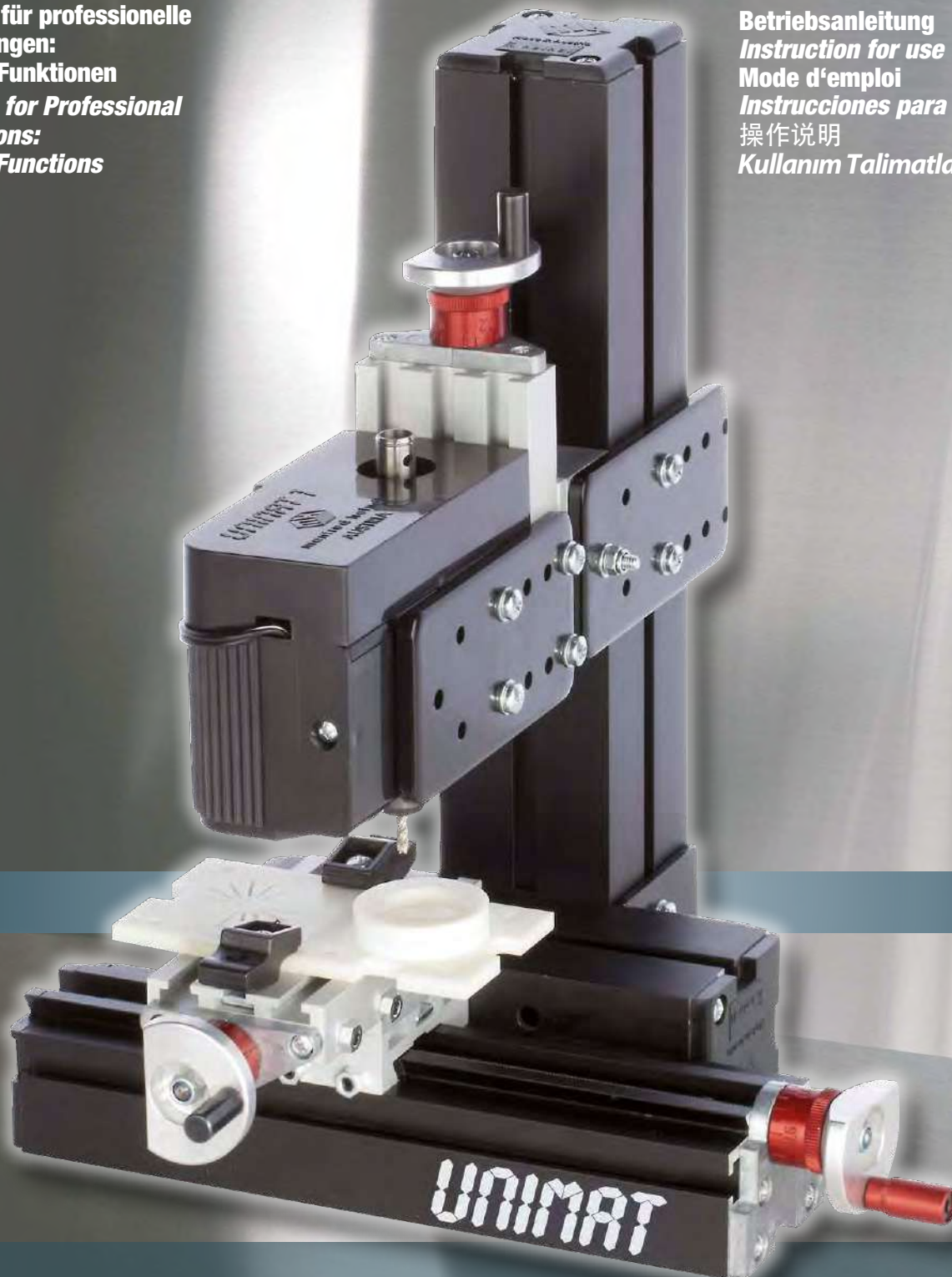


UNIMAT ML - METALLINE [12+]

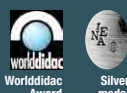
The **cool** 1001

Präzision für professionelle
Anwendungen:
1 Set – 6 Funktionen
*Precision for Professional
Applications:*
1 Kit – 6 Functions

Betriebsanleitung
Instruction for use
Mode d'emploi
Instrucciones para uso
操作说明
Kullanım Talimatları



MADE
IN AUSTRIA



Silver medal
Nuremberg



Handbohrer
Hand drill
Perceuse portative
Esmeriladora manue
手钻
El matkabi



Handschleifer
Handheld sanding machine
Ponceuse portative
Lijadora manual
磨床
El tipizmpara makinesi



Zentrierbohrmaschine
Center drilling machine
Perceuse à centr
Taladradora de centr
中心钻床
Merkez delme makinesi

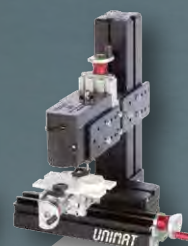
61
IN
METAL



Drehbank
Lathe
Tour
Torno de metal
金属车床
Torna



Horizontalfräse
Horizontal mill
Fraiseuse horizontale
Fresadora horizontal
卧铣床
Yatay freze



Vertikalfräse
Vertical mill
Fraiseuse verticale
Fresadora vertical
立铣床
Dikey freze

WARNING

WARNUNGEN

Mit Unimat ML 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 beim Arbeiten aus der Maschine fliegen. 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 untenstehender Adresse 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. Konformitätserklärung: <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 einem 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 ML 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 machined. Always make sure that the tool and workpiece are each 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 direct-current motor. Children should only use the machines under very strict supervision by 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. Should any part in this box be defective or missing, please send your request to the address shown below 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/>

AVERTISSEMENTS

Unimat ML permet de réaliser 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 différent pays. Déclaration de conformité: <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 ML 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 rotatoria!

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 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, sirviera remitir al fabricante las piezas técnicas tales como los motores. El contenido puede variar dependiendo del país. Declaración de conformidad CE: <http://www.thecooltool.com/en/legal/>

!Nunca tocar el material que está rotando (madera para torrear, ...)! ¡Prestar cuidado a que el indumentario (mangas, ...) o el 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!

警告

优耐美Unimat ML 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。机器加工时工件有可能从夹头上脱落，因此务必确定工具及工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件！

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，只需要你的名字和地址，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。EC符合性声明: <http://www.thecooltool.com/en/legal/>

勿使头发和衣服靠近运动中的零件！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）。

UYARILAR

Unimat 1 ile farklı makineler monte etmek mümkündür. Her makine uygunsuz bir şekilde kullanılması durumunda ciddi yaralanmalara neden olabilir.

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 değiştirme için talebinizi aşağıdaki adrese gönderin. Kutuyu göndermeyin. Adınız ve adresiniz, parça numarası (montaj kılavuzunun yedek parça listesinden bakabilirsiniz) veya küçük bir çizim. Lütfen onanım 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 kişilerin denetiminde 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 kullanımlar sırasında önlem alınmalıdır.

TECH. SPECS.



Technische Daten

EINZELTEILE

Motorvorgelege U2ML

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

Querschlitzen U3ML

Verstellweg: 32mm
Spindelsteigung: 1 (M6x1)

Längsschlitzen U9ML

Verstellweg: 145mm
Spindelsteigung 1 (M6x1 links)

Motor U4ML

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

Reitstock U6ML

M 12x1
Pinolenhub: 30mm

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 50mm
Spitzenweite 80mm

Horizontalfräse

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

Vertikalfräse

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



Technical data

INDIVIDUAL PARTS

Headstock U2ML

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

Cross slide U3ML

Travel: 32mm
screw pitch: 1 (M6x1)

Longitudinal slide U9ML

Travel: 145mm
screw pitch: 1 (M6x1 left)

Motor U4ML

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

Tailstock U6ML

M12x1
Travel of tailstock sleeve: 30mm

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

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 U2ML

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

Transversal U3ML

Course de réglage: 32mm
filet: 1 (M6x1)

Longitudinal U9ML

Course de réglage: 145mm
filet: 1 (M6x1 left)

Moteur U4ML

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

Poupée mobile U6ML

M12x1
Course de fourreau: 30mm

Transformateur

prim. 110 - 240 V, 50 - 60 Hz,
sec. 12 V, 2A, avec coupecir-
cuit thermique (ensuite tirez la
prise pour interrompre le circuit
électrique)

MACHINES INDIVIDUELLES

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 U2ML

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

Carro transversal U3ML

Recorrido de desplazamiento:
32mm
screw pitch: 1 (M6x1)

Carro longitudinal U9ML

Recorrido de desplazamiento:
145 mm

Motor U4ML

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

Contrapunta U6ML

M12x1
Carrera de pinol: 30mm

Transformador

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

MAQUINAS SUELTAS

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

全金属主轴 U2 ML
主轴螺纹: M12x1
主轴孔径: 8mm
齿轮缘 23齿及 60齿 2个滚珠
轴承

全金属小滑块 U3 ML

行程: 32mm
螺距: 1 (M6x1)

全金属长滑块 U9 ML

行程: 145mm
螺距: 1 (M6x1 左螺纹)

马达 U4 ML

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 ML

尾座螺纹: M12x1
尾座行程: 30mm

变压器

输入电压 110-240V AC, 50-
60Hz
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

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 U2ML

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

Çapraz kızak U3ML

Hareket: 32 mm
Vida aralığı: 1 (M6x1)

Boyunsal kızak U9ML

Hareket: 145 mm
Vida aralığı: 1 (M6x1 sol)

Motor U4ML

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

Punta başlığı U6ML

M12x1
Punta kolu hareketi: 30 mm

Adaptör

prim. 110-240V, 50-60Hz, sek.
12v
doğru akım, 2A, aşırı sıcaklık
altında
bağlantıyı kesen sıcaklık koruması
ile
(daha sonra devreyi kesmek için
ana
bağlantıyı kapatın/ fişi çekin.)

MAKİNELER

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

UNIMAT ML - METALINE [12+]

		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
U1ML	1	Maschinenbett, lang	Machine bed, long	Banc, grand	Bancada grande	长机座	Makine yatağı, uzun	A1A 020 000SW
U2ML	1	Motorvorgelege	Countershaft	Broche de réduction	Cabezal	全金属主轴	Ara mil	A1M 035 000
U3ML	2	Querschleitten	Cross slide	Chariot, petit	Carro, pequeño	全金属小滑块	Çapraz kızak	A1M 060 000
U4ML	1	Motor	Motor	Moteur	Motor	马达	Motor	162 420MH-S
U6ML	1	Reitstock	Tailstock	Poupée mobile	Contrapunta	全金属尾座	Punta başlığı	A1M 040 000
U7ML	1	Maschinenbett, kurz	Machine bed, short	Banc, petit	Bancada pequeña	全金属短机座	Makine yatağı, uzun	A1A 010 000SW
U9ML	1	Längsschleitten	Longitudinal slide	Chariot, grand	Carro, grande	全金属长滑块	Boyunsal kızak	164 480 MH
U10ML	2	Zwischenstück	Intermediate piece	Pièce intermédiaire	Pieza intermedia	全金属中介块	Ara parça	A1M 000 100
U12ML	1	10 Stk Spannzange 1 - 6 mm	10 pcs Collet 1 - 6 mm	10 pic Pince 1 - 6 mm	10 tro Pinza 1 - 6 mm	10 片 金属夹头1-6 mm	10 adet pens 1-6 mm	162 460MH
U13ML	1	Dreibackenfutter	Three-jaw chuck	Mandrin à trois mors	Mandril de tres mordazas	3爪夹头	3 çeneli torna aynası	A1A 071 000
U15A	1	Schraubendreher #2	Screwdriver #2	Tourne-vis #2	Destornillador #2	螺丝刀2#	Tornavida #2	ZWZ 980 030
U15B	1	Inbusschraubendreher	Screwdriver allen key 2.5mm	Tourne-vis hexagonale 2,5mm	Destornillador allen 2,5mm	内六角扳手2.5 mm	Tornavida alyan anahtar 2,5 mm	ZWZ 980 075
U15C	1	Schraubendreher #0	Screwdriver #0	Tourne-vis #0	Destornillador #0	螺丝刀0#	Tornavida #0	ZWZ 980 000
U25ML	1	Aufspannscheibe ML	Clamping plate ML	Disque de ponçage ML	Disco para papel abras. ML	铝质面板	Sıkıştırma plakası ML	162 080 MH
U31	12	Schraube M4x10	Screw M4x10	Vis M4x10	Tornillo M4x10	螺钉M4x10	Vida M4x10	ZSR M40 410
U35	3	Schraube M4x25	Screw M4x25	Vis M4x25	Tornillo M4x25	螺钉M4x25	Vida M4x25	ZSR M40 425
U36	4	Schraube M4x16	Screw M4x16	Vis M4x16	Tornillo M4x16	螺钉M4x16	Vida M4x16	ZSR M40 416
U37	8	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
U40	2	Drehstahlunterl. 0,1 mm	Small part 0,1 mm	Plaquette 0,1 mm	Plaquita 0,1 mm	压条0.1 mm	Küçük parça 0,1 mm	A1A 000 170
U41	2	Drehstahlunterl. 0,4 mm	Small part 0,4 mm	Plaquette 0,4 mm	Plaquita 0,4 mm	压条0.4 mm	Küçük parça 0,4 mm	A1A 000 190
U42	2	Drehstahlunterl. 1,0 mm	Small part 1,0 mm	Plaquette 1,0 mm	Plaquita 1,0 mm	压条1.0 mm	Küçük parça 1,0 mm	A1A 000 180
U43	1	Mutter M4	Nut M4	Ecrou M4	Tuerca M4	六角螺母M4	Somun M4	ZMU 340 400
U43s	1	Sicherungsmutter M4	Locking nut M4	Ecrou sécurité M4	Tuerca M4 seguridad	防松螺母M4	Kilitleme somunu M4	ZMU 340 120
U46	14	Nutenstein	Slot nut	Boulon en «T»	Pernos "T"	单孔螺母	Yuva somun	A1A 060 040
U47	7	Klemmplatte	Camping plate	Elément en «T»	Elemento "T"	双孔螺母	Sıkıştırma plakası	A1A 010 020
U48ML	2	Spannzangenhalter	Collet holder	Porte-pinces	Porta-pinza	固定铜帽	Pens tutucu	A1A 000 072
U49	4	Spannklaue	Clamping jaw	Mors de serrage	Brida de sujeción	夹板	Sıkıştırma çenesi	A1A 000 090
U49ML	2	Spannklaue ML	Clamping jaw ML	Mors de serrage ML	Brida de sujeción ML	夹板 ML	Sıkıştırma çenesi ML	A1Z 490 000
U50	2	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2 mm	Alyan anahtar 2 mm	ZWZ 110 200
U52	2	Stift	Rod	Cheville	Perno	销杆	Çubuk	ZST 110 345
U53	1	Außendrehstahl	Tool for outs. turning	Outil à tourner	Herramienta para tor. exter.	外车刀	Dış torna için alet	A1A 000 080
U54	1	Körnerspitze	Center	Pointe	Punto	中心锥	Merkez	A1A 000 130
U54Ro	1	Präzisions Rollkörner	Precision live center	Contre-pointe tournante précision	Contra punto giratorio precisión	精密活顶尖	Hassas canlı merkez	164 450 MH
U55	1	Bohrer	Drill	Mèche	Broca	钻头	Matkap ucu	ZWZ 700 020
U56	1	Fräser	Milling head	Fraise	Fresa	铣刀头	Freze başlığı	ZWZ 560 030
U57	1	Antriebsriemen 87	Drive belt 87	Courroie 87	Correa 87	电机皮带87	Motor kayışı 87	ZRM 733 087
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2.5 mm	Alyan anahtar 2,5 mm	ZWZ 110 250
U66	7	Verbindungselement	Connection piece	Pièce de connexion	Elemento de conexión	连接件	Bağlantı parçası	A1A 00 ZINSK
U67	2	Fixierplatte groß	Stabilizing plates	Plaques de fixation	Platos de fijación	固定片	Sabitlenme plakası	A1Z 470 010
U69	4	Schraube M4x12	Screw M4x12	Vis M4x12	Tornillo M4x12	螺钉M4x12	Vida M4x12	ZSR M40 412
U70	1	Schraube M4x40	Screw M4x40	Vis M4x40	Tornillo M4x40	螺钉M4x40	Vida M4x40	ZSRM440ISK
U71	1	Gabelschlüssel 7 / 14 mm	Fork wrench 7 / 14 mm	Clé de fourche 7 / 14 mm	Llave de furca 7 / 14 mm	扳手 7 / 14 mm	Çatal pens anahtar 7 / 14 mm	ZWZ 400 700
U74	18	Beilagscheibe	Plain washer	Rondelle	Arandela	垫片	Düz pul	ZSB 250 430
U75	1	Inbusschlüssel 3,0 mm	Allen key 3,0 mm	Clé hexagonale 3,0 mm	Llave allen 3,0 mm	内六角扳手3 mm	Alyan anahtar 3,0 mm	ZWZ 110 300
U79	3	Fixierplatte klein	Stabilizing plates small	Plaques de fixation petits	Platos de fijación pequeños	小固定片	Sabitlenme plakası küçük	A1Z 470 000
U80	2	Befestigungswinkel	Stabilizing angle	Angle de fixation	Escuadra de fijación	直角固定座	Sabitlenme gönyesi	A1Z 480 000
M4	1	Mehrfachstahlhalter	2 position tool post	Porte outil 2 position	Fijación para herramienta torno	两段刀座	2 pozisyonlu takım postu	A1M 000 091

	D	GB, USA	F	E	中国	TR	
	ohne Abbildung / without picture / sans figure / sin ilustración / 无图片 / Без рисунка						
	1	Netzteil 12V	12V adaptor	12V Transformateur	12V Transformador	变压器12V	12V adaptör
U24	2	Schleifpapier 100 / 150	Sanding paper 100/150	disques abrasifs 100/150	papel de lijar 100/150	砂纸	Zımpara kağıdı 100/150
	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
	1	Betriebsanleitung	Instructions for use	Mode d'emploi	Instrucciones para uso	使用说明	Kullanım talimatları
							VS 1610

U0

U2ML

U6ML

U4ML

U15A U15B U15C

U25ML

M4

U1ML

U7ML

U9ML

U3ML

U67

U79

U80

U10ML

U12ML [mm]

U47 U46 U74 U43s U43

U53 U40 U42 U41

U66

U57

U56 U55 U52

U71

U13ML

U51 U65 U75

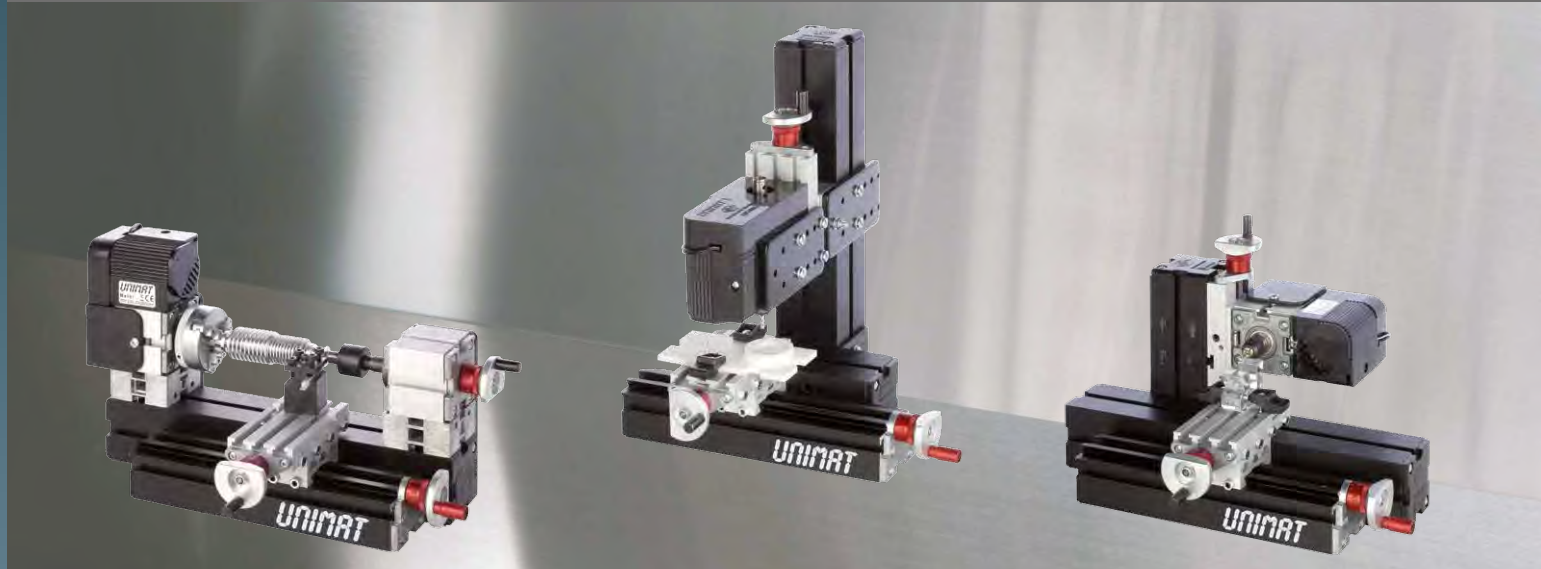
U35 U37 U31 U50 U36 U69 U70

U54 U48ML U54R0

U49ML U49

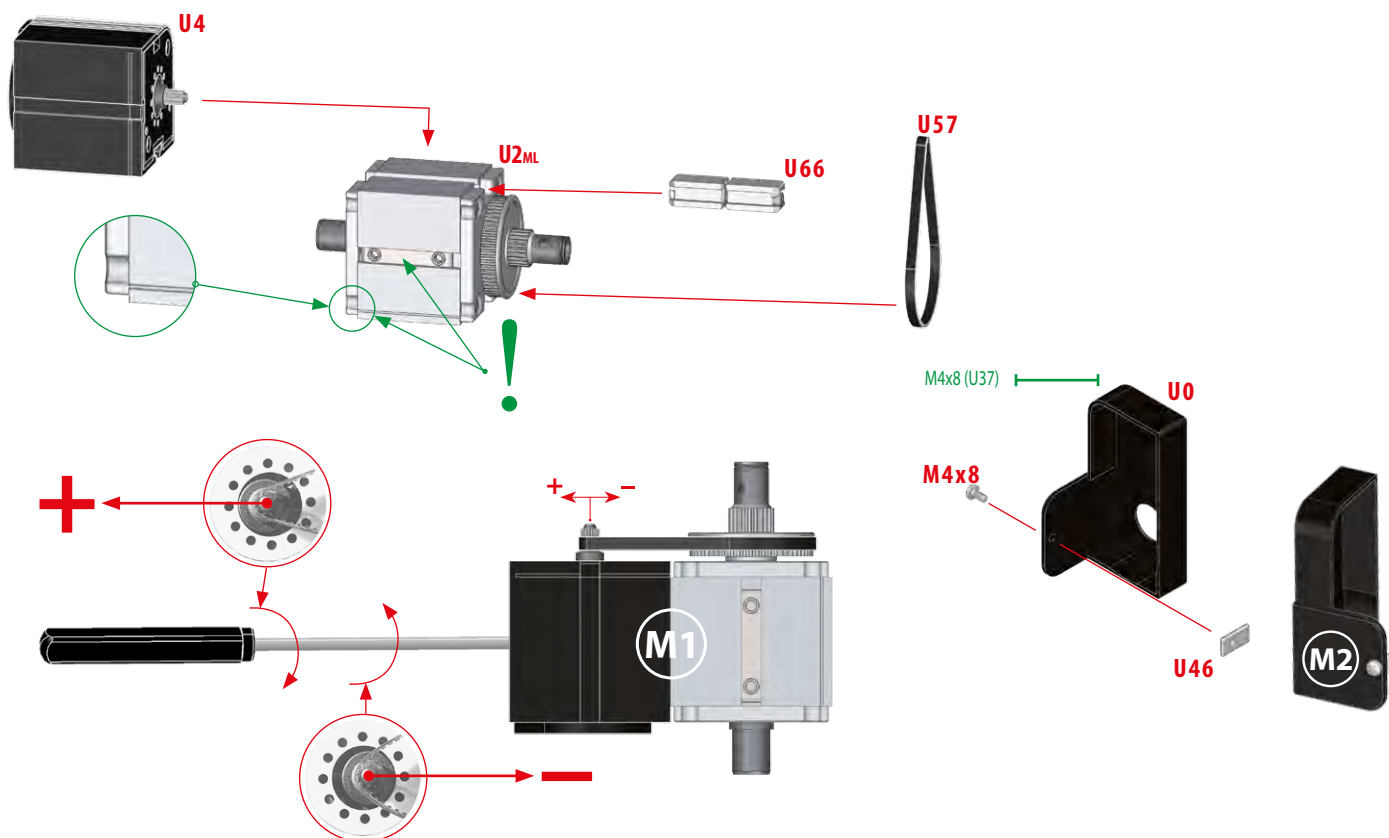
M4x6 (U38) ————
M4x8 (U37) ————
M4x10 (U31) ————
M4x12 (U69) ————
M4x14 ————
M4x16 (U36) ————
M4x25 (U35) ————
M4x50 (U33) ————
M4x70 (U50) ————
M3x35 (U34) ————
M3x40 ————
M2x8 (Ub) ————

UNIMAT ML - METALLINE [12+]

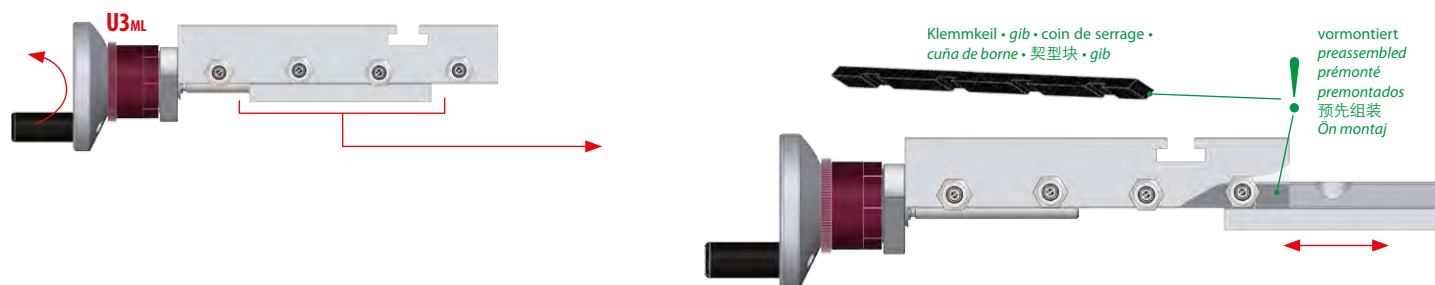


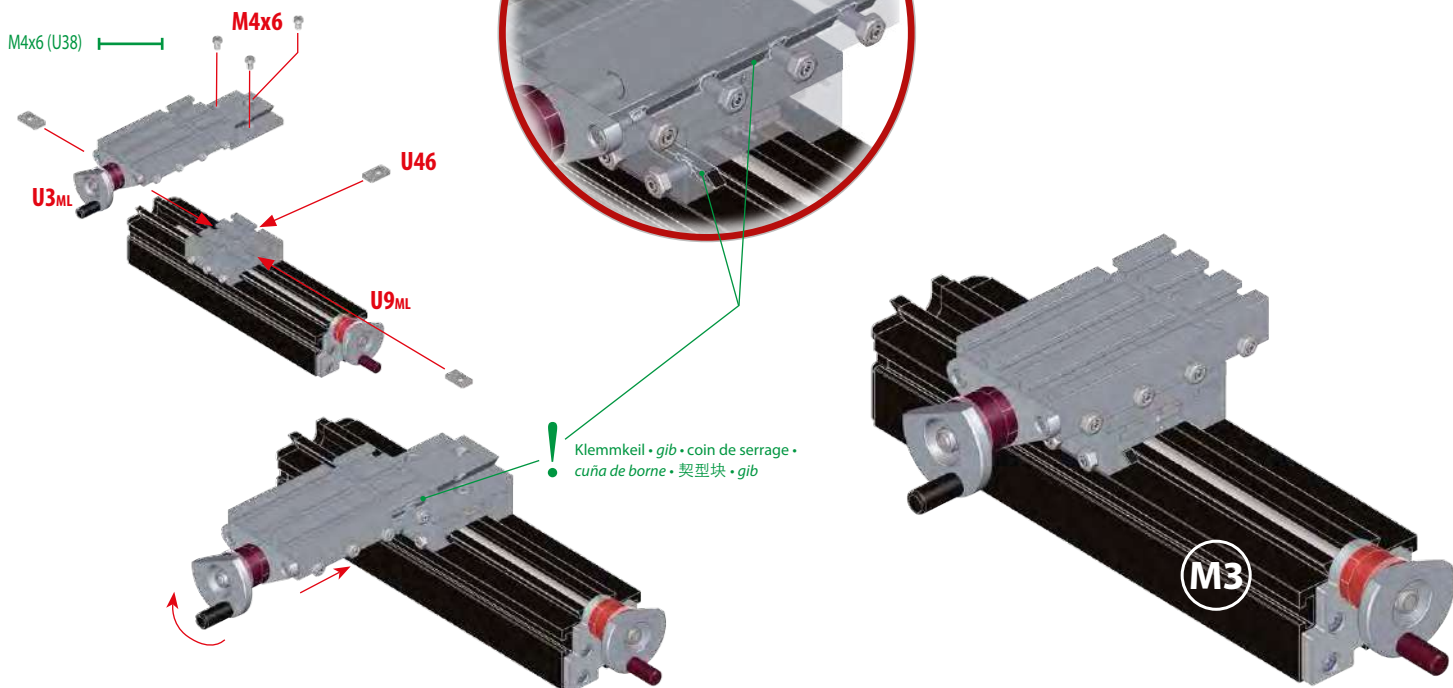
Motor-Getriebe • Motor-Gear • Bloc Moteur • Motor-Cabezal • 马达齿轮单元 • Motor-Dişli

<http://www.thecooltool.com/videos/>

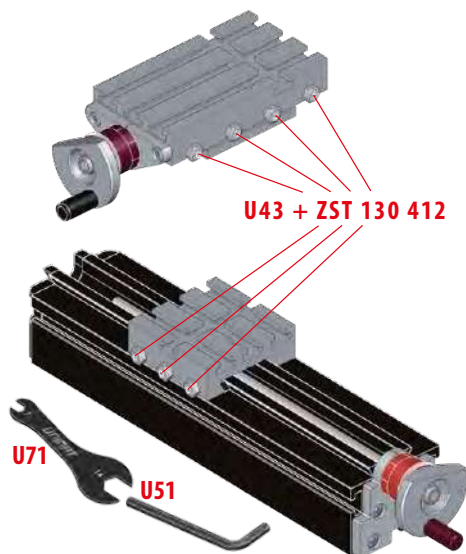


Kreuzschlitten • Cross slide • Chariot, petit • Carro, pequeño • 全金属小滑块 • Çapraz kızak





Einstellen der Schlitten • Adjusting the slides • Vérification du jeu • Ajustar los carros • 调整滑块 • Kızakları ayarlama



1. Mutter (U43) mit U71 öffnen, Spiel mit Wurmschraube M4x12 einstellen (U51) – (U43) wieder festziehen.
2. Die Schlitten regelmäßig warten und reinigen: mit einer kleinen Bürste Späne und anderes entfernen und nachfetten.

1. Ouvrir écrou (U43) avec clé U71. Ajuster le jeu avec vis M4x12 et U51 – fixer U43 après.

2. Nettoyez les chariots périodiquement: avec petit pinceau.

- 1、用U71松开螺母 (U43)，用扳手U51调整螺丝 M4x12，调整完成后，锁紧防松螺母。

- 2、保持滑块正常的活动范围：用刷子清洁，在燕尾槽表面加润滑油。

1. Open nut (U43) with U71, adjust play (U51) with screws M4x12 – after adjusting, retighten the locking nuts.

2. Maintain the slides at regular intervals: clean with a brush and lubricate the gliding surface.

1. Abrir tuerca (U43) con U71. Controlar el espacio con tornillos especiales M4x12 y U71 – después fijar U43.

2. Mantener y limpiar periódicamente todos los carros con un cepillo pequeño.

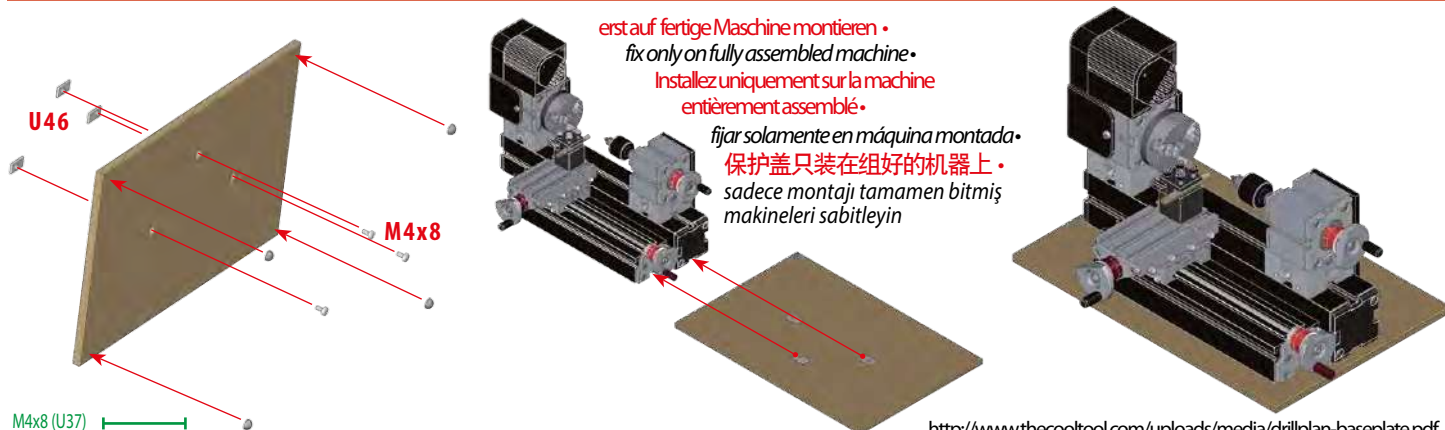
1. U71 ile somunları (U43) açın, hareketi M4x12 vidalar ile ayarlayın (U51). - konumlandırdıktan sonra, kilitleme somunlarını tekrar sıkıştırın.

2. Kızaklara düzenli aralıklarla bakım yapın: fırça yardımıyla temizleyin ve kayma yüzeylerini yağlayın.

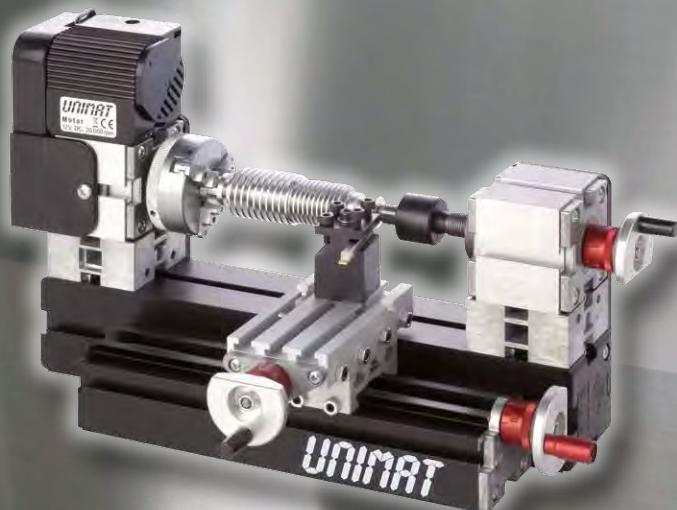
Zubehör – 163 400
accesorio – 163 400

accessory – 163 400
配件 – 163 400

accessoire – 163 400
aksesuar – 163 400

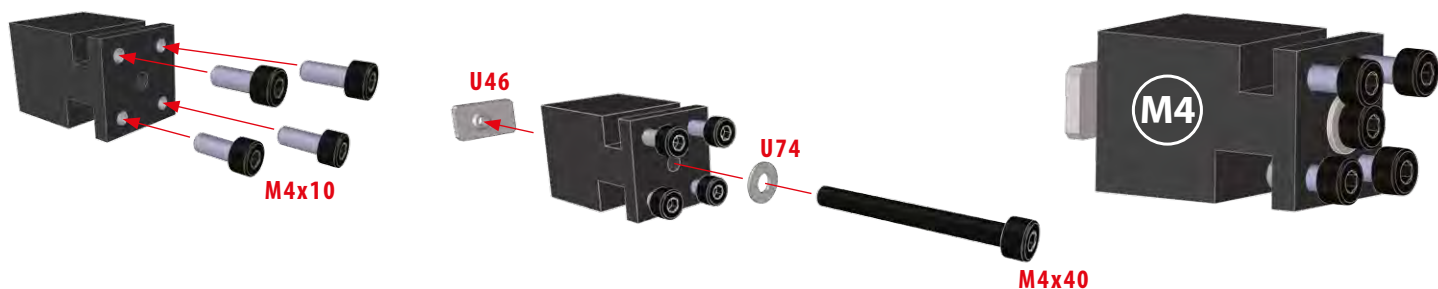


UNIMAT ML - METALLINE [12+]

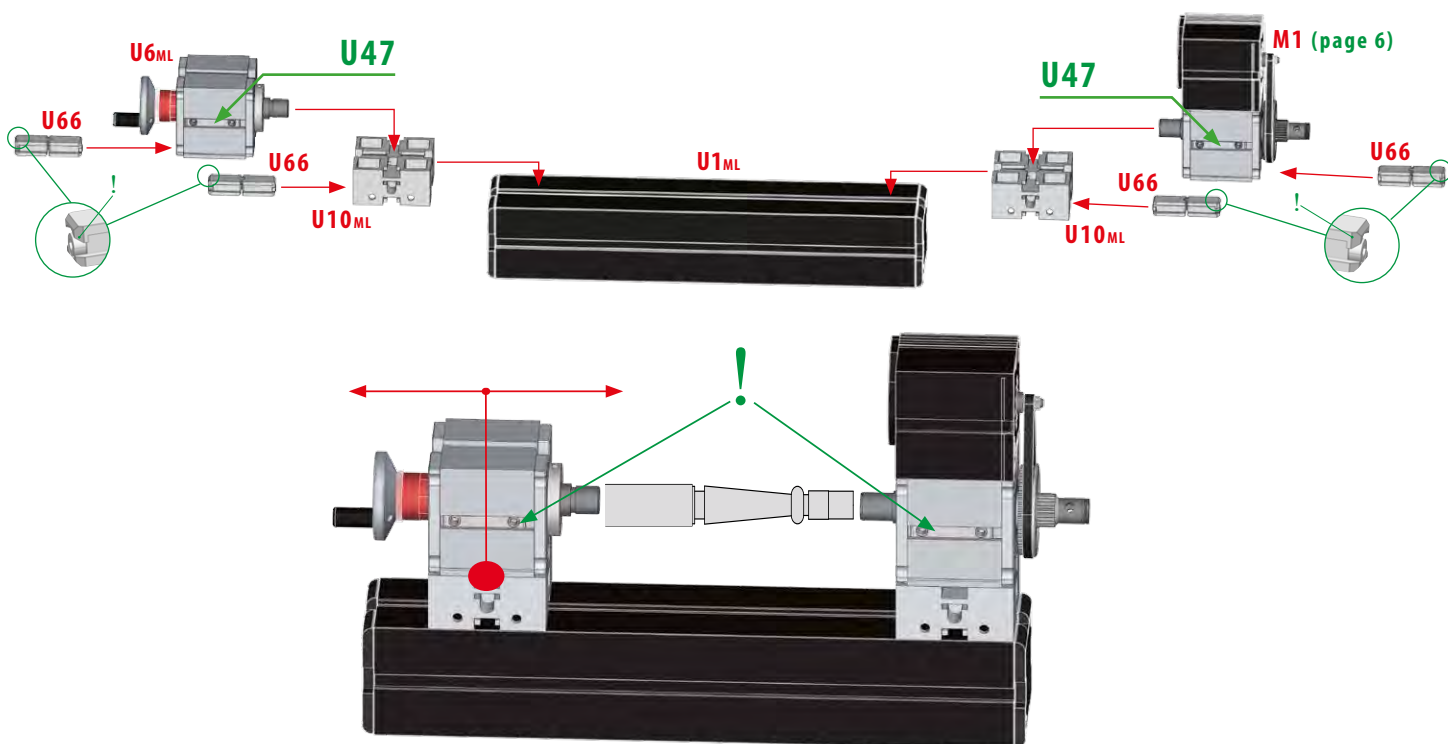


Drehbank
 Lathe
 Tour
 Torno de metal
 车床
 Torna

1

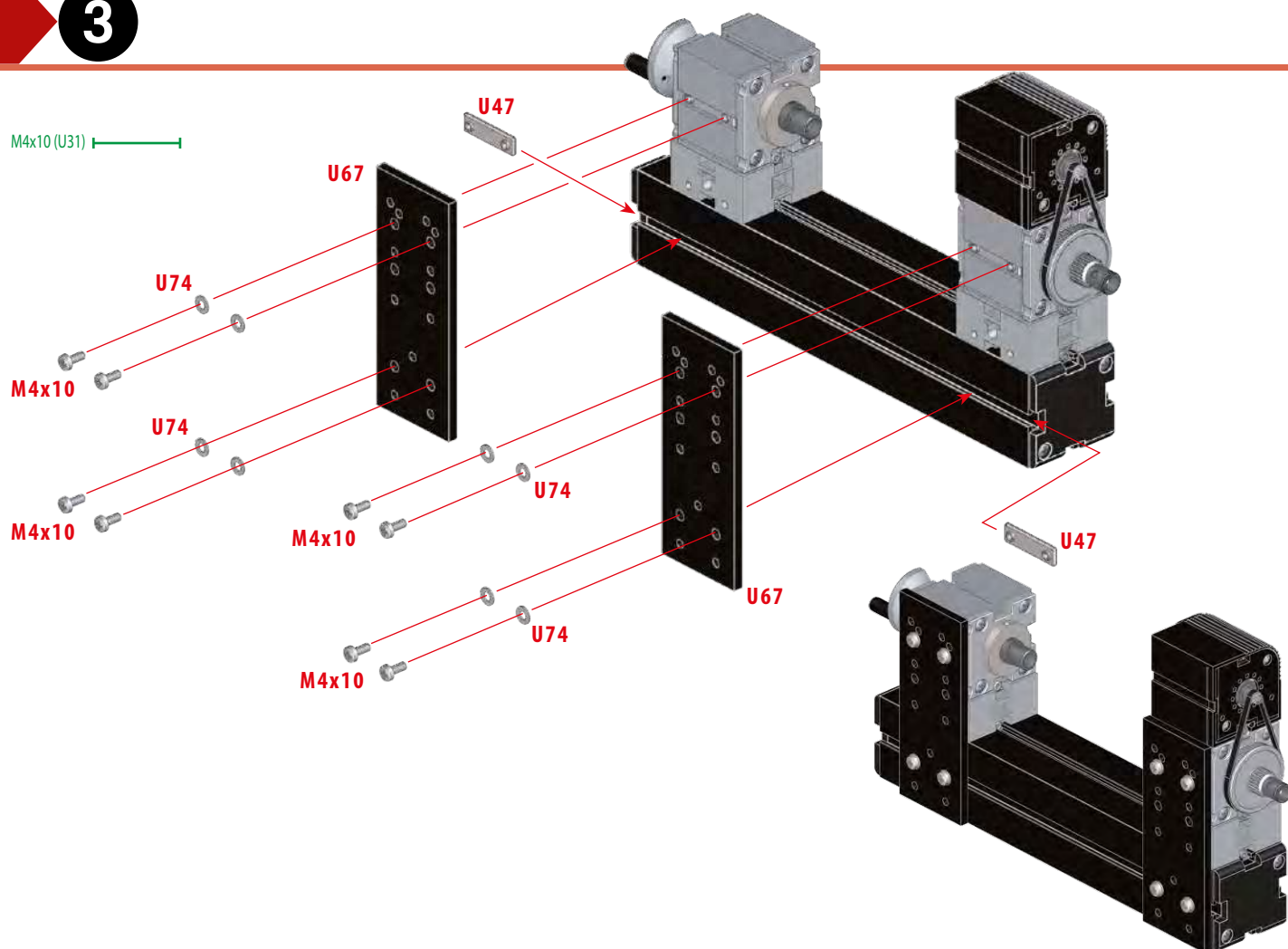


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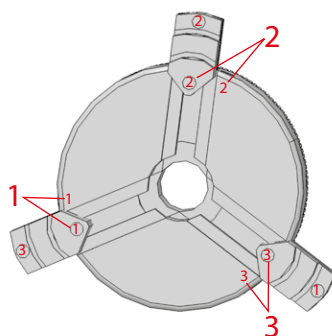
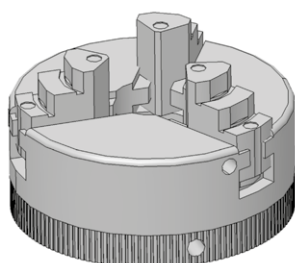
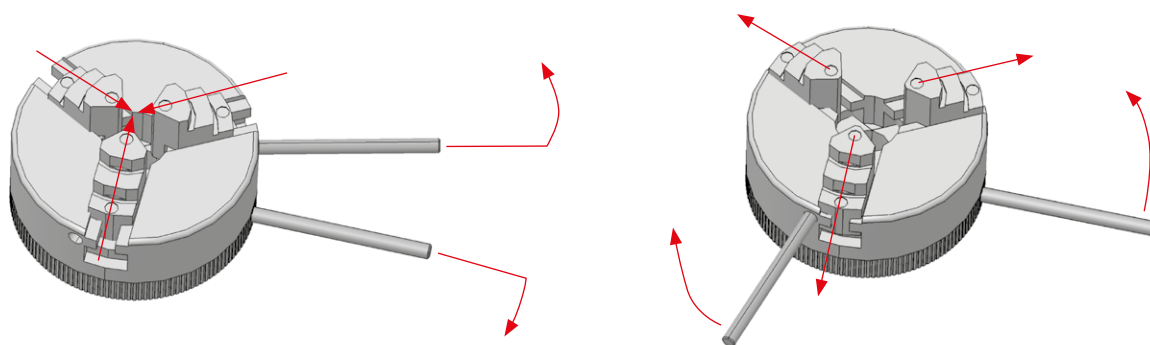


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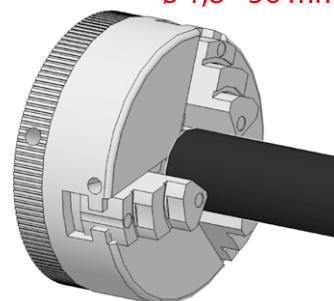
M4x10 (U31)

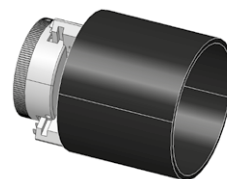
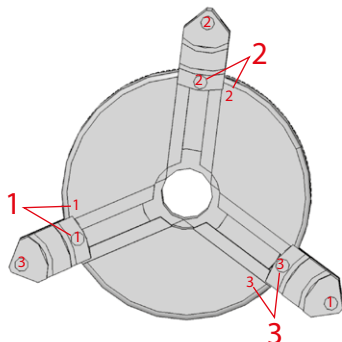
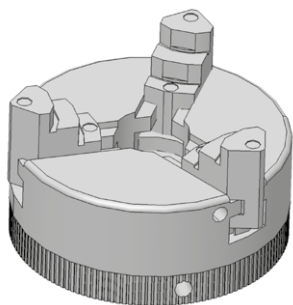


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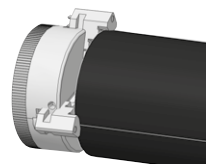


Ø 1,8 - 56 mm

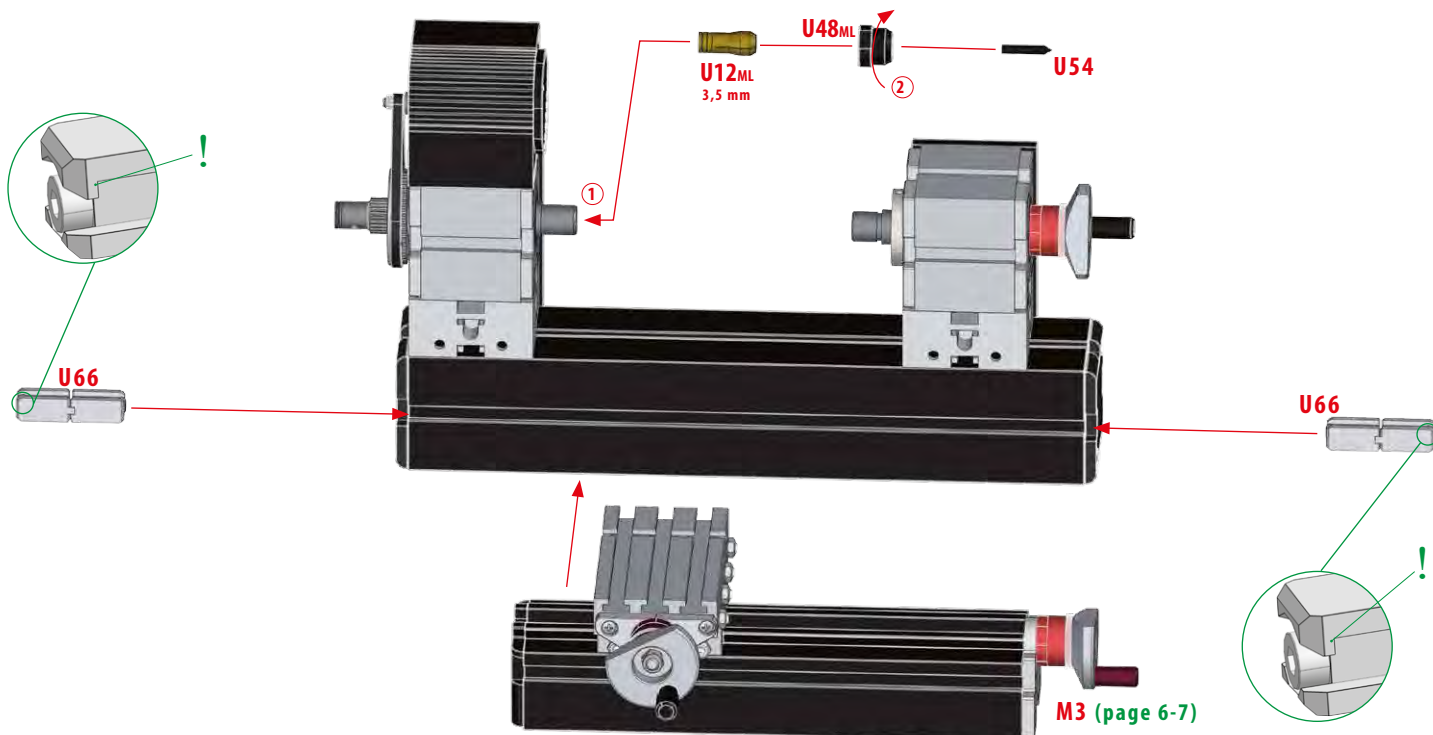




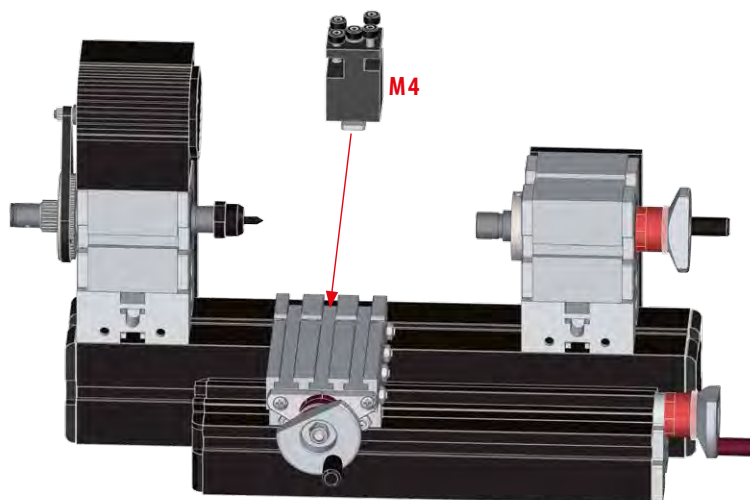
ø 12 - 65 mm

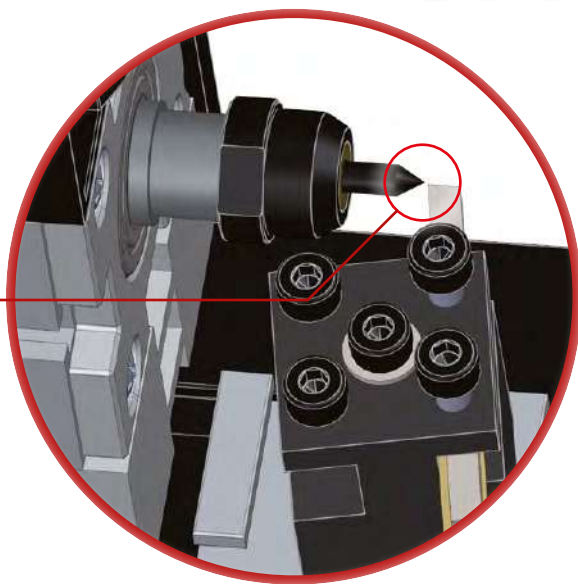
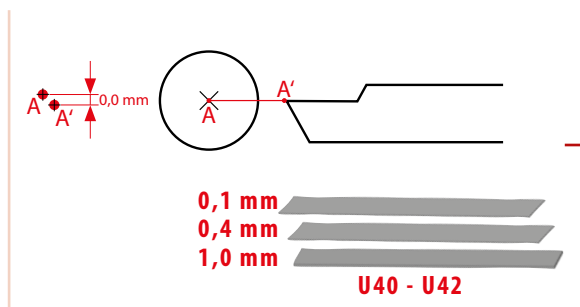


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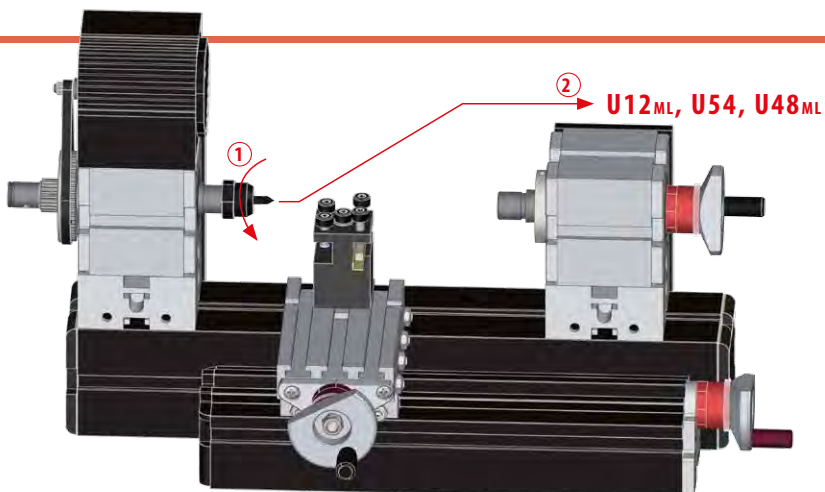


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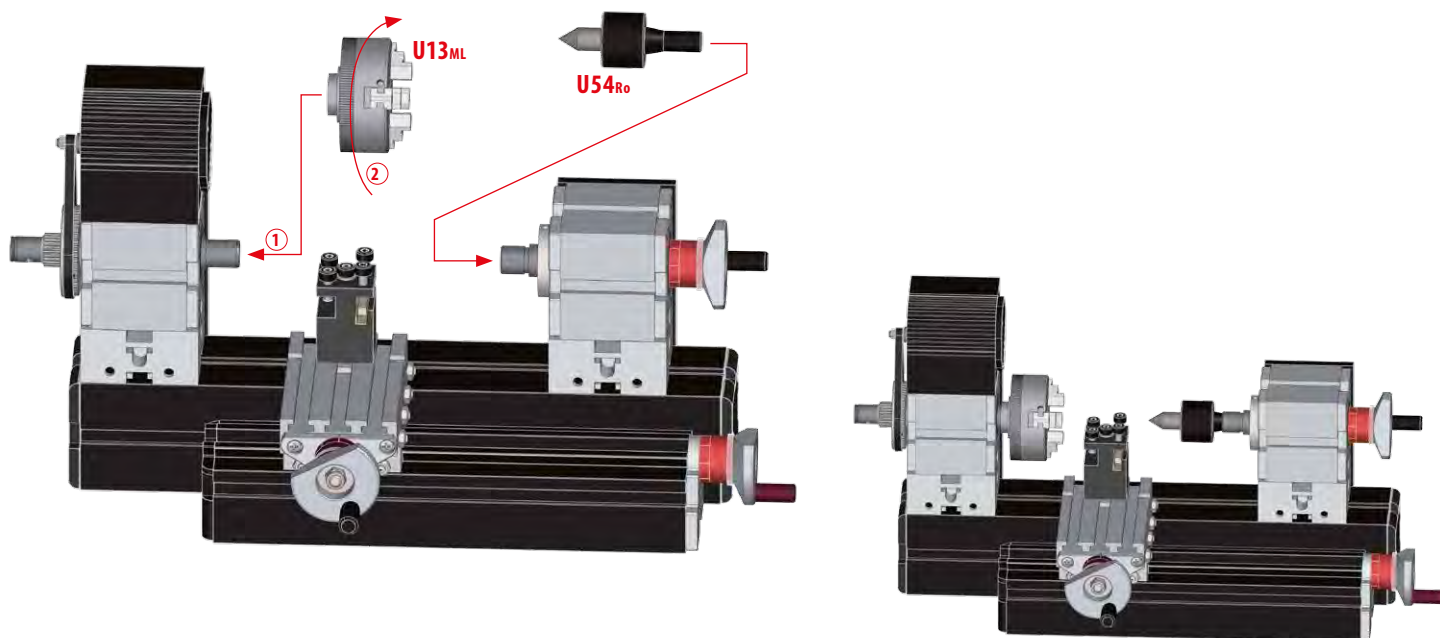




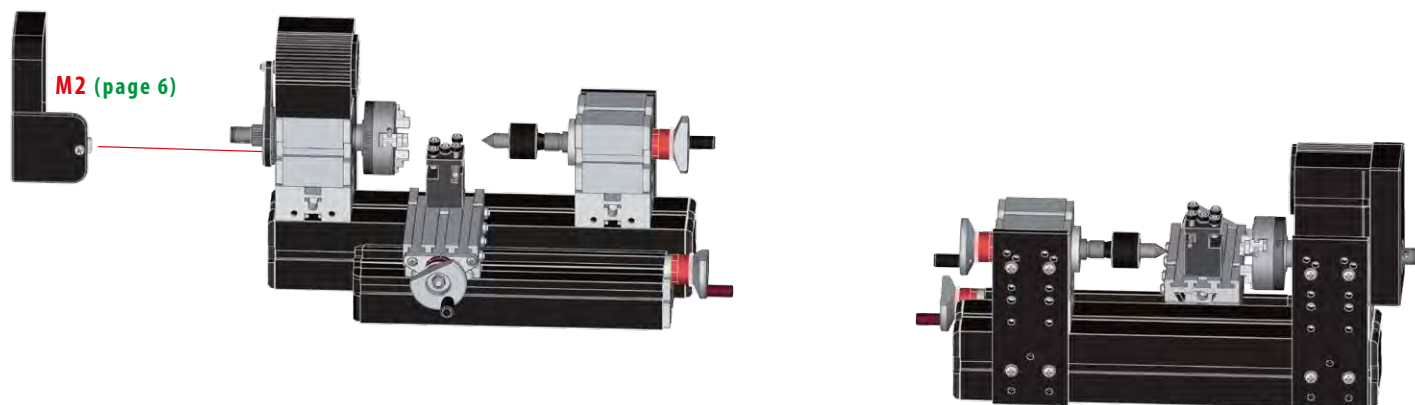
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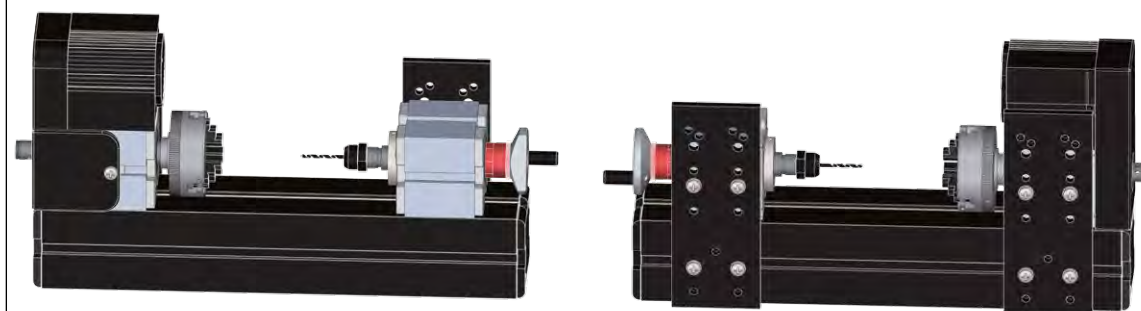
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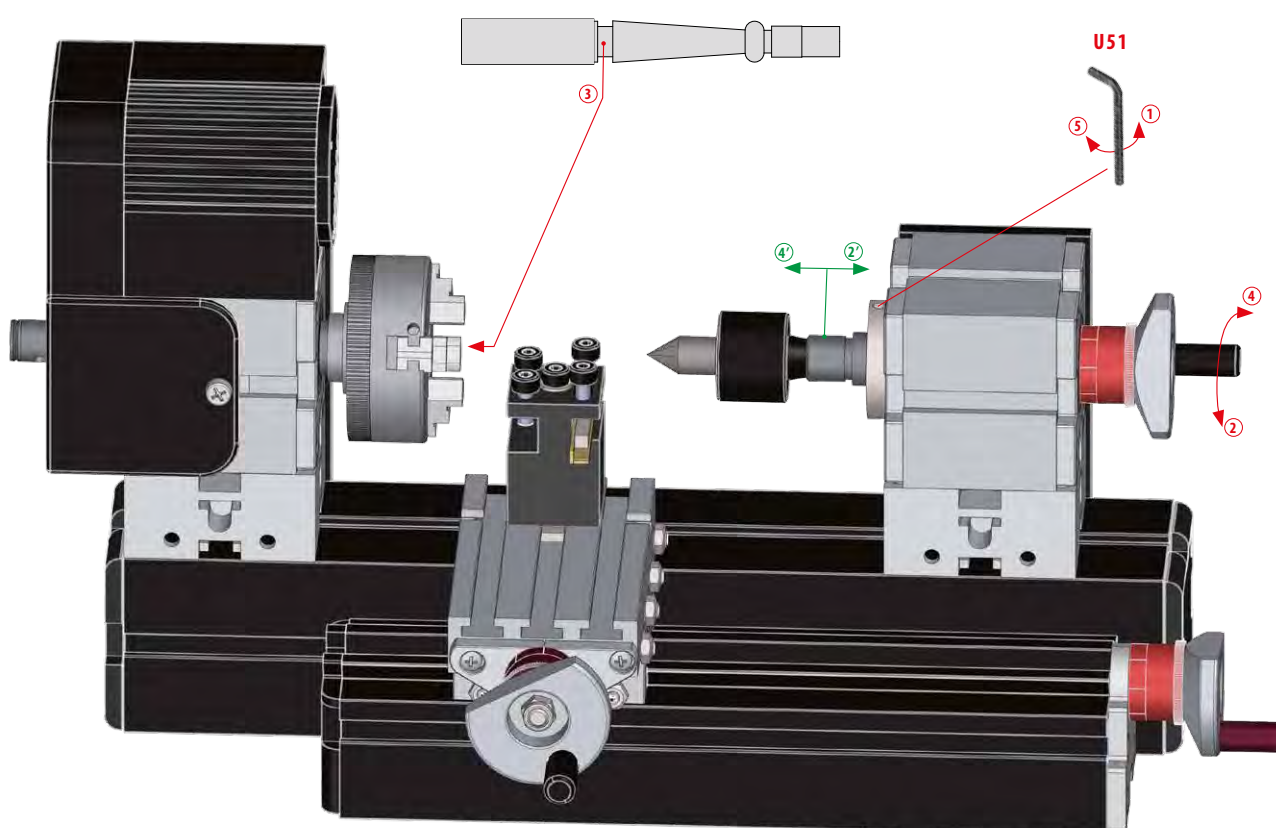


Variante • Variant • 变化 • Değişken



Zentrierbohrmaschine
Center drilling machine
Perceuse à centrer
Taladradora de centrar
中心钻床
Merkez delme makinesi

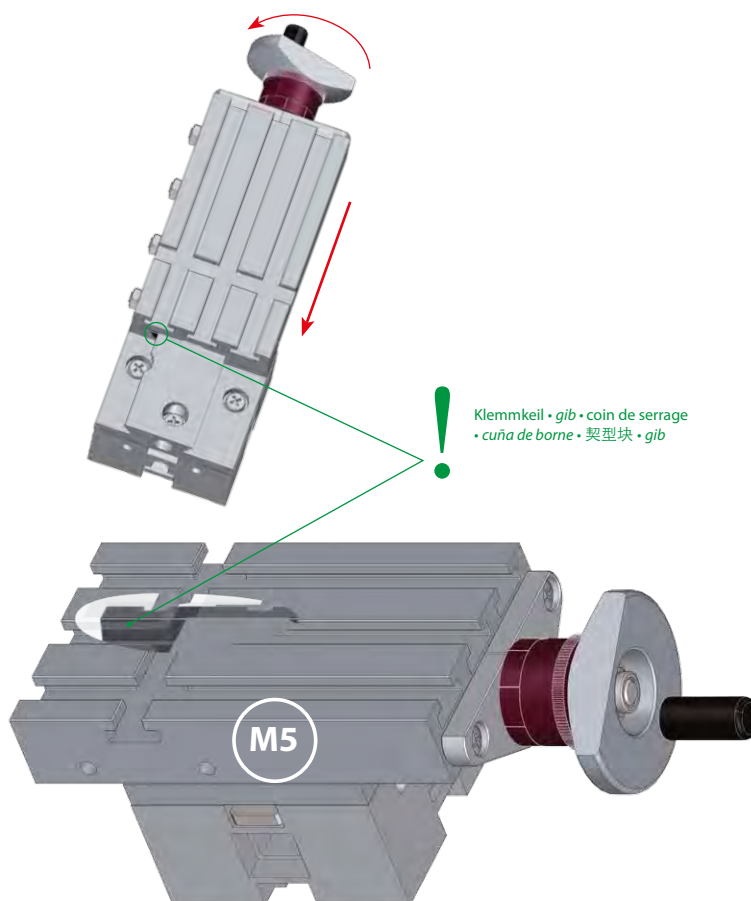
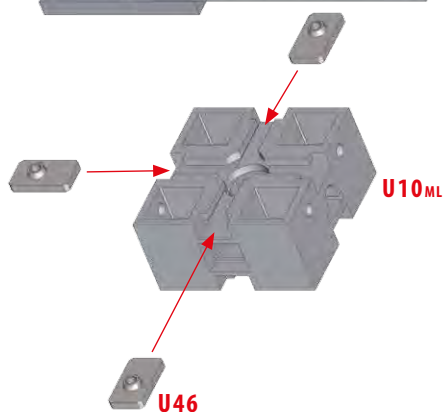
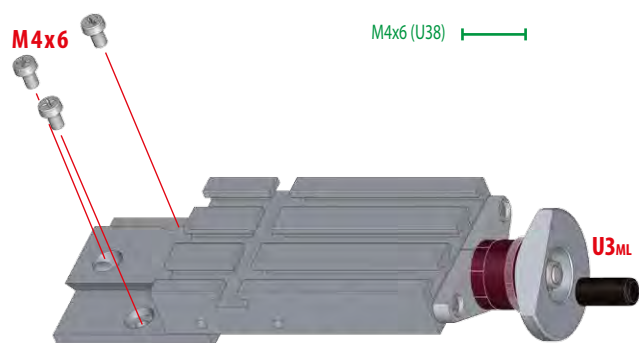
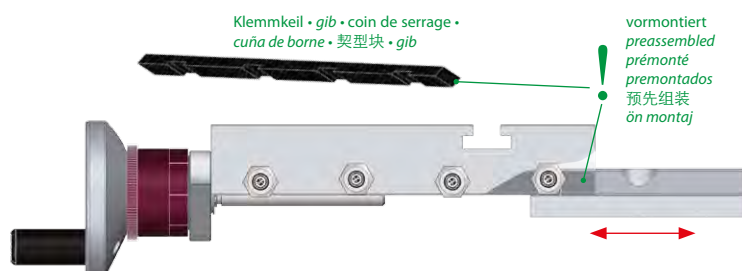
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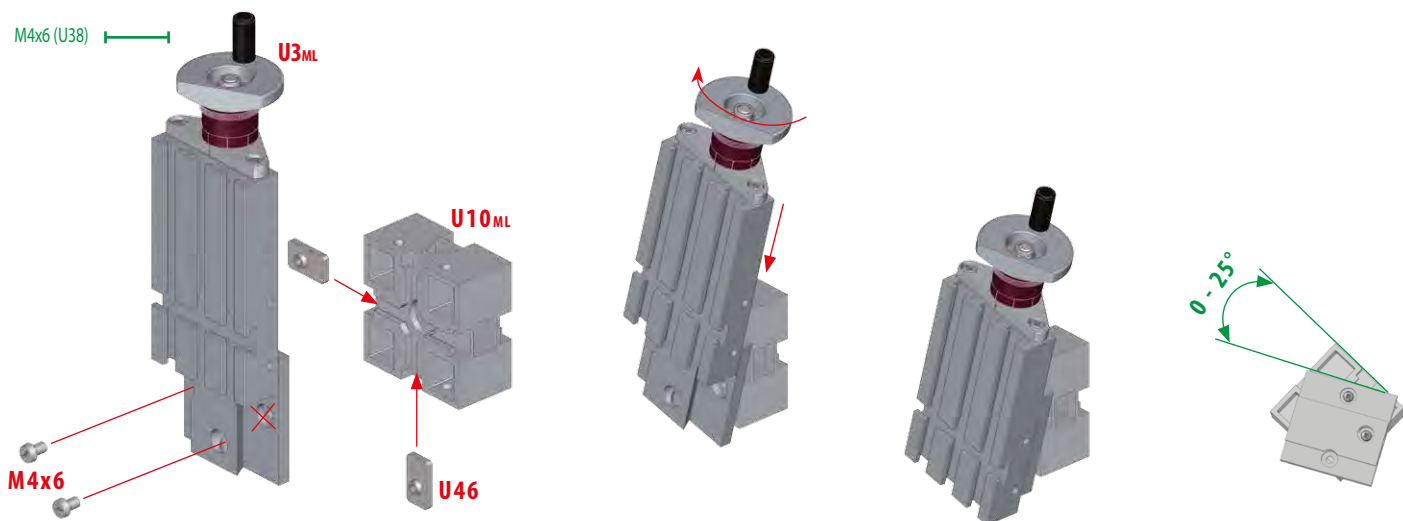




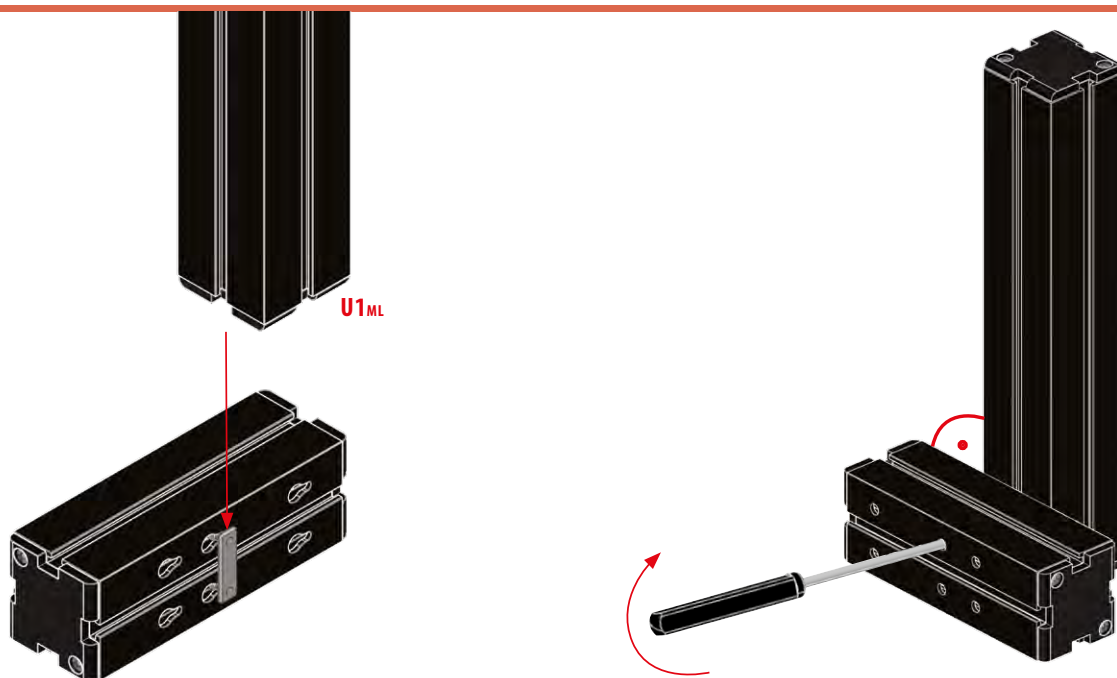
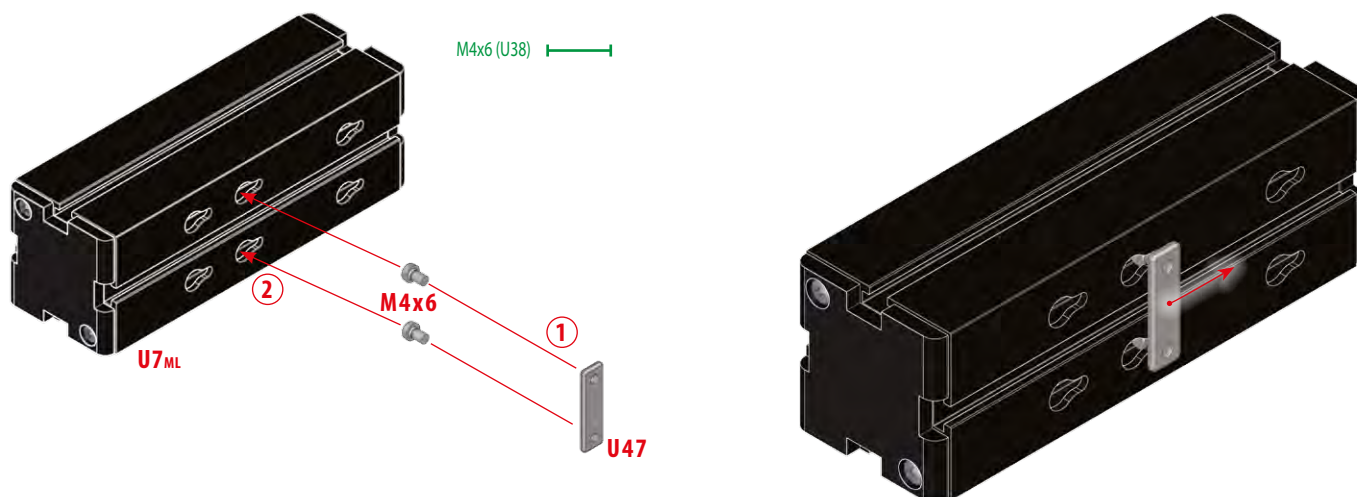
Vertikal Fräsmaschine
Vertical milling machine
Fraiseuse verticale
Fresadora vertical
立式铣床
Dikey freze makinesi

1

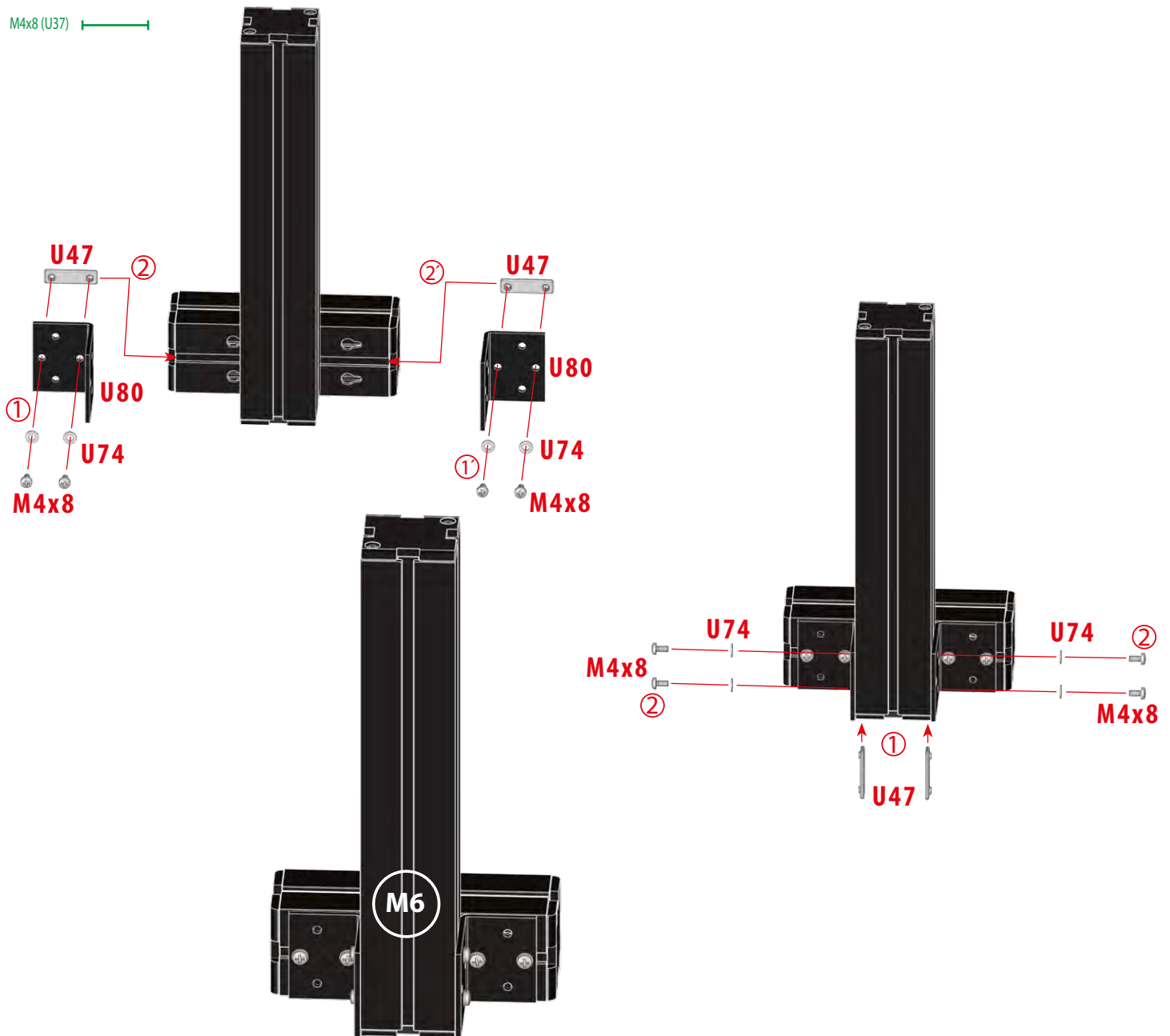




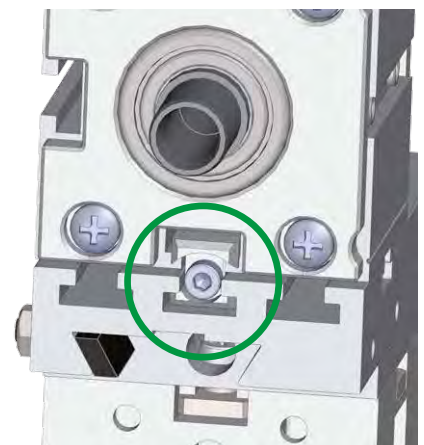
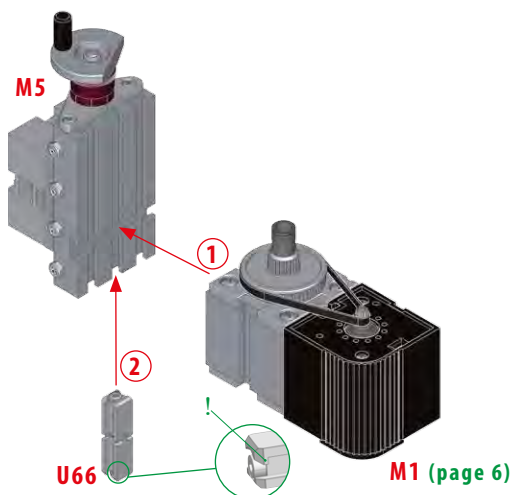
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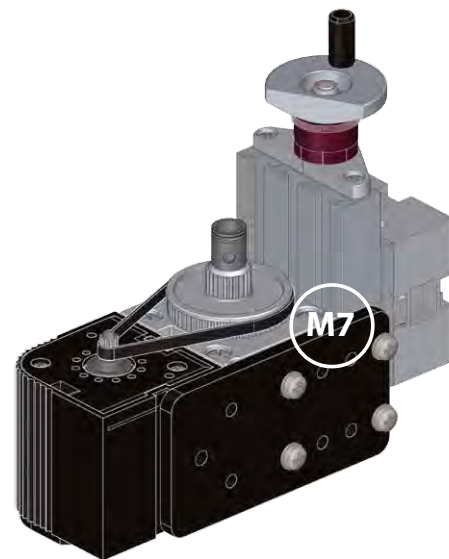
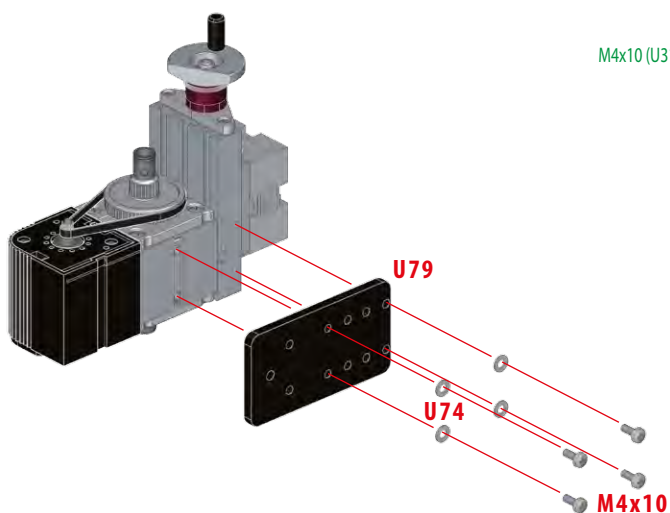


M4x8 (U37)

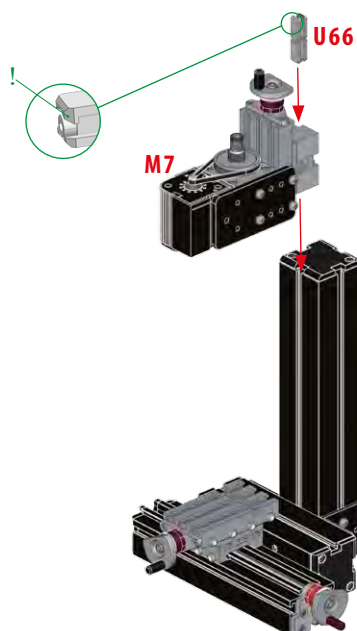
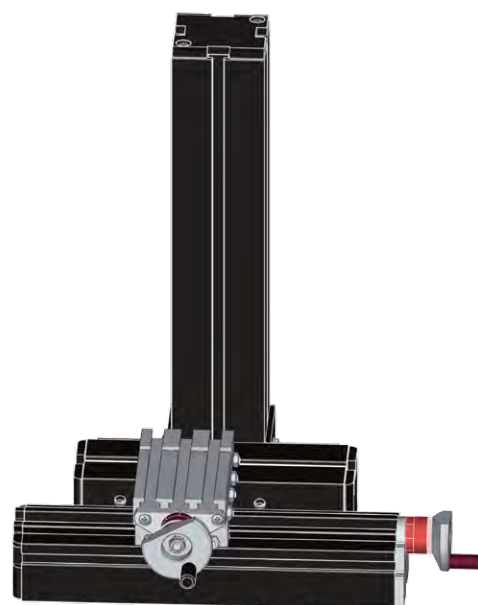
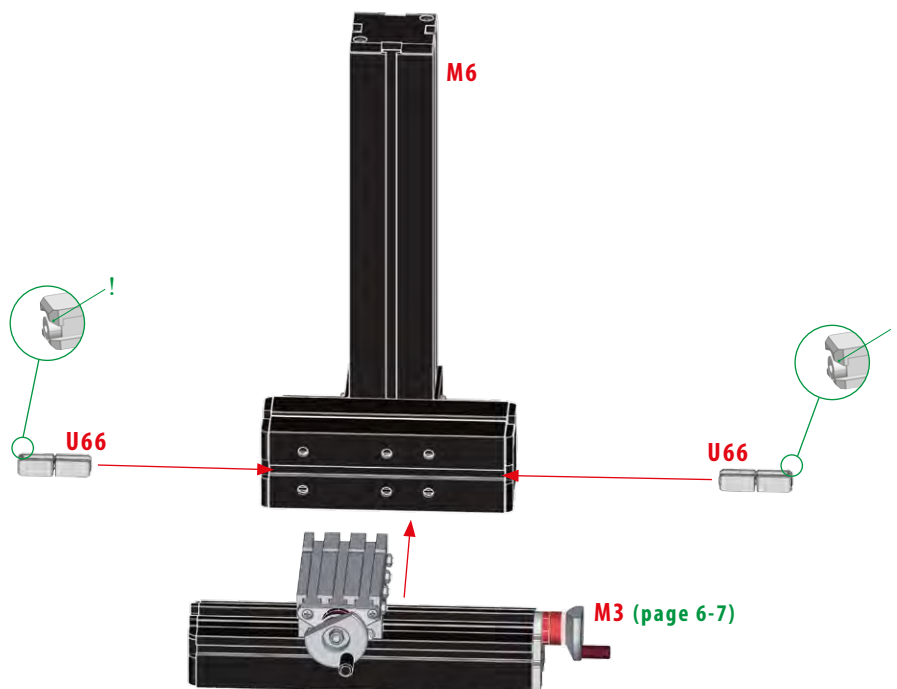


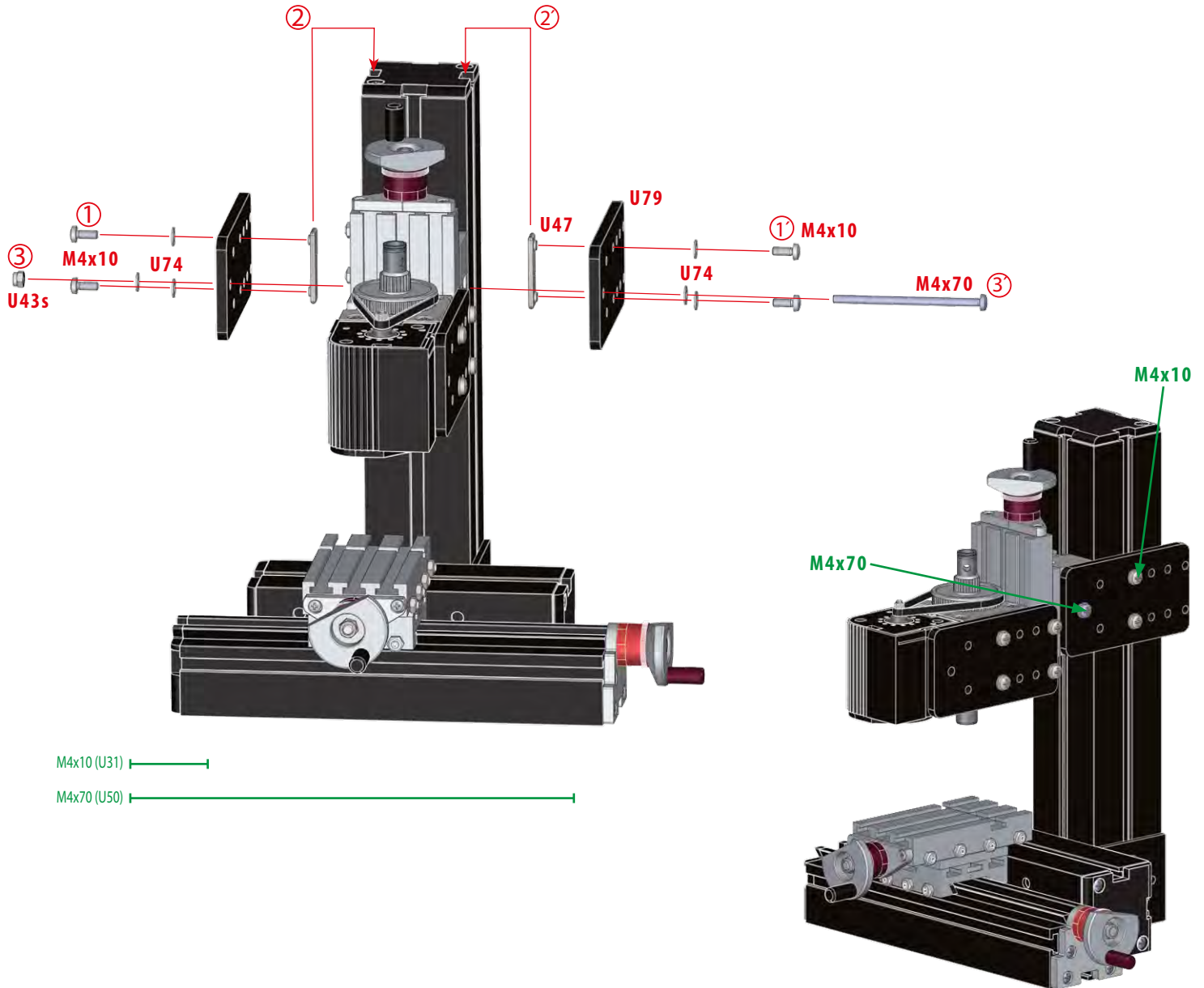
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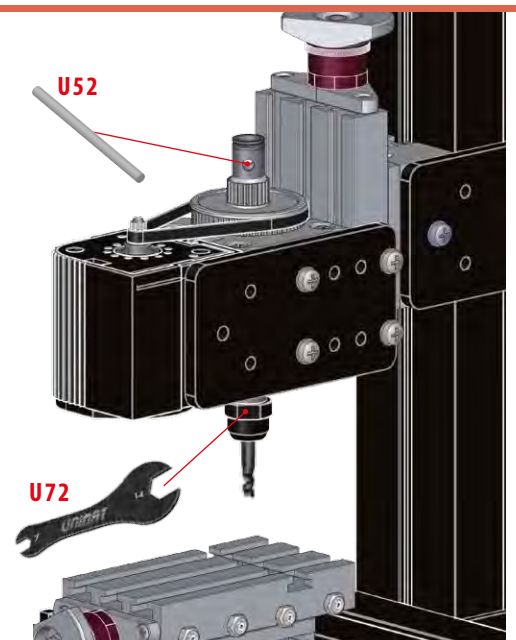
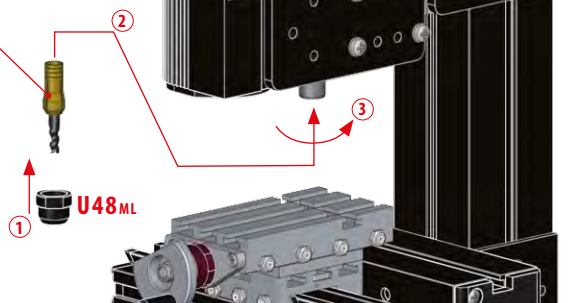
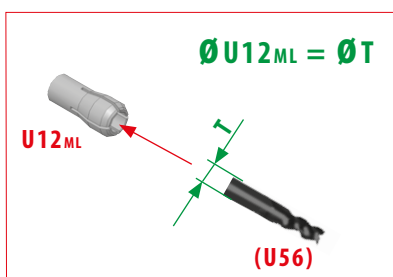


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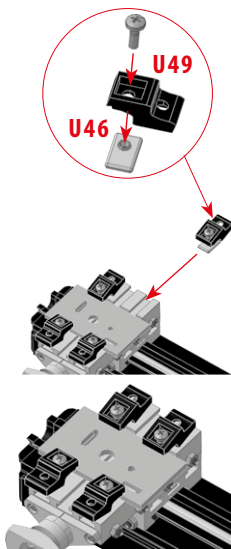
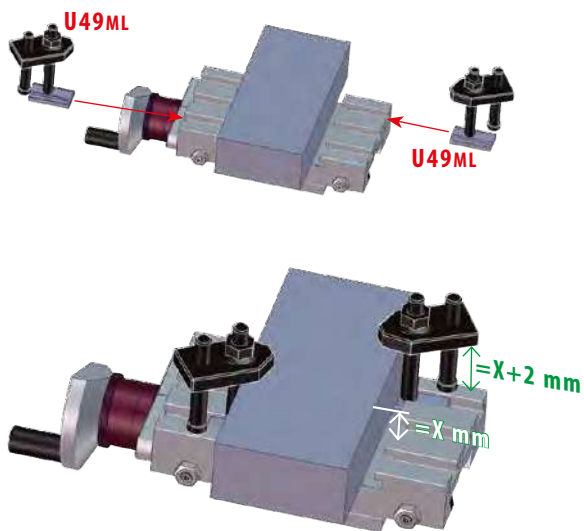
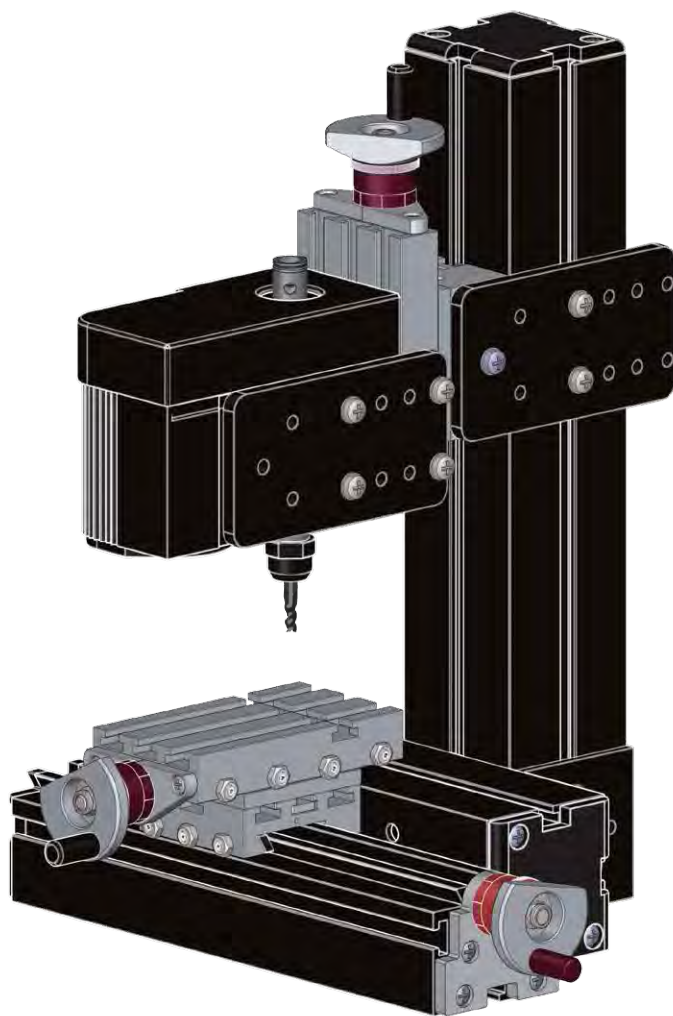
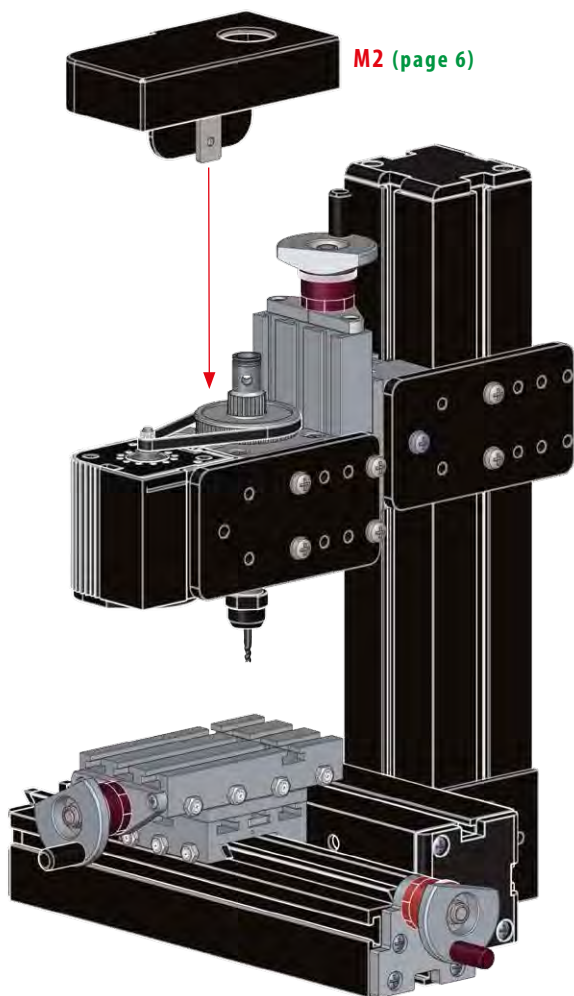




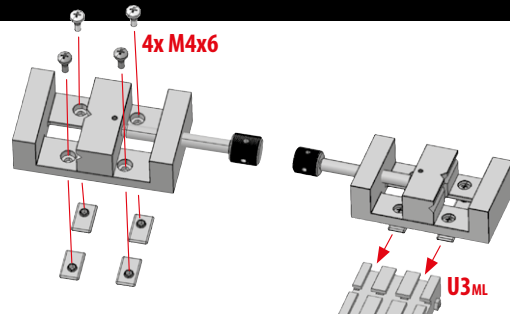
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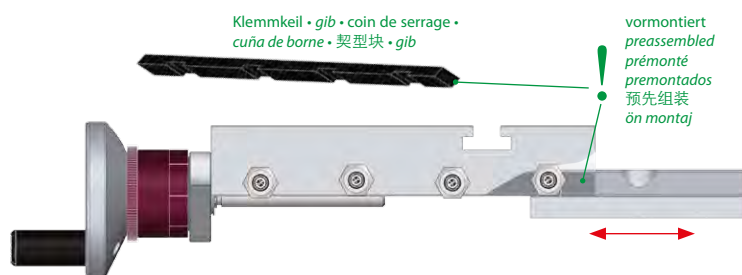
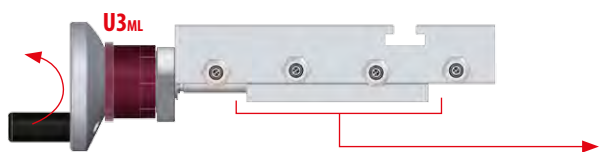
Optional – Frässhraubstock aus Stahl
Optional – milling vise (steel)
En option – étau métallique
Opcional – mordaza metálica
选配零件-虎钳 (钢制)
İsteğe bağlı – frezeleme mengenesi (çelik)



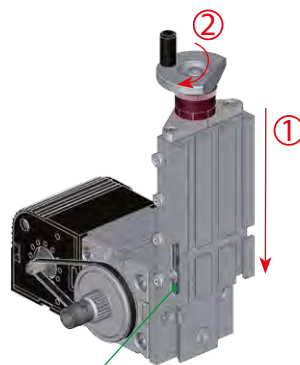
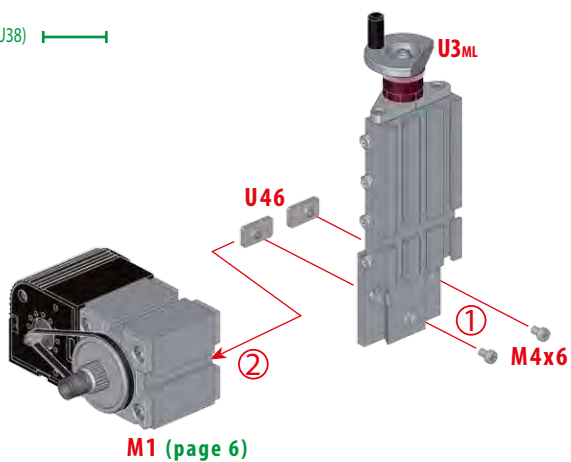


Horizontal Fräsmaschine
Horizontal milling machine
Fraiseuse horizontale
Fresadora horizontal
卧式铣床
Yatay freze makinesi

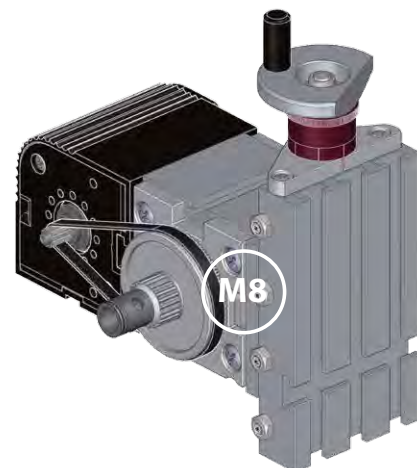
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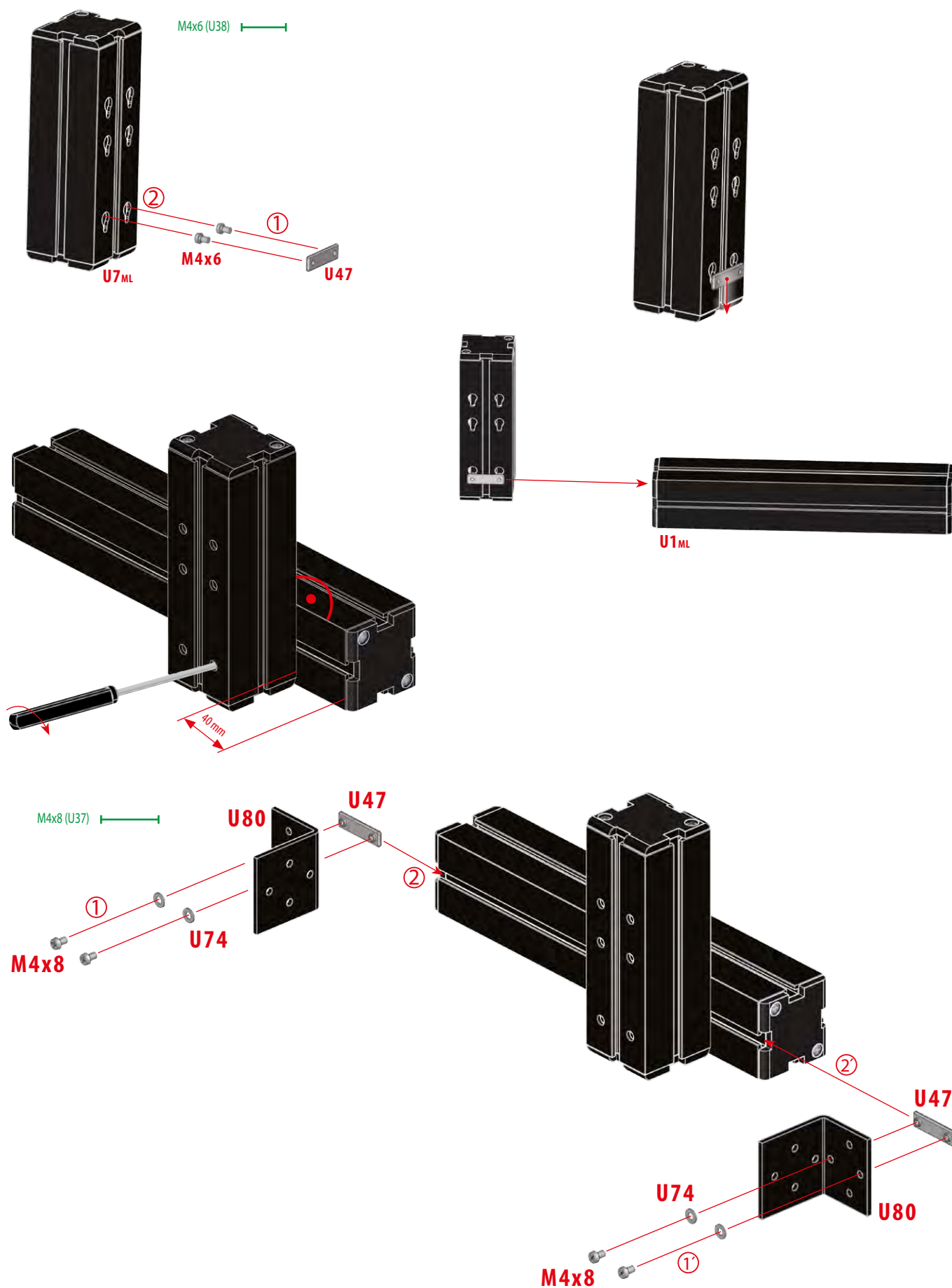
M4x6 (U38)

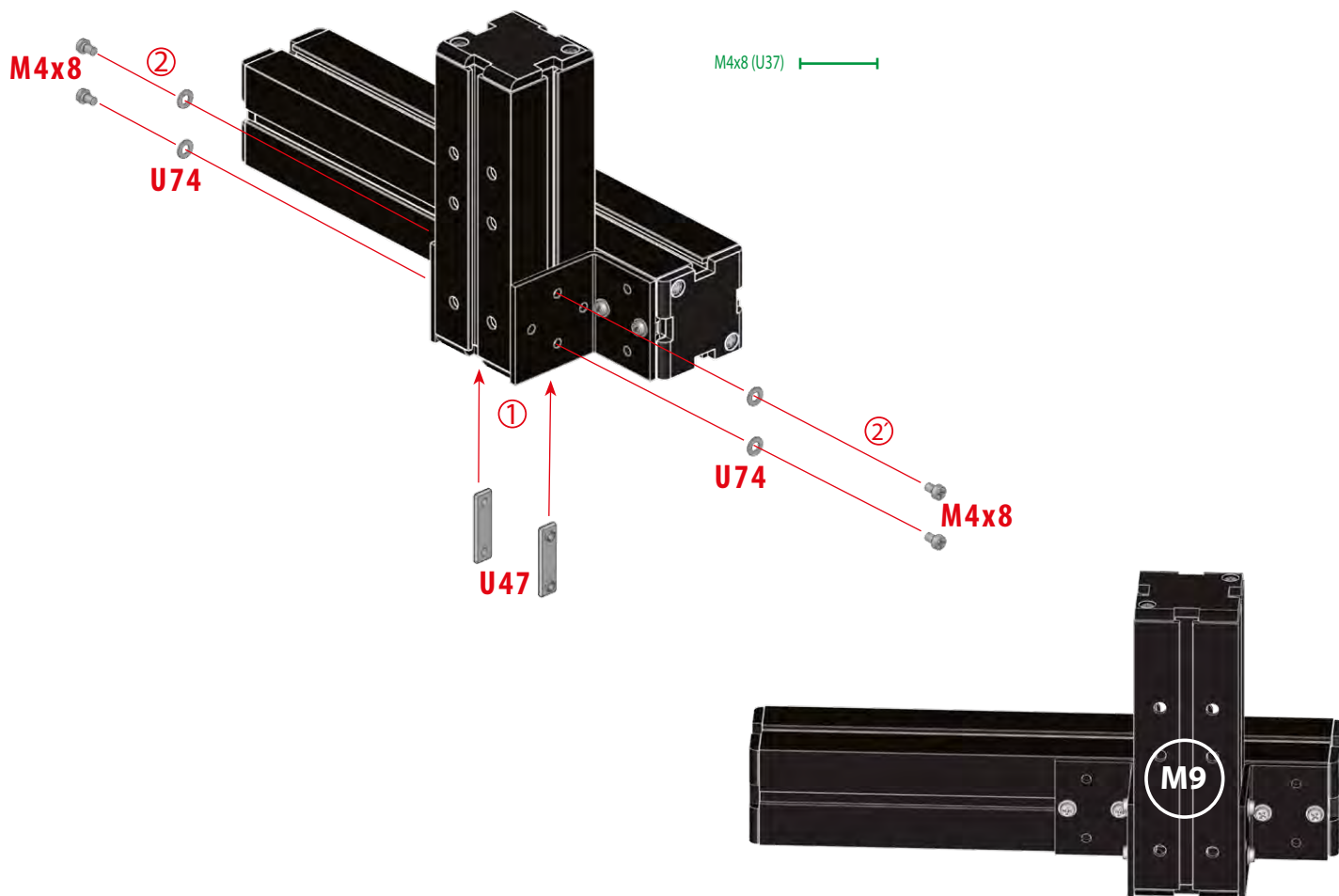


Klemmkeil • gib • coin de serrage •
cuña de borne • 契型块 • gib

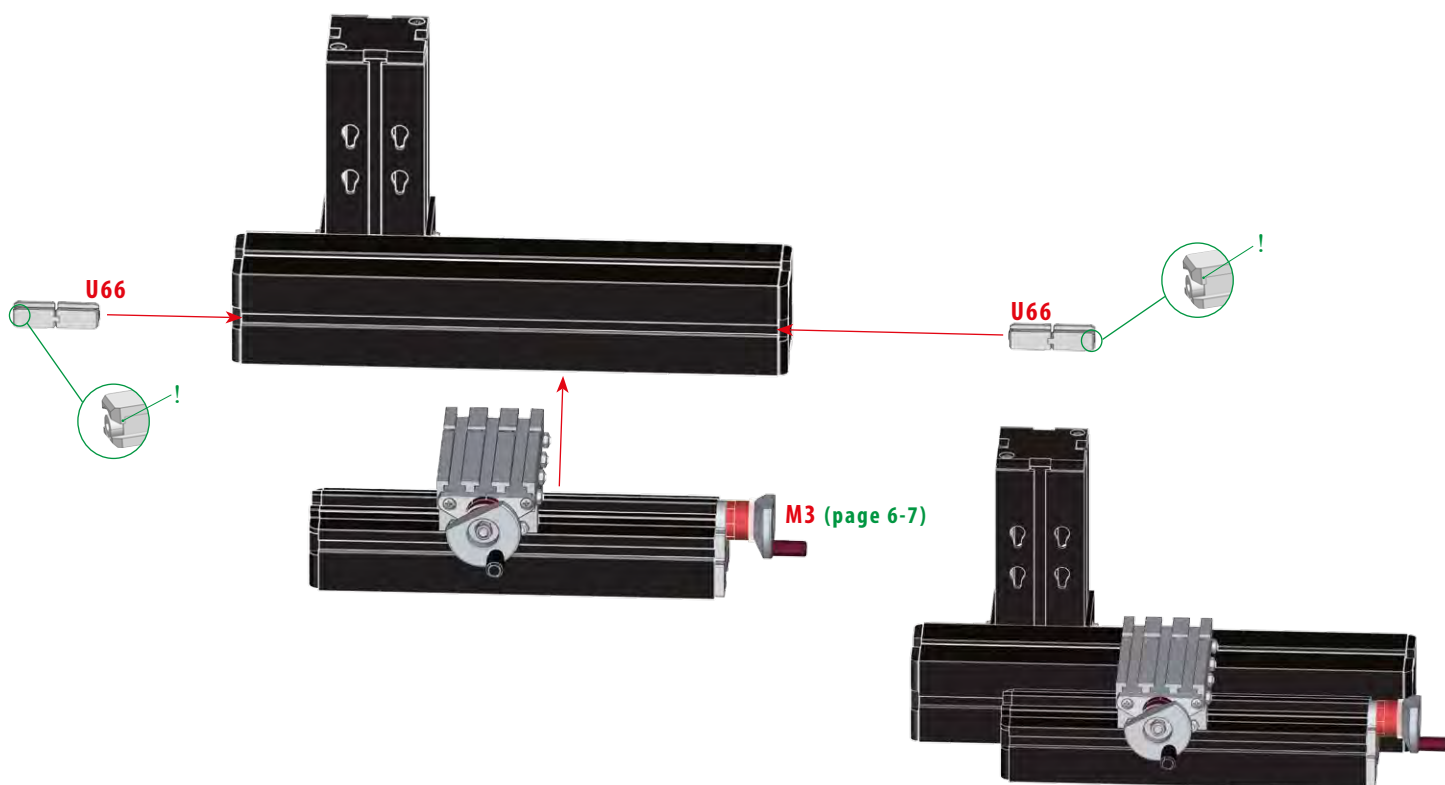


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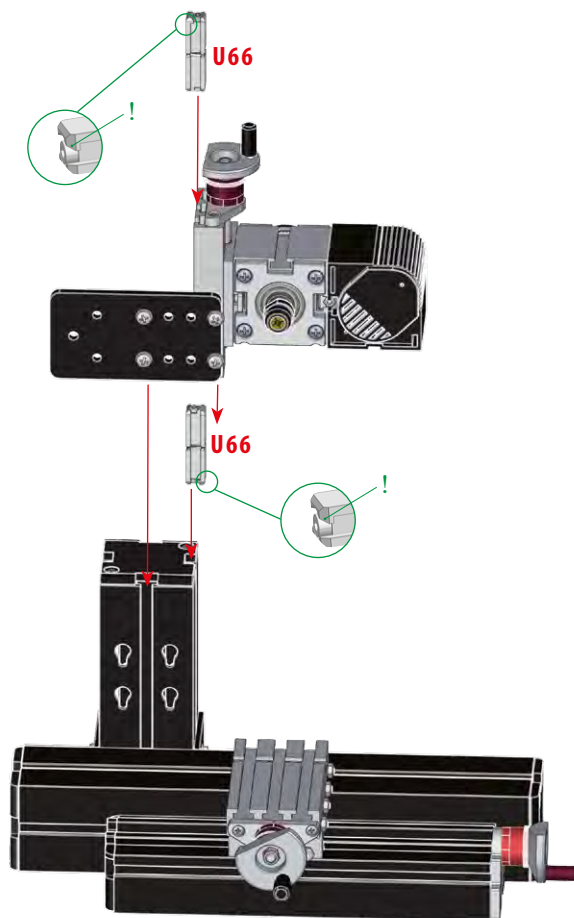
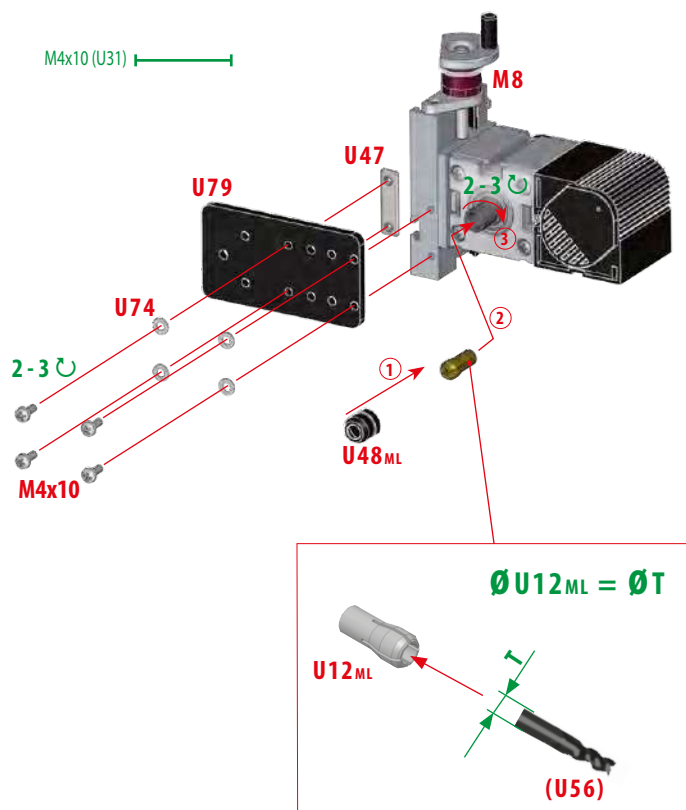




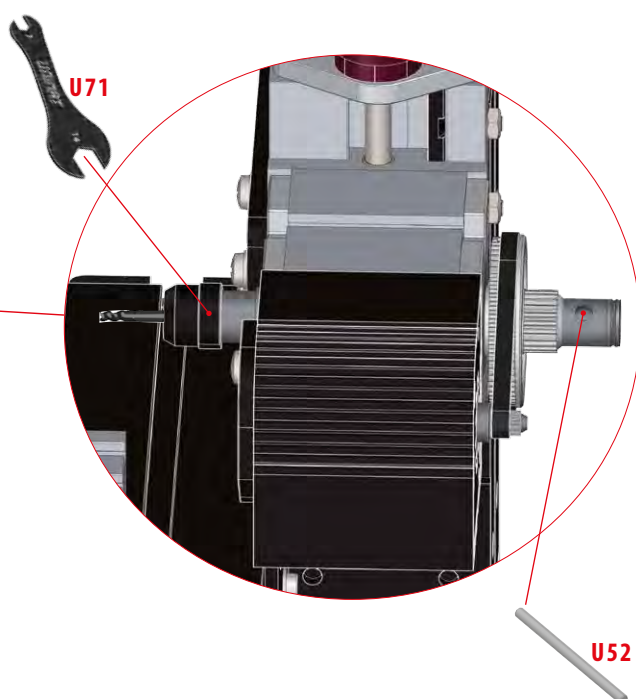
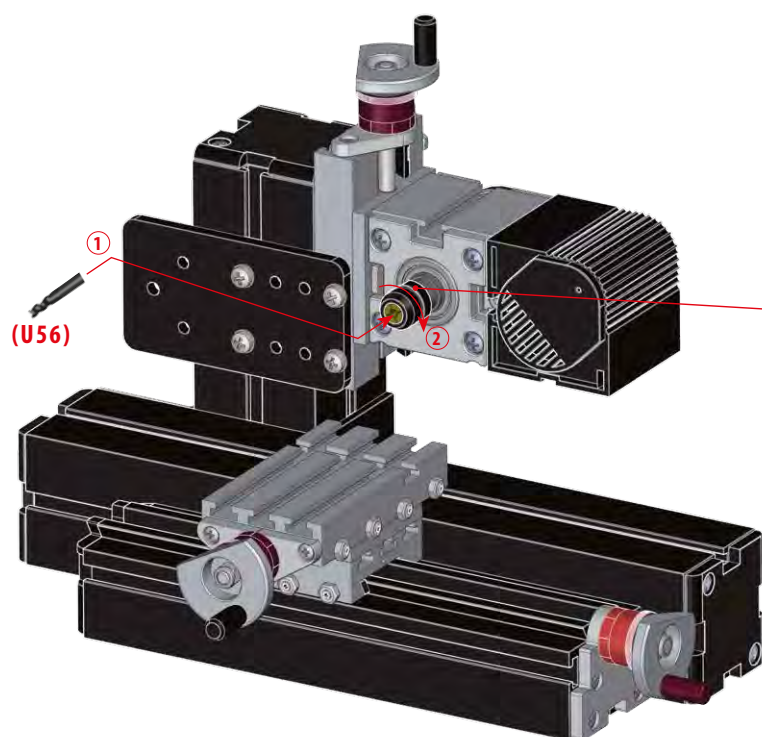
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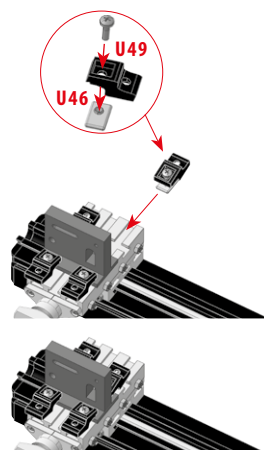
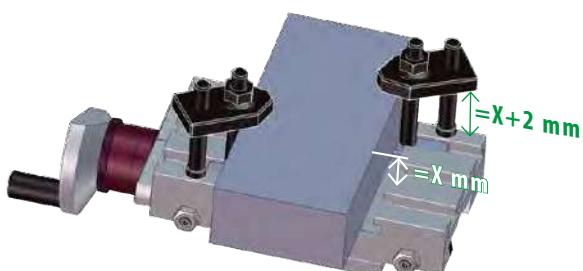
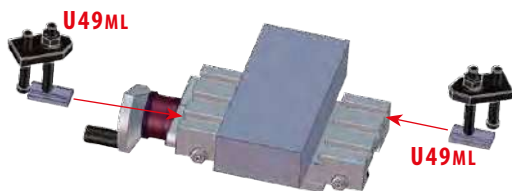
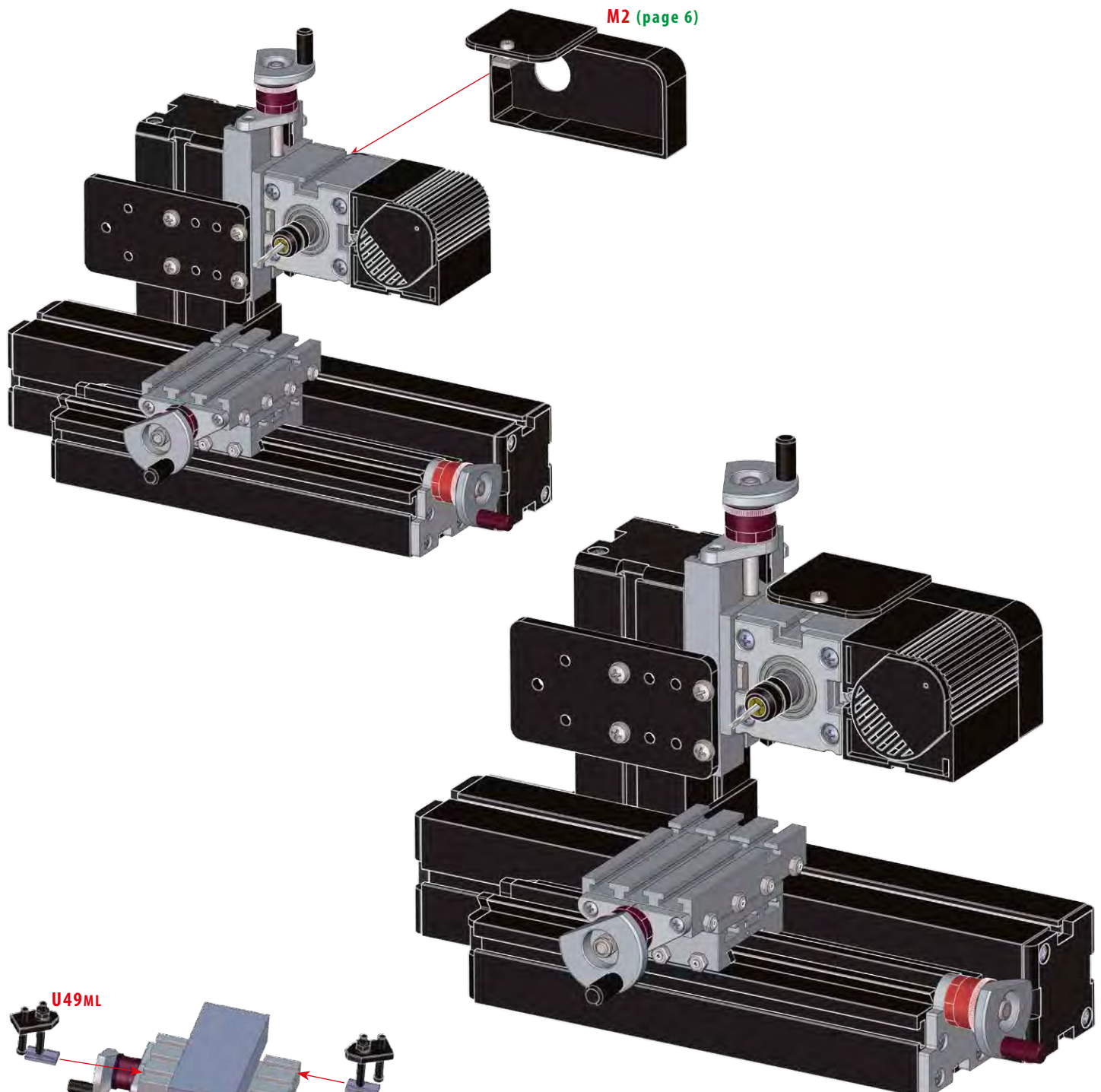


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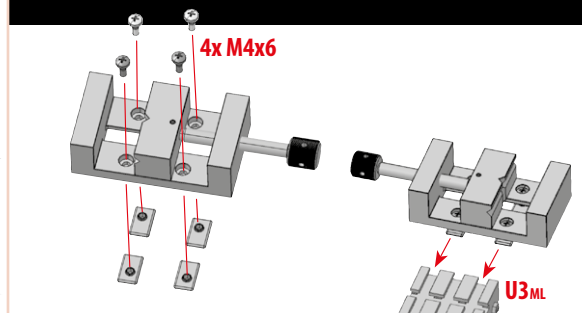


5





Optional – Frässhraubstock aus Stahl
Optional – milling vise (steel)
En option – étau métallique **Opcional – mordaza metálica**
选配零件虎钳 (钢制)
İsteğe bağlı - frezeleme mengenesi (çelik)

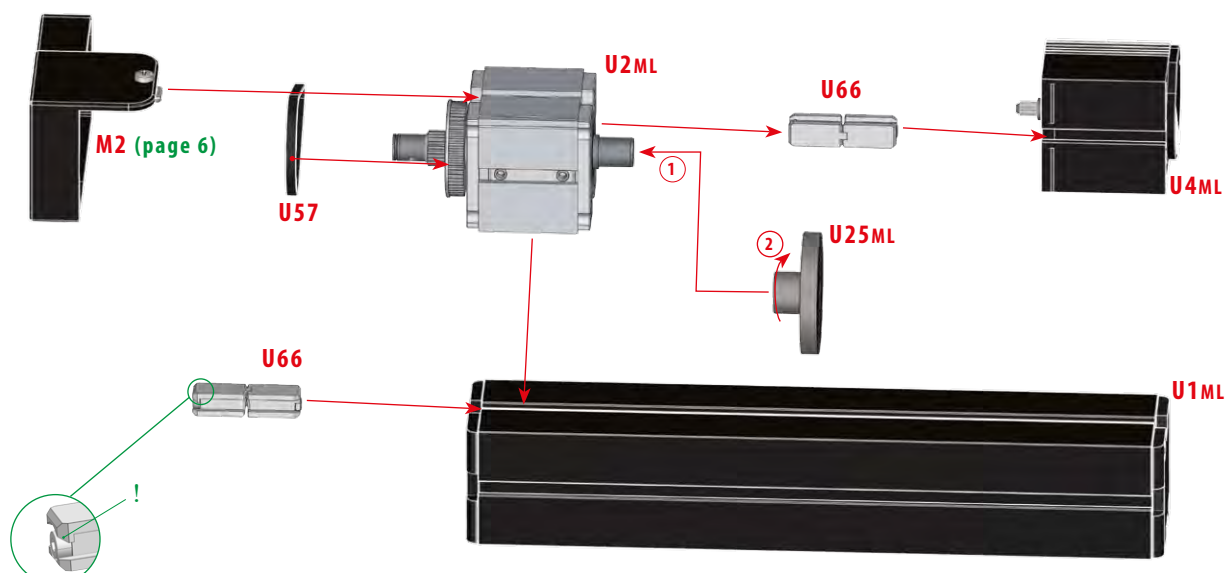
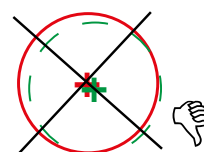
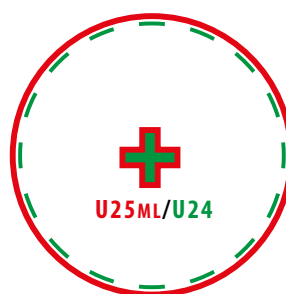
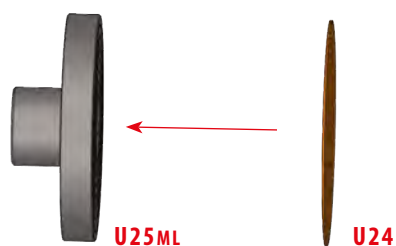


UNIMAT ML - METALLINE [12+]

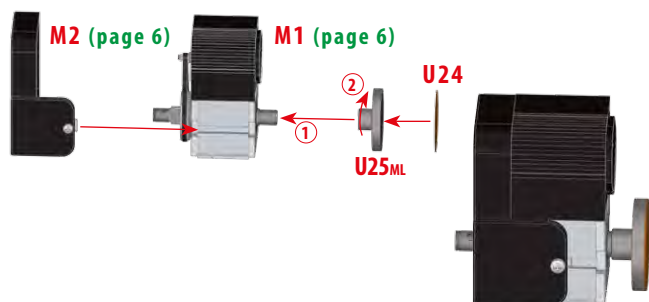


Schleifmaschine
Sanding machine
Ponceuse
Máquina esmeriladora
磨床
Zımpara makinesi

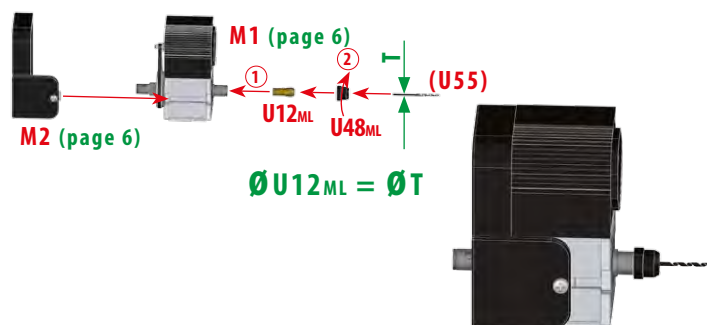
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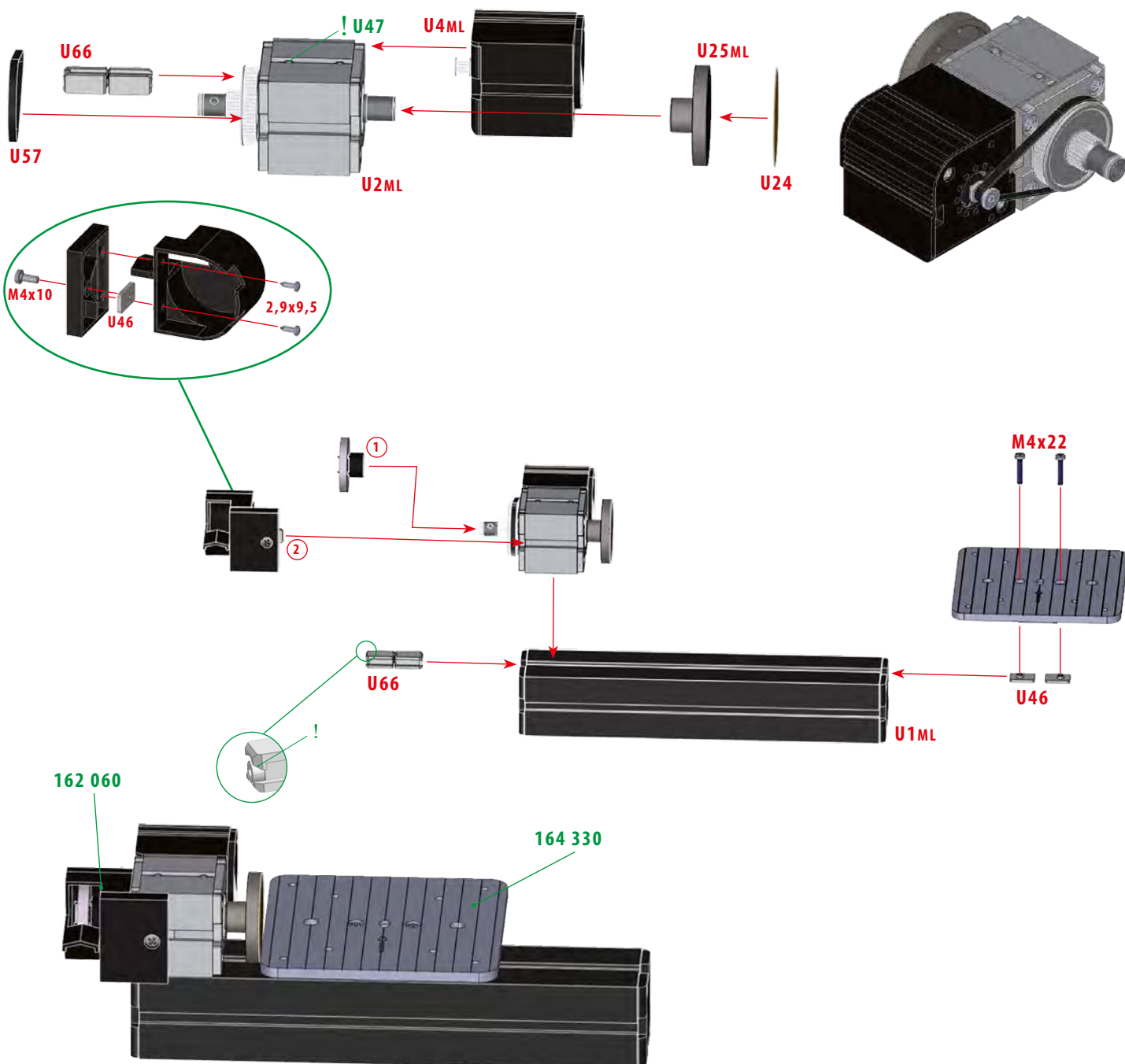
2 A



3

Optional • Optional • En option • Opcional • 选配零件 • İsteğe bağlı

Werkzeugschleifeinrichtung • Tool Grinder with Grinding Wheel • Affûteuse d'outils • 工具磨床 • Bileme diski ile takım bileyleme - art.no. 162 060
Stichsägtisch-ML • Jig saw table ML • Table de scie ML • 线锯台面 ML • Kıl testere tablası ML - art.no. 164 330



UNIMAT ML - METALLINE [12+]

Optional • Optional • En option • Opcional • 选配零件 • isteğe bağlı

162 130 Holzbearbeitungsset • Woodworking upgrade • Kit pour travailler en bois •

Kit de trabajar con madera • 木车升级包 • Ağaç işleme yükseltmesi page 26 - 32

		D	GB, USA	F	E	中国	RU	
U16	1	Stichsägegehäuse	Jig saw casing	Boîte de scie	Caja de la sierra	线锯盒	Kıl testere kılıfı	A0A 100 080
U17n	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 SW
U22	1	Sägeblatt	Saw blade	Lame de scie	Hoja de la sierra	锯条	Testere bıçağı	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
U25	1	Aufspannscheibe	Clamping plate	Disque de ponçage	Disco para papel abras	砂轮盘	Sıkıştırma plakası	A1Z 100 010
U27ML	1	Drechselaufleger	Woodturning support	Support de tournage	Soporte del trono	木车刀刀座	Ahşap tornası desteği	A1Z 340 200
U28	1	Drechselmesser	Turning chisel	Outil de tournage	Gubia	木车刀	Keski	A1Z 100 030
U29	1	Zentrumsfinder	Center finder	Calibre de centrage	Para localizar centro	中心定位尺	Merkez bulucu	A1Z 100 040
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	3	Schraube M4x10	Screw M4x10	Vis M4x10	Tornillo M4x10	螺钉 M4x10	Vida M4x10	ZSR M40 410
U32	1	Mitnehmerspitze	Drive centre	Entraîneur	Punta de arrastre	中心动轮	Motor merkezi	A1A 101 000
U37	1	Schraube M4x8	Screw M4x8	Vis M4x8	Tornillo M4x8	螺钉 M4x8	Vida M4x8	ZSR M40 408
U35	1	Schraube M3x35	Screw M3x35	Vis M3x35	Tornillo M3x35	螺钉 M3x35	Vida M3x35	ZSR M430 350
U44	1	Mutter M3	Nut M3	Écrous M3	Tuerca M3	六角螺母M3	Somun M3	ZMU 340 302
Ua	1	Klemmbuchse	Saw blade holder	Support de lame	Fijación de hoja	锯条固定环	Testere bıçağı tutucu	A0A 000 120
Ub	1	Schraube M2x8	Screw M2x8	Vis M2x8	Tornillo M2x8	螺钉 M2x8	Vida M2x8	ZSR M40 208
U62	4	Vierkant Mutter M4	Square nut M4	Écrous carrés M4	Tuerca cuadradas M4	六角螺母M4	Kare somun M4	ZMU 620 400
U74	1	Beilagscheibe	Plain washer	Rondelle	Arandela	垫片	Dğz pul	ZSB 250 430
	1	Rollkörner	Live Center	Contrepointe tournante	Contra punto giratorio	活顶尖	Merkez	162 450
	4	Gewindestift M4x6	Threaded pin	Vis M4x6	Tornillo M4x6	螺钉 M4x6	Dişli pim	ZST 130 406



U16



U29



U28



U19



U27ML



U17n



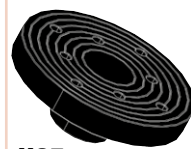
U32



U23



U18



U25



Ub



U30



U31



U37



U74



U44



U35



U62



162 450



Ua



U23b



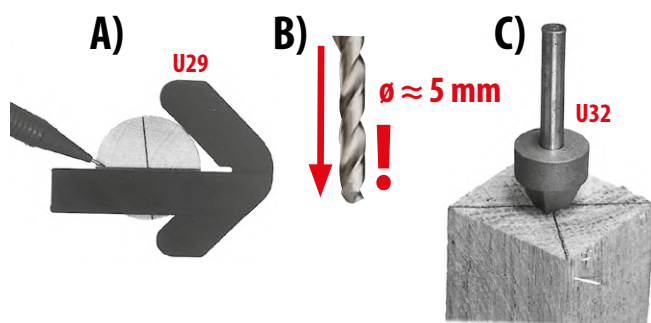
U22



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

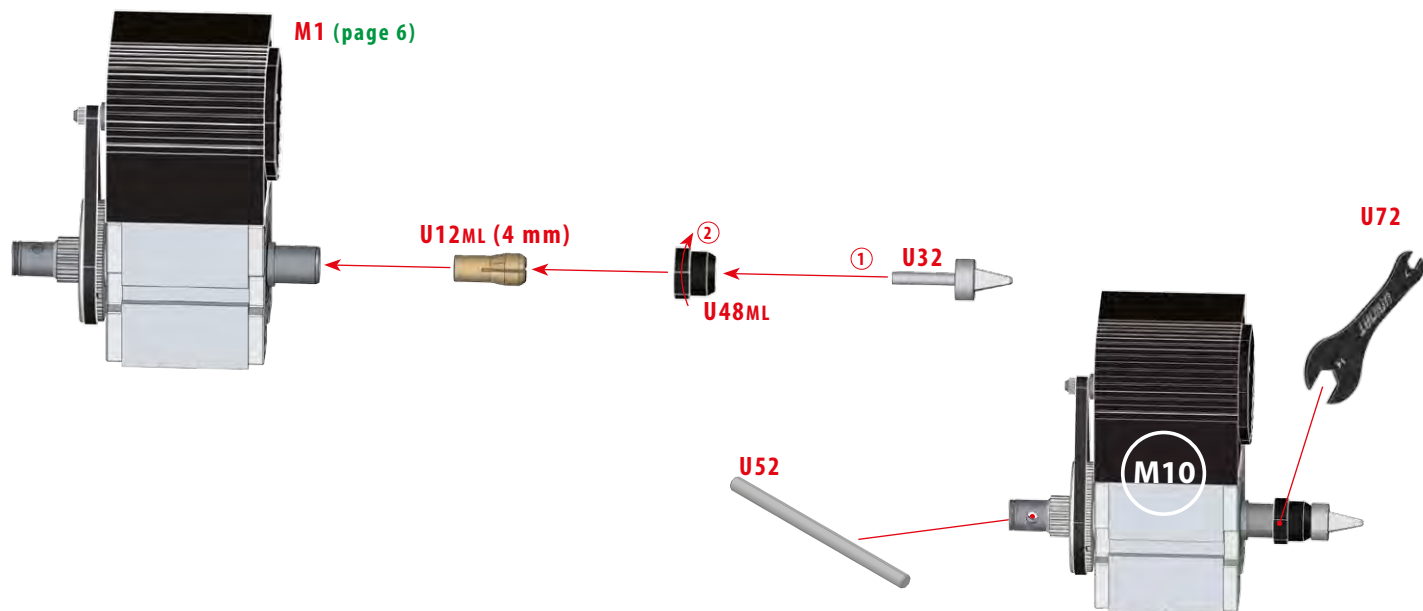
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<http://www.thecooltool.com/videos/>

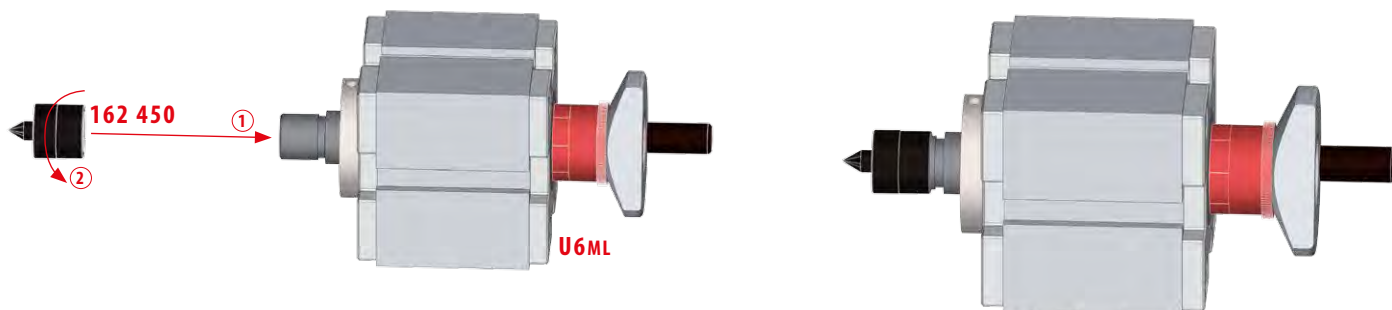


A) Ermitteln des Mittelpunktes runder Werkstücke B) Vorbohren! C) U32 mit einem Hammer in den Holzmittelpunkt schlagen (ca. 5 mm).
A) Centre finder: determining the center of round workpieces B) predrilling! C) Drive U32 into the centre of workpiece with a hammer (ca. 5 mm).
A) Calibre de centrage: Détermination 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5 mm)。
A) Merkez bulucu: dairesel parçanın merkezini belirler. B) ön delme! C) Çekiç yardımıyla U32'yi parçanın merkezine doğru itin.

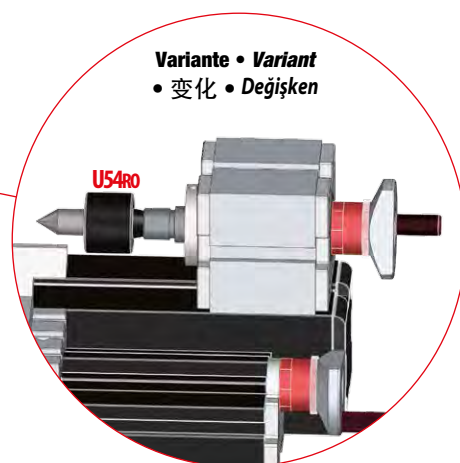
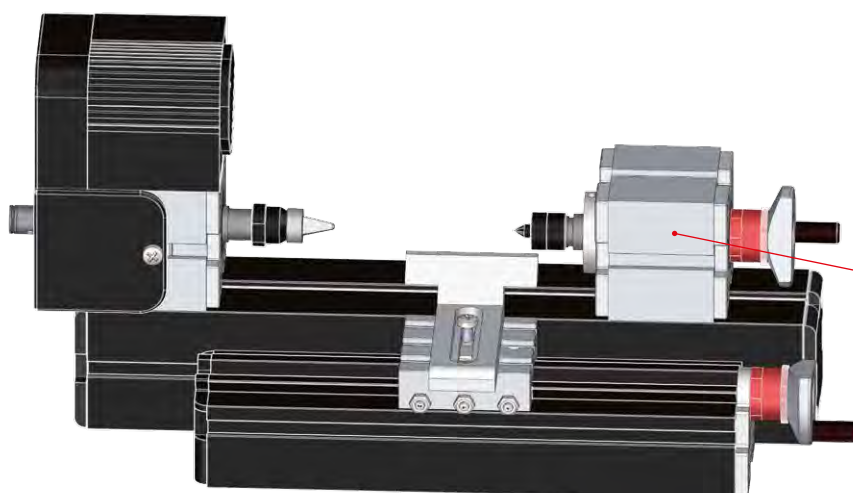
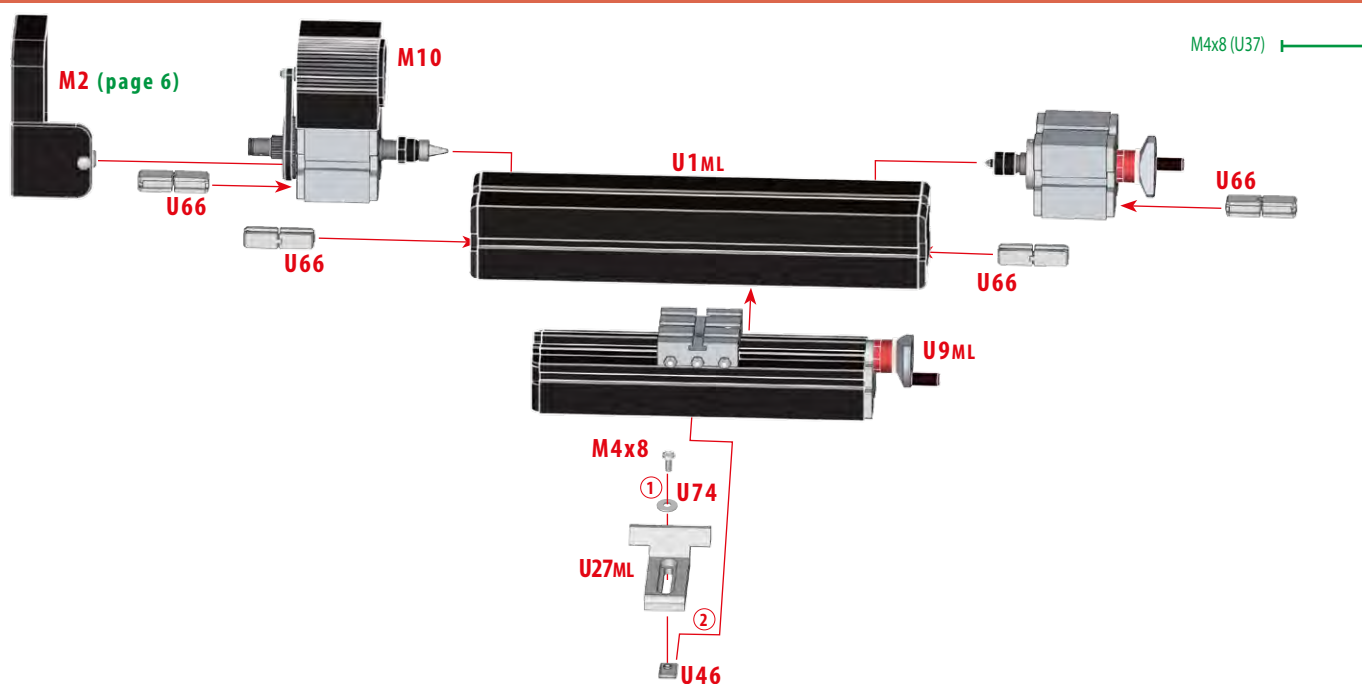
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3



4



Variante • Variant
• 变化 • Değişken

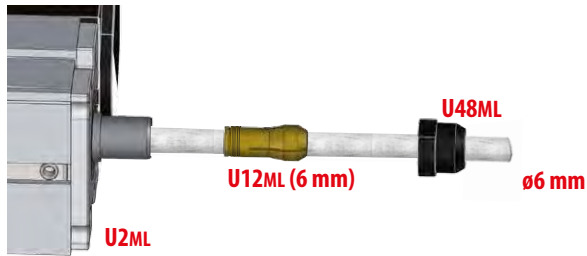
Werkstücke bis $\varnothing 6$ mm mittels Spannzangen fixieren.

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 U26ML festschrauben. Drehselaufgabe U27ML entweder auf U1ML, U9ML oder U10ML fixieren.

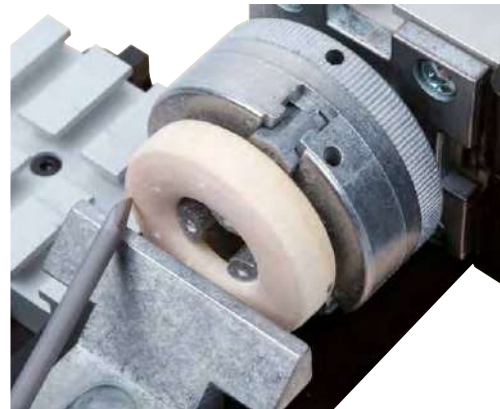
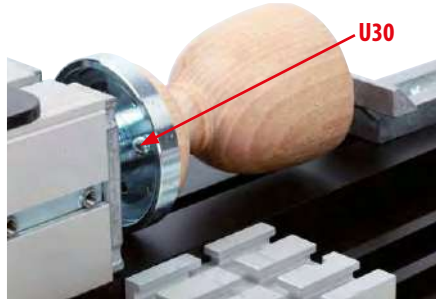
Faceplate turning: Tighten wood to clamping plate U26ML with 4 screws U30. Tighten woodturning support U27ML to U1ML, U9ML or U10ML.

Tournage de bois taillé contre les fibres: Fixez le bois au moyen de 4 vis U30 sur le disque U26ML. Fixez le support de tournage U27ML sur U1ML, U9ML ou sur U10ML.

Tornear traviesas: Fijar la madera con 4 tornillos U30 en el disco para tender U26ML. Colocar soporte del torno U27ML o en U1ML, U9ML o en U10ML.

面板加工：用4个U30螺丝将木棒固定在面板U26ML上，将刀架U27ML固定在U1ML、U9ML或者U10ML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.



Zentrierbohren mit dem Reitstock: Mit dem Handrad von U6ML den Bohrer ins rotierende Werkstück drehen.

Centre drilling with the tailstock: Drive drill into rotating workpiece with handwheel of U6ML.

Forage à centrer: Au moyen de la poupée mobile: Enfoncez la mèche dans la pièce à usiner tournante au moyen du volant de U6ML.

Taladrar centrado con la contrapunta: Tornear el taladro en la pieza de trabajo en rotación con la rueda de mano de U6ML.

用尾座进行中心孔加工：旋转尾座U6ML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.

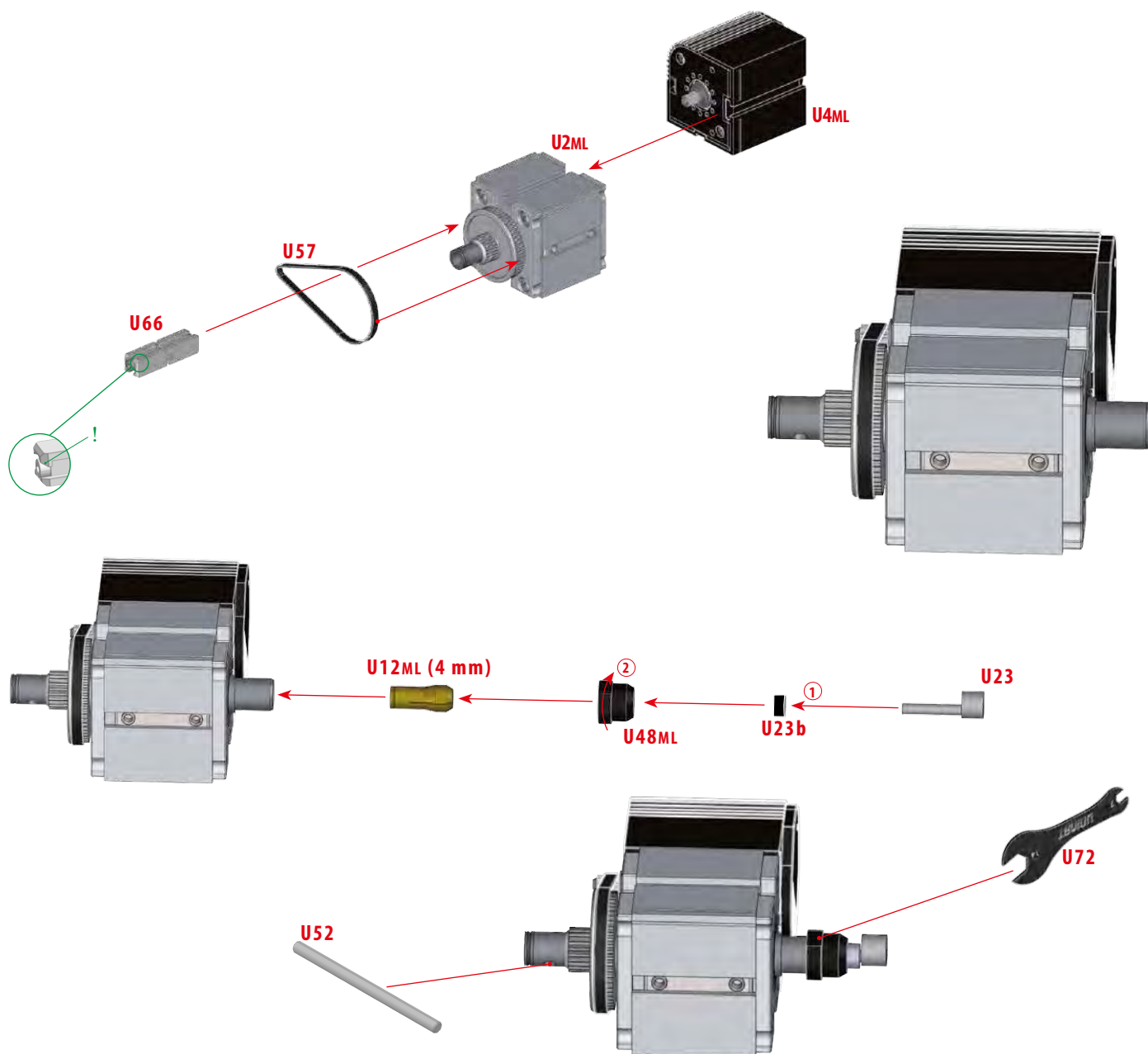


UNIMAT ML-METALLINE [12+]

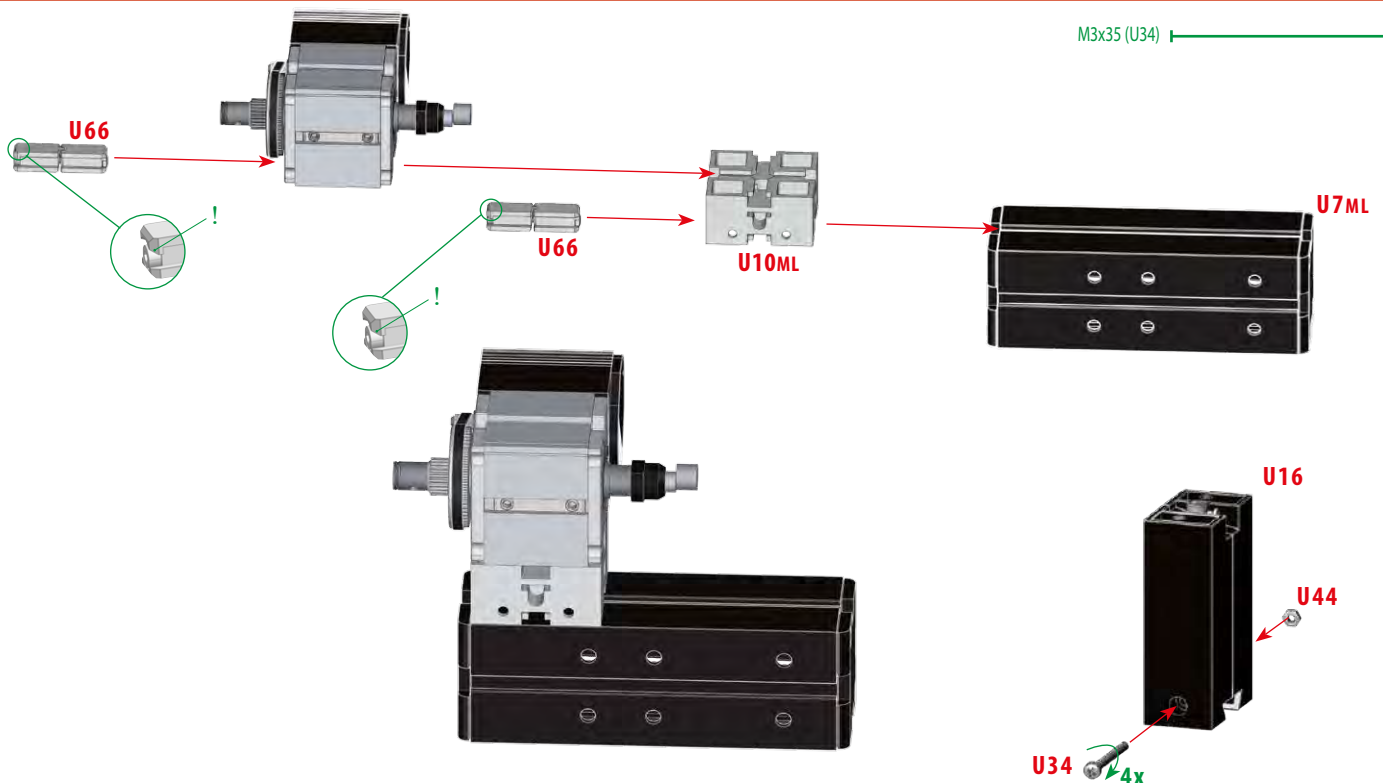


Stichsäge
Jig-saw
Scie sauteuse
Sierra de calar
线锯
Kıl testere

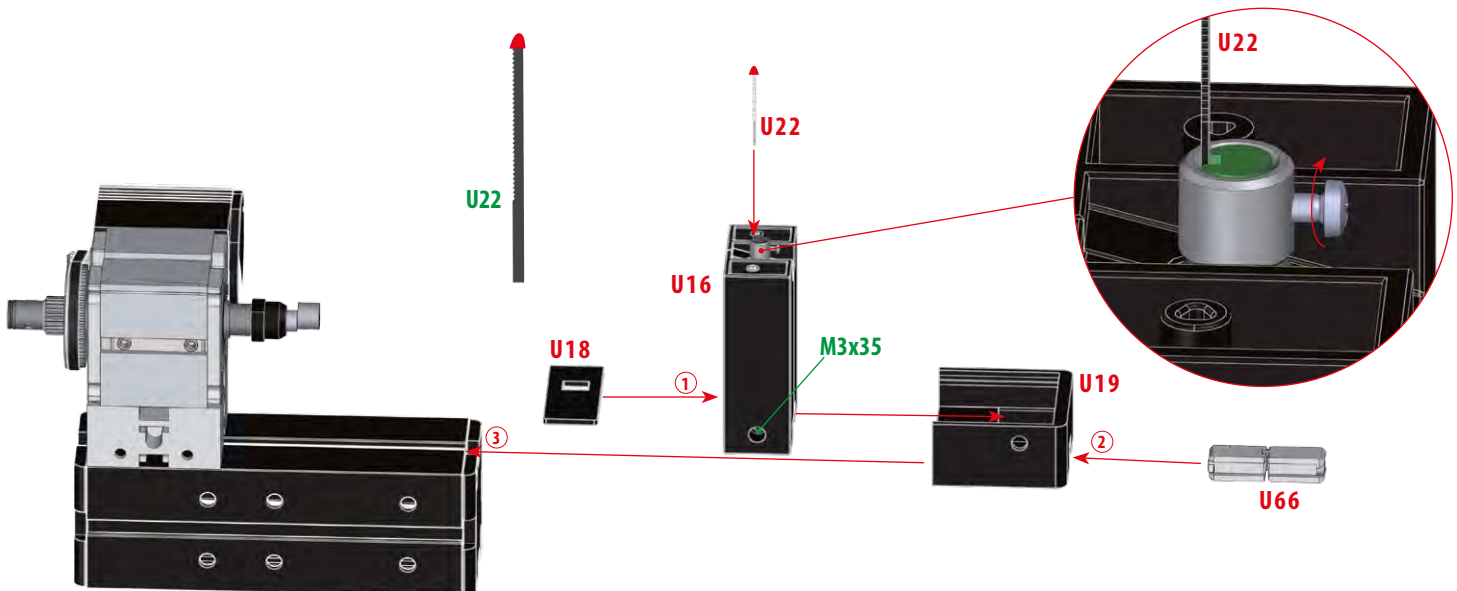
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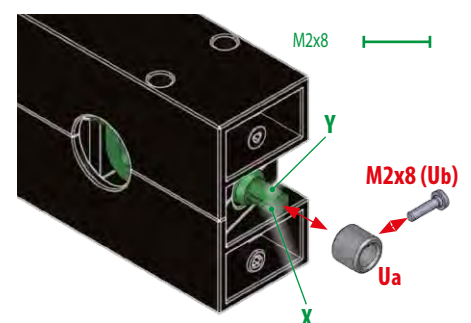
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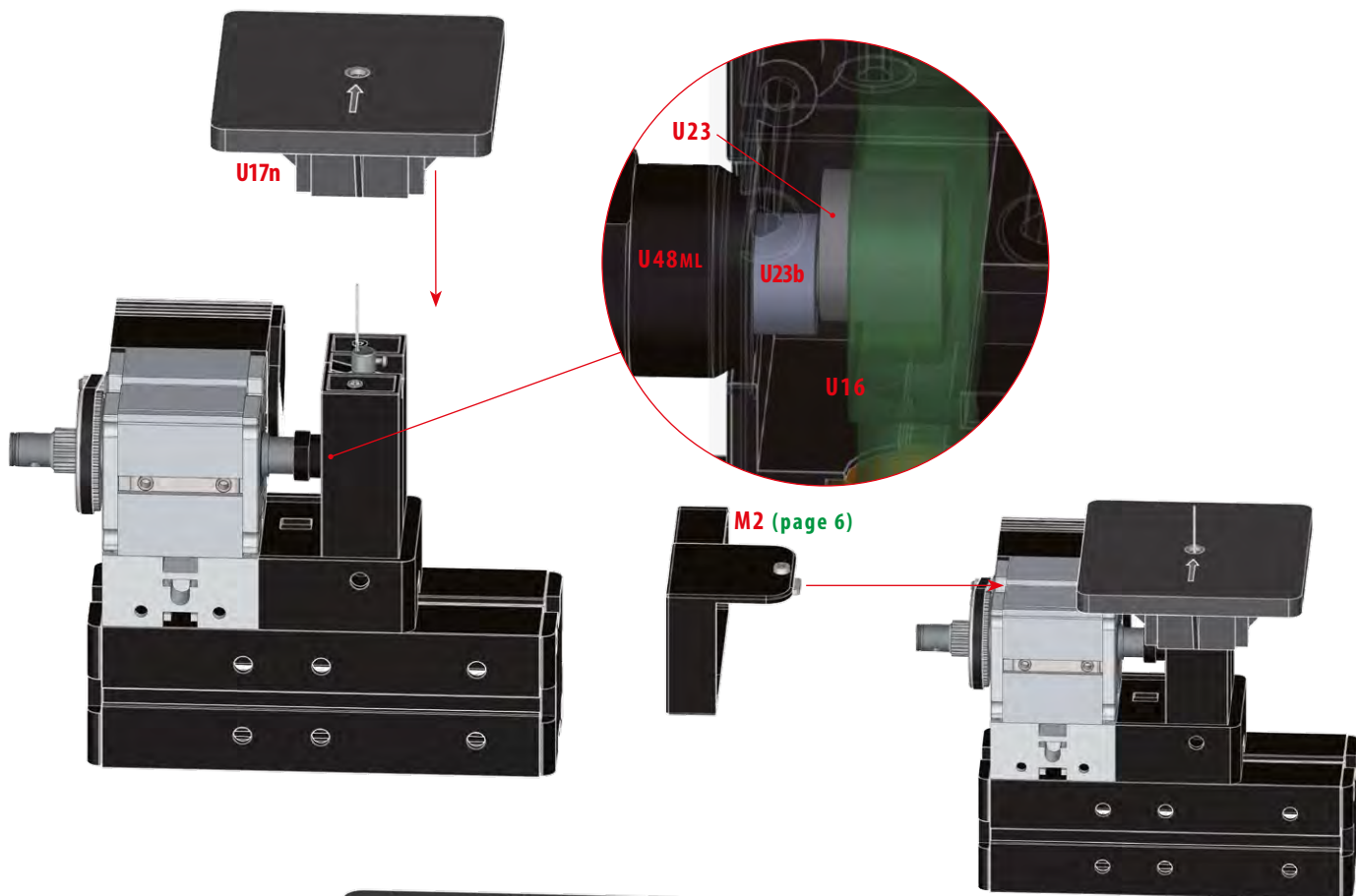


Sägeblatt wechseln: Schraube Ub öffnen, neues Blatt einsetzen, Ub wieder festziehen oder Säge Tisch abnehmen, Schraube Ub komplett entfernen, Buchse Ua abnehmen, Sägeblattrest (X) aus dem Stößel (Y) entfernen; Ua wieder aufsetzen, neues Blatt einsetzen und Ub festziehen.

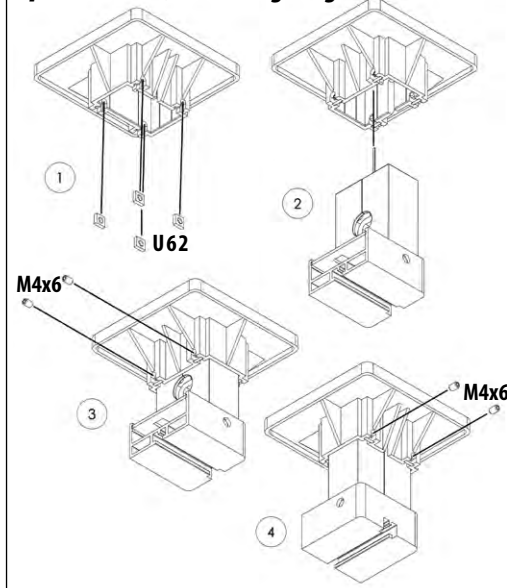
Change of saw blade: open screw Ub, change blade, fix Ub again or remove saw table, loosen screw Ub completely, remove Ua, clean tappet (Y) from sawblade fragments (X), put Ua back on; fix new blade with Ub.

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.





Optional • Optional • En option •
Opcional • 选配零件虎钳 • isteğe bağlı

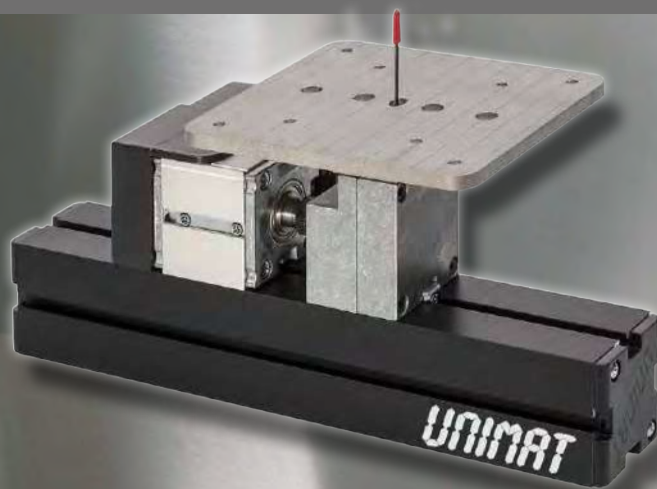


Cambio de la hoja de sierra: abra tornillo Ub, reemplazar hoja, fijar Ub o quitar soporte de la sierra, apartar tornillo Ub completamente, quitar Ua, limpiar el botador (Y), eliminar los fragmentos de la hoja (X), montar Ua, reemplazar hoja, fijar Ub.

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.

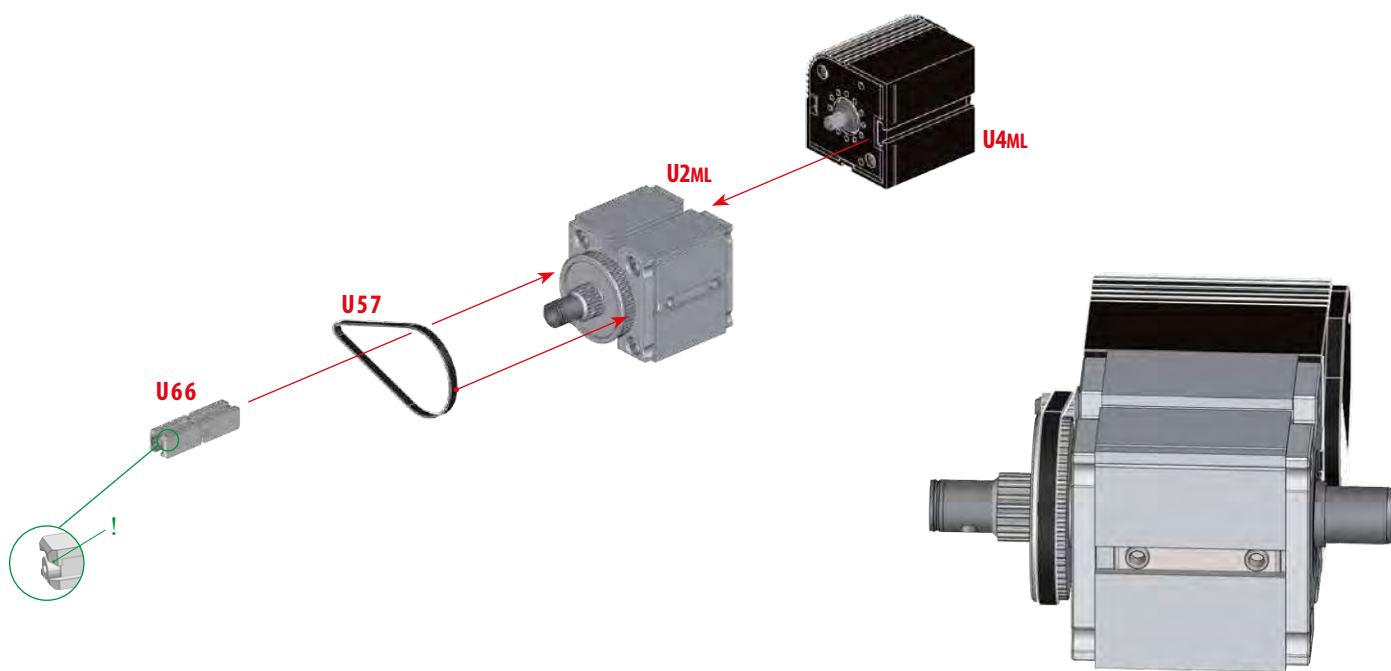




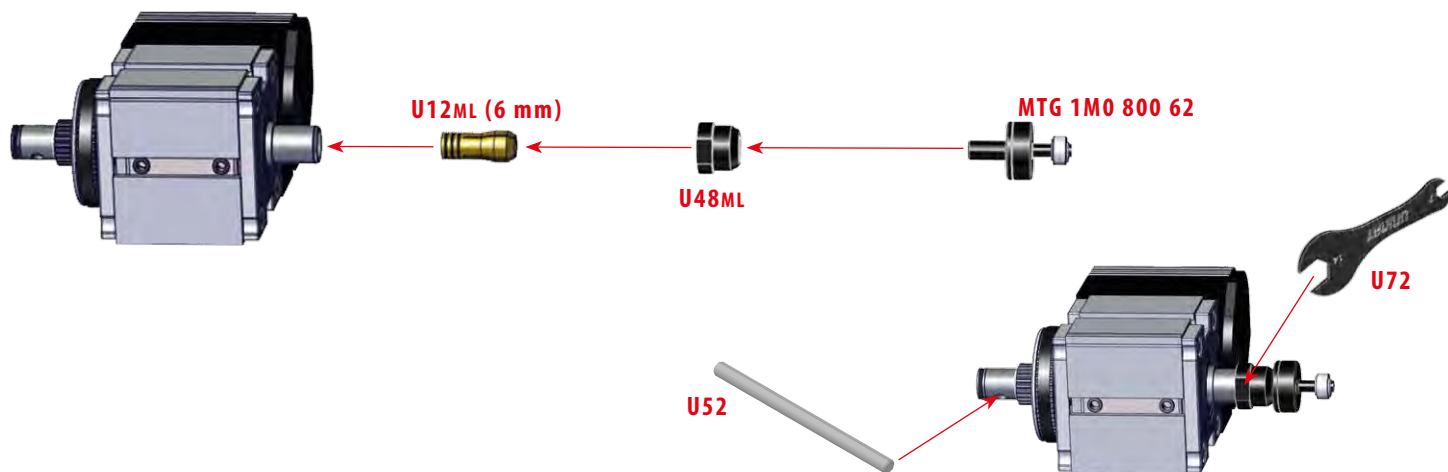
Stichsäge - Werkerziehung & Design
Jig-saw - Design & Technology
Scie sauteuse - Design & Technology
Sierra de calar - Design & Technology
线锯 - Design & Technology
Kıl testere - Tasarım & Teknoloji

Optional • Optional • En option • Opcional • 选配零件 • İsteğe bağlı

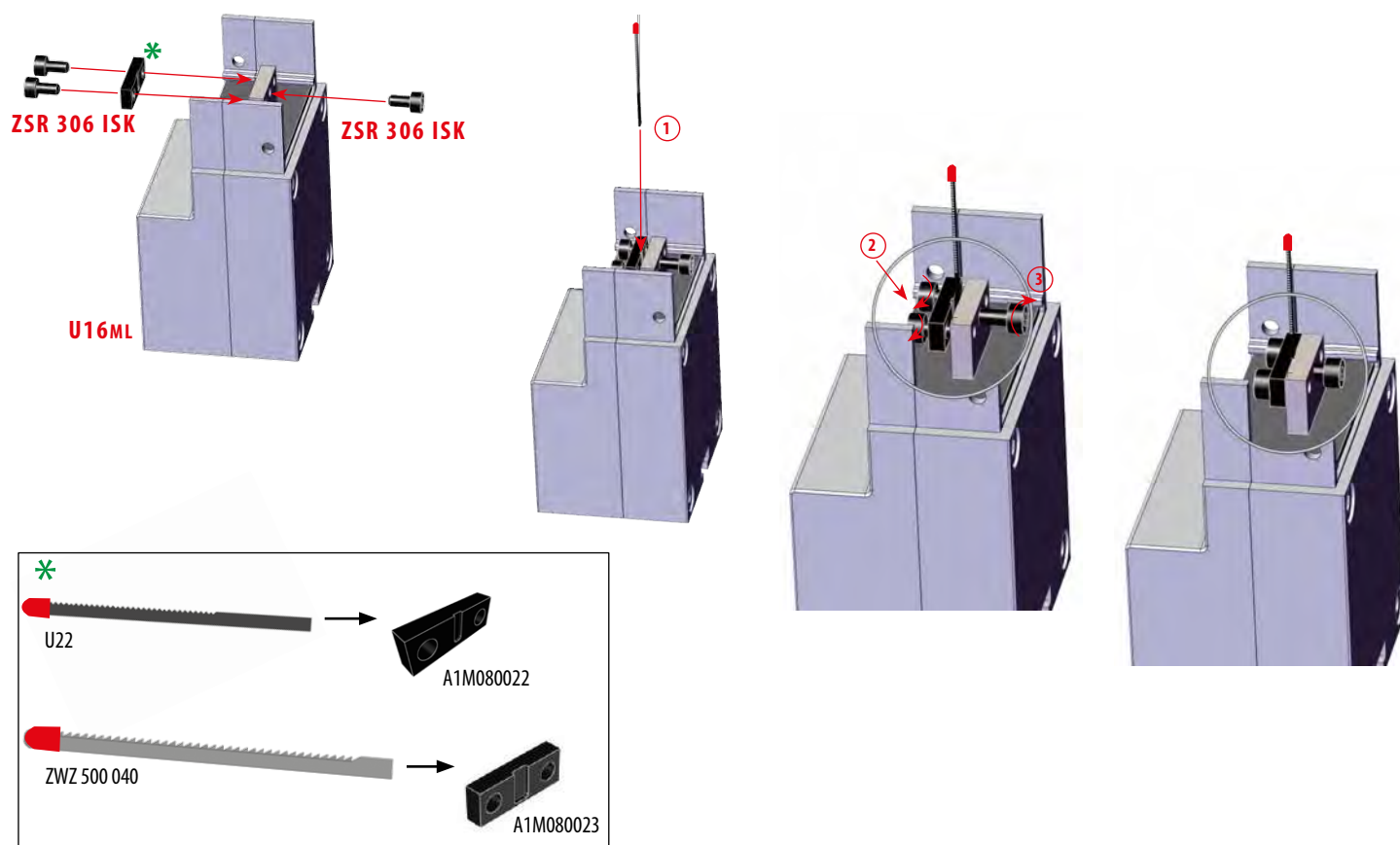
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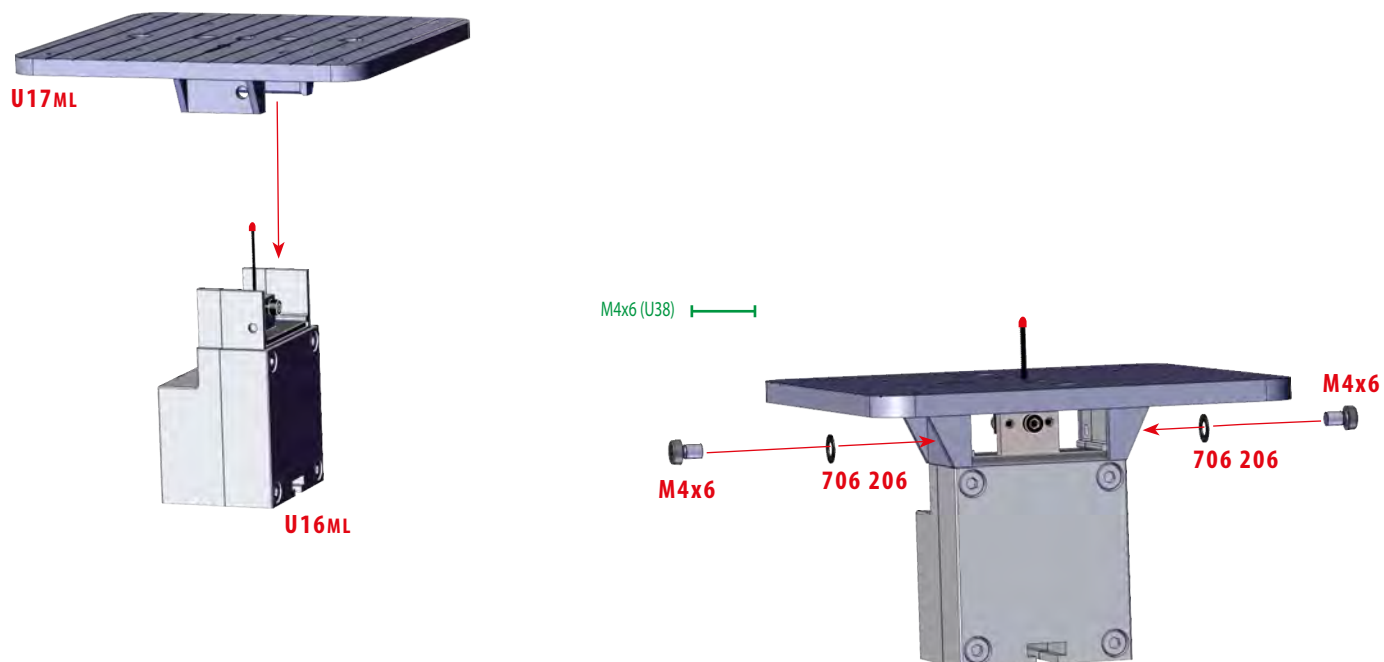
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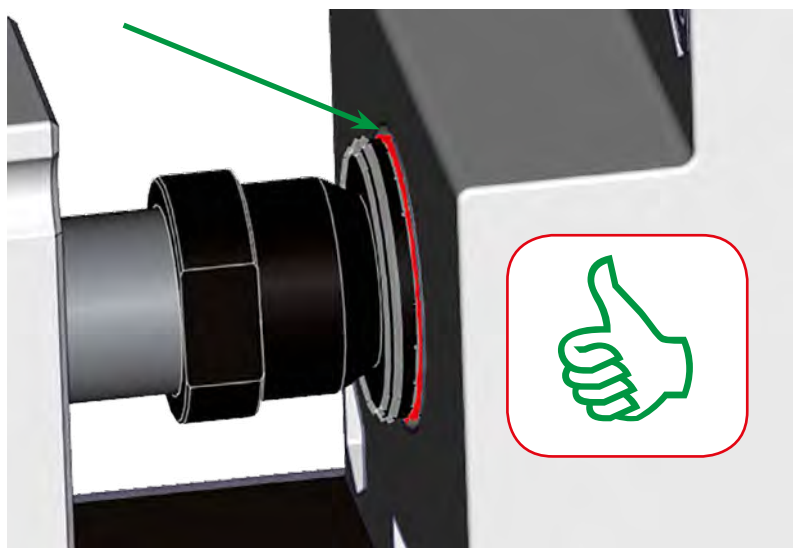
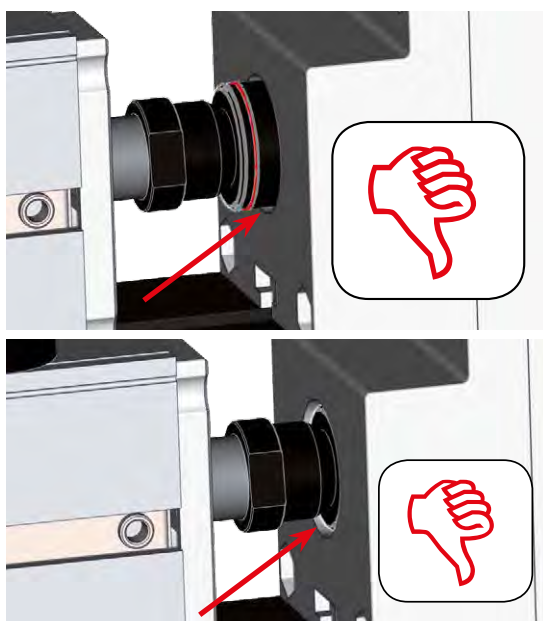
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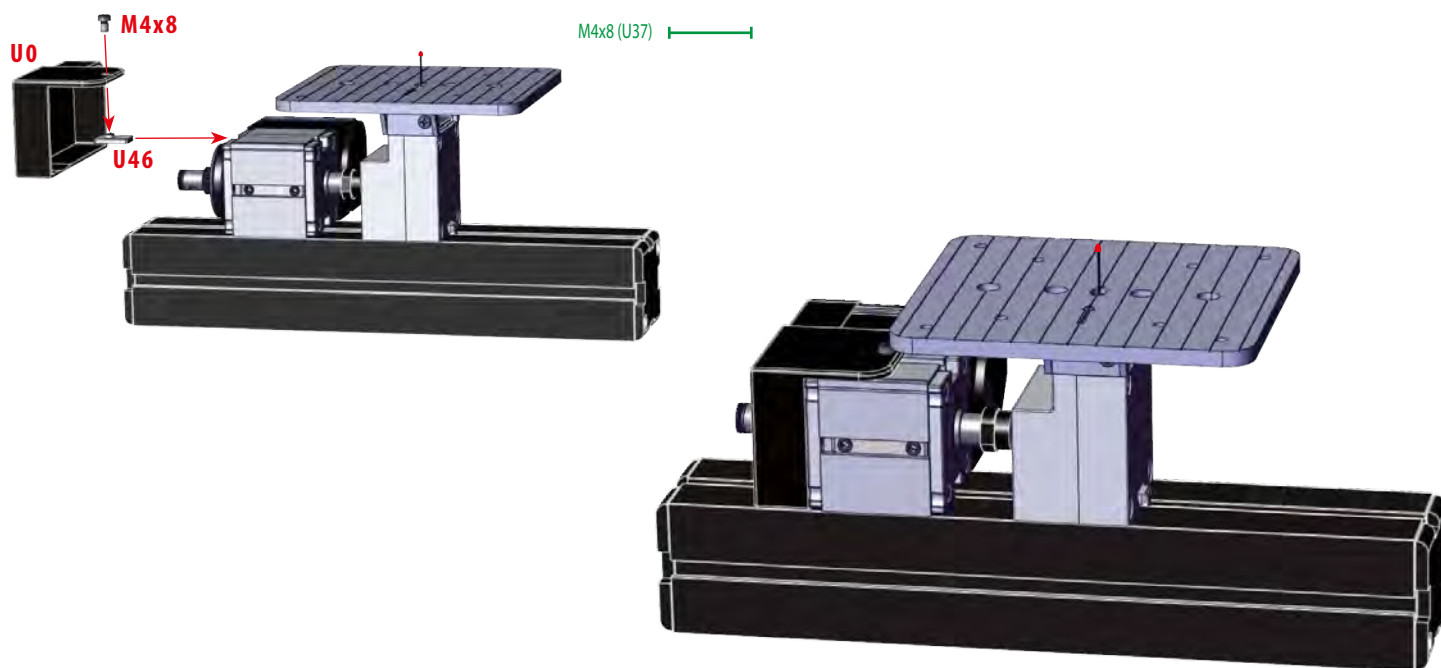
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5



6



Erweiterungen / Upgrades

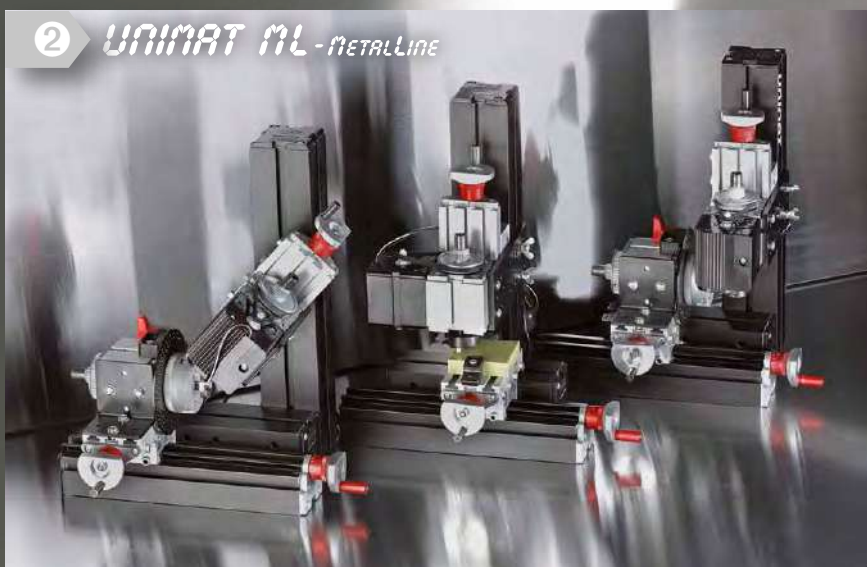
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PRODUCT
MADE IN
AUSTRIA**

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② UNIMAT ML - METAL LINE



③ UNIMAT CNC



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