

ROTTLER

SM Series Surfacing Machines



Machine Tools for the Performance Racing, Engine Remanufacturing and OEM Manufacturing Industries

S8M SURFACING MACHINES

Soft Touch Buttons with LED Lights

Soft Touch Buttons light up a LED once pressed - simplifying operation.



Rapid Traverse Rate

High Rapid Traverse Rates reduce cycle time to a minimum.

Ball Screw Drive

Long Lasting Precision Ground Ball Screw is driven by a tooth belt for exceptionally smooth workhead feed.

Variable Speeds and Feeds

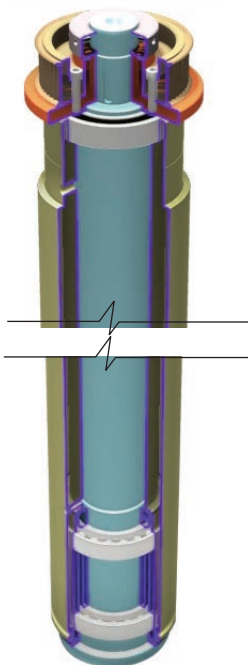
Infinitely Variable Speeds (up to 1250 RPM) and Feeds allows the use of a wide variety of cutting inserts for any metal to be surfaced.

Fast Floor to Floor Time

Heads can be surfaced in less than 2 minutes and a pair of V8 wedge shape heads in less than 7 minutes.

Extra Heavy Duty Spindle designed for CBN and PCD tooling.

Large diameter, hard chromed tool steel spindle utilizes high precision triple angular contact bearings resulting in many years of super fine surface finishes.



Wedge shape cylinder head sets up in same time as parallel head

S7M

50 x 21" (1270x 530mm) Table Size
40" (1000mm) Horizontal Cutter Travel
14" (360mm) Cutter Diameter

The NEW Rottler SM Surfacing Machines are the answer to improved productivity and profits for automotive and diesel machine shops. Two models available designed for the needs of the performance racing team, heavy duty diesel rebuilder, large production engine remanufacturer, and one man workshop.



S8M with Large Diesel Block

S8M

54 x 21" (1370x 530mm) Table Size
50" (1275mm) Horizontal Cutter Travel
16" (420mm) Cutter Diameter

The S8M is designed to surface large diesel heads, blocks and manifolds. All SM Series machines use the same tooling and fixturing for quick, rigid setup and versatility. Fine surface finishes are easily obtained with both variable speeds and feeds as standard equipment.



Solid Steel Way Guards

Heavy duty sliding steel guards cover the complete slideways for long life. Friction surfaces are coated with Turcite for low friction, long life, and smooth operation for super fine surface finish.

Reduced Floor Space

Compact, one piece castings and multi-layer slidable guards give the most compact surfacing machines available today.

Super Fine Surface Finish

Belt driven precision ball screw and infinitely variable speeds and feeds allows surface finished as low as 2Ra to 6Ra for today's MLS (multi-layer steel) head gaskets.

Dry Cutting System

Eliminates coolant disposal and makes clean up a breeze! Cutterhead shroud directs dust and chips into optional vacuum system.

Vertical Zero

The cutterhead always stays at vertical zero - ready for the next pass.

Latest Control Technology

State of the art closed loop electronic controls make Rottler machines the most advanced surfacing machines available today.

Protection and Long Life

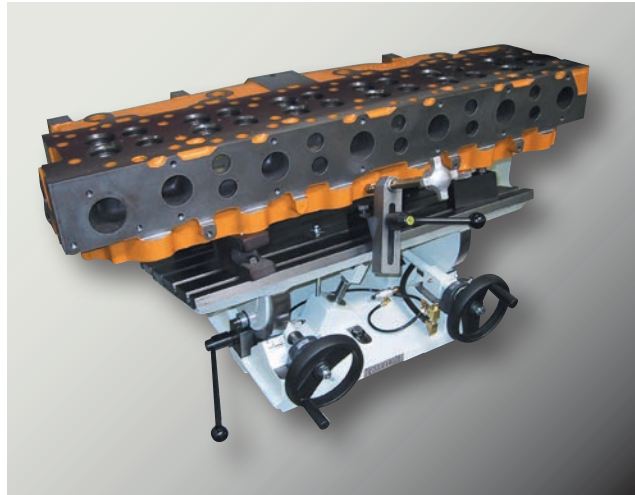
Multi-layer Steel Guards cover and protect the slideways for extra long service life.

Versatile

Capable of surfacing large diesel heads such as CAT3406 and 3412, and diesel blocks such as Detroit V71 and Mercedes OM440.

T Slot Base

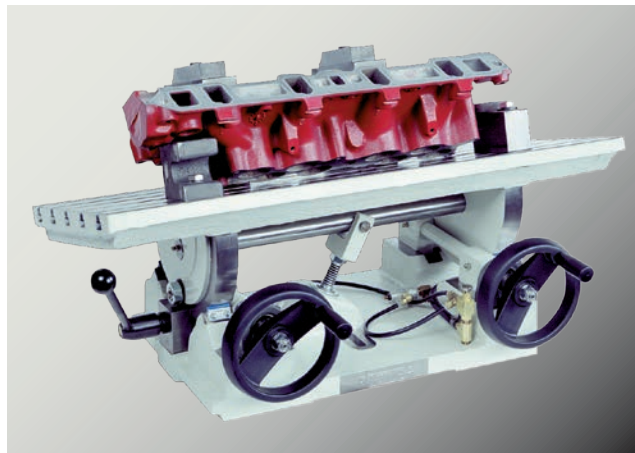
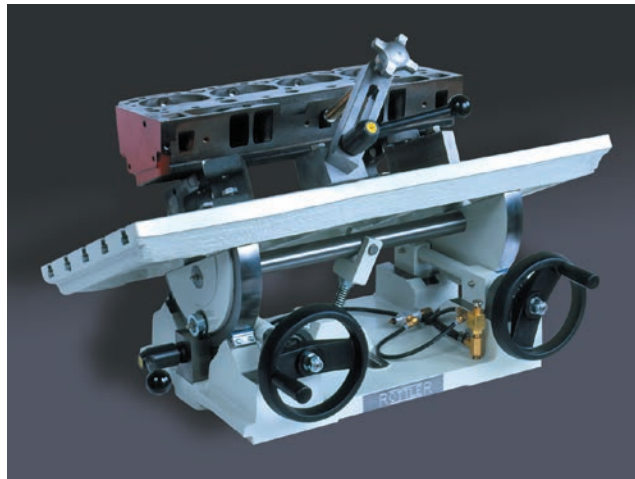
Large, flat T Slot One Piece Mehanite Cast Iron Base allows mounting of any fixture and any job - jacks and clamps can be placed anywhere!



Rottler's answer to holding a wide variety of Heads, Blocks and Manifolds

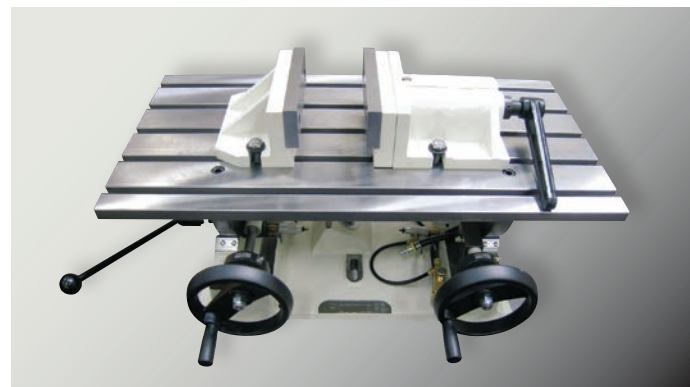
The Rottler Dual Axis Leveling Table allows clamping to be completed first – then the level to be quickly adjusted in both directions – simply by rotating the two hand wheels – fast and rigid! Combined with Rottler's Dual Axis Level, any work piece can be clamped and leveled in seconds! Air Float allows the table to be floated out from the machine for easy loading and clamping then floated back into the machine for positioning for surfacing. Designed for fast, universal clamping for minimum "one cut" surfacing.

- #7209M Leveling Table with Universal Tooling for cylinder heads and in-line blocks
- #7152A Dual Axis Leveling Assembly
- #7219W 5.2" Parallels (required to mount #7209M Leveling Table on S7 and S8 machines)

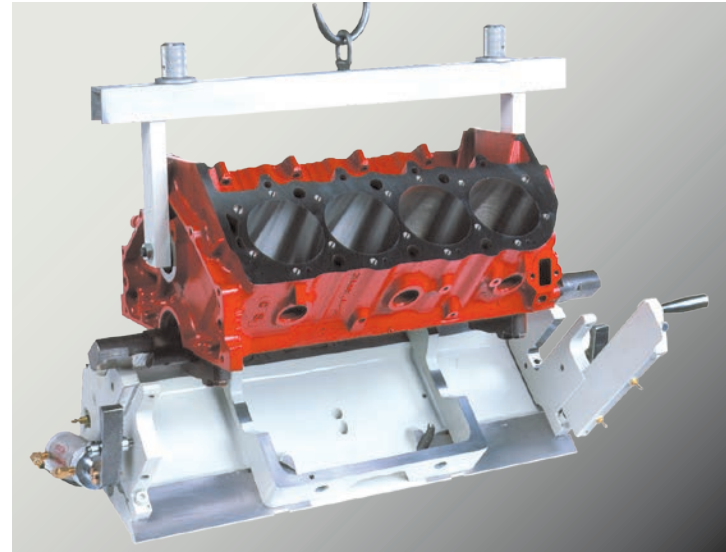


Intake/Exhaust Manifold Tooling

Increases flexibility and profit on the SM series surfacers. Damaged manifolds can be surfaced with indexable shell mill in a few minutes.



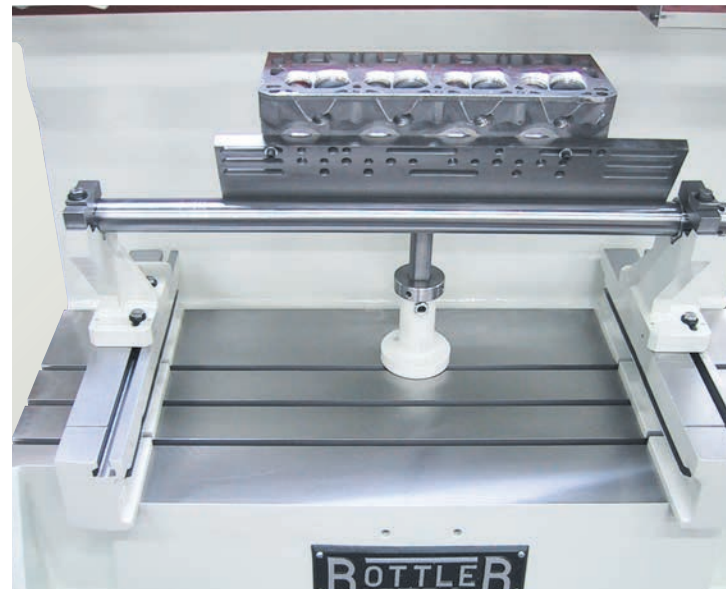
Two piece vice allows parts like exhaust manifold and main line bearing caps to be clamped, then leveled and surfaced.



V-Block Fixture Multiple Angle 15°, 30°, 60°, 90°

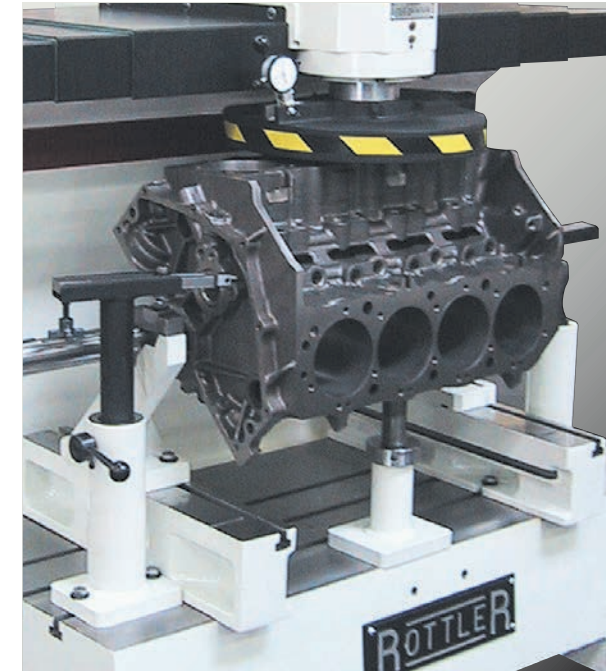
V-Block fixture has two modes of operation; one mode automatically aligns to main bearing and pan rail; the adjustment mode allows you to use the fixture to align to the original deck surface. The same fixture can be used on Rottler boring machines. Block handler allows easy handling for loading/unloading and rotation of block.

- #502-1-72F Fixture with Airfloat and Air Clamp
- #502--72H Fixture with Manual Clamp
- #502-1-95 Block Handler



Universal Head & Block Fixture

Angled and parallel heads, and In-Line and V-Blocks can be easily mounted and leveled on the same universal fixture. The optional parallels can be removed and the supports bolted directly on the T Slot base for tall blocks. Custom fixtures can also be easily mounted on the base of the machine.



Universal Head and Block Fixture

Mount V and In-Line blocks, angled and parallel heads, manifolds on one universal fixture. 2" (50.8mm) Main Line Bar can be leveled for decking blocks parallel to the main line centerline or fine adjusted with eccentric bearings.



Extra clearance below and behind the fixture allow high deck height V-Blocks to be rolled to both banks for surfacing without removing the block from the machine.

- #7241 Universal Head and Block Fixture
- #7219W Heavy Duty T Slot Parallels
- #7242M Tower Holddown Clamps



Versatile S tooling provides the right tool for every job!

Rottler S machines use indexable cutting inserts held by adjustable toolholders in the standard double insert fly cutterheads. Rottler offers inserts designed specifically for high speed dry milling of cast iron, aluminum, diesel heads with prechambers, aluminum blocks with iron liners, as well as optional cutterheads for weld removal.

CBN (Cubic Boron Nitride) Inserts

These inserts provide an excellent finish on cast iron and have an exceptionally long life giving savings over grinding stones.

PCD (Poly-Crystalline Diamond) Inserts

These inserts are designed for high speed dry cutting of aluminum giving a super fine surface finish for today's MLS (multi-layer steel) head gaskets.

Coated Carbide Inserts

These inserts are inexpensive and can be used for roughing work at low speeds.

Special Inserts

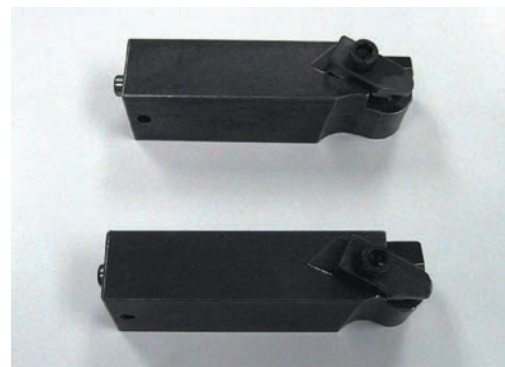
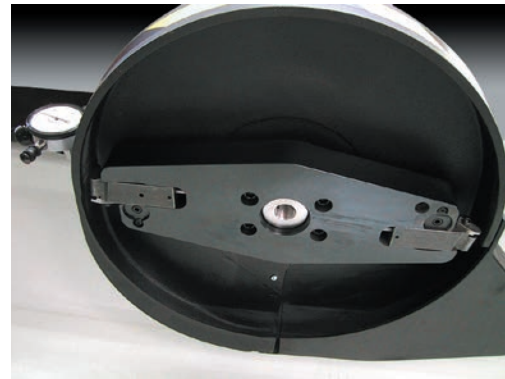
Rottler has developed special inserts for surfacing difficult jobs such as aluminum heads with steel pre chambers and aluminum blocks with ductile iron liners.

CUTTERHEADS

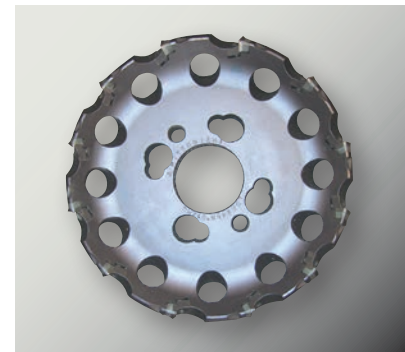
Rottler Surfacing Machines use two cutting insert toolholders which are radially and axially adjustable. The standard toolholders use 3/8" (9.52mm) IC round or square inserts. Optional interchangeable 1/2" (12.70mm) IC Round and square insert toolholders are available.

The S7M has a 14" (360mm) diameter cutterhead and an optional 16" (420mm) diameter cutterhead is available.

The S8M has a 16" (420mm) diameter cutterhead and an optional 18" (460mm) diameter cutterhead is available.



Work head moves to home position and leveling table floats out on an air cushion for easy loading of large, heavy jobs such as this CAT3406E head.



Multi Insert Face Mill

Special design Face Mill with Wiper Inserts allows high feed rate surfacing of difficult metals.

#7225F 10" (250mm) Face Mill



Belt Driven Precision Ground Ball Screw ensures smooth operation.



Indexable Shell Mills

2-1/2" (60mm) and 4" (100mm) diameters install quickly without removing the fly cutterhead. Shell mills can also be fitted after removal of cutterhead for maximum height capacity. The large cutter will remove heavy welds without grinding or use of coolants. A diesel cast iron welded head takes less than 15 minutes for surface finishing from a rough weld condition. The 2-1/2" cutter can be used to surface areas inaccessible to other surfacing machines, such as exhaust ports on heads and for surfacing manifolds.

#7224 2-1/2" (60mm) Shell Mill #7225 4" (100mm) Shell Mill



S8M with Leveling Table and CAT 3406E Cylinder Head

STANDARD EQUIPMENT

- Flat Panel Control with Lexan Layover for Durability
- On completion of Surfacing, Cutterhead Indexes, Press Button & Returns to Home
- Infinitely Variable Spindle Speeds from 350 - 1250 RPM for machining different metals
- Infinitely Variable Travel Feeds 2 - 40" (50 - 100mm) per minute for desired Surface Finish Roughness
- Maximum Work Head Travel 50" (1270mm)
- Belt Driven Precision Ground Ball Screw for Work Head Traverse
- Rapid Feed Rate 80" (2000mm) per minute
- Large Diameter Triple Angular Contact Bearings in Heavy Duty Hard Chromed Spindle
- Slideways Coated with Low Friction Turcite for Durability
- 16" (420mm) Cutterhead
- Tool holders (2) for 3/8" (9.52mm) IC round or square inserts. Optional 1/2" (12.70mm) IC Tool holders available
- Cutterhead Guard with Chip Collection
- Depth Dial Indicator Assembly for Rapid Touch Off on Surface to be Machined
- Large One Piece Base Casting with three T Slots for Universal Fixture Mounting
- Multi Piece Metal Slideway Covers protect Ball Screw and Slideways from Dust and Chips
- Instruction Spare Parts Manual

SPECIFICATIONS

MADE IN U.S.A.

	AMERICAN	METRIC
Cutter Diameter		
S7M	14" Std/16" Opt	360mm Std/420mm Opt
S8M	16" Std/18" Opt	420mm Std/460MM Opt
Cutter Travel Horizontal		
S7M	40"	1000mm
S8M	50"	1275mm
Cutter Travel Vertical		
S7M	6"	150mm
S8M	6"	150mm
Max. Distance - Cutting Inserts to Machine Base		
S7M	25"	635mm
S8M	25"	635mm
Spindle Speeds Variable RPM	350-1800	
Spindle Feeds Variable per Rev	.001"-.080"	.025-2mm
Rapid Traverse Rate per Min	.160"	4mm
T Slot Table Size		
S7M	50" x 21"	1270mm x 530mm
S8M	54" x 21"	1370mm x 530mm
Floor Space Required		
S7M	75" x 46"	1900mm x 1170mm
S8M	85" x 46"	2160mm x 1170mm
Electrical Requirement	15A, 210-240V, 1Ph, 50/60 Hz	
Air Requirement	.5 cfm @100PSI	6 bar
Shipping Weight (excluding fixtures)		
S7M	3600lbs	1637kg
S8M	4100lbs	1864kg
Paint Color Code	RAL9002 (Grey White)	

Specifications and design subject to change without notice.

March 2014

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