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## *HW – 90 Pneumatic Air Scribe “aka the Beast” Tool Instructions*

Most aggressive pneumatic air scribe. It can be used comfortably holding it with one hand. Don't use the pneumatic hammer doing “scraping motions” but only for “dozing” or “pushing” motions.

**Use security eyeglasses, ear and respiratory protection while working with the air scribe!**

**Position you body ergonomically supporting each joint, wrist, elbow, shoulder, back, etc.**

Let the tool do the work. Don't force it. Don't hold it too tight to prevent fatigue and injury.

The tool will operate for many years if it is used properly. Please read the following instructions carefully.

Short Info about the development:

This device has a flying piston driven by a air valve. Therefore the length of stroke is utilized fully and only a small amount of air and small air pressure is needed. The tip is mounted freely between O-rings, thus the hit of the piston is optimally conveyed. Steer the pneumatic hammer by pushing it without brut force to take full advantage of this device. The tip sits loose in the guide socket, so it won't convey lateral forces. It must be steered straight on.

Technical data:

Max. Diameter: 28 mm

Total length without flexible tube and tip: 200 mm

Flexible tube length: 2000 mm

Ready for connection.

Weight: 360 gram

Chisel diameter: 5 mm

Strokes per minute: approx 4000

Operation pressure: 2.6 bar - 4.2 bar maximum (37 - 60 psi)

Air consumption at 2 bar: approx 25 liter/min

Connecting and Disconnecting the push button (blue plastic ring) tube fitting

The HW-90 has a push-in-fitting and must be connected to an in line pressure regulator (supplied with the tool) because of its maximum operation pressure of 4.2 bar! The pressure regulator has the female side of the push button fitting installed. The hose supplied with the tool is fitted with the male side of the fitting. The compressed air should be filtered. In line filters are available at [www.grainger.com](http://www.grainger.com) or other pneumatic tool suppliers. **Do not put oil directly into the line and do not oil the tool.** The device is lubricated by the residual moisture of the compressed air and the O-ring lubricant. To disconnect the push button, apply equal pressure on both sides of the blue collar using your thumbs (V shaped object such as tweezers also can be used to apply equal pressure on both sides of the collar) and gently pull the fitting with the hose away from the released collar. **Don't use pliers or other aggressive tools which could damage the plastic collar.**

Preparation with the pneumatic hammer:

The pneumatic hammer has a different handling than other pneumatic air scribes because of its hard stroke and low stroke rate. For optimal use, the pneumatic hammer should only be steered straight ahead without pressure. The tip is mounted full floating between O-rings. If you press too hard, the mechanical transmission changes and the chisel will loose stroke power. In addition, gratuitous vibrations will be passed to the device and to your hand.

First starting up:

For inexperienced persons using a tool like this for the first time, set the pressure regulator to 3 bar and work on a (not so precious) object for the first hour to learn how to use and control the device.

Maintenance:

Important! Please take care to mount only clean chisel tips! The device is protected by two filters. Dirt like stone dust only can get into the device while mounting the tip. If the performance declines, unscrew the head, clean the tip and the O-rings following the steps below.

The chisel should be removed and cleaned approx every 50 operating hours as follows:

1. Remove the head using the flat wrench provided.

\*\*\* If the head is set to tight and can't be unscrewed, hold the device with the supplied flat wrench in one hand, then tap lightly on the wrench to loosen the head.

2. Pull the tip out and remove the O-rings from the shank.

3. Put it on a paper towel or piece of cloth and spray it with brake parts cleaner that leaves no residue.

4. After a short time clean the tip with a cloth or paper towel, especially the base of the tip.

5. Clean the O-rings and check for wear/abrasion. The O-rings have a tendency to grind against each other and stick together. In this case, separate them, clean and inspect. If they move side to side on the chisel and/or if the chisel moves side to side in the tool, the O-rings should be replaced. If this doesn't correct the problem then the bushing needs to be replaced. In this case the tool must be returned to replace the bushing.

6. Put the O-rings back on the chisel shank and lubricate with o-ring gel (preferred) or Vaseline (not as good but okay). Do not use fat based or heavy oil or grease!

7. Spray the head too and wipe it.

8. Seat the clean tip into the device. A quarter turn rotation locks it in place.

9. Screw the head in and tighten it gently. Do not overtighten!

O-rings:

The O-rings on the tip operate elastically and have to be checked and maintained periodically. Our test devices have been working for 3 years without showing signs of wear of the O-rings; however, its important to check the O-rings occasionally for wear. The O-rings always rub against each other, so they can jam or stick together. To avoid this, remove the tip weekly, clean and lubricate the O-rings as instructed above. After assembling pull slightly at the chisel to check the O-rings. The guide socket allows left-right backlash, which is normal. The tip is trapped slightly in longitudinal direction by the O-rings. If you can push the tip back and forward in longitudinal direction, change the O-rings. If you can push the tip back and forward in longitudinal direction with new O-rings too, send the device back for inspection.

**We wish you good luck doing your preparations and always use security eyeglasses please!  
And think in terms of ergonomic body positions!**