



Plasma Operations Checklists

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Plasma CNC Power-On

Step	Procedure	Remarks
1	CNC Plug and Play Controller: Set main power switch to "ON" position	CNC Controller Powered
2	CNC PC: Connected to CNC Controller (Ethernet)	
3	CNC PC: Mach4 software loaded with plasma cutting tool enabled	Use "Avid Machine Configuration" menu and "Machine Setup" tab.
4	Machine: Verify all E-Stop switches are unlocked	Twist handle to unlock a locked E-Stop switch
5	CNC PC: Click the green Enable button to clear emergency stop condition	If Emergency Stop condition persists, verify E-Stop switches and limit switches are not active
6	CNC PC: Check the TMC3in1 communications lights are Green	TMC3in1 Status are found on the Mach4 "Diagnostics" tab
7	CNC PC: Verify machine moves using the jog keys (arrow keys)	Be aware of machine position prior to jogging. Keyboard jog must be enabled.
8	Plasma Torch Power Supply: Verify compressed air line is connected and pressurized	Reference your plasma torch manual for air pressure and flow rate requirements
9	Plasma Torch Handle: If equipped with a torch lock, verify this is set to "ready-to-fire" position	Applies to Powermax 45XP machine torches. Note: Torch will need to be test fired once after switching from locked to ready-to-fire, to prime torch
10	Plasma Torch Power Supply: Set power switch to "ON"	Machine is now ready

Plasma CAM Checklist

Step	Procedure	Remarks
1	SheetCam: Create new or Open your plasma ".job" file	
2	SheetCam: Import vectors for this job as "new part"	Verify your new part is selected
3	SheetCam: Select the correct tool from the tools list for your material type and thickness	Avid CNC provides tool tables for your specific Hypertherm torch model
4	SheetCam: Create new "Plasma Cut" operation	Operation > Plasma cut
5	SheetCam: Choose Contour Method	Outside offset is typical for jobs with a mix of closed/open profiles
6	SheetCam: Select the layer that contains the vectors you want to cut	
7	SheetCam: Configure lead-in and lead-out settings	Edit individual start points which do not conform to global lead-in/lead-out requirements
8	SheetCam: Press OK and verify cutting preview shows a clockwise motion around your outer part profiles	Enable Cut Reverse Direction if cutting preview needs to be reversed
9	SheetCam: Run the Post Processor and create your GCode file	Ensure you use the AvidCNC Mach4 post processor

For information about the Avid CNC SheetCam tool tables and post processor, refer to the SheetCam Software Setup Guide: <https://www.avidcnc.com/support/instructions/software/sheetcamSoftwareSetup>

Normal Plasma Operations

Step	Procedure	Remarks
1	Machine: Load material onto water table and attach grounding clamp	Ensure grounding clamp is directly attached to your material and has a solid connection with bare/exposed metal
2	Plasma Power Supply: Verify cutting amperage setting	This will match the amperage of you tool from SheetCam
3	CNC PC: Verify THC (Torch Height Control) is enabled	Torch Height Control toggle button on Mach4 screen
4	CNC PC: Load program (G-Code) using "Load G Code" button	
5	Torch Mount: Verify torch mount is fully engaged with magnetic alignment features in base plate	
6	CNC PC: Zero X & Y on the front left corner of where you want your job to start	
7	CNC PC: Zero Z with torch approximately 0.25" above work surface	
8	CNC PC: Press Cycle Start button to begin cutting program	Note: Wear appropriate eye protection. See your torch manual for proper shade level