



Please read this manual carefully
before you use this product.

Autopro-up company

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INSTRUCTION MANUAL



DBL-STAR

BRAKE

DISK&DRUM LATHE

PRODUCT MODEL NAMES

DISK LATHE DBL-3000, SMART, DBL-3500, DBL-4000

DISK&DRUM LATHE DBL-4300, DBL-4500, DBL-5000, DBL-8000

Outside design, specification, option and accessory can be changed without notice for improvement.

SAFETY FIRST

WHEN MAIN AC MOTOR IS DAMAGED DUE TO OVELOAD, IT WILL BE REPAIRED WITH COST EVEN IN WARRANTY PERIOD.

THIS MANUAL HELPS YOU KEEP AND CONTROL MAINTENANCE EQUIPMENT THROUGH THE INFORMATION OF LATHING PROCESS, AND IT WILL PREVENT NEGLIGENT ACCIDENT DURING ACTUAL OPERATION OF MAINTENANCE EQUIPMENT. PLEASE READ THIS MANUAL CAREFULLY AND OPERATE MAINTENANCE EQUIPMENT ACCORDING TO THE SAFETY RULES TO PREVENT ACCIDENT. FOLLOWING DANGER SYMBOLS ARE FOR OPTIMAL WORKING ENVIRONMENT, PLEASE FOLLOW THE INSTRUCTIONS.



A SYMBOL THAT CRITICAL INJURY OR LIFE-THREATENING CONDITION MAY HAPPEN BY ONE NEGLIGENT ACCIDENT



A SYMBOL THAT NEGLIGENT ACCIDENT OR LIFE-THREATENING INJURY MAY HAPPEN



A SYMBOL THAT CONTINUOUS SMALL ACCIDENTS OR NEGLIGENT ACCIDENT MAY CAUSE ENDANGERING LIFE

SAFETY RULES

This manual contains proper using method of lathe and precautions in using the product. Improper use of the product may cause unexpected error or injury, so please read safety rules and instruction manual carefully before you use the product.

- When you install the product, you need to read this manual first and check electric power specification of installing place.
- Every worker should have proper education and they need to have full knowledge of the using method of the machine and safety rules.
- Please wear safety equipment. Especially, please be careful not to get chips entering into the eye maintaining some distance and you should wear protective goggles when you operate the machine.
- The lathe must be properly grounded to prevent electric shock or malfunctioning of the machine.
- Do not wear loose clothing or accessories since it may cause accidents.
- Do not wear gloves during operation! If waste thread from a glove or loosened thing runs with equipments, it will cause critical injury.
- Keep work area always clean. Pay attention to water, oil, tools or maintenance equipment in the floor or machine which might cause malfunctioning or accident.
- Please be careful not to put the body, especially hands into the machine during operation.
- Operation within the machine specification; If you operate the machine beyond its limit, it may cause machine's trouble, malfunctioning or accident, therefore please operate within the specification of the machine.
- When you find malfunctioning or unintentional operation, turn the power off immediately.
- Do not assemble or disassemble the machine as you please. It may cause negligent accident.
- If you finish all the lathing work, remove and clean all the attached equipment during lathing.
- If you finish all the work and maintenance, remove power from the unit.
- Do not use other components except the ones manufactured or approved by Auto Pro-up.
- Always keep clean the machine and around it after the work. Lack of cleaning of dusts may cause the trouble of the machine.

Thank you very much for choosing Auto Pro-up.

SPECIFICATIONS

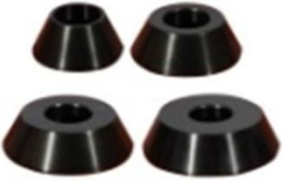







DBL -STAR

MOTOR	Voltage	240V 50Hz
	RPM/HP	110RPM, 1HP
Disk (rotor) Size	Maximum Diameter	420mm
	Maximum Thickness	50mm
Drum Size	Maximum Diameter	590mm
	Maximum Depth	140mm
Machine Weight	Net weight	280Kg
Machine size		850*800*1,050

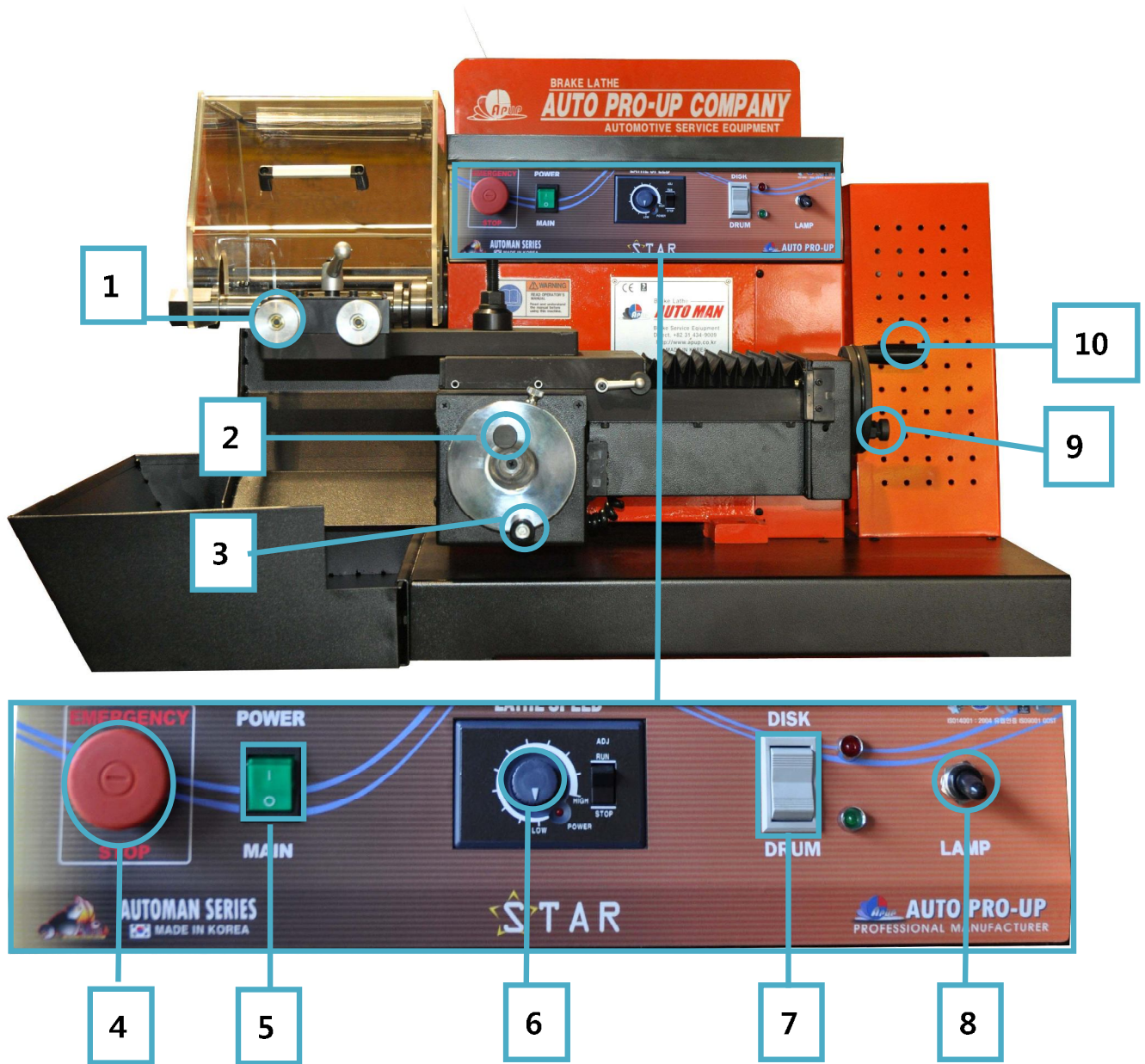
Installation

1. Please check the exterior and inspect provided accessories of the equipment before you install it.
2. Place the equipment to installation area after checking if the floor has even surface. If the floor is uneven, choose another place. Evenness of floor may affect lathing quality.
3. Fix the equipment to the floor using bolt after the installation.
4. Power connection terminal is on the side or rear of the equipment. Connect the equipment and power outlet using power cable provided. (Please check the voltage before power connection. Unstable or high voltage may cause the trouble of the equipment.)

Major Parts and Accessories for DBL – STAR

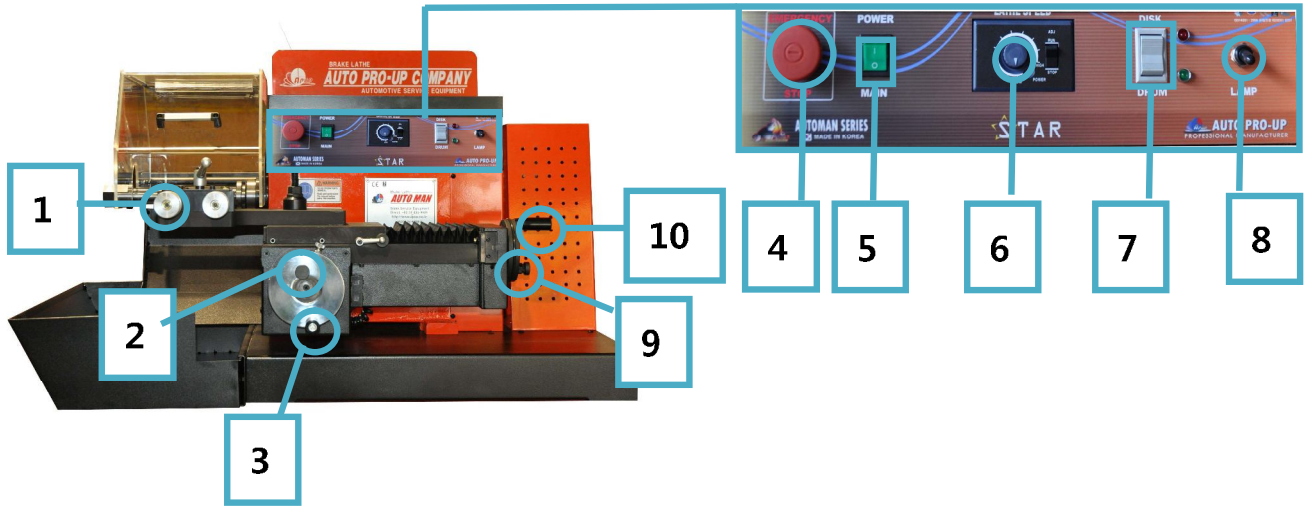
Image	Name	Usage
	Centering Cone	<p>It makes disk and shaft of lathe form right angle, more than half of cone should be extruded when it is installed inside the disk.</p>
	Hole Cup	<p>It holds disk, and you need to keep it not to be scratched after the use since its both sides were precisely grinded.</p>
	Spacer	<p>It fills up remaining space after disk and other accessories are attached to shaft of the lathe, and you need to keep it not to be scratched after the use since its both sides were precisely grinded.</p>
	Spring	<p>It should be installed between hole cup and centering cone when the accessories are attached to the lathe.</p>
	Vibration Protector	<p>It is patented product of Auto Pro-up, and it reduces chip blow and noise during lathing.</p>
	Bite Tip & Bolt	<p>Bite tip affects lathing quality a lot, so you need to use it supplied from our company, and it is possible to use all 3sides. (You can lathe about 20pcs of disks per each side.)</p>
	Torx Wrench	<p>It is a tool to replace Bite tip.</p>
	Rubber Ring	<p>It is for prevention of disk vibration, and you must attach it when you lathe a disk.</p>

1. Name of Major Parts and Operating Method



Name of Each Part

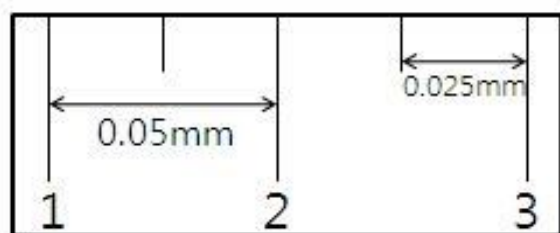
1	Cutting Dial	6	Speed Control Dial for Automatic Lathing
2	Automatic/Manual Conversion Switch	7	Disk/Drum Conversion Switch
3	Lathe Feed Handle(Front/Rear)	8	Lamp Switch
4	Emergency Power Switch	9	Automatic/Manual Conversion Switch
5	Main Switch	10	Lathe Feed Handle(Left/Right)



Explanation of Each Part

1. Dial which is able to adjust the depth of lathing.
2. You can select automatic or manual lathing by pulling the switch. (If it is set as automatic lathing, feed handle will be locked.)
3. It is a handle which controls depth of lathe, and it controls manual lathing and lathing depth.
4. It supplies power to the lathe in the emergency. It supplies power by pull and stop supplying by pressing it. (Stop the power supply in the emergency by pressing the switch.)
5. It is a switch supplying or cutting the power to the main motor.
6. It is a dial which controls lathe feed speed in automatic lathing.
7. When grinding the disk(rotor) or drum, you should be setting the this switch.
8. When grinding the drum, you can turn on the switch for light.
9. You can select automatic or manual lathing by pulling the switch. (If it is set as automatic lathing, feed handle will be locked.)
10. It is a handle which controls center of lathe when grinding the disk and it controls depth of lathe when grinding the drum.

*Adjustment of Cutting Dial



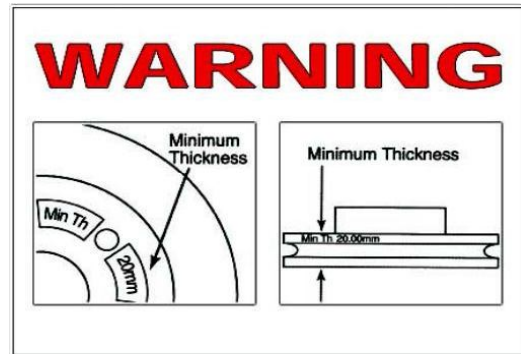
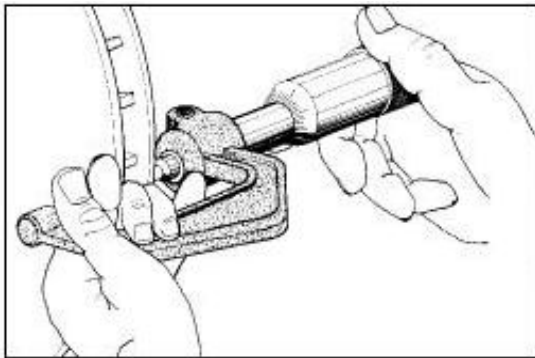
As in above picture, gap between the big gradations is 0.05mm, and between big one and small one is 0.025mm. Maximum grinding depth is 0.1mm for each side when lathing.

2. Preparation for Disk Lathing

Check Point before Disk Lathing

Before you do disk lathing, check original thickness of the manufacturer and minimum thickness using measuring instrument, and you should not grind less than minimum thickness. Responsibility for the accident caused by the grinding less than minimum thickness will be borne by the user. As in the picture below, minimum thickness is indicated in the side or front of the disk.

***Note: Minimum thickness is based on whole thickness of the disk.**



Preparation before Lathing

Wipe out contact area of the lathe and accessory using cloth as picture below. If there are dust, rust or foreign substance, it may cause the bad quality of lathing.

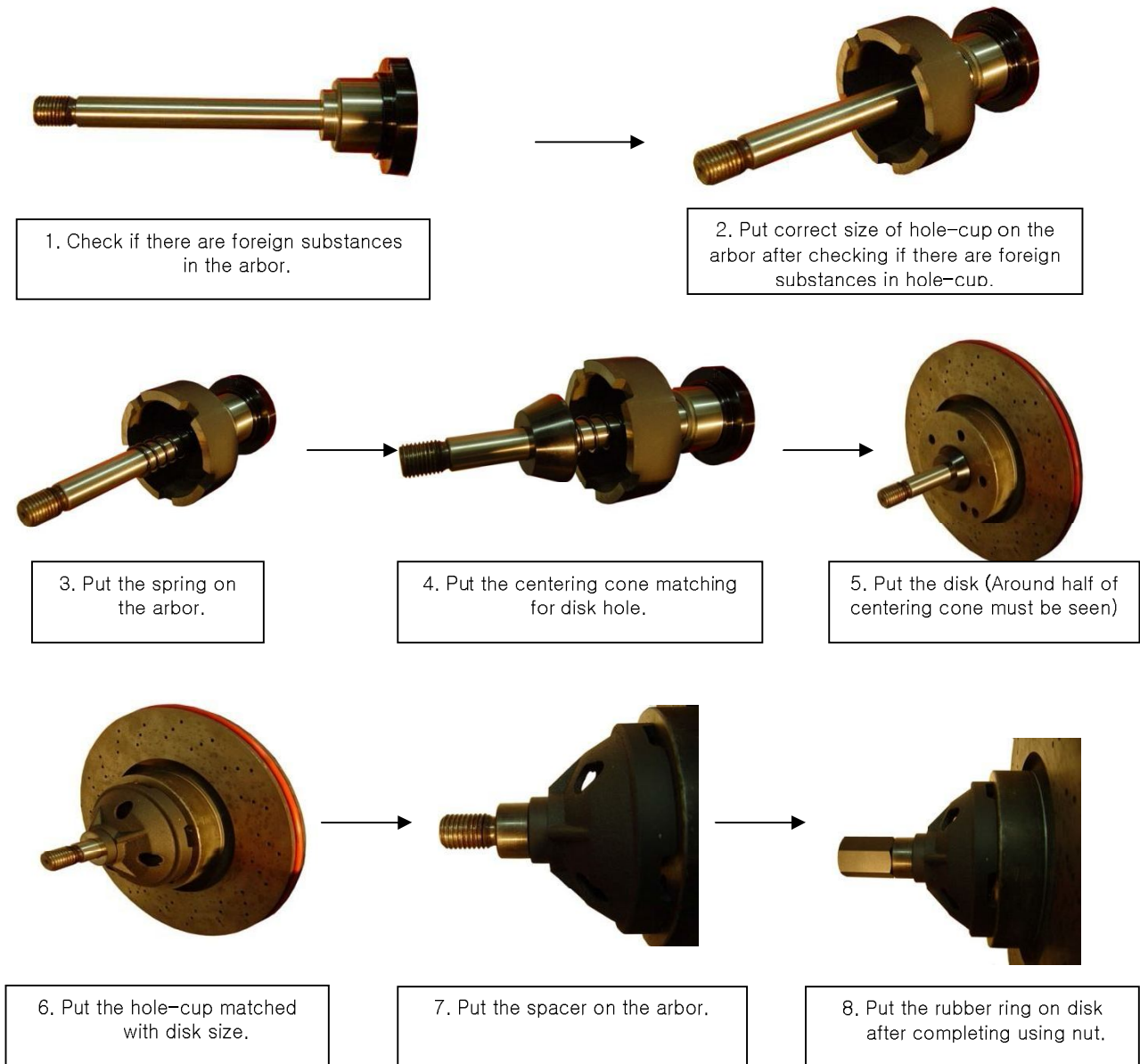


Also, clean the contact area of disk surface and accessory using sandpaper.



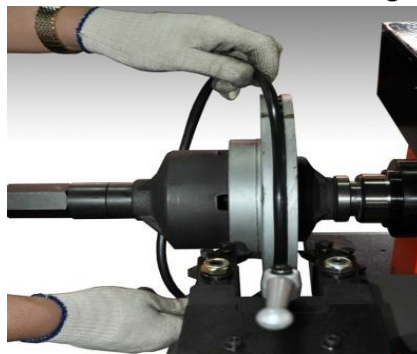
3. Installation of Disk and Accessory

Installation of General Type of Disk



Installation of Rubber Ring

1) Put the rubber ring as the picture below, and start the lathing.



※ If you do not install rubber ring, it will cause bad quality of lathing due to disk vibration, etc.

Disk Installation

Spacer, centering cone and hole cup matched with the disk of general (most of) cars will be provided. However, some cars have different dimension, so you may need to use optional accessory in some case.

Following pictures and explanations are when a disk is installed using general accessory, and installation method will be different if it is special disk.

A) Hubless (General) Type Disk Installation



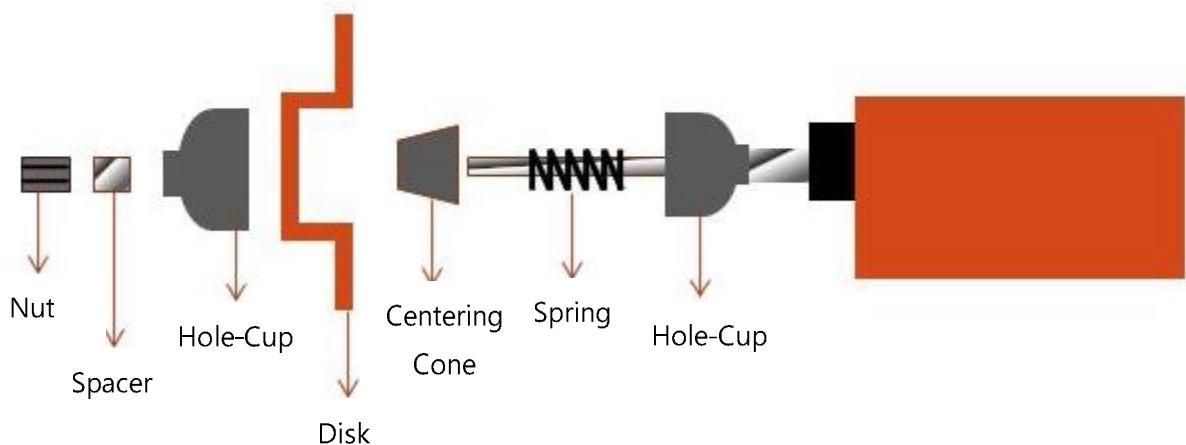
1. Check if there are foreign substances in arbor.
2. Put the hole-cup fitted for the disk after cleaning.
3. Put the spring.
4. Put the appropriate centering cone on disk rotor hole. (More than half of centering cone should be seen when it is inserted into disk rotor hole.)



5. Put the disk.
6. Put the hole-cup fitted for the disk.
(Adjust the centering by turning disk rotor manually after pressing hole-cup into the machine.)



7. Put the spacer considering the space when it is tightened by shaft nut.
8. Put shaft nut and tighten it not to make disk rotor move.
9. Put rubber ring after checking if accessories and disk are assembled as following sequence.



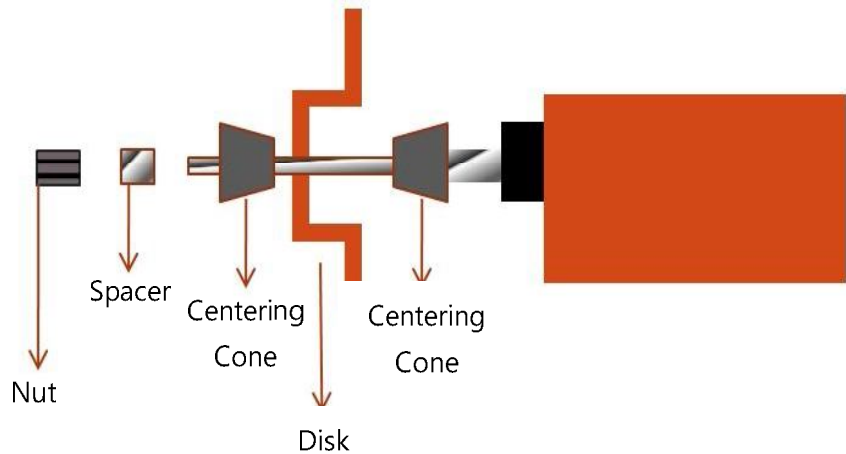
B) Hub Disk Installation



1. Check if there are foreign substances in arbor.
2. Put centering cone (fitted for hub hole) after cleaning. (Spacer may be required according to the grinding degree.)
3. Put hub disk rotor.
4. Put centering cone fitted for hub hole.

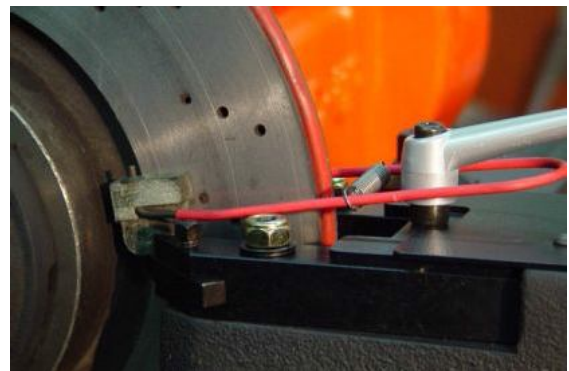
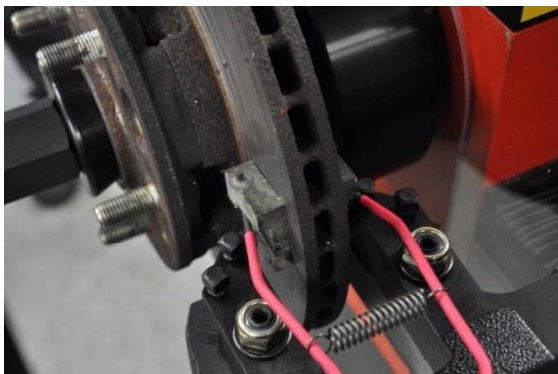


5. Put the spacer.
6. Put shaft nut to complete.
7. Put rubber ring after checking if accessories and disk are assembled as following sequence.



Vibration Protector Installation

- 1) Before starting lathing work, install vibration protector as in the picture below.
- 2) If you grind without vibration protector, metal powder will be scattered and vibration will occur during the lathing.



※Directions for use of Vibration Protector
Press it into the sides of bite tip center after removing raised spots in both sides, and push it forward once more about 2cm after the lathing work starts.

4. Disk Lathing

* You should be well informed of all previous content before you start disk lathing for better quality work without negligent accident. If you do not have full knowledge of previous content, stop the work immediately and be well informed of this manual.

1) After putting the disk on the lathe as disk installation method, put rubber ring on disk.(Prevention of vibration and noise)



2) Align the center of disk and the lathe of the machine.



3) Make the gap between disk and cutting bite even using cutting dial.



4) Supply the power to the machine turning emergency power switch to clockwise.



5) Drive main motor pressing the main switch (motor driving switch) to "ON".



6) If a disk starts rotation, remove uneven surface using feed handle.(remove raised spot only moving back and forth)

※Removal of raised spots on disk– You can see the raised spots inside/outside disk in most of cars. You need to remove these spots before you do the lathing work.

After you remove them with manual lathing, you need to set as automatic lathing for regular work.



7) Cutting bite should be inside the disk when you do automatic lathing. If it is outside the disk, move it to inside using feed handle.



8) The gap between the big gradations is 0.05mm, and between big one and small one is 0.025mm. Set the dial not to exceed 0.1mm for each side when lathing.



9) Press the disk/drum conversion switch to "Disk", and set lathing speed using speed control dial for automatic lathing. After that, start automatic lathing using manual/automatic conversion switch.



10) Check grinded surface after the completion of automatic lathing.



11) If checked grinded surface is not even or has comb pattern, grind repeatedly reducing the speed or cutting depth.

① If grinded surface is not even – Check bite blade and replace.

② If you find comb pattern from 1cm of outside surface – Put rubber ring and vibration protector at the center of disk.

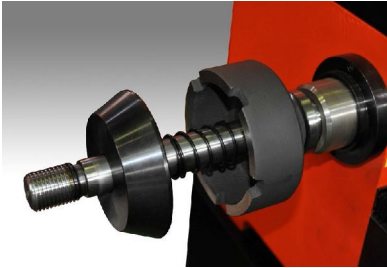
③ Removing Method of Comb Pattern – Move bite holder inside and make cutting depth equal to right/left as 0.02mm, and adjust automatic speed as highest one.

5. Installation of Drum and Accessory

Spacer, centering cone and hole cup matched with the drum of general (most of) cars will be provided. However, some cars have different dimension, so you may need to use optional accessory in some case.

Following pictures and explanations are when a drum is installed using general accessory, and installation method will be different if it is special drum.

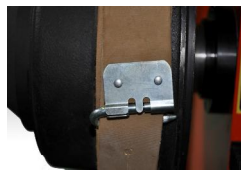
A) Hubless (General) Type Drum Installation



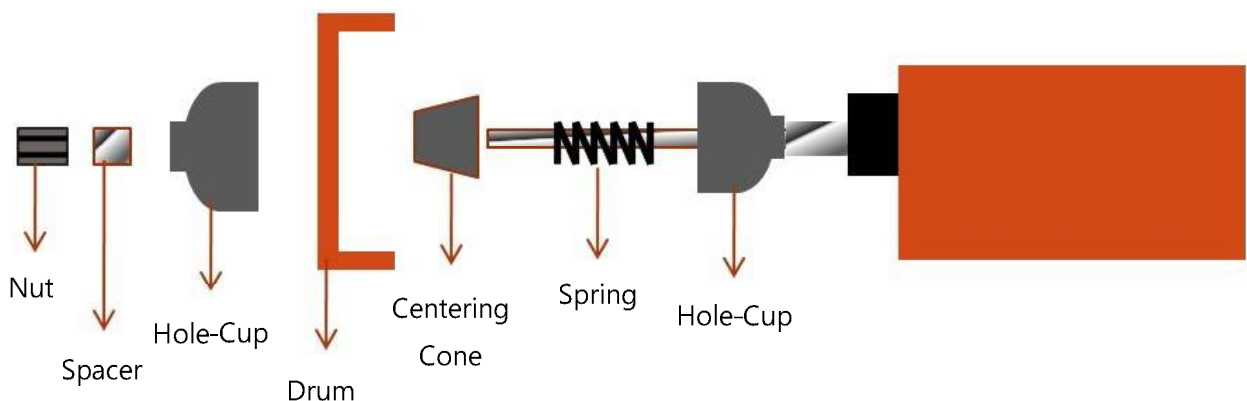
1. Check if there are foreign substances in arbor.
2. Put the hole-cup fitted for the drum after cleaning.
3. Put the spring
4. Put the appropriate centering cone on drum hole.
(More than half of centering cone should be seen when it is inserted into drum hole.)



5. Put the drum.
6. Put the hole-cup fitted for the drum.
(Adjust the centering by turning drum manually after pressing hole-cup into the machine)
7. Put the spacer considering the space when it is tightened by shaft nut.
8. Put shaft nut and tighten it not to make drum move.



8. Install the drum belt.



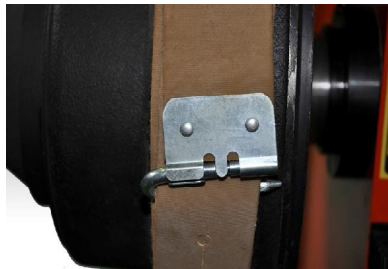
B) Hub Drum Installation



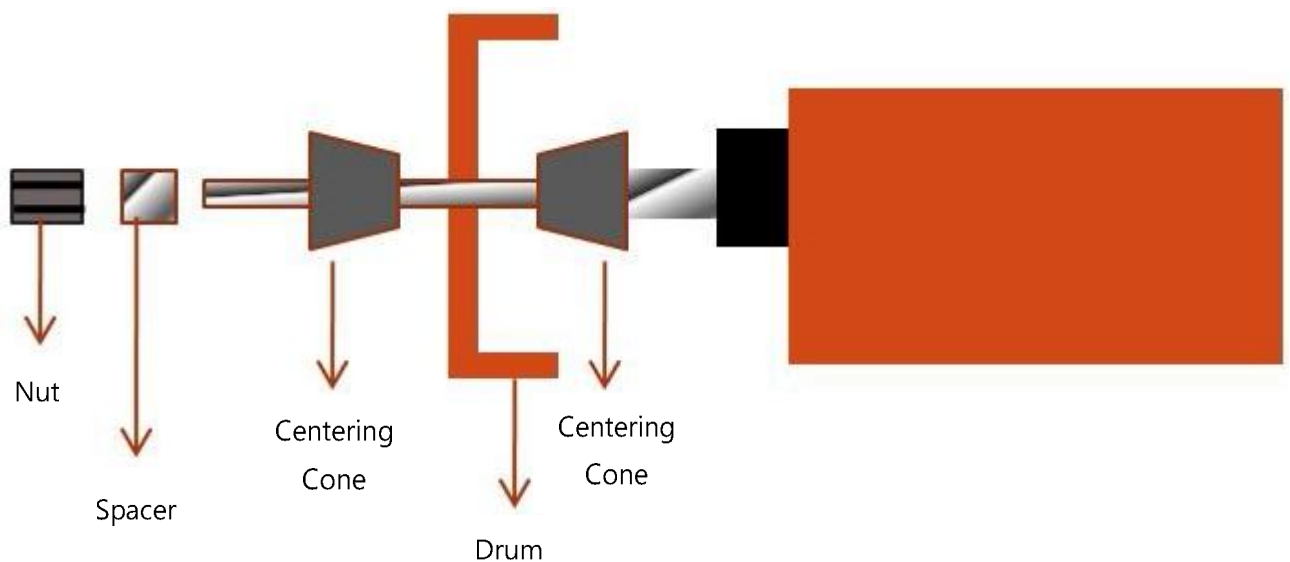
1. Check if there are foreign substances in arbor.
2. Put the centering cone(fitted for hub hole) after cleaning.
(Spacer may be required according to the grinding degree.)
3. Put the hub drum.



4. Put centering cone fitted for hub hole.
5. Put the spacer.
6. Put shaft nut to complete.



7. Install the drum belt.
8. Check whether accessories and drum are assembled as following sequence.



6. Drum Lathing

* You should be well informed of all previous content before you start disk lathing for better quality work without negligent accident. If you do not have full knowledge of previous content, stop the work immediately and be well informed of this manual.

1) After putting the drum on the lathe as drum installation method, install the drum belt on drum.(Prevention of vibration and noise)



2) Checking the drum lathe position and drum depth by using a Lathe Feed Handle(Right/Left)



3) Checking the uneven surface in drum by using Lathe Feed Handle(Front/Rear). Remove uneven surface, only moving right and left handle.



4) Supply the power to the machine turning emergency power switch to clockwise.



5) Drive main motor pressing the main switch (motor driving switch) to "ON"



6) Press the disk/drum conversion switch to "Drum"



7) When rotate the drum, Remove uneven surface, by using right and left handle.



8) Dial's gradations are 0.02mm. Set the dial not to exceed maximum diameter.



9) Set lathing speed using "Speed Control Dial for Automatic Lathing"



10) After that, Set the "Automatic/Manual Conversion Switch" and starting the grinding. (When automatic grinding, you should be grinding from inner to outside.)



11) Check grinded surface after the completion of automatic lathing.



12) If checked grinded surface is not even or has comb pattern, grind repeatedly reducing the speed or cutting depth.

7. Self-Maintenance.

1. No power supplied.

- Check the proper cable connections including AC/DC cables.

2. No rotation of motor with beep out a warning.

- Make certain connection of DC cable or if switch is in off position.
- Check the defects of lathe switch.
- Check if the lathe bite hold is moved to the rear and has a contact with the switch

3. Uneven resurfacing and rough surface produced.

- Shake from side to side to find lathe clearance. If there is a clearance, delete the lathe clearance through adjusting clearance bolt.
- When bite is run out, exchange bite or change operation place
- Make certain if the rubber band is placed around the disk. (for shock absorption)
- Make certain if it is resurfaced excessively (under half or one scale mark)

4. While resurfacing, check if noise or comb-ribbed column occurs.

- When placing rubber band around it, noise will diminish.
- When placing rubber band around it, the comb-ribbed column also will disappear.

Cleaning

Keep the lathe as clean as possible for trouble-free operation, as well as safety and longer lathe life. Use a brush to sweep metal chips and dust off the lathe. (Always brush the chips away. A two-inch wide paintbrush works well.)

Do not use compressed air to blow the lathe clean.

Chips and dust may be driven between machined parts and into bearings, causing undue wear. Never wash down the machine.

Care of Arbors and Adapters

Although the adapters, arbors, and spindle are made of top grade steel and are turned, hardened, and precision ground to close tolerances, great care should be taken in their use, handling, and storage. Even the smallest nick, scratch, or loose chip can cause incorrect rotor or drum alignment, resulting in inaccurate reconditioning.

Remove all adapters from the arbor after reconditioning a drum or rotor and wipe them clean – especially the inboard adapter. When a finished drum or rotor is removed from the arbor, the inboard adapter may move slightly away from the face of the arbor and allow metal chips to fall into the opening, causing a poor mounting for the next drum or rotor.

Regularly inspect the faces and seating tapers of the adapters for nicks and scratches, correct any flaw with a fine stone. If the damage cannot be corrected, replace the adapter. Handle the adapters and arbors with care and store them on individual hooks. Do not throw them into a box. The adapters are designed for mounting drums and rotors only. Do not misuse the adapters.

Shear Gear Replacement

The shear gear is located in the drive housing under the dot plug cover. It is designed to “strip out” and prevent gearbox damage should a tool accidentally jam.

Remove the dot plug button. Remove the C-clip.

Remove the shear gear. Remove any stripped teeth from the drive housing. Install the new gear. The concave side of the C-clip faces the gear to maintain pressure.

Replace the dot plug button.

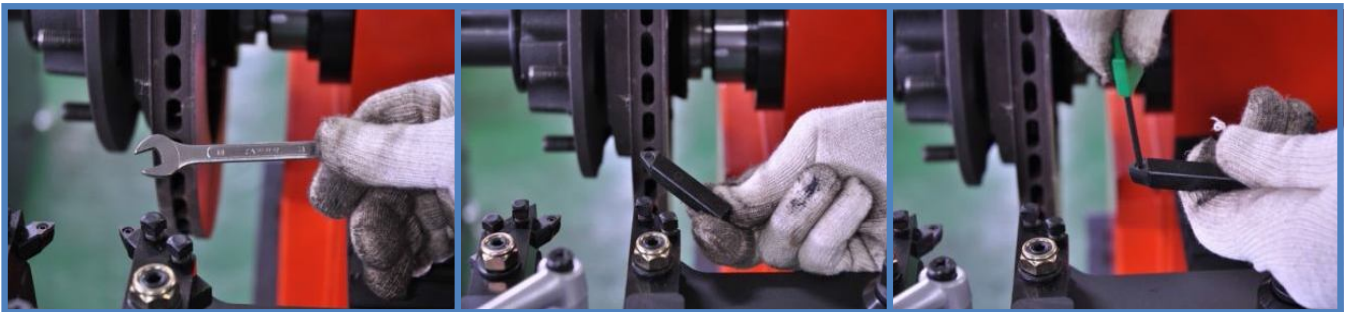


※Do not use compressed air to clean the lathe.

Chips and dust may be entered into between machined parts and bearings which will cause unexpected wear.

- Even though any specific maintenance is not required, it is good to have regularly clean of stand shaft and treat it with thin layer of oil.
- Process the rotor and clean it. Remove wire after cleaning.

Bite Tip Exchange



To replace bite tip, separate bite holder and remove foreign substances (metal powder, etc.) stuck in torx bolt area and clean it using needle, and replace bite tip unbolting. You may need to replace holder due to broken teeth of bolt if you remove bolts forcefully when foreign substances are stuck in the bolt area.

Fuse Check

Follow the below steps for main fuse check. Replace only with 250V, 10A fuse.



Electric Specification

- Power Input 220V
- Output Voltage Single Phase 220V/ 60Hz/ 8~10A
- The lathe must be properly grounded to protect worker from electric shock.
- Above electric specification can be changed according to Country.

WARRANTY CARD

MODEL NAME	DBL-STAR	WARRANTY PERIOD	SEPARATELY SPECIFIED	
CUSTOMER	NAME		PHONE	
	ADDRESS			
SUPPLIER	NAME	Auto Pro-up	PHONE	031-434-9009
	ADDRESS	#426, KOFOMO Techno Center 2 nd , Sihwa Industrial Complex 1289-5, Jeongwang-Dong, Siheung City, Kyunggi-Do, Korea		
Date of Purchase			Serial No.	

This warranty card is effective from the date of purchase, so please keep it with you after fill in.

◆ **Warranty Period** (It is effective from the date of purchase, and used or unused product will not be differentiated.)

Product Category	Bench Type Lathe Model (SMART, DBL-4000/4300/4500/5000/8000) Complex Type Lathe Model (DBL-3500)	On-Car Type Lathe Model (DBL-3000)
1 Year Warranty	Spindle, Spindle Bearing, Spindle Housing	N/A
1 Year Warranty	All Machine Parts (Except Motor Parts)	All Machine Parts (Except Motor Parts)

◆ We will repair following cases of defects at cost.

- A. Defects caused by customer's mishandling or misuse.
- B. When customer disassembled or modified the product.
- C. Defects caused by natural disaster such as flood, fire, earthquake etc.
- D. When the right electric power is not used.
- E. Damage of main AC motor due to overload.
- F. Defects caused by unauthorized personnel's repair.