

BM-20

Portable Beveling Machine

OPERATOR'S MANUAL

⚠ WARNING!

BEFORE USE, BE SURE EVERYONE USING THIS MACHINE READS AND UNDERSTANDS ALL SAFETY AND OPERATING INSTRUCTIONS IN THIS MANUAL.



EYE PROTECTION
REQUIRED



HEARING PROTECTION
REQUIRED



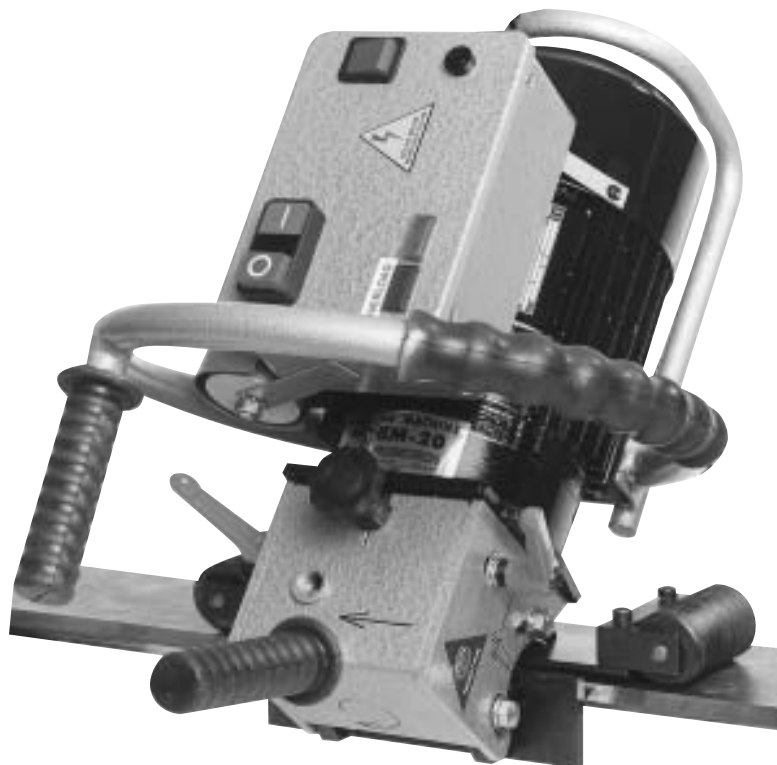
NEVER PLACE
FINGERS NEAR
CUTTING AREA OR
MACHINE ARBOR



LINE VOLTAGE
PRESENT



BEWARE OF
ROTATING
MACHINE PARTS



MODEL #BM20 (240V)

Serial # _____

Date of Purchase _____

Portable Beveling Machine

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LIMITED WARRANTY

Industrial Tool & Machinery Sales (hereinafter referred to as ITMS) will, within twelve (12) months from the original date of purchase, repair or replace any goods found to be defective in materials or workmanship. This warranty is void if the item 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 overloading or use beyond recommended capacities and specifications. Worn componentry due to normal wear and tear is not a warranty claim. Goods returned defective shall be returned prepaid freight to ITMS or agreed repair agent, which shall be the buyer's sole and exclusive remedy for defective goods. ITMS accepts no additional liability pursuant to this guarantee for the costs of travelling or transportation of the product or parts to and from ITMS or the service agent or dealer, such costs are not included in this warranty.

THE MANUFACTURER RESERVES THE RIGHT TO MAKE
IMPROVEMENTS AND MODIFICATIONS TO DESIGN WITHOUT PRIOR NOTICE.

IMPORTANT SAFETY INSTRUCTIONS

WARNING!

WHEN USING ELECTRIC TOOLS, BASIC SAFETY PRECAUTIONS SHOULD ALWAYS BE FOLLOWED TO REDUCE RISK OF FIRE, ELECTRIC SHOCK AND PERSONAL INJURY.

READ AND SAVE ALL INSTRUCTIONS FOR FUTURE REFERENCE.

1. **Keep Work Area Clean**
 - Cluttered areas and benches invite injuries.
2. **Consider Work Area Environment**
 - Do not expose power tools to rain.
 - Do not use power tools in damp or wet locations.
 - Keep work area well lit.
 - Do not use tool in presence of flammable liquids or gases.
3. **Guard Against Electric Shock**
 - Prevent body contact with grounded surfaces. For example: pipes, radiators, ranges and refrigerator enclosures.
4. **Keep Children Away**
 - Do not let visitors contact tool or extension cord.
 - All visitors should be kept away from work area.
5. **Store Idle Tools**
 - When not in use, tools should be stored in a dry, high and locked-up place, out of reach of children.
6. **Do Not Force Tool**
 - It will do the job better and safer at the rate for which it was intended.
7. **Use Right Tool**
 - Do not force a small tool or attachment to do the job of a heavy-duty tool.
 - Do not use tool for unintended purpose. For example: Do not use a circular saw for cutting tree limbs or logs.
8. **Dress Properly**
 - Do not wear loose clothing or jewelry. They can be caught in moving parts.
 - Non-skid footwear is recommended when working outdoors.
 - Wear protective hair covering to contain long hair.
9. **Use Safety Glasses**
 - Also use face or dust mask if cutting operation is dusty.
10. **Do Not Abuse Electrical Cord**
 - Never carry tool by cord or yank it to disconnect from receptacle.
 - Keep cord from heat, oil and sharp edges.
11. **Secure Work**
 - Use clamps or a vise to hold work. It's safer than using your hand and it frees both hands to operate tool.
12. **Do Not Overreach**
 - Keep proper footing and balance at all times.

IMPORTANT SAFETY INSTRUCTIONS

13. Maintain Tools With Care

- Keep tools sharp and clean for better and safer performance.
- Follow instructions for lubricating and changing accessories.
- Inspect tool cords periodically and if damaged, have repaired by authorized service facility.
- Inspect extension cords periodically and replace if damaged.
- Keep handles dry, clean, and free from oil and grease.

14. Disconnect Tools

- Unplug when not in use, before servicing, and when changing accessories, such as bits and cutters.

15. Remove Adjusting Keys And Wrenches

- Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.

16. Avoid Unintentional Starting

- Do not carry a plugged-in tool. Always disconnect from power source before moving.
- Be sure switches are off before connecting to a power source.

17. Outdoor Use Extension Cords

- When tool is used outdoors, use only extension cords intended for use outdoors and so marked.

18. Stay Alert

- Watch what you are doing. Use common sense. Do not operate tool when you are tired.
- Do not use when taking medications that may cause drowsiness.

19. Check Damaged Parts

- Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function.
- Check alignment of moving parts, binding of parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced by an authorized service center.
- Do not use this tool if switches do not turn it on and off. Have defective switches replaced by authorized service center.

SPECIAL INSTRUCTIONS

1. If you require an additional manual, please contact ITMS for a free copy.
2. Never place hands, fingers, gloves or clothing near cutting area or rotating machine parts.
3. Always disconnect machine from power source before changing inserts, clearing chips, or performing adjustments.
4. Keep all safety features functioning and working properly.
5. Never wear loose clothing, gloves or jewelry when working near cutting area or rotating machine parts.
6. Always use eye and hearing protection.
7. Always use proper tooling. Keep inserts securely fastened.
8. Do not use dull or broken inserts.
9. To reduce the risk of electrical shock, do not use machine in wet or damp areas.
10. Do not remove or alter electrical panels. Use only authorized service centers for repairs.

WARNING!

DO NOT OPERATE MACHINE IF WARNING AND/OR INSTRUCTION LABELS ARE MISSING OR DAMAGED.



GROUNDING INSTRUCTIONS

⚠️ WARNING!

Improperly connecting the grounding wire can result in the risk of electrical shock. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with tool. Never remove the grounding prong from the plug. If the cord or plug is damaged, have it repaired before using. If the plug will not fit the outlet, have a proper outlet installed by a qualified electrician. The BM-20 must be plugged into an appropriate outlet, properly installed and grounded in accordance with all codes and ordinances. The plug and outlet should look like those in Figure A.

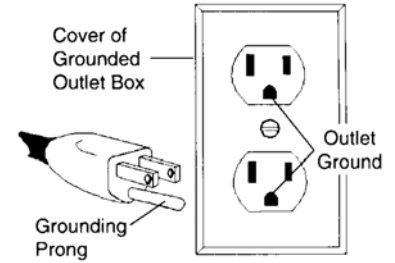


Fig. A

EXTENSION CORDS

Use only 3-wire extension cords that have 3-prong grounding-type plugs and 3-pole receptacles that accept the tool's plug. Replace or repair damaged cords. Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. Jancy recommends using a minimum 12 gauge extension cord not to exceed 100 feet. The table below is supplied only as a guide to minimum gauge for extension cords, where the smaller the gauge number the heavier the cord.

MINIMUM GAUGE FOR EXTENSION CORDS				
VOLTS	TOTAL LENGTH OF CORD IN FEET			
120V	0-25	26-50	51-100	101-150
240V	0-50	51-100	101-200	201-300
AMPERAGE				
0-6	18	16	16	14
6-10	18	16	14	12
10-12	16	16	14	12
12-16	14	12	NOT RECOMMENDED	
RECOMMENDED WIRE GAUGE				

* JANCY RECOMMENDS USING A MINIMUM 12 GAUGE EXTENSION CORD NOT TO EXCEED 100 FEET.

DRIP LOOP: To help prevent cutting fluids from traveling along power cord and contacting power source, tie a drip loop in power cord as shown in Figure B.

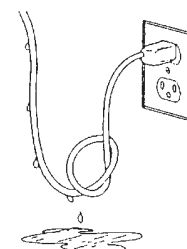


Fig. B

OPERATING INSTRUCTIONS (BEFORE YOU BEGIN)

Remove all contents from packaging and inspect to ensure no damage was incurred during shipping. Your BM-20 package should also include the following:

DESCRIPTION	PART #	QTY
OPERATOR'S MANUAL	LIT109	1
TOOL KIT	BM700	1
3MM ALLEN WRENCH		1
4MM ALLEN WRENCH		1
6MM ALLEN WRENCH		1
INSERT RING FASTENING TOOL		1
INSERT RING INTERLOCK WASHER		1
INSERT RING PULLER		1
SPINDLE REMOVAL TOOL		1
INSERT SETTING FIXTURE		1
INSERTS FOR BM-20	BMJBEV4	12
TORQUE WRENCH FOR INSERTS	BM430	1
3MM BALL DRIVER FOR INSERTS	BM435	1

GETTING STARTED

CAUTION!

ALWAYS DISCONNECT BM-20 FROM POWER SOURCE BEFORE MAKING ADJUSTMENTS.

The BM-20 beveling machine comes ready to use with 12 BMJBEV1 inserts mounted in the milling head. However, before you begin to bevel, the following must be determined (this information will affect the rate of feed, finish of bevel and life of the inserts):

1. Angle of bevel
2. Desired width of bevel (depth)
3. Material to be beveled
4. Condition of material to be beveled (has material been work hardened?)

ADJUSTING THE BEVEL ANGLE

Locate four fasteners (item #14) on milling head housing side wall. Loosen fasteners with supplied wrench and then move the guide assembly to desired bevel angle. Confirm angle by aligning graduates located on side of milling head housing. After setting bevel angle, secure guide assembly by tightening fasteners (item #14).

ADJUSTING THE WIDTH OF THE BEVEL ANGLE

Locate two lever handles (item #11) on milling head housing side walls. The width of bevel can now be adjusted rotating adjustment knob (item #6). A clockwise rotation decreases bevel width (depth of cut) while counterclockwise increases bevel width (depth of cut). After adjusting, secure by tightening handles (item #11). Maximum bevel width should not exceed 3/4". *

*Maximum bevel width will require multiple passes depending on hardness of the material.

BEVELER INSERTS

The BM-20 milling spindle is equipped with two milling head insert rings, each holding six BMJBEV1 cermet inserts, for a total of 12 inserts. The operator should routinely inspect the inserts for excessive wear or damage. Excessive machine vibration or poor bevel finish may indicate the inserts should be rotated or replaced. Before replacing inserts, make sure that all four edges of each insert have been used. When rotating inserts, all 12 inserts should be rotated at the same time to eliminate the possibility of chatter on the work piece.

CHANGING THE BEVELER INSERTS

With machine disconnected from power source, remove milling head housing (item #7) by removing two handles located on side of milling head housing sides (item #11). With milling head spindle and inserts exposed, remove each insert using supplied 3mm allen wrench by loosening screw (item #27) holding each insert. At this point, the insert rings should be clean and free of debris. When placing the inserts into the insert ring, be sure that each insert is pushed as far back into the pocket as possible. **NOTE:** Using a feeler gauge, inserts must be set .004 inches from opposite insert ring shoulder.

Each insert should be snugged with provided 3mm hex driver and then torqued to 65 inch pounds with the provided preset torque wrench. When torque wrench reaches 65 inch pounds, it will click. Stop immediately after hearing a click. Each additional click will tighten the screws unnecessarily. **NOTE:** Use anti-seize lubricant on set screws for easy removal.

CAUTION!

WHEN REMOVING OR INSTALLING INSERTS, USE CAUTION TO PROTECT HANDS FROM CHIPS AND SHARP EDGES.

MAKING THE BEVEL CUT

Connect the BM-20 to grounded power source. If using an extension cord, check voltage at cord ends to ensure you will not be operating the BM-20 on a voltage drop. Route power cord so that it will not interfere with the operator or workpiece. Place the BM-20 on horizontal slide at the right edge of the work surface. Do not touch the milling head to the edge to be cut at this time. Move rocker switch located on control panel to the lit position. Start the BM-20 by depressing the push button switch marked "I". To stop the BM-20, simply depress the push button "O". Place right hand on loop handle and left hand on front guide handle. Using right side of guide as a fulcrum, slowly pivot left side into workpiece until entire guide is flush with the material to be beveled. Slide the BM-20 slowly to the left. The direction of feed is marked on the milling head housing. **NOTE:** Remember the rate of feed is determined by the width of cut and the material being beveled.

If the operator attempts to bevel too fast or too much material, the built-in overload indicator (item #35) will begin to illuminate. Reduce the feed pressure at this time. If the motor load is not reduced, the machine will shut off to protect the motor. If this occurs, move the BM-20 away from the beveled edge before attempting to restart.

Restart the BM-20 by depressing "O" (item #41). Wait 30 seconds and depress the "I" (item #41). **NOTE:** Continuous operation with the overload indicator illuminated may cause permanent motor damage. The BM-20 is designed to operate under normal conditions for one hour. To maintain the motor, allow a 15 minute cool down period after each one hour duration of use. Simply shut off and disconnect the machine from power source.

BEVELING PIPES

Roller attachment(part #309 to #319) allows you to bevel pipes and curves with the BM-20.

1. To prepare the machine for work on pipes, remove part #307. Slide it off the machine and replace it with the pipe attachment(part #309 to #315).
2. Move the housing (part #205) to the "zero width of cut" position (refer to the section in the manual entitled, "Adjusting Bevel Angle").
3. Place machine on the edge of pipe in such a way that the milling tool touches the workpiece, and then fasten both rollers. You can now adjust machine to the desired beveled angle. note: Do not use the BM-20 on pipes under 6-1/4" in diameter

REGULAR MAINTENANCE



NEVER ATTEMPT TO MAKE ANY ADJUSTMENTS OR REPAIRS BEFORE DISCONNECTING THE BEVELER FROM POWER SOURCE.

1. Inspect and replace worn screws, adjusting tools, insert rings and other parts.
2. Inspect control panel, switches and power cord to insure proper electrical operation.
3. Clean BM-20 occasionally with clean rag and mild cleaning solvent to maintain appearance and operation.

DIMENSIONS AND SPECIFICATIONS	
Height	13 "
Width	12-1/2"
Length	18 "
W eight	42 lbs.
Power Supply	240V
Power	1100W
Beveler Nominal Amperage	7.9A
Maximum Current Load	12A
Revolutions per Minute	3450 RPM
Cutting Speed	Around 550 m/min
Angle Range	15° to 60°
Bevel Width (Maximum)	18mm"

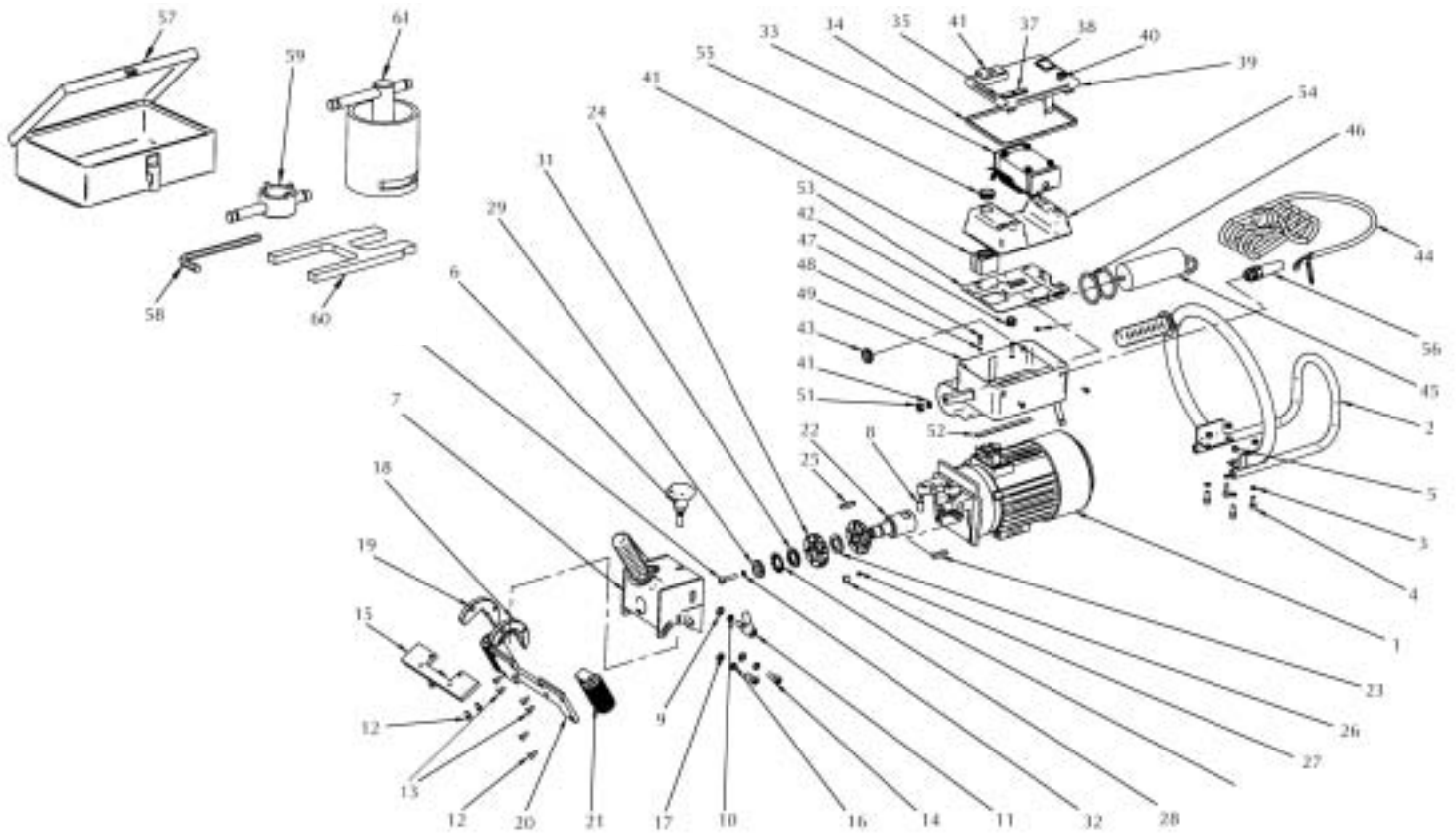
NOTE : BEVELER REQUIRES 12 INSERTS .

MACHINE PARTS AND LIST

ITEM	DESCRIPTION	PART #	QTY
1	ELECTRIC MOTOR	BM105	1
2	HOLDER (SET)	BM109	1
3	CUSHION WASHER 6,1	BM110	4
4	HEX. SOCKET BOLT M6X16	BM111	4
5	NUT M6	BM113	5
6	FEED BOLT	BM202	1
7	SPINDLE HOUSING	BM205	1
8	STOP PIN	BM208	1
9	ROUND WASHER 8.4	BM210	2
10	CUSHION WASHER 8.2	BM211	2
11	HANDLE	BM212	2
12	HEX. SOCKET BOLT M5X10	BM301	10
13	HEX. SOCKET BOLT M5X8	BM301B	2
14	HEX. SOCKET BOLT M8X20	BM302	4
15	GUIDE SLIDE I	BM303	1
16	CUSHION WASHER 8.2	BM304	4
17	ROUND WASHER 8.4	BM305	4
18	SLIDES MOUNTING I	BM306	1
19	SLIDES MOUNTING II	BM308	1
20	GUIDE SLIDE II	BM351	1
21	ROLLER SET	BM352	2
22	MILLING HEAD ARBOR	BM401	1
23	MOTOR KEY 6X6X32	BM402	1
24	MILLING HEAD (INSERT HOLDERS)	BM403T	2
25	MILLING HEAD KEY 6X6X31	BM404	1
26	DISTANCE RING	BM405T	1
27	INSERT SCREW M6X0,75X6	BM407	12
28	SAFETY WASHER MB-4	BM408	1
29	BEARING NUT KM-4	BM409	1
30	SOCKET BOLT M-6X30	BM410	1
31	WASHER	BM411	1
32	CUSHION WASHER 6,1	BM412	1
33	ELECTRONIC MODULE 110V	BM501	1

ITEM	DESCRIPTION	PART #	QTY
34	SEAL L=520	BM503	1
35	RED LIGHT INDICATOR	BM504	1
36	SCREW M4X12	BM505	4
37	AMBER LIGHT INDICATOR	BM506	1
38	MAIN SWITCH	BM507	1
39	COVER (UPPER)	BM508	1
40	FUSE SOCKET (INCLUDES. 2A FUSE)	BM509	1
41	MOTOR ON/OFF SWITCH SET	BM510	1
42	RUBBER BUSHING	BM511	1
43	STRAIN RELIEF NUT	BM512	1
44	POWER CORD	BM513	1
45	CAPACITOR	BM514	1
46	"O" RING	BM515	2
47	SCREW M4X12	BM516	2
48	SPRING WASHER 4.3	BM517	2
49	CONTROLLER COVER	BM519	1
50	SPRING WASHER 8.4	BM520	1
51	NUT M8	BM521	1
52	SEAL L=120	BM522	1
53	INTERNAL INSULATION	BM523	1
54	COVER INSULATION	BM524	1
55	MOTOR ON/OFF SWITCH NUT	BM528	1
56	STRAIN RELIEF	BM529	1
57	TOOL BOX	BM601	1
58	HEX WRENCH S=6	BM602	1
59	SAFETY WASHER TOOL	BM604	1
60	PUSHER	BM606	1
61	PULLER	BM607	1
*	CERMET INSERT	BMJBEV1	12
*	CARBIDE TINI COATED INSERT	BMJBEV2	12
*	MILLING GRADE INSERT	BMJBEV3	12
*	CARRYING CASE	BM701	1

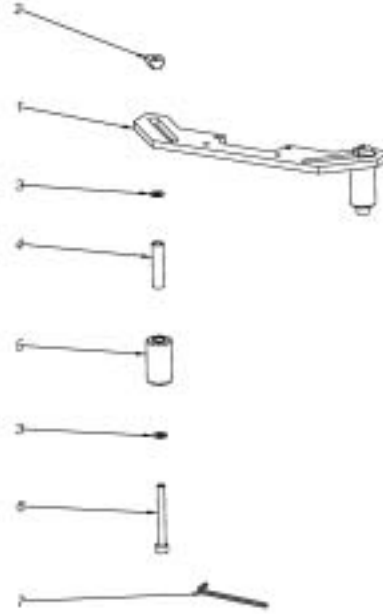
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INCLUDED AND OPTIONAL SETS

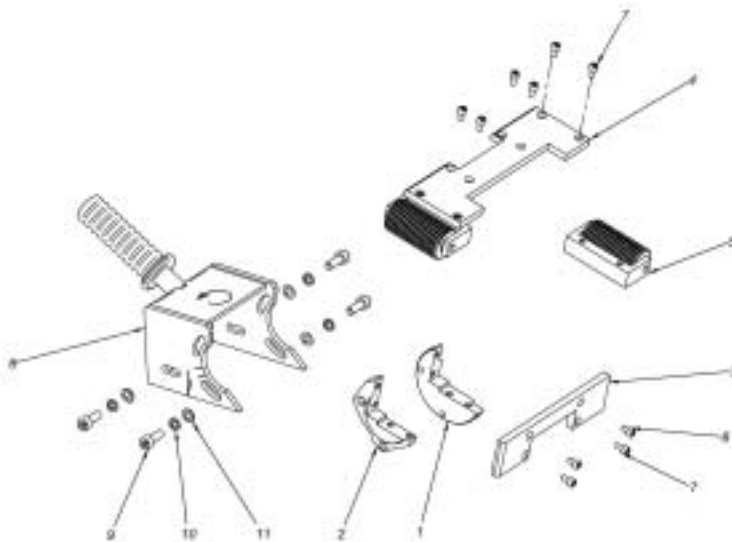
INCLUDED EQUIPMENT: PIPE ATTACHMENT SET

ITEM	DESCRIPTION	PART #	QTY
	PIPE ATTACHMENT SET	BM450	
1	GUIDE SLIDE III	BM314	1
2	CUBE	BM315	2
3	ROUND WASHER 8.4	BM310	4
4	ROLLER	BM312	2
5	SLEEVE	BM311	2
6	HEX SOCKET BOLT M8 X 70	BM309	2
7	HEX WRENCH S=4	BM316	1



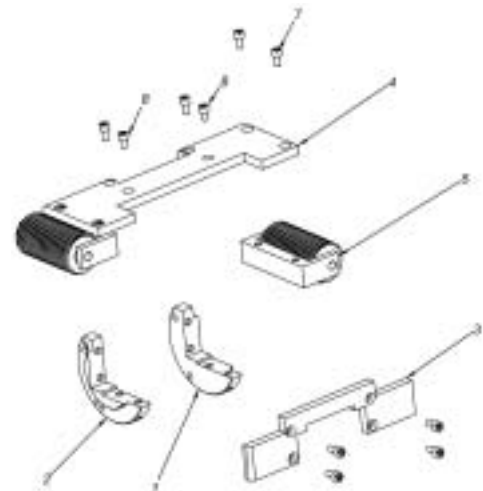
OPTIONAL EQUIPMENT: ANGLE BEVELING 15°-45°

ITEM	DESCRIPTION	PART #	QTY
	ANGLE BEVELING SET 15°-45°	BM1545	
1	SLIDERS MOUNTING I	BM306	1
2	SLIDERS MOUNTING II	BM308	1
3	GUIDE SLIDE I	BM303	1
4	GUIDE SLIDE II	BM307	1
5	ROLLER SET	BM307A	2
6	SPINDLE HOUSING 15°-45°	BM1545	1
7	HEX SOCKET BOLT M5 X 10	BM301	10
8	HEX SOCKET BOLT M5 X 8	BM301B	2
9	HEX SOCKET BOLT M8 X 20	BM302	4
10	CUSHION WASHER 8.2	BM304	4
11	ROUND WASHER 8.4	BM305	4



OPTIONAL EQUIPMENT: ANGLE BEVELING 0°

ITEM	DESCRIPTION	PART #	QTY
	ANGLE BEVELING SET 0°	BM100	
1	SLIDERS MOUNTING I	BM306	1
2	SLIDERS MOUNTING II	BM308	1
3	GUIDE SLIDE I	BM303	1
4	GUIDE SLIDE II	BM307	1
5	ROLLER SET	BM307A	2
7	HEX SOCKET BOLT M5 X 10	BM301	10
8	HEX SOCKET BOLT M5 X 8	BM301B	2



WIRING DIAGRAMS

