TRI TOOL INC.
TRI TOOL INTERNATIONAL INC.
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TRI TOOL INC.
TECHNICAL SPECIFICATION
Model 301 TUBE FACING AND SQUARING TOOL
JANUARY, 2001

MODEL 301 TUBE FACING AND SQUARING TOOL

The Model 301 Tube Squaring Tool is designed specifically to prepare tubes for autogenous welding. The 301 will face (square) .125" (3.2mm) to 1.102" (28.0mm) outside diameter tubing with a wall thickness up to .125" (3.2mm). Speed control is provided with a variable speed electric drive, or a pneumatic drive motor. Feed is provided by a cam actuated feed handle at right angles to the cutter head. The 301 uses OD clamping Collets which hold and round the tubing and provide torque acceptance of the Tool. The clamping collets on the standard system are retained by a collet nut. A Quick Lock clamping system is available for increased productivity with the 301 Tube Squaring Tool.

The Model 301 System comes complete with:

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

Optional Accessories:

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

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Design and Operating Features:

1. The 301 accepts it's own torque through the Collet Clamping System.

2. The Cutting Head accepts Squaring, J-Beveling, Beveling or ID Deburring Tool Bits.

3. All required wrenches for operating the Model 301 are supplied with the machine.

4. The Model 301 is lightweight and easy to handle.

Specifications

1. Reference Envelope:

   Drawing No. 77-0694 (Pneumatic Drive)
   Drawing No. 77-0931 (Milwaukee Electric Drive)
   Drawing No. 77-1566 (Bosch Electric Drive,110VAC and 220VAC)
   Drawing No. 77-1567 (Cordless Drive)
   Drawing No. 77-1576 (301E-QL Milwaukee, 110 VAC)

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 1.102” (28.0mm) with wall thickness up to .125” (3.2mm).

   c. Outside diameter mounting range:

      100 Series Collets: .125” (3.2mm) to 1.102” (2.8mm) OD.

3. Material cutting capabilities:

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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:	15.50" (393.7mm)
b.	Maximum width over feed handle:	6.63" (168.3mm)
c.	Maximum depth:	8.00" (203.2mm)
d.	Collet Nut Diameter:	3.00" (76.2mm)
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	15-60 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:

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a. Variable speed Electric Drive Motor.

b. On/Off trigger and twist-type air flow control valve.

8. Mounting:

a. Manually actuated Collets using a collet nut and wrench.

b. A Quick Lock clamping system using a lever 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.

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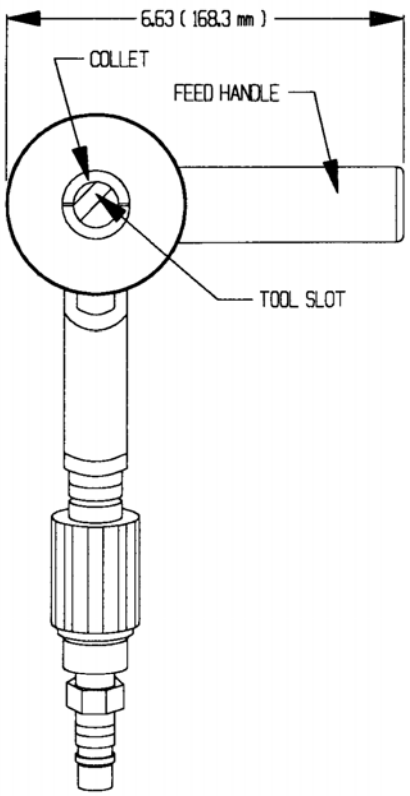

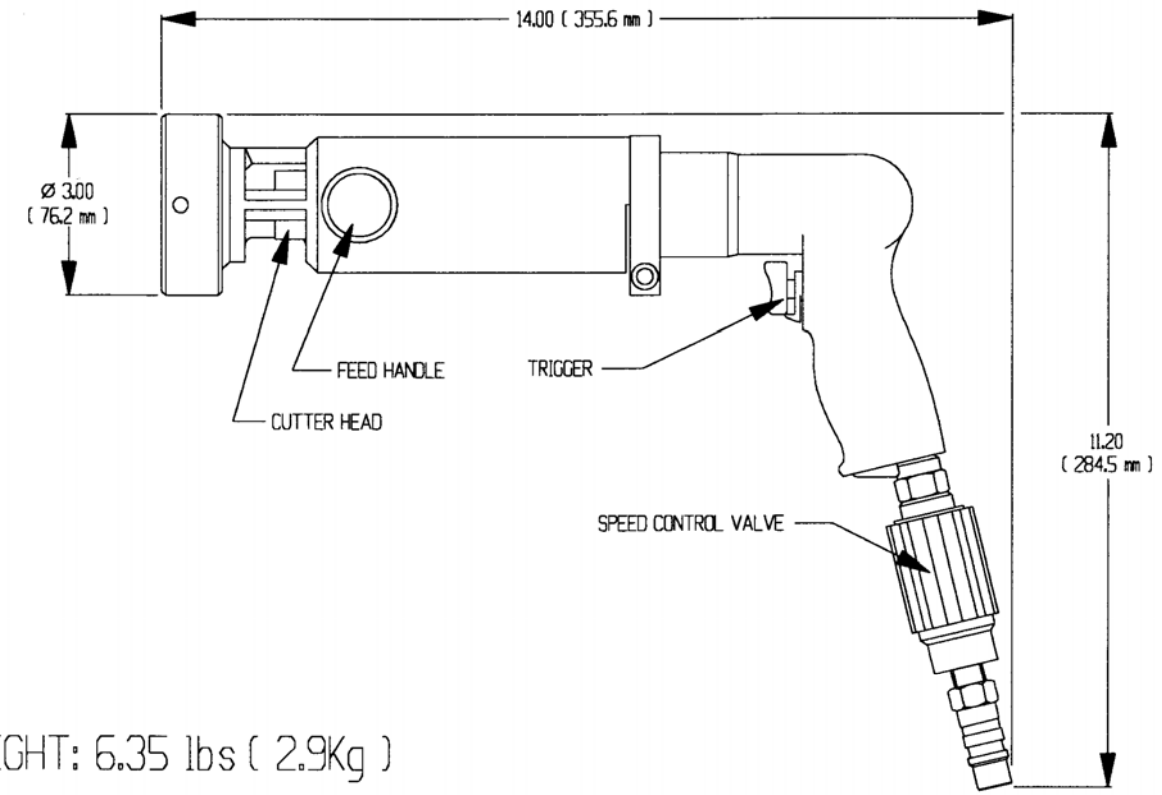

WEIGHT: 6.35 lbs (2.9Kg)

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CONTRACT NO.	
APPROVALS	DATE
DRAWN R MORGAN	5/29/97
CHECKED	
ISSUED	
DO NOT SCALE DRAWING	

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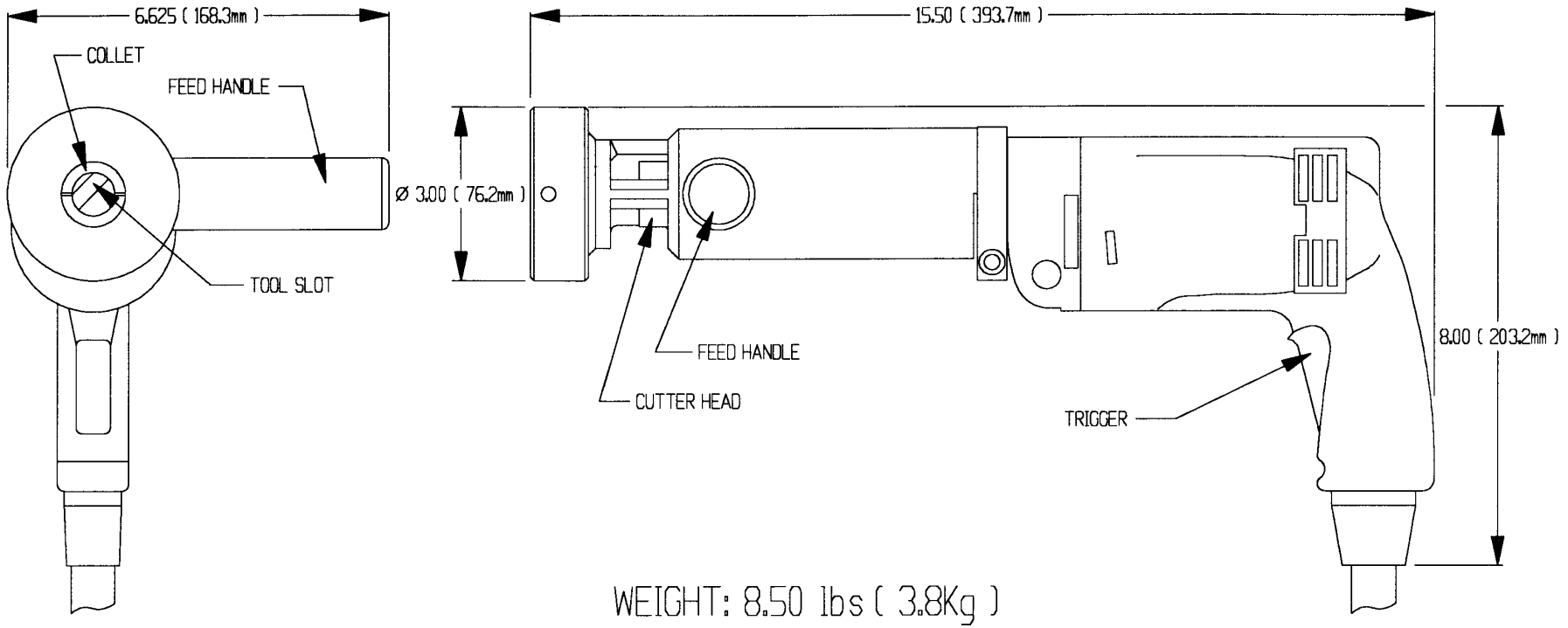
ENVELOPE DRAWING
MODEL 301A

SIZE	CAD AVAILABLE	DWG. NO.	REV.
A		77-0694	

SCALE NONE SHEET 1 OF 1



WEIGHT: 8.50 lbs (3.8Kg)

110 VAC

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ENVELOPE DRAWING
MODEL 301E (MILWAUKEE)

SIZE		DWG. NO.	REV.
A	CAD AVAILABLE	77-0931	

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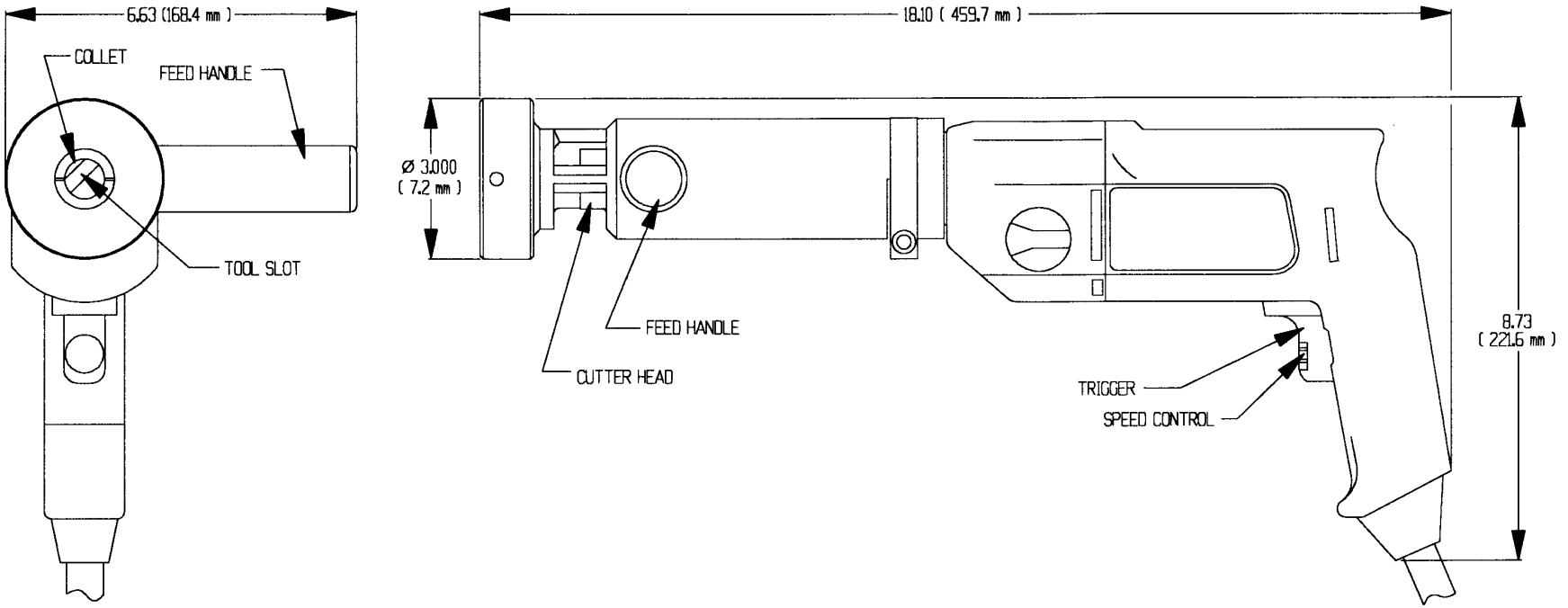

WEIGHT: 8.70 lbs (3.9Kg)

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ENVELOPE DRAWING

MODEL 301E (BOSCH) 110V & 220V

SIZE		DWG. NO.	REV.
A	CAD AVAILABLE	77-1566	

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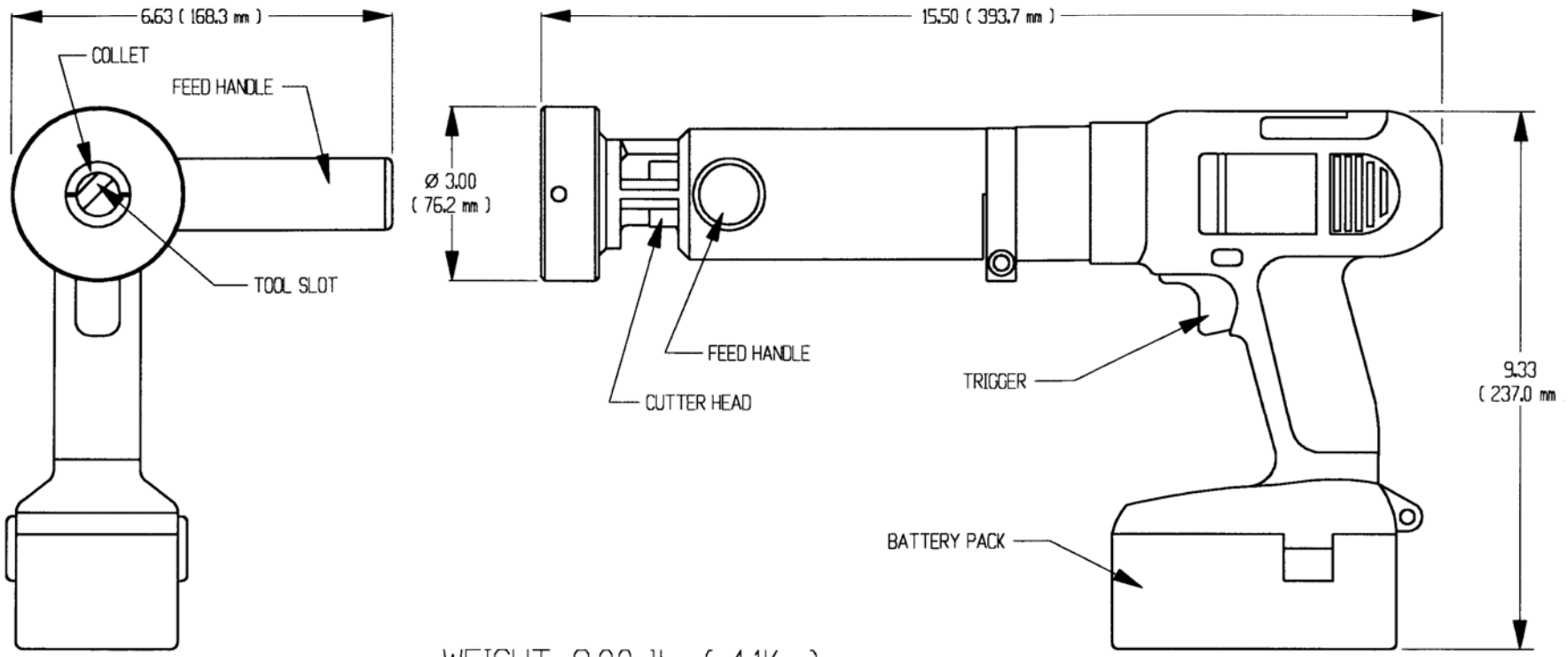

WEIGHT: 9.00 lbs (4.1Kg)

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ENVELOPE DRAWING

MODEL 301 CORDLESS (14.4V)

SIZE		DWG. NO.	REV.
A	CAD AVAILABLE	77-1567	

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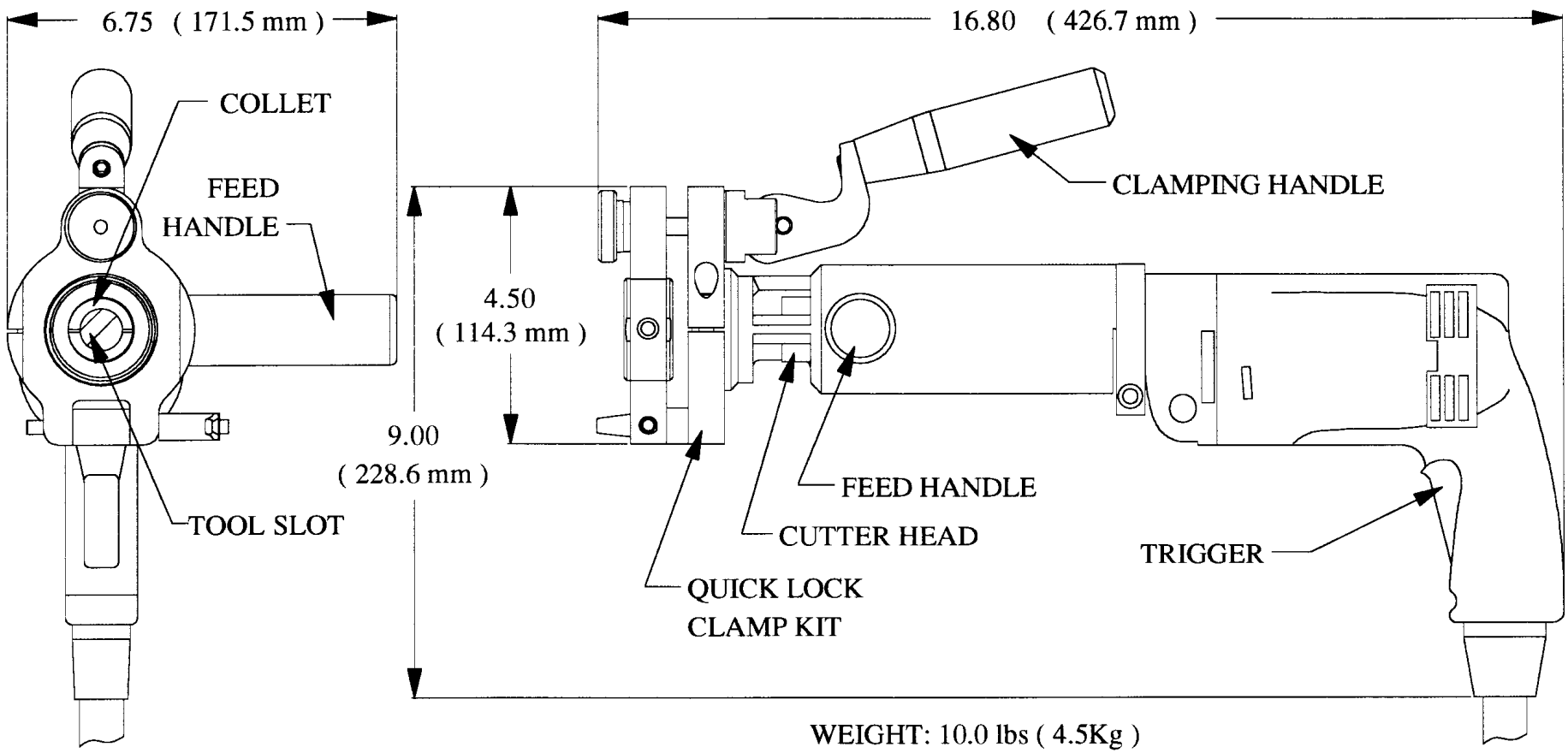

WEIGHT: 10.0 lbs (4.5Kg)

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ENVELOPE DRAWING
MODEL 301E - QL (MILWAUKEE) 110 VAC.

SIZE		DWG. NO.	REV.
A	CAD AVAILABLE	77-1576	
SCALE NONE		SHEET 1 OF 1	