

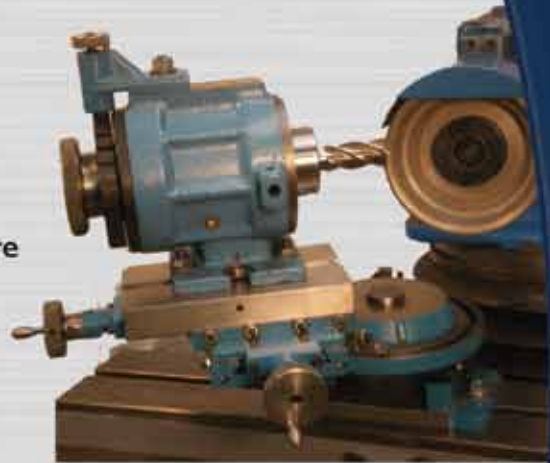
RUSH Machinery

The Tool Grinding Specialists

Tool Grinding Fixtures



Model ABUN Air Bearing
Fixture w/Universal Base



Unit 6 Radius Grinding Fixture
w/6B Workhead

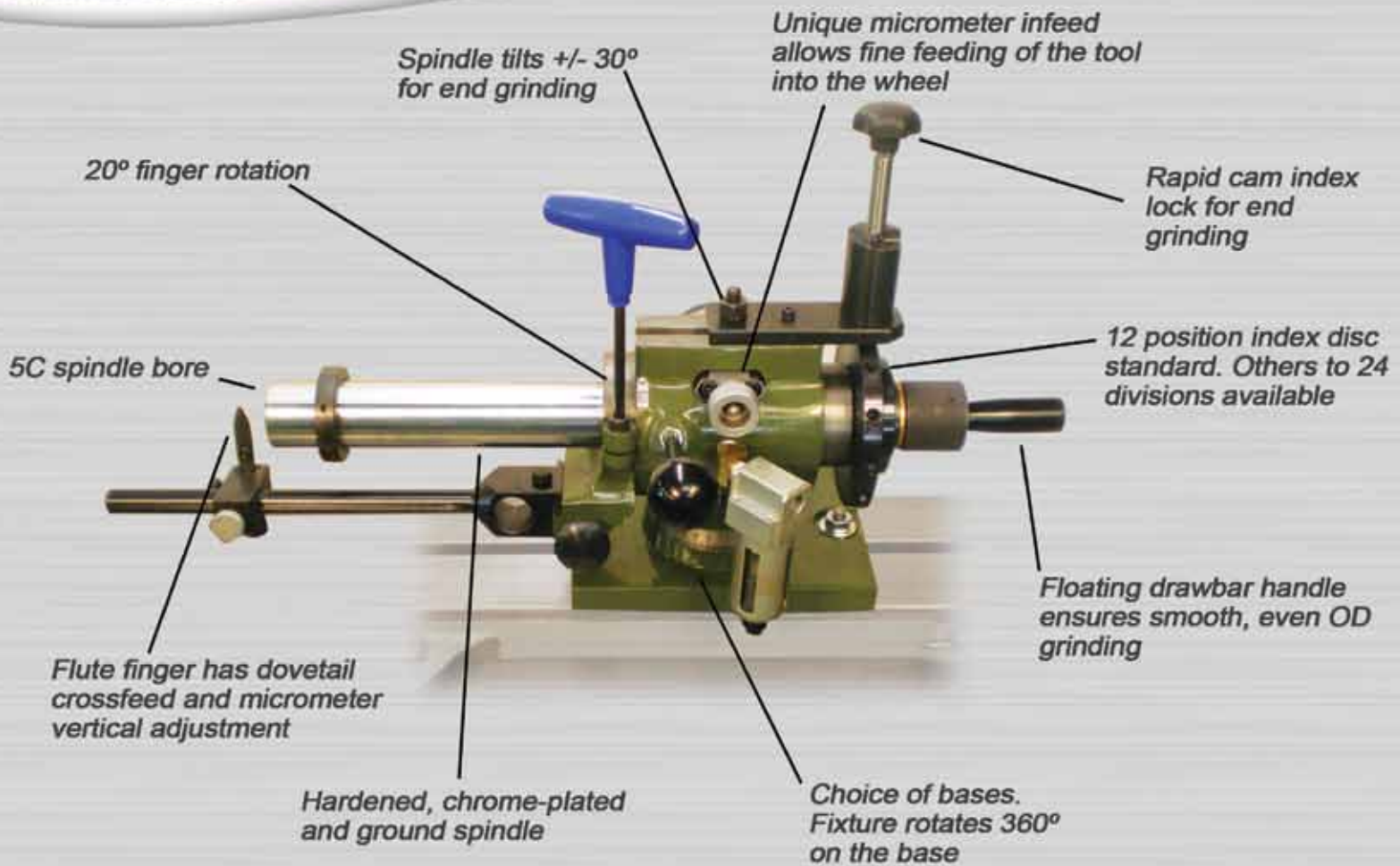


Model AB32 Air Bearing Fixture mounted
on a Rush Model I32C Grinder

High accuracy tool grinding fixtures for precision sharpening of endmills, reamers, shellmills, arbor type cutters and many other types of cutting tools

The Tool Grinding Specialists

Air Bearing Fixtures



The Rush air-bearing end mill grinding fixtures allow precision sharpening of end mills, reamers, shell mills and other cutters. The spindle is supported with a thin film of air providing nearly frictionless motion, resulting in a smooth, even grind. The fixture has a universal base to quickly mount on most tool and cutter or surface grinders (P/N ABUN). It is also available to mount on Rush Drill and tool Grinders (P/N AB32 for Model 132C; P/N AB50 for Models 250A/252; P/N AB80 for Models 380/382S).



Model AB50 on Rush Model 250A/252 Drill and Tool Grinder



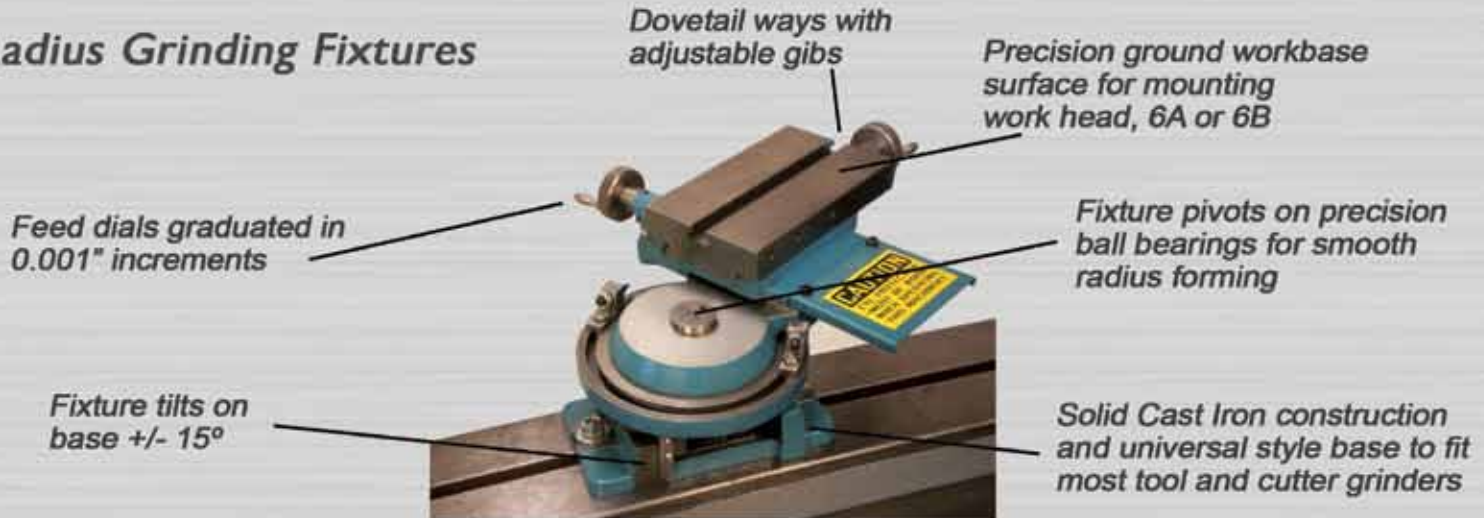
Optional Extension Bushing for tools with 1 1/4, 1 1/2, 2" diameter shanks



Model ABUN on Cincinnati #2 Tool and Cutter Grinder

Tool Grinding Fixtures

Radius Grinding Fixtures



Radius grinding fixtures are for grinding ball, corner radii and concave radii on end mills and other shank-type cutters, as well as for grinding radii on arbor-type cutters. The Unit 6 is a precision tilting compound slide for setting end mills and cutters to the correct position when grinding radii. It is especially designed for the Work Head 6-A and the Work Head 6-B, and can be used on most tool grinders.

The Unit 6 is built to high standards of accuracy and workmanship to produce close tolerances for many years. All sliding surfaces are hand scraped for accuracy and sensitive movement and have adjustable gibs to take up wear. The work table is accurately ground on four faces for ease of set-up. The tilting base has a graduated scale of +/- 15 degrees. The two feed screws have dials graduated in one thousandths of an inch. The Unit 6 pivots on ball bearings and has a 360 degree graduated scale with (2) adjustable stops.

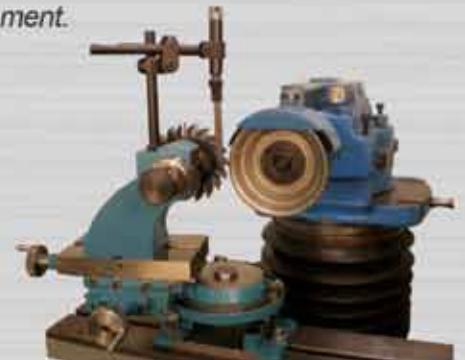


Work Head 6-B is designed to fit the Unit 6 or can be independently mounted to the table of a tool and cutter grinder. The spindle is heat treated and ground to close tolerance and has a 5-C collet bore and is accurately mounted on pre-loaded ball bearings, sealed and lifetime lubricated. It rotates at a finger's touch and needs no attention.

The index lock bracket is easily removed when the universal tooth rest is mounted on the work head. Standard index disc has 24 divisions. Other discs to 48 divisions are available as optional equipment.

The Work Head 6-A spindle is mounted with precision pre-loaded ball bearings and is dust proof for sensitive rotation of the spindle.

The Unit 6 with the Work Head 6-A will sharpen radii on plain milling cutters, side milling cutters, shell end mills, metal slitting saws, single or double angular cutters, half side helical milling cutters and many other special forms.



Specifications:

Air Bearing Fixture:

Tool Capacities:

- Tool Diameter: Up to 3-1/2 inches (90mm)
- Shank diameter: Up to 1-1/16 inches or 27mm using 5-C or 5-ST collets and 1-1/4, 1-1/2 and 2 inch, or 32, 40 and 50 mm, using 5-C shank bushings
- Tool Length: Up to 12 inches (305 mm) overall length when using 5-C or 5-ST collets. Up to 9-1/2 inches (265mm) overall length when using 5-C shank bushings
- Shank Types: Straight or #1, #2, #3 and #4 Morse Taper, using 5-C Morse Taper hole collets
- Number of Flutes: Any number on O.D.; 1, 2, 3, 4 and 6 on end, using the standard 12-position index disc. Optional index discs are available for any number of flutes up to 24
- Length of flute ground: Up to 10 inches (250mm), using 5-C or 5-ST collets. Up to 7-1/2 inches (215mm), using 5-C shank bushings

Angle Settings:

- O.D.: Up to 20 degrees (direct setting)
- Tilt: +/- 30 degrees (for end grinding)
- Rotation: 360 degrees

Construction:

- Spindle: Hardened, chrome plated and ground
- Flute follower finger: Dovetail cross feed and micrometer vertical adjustment
- Rocker arm: Spring loaded, tilts fixture away from grinding wheel for indexing
- Micrometer infeed: Graduated in .001 inch (or .04mm) increments of diameter
- Air pressure: 80 psi (5.5 bar) minimum; air filter included

Weight:

- P/N ABUN: (universal base for mounting on tool & cutter or surface grinders) 55 lbs (25 kg) shipping; 45 lbs (21 kg) net
- P/N AB32: (with base for mounting on Rush 132C grinders) 63 lbs (29 kg) shipping; 53 lbs (24 kg) net
- P/N AB50: (with base for mounting on Rush 250A/252 grinders) 63 lbs (29 kg) shipping; 53 lbs (24 kg) net
- P/N AB80: (with base for mounting on Rush 380/382 grinders) 72 lbs (33 kg) shipping; 62 lbs (28 kg) net

Unit 6 Radial Cutter Grinding Fixture: For radius grinding of cutting tools. Can also be used for tangent and radius dressing of grinding wheels

- Mounts on the table of most tool and cutter or surface grinders
- Weight: 27 lbs. (12.5 kg) net
- Work table dimensions: 7 inches (178 mm) long x 4 inches (100 mm) wide, with 1/2 inch (12.7 mm) T-slot
- Cross slide travel: 2-1/2 inches (64 mm)
- Longitudinal slide travel: 3 inches (76 mm)
- Distance from bottom of base to top of work table: 5-3/16 inches (132 mm)
- Fixture swivel angle: 360 degrees, with (2) adjustable stops
- Fixture tilt angle: +/- 15 degrees
- Graduations on feed dials: .001 inch increments
- Includes: pivot centering gage, base keys and T-bolt

Unit 6B Ball Bearing Work Head for Shank-Type Cutters: For grinding end mills, shell end mills and other shank-type tools

- Mounts on table of Unit 6 or tool and cutter grinders. Has (2) keyways on base at right angles to allow parallel or square mounting. Weight: 26 lbs. (12 kg) net
- Distance from bottom of base to spindle centerline: 3-1/4 inches (83 mm)
- Distance from spindle centerline to the bottom of the base, when mounted on the Unit 6: 8-7/16 inches (214 mm)
- Spindle type: Ball bearing, with 5-C collet bore.
- Shank sizes: up to 1-1/16 inch (27 mm), using 5-C or 5-ST collets; 1-1/4, 1-1/2 and 2 inches, and 32, 40 and 50mm, using 5-C shank bushings
- Shank types: Straight and Morse Tapers #1, #2, #3 and #4 when using Morse Taper bore 5-C collets. Special 5-C shank holders are available for shell end mills and similar tools
- Number of flutes: Any number when using the universal tooth rest assembly; 1, 2, 3, 4, 6, 8 and 12 when using the standard index disc. Index discs available for up to 48 divisions
- Maximum tool diameter: 6 inches (152 mm)
- Maximum radius (when mounted on Unit 6): 3 inches (75 mm)
- Maximum distance from spindle nose to center of pivot (when mounted on Unit 6): 5 inches (127 mm)
- Includes: Center height gage, universal tooth rest assembly, 24-division index disk, keys for base and T-bolts

Unit 6A Ball Bearing Work Head for Arbor-Type Cutters: For grinding horizontal milling cutters, shell mills and other arbor-type cutters

- Mounts on table of Unit 6 or tool and cutter grinders. Has (2) keyways on base at right angles to allow parallel or square mounting
- Weight: 14 lbs. (6.5 kg) net
- Distance from bottom of base to spindle centerline: 4-1/8 inches (105 mm)
- Maximum diameter of cutter: 8 inches (200 mm). Riser blocks available for larger diameters
- Cutter hole sizes: Spindles available with arbor diameters of 1/2, 5/8, 3/4, 7/8, 1, 1-1/4 and 1-1/2 inches. Metric and special sizes are also available
- Includes: (1) spindle assembly with choice of arbor diameter, universal tooth rest assembly, center height gage, keys for base and T-bolt