Secoroc Rock Drilling Tools

Secoroc pneumatic tools

Secoroc G7 Pneumatic Pick Hammer

Operator's instructions / Spare parts list

Atlas Copco

Foreword

Thank you for selecting the Secoroc pick hammer G7.

These instructions were developed to help you get the best performance and productivity from the use of your new pick hammer.

Please refer to them also for the correct maintenance of the pick hammer.

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Scope of application

The Secoroc pneumatic pick hammer G7 is a machine with D-handle, designed for light demolition and plant work. The machine can be used both horizontally and vertically. No other use is permitted.

Specification

Pneumatic pick hammer G7		
Weight	7.2	kg
Dimension (L x W x H)	465×167×110	mm
Cylinder diameter	35	mm
Piston stroke	120	mm
Working pressure	4–5	bar(e)
Impact energy (at 5.0 bar (e))	≥30	J
Impact energy (at 4.0 bar (e))	≥23	J
Air consumption (at 5.0 bar (e))	≤20	l/s
Air consumption (at 4.0 bar (e))	≤15	l/s
Impact frequency (at 5.0 bar (e))	≥21.5	Hz
Impact frequency (at 4.0 bar (e))	≥20	Hz
Air hose inner diameter	19	mm
Working temperature	-30 to +50	°C
Shank size	R26x80	mm

Safety instructions

To reduce the risk of serious injury or death to yourself or others, carefully read through this instruction booklet before putting the pick hammer to use. Always follow the instructions given in this manual.

- Always wear a safety helmet, impact resistant eye protection with side protection and ear protectors during breaking. Any local regulations that exist must also be observed.
- When breaking in certain minerals, there is a risk of spark generation. Before starting work, check that the machine is approved (in accordance with local regulations) for work under such conditions.
- Always take great care when using the machine. The insertion tool is subjected to heavy loading and can break, with a risk of injury to personnel.
- Check that the hoses used are of the right quality, and that all hose connections are in good condition and properly tightened.
- Before starting work on any of the systems, make sure that the air and water systems are un-pressurized.
- The machine is not electrically insulated. If the machine comes into contact with electricity serious injuries or death may result. To reduce the risk of such injury or death, never operate the machine near any electric wire or other source of electricity. Make sure that there are no concealed wires or other sources of electricity.
- Exposure to crystalline silica (sometimes called 'silica dust') as a result of breaking in rock may cause silicosis, cancer or death. To reduce silica exposure, use respiratory protective equipment.
- A compressed air hose that comes loose can lash around and cause personal injury or death. Check that the compressed air connections are not damaged and that they are properly attached.

Operation

Using the pick hammer for the first time

When the pick hammer arrives from the factory, the inside of the tool is coated with heavy oil to prevent corrosion.

After unpacking and installing the machine, pour a small amount of thin lubrication oil into the air connection and operate the machine on partial throttle to clean the interior. Follow this immediately with a liberal amount of air tool oil.

The pick hammer is lubricated with oil mixed with compressed air, which is taken to the parts that need continuous lubrication.

Preparations before starting

1. Check the equipment

- Check that all of the equipment is in good working order.
- Check that the impact surface of the insertion tool shank is flat with no signs of wear.
- Make sure that the air inlet and exhaust ports are free from obstructions.
- Ensure that the fittings are tight and leak-proof.

> **⚠WARNING**
> A compressed air hose that comes loose can lash around and cause personal injury or death. Check that the compressed air connections are not damaged and that they are properly attached.

2. Blow out the air hose

Every day before using the pick hammer, blow out the air hose to clear it from accumulated dirt and moisture.

3. Lubricate

- Pour 5 ml of air oil into the air hose once every 2–3 impact hours.
- Always use a recommended lubricant.

Lubricant recommendation	
Use a mineral-based air tool oil	
Ambient temperature °C	Viscosity grade (ISO 3448)
-30 to 0	ISO VG 32-68
-10 to +20	ISO VG 68-100
+10 to +50	ISO VG 100-150

4. Air pressure and hose dimensions

Air pressure
Ensure that the compressor can deliver the required air pressure of 5 bar at the machine. Measure the pressure close to the inlet nipple when operating the pick hammer.

- High pressure (>5 bar) causes rough operation and damage.
- Low pressure (<4 bar) results in a slow breaking speed.

Air hose dimensions
The air hose diameter must be no less than 19 mm. The ideal overall air hose length is less than 15 m.

5. Prevent freezing

In low ambient temperatures, ice can form in the machine. This can be avoided if the water in the compressed air is removed. This can be done by equipping the air line with an in-line water separator.

If the pick hammer ices up, it must not be heated to melt the ice. Let the ice thaw at room temperature.

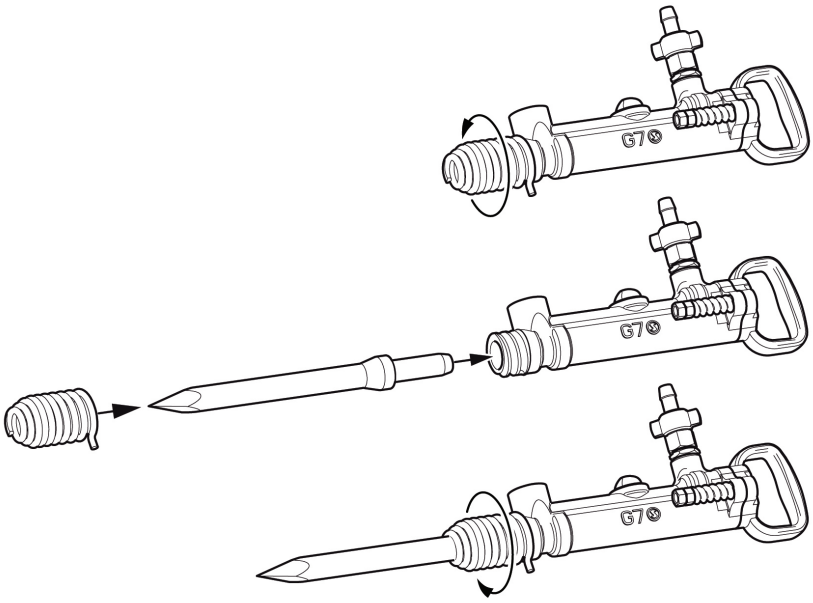
Never pour methylated spirits or similar substances into the pick hammer, as they will interfere with the lubrication and lead to increased wear.

Fitting the insertion tool

Before fitting the insertion tool

- To prevent an accidental start: switch off the air supply and disconnect the machine from the power source.
- Check that the insertion tool shank is of the correct size and length for the chuck used.
- The shank must be clean and the insertion tool must be in good condition.
- The suitable quenching hardness of the shank is HRC48-53. A harder end face will cause piston damage and breakage of the end face of the piston. If the shank face is too soft it will be easily deformed by the piston which will result in difficulty in removing the insertion tool.
- The shank end face shall be flat and perpendicular to the axis.
- Remove sharp edges from the shank's end face. A rough shank surface will cause premature piston failure.
- Inspect the insertion tool: A dull insertion tool will slow down the breaking speed and overstrain the hammer mechanism.

Fitting the insertion tool



1. Unscrew the tool retainer from the cylinder.
2. Insert the insertion tool into the chuck.
3. Screw the tool retainer onto the cylinder. Tighten it using a hammer.

Start and Stop

Starting the pick hammer

The pick hammer starts when the inserted tool is pushed into the cylinder. Start the pick hammer by pressing the tip of the inserted tool against the work piece.

Stopping the pick hammer

The pick hammer will stop when the tip of the inserted tool is no longer pressed against the work piece.

Starting a cut

- Stand steady and make sure that your feet and hands are at a safe distance from the inserted tool.
- Adjust the breaking distance so that the inserted tool does not get stuck. Do not try to cut too big a bite.

Operating

- Avoid working in extremely hard materials e.g. granite and reinforcing iron (reinforcement bar) which would cause substantial vibrations and excessive wear on the pick hammer.
- Check regularly that the machine is well lubricated. The chuck and insertion tool shank must always be covered by a film of oil.

Maintenance

Regular maintenance is a prerequisite for machine safety. Replace damaged and worn components in good time.

Check the machine and insertion tool for wear and damage at regular intervals. Do not use a very worn or damaged insertion tool.

When cleaning mechanical parts with a solvent, make sure that you comply with current health and safety regulations and ensure that there is sufficient ventilation.

Daily maintenance, regular checking of wearing parts and carrying out repairs in good time prevents breakdowns and increases the service life of the machine.

- Make sure that no foreign matter enters the machine.
- Always hose down and wipe clean the pick hammer after use.

Once a shift (after 8 hours of operation)

- Check the wear in the chuck bushing. If the wear limit has been exceeded, the insertion tool shank will wear more quickly, or become deformed. This will lead to stoppages and increased insertion tool consumption.
- Check the tightness of the side bolt nuts (spare parts list item No. 24). The tightening torque of the side bolt nuts is 25 Nm.
- Check the hoses, couplings and controls for leakage and damage.
- Every day before using the pick hammer, blow out the air hose to clear it from accumulated dirt and moisture.
- Drain the water separator (if one is used).

Once a week (after 40 hours of operation)

Carry out a basic check of all functions of the equipment.

Once a month (after 200 hours of operation)

- Send the pick hammer to a workshop for inspection. The local operating conditions will determine whether or not this is a suitable interval for overhauling the machine.
- Clean out the water separator (if one is used).

Selection of spare parts

Use only genuine parts for replacement, to ensure stable performance. Never use pattern parts, which not only have a short working life but also cause

consequential damage to other parts, due to differing measurements and methods of manufacturing.

Storage

- Always oil the pick hammer before putting it into storage.
- Store the pick hammer in a clean and dry place.
- In the case of long-term storage, pour a quantity of oil directly into the pick hammer air intake and then turn on the air briefly. This will protect the machine from corrosion.
- Protect the chuck using a wooden plug or a clean piece of cotton waste.

Scrapping and waste disposal

Used and worn-out machines must be disposed of in such a way that as much of the material as possible can be recycled and the impact on the environment is kept to a minimum.

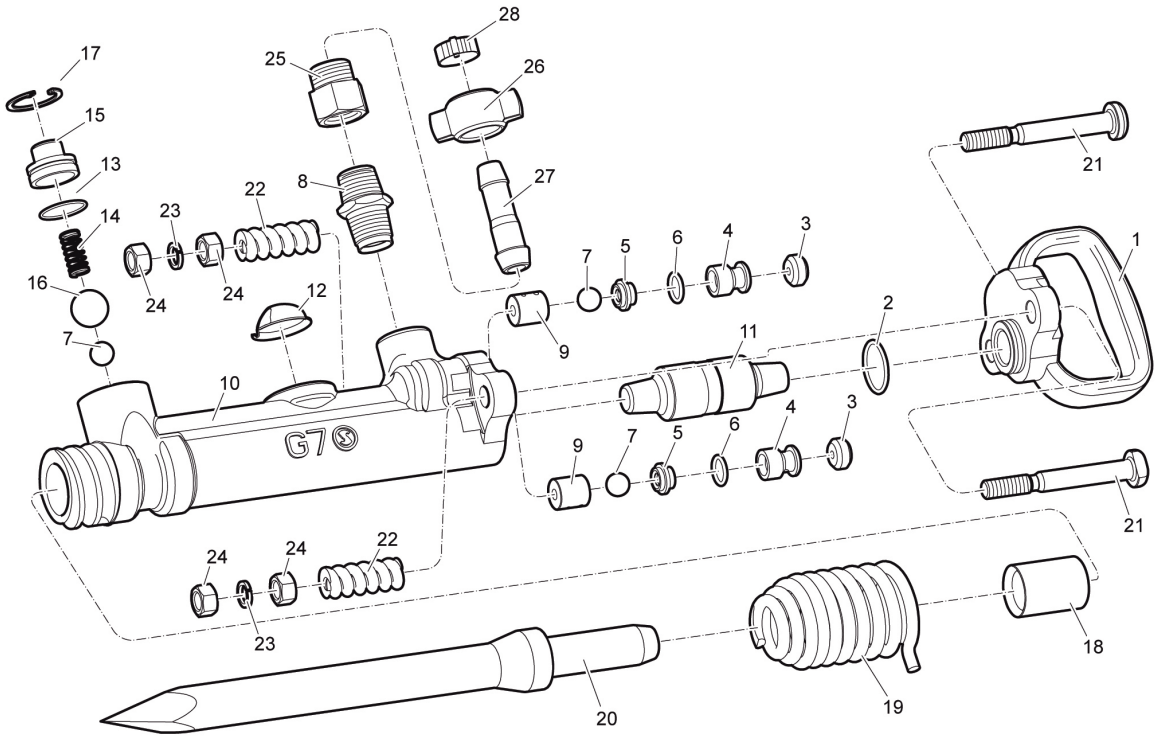
Trouble shooting

If the pick hammer does not start, has low power or uneven performance, check the following points.

- Check that the inserted tool being used has the correct shank dimension.
- Check that the pick hammer is receiving the correct amount of lubricant. Too much lubrication can cause starting problems, low power or uneven performance.
- Check that the compressed air system supplies the machine with sufficient air pressure to provide full power.
- Check that the dimension and length of the air hose is in accordance with the recommendations. See “Preparations before starting”.
- If there is a risk of freezing, check that the machine’s exhaust ports are not blocked.

If the machine function is still not satisfactory after this procedure, contact an authorized service workshop.

Spare parts list and exploded drawing



No.	Description	Quantity	Product no.	Product code
1	Back head	1	96000462	966Q-1-3312310598
2	O-ring	1	96000479	966P-1-3312310617
3	Elastic pad	2	96000463	966Q-1-3312310599
4	Guide sleeve	2	96000464	966Q-1-3312310600
5	Valve cover	2	96000465	966Q-1-3312310601
6	O-ring	2	96000476	966P-1-3312310614
7	Steel ball	3	96000480	966P-1-3312310620
8	Pipe connection	1	96000872	966Q-1-3312310602
9	Valve seat	2	96000466	966Q-1-3312310603
10	Cylinder	1	96000467	966Q-1-3312310604
11	Piston	1	96000468	966Q-1-3312310605
12	Exhaust cover	1	96000469	966Q-1-3312310606
13	O-ring	1	96000477	966P-1-3312310615
14	Valve gate spring	1	96000470	966Q-1-3312310607
15	Cover	1	96000471	966Q-1-3312310608
16	Steel ball	1	96000559	966P-1-3312311041
17	Elastic back ring	1	96000478	966P-1-3312310616
18	Bush	1	96000472	966Q-1-3312310609
19	Tool retainer	1	96000473	966Q-1-3312310610
20	Pick rod	1	96000069	966P-1-3312300738
21	Bolt	2	96000474	966Q-1-3312310611
22	Spring	2	96000475	966Q-1-3312310612
23	Spring washer	2	96000536	962A-1-3312310719
24	Hexagon nut	4	96000523	962A-1-3312310703
25	Pipe sleeve	1	96000223	9605-1-3312310220
26	Wing nut	1	96000221	9605-1-3312310218
27	Conical rubber swivel	1	96000222	9605-1-3312310219
28	Hoop	1	96000539	9605-1-3312310722

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