

CERTIFICATE OF INSPECTION

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24R ROUTER

SERIAL NUMBER:

DATE OF MANUFACTURE:

MACHINERY CERTIFICATION

Title	Seal or Signature	Date
Inspection Director		
Inspector		
Tormach QA Representative		

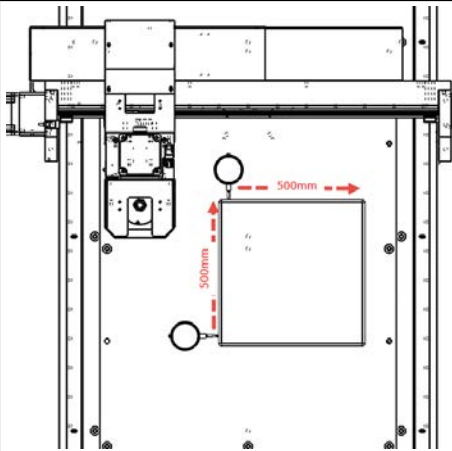
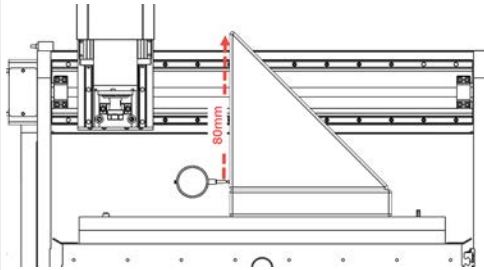
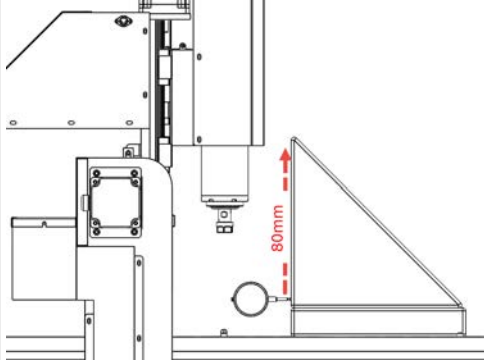
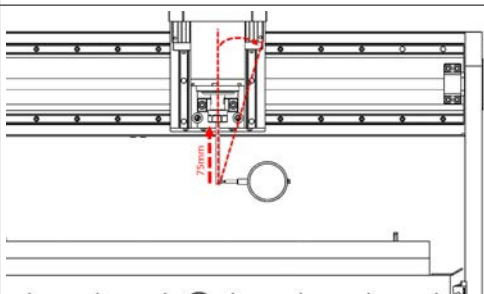
The above signatures certify this machine has passed all inspection requirements and is approved for delivery. See attached inspection documentation.

MADE IN CHINA

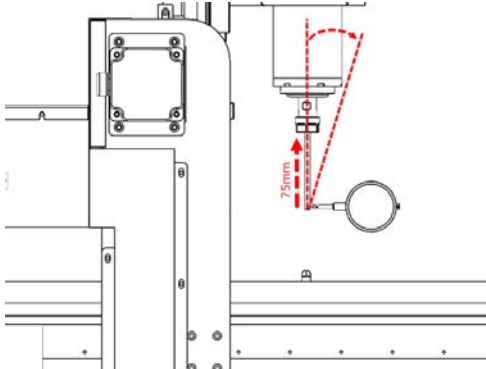


CERTIFICATE OF INSPECTION

QA 1: PRECISION INSPECTION

No.	Inspection Item		Tolerance (mm)	Actual (mm)
G1		Perpendicularity of X-Y motion.	$\pm 0.04/500$	
G2		Perpendicularity of Z motion with respect to the X-axis.	$\pm 0.01/80$	
G3		Perpendicularity of Z motion with respect to the Y-axis.	$\pm 0.01/80$	
G4		Spindle tram with respect to the X-axis.	$\pm 0.01/75$	

CERTIFICATE OF INSPECTION

No.	Inspection Item	Tolerance (mm)	Actual (mm)
G5	 Spindle tram with respect to the Y-axis.	± 0.01/75	

CERTIFICATE OF INSPECTION

QA 2: FUNCTION/APPEARANCE

No.	Test Name	Description	Completed
T1	Spindle Speed	Validate the minimum and maximum spindle speeds.	
T2	Spindle Direction	Verify that the spindle turns clockwise when commanded.	
T3	Spindle Motor Drive Program	After power cycling the variable frequency drive (VFD), verify the following settings: 1. 00.011 (Machine Name) is 24r 2. 00.012 (Parameter Version) is 2.05 3. 00.015 (Control Firmware Version) is 01.10.00 or greater 4. 00.016 (Power Firmware Version) is 01.10.00 or greater 5. 00.017 (User Program Version) is 2403	
T4	Chiller Alarm	Verify that the chiller alarm connector operates.	
T5	Accessory Input 1	Validate the functionality of Accessory Input 1.	
T6	Accessory Input 2	Validate the functionality of Accessory Input 2.	
T7	Accessory Power	Validate the voltage and polarity at XS25 accessory power outlets.	
T8	Controller Communications	Validate the operation of the controller communications port.	
T9	Emergency Stop and Reset Buttons	Validate the functionality of the Emergency Stop and Reset buttons.	
T10	X Limit Switch	1. Limit switch operates. 2. Limit switch reference position is set to 8 mm ± 2 mm clearance between the gantry and Z-axis.	
T11	Y Limit Switch	1. Limit switch operates. 2. Limit switch reference position is set to 5 mm ± 2 mm clearance between the ball nut carrier and casting.	
T12	Z Limit Switch	1. Limit switch operates. 2. Limit switch reference position is set to 64 mm ± 2 mm clearance between the Z carriage block and the Z motor mount.	
T13	Smooth Operation	X, Y, Z and spindle operate without unusual noise or vibration.	
T14	2-Hour Test	2-hour run test has been completed.	
T15	Safety Decals	Verify that the safety decals have been applied.	
T16	Information Decals	Verify that the information decals have been applied.	
T17	Branding Decals	Verify that the branding decals have been applied.	
T18	Linear Guide Block Lubrication	Verify that the linear guide blocks for the X-, Y-, and Z-axes have been lubricated.	
T19	Ball Nut Lubrication	Verify that the ball nuts for X, Y, and Z have been lubricated.	

CERTIFICATE OF INSPECTION

No.	Test Name	Description			Completed
T20	Dip Switch Settings	Validate the following DIP switch settings on the X-, Y-, and Z-axis drivers.			
		Switch	Position		
		1	On		
		2	Off		
		3	On		
		4	On		
		5	On		
		6	Off		
		7	On		
		8	On		
		9	Off		
		10	Off		
T21	Machine Fuses	Verify the installation of the following fuses.			
		XFM1 Transformer	F1	5A	
		Bus1 DC-Bus Board	F1	8A	
			F2	8A	
			F3	8A	
			F4	8A	
			F5	1A	
			F6	10A	
			F7	8A	
			F8	8A	
		ECM1 Control Board	F1	Empty	
			F2	Empty	
T22	Grounding Tests	From spindle ground to plug.			
T23	Linear Rail Rust Protection	Verify that the linear rails have been coated with grease before packaging.			

CERTIFICATE OF INSPECTION

QA 3: PACKING LIST

No.	Name	Quantity	PN
1	24R CNC Router	1	39300
2	Water Chiller	1	35161
3	27 mm – 30 mm Double Box End Wrench	1	50357
4	18 mm – 21 mm Double Box End Wrench	1	50358
5	Adjustable Wrench	1	50359
6	ER20 Collet – 1/4 in.	1	30120
7	Grease Gun	1	50360
8	Allen Wrench Set	1	50361
9	Cable, IEC320 Extension (IEC320 C13 - IEC320 C14), 10 ft, 14 AWG*	1	38893
10	Screw, Button Head Cap, Flanged, M5 × 0.8 - 25, S/S	4	38892
11	Nut, Hex, M5 × 0.8, Zinc Plated	4	31201

*14 AWG or 2.5 mm² wire gauge is acceptable.

These items are in the tool bag on the right side of the shipping pallet.