**National End Mill Cutter Sharpener**

*Sharpens saws, end mills, inserted blade cutters, etc.*

Quick set up and easily mastered in minutes.

**For Surface Grinder Use**

**End Mill Sharpener**

Sharpens all end mills up to 2½” Diameter; 1¼” Shank

*Includes 2 spindles and 4 bushings to cover full range from ¾” to 1¼” shank end mills.*

Order No. MW51-550002

$230.00

**5C Collet Horizontal/Vertical Indexing Fixture**

Order No. JJ55-004

$258.00

New Lower Price

A rapid indexing fixture for use with both Collets (5C 1½” capacity) and lathe chucks. The latter may be fitted to the 2½”-8 threaded spindles. These fixtures are designed to be mounted vertically or horizontally.

Indexing is accomplished by releasing the spring loaded index pin lever. The spindle rotates freely until the next open space when the index pin engages again and locks the spindle.

**Dimensions:**

- **Center Height:** 4”
- **Base:** Horizontal 4” × 8”
- **Vertical 4” × 6”**

**Order No. JN50-TESO • $127.00**

Includes 3 Bushings — ¼”, ½” and ¾”

**End Mill Grinding Fixture**

This fixture uses 5C Collets (no more bushings to lose) which means any shank size end mill from ¼” to 1¼” can be ground. Shellmills can be easily held with straight shank arbors. The use of 5C Collets assures concentricity. Solid positive ball stops with 15° spacing fast and easy set ups.

**Primary End Clearance**

To grind primary relief and center relief, place end mill in fixture and grind one flute; then index to grind opposite flute. This will give a 5° primary end relief angle.

**Secondary End Clearance**

To grind secondary end clearance, tip fixture (as shown) using same wheel position as illustrated above. This gives a secondary end clearance of 30°. The tool will index to allow grinding opposite tip.

**Center Relief Angle**

This view illustrates position of wheel at start of grinding position and center relief angle 2°.

**Order No. HN50-RGF • $59.00**

**Uses 5C Collets**

**Specifications:**

- Grinds 2-3-4-6-8 and 12-fluted end mills and shellmills. Faces only!
- Clearance and relief angles are built into base
- Solid 2½” × 4½”
- Center Relief Angle
- Black oxide finish

**Angle Collet Fixture**

Uses Standard 5C Collets

All moving parts hardened, ground and honed

- Collet does not move up or down
- Retains positive relation to the base
- Can be adjusted or changed without disturbing your set-up
- For drilling, milling, grinding, tapping assembly, etc
- A must for every machine shop
- Height 3¼”

**Order No. JN50-TSCG27 • $92.00**

**Side Milling Cutter Grinding Fixture**

Quickly and easily converts your surface grinder into a cutter grinder — for cutters up to 6” diameter and 1” width. Bore diameters of ¾”, 1” and 1¼” are accommodated.

Order No. JN50-TSCG27

$92.00

**Check with us first for your Collet needs.**

**Over 20,000 5C and R-8 Collets.**

**In Stock for Immediate Delivery**

Effective 08.01.03