



TRI TOOL INC.

TRI TOOL INTERNATIONAL INC.

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TRI TOOL INC. TECHNICAL SPECIFICATION 302 TUBE FACING AND SQUARING TOOL JANUARY, 2000

MODEL 302 TUBE FACING AND SQUARING TOOL

The Model 302 Tube Squaring Tool is a bench mounted machine designed specifically to prepare tubes for autogenous welding. The 302 will face (square) .188" to 2.375" (4.8mm to 60.3mm) outside diameter tubing with a wall thickness up to .200" (5.1mm). The 302 uses an OD Saddle Clamping System for holding and rounding the tube. The 302 accepts its own torque through the Saddle Clamping System. The standard Saddle Clamping System requires a straight length of tube .875" (22.2mm) long. Automatic clamping can be provided using a pneumatic clamping system. Speed control is provided with a variable speed electric drive or a pneumatic drive motor. Feed is provided by a lever action for excellent feed control. A microfeed system provides an accurate controlled feed alternative.

The Model 302 System comes complete with:

- A. Model 302 Sub Assembly
- B. 110V (Milwaukee) Motor Assembly
- C. Wrench
- D. Carrying Case
- E. Operator's Manual

Optional Accessories:

220 VAC (Milwaukee) Motor Assembly
Pneumatic Motor Assembly
Air Caddy, FRL
Electric Foot Pedal
Variable Speed Transformer Control (20 VAC to 140 VAC Output)
Microfeed Kit
Air Clamp Kit
Short Perch Saddles

Design and Operating Features

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1. The 302 accepts it's own torque through the Saddle Clamping System.
2. The cutting head accepts Squaring, J-Beveling, Beveling, ID Beveling and Deburring Tool Bits.
3. Two tool slots allow beveling and squaring operations simultaneously.
4. Drive motor can easily be configured for left or right handed operation.
5. All required wrenches for operating the 302 are supplied with the machine.
6. Saddles are made from stainless steel for durability and to avoid carbon contamination of high purity tubing.
7. Optional Short Perch Saddles permit most tube bends and fittings to be mounted for squaring.
8. Optional Microfeed Kit provides accurate .001" (.025mm) controlled feed for squaring and beveling of tubes and pipes.

Specifications

1. Reference Envelope:

Drawing No. 77-1388 (110VAC and 220VAC Electric Drive)
Drawing No. 77-1572 (Pneumatic Drive)
Drawing No. 77-1573 (Microfeed 110VAC and 220VAC Electric Drive)
Drawing No. 77-1574 (Microfeed Pneumatic Drive)

2. Pipe cutting capacities:

- a. Basic pipe sizes:

1/8" All schedules
1/4" All schedules
3/8" All schedules
1/2" Schedules 5 through schedule 160
3/4" Schedules 5 through schedule 80
1" Schedules 5 through schedule 80
1 1/4" Schedules 5 through schedule 80
1 1/2" Schedules 5 through schedule 80
2" Schedules 5 through schedule 40

- b. Basic tube sizes:

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.188" through 2.375" (4.8mm through 60.3mm) with wall thickness up to .200" (5.1mm).

- c. Outside diameter mounting range:

.188" to 2.375" (4.8mm to 60.3mm) OD.

3. Material cutting capabilities:

- a. Mild steels, chrome steels (Rc 35 max), stainless steel, copper-nickel and aluminum without limitations other than size and wall thickness as specified.
- b. Inconel and some other high-temperature alloys may require special procedures as a function of wall thickness and type of end preparation. Contact Tri Tool's Engineering Department for details.

4. Clearances and dimensions: (302 Electric Drive)

a.	Length of machine	8.57" (217.7mm)
b.	Width of machine	12.88" (327.2mm)
c.	Height	9.57" (243.1mm)
d.	Base plate length	12.00" (304.8mm)
e.	Base plate width	12.00" (304.8mm)
f.	Saddle head diameter	5.20" (132.1mm)
g.	Available feed travel	.560" (14.2mm)
h.	Weight	20.60 lb. (9.3kg)

5. Drive system:

- a. A variable speed Electric Drive Motor

Head speed:
Free speed 1000 rpm
Normal working speed range 20 – 100 rpm

- b. A variable speed Pneumatic Drive Motor

Head Speed:
Free speed 600 rpm
Normal working speed range 20 – 100 rpm

6. Power Supply:

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- a. Power requirements 115 VAC, 50/60 Hz, 4.0 amp.
- b. Power requirements 220 VAC, 50/60 Hz, 4.0 amp.
- c. Power requirements 26.cfm at 90 psi (12 lt/sec at 621 KPa)

Note: Air supply must have a filter/regulator/lubricator (FRL) system to protect warranty on air motor.

- 7. Speed control:
 - a. Variable speed Electric Drive Motor.
 - b. On/Off trigger and twist-type air flow control valve.
- 8. Mounting:
 - a. Manually actuated clamp.
 - b. Pneumatic clamping system
- 9. Feed:
 - a. Manual – A lever arm actuated feed is mounted at rear of the 302 provides .560” (14.2mm) of travel.
 - b. Manual – Microfeed mechanism mounted at the rear of the 302 provides .560” (14.2mm) of travel in .001” (.025mm) increments.

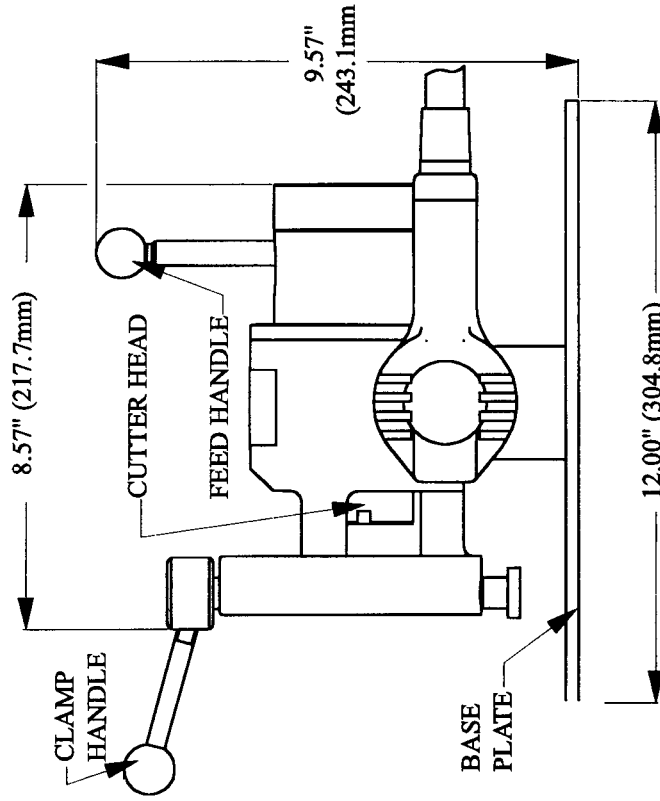
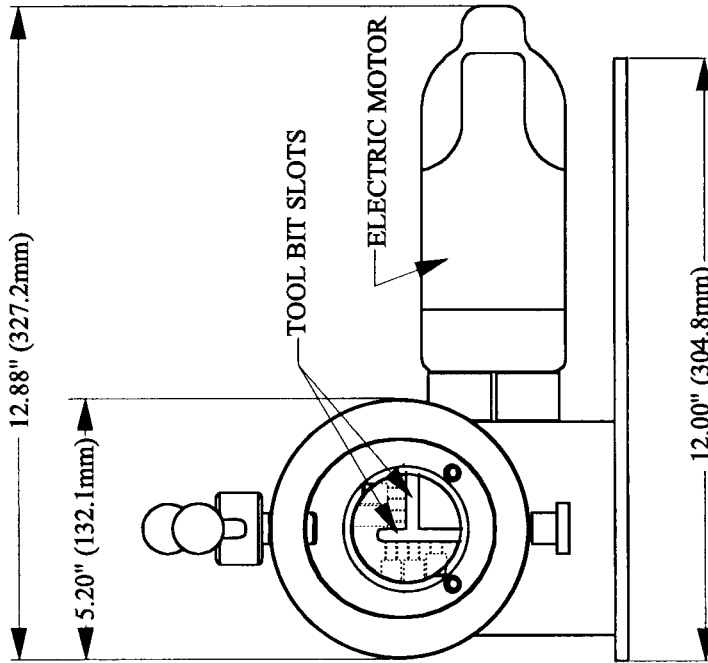
Spare parts and standard tool bits are available from stock.

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 one year from date of purchase. Full details supplied on request and/or with tools.

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



WEIGHT: 20.6 lbs (9.3 Kg)

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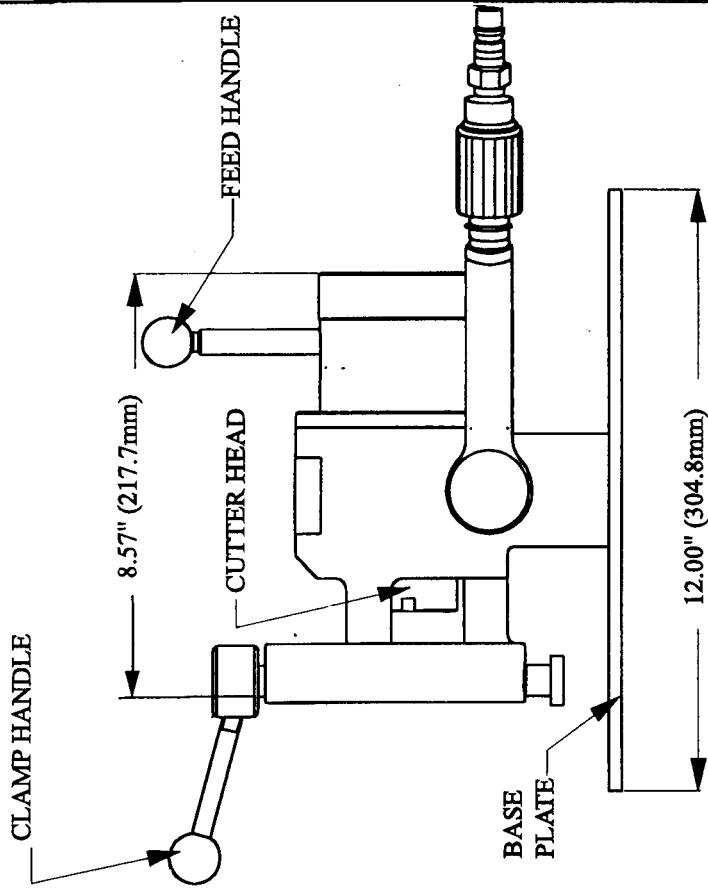
TRI TOOL INC.
 3806 SECURITY PARK DRIVE, RANCHO CORDOVA, CA 95742

APPROVALS	DATE
DRAWN R MORGAN	6/4/97
CHECKED	
ISSUED	


ENVELOPE DRAWING

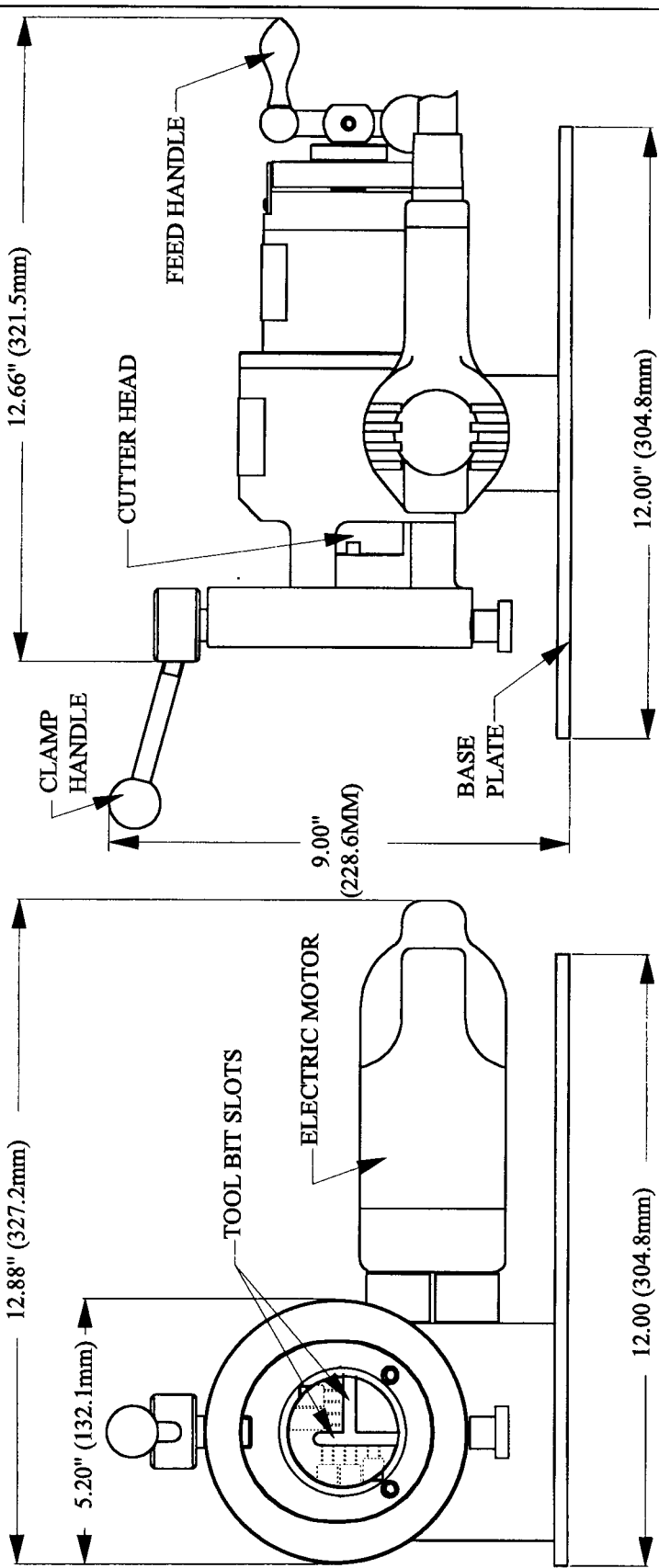
MODEL 302E TUBE SQUARE

SIZE A	CAD AVAILABLE	DWG. NO. 77-1388	REV.
SCALE NONE		SHEET 1 OF 1	



WEIGHT: 18.5 lbs (8.4Kg)

 TRI TOOL INC. <small>3806 SECURITY PARK DRIVE, RANCHO CORDOVA, CA 95742</small>		ENVELOPE DRAWING MODEL 302A TUBE SQUARER		SIZE A CAD AVAILABLE DWG. NO. 77-1572 REV.
CONTRACT NO.	APPROVALS	DATE	SCALE NONE	
	DRAWN	R MORGAN	SHEET 1 OF 1	
	CHECKED	6/4/97		
	TESTED			
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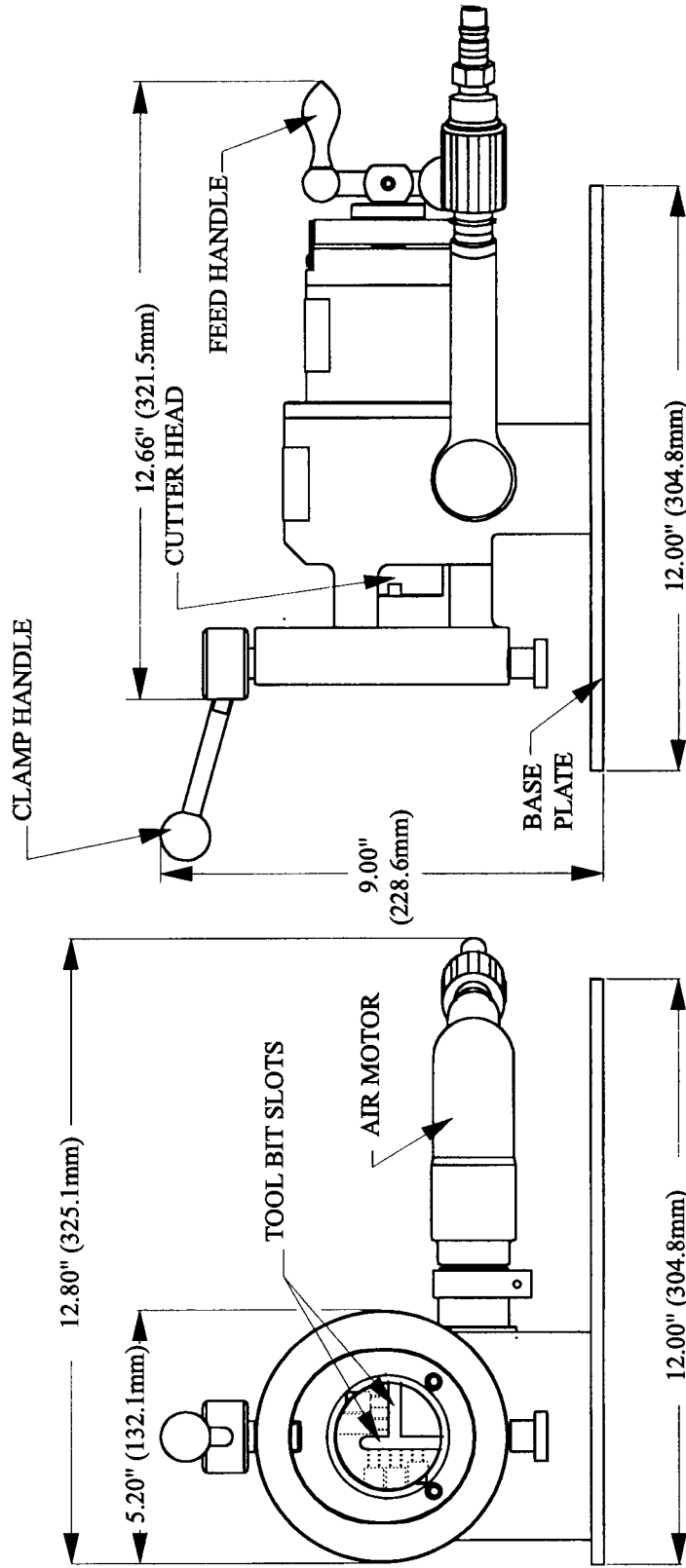


ENVELOPE DRAWING

MODEL 302 MICROFEED TUBE SQUARER

APPROVALS	DATE
R MORGAN	6/4/97
CHECKED	
ISSUED	

SIZE	CAD	DWG. NO.	REV
A	AVAILABLE	77-1573	
SCALE	NONE	SHEET	1 OF 1



WEIGHT: 18.5 lbs (8.4 Kg)

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ENVELOPE DRAWING

MODEL 302A MICROFEED TUBE SQUARER

SIZE A CAD AVAILABLE DWG. NO. 77-1574 REV.

SCALE NONE SHEET 1 OF 1