LPHB

Hydraulic Posthole Borer

LPHB

Safety and Operating Instructions

ATLAS COPCO CONSTRUCTION TOOLS AB
NACKA • SWEDEN
www.atlascopco.com

2005-09
No 3392 5039 01 a

CONTENTS

INTRODUCTION

These operating and safety instructions must be read before operating the machine. Instructions for operation and basic maintenance are included. The purpose of this booklet is to give the machine user an understanding of how to safely and efficiently use and maintain the machine.

SAFETY INSTRUCTIONS

Introduction to safety

SAFETY INSTRUCTIONS

- **Before starting, read all instructions carefully**
- **Special attention must be paid to information alongside this symbol**

- **Only use Atlas Copco genuine parts**

To reduce the risk of serious injury to yourself or others, read these safety instructions before using the Posthole Borer. Post these safety instructions at work locations, provide copies to employees, and make sure that everyone reads the safety instructions before using the Posthole Borer. Comply with all safety regulations.

These instructions have been compiled from international safety standards and form part of the operating instructions. Signs and decals that are important for your safety and the care of the Posthole Borer are included with each Posthole Borer. Make sure that they are legible. New decals can be ordered using the spare parts list.

Safety symbols used

The indications DANGER, WARNING and CAUTION, as used in the safety instructions, have the following meanings:

DANGER Immediate hazard which WILL result in serious or fatal injury if the warning is not observed

WARNING Hazard or hazardous procedure which COULD result in serious or fatal injury if the warning is not observed

CAUTION Hazard or hazardous procedure which COULD result in injury or damaged equipment if the warning is not observed

General safety rules

- The Posthole Borer must only be used for its purpose
- Learn how the power source is switched off in the event of an emergency
- Only qualified and trained persons may operate or maintain the Posthole Borer
- The Posthole Borer must always be operated by two persons
- Drill only in places, where both operators can stand firmly on the ground outside of the drill
- Never operate with loose clothing on, as this might get in touch with the auger
- Do not use the Posthole Borer in an explosive environment
- Never change auger or bit, when the Posthole Borer is connected to the power source
- Keep the Posthole Borer in a safe place out of the reach of children, locked up
- Pay attention and look at what you are doing
- Use your common sense
- Do not use the Posthole Borer when you are tired or under influence of drugs, alcohol or anything else that may influence your vision, reaction or judgement
- Always disconnect the hydraulic circuit before dismounting hoses or servicing the Posthole Borer
- Never leave the Posthole Borer connected with the power source turned on
- Regular maintenance is prerequisite for machine safety. Carefully follow the operating instructions. Replace damaged and worn components in good time. For major service to the Posthole Borer, contact your nearest authorized workshop. When cleaning mechanical parts with solvent, make sure to comply with current health and safety regulations and ensure sufficient ventilation

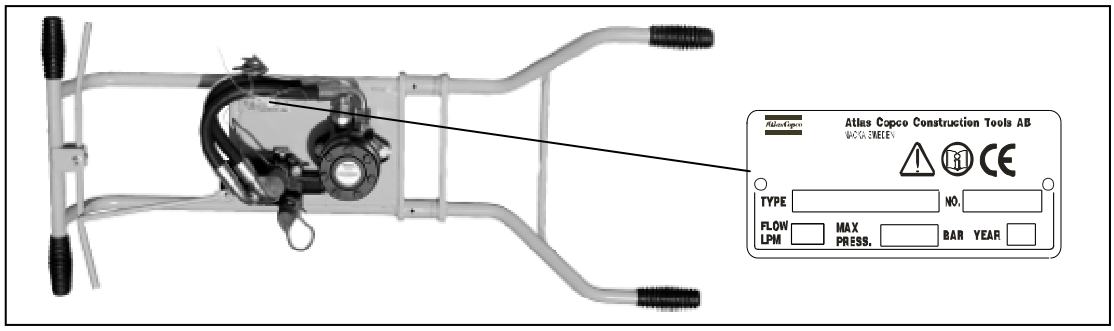
Protective equipment

Always use approved personal protective equipment. Operators and other staff in the proximity areas where work is in progress must as a minimum use the following approved protective equipment:

- Hearing protection
- Protective helmet
- Safety glass with side protection
- Respiratory protection when appropriate
- Protective gloves
- Protective boots

MARKINGS

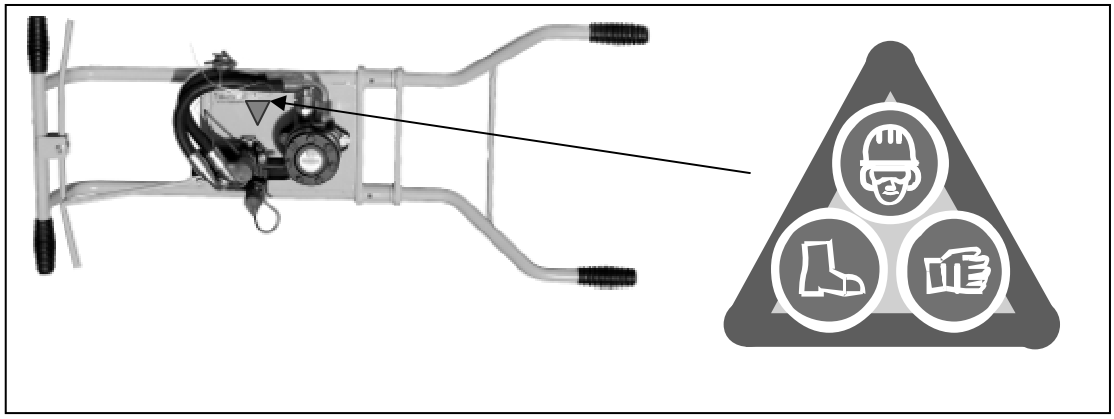
Identification



CE

The CE marking verifies that the machine is CE approved. The marking is on the ID-tag. See the “Declaration of Conformity” supplied with the Posthole Borer for more information.

Safety signs on the Posthole Borer



GENERAL INFORMATION

The Atlas Copco handheld Posthole Borer is a powerful hydraulic tool designed for twin-operator use for the drilling of holes down to a depth of 1-1.3 m with standard Atlas Copco augers in sizes from ø90 to ø350 mm.

The Posthole Borer has reversible rotation and stops automatically, when the lever is released.

The Posthole Borer has an integrated adjustable torque limiter, which prevents the Posthole Borer from rotating, if the auger hits a stone.

OPERATING INSTRUCTIONS

To achieve standard performance, the Atlas Copco Posthole Borer requires a nominal oil supply from the power source of 15-30 l.p.m. at a pressure of 100-140 bar. The hydraulic oil filter must have a filter rating of 25 Micron or better.

Hoses

For connection use high-pressure hoses (inside diameter ½") which, as a minimum, are designed for a working pressure of 140 bar. We recommend the use of double wire-braided hoses that better stand outside wear. The Posthole Borer socket "P" is oil inlet (pump) and the socket "T" is oil outlet (tank).

Torque setting

The torque limiter positioned in the valve block can be adjusted by means of a 13 mm spanner and a 4 mm Allen key.

Place the Posthole Borer safely in a vice (or other fixture), so that rotation is completely stopped.

Screw in the torque limiter to increase the torque and screw out to reduce the torque. Mount a pressure gauge in the pressure line from the power source and read the pressure, when the handle is activated.

The torque varies with the pressure, as for example:

Pressure 140 bar = Torque 315 Nm
Pressure 100 bar = Torque 225 Nm
Pressure 70 bar = Torque 160 Nm

Starting/stopping the Posthole Borer

1. Connect the hoses to the power source by means of the quick-release couplings
2. Make sure that the Posthole Borer is supplied with correct flow according to the technical data
3. Make sure that the torque limiter has not been set at a higher pressure than stated in the technical data
4. Make sure that the drilling does not involve the risk of getting into contact with electric cables, gas mains, water pipes etc.
5. Make sure that both operators are familiar with the operation of the tool
6. If the auger hits a stone, hard ground etc., the rotation may stop immediately and give a hard reaction. It is therefore required that both operators hold firmly onto all four handles during operation in order to compensate for a sudden reaction
7. Start the power source and allow it to run for a few minutes to warm the hydraulic oil
8. Activate the control valve of the power source to start the hydraulic oil flow
9. Start the Posthole Borer
10. When work is finished, activate the control valve to stop the hydraulic oil flow
11. Stop the engine of the power source

Flow rates

The European Hydraulic Tool Manufacturers Association (E.H.T.M.A.) has categorised hydraulic power packs and tools in terms of flow rate and working pressure.

Our Post Puller is categorised by the E.H.T.M.A. as C, D and E.

Note: The Atlas Copco hydraulic Post Puller is clearly marked with E.H.T.M.A. categories. It is important that any power source used with the Post Puller is of a compatible category. If any doubt, consult your Atlas Copco dealer.

WARNING

The setting of the pressure relief valve on the power source can in some cases be higher than the prescribed max. pressure according to the E.H.T.M.A. category.

A too high pressure relief valve setting can harm the Posthole Borer.

Readjust the pressure relief valve on the power source if the technical specifications of the Posthole Borer prescribe a lower pressure relief valve setting than the standard setting of the power source.

CAUTION

Ensure that any power source you plan to use is compatible with the Posthole Borer you are using.

Non-compatible power sources might harm both the Posthole Borer and the power source.

Check the section Flow rates in this instruction book and compare the flow rate with the technical specifications in the instruction book for the power source.

Connecting/disconnecting hoses

Connecting hoses

1. Prepare the power source
   a) Turn the by-pass valve to the OFF position
   b) Stop the engine

2. Inspect the couplings
   a) Ensure that the couplings are clean and serviceable

3. Connect the hoses to the Posthole Borer
   a) Attach the return line
   b) Attach the feed line
   c) Rotate the collar on the female coupling to secure the coupling

4. Check the hydraulic oil level
   a) Start the engine and run the power source to fill up the hydraulic circuit
   b) Check the hydraulic oil level

Disconnecting hoses

1. Prepare the power source
   a) Turn the by-pass valve to the OFF position
   b) Stop the engine

2. Remove the hoses
   a) Rotate the collar on the female coupling
   b) Release the return line
   c) Release the feed line

3. Install protective caps over the ports to prevent contamination

Note: The couplings are unlocked by moving the collar back on the coupling

WARNING

Do not disconnect the hoses, when the power source is running, or if the hydraulic oil is hot. Hot hydraulic oil might cause serious burns.

WARNING

Fine jets of hydraulic oil at high pressure can penetrate the skin. Do not use your fingers to check for hydraulic oil leaks. Do not put your face close to suspected leaks. Hold a piece of cardboard close to suspected leaks and then inspect the cardboard for signs of hydraulic oil. If hydraulic oil penetrates your skin, get medical help quickly.

Service schedules

Daily

The daily maintenance of the Posthole Borer and the quick-release couplings is confined to cleaning after use.

1. Check the hoses regularly for damages. Replace if necessary

2. Clean the quick-release couplings before use. Use this maintenance schedule to maximize service life

Monthly

1. Perform a thorough inspection of the hydraulic hoses and fittings as described above

WARNING

Maintenance must be done only by suitably qualified and competent persons.

Before doing any maintenance, make sure that the Posthole Borer is safe and correctly sited on level ground.

Recommended hydraulic oil

In order to protect the environment, Atlas Copco recommends the use of biologically degradable hydraulic oil.

Viscosity (preferred).....20-40 cSt
Viscosity (permitted) .....15-100 cSt
Viscosity index ..... Min. 100

Standard mineral or synthetic oil can be used.

The Posthole Borer must not be used, if the oil viscosity fails to remain within the permitted area, or if the working temperature of the oil does not fall between 20-40°C.

Scrapping and waste disposal

Used and worn out parts must be treated and disposed of in such a way that the greatest possible part of them can be recycled and the influence on the environment kept as low as possible.

TROUBLE SHOOTING

WARNING

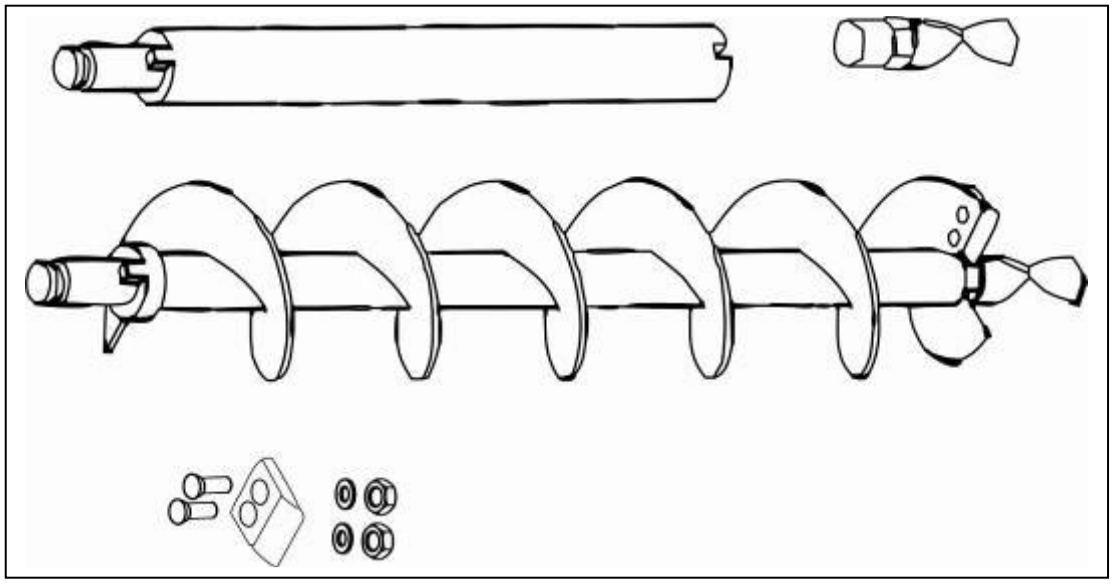
Maintenance must be done only by suitably qualified and competent persons.

Problem	Cause	Solution
Posthole Borer will not operate	Improper power source	Verify that the power source meets the specifications
	Oil level too low	Check oil level. Check system for leaks
	Incorrect hydraulic oil viscosity	Use hydraulic oil with correct viscosity
Posthole Borer operates slowly or erratically	Cold hydraulic oil	Allow oil to warm up to operating temperature
	Power source not adjusted correctly	See the operating manual for the power source and set the flow and pressure
	Oil level too low	Check oil level. Check system for leaks
	Air in the hydraulic system	See the operating manual for the power source in order to remove air from the system
	Incorrect hydraulic oil viscosity	Use hydraulic oil with correct viscosity
Posthole Borer operates backwards	Hose connections reversed	Depressurize the hydraulic system and switch the hose connections

TECHNICAL DATA

Weight without auger ..... 20 kg
Measurement (LxHxW) ..... 1085 x 475 x 300 mm
Oil flow ..... 15-30 l.p.m.
Working pressure ..... 100-140 bar
Max. back pressure in return line (measured at tool) ..... 50 bar
Max. rotational speed 15 l.p.m. ..... 90 1/min.
20 l.p.m. ..... 125 1/min.
30 l.p.m. ..... 188 1/min.
Max. torque ..... 315 Nm at 140 bar
(Previous models equipped with OMR 250 motor: Max. pressure setting 80 bar)
Extension rod ..... 500 mm

Augers and bits



Auger ø90 x 870 mm 3378 0050 45
Bit set incl. bolts 3378 0999 28

Auger ø150 x 870 mm 3378 0050 46
Bit set incl. bolts 3378 0999 30

Auger ø200x 870 mm 3378 0050 44
Bit set incl. bolts 3378 0999 31

Auger ø250 x 870 mm 3378 0050 47
Bit set incl. bolts 3378 0999 32

Auger ø280 x 870 mm 3378 0050 49
Bit set incl. bolts 3378 0999 33

Auger ø350 x 870 mm 3378 0050 48
Bit set incl. bolts 3378 0999 34

Tip for Posthole Borer (all sizes) 3378 0999 36

Extension rod 0.5 m 3378 0050 55

Noise declaration statement

Sound pressure level at work station L_{PA}	< 85 dB

IMPORTANT

We, Atlas Copco Construction Tools AB, cannot be held liable for the consequences of using the declared values, instead of values reflecting the actual exposure, in an individual risk assessment in a work place situation, over which we have no control.