

# ROTTLER

## F69ATC CNC MACHINING CENTER

### OPTIONAL EQUIPMENT CATALOG



RamSpeed.com.au

8029 S 200th St. Kent, WA 98032 USA | [www.rottlermfg.com](http://www.rottlermfg.com) | Ph: 253-872-7050 | Fax: 253-395-0230

25.07.2017



## **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@rottermfg.com](mailto:parts@rottermfg.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**





# F69ATC OPTIONAL EQUIPMENT CATALOG

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## **Software Packages**

### **6758T Automatic Boring and Sleevling**

Including Lower Offset for Honing Clearance, Automatic Cycle

### **6758U Multiple Pass Programmable Depth Of Cut**

Rough and Finish Milling/Surfacing, Automatic Cycle

### **6773B Main Line Bore Machining**

Including Circular Interpolation Thrust Facing (See Below Thrust Facing Tool holder), Automatic Cycle

### **650-2-20A Lifter Bore Machining, Automatic Cycle**

### **6758Z Stroker Crankshaft Connecting Rod Clearancing Software Package**

### **8300 Splayed 4 Bolt Main Cap Machining Software**

Requires 9043 Rottler CAM Software

### **650-2-44Z Block Lightening for World Products Small Block Chevy Motown**

### **650-2-44Y Block Lightening for Dart Small Block Chevy Little M**

### **650-2-45K Block lightening for Big Block Chevy Dart - Big "M" - Software Package**

### **650-3-45M Connecting Rod Boring Software Package**

## **Rottler CAM (Computer Aided Manufacturing) Software**

### **9043 Rottler CAM (Computer Aided Manufacturing) 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](http://www.RottlerTube.com) or by Internet and/or telephone support, charges apply.

### **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.

## **Software Packages**

### **6758T Automatic Boring, Sleaving**

Including Lower Offset for Honing Clearance, Automatic Cycle

### **6758U Multiple Pass Programmable Depth Of Cut**

Rough and Finish Milling/Surfacing, Automatic Cycle

### **6773B Main Line Bore Machining**

Including Circular Interpolation Thrust Facing (See Below Thrust Facing Tool holder), Automatic Cycle

### **650-2-20A Lifter Bore Machining, Automatic Cycle**

### **6758Z Stroker Crankshaft Connecting Rod Clearancing Software Package**

### **8300 Splayed 4 Bolt Main Cap Machining Software**

Requires 9043 Rottler CAM Software

### **650-2-44Z Block Lightening for World Products Small Block Chevy Motown**

### **650-2-44Y Block Lightening for Dart Small Block Chevy Little M**

### **650-2-45K Block lightening for Big Block Chevy Dart - Big "M" - Software Package**

### **650-3-45M Connecting Rod Boring Software Package**

## Transformer for High Supply Voltage

F69 series machines require 210/240 volt 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.



## Cylinder Bore and Main Line Bore Centering

### Automatic Centering

### 650-3-59Y Renishaw Wireless Probing System

Including 6 Probes/Stylus and software. Designed to Work Together with Rottler 4th Axis Fixture System.

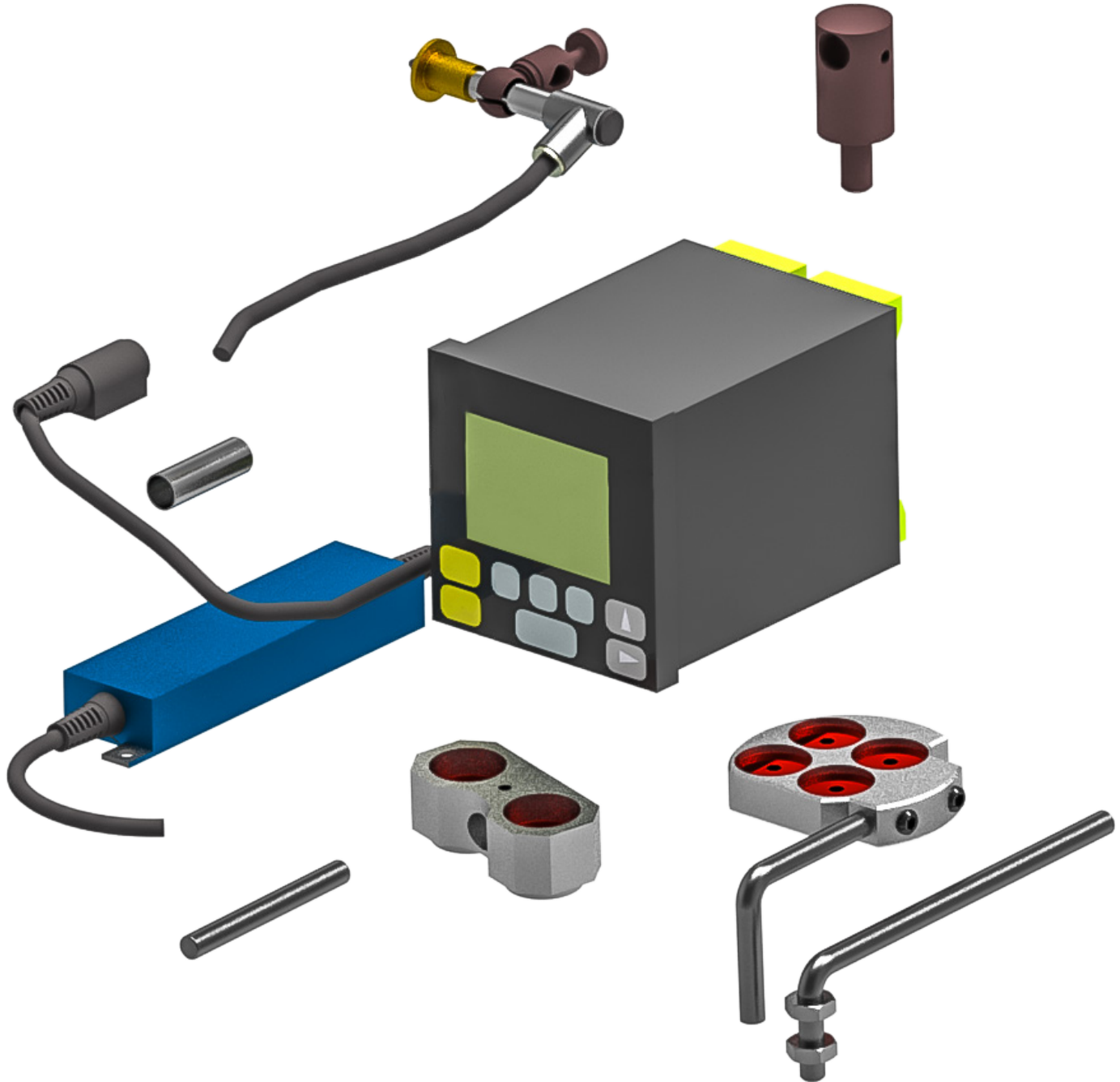




**Manual Centering**

**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



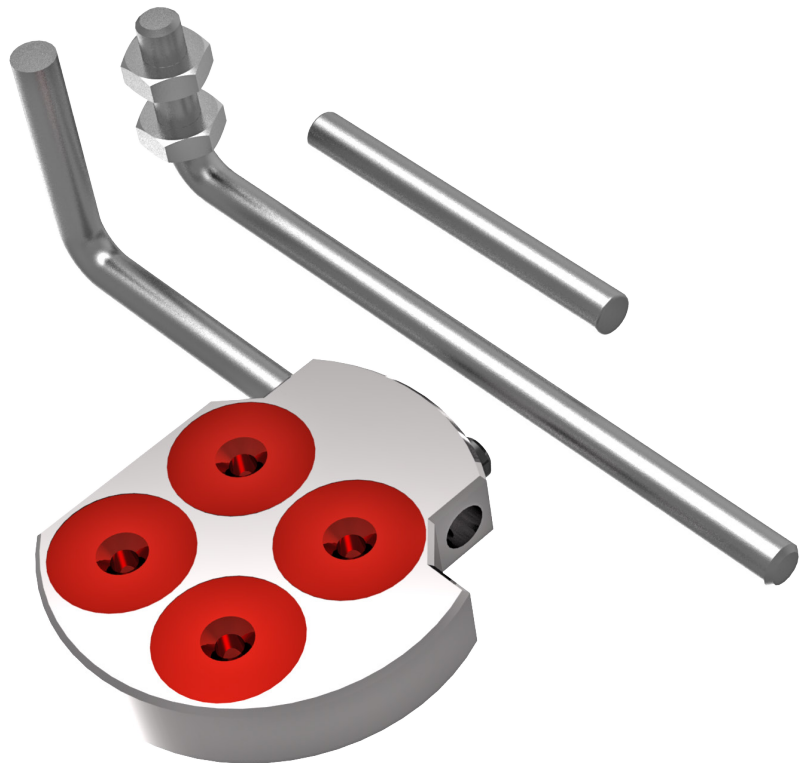
**502-9-9A Mechanical Runout Indicator**

General purpose (.001) resolution



**502-12-4 Magnetic Base**

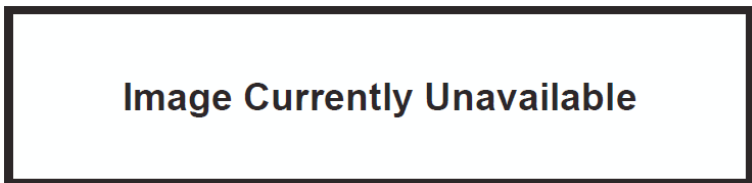
With (2) extension arms for indicators 4 magnet base for cylinder boring bar



**Spindle Motor Option**

**650-5-20N High Torque Spindle Motor**

Max 2,000RPM. For Heavy Cutting Applications.



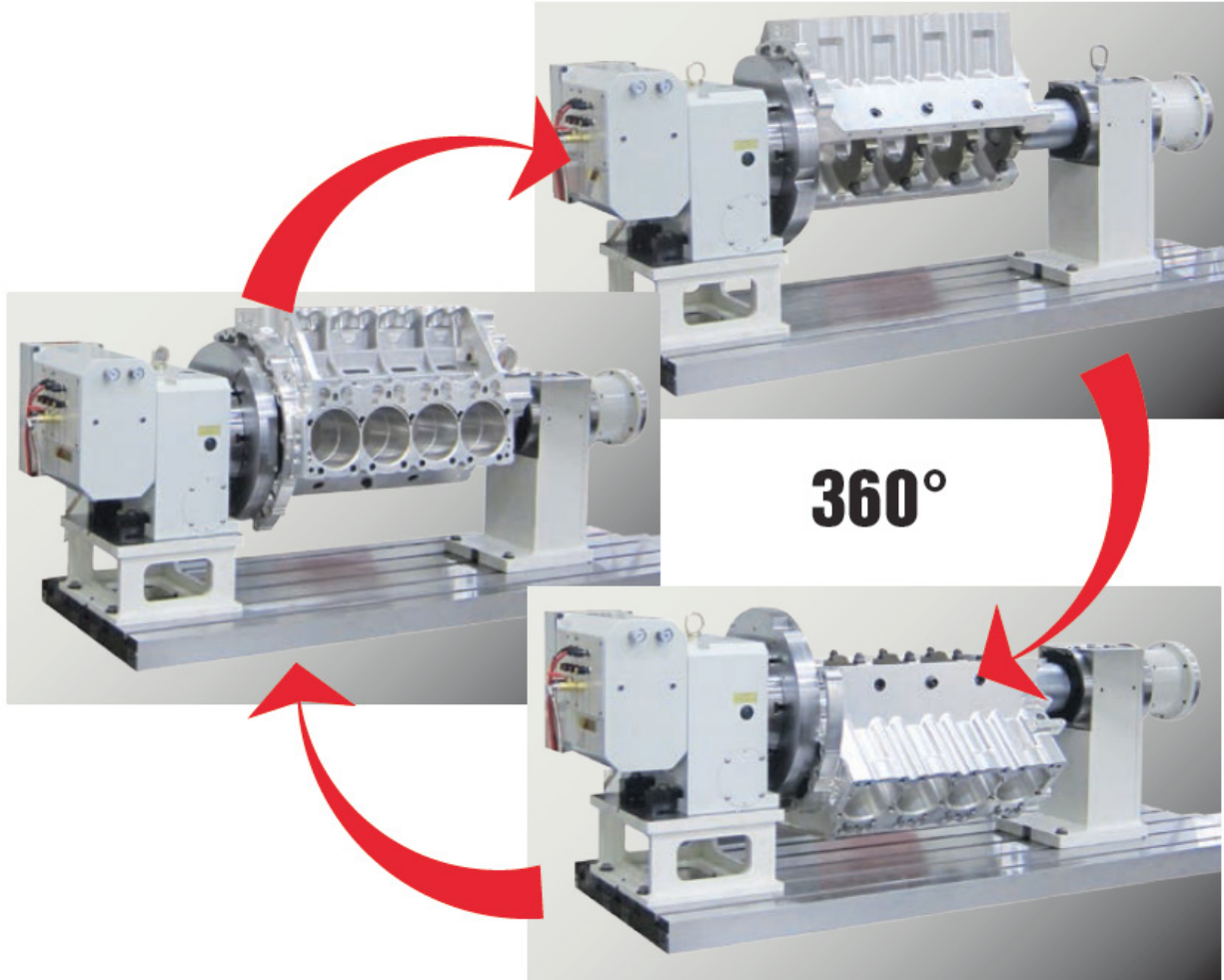
## BLOCK FIXTURING

### Automatic

#### 690-3-63 Computer Controlled Automatic 4Th Axis Block Roll Over Fixture

Including:

- 1: Rottler 4th Axis Software Packages.
- 2: Universal Engine Block Mounting System to Locate and Hold A Wide Variety of Camshaft Type V Blocks, Requires Main and Cam Bearing Locators to Precision Mount Blocks.
- 3: Adjustable Camshaft Centerline Locating Device to Set Up Camshaft Type V Blocks with Reference to the Centerline of their Camshaft and Crankshaft.
- 4: Power Tail Stock for Quick Mounting of Blocks and Rigid Support During Machining.



### LOCATOR SETS

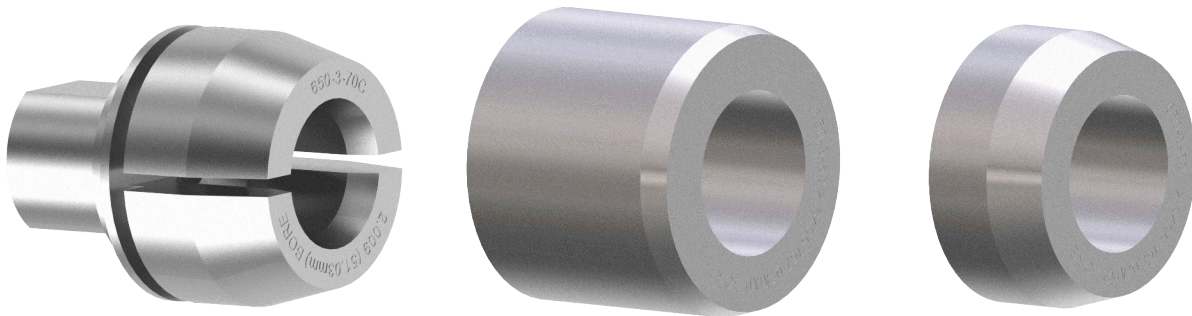
For 4th AXIS includes front & rear main locator and rear cam locator

Note: When ordering multiple locator assemblies, please check that there are no duplicates of individual locators.

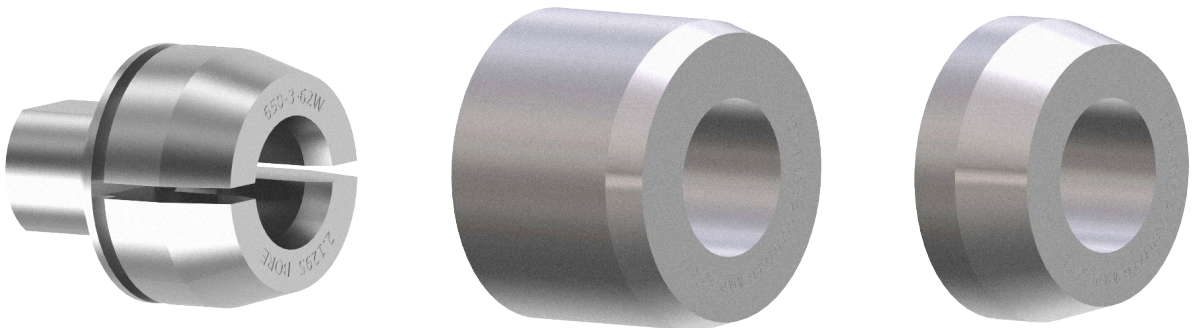
If Customer Requires Sizes Other than Available from Stock, Rottler Will Manufacture the Required Size. Customer Must Provide the Size, Including Tolerance of the Bore/s that the Locator will be used in. Rottler will use this information to Design the Actual Locators.

### CHEVROLET SETS

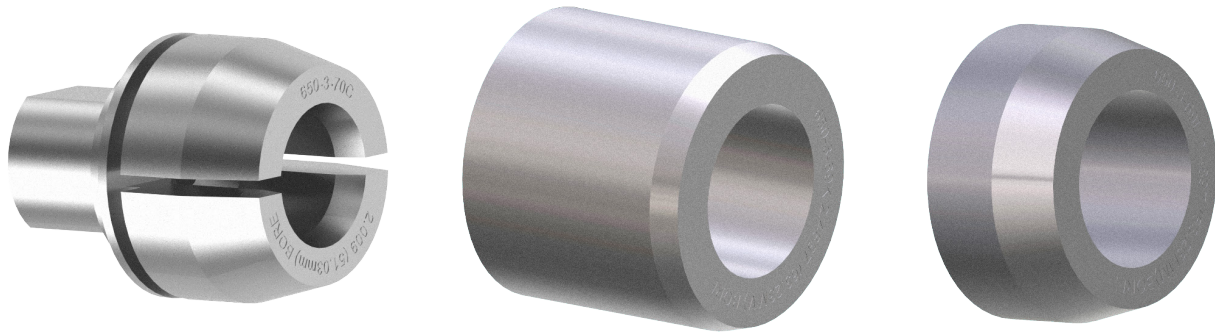
#### 650-3-68 Locator Assembly (Small Block Chevy)



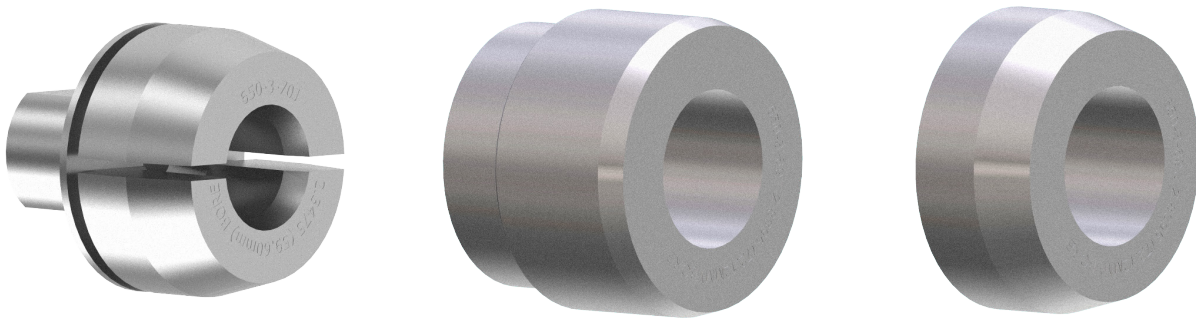
#### 650-3-68B Locator Assembly (Big Block Chevy)



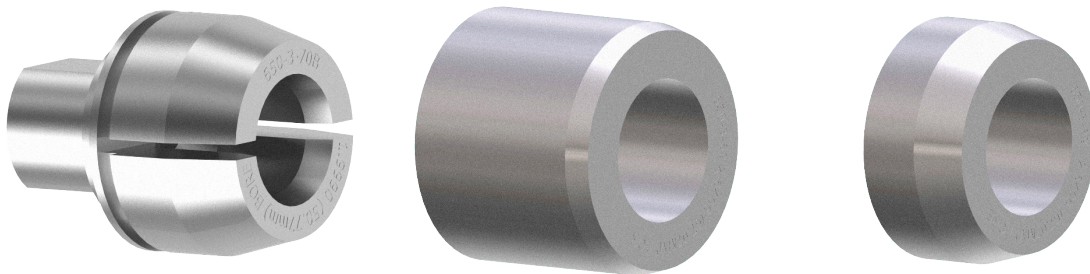
**650-3-68L Locator Assembly (327 Small Journal Crank)**



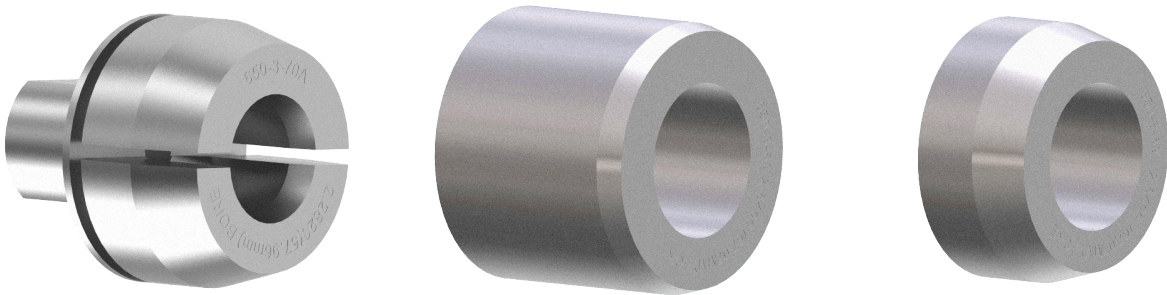
**650-3-68J Locator Assembly (400 Small Block Chevy)**



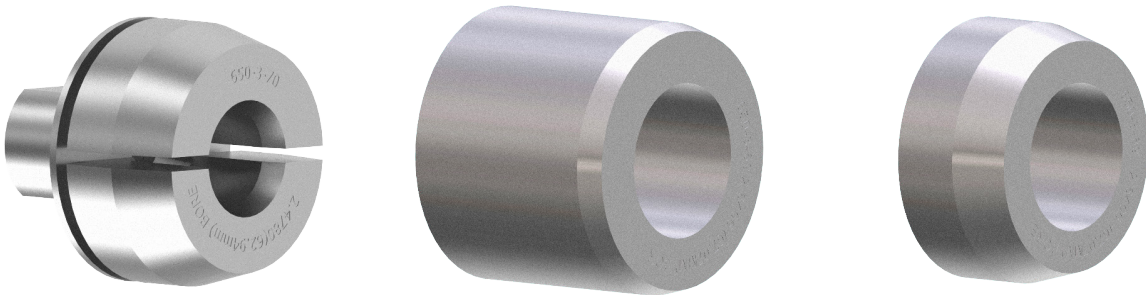
**650-3-68G Locator Assembly (Chevy Bowtie Block)**



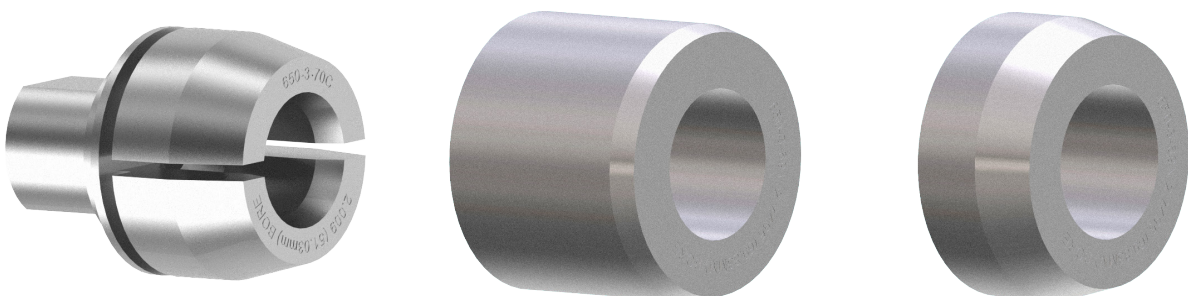
**650-3-68F Locator Assembly (Chevy 58mm Cam Bore) for 55mm Cam Journal**



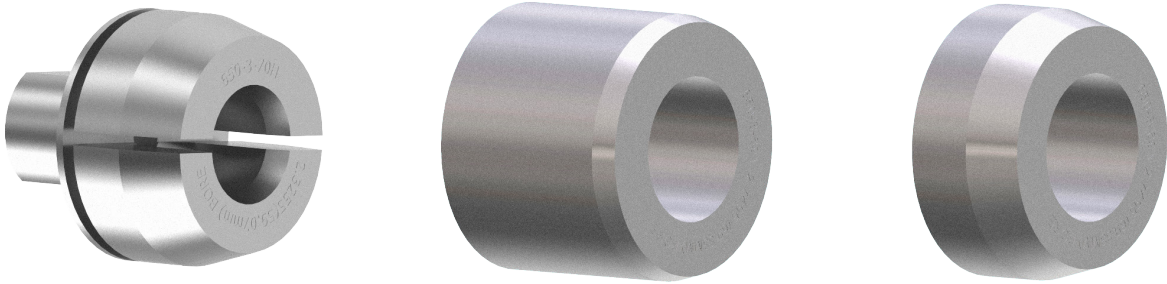
**650-3-68E Locator Assembly (Chevy 63mm Cam Bore) for 60mm Cam Journal**



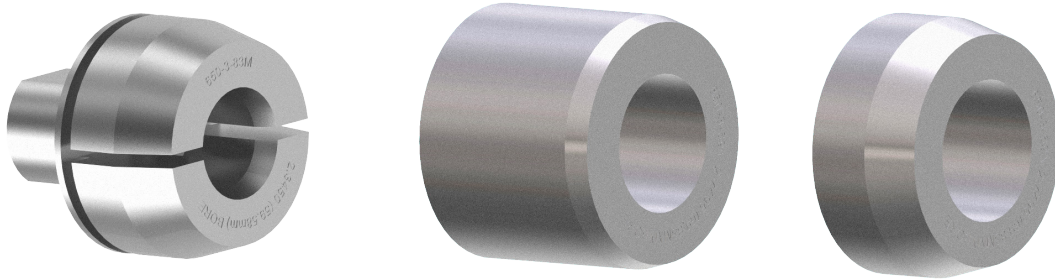
**650-3-68M Locator Assembly (Chevy 5.3 liter 99 & Up)**



**650-3-68R Locator Assembly (Chevy Gen3 LS1 to LS6)**

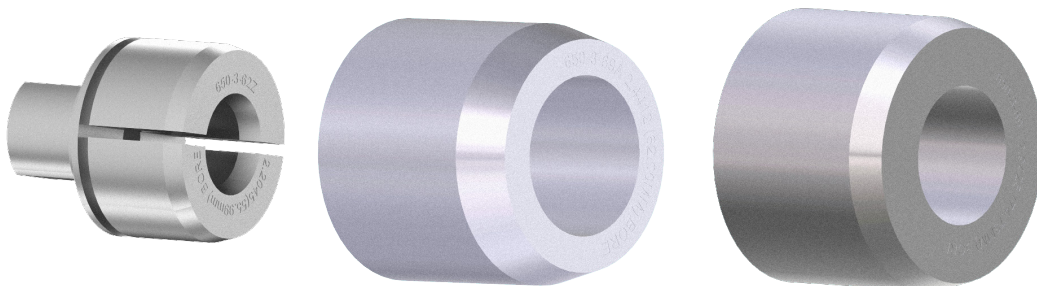


**650-3-68T Locator Assembly (Chevy LS7)**

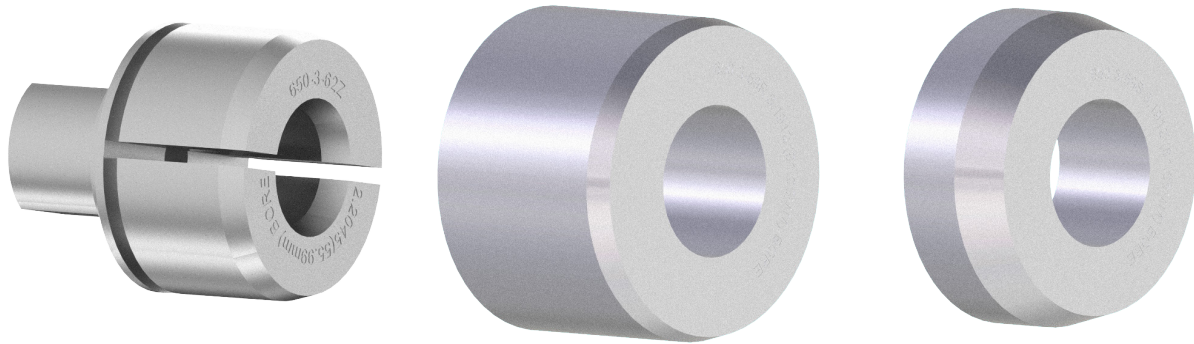


**FORD SETS**

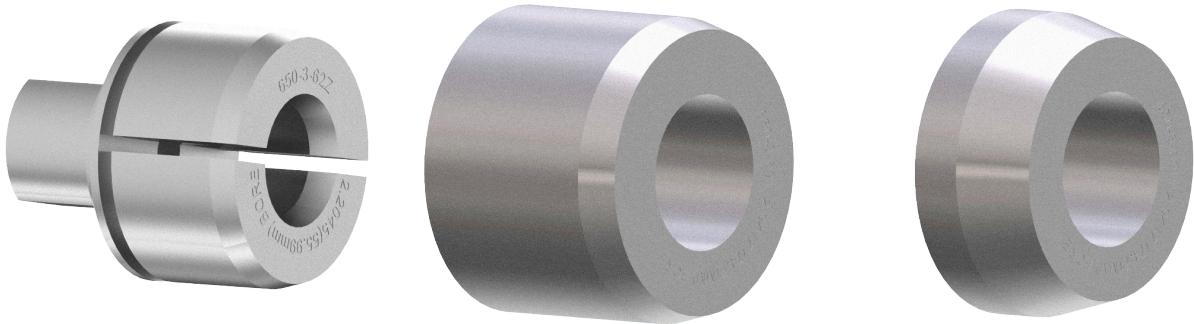
**650-3-68A Locator Assembly (Ford 289/302)**



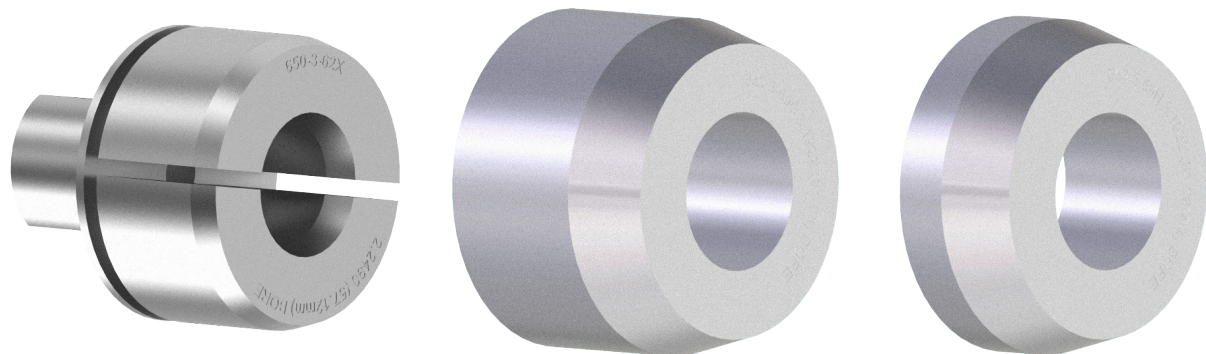
**650-3-68H Locator Assembly (Ford 351W)**



**650-3-68P Locator Assembly (Ford 351C)**



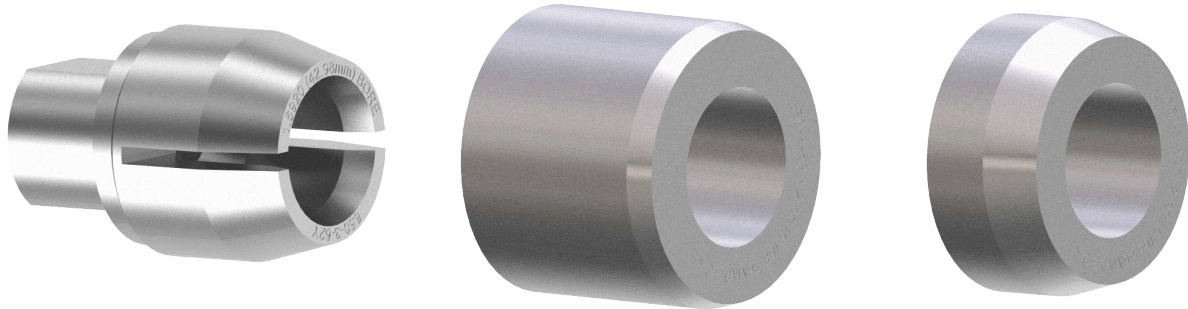
**650-3-68C Locator assembly (Ford 460)**



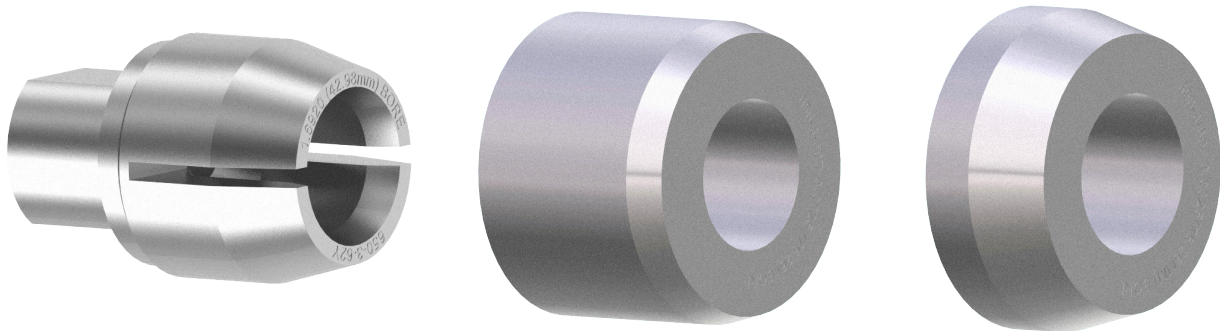


**MOPAR SETS**

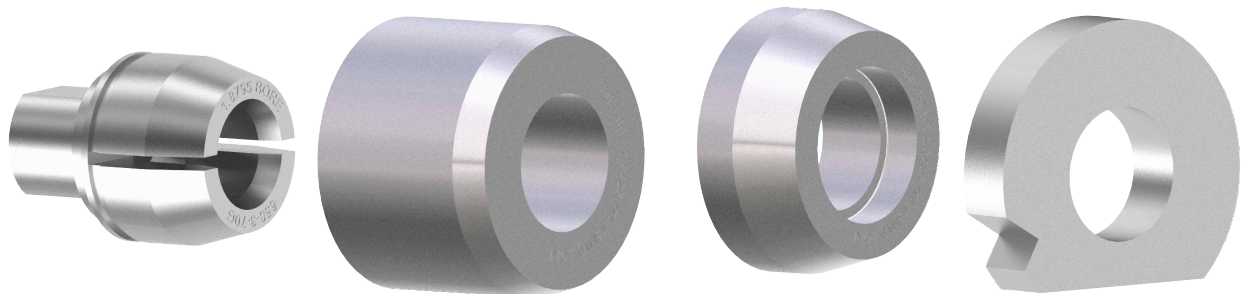
**650-3-68K Locator Assembly (Mopar 318)**



**650-3-68D Locator Assembly (Mopar 360)**



**650-3-68Q Locator Assembly (Mopar 383,426,440)**



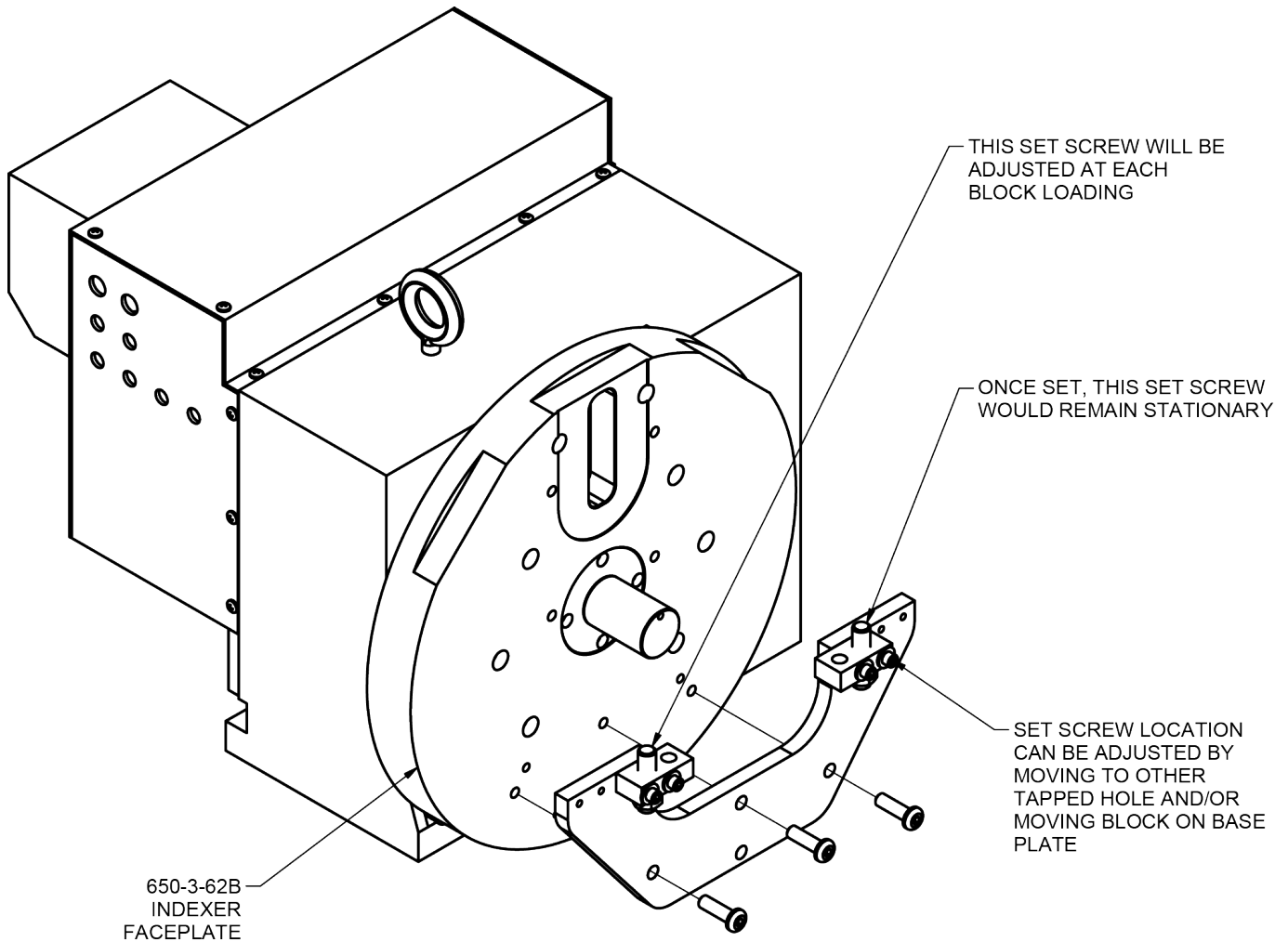
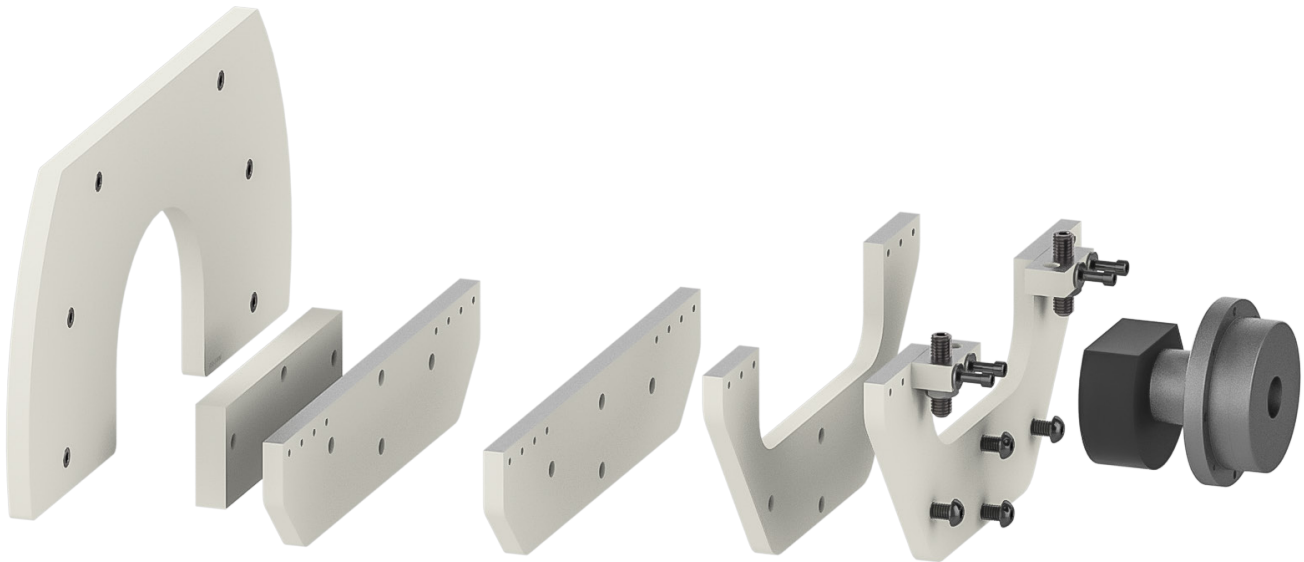
**Block End Truing****650-3-30A Block End Truing Fixture Assembly**

(Requires 4th Axis Fixture #690-3-63) Used for Surfacing and Machining Front and Rear End of Block True to Crankshaft Centerline.



## 650-3-84 Overhead Cam Block Fixture

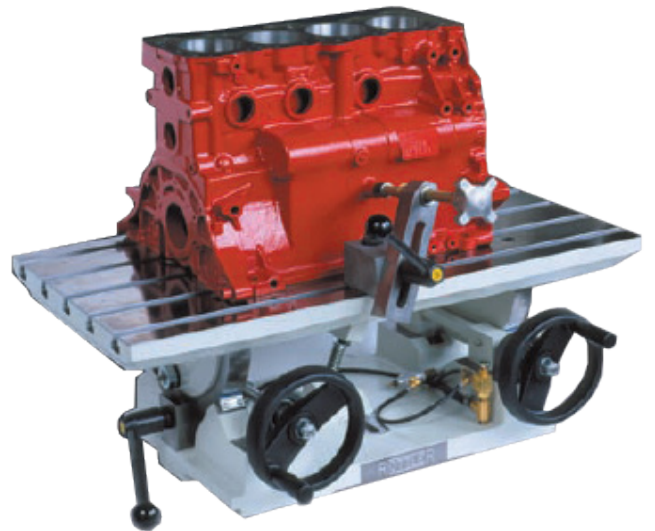
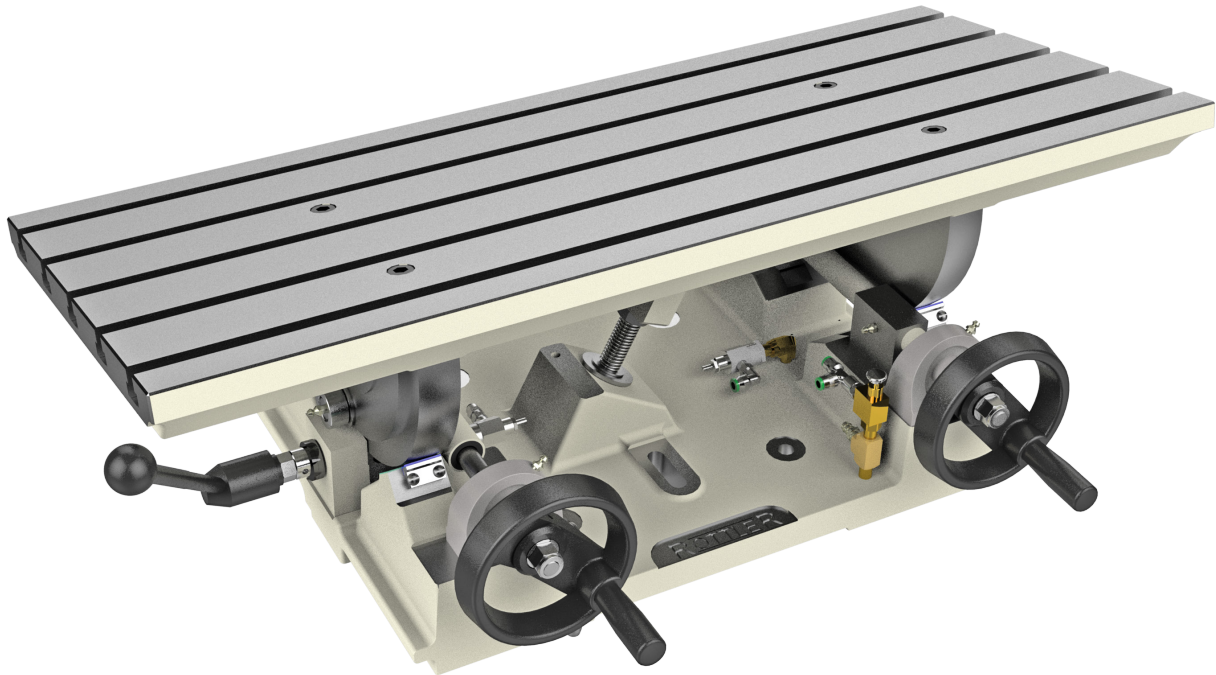
For V Blocks for 4th Axis Fixture (650-3-59)



## Cylinder Head Surfacing Fixture

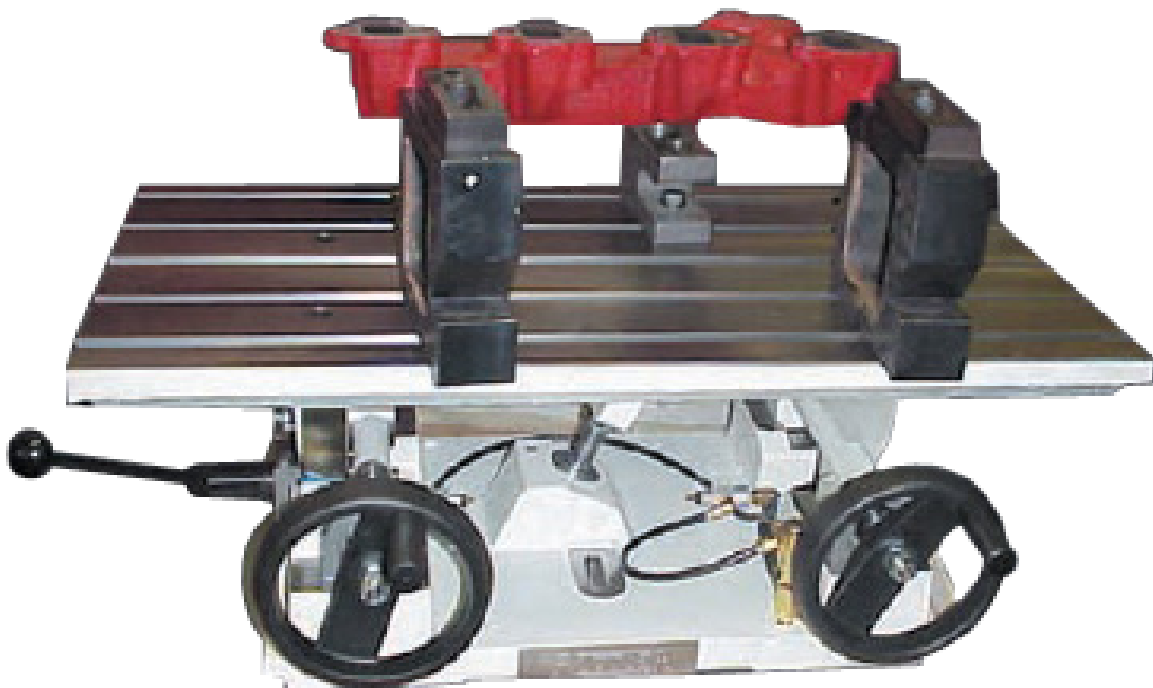
### 7209M Leveling Table with Air Float

Complete with Universal Work Holding System for Surfacing Cylinder Heads and Small In-Line Blocks



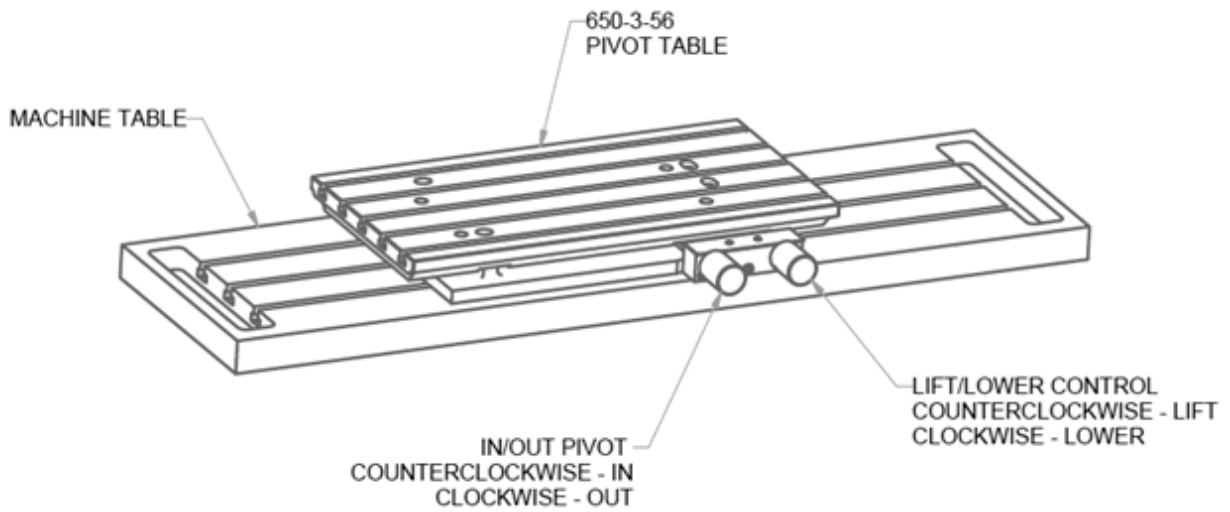
**7226G Exhaust and Intake Manifold Surfacing Fixture System**

For #7209M Table



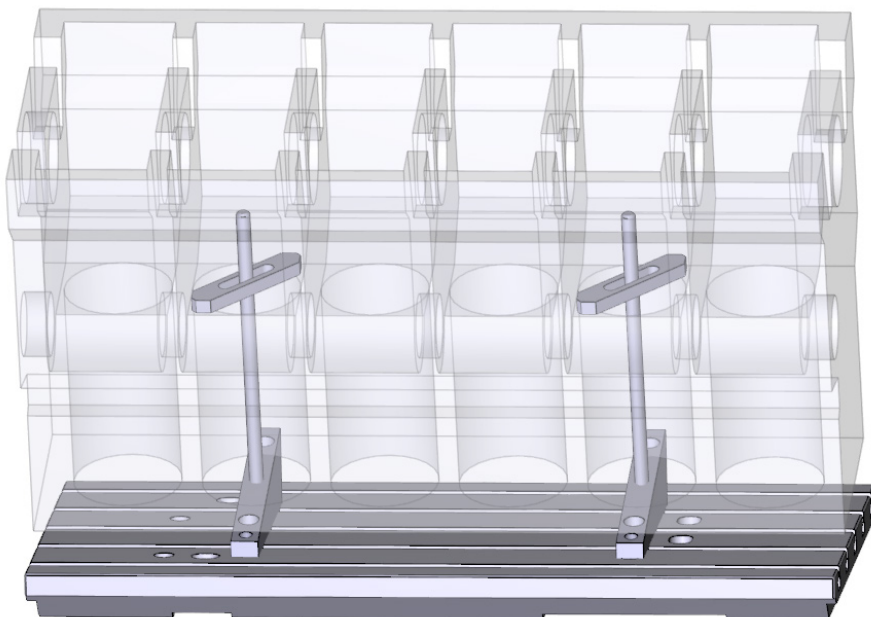
**650-3-56 Line Bore Pivot Table**

Complete with Universal Work Hold System for Small In Line and 90 Degree V Blocks, used for Main Line Boring and Stroker Crank Clearance.



**6866 Cummins Wedge for Camshaft Line Boring**

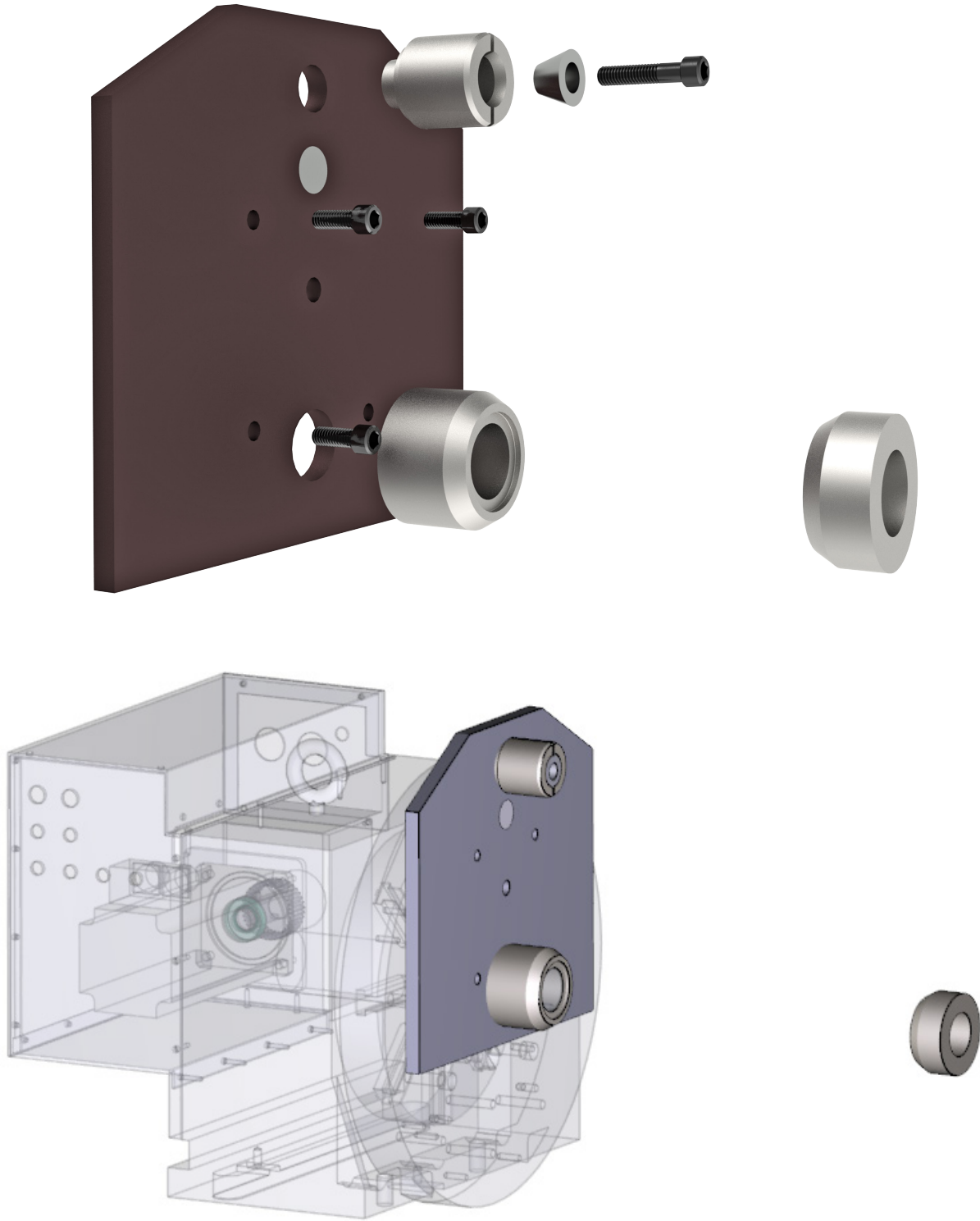
Requires 650-3-56 Pivot Table



### Special Application Fixture

#### 650-3-82 Mopar 5.7L Hemi Fixture Assembly

(Requires 4th Axis Fixture 690-3-63)

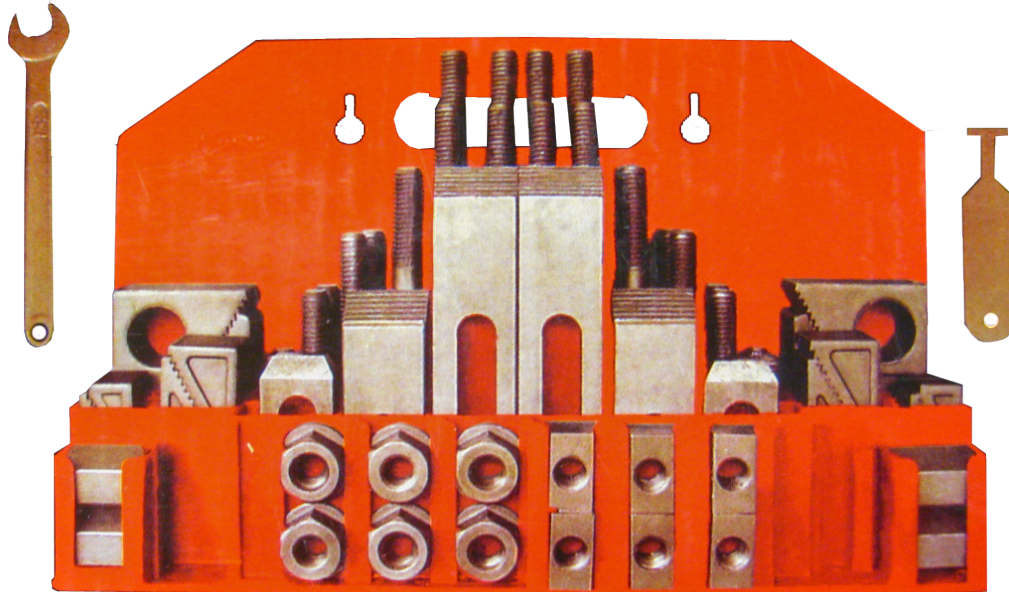




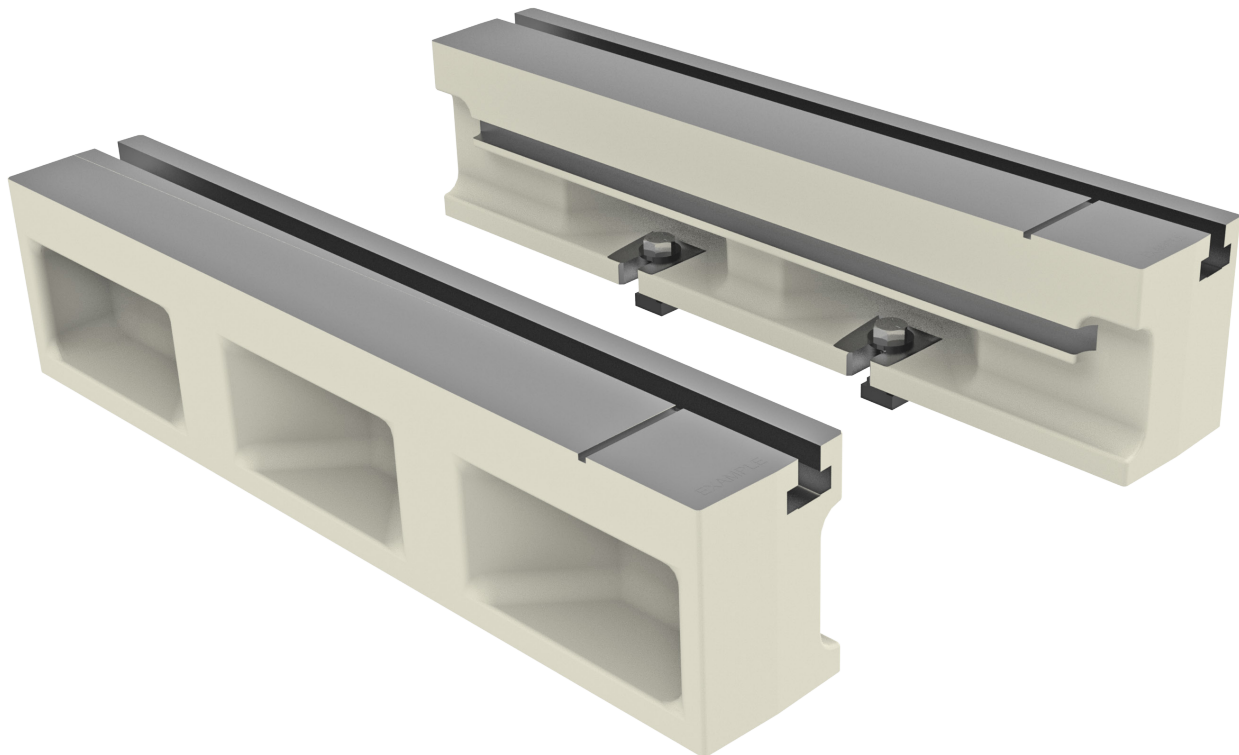
**Miscellaneous Accessories**

**650-3-37 1/2" (12.7mm) Universal Clamping Kit**

Including T-Nuts, Bolts, Studs, Strap Clamps, etc.



**7219W 5.2" (138.08mm) Heavy Duty T-Slot Universal Parallels**





### **Using 3rd Party Tooling in Rottler Machines with CAT 40 Tooling.**

When it is not convenient for the customer to order CAT 40 tooling from the factory or if the customer needs tooling that we don't stock, they may purchase tooling from 3rd part vendors such as MSC. The customer must specify a DIN 69871 SK 40 or ANSI B 5.50 CAT 40 tapered adaptor for use in Rottler machines.

Rottler uses a Parlec - A Style, CAT40 Taper, 5/8-11 Thread, 45 Degree Angle Radius, Standard Retention Knob with the following specifications: 1.68 Inch Overall Length, 0.281 Inch Coolant Hole Diameter, 0.74 Inch Knob Diameter, 0.12 Inch Flange Thickness, 0.64 Inch Knob to Flange Length, 0.635 Inch Pilot Diameter, Through Coolant

If customer purchases a DIN spec adaptor they will need to source a metric equivalent of the retention knob.

## TOOLING

### Cylinder Boring

#### Boring/Sleeving/Chamfering/O-Ring Tooling

##### 650-2-1D Cutterhead Package

2.0 - 4.0" (50.80 - 101.60mm) Diameter X 7.0" (177.80mm) Length Complete with Tooling and Digital Micrometer



**650-2-14B Cutterhead Package**

2.9 - 5.0" (73.66 - 127.00mm) Diameter X 7.0" (177.80mm) Length Complete with Tooling and Digital Micrometer



**Extender for 650-2-14B&F Cutterhead Assembly**

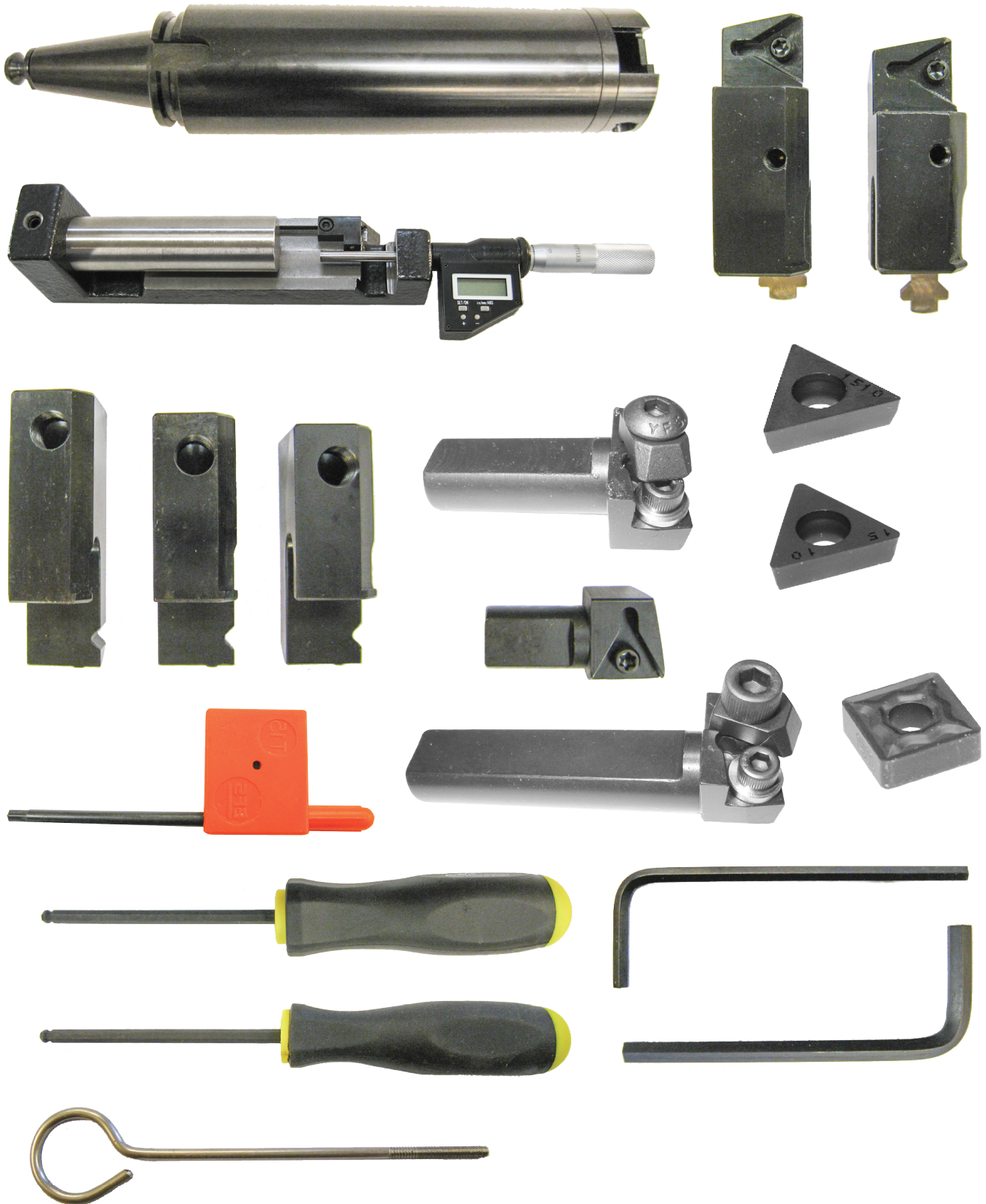
**650-2-16D 1.400" (35.5mm) Spacer**

(Extension) for 650-2-14B&F Cutterheads

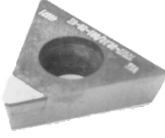

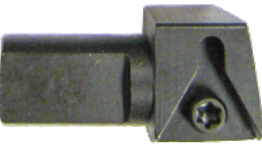


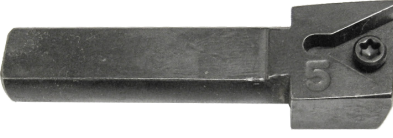






**650-2-14F Cutterhead Package**

2.9 - 5.0" (73.66 - 127.00mm) Diameter X 10.0" (254mm) Length Complete with Tooling and Digital Micrometer



**Miscellaneous Tooling for 650-2-14B&F Cutterheads**

<p><b>501-29-6K PCD Tipped Triangular Insert</b>                  For Boring/Counterboring Aluminum Only - Ideal for Finishing Boring and Counterboring of Aluminum/Alusil Blocks in Preparation for a Sleeve.</p> 	<p><b>6513P Toolbit, Brazed Carbide</b>                  .085" Wide O Ring Grooving</p> 
<p><b>6598M Cartridge</b>                  Triangular, Positive Rake, 13/16 Shank Length, for Counter Boring</p> 	<p><b>6513Q Toolbit, Brazed Carbide</b>                  .120" Wide O Ring Grooving</p> 
<p><b>6513J Toolbit, Brazed Carbide</b>                  .037" Wide O Ring Grooving</p> 	<p><b>6747K Cartridge Assembly</b>                  5 Degree Chamfer for Triangular Positive Rake Inserts</p> 
<p><b>6513L Toolbit, Brazed Carbide</b>                  .039" Wide O Ring Grooving</p> 	<p><b>6747P Cartridge Assembly</b>                  10 Degree Chamfer for Triangular Positive Rake Inserts</p> 
<p><b>6513N Toolbit, Brazed Carbide</b>                  .060" Wide O Ring Grooving</p> 	<p><b>6747G Cartridge Assembly</b>                  15 Degree Chamfer for Triangular Positive Rake Inserts</p> 

**6747F Cartridge Assembly**

20 Degree Chamfer for Triangular Positive Rake Inserts



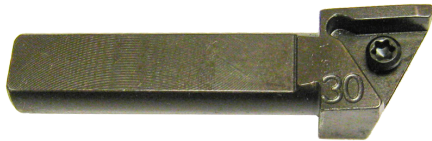
**6747M Cartridge Assembly**

20 Degree Chamfer for Triangular Positive Rake Inserts  
(Special Application Only)



**6747H Cartridge Assembly**

30 Degree Chamfer for Triangular Positive Rake Inserts



**6593L Cartridge Assembly**

Offset Indexable Insert, Triangular Positive Rake (3.14 - 3.40" Diameter)



**6593M Cartridge Assembly**

Offset Indexable Insert, Triangular Positive Rake (3.40 - 3.90" Diameter)



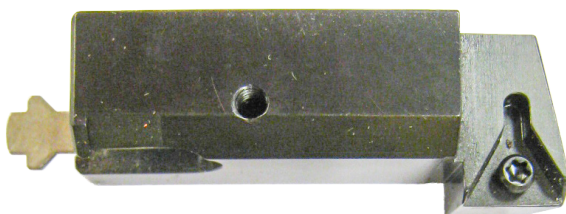
**6593N Cartridge Assembly**

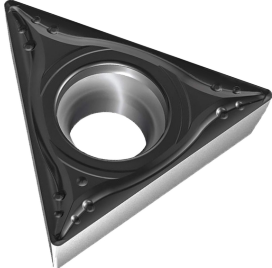

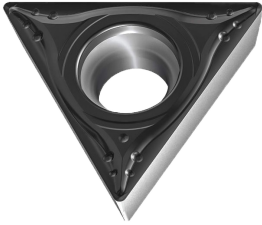
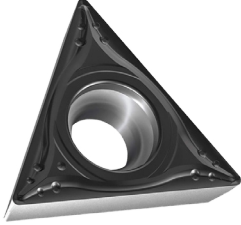
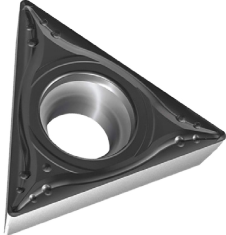
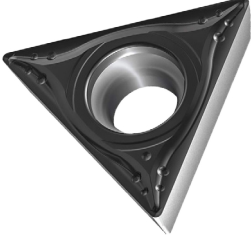
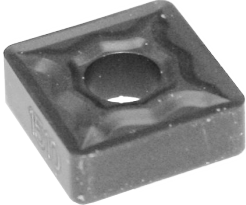
Offset Indexable Insert, Triangular Positive Rake (3.90 - 4.40" Diameter)



**6593P Cartridge Assembly**

Offset Indexable Insert, Triangular Positive Rake (4.40 - 4.90" Diameter)



<p><b>RT211 Insert</b></p> <p>Triangular 1/4" (6.35mm) 1/64" (.397mm) radius, 1/4" triangular Insert holders only, general purpose and sleeving (10% Discount on orders of 10-49, 20% Discount on orders of 50 or more)</p> 	<p><b>RT212 Insert</b></p> <p>Triangular 1/4" (6.35mm) 1/32" (.787mm) radius, 1/4" triangular Insert holders only, general purpose and sleeving (10% Discount on orders of 10-49, 20% Discount on orders of 50 or more)</p> 
<p><b>RT321 Insert</b></p> <p>Triangular positive rake, 3/8" (9.525mm) 1/64" (.397mm) radius, general purpose and sleeving (10% Discount on orders of 10-49, 20% Discount on orders of 50 or more)</p> 	<p><b>RT322 Insert</b></p> <p>Triangular positive rake, 3/8" (9.525mm) 1/32" (.787mm) radius, general purpose and sleeving (10% Discount on orders of 10-49, 20% Discount on orders of 50 or more)</p> 
<p><b>RT321F Insert</b></p> <p>Triangular positive rake, 3/8" 1/64" Radius, Precision Counterboring (10% Discount on orders of 10-49, 20% Discount on orders of 50 or more)</p> 	<p><b>RT322F Insert</b></p> <p>Triangular positive rake, 3/8" 1/32" Radius, Precision Counterboring (10% Discount on orders of 10-49, 20% Discount on orders of 50 or more)</p> 
<p><b>RS322 Insert</b></p> <p>Square negative rake, 1/32" (.787mm) radius, 3/8" (9.525mm) IC, black ceramic coated for high speed oversize thru boring (10% Discount on orders of 10-49, 20% Discount on orders of 50 or more)</p> 	



**Surfacing**

**Surfacing Tooling**

**650-2-8E Surfacing Cutterhead**

Flycutter, 10" (254mm) Diameter Including (2) Radially and Axially Adjustable 3/8" (9.525mm) IC Insert Holders. Inserts must be ordered separately



<p><b>6303B CBN Insert</b> Round, Double-Sided, 3/8" (9.525mm) IC, for Cutting Cast Iron (15% Discount on orders of 10 or more)</p> 	<p><b>6303M PCD Insert</b> Round, 3/8" (9.525mm) IC, for Cutting Aluminum (15% Discount on orders of 10 or more)</p> 
<p><b>6303K Coated Carbide Insert</b> Round, 3/8" (9.525mm) IC, for General Purpose Use</p> 	<p><b>6303S CBN Insert</b> Round, 3/8" (9.525mm) IC, for Cutting Aluminum Blocks with Liners (15% Discount on orders of 10 or more)</p> 

## LIFTER BORING

### Lifter Bore Tooling

#### 650-2-60B Lifter Bore Tooling Kit

Utilizing Micro Adjustable Boring Bars from .750 - 1.218" (19.05 - 30.93mm)



**650-2-60N Setting Fixture**

For 650-2-60B Lifter Tooling Package



**650-2-60G Insert for 0.750 - 0.900 diameter cartridge**



**650-2-60H Insert for 0.920 - 1.180 diameter cartridge**



## Main Line Bore Tooling

### 6753Q Main Line Bore 90 Degree Right Angle Drive Assembly

Diameter 1.9 - 5.6" (48 - 142.2mm) Minimum clearance 3.29" (83.6mm) When Used with 650-2-39B Cutterhead, Includes 5 extensions spacers



**650-2-38G Special Belt Drive 90 Degree Right Angle Drive Assembly**

For Limited Clearance Between Bearing Caps, Diameter 1.9 - 4.0" (48 - 101.6mm) Minimum clearance 2.7" (69mm) with 650-2-39B Cutterhead, includes 5 extension spacers



**6753Y Narrow Right Angle Drive 1.9 - 2.4" (48 - 60.9mm)**

For special applications such as Cummins 5.9 camshaft tunnel. This Right Angle Drive does not require Cutterhead. Cummins 5.9 requires 6866 Wedge and 650-3-56 Line Bore Pivot Table

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.

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.

Rottler right angle drive line bore system will not be able to line bore blocks that have castings between the main bearing caps found in some new design light weight blocks.



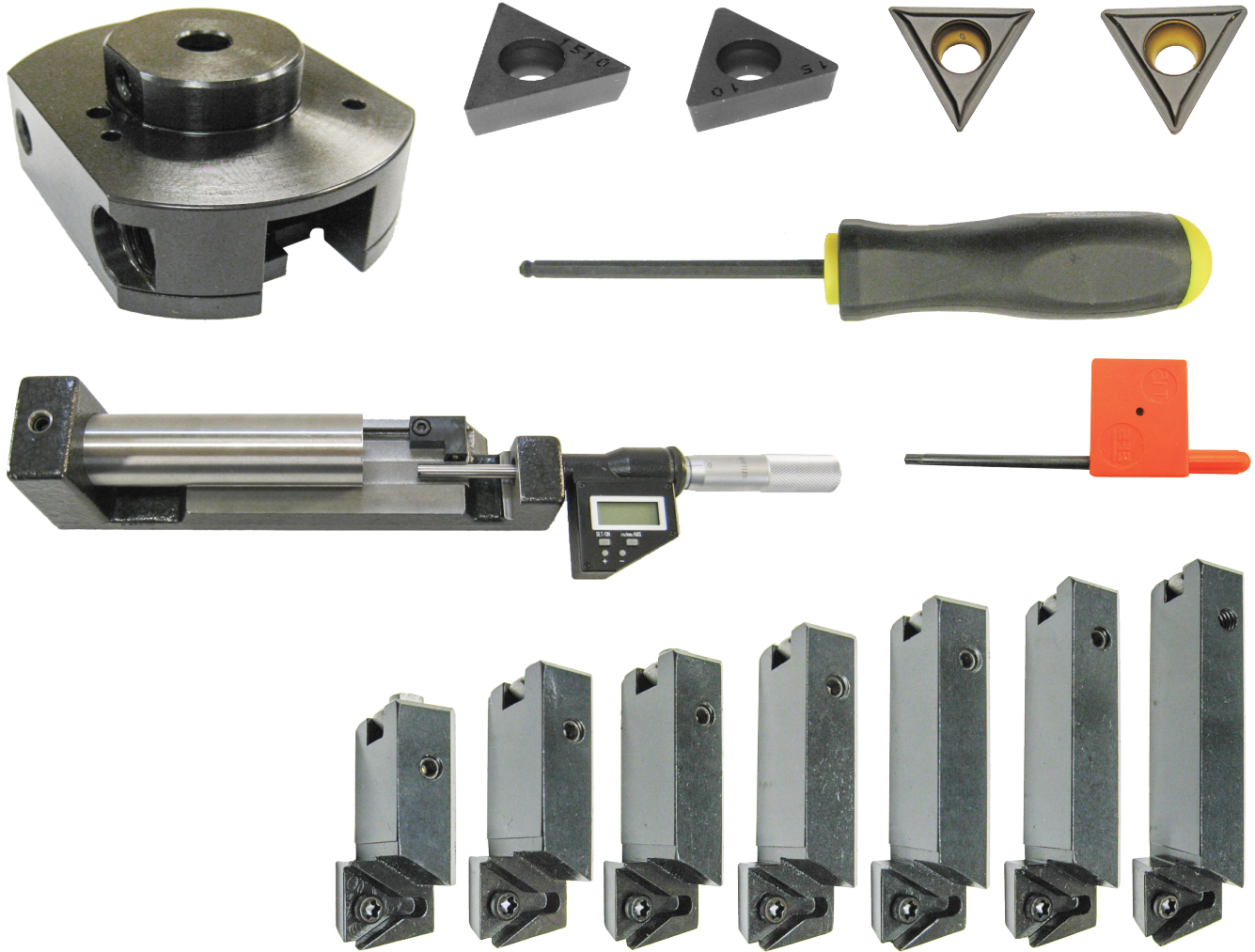
**650-2-39B Line Boring Cutterhead Package**

1.9 - 4.0" (48.26 - 101.60mm) Diameter Complete with Tooling and Digital Micrometer. (When used with 11103 Drive, minimum distance between Bearing Housings 3.29") (83.6mm)




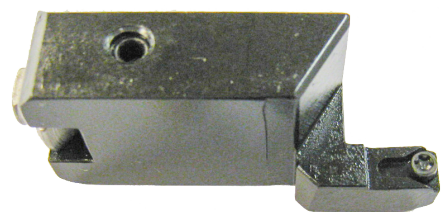
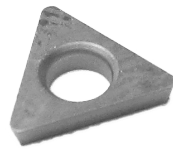

**650-2-39C Cutterhead Assembly Line Boring**

2.9 - 5.6" (73.66 - 142.24mm) Diameter Complete with Tooling and Digital Micrometer. When used with 11103 Drive, minimum distance between Bearing Housings 4.07" (103.4mm)

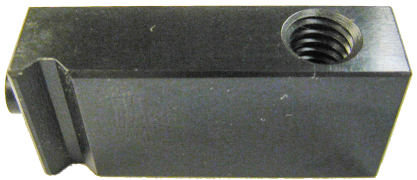
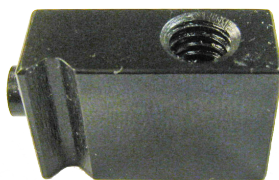
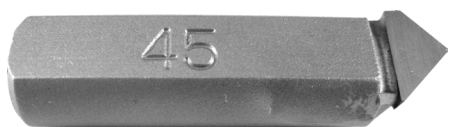




**Special Main Line Boring Thrust Facing Tooling**

<p><b>6801M Tool holder</b> Indexable Insert, Thrust Facing .160 IC, Positive Rake</p> 	<p><b>6801P Tool holder</b> Indexable Insert, Thrust Facing 350 Chevy and Other Small Blocks Line Boring</p> 
<p><b>501-29-6G Insert</b> Triangular, .160 IC 1/64" (.397mm) Radius</p> 	<p><b>501-29-6H Insert Screw</b></p> 

**Special Main Line Boring Chamfering Tooling**

<p><b>199-90 Tool holder</b> 2 - 3" (50.80 - 76.20mm)</p> 	<p><b>199-96 Tool holder</b> 3 - 4" (76.20 - 101.60mm)</p> 
<p><b>501-33E Tool bit</b> 45-Degree Chamfer</p> 	

### Cam Line Boring Tooling

#### 650-3-43T Cam Line Bore Tooling Package

(Requires 650-3-30 Block End Truing Fixture, 650-3-1 Performance Fixture and 6753Q Right Angle Drive Assembly)  
Customer Must Order Cam Line Bar Bushings and Cam Bearing Locators to Suit Diameter to be Line Bored.

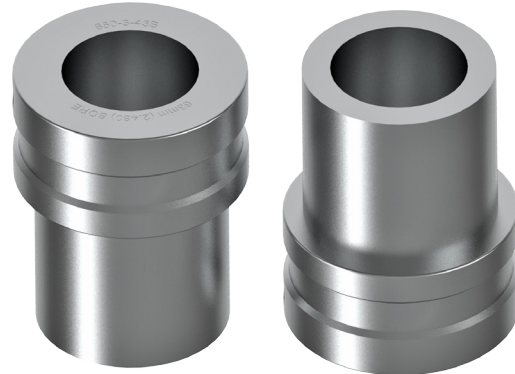


### Cam Line Bar Bushings

If Customer Requires Sizes Other than Listed Below, Rottler will Manufacture the Required Size. Customer Must Provide the Size, Including Tolerance of the Housing Bore/s the Bushing will be used in. Rottler will use this Information to Design the Actual Bushing. Sold in Pairs. Bushings are Machined Smaller than Housing Bore.

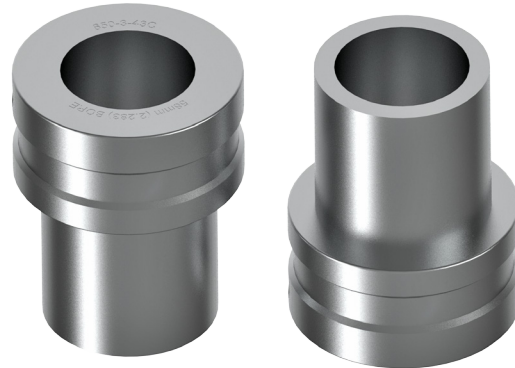
**650-3-43B Bushing - 63mm (2.480" +/- .0007)**

(Sold in pairs)



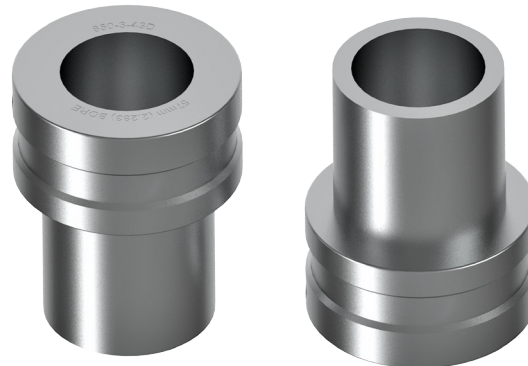
**650-3-43C Bushing - 58mm (2.282" +/- .0007)**

(Sold in pairs)



**650-3-43D Bushing - (2.250" +/- .0007)**

(Sold in pairs)



**650-3-43E Bushing - (2.790" +/- .0007)**  
 (Sold in pairs)



**650-3-43F Bushing - (2.309" +/- .0007)**  
 (Sold in pairs)



**650-3-43G Bushing - (2.500" +/- .0007)**  
 (Sold in pairs)



**650-3-43H Bushing - (2.120" +/- .0007)**  
 (Sold in pairs)



**650-3-43J Bushing - (2.030" +/- .0007)**  
 (Sold in pairs)



**650-3-43K Bushing - (2.040" +/- .0015)**

(Sold in pairs)



**650-3-43L Bushing - (2.400" +/- .0007)**

(Sold in pairs)



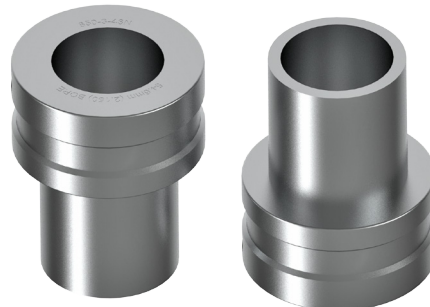
**650-3-43M Bushing - (2.125" +/- .0007)**

(Sold in pairs)



**650-3-43N Bushing - (2.150" +/- .0007)**

(Sold in pairs)



**650-3-43P Bushing - (2.300" +/- .0007)**

(Sold in pairs)



**650-3-43Q Bushing - (2.060" +/- .0007)**

(Sold in pairs)



**650-3-43R Bushing - (2.6733" +/- .0007)**

(Sold in pairs)



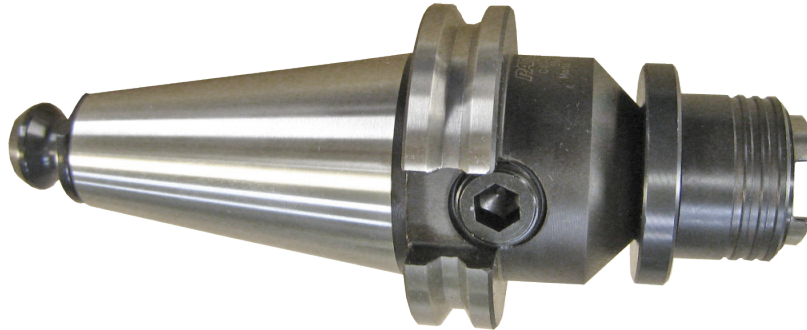
**650-3-43S Bushing - (2.0450 +/- .0007)**

(Sold in pairs)



### THREAD TAPPING TOOLING

#### 650-2-11K Quick Change Tap Holder Cartridge Assembly with Adaptor



#### 650-2-11C Torque Control Tap Holder

For 1/4" (6.35mm) taps



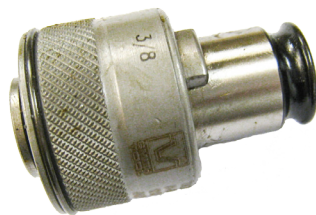
#### 650-2-11D Torque Control Tap Holder

For 5/16" (7.95mm) taps



#### 650-2-11E Torque Control Tap Holder

For 3/8" (9.525mm) taps



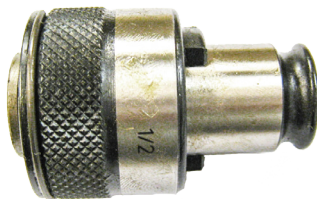
#### 650-2-11F Torque Control Tap Holder

For 7/16" 11.13mm) taps



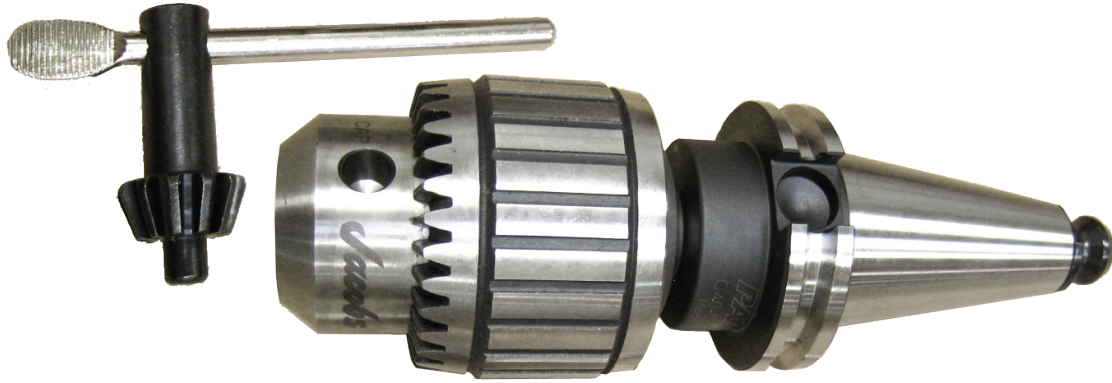
#### 650-2-11G Torque Control Tap Holder

For 1/2" (12.70mm) taps



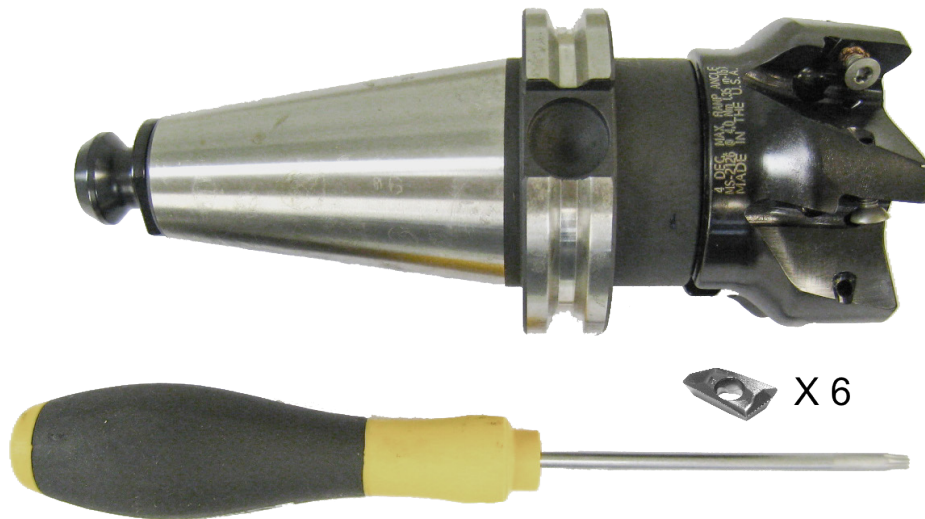
**DRILL TOOLING**

**650-2-44M Precision Drill Chuck Assembly**



**SHELL MILL ASSEMBLIES**

**650-2-44N 2 1/2" (63.50mm) Shell Mill Assembly**





**650-2-44P 4" (101.60mm) Shell Mill Assembly**



## Gages and Indicators

### 650-3-38 Level-Intake and Exhaust Manifolds



### 7152A Dual Axis Level Assembly



### 650-2-44Q Three Dimensional Electronic Position Finder

With Spindle Adaptor and Retention Knob



### 502-9-9S Indicator Mount

Angled for small diameter main line bores



### 502-9-9A Mechanical Run Out Indicator

General Purpose (.001 Resolution)



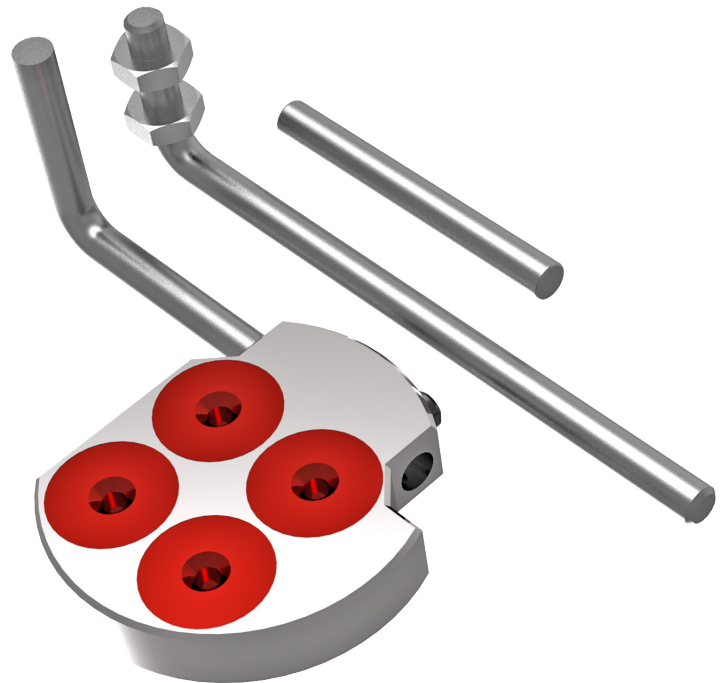
### 502-11-39D Mechanical Run Out Indicator

For Precision Bore Adjustment (.0001 Resolution)



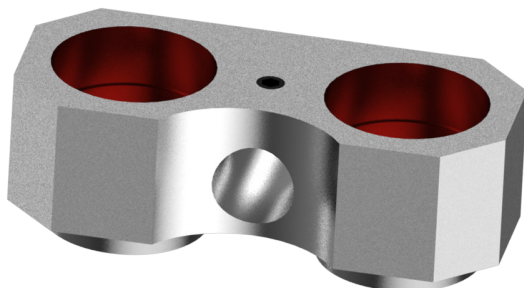
### 502-12-4 Magnetic Base

Including (2) Extension Arms for Indicators (for centering cylinder bores) requires 502-9-9A



### 502-12-4A Magnetic Indicator Holder Assembly

For centering on main bores for line boring. (Requires 502-9-9A Mechanical Runout Indicator)



**Miscellaneous Accessories****650-2-45H roughing end mill**

1" (25.4mm) diameter X 8 1/2" (216mm) long for block stoker clearance

**650-2-44A End Mill Adapter**

1" (25.4mm) Complete with 650-2-44L Retention Knob CAT 40 Taper



## Tooling for Splayed 4 Bolt Main Cap Machining

### 650-2-53 Splayed 4 Bolt Main Cap Machining Tooling Package

Includes CAT40 Spindle adapters, spot facer, center drill, drill, 7/16" tap and torque tap holder. Recommend software packages 8300 & 9043 and 4th Axis Block Fixture 690-3-63.



### Block Lightening Tooling Packages

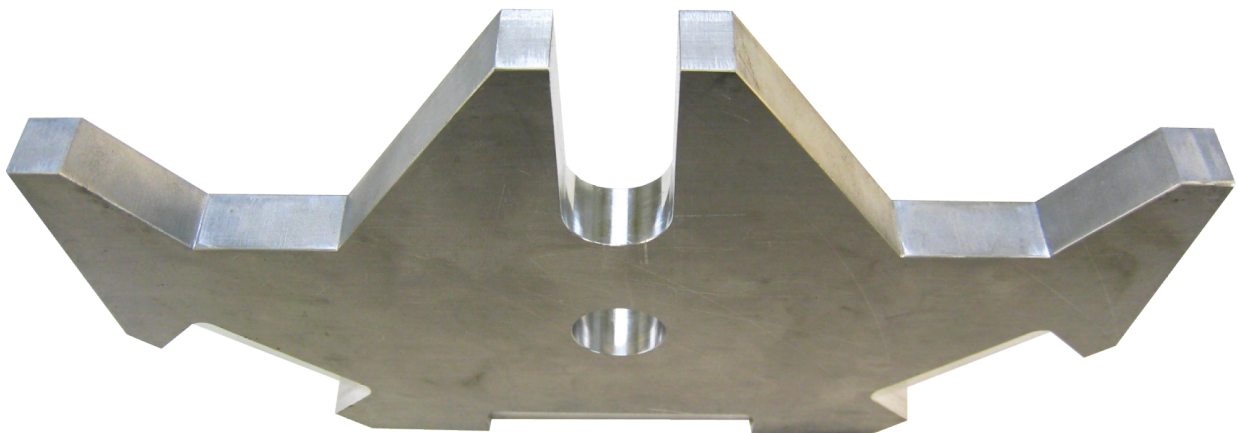
#### 650-2-44W Block Lightening Tooling Package for Dart Small Block Chev



## 650-2-44X Block Lightening Tooling Package for World Products Small Block Chev

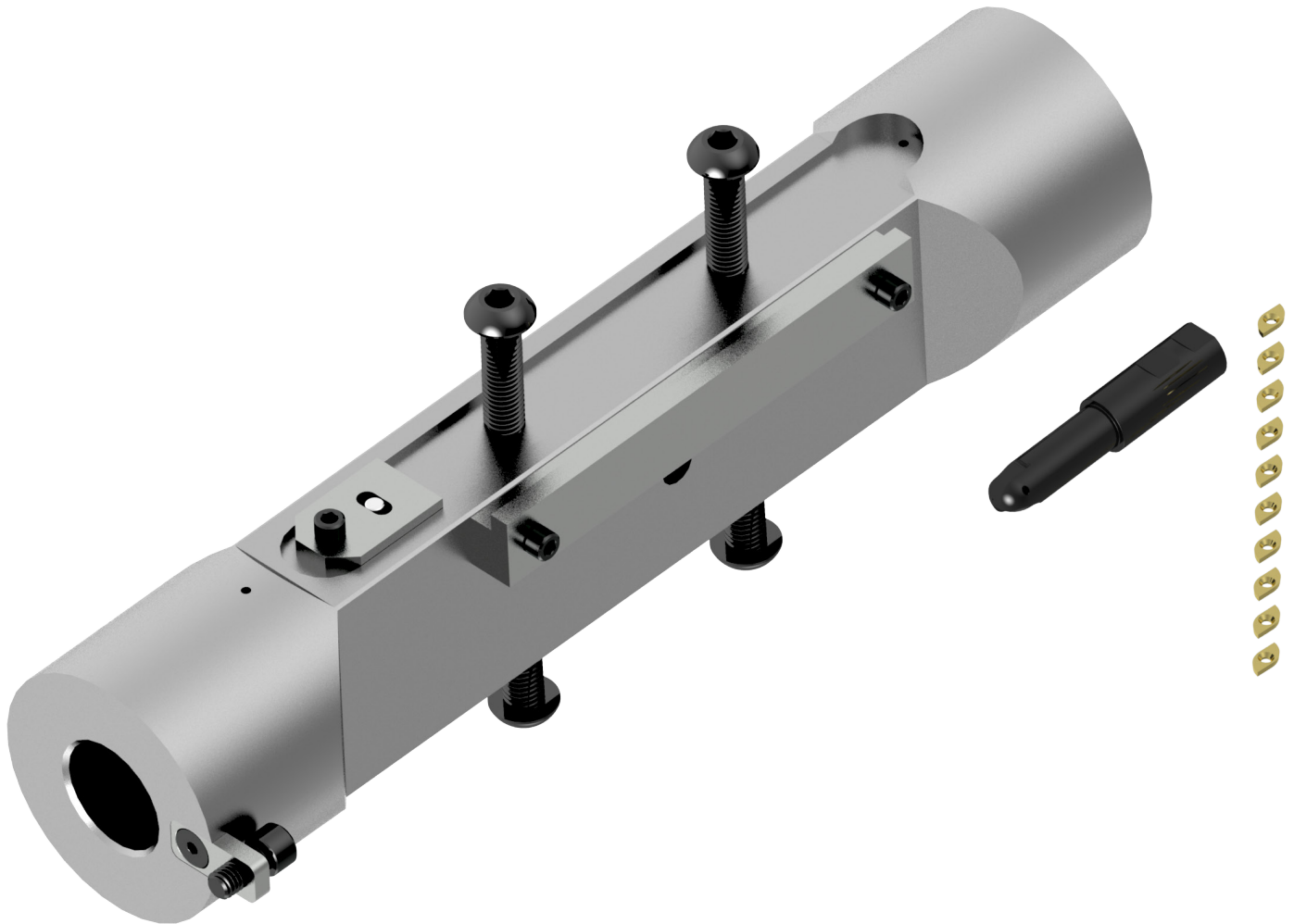


650-2-45J Block Lightning Tooling Package for Big Block Chevy





**650-2-45Q Big Block Main Cap Lightening Fixture Assembly with Tooling**



## Connecting Rod Fixturing And Tooling

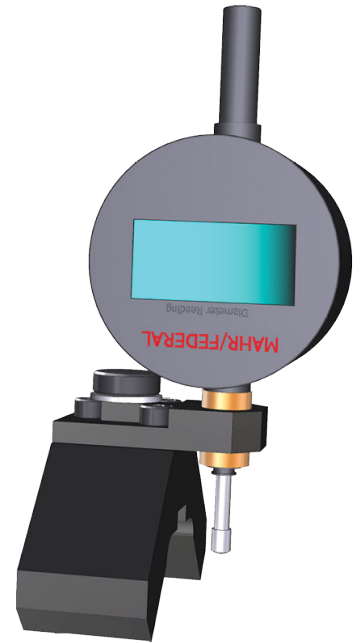
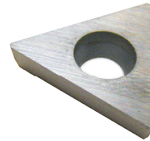
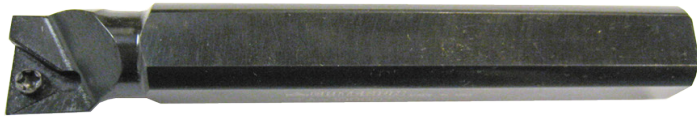
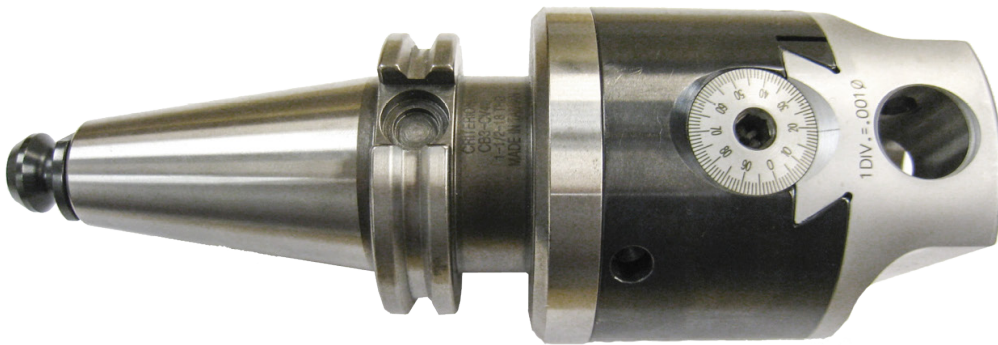
### 650-3-44S Rottler Precision Connecting Rod Fixturing System

For Connecting Rods Center to Center Distance Approx 8 - 24" (200 - 600mm)



## 650-2-3S Cutterhead Package

1.0 - 2.0" (25 - 50mm) Diameter X 3.0" (75mm) Long Complete with Tooling and Digital Micrometer for Con Rod Application



**650-2-3T Cutterhead Package**

2.0 - 4.0" (50 - 100mm) Diameter X 4.0" (100mm) Long Complete with Tooling and Digital Micrometer for Con Rod Application.



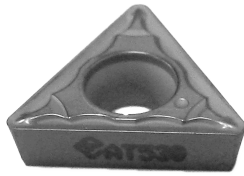
## 650-2-15F Cutterhead Package

2.9 - 8.0" (73.5 - 200mm) Diameter X 4.0" (100mm) Long Complete with Tooling and Digital Micrometer for Con Rod Application.

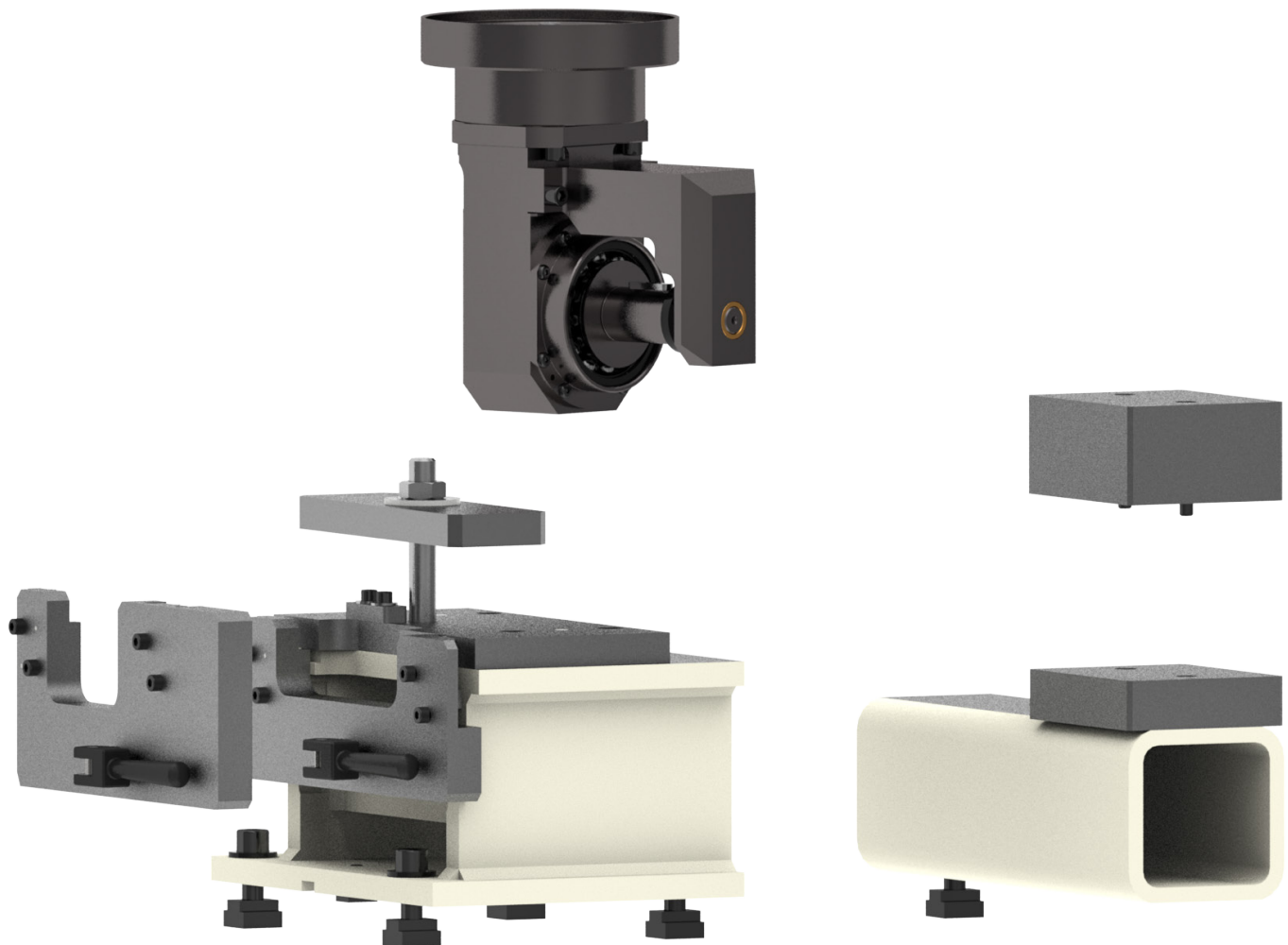


**RTCR322 Insert**

Triangular Positive Rake, 3/8  
IC 1/64" 9.397mm) Radius, for  
Connecting Rod Steel Cutting  
Only

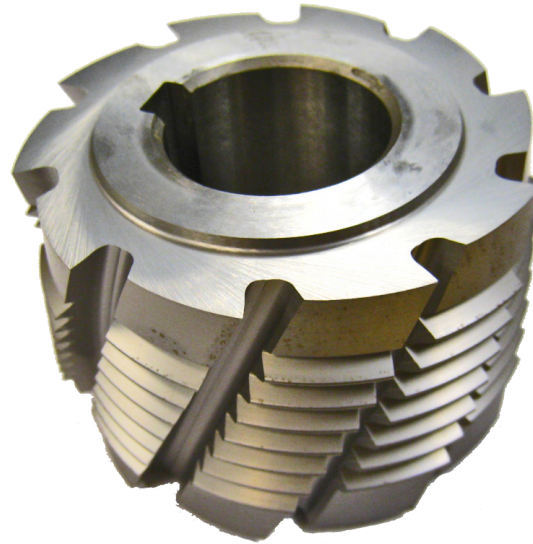
**System for Cutting Serrated Connecting Rods****6867V Serrated Rod Cutting Package**

Including special right angle drive and fixture system for Waukesha VHP and VGF Connecting Rods



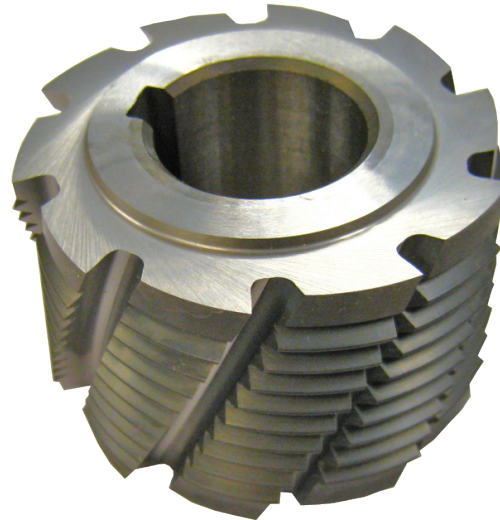
**6868 Six Pitcher Cutter**

Used on the VHP rod and some CGF rods



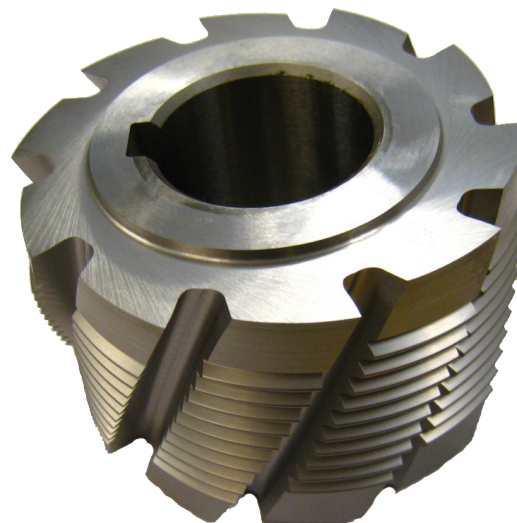
**6868G 3mm Pitch Cutter**

Used on VGF rods



**6868H 4mm Pitch Cutter**

Used on some VGF rods



**Coolant for Aluminum Cutting**

**DYNA-KOOL**

Synthetic coolant concentrate - 5 gal (20 liter) (mix with water 20:1)

