OPERATORS HANDBOOK

Petrol drill and breakers

Atlas Copco

Index

Introduction

Atlas Copco petrol driven drill and breakers are designed for rock drilling, breaking concrete, cutting asphalt, tamping ballast, digging and other tasks.

This booklet will help you become familiar with your machine. You will find basic technical information, simple instructions and ideas of the range of jobs the machine is suitable for.

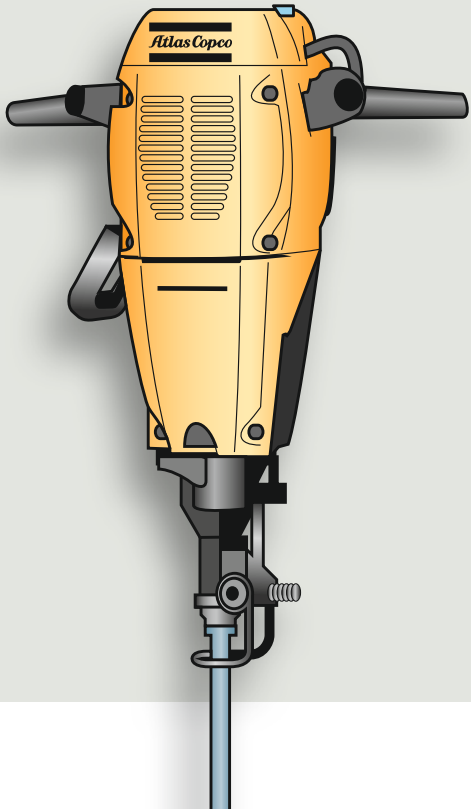
For detailed information on maintenance, service and repair of Atlas Copco petrol drill and breakers, please refer to the following publications: Instruction Manual, Service Manual, Spare Parts List. They are available from your nearest Atlas Copco distributor or via our web page www.atlascopco.com.

A real multi-purpose tool

Combined drill/breaker (Cobra Combi)

Powered by a two-stroke engine with an integrated impact mechanism, the combined drill/breaker is equipped with rotation and air flushing mechanism for drilling applications.

The function selector allows you to switch between drilling and breaking/driving applications.

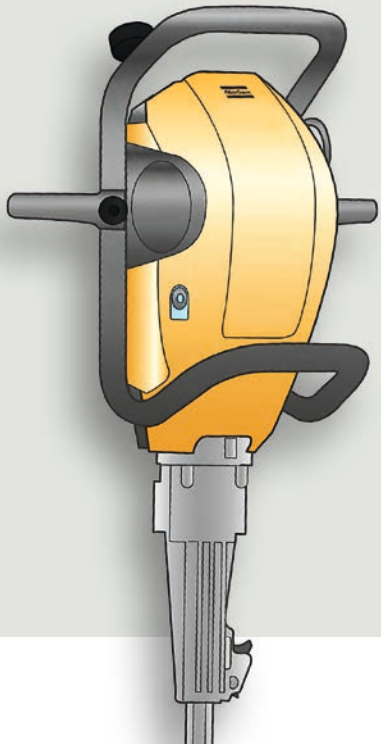


Heavy duty breaker (Cobra PROi, Cobra TTi)

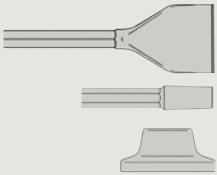
Powered by a two-stroke engine, the breaker has a separate impact mechanism activated by pressing the machine down. Thus, the engine can be run without engaging the impact mechanism.

The powerful Cobra PROi/Cobra TTi is suitable for demanding breaking and driving jobs.

Cobra PROi and Cobra TTi are the first petrol driven breakers with an electronic fuel injection system. So from now on, no manual adjustments on carburetors or usage of the “choke” function will be necessary.

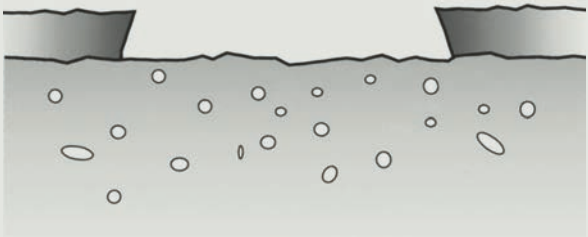


Cutting and compacting asphalt



For this job you need an asphalt chisel and a tamper.

Run the breaker at idling speed and make a score by holding the machine at an angle.

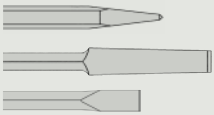


Break the asphalt, keeping the edge straight and angled slightly inwards.

Compact the base thoroughly using the tamper.

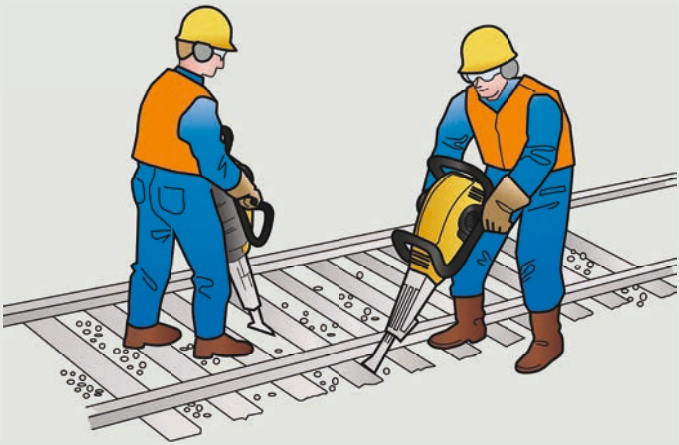
When packing new asphalt start at the edges. This will give a lasting seal. Compact the rest of the material and level off.

Concrete breaking



Always start from the edge, if possible, when breaking concrete. Use the widest tool the material allows. It makes the job go faster.

Tie tamping



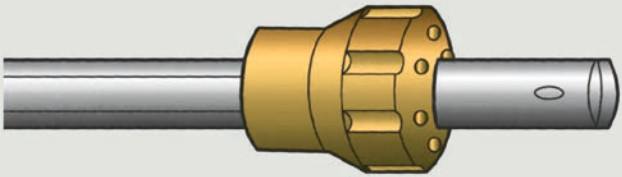
Our breakers are ideal for ballast tamping, especially around switches and turn-outs. Operators should work diagonally cross wise, in pairs or fours to ensure solid packing of the ballast.

Start upright and work your way under the tie. Tamp for a few seconds, lift the machine, and repeat. Sliding the breaker up and down your thigh, takes the load off your back.

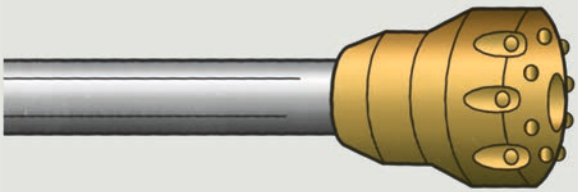
Drilling

Atlas Copco offers an extensive range of drill steel for different materials and jobs. Avoid making a wider hole than necessary. Choosing the correct drill steel saves both time and energy.

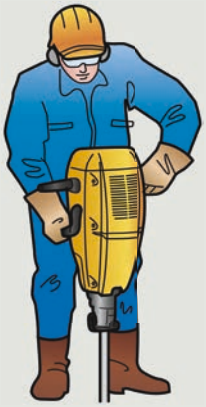
Integral drill steels are the best choice for hard materials. They are grouped in series. When drilling a deep hole start with a short, wide drill and continue successively using the next size down. This avoids jamming and allows easy extraction.



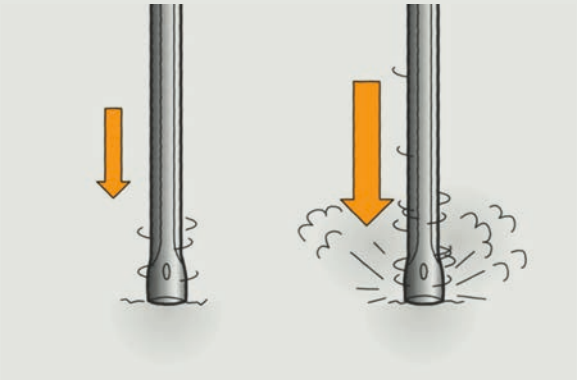
The pilot drill is useful for an accurate start and for drilling large diameter shallow holes.



Button bits are most suitable for drilling large holes in concrete or soft rock.



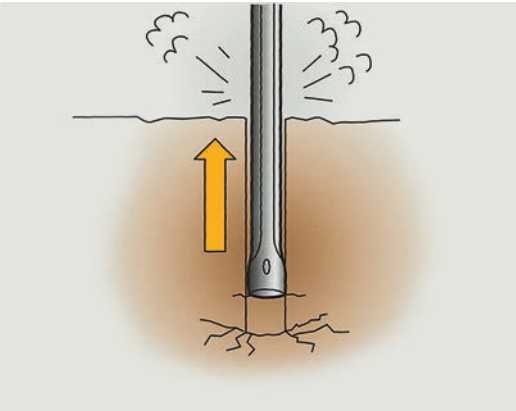
When collaring a hole, grip the side handle for better control of the machine.



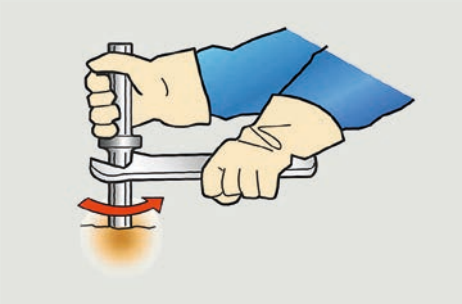
Allow the engine to idle and press the machine and tool against the spot where you wish to drill. Increase the engine speed once the drill bit has collared a footing in the rock (or other material).

Regulate the feed pressure and rotation according to the material you are working with. Never let the drill jump freely on the shank.

Keep the drill centered so that it rotates freely in the hole.

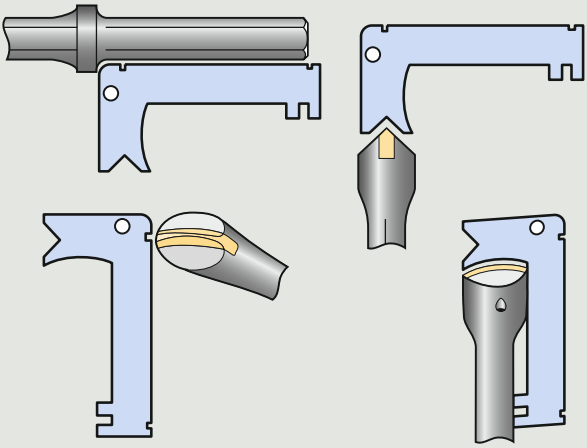


If rotation becomes sluggish due to a crack, or the drill keeps sticking, lift the machine a few times to improve flushing.

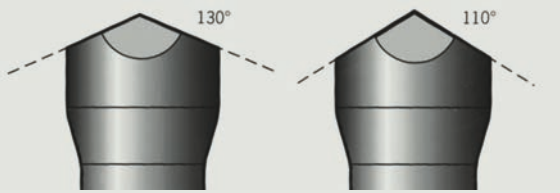


If the tool gets stuck, stop the machine and free it with a drill wrench or a spanner.

Drill dust in damp rock can cause the drill to stick. Pouring more water into the hole dissolves the sludge and frees the drill steel.



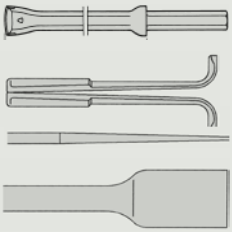
To get maximum effect, tools should be kept sharp and their shank must have the correct lengths. This length should be checked with the shank template. The template can also be used to check cutting edge angle, radius and cutting edge wear.



The standard cutting edge angle is 110°. For better results in loose rock it can be reground to 130°.

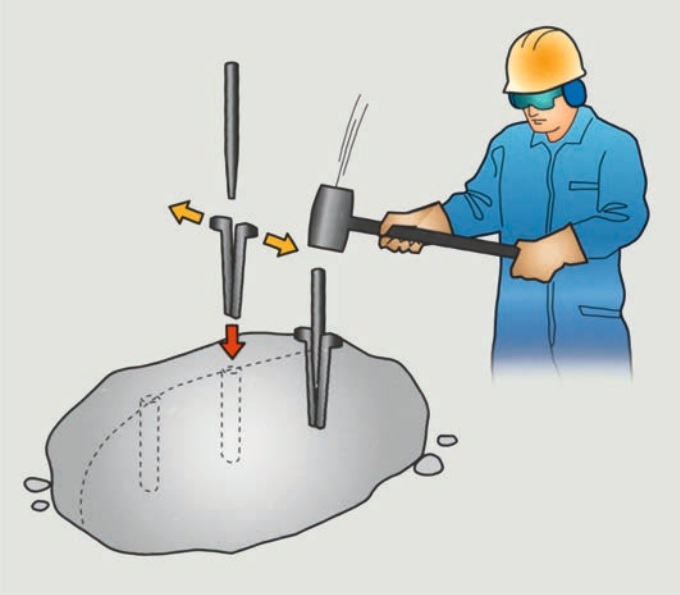
Blow through the air-flushing channel to check that it is not blocked.

Rock splitting



Using a petrol drill/breaker, you can split large rocks safely and accurately.

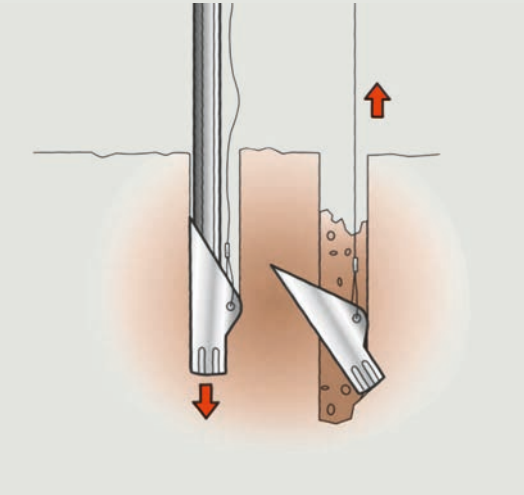
Start by drilling holes in a straight line across the rock you want to split. The holes should be about 30 – 40 cm (12" – 16") apart and at least 40 cm (16") deep, or 40 % of total height of the rock.



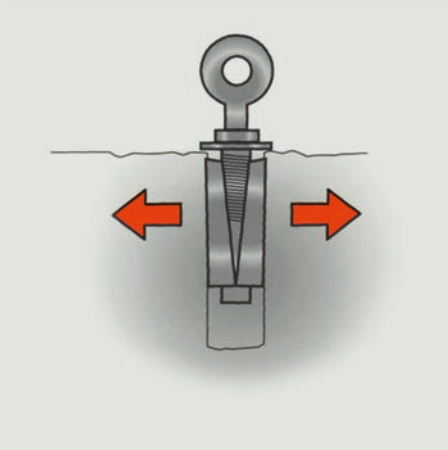
Insert feathers and wedges along the line. Drive in each wedge a little at a time until the rock splits. Some grease applied to the wedges makes the job easier.

Anchoring

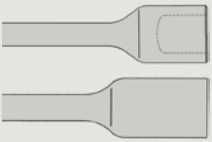
For soil, special earth anchors are available on the market for different loads. These are driven down with special driving rods.



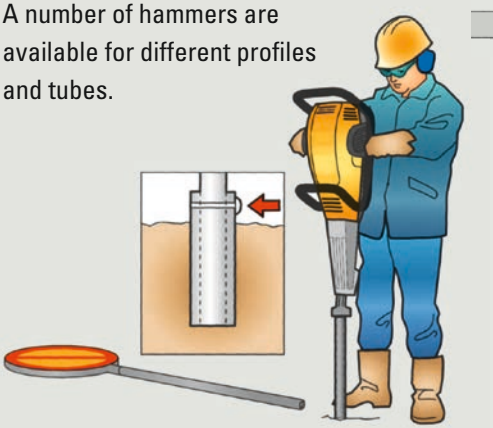
For anchoring jobs, in hard materials like rock or concrete, an expander bolt can be used. It can also be used to lift a rock or concrete slab.



Post driving

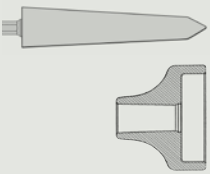


A number of hammers are available for different profiles and tubes.



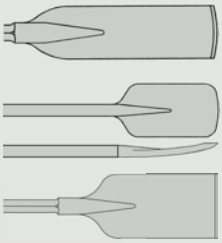
When erecting a signpost, the first step is to drive down a short pipe. The sign is then placed inside the pipe and secured.

Fencing



Use the post hole driver to make the hole. Move the machine in circles to not get stuck in the ground. Then use the driver pad to drive the fence post into the ground.

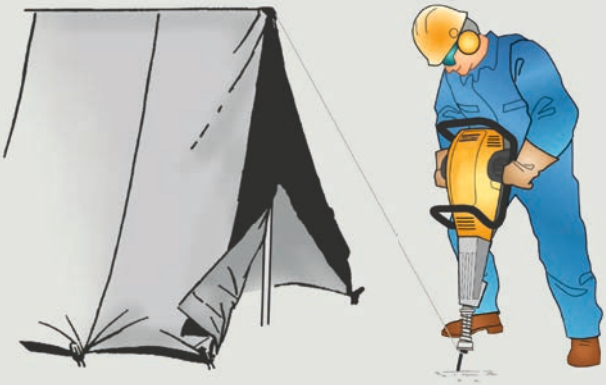
Digging



Motor breakers can be used to dig holes. The round spade is ideal for digging in hard or frozen ground.

Spiking

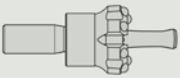
The spiking tool is used for spikes and tent poles in soft materials, such as asphalt and frozen ground.



A tool for every job

Always use the correct tool for the job – it saves time and effort. We offer a wide range of tools and drill steel for a variety of applications.

Drill steel

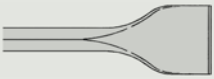


Reamer bit

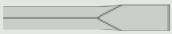
Pilot drill. rod

Tie tamper

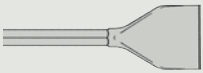
Moil point



Wide chisel



Narrow chisel



Asphalt cutter

Digging chisel

Digging spade

Wedge set

Ground rod driver

Wedge chisel

Clay spade

Driver blank

Shaft for pad

Tamping pad, square

Driver pad

Post hole driver

Tamping pad, round

Tamper sq., compl.

Spiking tool

Accessories

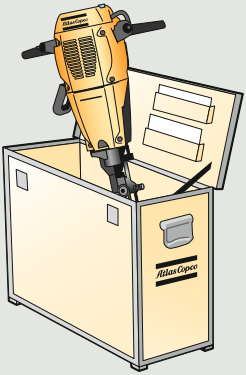
An assortment of accessories is available to make your machine even more versatile.

Fuel can
A practical 5 liter fuel can fits neatly in the transport case.

Back-pack
For work on remote sites there is a practical backpack available. It carries your Cobra and two tools.

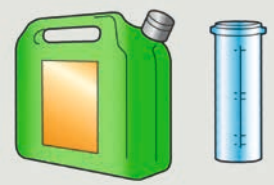
Trolley
Practical trolley carries one machine and four tools.

2-stroke oil
We recommend to use our biodegradable, fully synthetic, 2-stroke oil.



Transport box
There are wooden transport boxes available for all models.

Correct fuel mixture



Use the correct fuel mixture, based on fresh fuel and two-stroke oil.

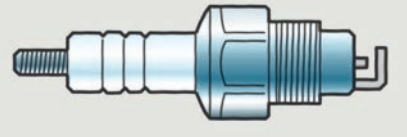
Cobra Combi	2 %	(1:50)
Cobra PROi	2 %	(1:50)
Cobra TTi	2 %	(1:50)

Too little oil will result in insufficient lubrication and increased wear. Too much oil clogs up exhaust ports and channels. Dirty fuel filters should be replaced.

See instruction book for detailed information on maintenance and servicing.

Daily checks

Simple daily maintenance will ensure trouble-free operations.



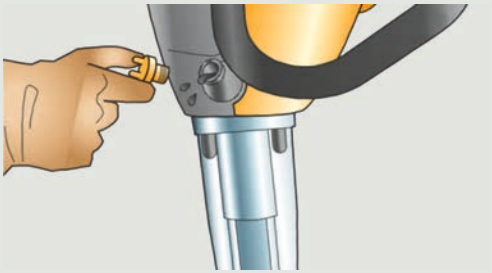
Check the spark plug regularly. Dirty or burnt-out electrodes impair performance. Check the electrode gap and adjust if necessary. Replace dirty or burnt out spark plug.

Electrode gaps	
Cobra Combi	1.5 mm/0.060"
Cobra PROi	0.6–0.7 mm/0.024–0.028"
Cobra TTi	0.6–0.7 mm/0.024–0.028"

Clean the air filter and housing daily.

Use of compressed air will destroy the filter.

A clogged filter will cause excessive engine wear and carbonization which clogs up exhaust ports and channels. Never use the machine without the air filter. Dust and stone particles can enter the cylinder.



Check the impact mechanism oil level daily on Cobra PROi and Cobra TTi. Place the machine in an upright position and top up as necessary.

Safety first

For your own safety, always wear protective clothing – glasses, gloves, shoes or boots with steel toecaps, ear protectors and a hard hat.

WARNING: To reduce the risk of serious injury to yourself or others, read the separately provided safety instructions for your machine.

For ease of operation use your thigh as support when running the machine.

Avoid running the engine close to flammable material or in poorly ventilated areas. Always empty the fuel tank before transportation and storage.

Application chart

	Cobra PROi	Cobra TTi	Cobra Combi
	Breaker	Breaker	Combined drill/breaker
Cutting asphalt	■	■	■
Compacting asphalt	■	■	■
Concrete breaking	■	■	■
Tie tamping	■	■	■
Drilling			■
Rock splitting			■
Anchoring			■
Post driving	■	■	■
Fencing	■	■	■
Digging	■	■	■
Spiking	■	■	

COMMITTED TO SUSTAINABLE PRODUCTIVITY

We stand by our responsibilities towards our customers, towards the environment and the people around us. We make performance stand the test of time. This is what we call – Sustainable Productivity.

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