

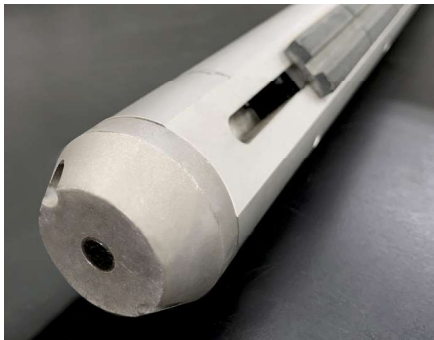


Partnership · Precision · Performance

CH-100

LINE HONE





SUNNEN'S CH-100 LINE HONE

Main Bearing Bore Alignment: Essential To All Engine Rebuilding Jobs

If you install a reground crankshaft and new inserts without an align hone job, you'll wind up with crankshaft bind. This robs the engine of horsepower and causes new inserts to wear quickly. Or, excessive cap stretch reduces bearing crush (which holds the insert in place), causing the insert to seize and spin. This results in a scored main bearing bore housing and often a broken crankshaft.

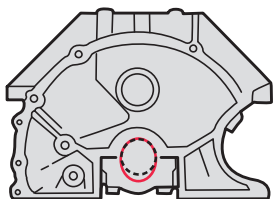
Main bearing bore misalignment is usually detected only after the crankshaft and new inserts are installed. Piece-meal corrections then must be made (time-consuming hammering, filing, etc.) or the engine may even have to be torn down again to correct the problem.



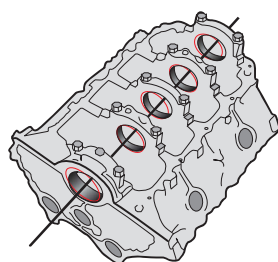
Line Honing Can Eliminate These Conditions

WARPAGE

Continual heating and cooling of engine causes block warpage and distortion. Result: misalignment of the main bearing bores. As warpage occurs slowly, the original inserts and crankshaft compensate for the warpage through gradual wear. If you install a reground crankshaft and new inserts in the warped block, this misalignment (even though slight) causes crankshaft bind. As inserts and crankshaft try to compensate for the existing warpage, they wear out quickly.



Stretch



Spin

STRETCH

High loads usually cause main bearing cap to “stretch” vertically and “pinch in” at the parting line. Again, the original inserts compensate for this distortion through wear. Installing new inserts with stretched caps causes crankshaft bind and failure of the new insert or crankshaft.

SPIN

If an engine block is subjected to excessive heat and loads, the bearings may seize to the crankshaft and spin with it. The result is a cored main bearing bore housing with “burned” bearing and crankshaft.

THE SUNNEN SERVICE TEAM

Your Sunnen Technical Specialist will work with you to determine the best solution for your needs – it’s all part of the added value you get with Sunnen. Plus, our worldwide sales and service team provides comprehensive support for the installation and operation of every system we make. Whatever your need, we have the expertise and product range to create the right solution for you and the dedication to support you for the long run.

To find the Sunnen representative nearest you, visit our website at www.sunnen.com



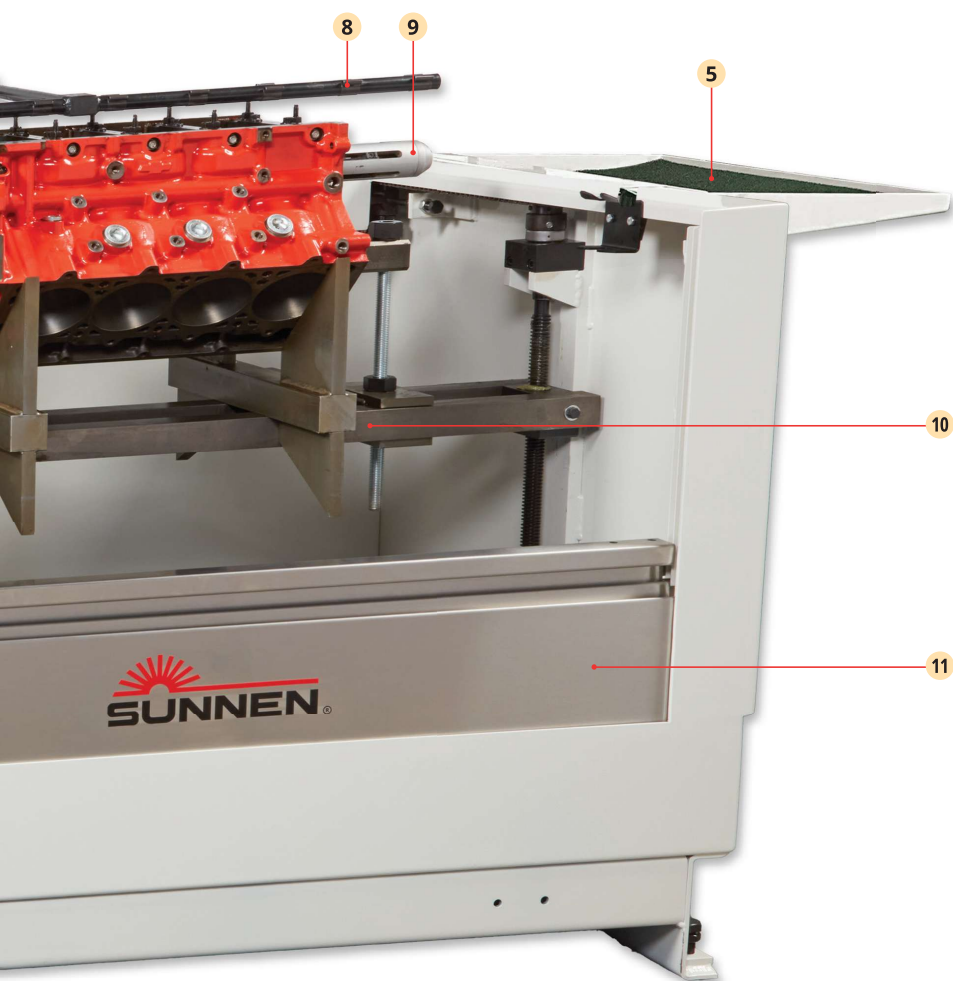


THE CH-100 HORIZONTAL HONE

Packed With The Features That Deliver Precision Accuracy In Main Bearing Bore Finishing

Easy Operating Features

- 1 **RETRACTOR LEVER**
Drive Unit allows you to retract stones for quick loading and unloading of mandrel in block for ease of gaging bore size.
- 2 **QUICK-COUPLER**
Allows you to quickly engage and disengage hone unit to the driving mechanism for easy setup and gaging.
- 3 **DRIVE UNIT**
Heavy duty, 4 speed transmission spindle drive. Includes variable speed control with soft start capability.
- 4 **STROKING STOPS**
Help set correct stroking pattern for any block.
- 5 **DRIP TRAY**
Catches oil runoff.
- 6 **MANDREL SUPPORT (OPTIONAL - NOT SHOWN)**
Allows mandrels to be rolled into and out of honing position with less lifting by operator.
- 7 **MANDREL STORAGE RACK (OPTIONAL - NOT SHOWN)**
Holds three mandrels up to 76.2 mm (3 in.) in diameter.
- 8 **OIL CONTROL**
Directs oil to main bearing web area. Oil flow automatically shuts off when oil line is raised.



9 HONING UNIT

Rounds up holes quickly with minimum stock removal.
(Honing Units must be ordered separately.)

10 ADJUSTABLE BLOCK CRADLE

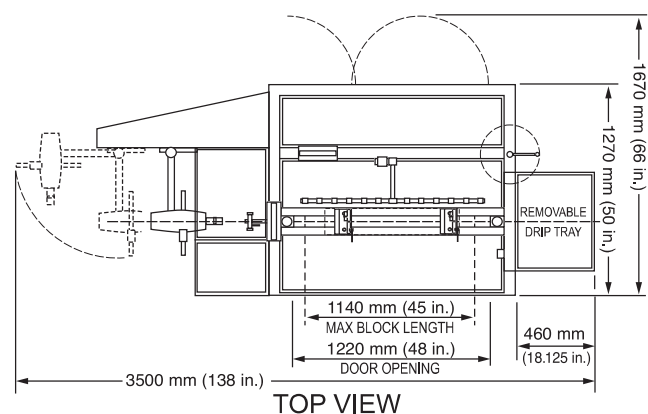
Accepts in-line and V-type blocks (both 60° and 90°).
Crank allows for quick, easy height adjustment of block.

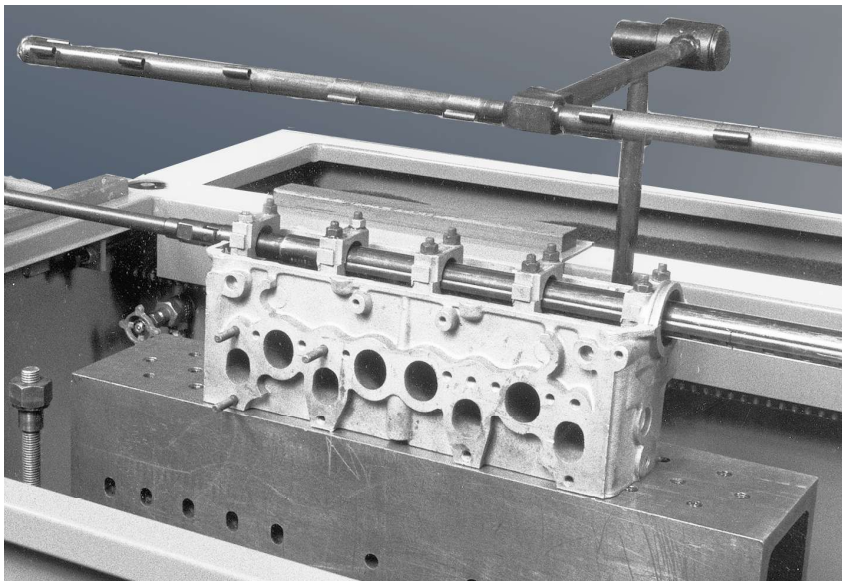
11 FRONT PANEL

Drops down for easy loading and unloading.
(Shown in lowest position.)

Complies with European Machinery Directive (CE)

CH-100 Layout





Camshaft Bore Honing on Overhead Cam Cylinder Heads

For the small shop with limited requirements, mandrels may be special ordered to allow honing various O.H.C. cylinder heads. Contact Customer Service for details and information. Pictured above is a cylinder head being honed on CH-100 Honing Machine with a hand fed Porta-Hone.

Built with Benefits That Assure Precision and Profits

MINIMUM STOCK REMOVAL

Usually less than .076 mm (.003 in.) off the caps compared to as much as .254 mm (.010 in.) with boring. And so little stock out of the main bearing bores that thrust faces or oil seal grooves are not affected.

NO DELAYS DURING ENGINE ASSEMBLY

No binding crankshafts or bearing misalignment.

FAST, EASY SET UP

After grinding and replacing the caps, you position the block – insert and adjust the Honing Units – engage the drive arm and set the limit stops. You're ready to hone.

EASY TO USE

Any shop person can run the CH-100 with minimal training...the old pro or your newest hire.

OPTIMUM PRECISION IN EVERY WAY

You're sure to meet or exceed original factory accuracy for alignment, roundness, and size.

MAXIMUM PRECISION

The CH-100 hone corrects distortion caused by warpage and cap stretch. High spots in the bore are removed to achieve alignment.

Specifications:

SPINDLE DRIVE UNIT

1st Gear: 30 – 90 rpm
2nd Gear: 50 – 140 rpm
3rd Gear: 130 – 400 rpm
4th Gear: 210 – 630 rpm

CAPACITY

- V-blocks, both 90° and 60°: overhead and L-head in-line blocks: angle head blocks; up to 1140 mm (45 in.) long.
- 710 mm (28 in.) from head deck to main bearing centerline

MAIN BEARING BORE DIAMETER RANGE

46 mm – 178 mm (1.800 in. – 7.000 in.)

HONING LUBRICANT

- Sunnen MAN-845 Honing Oil is recommended for most applications.
- MB-30 or SHO-965 can be used in more difficult applications, with the SHO-965 the preferred choice in places, like parts of California, where VOC limits are in place.

HONING OIL RESERVOIR

132 liter (35 gallon) capacity

ELECTRICAL SYSTEM

CH-100K: 115V, 1-phase, 60 Hz
CH-100CA: 220 V, 1-phase, 50 Hz

FLOOR AREA

2946 mm x 1270 mm (116 in. x 50 in.)

WEIGHT

Approximately 660 kg (1,450 lbs.)

SHIPPING WEIGHT

Approximately 760 kg (1,650 lbs.)

CH-100

Line-Honing Saves Time and Assures Precision

ORDERING INFORMATION

Honing Unit	Diameter Range	
	mm	Inches
10RY-1800F	46-54	1.800-2.100
10RY-2100F	54-61	2.100-2.400
8RY-2400G	61-69	2.400-2.700
8RY-2700G	69-77	2.700-3.000
10RY-2400G	61-69	2.400-2.700
10RY-2700G	69-77	2.700-3.000
10RY-3000H	77-89	3.000-3.500
10RY-4500H	115-127	4.500-5.000
15RY-3500H	89-102	3.500-4.000
15RY-4000H	102-115	4.000-4.500
15RY-4500H	115-127	4.500-5.000
10RY-5000H	115-127	4.500-5.000
10RY-5500H	140-152	5.500-6.000
10RY-6000H	152-165	6.000-6.500
10RY-6500H	165-178	6.500-7.000
15RY-5000H	127-140	5.000-5.500
15RY-5500H	140-152	5.500-6.000
15RY-6000H	152-165	6.000-6.500
15RY-6500H	165-178	6.500-7.000

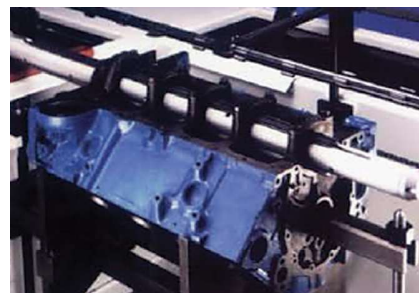
Sunnen CH-100 Accessories Feature Versatility and Efficiency

CH-100-I AVAILABLE FOR INDUSTRIAL APPLICATIONS

The CH-100-I is equipped with a universal vise fixture for industrial applications such as hydraulic cylinders, spool valves, tandem bores and shotgun barrels. See your Sunnen Field Engineer for details.

LINE HONE

All in-line and V-type passenger car and light truck blocks are easy work for the Model CH-100.



VERSATILE

Block cradle adjusts easily to accept small in-line 4-cylinder blocks.



Why Line-Hone?

The Sunnen CH-100 does the complete job of alignment and sizing main bearing bores in about 30 minutes. That's floor-to-floor time for an average passenger car block. Add a few minutes more for truck blocks.

But in the long run, quality of the job is the final

determining factor for why line honing is necessary. It can make or break your reputation.

The CH-100 has no equal for doing quality work. That's why it has a practical and profitable application in any shop... for big blocks or little blocks.



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