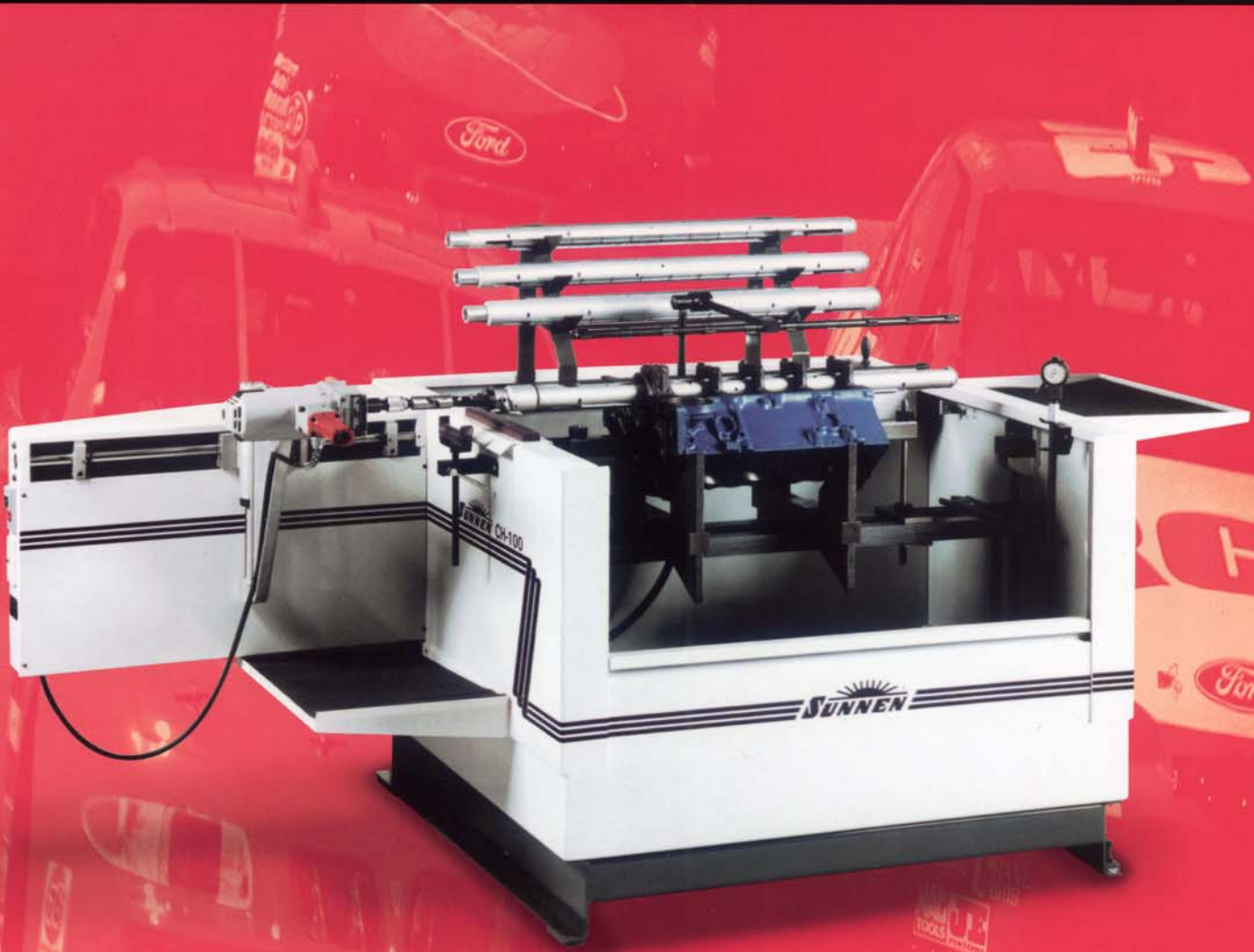


P R E C I S I O N E N G I N E R E B U I L D I N G E Q U I P M E N T

CH-100 Line Hone

Line Boring & Cam Boring Capabilities

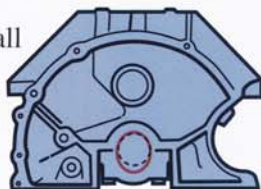




Main Bearing Bore Alignment – Essential to All Engine Rebuilding Jobs

Warpage.

Continual heating and cooling of engines 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.

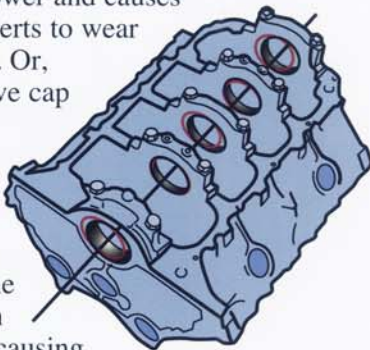
High loads usually cause main bearing caps to “stretch” vertically and “pinch in” at the parting line. Again, the original inserts compensate for this distortion through wear. Installing new inserts with stretched caps causes crankshaft bind and failure of the new inserts or crankshaft.

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 scored main bearing bore housing with “burned” bearing and crankshaft.

If you put in 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



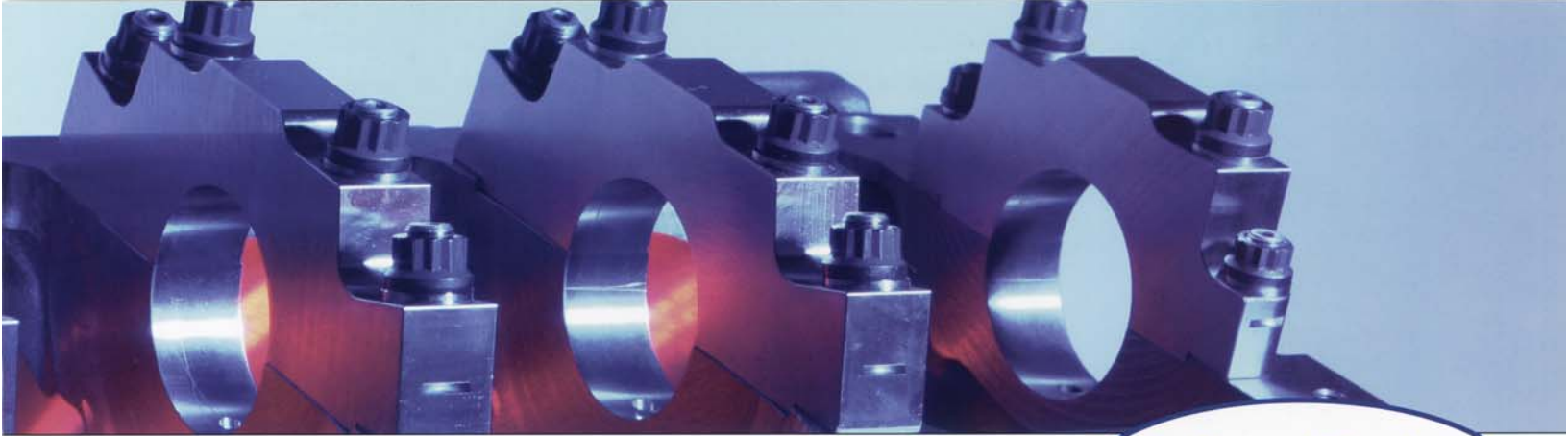
the insert to seize and spin. This results in a scored main bearing bore housing and often a broken crankshaft.

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.

The CH- Easy Oper

- 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 –**
Has torque-absorbing mount. Eliminates operator fatigue.
- 4 Stroking Stops –**
Help set correct stroking pattern for any block.

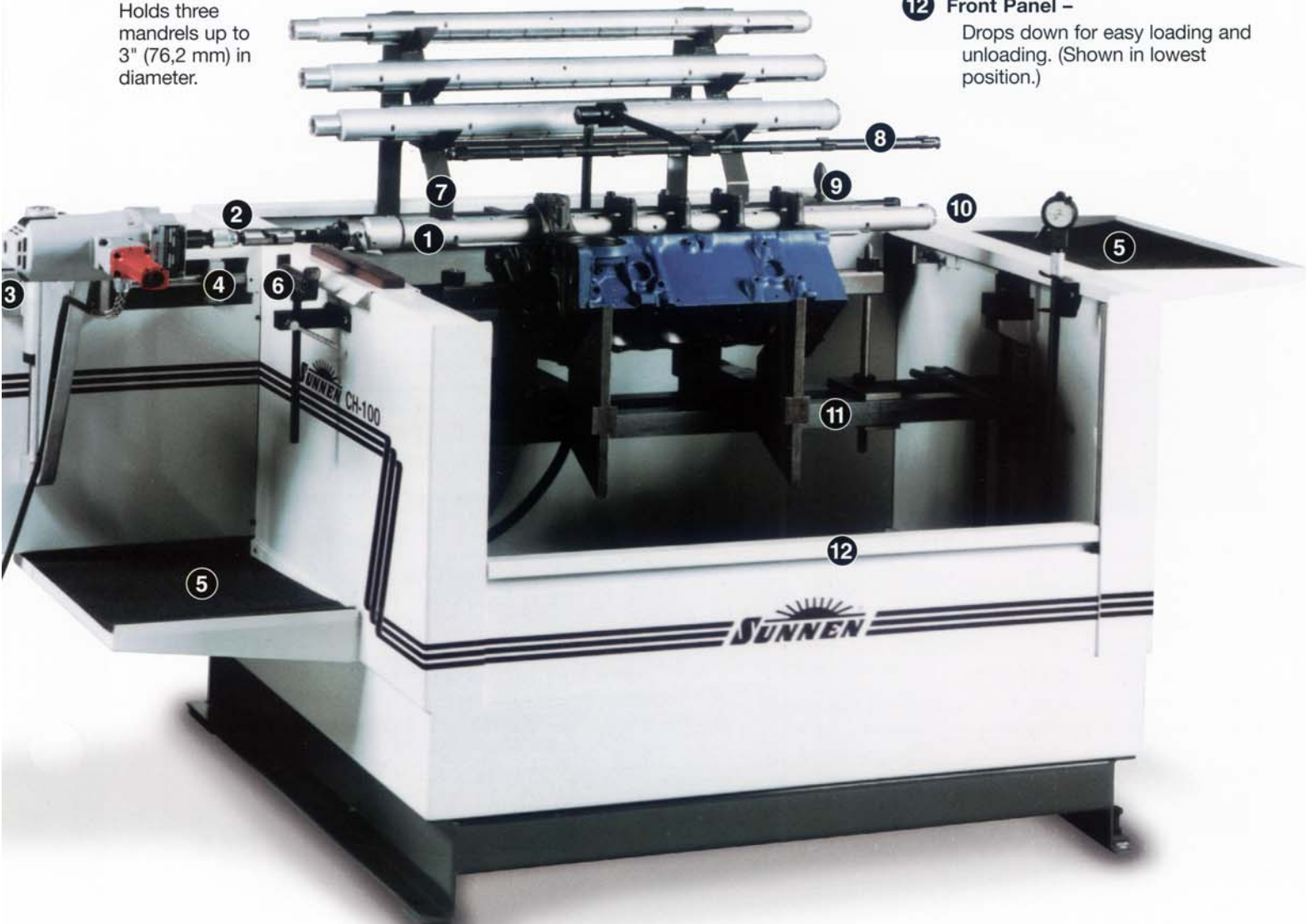




*Built and Backed
By SUNNEN*

100 Horizontal Hone ating Features

- 5 Drip Tray -**
Catches oil runoff.
- 6 Mandrel Support - (Optional)**
Allows mandrels to be rolled into and out of honing position with less lifting by operator.
- 7 Mandrel Storage Rack - (Optional)**
Holds three mandrels up to 3" (76,2 mm) in diameter.
- 8 Oil Control -**
Directs oil to main bearing web area. Oil flow automatically shuts off when oil line is raised.
- 9 Crank Handle -**
Allows quick, easy height adjustment of block.
- 10 Exclusive design of Sunnen Hone Unit -**
Rounds up holes quickly with minimum stock removal. (Honing Units must be ordered separately.)
- 11 Adjustable Block Cradle -**
Accepts in-line and V-type blocks (both 60° and 90°).
- 12 Front Panel -**
Drops down for easy loading and unloading. (Shown in lowest position.)



Sunnen CH-100 Accessories Feature Versatility and Efficiency

PLB-100 Line Boring Attachment:

- 1.5 in. (38,1 mm) hard chrome bar with tool bit holes on 5 in. (127,0 mm) centers - length 48 in. (1220,0 mm)
- Auto-feed with 4 ranges, .002, .004, .006 & .008 in. (0,05; 0,10; 0,15 and 0,20 mm) per revolution
- Positive feed screw drive
- Hand feed for thrust face matching
- Spring loaded tool bits for easy adjustment
- Universal mounting flange for various car and light truck applications
- Most GM V6 & V8 blocks do not require universal mounts
- Small block and big block Chevy centering bushing standard
- Lightweight: 15 lb. (6,8 kg) plus bar
- Boring range 1.800-4.800 in. (45,7-121,9 mm)



PLB-100 Line Boring Attachment

PLB-1200 Cam Boring Attachment:

- Easy to install and operate
- Threaded tool bits for easy adjustment
- Adjustable bushings
- Lightweight - only 45 lbs. (20,4 kg.) plus bar and drive unit
- Boring range 2.000 to 2.400 in. (50,8-60,9 mm)
- With optional tooling 2.750 in. (69,85 mm)



PLB-1200 Cam Boring Attachment

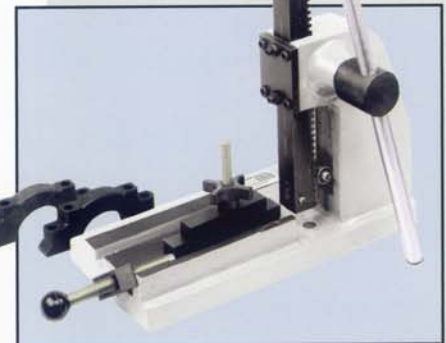
CH-100-I Available for Industrial Applications

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



CRG-920 All Purpose Cap and Rod Grinder

Cuts main bearing and con rod parting surfaces. Handles sizes from subcompact up through large diesels. Assures ultimate precision—fast and easy.



MBK-75 Main Bearing Cap Knurler

The Sunnen MBK-75 knurls main bearing caps that have become loose. Knurling ends of the caps increases their width up to .01" (0,25 mm). Tightening the fit ensures exact location of caps.

With the MBK-75 you can line hone and line bore and be sure the bore will stay straight and round when the caps are removed for installing bearings and crankshaft.

Handles caps from small 4 and 6 cylinder cars to large diesel blocks. Easy to set up.



PLB-1600 Oil Grooving Tool

The Sunnen PLB-1600 is used on blocks when installing oversize roller cam bearings. It is also ideal for enlarging cam grooves to increase the oil flow.

Line-Honing Saves Time and Assures Precision

Why Line Hone?

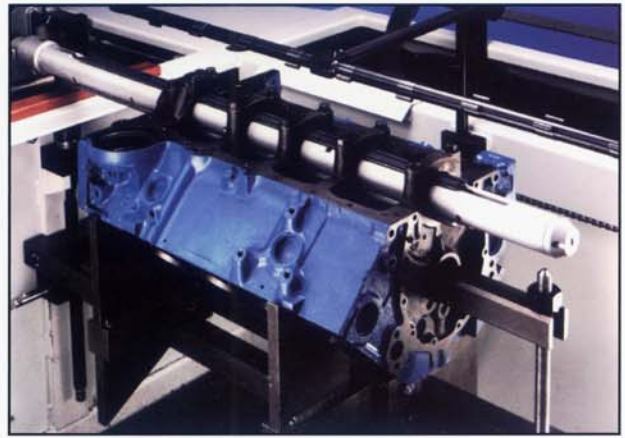
The Sunnen CH-100 does the complete job of alignment and sizing main bearing bores in about 30 minutes. That's floor-to-floor time for an average passenger car block. Add a few minutes more for truck blocks.

But in the long run, quality of the job is the final determining factor for which method is best. 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.

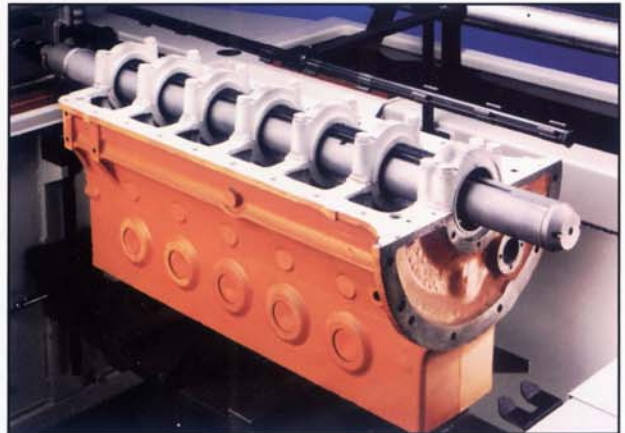
Line Hone –

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



Line Bore –

Handles big truck blocks up to 45" (1140 mm) long...bores from 1.8" to 7.0" (46 to 178 mm) range.



Versatile –

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



Built with Benefits That Assure Precision and Profits!

- **Minimum Stock Removal**– Usually less than .003" (.076 mm) off the caps compared to as much as .010" (.254 mm) with boring. And so little stock out of the main bearing bores that thrust faces or oil seal grooves are not affected.
- **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.
- **Optimum Precision in Every Way**– You're sure to meet or exceed original factory accuracy. For alignment, roundness, size.
- **Practical and Profitable**– Line hone every block you rebuild. It can even be used to hone cam bores down to 1" (25.4 mm).
- **No Delays During Engine Assembly**– No binding crankshafts or bearing misalignment.
- **Easy to Use**–Any shop person can run the CH-100 right away ... "the old pro" or your newest man.
- **Maximum Precision**– The CH-100 hone corrects distortion caused by warpage and cap stretch. High spots in the bore are removed to achieve alignment.
- **High Profit**– You make \$90-\$120 in 30 minutes on a typical V-8 block.

Specifications, Ordering Information and Accessories

Specifications:

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

Main Bearing Bore 1.800" to 7.000" (46 to 178 mm)

Diameter Range: Note: special tooling required for 5.000" to 7.000" (127 to 178 mm) range

Honing Lubricant: Sunnen CK-50-55 Honing Oil – Especially compounded for use with CH-100 Horizontal Hone. Available in 55 gallon (208 liter) drums. Shipping weight approx. 450 lbs. (204 kg).
Note: When honing aluminum use MAN-845-55 Honing Oil.

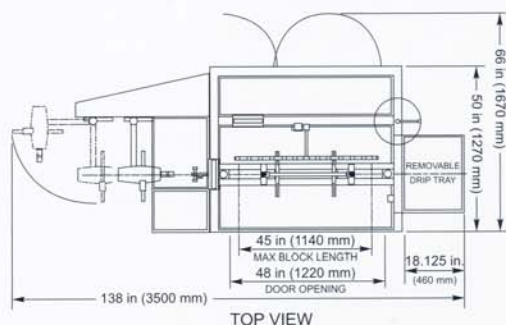
Honing Oil Reservoir: 35 gallon (132 liter) capacity

Electrical System: 115/230 V, 1-phase, 60 Hz
Also available in 220 V, 1-phase, 50 Hz

Floor Area: 116" x 50" (2946 mm x 1270 mm)

Weight: Approximately 1450 lbs. (660 kg)

Shipping Weight: Approximately 1650 lbs. (760 kg)



For price and availability contact
Sunnen Customer Service -

U.S.A. Toll Free: 1-800-772-2878
Outside U.S.A.: 314-781-2100

Ordering Information:

CH-100 Honing Unit	Diameter Range	
	Inches	mm
8RY-2400G	2.400-2.700	61-69
8RY-2700G	2.700-3.000	69-77
10RY-1800F	1.800-2.100	46-54
10RY-2100F	2.100-2.400	54-61
10RY-2400G	2.400-2.700	61-69
10RY-2700G	2.700-3.000	69-77
10RY-3000H	3.000-3.500	77-89
10RY-4500H	4.500-5.000	115-127
15RY-3500H	3.500-4.000	89-102
15RY-4000H	4.000-4.500	102-115
15RY-4500H	4.500-5.000	115-127
10RY-5000H	4.500-5.000	115-127
10RY-5500H	5.500-6.000	140-152
10RY-6000H	6.000-6.500	152-165
10RY-6500H	6.500-7.000	165-178
15RY-5000H	5.000-5.500	127-140
15RY-5500H	5.500-6.000	140-152
15RY-6000H	6.000-6.500	152-165
15RY-6500H	6.500-7.000	165-178

PLB-1200 **Cam Boring Attachment** (includes the following):

PLB-1400	Cam Boring Stand
PLB-1300	PLB-100 Mounting Adapter
PLB-1260	Stud Drive Shaft
PLB-1235	Adjustable Bushings (Pkg. of 2)
PLB-1280	Adjustable Pilot Lock Tool
PLB-1290	Adjustable Pilot Lock Tool
PLB-1210	Boring Bar Assembly
PLB-1275	Tool Bit 2.000" - 2.400" (50,8 - 60,96)
PLB-1733A	Micrometer (for setting tool bits)

Optional for sizes 2.250" - 2.750" (57,15 - 69,85):

PLB-2400	Blade Set
PLB-1295	Tool Bit

PLB-100	Line Boring Attachment
PLB-1600	Oil Grooving Tool
MBK-75	Main Bearing Cap Knurler

NOTE: Sunnen reserves the right to change or revise specifications and product design in connection with any feature of our products contained herein. Such changes do not entitle the buyer to corresponding changes, improvements, additions, or replacements for equipment, supplies or accessories previously sold. Information contained herein is considered to be accurate based on available information at the time of printing. Should any discrepancy of information arise, Sunnen recommends that user verify the discrepancy with Sunnen before proceeding in any bore sizing and finishing operation.



SUNNEN PRODUCTS COMPANY

7910 Manchester Ave., St. Louis, MO 63143 U.S.A.
Phone: 314-781-2100
U.S.A. Toll Free Sales and Service: 1-800-772-2878
Fax: 314-781-2268
International Fax: 314-781-6128
www.sunnen.com
e-mail: sunnen@sunnen.com

SUNNEN PRODUCTS LIMITED

No. 1 Centro, Maxted Road
Hemel Hempstead, Herts HP2 7EF ENGLAND
Phone: 44 1442 39 39 39 Fax: 44 1442 39 12 12

www.sunnen.com

SUNNEN AG

Fabrikstrasse 1
8586 Ennetaach-Erlen SWITZERLAND
Phone: 41 71 648 16 16 Fax: 41 71 648 31 31

SHANGHAI SUNNEN MECHANICAL CO., LTD.

889 Kang Qiao East Road, Pudong
Shanghai 201319 P.R. CHINA
Phone: 86 21 5813 3322 Fax: 86 21 5813 2299

SUNNEN ITALIA S.R.L.

Via Stelvio 12/15
20021 Ospiate di Bollate (MI) ITALY
Phone: 39 02 383 417 1 Fax: 39 02 383 417 50