Auto-Carve Sample Jobs

Sample Jobs

The exercises below take you through seven sample jobs, each demonstrating a specific Auto-Carve feature. The sample job files were placed in the JOBS directory when you loaded the Auto-Carve option. You will need the materials included with the Auto-Carve kit to complete the first five sample jobs.
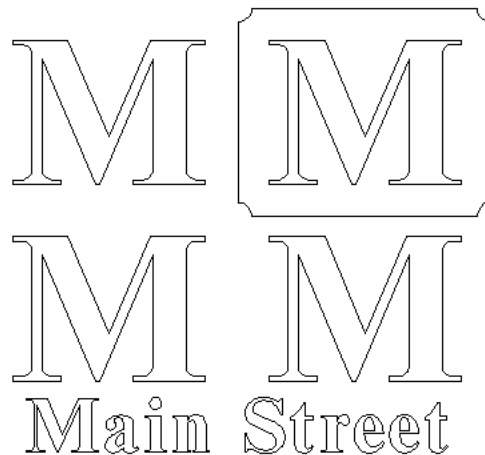
You must provide your own material to complete the sample jobs that cover the Prismatic tool path (samples 6 and 7). Gerber recommends using pressboard that is at least 12" x 12" and 3/4" thick.

Note: Feed and plunge rates are given in inches per minute (millimeters per second).

Exercise 1: Basic Auto-Carve

This first exercise covers basic Auto-Carve principles in creating a 3-D sign. It generates the design in a single pass, using a V-tool to create the pointed bottom and beveled edges.

1 Open the ART Path program.

2 From the JOBS\RTP directory open MAIN_ST.PLT. The following file opens.

3 Select only the text *Main Street*.

4 From the Tool Paths menu, choose Auto-Carve 3D or select the Auto-Carve icon from the tool bar. The Default Carve Info dialog box opens.

5 Choose the V-Bottom tab.

6 Set the following parameters:

Climb Milling	Off
Max Allowable Depth	0.7

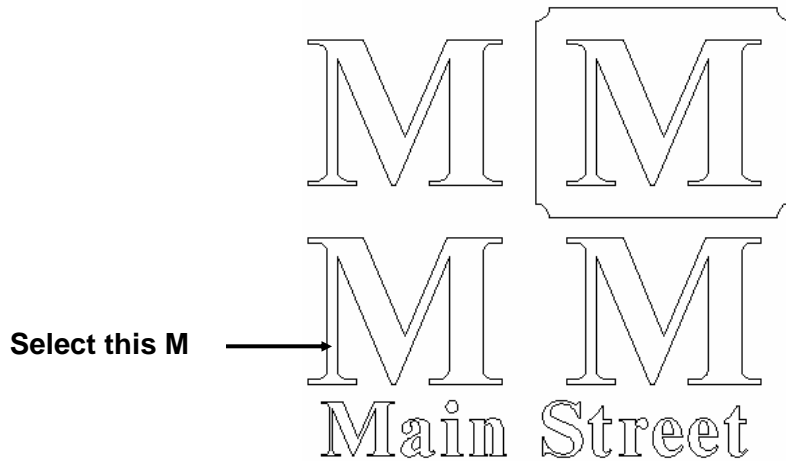|	
Max Depth Per Pass	0.361
Feed Rate	42
Plunge Rate	15
RPM	19,500
Tool	1.25 diameter, 120°

7 Choose Generate. The tool path is generated.

8 Make sure that the start position is in the lower left corner, and then output the design to the router.

9 Mask the face of the 12" x12" piece of fiberboard with GerberMask II. Both materials are included with your Auto-Carve option kit.

10 Place the 12" x 12" piece of material on the router and secure it using one or more of the following: double-sided tape, T-slot clamps, a vacuum table.

11 Insert the 120° V tool in the router.

12 Initialize the tool.

13 Slew the router to the lower left corner of the material and begin routing. When through, the design will have beveled edges and a pointed bottom, just like a hand-carved design. Leave the material and tool in the router and go on to the job described in Exercise 2.

Exercise 2: V-Tool Usage

This second exercise shows how the V-tool is used to remove excess material and generate a 3-D design in multiple passes.
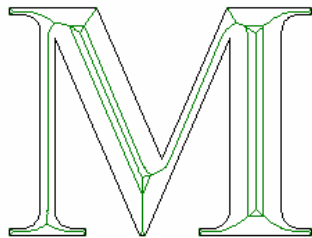
1 Smart Edit and delete the tool path on Main Street.

2 Select the middle left M.

Select this M ⟶

3   From the Tool paths menu, choose Auto-Carve 3D or select the Auto-Carve icon from the tool bar. The Default Carve Info dialog box opens.

4   Select the V-Bottom tab.

5   Set the following parameters:

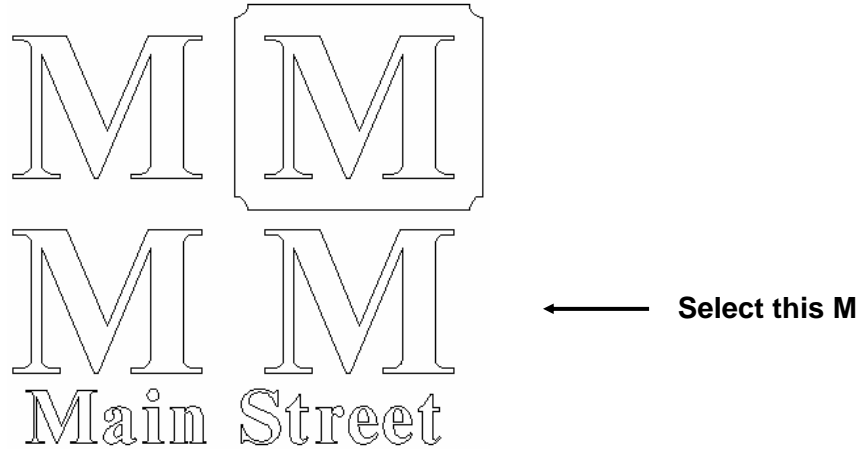|	
Climb Milling	Off
Max Allowable Depth	0.7
Max Depth Per Pass	0.180
Feed Rate	42
Plunge Rate	15
RPM	19,500
Tool	1.25 diameter, 120°

6   Choose Generate. The tool path is generated.

7   Start at the same start position as in the previous job (using Return Home, if necessary) and output the design to the router.

8   Since the material is loaded and the tool is already initialized, start the router and rout the job. When finished, leave the material and tool in the router and go on to the job described in Exercise 3.

Exercise 3: Roughing Tool

This third exercise shows how a roughing tool can be used to remove excess material. The roughing tool is used first, and a tool change is necessary for the V-tool to create the 3-D design.

1 Smart Edit and delete the tool path on the M.

2 Select the M on the right side.

← Select this M

3 Select Auto-Carve 3D from the Tool paths menu. The Default Carve Info dialog box opens.

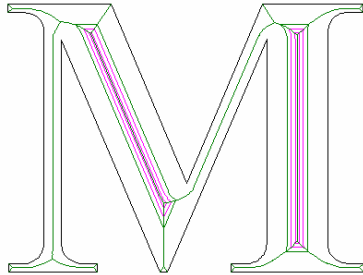**4** Select the V-Bottom tab.

5 Set the following parameters:

Climb Milling	Off
Max Allowable Depth	0.7
Max Depth Per Pass	0.180
Feed Rate	42
Plunge Rate	15
RPM	19,500
Tool	1.25 diameter, 120°

6 Click on the Roughing Tool check box. Set the RPM to 19,500.

7 Click on the Tool Parameters button. The Current Roughing Tool Information dialog box opens.

8 Set the following roughing tool parameters:

Roughing Tool	1/8" carbide
Contour	On
Feed Rate	42

Plunge Rate	15

9 Choose Continue.

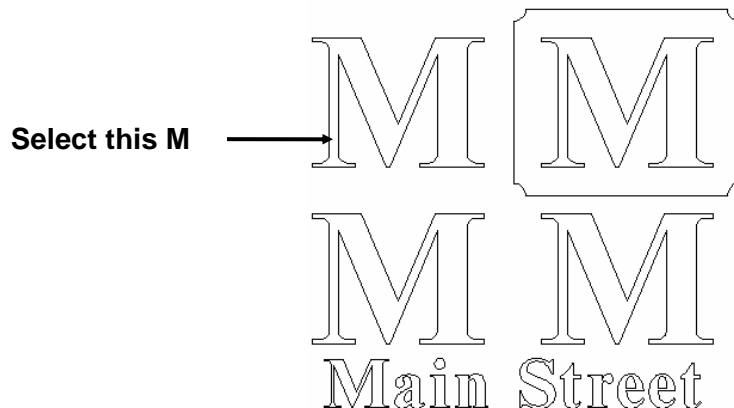**10** Choose Generate. The tool path is generated.

11 Start at the same start position as in the previous job (using Return Home, if necessary) and output the design to the router.

12 Remove the V-tool. The roughing tool is used first.

13 Insert the 1/8" carbide tool in the router.

14 Initialize the tool using the tool height gage.

15 Begin routing the design. Notice that the roughing tool cleans out excess material.

16 When prompted, insert the 120° V-tool in the router.

17 Initialize the tool using the tool height gage.

18 Press Start to resume routing the job. Leave the material and tool in the router and go on to the job described in Exercise 4.

Exercise 4: Flat Bottom Tool

This fourth exercise shows how a flat bottom tool can be used to create a flat bottom in a design. The flat bottom tool is used first, and a tool change is necessary for the V-tool to create the beveled edges.

1 Smart Edit and delete the tool path on the right M.

2 Select the M on the top left of the design.

Select this M →

3 Select Auto-Carve 3D from the Tool paths menu. The Default Carve Info dialog box opens.

4 Select the Flat Bottom tab.

5 Set the following parameters:

Climb Milling	Off
Max Allowable Depth	.180
Max Depth Per Pass	.180
Feed Rate	42
Plunge Rate	15
RPM	19,500 (both buttons)
Tool	1.25 diameter, 120°

6 Click on the Tool Parameters button. The Current Flat Bottom Tool Information dialog box opens.

7 Set the following Flat Bottom parameters:

Flat Bottom Tool	1/8" carbide
Contour	On
Feed Rate	42
Plunge Rate	15

8 Choose Continue.
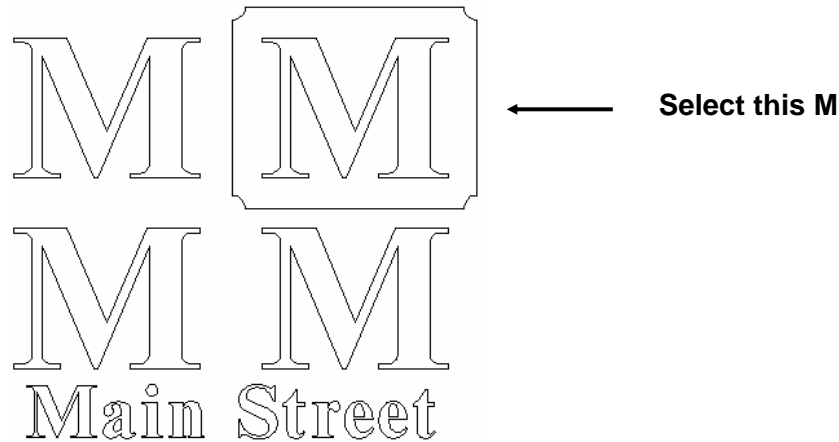
9 Choose Generate. The tool path is generated.

10 Start at the same start position as in the previous job (using Return Home, if necessary) and output the design to the router.

11 Remove the V-tool from the collet.

12 Insert the 1/8" carbide tool in the router.

13 Initialize the tool using the clear tool height gage.

14 Begin routing the design. Notice that the flat bottom tool cleans out excess material and creates a flat bottom.

15 When prompted, insert the 120° V-tool in the router.

16 Initialize the tool using the clear tool height gage.

17 Press Start to resume routing the job. Leave the material and tool in the router and go on to the job described in Exercise 5.

Exercise 5: Beveled Edges

This fifth exercise shows how a flat bottom tool path can be used to create a unique flat bottom background to give the character a raised effect. The flat bottom tool is used first, and a tool change is necessary for the V-tool to create the beveled edges and raised character.

1 Smart Edit and delete the tool path on the top left M.

2 Select the M and its border on the top right of the design.

← **Select this M**

3 Select Auto-Carve 3D from the Tool Paths menu. The Default Carve Info dialog box opens.

4 Select the Flat Bottom tab.

5 Set the following parameters:

Climb Milling	Off
Max Allowable Depth	0.125
Max Depth Per Pass	0.125
Feed Rate	42
Plunge Rate	15
RPM	19,500 (both buttons)
Tool	1.25 diameter, 120°

6 Click on the Tool Parameters button. The Current Flat Bottom Tool Information dialog box opens.

7 Set the following Flat Bottom parameters:
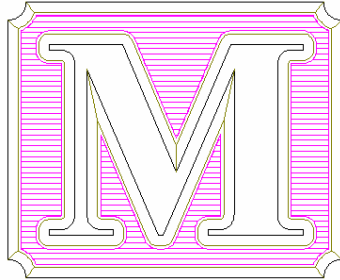
Flat Bottom Tool	1/8" carbide
Linear	On

Angle	0.00
Feed Rate	42
Plunge Rate	15

8 Choose Continue.

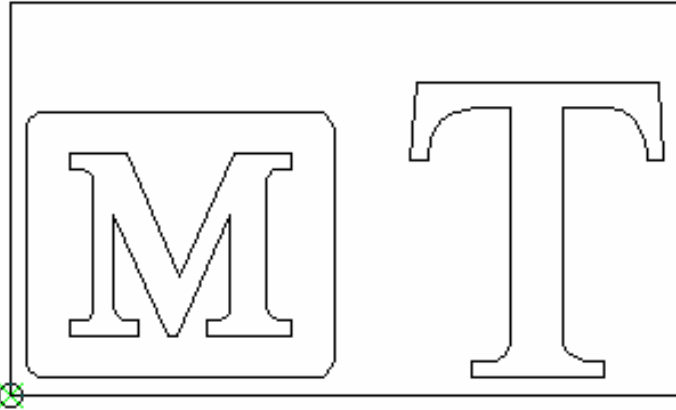**9** Choose Generate. The tool path is generated.

10 Start at the same start position as in the previous job (using Return Home, if necessary) and output the design to the router.

11 Remove the V-tool from the collet.

12 Insert the 1/8" carbide tool in the router.

13 Initialize the tool using the clear tool height gage.

14 Begin routing the design. Notice that the flat bottom tool cleans out excess material and creates a flat bottom between the border and the letter M.

15 When prompted, insert the 120° V-tool in the router.

16 Initialize the tool using the clear tool height gage.

17 Press Start to resume routing the job. When the router finishes, you will have completed the five sample jobs associated with the Auto-Carve tool path selection. The next two exercises show you how to use the Prismatic option with a cleanout pass and a male tool path.

Exercise 6: Prismatic Cleanout

This exercise covers basic Auto-Carve principles in creating a 3-D sign using a Prismatic tool path combined with a cleanout tool path. The V-tool creates the raised effect and a tool change is necessary to perform the cleanout pass.

1 Open the ART Path program (if not already open).

2 From the JOBS\RTP directory open PRISM_TP.PLT. The following file opens.

3 Select the M.

4 From the Tool Paths menu, choose Prismatic or select the Prismatic icon from the tool bar. Auto-Carve analyzes the shape. When it is through, the Default Prismatic Info dialog box opens.

5 Set the following parameters:

Climb Milling	Off
Max Allowable Depth	.375
Max Depth Per Pass	.200
Feed Rate	35
Plunge Rate	18
RPM	19,500
Tool	1.25 diameter, 120°
Return Height	.110

6 Choose Generate. The prismatic tool path is generated.

7 Select the M and the box around the M.

8 From the ToolPaths menu, choose Cleanout or select the Cleanout icon from the tool bar. The Default Cleanout Info dialog box opens.

9 Set the following parameters:

Templates	none
Auto-Inlay	off
Direction	Horizontal
Use Diagonals	off
Tool	0.125m 1/8" carbide

Total Depth	0.375
Depth Per Pass	0.188
Feed Rate	35
Plunge Rate	18
RPM	19,500

10 Choose Generate. The cleanout tool path is generated. Both tool paths look like the one below.

11 Make sure that the start position is in the lower left corner, and then output the design to the router.

12 If you want to mask the face of the material, do so now. This mask is not included with your kit.

13 Place the 12" x 12" piece of material on the router and secure it using one or more of the following: double-sided tape, T-slot clamps, a vacuum table.

14 Insert the 120° V-tool in the router.

15 Initialize the tool.

16 Slew the router to the lower left corner of the material and begin routing.

17 When the tool path is complete, remove the V-tool from the collet.

18 Insert the 1/8" carbide tool in the router.

19 Initialize the tool using the clear tool height gage.

20 Begin routing the cleanout pass. When it is complete, you have a raised letter effect similar to the picture below.

Leave the material in the router and go on to Exercise 7.

Exercise 7: Prismatic Male Cut

This exercise covers basic Auto-Carve principles in creating a 3-D sign using a Prismatic tool path combined with a male tool path. The V-tool creates the raised effect and a tool change is necessary to perform the cleanout pass.

1 Smart Edit and delete the tool path on the M.

2 Select the T.

3 From the Tool Paths menu, choose Prismatic or select the Prismatic icon from the tool bar. Auto-Carve analyzes the shape. When it is through, the Default Prismatic Info dialog box opens.
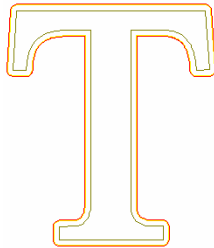
4 Set the following parameters:

Climb Milling	Off
Max Allowable Depth	0.750
Max Depth Per Pass	0.187
Feed Rate	35
Plunge Rate	18
RPM	19,500
Tool	1.25 diameter, 120°
Return Height	0.375

5 Choose Generate. The prismatic tool path is generated.

6 Select the T again.

7 From the Tool Paths menu, choose Male or select the Male icon from the tool bar. The Default Male Info dialog box opens.

8 Set the following parameters:

Templates	none
Climb Milling	off
Lead In/Out	on
Tool	0.250, 1/4" carbide
Total Depth	.750
Depth Per Pass	.750
Feed Rate	35
Plunge Rate	18
Finish Cut	on

Tool	0.250,1/4" carbide
Web Amount	.250
Finish Amount	.015
Feed Rate	35
Plunge Rate	18
Auto-Inlay	off
RPM	19,500

9 Choose Generate. The male tool path is generated. Both tool paths look like the one below.

10 Make sure that the start position is in the lower left corner, and then output the design to the router.

11 If you want to mask the face of the material, do so now. This mask is not included with your kit.

12 Place the 12" x 12" piece of material on the router and secure it using one or more of the following: double-sided tape, T-slot clamps, a vacuum table.

13 Insert the 120° V-tool in the router.

14 Initialize the tool.

15 Slew the router to the lower left corner of the material and begin routing.

16 When the tool path is complete, remove the V-tool from the collet.

17 Insert the 1/4" carbide tool in the router.

18 Initialize the tool using the clear tool height gage.

19 Begin routing the male pass. When it is complete, you have a male letter T with a Prismatic tool path that looks similar to the picture below.