EM103/4/5 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 or intiparts@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 SERIES OPTIONAL EQUIPMENT CATALOG

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502-12-7B Digital Runout Probe and Readout

General Purpose Tooling

6648 Caterpillar 3400 Series Tappet Bore Repair Tooling Package

6835 Small Precision Adjustable Boring Head

6757Z Large Heavy Duty Adjustable Boring/Facing Head

6648K Collet kit 1/8 - 1” (3 - 26mm)

650-2-45G 1” (25.4mm) Diameter Solid Carbide End Mill x 4.00” (101.4mm) Length

650-2-43F 3/4” (19.05mm) Four Fluted End Mill X 4” (101.4mm) Length

650-2-3V Cutterhead Assembly Complete with Tooling

Spindle Adapters for Mounting Universal Tooling

6648M 1” (25.4mm) Spindle Adapter for Driving 1” (25.4mm) Diameter Shank Tooling

6649B .750” (19.05mm) Spindle Adapter

6170C Adapter, Blank

6170J #40 Taper Adapter

6170K R8 Taper Adaptor

6514Q #5 Morse Taper Adapter

Main Line Bore Equipment

Line Bore Tooling for Small to Large Blocks and Heads

6753J Straight 90 Degree Right Angle Drive Assembly

6856 Straight 90 Degree Right Angle Drive Assembly

6753L Special Belt Drive 90 Degree Right Angle Drive Assembly

650-2-39B Cutterhead Assembly Line Boring 1.9 - 4.0” (48.26 - 101.60mm) Diameter

650-2-39C Cutterhead Assembly Line Boring 2.9 - 5.6” (73.66 - 142.24mm) Diameter

650-2-39A Cutterhead Assembly Line Boring 5.4 - 8.1” (137 - 206mm) Diameter

Line Bore Fixturing for Small to Large Blocks and Heads

650-3-56 Line Bore Pivot Table Fixture

6821 Adjustable Universal Line Boring Fixture Assembly

6843 90 Degree V Block Supports

6823E 90 Degree V Block Supports for Large 90 Degree V Blocks

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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 CAM (Computer Aided Manufacturing) Software

9043 Rottler CAM Software Package.
When Rottler CAM #9043 is purchased together with a new machine, a three day introductory training course at Rottler factory is available for purchase. Additional training on Rottler CAM after the three day course is provided through instructional videos at www.RottlerTube.com or by internet and/or telephone support, charges apply.

Software Training

RCAM-IH-INTRO
Three days introductory training for one person on Rottler CAM software at Rottler factory in a group class setting. Customers must have purchased #9043 Rottler CAM Software package before attending this training course. Customer must supply own Windows laptop. Full details of costs and conditions is available from the Rottler Sales Department.
Automatic Tool Changer

9116 Automatic Rotary Tool Changer - 16 Tool Positions
Only for machines equipped with HSK80A Quick Change Spindle.
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.

| 6407A Locator Assembly, Main, CAT 399 / Large V-Block Fixture (Matched Pair) | 6407C Locator Assembly, Main, CAT 3500 / Large V-Block Fixture (Matched Pair) |
6407E Locator Assembly, Main, Cummins 1710 / Large V-Block Fixture (Matched Pair)

6407G Locator Assembly, Main, Cummins K50 / Large V-Block Fixture (Matched Pair)

6407J Locator Assembly, Main, Cummins QSK / Large V-Block Fixture (Matched Pair)

6407L Locator Assembly, Main, Waukesha 7042 / Large V-Block Fixture (Matched Pair)

6407N Locator Assembly, Main, MTU 4000 / Large V-Block Fixture (Matched Pair)

6407Q Locator Assembly, Main, CAT C175 / Large V-Block Fixture (Matched Pair)

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

6370Z 10” (254mm) Parallels With Air Float
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.
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, selection of locators available for most common blocks. See F60/F70 Locator catalog for listing of available locators.
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 F60 Performance Fixture, Pivot Table and Block End Truing Fixtures on F79A & F100 model machines.
Boring and Sleeving Tooling

6516H Blind Hole Stub Cutterhead Package
1.5 - 4.2" (38 - 107mm) diameter x 6.5" (165mm) length complete with tooling and Digital Micrometer
6519Z Blind Hole Stub Cutterhead Package

2.9 - 5.0" (74 - 152mm) diameter X 9.7" (246mm) length Complete With Tooling and Digital Micrometer
6256Q Blind Hole Cutterhead Package
4.5 - 9.0” (114 - 229mm) diameter complete with tooling and Digital Micrometer
6464J Blind Hole Cutterhead Package
8.0 - 14.0” (203 - 360mm) diameter complete with tooling and Digital Micrometer
6588 Blind Hole Cutterhead Package
11.75 - 16" (298 - 406mm) diameter - Complete with tooling and Digital Micrometer
**Surfacing Tooling**

**6294V 10” (250mm) Diameter Surfacing Cutterhead Package**
6294U 14” (360mm) Diameter Surfacing Cutterhead Package

6294T 18” (460mm) Diameter Surfacing Cutterhead Package
6294W 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

6864 Special 18” (420mm) Diameter Multi Tooth Milling Head
Including 9 Cartridges with 10 cutting edges per insert: Cutting inserts must be ordered separately
6865 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**

**6648 Caterpillar 3400 Series Tappet Bore Repair Tooling Package**
Including Digital Indicator and 1” Spindle Adaptor

**6835 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)
6757Z Large Heavy Duty Adjustable Boring/Facing Head
Including Spindle Adapter for general purpose boring and facing work, and cutting wide chamfers

6648K Collet kit 1/8 - 1” (3 - 26mm)
23 collets including storage box and wrench. Requires 6170J #40 spindle adapter
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

650-2-3V Cutterhead Assembly Complete with Tooling
3/4 - 2.0” (19 - 50mm) Diameter X 3.0” (75mm) long.
Includes Digital Indicator.
Spindle Adapters for Mounting Universal Tooling

6648M 1” (25.4mm) Spindle Adapter for Driving 1” (25.4mm) Diameter Shank Tooling

6649B .750” (19.05mm) Spindle Adapter
For Driving .750” (19.05mm) Diameter Shank Tooling

6170C Adapter, Blank
Can be Machined by Customer to Suit Special Requirements
6170J #40 Taper Adapter

6170K R8 Taper Adaptor

6514Q #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

6753J Straight 90 Degree Right Angle Drive Assembly
For Small to Medium Blocks and Heads.
6856 Straight 90 Degree Right Angle Drive Assembly
For Medium to Large Blocks.
6753L 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.
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

6773F 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

6815 White Superior 8G825 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
502-12-4 General Purpose Magnetic Indicator Holder  
(Requires #502-9-9A or J Indicator)

502-12-4A Magnetic Indicator Holder  
For 2 - 3” (50 - 75mm) Diameter (Requires 502-9-9A or J Indicator)

502-9-9A Mechanical Run Out Indicator  
General Purpose (.001” Inch Resolution)

502-9-9J Mechanical Run Out Indicator  
General Purpose (.01mm Metric Resolution)

502-9-9S Indicator Mount  
Angled for small diameter main line bores
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
6514L Shell Mill 5” (127mm) Diameter
For Surfacing Main Bearing Cap Register Face in Blocks in Preparation for Main Line Boring

6514V Shell Mill 6” (152mm) Diameter
For surfacing main bearing cap register face in blocks in preparation for main line boring
6514W Shell Mill 8” (203mm) Diameter
For surfacing main bearing cap register face in blocks in preparation for main line boring

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 6773F or 6779K

6779H Adaptor for 40 Taper Tooling such as 6648K Collet Kit
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 Boring and Surfacing Equipment

650-3-44R Rottler Precision Connecting Rod Boring Fixturing System
For Connecting Rods Approx 8 - 24" (200 - 600mm) Center to Center Distance - Requires (1) Set of 6370C Parallels
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.
Tooling for Connecting Rod Boring

6516H Blind Hole Cutterhead Package
1.5 - 4.2” (38 - 107mm) diameter X 6.5” (165mm) length complete with tooling and Digital Micrometer
6519 Blind Hole Stub Cutterhead
2.9 - 8.0" (74 - 203mm) Diameter X 9.3" (236mm) Length Complete with Tooling and Digital Micrometer
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.