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L&H Machtech CO., LTD.

Drill Bits Sharpener Remark

Model: GP 1



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Machine Model Specification and Accessories



Machine color: Dark Green or Gray available for standard. (Depending on the stock)

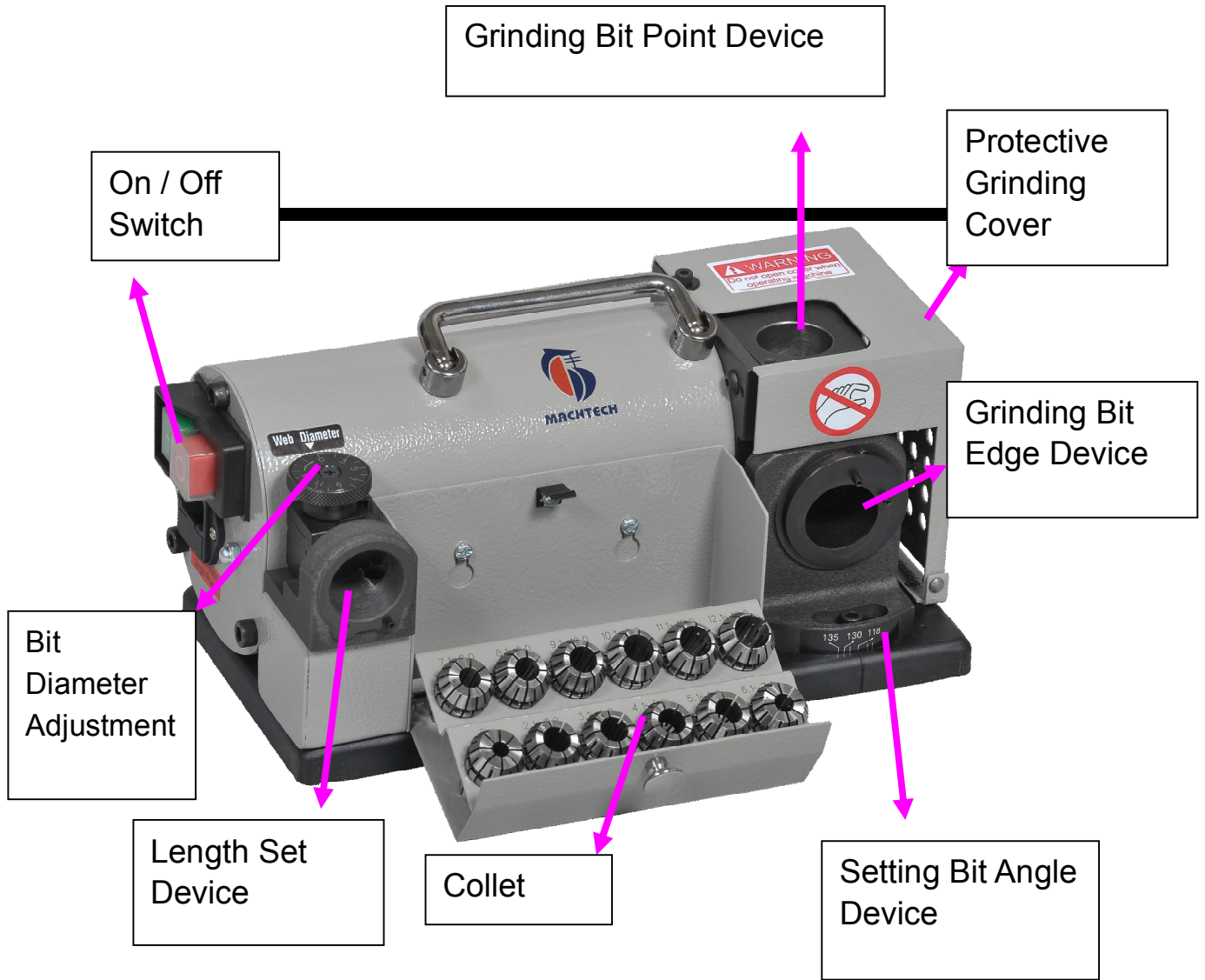
Specification	
Item	Specification
Bit Diameter	Ø2 ~ Ø13 mm
Point Angle	118° ~ 135°
Power Supply	AC 110V 50/60Hz ; AC 220V (Opt.)
RPM of Motor	4500 r.p.m.
Grinding Wheel	CBN #230
Weight	N.W.: 7 / G.W.: 8 kgs
Machine Size	280 x 133 x 155 mm
Packing Size	330 x 205 x 225 mm
Type of Thinning	X Thinning

Standard Accessories			
Item	Q'ty	Unit	Remark
Grinding Wheel	1	PCS	CBN#230
Collet	12	PCS	Ø2 ~ Ø13 / EACH
Clamp sets	1	SET	Clamp & Clamping Nut
Hexagon Wrench	1	PCS	4mm
Metal Shim	2	PCS	0.1mm & 0.3mm

Optional Accessories	
Item	Specification
Grinding Wheel	SDC# 230 Diamond Wheel for Carbide Drill Bit
Collet	ER 20B : Ø2.5, Ø3.5, Ø4.5, Ø5.5 ER 20 : Ø6.5, Ø7.5, Ø8.5, Ø9.5, Ø10.5, Ø11.5, Ø12.5
Lamp	Moveable LED Lamp
Clamping Set	Bit Clamping Set For Ø1.7 ~ Ø3 mm Bits
CE	CE Safety Device

Machine color: Dark Green or Gray available for standard. (Depending on the stock)

Model: GP-1 Outlet

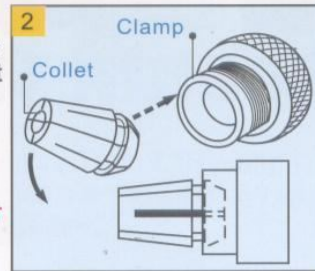


Bit Diameter Adjustment

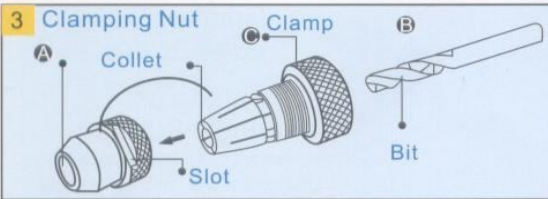


Adjustment

1. Turn and tighten the adjuster to the right. Set at Zero. Turn left to the bit diameter required.
If the bit is less than 3/4 of its original length, the bit edge should be set for a slightly large diameter (eg. 8.5 → 9.5 or 10.5) to account for rack angle variation.

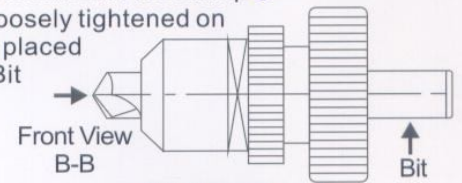


2. The collet must be at a 45° angle. It must be securely installed in the clamp.

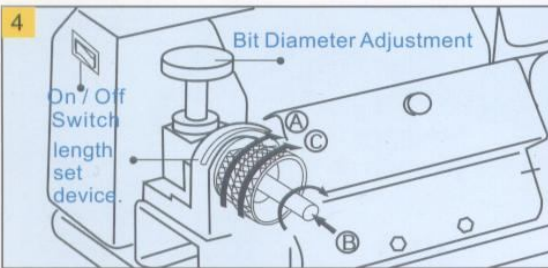


Assemble Clamping nut, Bit, Collet and Clamp

3. To assemble: Collect is secured in the clamp (C). The Clamping nut (A) is loosely tightened on the clamp (C). The bit (B) is placed through the assembly Bit Clamping Set.

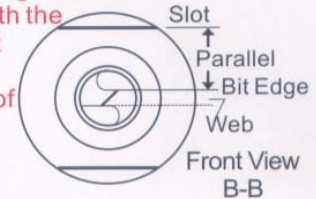


Bit Clamping Set

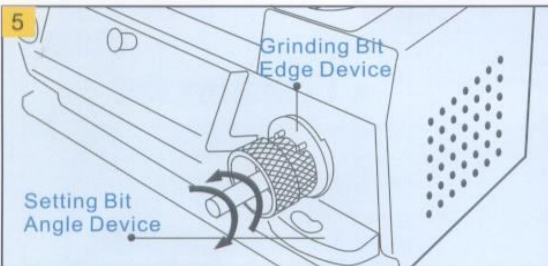


4. Put the bit clamping set in the length set device.
 - (A) The bit clamping set is then pushed forward to the right and secured.
 - (B) Put the bit to the end, turn it to the right and secure it.
 - (C) Turn the clamp to the right tightly.
 - (D) Turn it to the left slightly and take out the bit clamping set.

- PS.** After having taken out the bit clamping set, make sure the bit edge is parallel with the slot of clamping nut. Attention! If not parallel, adjust again. While grinding, don't hold the stem of bit, it will result in the bad grinding surface. Hold the clamp.



Grinding Drill Edge Device

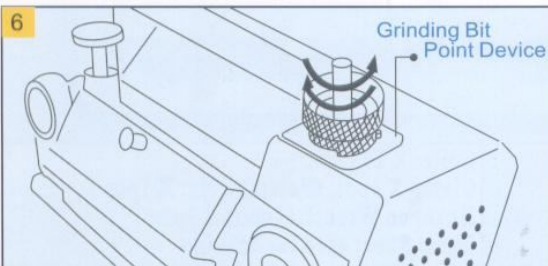


5. While the light is on and the motor rotation is running smoothly, put the bit clamping set into the grinding bit edge device. The slot of the clamping nut is fitted with the two pins of the grinding bit edge device. Put the set gently into the grinding bit edge device until reaching CBN grinding wheel. Grind bit by moving left and right until the grinding noise decreases. And then turn to the other side. Repeat the process.

- PS.** The bit point angle setting is from 118° to 135°.

- PS.** For grinding bit under 3mm, move the two pins of the grinding bit edge device to the left. Switch to 127° on setting bit angle device. Put the bit clamping set into the grinding bit edge device. Move left and right at 5°.

Grinding Bit Point Device



6. For grinding bit point, put the bit clamping set into the grinding bit point device. Gently Insert the set until reaching the CBN grinding wheel. Grind bit by moving left and right until the grinding noise decreases. And then turn to the other side. Repeat the process.

Remark:

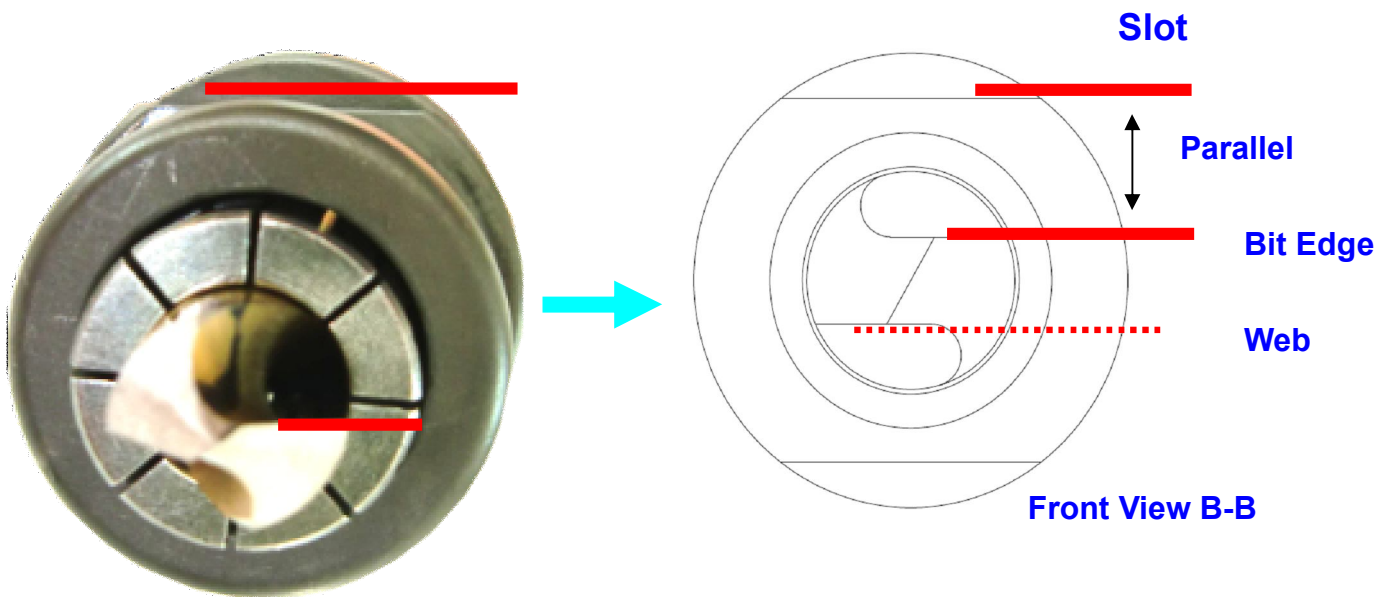
- (A) If the web is larger, the resistance is larger and the bit is more durable. If the web is smaller, the resistance is less and the bit is more fragile.
- (B) After finishing the process of grinding, be sure to properly clean the contact points for future use.
- (C) To grind high speed bits (X form), increase the diameter required on the bit diameter adjustment. The increase recommended is : $\Phi 8.0 \text{ mm} \times 2$ After this adjustment, be sure that the bit edge is parallel with the slot of the clamping nut.

Warranty Period: One year
(It doesn't include the CBN grinding wheel.)

Important Notes:

A: Length set device (Included I) – Very important step

To set the length of grinding required, the bit edge must be parallel with clamping nut slot.

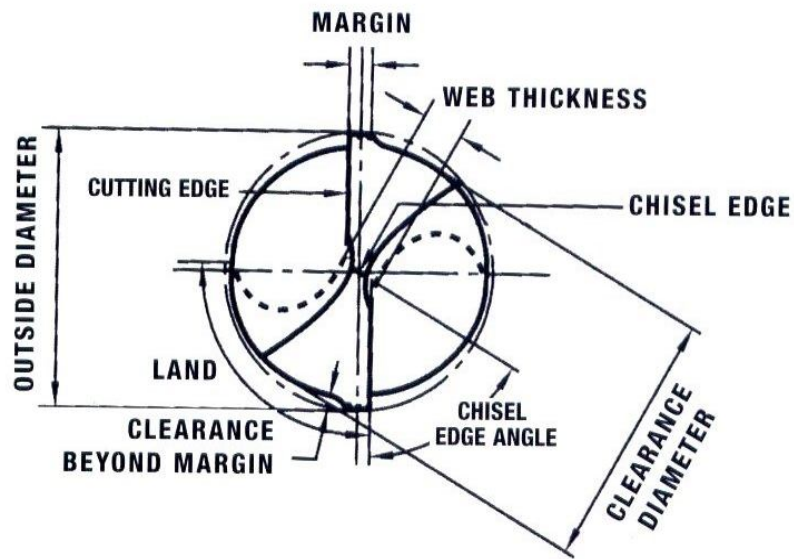
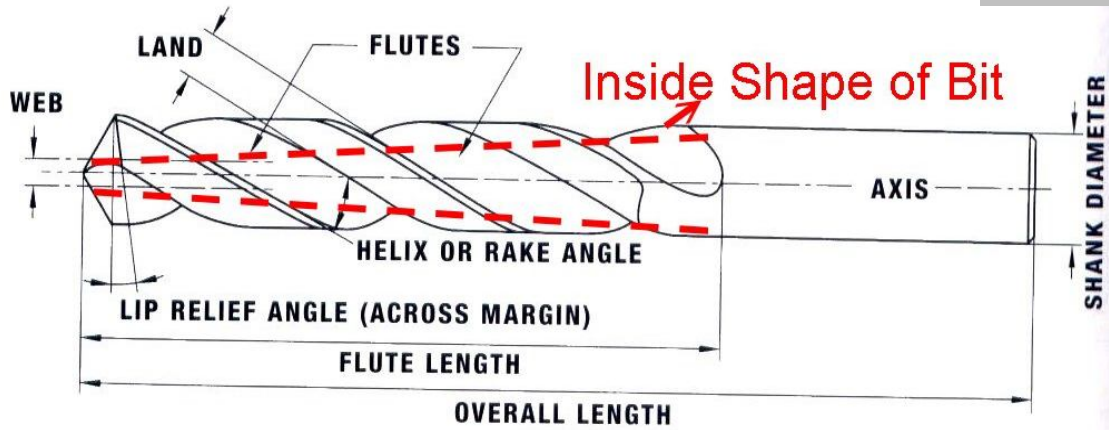


B: Bit diameter adjustment & Formula

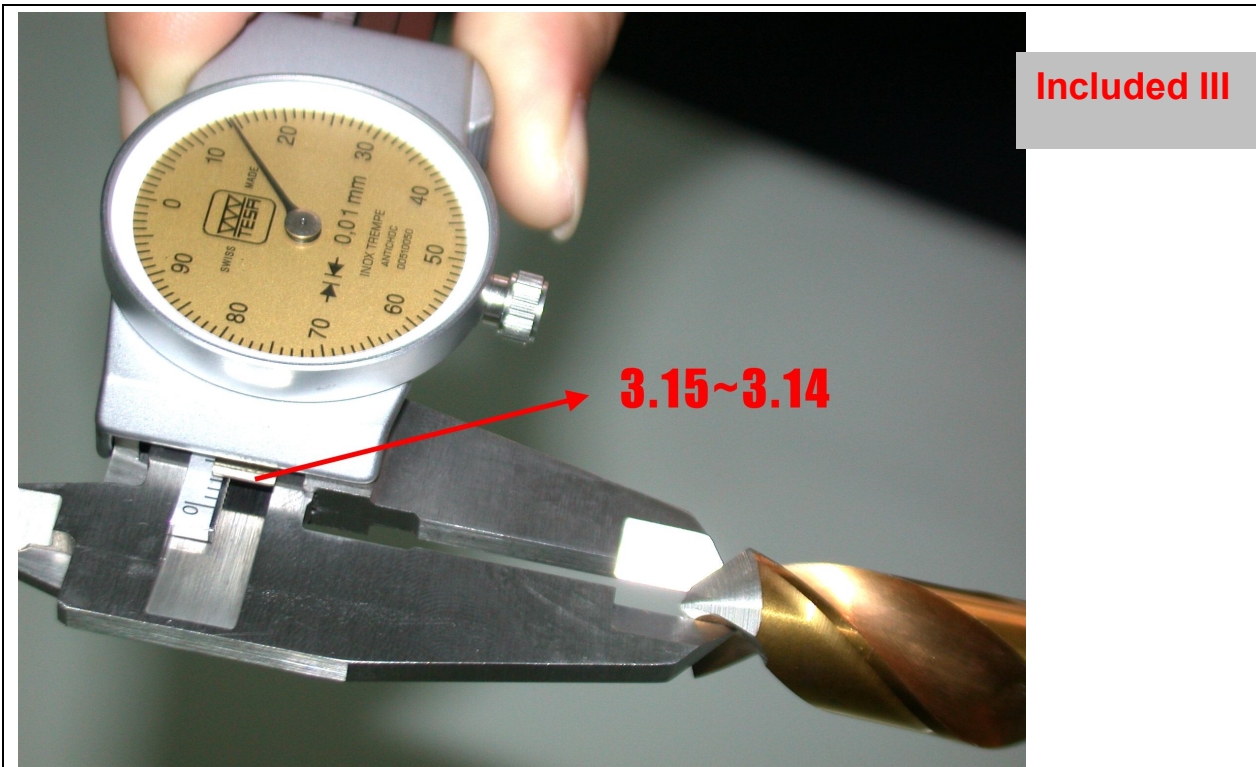
The drill bit becomes shorter, the web becomes thicker (Included II).

If the bit is 10mm shorter than the original one, the adjustor should be increased one scale more.

Included II



If the user doesn't know the original length of bit, there is one formula(Included III), please read the included document. **THIS IS VERY IMPORTANT.**



A-

$$3.15 \div 2 \div 0.07 = 22.5 \approx 23$$

fixed formula



B-

1. "23" means that you have to adjust to 23 scales
2. Turn one circle ->16 scales
3. Turn 2nd circle, up to "7"

C: The grinding wheel is specially made. After the grinding wheel has been replaced the accuracy keeps still the same. The user has to use our own MADE grinding wheel.

D: Detailed info of Metal Sheet for spacing,

0.1mm x 2 pcs, 0.3mm x 1 pcs

For drilling iron material, the way of metal sheet spacer is below:

Under Ø6 mm - 0.1mm

Ø6 – Ø10 mm - 0.2mm

Ø10 – Ø15 mm - 0.3mm

Ø15 – Ø20 mm - 0.4mm

Ø20 – Ø25 mm - 0.5mm

For drilling aluminum material, 0.1mm spacer is decreased.

Under Ø6 mm - mm

Ø6 – Ø10 mm - 0.1mm

Ø10 – Ø15 mm - 0.2mm

Ø15 – Ø20 mm - 0.3mm

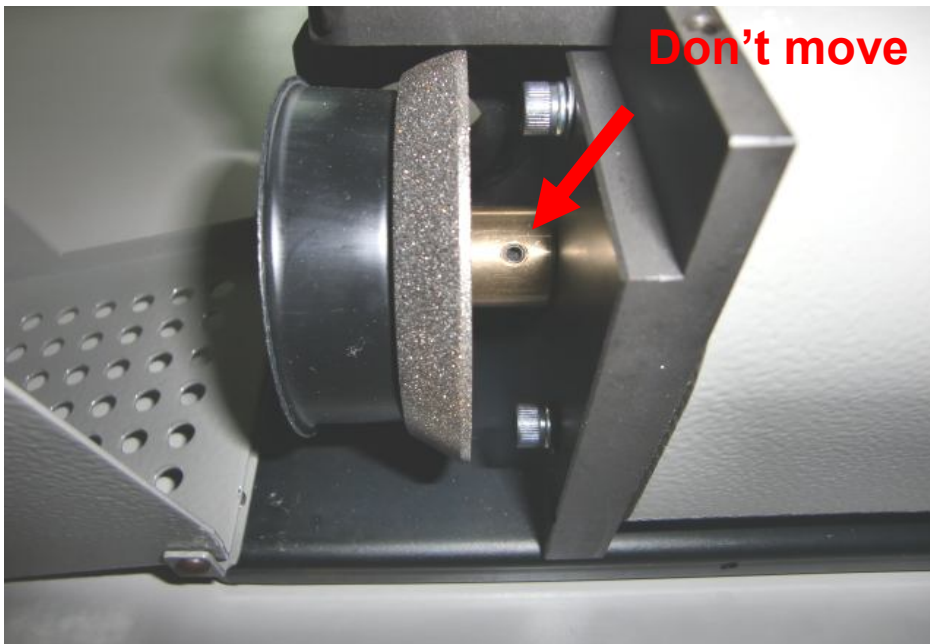
Ø20 – Ø25 mm - 0.4mm



Metal Shim

E. Remark

The user cannot dismantle and assemble the machine by himself. (Included IV)



Included IV



Don't move

F. Maintenance:

Cleanness is very important. After each operation, we have to clean this machine by air gun or clean dry cloth to clean the contact points. Otherwise the accumulated diamond grinding wheel chips will destroy the machine accuracy.