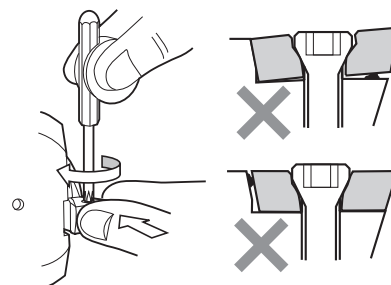


OPERATION MANUAL

Please read these instructions before use and keep them where the operator may refer to them whenever necessary.

ATTACHMENT OF INSERT

- Ensure that the locating surface of the indexable insert and the seating area of the toolholder is free of any particles or oil by using compressed air.
- Then use an absorbent cloth to wipe these surface clean.
- Position the indexable insert by placing the insert into the toolholder, then by locating the clamping screw supplied through the indexable insert, proceed to rotate the clamping screw until the indexable insert is securely clamped into position.
- Ensure that there is no gap between the locating surfaces of the insert and the toolholder.

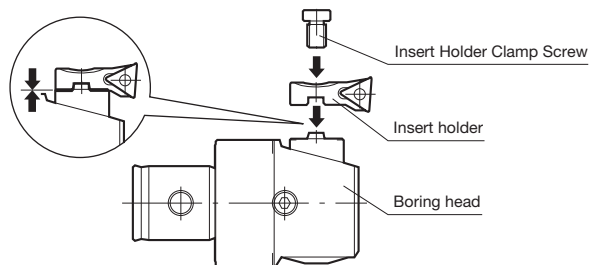


CAUTION

- Use only genuine clamping screws to avoid any unnecessary damage.
- Care must be taken not to cause any injury when indexing insert.
- Regularly replace clamping screws to ensure the maximum clamping force can be maintained.

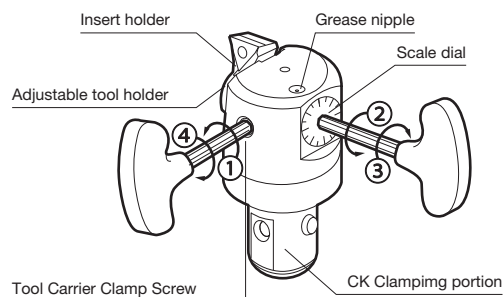
INSERT HOLDER INSTALLATION

- ① Clean the mounting surface of the insert holder and the head body.
- ② Mount the insert holder while fitting into the convex on the body.
- ③ Ensure that there are no gap and misalignment.
- ④ Tighten the Insert Holder Clamp Screw securely.



ADJUSTMENT OF BORING DIAMETER

- ① Loosen the Tool Carrier Clamp Screw in a counterclockwise direction.
- ② Rotate the scale dial in a counterclockwise direction passed the desired size required.
Note: Each graduation equals to .0005"/ø.
- ③ Rotate the scale dial in a clockwise direction until the desired size is reached.
- ④ Tighten the Tool Carrier Clamp Screw in a clockwise direction.



CAUTION

- NEVER adjust the diameter before loosening the Tool Carrier Clamp Screw or exceed the adjustable boring range. Precision components in the head are damaged.
- Slight rotational movement of the scale dial is normal and is unrelated to any backlash to the moving parts in the boring head.
- Use only genuine hexagon key for unclamping, clamping and any adjustments. Never overtighten clamping screws by using any form of extensions.

ADDITIONAL CAUTION

- Boring range of the boring head must not be exceeded.
- It is recommended that a semi-finished bore diameter is machined to determine the influence of the cutting conditions to the actual bored diameter.
- NEVER conduct boring under unsuitable cutting conditions. Refer to the General Catalog for recommended cutting conditions.
- Ensure that CK Clamping Portion is free of damage, particles rust.
- Do not connect **KAISER BORING SYSTEM** with any other boring system.
- Never continue using the boring head if it has been subjected to any shock or damage.
- Safety Goggles must be worn during any boring operation.

MAXIMUM ALLOWABLE SPEED

- The spindle speed of EWB can be calculated from the relationship between cutting speed and boring diameter.

Boring dia.	Model	CK No.	Max. cutting speed	Insert holder model	Insert model
ø1.260-ø1.654	EWB32- 42E-CK3	CK3	2,000m/min 6,600 SFM	EBH3-1	TP08
ø1.614-ø2.126	EWB41- 54E-CK4	CK4		EBH4-1	TC11
ø2.087-ø2.756	EWB53- 70E-CK5	CK5		EBH5-1	
ø2.677-ø3.465	EWB68- 88E-CK6	CK6		EBH6-1	
ø3.346-ø4.134	EWB85-105E-CK6				

$$N = \text{SFM} \times 3.82 / D$$

N : Spindle speed (RPM)

SFM : Cutting speed

D : Boring diameter

CAUTION

- Use the boring head always under the maximum allowable speed only.
- Since the maximum allowable speed is the limit value in which the safety is concerned in the respect of construction of EWB head, it is not guaranteed to good boring with the maximum allowable speed.
- The rigidity of machine spindle and workpiece, the length of boring tool, and the usage of extension and reduction influence the condition such as vibration and etc. Therefore, in order to actually determine the cutting condition, please increase the speed gradually starting from the general cutting condition, while confirming safety.

MAINTENANCE

- Regularly apply grease into the grease nipple installed so that adequate lubrication of moving parts is maintained and to keep moving parts free from dust and coolant.
- Grease Model : HSG50 (50g/net)**
- The boring head must be set on the smallest diameter when greased.
 - Continue to inject grease until it appears to ooze out from behind the scale dial.
 - Occasionally adjust the boring head through its entire range when storing for a period of time to avoid the grease from hardening.

CAUTION

Never overhaul boring heads.

