

LASER®

Engine Cylinder Hone

Capacity 50-180mm (2"-7")
Bore Diameter



Safety First. Be Protected.



2070

Guarantee

If this product fails through faulty materials or workmanship, contact our service department direct on: **+44 (0) 1926 818186**. Normal wear & tear are excluded as are consumable items & abuse.

When you have finished with this product please recycle.

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TOOL CONNECTION
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The Engine Cylinder Hone is distributed by The Tool Connection Ltd. If you would like details of other tools and equipment in our range, please ring or write for a copy of our catalogue.

Introduction

The Laser Engine Cylinder Hone is an indispensable tool for engine overhauls. It enables the inside surfaces of engine cylinders to be cleaned of carbon deposits and re-surfaced quickly, simply and effectively.

It can be used with any electric or compressed air drill and is suitable for all cylinders with a bore diameter of 50mm to 180mm (2 to 7 inches). The three honing stones are 100mm long, medium grade, which are suitable for most cylinder honing applications, and are adjustable by spring tension.

Warning notice - read NOW

Read these instructions through carefully before you use the tool. Pay particular attention to the instructions in bold type. If you do not use the tool correctly, as described in these instructions, you may damage either the tool or the engine on which you are working. You may also injure yourself. We cannot consider a warranty claim for tool failure if you have used the tool in any way other than that described in these instructions, or if you have used it for any other purpose than that for which it is intended. Nor can we be held responsible in any way for personal injury caused while using the tool.

IMPORTANT

Always wear eye and respiratory protection and work gloves when using the Laser Engine Cylinder Hone.

How to use the Laser Engine Cylinder Hone

First, examine each cylinder carefully. If the cylinders show signs of excessive wear or are badly scored, out of true or tapered, the cylinder block will have to be re-bored and fitted with new oversized pistons.

However, if the cylinders are in reasonably good condition and the clearances between the cylinders and pistons are within the limits of the engine specifications, you will only need to replace the piston rings and hone the cylinders. This will allow the new piston rings to bed in correctly and provide a good combustion seal.

Before you hone the cylinders, refit the main bearing caps, but without the bearing shells, and tighten the bolts to the specified torque setting.

Now attach the cylinder hone to a suitable variable speed electric or air drill, taking care to tighten the chuck fully. Do this with the drill disconnected from the mains electricity supply or compressed air line. Turn the knurled nut at the top of the hone shaft anti-clockwise until it reaches the top of the shaft. This reduces the spring adjustment tension to the minimum.

Now squeeze the three arms of the hone together and insert into the first cylinder. Then release the arms, which will now spring out to make contact with the inside wall of the cylinder.

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Adjust the correct cutting pressure of the hone stones against the cylinder wall by turning the knurled nut at the top of the shaft in a clockwise direction. Connect the drill to the mains electricity supply or air line. Pour plenty of light oil down the cylinder wall to act as a cutting lubricant and switch on the drill, making sure you have a secure grip. Allow the hone to rotate inside the cylinder while moving it up and down the cylinder. There should be a fine cross hatch pattern on the cylinder wall with the lines intersecting at about 50° to 60° or at 20° to 35° to the horizontal.

Some piston manufacturers may specify a different cross hatch pattern, so check with the instructions supplied with the new piston rings.

Use plenty of light oil and aim to remove as little metal as possible from the cylinder wall to achieve the specified finish.

Never remove the hone from the cylinder while the drill is running and the hone is still turning. Always switch off the drill and continue moving the hone up and down the cylinder until it stops turning.

Squeeze the three honing blades together and remove the tool from the cylinder.

Wipe the cylinder clean of excess the light oil lubricant and any steel dust. Then block it with cotton waste while you work on the other cylinders.

To prevent the piston rings from catching as you install them, carefully

chamfer the top edges of the cylinders with a small file. Take great care not to damage the cylinder walls with the end of the file.

It is most important to remove all traces of the abrasive grit produced during the honing operation. Use warm soapy water to clean the whole engine block thoroughly. Brush out all oil holes and galleries and rinse well with clean water.

You can detect any remaining residues by using a clean white lint-free cloth dampened with clean engine oil to wipe each cylinder until no dirt or grit collects on the cloth.

Finally, when you have cleaned the engine block properly, rinse and dry it then lightly oil the exposed machined surfaces to prevent rust forming.

