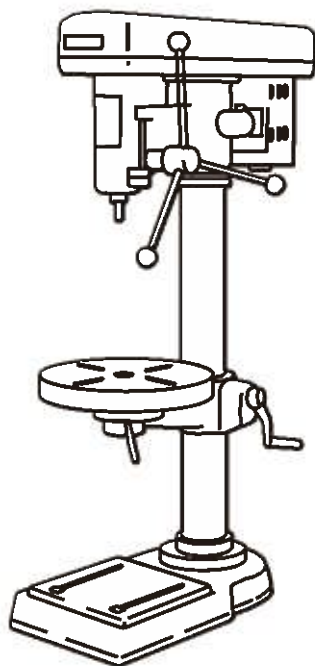


KIRA

Bench and Upright Drilling Machine Series

Safety manual



⚠ CAUTION



- ◆ This safety manual is described important points to use machine safely. Be sure to read and understand this manual before machines using.




株式会社キラ・コーポレーション

PREFACE

Thank you for purchasing “Bench and Upright drilling machine” . Be sure to read and understand this safety manual before using a machine. This manual is described important points to use a machine safely. Place the manual in a location where it can be accessed whenever necessary.

SIGNAL WORDS













The signal words as used in this safety manual represent the following three levels of hazards:

 DANGER	Indicates an imminently hazardous situation which, if not a voided, will result in death or serious injury.
 WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
 CAUTION	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury, or property damage to the equipment.

NOTE	Indicates something that must be considered in handling the equipment.
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ICONS

This safety manual uses the following icons to raise your attention:

Caution (including Danger and Warning)		Electric shock	Caution		Other general cautions	
		Injured by spindle or tool		Prohibition		Do not contact or access
		Flied out				Do not disassemble
		Caught in rotating part				Do not wear gloves
		Fire		Compulsion		Refer to instruction manual
		Get caught in belt				Ground

DESCRIPTION OF SIGNAL-WORD LABELS



〈Risk of electrical shock〉

High voltage runs in the electric control cabinet. Getting an electric shock may result in death. Therefore, before opening the door on the electric control cabinet, be sure to shut off the main power.



〈Warning of electrical shock label〉

There might be had an electric shock because high voltage runs in the electric control cabinet if the control panel is opened carelessly or is attached with a wet hand. Don't open or remove the portion which is attached this label.



〈Risk of injured by spindle〉

The spindle has a sharp cutter that rotates at a high speed. Touching the spindle during its rotation results in serious injury like severing. Therefore, do not put your hand or foot close to the rotating spindle. Even if the spindle stops, do not touch the cutter with a bare hand.



〈Risk of eye injury〉

"Chips / cutting oil / broken tools" are scattered during processing. There is a chance to injuring eyes or face. The protection glasses must be worn while operating machine.



〈Must not wear gloves while operating machine〉

There is a chance to be injured by the rotating objects of machine pulls or rolls up the glove.



〈Must not operating machine without covers〉

There is a chance the rotating belt catches fingers or hands, if operate machine with opening cover etc. If the fingers or the hands are caught in the belt, stop the machine immediately and turn off the main power. Then rotate the belt by hand in order to release the fingers or hands. Turn off main power when open cover etc.



〈Be sure to read and understand the contents of this manual before operating〉

Improper operations may cause unexpected accidents or machine malfunctions. If the Instruction Manual is lost, please contact your dealer for purchasing new one.




LOCATIONS FOR STICKING SIGNAL-WORD LABELS

DANGER

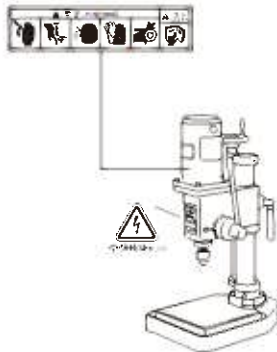
◆ Do not use the equipment when any of its signal-word labels is partially or totally broken, peeled off, or has a faded color. This may result in serious damage.

- Two different kinds of signal-word labels are stuck on the equipment.
- If the signal-word label is broken, peeled, or discolored, contact your dealer with its label number.

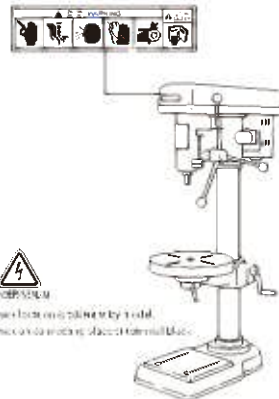
【 Power seal No. 】

PL-02	POWER-SEAL-S	POWER-SEAL-M
		

【Model】 KHD-6 *

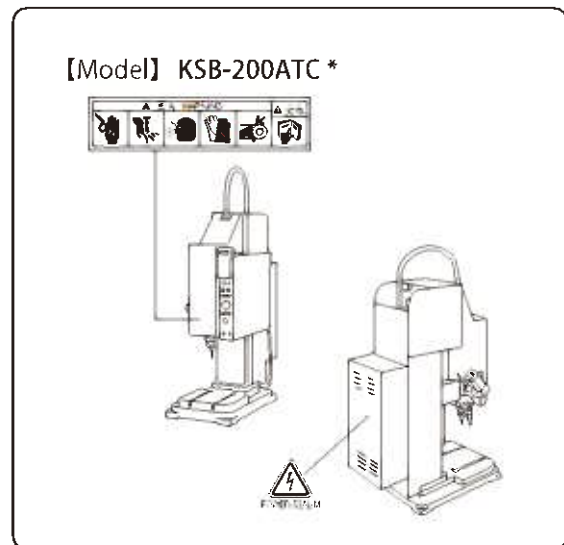
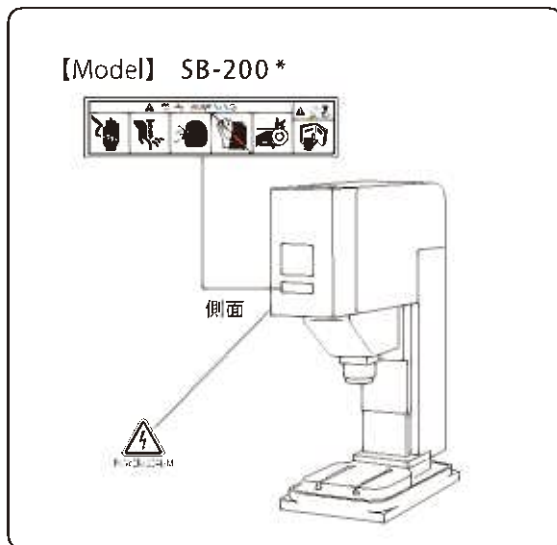
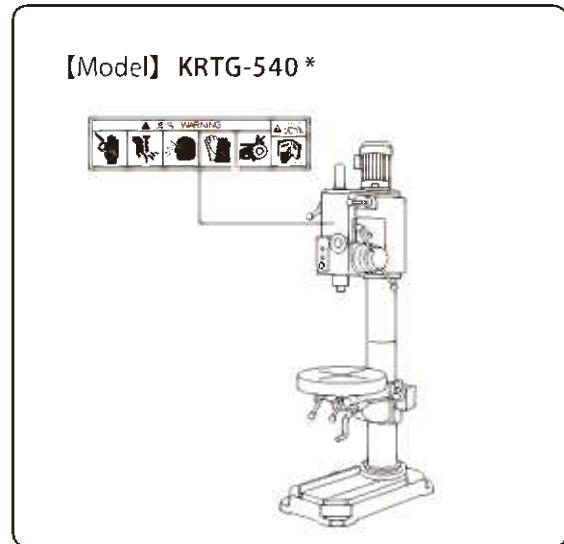
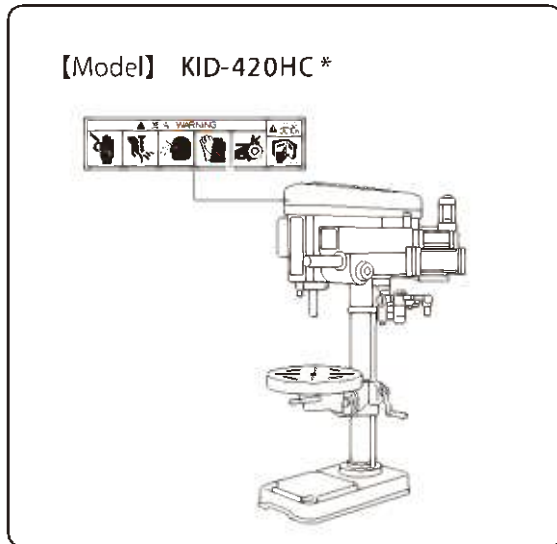
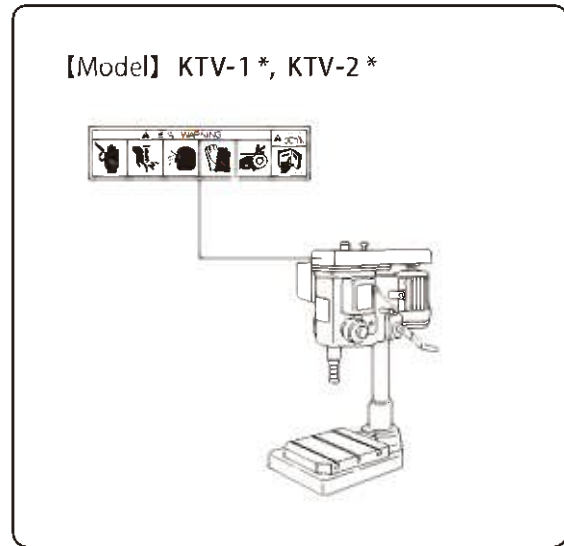
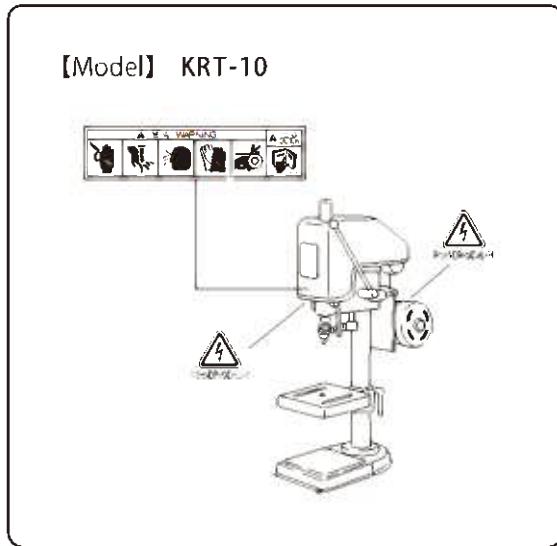


【Model】 KND-8 * KRDG-340
 NSD-13R * KRDG-420P
 NSD-340 KRTG-420
 KID-420
 KRT-340
 KRT-420



Marked * models are discontinued, reference only.

Please note that the signal-word label is not stuck on a machine of old manufacturing date.



Marked * models are discontinued, reference only.
Please note that the signal-word label is not stuck on a machine of old manufacturing date.

SAFETY PRECAUTIONS

! DANGER



- ◆ The main power must be shut down, before opening the door on the electric control cabinet.
- ◆ Do not operate switches by a wet hands.

! WARNING



- ◆ Do not touch the spindle or chips during the operation.
Especially, the cutter is very sharp. Do not touch it, even if the spindle is not rotating.



- ◆ Do not approach all fours to belt while rotating, may be caught in the belt.
- ◆ Do not operate machine with opening cover etc.
- ◆ Be careful not to pinch hand between pulley and belt while belt changing operation.
- ◆ Turn off main power when open cover etc.



- ◆ Do not wear the gloves during operation absolutely.
Your gloves and hands may get caught in the rotating part of the machine.



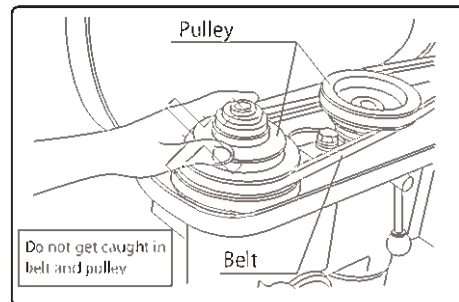
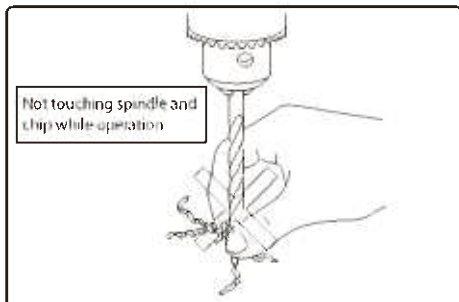
- ◆ Machine may suddenly start moving after temporarily stops during the operation.
Therefore, do not access equipment without verifying present state.



- ◆ If cutting oil attaches to your working wear, clean it off because it may catch fire.
- ◆ Exercise care in handling cutting oil. For example, in order to prevent fire occurring with cutting oil, do not use water-insoluble cutting oil when carrying out operation.
If the floor is made of wood, use sufficient care for fire because it is liable to catch fire. And please confirm the location of fire extinguisher before operation start.



- ◆ To remove chip stuck on a tool, stop the spindle, checking that its rotation has completely stopped, and then brush off the chip while wearing protective glasses, and please do not touch cutting chips barehanded.




WARNING


- ◆ Be sure to fix the workpiece to the table using a vice, etc.
If machining is carried out without fixing the workpiece, it would be rotated or lifted up to cause very dangerous situation.



- ◆ Please be careful to the handling of a work. Letting it fall on your foot will result in a bone fracture or a similar injury.



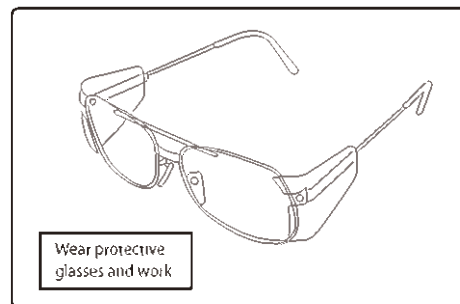
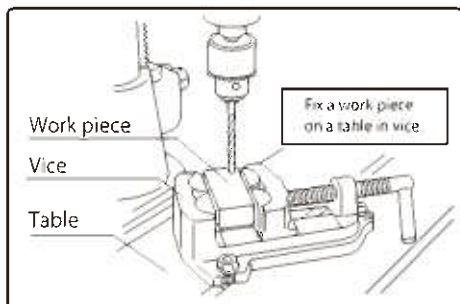
- ◆ Be sure to ground the equipment.
But, do not connect the grounding to the gas pipe and steel frame which have insufficient grounding. This may result in serious accident.



- ◆ Be sure to connect the wire of power to the power supply in which a earth leakage breaker is set.
- ◆ Do not install the drilling machine outdoors, in the location where is much moisture, where is splashed by water, or where is exposed to direct sunlight.
- ◆ Do not use the machine in the location where is flammable liquid or gas.



- ◆ Confirm the position of button to stop spindle rotation immediately.
- ◆ Stop the machine and shut off the power before "Maintenance & inspection" or "Changing tool, cutter, or chuck etc." . If any hazardous situation may be predicted, also shut off the power.
- ◆ Set up caution plate of Maintenance or inspection in a conspicuous place around operation panel during working to prevent somebody turns on the power suddenly.
- ◆ Install the tooling and the cutter firmly to the normal position by appropriate procedures. Loosely or too much tighten is dangerous.
- ◆ Before turning on the power, check that the maintenance tools such as chuck handle, wrench, center drift etc. have been removed.



 CAUTION



- ◆ Be sure to follow the instructions given in this document, including the operation guidelines.
- ◆ Do not use the machine for any purpose other than specified in manuals.
- ◆ Do not use the machine beyond machining capacity.
- ◆ This model is vertical type, and install to strong working table etc to prevent overturning.



- ◆ Do not carry out disassembling or modifying by yourself.
- ◆ Use the machine at the specified frequency and voltage.



- ◆ Check no damage on covers and other parts before operation.
- ◆ Clean up the machine and wipe up the cutting oil around the machine after operations. Then add the lubrication oil to the designated points.
- ◆ Perform maintenance / inspection regularly.



- ◆ Making operations with wearing appropriate clothes, safety shoes, safety glasses and other protective equipment.



- ◆ Do not operate the machine other than the person in charge of operation.
- ◆ Do not make uncertain operation or procedure.
- ◆ Do not place something not related to operations on the machine or around it.
- ◆ Shut off the power in case of power failure.
- ◆ Shut off the power while the machine is out of use.
- ◆ If the spindle crashes on the workpiece, stop the operation immediately. Then contact your dealer or KIRA Corporation for asking recovery procedures.
- ◆ If you found any abnormal condition on the machine, stop the operation immediately. Then contact your dealer or KIRA Corporation.