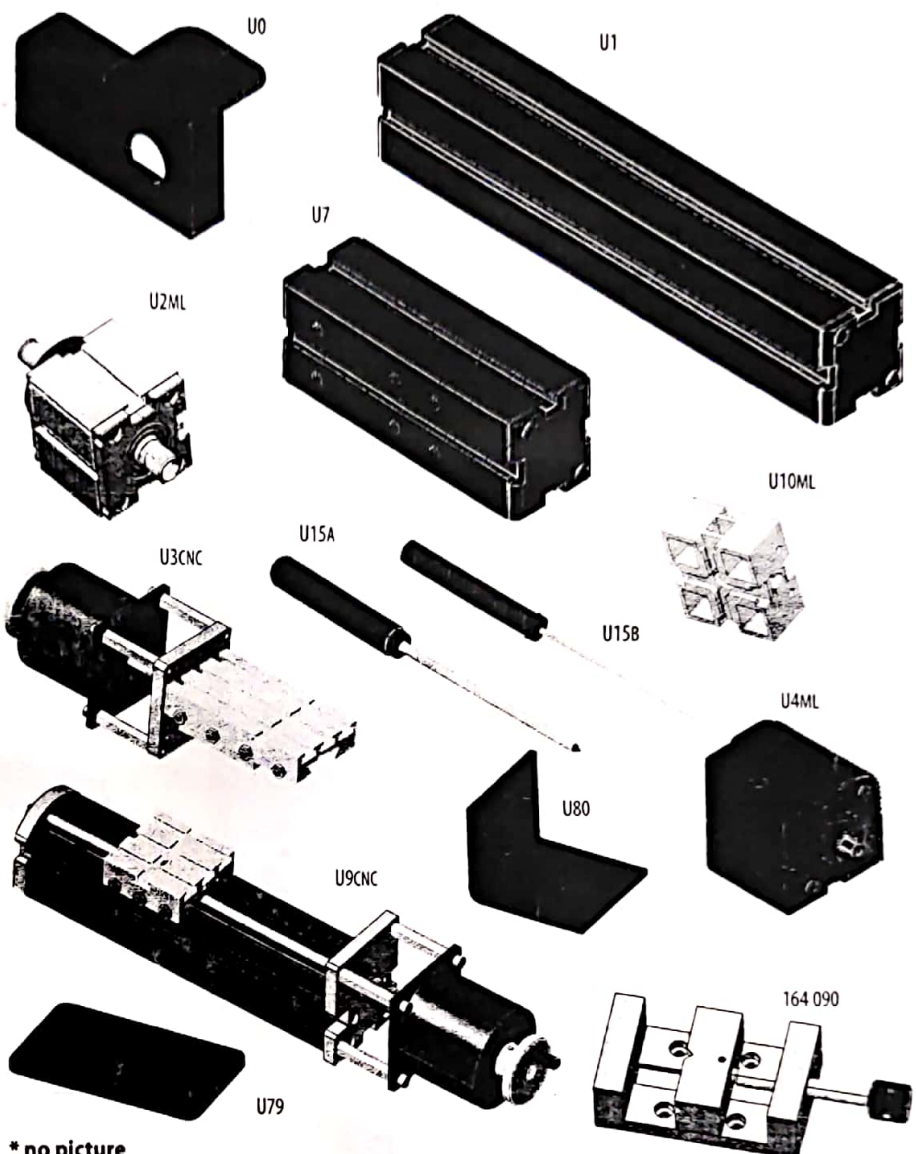


Part list and setup of 3 axes CNC vertical mill

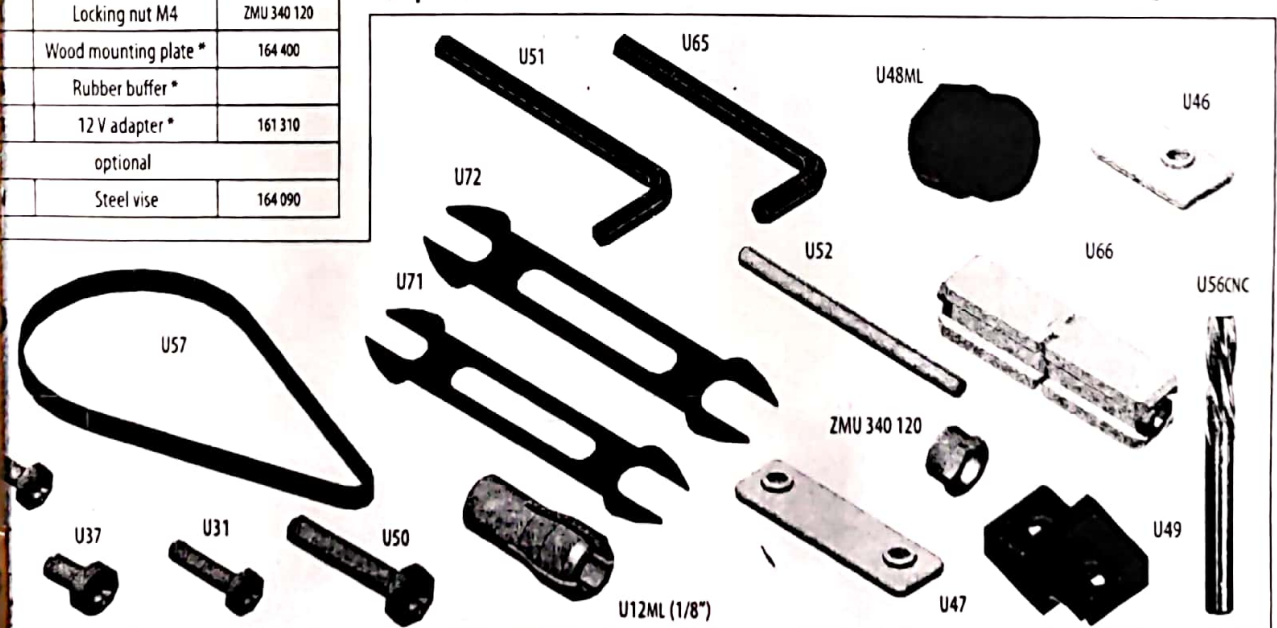
4.4.4

www.youtube.com/thecooltool09

Drivebeltcover	A1A 000 010
machine bed, long	A1A 020 000 SW
Countershaft	A1M 035 000
Cross slide CNC	164 060 CNC
Motor	162 420 MH S
Machine bed, short	A1A 010 00 SW
Longitudinal slide CNC	164 480 CNC
Intermediate piece	A1M 000 100
Collet 1/8"	164 460 1/8"
Screw driver #2	ZWZ 980 010
Screw driver allen key	ZWZ 980 075
Screw M4x10	ZSR M40 410
Screw M4x8	ZSR M40 408
Screw M4x6	ZSR M40 406
Slot nut	A1A 060 040
Clamping plate	A1A 010 020
Collet holder	A1A 000 072
Clamping jaw	A1A 000 090
Screw M4x70	ZSR M40 470
Allen key 2mm	ZWZ 110 200
Rod	ZST 110 345
Milling head 1.6 mm	F2470 1.60
Drive belt (87)	ZRM 730 087
Allen key 2,5mm	ZWZ 110 250
Connection piece	A1A 000 ZIN SK
Screw M4x12	ZSR M40 412
7 mm straddle wrench	ZWZ 100 700
14 mm straddle wrench	ZWZ 101 400
Plain washer	ZSB 250 430
Stabilizing plate small	A12 470 000
Stabilizing angle	A12 480 000
Locking nut M4	ZMU 340 120
Wood mounting plate *	164 400
Rubber buffer *	
12 V adapter *	161 310
optional	
Steel vise	164 090



* no picture



Assembly/General

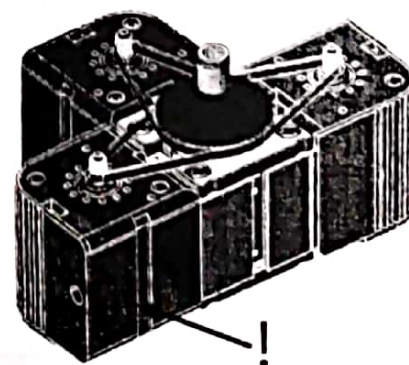
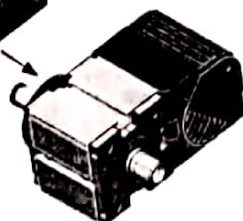
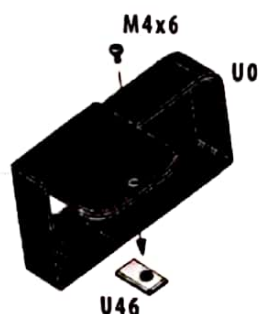
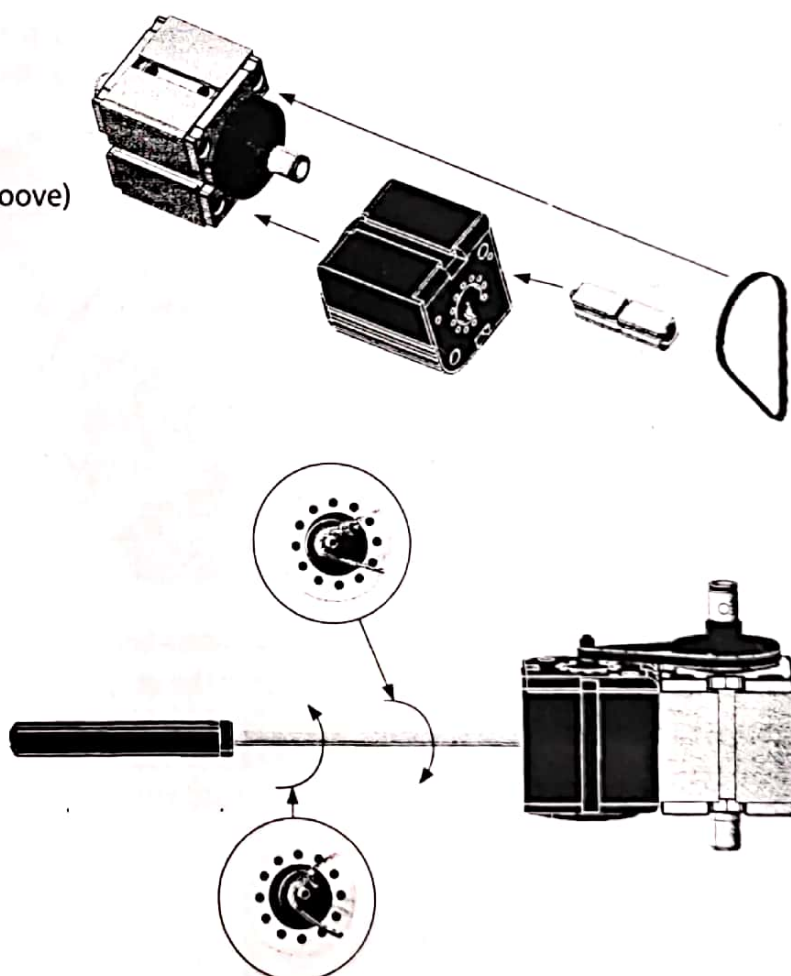
When setting up the UNIMAT CNC please consider the following

1. A screw connecting two metal parts e.g. machine beds, stabilizing plates etc. can be tightened firmly.
2. If the metal nut clamps two synthetic parts, (e.g. adjust the sledge movement, adjusting motor speed,...) then screw it down very gently.
3. By connecting plastic parts with a metal screw/nut, then screw down very gently e.g. Allen screw into the tailstock housing. The same if the metal screw will be screwed into a plastic part e.g. jig-saw housing.

Assembly of the CNC Vertical milling machine

MOTOR-HEADSTOCK Unit M1

1. Slide connection piece (U66) into the T-slots (groove) between motor (U4ML) and headstock (U2ML).
2. Push headstock (U2ML) across and fix the screw of the connection piece (U66)
3. Adjusting the drive belt (U57):
Tighten U57 with screwdriver. Loosen U57, then start motor. Tighten U57 until motor revolutions slightly reduce and the belt U57 is properly tightened.
4. Fixing the drive belt cover (U0).
Make sure that the belt will not grind inside the cover. **Note: fix U0 first when Unimat is completely assembled! Note: fix U0 only after Unimat is completely assembled!**



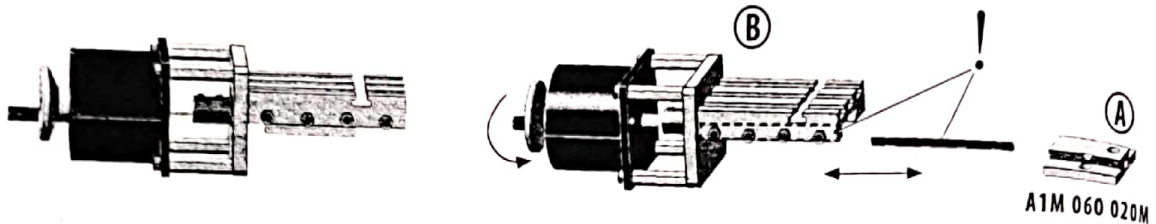
Part list and setup of 3 axes CNC vertical mill

4.4.4

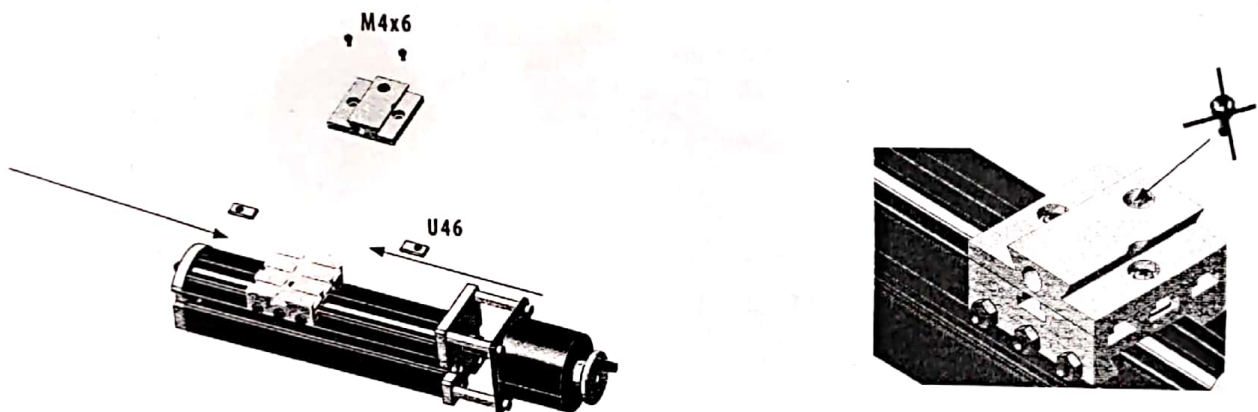
www.youtube.com/thecooltools

Large slide module M2D

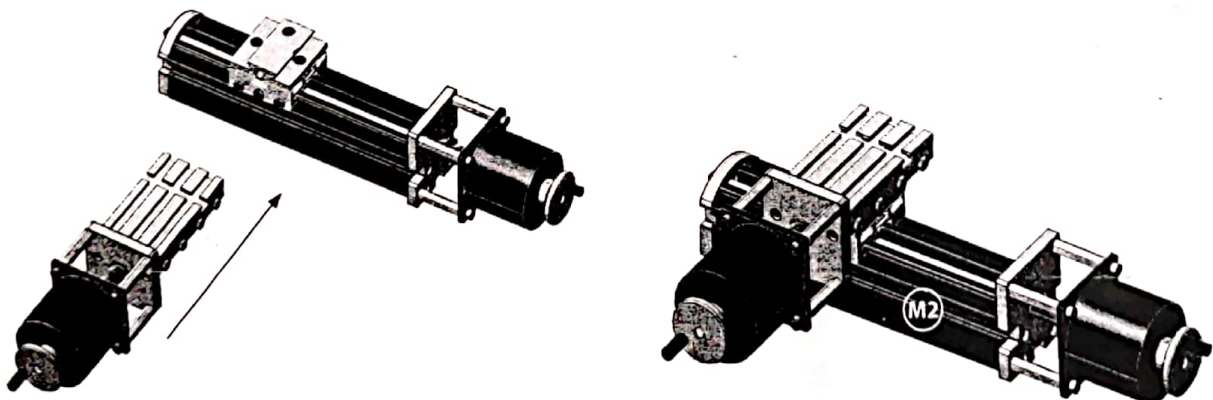
1. Cross-slide module with intermediate piece (for Z-axis) M2B: take off cross-slide guide (A1M 060 020M) from the cross-slide body (U3CNC) by turning the hand wheel until it is released



2. Fix the cross-slide guide (A1M 060 020M) to the saddle of the longitudinal slide (U9CNC) with 3 screws (U38) and 3 clamping plates (U46).



3. Slide modul (M2A) assembly: Slide cross-slide body (U3CNC) over cross-slide guide (A1M 060 020M). Watch the proper position of the gibs between the two parts.



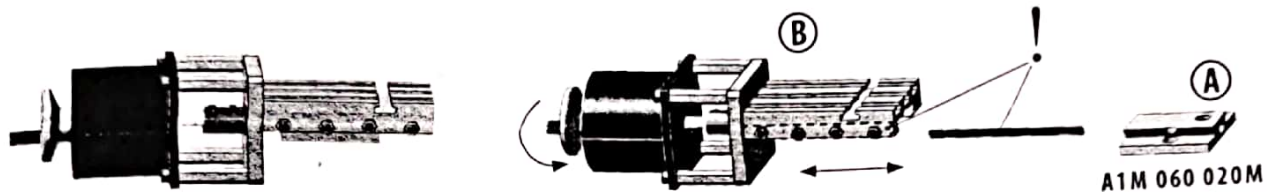
Part list and setup of 3 axes CNC vertical mill

4.4.4

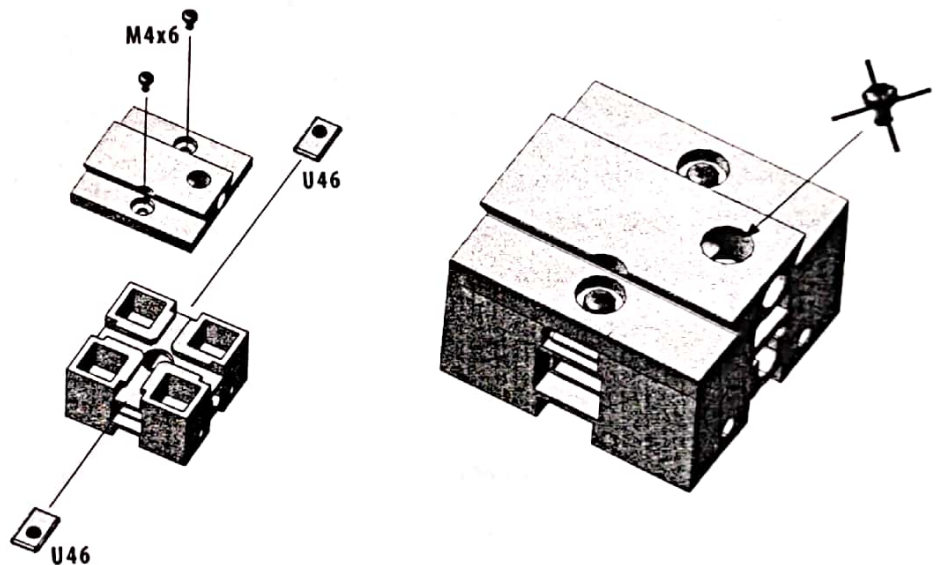
www.youtube.com/thecooltool09

Small slide module M2C

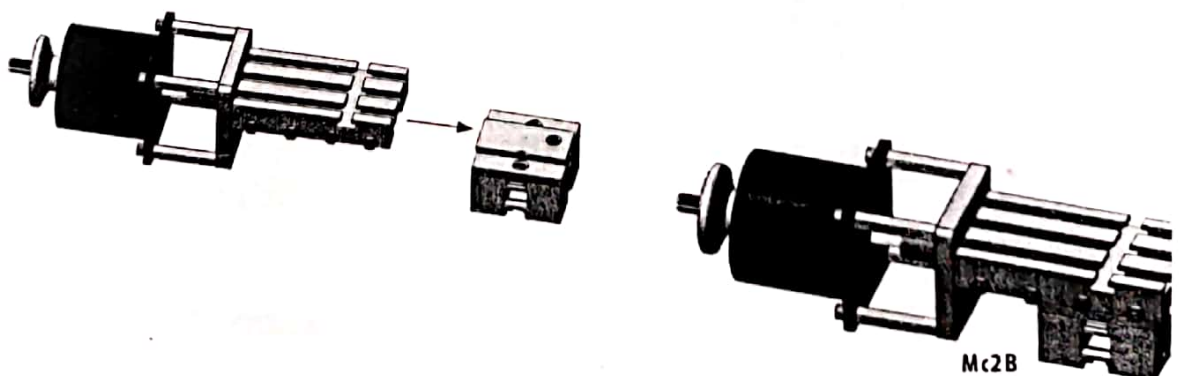
1. Cross-slide module with intermediate piece (for Z-axis) M2B: take off cross-slide guide (A1M 060 020M) from the cross-slide body (U3 CNC) by turning the hand wheel until it is released.



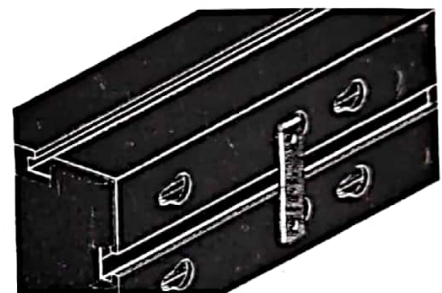
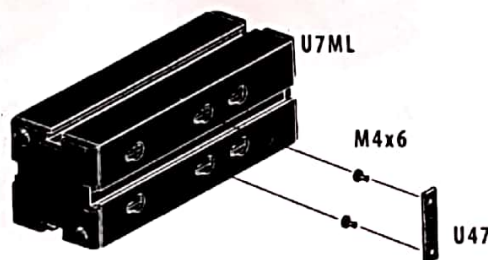
2. Fix the cross-slide guide (A1M 060 020M) to the intermediate piece (U10ML) with 3 screws (U38) and 3 T-slot nut (U46).



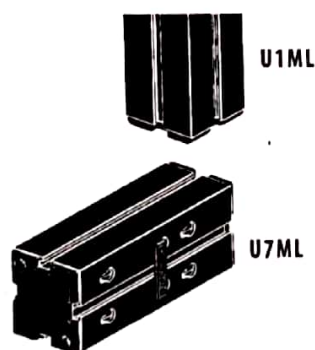
3. Slide cross-slide body (U3ML) over cross-slide guide (A1M 060 020M). Watch the proper position of the gibs between the two parts..



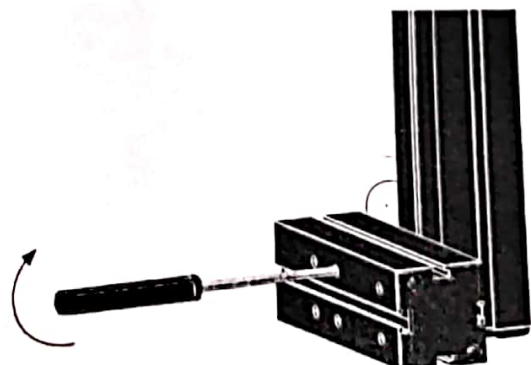
Fix the clamping plate (U47) by means of screws (U38) into the small machine bed (U7) NOTE: do not tighten the screws.



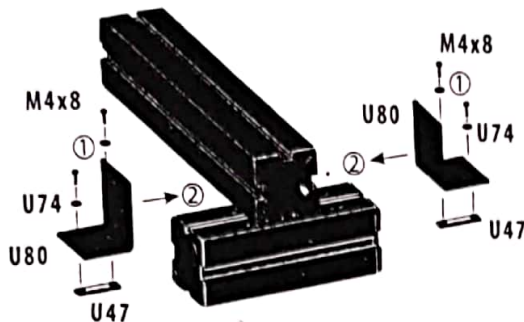
Slide the T-slot of the long machine bed (U1) over the clamping plate (U47).



Tighten the screws properly and measure a 90 degree position between the two machine beds.

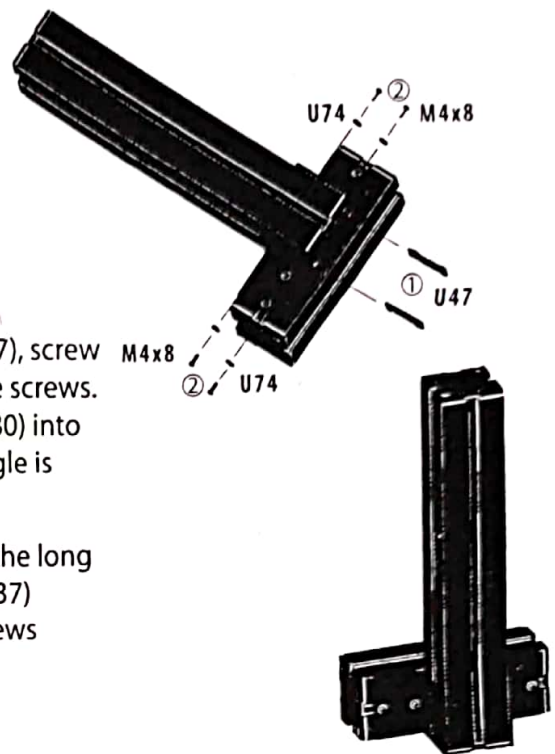


4. Right angle reinforcement by means of stabilizing angle



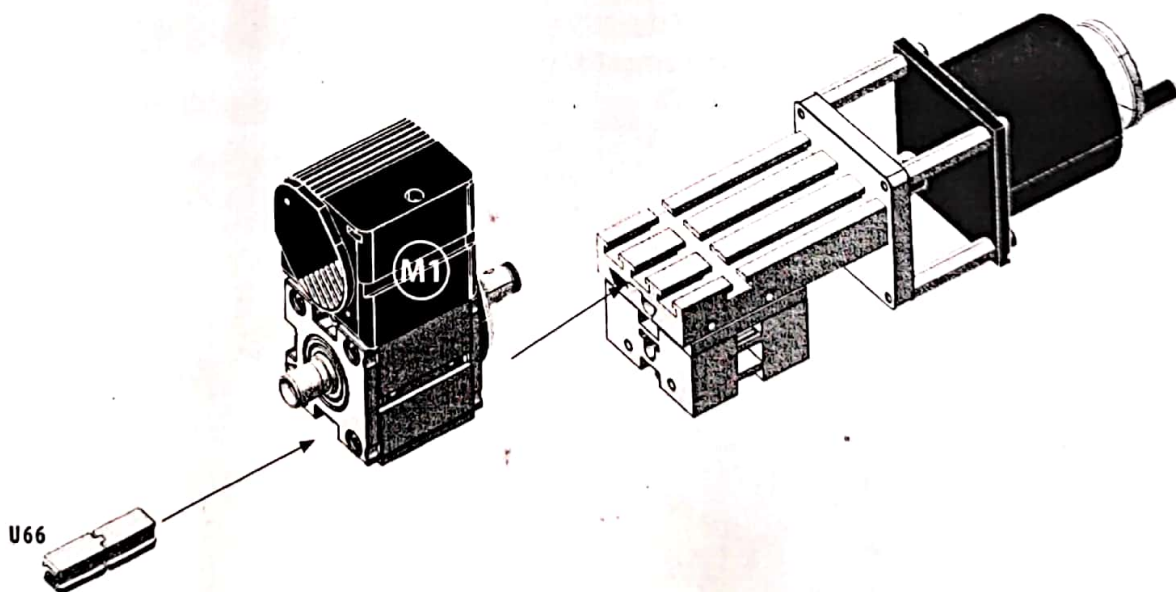
4.1. Connect stabilizing angle (U80) with clamping plate (U47), screw M4x8 (U37) and washer (U74). NOTE: do not tighten the screws. Slide the clamping plate (u47) with stabilizing angle (U80) into the T-slot of the small machine bed (U7ML) until the angle is fixed to the long machine bed (U1ML).

4.2. Slide the second clamping plate (U47) into the T-slot of the long machine bed (U1ML) and fix it with the screws M4x8 (U37) through the stabilizing angle (U80). Now tighten all screws properly.



Z-axis motor-headstock unit (Mc4):

1. Fix cross-slide module with intermediate piece (for Z-axis) M2B to motor-headstock unit (U56) with connection piece (U66).

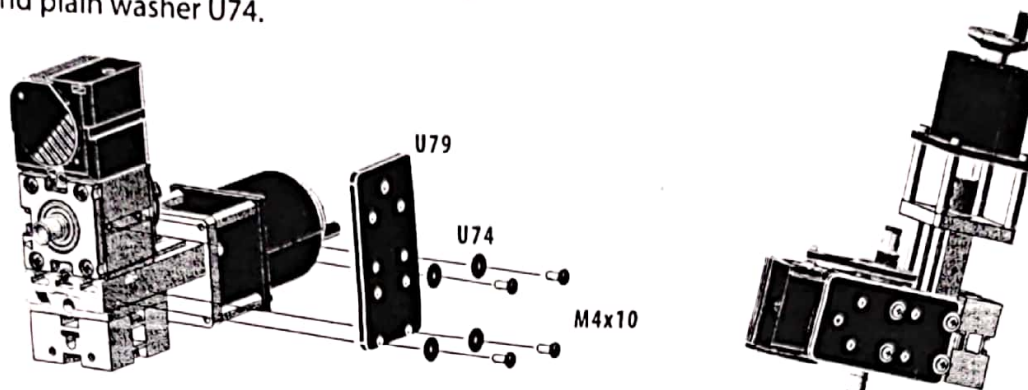


part list and setup of 3 axes CNC vertical mill

4.4.4

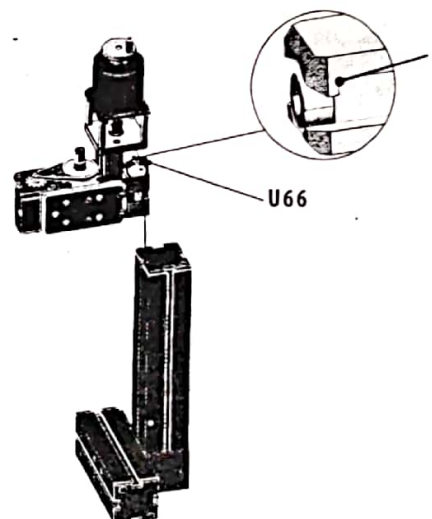
www.youtube.com/thecooltool09

Fix motor-headstock unit (M1A) by means of stabilizing plate (U79).
Use screws U31 and plain washer U74.

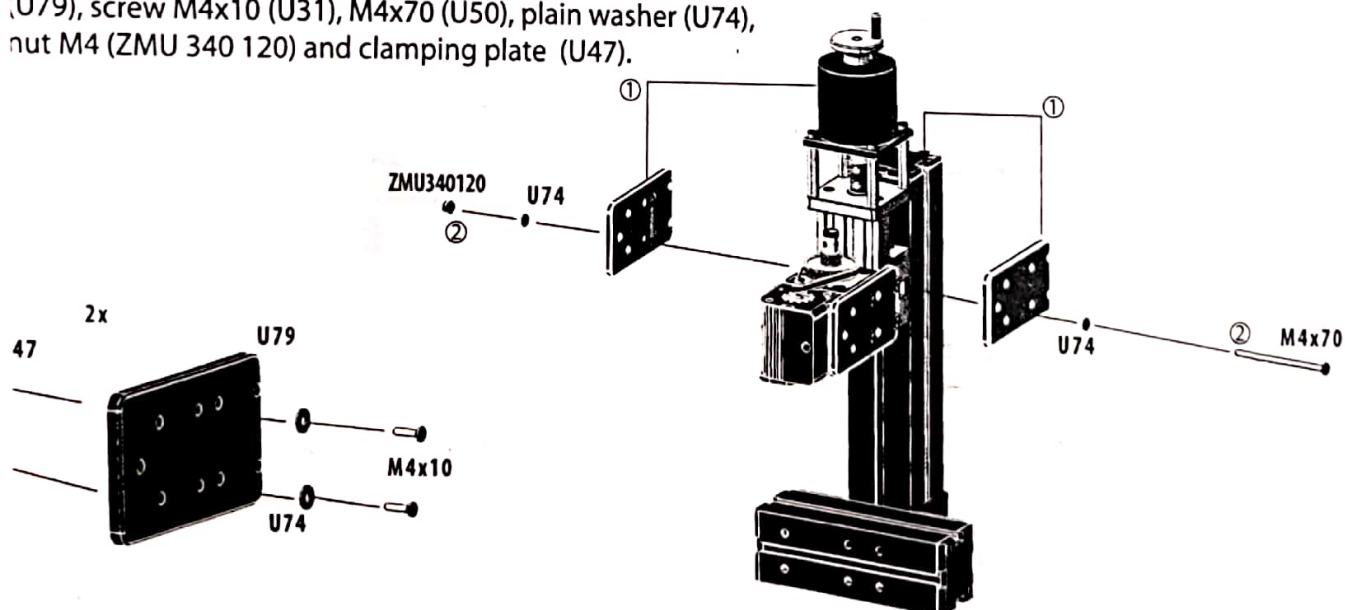


Fix the Z-axis motor-headstock unit (Mc4) on the vertical machine bed combination.

Slide the connection piece (U66) into the T-slot of the intermediate piece (U10ML). Then slide it into the T-slot of the long machine bed (U1ML). Find the right position (depending of the work piece size).
Now tighten the screws properly.

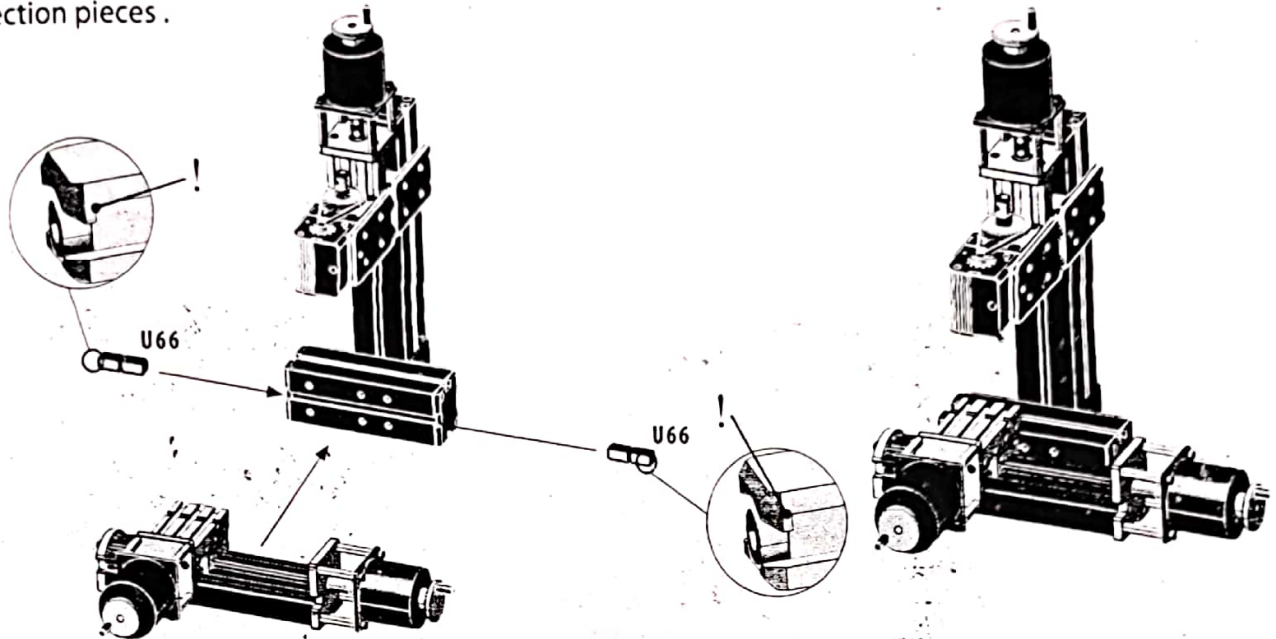


Fix the z-axis motor headstock unit by means of stabilizing plate (U79), screw M4x10 (U31), M4x70 (U50), plain washer (U74), nut M4 (ZMU 340 120) and clamping plate (U47).

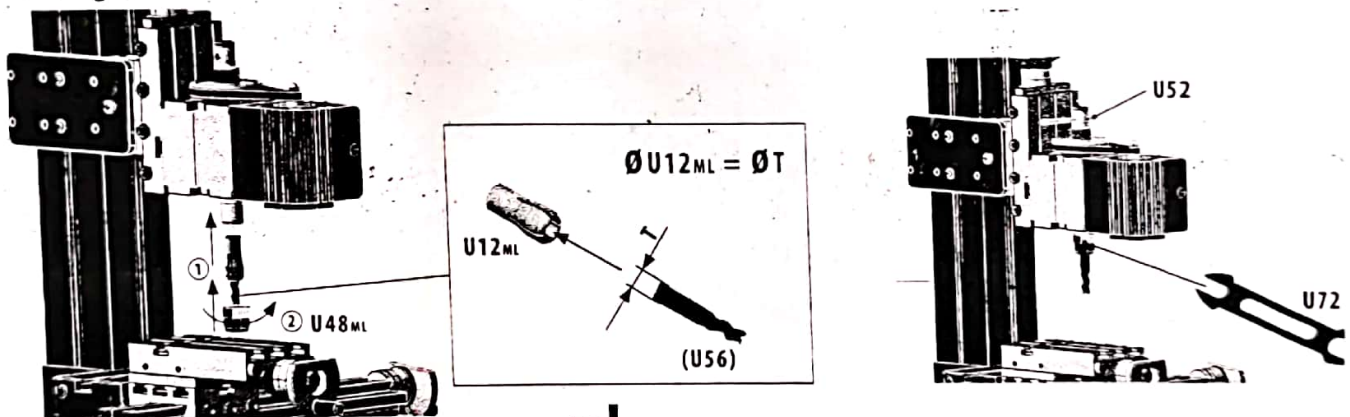


Mounting of big slide module M2D.

1. Fix big slide module (M2D) to the short machine bed (U7ML) by using connection pieces.

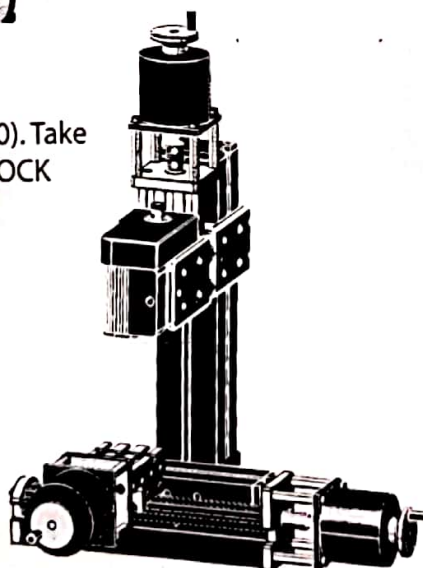


Mounting of the tool

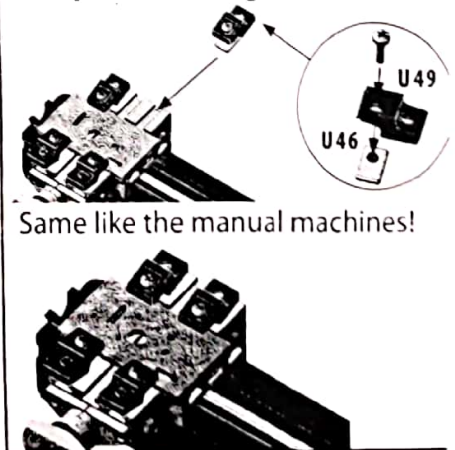


Mounting of drive belt cover (U0)

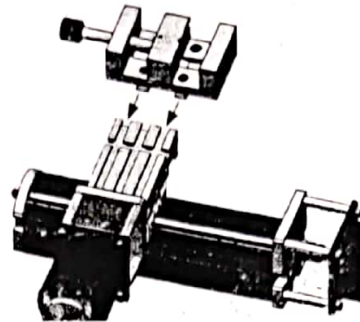
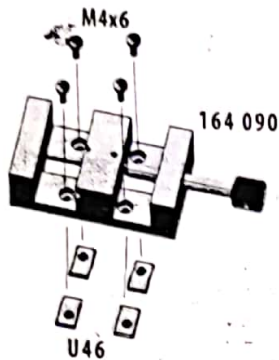
Fix the drive belt cover (U0). Take a look at "MOTORHEADSTOCK Unit M1"



Workpiece mounting



Assembly of the optional milling vice (164 090)



Mounting the Unimat machine to the mounting plate

- Insert 4 x U46 (slot nut) with screw 4 x 12 to the mounting plate (do not tighten)
- Slide the 4 slip stoppers to the side of the screw heads
- Slide U46 into the T-slot of the machine bed
- Now tighten the screws

