



TRI TOOL INC.

TRI TOOL INTERNATIONAL INC.

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TRI TOOL INC.
TECHNICAL SPECIFICATION
MODEL 442F FLANGEMASTER™
FEBRUARY, 2006

MODEL 442F FLANGEMASTER™

Description: The Model 442F FLANGEMASTER™ is a tool designed specifically for machining the sealing surface of flanges ranging from 14.0" (355.6mm) ID through 42.0" (1066.8mm) OD with the standard mounting kit. The tool range can be extended to 73.0" (1854.2mm) OD with the optional extension kit.

Design and Operating Features:

1. The tool is easily installed into and centered to the bore of a flange, with the mounting head installed separately from the machine.
2. The patented Mounting Head Assembly has mitering and centering capability.
3. The mounting head can be positioned and aligned separately from the tool with the supplied Dial Indicator Sleeve Kit for fast, accurate and easy set up.
4. The tool is installed to the mounting head quickly and securely with the help of a draw rod type mounting screw.
5. Adjustment to the mounting head can be done at any time after tool installation, as needed.
6. The tool is driven pneumatically through a two-speed gearbox.
7. The tool is driven through a worm drive system for a smooth and trouble free operation.
8. The feed mechanism is driven with an industry proven oscillating cable system, which provides variable feed increments/revolutions to achieve optimum surface conditions.
9. The tool is equipped with an exclusive, patented anti-backlash and dampening system, creating a constant preload to the tool, producing a smooth operation when cutting across a rough, uneven surface or any hole pattern on the face of a flange.

10. The tool holder is installed onto a compound tool slide making it perfectly suitable for the machining or repair of R.T.J. grooves.
11. The versatility of the feed system allows auto-feeding the tool bar, the tool slide or the tool compound slide, making the Model 442F the most versatile portable flange facer tool on the market today.

Specifications

1. Reference Envelope Drawing No. 77-1629
2. Cutting capacities:
 - a. 14.0" (355.6mm) ID through 42.0" (1066.8mm) OD with Standard Tool Bar and Mounting Head Kit.
 - b. The Extended Tool Bar and Mounting Head Extension Kit brings the cutting capacity to 73.0" (1854.2mm) OD and the mounting capacity to 72.0" (1828.8mm) ID.
3. Materials:
 - a. Materials include, but are not limited to: carbon steel, low alloy steel, chrome steel (20% max.), chrome / molly alloys (Rc 32 max.), austenitic stainless steels, Inconel, copper, aluminum and copper nickel alloys.
4. Clearances: (see envelope drawing).
5. Drive options:
 - a. Pneumatically driven only. Consumption 44 scfm (21lt/sec) at 90 psi (621 kPa).
6. Tool Holder Assembly:
 - a. Infinitely adjustable angle and depth of cut compound type tool slide and totally adjustable tool post in all directions.
7. Mounting:
 - a. Aluminum head with 8 ea. staggered steel bars and jackscrew type clamping.
 - b. Fully adjustable mitering coupling with up to 5 degrees of adjustment in every direction and up to .188" (4.77mm) of offset adjustment in every direction.

8. Approximate weights:

| | | |
|----|---|-----------------------|
| a. | Model 442F Main Drive Assembly | 200 lbs. (90.7 kg) |
| b. | Standard Tool Bar Assembly | 75 lbs. (34.0 kg) |
| c. | Extended Tool Bar Assembly | 118 lbs. (53.5 kg) |
| d. | Tool Slide Assembly | 36 lbs. (16.3 kg) |
| e. | Standard Mounting Head Assembly | 60 lbs. (27.2 kg) |
| f. | Large Mounting Head Assembly | 112 lbs. (50.8 kg) |
| g. | Mounting Extension Block Assembly (8 ea.) | 10 lbs. (4.5 kg) /ea. |
| h. | Standard Counterweight Bar | 16 lbs. (7.3 kg) |
| i. | Large Counterweight Bar | 24 lbs. (10.9 kg) |
| j. | Counterweight | 17 lbs. (7.7 kg) |

9. Available feed increments and generated grooves per inch.

The Model 442 Flange Facer has a 4 position rotary eccentric feed in the cutting head and two positions on the actuating lever to provide 8 feed rates.

The table shows the feed rates relative to the settings and the generated grooves per inch for record finishes.

| | INDEX PLATE POSITION | | | |
|-----------------------|----------------------|-------|-------|-------|
| | 1 | 2 | 3 | 4 |
| Actuator Arm Position | A | A | A | A |
| Feed / Rev | .005" | .010" | .014" | .019" |
| Grooves / Inch | N/A | N/A | 71 | 53 |
| | | | | |
| | INDEX PLATE POSITION | | | |
| | 1 | 2 | 3 | 4 |
| Actuator Arm Position | B | B | B | B |
| Feed / Rev | .009" | .016" | .025" | .032" |
| Grooves / Inch | N/A | N/A | 40 | 31 |

NOTES:

1. Lower Feeds per Inch are used for smoothing and flattening operations.
2. Record finish grooves per inch are typically run with feeds of .025" or .032"

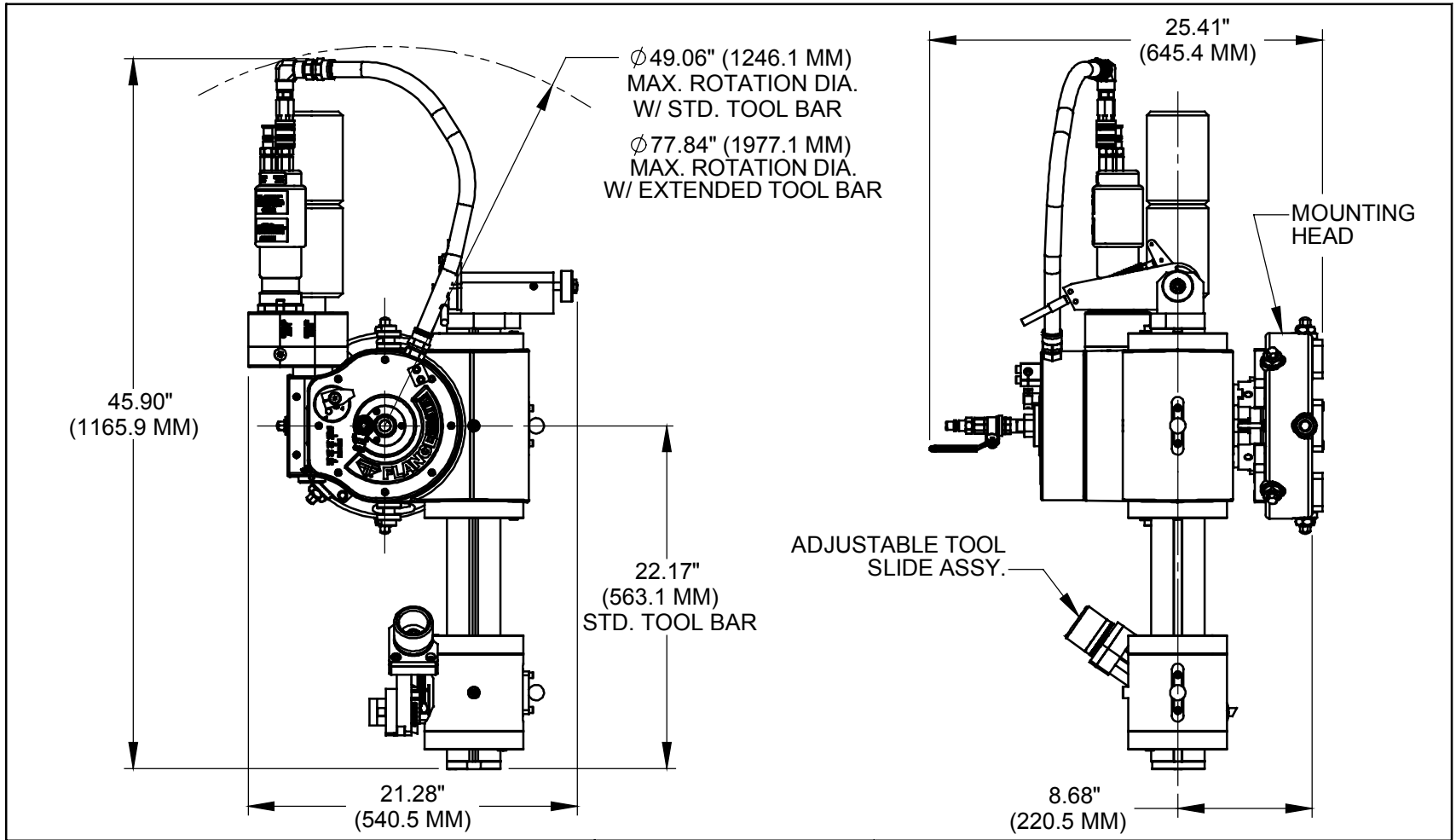
Spare parts and standard tool bits are available from stock.

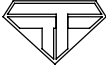
Engineering design services for custom tool bits and special function modifications are available from the factory.

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 defect 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 required to protect warranty on air powered tools.



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| | APPROVALS | | DATE | |
| | DRAWN L. LARSON | | 10/6/99 | |
| | CHECKED | | | |
| | ISSUED | | | |
| | | <p>ENVELOPE DRAWING</p> <p>442F FLANGEMASTER™</p> | | |
| SIZE A | SOLID WORKS AVAILABLE | DWG. NO. 77-1629 | REV. | |
| SCALE NONE | CAD MODEL: 01-1741.SLDASM | SHEET 1 OF 1 | | |