SUMAKE®

Professional & Industrial

INSTRUCTION MANUAL

ITEM NO.: ST-66159
3/16"(4.8MM) PNEUMATIC AIR RIVETER

PLEASE READ ALL INSTRUCTIONS CAREFULLY BEFORE USING THE **ST-66159**
AIR HYDRAULIC RIVETER.

Safety Instructions

- WEAR SAFETY GLASSES OR GOGGLES while using the riveter – rivets are dispensed with force and at high speed, and may cause harm if they hit someone.
- DO NOT leave riveter plugged into air supply when not in use.
- NEVER point riveter towards or at someone.
- KEEP OUT OF REACH OF CHILDREN AT ALL TIMES.
- 3/16”(4.8mm) stainless steel Rivets Can not be used.

GENERAL INFORMATION

ST-66159 includes the following nosepieces: 3/16" (4.8mm),5/32" (4mm), 1/8" (3.2mm), 3/32" (2.4mm)

- Powerful durable, high speed production tool
- Quick release air valve permits cylinder to return quickly for high speed assembly operations: Prevents overloading for long life
- Performs well at any angle
- Gets into hard-to-reach areas
- Provides quick, quiet and comfortable operation preventing user fatigue
- Lightweight
- High Efficiency
- Assembled with special high quality hydraulic oil for excellent performance, even at extremely low temperatures, and extended life of the seals

SPECIFICATIONS:

Rivet Capacity	For setting blind rivets up to 3/16"(4.8mm)
Traction Power	1940 lbs. (880kg.)
Overall Length	10" (255mm)
Net Weight	3.30 lbs. (1.5kg)
Stroke	3/5" (15.5mm)
Motor	1/2 hp
Air Inlet Thread NPT:	1/4" NPT
Air Hose I.D. Size:	3/8"
Avg. Air Consumption:	0.035cfm (1.5 liter/stroke)
Working Air Pressure:	70-85psi

Tool Preparation before Operation

⚠ WARNING

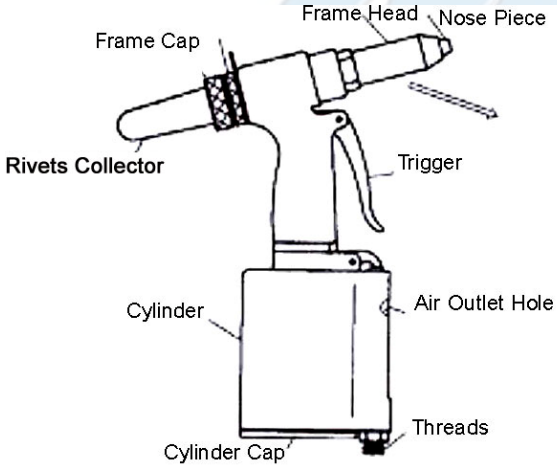
1. The air pressure should be kept within the range of 70 to 85 psi (0.49 to 0.59 MPa, 5 to 6 kgf/cm^2).
   - If an air pressure which is greater than this is used, the tool may become damaged, and injury or damage to property may result.
2. Always attach the Rivets Collector before use.
   - If this is not observed, the rivet shafts (mandrel) may eject out when the rivets are cut and cause serious injury.
3. Be sure to remove the frame head when adding hydraulic oil
   - If the frame head is not removed before adding oil, excess oil may remain inside the tool, and damage to the tool or personal injury may result.

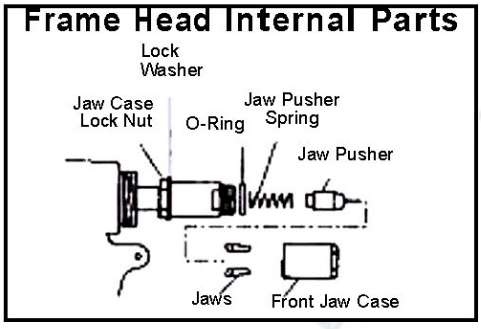
4. Make sure that the tool and the air source are connected securely.
   - If the threads of the air source and the threads of the riveter do no match, and are not inserted a minimum of 4 threads, the air source threads must be changed, or the air hose may become disconnected and cause serious injury.
5. Turn off the air supply before disconnecting the tool from the air source.
   - Compressed air may cause the air hose to whip around, and injury may result.
6. Check that all the tool parts are free from damage before use. Any damaged parts should be repaired before the tool is used.
   - Use of the tool with damaged parts may result in serious injury.
   - Use of the tool with a damaged air hose may result in the hose bursting and cause serious injury
7. If using in elevated locations, use a safety harness, and take care to avoid dropping rivets or the tool itself.
   - Accident or injury may result if this practice is not followed.

⚠ CAUTION

1. Always turn off the air supply before disassembling the tool for cleaning and maintenance purposes.
   - If the tool is cleaned or disassembled with the air supply connected, injury may result.
2. Do not use the tool with the frame head removed.
   - Items such as fingers may become caught in the mechanism.
3. Do not bring your face close to the air outlet holes.
   - Pressurized air containing fine particles is discharged from the air outlet holes during use. Keep eyes away from this area.
4. Avoid skin contact with substances such as hydraulic oil, lubricating oil and grease.
   - Such substances may cause inflammation of the skin. If they come into contact with your skin, wash the affected area thoroughly.
5. Make sure that the workplace is safe, clean and organized.
   - Accidents can easily occur in untidy workplaces.
   - If the cut-mandrels are allowed to fall onto the floor, you may slip on them, and injury may result.
6. Avoid uncomfortable postures while working.
   - You may fall down and injury may result.
7. Keep people who are not involved in work away from the workplace.
   - Accidents or injury may result.
8. Maintain the tool with due care.
   - Refer to the Instruction Manual for details on replacing parts and attachments, otherwise injury may occur.
9. Use the tool carefully and concentrate on correct operation at all times.
   - Use the tool with proper care, paying full attention to methods of handling and operation and surrounding conditions. Accidents and injury may result if this practice is not followed.
   - Use common sense at all times, otherwise accidents or injury may result.
   - When you are tired, do not use the tool, otherwise accidents or injury may result.

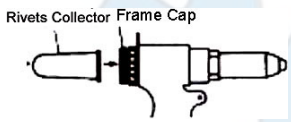
RIVETER PARTS IDENTIFICATION

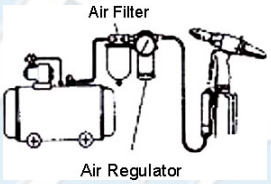




PREPARATION BEFORE USE

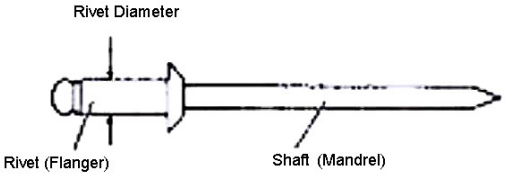
1. Install the Rivets Collector to the tool.
2. Place Rivets Collector on Frame Cap, turn clockwise to tighten.
3. Set up the compressor, and be sure to install an air filter and air regulator between the compressor and the tool.
4. Use the air regulator to adjust the operation air pressure to 70-85psi (0.49-0.59MPa) (5-6kgf/cm2)
5. Replace the nosepiece to conform to the size of the rivet being used.





Attention:
If the air pressure is too high, it may result in damage to the tool and serious injury. If the air pressure is too low, the riveter may not install the rivets correctly

- Different size rivets can be used just by replacing the nosepiece.
- At the time of purchase, the tools are fitted with a 3/16"(4.8mm) nosepiece.
- If you wish to use other sizes, use wrench to remove and replace the nosepiece.



OPERATING INSTRUCTIONS

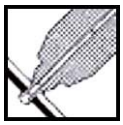
1. Select a rivet of a size which is suitable for the work piece to be riveted .
2. Replace the nosepiece with one which matches the size of the rivet to be used.
3. Drill a hole of appropriate size (0.1-0.2mm larger than the diameter of the rivet) into the work piece.

4. Insert the rivet into the hole.

Attention:
Some rivets have shafts (mandrels) with sharp ends.Be careful not to injure your fingers on these ends.

5. Place the nosepiece of the air riveter over the shaft (mandrel) of the rivet.

6. Gently press the nosepiece of the air riveter against the work piece. After checking that there is no gap between the nosepiece and the work piece, pull the trigger.



7. The rivet will be installed into the work piece

8. Release the trigger, and then tilt the air riveter to remove the cut mandrel from the nosepiece or Rivets Collector.

Note: Make sure that the cut mandrel has been completely removed before proceeding to the next riveting.

Care and Maintenance

MAINTENANC

After long periods of use, debris from rivet shafts (mandrel) and other foreign materials tend to build up in various parts of the tool, and the
Hydraulic oil lever also drops both of which can lead to operating problems. The tool should be cleaned periodically

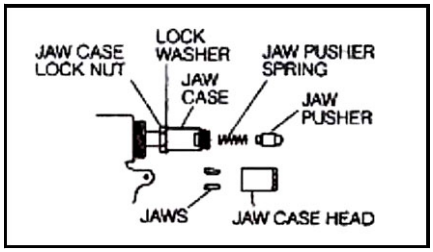
A. Jaw maintenance Also refer to this section when replacing parts

- If debris builds up, the jaws will not move smoothly and normal operation will not be possible.
- The jaws should be cleaned on average once every 3,000 riveting

DISASSEMBLY

1. Turn off the air supply
2. Use wrench or similar tool to remove the frame head.

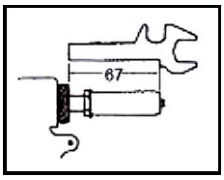
3. Use wrench A and wrench B to loosen and remove the front jaw case, and then remove the jaw pusher spring, jaw pusher and jaws.



4. Use a brush or similar to clean all parts.

REASSEMBLY

5. Reassembly by following the disassembly procedure in reverse
6. Install the front jaw case so that its distance matches those shown in the illustration at below using wrench B



7. Use wrench A to install the Frame Head securely.

Notes:

- **When reassembling, be sure to apply a lubricant such as grease to all moving and sliding parts**
- **Be careful not to leave out any parts, and tighten all connections securely.**
- **The jaws are consumable parts, and they should be replaced periodically.**

B. Cleaning and filling the cylinder

If foreign materials build up in the cylinder, it will not operate smoothly and service life will be reduced

DISASSEMBLY

1. Turn off the air supply

2. Use wrench A to remove the frame head.

⚠ WARNING
Be sure to remove the frame head when adding hydraulic oil through the cylinder.

3. Use a wrench A to remove the cylinder cap and pullout the air pistol straightly using suitable pliers.

CLEANING

4. Use a rag, brush or similar to clean all parts.

FILLING OIL

5. Fill with hydraulic oil until just before the oil starts running out from the filling hole

REASSEMBLY

6. Apply grease to the inside of the cylinder and to the o-ring and shaft of the piston and then reassemble by following the disassembly procedure in reverse.

7. After assembling the air cylinder cap, check the jaw case setting potions
8. Install frame head securely using wrench A

Note: Be careful not to allow any debris or other foreign materials to get into the hydraulic oil or the cylinder during disassembly and reassembly

STORAGE

- Store in a place which is well-ventilated and free from excessive dust and humidity, and where there is no danger that the tool will fall.
- If not using the tool for an extended period of them, carry out a maintenance inspection before storing it away. (Refer to pages 4 and 5 "Maintenance").
- To increase the working life of the tool, it is recommended that you give it periodic overhauls. Contact the place of purchase or your nearest dealer for any overhauls and repair work required

TROUBLESHOOTING

- If a problem occurs, check the following.
- If the problem persists after checking the items in the table below, contact your nearest dealer or direct to us.
- In making any inquiries about this product or requests for repair work, first check the troubleshooting items below, and then make a note of the model number, the usage conditions and the trouble symptoms in as much detail as possible. If you can provide this kind of information, it will contribute to reducing the amount of time required for delivery or repairs to be completed.

Symptom		Cause	Countermeasure
The rivet does not go in, or the shaft does not come out after riveting.	1	Incorrect combination of replacement parts being used.	Replace with the correct parts which matches the rivet size.
	2	Jaw case is incorrectly assembled.	Use wrench A to tighten securely.
	3	Nosepiece or frame head is loose.	Check the jaw case setting position.
	4	Contact surfaces between the jaws and the front jaw case are not smooth.	Clean the jaws and inside the front jaw case, and apply jaw tube (or spray-type lubricating oil or the accessory hydraulic oil) to the backs of the jaws.
	5	The inside of the cylinder is dirty so that the air piston cannot return to its proper position.	Clean inside the cylinder, and apply grease inside the cylinder and to the o-ring.
	6	Oil filling was not performed correctly, so that there is excess hydraulic oil inside the tool.	Refill the hydraulic oil after removing the frame head.
Number of trigger operations increases before riveting is complete .	1	The rivet length is not correct for the work piece thickness.	Use rivets which match the thickness of work piece.
	2	Compressor air pressure is incorrect.	Check the air pressure.
	3	Jaw case is incorrectly assembled.	Check the jaw case setting position.
	4	Jaws are worn.	Replace the jaws.
	5	Insufficient hydraulic oil, causing a shorter stroke.	Add hydraulic oil.

HYDRAULIC OIL REQUIREMENTS

Use only lean hydraulic oil, as the viscosity of the oil used will affect tool performance.

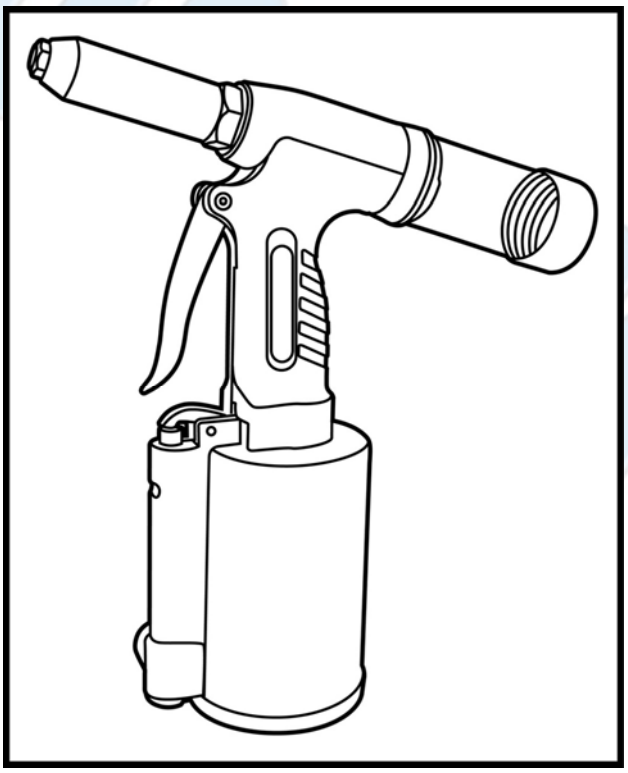
Viscosity ISO:	VG46	Recommended oils are:
Viscosity Index:	113	Shell Tellus No. 46
Viscosity at 40°C:	46 c.s.t.	Esso Teresso No. 46
Viscosity at 100°C:	7.06 c.s.t.	Mobil D.T.E. 25 Oil (Medium)
Flash Point:	228	

MAINTENANCE INSTRUCTION:

1. LUBRICATION:
   Before connection of the hose, apply 4 to 5 drops of a good quality air tool oil at the air inlet. After 3 to 4 hours of operation, oiling may be necessary again.
2. TIGHTNESS OF PARTS:
   Regularly check whether all connection parts are fastened securely. Follow this procedure daily before beginning work.
3. STORAGE:
   Avoid storing the tool in a location subject to high humidity. If the tool is left unused, the residual moisture inside the tool can cause rust. Before storing and after operation, oil the tool at the air inlet with a good quality air tool oil and run it for a short period.
4. DISPOSAL:
   Follow national legislation of waste disposal.
5. ORDERING SERVICE PART
   For further operational and handling information or for replacement of parts and components, contact the sales agent from where you purchased the tool.
   *When ordering parts and components, give each part number, name, and quantities.

CE

SUMAKE *PNEUMATIC TOOLS*



3/16"(4.8mm) Pneumatic Air Riveter
ST-66159

Specification:

Riveting Capacity	3/32”, 1/8”, 5/32”, 3/16” (2.4mm, 3.2mm, 4.0mm, 4.8mm)
Stroke Length	0.61” (15.5 mm)
Traction Power	1940 lbs (880 kg)
Overall Length	10” (255 mm)
Air Inlet (PT)	1/4” (6.35 mm)
Air Hose (I.D.)	3/8” (10 mm)
Air Pressure	90 psi (6.3 bar)
Net Weight	3.3 lbs (1.5 kg)

Noise and Vibration:

Vibration EN ISO 20643	**Noise** EN ISO 15744	**Remark**
Load: < 2.5 m/s²	Sound Pressure Level No load: 77 dB(A)	Please always wear ear protector at environment noise level > 80 dB(A) due to risk of impaired hearing!
	Sound power level No load: 88 dB(A)	
Uncertainty K= 1.5 m/s²	Uncertainty K= 3dB	

SUMAKE INDUSTRIAL CO., LTD

4F,NO.351,Yangguang St.,Neihu District TAIPEI, TAIWAN, ZIP:114-91

EC DECLARATION OF CONFORMITY

We: **SUMAKE INDUSTRIAL CO., LTD.**

4F, No. 351, Yangguang St., Neihu District, Taipei City, Taiwan

declare in sole responsibility that the equipment

Equipment： 3/16"(4.8MM) PNEUMATIC AIR RIVETER

Model/ Serial No.：ST-66159

to which this declaration applies, complies with these normative documents:

- **Machinery Directive: 2006/42/EC**

and conforms to the following EN standard,

- **EN ISO 12100: 2010**
- **EN ISO 11148-1:2011**

Name and Signature/Position

Mike Su – Managing Director

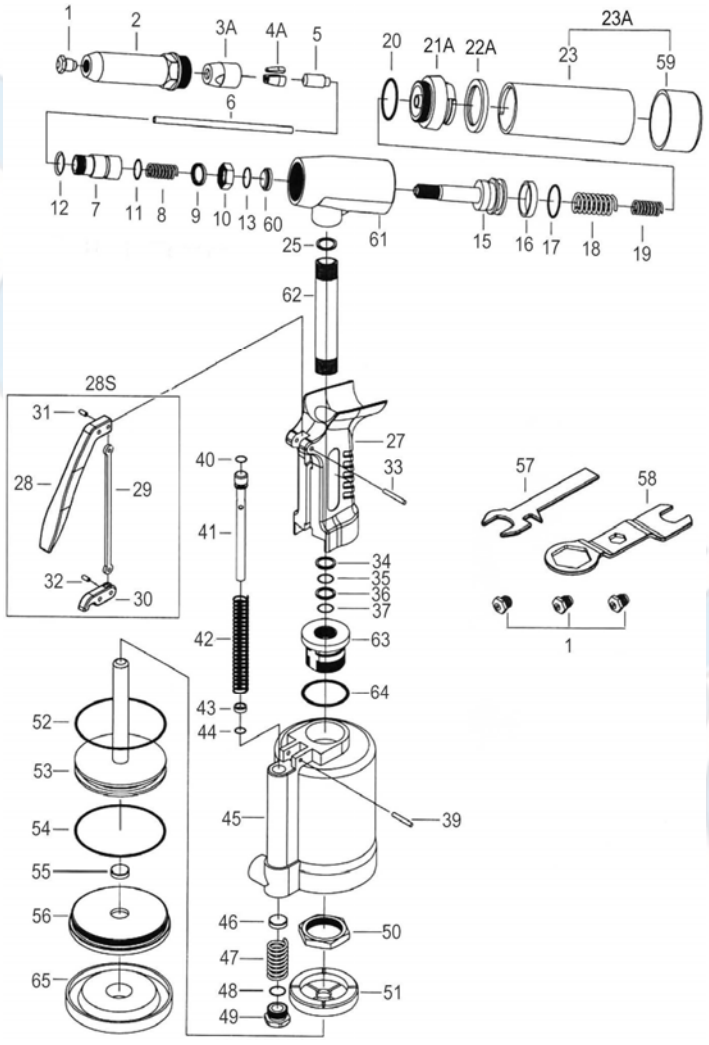
Date and Place

2012/6/25

Taipei, Taiwan

ST-66159-D-1506A-R2F

ST-66159 3/16"(4.8MM) PNEUMATIC AIR RIVETER



PARTS LIST

No.	Parts No.	Description	Q'ty
1	66159-01A	3/32" Nosepiece (Option.)	1
	66159-01B	1/8" Nosepiece	1
	66159-01C	5/32" Nosepiece	1
	66159-01D	3/16" Nosepiece	1
2	66159-02	Nose Housing	1
3A	66159-03A	Front Jaw Case	1
4A	66159-04A	Jaws (For 1/8", 3/16", 5/32")	3
	66159-04B	Jaws (For 3/32") (Option.)	3
5	66159-05	Jaw Pusher [Incl. 6]	1
7	66159-07	Rear Jaw Case	1
8	66159-08	Spring	1
9	66159-09	Washer	1
10	66159-10	Nut	1
11	66159-11	O-Ring	1
12	66159-12	Teflon O-Ring	1
13	66159-13	O-Ring	1
15	66159-15	Oil Piston	1
16	66159-16	O-Ring	1
17	66159-17	Teflon O-Ring	1
18	66159-18	Spring	1
19	66159-19	Spring	1
20	66159-20	O-Ring	1
21A	66159-21A	Frame Cap	1
22A	66159-22A	Rubber Ring	1
23A	66159-23A	Collection Bottle [Incl. 23, 59]	1
25	66159-25	Seal	1
27	66159-27	Handle	1
28S	66159-28S	Trigger Assembly [Incl. 28, 29, 30, 31, 32]	1

No.	Parts No.	Description	Q'ty
33	66159-33	Spring Pin	1
34	66159-34	Seal Ring	1
35	66159-35	O-Ring	1
36	66159-36	Teflon Seal O-Ring	1
37	66159-37	O-Ring	1
39	66159-39	Spring Pin	1
40	66159-40	O-Ring	1
41	66159-41	Valve Tube	1
42	66159-42	Spring	1
43	66159-43	O-Ring	1
44	66159-44	O-Ring	1
46	66159-46	Valve	1
47	66159-47	Spring	1
48	66159-48	O-Ring	1
49	66159-49	Valve Nut	1
50	66159-50	Lock Nut	1
51	66159-51	Rubber Cushion	1
52	66159-52	O-Ring	1
53	66159-53	Air Piston	1
54	66159-54	O-Ring	1
55	66159-55	Bumper Ring	1
56	66159-56	Cylinder Cap	1
57	66159-57	Wrench B	1
58	66159-58	Wrench A	1
60	66159-60	Teflon O-Ring	1
61	66159-61	Frame	1
62	66159-62	Pipe Frame	1
63	66159-63	Pipe Frame Base	1
64	66159-64	O-Ring	1
65	66159-65	Protection Base Cover	1

SUMAKE®

MAKE JOBS BETTER THAN EVER

RIVETER

Original instructions

Read all these safety instructions before operating this product and save these instructions.

The tool has been manufactured in conformity with the instruction of EU machine directive. The EU mark will be considered void in the event of inexpert repairs, the use of non-original parts and in case of non-observance of the safety instructions in the user's manual.

Possible direct or indirect consequential damages are not the responsibility of SUMAKE Industrial co., Ltd.

General safety rules:

1. Watch the tool at all times when in use.
2. People under the influence of alcohol or drugs are not allowed to use, repair or maintain the tool.
3. Keep unqualified persons, children, etc. away from the tool.
4. Keep work area clean and with sufficient daylight or artificial lighting. The work area on which the machine is used must be cleaned up. Disorder is a potential cause of accidents.
5. Danger of explosion. Never use oxygen and combustible gas as an air supply for the tool which many be ignited by spark and cause fire or explosion.
6. Never use gasoline or other flammable liquids to clean the tool.
7. Do not use air tools in potentially explosive atmospheres such as in the presence of flammable liquids, cleaning solvents, fluid energy or stored gases.
8. Do not expose air tools to rain. Do not use air tools in damp or wet locations.
9. When a fault or failure is detected, the tool must immediately be disconnected from the air supply and returned for repair.
10. It is not permitted to modify the tool in any way.
11. When not in use, keep tools in a dry place, either locked up or in a high place, out of the reach of children.
12. Do not force small air tools to do the job of a heavy –duty task. Do not use air tool for purpose of which was not intended.
13. Wear suitable ear protection at environment noise level >80dB(A) and safety spectacles when using the tool. Always wear approved safety goggles if work in dusty. This also applies to other persons in the nearby vicinity.
14. Do not wear loose clothing or jewelry. They can be caught in moving parts. Rubber gloves and non-skid foot wear are recommended when working outdoors. Wear protective hair covering to contain long hair.
15. Keep proper footing and balance at all times.
16. Use clamps or a vice to hold work-piece. It is safer than using your hand and free both hands to operate the air tool.
17. When not use, before performing service or changing accessories, please disconnect tool from air compressor.
18. Do not carry plugged in air tool with your finger on the switch trigger. Be sure switch is in the "OFF" position when connecting to air supply.
19. Watch what you are doing. Use common sense, even unsafe situation or unbalanced positions, particularly when you are tired.
20. Air powered tools can vibrate in use. Vibration, repetitive motions or uncomfortable positions may be harmful to your hands or arms. Stop using any tool if discomfort, tingling feeling or pain occurs. Seek medical advice before resuming use.
21. Multiple hazards. Read and understand the safety instructions before installing, operating, repairing, maintaining, changing accessories on, or working near the power tool. Failure to do so can result in serious bodily injury.
22. Only qualified and trained operators should install, adjust or use the power tool.
23. Do not modify this power tool. Modifications may reduce the effectiveness of safety measures and increase the risks to the operator.
24. Do not discard the safety instructions – give them to the operator.
25. Do not use the power tool if it has been damaged.
26. Tools shall be inspected periodically to verify the ratings and markings required by this document are legibly marked on the tool. The employer/user shall contact the manufacturer to obtain replacement marking labels when necessary.

Safety precautions for projectile hazards

1. Disconnect the power tool from the energy source when changing inserted tool or accessories.
2. Failure of the work piece, or accessories, or even of the inserted tool itself may generate high velocity projectiles.
3. Always wear impact-resistant eye protection during operation of the tool. The grade of protection required should be assessed for each use.
4. The risks to others should also be assessed at this time.
5. Ensure that the work piece is securely fixed.
6. Check that the protection against ejection of fastener and/or stem is in place and is operative.
7. Warn against the possible forcible ejection of installation mandrels from the front of the power tool.

Safety precautions for operating hazards

1. Use of the tool may expose the operator's hands to hazards including crushing, impacts, cuts and abrasions and heat. Wear suitable gloves to protect hands.
2. Operators and maintenance personnel must be physically able to handle the bulk, weight and power of the tool.
3. Hold the tool correctly: be ready to counteract normal or sudden movements – have both hands available.
4. Maintain a balanced body position and secure footing.
5. Release the start and stop device in the case of an interruption of the energy supply.
6. Use only lubricants recommended by the manufacturer.
7. That unsuitable postures may not allow counteracting of normal or unexpected movement of the tool.
8. If the power tool is fixed to suspension device make sure that the fixation is secure.
9. Risk of crushing if nose equipment is not fitted.

Safety precautions for repetitive motions hazards

1. When using a power tool, the operator may experience discomfort in the hands, arms, shoulders, neck, or other parts of the body.
2. While using a power tool, the operator should adopt a comfortable posture. Maintain secure footing and avoid awkward or off-balanced postures. The operator should change the posture during extended tasks which may help avoid discomfort and fatigue.
3. If the operator experience symptoms such as persistent or recurring discomfort, pain, throbbing, aching, tingling, numbness, burning sensation or stiffness, these warning signs should not be ignored. The operator should tell the employer and consult a qualified health professional.

Safety precautions for accessory hazards

1. Disconnect power tool from energy supply before changing the inserted tool or accessory.
2. Only use sizes and types of accessories and consumables that are recommended by the power tool manufacturer.

Safety precautions for workplace hazards

1. 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.
2. Proceed with care in unfamiliar surroundings. Hidden hazards may exist, such as electricity or other utility lines.
3. This power tool is not intended for use in potentially explosive atmospheres and is not insulated from coming into contact with electric power.
4. Make sure there are no electrical cables, gas pipes etc. that could cause a hazard if damaged by use of the tool.

Safety precautions for dust and fume hazards

1. Dusts and fumes generated when using power tools can cause ill health (for example: cancer, birth defects, asthma and/or dermatitis); risk assessment of these hazards and implementation of appropriate controls of is essential.
2. Risk assessment should include dust created by the use of the tool and the potential for disturbing existing dust.
3. Operate and maintain the power tool as recommended in these instructions, to minimise dust or fume emissions.
4. Direct the exhaust so as to minimise disturbance of dust in a dust filled environment
5. Where dusts or fumes are created, the priority shall be to control them at the point of emission.
6. 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.
7. Use respiratory protection as instructed by your employer or as required by occupational health and safety regulations.

Safety precautions for noise hazards

1. Unprotected 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).
2. Risk assessment of these hazards and implementation of appropriate controls of is essential.
3. Appropriate controls to reduce the risk may include actions such as damping materials to prevent work pieces from 'ringing'.
4. Use hearing protection as instructed by your employer or as required by occupational health and safety regulations.
5. Operate and maintain the power tool as recommended in these instructions, to prevent an unnecessary increase in noise.
6. If the tool has a silencer, always ensure it is in place and in good working order when the tool is operating.
7. Select, maintain and replace the consumable/inserted tool as recommended in these instructions, to prevent an unnecessary increase in noise.

Safety precautions for vibration hazards

1. Exposure to vibration can cause disabling damage to the nerves and blood supply of the hands and arms.
2. Wear warm clothing when working in cold conditions and keep your hands warm and dry.
3. If you experience numbness, tingling, pain or whitening of the skin in your fingers or hands, stop using the assembly power tool for non-threaded mechanical fasteners, tell your employer and consult a physician.
4. Support the weight of the tool in a stand, tensioner or balancer, because the operator can then use a lighter grip to support the tool.

Additional safety instructions for pneumatic power tools

1. 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.
2. Never direct air at yourself or anyone else.
3. Whipping hoses can cause severe injury. Always check for damaged or loose hoses and fittings.
4. Cold air shall be directed away from the hands.
5. Whenever universal twist couplings (claw couplings) are used, lock pins shall be installed and whipcheck safety cables shall be used to safeguard against possible hose-to-tool and hose-and-hose connection failure.
6. Do not exceed the maximum air pressure stated on the tool.
7. Never carry an air tool by the hose.

Specific safety instructions

Warnings shall be given about any specific or unusual hazards associated with the use of the power tool. Such warnings shall indicate the nature of the hazard, the risk of injury and the avoidance action to take.

General preparation and connection:

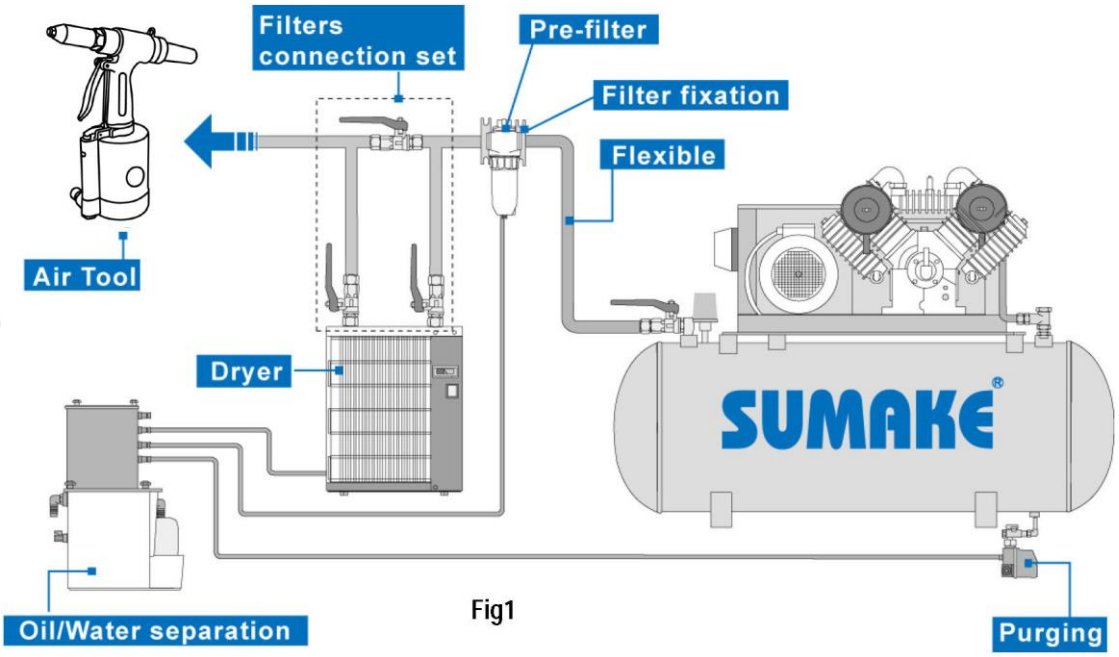


Fig1

1. Before connecting the air hose, apply 4 to 5 drops of SAE 10W-20 (ISO Viscosity Grade 46/32) Hydraulic Oil at the air inlet. Also, every 3 to 4 hours of operation, oiling is necessary. Twist Teflon thread tape to ensure a proper seal air inlet. Then tighten the air coupler into air tool.
2. The supplied compressed air must be clean and dry, with the appropriate oil mist. Use an air treatment unit; filter, regulator and lubricator.
3. Please refer Fig.1 illustration shows the correct mode of connection to the air supply system which will increase the efficiency and useful life of the tool.
4. The quick connect coupling and hose must have sufficient air flow capacity. We recommend an air hose with a diameter of 10mm (3/8").
5. To ensure a good performance. The operation pressure at the compressed air inlet should not exceed 6.3bar (90psi) (unless indicated otherwise). Higher operating pressures may cause damaged or excessive wear. Operating pressures below 5.3bar may cause pressure or power loss.

Risk of injury

1. Compressed air can inflict serious injuries. Therefore never point the air hose at another person or yourself.
2. Shut – off the air supply and disconnect the tool in case:
   - You want to change or replace accessories.
   - You want to clean, repair or maintain the tool.
   - The tool is not going to use for some times.
3. Check compressed air hose before use. If it is damaged, broken, torn, or deformed, the hose is not to be connected to the tool.
4. Always check the pneumatic couplings before using the tool. If they show signs of damage, fracture, cracking or excessive corrosion, the respective tool or the air hose is not to be used.
5. Use only qualified adapters and connectors, In case of wear they are to be replaced immediately.
6. Only use air pipes that are fit for the use at maximum pressure.

Maintenance instruction:

1. Dry the filter (fig1) and the air inlet of the tool.
2. Lubricate the quick connect coupling to prevent blocking.
3. Air tool require lubrication throughout the life of the tool. The air motor and bearing uses compressed air to start the tool. The moisture in compressed air will rust the air motor; you must lubricate the motor daily.
4. Avoid storing the tool in a location subject to high humidity. If the tool is left as it is used, the residual moisture inside the tool can cause rust.
5. Before storage, lubricate tool and run it for a few seconds.
6. Regular inspection of spindles, threads, and clamping devices in respect of wear and tolerances for location of abrasive products.
7. If the tool is too seriously damage to be used anymore, recycle raw material instead of disposing as waste. The machine, accessories and packaging should be sorted for environmental-friendly recycling. Check with your local authority or retailer for recycling advice.
8. Keep Safety Cap free of spent mandrels.
9. Insure that jaws are clean and free of metal shavings, dirt and oil.
10. Keep oil at optimum level. With use of tool there may be a gradual loss of oil. When you notice a reduction in the stroke, you need to add a small amount of oil.