ROTTLER

FA Series Boring & Sleeving

PERFORMANCE RACING AND ENGINE BUILDING MACHINERY AND EQUIPMENT

THE CUTTING EDGE

F7A

The FA machines are the industry standard worldwide. Designed for all automotive blocks up to big block V8's and small diesel blocks, the F7A will produce accurate bores for a lifetime. The F7A is ideal for the production shop where the odd sleeve must be fitted. The F7A is the fastest, most powerful boring machine available to the jobber shop. The simple set up and manual push button controls make this a very economical machine to operate.

Features

The FA Series Boring Machines are unlike anything else available to the automotive and diesel engine builders. These machines represent the next generation of boring equipment, evolving from the Rottler F2 boring bar which has been the industry standard for over 78 years. With improvements in electronic motors and cutting tool technology, Rottler Boring Machines are 2 to 3 times more productive than anything else available on the market.

Speed

All three models of FA Series machines have the same high performance AC servo motor, delivering up to 1200 RPM. Independent feed control allows you to change the feed rate from .001" (.025mm) to .012" (.3mm) per revolution.

Accuracy

The FA Series uses a precision ground ball screw to control feed rate and cutter position. This allows the machines to repeat cutter position accuracy to .0002" (.005mm). The FA Series have digital programmable cycles. Boring depth can be programmed to .0001" (.0025mm).

Strength

Rottler has increased the size of the F8A spindle to ensure the best possible bore geometry at high spindle speeds. The Rottler proven spindle and bearing design gives you a rigid machine capable of making heavy sleeve cuts for a life time. The F7A spindle has been reduced to allow the machining of compact engines, motorcycles, marine blocks, etc.

Quick cutterhead change draw bar system

Flexibility

The F Series machines have variable feed rates that allow you to maximize the performance of the machine. Increase spindle feed rates for simple oversize bores. Decrease feed rates for sleeve cuts or counter bores. The F8 machines can bore from 1.5" (38mm) to 9" (230mm) in diameter, with optional cutterheads. The F7 machines can bore from 1.5" (38mm) to 5" (127mm). Special carbide tools are available for counterboring, chamfer cutting, offset boring, and O-ringing.

Automation

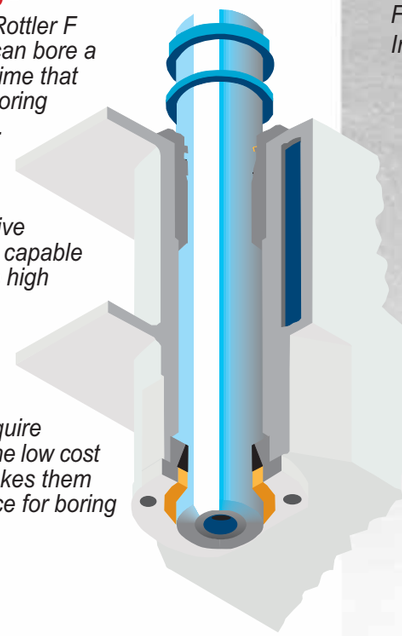
The A models have programmable boring cycles and automatic centering cycles. Both models will store up to 100 different boring programs. Each program stores boring depth, spindle speeds, and feed rate. Automated cycles reduce costly errors while freeing operators to perform other tasks.

Reliability

The F Series machines use a high-speed, cogged belt drive system. This, and the use of two independent motors to run the spindle speed and feed, entirely eliminates the gear box. With fewer moving parts, and a superior design, the F Series becomes a much more reliable boring bar than other designs of equipment

Cost Savings

The high speed Rottler F Series machine can bore a block in half the time that other models of boring machines require. New insert technology is producing long lasting, inexpensive inserts which are capable of handling these high speeds and feed rates, with the same cost per insert as previous styles. Inserts do not require sharpening and the low cost of these tools makes them the ultimate choice for boring cylinders.

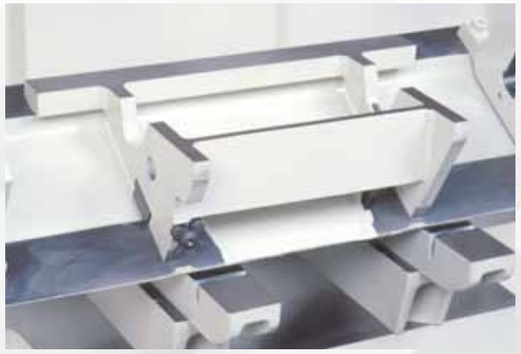


F8A

F8A with In-line Block

This heavy-duty machine was designed for standard and large capacity machine work. The spindle diameter has been increased to 3.25" (82.5mm) for extra heavy duty machining up to 9" (230mm) bore size. Large sleeve cuts can be taken at high spindle RPMs, and in many blocks, one pass sleeve cuts are possible to increase productivity. Programmable counterboring operations with the A model eliminate guesswork and provides added timesaving. The massive one piece meehanite, stress relieved, precision machined base casting allows the fixturing of large diesel blocks such as Cummins 855, Detroit 12V71, Mercedes 444V12 and odd jobs such as gear cases and connecting rods. The F8 machines can also handle small jobs down to 1.5" (38mm) bore diameter with optional cutterheads.

Fixtures



Inline Fixture Adapter

This adapter allows quick mounting and leveling of inline blocks to be bored without removing the 60°/90° V-block fixture.

#502-3-48Q

Marine Outboard Fixture

Adapts the V6/V8 fixture to accept V4/V6 Evinrude or Johnson and V6 Mercury blocks. Rottler Manufacturing has designed other fixtures to handle additional special outboard applications.

#502-3-23 Evinrude/Johnson/Mercury
#502-3-23C 76 Deg.Yamaha

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

The Rottler Universal V-Block fixture system provides a fast and effortless method of holding blocks for boring and sleeving operations. A simple side shift of the fixture changes from 90° V8's to 60° V6's. This fixture has two modes of operation: one mode automatically aligns to main bearing and pan rail; the adjustable mode allows you to use the fixture to align to the original deck surface. The same fixture can be used on Rottler Surfacing machines. Adapter plate allows 15 degree blocks to be machined on the same fixture.

#502-1-72F Fixture with Air Clamping and Airfloat
#502-1-72H Fixture with Manual Clamping
#502-1-95 Block Handler
#502-3-49 15 Degree Adapter Plate for #502-1-72

Diesel V-Block Fixture

Designed by Rottler for accurate machining of diesel V-blocks such as the 71 or 92 Series Detroit. Similar fixturing can also be used with Rottler surfacing machines.

#7243 Diesel V-Block Assembly

Universal Boring Fixture

Mount V and In-Line Blocks on one Universal Fixture. The 2" (50mm) Main Line Bar can be adjusted to bore blocks square to the crankshaft centerline or head gasket face. Rotating the eccentric bearing lifts and lowers the main line bar. The optional parallels can be removed and the supports bolted directly to the base of the machine for extra tall blocks. Extra clearance below and behind the fixture allow tall V blocks to be rolled to both banks to allow the complete block to be bored without removing from the machine. The same universal fixture can be used on a Rottler surfacing machine to surface cylinder heads and manifolds.

#7241R Universal Automotive Block Fixture
#7219W 5.2" (132mm) Heavy Duty T Slot Parallels

Accessories

Dust Collection System

The dust collection system maintains shop environment by removing dust particles generated during boring operations, and also functions as a chip guard during high-speed boring.

#504-35-11E

Mechanical Run-out Indicator

Mechanical Run-out Indicator for checking concentricity. Also used for precise positioning of the cutterhead and alignment with the cylinder bore and deck.

#502-9-9A Indicator
#502-12-14 Magnet Holder

Block Handler

The Rottler Block Handler provides a safe and efficient way to load, unload, and move blocks from station to station.

#502-1-95

Tooling

Triangular Insert Indexable Toolholders

The 'Positive Rake' of these tools reduces cutting pressure, allowing you to take a larger cut. Triangular toolholders are used for sleeve cutting or counterbores. Different insert styles are available for your application. Standard with Cutterhead assemblies.

Square Insert Indexable Toolholders

These toolholders are used for general boring to heavy stock removal. Square inserts have 8 different cutting edges, making them very economical. Can be used with either Rottler R4 or the new R2 insert for high performance cutting up to 1200 RPM. Optional for standard production cutterhead and production stub cutterhead.

Offset Square Insert Indexable Toolholders

These tools were designed for V-Block applications where main bearing interference at the bottom of the bore is a problem. They provide an additional .25" of cutting depth compared to standard tool holders. Available currently from 3.48 - 4.32" Dia.

3.48 - 3.92" Dia #511-29-17U
3.92 - 4.32" Dia. #511-29-17V

Coated Carbide Inserts

Rottler offers several different styles of indexable coated carbide inserts. The square inserts are used for standard oversize boring applications. The gold, square insert, R4, can be used from 400 to 650 RPM's. The new high performance black inserts were developed for the FA series machines. It is capable of standard to heavy cuts up to 1200 RPM's. Triangular inserts work well where cutting a bore to a square shoulder is needed, such as sleeves or counterbores. The black coating provides a tough finish capable of heavy sleeve cuts at high RPM's. The gold coated inserts provide a sharper edge, and better finish on the cutting surface. Ideal for counter bores or finish cuts. Both styles of triangular inserts are available with 1/64" (0.4 mm) or 1/32" (0.8 mm) radius cutting tips.

Square:
Black, #RS322
Gold, R4 #501-29-6B

Triangle:
Gold, 1/32" (0.8 mm) #RT322F
Gold, 1/64" (0.4 mm) #RT321F
Black, 1/32" (0.8 mm) #RT322
Black, 1/64" (0.4 mm) #RT321

Special Tool Bits

Rottler Manufacturing offers a wide variety of brazed carbide tool bits to handle applications such as facing and counterboring, offset tools for blind hole and tight clearance situations, special grooving tools, etc.

Controls

Operation and programming of Rottler's FA Boring Machines is done with ergonomical keypads positioned on the front of the machine. Rottler pioneered the development of this simple method of operation and the display tells the operator exactly where the spindle is positioned at all times. Programmed information such as depth of cut, speed, feed is clearly displayed so the operator knows the machine movements at all times. Programs can be stored in the machines memory for future use.

FA models are programmable for Automatic Cycles. Press cycle start and "walk away", the machines will center, bore to the exact depth. When boring for new sleeves, the exact length of the sleeve can be programmed eliminating the need to cut down the sleeve after installation saving time. Optional blind hole software pauses the machine after centering to allow the cutting tool to be installed in the cutterhead.

Handwheel

The electronic handwheel on the FA machines has 2 modes of operation. In coarse mode, each "click" of the handwheel will move the machine exactly .001" (.01mm) and in fine mode, each click will move the machine exactly .0001" (.002mm).

Cutterheads

Quick change cutterheads on Rottler boring machines can be easily changed. The quick-change draw bar system pulls the cutterhead into the spindle and firmly locks it into the internal taper for chatter free cutting. Cutterheads are available to machine from 1.5" (38mm) to 9.0" (230mm). Different design cutterheads are available for production thru boring, blind hole boring, and heavy duty large diameter boring, sleeving and counterboring. Shown here are typical cutterheads for small diameter cylinder boring, production boring and heavy duty, large diameter machining.

Specifications

MADE IN U.S.A.

	F8A	F7A
Bore Capacity with Optional Cutterheads	1.5" to 9.0" 38mm to 228mm	1.5" to 5.0" 38mm to 127mm
Spindle Speed RPM	Variable 100 to 1200 RPM	Variable 100 to 1200 RPM
Feed per Revolution	Programmable Feed Rates .001 to .012 inches .025 to .300 mm per rev.	Programmable Feed Rates .001 to .012 inches .025 to .300 mm per rev.
Spindle Travel Vertical	15" (381 mm)	13" (330 mm)
Workhead Travel Horizontal	50" (1270 mm)	40" (1000 mm)
T Slot Machine Base Table	54" x 21" (1370 mm x 530 mm)	50" x 21" (1270 mm x 530 mm)
Spindle Taper to Machine Base	26" (670 mm)	26" (670 mm)
Floor Space Required	64" x 46" (1625 mm x 1170 mm)	54" x 46" 1625 mm x 1370 mm)
Spindle Motor	3.3 HP 2.5kW	3.3 HP 2.5kW
Air Requirements	1 cfm @ 90 - 100 psi	1 cfm @ 90 - 100 psi
Power Requirements	208-240 V, Single Phase 50-60 HZ, 30 Amp	208-240 V, Single Phase 50-60 HZ, 30 Amp
Shipping Weight (excluding Fixtures & Parallels)	4400 lbs (2000 kg)	3700 lbs (1700 kg)

SG7
SEAT AND GUIDE

SG80A
HEAVY DUTY CYLINDER HEAD

SG8
SEAT AND GUIDE

SF8A
SURFACING

F68ACR
CONNECTING ROD

F68A
MULTI PURPOSE CNC

HP6A
HONING

F99Y
BORING, SURFACING, LINE BORING AND GENERAL CNC MACHINING

ROTTLER

1-800-452-0534

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

www.rottlermfg.com

A U.S. Manufacturer Since 1923

Represented by:

POMMÉE MACHINES & EQUIPMENT