

INSTRUCTION MANUAL

Professional tool Pneumatic Scaler

SUPER HELEN

Model: S-250, S-500, S-1000



[Specifications]

Model	S-250	S-500	S-1000
Maximum Operating Pressure MPa	0.6		
Air Consumption (No Load) m ³ /min	0.27		
Stroke speed (No Load) min ⁻¹	2500		
Chisel Shank Dia.	12.7 mm Dia. (1/2")		
Sound Pressure Level dB (A)	101	100	99
Sound Power Level dB (A)	112	111	110
Vibration Level m/s ²	≥ 30	29	≥ 30
Mass (Weight) kg	4.1	4.7	6.1
Thread Size of Air Inlet	Rc 1/4		

*1 Based on the ISO15744 measurement standard.

*2 Based on the 3 axes combined value measurement standard of the ISO28927-9 of the hand-held tool frequency correction vibration acceleration effective value.

- Please read manual carefully before you attempt to use your tool so that you may use it properly and safely.
- Keep the manual handy - so you can use it whenever necessary.

• Due to continuous product development/improvement, the specifications and configurations in this document are subject to change without prior notice.

Manufactured by.

NITTO KOHKI CO., LTD.

9-4, Nakaikegami 2-chome, Ohta-ku, Tokyo, 146-8555, Japan
Tel : +81-3-3755-1111 Fax : +81-3-3753-8791

Instructions

Thank you very much for your purchase of this NITTO KOHKI product.
Before using your tool, please read this manual carefully so that you may use it properly to get the most out of it.
Please keep the manual handy - so you can use it whenever necessary.

- English : Please ask your dealer or distributor for instruction manual in local language(s).
- German : Bitte fragen Sie Ihren Händler nach eine Betriebsanleitung in Landessprache.
- French : S'il vous plaît, veuillez demandez à votre fournisseur de manuel instruction en langue locale.
- Spanish : Por favor, cantacte con su distribuidor para el manual de instrucciones en español.
- Portuguese : Por favor pessa ao seu agente ou distribuidor o manual de instrucces ih linguagen local.
- Italian : Per Manuale Istruzioni in lingua locale Vi preghiamo di rivolgervi al rivenditore o distributore.
- Dutch : Vraag uw handelaar om een nederladstalige gebruiksaanwijzing.
- Swedish : Be er lokala Åtreförsäljare eller distributör om manualer på svenska.
- Danish : Venligst henvend Dem til den danske distributør for instructions manualer.
- Polish : Prosze pyta swojego dealera lub dystrybutora o instrukcje obsługi w jezyku localnym.
- 中文 : 請向當地供應商或經銷商詢問中文使用說明書

The following Safety notations are used throughout the manual to highlight safety precautions for the user and for the tool.

⚠ WARNING:	Indicates a potentially hazardous situation which, if not avoided by following the instructions given, could result in death or serious injury.
⚠ CAUTION:	Indicates a potentially hazardous situation which, if not avoided by following the instructions given, could result in injury or material damage.

* Please note, however, that failure to observe safety precautions under the “⚠ CAUTION” category could result in a serious occurrence depending on the situation.

Please observe all safety precautions in the manual.

CAUTION: Important precautions for tool setup, operation and maintenance.

About pictograms

⚠ WARNING: It might be dangerous to operate the tool if the instructions supplied are not followed.

-  Using this tool improperly could result in serious injury. Read the instruction manual before using.
-  Always wear suitable eye protection.
-  Always wear suitable hearing protection.
-  Always wear respiratory protective equipment (PPE).
-  Always wear protective gloves for protection of hands from vibration and shock.



Contents

Precautions on Use	6	Maintenance and Inspection	13
(Make sure to follow the instructions given)	2	Storing the tool.....	13
General Power Tool Safety Warnings	2	Disposal	13
General Pneumatic Tool Safety Warnings	5		
Safety Warnings for PNEUMATIC SCALER	5		
Product Specific Safety Rules.....	8		
1 Application	10		
2 Checking Inside the Package	10		
3 Part Names	10		
4 Air Supply.....	11		
5 Preparation	12		
Fixing the Attachment	12		
Replacing Chisel.....	12		
Start and Stop	13		

California Proposition 65

⚠ WARNING

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known [to the State of California] to cause cancer birth defects or other reproductive harm.

Some examples of these chemicals are:

- Lead from lead-based paints,
- Crystalline silica from bricks and cement and other masonry products, and
- Arsenic and chromium from chemically-treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

Precautions on Use (Make sure to follow the instructions given)

Before using your tool, to avoid personal injury always take the basic precautions explained in later sections.

General Power Tool Safety Warnings

Personal safety

⚠ WARNING

- **Dress properly.**

Do not wear loose clothing or jewelry. There is a danger of being caught in moving parts. Wear a pair of non-slip shoes. If your hair is long, wear a protective hair covering to contain your hair.

- **Always wear eye protection.**

Corrective glasses are not considered eye protection. Always wear appropriate eye protection.

- **Wear a dust mask.**

When dust is generated in the workplace, wear a dust mask.

- **Use a dust collector or dust collection equipment correctly.**

If a dust collector or dust collection equipment are being used, check that these are connected and used properly. Use of a dust collector can reduce risk caused by dust.

- **When loud noise is generated in the workplace, wear a hearing protection.**

- **Do not overreach.**

Keep proper footing and balance at all times.

- **Be on your guard when working.**

Do not use the tool when you are tired.

When you use the tool, be sure about the handling method, how to work, and pay sufficient attention to the surrounding environment.

- **Never touch the tip of moving parts when the tool is running.**

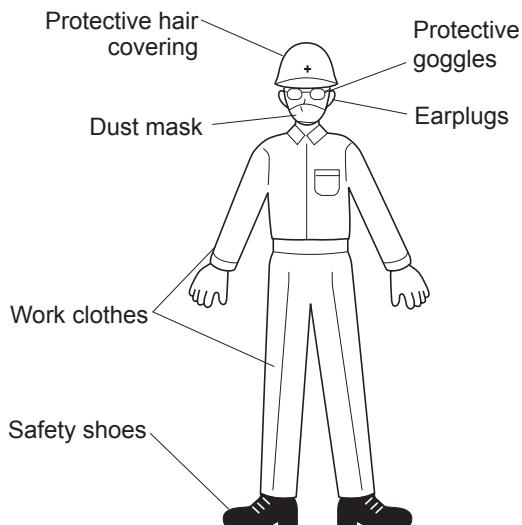
Also, do not direct the tip of moving parts toward people or animals.

- **Be aware of tool vibration and recoil. Some tools can cause a considerable amount of vibration.**

Depending on how the product is operated, the type of tool setting, and the length of operation, it could place a tremendous burden on your hands, arms and body.

The tool could cause a vibration injury or tendonitis. Avoid long-term use and take appropriate breaks.

Consult a doctor if you experience any discomfort or pain while operating the tool.



Work area safety

⚠ WARNING

- **Do not use the tool at home.**

This is a professional tool (industrial or work tool for business). Do not bring the tool home and use it there.

- **Keep the work area clean.**

Working in a messy work area or work table could cause an accident.

- **Be cautious about the work area.**

Do not expose the tool to rain.

Do not use the tool in a damp or wet place.

Keep the work area well lit.

- **Do not operate the tool in an explosive atmosphere, such as in the presence of flammable liquids (thinner, lacquer, gasoline, etc.) or gas.**

- **Do not let children come close to the work area.**

Keep children and bystanders away while operating tool.

- **Some tools generate loud noise.**

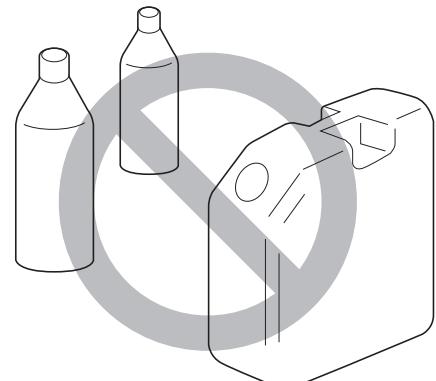
Check that the noise regulations of each area are complied with.

- **When work has to be done in high locations, make sure there is nobody underneath the work area.**

If the tool or material is dropped, it could cause an accident or injury.

- **Before starting operation, make sure that there is no conduit, water pipe or gas pipe by your work area.**

If a tool touches a buried object, it could cause electrical shock or leakage, which could cause an accident.



Before starting to work

⚠ WARNING

- **Perform inspection before using the tool.**

Before using the tool, check for loose screws on the tool and for damage on the protective cover or other parts, and make sure that the tool operates normally and demonstrates prescribed functions.

Check the position adjustment and tightening status of moving parts, parts damage, attachment status, and all other locations for issues that could affect operation.

For parts replacement and repair, follow the instructions indicated in the instruction manual.

If there are no instructions in the instruction manual, contact the retailer where you purchased the tool or the nearest NITTO service member store.

Do not use the power tool if the switch does not turn it ON and OFF.

- **Make sure to properly attach the tip tool.**

If the tip tool is not attached properly, there is a risk of jumping out or damage, which could result in injury.

- **After adjustment, be sure to remove tools such as spanners, wrenches, etc.**

- **Use appropriate tools.**

Do not force small tools to do the job of a heavy duty tool. Do not use tools for purposes not intended.

- **Do not use tools in an unreasonable manner.**

When the specifications are followed, tools can be used efficiently and safely.

- **Secure workpieces.**

Where possible use clamps or a vise to hold the work. It is safe to hold the workpieces by hand and both hands can be used for operation.

Handling tools

⚠ WARNING

- **Storing the tool**

When the tool is not used, store the tool in a dry location. Also, store the tool out of the reach of children. For some tools, the storage temperature and humidity are specified. Store the tool in an appropriate location.

- **Be cautious about how the tool is carried.**

Do not carry the tool with your hand touching the operation switch.

- **Do not leave the tool while the tool is still running.**

Do not leave the work area until you turn off the operating switch, remove the power source and the tool completely stops.

- **Do not allow the following chemicals to come into contact with the tool, as parts could deteriorate.**

Acetone, benzine, thinner, ketone, ether, trichlorethylene and other similar chemicals

Maintenance and Inspection

⚠ WARNING

- **Do not disassemble or alter the tool.**

Using the tool after disassembling or remodeling it could cause an accident or injury.

- **Inspect tip tools and accessories.**

Always inspect tip tools and accessories for damage or deterioration before attaching them to the tool.

If damage or deterioration is found, request repair from the retailer where you purchased the tool or the nearest NITTO service member store.

- **Inspect for damaged sections.**

Sufficiently check for damage on accessories or other parts, that the tool operates normally, and that work can be performed appropriately.

If there are accessories or parts that have been damaged or could hinder work, request repair from the retailer where you purchased the tool or the nearest NITTO service member store.

- **Request repair from a dedicated store.**

For repair or replacement of parts, request service from the retailer where you purchased the tool or the nearest NITTO service member store.

Repair requires special knowledge and skills. If repair is performed at a place other than a specialty store, the tool may not demonstrate its full performance or it could lead to an accident or injury.

Request repair with the failed status kept intact. When requesting a repair, do not throw away damaged parts. It could be important information for investigating the failure cause so do not change the status.

- **Use genuine parts.**

If inappropriate parts are used, it could cause accident or injury.

Genuine parts are listed in the instruction manual or brochure. Inquire at the retailer where you purchased the tool or the nearest NITTO service member store.

- **Do not remove the labels or plates on the tools.**

If labels or plates are broken or peeling, for a replacement label or plate contact the retailer where you purchased the tool or the nearest NITTO service member store.

General Pneumatic Tool Safety Warnings

⚠ WARNING

- **Use the tool with proper air pressure.**
If the air pressure is high, the rotation speed and reciprocation frequency become faster, causing damage such as damage or accelerated wear. Also, unexpected accidents could occur.
- **Connect the tool to air piping.**
In some factories, other than air piping, there may be other piping such as oxygen, nitrogen, gas, etc. Before connecting to piping, make sure it is the correct piping.
- **Do not start the tool carelessly.**
Turn off the operation switch, then attach the Connecting Hose to the tool.
- **When attaching, removing, and maintaining accessories, make sure to detach the Connecting Hose from the tool.**
- **Be cautious about exhaust.**
Pneumatic tool exhaust contains oil and drainage, etc. Be careful about the exhaust direction so that the exhaust does not directly hit people nearby.
- **Do not allow sources of electricity to touch the tool.**
The pneumatic tool is not insulated against contact by electric sources. Because there is a risk of electric shock, do not allow sources of electricity to touch the tool.

⚠ CAUTION

- **Handle the tool with care.**
Rough handling could cause accidents or malfunctions. Do not exert an impact on the tool by throwing or dropping it.
- **Handle the Connecting Hose with care.**
Do not carry the tool by holding the Connecting Hose, and do not pull the Connecting Hose to remove it.

Safety Warnings for PNEUMATIC SCALER

The following warnings are those required to be displayed as instructed by ISO11148-4

General Safety Rules

⚠ WARNING

- For multiple hazards, read and understand the safety instructions before installing, operating, repairing, maintaining, changing accessories on, or working near this tool. Failure to do so can result in serious bodily injury.
- Only qualified and trained operators should install, adjust or use this tool.
- Do not modify this non-rotary percussive power tool. Modifications can reduce the effectiveness of safety measures and increase the risks to the operator.
- Do not discard the safety instructions; give them to the operator.
- Do not use this tool if it has been damaged.
- This tool shall be inspected periodically to verify the ratings and markings. When a label/nameplate is damaged, worn or missing, contact the sales agent through which you have purchased your tool or NITTO KOHKI CO., LTD. directly for a replacement.

Projectile Hazards

⚠ WARNING

- Disconnect this tool from the energy source when changing inserted tool or accessories.
- Be aware that failure of the workpiece, or accessories, or even of the inserted tool itself can generate high velocity projectiles.
- Always wear impact-resistant eye protection during the operation of this tool. The grade of protection required should be assessed for each use.
- For overhead work, wear a safety helmet.
- The risks to others should also be assessed at this time.
- Ensure that the workpiece is securely fixed.
- Never operate a tool unless the inserted tool is retained in the tool with a proper retainer.
- To avoid injury, retainer parts shall be replaced when they become worn, cracked or distorted.
- Hold the inserted tool firmly against the work surface before starting the tool.

Operating Hazards

⚠ WARNING

- Use of the tool can expose the operator's hands to hazards, including impacts, cuts and abrasions and heat. Wear suitable gloves to protect the hands.
- Operators and maintenance personnel shall be physically able to handle the bulk, weight and power of the tool.
- Hold the tool correctly; be ready to counteract normal or sudden movements and have both hands available.
- Maintain a balanced body position and secure footing.
- Release the start-and-stop device in the case of an interruption of the energy supply.
- Use only lubricants recommended by the manufacturer.
- Avoid direct contact with the inserted tool during and after use as it can become hot.
- Personal protective safety glasses shall be used; suitable gloves and protective clothing are recommended.

Repetitive Motion Hazards

⚠ WARNING

- When using a non-rotary percussive power tool to perform work-related activities, the operator can experience discomfort in the hands, arms, shoulders, neck or other parts of the body.
- While using a non-rotary percussive power tool, the operator should adopt a comfortable posture while maintaining a secure footing and avoiding awkward off-balanced postures. The operator should change posture during extended tasks, which can help avoid discomfort and fatigue.
- If the operator experiences symptoms, such as persistent or recurring discomfort, pain, throbbing, aching, tingling, numbness, burning sensations or stiffness, these warning signs should not be ignored. The operator should tell the employer and consult a qualified health professional.

Accessory Hazards

⚠ WARNING

- Disconnect this tool from the energy supply before changing the inserted tool or accessory.
- Use only sizes and types of accessories and consumables that are recommended by this tool manufacturer; do not use other types or sizes of accessories and consumables.
- Avoid direct contact with the inserted tool during and after use, as it can be hot or sharp.

Workplace Hazards

⚠ WARNING

- Slips, trips and falls are major causes of workplace injury. Be aware of slippery surfaces caused by use of the tool and also of trip hazards caused by the air line or hydraulic hose.
- Proceed with care in unfamiliar surroundings. Hidden hazards, such as electricity or other utility lines, can exist.
- This tool is not intended for use in potentially explosive atmospheres and is not insulated against coming into contact with electric power.
- Make sure there are no electrical cables, gas pipes, etc., that can cause a hazard if damaged by use of the tool.

Dust and Fume Hazards

⚠ WARNING

- Dust and fumes generated when using non-rotary percussive power tools can cause ill health (for example cancer, birth defects, asthma and/or dermatitis); risk assessment and implementation of appropriate controls for these hazards are essential.
- Risk assessment should include dust created by the use of the tool and the potential for disturbing existing dust.
- Operate and maintain this tool as recommended in the instructions handbook, to minimize dust or fume emissions.
- Direct the exhaust so as to minimize the disturbance of dust in a dust-filled environment.
- Where dust or fumes are created, the priority shall be to control them at the point of emission.
- All integral features or accessories for the collection, extraction or suppression of airborne dust or fumes should be correctly used and maintained in accordance with the manufacturer's instructions.
- Select, maintain and replace the consumable/inserted tool as recommended in the instructions, to prevent an unnecessary increase in dust or fumes.
- Use respiratory protection in accordance with employer's instructions and as required by occupational health and safety regulations.

Noise Hazards

⚠ WARNING

- Exposure to high noise levels can cause permanent, disabling hearing loss and other problems, such as tinnitus (ringing, buzzing, whistling or humming in the ears). Therefore, a risk assessment and implementation of appropriate controls for these hazards are essential.
- Appropriate controls to reduce the risk may include actions, such as damping materials to prevent workpieces from "ringing".
- Use hearing protection in accordance with employer's instructions and as required by occupational health and safety regulations.
- Operate and maintain this tool as recommended in the instructions handbook, to prevent an unnecessary increase in noise levels.
- Select, maintain and replace the consumable/inserted tool as recommended in the instructions handbook, to prevent an unnecessary increase in noise.
- If this tool has a silencer, always ensure it is in place and in good working order when this tool is operating.
- The noise-emission value in this manual is measured in accordance with ISO standards. Since the real value may change depending on the work condition, please use this tool with measurements in the actual condition. Please don't operate beyond the time set by the region where the tool is used.

Vibration Hazards

⚠ WARNING

- Exposure to vibration can cause disabling damage to the nerves and blood supply of the hands and arms.
- Wear warm clothing when working in cold conditions and keep your hands warm and dry.
- If you experience numbness, tingling, pain or whitening of the skin in your fingers or hands, stop using this tool, tell your employer and consult a physician.
- Operate and maintain this tool as recommended in the instructions handbook, to prevent an unnecessary increase in vibration.
- Do not hold the inserted tool with the free hand, as this increases vibration exposure.
- Hold the tool with a light but safe grip, taking account of the required hand reaction forces, because the risk from vibration is generally greater when the grip force is higher.
- Keep suspended handles in the central position and avoid pushing the handles into the end stops.
- The vibration-emission value in this manual is measured in accordance with ISO standards. Since the real value may change depending on the work condition, please use this tool with measurements in the actual condition. Please don't operate beyond the time set by the region where the tool is used.

Additional Safety Instructions

⚠ WARNING

- Air under pressure can cause severe injury:
 - always shut off air supply, drain hose of air pressure and disconnect tool from air supply when not in use, before changing accessories or when making repairs;
 - never direct air at yourself or anyone else.
- Whipping hoses can cause severe injury. Always check for damaged or loose hoses and fittings.
- Cold air shall be directed away from hands.
- Do not use quick-disconnect couplings at tool inlet. Use hardened steel (or material with comparable shock resistance) threaded hose fittings.
- Whenever universal twist couplings (claw couplings) are used, lock pins shall be installed and whip check safety cables shall be used to safeguard against possible hose-to-tool and hose-to-hose connection failure.
- Do not exceed the maximum air pressure stated on the tool.
- Never carry an air tool by the hose.
- When a tool is taken permanently out of service, it is advised that the tool be disassembled and degreased, and parts be separated by material and recycled locally in the appropriate manner.

Product Specific Safety Rules

⚠ WARNING

- Wear eye protection and a dust mask.

Operation generates chips and dust particles, etc. Since it could cause a blindness and respiratory disorders, always wear eye protection and a dust mask.
- In order to protect your hands from vibration and chips, wear gloves or anti-vibration gloves, etc.

⚠ CAUTION

- When loud noise is generated in the workplace, wear a hearing protection.
- Consult a doctor if you experience any discomfort or pain while operating the tool.
- When replacing or adjusting the Chisel or parts make sure to detach the Connecting Hose from the tool.
- Never touch the tip of moving parts when the tool is running.
- Make sure to properly attach the Chisel Lock Band.

If the Chisel Lock Band is not attached properly, the Chisel may jump out during work. Make sure to properly attach it.

⚠ CAUTION

- The compressor used should have 3 higher horse powers for each unit of Super Kelen.
- Stop operation when the Chisel is not function properly when the temperature of the tool becomes hot.
- If the power is reduced by operation, reduce air pressure by air regulator or tighten the valve of compressor.

1 Application

This tool is a pneumatic hand-held tool used to removes rust, scale, paint, tar and concrete from most surfaces.

2 Checking Inside the Package

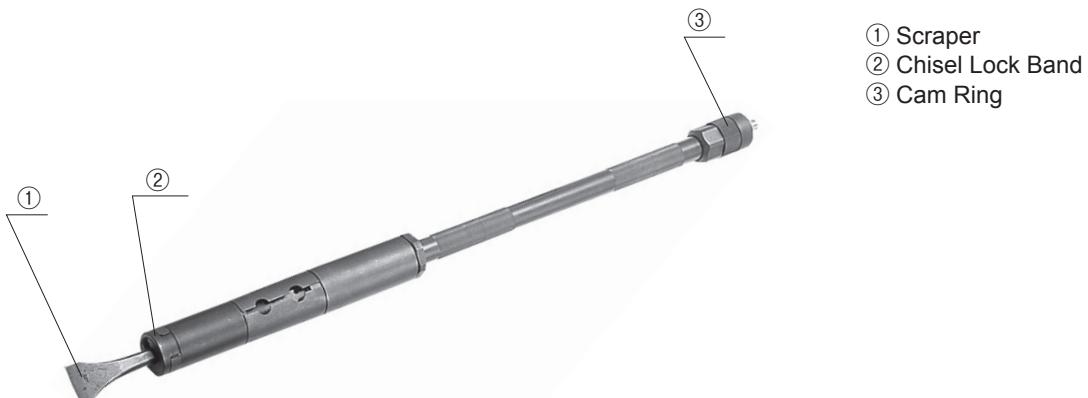
When you open the package box, check the contents of the package and also check for any damage that may have occurred during transportation.

If an abnormality is found, request service from the retailer where you purchased the tool or the nearest NITTO service member store.

	Package content and accessories	Quantity	Check
①	S-250, S-500, S-1000 (Main unit)	1	
②	Hose Lock Nut M16	1	
③	Hose Bushing 3/8	1	



3 Part Names



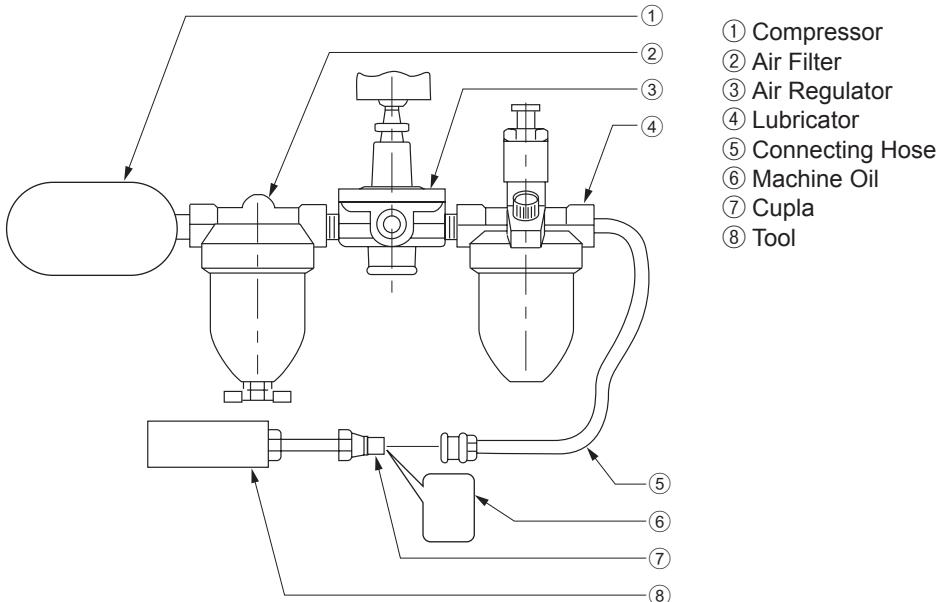
- ① Scraper
- ② Chisel Lock Band
- ③ Cam Ring

4 Air Supply

⚠ CAUTION

- Remove drainage before stating work.

When drainage enters the tool, the vicinity of the exhaust port freezes, which could cause a loss of power.



Air pressure used

Use the tool with air pressure at 0.6 MPa. If the pressure is too low, the tool cannot demonstrate the required performance. If it is too high, it could damage parts of the tool. Use an Air Regulator (③) to adjust the pressure to the appropriate level.

Air line

Use a Connecting Hose (⑤) with an internal diameter of 9.5 mm (3/8") between the Compressor (①) and the tool (⑧). Compressed air exits the Compressor and cools and moisture condenses. Some moisture could condense inside the Connecting Hose and get inside the tool, causing a malfunction. Install the Air Filter (②) and Lubricator (④) between the Compressor and the tool.

Machine oil

Install a Lubricator between the Compressor and the tool, and be sure to use machine oil (ISO VG-10). Failure to do so could cause damage to the tool. Also, if lubricating oil with high viscosity is used, it could cause performance degradation.

Refueling

Each day before starting work detach the Connecting Hose and refill a few drops of machine oil (ISO VG-10) (⑥) from the Cupla (⑦) to the tool.

After refueling, connect the Connecting Hose and perform idle operation for a few seconds to allow the oil to blend in the entire tool.

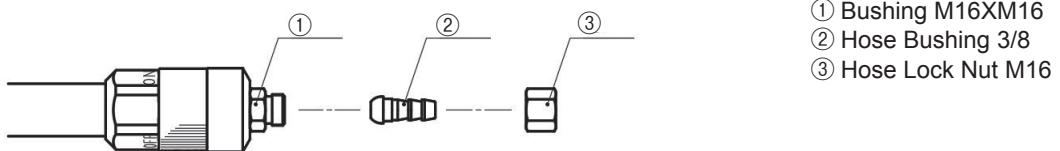
5 Preparation

⚠ WARNING

- Before preparing, turn off the air supply and remove the Connecting Hose.

Fixing the Attachment

Fix the Hose Bushing 3/8(②) and the Hose Lock Nut M16(③) to the Bushing M16XM16(①) of the tool.



Replacing Chisel

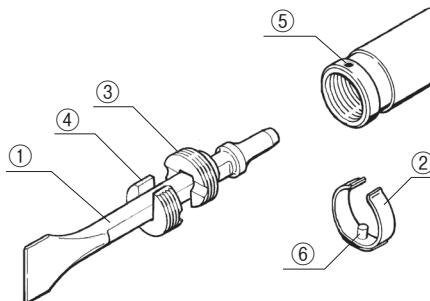
⚠ CAUTION

- When Removing, keep your face away from the Chisel Lock Band because it is under leaf spring tension and can cause harm if it springs out.

Removing

1 To remove the Chisel(①), remove the Chisel Lock Band(②) by raising and extracting the lugs.

2 Turn the Chisel counterclockwise. Remove Chisel Stopper A(③) and B(④).



① Chisel
② Chisel Lock Band
③ Chisel Stopper A
④ Chisel Stopper B
⑤ Cylinder Hole
⑥ Chisel Stopper Hole

Attaching

1 Set the Chisel Stopper A and B as shown in Fig.

Then turn the Chisel clockwise to screw it in.

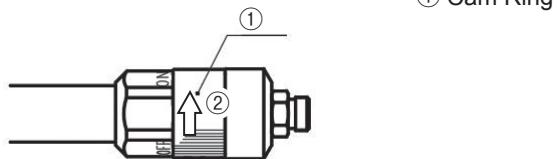
The Chisel should be screwed to a depth where the Cylinder Hole(⑤) and the Chisel Stopper Hole(⑥) fit together.

2 Set Chisel Lock Band.

Start and Stop

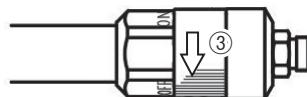
Start

1 Attach the Connecting Hose to the tool, then turn the Cam Ring (①) clockwise (②).
The tool starts.



Stop

1 Turn the Cam Ring counterclockwise (③).
The tool stops.



6 Maintenance and Inspection

Storing the tool

Store the tool according to the following warnings and cautions.

⚠ WARNING

- When the tool is not in use, store out of the reach of children.

⚠ CAUTION

- When the tool is not in use, store in a place with little humidity.
- After completing work, lubricate with machine oil (ISO VG-10) from the Cupla of the tool and operate a little before storing.

If the tool is left as is after use, moisture in the air could remain inside the main unit, likely causing rust to occur.

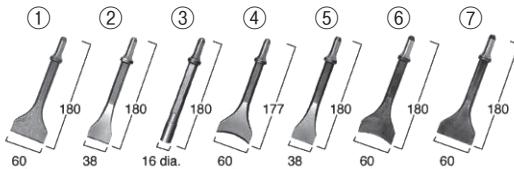
Disposal

- Separate the tool, accessories, and packing materials for environmentally-friendly recycling.
- When disposing of the tool, follow the rules of each municipality.

7 Optional Parts

Please order with the chisel numbers below.

No.	Part No.	Product name
①	TP03645	No.2001 60 mm Scraper
②	TP03646	No.2002 38 mm Scraper
③	TP03647	No.2003 Blank Chisel
④	TP04010	No.2004 60 mm Concave Scraper
⑤	TP04552	No.2005 38 mm Bend Scraper
⑥	TP04553	No.2006 60 mm Concave Bend Scraper
⑦	TP04554	No.2007 60 mm Bend Scraper



Ordering Service Parts

To place orders for parts or options, purchase from the retailer where you purchased the tool by specifying part numbers, part names and quantity.