



# TRI TOOL INC.

## TRI TOOL INTERNATIONAL INC.

3806 Security Park Dr., Rancho Cordova, CA 95742-6990 U.S.A. 916-351-0144 800-345-5015 Fax 916-351-0372 ttcustserv@aol.com www.tritool.com

### TRI TOOL INC. TECHNICAL SPECIFICATION 301SP SHORT PERCH TUBE FACING AND SQUARING TOOL JANUARY, 2001

#### MODEL 301SP TUBE FACING AND SQUARING TOOL

The Model 301SP Tube Squaring Tool is designed specifically to prepare tubes for autogenous welding. The 301SP will face (square) .125" (3.2mm) to 1.125" (28.6mm) outside diameter tubing with a wall thickness up to .125" (3.2mm). The 301SP uses an OD saddle clamping system for holding and rounding the tube. The 301SP accepts its own torque through the saddle clamping system. The standard saddle clamping system requires a straight length of tube .60" (15.2mm) long. The Short Perch saddle clamping system requires a straight length of tube .190" (4.8mm) long. Speed control is provided by a variable speed electric or pneumatic drive motor. Feed is provided by a cam actuated feed handle at right angles to the cutter head.

#### The Model 301SP System comes complete with:

- A. Model 301SP Sub Assembly
- B. 110V (Milwaukee) Motor Assembly
- C. Wrench Kit
- D. Carrying Case
- E. Operator's Manual

#### Optional Accessories:

- 110 VAC (Bosch) Motor Assembly
- 110 VAC (Metabo) Motor Assembly
- 220 VAC (Bosch) Motor Assembly
- 14.4 VDC Cordless Motor Assembly
- Pneumatic Motor Assembly
- Air Caddy, FRL
- Bench Stand Assembly
- Electric Foot Pedal
- Variable Speed Transformer Control (20 VAC to 140 VAC Output)

#### Design and Operating Features

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1. The 301SP accepts it's own torque through the Saddle Clamping System.
2. The Cutting Head accepts Squaring Tool Bits.
3. All required wrenches for operating the Model 301SP are supplied with the machine.
4. The Model 301SP is lightweight and easy to handle.

### Specifications

1. Reference Envelope:

Drawing No. 77-1428 (Milwaukee Electric Drive)  
Drawing No. 77-1568 (Pneumatic Drive)  
Drawing No. 77-1569 (Bosch Electric Drive, 110VAC and 220VAC)  
Drawing No. 77-1570 (Cordless Electric 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 40  
3/4" Schedules 5 through schedule 40

- b. Basic tube sizes:

.125" (3.2mm) through 1.125" (28.6mm) with wall thickness up to .125" (3.2mm).

- c. Outside diameter mounting range:

.125" (3.2mm) to 1.125" (28.6mm) 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 in Paragraph 2.

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: (301 Milwaukee Electric Drive)

- |    |                                 |                  |
|----|---------------------------------|------------------|
| a. | Length of the Motor:            | 14.50" (368.3mm) |
| b. | Maximum width over feed handle: | 7.75" (196.9mm)  |
| c. | Height:                         | 8.50" (15.9mm)   |
| d. | Saddle Head Diameter:           | 3.50" (88.9mm)   |
| e. | Available feed travel           | .200" (5.1mm)    |

5. Drive system:

a. A variable speed Electric Drive Motor

Head speed:

- |                            |           |
|----------------------------|-----------|
| Free speed                 | 600 rpm   |
| Normal working speed range | 15-80 rpm |

b. A variable speed Pneumatic Drive Motor

Head Speed:

- |                            |           |
|----------------------------|-----------|
| Free speed                 | 150 rpm   |
| Normal working speed range | 15-60 rpm |

6. Power Supply:

- |    |                     |   |
|----|---------------------|---|
| a. | Power requirements: | 115 VAC, 50/60 Hz, 5.5 amp.             |
| b. | Power requirements: | 220 VAC, 50/60 Hz, 5.2 amp.             |
| c. | Power requirements: | 14.4 VDC, Battery Power Pack            |
| d. | Power requirements: | 22 cfm at 90 psi (10 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:

- Variable speed Electric Drive Motor.
- On/Off trigger and twist-type air flow control valve.

8. Mounting:

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- a. Manually actuated clamp.
9. Feed:
- a. Manual – A cam actuated feed handle is mounted at right angles to the cutting head and provides .200” (5.1mm) of travel.

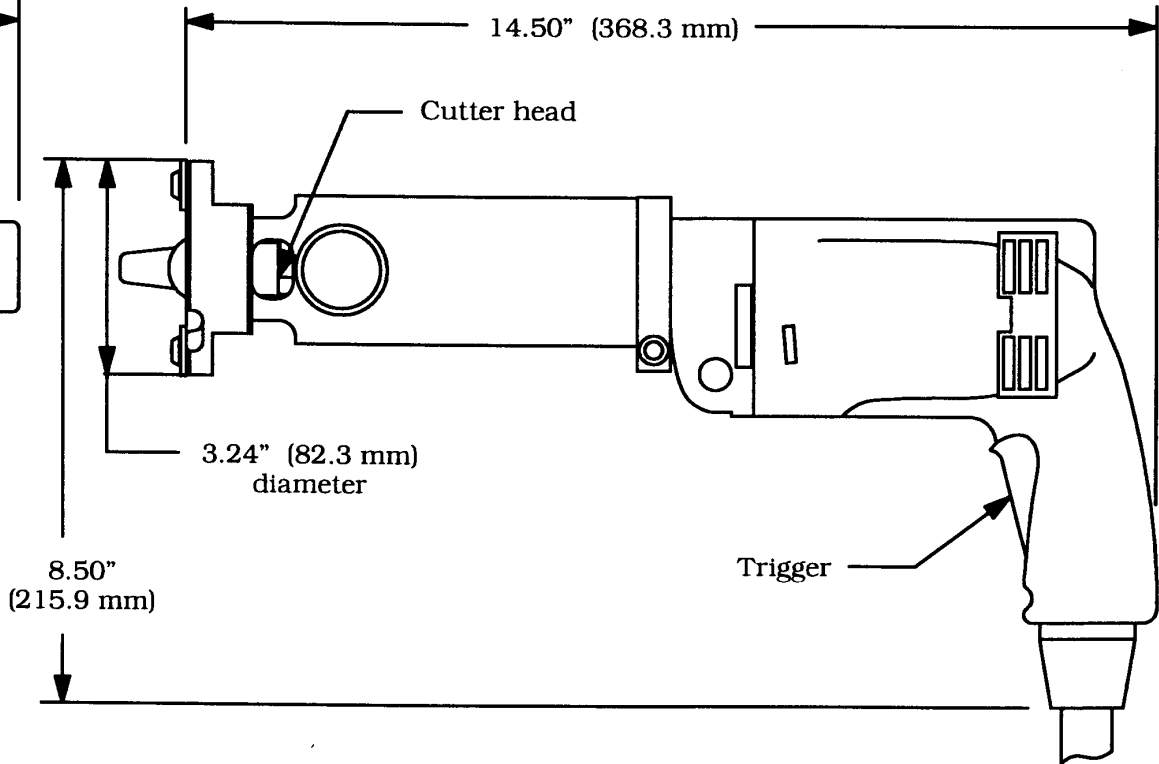
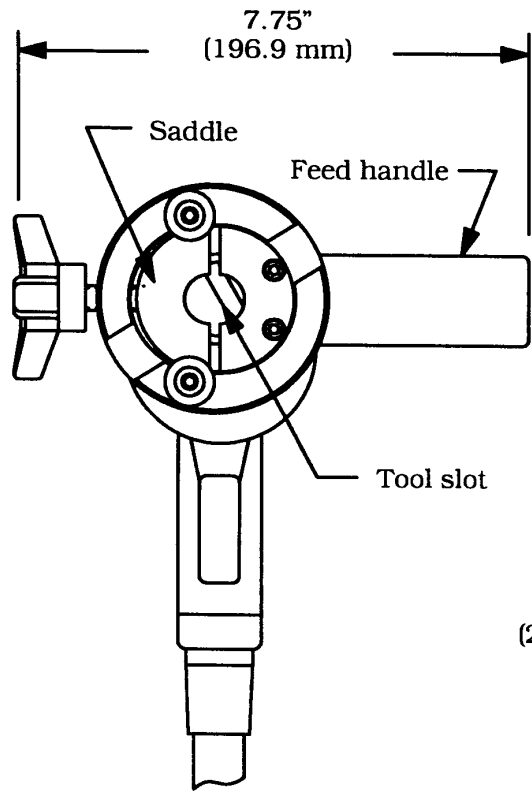
Spare parts and standard tool bits are available from stock.

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

All TRI TOOL Inc. 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.

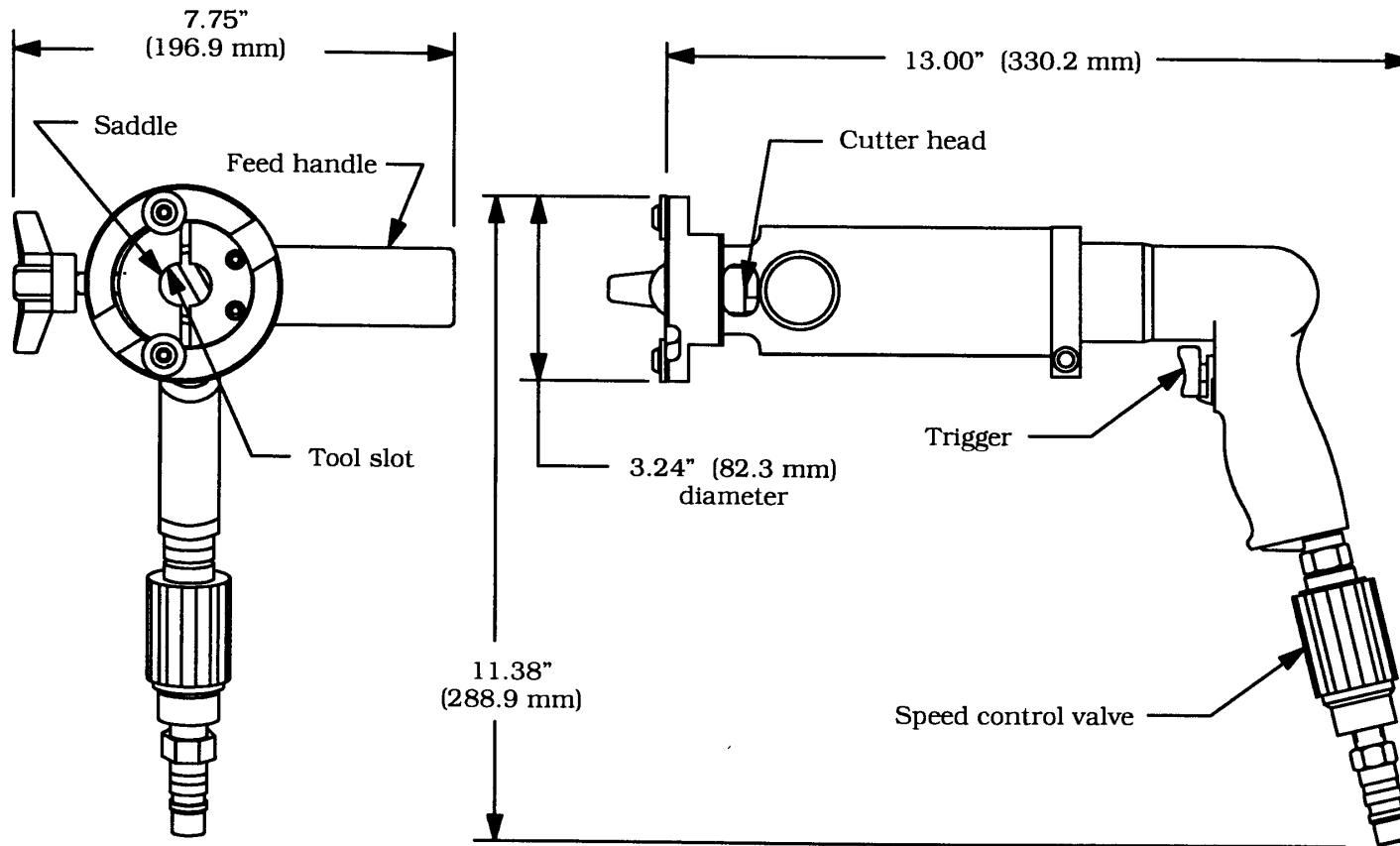
Filter, regulator, lubricator (FRL) required to protect warranty on air powered tools.




Weight: 7.50 lbs (3.4 kg)

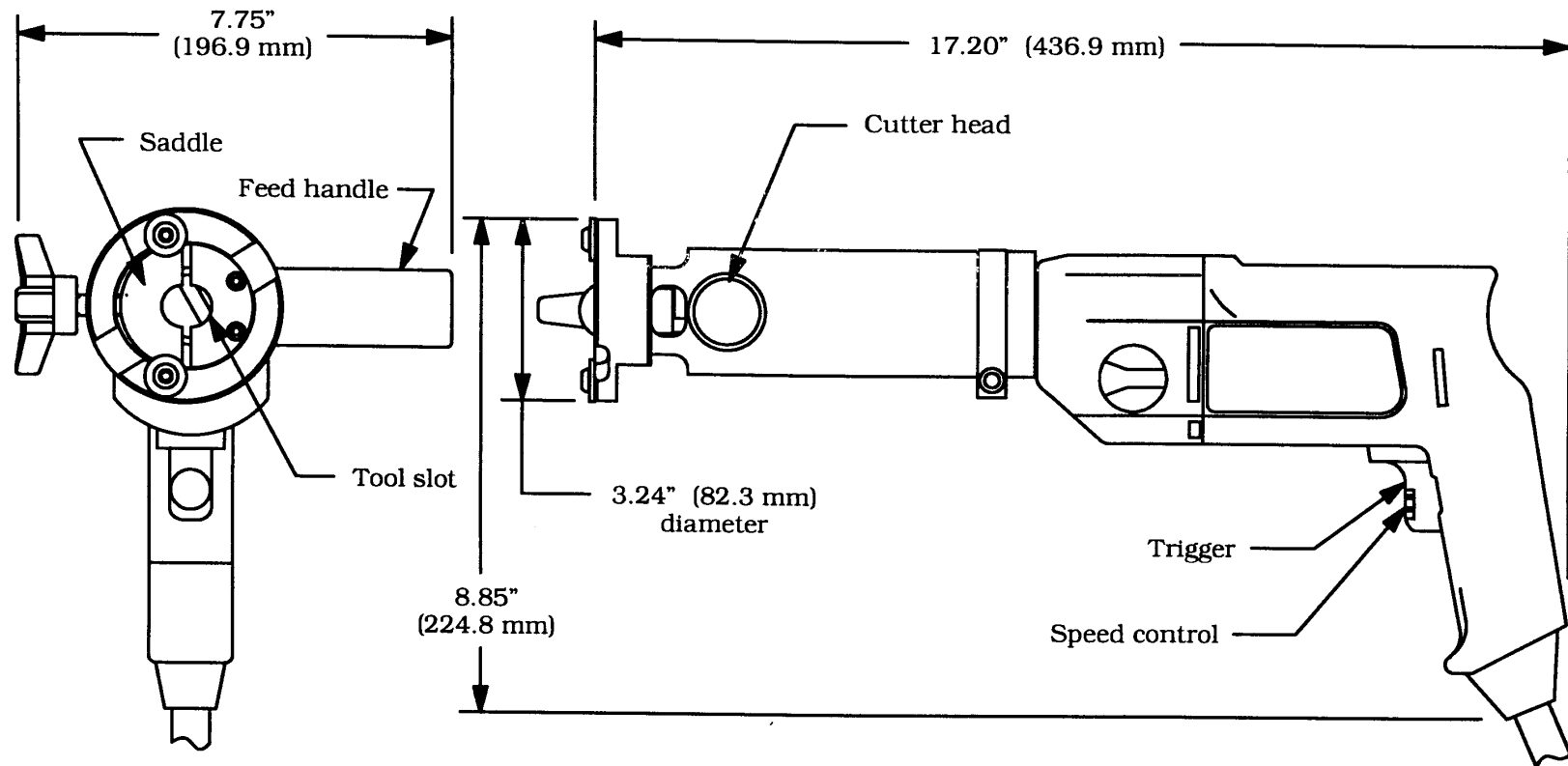
110 VAC

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	APPROVALS	DATE	<b>Envelope Drawing</b> <b>Model 301SPE (Milwaukee)</b>		
	DRAWN <b>MORGAN</b>	5/30/97			
	CHECKED		SIZE <b>A</b>	FSCM NO.	DWG. NO. <b>77-1428</b>
ISSUED		SCALE None		SHEET 1 of 1	
<b>DO NOT SCALE DRAWING</b>					




Weight: 5.35 lbs (2.4 kg)

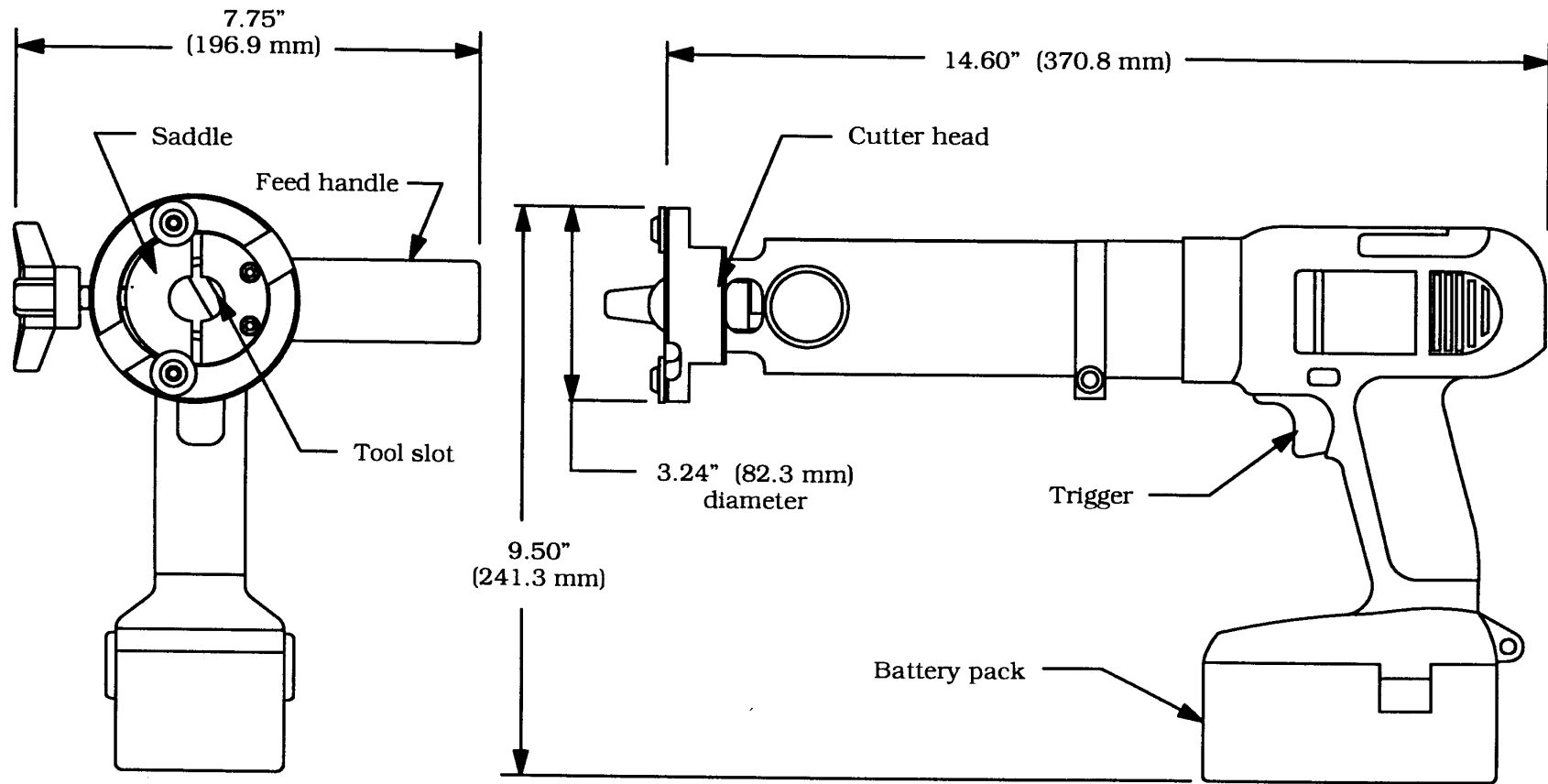
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	APPROVALS	DATE		
	DRAWN	MORGAN	5/30/97	<b>Envelope Drawing</b> <b>Model 301SPA</b>
	CHECKED			
ISSUED			SIZE <b>A</b> FSCM NO.    DWG. NO. <b>77-1568</b> REV.	
<b>DO NOT SCALE DRAWING</b>			SCALE None    SHEET 1 of 1	




Weight: 7.8 lbs (3.5 kg)

110 VAC or 220 VAC

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	APPROVALS	DATE		Envelope Drawing	
	DRAWN <b>MORGAN</b>	5/30/97	<b>Model 301SPE (BOSCH)</b>		
	CHECKED		SIZE <b>A</b>	FSCM NO.	DWG. NO. <b>77-1569</b>
ISSUED		<b>DO NOT SCALE DRAWING</b>		SCALE None	SHEET 1 of 1



Weight: 8.00 lbs (3.6 kg)

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	APPROVALS	DATE	<p>Envelope Drawing</p> <p><b>Model 301SP Cordless (14.4V)</b></p>		
	DRAWN <b>MORGAN</b>	5/30/97			
	CHECKED		SIZE <b>A</b>	FSCM NO.	DWG. NO. <b>77-1570</b>
ISSUED		SCALE None		SHEET 1 of 1	