LUSTER NLS-100

OPERATION MANUAL

OM-K0268E Rev.A

Thank you for purchasing LUSTER NLS-100. They are designed for lapping and honing after grinding metallic mold. Please read this operation manual carefully before use.

1 ⚠ Cautions on handling

① **Use a protective cover, glasses and/or facemask for your safety during rotation.**
② **Do not touch the bur-holder, tool, etc. while they are in the reciprocating motion.**
③ **Do not drop or hit LUSTER, because the shock could damage the internal components.**
④ **Check if the tool/file has been mounted firmly, before operation.**
⑤ **Do not force the tool/file to overload, or it may be damaged.**
⑥ **Do not so overload LUSTER that could function the protective circuit.**
⑦ **Be sure to keep LUSTER/motor away from water. It could cause an electric shock to the operator.**
⑧ **Do not lubricate LUSTER/motor and any bearings in the system, as grease-filled bearings are used.**

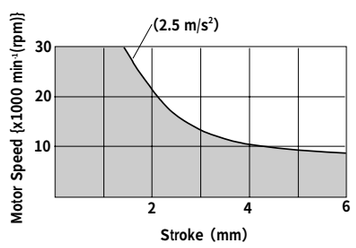
⚠ Caution on Vibration

General Warnings for All Vibrating Equipment

① **Repeated or long-term exposure to excessive vibration may cause temporary or permanent physical injury, particularly to the hands, arms and shoulders.**
② **It is strongly recommended that anyone using vibrating equipment, such as power hand tools, first be physically examined by a doctor and then have regular medical check-ups to make sure the user doesn't have any medical problems that are being caused or worsened by using vibrating equipment. People who have impaired blood circulation to the hand, past hand injuries, nervous system disorders and Raynaud's disease should not use vibrating equipment.**
③ **If you feel any medical or physical symptoms related to vibration (such as tingling, numbness and white or blue fingers), report the situation to your employer and seek medical advice as soon as possible.**
④ **Avoid smoking while using vibrating equipment, as nicotine reduces the blood supply to the hands and fingers.**
⑤ **Suitable gloves should be worn to reduce the vibration effects on the user.**
⑥ **Tools with the lowest vibration should be used when there is a choice between different processes.**
⑦ **Work schedules should be arranged to include vibration-free periods throughout each day.**

Additional Warnings for the Safe Use of LUSTER

① **LUSTER should only be used after reading and understanding the Operation Manual.**
② **Grip LUSTER as lightly as possible (while still keeping safe control of it). Let LUSTER do the work.**
③ **To ensure your safety, LUSTER should be maintained as explained in this Operation Manual.**
④ **Do not use LUSTER at vibration levels of 2.5 m/s² and higher. Select the combination of motor speed and stroke so that the vibration level stays in the shaded area as shown on the chart lower right.**
⑤ **Do not use LUSTER with vibration at 2.5 m/s² or higher each day for an extended period of time.**
⑥ **If any abnormal vibration occurs stop using LUSTER immediately and return to NAKANISHI for service.**



2 Features

① ON/OFF of reciprocation movement is easily done at the grip.
② Tools are easy to change.
③ Reciprocating speed and stroke can be easily and continuously controlled.
④ You can mount various files available on the market.
⑤ Mounted tool/file can be easily reoriented onto the work surface.

3 Specifications

Stroke	0~6 ㎜ (0~0.236")
Reciprocating frequency	0~127 cycles/second
Weight (With Power cord)	800 g (28.2 oz.)

4 Connecting Control Unit

LUSTER NLS-100 has a built-in motor. Insert the cord plug into the control unit as mentioned below.

- Align the cord plug with the jack of the control unit and push in. (Fig.1)

5 Adjusting Motor speed (Tool Reciprocating Cycle)

Adjust the motor speed at the control unit.
ON/OFF of the motor can be made either at the grip or at the control unit. (Fig.1)
(See the control unit operation manual for control by the switch on unit.)

- Motor stops when ON/OFF switch on the grip is depressed during operation.
- Push the switch on the grip again to re-start the motor.

6 Dimensions and Parts Description

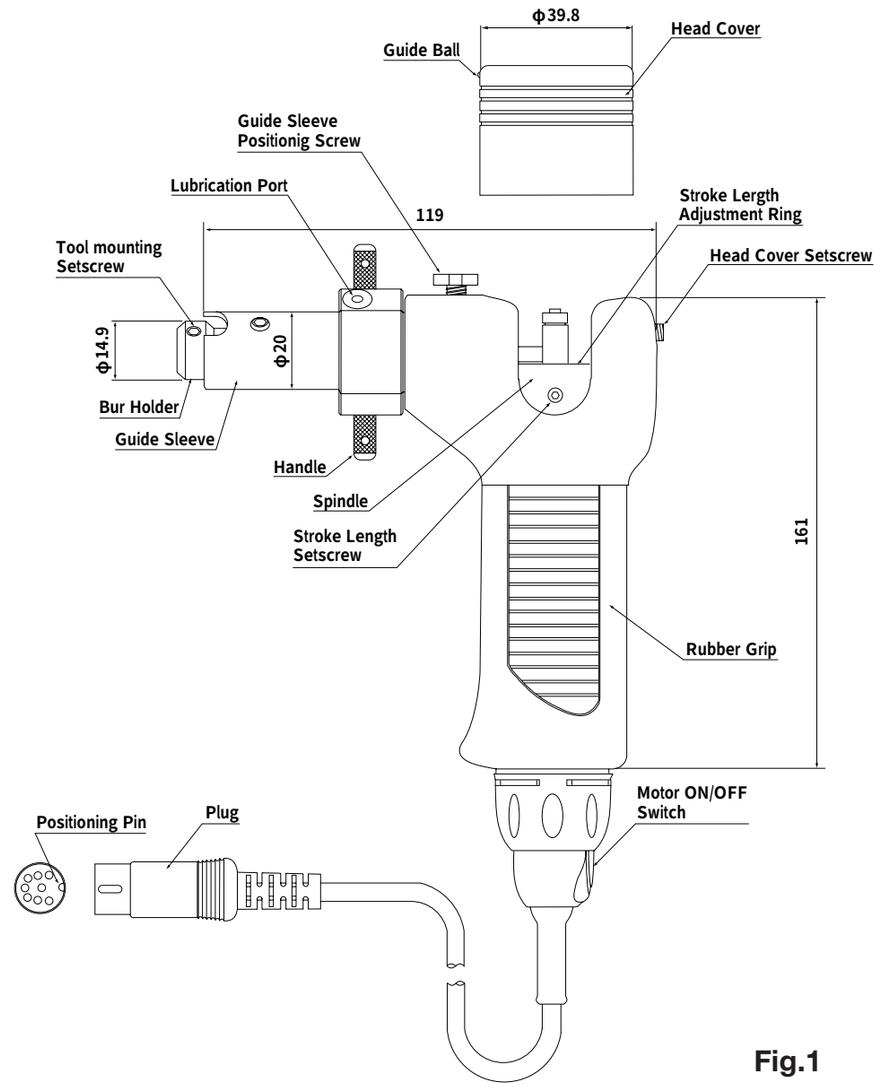


Fig.1

7 Changing the Tool or File

- Mounting
  ① Insert a tool (less than ϕ3.2 mm) into the bur holder and tighten the tool mounting setscrew with the supplied hex key (2 mm). (Fig.2)
  ② To mount a larger tool (ϕ3.2 mm through ϕ6.4 mm), loosen the setscrew, remove the bushing, insert the tool and tighten the setscrew. (To re-install the bushing, align the guide ball on the bushing with the slot in the bur holder.) (Fig.3)
- Removing
  Loosen the tool mounting setscrew with supplied hex key (2 mm), and remove. (Fig.2)

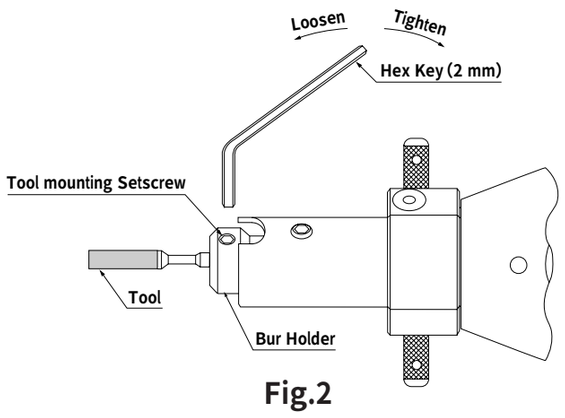


Fig.2

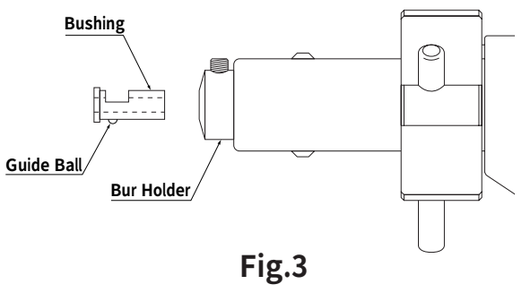


Fig.3

⚠ Caution on Vibration

Pull out plug from the unit before replacing tool, for your safety.
Check if tool/file has been tightened firmly, before operation.

8 Adjusting Stroke Length

① Loosen the head cover setscrew with the supplied hex key (2 mm) (Fig.1).
② Slide the head cover upward and remove. (Fig.1).
③ Loosen the stroke length setscrew with the hex key (2 mm). (See fig.4)
④ Turn the adjustment ring, while holding the spindle with your finger, and align the desired stroke length with the indicator line. The stroke length can be adjusted between 0〜6 mm. (0~0.236")(Fig.5)
⑤ Tighten the stroke length setscrew with the hex key (2 mm). (Fig.4)
⑥ Insert the head cover and push it down, aligning the guide groove on LUSTER and the guide ball on the head cover.
⑦ Fasten the head cover setscrew with the hex key (2 mm) (Fig.1).
⑧ Choose the motor speed in accordance with the stroke length as shown in chart below. Operate LUSTER avoiding abnormal vibration.

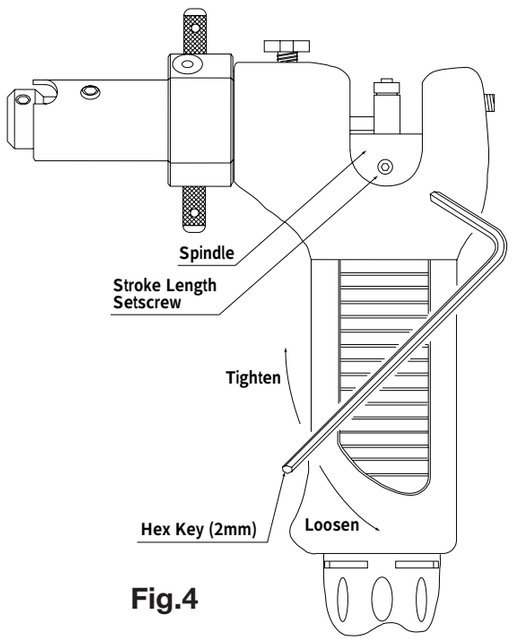


Fig.4

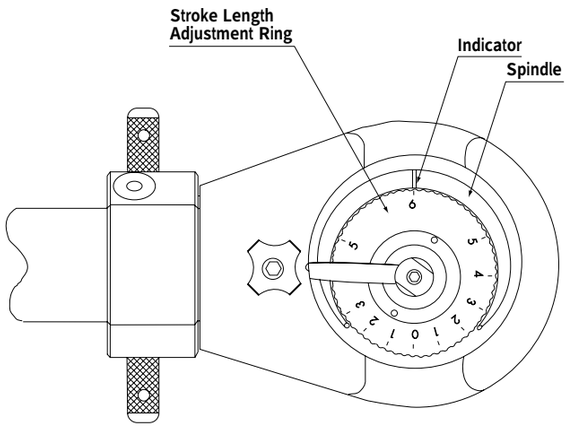
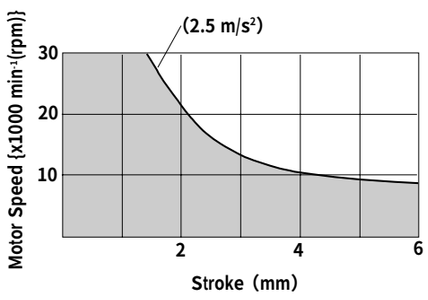


Fig.5



⚠ Caution

Do not exceed the motor speed of 30,000 min⁻¹(rpm) to prevent trouble or damage.
Pull out plug from the control unit when adjusting the stroke length, for safety reasons.

9 Orientation of Guide Sleeve/Tool

Mounted tool can be re-oriented.

- Loosen the guide sleeve positioning screw to make the guide sleeve smoothly rotate. (Fig.6)
  This can allow the tool to fit the work surface with ease.
- Fasten the guide sleeve positioning screw to fix tool. (Fig.6)
  This completes re-orientation of the tool.

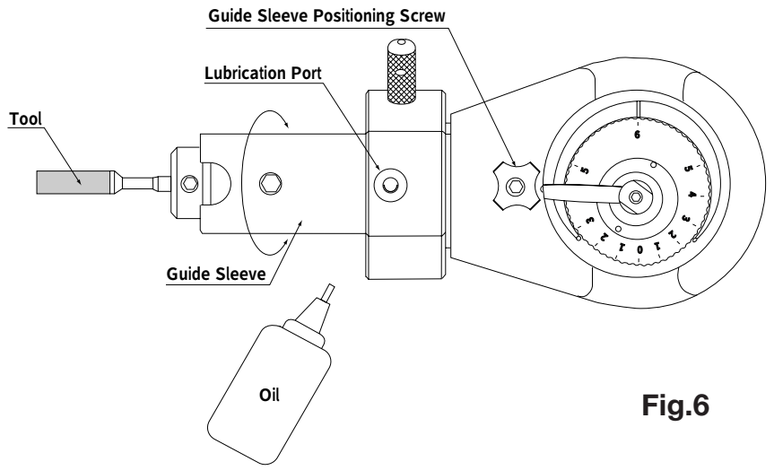


Fig.6

10 Lubrication

Lubricate LUSTER at least once a day from the lubrication port as shown. (Fig.6)
In case the supplied oil depletes and NAKANISHI oil cannot be found, use the turbine oil class 1 ISO VG32.

11 Applications

1. Finishing the complicated shapes and sizes. (Fig.7)
   (For press dies, Drawing dies, etc.)
   ① Machine by 0.05 mm.
   ② File finish the clearance by 0.02 mm max.
   ③ Heat treat.
   ④ Hone or lap the edges
   ⑤ Final polish by lapping or honing grindstone
   ⑥ Polish the surface of dies

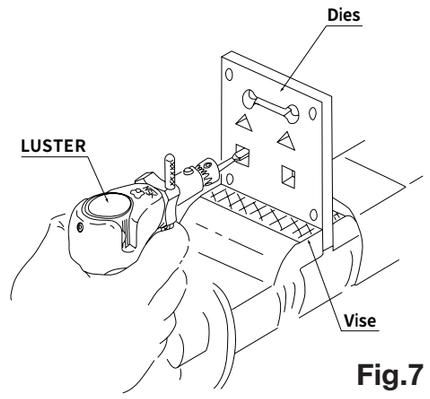


Fig.7

2. Finishing of grooves (Fig.8)
   With use of proper tools that are supplied with, finish the surface by filing, lapping, or honing, and final polish.

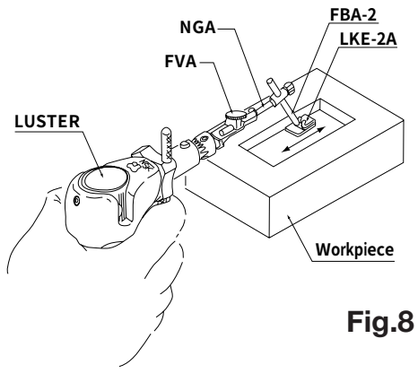
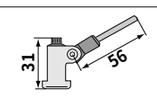
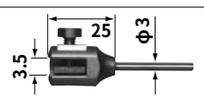
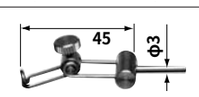
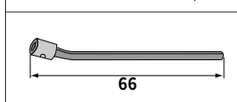
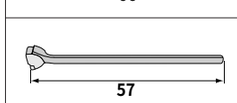
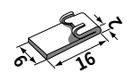


Fig.8

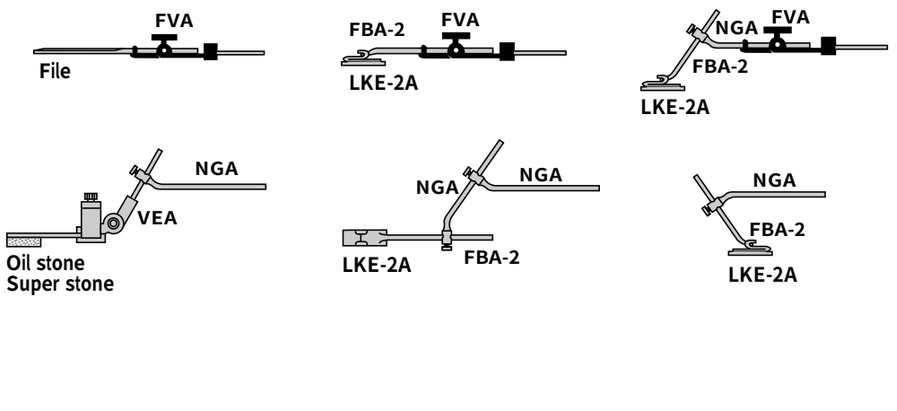
12 Standard Accessories

	VEA Oil stone or large file can be used. The angulation can be changed.
	VES
	FVA Spring in radial direction.
	NGA Holder Use with FBA-2, SEV.
	FBA-2 Holder Use with LIKE-2A.

	LKE-2A Use with holders. Use for lapping and horning as is. Use with the sandpaper provided or other polishing materials adhered on it.
	Lubrication Nozzle

- Sandpaper : K012~K100 (rectangle) (4 different grit sizes) 10 pcs. each kind.
  ※Rectangle sandpapers in variety of grits are available.
- Allen Wrench : 2 mm, 2.5 mm, 3 mm
- Oil

13 Typical use of Accessories



※Specifications may be changed without notice.

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