

ROTTLER

SA Series Surfacing Machines



Performance Racing and Engine Remanufacturing Machinery and Equipment

SA SERIES SURFACING MACHINES

The S8A is designed to surface large diesel heads, blocks and manifolds. All SA 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.

The closed loop "Electronic Gearbox" of the SA machines locks the workhead feed and spindle speed together so that feed rate is controlled electronically giving consistent surface finishes required for metal head gaskets.



Wedge shape cylinder head set up on the leveling table



Big Block V8 on new Universal Head and Block Fixture

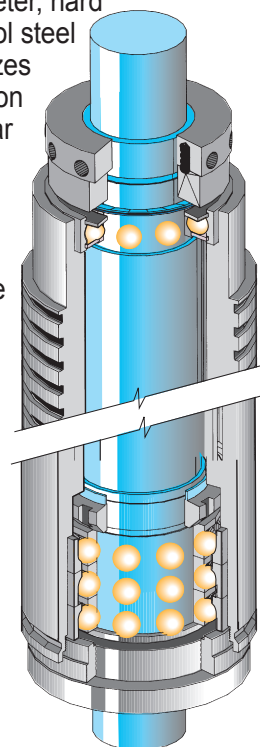
The NEW Rottler SA Surfacing Machines are the answer to improved productivity and profits for automotive and diesel machine shops. Two models available designed for the needs of the performance racing team, heavy duty diesel rebuilder, large production engine remanufacturer, and one man workshop.



S8A with Large Diesel 855 Block

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.



FEATURES

Reduced Floor Space

Compact, one piece castings and multi-layer slideway 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.

Return to 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 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.

Fast Floor to Floor Time

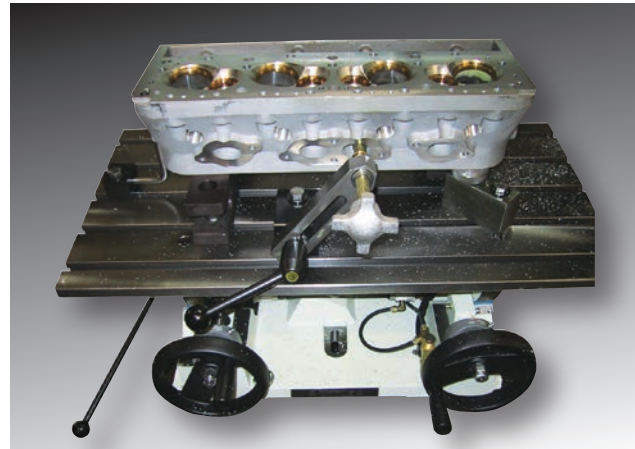
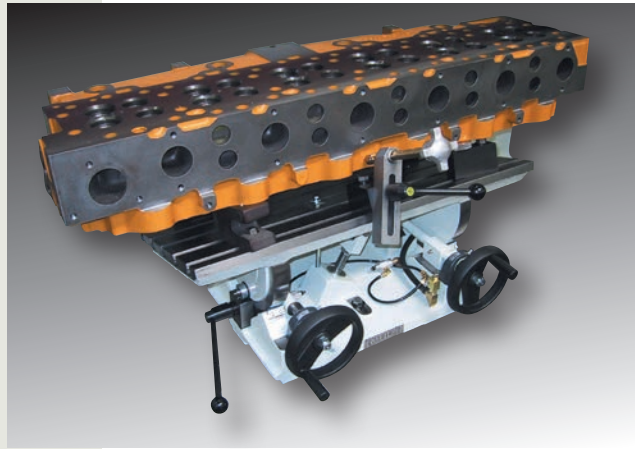
Heads can be surfaced in less than two minutes and a pair of V8 heads in less than eight minutes.

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!



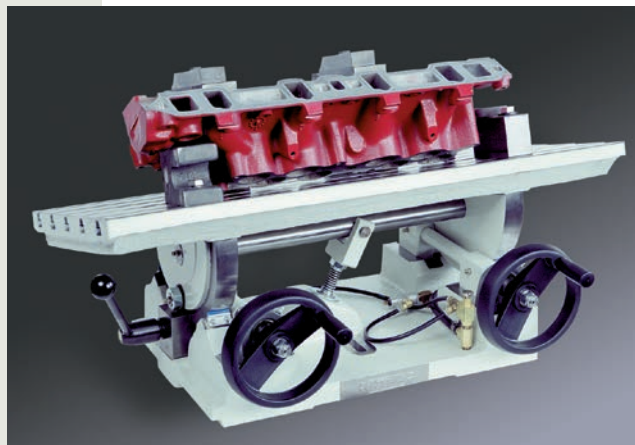
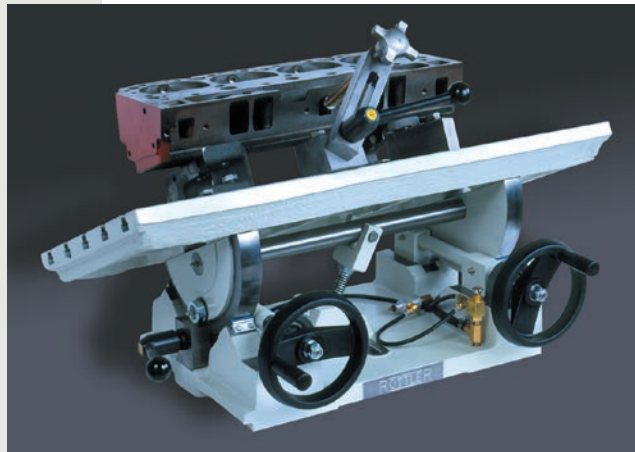
Rottler's answer to holding a wide variety of Heads, Blocks and Manifolds

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 2 handwheels – fast and rigid! Combined with Rottler's Dual Axis Level, any workpiece 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

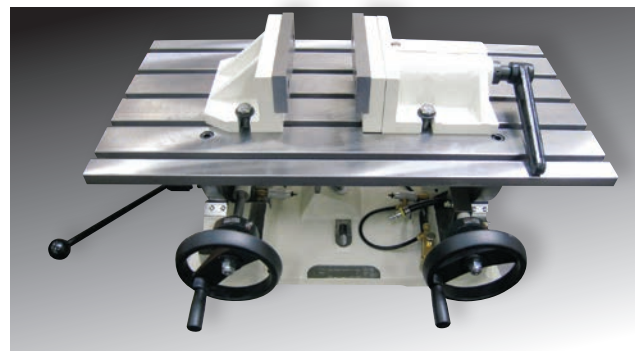
#7219W 5.2" Parallels (required to mount #7209M Leveling Table on S7 and S8 machines)



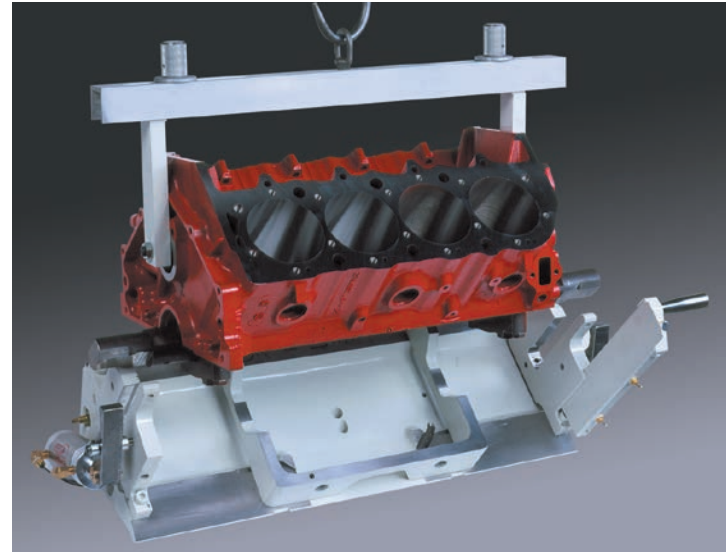
Intake/Exhaust Manifold Tooling

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

#7226G Intake/Exhaust Manifold Tooling



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



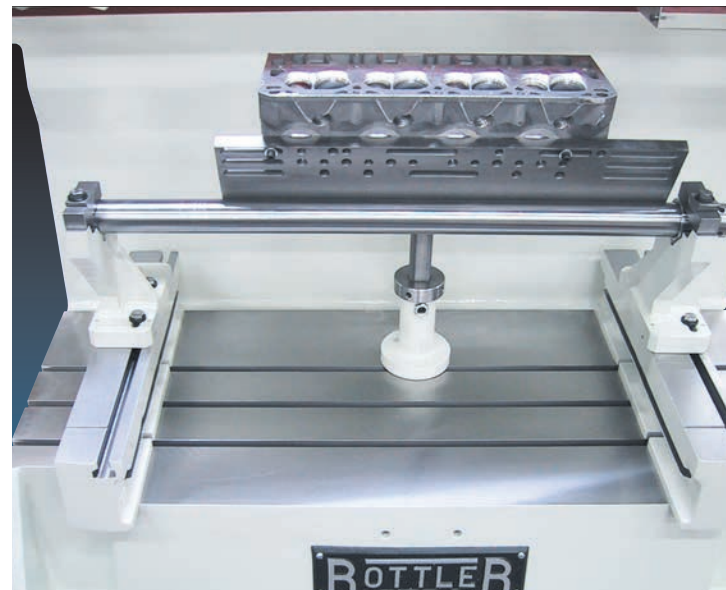
V-Block Fixture Multiple Angle 15°, 30°, 60°, 90°

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

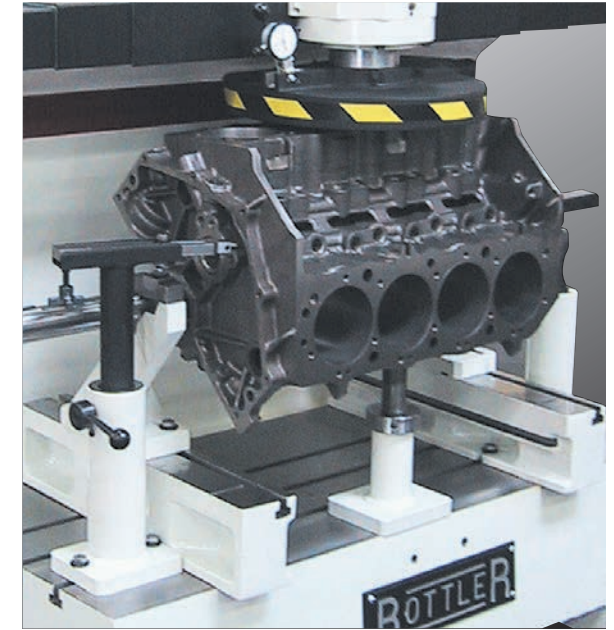
#502-1-72H Fixture with Manual Clamp

#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" (50.80mm) 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

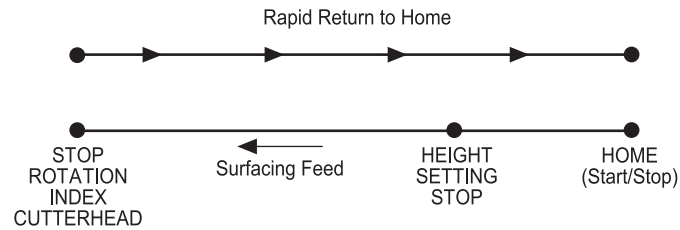
#7242M Tower Holddown Clamps

CONTROLS

AUTOMATIC CYCLE



S7A/S8A machines have computerized automatic cycle to reduce operator involvement and maximize productivity. When the work piece and machine are set up, the operator presses the "cycle start" button and walks away, the machine completes the surfacing job and returns to the home position - ready for the next job!



Rapid to Height Setting Point

Touch the rapid button and the cutter rapids to the height setting point for quick depth of cut setting with reference to the head gasket for minimum stock removal.

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 1850 RPM) and Feeds allows the use of a wide variety of cutting inserts for any metal to be surfaced.

Electronic Gearing - A Model

Spindle rotation and workhead feed rate are computer controlled so that the exact programmed feed per revolution is always maintained for consistent and fine surface finish.

Soft Touch Buttons with LED Lights

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

Program Length of Surface

Dial in the length to be surfaced and the SA machine travels that exact distance before returning home - not necessary for time consuming setting of end stops.

CUTTING INSERTS

Versatile tooling provides the right tool for every job!

Rottler SAD machines use indexable cutting inserts held by adjustable toolholders in the standard double insert flycutterheads. Rottler offers inserts designed specifically for high speed dry milling of cast iron, aluminum, diesel heads with prechambers, aluminum blocks with iron liners, and 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.



ACCESSORIES & FEATURES



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



Pre-Combustion Chamber Tool

You can surface pre-combustion chambers with SA surfacers or use the Rottler Pre-Combustion Chamber Tool to take the Counterbore back to standard depth.

#7213A thru K



Air Cushion

Workhead 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.



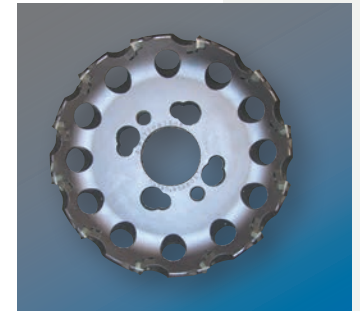
Ball Screws

Belt Driven Precision Ground Ball Screw ensures smooth operation.

Multi Insert Face Mill

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

#7225F 10" (250mm) Face Mill



Solid Steel Way Guards

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



STANDARD EQUIPMENT

- Digital Display shows Touch Off Point, Length of Work piece, RPM and feed rate in inches/revolution (mm/rev)
- Flat Panel Control with Lexan Layover for Durability
- Programmable Rapid Touch Off Set Point for reduced Cycle Times
- Vertical digital display for vertical travel of cutter head
- On completion of Surfacing, Cutterhead indexes & Automatically returns to Home.
- Large diameter ball screw for precise movement of vertical travel for cutter head
- Infinitely Variable Spindle Speeds from 350 - 1800 RPM for machining different metals
- Infinitely Variable Travel Feeds .001 - .080" (.025 - 2mm) per Cutterhead Revolution for Desired Surface Finish Roughness
- Maximum Work Head Travel 50" (1270mm)
- High Rapid Traverse Rate for Reduced Cycle Time - 160" (4m) per minute
- Belt Driven Precision Ground Ball Screw for Work Head Traverse
- Large Diameter Triple Angular Contact Bearings in Heavy Duty Hard Chromed Spindle
- Slideways Coated with Low Friction Turcite for Durability
- Automatic Scheduled Maintenance Monitor
- 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 and Spare Parts Manual
- Floor Space Requirement 85 X 46" (2160 X 1170mm)
- Paint Color Code: RAL9002 (Grey White)
- Electrical Requirements: 210/240V, 15A, 50/60Hz, 1Ph
- Shipping weight 4500 lbs. (2000 kg) without fixtures
- Shipping dimensions: 67 X 77 X 82" H (1700 X 1950 X 2083mm H)

SPECIFICATIONS

	S7A	MADE IN U.S.A.	S8A
Cutter Diameter	14" (360mm)		16" (420mm)
Cutter Travel Horizontal	40" (1000mm)		50" (1275mm)
Cutter Travel Vertical	6" (150mm)		6" (150mm)
Max. Distance - Cutting Inserts to Machine Base	25" (635mm)		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	50" x 21" (1270mm x 530mm)		54" x 21" (1370mm x 530mm)
Floor Space Required	75" x 46" (1900mm x 1170mm)		85" x 46" (2160mm x 1170mm)
Electrical Requirement	15A 210-240V 1PH 50/60 HZ		
Air Requirement	.5 cfm @100PSI/6 bar		
Shipping Weight excl Fixtures	3700lbs (1700kg)		4500lbs (2000kg)

Specifications and design subject to change without notice.

March 2014

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