Steelmax®

The tools of innovation.

MPB-26 Manual

Pipe Beveler

Operator's Manual

Steelmax
The tools of innovation.

Table of Contents

1. System Specifications 3
2. Included System Components 4
3. Tools and Parts Provided 4
4. Optional Components and Consumables 4
5. Safety Precautions 5
6. Procedure for Beveling Pipe 6
7. Beveling 6-8" Diameter Pipe 9
8. Differences in Bevel Depth Due to Set-Up Variation 10
9. Bevel Depth Adjustment 11
10. Bevel Angle Adjustment 12
11. Cutting Insert Replacement 12
12. Troubleshooting 14
13. Steelmax Product Warranty 15

MPB 26 Parts List / Drawings 16

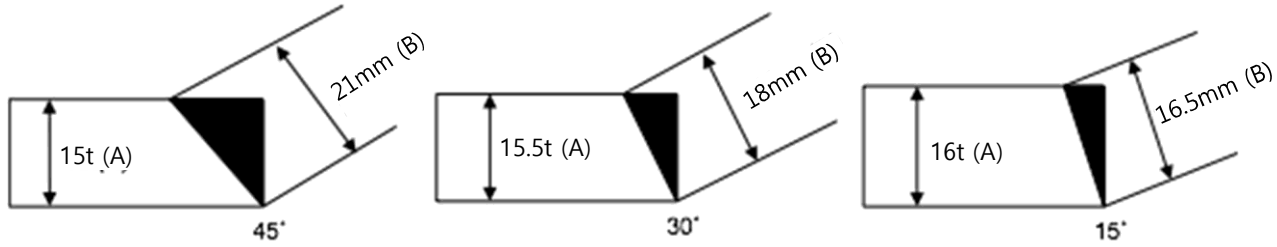
Chamfer Mill Parts List / Drawing 17

Metabo W24-230 Parts List / Drawing 18

MPB 26 Manual Pipe Beveling System Operator's Manual

1. System Specifications

Pipe Beveling Specifications	
Pipe Diameter Range	6" ~ 26"
Maximum Pipe Wall Thickness	0.80" (20 mm)
Maximum Bevel Width (max) (B)	13/16" (21 mm) @ 45° Varies with Bevel Angle
Maximum Bevel Depth (max) (A)	0.60" (15 mm) @ 45° Varies with Bevel Angle
Bevel Angle Range	0° ~ 45°
Weight	38 lbs. (17 Kg)
Required Pipe Projected Length	5 1/2" (140 mm)
Minimum Workspace Dimension	16" (400 mm)



Chamfer Mill Specifications	
Number of Cutting Inserts	10
Weight	23 ½ lbs. (10.6 Kg)
Motor Specifications	2500 W/120 V/50-60 Hz/Single Phase

2. Included System Components

Part Number	Description
SM-PB-MPB-26	Complete Manual Pipe Beveling System Consisting of:
SM-PB-MP1020-AD	Pipe Attachment (10-26" OD)
SM-PB-CM2100-00	Chamfer Mill 2100

3. Tools and Parts Provided

Item Description	**Quantity**
4mm Hexagonal T Handle Wrench	1
13mm Stubby Ratchet Wrench	1
17mm Flexible Ratchet Wrench	1
17mm × ½" Hand Socket(12P)	1
Ratchet Handle ½"	1
U-Plate (245mm) for 6-8" Pipe	1
Hexagonal Bolt M10×30	2
Wrench Bolt M5×15	4
Wrench Bolt M4×8	2
Washer Φ12×1.6t	2
O-Ring (NBR P46)	12

4. Optional Components and Consumables

Part Number	Description
SM-PB-CM2100-CA	Cutter Head Assembly for APB-32 and MPB-26 (without inserts)
SM-PB-CM2100-10	Cutting inserts (Package of 10)
SM-PB-CM2100-09	Cutter Wedge for APB-32 and MPB-26 (1 unit)
SM-PB-CM2100-08	Cutter Insert Screw (1 unit)
SM-PB-CM2100-SC	Speed Controller for APB-32 and MPB-26 Pipe Beveling Machines

5. Safety Precautions

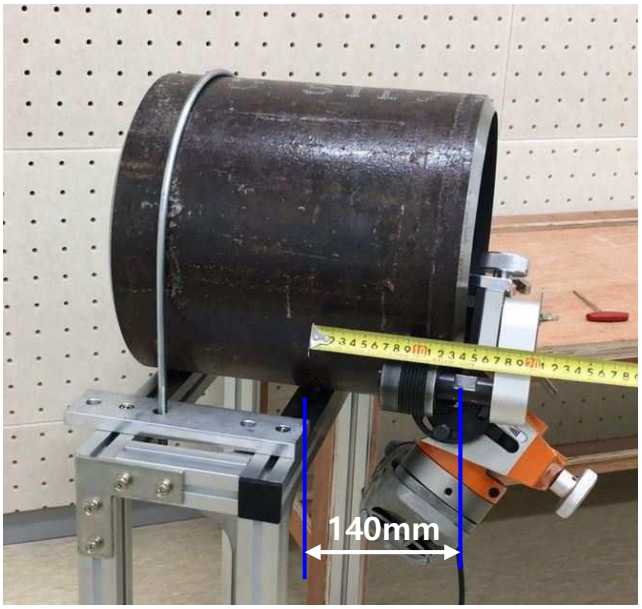
1. This machine is not waterproof. Work in damp condition may cause injuries or damage to machines. Electrical safety precautions should be followed at all times.
2. When connecting the power cord, be sure the switch is in the "OFF" position.
3. When operating the machine, do not leave it unattended.
4. When operating the machine, do not stand or walk underneath the machine.
5. Always wear safety goggles and ear protection.

6. Do not operate the machine near flammable materials. Hot chips are a fire hazard.
7. Connect electric power in accordance with all applicable regulations.
8. Before installing Chamfer-Mill 2100-00 to Pipe Attachment (SM-PB-MP1020-AD), always set the initial bevel depth at or below zero (0) level.
9. After installation, start the Chamfer Mill 2100-00 and set the bevel depth before advancing the machine into the material.
10. Read and understand this Operator's Manual thoroughly before using this machine.
11. Before beveling with this machine, confirm sufficient workspace is available and that the workpiece is adequately secured.
12. This machine should only be used in conformance with the specifications set forth herein.
13. This machine should be used only by workers who have read this Operator's Manual and understand these safety precautions.

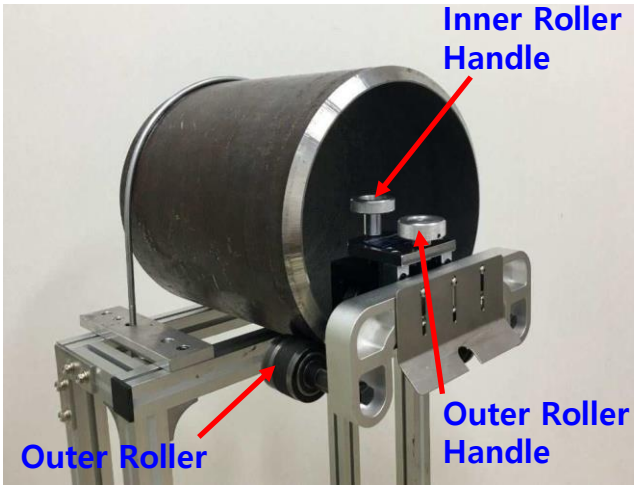
6. Procedure for Beveling Pipe

1. Confirm that there is at least 5-1/2" (140 mm) of pipe projection and clear workspace all the way around the end of the pipe to be machined.

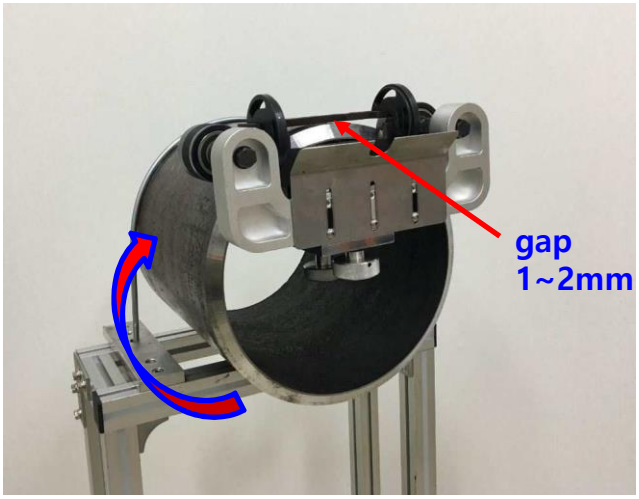
   The standard application of this machine is for pipe diameters between 10" and 26". To bevel pipe with diameters of 6"-8", you must first install the included 245 mm U-Plate after removing the standard U-block.



1. Loosen the Inner Roller Adjustment Handle and Outer Roller Adjustment Handle sufficiently so that the pipe will slide easily between the Inner Roller and Outer Roller.
2. Position the unit at the bottom of the pipe. Tighten by turning the Inner Roller Adjustment Handle approximately two (2) turns. Turn the Outer Roller Adjustment Handle approximately 1-1-1/2 times. Be sure to tighten the Inner Roller Adjustment Handle first.

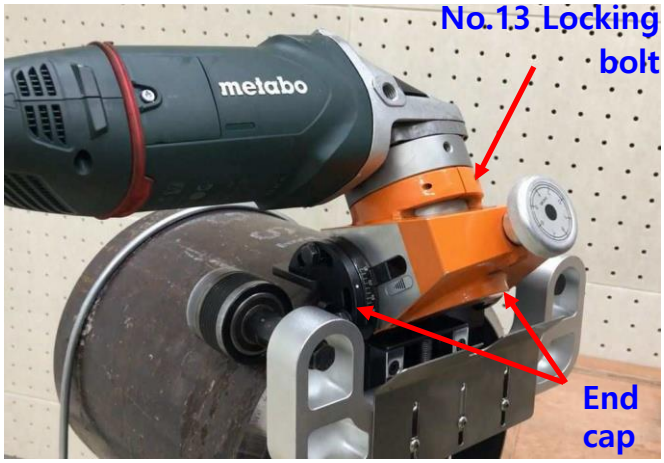


3. Rotate the unit clockwise to the top of the pipe to check alignment and fit of the unit to the pipe. After tightening the Outer Roller Adjustment Handle, there should be a gap between the surface of the outside diameter of the pipe and lower portion of X-Plate of 1-2mm. If the gap is smaller than this, adjust the gap by further tightening the Outer Roller Adjustment Handle to achieve the desired gap.

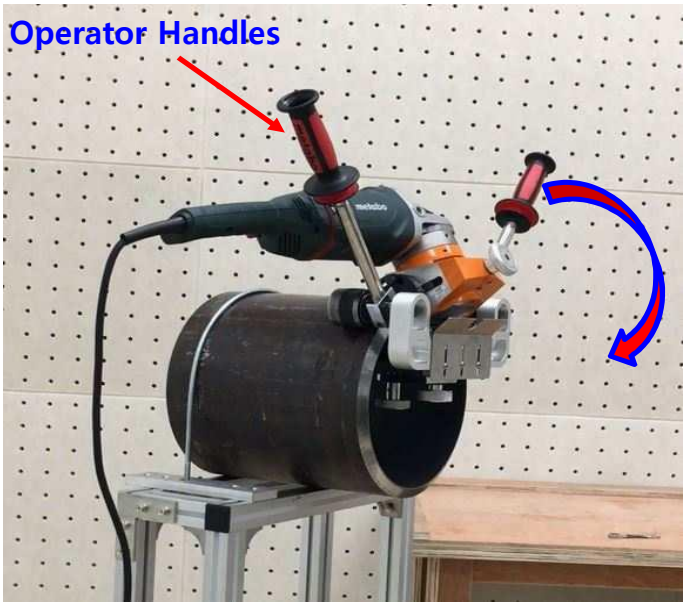


4. With the machine at the top of the pipe, the Chamfer Mill can be installed.

5. Turn the Bevel Depth Setting on the Chamfer Mill to zero or below. Then, install the Chamfer Mill between the End Caps on both sides and match the angle. Tighten the 4 M8x20 hexagonal bolts.



6. Insert the two Operator Handles on both sides to the Outer Roller Shaft. If it is difficult to insert the Handle because the position of the motor is not appropriate, loosen the Locking Bolt, adjust the position of the Handle and then tighten the Locking Bolt again.



7. Before starting the machine, always wear appropriate hearing and eye protection.

8. Turn on the motor switch and adjust the bevel depth to the desired value. Beveling of the workpiece starts at this point in a stationary state. Once the desired bevel depth is achieved, bevel the pipe by rotating the unit around the pipe in a clockwise direction.

9. The speed of the rotation should be consistent with the type of material and the amount of material being removed in each pass and the condition of the cutting inserts.

10. After the beveling work is complete, turn off the motor switch and set the beveling value at below zero (0) level for safety and simpler set-up for the next job.

11. Rotate the machine clockwise to the bottom of the pipe for easy disassembly.

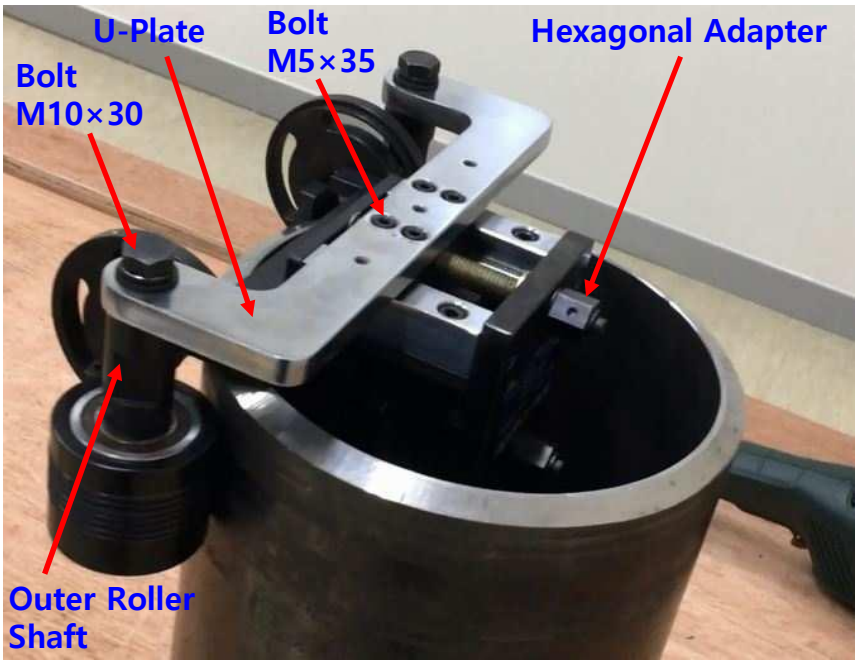
12. Remove the Operator Handles on both sides. Loosen the Outer Roller Adjustment Handle first and then loosen the Inner Roller Adjustment Handle and remove the machine from the pipe.

13. During continuous work, the entire machine can be removed and installed as a single unit.

7. Beveling 6-8" Diameter Pipe

The MPB 26 may also be used to bevel pipe with diameters between 6" and 8" by replacing the standard U-block with the included 245 mm U-plate. Follow the procedures below to replace the standard U-block with the 245 mm U-plate:

1. Remove the Cover (parts list item 18) from the Support Block by removing the M5 x 15 Allen head screws holding it in place.
2. Remove the four M5 x 35 bolts that secure the U-block to the Support Block to remove U-block and Outer Roller Shaft assembly.
3. Remove the Outer Roller Shafts from the U-Block by removing the two M10 x 30 hex bolts that hold them in place.
4. Attach the Outer Roller Shafts to the 245 mm U-Plate with the same M10 x 30 hex bolts. The orientation of the Outer Roller Shaft and the groove on the shaft should be such that the Operator Handles can be easily inserted on the shaft and move easily when beveling. Make sure the bolts are tightened securely.



5. Assemble the U-Plate and Outer Roller Shaft Assembly to the Support Block by securing the four M5 x 35 bolts.
6. Replace the Cover with the M5 x 15 Allen head screws.

7. The inner and outer roller handles are too large to be used with this pipe diameter range and must be removed and replaced with the included Hexagonal Adapters. Disassemble and remove Inner and Outer Roller Handles and assemble the Hexagonal Adapters (17mmx15) in their places, using the provided 12 mm x 1.6 mm washers and M4 x 8 bolts.
8. When setting the machine up for beveling, use the provided ratchet wrench to tighten and loosen the Hexagonal Adapters in place of turning the Inner and Outer Roller Handles by hand.
9. Set up and bevel the pipe in the same manner as with larger diameter pipe.

8. Differences in Bevel Depth Due to Set-Up Variation

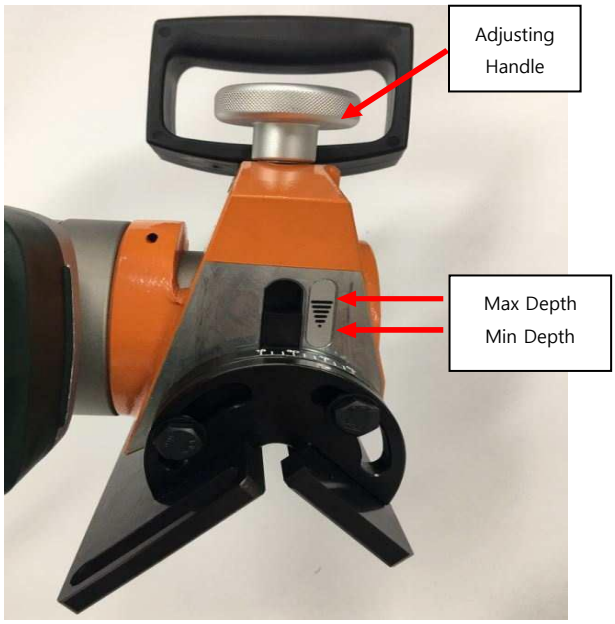
The actual bevel depth achieved may vary depending on the actual gap (1-2 mm) between the surface of the workpiece and the lower portion of X-Plate explained in item 3 of "Procedure for Beveling Pipe." For instance, even if bevel depth value on the Chamfer Mill is set the same while beveling two different pipes, the resulting bevel depths will vary by the difference in the gap achieved during set-up. If the gap is different by 1 mm between the set-ups, the achieved bevel depth will also be different by 1 mm. Moreover, even in cases where the set-up gaps are the same, the bevel depth will vary if the bevel angle settings are not identical.

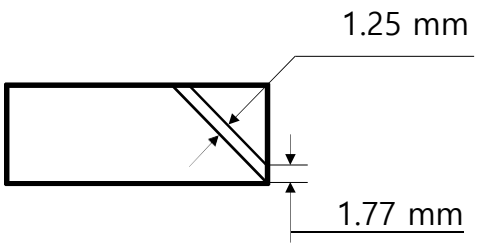
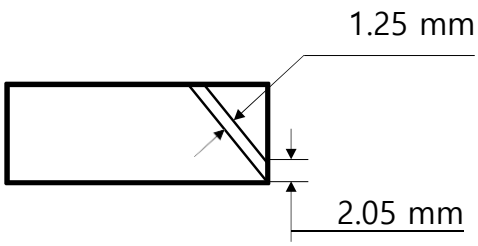
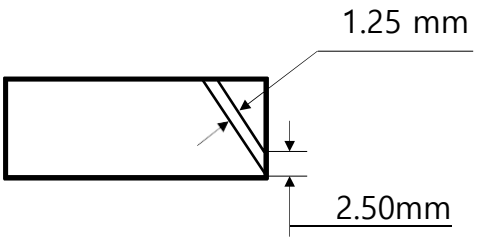
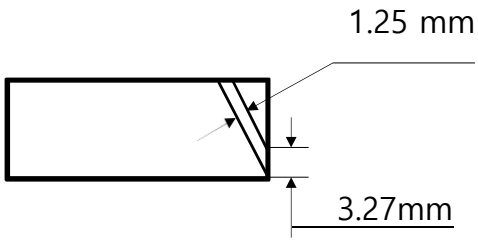
It is desirable to insure the gap under the lower portion of the X-Plate is consistent from installation to installation.

9. Bevel Depth Adjustment

1. Adjust the bevel depth by loosening or tightening the adjustment handle on the top of the unit, using the scale on the right side of the frame.

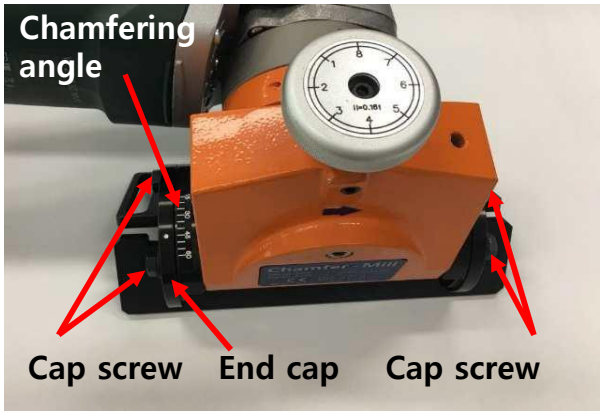
2. One rotation of the adjustment handle changes the bevel face depth by 1.25 mm. One rotation is divided by eight clicks, each click changes the bevel face depth by approximately 0.16 mm. As shown in the table below, the vertical bevel depth varies with the angle of the bevel.



45˚ Bevel Angle	37.5˚ Bevel Angle
	
30˚ Bevel Angle	**22.5˚ Bevel Angle**
	

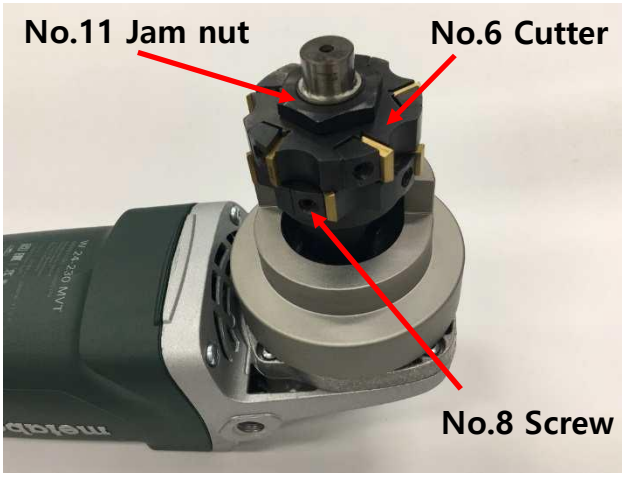
10. Bevel Angle Adjustment

To adjust the bevel angle, loosen the 4 hexagonal cap screws securing the v-block. Adjust the bevel angle using the scale on the left side and re-tighten the 4 hexagonal cap screws completely. Always confirm the bevel angle on a test piece of material before beginning production work.

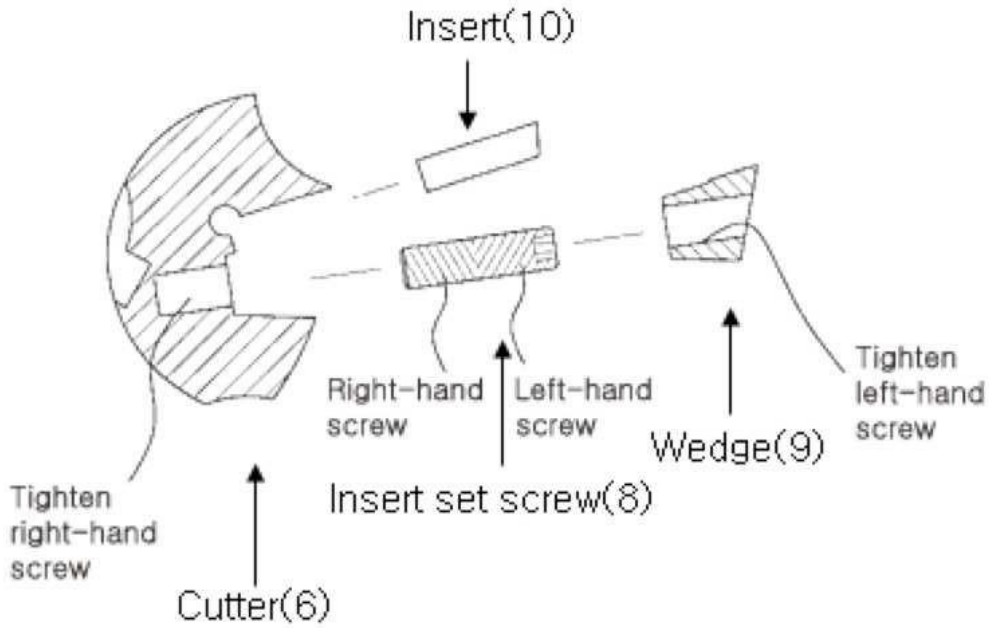


11. Cutting Insert Replacement

1. Make certain the unit is disconnected from the power source and the motor switch is in the "OFF" position before attempting to change cutting inserts. Use the provided 3 mm hexagonal T-handle wrench for loosening and tightening.
2. If the insert screws cannot be easily loosened, do not use excessive force to remove them. Rather, loosen the bolt holding the milling unit to the frame and separate the two. Next, loosen the jam nut and remove the cutter head assembly. Once separated, use an impact driver to remove the inserts.



3. When installing cutting inserts (inserts, screws and wedges) use the provided 3mm hexagonal T-handle wrench as illustrated below. Turn the insert set screws clockwise so that the right-hand screws of the cutter body and the left-hand screws of the wedge can be assembled at the same time. When the inserts are completely assembled, adjust the length of the left-hand screw or right-hand screw so that the heads of the insert set screws are below the upper surface of the wedge. The inserts should be placed at the center of the two cutters facing each other.



4. Each cutting insert has 4 cutting edges and can be used 4 times by rotating the inserts 90˚ at a time.
5. Use of cutting oils (tapping oil, vegetable oil, etc.) may improve beveling speed and increase the life of the cutting inserts. Using compressed air to cool the cutter head and inserts during operation may extend the life of the inserts as well. An air valve is included that can be attached to the center of the frame for this purpose.
6. When beveling the surface of a workpiece which has been cut with a thermal process (i.e. oxy fuel or plasma), insert life will be diminished due to the hardened surface in the Heat Affected Zone.

12. Troubleshooting

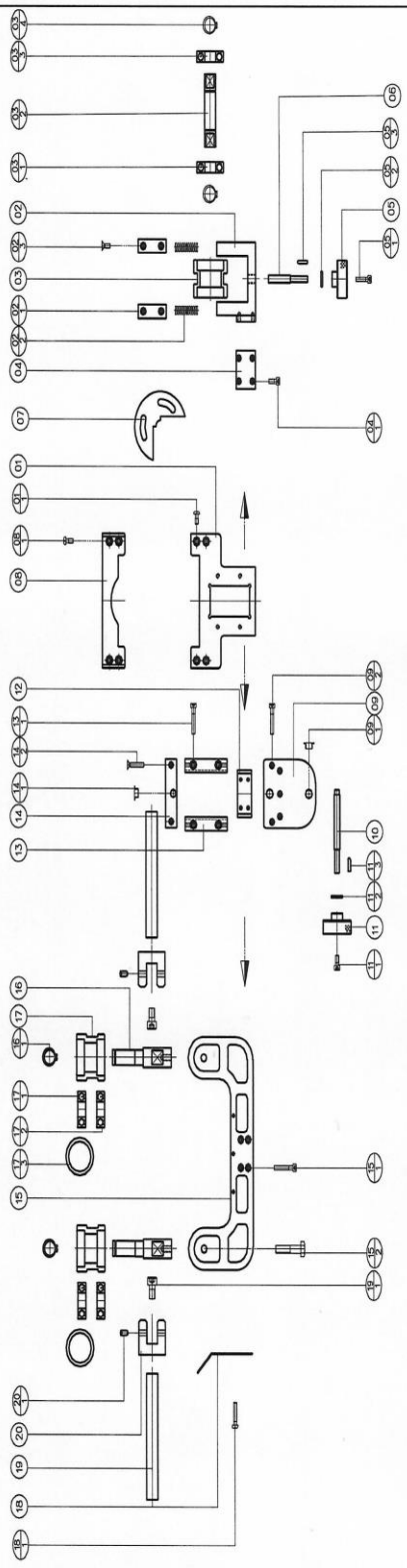
Trouble	Possible Cause	Corrective Actions
Faster than Normal Insert Wear.	The travel speed is too slow relative to the beveling quantity.	Increase the travel speed.
	The machine RPM is too high relative to the beveling quantity.	Decrease the RPM using Speed Controller.
Actual result of beveling quantity is less than intended beveling depth set on the machine.	Less beveling quantity caused by the wearing of insert tips.	Replace the worn insert tips.
	The travel speed is too fast.	Decrease the beveling travel speed.
Beveled Surface not smooth.	Worn or dull cutting inserts. Travel speed too high.	Replace/rotate cutting inserts. Slow travel speed.
Motor sparks.	Worn carbon brushes. Deterioration of the motor.	Replace carbon brushes Repair/Replace motor.

13. Steelmax Product Warranty

Within twelve (12) months from the original date of purchase Steelmax will repair or replace any machine tool found to be defective in materials or workmanship, provided the product registration card has been returned to Steelmax within thirty (30) days of the purchase date. This warranty is void if the tool being returned has been used beyond the recommendations in this Operator's Manual or if the machine has been damaged by accident, neglect, improper service, or other causes not arising out of defects in materials or workmanship. This warranty does not apply to machines and/or components which have been altered, changed, or modified in any way, or subjected to use beyond recommended capacities and specifications. Electrical components are subject to respective manufacturers warranties. All goods returned defective shall be returned prepaid freight to Steelmax, which shall be the buyer's sole and exclusive remedy for defective goods. Steelmax reserves the right to optionally repair or replace the machine with the same or equivalent item. There is no warranty for any consumable items, including, without limitation, saw blades, annular cutters, abrasive belts and cutting inserts. All machines must have the consumables used when the machine failed installed to determine if the machine has been overused or if it falls under Steelmax's warranty replacement program for defects in material and workmanship. In no event shall Steelmax be liable for loss or damage resulting directly or indirectly from the use of the merchandise or from any other cause. Steelmax is not liable for any costs incurred on such goods or consequential damages. No officer, employee or agent of Steelmax is authorized to make oral representations of fitness or to waive any of the foregoing terms of sale and none shall be binding on Steelmax.

STEELMAX RESERVES THE RIGHT TO MAKE IMPROVEMENTS AND MODIFICATIONS TO DESIGN AND SPECIFICATIONS WITHOUT PRIOR NOTICE. IN ADDITION, STEELMAX RESERVES THE RIGHT TO MODIFY THESE TERMS AND CONDITIONS WITHOUT PRIOR NOTICE.

Manual MP0020-AD Parts List



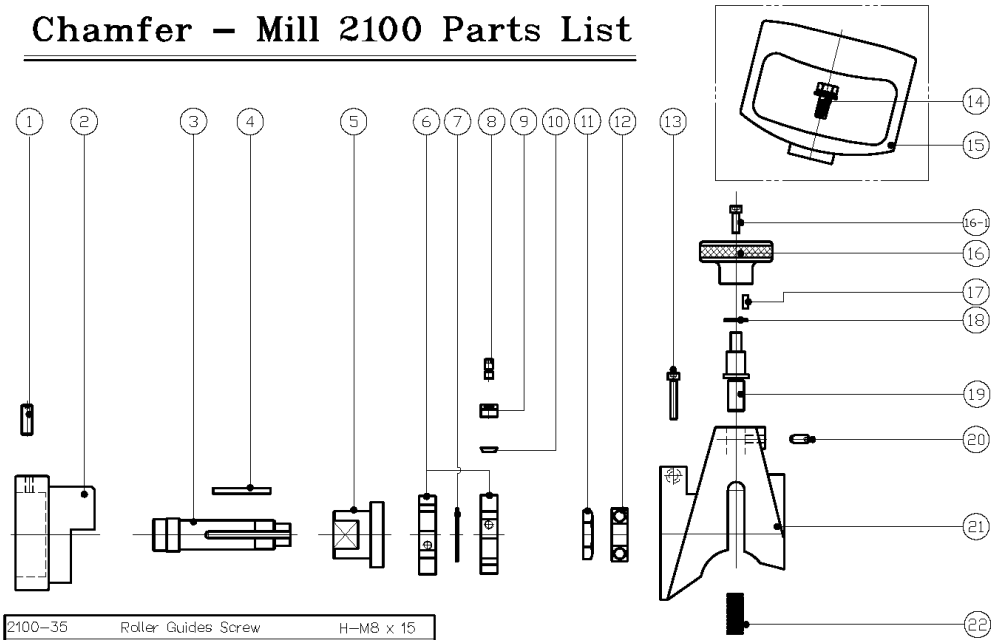
NO	Description	Q'ty	Spec
04-1	S.HEXA BOLT	4	M5x10
04	GUIDE PLATE	1	
03-4	SNAP RING	2	S20
03-3	CLUTCH BEARING	1	KK20
03-2	INNER ROLLER SHAFT	1	
03-1	BALL BEARING	1	#6204
03	INNER ROLLER	1	
02-3	BOLT	4	M4x10
02-2	SPRING	2	
02-1	SPRING FIX PLATE	2	
02	ROLLER ADAPTER	1	
01-1	S.HEXA BOLT	4	M6x10
01	Y-PLATE	1	

NO	Description	Q'ty	Spec
11	OUTER HANDLE	1	
10	OUTER SCREW	1	
09-2	S.HEXA BOLT	5	M5x15
09-1	BUSH	2	
09	CENTER PLATE	1	
08-1	S.HEXA BOLT	4	M6x10
08	X-PLATE	1	
07	END CAP	2	
06	INNER SCREW	1	
05-3	KEY	1	
05-2	WASHER	1	M4x20
05-1	S.HEXA BOLT	1	
05	INNER HANDLE	1	

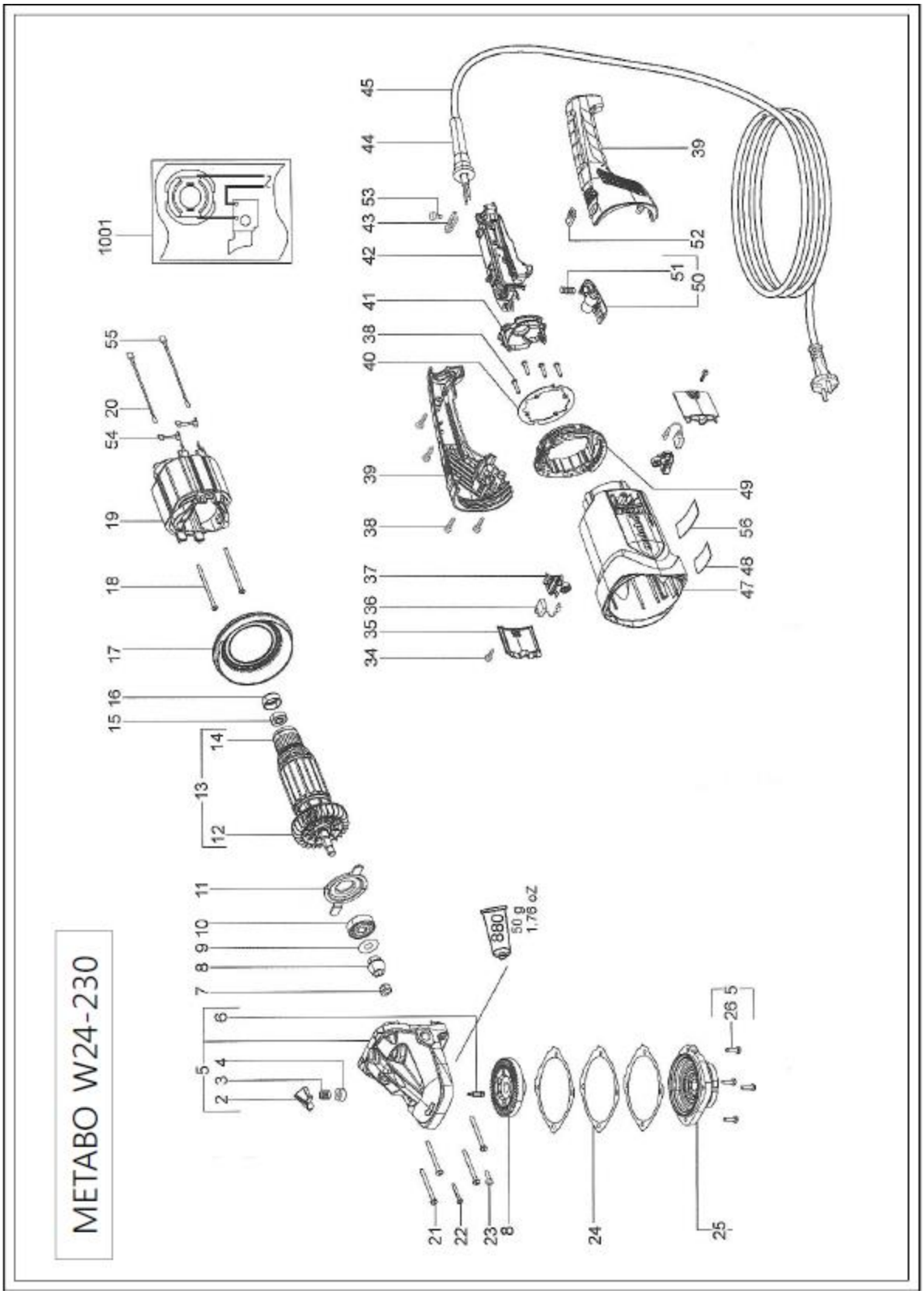
NO	Description	Q'ty	Spec
16	OUTER ROLLER SHAFT	2	
15-2	HEXA BOLT	2	M10x40
15-1	S.HEXA BOLT	4	M5x35
15	U-BLOCK	1	
14-2	BOLT	2	M4x10
14-1	DU BUSH	1	
14	SCREW GUIDE	1	
13-1	S.HEXA BOLT	4	M6x20
13	SUPPORT BLOCK GUIDE	2	
12	SUPPORT BLOCK	1	
11-3	KEY	1	
11-2	WASHER	1	
11-1	S.HEXA BOLT	1	M4x15

NO	Description	Q'ty	Spec
20-1	BALL PLUNGER	4	
20	WORK HANDLE HOLDER	2	
19-1	S.HEXA BOLT	2	M8x20
19	WORK HANDLE	2	
18-1	COVER BOLT	3	M5x10
18	COVER	1	
17-3	O-RING	12	P46
17-2	CLUTCH BEARING	2	KK20
17-1	BALL BEARING	2	#6204
17	OUTER ROLLER	2	
16-1	SNAP RING	2	

Chamfer – Mill 2100 Parts List



Part Number	Description	Q'ty	Spec
2100–35	Roller Guides Screw		H–M8 x 15
2100–34	Washer		
2100–33	Roller Pipe		
2100–32	Roller Guide		
2100–31	Roller Guides Shaft		
2100–30	V–Block Plate (Large)	1	
2100–29	V–Block Screw	8	DL–M6 x 10
2100–28	V–Block Plate (Small)	1	
2100–27	Cap Screw	4	H–M8 x 20
2100–26	End cap	2	
2100–25	End Cap Cup	2	
2100–24	Screw	4	SL–M5 x 12
2100–23	U–Bracket	1	
2100–22	Spring	2	
2100–21	Frame	1	
2100–20	Ball Plunger	1	
2100–19	Adjusting Screw	1	
2100–18	Washer	1	
2100–17	Key	1	4 x 4 x 12L
2100–16–1	Screw	1	SL–M5 x 15
2100–16	Adjusting Knob	1	
2100–15	D–Handle	1	
2100–14	D–Handle Screw	1	H–M8 x 30
2100–13	Locking Bolt	1	L–M5 x 25
2100–12	Bearing	1	#6003DD
2100–11	Jam Nut	1	
2100–10	Insert	10	
2100–9	Wedge	10	
2100–8	Insert Set Screw	10	DHA 0617
2100–7	Shim	1	
2100–6	Cutter	2	
2100–5	Cutter Spacer	1	
2100–4	Key	1	5 x 5 x 45
2100–3	Spindle	1	
2100–2	Motor Adapter	1	
2100–1	Adapter Screw	2	M6 x 15


METABO W24-230
1001
55
20
54
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
45
44
53
43
42
41
40
38
39
38
37
36
35
34
39
52
51
50
49
56
48
47
880
50 g
1.76 oz
26
5
21
22
23
8
24
25