EM103/4/5 H SERIES
OPTIONAL EQUIPMENT
CATALOG
ORDERING PROCEDURE

Contact your regional Rottler sales rep for assistance in ordering optional equipment, replacement parts, or tooling.

If you are unable to contact your regional Rottler sales rep, call the factory at 253-872-7050 and ask to speak to the parts sales specialist.

Have the following information handy to expedite the ordering process:

1. Your name, business name, and contact number
2. Customer number
3. If you don’t have a customer number, your billing address
4. Shipping address if different from billing address
5. Machine model and serial number
6. Part number and description of what you want to order
7. Preferred method of shipment

You may also contact us via e-mail with the above information. Send e-mail requests to:
parts@rottlermfg.com

In some cases you may be requested to send a photo of the part you are ordering if it is a replacement part, or doesn’t appear in the database.

If you are unsure which part you need to order, contact our service department and ask to speak to one of our service consultants. They will assist you in determining which part you require.

THERE IS A MINIMUM ORDER OF $25.00
EM103/4/5 H SERIES OPTIONAL EQUIPMENT CATALOG

Contents

Machine Installation Accessories ................................................................. 1
6761 Transformer for Supply Voltage 380V, 415V, 440V .................................................. 1
9203T Hold Down Anchor Kit For EM103/4/5 Machine Installation ........................................ 1
Conversational Touch Screen Software Packages ............................................... 2
9040 Boring and Sleevng Software .................................................................. 2
9041 Surfacing Software .................................................................................... 2
9042 Line Boring Software ................................................................................ 2
9046 Lifter Bore Machining Software ............................................................... 2
9044 Connecting Rod Boring Software ............................................................. 2
9063 Software Package For Machining Lower Chamfers And Facing Counter Bores .......... 2
Rottler Path & 4C Software Options ............................................................. 2
RPATH ............................................................................................................. 2
RPATH-RL-INTRO ......................................................................................... 2
RPATH-IN-INTRO ........................................................................................ 2
Automatic Tool Changer .................................................................................. 3
9116 Automatic Rotary Tool Changer - 16 Tool Positions ..................................... 3
Wireless Probing System for Automatic Centering and Measuring ....................... 4
650-3-59X Renishaw Wireless Radio Probing System ......................................... 4
Optional Equipment for Boring and Surfacing .................................................. 5
Fixturing for In-Line and V Blocks ..................................................................... 5
6309N Tower Type Block Hold Down Clamps .................................................... 5
6405F Large V Block Fixture ............................................................................. 6
Main Bearing Bore Locator Sets for 6405F Block Fixture .................................... 6
6407A Locator Assembly, Main, CAT 399 / Large V-Block Fixture (Matched Pair) ................. 6
6407C Locator Assembly, Main, CAT 3500 / Large V-Block Fixture (Matched Pair) ............... 6
6407E Locator Assembly, Main, Cummins 1710 / Large V-Block Fixture (Matched Pair) ....... 7
6407G Locator Assembly, Main, Cummins K50 / Large V-Block Fixture (Matched Pair) ....... 7
6407J Locator Assembly, Main, Cummins QSK / Large V-Block Fixture (Matched Pair) ........ 7
6407L Locator Assembly, Main, Waukesha 7042 / Large V-Block Fixture (Matched Pair) .... 7
6407N Locator Assembly, Main, MTU 4000 / Large V-Block Fixture (Matched Pair) ............ 7
6407Q Locator Assembly, Main, CAT C175 / Large V-Block Fixture (Matched Pair) ............. 7
General Purpose Accessories

- 6864D Replacement Cartridge for 6864 Milling Head
- 6864E Replacement Insert (10 cutting edges per insert) for 6864 and 6865 Milling Head
- 10120 Special 12” (300mm) Diameter Multi Tooth Milling Head
- 10109B Special 18” (420mm) Diameter Multi Tooth Milling Head

Special Surfacing Tooling

- 6303V CBN Insert, Octagonal (16 Cutting Corners)
- 6301J CBN Insert, 1/16 Radius

Surfacing Tooling

- 6598R Cartridge Assembly, Offset .250 (6.4mm)
- 6593S Cartridge Assembly

Boring and Sleeving Tooling

- 10118 Blind Hole Stub Cutterhead Package
- 10108B Blind Hole Stub Cutterhead Package
- 10117A Blind Hole Cutterhead
- 10107B Blind Hole Cutterhead Package
- 10104B Blind Hole Cutterhead Package

Fixturing for Surfacing Cylinder Heads and Manifolds

- 7209M Leveling Table with Air Float

Adaptor for F60 Model Fixtures

- 9111A T-Slot Plate

Cylindrical Fixturing

- 6407S Locator Assembly, Main, 5.1143 diameter bore (Matched Pair)
- 6407U Locator Assembly, Main, 5.1393 diameter bore (Matched Pair)
- 6407W Locator Assembly, Main, MTU 396
- 6419 Locator, Assembly, Main, Jenbacher 3, 4.2095” (106.92mm) (Matched Pair)
- 7152A Dual Axis Level Assembly

Parallels

- 6370Z 10” (254mm) Parallels With Air Float
- 6725 Small to Mid-Range In-Line and V Block Fixture
- 6370C 18” (457mm) Parallels With Air Float
- 7219W 5.2” (132mm) Heavy Duty T-Slot Universal Parallels
- 11115 2” (50mm) X 3” (75mm) Parallels
- 6511 3/4” (19.05mm) Clamp Kit

Clamp Kits

- 6419 Locator, Assembly, Main, Jenbacher 3, 4.2095” (106.92mm) (Matched Pair)
- 6407W Locator Assembly, Main, MTU 396
<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>502-12-7B Digital Runout Probe and Readout</td>
</tr>
<tr>
<td>General Purpose Tooling</td>
</tr>
<tr>
<td>10121 Caterpillar 3400 Series Tappet Bore Repair Tooling Package</td>
</tr>
<tr>
<td>10122 Small Precision Adjustable Boring Head</td>
</tr>
<tr>
<td>6899A Large Heavy Duty Adjustable Boring/Facing Head</td>
</tr>
<tr>
<td>10124 Collet kit 1/8 - 1” (3 - 26mm)</td>
</tr>
<tr>
<td>650-2-45G 1” (25.4mm) Diameter Solid Carbide End Mill x 4.00” (101.4mm) Length</td>
</tr>
<tr>
<td>650-2-43F 3/4” (19.05mm) Four Fluted End Mill X 4” (101.4mm) Length</td>
</tr>
<tr>
<td>Spindle Adapters for Mounting Universal Tooling</td>
</tr>
<tr>
<td>10113 1” (25.4mm) Spindle Adapter for Driving 1” (25.4mm) Diameter Shank Tooling</td>
</tr>
<tr>
<td>10125 Adapter, Blank</td>
</tr>
<tr>
<td>10126 #40 Taper Adapter</td>
</tr>
<tr>
<td>10127 R8 Taper Adaptor</td>
</tr>
<tr>
<td>10128 #5 Morse Taper Adapter</td>
</tr>
<tr>
<td>Main Line Bore Equipment</td>
</tr>
<tr>
<td>Line Bore Tooling for Small to Large Blocks and Heads</td>
</tr>
<tr>
<td>13001 Straight 90 Degree Right Angle Drive Assembly</td>
</tr>
<tr>
<td>13002 Straight 90 Degree Right Angle Drive Assembly</td>
</tr>
<tr>
<td>13003 Special Belt Drive 90 Degree Right Angle Drive Assembly</td>
</tr>
<tr>
<td>13004 Special Right Angle Drive Assembly</td>
</tr>
<tr>
<td>650-2-39B Cutterhead Assembly Line Boring 1.9 - 4.0” (48.26 - 101.60mm) Diameter</td>
</tr>
<tr>
<td>650-2-39C Cutterhead Assembly Line Boring 2.9 - 5.6” (73.66 - 142.24mm) Diameter</td>
</tr>
<tr>
<td>650-2-39A Cutterhead Assembly Line Boring 5.4 - 8.1” (137 - 206mm) Diameter</td>
</tr>
<tr>
<td>Line Bore Fixturing for Small to Large Blocks and Heads</td>
</tr>
<tr>
<td>650-3-56 Line Bore Pivot Table Fixture</td>
</tr>
<tr>
<td>6821 Adjustable Universal Line Boring Fixture Assembly</td>
</tr>
<tr>
<td>6843 90 Degree V Block Supports</td>
</tr>
<tr>
<td>6823E 90 Degree V Block Supports for Large 90 Degree V Blocks</td>
</tr>
<tr>
<td>6789L 113 Degree V Block Supports</td>
</tr>
<tr>
<td>6789N 116 Degree V Block Supports for Detroit Diesel V71 &amp; V92</td>
</tr>
<tr>
<td>6789E 115 Degree V Block Supports for CAT 3400</td>
</tr>
<tr>
<td>6823B 120 Degree V Block Supports for Large 120 Degree V Blocks</td>
</tr>
<tr>
<td>6789K 130 Degree V Block Supports for Komatsu 140</td>
</tr>
<tr>
<td>6789Q 140 Degree V Block Supports for Cummins 1710</td>
</tr>
<tr>
<td>6789T 110 Degree V Block Supports for Jenbacher 3</td>
</tr>
<tr>
<td>Line Bore Tooling for Extra Large Blocks</td>
</tr>
</tbody>
</table>
13000 Heavy Duty Offset 90 Degree Right Angle Drive Assembly Without Tooling .......................... 45
6519V Heavy Duty Line Bore Cutterhead Assembly ........................................................................ 46
6519P Heavy Duty Line Bore Cutterhead Assembly ........................................................................ 47
6519M Heavy Duty Line Bore Cutterhead Assembly ........................................................................ 48
6519N Heavy Duty Line Bore Cutterhead Assembly ........................................................................ 49
Line Bore Fixturing for Extra Large Blocks .................................................................................. 50
6810 Waukesha 7042, 9390 and CAT 379, 398, 399 Line Boring Fixture ........................................ 50
6846 White Superior 12 & 16 G825 Line Boring Fixture ............................................................... 51
Line Bore Set Up and Alignment Equipment ................................................................................ 51
502-12-7B Digital Runout Probe and Readout ........................................................................... 51
502-12-4 General Purpose Magnetic Indicator Holder ................................................................. 52
502-12-4A Magnetic Indicator Holder .......................................................................................... 52
502-9-9A Mechanical Run Out Indicator ...................................................................................... 52
502-9-9J Mechanical Run Out Indicator ....................................................................................... 52
502-9-9S Indicator Mount ............................................................................................................ 52
Equipment for Preparing Blocks for Line Boring ......................................................................... 53
7209N 2-Piece Vise ...................................................................................................................... 53
7209M Leveling Table with Air Float ............................................................................................ 53
10129 Shell Mill ............................................................................................................................ 54
10130 Shell Mill ............................................................................................................................ 54
10109C Shell Mill .......................................................................................................................... 55
6514T Insert .................................................................................................................................. 55
6514Y Insert .................................................................................................................................. 55
Main Line Thrust Facing Utilizing Circular Interpolation ............................................................... 56
6855C Thrust Facing Tooling Package .......................................................................................... 56
Special Tooling for Block End Machining ..................................................................................... 56
6779H Adaptor for 40 Taper Tooling ............................................................................................ 56
6779L 10” (250mm) Diameter Surfacing Cutterhead Assembly .................................................... 57
6779M 14” (360mm) Diameter Surfacing Cutterhead Assembly .................................................... 57
6779N Crossfeed Head Assembly ................................................................................................ 58
Connecting Rod Fixturing and Tooling ......................................................................................... 59
650-3-44R Rottler Precision Connecting Rod Fixturing System ..................................................... 59
Fixturing & Tooling for Large Engine & Compressor Connecting Rods ....................................... 60
650-3-64 Rottler Precision Connecting Rod Boring Fixturing System ............................................ 60
650-3-66 Rottler Precision Compressor Conrod Cap Surfacing Fixture .......................................... 61
6870 Rottler Precision Connecting Rod Boring Fixturing System .................................................. 62
9234 Enclosure ............................................................................................................................... 63
Machine Installation Accessories

EM100 machines require 205-250V, 60A, 50/60Hz, 3 phase power supply. If the voltage at place of installation is above or below this range, a transformer is required.

6761 Transformer for Supply Voltage 380V, 415V, 440V
For supply voltage above or below this range, special transformer will be quoted.

Suggested Hold Down Anchor System

9203T Hold Down Anchor Kit For EM103/4/5 Machine Installation
Conversational Touch Screen Software Packages
For Programmable Automated Engine Rebuilding Machine Work

9040 Boring and Sleeving Software
Including: (1) Circular Interpolation Counterbore Finishing for Corner Radius Undercut and Facing Very Wide Counterbores (2) Lower Offset for Boring Larger Diameters Commonly Found When Resleeving Lower Seal Areas of Wet Liner

9041 Surfacing Software
Including Multiple Pass Programmable Depth of Cuts Including Different Settings for Rough and Finish Milling/Surfacing.
Note: Software allows surfaces wider than flycutter to be machined.

9042 Line Boring Software
Including Circular Interpolation for Thrust Facing

9046 Lifter Bore Machining Software

9044 Connecting Rod Boring Software

9063 Software Package For Machining Lower Chamfers And Facing Counter Bores
Requires radial feeding adjustable cutterhead such as 6835 or 6757Z.

Rottler Path & 4C Software Options

RPATH
Rottler Path allows users to quickly and easily produce CNC toolpath programs for producing custom parts and fixtures. Maximized for performance on Rottler EM series machines with 32" (810mm) touch screen controls. Intuitive Conversational programming with no G-code knowledge necessary.

When Rottler Path is purchased together with a new machine, there are 2 versions of introductory training available.

1. One Day introductory software tutorial at place of machine installation during the installation process.
2. Three Day introductory training course at Rottler factory.

Additional training on Rottler Path after the above training is provided through instructional videos at www.RottlerTube.com or by internet and/or telephone support, hourly charges apply.

RPATH-RL-INTRO
One day introductory tutorial on Rottler PATH software at place of machine installation during the installation process. Customers must have purchased #RPATH Rottler Path Software package before undergoing this tutorial. Full details of costs and conditions is available from the Rottler Service Department.

RPATH-IN-INTRO
Three days introductory training for one person on Rottler PATH software at Rottler factory in a group class setting. Customers must have purchased #RPATH Rottler Path Software package before attending this training course. Customer must supply own Windows laptop. Full details of costs and conditions is available from the Rottler Service Department.

service@rottlermfg.com
Automatic Tool Changer

9116 Automatic Rotary Tool Changer - 16 Tool Positions
NOTE: ATC mounts directly to the floor adjacent to the machine table.
Wireless Probing System for Automatic Centering and Measuring

650-3-59X Renishaw Wireless Radio Probing System
Including a selection of (6) probes/stylus and Software for (1) Automatic Centering in Cylinder Bores (2) Measuring Cylinder Bore Diameters.
Price Includes Factory Installation During Machine Manufacture, Extra Charge Applies for Field Fitment.
Optional Equipment for Boring and Surfacing

Fixturing for In-Line and V Blocks

6309N Tower Type Block Hold Down Clamps
Set Of 2
6405F Large V Block Fixture
For Blocks such as CAT 3500/399, Cummins K and QSK, MTU 4000, Waukesha 7042, etc. Requires locators.

Main Bearing Bore Locator Sets for 6405F Block Fixture
(If Customer Requires Size Other than Available from Stock, Rottler will Manufacture the Required Size.) Customer Must Provide the Size, Including Tolerance of the Main Bearing Bore.

<p>| 6407A Locator Assembly, Main, CAT 399 / Large V-Block Fixture (Matched Pair) | 6407C Locator Assembly, Main, CAT 3500 / Large V-Block Fixture (Matched Pair) |</p>
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6407E</td>
<td>Locator Assembly, Main, Cummins 1710 / Large V-Block Fixture (Matched Pair)</td>
</tr>
<tr>
<td>6407G</td>
<td>Locator Assembly, Main, Cummins K50 / Large V-Block Fixture (Matched Pair)</td>
</tr>
<tr>
<td>6407J</td>
<td>Locator Assembly, Main, Cummins QSK / Large V-Block Fixture (Matched Pair)</td>
</tr>
<tr>
<td>6407L</td>
<td>Locator Assembly, Main, Waukesha 7042 / Large V-Block Fixture (Matched Pair)</td>
</tr>
<tr>
<td>6407N</td>
<td>Locator Assembly, Main, MTU 4000 / Large V-Block Fixture (Matched Pair)</td>
</tr>
<tr>
<td>6407Q</td>
<td>Locator Assembly, Main, CAT C175 / Large V-Block Fixture (Matched Pair)</td>
</tr>
<tr>
<td>6407S</td>
<td>Locator Assembly, Main, 5.1143 diameter bore (Matched Pair)</td>
</tr>
<tr>
<td>6407U</td>
<td>Locator Assembly, Main, 5.1393 diameter bore (Matched Pair)</td>
</tr>
<tr>
<td>Description</td>
<td>Image</td>
</tr>
<tr>
<td>-----------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>6407W Locator Assembly, Main, MTU 396</td>
<td><img src="image1" alt="6407W Locator Assembly, Main, MTU 396" /></td>
</tr>
<tr>
<td>6419 Locator, Assembly, Main, Jenbacher 3,4.2095” (106.92mm) (Matched Pair)</td>
<td><img src="image2" alt="6419 Locator, Assembly, Main, Jenbacher 3,4.2095” (106.92mm) (Matched Pair)" /></td>
</tr>
<tr>
<td>7152A Dual Axis Level Assembly</td>
<td><img src="image3" alt="7152A Dual Axis Level Assembly" /></td>
</tr>
<tr>
<td>6370Z 10” (254mm) Parallels With Air Float</td>
<td><img src="image4" alt="6370Z 10” (254mm) Parallels With Air Float" /></td>
</tr>
</tbody>
</table>
6725 Small to Mid-Range In-Line and V Block Fixture
For Blocks Up to V12 Such as CAT C27/32 & 3412, Cummins NV12, Komatsu 170, Etc. Fixture Includes Five Pair Locators to Cover 2.5 - 6.0" (63.5 - 152mm) Main Line Diameter Range. Package includes 2" (50.8mm) bar to support small in-line and V-blocks.

Note: 6725 requires 6370Z 10" (254mm) parallels.
**6370C 18” (457mm) Parallels With Air Float**

**7219W 5.2” (132mm) Heavy Duty T-Slot Universal Parallels**

Required when Machining Small In-Line Blocks on their Pan Rails.
11115 2” (50mm) X 3” (75mm) Parallels
For general purpose machine work such as setting up in-line blocks on the pan or small single cylinders.

6511 3/4” (19.05mm) Clamp Kit
Fixturing for Surfacing Cylinder Heads and Manifolds

7209M Leveling Table with Air Float
Complete with Universal Work Holding System for Surfacing Cylinder Heads and Manifolds. Requires One Set of 6370C Parallels
7209N 2-Piece Vise
For Holding Exhaust Manifolds for Surfacing. Also Used for Surfacing Main Bearing Housing Caps in Preparation for Main Line Boring. Requires 7209M Leveling Table.

Adaptor for F60 Model Fixtures

9111A T-Slot Plate
Allows use of EM69 Performance Fixture, Pivot Table and Block End Truing Fixtures on EM79 & EM100 model machines.
Boring and Sleeving Tooling

10118 Blind Hole Stub Cutterhead Package
1.5 - 4.2" (38 - 107mm) diameter x 6.5" (165mm) length complete with tooling and Digital Micrometer
10108B Blind Hole Stub Cutterhead Package
2.9 - 5.0” (74 - 152mm) diameter X 9.7” (246mm) length Complete With Tooling and Digital Micrometer
10117A Blind Hole Cutterhead
4.5 - 9.0" (114 - 229mm) diameter. Suitable for boring diameters larger than spindle diameter 6" (152.5mm)
10107B Blind Hole Cutterhead Package
8.0 - 14.0” (203 - 360mm) diameter complete with tooling and Digital Micrometer
10104B Blind Hole Cutterhead Package
11.75 - 16" (298 - 406mm) diameter - Complete with tooling and Digital Micrometer
Surfacing Tooling

10119 10” (250mm) Diameter Surfacing Cutterhead Package
10106C 14” (360mm) Diameter Surfacing Cutterhead Package

10115 18” (460mm) Diameter Surfacing Cutterhead Package
10106B 22” (560mm) Diameter Surfacing Cutterhead Package

6301J CBN Insert, 1/16 Radius
for surfacing large blocks

6303V CBN Insert, Octagonal (16-Cutting Corners)
for surfacing large blocks
Special Surfacing Tooling for Milling Metal Sprayed Head Gasket Decks

10109B Special 18” (420mm) Diameter Multi Tooth Milling Head
Including 9 Cartridges with 10 cutting edges per insert: Cutting inserts must be ordered separately
**10120 Special 12" (300mm) Diameter Multi Tooth Milling Head**
Including 14 Cartridges with 10 cutting edges per insert: Cutting inserts must be ordered separately

**6864E Replacement Insert (10 cutting edges per insert)**
for 6864 and 6865 Milling Head

**6864D Replacement Cartridge for 6864 Milling Head**
General Purpose Accessories

502-12-7B Digital Runout Probe and Readout
Including Magnetic Holder for Block Set Up and Manual Centering of Cylinder Bores and Main Line Bores
General Purpose Tooling

10121 Caterpillar 3400 Series Tappet Bore Repair Tooling Package
Including Digital Indicator and 1” Spindle Adaptor
10122 Small Precision Adjustable Boring Head
Including Spindle Adapter and Digital Indicator for General Purpose Boring and Facing Work, Boring Range 3/4 - 3" (20 - 75mm) and Facing Range 4.9 - 7" (125 - 180mm)
6899A Large Heavy Duty Adjustable Boring/Facing Head
Including Spindle Adapter for general purpose boring and facing work, and cutting wide chamfers
10124 Collet kit 1/8 - 1” (3 - 26mm)
23 collets including storage box and wrench.

650-2-45G 1” (25.4mm) Diameter Solid Carbide End Mill x 4.00” (101.4mm) Length
Used for machining head gasket fire deck surface for water hole corrosion repairs

650-2-43F 3/4” (19.05mm) Four Fluted End Mill X 4” (101.4mm) Length
(.020” corner radius, flat bottom, no dish) Used for Machining Head Gasket Fire Deck Surface for Water Hold Corrosion Repairs
Spindle Adapters for Mounting Universal Tooling

10113 1” (25.4mm) Spindle Adapter for Driving 1” (25.4mm) Diameter Shank Tooling

10125 Adapter, Blank
Can be Machined by Customer to Suit Special Requirements
10126 #40 Taper Adapter

10127 R8 Taper Adapter

10128 #5 Morse Taper Adapter
Main Line Bore Equipment

Line Bore Tooling for Small to Large Blocks and Heads
Note: Cutterheads are not Included with Right Angle Drive and Must be Ordered Separately

13001 Straight 90 Degree Right Angle Drive Assembly
For Small to Medium Blocks and Heads.
13002 Straight 90 Degree Right Angle Drive Assembly
For Medium to Large Blocks.
13003 Special Belt Drive 90 Degree Right Angle Drive Assembly
For Limited Clearance Between Bearing Caps.

Note: The Belt Drive Right Angle Drive is Designed for Limited Clearance Between Bearing Caps and it’s Cutting Performance will Deteriorate as Larger Diameters are Bored and Extension Spacers are Used.
13004 Special Right Angle Drive Assembly
Complete With Narrow Cutterhead complete with Tooling and Micrometer for Line Boring 1.9” To 2.4” Diameter HSK80
650-2-39B Cutterhead Assembly Line Boring 1.9 - 4.0” (48.26 - 101.60mm) Diameter
Complete with tooling and Digital Micrometer (When used with 6753J Drive, minimum distance between bearing housings 3.29”) (83.6mm)
650-2-39C Cutterhead Assembly Line Boring 2.9 - 5.6” (73.66 - 142.24mm) Diameter
Complete with tooling and Digital Micrometer. When used with 6753J Drive, minimum distance between bearing housings 4.18” (106.2mm)

Note: Cutterheads are not included with Right Angle Drive and must be ordered separately
650-2-39A Cutterhead Assembly Line Boring 5.4 - 8.1” (137 - 206mm) Diameter
Complete with tooling and Digital Micrometer. When used with 6753J Drive, minimum distance between bearing housings 4.19” (106.4mm)

Note: Length of Bores can be Increased with Extension Spacers. The Addition of Extension Spacers will Increase the Minimum Distance Between Bearing Housings by the Length of the Spacer. Allow for Some Clearance Either Side of the Assembly for Safety
Line Bore Fixturing for Small to Large Blocks and Heads

650-3-56 Line Bore Pivot Table Fixture
Complete with Universal Work Holding System for Small In Line and 90 Degree V Blocks, Includes 6843 90 Degree V Block Supports. Also Used for Setting Up Cylinder Heads Such as CAT3406E and Detroit 50/60 Series for Camshaft Line Boring.
6821 Adjustable Universal Line Boring Fixture Assembly
Includes Locators for In-Line Blocks, Supports for V Blocks Must Be Ordered Separately.
6843 90 Degree V Block Supports
For Small To Mid-Size 90 Degree V Blocks for use on Line Bore Fixtures 6821 and 11113
6823E 90 Degree V Block Supports for Large 90 Degree V Blocks
Such as MTU4000 for use on Line Bore Fixture 6821

6789L 113 Degree V Block Supports
For Detroit Diesel V53 for use on Line Bore Fixture 6821 and 11113
6789N 116 Degree V Block Supports for Detroit Diesel V71 & V92
For use on Line Bore Fixture 6821 and 11113

6789E 115 Degree V Block Supports for CAT 3400
For use on Line Bore Fixture 6821 and 11113
6823B 120 Degree V Block Supports for Large 120 Degree V Blocks
Such as CAT 3500, Cummins K & QSK, Komatsu 170 for use on Line Bore Fixture 6821

6789K 130 Degree V Block Supports for Komatsu 140
For use on Line Bore Fixture 6821
6789Q 140 Degree V Block Supports for Cummins 1710
For use on Line Bore Fixture 6821

6789T 110 Degree V Block Supports for Jenbacher 3
For use on Line Bore Fixture 6821
Line Bore Tooling for Extra Large Blocks
Such as CAT C175, 3500 & 399, Waukesha 7042, White Superior 8G825

13000 Heavy Duty Offset 90 Degree Right Angle Drive Assembly Without Tooling
Note: Cutterheads are Not Included with Right Angle Drive and Must be Ordered Separately
6519V Heavy Duty Line Bore Cutterhead Assembly
6.0 - 8.50" (152.40 - 215.90mm) Diameter X 3" (76mm) Length Complete with Tooling and Digital Micrometer. Minimum Distance Between Bearing Housings 7.94" (102mm)
6519P Heavy Duty Line Bore Cutterhead Assembly
6.0 - 8.50" (152.40 - 215.90mm) Diameter X 4.25" (108mm) Length Complete with Tooling and Digital Micrometer.
Minimum Distance Between Bearing Housings 8.94" (227mm)
6519M Heavy Duty Line Bore Cutterhead Assembly
6.0 - 8.50” (152.40 - 215.90mm) Diameter X 5.10” (130mm) Length Complete with Tooling and Digital Micrometer. Minimum Distance Between Bearing Housings 10.04” (255mm)
6519N Heavy Duty Line Bore Cutterhead Assembly
6.0 - 8.50” (152.40 - 215.90mm) Diameter X 6.0” (152mm) Length Complete with Tooling and Digital Micrometer. Minimum Distance Between Bearing Housings 10.94” (278mm)
Line Bore Fixturing for Extra Large Blocks

6810 Waukesha 7042, 9390 and CAT 379, 398, 399 Line Boring Fixture
6846 White Superior 12 & 16 G825 Line Boring Fixture

Line Bore Set Up and Alignment Equipment

502-12-7B Digital Runout Probe and Readout
Including Magnetic Holder for Block Set Up and Manual Centering of Cylinder Bores and Main Line Bores
<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
<th>Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>502-12-4</td>
<td>General Purpose Magnetic Indicator Holder (Requires #502-9-9A or J Indicator)</td>
<td></td>
</tr>
<tr>
<td>502-12-4A</td>
<td>Magnetic Indicator Holder for 2 - 3&quot; (50 - 75mm) Diameter (Requires 502-9-9A or J Indicator)</td>
<td></td>
</tr>
<tr>
<td>502-9-9A</td>
<td>Mechanical Run Out Indicator General Purpose (.001&quot; Inch Resolution)</td>
<td></td>
</tr>
<tr>
<td>502-9-9J</td>
<td>Mechanical Run Out Indicator General Purpose (.01mm Metric Resolution)</td>
<td></td>
</tr>
<tr>
<td>502-9-9S</td>
<td>Indicator Mount Angled for small diameter main line bores</td>
<td></td>
</tr>
</tbody>
</table>
Equipment for Preparing Blocks for Line Boring

7209N 2-Piece Vise
For Surfacing Main Bearing Housing Caps in Preparation for Main Line Boring. Also used for Holding Exhaust Manifolds for Surfacing. Requires 7209M Leveling Table.

7209M Leveling Table with Air Float
Complete with Universal Work Holding System for Surfacing Cylinder Heads and Manifolds. Requires One Set of 6370C Parallels
**10129 Shell Mill**
5" (127mm) Diameter for Surfacing Main Bearing Cap Register Face in Blocks in Preparation for Main Line Boring and general purpose milling work

![10129 Shell Mill Image]

**10130 Shell Mill**
6" (152mm) Diameter for surfacing main bearing cap register face in blocks in preparation for main line boring and general purpose milling work

![10130 Shell Mill Image]
10109C Shell Mill
8" (203mm) Diameter for surfacing main bearing cap register face in blocks in preparation for main line boring and general purpose milling work

6514T Insert
For 6514L, 6514V & 6514W Shell Mills, .030" (0.8mm)
Corner Radius, different radius available on request

6514Y Insert
For 6514L, 6514V & 6514W Shell Mills, .125" (3.2mm)
Corner Radius, different radius available on request
Main Line Thrust Facing Utilizing Circular Interpolation

6855C Thrust Facing Tooling Package
For main line bore

Special Tooling for Block End Machining
Requires Heavy Duty Right Angle Drive

6779H Adaptor for 40 Taper Tooling
6779L 10” (250mm) Diameter Surfacing Cutterhead Assembly
Complete with Tool holders for .375” (9.52mm) round or square inserts for Block End Surfacing

6779M 14” (360mm) Diameter Surfacing Cutterhead Assembly
Complete with Tool holders for .375” (9.52mm) round or square inserts for Block End Surfacing
**6779N Crossfeed Head Assembly**

Heavy Duty Offset 90 degree right angle drive
Connecting Rod Fixturing and Tooling

650-3-44R Rottler Precision Connecting Rod Fixturing System
Approximately 8 - 24" (203 - 610mm) center distance - requires (1) pair of 6370C
Fixturing & Tooling for Large Engine & Compressor Connecting Rods

650-3-64 Rottler Precision Connecting Rod Boring Fixturing System
Special Version to Handle Natural Gas Compressor Connecting Rods and Large Engine Connecting Rods Such as Waukesha 7042 and White Superior 825 - Requires (1) Set of 6370C Parallels
650-3-66 Rottler Precision Compressor Conrod Cap Surfacing Fixture
Requires 1 Set 6370Z Parallels
6870 Rottler Precision Connecting Rod Boring Fixturing System
For extra large and heavy connecting rods such as Ajax integral engine-compressors. Fixture consists of 2 parts mounted on air float supports.
9234 Enclosure
Optional full enclosure with sliding doors and large viewing windows.
When enclosure supplied with new machine, standard chip guard is not included
Note: Enclosure is free standing and supplied as a kit. Mounting holes in foundation are required for installation.
Installation is customer responsibility.