



TRI TOOL INC.
TECHNICAL SPECIFICATION
BOILERMASTER™ SYSTEM
FEBRUARY, 2000

BOILERMASTER™ BOILER TUBE LATHE SYSTEM

The BOILERMASTER™ is a portable I.D. mounting end prep lathe designed specifically for weld end prepping boiler tubes. Special features for boiler work include:

Mandrel shaft heat treated to Rc 50 for maximum strength and to minimize wear damage.

Integral ratchet feed lever to keep the operators hands out from between adjacent tubes and for ease of operation (minimum operator hand stress).

Integral mandrel ratchet wrench for speed of use and loss prevention.

Heavy duty tool bits and tool bit wedge lock mounting system to maximize bit life.

Heavy duty tapered mandrel and spindle bearings.

Mandrel shaft seal to keep coolants out of the gears.

Heat treated mandrel mounting blocks for maximum life and secure mounting.

Heavy duty air motor and gear reduction for optimum performance.

The BOILERMASTER™ with the standard mandrel and 2.63" (66.8mm) diameter cutting head will bevel and face boiler tubes with an ID over 1.25" (31.8mm) and an OD up to 2.63" (66.8mm). Reduced size mandrels and larger cutting heads are available to expand the operating range.

The BOILERMASTER™ System comes complete with:

- A. BOILERMASTER™ Subassy
- B. Air Motor Assy.
- C. Mandrel Assy.

- D. Jaw Block Set
- E. Wrench Kit
- F. Carrying Case
- G. Operator's Manual

Optional Accessories:

- 2.63" (66.8mm) Dia. Head Kit
- 4.00" (101.6mm) Dia. Head Kit
- Mandrel Assy, Reduced Dia., 1.00" (25.4mm) to 1.25" (31.8mm) range.
- Mandrel Assy, Reduced Dia., .610" (15.5mm) to 1.00" (25.4mm) range.

Design and Operation Features:

1. The lathe accepts it's own torque through the mandrels.
2. The expanding mandrel provides fast, accurate self-centering and alignment.
3. All tools needed for operation(less Tool Bits) are provided with the system.
4. The lathe [at less then 18 lbs. (8.16 Kg)] is lightweight and is easily handled by one operator.

Specifications:

1. Reference Envelope Drawing No. 77-1489
2. Pipe Cutting Capacities:
 - a. Basic Pipe sizes:
All schedules of 1 1/4" through 4" pipe.
Some schedules may require optional equipment.
 - b. Basic Tube Size:
Up to .531" (13.5mm) wall tubing with a maximum O.D. of 4.50" (114.3mm) and a minimum I.D. of 1.25" (31.7mm) may be beveled with standard mandrel..
 - c. Wall Thickness Capacity:
Wall thickness of all standard pipe schedules [.531" (13.5mm) maximum] in the range listed. Contact Tri Tool for heavier wall procedures.
 - d. Counterboring Operations:
The tool will counterbore pipe and tubing with an I.D. range of 1.50" (38.1mm) to 4.33" (110.2mm).
3. Material Cutting Capabilities:

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- a. Mild steels, Chrome steels (Rc 35 max), stainless steel, copper-nickel alloys and aluminum without limitations except 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. Clearance and dimensions:

- | | | |
|----|---|------------------|
| a. | Rotating parts diameter with 2.63" dia. head | 2.63" (66.8mm) |
| b. | Rotating parts diameter with 4.00" dia. head. | 4.00" (101.6mm) |
| c. | Length over motor: | 19.88" (505.0mm) |
| d. | Length (of machine) | 8.72" (21.5mm) |
| e. | Available feed travel: | 1.50" (38.1mm) |

5.. Drive System:

- | | | |
|----|------------------|-------------|
| a. | Final Drive: | Gear Driven |
| b. | Pneumatic Motor: | |
| | Free speed | 325 rpm |
| | Max. H.P. speed | 162 rpm |

6. Power Supply:

- a. Pneumatic motor requires 55 cfm (26 L/s) air supply at 90 psi (621 kPa) for maximum horsepower delivery.

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

7. Cutting Head Speeds:

- | | | |
|----|---------------------------------------|------------|
| a. | Maximum Cutting head speed: | 162 rpm |
| b. | Cutting head speed @ maximum H.P. | 82 rpm |
| c. | Functional speed range: | 20-100 rpm |
| d. | RPM at 300 surface inches per minute: | |
| | 4.50" (114.3mm) | 21 rpm |
| | 1.25" (31.8mm) | 76 rpm |

8. Speed Control:

- a. On/off safety lever valve and twist-type air flow control valve.
9. Mounting:
- a. Manually actuated draw rod expands mandrel ramps and jaw blocks.
10. Feed:
- a. Manual-Feed wrench is at a right angle at the back of the machine. Feed rate is .100" (2.5mm) per revolution of the feed wrench.

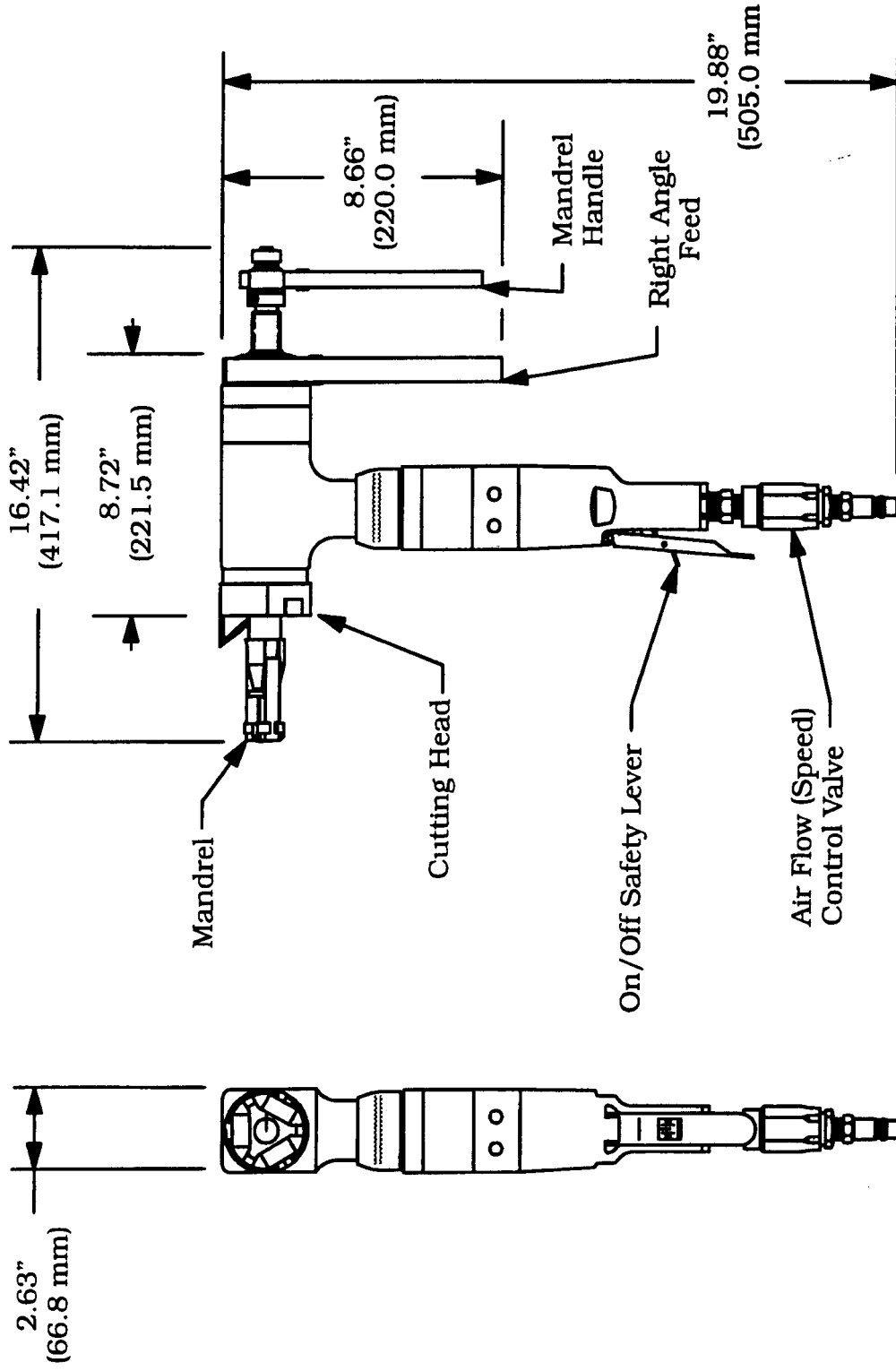
Spare parts and standard tool bits are available from stock.


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 the date of purchase. Full details supplied on request and/or with tools.

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



 TRI TOOL Inc. 3806 SECURITY PARK DRIVE, RANCHO CORDOVA, CA 95742-6890		Envelope Drawing, BOILERMASTER™	
CONTRACT NO.	APPROVALS	DATE	REV.
	DRAWN PFAFMAN	1/18/96	
	CHECKED		
	ISSUED		
	SIZE FSCM NO. A		DWG. NO. 77-1489
DO NOT SCALE DRAWING			SCALE None
SHEET 1 of 1			

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