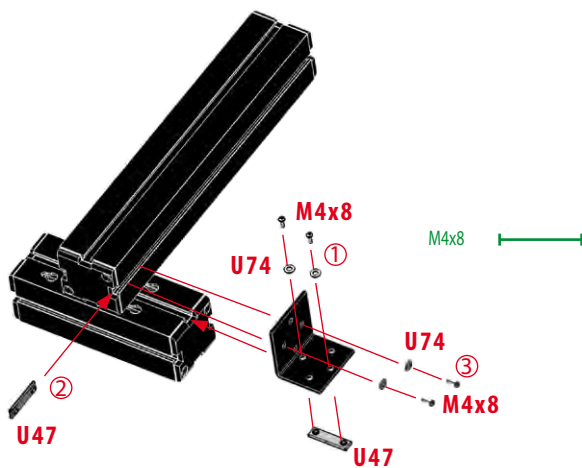
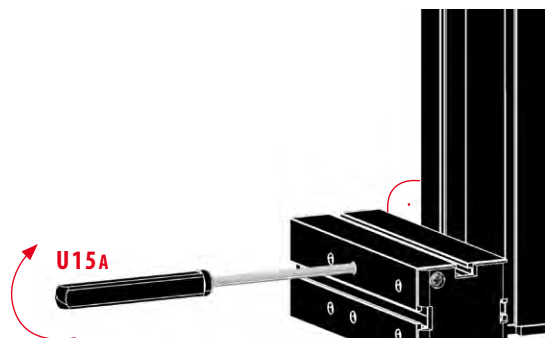
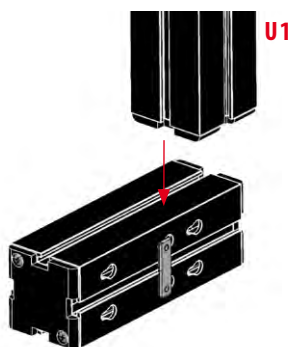
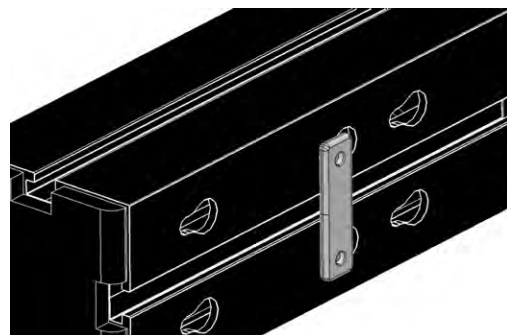
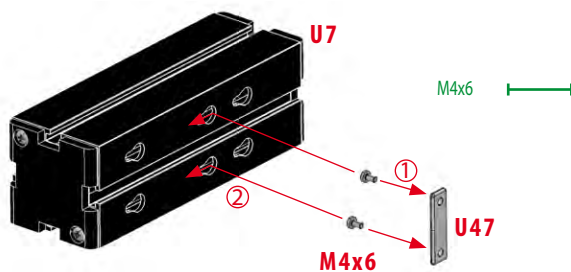
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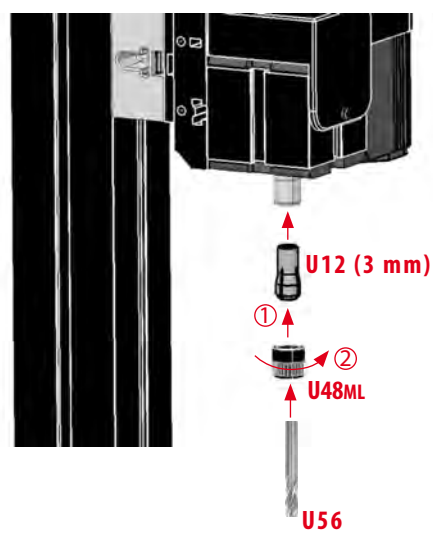
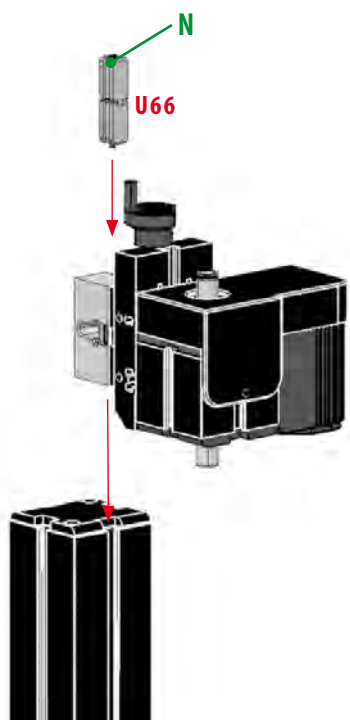
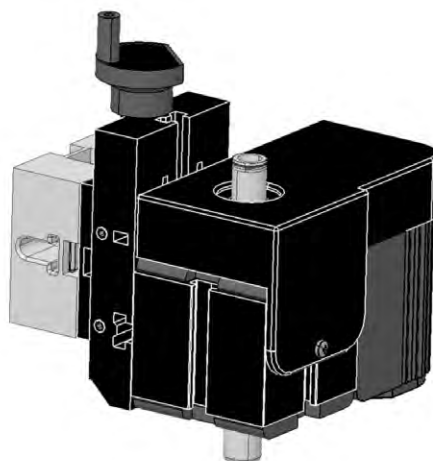
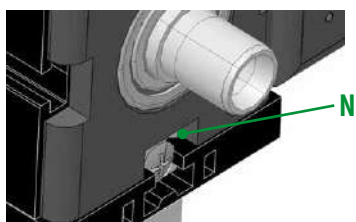
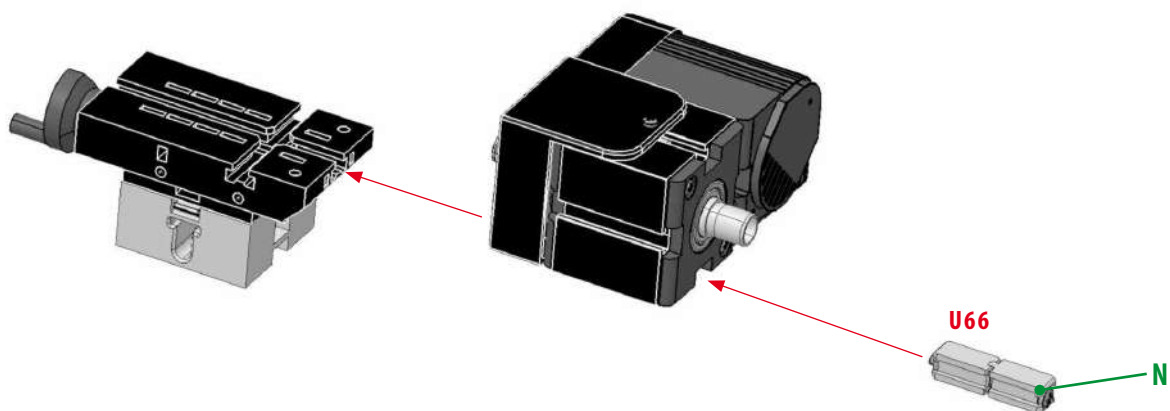
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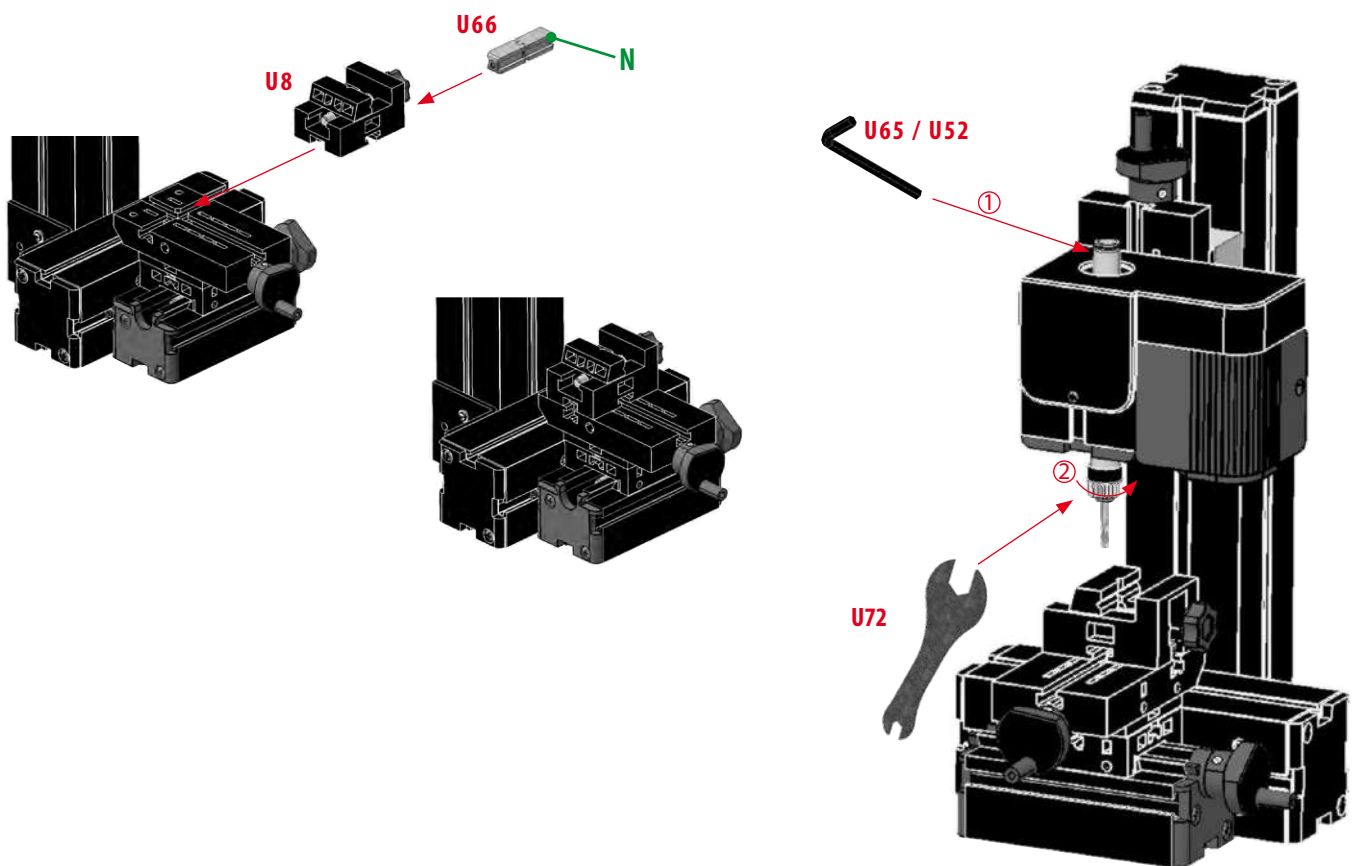
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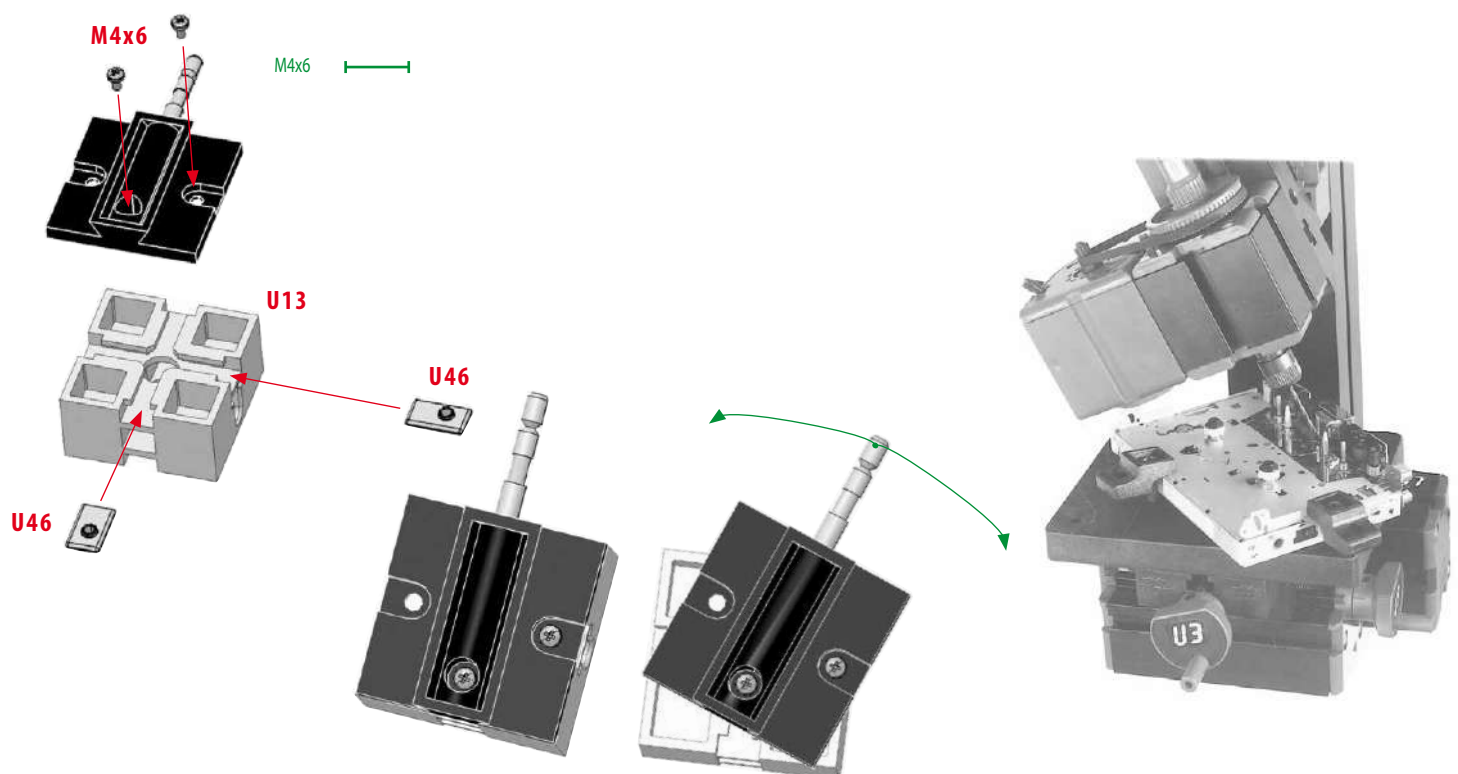
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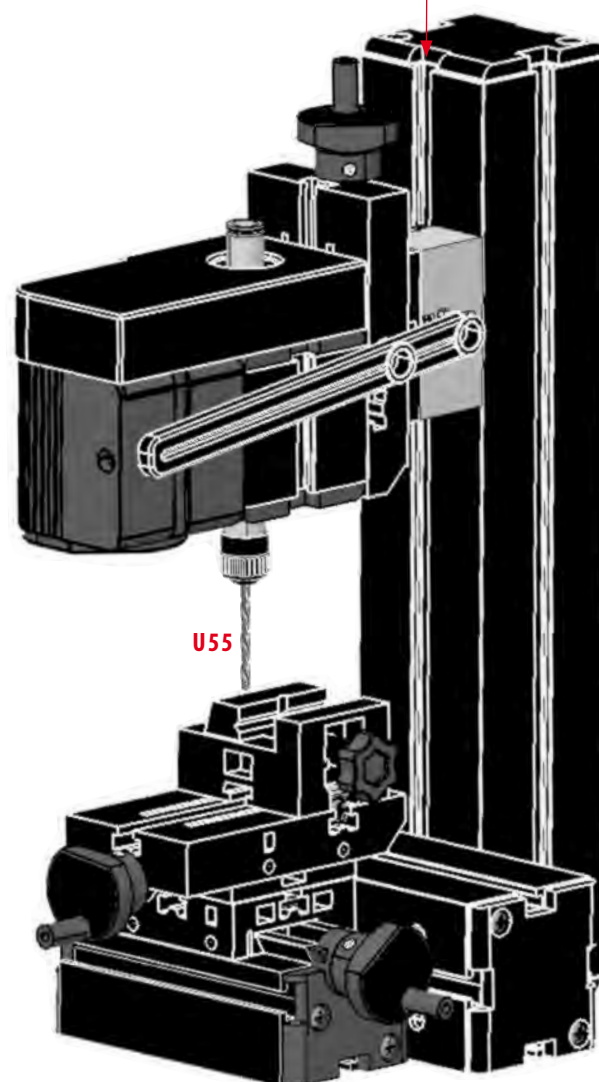
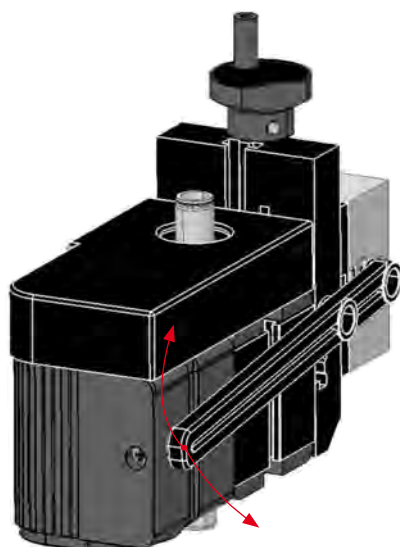
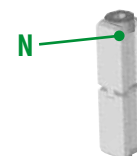
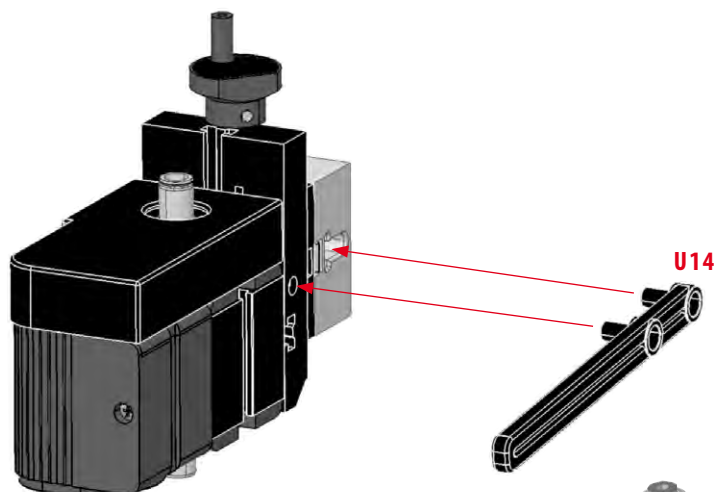
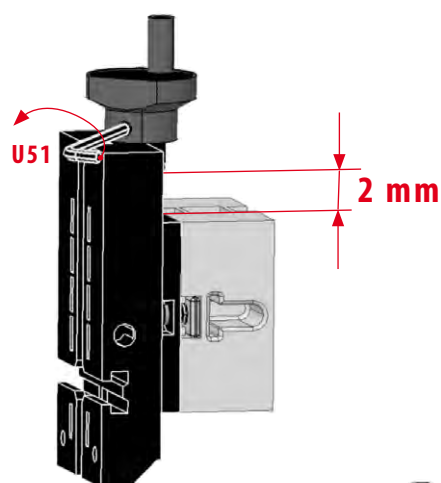


Variante / variant / variant / variante / 變種 / değişken

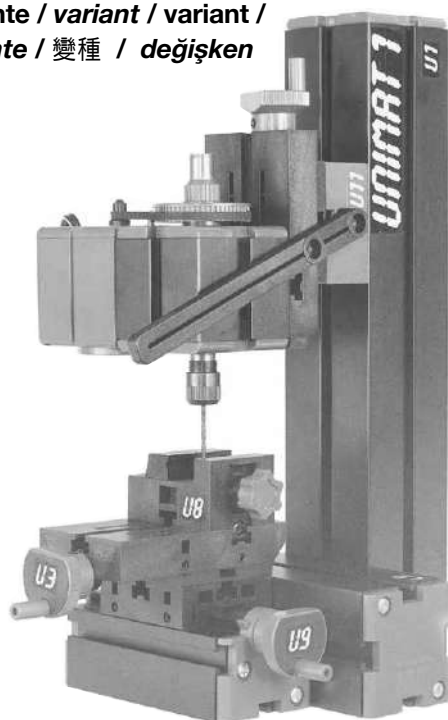


6

Standbohrmaschine / Vertical drilling machine / Perceuse verticale / Máquina taladradora vertical / 立钻床 / Dik matkap makinesi



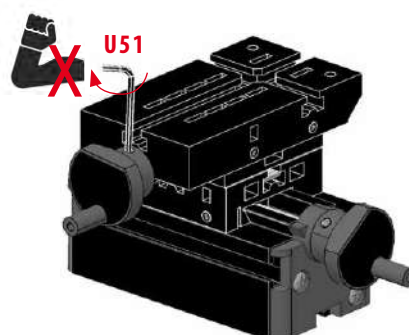
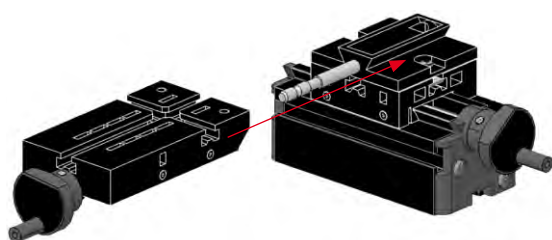
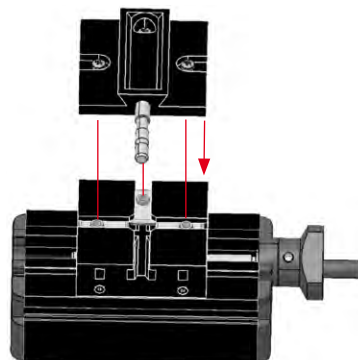
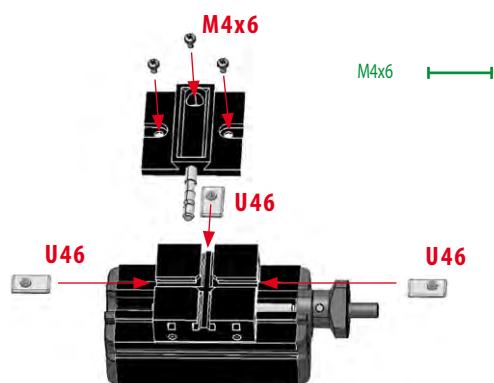
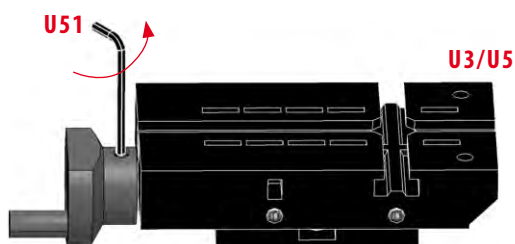
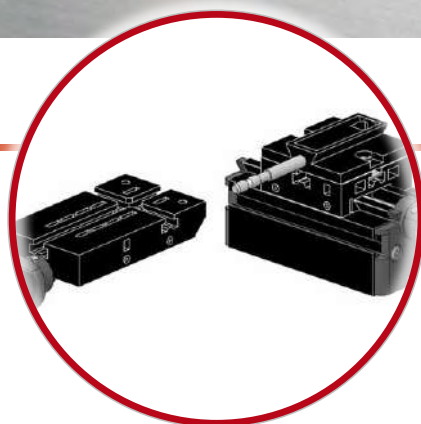
Variante / variant / variant /
variante / 變種 / değişken



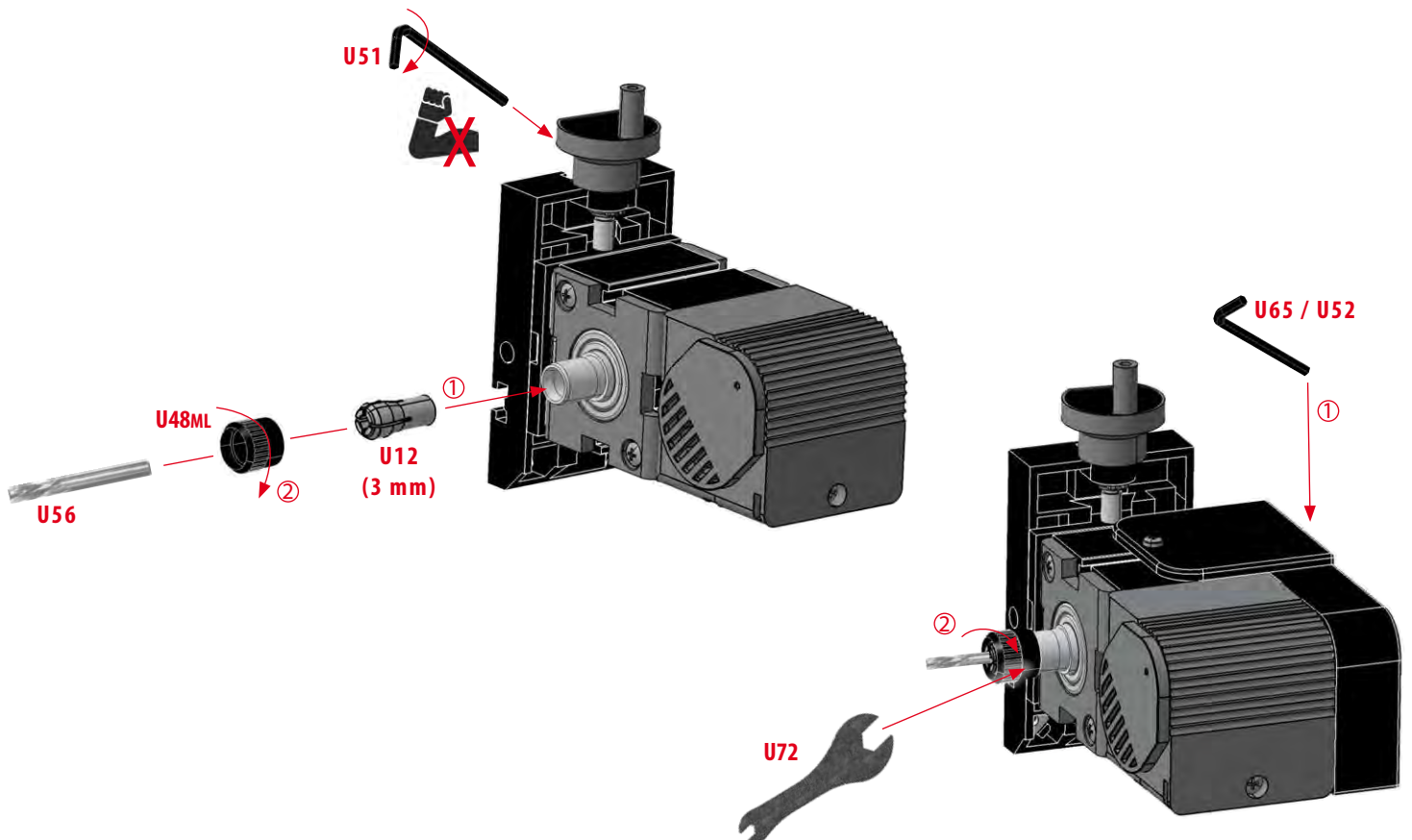
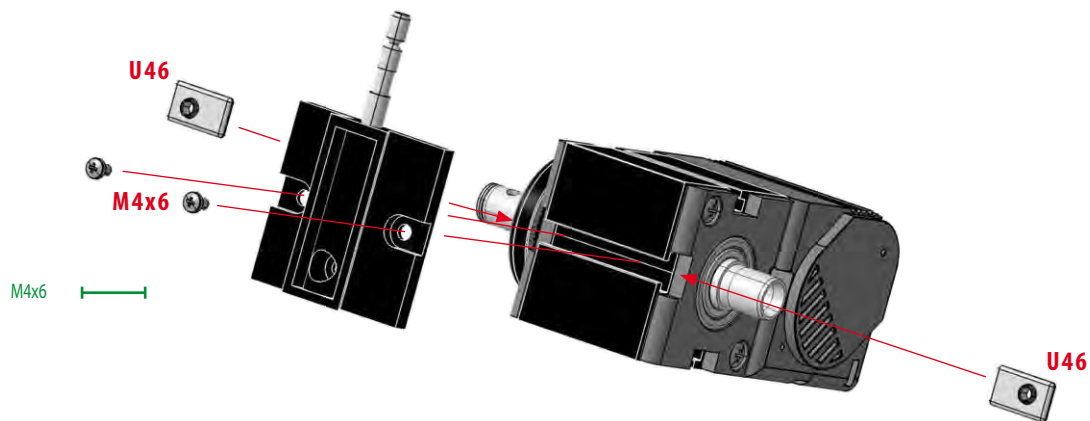
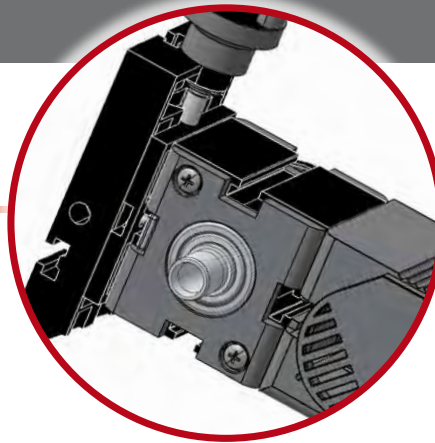
Horizontal Fräse
Horizontal milling machine
Fraiseuse horizontale
Fresadora horizontal
卧式铣床
Yatay freze makinesi



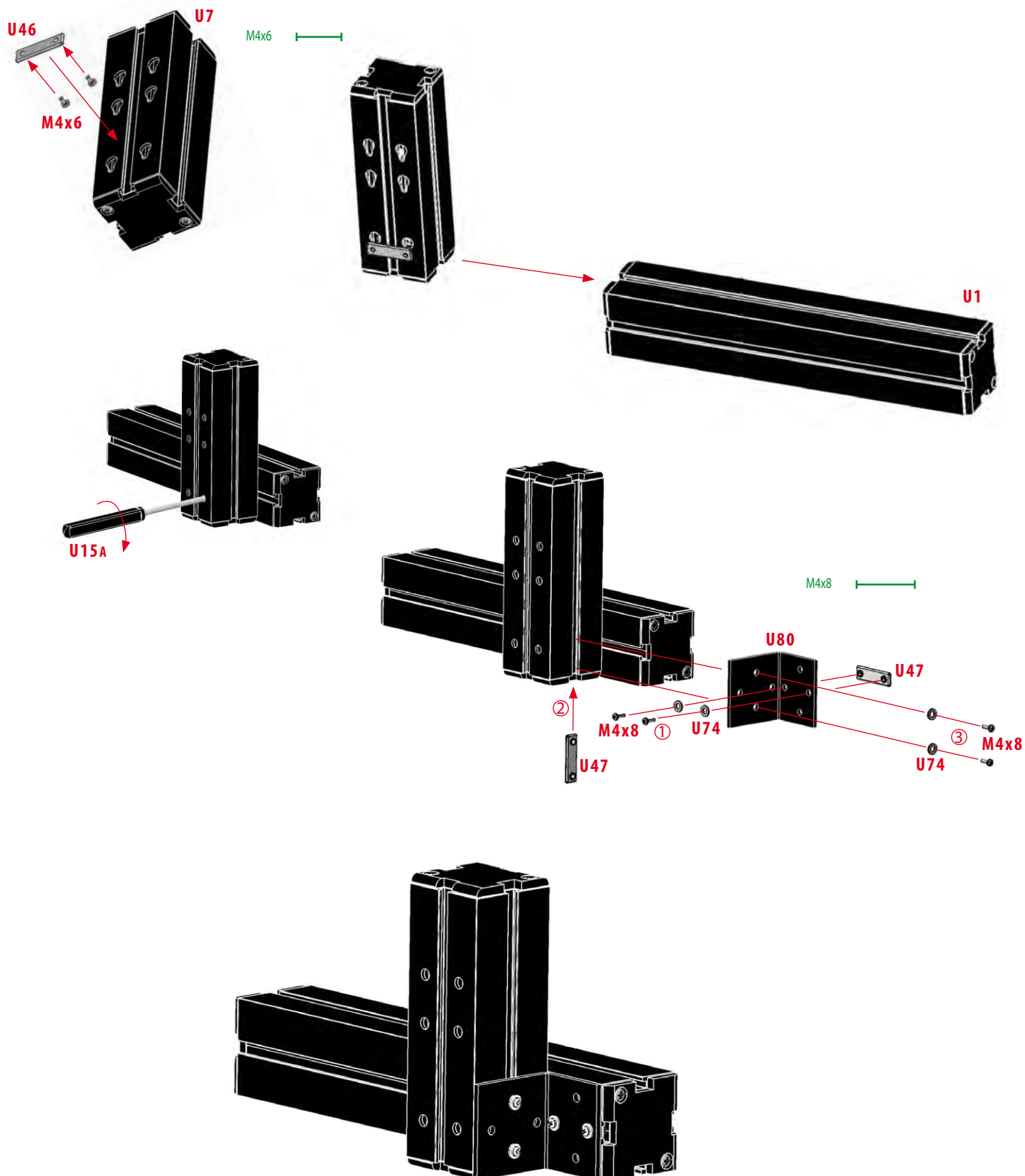
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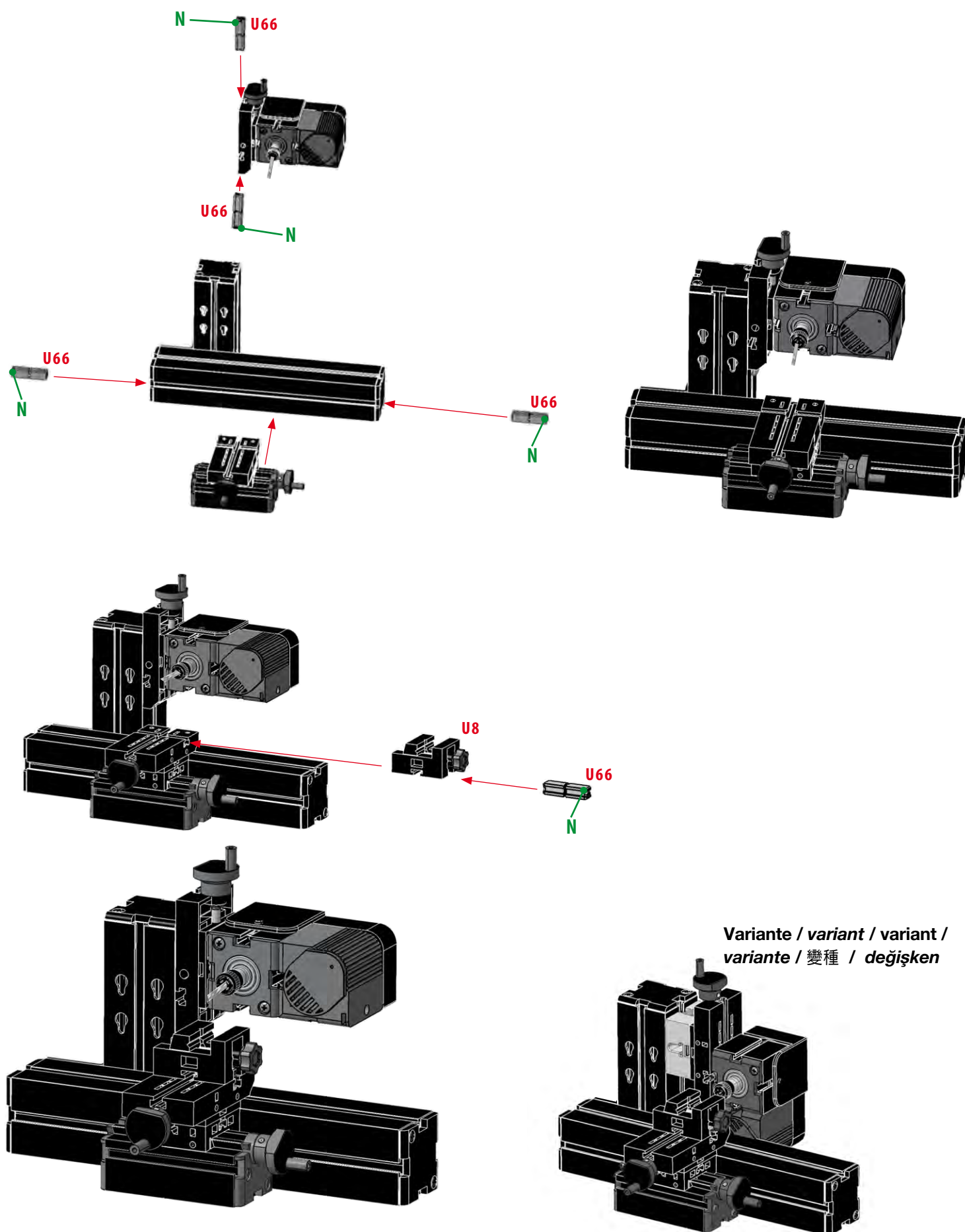
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3



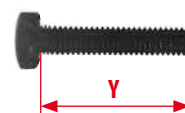
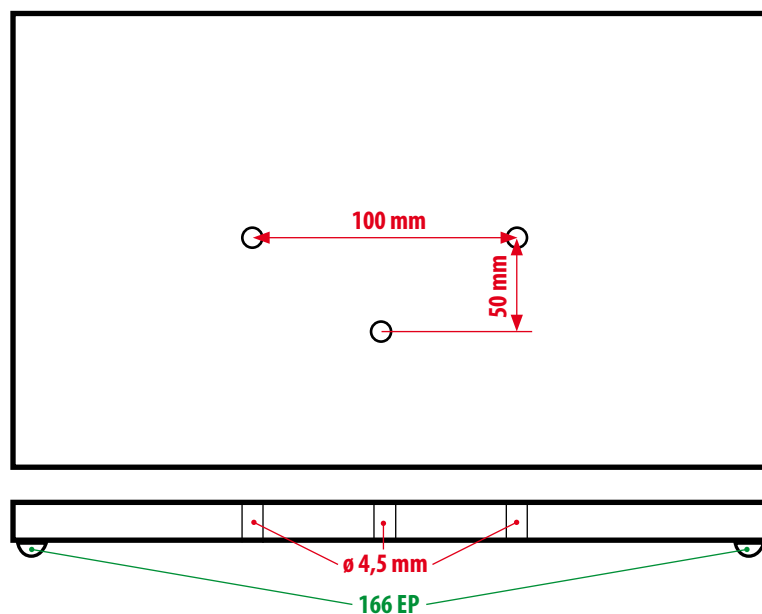
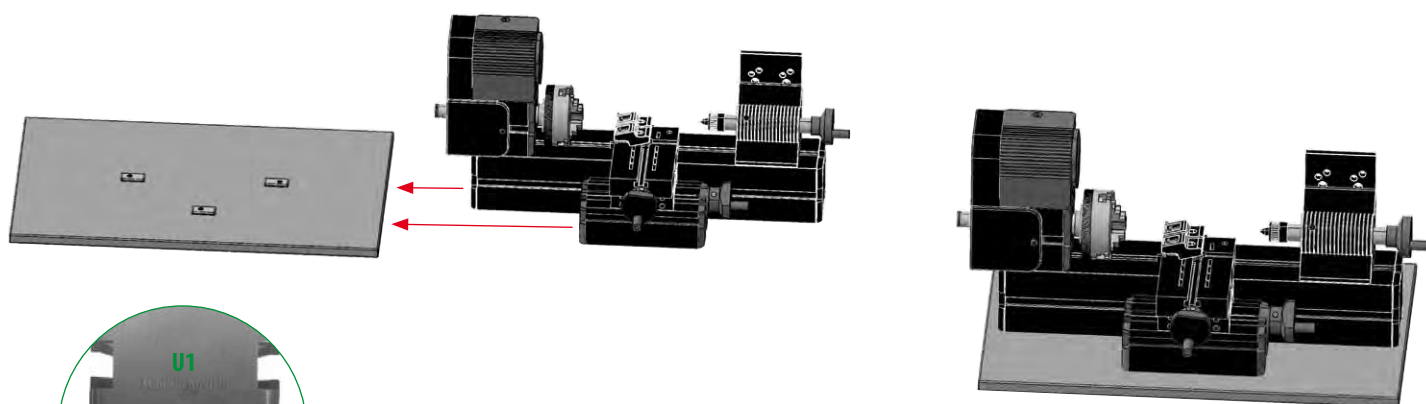
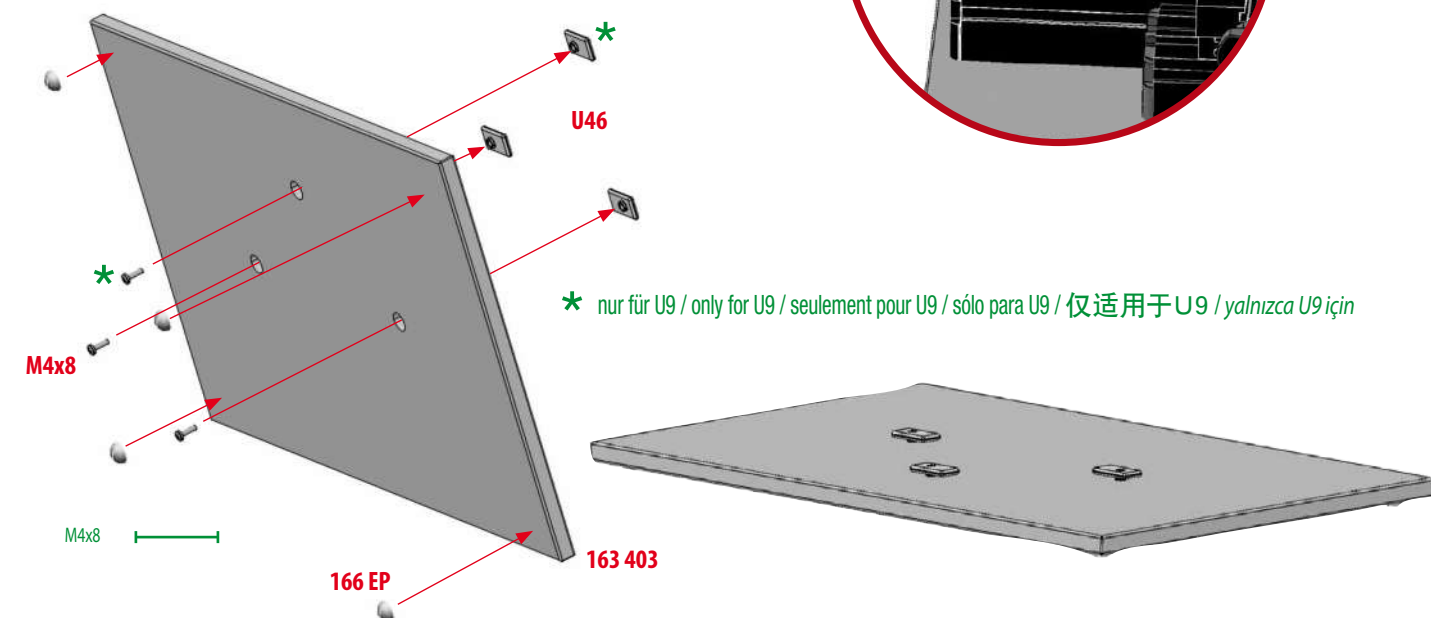
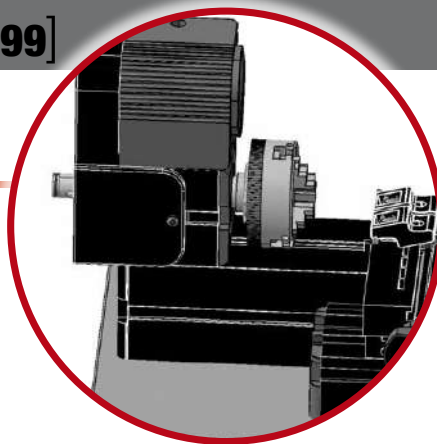
4



Variante / variant / variant /
variante / 變種 / değişken

Montageplatte / Mounting plate / Plaque de montage / Plancha basico / 固定底板 / Montaj Plakası

optional / optional / en option / opcional / 可選的 / isteğe bağlı



$$Y = X + 4 \text{ mm}$$

Tipps für Einsteiger / Tips for beginners / Pour Débutants / Indicaciones / 适用于初学者的提示 / Yeni başlayanlar için ipuçları

Wenn Sie mit Modellbau beginnen oder das erste Mal mit einer Werkzeugmaschine zu tun haben, sollten Sie folgende Grundregeln beachten:

- Mit einfachem, leicht zu bearbeitendem Material beginnen, also zuerst Holz, dann erst Metall verwenden!
- Die Bearbeitungsgrenzen von Unimat 1 akzeptieren
- Nur mit scharfem und gutem Werkzeug arbeiten, also entweder regelmäßig nachschleifen (Zubehör 162 060) oder wechseln (Sägeblätter).
- Wie jede Maschine muß Unimat 1 regelmäßig gereinigt und gewartet werden, defekte Teile sofort austauschen!

Si vous êtes un novice dans le modèle réduit ou que c'est la première fois que vous avez affaire à une machine-outil comme Unimat 1, respectez les règles suivantes :

- Commencez par des matériaux faciles à usiner: travaillez le bois avant d'utiliser du métal!
- Respectez les limites de capacité d'Unimat 1
- Travaillez avec des outils tranchants: affûter (art.# 162060) ou changer régulièrement (les lames de scie).
- Comme toute machine, Unimat 1 nécessite un nettoyage et un entretien régulier; remplacez toutes pièces défectueuses.

如果你在模型建造领域是一名初学者，或从未使用过像 Unimat 1 这样一台的模型建造机器，请留意以下事项：

- 开始之初使用简单材料制作，先使用木质材料，再使用塑胶材料，以后使用金属材料。
- 注意 Unimat 1 使用能力极限
- 操作时要用锋利刀具，所以使用前必须将刀具磨利 (#162060)，不然就换新的。
- Unimat 1 如同其它机组，必须定期清理及保养

If you are a beginner in the area of model construction or if you have never worked with a machine, you should mind the following principles:

- Begin with materials easy to handle such as wood and plastic. Only then use metal.
- Understand the limits of capacity of Unimat 1
- Only work with sharp and high quality tools, so either sharpen them (item#162060), or exchange them (saw blades).
- Like every other machine Unimat 1, must be cleaned, maintained and replaced at regular intervals!

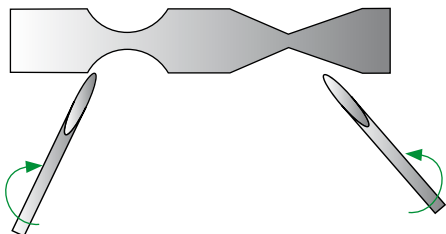
En caso que usted comienza con la construcción de modelos o si utiliza por primera vez una máquina-herramienta como Unimat, usted debe primero prestar atención a las siguientes reglas básicas:

- Al comenzar utilizar material simple que es fácil de trabajar, empezar primero con madera, luego metal.
- Aceptar los límites de Unimat 1
- No ahorre usted al comprar la herramienta, herramienta de buena calidad es cara, pero dura años.
- Solo conviene trabajar con herramienta bien afilada. Es recomendable, afilarla (art# 162 060) o cambiarla (hojas de sierra).
- Como todas las máquinas también Unimat 1 debe ser limpiada y lubricada regularmente. ¡Substituir las piezas defectuosas inmediatamente!

Model yapımı alanında yeniyseniz veya Unimat! gibi makinelerle daha önce çalışmadıysanız, aşağıdaki prensipleri aklınızdan çıkarmamalısınız.

- Ahşap, plastik gibi kolay işlenebilir malzemelerle başlamalı ve metal ile çalışmayı daha sonraya bırakmalısınız.
- Unimat 1'in kapasite sınırlarını dikkate alınız.
- Yalnızca keskin ve kaliteli aletler ile çalışın. Ayrıca aletleri keskinleştirebilir (item #162060), veya (testere bıçaklarını) değiştirebilirsiniz.
- Her makine gibi Unimat 1 de düzenli aralıklarla temizlenmeli, muhafaza edilmeli veya değiştirilmelidir!

Drechseln / Wood turning / Tourner du bois / Tornear mader / 木材车削 / Ahşap Tornalama



- Drechselaufgabe U27 so nah wie möglich am Werkstück fixieren
- Drechselmesser mit der Kerbe nach oben auf U27 legen (über dem Drehdurchmesser)
- Messer leicht gedreht und schräg halten – regelmäßig nachschleifen

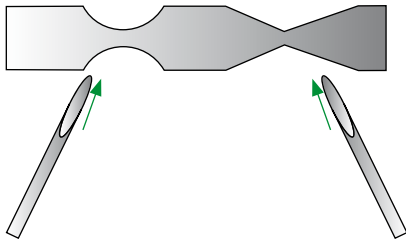
- Fixez le support de tournage U27 le plus près possible de la pièce de bois.
- La pointe de la gouge doit être sous l'axe de rotation du bois.
- Bougez la gouge de droite à gauche et inclinez la légèrement vers le haut.
- Affûtez la gouge régulièrement.
- Travaillez du plus grand diamètre vers le plus petit (de l'extérieur vers l'intérieur).

- 把木车刀刀架U27固定在尽量靠近工作物件的地方
- 木车刀的开槽口必须向上，而且要架在旋转木料的轴线之上。
- 木车刀与加工物件左右成斜角进刀，轻轻地左右移动。定期研磨车刀

- place woodturning support U27 as close to workpiece as possible
- the groove of the gouge must face upward and above the rotating axis of the wood
- move the chisel left and right slightly and hold diagonally-regrinding at regular intervals

- fijar el soporte del torno (U27) lo más junto posible a la pieza de trabajo
- girar la gubia ligeramente inclinada y torne-ar derecho y izquierdo
- la punta de la gubia debe estar por encima del eje de rotación de la pieza

- ahşap torna desteği U27'yi parçaya mümkün olduğunca yakın bir yere yerleştiriniz.
- keskinin oyuk kısmı yukarıyı göstermeli ve ahşabın döner ekseninde olmalıdır.
- eskiyi sağa ve sola hafifçe hareket ettirin ve köşegen tutun.
- düzenli aralıklarla bileyin.



- von außen nach innen arbeiten (von großem zu kleinem Durchmesser)

- travaillez du plus grand diamètre vers le plus petit (l'extérieur vers l'intérieur)

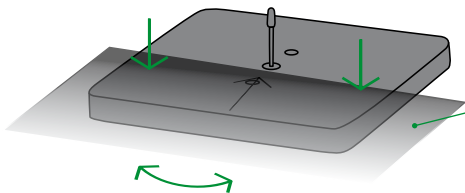
- 从外至内车削 (木件直径由大变小)

- work from the outside to the inside (from big to small turning diameter)

- se trabaja del diámetro mayor hacia el diámetro inferior de la pieza – afilar la gubia regularmente

- dışardan içeri doğru çalışın (büyük dönme çapından küçükçe doğru)

Sägen / Sawing / Scier/ Serrar / 裁锯 / Testere



Sägeholz / Plywood / Contre-plaqué /
Contrachapada / 夹板 / Kontrplak

- für Sägearbeiten empfehlen wir Pappelsperholz in 4mm Stärke (Art.nr. 163 300)

- Material (Sperrholz) mit beiden Händen von vorne an das Sägeblatt führen und auf den Säge Tisch drücken

- Beim Schneiden von Kurven das Material entsprechend führen (drehen) und nicht seitlich gegen das Sägeblatt drücken

- Säge immer wieder von Sägespänen reinigen und Exzenter fetten – Sägeblätter rechtzeitig wechseln

- for sawing we recommend poplar plywood 4mm (art# 163 300).

- guide the material (plywood) with both hands from the front side to the saw blade and press onto the saw table

- when creating curves, guide the material accordingly and don't press sideways against the saw blade (the saw blade has only one cutting edge)

- Clean the saw from chips and dust regularly - grease eccentric piece – change saw blades regularly

- pour scier nous recommandons du contre-plaqué en peuplier 4 mm (art# 163 300)

- Maintenez le contre-plaqué avec deux mains devant la scie et appuyez sur la table en poussant légèrement.

- Pour réaliser des courbes, déplacer doucement le contre-plaqué dans la direction choisie (sans arrêter la machine).

- Nettoyez la scie - graissez l'excentrique (U23) – changez la lame de scie régulièrement.

- para serrar recomendamos el contrachapada 4 mm (art# 163 300)

- fijar el material (contrachapada) con dos manos desde la parte frontal de la sierra y presione hacia abajo sobre la mesa

- para cortar las curvas conducir el material y no presionar contra la hoja lateralmente (sólo una punta de cortar)

- limpiar la sierra - engrasar la excéntrica (U23) – cambiar la hoja regularmente

- 建议使用4mm夹板做裁切材料 (材料编号163300)

- 用双手把材料 (夹板) 固定在工作台上, 向锯条的前方推进

- 锯曲线时, 顺着材料图案走, 勿从锯条侧边用力 (锯条只有一面有锯齿)

- 锯床定期清理木屑和灰尘 — 偏心轮加润滑油 — 定期更换锯条

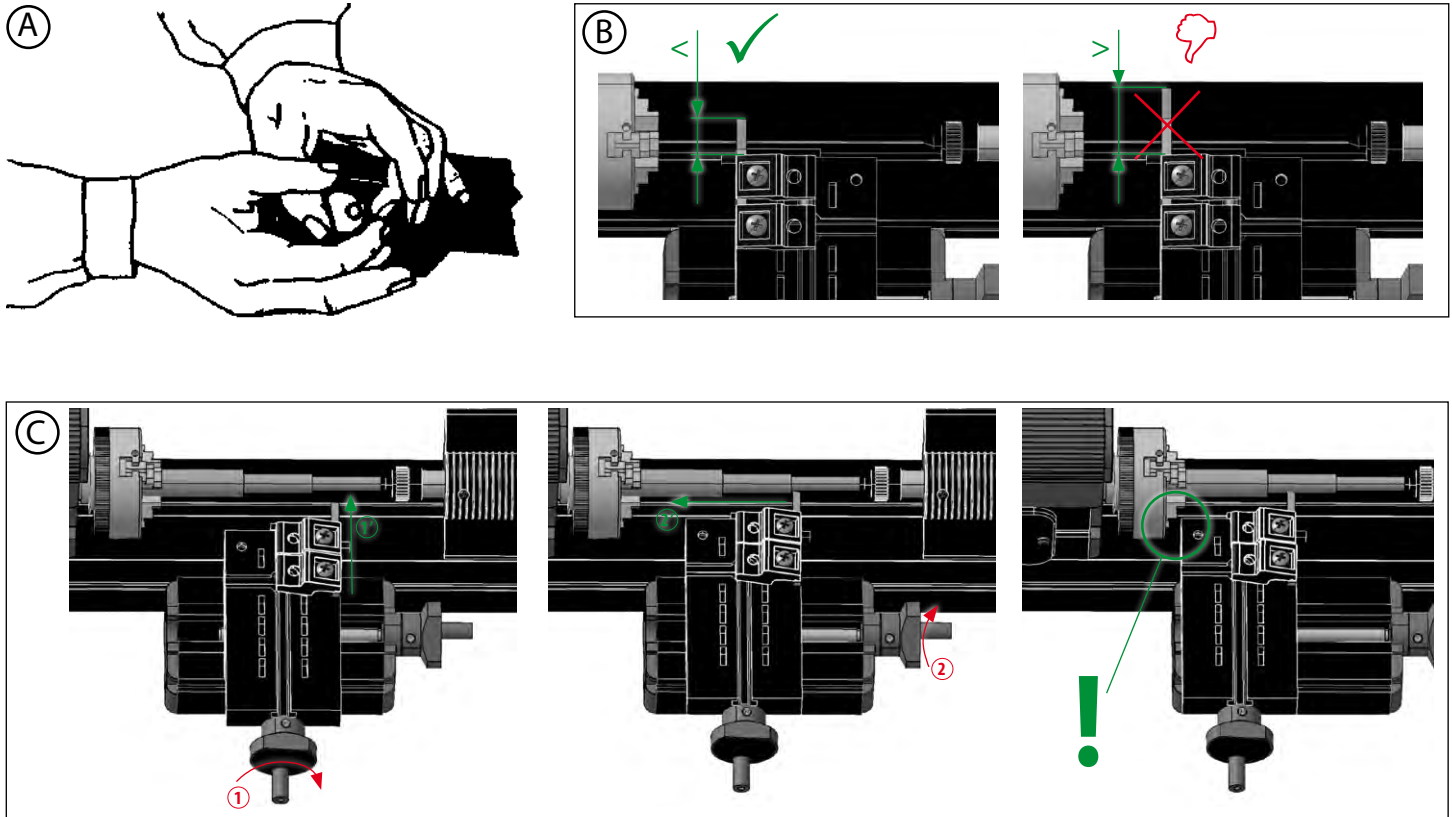
- kesme işlemi için 4 mm kavak kontrplak öneriyoruz. (aks. no #163 300).

- malzemeyi (kontrplağı) her iki elle ön taraftan testere bıçağına yönlendirin ve testere tablasına baskı uygulayın.

- eğriler yaparak materyali yönlendirin ve testere bıçağını karşı yana doğru bastırmayın (testere bıçağının yalnızca bir kesici kenarı vardır.)

- testereyi düzenli olarak talaş ve tozdan temizleyin. - eksantrik parçaları yağlayın. - testere bıçaklarını düzenli olarak değiştirin.

**Drehen, Fräsen, Bohren / Turning, Milling, Drilling / Tourner, Fraiser, Percer /
Tornear, Fresar, Taladrar / 车 铣 钻 / Tornalama, Frezeleme, Delme**



A) Gleichmäßig schnell drehen, mit den Fingern das Handrad selbst (und nicht den Kurbelzapfen) drehen, beide Hände verwenden und umgreifen, nie stocken (Kreuzgriff). Bei größerem Widerstand das Handrad nicht über diesen weiter drehen!
B) Drehstuhl kurz einspannen.
C) Mit dem Schlitten nicht in das Futter fahren
- Pinole kurz spannen (Seite 18)

A) Turn at constant speed! You should turn the handwheel itself (not the pin) with your fingers. Use both your hands alternately, never stop. Don't turn the hand wheel too strong against resistance.
B) Clamp turning tool shortly
C) Don't crash the slide into the chuck
- Fix pinole shortly (page 18)

A) Tournez le volant à vitesse constante, en posant les doigts sur le volant même (non pas sur le bouton du volant), utilisez les deux mains sans les croiser (évitiez absolument les arrêts brusques). Ne pas tourner le volant trop fort contre le resistance.
B) Montez brièvement l'outil à tourner
C) Ne pas mover le chariot entre le mandrin
- Adjuster la poupée mobile (page 18)

A) Girar con una velocidad constante, utilizar los dedos para girar la rueda y no la manivela servirse de ambas manos, non parase. Girar la manivela con sensibilidad.
B) Apretar la herramienta corto
C) No mueva el carro en la mordeza
- Adjustar el contrapunta (página 18)

A) 定速旋转！用你的手指头旋转整个轮子（不是旋转手柄），用双手同步互换操作，不要停止。遇到摩擦别把手动调整轮顶得太紧了。
B) 刀具固定突出短一点
C) 加工移动滑块时注意别碰到三爪夹头了。
- 尾座的顶尖突出尽量短

A) Sabit hızda dönün! El çarkını (pini değil) parmaklarınızla çevirmeniz gerekir. Her iki elinizi de dönüşümlü olarak kullanın, asla durmayın. El çarkını, dirence karşı çok güçlü çevirmeyin.
B) Torna aletini mesafe kısa olacak şekilde sıkıştırın.
C) Kızağı torna aynasına doğru çarpmayın.
- Pinole'yi kısa süre içinde sabitleyin (sayfa 18).

Fräsen u. Bohren / milling and drilling / Tourner du bois/ Tornear mader / 车 铣 钻 / frezeleme ve delme

- Achtung: bei den Fräsmaschinen kann man sich - im Gegensatz zu den anderen Unimat Maschinen - ernsthaft verletzen, deshalb: **NICHT FÜR KINDER GEEIGNET!** Das gleiche gilt für Planfräsen und Zahnradfräsen, siehe Zubehör.
- Nicht in den Bohrtisch bohren
- Gegenlaufräsen! - ①

- Attention: À l'encontre des autres Unimat machines, la fraiseuse peut causer de graves blessures, donc: La fraiseuse n'est pas un JOUET D'ENFANTS ! ceci étant valable également pour la tête d'alésage et pour les machines à fraiser les engrenages, cf. accessoires.

- Ne pas faire de trous dans la table de perçage
- Fraisez en sens contraire! - ①

- 不像优耐美的其它机器一样，铣床是不安全的。因此铣床不适合儿童使用！同样的平铣机和铣齿机，参看配件，也不适合儿童使用。
- 别钻到钻台面了
- 逆铣加工（铣刀旋转方向与工件方向相背才是正确的）

- Mind: Unlike all other Unimat devices the milling machine can cause injuries . For this reason it is **NOT SUITABLE FOR CHILDREN!** The same applies to plain milling and gear milling, see accessories.

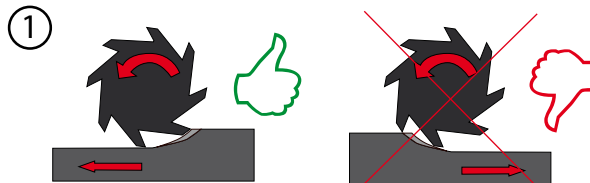
- Don't drill into the drilling table
- up-cut (opposed) milling! - ①

- Atención: contrariamente a las otras máquinas de Unimat pueden producirse heridas graves al trabajar con las fresadoras y por esto: **¡no es apto para niños!** Lo mismo vale para las fresas para planear y las fresas de engranajes, véase accesorios.

- No hacer agujeros en la mesa del taladro
- Fresar en contra corriente! - ①

- Dikkat: Diğer bütün Unimat cihazlarının aksine, freze makinesi yaralanmalara neden olabilir. Bu nedenle **ÇOCUKLAR İÇİN UYGUN DEĞİLDİR.** Aynı şey düz freze ve dişli frezeleme için de geçerlidir, bkz. Aksesuarlar.

- Delme tablasını delmeyin.
- up-cut (karşıt) frezeleme! - ①



Allgemein / General / Général / General / 般注意事项 / Genel

- Riemenspannung kontrollieren (Seite 8)
- Schlittenspiel überprüfen - (A)
- Schlitten regelmäßig von Schmutz und Spänen reinigen anschließend nachfetten - (B)
- Festsitzende Spannzanze lösen - (C)

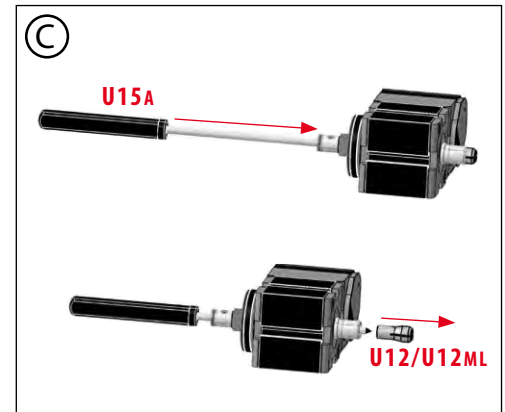
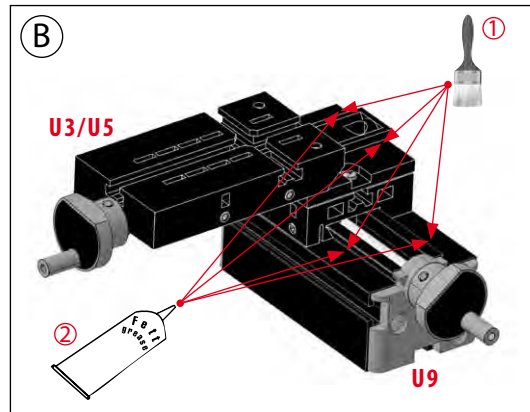
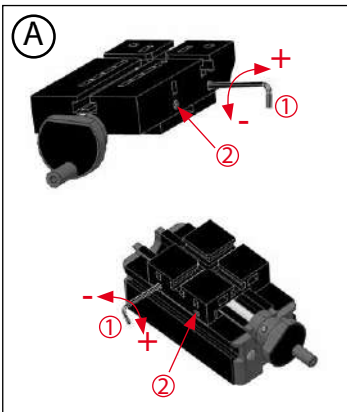
- Contrôler la courroie (Seite 8)
- Vérification du jeu des charriots - (A)
- Nettoyer et lubrifier les charriots régulièrement - (B)
- desserrer les pinces serrées - (C)

- 检查皮带松紧度（第8页）
- 滑块调整 - (A)
- 定期清洁润滑滑块 - (B)
- 顶出卡住的夹头 - (C)

- Check belt-tension (page 8)
- Slide adjustment - (A)
- Clean and grease slide regularly - (B)
- Loose tightened collet - (C)

- Controlar la correa (page 8)
- Adjustar los carros - (A)
- Limpiar y lubricar los carros regularmente - (B)
- destornillar los pinzas apretados - (C)

- Kayış gerginliğini kontrol edin. (sayfa 8)
- Kızak ayarlama - (A)
- Kızakları düzenli olarak temizleyin ve yağlayın. - (B)
- Sıkıştırmış pensleri gevşetin. - (C)



Rattern / Vibrieren / Unsaubere Materialoberfläche - überprüfen von:

- Aufbau: Verbindungselemente, Schlittenspiel (A), Montage auf Grundplatte (Seite 30)
- Werkzeug: Schneide, Winkel, Höhe (bei Drehbank) Nur scharfe Werkzeuge verwenden!
- Werkzeugfixierung: Ø Spannzangen, Überwurfmutter, Spannklaue, etc.
- Werkstückfixierung: Dreibackenfutter, Schraubstock, Spannzangen, Spannklaue, etc.
- Zustellung: max. 0,5- 1mm, zu schneller Vorschub

"Bruit" / vibration / surface imparfaite – vérifier de:

- Assemblage: pièce de connexion, vérifier le jeu des chariots (A), plaque de montage (page 30)
- Outils: affûter les outils, contrôler l'angle et l'hauteur (tour), travailler avec des outils tranchants!
- Fixation des outils: Ø pinces, porte-pinces, mors de serrage, etc.
- Fixation du matériau: mandrin à 3 mors, étau, pinces, mors de serrage, etc.
- Profondeur de coupe: max 0,5 -1mm, travaillez trop vite

杂声、震动、表面粗— 检查以下事项:

- 组装: 连接件、滑块调整(A) 固定底板 (第30页)
- 刀具: 切割边缘、角度、刀具高度调整 (车床)、一定要用锋利的刀具!
- 刀具固定: 夹头直径、夹头螺帽、夹板等等
- 工件固定: 3爪夹头、虎钳、夹头、夹板等等
- 行程: 最大范围在0.5-1mm, 进刀速度太高

"Rattling" / vibrations / bad surface – check the following:

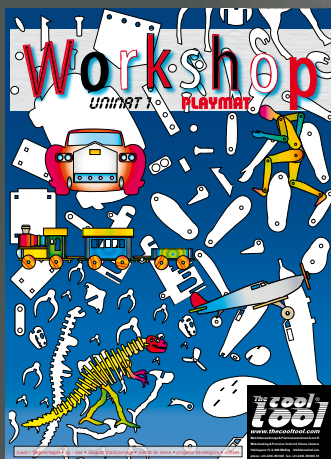
- Assembly: connection piece, slide adjustment (A), mounting plate (page 30)
- Tools: cutting edge, angle, tool height adjustment (lathe), use only sharp tools!
- Tool fixation: Ø collets, collet holder, clamping jaw, etc.
- Fixation of work piece: 3-jaw-chuck, vice, collets, clamping jaws, etc.
- Travel: max. 0.5 – 1mm, feed rate too high

"La máquina hace ruido / Vibración / Superficie de la pieza no quedo limpia – control de los:

- Montaje: elemento de conexión, ajustar los carros (A), plancha basico (página 30)
- Herramientas: el corte, controlar el ángulo y la altura (torno), trabajar con herramientas bien afilada!
- Fijación des herramientas: Ø pinzas, porta-pinza, brida de sujeción, etc.
- Fijación del material: mandril de 3 mordazes, mordaza, pinzas, brida de sujeción, etc.
- Acercamiento: max 0,5 – 1mm, trabajar mas rápida

"Sallanma" / Titreme / Kötü yüzey - aşağıdakileri kontrol edin.

- Kurulum: bağlantı parçası, kızak ayarları (A), montaj plakası (sayfa 30)
- Araçlar: kesme kenarı, aç, alet yükseklik ayarı (torna), sadece keskin aletler kullanın!
- Araç sabitleme: Ø pensler, pens tutucu, sıkıştırma çenesi, vs.
- İş parçasını sabitleme: 3 çeneli torna aynası, yardımcı, pensler, sıkıştırma çenesi, vs.
- Hareket: max. 0.5 – 1mm, besleme oranı çok yüksek



VS1 603



VS1 602



163 300



163 100



162 190



162 231



100 05



162 630

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