

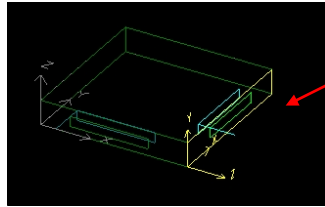
C Axis - Basics

When to use: Anderson CNC Routers have an option of a rotary C Axis. This axis utilizes a Servo motor and gearbox to rotate Tooling aggregates to a programmable position. The purpose of this axis to rout, bore, angle bore and swath rout materials in the horizontal work plane.

3 Types of C Axis Machining :

There are three types of C Axis CNC machining. All three methods require different drawing and tool pathing strategies. It is critical to have a firm understand of these differences.

Cardinal Face Machining

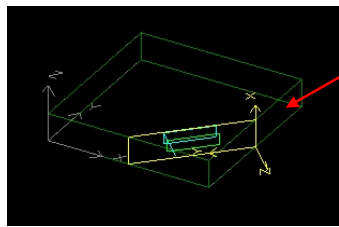


See Drawing Procedure for Cardinal Faces. Machining is done on cardinal faces. Square faces 0, 90, 180, and 270.

Uses: Doors, pocket mortises, tendon shapes etc.

Difficulty: Basic
[AlphaCam Advanced](#)

Work plane Machining

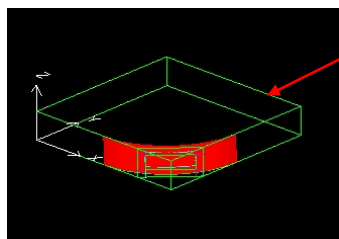


See Drawing Procedure for Work planes. Machining done on angles and tilted angles. Example 45 Degree tilted back 10 Degrees

Uses: Furniture, special joinery etc.

Difficulty: More Advanced Training
[AlphaCam 3D Advanced](#)

Horizontal Surface Machining



See Drawing Procedure for Horizontal Surfacing. Machining projected surface.

Uses: Special joints, side engraving, special side machining.

Difficulty: Very Advance Training
[AlphaCam 3D Advanced 5 Axis](#)

What do I need to know to use a C Axis :

You need to be familiar with several items, as well as make sure that several items are set within the software.

1. You will need a good drawing of the aggregate that shows the size, pivot position, gauge length and other critical operational data about the aggregate (Max. rpm, duty cycle, max. tool size, etc.).
2. You need to make sure to make a firm determination concerning orientation and starting position of the aggregate in relationship to the X and Y axis. Aggregates have reference pins that can be rotated to set the orientation.
3. You need to know the differences between Cardinal face, Work plane machining and Surface machining.
4. You will need to make sure our software supports C Axis functionality. Some software can only machine cardinal faces, while others require additional plug ins to machine multiple work planes and to perform horizontal surface machining.
5. You will need to have a firm understanding of work planes for cardinal and angled face machining, and surface machining.
6. You will need to **make sure that your post processor source code is configured to translate C Axis commands.** Older post processors can require significant modification and testing from the software supplier or machine OEM. (Cost \$500-\$1500). In fact some older software versions do not support C Axis functionality and will need to be upgraded entirely.
7. Finally, check the actual rotation of the Servo, by jogging the C Axis. Standard rotation is clock-wise.