



Micro Air Grinder MS 3H

Operation Manual

■ Uses/Features

- Suitable for fine polishing of various molds and dies, for ordinary burring, chamfering, polishing and grinding, and for working with plastic, wood and stone.
- Microminiature and lightweight to less user fatigue during long-time operation.
- Able to grind lightly and smoothly at high rpm(57,000).
- Application with the attached rubber grip to less vibration during operation.

■ Specifications

Item No.	Chucking dia.	Full length	Main body external dia.	Max rotation	Air supply pressure	Air consumption quantity	Main body N.W.
MS 3H	φ 3mm	138mm	φ 16mm	57,000min ⁻¹ (rpm)	0.6Mpa	160Nℓ/min	100g

■ Assembly

1.Connection to the Air Hose

Insert the hose joint of the main body into the air hose fully as shown in the right. Screw the hose clip in until it comes to the E-shaped snap ring so that the air hose is secured.

2.Connection to the Exhaust Hose

After connection to the air hose, connect the throttle valve to the exhaust hose as shown in the right.

3.Installation of the Rubber Grip

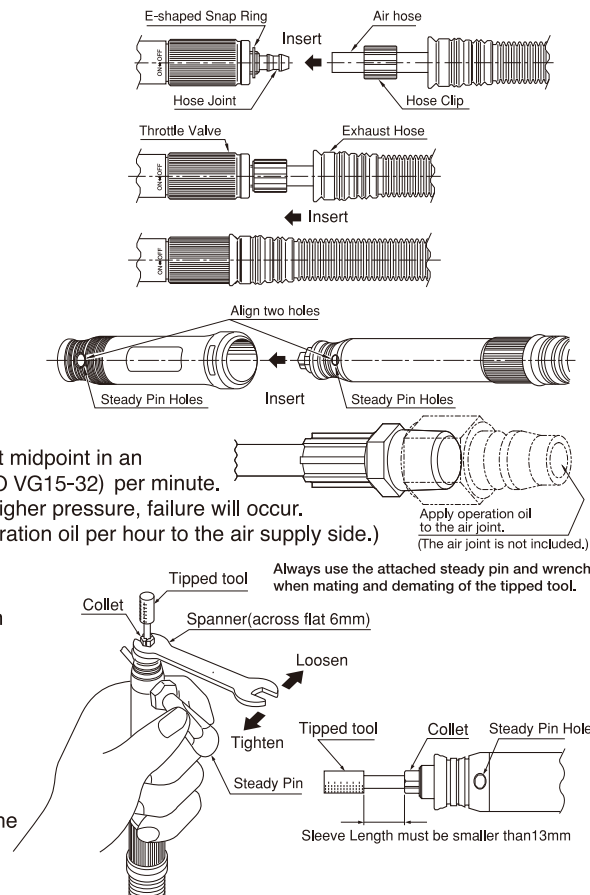
Before installing the rubber grip, apply oil on the inside surface of the rubber grip. Push the top of the main body into the rubber grip, aligning two steady pin holes on the main body and on the rubber grip.

■ Air Supply

Be sure to place a set of the air filter, the regulator, and the oiler at midpoint in an air supplying line. The oiler must apply a drop of operation oil (ISO VG15-32) per minute. Supply air with 0.4~0.65Mpa of pressure. If air is supplied with higher pressure, failure will occur. (When the oiler cannot be placed, apply two or three drops of operation oil per hour to the air supply side.)

■ Mating and Demating of the tipped tool

- 1.Insert the attached steady pin in the steady pin hole on the main body until it comes in contact with the deepest.
- 2.Hold the steady pin by hand as shown in the figure, and loosen the collet with the attached wrench (across flat 6mm) to remove a spent tipped tool.
- 3.Insert the tipped tool into the collet, so that the sleeve length between the tip part and the collet is smaller than 13mm to avoid out of center.
- 4.Hold the steady pin by hand as shown in the right, and tighten the collet with the attached wrench (across flat 6mm) securely.



■ Inspection before use

- Be sure to conduct inspection before use. Do not use the product if there is anything wrong with the main body itself or its accessories.
- Check the hose joint and air hose for any abnormality. Unintended disconnection of the air hose or air leakage may cause an accident.
- Check if the supply air pressure is within the range of 0.4-0.65 Mpa.
- Check that the tip tool to be used is suitable for the actual work and that it meets the product's specifications. Forced use may cause damage to the product or an accident.
- When the product is new, it may become warm, but this does not cause any problem in its use.

■ Operation Method

- 1.Wear protectors (such as protection goggles, ear plugs, a helmet, a mask, gloves, and safety shoes).
- 2.Install the tipped tool to the collet.
- 3.Connect the air hose to an air supplier.
- 4.Turn the throttle valve gradually ON to start the grinder and do the work after checking if the tipped tool is not out of center.
- 5.After operation, turn the throttle valve OFF to stop the grinder.
- 6.Disconnect the air hose after cutting off the air supplier.

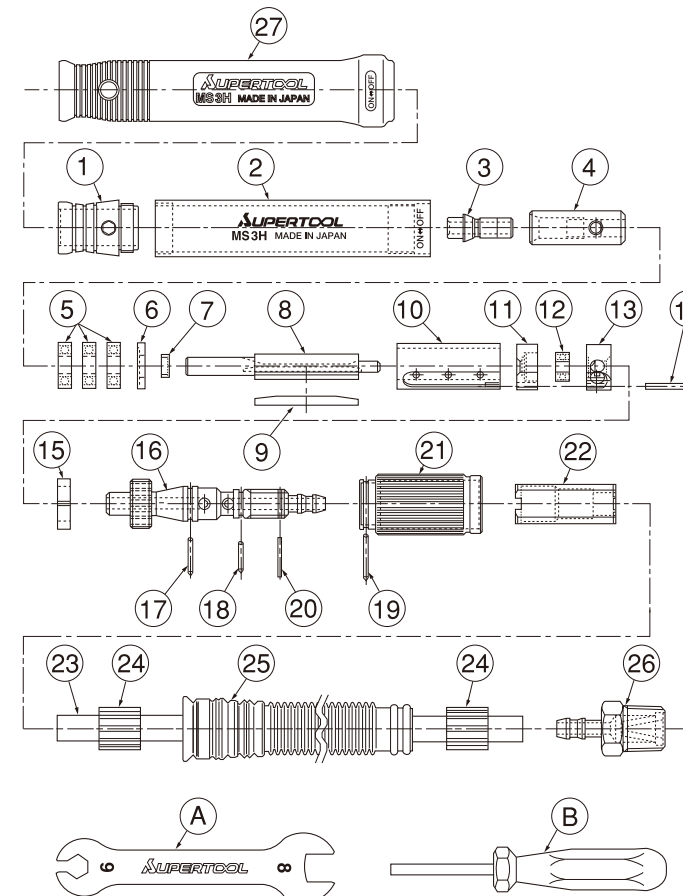
■ Storage

To store the grinder, avoid areas that are humid, wet, dusty or dirty.

⚠ Precautions for safety operation

- Always wear protectors (such as protection goggles, ear plugs, a helmet, a mask, gloves, and safety shoes) during operation.
- Never operate the product near ignitables.
- Always use the product with a correct air pressure.
- Choose a tipped tool suitable for the specifications of the machine by referring to our catalogue, etc. The sleeve length must be smaller than 13mm. (Lower the rotation speed using the sleeve length which is larger than 13mm)
- Do not use a tipped tool that is wrong in chucking diameter.
- Never use any broken tipped tool or out of center.
- Stop using any vibrated or broken tipped tool during operation.
- Always use the attached steady pin and wrench after cutting off air when mating and demating of the tipped tool.
- Never touch the rotating tipped tool.
- Never leave the rotating tipped tool.
- Do not direct exhaust air to people or flame as exhaust air is oily.
- When using the product in cold climates, be careful not to freeze the inside of the product.
- Do not drop or bump the product.
- Never modify the product.
- Stop an operation immediately and repair or replace by new one if anything is wrong with the product.

■ Replacement parts and assemblies



Number	Part Name	Quantity	Product Number
1	Front Cover	1	MSFK3H
2	Motor Housing	1	MSMH3H
3	Collet	1	MSK3H
4	Collet Body	1	MSR3H
5	Bearing	3	
6	Front Plate	1	
7	Collar	1	
8	Rotor	1	MSB3H
9	Blade	3	
10	Cylinder	1	MSS3H
11	Bearing Case	1	MSBK3H
12	Bearing	1	MSRB3H
13	Adapter	1	MSA3H
14	Spring Pin φ1.2×14	1	MSSP3H
15	Damper	1	MSM3H
16	Valve Body	1	MSBB3H
17	O-Ring φ8.5	1	MSO3H
18	O-Ring φ6.5	1	
19	O-Ring φ11.5	1	
20	E-shaped Snap Ring	1	MSE3H
21	Throttle Valve Cover	1	MSSB3H
22	Throttle Valve	1	
23	Air Hose	1	MSH3H
24	Hose Clip	2	
25	Exhaust Hose	1	
26	Hose Nipple (R1/4 Filter attached)	1	
27	Rubber Grip	1	MSG3H
A	Wrench	1	MSKS3H
B	Steady Pin	1	MSP3H

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※The specifications and shapes will be changed without prior notice.



Micro Air Grinder MS 6H

Instruction Manual

Application/Feature

- Suitable for fine polishing of various molds and dies, for ordinary burring, chamfering, polishing and grinding, and for working with plastic, wood and stone.
- Microminiature and lightweight to less user fatigue during long-time operation.
- Able to grind lightly and smoothly at high rpm(30,000).

Specification

Product Number	Chucking Width	Entire Length	Outside Diameter of Main Body	Max rpm	Air Supplying Pressure	Expenditures of Air	Weight of Main Body
MS 6H	φ 6mm	160mm	φ 24mm	30,000min ⁻¹ (rpm)	0.6Mpa	200Nℓ/min	260g

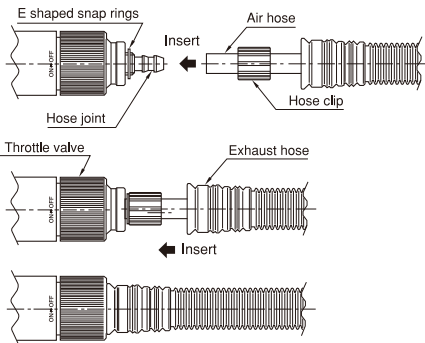
Assembly

1.Connection to the Air Hose

Insert the hose joint of the main body into the air hose fully as shown in the right. Screw the hose clip in until it comes to the E-shaped snap ring so that the air hose is secured.

2.Connection to the Exhaust Hose

After connection to the air hose, connect the throttle valve to the exhaust hose as shown in the right.

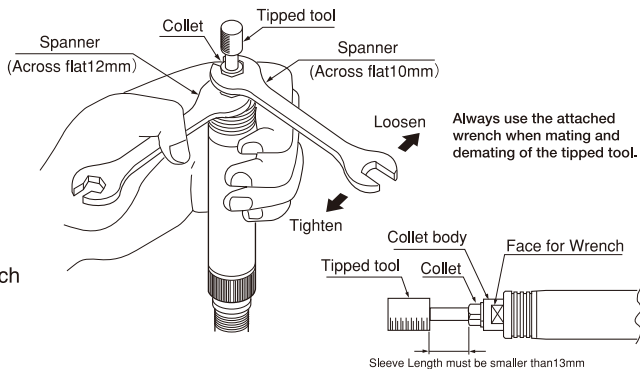


Air Supply

Be sure to place a set of the air filter, the regulator, and the oiler at midpoint in an air supplying line. The oiler must apply a drop of operation oil (VG 10) per minute. Supply air with 0.4~0.65Mpa of pressure. If air is supplied with higher pressure, failure will occur. (When the oiler cannot be placed, apply two or three drops of operation oil per hour to the air supply side.)

Mating and Demating of the tipped tool

- 1.Apply the attached wrench (across flat 12mm) to the face for wrench to hold the collet body.
- 2.Loosen the collet with the other attached wrench (across flat 10mm) to remove a spent tipped tool.
- 3.Insert the tipped tool into the collet, so that the sleeve length between the tip part and the collet is smaller than 13mm to avoid out of center.
- 4.Hold the collet body with the attached wrench(across flat 12mm) and tighten the collet with the other attached wrench (across flat 10mm) securely.



Pre-operational Check

- Always make checks before any operation. Do not use the product and the attachments if anything is wrong with them.
- Be sure that the there is not wrong with the air jointer and the air hose. If the air hose comes off or air leaks unexpectedly, which could result in injury.
- Be sure that the air supplying pressure is within **0.4~0.65Mpa**.
- Be sure that a tipped tool to be used is suitable for your work and the product specification. Incorrect operations will lead to failures or accidents.
- Even if new product gets warm, there is no problem in use.

Operation

- 1.Wear protectors (such as protection goggles, ear plugs, a helmet, a mask, gloves, and safety shoes).
- 2.Install the tipped tool to the collet.
- 3.Connect the air hose to an air supplier.
- 4.Turn the throttle valve gradually ON to start the grinder and do the work after checking if the tipped tool is not out of center.
- 5.After operation, turn the throttle valve OFF to stop the grinder.
- 6.Disconnect the air hose after cutting off the air supplier.

Storage

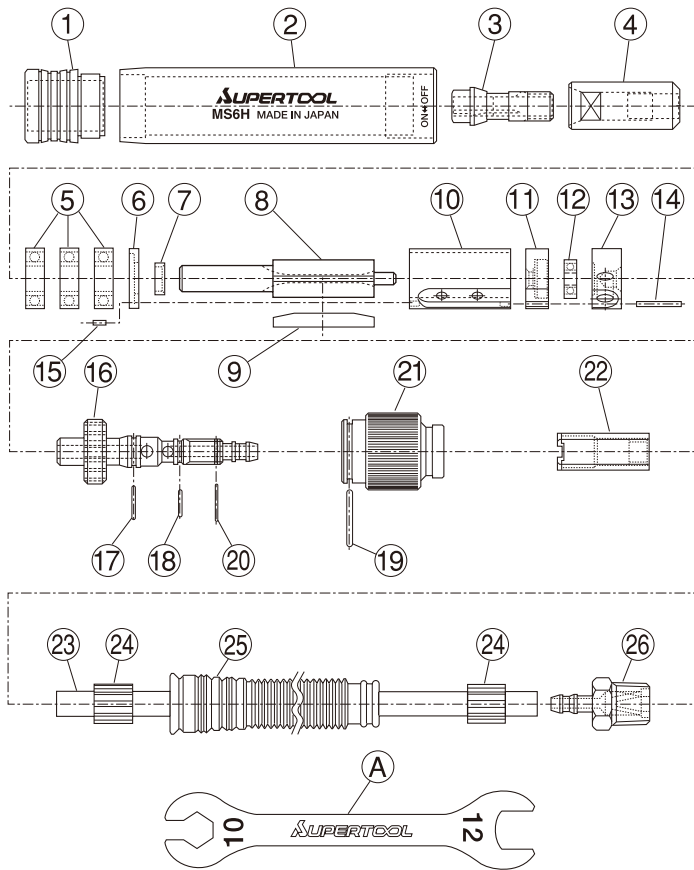
To store the grinder, avoid areas that are humid, wet, dusty or dirty.



Safety Instructions

- Always wear protectors (such as protection goggles, ear plugs, a helmet, a mask, gloves, and safety shoes) during operation.
- Never operate the product near ignitables.
- Always use the product with a correct air pressure.
- Choose suitable tipped tools for the product specification from our catalogs.
The sleeve length must be smaller than 13mm. (Lower the rotation speed using the sleeve length which is larger than 13mm)
- Do not use a tipped tool that is wrong in chucking diameter.
- Never use any broken tipped tool or out of center.
- Stop using any vibrated or broken tipped tool during operation.
- Always use the attached wrench after cutting off air when mating and demating of the tipped tool.
- Never touch the rotating tipped tool.
- Never leave the rotating tipped tool.
- Do not direct exhaust air to people or flame as exhaust air is oily.
- When using the product in cold climates, be careful to avoid an inside freezing of the product.
- Avoid physical shock such as drops and bumps.
- Never modify the product, which will lead to malfunctions and accidents.
- Stop an operation immediately and repair or replace by new one if anything is wrong with the product.

Schematic



Number	Part Name	Quantity	Product Number
1	Front Cover	1	MSFK6H
2	Motor Housing	1	MSMH6H
3	Collet	1	MSK6H
4	Collet Body	1	MSR6H
5	Bearing	3	
6	Front Plate	1	
7	Collar	1	
8	Rotor	1	MSB6H
9	Blade	4	
10	Cylinder	1	MSS6H
11	Bearing Case	1	MSBK6H
12	Bearing	1	MSRB6H
13	Adapter	1	MSA6H
14	Spring Pin φ1.5×14	1	MSSP6H
15	Spring Pin φ1.5×5	1	
16	Valve Body	1	MSBB6H
17	O-Ring φ8.5	1	MSO6H
18	O-Ring φ6.5	1	
19	O-Ring φ17.5	1	
20	E-shaped Snap Ring	1	MSE3H
21	Throttle Valve Cover	1	MSSB6H
22	Throttle Valve	1	
23	Air Hose	1	MSH3H
24	Hose Clip	2	
25	Exhaust Hose	1	
26	Hose Nipple (R1/4 Filter attached)	1	
A	Wrench (2 pcs. per set attached)	1	MSKS6H

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