



# OPERATOR'S MANUAL



## PNEUMATIC TAPPING MACHINE MODEL: ATM-27-1900

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## THANK YOU & WARRANTY

Thank you for your purchase of a machine from Baileigh Industrial. We hope that you find it productive and useful to you for a long time to come.

**Inspection & Acceptance.** Buyer shall inspect all Goods within ten (10) days after receipt thereof. Buyer's payment shall constitute final acceptance of the Goods and shall act as a waiver of the Buyer's rights to inspect or reject the goods unless otherwise agreed. If Buyer rejects any merchandise, Buyer must first obtain a Returned Goods Authorization ("RGA") number before returning any goods to Seller. Goods returned without a RGA will be refused. Seller will not be responsible for any freight costs, damages to goods, or any other costs or liabilities pertaining to goods returned without a RGA. Seller shall have the right to substitute a conforming tender. Buyer will be responsible for all freight costs to and from Buyer and repackaging costs, if any, if Buyer refuses to accept shipment. If Goods are returned in unsalable condition, Buyer shall be responsible for full value of the Goods. Buyer may not return any special order Goods. Any Goods returned hereunder shall be subject to a restocking fee equal to 30% of the invoice price.

**Specifications.** Seller may, at its option, make changes in the designs, specifications or components of the Goods to improve the safety of such Goods, or if in Seller's judgment, such changes will be beneficial to their operation or use. Buyer may not make any changes in the specifications for the Goods unless Seller approves of such changes in writing, in which event Seller may impose additional charges to implement such changes.

**Limited Warranty.** Seller warrants to the original end-user that the Goods manufactured or provided by Seller under this Agreement shall be free of defects in material or workmanship for a period of twelve (12) months from the date of purchase, provided that the Goods are installed, used, and maintained in accordance with any instruction manual or technical guidelines provided by the Seller or supplied with the Goods, if applicable. The original end-user must give written notice to Seller of any suspected defect in the Goods prior to the expiration of the warranty period. The original end-user must also obtain a RGA from Seller prior to returning any Goods to Seller for warranty service under this paragraph. Seller will not accept any responsibility for Goods returned without a RGA. The original end-user shall be responsible for all costs and expenses associated with returning the Goods to Seller for warranty service. In the event of a defect, Seller, at its sole option, shall repair or replace the defective Goods or refund to the original end-user the purchase price for such defective Goods. Goods are not eligible for replacement or return after a period of 30 days from date of receipt. The foregoing warranty is Seller's sole obligation, and the original end-user's exclusive remedy, with regard to any defective Goods. This limited warranty does not apply to: (a) die sets, tooling, and saw blades; (b) periodic or routine maintenance and setup, (c) repair or replacement of the Goods due to normal wear and tear, (d) defects or damage to the Goods resulting from misuse, abuse, neglect, or accidents, (e) defects or damage to the Goods resulting from improper or unauthorized alterations, modifications, or changes; and (f) any Goods that has not been installed and/or maintained in accordance with the instruction manual or technical guidelines provided by Seller.

**EXCLUSION OF OTHER WARRANTIES.** THE FOREGOING LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. ANY AND ALL OTHER EXPRESS, STATUTORY OR IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE ARE EXPRESSLY DISCLAIMED. NO WARRANTY IS MADE WHICH EXTENDS BEYOND THAT WHICH IS EXPRESSLY CONTAINED HEREIN.

**Limitation of Liability.** IN NO EVENT SHALL SELLER BE LIABLE TO BUYER OR ANY OTHER PARTY FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES (INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR DOWN TIME) ARISING FROM OR IN MANNER CONNECTED WITH THE GOODS, ANY BREACH BY SELLER OR ITS AGENTS OF THIS AGREEMENT, OR ANY OTHER CAUSE WHATSOEVER, WHETHER BASED ON CONTRACT, TORT OR ANY OTHER THEORY OF LIABILITY. BUYER'S REMEDY WITH RESPECT TO ANY CLAIM ARISING UNDER THIS AGREEMENT IS STRICTLY LIMITED TO NO MORE THAN THE AMOUNT PAID BY THE BUYER FOR THE GOODS.



**Force Majeure.** Seller shall not be responsible for any delay in the delivery of, or failure to deliver, Goods due to causes beyond Seller's reasonable control including, without limitation, acts of God, acts of war or terrorism, enemy actions, hostilities, strikes, labor difficulties, embargoes, non-delivery or late delivery of materials, parts and equipment or transportation delays not caused by the fault of Seller, delays caused by civil authorities, governmental regulations or orders, fire, lightening, natural disasters or any other cause beyond Seller's reasonable control. In the event of any such delay, performance will be postponed by such length of time as may be reasonably necessary to compensate for the delay.

**Installation.** If Buyer purchases any Goods that require installation, Buyer shall, at its expense, make all arrangements and connections necessary to install and operate the Goods. Buyer shall install the Goods in accordance with any Seller instructions and shall indemnify Seller against any and all damages, demands, suits, causes of action, claims and expenses (including actual attorneys' fees and costs) arising directly or indirectly out of Buyer's failure to properly install the Goods.

**Work By Others; Safety Devices.** Unless agreed to in writing by Seller, Seller has no responsibility for labor or work performed by Buyer or others, of any nature, relating to design, manufacture, fabrication, use, installation or provision of Goods. Buyer is solely responsible for furnishing, and requiring its employees and customers to use all safety devices, guards and safe operating procedures required by law and/or as set forth in manuals and instruction sheets furnished by Seller. Buyer is responsible for consulting all operator's manuals, ANSI or comparable safety standards, OSHA regulations and other sources of safety standards and regulations applicable to the use and operation of the Goods.

**Remedies.** Each of the rights and remedies of Seller under this Agreement is cumulative and in addition to any other or further remedies provided under this Agreement or at law or equity.

**Attorney's Fees.** In the event legal action is necessary to recover monies due from Buyer or to enforce any provision of this Agreement, Buyer shall be liable to Seller for all costs and expenses associated therewith, including Seller's actual attorneys' fees and costs.

**Governing Law/Venue.** This Agreement shall be construed and governed under the laws of the State of Wisconsin, without application of conflict of law principles. Each party agrees that all actions or proceedings arising out of or in connection with this Agreement shall be commenced, tried, and litigated only in the state courts sitting in Manitowoc County, Wisconsin or the U.S. Federal Court for the Eastern District of Wisconsin. Each party waives any right it may have to assert the doctrine of "forum non conveniens" or to object to venue to the extent that any proceeding is brought in accordance with this section. Each party consents to and waives any objection to the exercise of personal jurisdiction over it by courts described in this section. Each party waives to the fullest extent permitted by applicable law the right to a trial by jury.

**Summary of Return Policy.**

- 10 Day acceptance period from date of delivery. Damage claims and order discrepancies will not be accepted after this time.
- You must obtain a Baileigh issued RGA number PRIOR to returning any materials.
- Returned materials must be received at Baileigh in new condition and in original packaging.
- Altered items are not eligible for return.
- Buyer is responsible for all shipping charges.
- A 30% re-stocking fee applies to all returns.

Baileigh Industrial makes every effort to ensure that our posted specifications, images, pricing and product availability are as correct and timely as possible. We apologize for any discrepancies that may occur. Baileigh Industrial reserves the right to make any and all changes deemed necessary in the course of business including but not limited to pricing, product specifications, quantities, and product availability.

**For Customer Service & Technical Support:**

Please contact one of our knowledgeable Sales and Service team members at:  
(920) 684-4990 or e-mail us at [sales@baileigh.com](mailto:sales@baileigh.com)



## **INTRODUCTION**

*The quality and reliability of the components assembled on a Baileigh Industrial machine guarantee near perfect functioning, free from problems, even under the most demanding working conditions. However if a situation arises, refer to the manual first. If a solution cannot be found, contact the distributor where you purchased our product. Make sure you have the serial number and production year of the machine (stamped on the nameplate). For replacement parts refer to the assembly numbers on the parts list drawings.*

*Our technical staff will do their best to help you get your machine back in working order.*

### **In this manual you will find: (when applicable)**

- Safety procedures
- Correct installation guidelines
- Description of the functional parts of the machine
- Capacity charts
- Set-up and start-up instructions
- Machine operation
- Scheduled maintenance
- Parts lists

## **GENERAL NOTES**

After receiving your equipment remove the protective container. Do a complete visual inspection, and if damage is noted, **photograph it for insurance claims** and contact your carrier at once, requesting inspection. Also contact Baileigh Industrial and inform them of the unexpected occurrence. Temporarily suspend installation.

Take necessary precautions while loading / unloading or moving the machine to avoid any injuries.

Your machine is designed and manufactured to work smoothly and efficiently. Following proper maintenance instructions will help ensure this. Try and use original spare parts, whenever possible, and most importantly; **DO NOT** overload the machine or make any unauthorized modifications.



**Note:** *This symbol refers to useful information throughout the manual.*



## IMPORTANT

### PLEASE READ THIS OPERATORS MANUAL CAREFULLY

It contains important safety information, instructions, and necessary operating procedures. The continual observance of these procedures will help increase your production and extend the life of the equipment.



## SAFETY INSTRUCTIONS

### LEARN TO RECOGNIZE SAFETY INFORMATION

This is the safety alert symbol. When you see this symbol on your machine or in this manual, **BE ALERT TO THE POTENTIAL FOR PERSONAL INJURY!**

Follow recommended precautions and safe operating practices.

### UNDERSTAND SIGNAL WORDS

A signal word – **DANGER**, **WARNING**, or **CAUTION** is used with the safety alert symbol. **DANGER** identifies a hazard or unsafe practice that will result in severe **Injury or Death.**

Safety signs with signal word **DANGER** or **WARNING** are typically near specific hazards.

General precautions are listed on **CAUTION** safety signs. **CAUTION** also calls attention to safety messages in this manual.



**DANGER**



**WARNING**



**CAUTION**

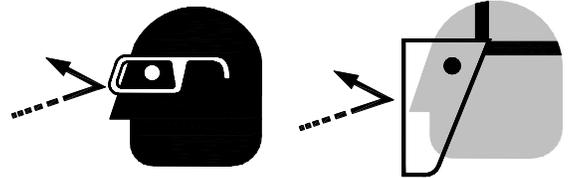


**SAVE THESE INSTRUCTIONS.**  
**Refer to them often and use them to instruct others.**



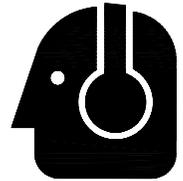
**PROTECT EYES**

Wear safety glasses or suitable eye protection when working on or around machinery.



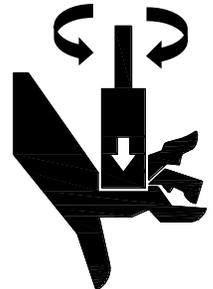
**PROTECT AGAINST NOISE**

Prolonged exposure to loud noise can cause impairment or loss of hearing. Wear suitable hearing protective devices such as ear muffs or earplugs to protect against objectionable or uncomfortable loud noises.



**BEWARE OF PIERCING POINTS**

**NEVER** place Keep hands, fingers, or any part of your body away from rotating tooling bit.



**ENTANGLEMENT HAZARD – ROTATING SPINDLE**

Contain long hair, **DO NOT** wear jewelry or loose fitting clothing.





## SAFETY PRECAUTIONS



Metal working can be dangerous if safe and proper operating procedures are not followed. As with all machinery, there are certain hazards involved with the operation of the product. Using the machine with respect and caution will considerably lessen the possibility of personal injury. However, if normal safety precautions are overlooked or ignored, personal injury to the operator may result.

Safety equipment such as guards, hold-downs, safety glasses, dust masks and hearing protection can reduce your potential for injury. But even the best guard won't make up for poor judgment, carelessness or inattention. **Always use common sense** and exercise **caution** in the workshop. If a procedure feels dangerous, don't try it.

**REMEMBER: Your personal safety is your responsibility.**



### **WARNING: FAILURE TO FOLLOW THESE RULES MAY RESULT IN SERIOUS PERSONAL INJURY**

1. **FOR YOUR OWN SAFETY, READ INSTRUCTION MANUAL BEFORE OPERATING THE MACHINE.** Learn the machine's application and limitations as well as the specific hazards.
2. **Only trained and qualified personnel can operate this machine.**
3. **Make sure guards are in place and in proper working order before operating machinery.**
4. **Remove any adjusting tools.** Before operating the machine, make sure any adjusting tools have been removed.
5. **Keep work area clean.** Cluttered areas invite injuries.
6. **Overloading machine.** By overloading the machine you may cause injury from flying parts. **DO NOT** exceed the specified machine capacities.
7. **Dressing material edges.** Always chamfer and deburr all sharp edges.
8. **Do not force tool.** Your machine will do a better and safer job if used as intended. **DO NOT** use inappropriate attachments in an attempt to exceed the machines rated capacity.
9. **Use the right tool for the job. DO NOT** attempt to force a small tool or attachment to do the work of a large industrial tool. **DO NOT** use a tool for a purpose for which it was not intended.
10. **Dress appropriate. DO NOT** wear loose fitting clothing or jewelry as they can be caught in moving machine parts. Protective clothing and steel toe shoes are recommended when using machinery. Wear a restrictive hair covering to contain long hair.



11. **Use eye and ear protection.** Always wear ISO approved impact safety goggles. Wear a full-face shield if you are producing metal filings.
12. **Do not overreach.** Maintain proper footing and balance at all times. **DO NOT** reach over or across a running machine.
13. **Stay alert.** Watch what you are doing and use common sense. **DO NOT** operate any tool or machine when you are tired.
14. **Check for damaged parts.** Before using any tool or machine, carefully check any part that appears damaged. Check for alignment and binding of moving parts that may affect proper machine operation.
15. **Observe work area conditions.** **DO NOT** use machines or power tools in damp or wet locations. Do not expose to rain. Keep work area well lighted. **DO NOT** use electrically powered tools in the presence of flammable gases or liquids.
16. **Blade adjustments and maintenance.** Always keep blades sharp and properly adjusted for optimum performance.
17. **Keep children away.** Children must never be allowed in the work area. **DO NOT** let them handle machines, tools, or extension cords.
18. **Store idle equipment.** When not in use, tools must be stored in a dry location to inhibit rust. Always lock up tools and keep them out of reach of children.
19. **DO NOT operate machine if under the influence of alcohol or drugs.** Read warning labels on prescriptions. If there is any doubt, **DO NOT** operate the machine.
20. **Turn off** power before checking, cleaning, or replacing any parts.
21. **DO NOT** bypass or defeat any safety interlock systems.
22. **DONOT** exceed the maximum pressure rating of the system.
23. Verify that all hoses and connectors are tight and secure before each days or shifts operation.
24. **NEVER** disconnect any air lines or tube or service the air system while under pressure.
25. **NEVER** allow compressed air to blow directly at anyone.
26. **DO NOT** turn the main air supply on until the circuit is completely connected. Disconnected tubes and hoses can whip, causing injury.
27. If air is leaking from a joint – turn the air off and repair immediately.
28. Keep visitors a safe distance from the work area.



## TECHNICAL SPECIFICATIONS

Tapping Range	.11" to 1.0" (3 to 25.4mm)
Work Range/Reach (Maximum)	74.8" (1900mm)
Work Range/Reach (Minimum)	7.8" (200mm)
Spindle Speeds	70 to 220 rpm
Spindle Operation	Pneumatic
Included Tap Holders	1/4", 3/8", 1/2", 5/8", 3/4", and 7/8" (6.35, 9.5, 12.7, 15.87, 19.05, and 22.22mm)
Air Supply	16cfm @ 90psi. (0.45cmm @ 6.4kgf/cm <sup>2</sup> )
Maximum System Pressure	135psi. (9.5kgf/cm <sup>2</sup> )
Shipping Weight	185lbs (84kg)
Based on a material tensile strength of *64000 PSI – mild steel	

## TECHNICAL SUPPORT

Our technical support department can be reached at 920.684.4990, and asking for the support desk for purchased machines. Tech Support handles questions on machine setup, schematics, warranty issues, and individual parts needs: (other than die sets and blades).

For specific application needs or future machine purchases contact the Sales Department at: [sales@baileigh.com](mailto:sales@baileigh.com), Phone: 920.684.4990, or Fax: 920.684.3944.



**Note:** *The photos and illustrations used in this manual are representative only and may not depict the actual color, labeling or accessories and may be intended to illustrate technique only.*



**Note:** *The specifications and dimensions presented here are subject to change without prior notice due to improvements of our products.*



## UNPACKING AND CHECKING CONTENTS

Your Baileigh machine is shipped complete. Separate all parts from the packing material and check each item carefully. Make certain all items are accounted for before discarding any packing material.

**⚠ WARNING: SUFFOCATION HAZARD!** Immediately discard any plastic bags and packing materials to eliminate choking and suffocation hazards to children and animals.  
If any parts are missing, **DO NOT** place the machine into service until the missing parts are obtained and installed correctly.

### Cleaning

**⚠ WARNING: DO NOT USE** gasoline or other petroleum products to clean the machine. They have low flash points and can explode or cause fire.

**⚠ CAUTION:** When using cleaning solvents work in a well-ventilated area. Many cleaning solvents are toxic if inhaled.

Your machine may be shipped with a rustproof waxy coating and/or grease on the exposed unpainted metal surfaces. Fully and completely remove this protective coating using a degreaser or solvent cleaner. Moving items will need to be moved along their travel path to allow for cleaning the entire surface. For a more thorough cleaning, some parts will occasionally have to be removed. **DO NOT USE** acetone or brake cleaner as they may damage painted surfaces.

Follow manufacturer's label instructions when using any type of cleaning product. After cleaning, wipe unpainted metal surfaces with a light coating of quality oil or grease for protection.



**Important:** This waxy coating is **NOT** a lubricant and will cause the machine to stick and lose performance as the coating continues to dry.





This pneumatic tapping machine is suitable for different size taps from 0.08" to 1.19" (2 to 30mm).

The arm is equipped with lubricated for life bearings at all swivel points, provides weightless operation through the use of gas counter balance springs and permits the operator to bring the tap to the hole with ease.

The tapping arm includes the following items:

- Stretch arm
- Slanted arm
- Table mounting column
- Air unit
- Air tapping spindle
- Exhaust hose with clamps
- Air hose





## TRANSPORTING AND LIFTING



**IMPORTANT:** *Lifting and carrying operations should be carried out by skilled workers, such as a truck operator, crane operator, etc. If a crane is used to lift the machine, attach the lifting chain carefully, making sure the machine is well balanced.*

### **Follow these guidelines when lifting with truck or trolley:**

- The lift truck must be able to lift at least 1.5 – 2 times the machines gross weight.
- Make sure the machine is balanced. While transporting, avoid rough or jerky motion, and maintain a safe clearance zone around the transport area.
- Use a fork lift with sufficient lifting capacity and forks that are long enough to reach the complete width of the machine.
- Remove the securing bolts that attach the machine to the pallet.
- Approaching the machine from the side, lift the machine on the frame taking care that there are no cables or pipes in the area of the forks.
- Move the machine to the required position and lower gently to the floor.
- Level the machine so that all the supporting feet are taking the weight of the machine and no rocking is taking place.



## INSTALLATION

### **IMPORTANT:**

Consider the following when looking for a suitable location to place the machine:

- Overall weight of the machine.
- Weight of material being processed.
- Sizes of material to be processed through the machine.
- Space needed for auxiliary stands, work tables, or other machinery.
- Clearance from walls and other obstacles.
- Maintain an adequate working area around the machine for safety.
- Have the work area well illuminated with proper lighting.
- Keep the floor free of oil and make sure it is not slippery.



- Remove scrap and waste materials regularly, and make sure the work area is free from obstructing objects.
- If long lengths of material are to be fed into the machine, make sure that they will not extend into any aisles.
- **LEVELING:** The machine should be sited on a level, concrete floor. Provisions for securing it should be in position prior to placing the machine. The accuracy of any machine depends on the precise placement of it to the mounting surface.
- **FLOOR:** This tool distributes a large amount of weight over a small area. Make certain that the floor is capable of supporting the weight of the machine, work stock, and the operator. The floor should also be a level surface. If the unit wobbles or rocks once in place, be sure to eliminate by using shims.
- **WORKING CLEARANCES:** Take into consideration the size of the material to be processed. Make sure that you allow enough space for you to operate the machine freely.
- **POWER SUPPLY PLACEMENT:** The power supply should be located close enough to the machine so that the power cord is not in an area where it would cause a tripping hazard. Be sure to observe all electrical codes if installing new circuits and/or outlets.

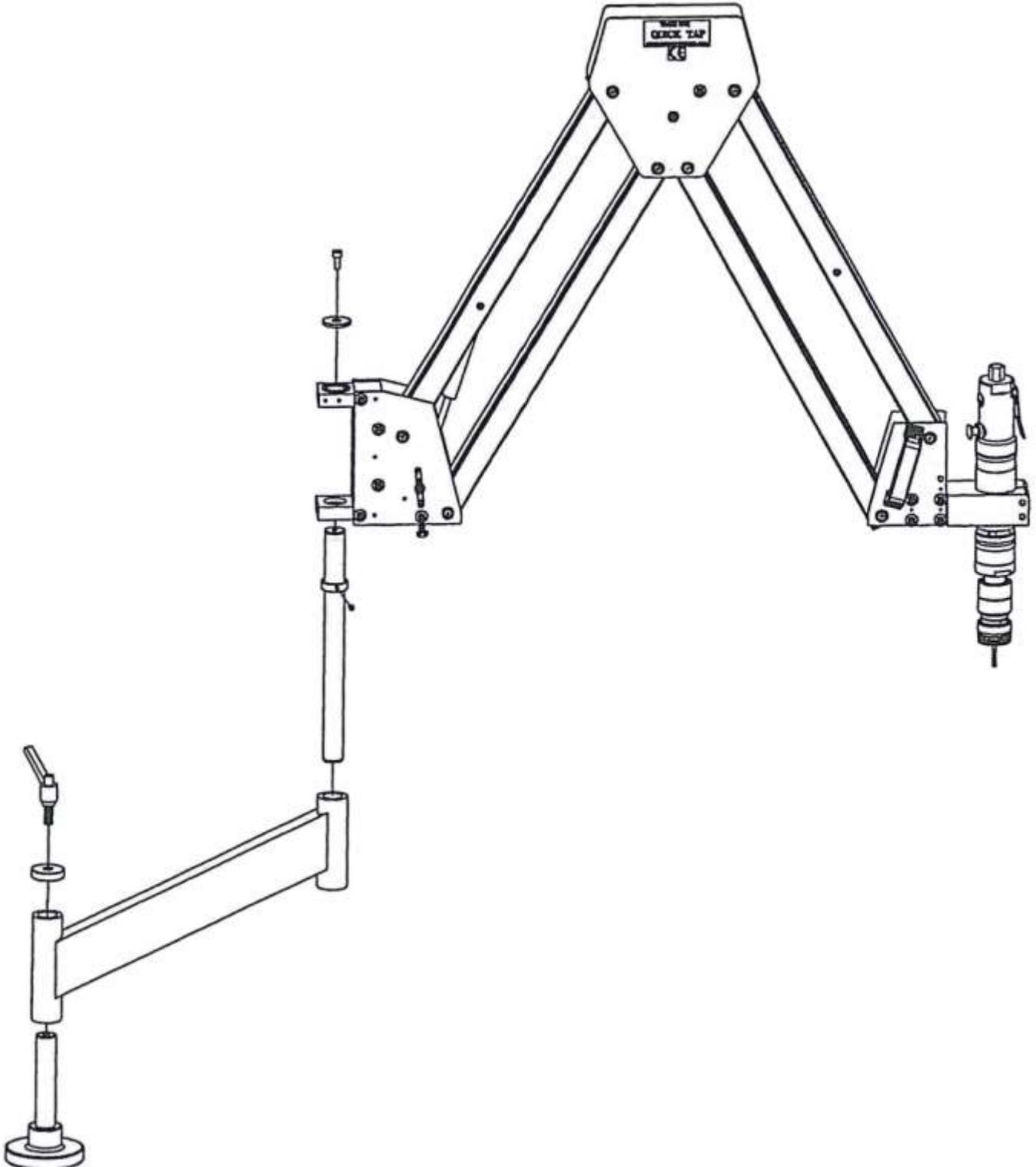
### **Anchoring the Machine**

If you intend to mount the Baileigh machine on a workbench be aware of the following:

- Overall weight of the machine.
- Weight of material being processed.
- Make sure the workbench is properly reinforced to support the weight.
- The strongest mounting option is where the holes are drilled all the way through the workbench and the machine is secured with bolts, washers, and nuts.



Base, Stretch Arm and Spindle





1. Attach the table mounting column to a solid horizontal surface using 10mm bolts (customer supplied).



**Important:** *The mounting surface must be sturdy and strong enough to support the tapping arm at full extension in all directions.*



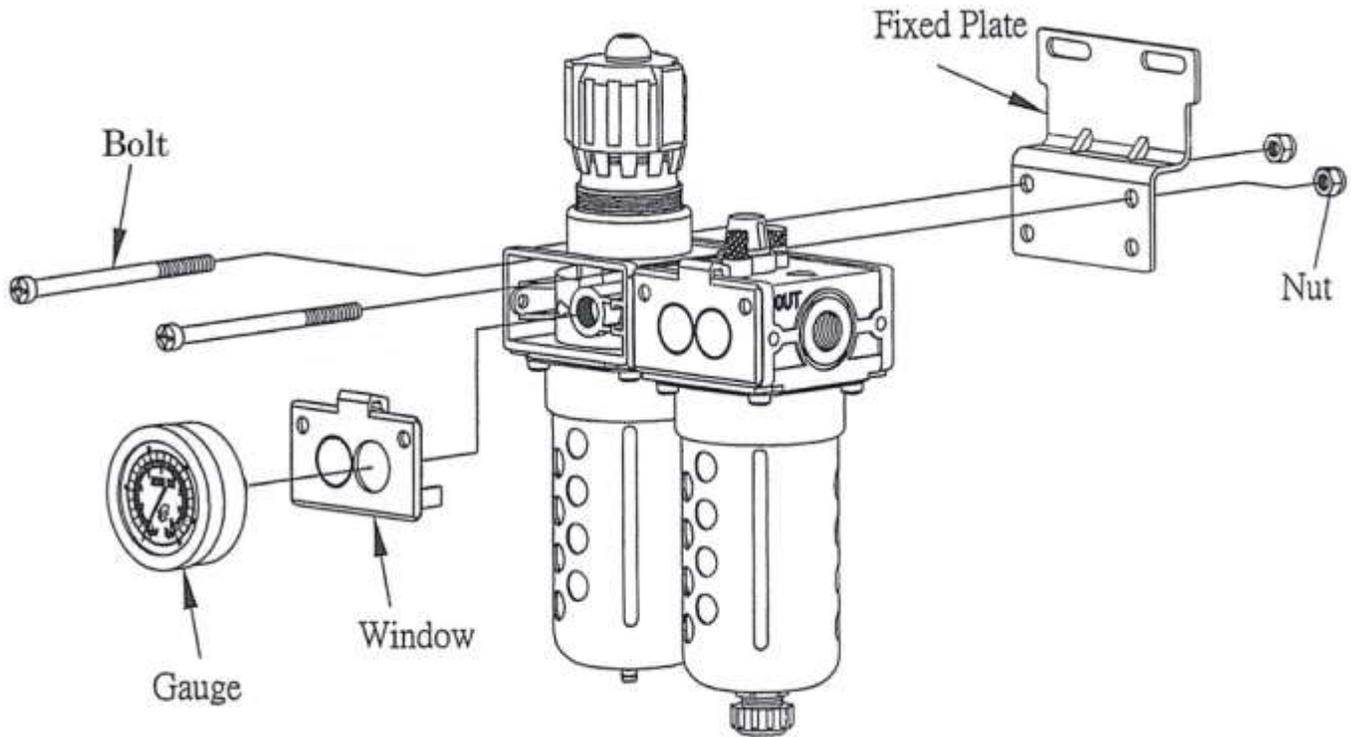
2. Remove the handle and washer from the mounting column and slide the slanted arm onto the mounting column.
3. Install the washer and bolt handle and snug to hold the slant arm in position.
4. Insert the rod from the stretch arm into the slanted arm.

5. Install the spindle by loosening the socket head bolts.
6. Insert spindle into bracket of tapping arm, make sure spindle is completely into the bracket with the forward lever toward the front, the reverse button toward the back and the exhaust muffler toward the right.
7. Tighten the socket head bolt enough to firmly hold the spindle in position so that it cannot rotate within the bracket.





## Air Supply



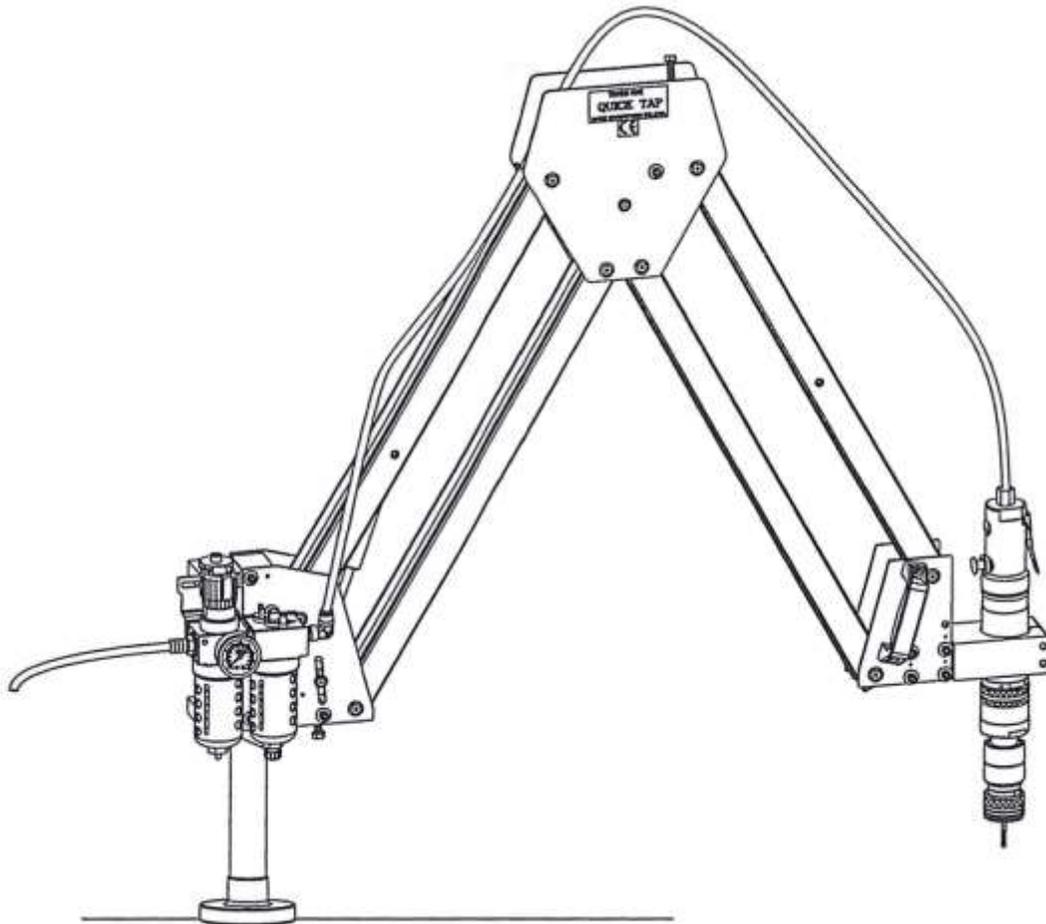
## Considerations

- Route hoses to avoid tripping hazards.
- Use large enough hoses or lines to provide and maintain adequate air volume and pressure.
- Repair or replace damaged or worn hoses immediately.
- Any air discharge does not blow at operator or bystanders.
- The air line/hose will allow the arm to rotate freely without catching or hanging on the hose.



## Air Connection

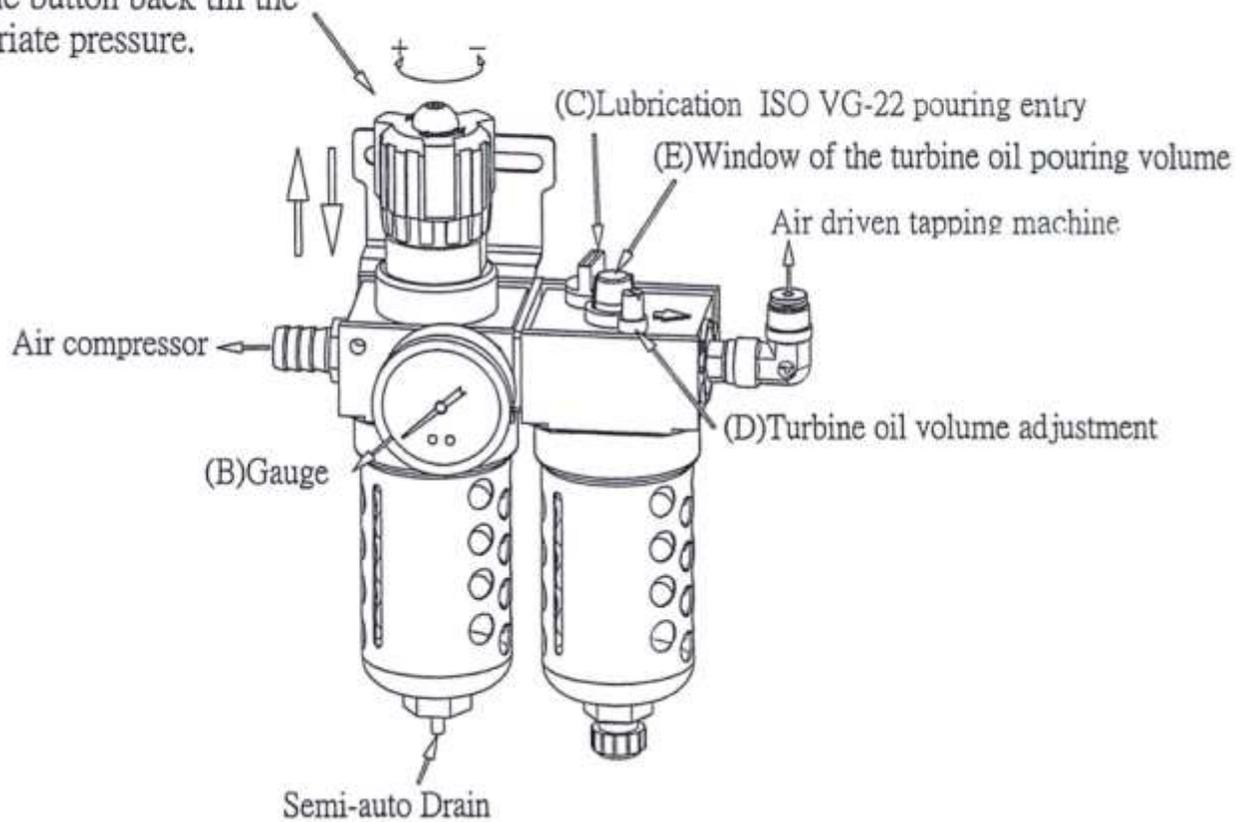
1. Attach the regulator mounting bracket to the slant arm with the two socket head cap screws stored in the mounting holes.
2. Remove the front cover of air unit body by lifting tab at top of cover.
3. Mount the regulator assembly onto the mounting bracket using the two mounting bolts and nuts supplied, and replace front cover.
4. Attach pressure gauge, 3/8" quick connect and air hose fitting.
5. Attach air hose into outlet fitting of air unit and inlet fitting of spindle.
6. Press hose firmly into fittings. Fittings are spring loaded. Hose can be removed by depressing lip of fitting.





## Regulator Adjustment and Operation

(A) Air pressure adjustment\*pull up first \* if want to increase please rotate clockwise ,want to decrease please rotate counterclockwise\* push the button back till the appropriate pressure.





1. Unscrew the oil filling plug and add approximately 8-10 ounces of oil. Replace plug and tighten securely. The oil filling plug must be closed tightly for proper operation. Recommended lubricant: ISO VG22, CPC Circulation Oil R32.
2. Pull the adjustment knob up and adjust air pressure to 100~128psi (7~9kgf/cm<sup>2</sup>). Turn the adjustment knob clockwise to increase the pressure and counter clockwise to reduce the pressure.
3. After adjusting the pressure, press the knob down into its locked position to prevent accidental setting change.
4. With the spindle in a position clear of any obstructions, depress and hold the operation lever of the spindle.
5. While the spindle is operating, check the oil flow rate through the sight glass on top of the air unit body. The air unit should operate at 3-5 drops/minute. Rotate the brass oil adjusting screw clockwise to decrease the oil flow rate; counterclockwise to increase the oil flow rate.



**Important:**

- Lack of oil will cause premature wear of the spindle seals, bearings and valves.
- **DO NOT** exceed 135psi (9.5kgf/cm<sup>2</sup>). Excess pressure may cause the filter and lubrications bowls to burst.
- Keep the pressure over 80psi (5kgf/cm<sup>2</sup>) when operation.

1. The moisture release valve opens automatically and discharges water or mist when air pressure is under 10psi (0.7kgf/cm<sup>2</sup>). It will automatically close when pressure increases to over 17psi (1.2kgf/cm<sup>2</sup>).
2. The moisture may also be release manually when the system pressure is removed by opening the manual release port knob.

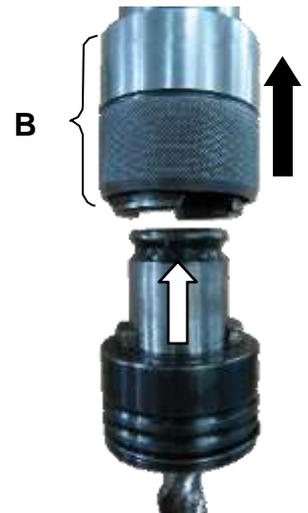
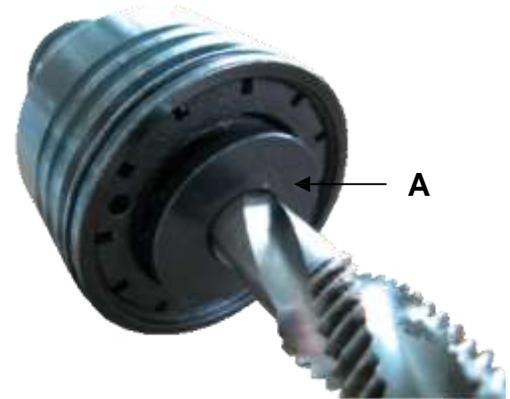




## SET UP

### Tap and Tap Holder Installation and Removal

1. Slide the tap into tap holder until tap locks in place.
2. The tap can be removed by simultaneously depressing flange (A) and pulling out tap.
3. Insert the tap and tap holder as an assembly into the spindle by pulling up on the tap holder sleeve. Insert tap holder with tabs aligned to slots in tap holder sleeve, and then release sleeve.

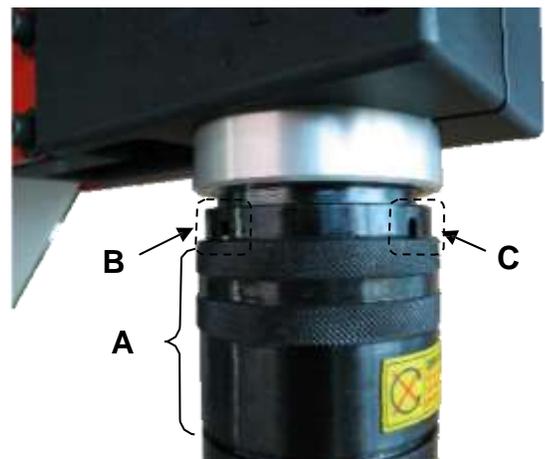


### Spindle Speed Adjustment



**Important:** Never change speed while spindle is in operation.

1. This Tapping Arm has two speeds. It can be changed by grasping sleeve (A), and pulling downward so that the pin is out of the notch (B and C) in the body.
2. Hold the sleeve down and rotate the sleeve so that the sleeve pin is aligned with either notch (B) or notch (C), then release the sleeve so that pin seats in the notch.
3. Turn the sleeve clockwise (C) to increase the speed and counter clockwise (B) to reduce the speed.





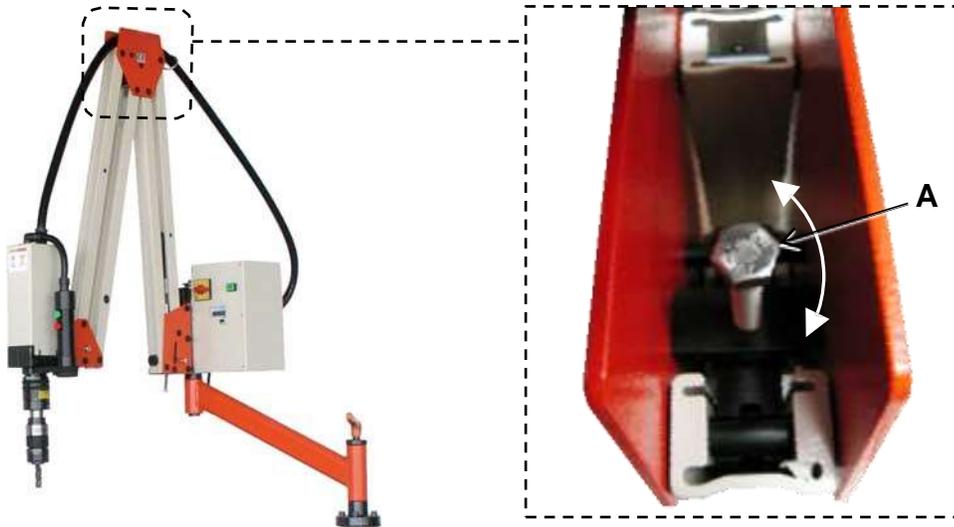
## Air Spring Adjustment



**Important:** Never adjust air spring while machine is in operation.

The stretch arm air spring is preset to allow the arm to pull back to the retracted position. The air spring can be adjusted for more or less travel as desired, or to account for wear over time.

1. Rotate the adjusting bolt (A) clockwise to tighten the air spring, or counterclockwise to loosen the air spring.

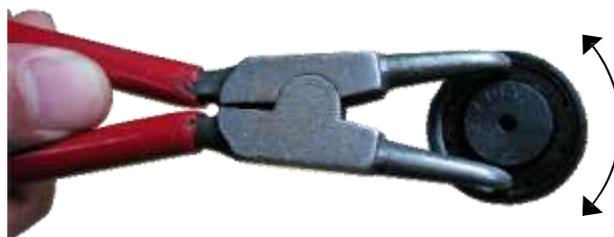


## Clutch Adjustment



**Important:** If the tap holder “clicks” or “ratchets”, the tap holder clutch torsion needs to be adjusted.

1. Remove the snap ring from the groove of the tap holder.
2. Use the tools to adjust the torsion.
3. Rotate notched nut clockwise to increase torsion, counterclockwise to decrease torsion.
4. Replace spring clip into groove of the tap holder.



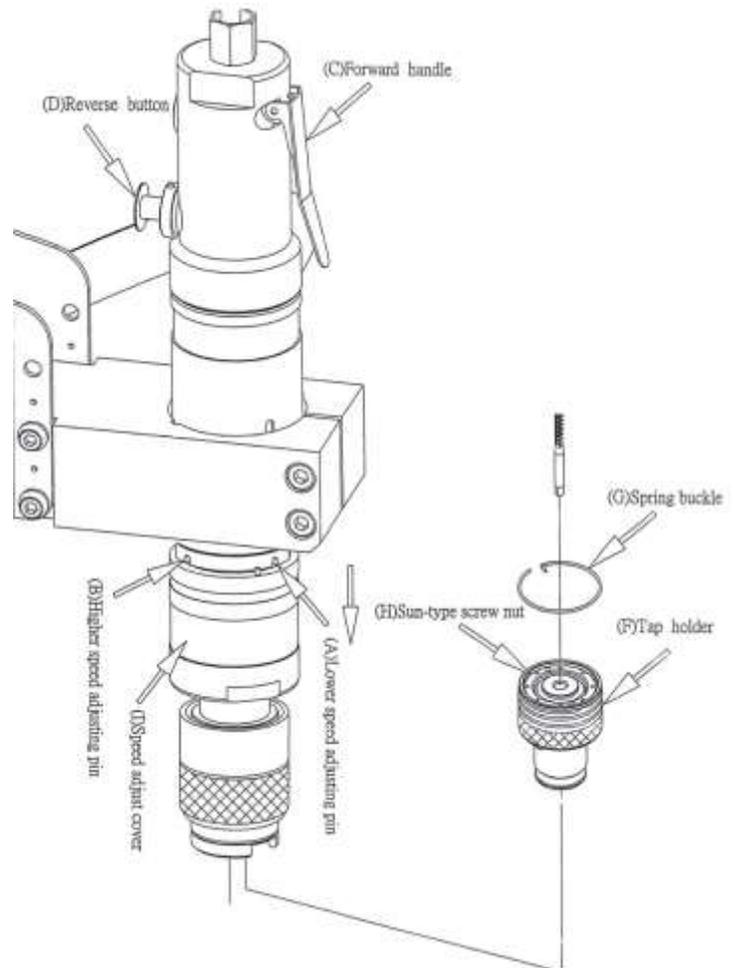


## OPERATION

**⚠ CAUTION:** Always wear proper eye protection with side shields, safety footwear, and leather gloves to protect from burrs and sharp edges.

**⚠ CAUTION:** When handling large heavy material, make sure it is properly supported.

1. Connect and/or turn on the air supply and verify that the pressure is set between 80psi. (5.6kgf/cm<sup>2</sup>) and 125psi. (8.8kgf/cm<sup>2</sup>).
2. Grasp the spindle and place the tip of the tap on the hole.
3. Press the forward (clockwise) lever. The tap will self-center and begin tapping. Let the tap arm guide the tap into the hole.
4. After tapping to the required depth, press the reverse (counterclockwise) button while continuing to hold the forward lever. The tap will reverse out from the hole.





## MATERIAL SELECTION

**⚠ CAUTION:** It must be determined by the customer that materials being processed through the machine are **NOT** potentially hazardous to operator or personnel working nearby.

When selecting materials keep these instructions in mind:

- Material must be clean and dry. (without oil)
- Material should have a smooth surface so it processes easily.
- Dimensional properties of material must be consistent and not exceed the machine capacity values.
- Chemical structure of material must be consistent.
- Buy certificated steel from the same vendor when possible.

## LUBRICATION AND MAINTENANCE

**⚠ WARNING:** Make sure the air supply is disconnected or turn **OFF** before working on the machine.  
Maintenance should be performed on a regular basis by qualified personnel.  
Always follow proper safety precautions when working on or around any machinery.

- Check daily for any unsafe conditions and fix immediately.
- Check that all nuts and bolts are properly tightened.
- On a weekly basis clean the machine and the area around it.
- Lubricate threaded components and sliding devices.
- Apply rust inhibitive lubricant to all non-painted surfaces.



**Note:** *Proper maintenance can increase the life expectancy of your machine.*

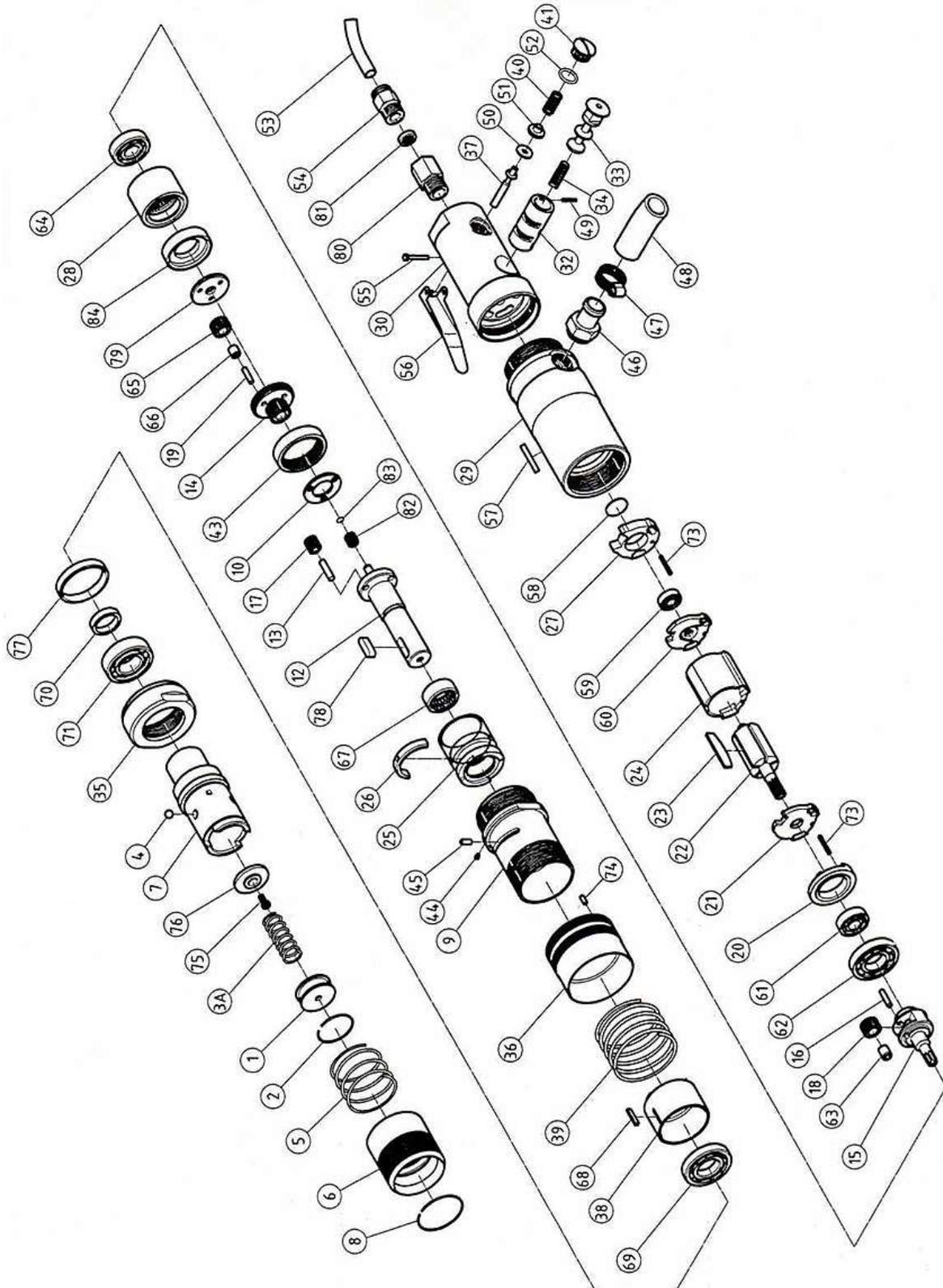
- Always unplug tool prior to inspection.
- Do not adjust, remove or maintain tool in operation.
- Consult manual for specific maintaining and adjusting procedures.



- Keep tool lubricated and clean for safest operation.
- Remove adjusting tools. Form habit of checking to see that adjusting tools are removed before switching machine on.
- Check for damaged parts. It may affect a tool's operation.
- Damaged parts should be properly repaired or replaced. Do not perform makeshift repairs.
- Never brush away chips while the machine is in operation. All clean up should be done when the machine is stopped.
- Never modify machine without consulting manufacturer.
- Use sharp cutters and keep the tool clean for safest operation.



## SPINDLE PARTS DIAGRAM





## Spindle Parts List

Item	Description
1A	Top
2	C-Ring
3A	Spring
4	Steel Ball
5	Spring
6	Housing
7A	Connector body
8	C-Ring
9	Speed Adjust cover
10	Planetary Plate
11	Spacer
12A	Planetary Gear Shaft
13	Pin
14	Planetary Gear Seat
15A	Planetary Gear Seat
16	Pin
17	Planetary Gear
18	Planetary Gear
19	Pin
20	Cylinder Cap
21	Cylinder Top
22	Cylinder Arbor
23	Rotor Blade
24	Cylinder
25	Speed Adjust Inner cover
26	Speed Adjust Block
27	Cylinder Back Cover
28A	Inner Gear
29	Middle housing
30	Back housing
31	Internal slice
32	Reverse Valve
33	Reverse Button



Item	Description
34	Spring
35	Spindle front cap
36	Speed adjust cover
37	Induction Tube
38	Bearing Cover
39	Spring
40	Spring
41	Air Stopper
42	Nut
43	Inner Gear
44	Pin
45	Pin
46	Air outlet brass head
47	Buckle
48	Exhaust Tube
49	Pin
50	Air Stop Rubber
51	Air Stop Ring
52	Washer
53	Pipe
54	Induction Adaptor
55	Pin
56	Induction Handle
57	Fix Pin
58	Air Stopper
59	Bearing
60	Cylinder Back Slice
61	Bearing
62	Bearing
63	Bearing
64A	Bearing
65	Planetary Gear
66	Cooper Bushing
67	Needle Bearing
68	Square Buckle



Item	Description
69	Bearing
70	Donut
71	Bearing
72	Screw
73	Spring Pin
74	Pin
75	Screw
76	Fix Slice
77	Spacer
78	Square Buckle
79	Fix Slice
80	Connector
81	Filter
82	Needle Bearing
83	O-ring



## TROUBLESHOOTING

**⚠ WARNING:** Make sure the air is disconnected before working on the machine.

SYMPTOM	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Clutch slips and tap will not turn	Tap holder clutch torsion needs to be adjusted.	Adjust tap holder torsion
	Tap not lubrication	Apply lubrication to tap
	Dull tap	Replace tap
	Hole and tap misaligned	Reposition tap arm
	Hole diameter too small	Enlarge hole
	Wrong tap for workpiece materials	Replace tap
Spindle does not turn or stops	Check air supply pressure	Adjust pressure between 7~9 kgf/cm
	Excessive pressure drop	Keep air supply compressor over 5 HP
	Insufficient lubrication	Make sure oil flow rate from air unit is 3-5 drops per minute
	Clogged spindle exhaust filter	Clean or replace filter
	Clogged air unit	Clean or replace air unit
	Worn rotor blade	Replace rotor blade
	Spindle inner parts too dry	Add lubricant into spindle
Workpiece material with hardness	According to the hardness, upgrade bigger capacity spindle	
Stretch arm drops or is difficult to move	Worn air spring	Replace air spring (Air spring is a consumable product.)
Spindle body is hot	1. massive tapping 2. Use spindle for a long time	1. Prepare another spindle to exchange 2. Let your spindle rest for 5-10 minutes Caution: Keep using a hot spindle will cause the spindle gear lubricant evaporating and break easily.



NOTES



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