



# TRI TOOL INC.

## TRI TOOL INTERNATIONAL INC.

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TRI TOOL INC.  
TECHNICAL SPECIFICATION  
MODEL 424 KEYWAY CUTTER, KEYMASTER™  
JULY, 1999

### MODEL 424 KEYWAY CUTTER, KEYMASTER™

The Model 424 KEYWAY CUTTER, KEYMASTER™ is designed to mill 1/4" (6.35mm) to 1 1/4" (31.75mm) wide by up to 6" (152.4mm) long keyway slots in 1 1/2" (38.1mm) to 24" (609.6mm) diameter shafts. The cutter may be used to install new keyways, re-cut keyways after being weld repaired, or install second keyways to bypass a damaged keyway. The tool uses a Vee block system to auto align and center the tool to the shaft for shaft sizes up to 4 1/2" (114.3mm). The tool mounts with a fixed bottom clamp bar. For larger shaft sizes a system of spacers and chain clamps are included. The tool incorporates a graduated depth of cut system and a mechanism to shift the cutter off center to allow milling the sides of a keyway with a light finish cut for optimum width precision and surface finishes. With this system the keyway width is not dependent on the mill cutter dimensions, i.e. a 3/8" (9.53mm) mill cutter can be used to cut up to a 5/8" (15.88mm) wide key slot. Provisions are incorporated to allow use of a dial indicator for adjustments and to verify the setting accuracy. Axial feed is provided for with a manual ratchet system. The Model 424 uses standard 1/2" (12.70mm) shank mill cutters, sizes from 1/2" (12.70mm) to 1" (25.40mm) diameters in 1/8" (3.18mm) increments and a bushing allows use of 1/4" (6.35mm) and 3/8" (9.53mm) end mills. The KEYMASTER™ comes in a custom fitted carrying and storage case, a selection of end mills 1/4" (6.35mm) to 1" (25.40mm) in 1/4" (6.35mm) increments and clamping system for 1 1/2" (38.1mm) to 24" (609.6mm) diameter shafts. The standard drive motor is a variable speed 1 HP 115 Volt AC motor.

### Design and Operating Features

1. Vee base mounting for precision alignment to the axis of the shaft.
2. Adjustable steel gibs for axial travel slide system.
3. 4130 steel lead screw and brass lead screw nut in the axial travel slide.
4. Precision bull pin centers the Y axis adjustment to establish the center line cut.

5. Positive locking on the Y axis off-set system.
6. Down feed for depth of cut setting graduated in 0.002" (.050mm) increments.
7. Worm Gear final spindle drive for smooth power delivery.
8. Tapered Roller bearings in the spindle.

#### Specifications

1. Axial shaft required for clamp length: 1" (25.4mm)
2. Shaft Diameter Range: 1 1/2" (38.1mm) to 24" (609.6mm)
3. Motor Power Requirements: Variable speed, 1HP, 115VAC, 10.2 Amps
4. Speed Control: Variable speed control in motor
5. Spindle Speed: 0 – 560 RPM
6. Weight: 61 lbs. (27.67kg)
7. Axial Feed Travel 5 1/2" (139.7mm)
8. Vertical Feed Travel 2" (50.8mm)

#### Power Drive Options:

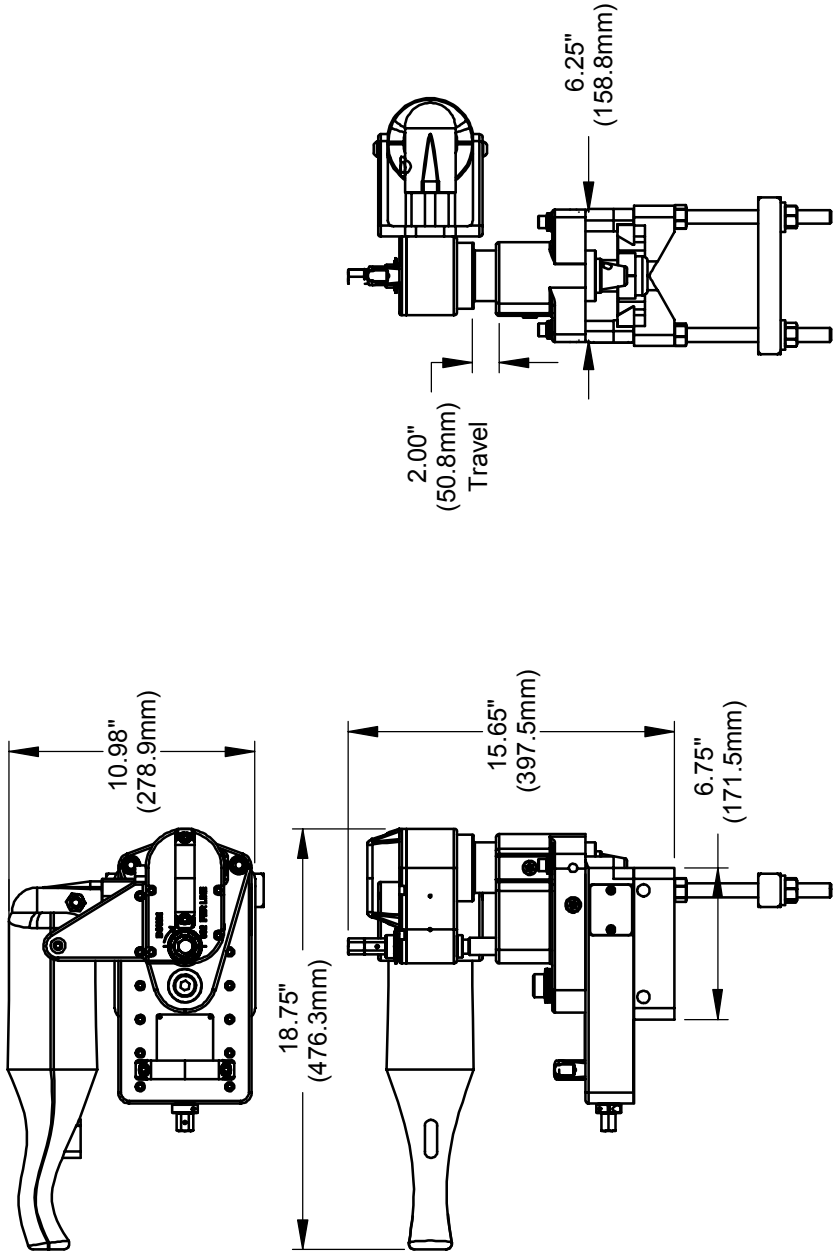
1. The Model 424 can be supplied with a pneumatic motor or a 230 VAC, 50/60 Hz electric motor.


Spare parts and standard tool bits are available from stock. Engineering design services for custom tool bits and special function modifications are available from the factory.

All Tri Tool and allied equipment products are subject to design improvements and specification changes at any time with no obligation to units already sold.

Warranty (limited), parts and/or equipment are warranted against defects in material and workmanship for a period of five years from date of purchase. Full details supplied on request and/or with tools.

Filter, regulator, lubricator required to protect warranty on air powered tools.



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		APPROVALS DRAWN <b>J Brown</b>	DATE <b>042299</b>	<b>424 Keyway Cutter</b> ENVELOPE DRAWING	
CHECKED		SIZE <b>A</b> SOLID WORKS AVAILABLE		DWG. NO. <b>77-1618</b>	REV.
ISSUED		SCALE		CAD MODEL:	SHEET <b>1</b> OF <b>1</b>