

Where **high performance** is the **standard**°

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For 100 years, M.A. Ford[®] has been at the cutting edge of tooling design and manufacturing and has developed an enviable global reputation for performance and precision in advanced solid carbide tooling, serving over 60 countries world wide. Our innovative cutting geometries, materials and coating technologies are providing effective manufacturing solutions to an expanding and increasingly diverse range of industries.

Target Industries: Aerospace Medical Firearms Automotive Heavy Machinery Energy Electronics Agriculture

> Competitors Kyocera SGS Seco Imco Fullerton Mitsubishi Sumitomo Harvey Tool Widia

Key Product Lines

- High Performance Solid Carbide End Mills
- High Performance Solid Carbide Drills
- Solid Carbide Reamers
- Solid Carbide Diamond Grind Routers
- Solid Carbide Custom Tools
- Solid Carbide and HSS Countersinks
- Solid Carbide General Purpose End Mills
- Solid Carbide General Purpose Drills
- Solid Carbide Burs
- Solid Carbide Micro Tools
- Re-Conditioning and Re-Coating

M.A. Ford Rapid Turnaround Program*

Coating ALtima® 3 days No maximum quantity Blaze, TiN, TiCN 3 days No maximum quantity Range Reamers 270 Series 3 days 25 piece maximum Shank Flats End mills 3 days 50 piece maximum Corner Radius

End mills – 6mm & above 3 days 12 piece maximum <u>Depth Setting Rings</u> 3 days No maximum quantity <u>Coolant Slots</u> 3 days 10 piece maximum <u>Micro-Stop Integral Pilot</u> 3 days 10 piece maximum *When base tool in stock

Custom Tool Division

M.A. Ford's Custom Tool Division offers application development, design and manufacturing expertise in the following product classifications in either solid or coolant thru configurations:

- High Performance Drills and Step Drills
- Rockbit Drills (Flat Bottom 150°)
- G-Drills and Step G-Drills
- Step Reamers
- Reamers
- Coolant Thru Specials
- Firearms Reamers (Chamber-Barrel-Muzzle-Throat)
- Custom End Mills
- Custom Form Tools
- Re-conditioning and Re-Coating



Returns: No returns will be accepted without a prior written Return Materials Authorization (RMA) from M. A. Ford. Please contact our Customer Service department for an authorization number and shipping instructions. Merchandise that has been approved for return must be returned on a pre-paid basis in original packaging.

Miscellaneous Return Restocking Charges:

Miscellaneous returns are subject to the following restocking fees:

- Purchased within 30 days, 5%
- 31-180 days, 10%
- 6 months 1 year, 15%

• No miscellaneous returns for materials purchased beyond 1 year (Contact Customer Service for Stock Rotation Option), except series 239. For series 239, no returns are accepted for materials purchased beyond 90 days.

All Returns Are Subject To The Following Conditions:

• Returned items must be current M.A. Ford products per the current price schedule.

• Standard products that are scheduled to be removed from the catalog and/or slow moving items are subject to review and may not be eligible for return.

• Damaged product packaging, marked/defaced labels and/or packages are not eligible for return.

• Products that have been altered or coated by a third-party are not eligible for return.

• Returned products must be properly packaged for shipment with the RMA number indicated on the shipment and noted on the return goods documentation. Any carrier damage is the responsibility of the Distributor.

To Request A Sample Tool

The Test Tool Request Form is available at

maford.com/page/forms. Follow the instructions on the bottom of the form to fax or email to M.A. Ford Customer Service. Once approved, the tool will ship same day if in stock.

M.A. Ford® Direct Field Sales Staff

| Title | Name | City/State | | Cell | E-mail | |
|--|--------------------|-----------------------------------|----|--------------|------------------------|--|
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Order Entry and Shipping Cutoff Times Orders received by 5:00pm CST in stock <u>shipped via UPS</u> same day

For Fed Ex shipments:

- Cutoff time is 4:30pm CST for priority shipments
- Cutoff time 3:30pm CST for ground shipments

Test Tool Results Example

This test of the M.A. Ford series 277 was a big improvement for Company A as the current indexable tool would only produce 200 parts before chipping out. The M.A. Ford Tool ran 3,000 pcs between tool changes. The insert usage cost of \$23,400.00 must be added for the special Competitor A tool body usage of 52 pcs. annually. **Total savings \$137,591.00**.

| | MLA FORD | то | OL PERFORMAN | VCE EV | ALUATOR | | | |
|--|---|-----------------------|---|---|--------------------------------------|-------------------------|--------------|--|
| | Select Machinin | g Type So | lid Milling 🗸 🔻 | Color On | O Color Off 2 | Test Date | 03/24/17 | |
| | Select Data En | try Units | Inch | O Metric | Output Units | O Inch | Metric | |
| | Company | ľ | | | Test Objective | Too | ol Life | |
| INTIAL DATA | Contact | | | Part | | 1/4" Ratchet lever bore | | |
| | Salesman | | | | Material | 1187 steel | | |
| | Distributor | tor | | | Hardness (HrC) | <250 BHN | | |
| | Evaluator | RUSS MESSER | | | Surface Condition | Milled | | |
| | Machine | Mazak Nexus | 400011 | Solid Mi | Il Material Factor | 1.28 | | |
| | Machine # | E-2602 | | | | | | |
| | Rated Power(HP) | 30 | | | Mill type: climbl | | polation | |
| | Tool Number | 22 | Existing | Test 1 | | Te | est 2 | |
| × | Tool Brand Name | | Competitor A | MA Ford 27737512B 3/8" X 7/8"X 2,5" .015 | | | | |
| LA . | Endmill Descripti | on | AOMT040204-900DT IC 908 | 3/8" X 7/8 | "X 2.5" .015 | | | |
| | | | 10,908 | | | | | |
| TOOL DATA | # EffectiveTeet | h | 2 | | 4 | | | |
| 2 | # cifective reel | n | 2 | | 7 | | | |
| . F | Tool Diameter | (in) | 0.375 | 0 | 375 | | | |
| | RPM | (at max RPM) | 5240 | | 240 | | | |
| PARAMETERS | Speed | (sfm) | 514 | | 514 | | | |
| Ë | Feed | (ipt) | 0.0005 | 0. | 0030 | | | |
| Ψ | Feed | (mm/min) | 5.03 | 6 | 2.88 | | | |
| A | Width of Cut | (in.) | 0.020 | 0 | 0.020 | | | |
| AR | Depth of Cut | (in.) | 0.3 | 0.3 | | | | |
| ٩. | Length of Cut | (in.) | 0.95 | 0 | 0.95 | | | |
| | # of Passes | Per Part | 1 | 1 | | | | |
| | Type of Chip Pro | oduced ? | Segmented 🔻 | Tubular | - | | • | |
| | Coolant | | SYNTHETIC | SYNTHETIC | | SYNTHETIC | | |
| | Power @ Spindle | | 0.02 | 0.22 | | | | |
| ш | # of Parts | Per Mill Chg. | 66 | 3000 | | | | |
| Б, | # of Parts | Per Regrind | 0 | 0 | | | | |
| TOOL LIFE | Mill Chg. Time | (Seconds) | 1800 | 120 | | | | |
| 8 | Linear Distance Reason for Inde | | CHIPPING | 7,647 NORMAL WEAR | | | | |
| Ĕ | Tool Life Increase | | CHIPPING | 4445% | | | | |
| ~ | Annual Part Proc | | 150,00 | | 11378 | | | |
| ⊸ £ | Cycle Time | per part (sec) | 21,00 | | .90 | | | |
| ΕÀ | Cut Time | per part (sec) | 287.81 | | 3.02 | | | |
| OUTPUT & PRODUCTIVITY | Removal Rate | (mm3 /min) | 494.60 | 6182,51 | | | | |
| | Productivity Inc | Productivity Increase | | | 1150% | | | |
| | Annual Machine Time Savings (hours) | | | 11032.7 | | | | |
| | Burden Rate (hour) | | \$45.00 | Not Required | | Not | Required | |
| EVALUATION to the marest cent) | Cutter Cost | (nour) | \$12.00 | \$31,16 | | 14011 | equireu | |
| | RegrindCost | (For Grindable) | \$0.00 | \$0.00 | | | | |
| | Number of Regri | | 0 | 0 | | | | |
| | Tool Chng.Cost | | \$22.50 | \$1.50 | | | | |
| | Tooling Cost Per | Cost Per Mill Change | | | | | | |
| 5 2 | Est. Annual Mill Usage | | 2250 | 50 | | | | |
| ALUZ | Estimated Annual Mill Cost | | \$27,000.00 | \$1,558.00 | | | | |
| | | | \$ Per Part | \$ Per Part | Savings (Yr) | \$ Per Part | Savings (Yr) | |
| EVALUA d to the mores: | See Line Header | s → | | | | | | |
| , p | See Line Header Tooling Cost | | \$0.180 | \$0.010 | \$25,442 | i | | |
| , p | See Line Header Tooling Cost Tool Change Cost | t | \$0.180 \$0.341 | \$0.001 | \$51,061 | | | |
| COST EVALUA (rounded to the mearest | See Line Header Tooling Cost Tool Change Cos Cutting Time Cos | t | \$0.180 \$0.341 \$3.598 | \$0.001 \$0.288 | \$51,061 \$496,472 | | | |
| , p | See Line Header Tooling Cost Tool Change Cost Cutting Time Cost Other Cycle Tim | t st e Costs | \$0.180 \$0.341 \$3.598 -\$3.335 | \$0.001 \$0.288 -\$0.277 | \$51,061 \$496,472 (\$458,785) | | | |
| P | See Line Header Tooling Cost Tool Change Cos Cutting Time Cos | t st e Costs | \$0.180 \$0.341 \$3.598 | \$0.001 \$0.288 | \$51,061 \$496,472 | | Νο Ογρς | |

This test was a big improvement for end user as the current Indexable tool would only produce € 200 parts before chipping out. The MA Ford Tool will run 3000 pcs between tool changes. The numbers on this Report are more occurate in calculating the overall savings with the actual annual production adjusted to the correct poduction of 1/4" Lever ratchets produced. The other reports were skewed on Part production as the number of inserts used annually with a 200 pc. production rate per tool change had to be considered. Due to the chipping and Failure of the Competitor A tool this is a more accust report with the burden Rate as the actual insert usage is 66 per tool change for this production. 23,400.00 must be added for the special Competitor A tool body usage of 52 pcs. annually. Total savings 137,591.00

M.A. Ford Test Winners To Try:

239 Series Diamond Grd/Diamond Coated Router for Composites

278 Series 5 FL HP End Mill for Titanium, Inconel and similar materials

180 Series 7 FL HP End Mill for Titanium, Inconel, Nickel Alloys and similar materials

CDA Series HP Drill for Aluminum and similar materials **CXD Series** HP Drill for Titanium and similar materials

1/24/2020