



# Atrump Machinery

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## E320 5 Axis CNC Cylinder Head Machine

Complete turn key package with training included.



### E320 Machine Features:

- ✓ TRT-25-100 CENTROID Tilt table
- ✓ CENTROID M400 5 axis AC Servo CNC
- ✓ 10 Hp spindle motor w/ High/Low range
- ✓ Laser calibrated for accuracy
- ✓ C3 double nut precision ballscrews
- ✓ 4 box way on Y axis
- ✓ Hardened & Ground TurciteB guideway
- ✓ FC30 Meehanite Casting, stress relieved
- ✓ Coolant system w/ air blast
- ✓ Telescopic steel way covers
- ✓ Auto Central Lubrication system
- ✓ Quartz work light

### Turn Key Package Includes:

- ✓ 10 Days CNC porting training
- ✓ DP-4 Digitizing Touch Probe with Stylus
- ✓ TT-1 Auto Tool Length Setter
- ✓ MPG Electronic Handwheel
- ✓ Custom Cylinder Head fixture plate
- ✓ Special carbide lollipop cutter
- ✓ 2 CAT 40 Tool Holders

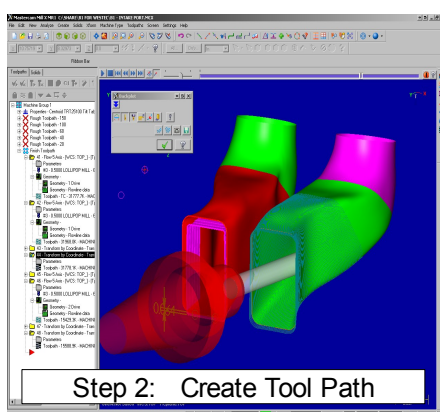
### Software Included:

- ✓ MasterCAM X\* w/ Multi-Axis & 1 yr maint.
- ✓ Intercon conversational programming
- ✓ Part program Graphics w/ G code backplot
- ✓ All standard M400 software options
- ✓ Digitizing and Probing cycles
- ✓ Automatic Tool Length measurement
- ✓ Compression tapping
- ✓ Work Coordinates Systems
- ✓ High Speed simultaneous multi axis processing
- ✓ Industry Standard G & M Codes

Copy hand shaped Intake/Exhaust ports & Combustion chambers and reproduce that exact shape on new castings. Digitize and machine cylinder heads in 5 axes. The patented design provides precise cylinder head positioning to within .001" repeatability. Full 360 degrees of rotation and 50 degrees of tilt allow you to get into all those hard to reach spaces. Complete package, everything you need to start making exact copies every time.



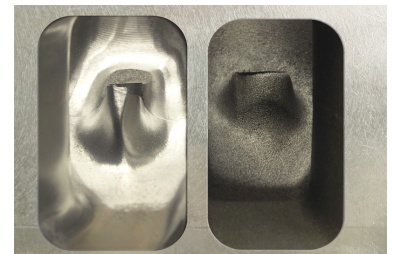
Step 1: Digitize



Step 2: Create Tool Path



Step 3: Port the Head



CNC Ported vs. Stock

<b>E320 Specifications:</b>	
Table size:	16" x 41" (405 x 1040mm)
Longitudinal travel (X axis):	33.9" (860mm)
Cross travel:	20" (510mm)
Vertical travel:	24" (610mm)
Spindle nose to table top (D):	37" (940mm)
Load capacity:	1500 lb (680 Kg)
Spindle taper:	CAT40
Spindle Speed (rpm):	6000 rpm
Transmission of spindle & motor:	Belts
Spindle center to column front surface:	21.7" (550 mm)
Rapid feed rates:	X/Y/Z: 530, 580, 430 IPM
<b>Spindle Motor:</b>	
Spindle motor/max torque:	10 HP/38 Ft-LB. (50 NM)
Feed motors on XYZ:	AC Brushless 1 Kw
Coolant pump:	1/8 HP/26 Gallon Capacity
Lubrication pump:	150 Watt
Power requirement:	14 KVA, 3 Phase 208-230VAC
Air requirement:	90-100 psi
Net Weight:	6,820 lbs. (3100 Kgs)
Footprint:	99"x85"x110"
<b>TRT-25100 Tilt Table:</b>	
Distance Between Centers	25" (635mm)
Maximum Tilt (B Axis)	+/- 25 Degrees (50)
Rotation (A Axis)	360 degrees
Minimum Indexing Unit	.0005 degrees
Maximum Rotation Speed	22 RPM
Motors	AC Brushless 750W
Tilt Accuracy at Extremes	.001" (.025mm)
Weight	600 lbs (273 Kg.)
Overall Dimension	28"x14"x48

Included Software

*MasterCam Version X2, with Multi Axis Verify, and 1<sup>st</sup> year Mastercam Maintenance*

Intercon Conversational featuring: Canned Cycles for Drilling, Boring, Tapping, Thread milling, Pocketing, Cutter Comp, Drilling Cycles, M0 Jogging, Digitizing, Probing, Automatic Tool Measure, Unlimited File Size, Work Coordinates, Sub Programs and Macros, Scaling and Mirroring, Mold Magic, Compression Tapping, and Coordinate System Rotation, Spindle S, G-Code Back Plot Graphics.

CNC Porting Training: Two weeks training total. One week training at CENTROID prior to the machine leaving CENTROID and one week training at customers site.

Warranty: Engineering and Software Support 1 Year Parts and Labor