ROTTLER

SFA Series Surfacing Machines

New Closed Loop Electronic Gearbox Control Technology

CAT 3406E on Rottler's Universal Leveling Table

PERFORMANCE RACING AND ENGINE REBUILDING MACHINERY AND EQUIPMENT

THE CUTTING EDGE

SF8A

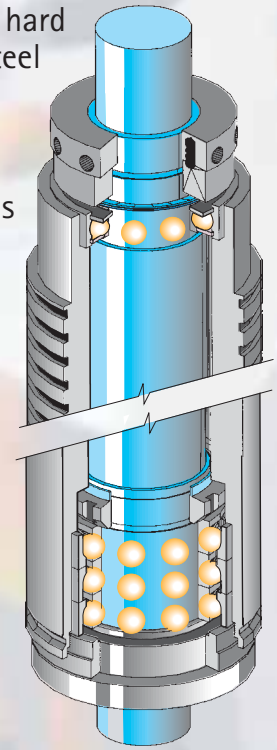
The SF8 is sized to surface diesel heads, blocks and manifolds. All SF machines use the same tooling and fixturing for quick, rigid setup and versatility. Cutting insert cost per head for most operations is 5 to 12 cents. Surface finishes 2Ra to 125Ra are easily obtained with both variable speeds and feeds as standard equipment.

SF8A with Leveling Table

SF8A with Cummins 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 years and years of super fine surface finishes down to 2Ra.



The NEW Rottler SFA Surfacing Machines are the answer to improved productivity and profits for automotive and diesel machine shops. 2 models available designed for the needs of the performance racing team, heavy duty diesel rebuilder, large production engine remanufacturer, and one man workshop.

SF7A

Big Block V8 on new Universal Head and Block Fixture

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 returns to 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 2 minutes and a pair of V8 heads in less than 8 minutes.

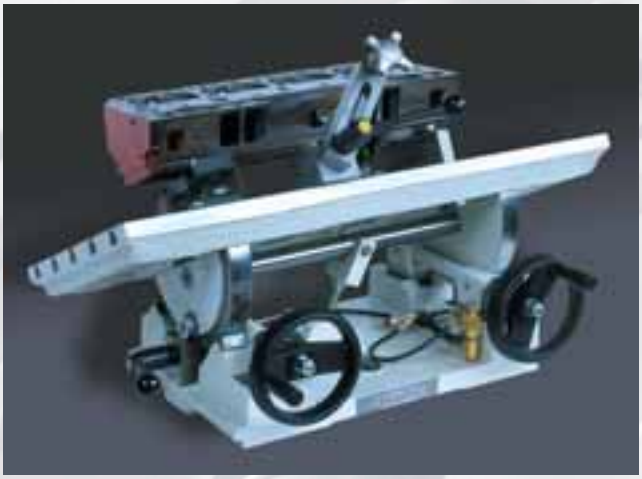
Versatile

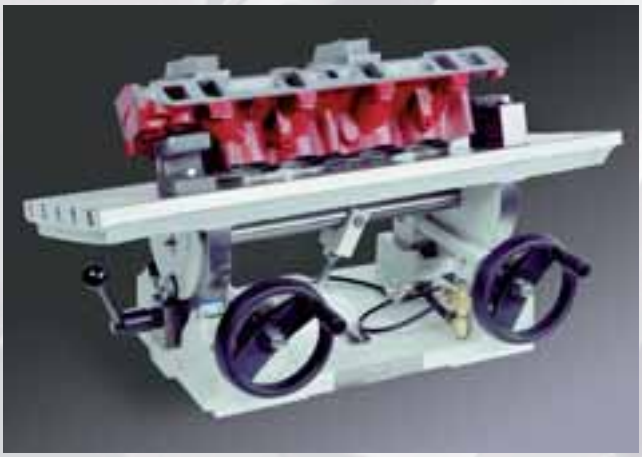
Capable of surfacing large diesel heads such as CAT3406 and 3412, and diesel blocks such as Detroit V71 and Mercedes OM440.

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!

Fixtures





Intake Manifold

Intake/Exhaust Manifold Tooling

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

#7226G Intake/Exaust Manifold Tooling

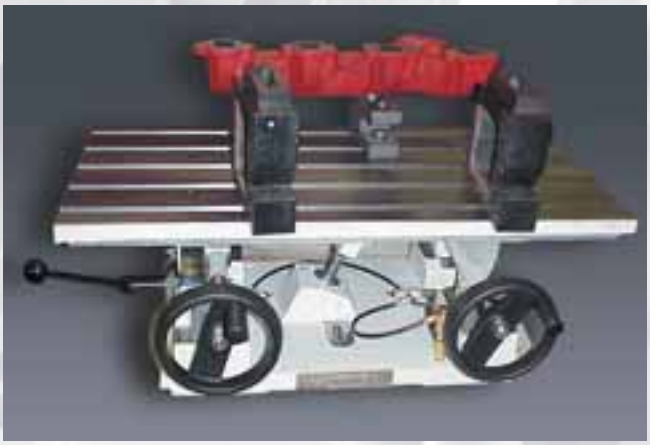
Rottler's answer to holding a wide variety of Heads, Blocks and Manifolds

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.

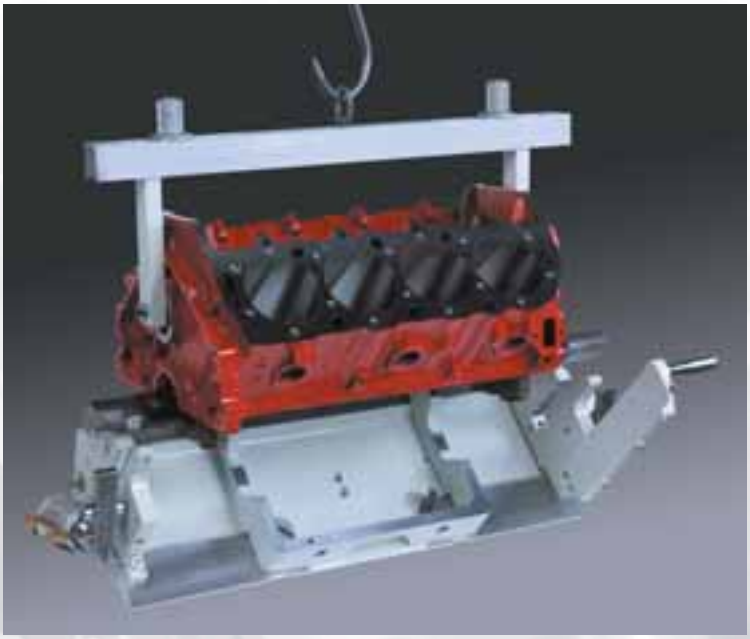
#7209M Leveling Table with Universal Tooling for cylinder heads and in-line blocks

#7152A Dual Axis Leveling Assembly

#7219W 5.2" Parallels (required to mount #7209M Leveling Table on SF7 and SF8 machines)



Exhaust Manifold



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 hander 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

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" Main Line Bar can be leveled for decking blocks parallel to the main line centerline or fine adjusted with ecentric 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.

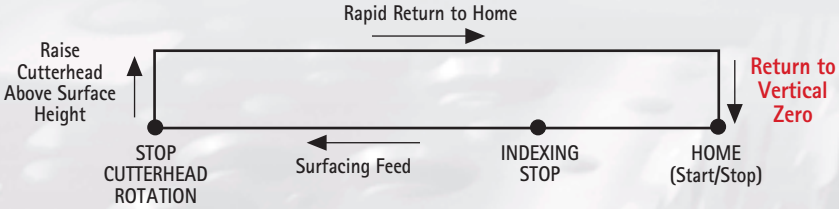
#7241 Universal Head and Block Fixture

#7219W Heavy Duty T Slot Parallels

A Control

Automatic Cycle – Walk Away

SF7A/SF8A 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!



- **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 SF machine travels that exact distance before returning home - not necessary for time consuming setting of end stops.
- **Rapid to Indexing Point**
  Touch the rapid button and the cutter rapids to the indexing 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.

Inserts

Versatile SF tooling provides the right tool for every job!

Rottler SF machines use indexable cutting inserts held by adjustable toolholders in the standard double insert flycutterheads. Rottler offer 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.

Accessories

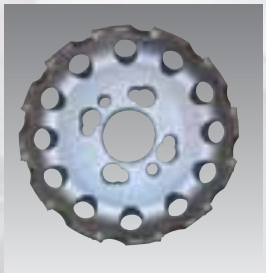
Indexable Shell Mills

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 SF surfacers or use the Rottler Pre-Combustion Chamber Tool to take the Counterbore back to standard depth. #7213A thru K



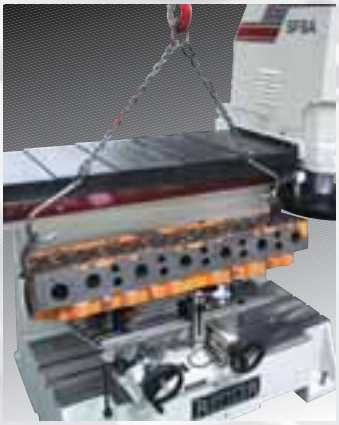
Multi Insert Face Mill

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

#7225F 10" (250mm) Face Mill

Features

Belt Driven Precision Ground Ball Screw ensures smooth operation.



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.

Solid Steel Way Guards

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

Specifications

	SF7A	MADE IN U.S.A.	SF8A
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" (4m)		
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)

Performance racing and engine rebuilding machinery and equipment

SGF7
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VR416
VALVE GRINDING

SGF8
SEAT AND GUIDE

F8A
BORING AND SLEEVING

F65A
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F65M
MULTI PURPOSE

HP6A
HONING

F88S
BORING, SURFACING AND LINE BORING

ROTTLER

1-800-452-0534

8029 South 200th Street
Kent, Washington 98032 USA
TEL: (253) 872-7050
FAX: (253) 395-0230

www.rottlermfg.com

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