



Engine Rebuilding Equipment, Inc.

Rogers Machine Company

5775 Bridgeview Center

Saginaw, Mi 48604

USA & Canada

Phone

Fax

Web Site

(800) 248-5062

(989) 754-3611

(989) 754-1696

www.rmcequipment.com

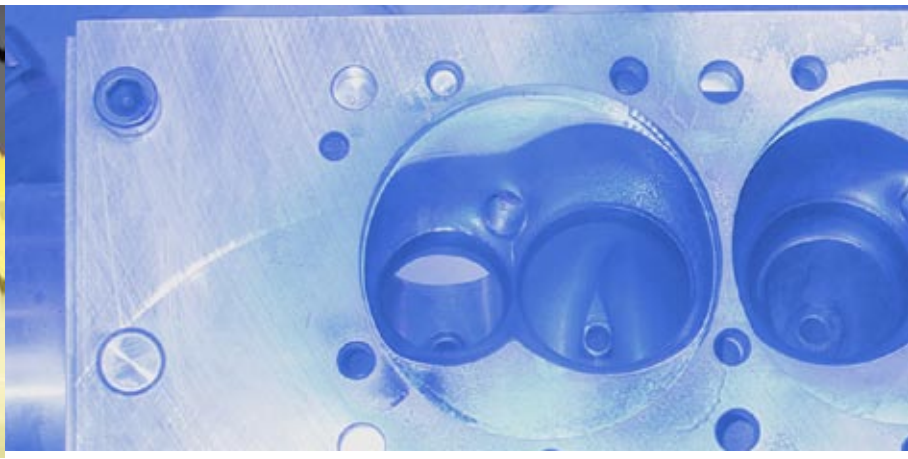
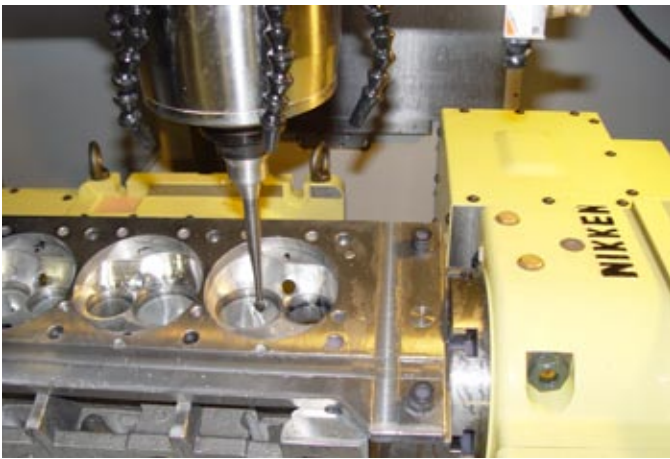


RMC's Head Porting System



RMC-V40HP
shown above

Dedicated to serving your engine rebuilding equipment needs.



Highly accurate Nikken Rotary Tables – make the system's repeatability and reliability far superior.

The V40HP introduces 5 axis Head Porting

Packaged Precision ... For Fast and Efficient Head Porting ...

The technologically advanced RMC V40HP takes CNC head porting to an all new level of precision and efficiency. Its true simultaneous 5-axis, PC based CNC control handles all your precision head porting needs.

Until recently, pro's looking for CNC head porting solutions had to buy very expensive products from three or four different suppliers, then hope someone could put it all together for them. No More! Today we've combined our popular CNC Engine Machining Centers with:

- » High accuracy Nikken rotaries
- » Specially designed head porting fixtures
- » High speed machining with ultimate rigidity
- » Able to create finished heads from raw castings

And it all adds up to "one" ... "one" supplier that makes your job easier by doing more jobs faster, with more precision and dependability.

True CNC Machining – the V40HP uses industry standard CNC programming language (G-code) and conversational programming as compared to other proprietary programs some suppliers use that limit machine versatility.

Nikken Rotary Table – this industry standard, heavy duty work horse helps achieve highly accurate head positioning requirements of the many machining operations needed for truly accurate head porting. When combined with our heavy duty head holding fixture, you have the ability to create a finished head from a raw casting.

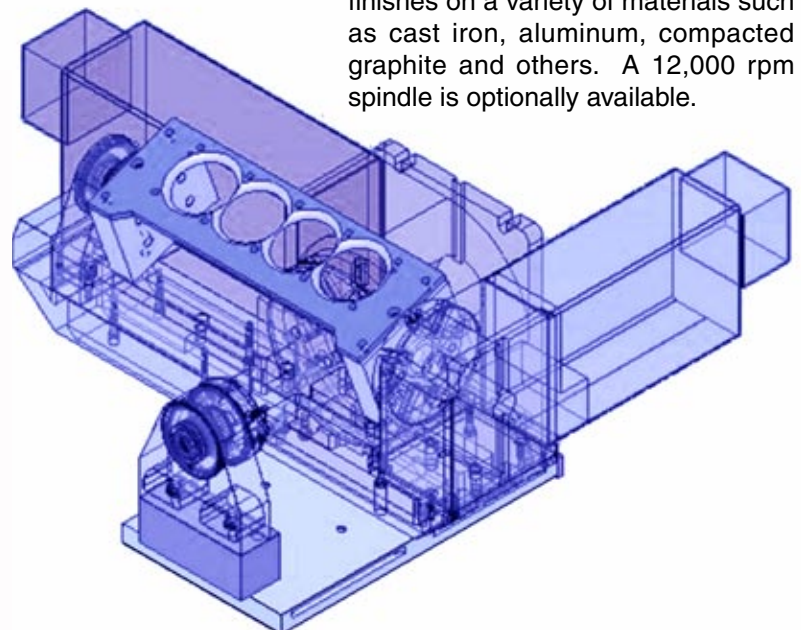
Rapid Traverse – 1000 ipm (25.4 mpm) traverse speed with look ahead and high speed machining memory is four times as fast as most industry models when moving from position to position greatly increases efficiency and production rates.

Hardware and software Integration – several software packages, to include cad cam and digital scanning (for off line digitizing) have been integrated into the overall head porting package. Utilizing these specific packages with our hardware, fixturing and tooling insures the success of each individual piece in this complex puzzle.

Heavy-Duty Rigid Spindle – 5.7 inch (145 mm) rigid spindle cartridge with exclusive 70 mm spindle bearings provides maximum stability for deep runner porting.

Self-Contained Automatic Rigid Tapping Capability – increases productivity and does not require special and expensive tapping heads

Infinitely Variable High Speed Spindle – 50 - 8000 rpm spindle speed allows the V40HP to achieve optimum finishes on a variety of materials such as cast iron, aluminum, compacted graphite and others. A 12,000 rpm spindle is optionally available.



Superior through spindle coolant option – allows the system to remove material at exceptionally fast rates through the machining process.

These heavy duty rotary tables combined with RMC's (patent pending) fixturing – meets the demanding needs of today's serious head porting operators, from one supplier, at a remarkably new entry level price.



into one economical entry level package

16 Position Automatic Tool Changer (standard) – after setup, the V40HP can run many operations unattended allowing the operator to handle other jobs for increased shop efficiency. A 24 pocket tool changer is also (optionally) available.

Powerful 24/15 Hp. (18/11 kW) Main Spindle Motor – constant torque inverter ensures superior cutting consistency at any speed.

Digital Probe Option – a must option that is unique to engine building and combined with CNC controls makes the V40HP a stand-out in the industry. The digital probe acts as an automated coordinate measuring device, eliminating many tedious and time-consuming manual measurements.

Cat 40 Taper Tooling – unlike competitive machines, the V40HP uses industry standard,

readily available Cat 40 tooling, which makes “tooling up” for special jobs much easier.

Full metal enclosure with safety doors retains work chips to maintain a cleaner work area. The normally optional chip auger has been included as part of the head porting package’s standard equipment.

Powerful AC Brushless Servo Motors – provide precise, on demand torque and spindle travel performance on all axes.

Check out the results for yourself– a picture is worth a thousand words, seeing the system in action for yourself is even more impressive. Visit our Saginaw, Mi showroom for a free demonstration of the V40HP’s awesome capabilities.



RMC V40HP Head Porting CNC Machining Center

Note: Machines may be shown with optional equipment

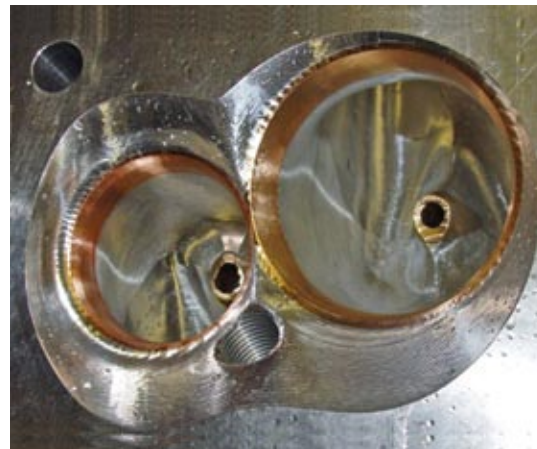
RMC’s Digitizing system – a totally unique method of reproducing expertly ported heads and replicating the results over and over again on RMC’s amazing V40HP Head Porting system.



Superior head porting results – are the result of this complete head porting CNC based system.

Six years in development and design, countless hours of testing, much appreciated customer input and lots of just plain hard work has gone into the creation of this package.

We have combined accuracy, repeatability and high speed machining with all the necessary fixturing, tooling and software you need to meet the high standards that your professional head porting customers demand.,



RMC's CNC Head Porting Machining Center ...

These are **true** simultaneous 5 axis, PC based **CNC controlled** machining centers equipped to handle precision head porting as well as other CNC related engine rebuilding operations. All of RMC's CNC based machines employ simple conversational menu driven programming as well as conventional "G" coding capabilities.



RMC's Helmel Digitizing Option

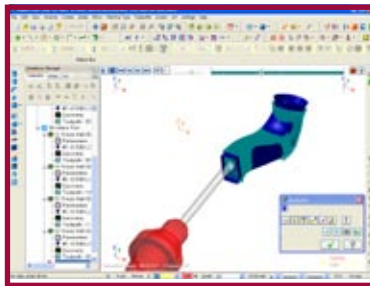


Thru spindle coolant

Specifications	V40HP
Main Rotary Table	360°
Tilting Rotary Table	32°
Tool changer (optional)	16 pocket (24/32)
Boring range (various tooling)	0.98" - 6.00"
Max cutting depth (various tooling)	12.50"
Table traverse (X-axis)	40.0"
Cross traverse (Y-axis)	20.0"
Vertical head travel (Z-axis)	26.0"
Spindle nose to table height	35.0"
Spindle center to column	21.00"
Rapid traverse (X-Y axis)	1,000 ipm
(Z-axis)	1,000 ipm
Feed rate range	0.1 - 1,000 ipm
Accuracy: Positioning	± .0002"
Repeatability	± .00015"
Table size (l x w)	45.0" x 20.0"
Max weight on table	2,000 lbs
Main spindle motor	24/15 hp
Spindle speed - rpm (optional)	50-8,000 (12,000)
Spindle taper	Cat 40
Net/shipping weight (w/o fixtures)	11,000/12,000lbs
Work space required (w x d x h)	112 x110 x120"



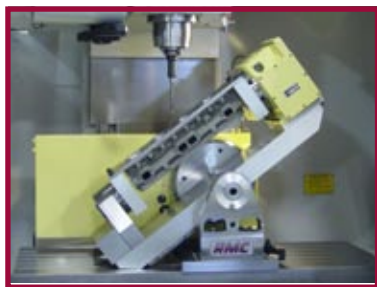
Heavy Duty Nikken 5 axis Rotary Tables



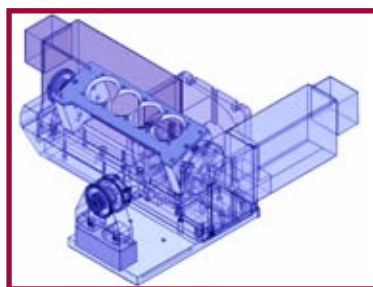
MasterCam - Tool path verification



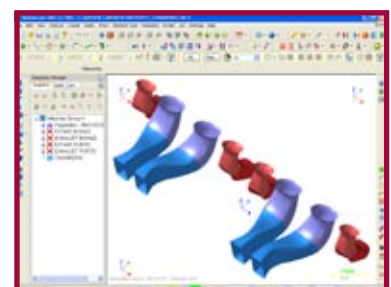
Head Porting Partners



RMC's Head Fixture in action



RMC's Head Porting Fixture



MasterCam - port design

In order to bring you the most advanced features as soon as possible, all features, descriptions and technical specifications are subject to change.



RMC Engine Rebuilding Equipment, Inc.

5775 Bridgeview Center
Saginaw, Mi 48604
Web: www.rmcequipment.com

USA/Canada
Phone
Fax

(800) 248-5062
(989) 754-3611
(989) 754-1696