

SETUP & OPERATION MANUAL

FEATURES

- Easy start-up procedure and unrivalled technical support.
Large user-friendly control panel with LCD display, keypad and USB 2.0 port for easy file transfers.
- Pendant style hand-held operating controller.
- Easy to learn *i-Picture* programming software.
- Low backlash stepper motors for excellent performance and low maintenance.
- Smooth and accurate ball screw transmission on all axis.
- Positional accuracy up to 0.001 inches.
- Variable cutting speeds up to 118 inches per minute.
- 500 watt spindle included with automatic spindle on/off control.
- Aluminum table with integrated hold down clamps.
- Tool kit with starter cutting tools included.
- Controller included, no external operating PC required.

SPECIFICATIONS

X AXIS CUTTING CAPACITY

15" (381 MM)

Y AXIS CUTTING CAPACITY

20" (508 MM)

Z AXIS CUTTING CAPACITY

4" (102 MM)

POSITIONAL ACCURACY

0.001"

OVERALL DIMENSIONS (W X L X H)

33" X 43" X 27" (838 X 1092 X 686 MM)

SPINDLE SPEED

21 000 RPM

SPINDLE

500 WATT SPINDLE WITH BRUSHLESS MOTOR

MOTOR TYPE

LOW BACKLASH STEPPER MOTOR

BEARING TYPE

ALUMINUM BLOCK WITH REPLACEABLE NYLON SLEEVES

TABLE SURFACE

ALUMINUM

PROGRAMMING SOFTWARE

i-Picture (included)

CUTTING SPEEDS

VARIABLE - UP TO 118 INCHES PER MINUTES

POWER REQUIREMENT

110 V, 6 A

COLLETS

1/4" (6 MM)

WARRANTY

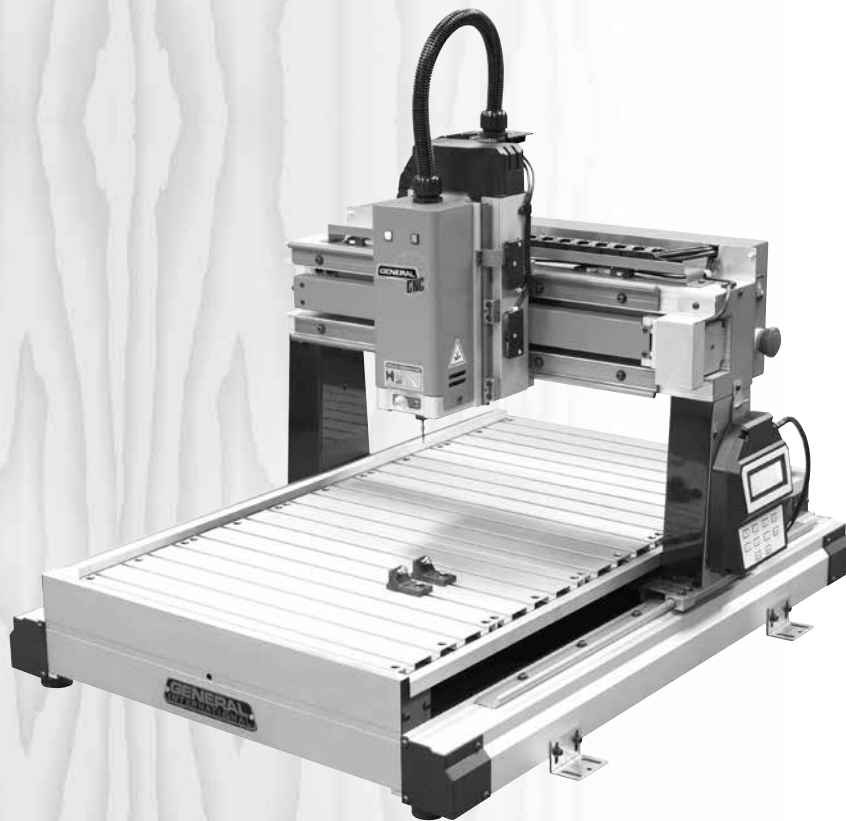
2 YEAR LIMITED

WEIGHT

126 LBS (57 KG)



15" x 20" CNC CARVING MACHINE



MODEL

i-Carver

#40-915X





GENERAL® INTERNATIONAL

8360 Champ-d'Eau, Montreal (Quebec) Canada H1P 1Y3
Telephone (514) 326-1161 • Fax (514) 326-5555 • www.general.ca

THANK YOU for choosing this General® International model i-Carver 40-915X. This 15" x 20" CNC carving machine has been carefully tested and inspected before shipment and if properly used and maintained, will provide you with years of reliable service. For your safety, as well as to ensure optimum performance and trouble-free operation, and to get the most from your investment, please take the time to read this manual before assembling, installing and operating the unit.

The manual's purpose is to familiarize you with the safe operation, basic function, and features of this CNC carving machine as well as the set-up, maintenance and identification of its parts and components. This manual is not intended as a substitute for formal woodworking instruction, nor to offer the user instruction in the craft of woodworking. If you are not sure about the safety of performing a certain operation or procedure, do not proceed until you can confirm, from knowledgeable and qualified sources, that it is safe to do so.

Once you've read through these instructions, keep this manual handy for future reference.

Disclaimer: The information and specifications in this manual pertain to the unit as it was supplied from the factory at the time of printing. Because we are committed to making constant improvements, General® International reserves the right to make changes to components, parts or features of this unit as deemed necessary, without prior notice and without obligation to install any such changes on previously delivered units. Reasonable care is taken at the factory to ensure that the specifications and information in this manual corresponds with that of the unit with which it was

supplied. However, special orders and "after factory" modifications may render some or all information in this manual inapplicable to your machine. Further, as several generations of this model of CNC carving machine and several versions of this manual may be in circulation, if you own an earlier or later version of this unit, this manual may not depict your machine exactly. If you have any doubts or questions contact your retailer or our support line with the model and serial number of your unit for clarification.

GENERAL® & GENERAL® INTERNATIONAL WARRANTY

All component parts of General International, General CNC and Excalibur by General International products are carefully inspected during all stages of production and each unit is thoroughly inspected upon completion of assembly.

Standard 2-Year Limited Warranty

Because of our commitment to quality and customer satisfaction, General International agrees to repair or replace any part or component which upon examination, proves to be defective in either workmanship or material to the original purchaser for a period of 2 years (24 months) from the date of purchase, subject to the "conditions and exceptions" as listed below.

To file a Claim

To file a claim under our Standard 2-year Limited Warranty, all defective parts, components or machinery must be returned freight or postage prepaid to General International or to a nearby distributor, repair center or other location designated by General International. For further details call our CNC technical support department at 1-877-340-8989 or submit a Technical Support Ticket Request at http://generalcnc.ca/support_request.

Along with the return of the product being claimed for warranty, a copy of the original proof of purchase and a "letter of claim" must be included (a warranty claim form can also be used and can be obtained, upon request, from General International or an authorized distributor) clearly stating the model and serial number of the unit (if applicable) and including an explanation of the complaint or presumed defect in material or workmanship.

CONDITIONS AND EXCEPTIONS:

This coverage is extended to the original purchaser only. Prior warranty registration is not required but documented proof of purchase i.e. a copy of original sales invoice or receipt showing the date and location of the purchase as well as the purchase price paid, must be provided at the time of claim.

Warranty does not include failures, breakage or defects deemed after inspection by General® International to have been directly or indirectly caused by or resulting from; improper use, or lack of or improper maintenance, misuse or abuse, negligence, accidents, damage in handling or transport, or normal wear and tear of any generally considered consumable parts or components.

Repairs made without the written consent of General® International will void all warranty.

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RULES FOR SAFE OPERATION

To help ensure safe operation, please take a moment to learn the machine's applications and limitations, as well as potential hazards. General® International disclaims any real or implied warranty and holds itself harmless for any injury that may result from improper use of its equipment.

1. Be sure to read and understand owner's manual before operating.
2. Do not operate the CNC carving machine when tired, distracted, or under the effects of drugs, alcohol or any medication that impairs reflexes or alertness.
3. The working area should be well lit, clean and free of debris.
4. Keep children and visitors at a safe distance when the i-Carver is in operation; do not permit them to operate the i-Carver.
5. Childproof and tamper proof your shop and all machinery with locks, master electrical switches and switch keys, to prevent unauthorized or unsupervised use.
6. **Stay alert!** Give your work your undivided attention. Even a momentary distraction can lead to serious injury.
7. Fine particulate dust is a carcinogen that can be hazardous to health. Work in a well-ventilated area and whenever possible use a dust collector and wear eye, ear and respiratory protection devices.
8. Do not wear loose clothing, gloves, bracelets, necklaces or other jewelry while the CNC carving machine is in operation. Wear protective hair covering to contain long hair and wear non-slip footwear.
9. Be sure that adjusting wrenches, tools, drinks and other clutter are removed from the machine before operating.
10. Keep hands well away from the spindle, cutting tools, and all moving parts. Use a brush, not hands, to clear away chips and dust.
11. Before turning on the CNC carving machine, make sure the workpiece is properly secured.
12. Use of parts and accessories NOT recommended by GENERAL® INTERNATIONAL may result in equipment malfunction or risk of injury.
13. Never stand on machinery. Serious injury could result if the tool is tipped over.
14. Always disconnect the tool from the power source before servicing, changing accessories, performing any maintenance or cleaning, or if the machine will be left unattended.
15. Make sure that switch is in the "OFF" position before plugging in the power cord.
16. Make sure the tool is properly grounded. If equipped with a 3-prong plug it should be used with a three-pole receptacle. Never remove the third prong.
17. Do not use this CNC carving machine for any purpose other than its intended use. If used for other purposes, GENERAL® INTERNATIONAL disclaims any real or implied warranty and holds itself harmless for any injury, which may result from that use.
18. To reduce the risk of electric shock, do not operate the machine with wet hands.
19. Be sure to read and understand every warning label before operating the machine. Make sure all warning labels appear on the machine as indicated in section "Labels" on next page and that they are fully legible. Immediately replace any illegible or missing label before using the machine.
20. Respect the rated limits of this machine.
21. To ensure safety, all maintenance should be performed by a qualified technician.
22. To avoid electrical shock, do not touch the transformers, motors or control box when the power is on.
23. Make sure to always have full unimpeded access to the emergency stop button at all times.
24. To ensure safety, do not tamper with the safety cover, limit switch or any other accessories.
25. Be sure to keep a record before changing any setting on the machine.
26. Place the unit on a sturdy surface, in a dry area.
27. Avoid exposing the machine to extremely high temperatures.
28. Unplug the unit from the power source before replacing fuses. Use only recommended fuses.
29. Be sure to turn off the machine when the power source is unstable.



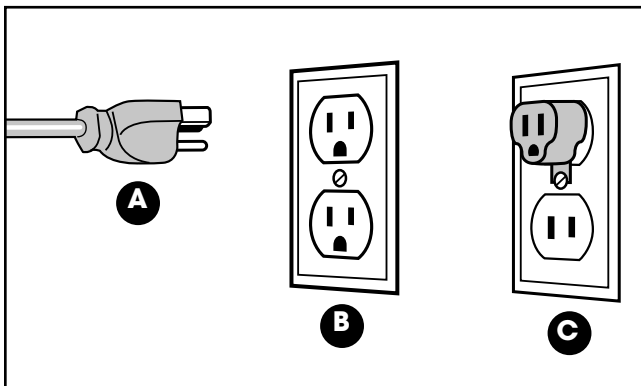
ELECTRICAL REQUIREMENTS



BEFORE CONNECTING THE MACHINE TO THE POWER SOURCE, VERIFY THAT THE VOLTAGE OF YOUR POWER SUPPLY CORRESPONDS WITH THE VOLTAGE SPECIFIED ON THE MOTOR I.D. NAMEPLATE. A POWER SOURCE WITH GREATER VOLTAGE THAN NEEDED CAN RESULT IN SERIOUS INJURY TO THE USER AS WELL AS DAMAGE TO THE MACHINE. IF IN DOUBT, CONTACT A QUALIFIED ELECTRICIAN BEFORE CONNECTING TO THE POWER SOURCE.

THIS TOOL IS FOR INDOOR USE ONLY. DO NOT EXPOSE TO RAIN OR USE IN WET OR DAMP LOCATIONS.

GROUNDING INSTRUCTIONS



In the event of an electrical malfunction or short circuit, grounding reduces the risk of electric shock. The motor of this machine is wired for 110V single phase operation and is equipped with a 3-conductor cord and a 3-prong grounding plug **A** to fit a grounded type receptacle **B**. Do not remove the 3rd prong (grounding pin) to make it fit into an old 2-hole wall socket or extension cord. If an adaptor plug is used **C**, it must be attached to the metal screw of the receptacle.

Note: The use of an adaptor plug is illegal in some areas. Check your local codes. If you have any doubts or if the supplied plug does not correspond to your electrical outlet, consult a qualified electrician before proceeding.

CIRCUIT CAPACITY

Make sure that the wires in your circuit are capable of handling the amperage draw from your machine, as well as any other machines that could be operating on the same circuit. If you are unsure, consult a qualified electrician. If the circuit breaker trips or the fuse blows regularly, your machine may be operating on a circuit that is close to its amperage draw capacity. However, if an unusual amperage draw does not exist and a power failure still occurs, contact a qualified technician or our service department.

EXTENSION CORDS

If you find it necessary to use an extension cord with your machine, use only 3-wire extension cords that have 3-prong grounding plug and a matching 3-pole receptacle that accepts the tool's plug. Repair or replace a damaged extension cord or plug immediately.

Make sure the cord rating is suitable for the amperage listed on the motor I.D. plate. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. In some cases this may cause the machine to stop its cutting operation and an error message will appear on your controller.

The accompanying chart shows the correct size extension cord to be used based on cord length and motor I.D. plate amp rating. If in doubt, use the next heavier gauge. The smaller the number, the heavier the gauge.

TABLE - MINIMUM GAUGE FOR CORD

AMPERE RATING	TOTAL LENGTH OF CORD IN FEET				
	110 VOLTS	50 FEET	100 FEET	200 FEET	300 FEET
	AWG				
< 5	----->	18	16	16	14
6 TO 10	----->	18	16	14	12
10 TO 12	----->	16	16	14	12
12 TO 16	----->	14	12	* NR	* NR

* NR = Not Recommended



15" x 20" CNC CARVING MACHINE

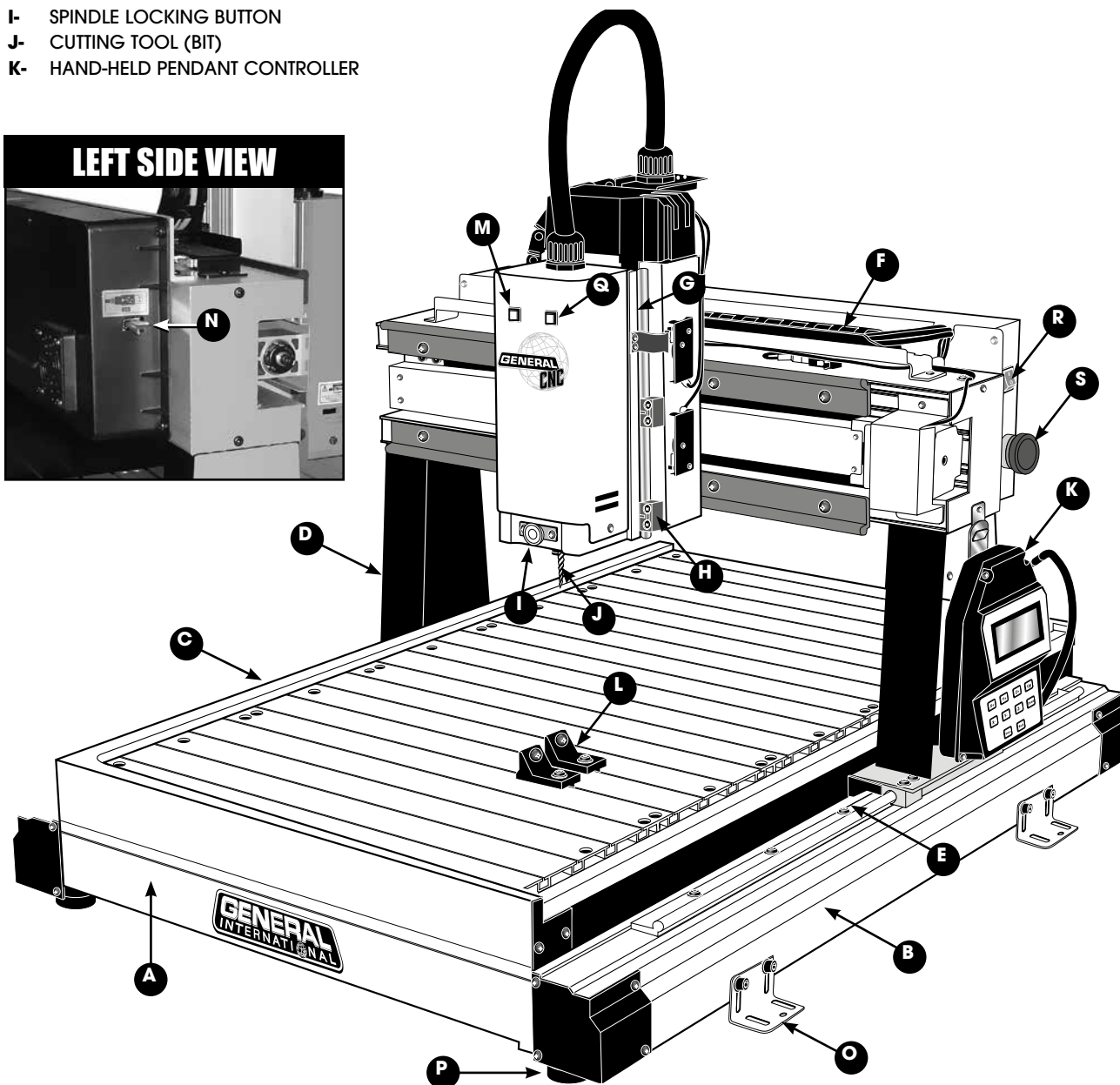
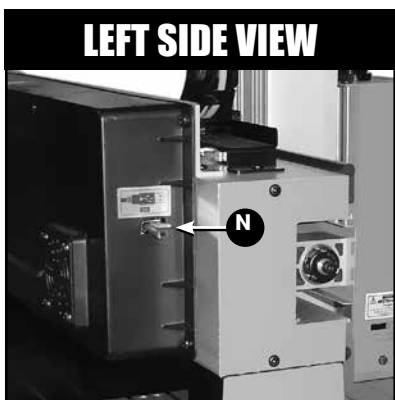
MODEL i-Carver 40-915X

IDENTIFICATION OF MAIN PARTS AND COMPONENTS

MAIN ASSEMBLY - FRONT VIEW

- A- FRAME
- B- SIDE RAIL
- C- WORK TABLE
- D- GANTRY
- E- Y AXIS SYSTEM
- F- CABLE CHAIN
- G- Z AXIS SYSTEM
- H- SLIDE BLOCK
- I- SPINDLE LOCKING BUTTON
- J- CUTTING TOOL (BIT)
- K- HAND-HELD PENDANT CONTROLLER

- L- WORKPIECE CLAMPS
- M- STATUS LIGHT
- N- USB PORT
- O- SECURING BRACKETS
- P- LEVELING FEET
- Q- SYSTEM ERROR WARNING LIGHT
- R- POWER ON/OFF SWITCH
- S- STOP BUTTON



UNPACKING AND PREPARATION FOR SET-UP & INSTALLATION

SAFETY



THE MACHINE IS HEAVY (126 LBS - 57 KG). DO NOT OVEREXERT. ARRANGE TO HAVE HELP NEARBY AND READY FOR UNPACKING AND SET UP.

THE SOUND LEVEL OF THIS MACHINE IS RATED AT APPROXIMATELY 85-95 DB DURING OPERATION. MAKE SURE THAT ADEQUATE HEARING PROTECTION IS USED AND THAT THE OVERALL SOUND LEVEL WITHIN THE WORKING ENVIRONMENT IS TAKEN INTO CONSIDERATION.

UNPACKING

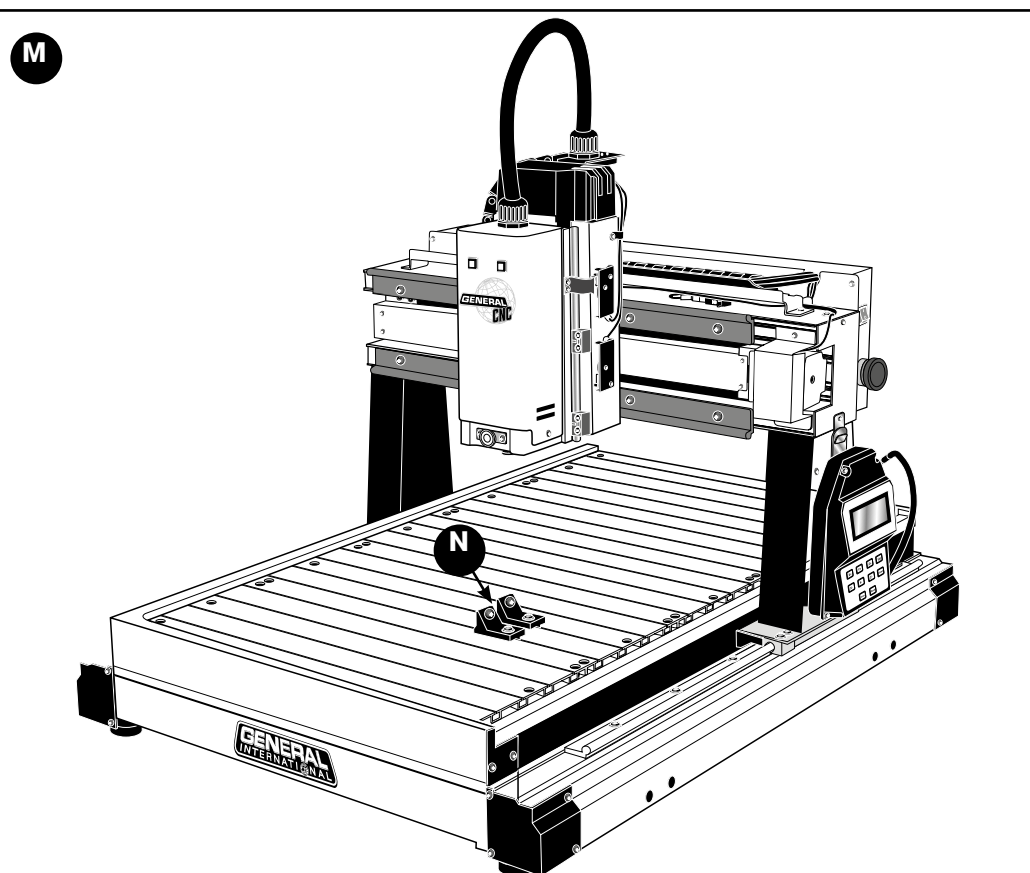
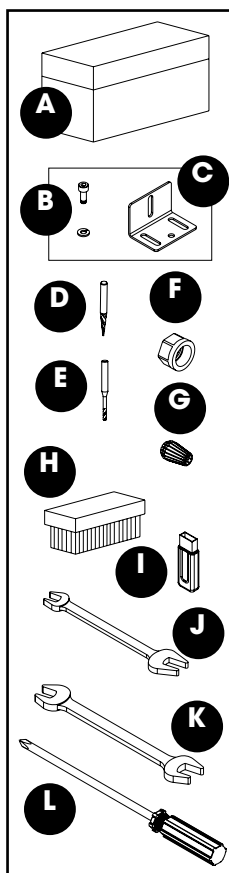
Carefully unpack and remove the i-Carver and its components from the box and check for damaged or missing items as per the list of contents below.

NOTE: Please report any damaged or missing items to your General International distributor immediately.

LIST OF CONTENTS

QTY

A- TOOL BOX.....	1	I- USB FLASH DRIVE (including i-Picture software, manual and 3D sample pictures)	1
B- SOCKET SCREW W/WASHER	4	J- 11-13 MM OPEN END WRENCH	1
C- SECURING BRACKETS	4	K- 14-17 MM OPEN END WRENCH	1
D- 1/32" CONICAL/CARVING CUTTING TOOL	1	L- PHILLIPS SCREWDRIVER.....	1
E- 1/8" MM END MILL/MACHINING TOOL	1	K- i-Carver	1
F- ER11 COLLET NUT.....	1	N- WORKPIECE CLAMPS.....	4
G- ER11 0.25" COLLET	1		
H- BRUSH.....	1		



PLACEMENT WITHIN THE SHOP / ESTABLISHING A SAFETY ZONE



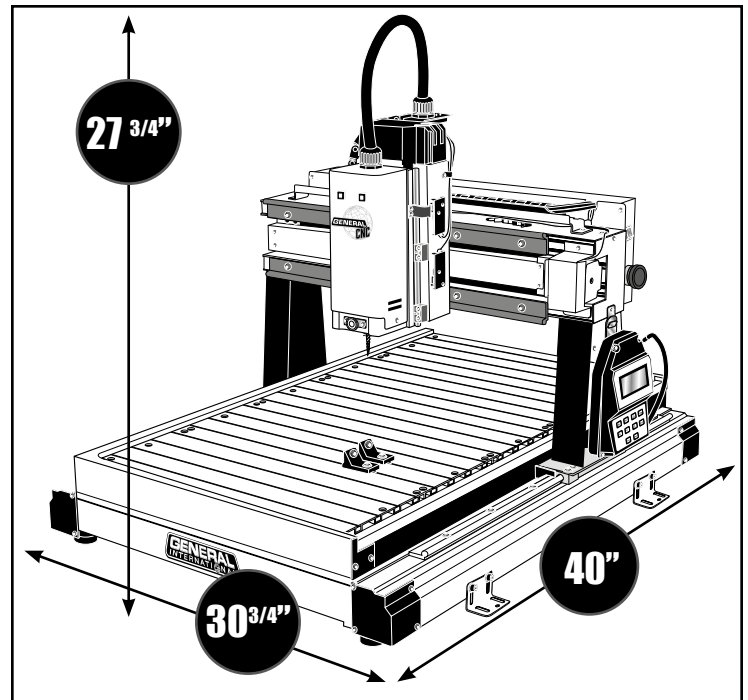
THIS i-Carver 40-915X IS HEAVY - 126 LBS (57 KG). DO NOT OVER-EXERT. THE HELP OF AN ASSISTANT WILL BE NEEDED FOR THE INSTALLATION.

SERIOUS PERSONAL INJURY COULD OCCUR IF YOU CONNECT THE MACHINE TO THE POWER SOURCE BEFORE YOU HAVE COMPLETED THE INSTALLATION AND ASSEMBLY STEPS. DO NOT CONNECT THE MACHINE TO THE POWER SOURCE UNTIL INSTRUCTED TO DO SO.

PLACEMENT WITHIN THE SHOP

This machine should be installed and operated only on a solid, flat and stable work surface that is able to support the weight of the i-Carver and the workpiece.

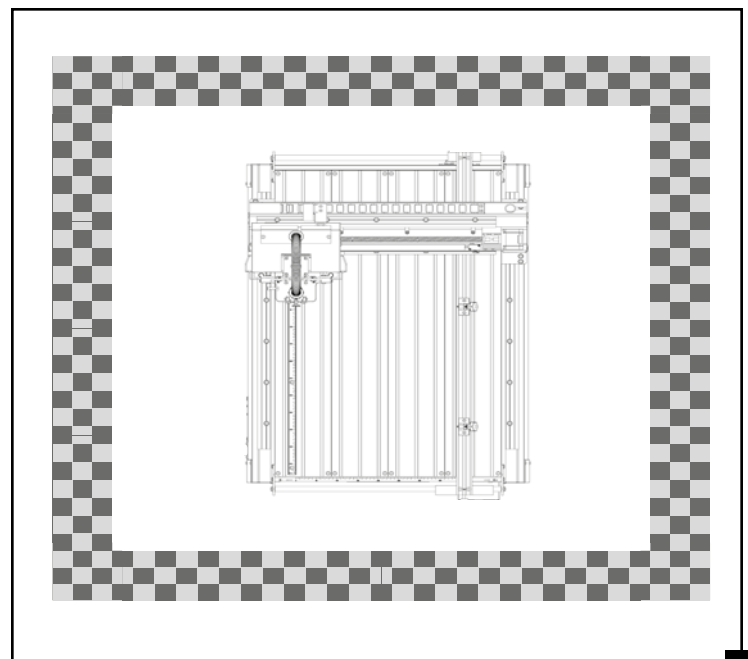
Using the dimensions shown as a guideline, plan for placement within your shop that will allow the operator to work unencumbered and unobstructed by foot traffic (either passing shop visitors or other shop workers) or other tools or machinery.



ESTABLISHING A SAFETY ZONE

For shops with frequent visitors or multiple operators, it is advisable to establish a safety zone around shop machinery. A clearly defined "no-go" zone on the floor around each machine can help avoid accidents that could cause injury to either the operator or the shop visitor.

It is advisable to take a few moments to either paint (using non-slip paint) or using tape, define on the floor the limits or perimeter of each machine's safety zone. Take steps to ensure that all operators and shop visitors are aware that these areas are off limits whenever a machine is running for everyone but the individual operating the unit.



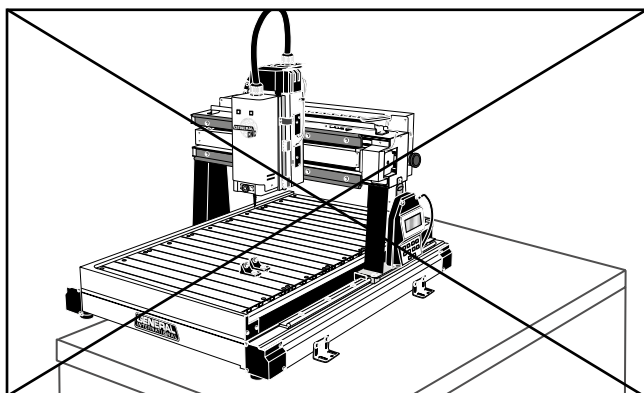
INSTALLATION AND ASSEMBLY INSTRUCTIONS

For your convenience this i-Carver is shipped from the factory partially assembled and requires only minimal assembly and set up before being put into service.



SERIOUS PERSONAL INJURY COULD OCCUR IF YOU CONNECT THE MACHINE TO THE POWER SOURCE BEFORE YOU HAVE COMPLETED THE INSTALLATION AND ASSEMBLY STEPS. DO NOT CONNECT THE MACHINE TO THE POWER SOURCE UNTIL INSTRUCTED TO DO SO.

INSTALLATION



This machine should be installed and operated only on a flat, sturdy and stable surface able to support the weight of the machine (126 lbs - 57 kg) and the workpiece with ease.

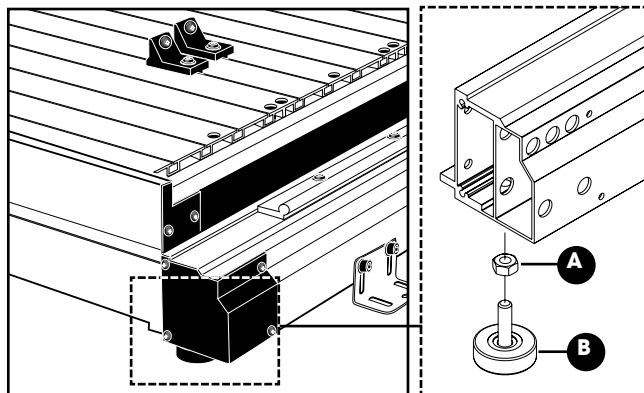
Note: *Never install the machine over the edge of a table or workbench.*

OPTIONAL STAND



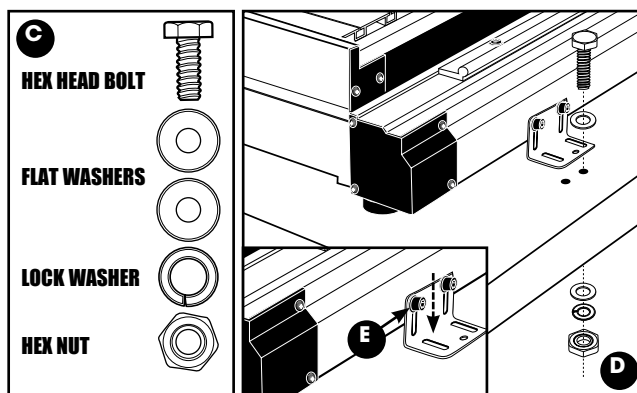
If you prefer, an optional Heavy-duty open stand, item #40-905, is available from your local General International dealer.

ADJUSTING THE LEVELING FEET



After the i-Carver is placed in its final location, level the feet by adjusting nut **A** up or down on the leveling feet **B** as needed, then tightening down the nut.

MOUNTING TO A WORK SURFACE



If a permanent shop placement is practical, consider drilling matching through holes in the mounting surface of your workbench or table to bolt the i-Carver in place using hex bolts, flat washers, lock washers and hex nuts, **C** (fasteners not included), in the assembly order shown in, **D**.

Note: *If needed, loosen the cap screws **E** and lower the mounting brackets until they are flat against the table.*

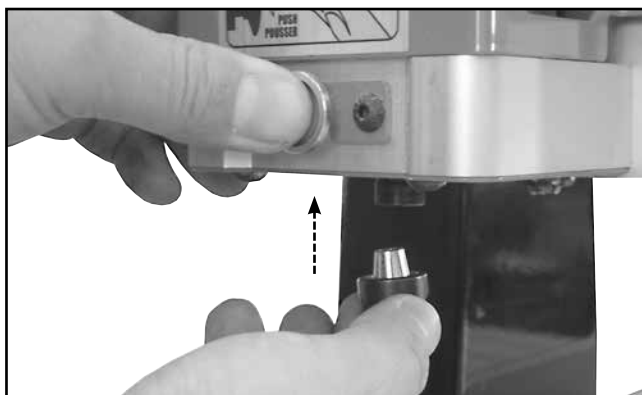


FOR YOUR SAFETY IT IS ESSENTIAL THAT THE MACHINE DOES NOT ROCK OR TIP DURING OPERATION. MAKE SURE THAT THE MACHINE IS FIRMLY SECURED TO THE WORK SURFACE, AND THAT THERE IS NO ROCKING, TIPPING OR CHATTERING.

INSTALL THE COLLET AND COLLET NUT



1. Fit the collet into the collet nut.



2. While pressing the spindle locking button to keep the spindle from turning, insert the collet in the spindle.

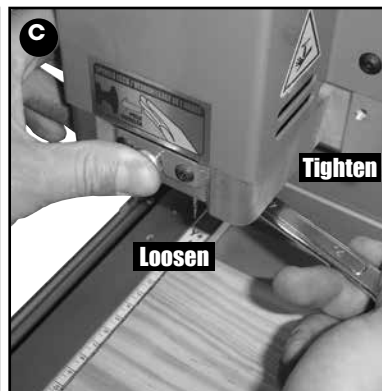
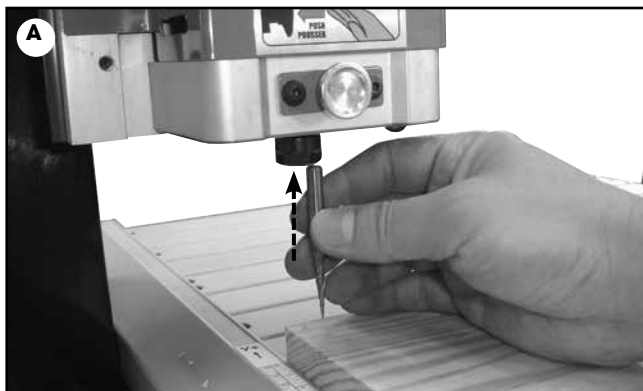
CUTTING TOOL INSTALLATION / REMOVAL



TO AVOID SERIOUS PERSONAL INJURY AND/OR DAMAGE TO THE SPINDLE, ALWAYS MAKE SURE THAT THE MACHINE HAS BEEN TURNED OFF AND UNPLUGGED BEFORE INSTALLING/REMOVING A CUTTING TOOL. KEEP HANDS WELL AWAY FROM THE SPINDLE, CUTTING TOOL, AND ALL MOVING PARTS AT ALL TIMES.

This model 40-915X i-Carver is supplied with two different cutting tools:

- # 40-917: 1/32" conical/carving cutting tool (for precision cutting and shapes).
- # 40-916: 1/8" end mill/machining cutting tool (for cleaning larger areas).



To install a cutting tool (bit):

1. Insert the cutting tool in the collet, **A**.
2. While pressing the spindle locking button **B** to keep the spindle from turning, secure the cutting tool in the collet by tightening the collet nut counter clockwise with the supplied 17 mm open end wrench, **C**.

To remove a cutting tool (bit):

1. Lock the spindle in place by pressing the locking button while rotating the spindle until it locks in place, **B**.
2. While pressing on the spindle locking button, release the cutting tool (bit) by turning the collet nut clockwise with the supplied 17 mm open end wrench.

i-Picture SOFTWARE

This i-Carver is supplied with *i-Picture* software. *i-Picture* converts images file and G Code files to "GEE code". GEE code is the programming language that your i-Carver will read and execute.

Note: *i-Picture* is compatible with Windows 98/me/2000/XP/Vista/7. It is not compatible with Mac OS X and Linux Operating Systems.

i-Picture INSTALLATION

1. Download *i-Picture* Software from the supplied USB flash drive to your computer.
2. Double-click on the installer icon to run the self-installing program.



FORMATTING YOUR IMAGE FILES FOR i-Picture SOFTWARE

i-Picture is a converter software only. An image editing program such as Adobe Photoshop or MS Paint may be required to convert your images to the required format type, color mode, and edit or modify an image, or to create a new image

Format type:

The format types accepted by *i-Picture* are : .gif, .png, .jpg, and .bmp. If needed, use an image editor to convert your image file to one of the formats listed above.

Color Mode:

i-Picture software is able to convert RGB images. However, when carving RGB image files, the result of your workpiece will not be clearly defined. The images have to be modified for grayscale* or black and white, using an editing image software.

*** Choose grayscale over black and white whenever possible to avoid large discrepancies between white and black areas.**

Images downloaded from the Internet:

Look for images that have higher resolution (300 x 300 dpi or higher) and significant contrast. Try to avoid images that have too much fine detail.

Scanned Images:

- Scan your image in high resolution, in grayscale or black and white.
- Delete the background using an image editing software.

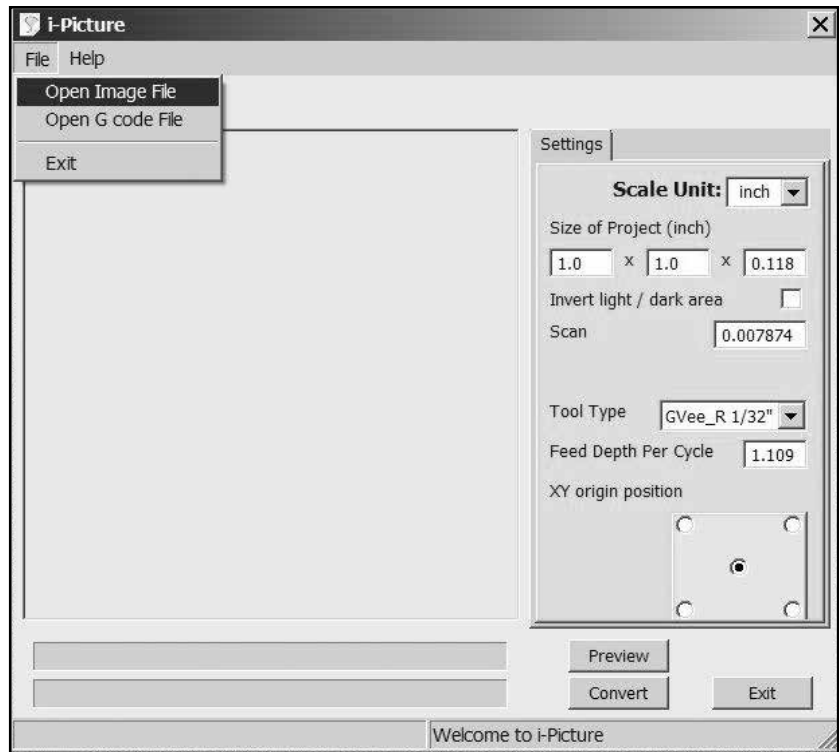
Photos from your Digital Camera:

- Adjust the light and avoid shadow while taking picture.
- Do not take a picture with your camera parallel to the object. A picture shows more dimensions with an angle shot.
- Set your camera to the black and white mode to avoid the need for conversion in an image editing software after.

CONVERTING A FILE TO GEE CODE

1. Double-click on the *i-Picture* software icon on your desktop to launch the software.
2. From the **File** menu select:
 - a) **Open Image File**
To upload an image file:
(file formats: gif, png, bmp or jpg)
 - or
 - b) **Open G Code**
To upload a G Code file:
(file formats: nc, txt or dat)

See example on page 22.
3. Select the file to carve, then click on **OPEN**.
4. The selected image will appear in the preview window.



SETTINGS

Scale Unit: (inch) or (mm)

Default scale unit is in *inch*. To change to *mm*, click on the black arrow for a drop-down menu and select “mm”.

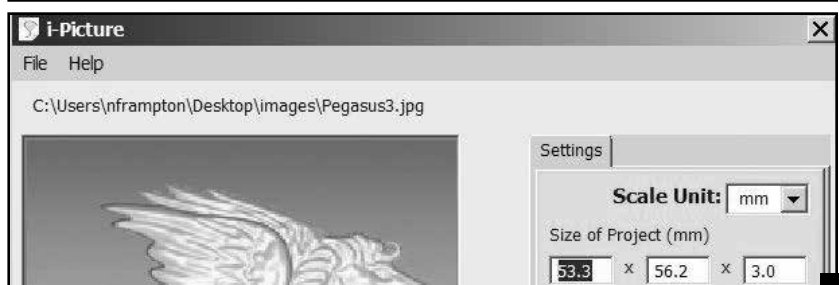
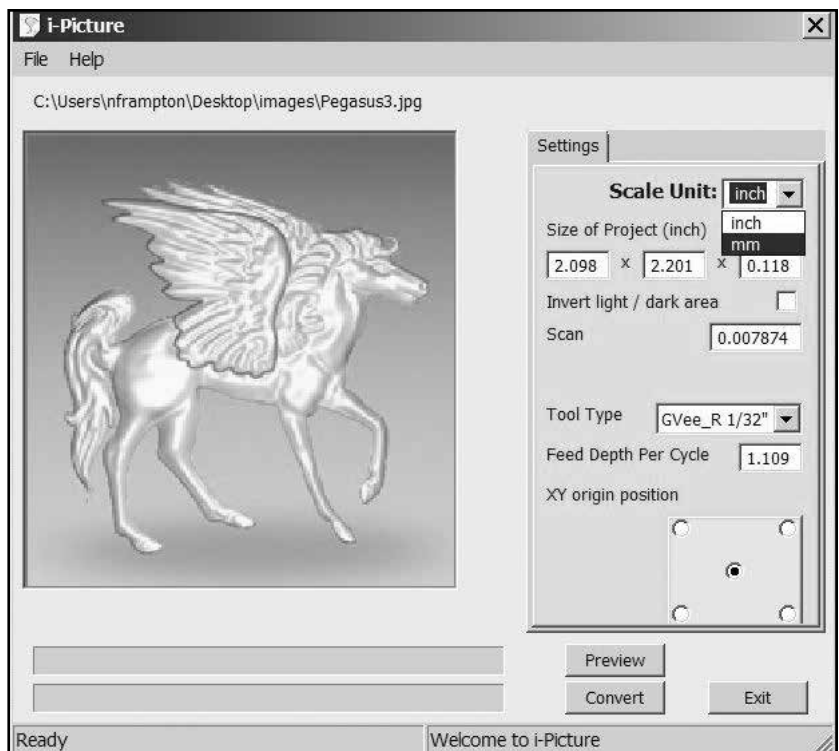
Note: “Size of Project (inch)” below will change to “Size of Project (mm)” and the values in the data fields below will change accordingly.

Size of Project:

Determines the size of the carving on your workpiece. The 3 boxes represent the X/Y/Z axes (width/length/depth of cut), respectively.

Note: Any change in the X and Y values (first two boxes) will change the other proportionally. The Z axis (third box) is independent of the other two and can be set to your choosing.

IMPORTANT! These dimensions represent your image (machining area). The workpiece should be larger than these dimensions to avoid potential of machining outside the material and causing damage to tooling, table and/or clamps!

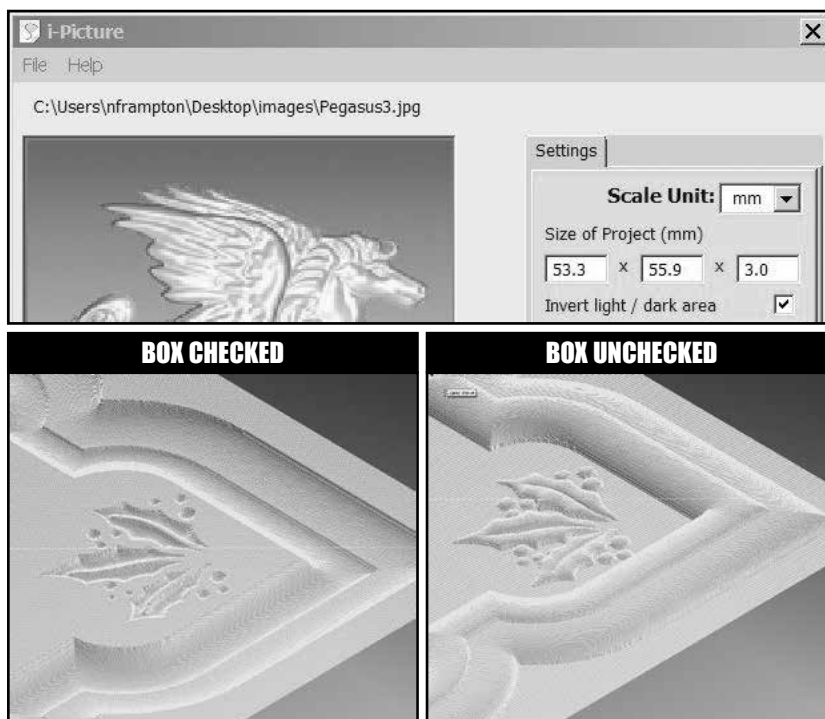


SETTINGS (CONTINUED)

Invert light/dark areas:

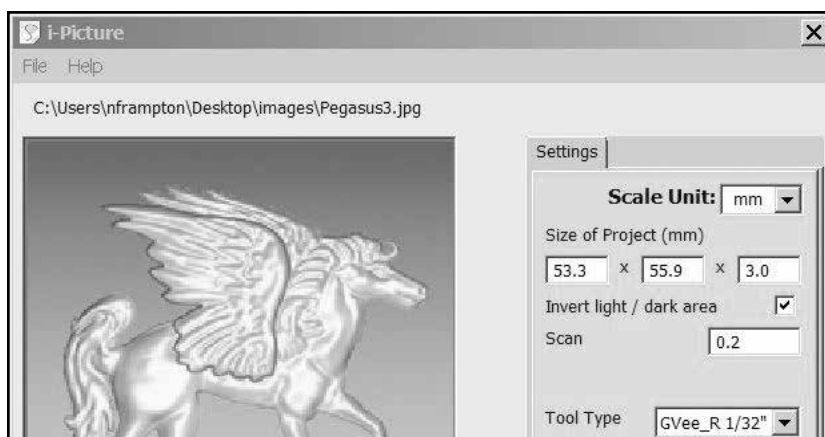
When a grayscale image is uploaded, *i-Picture* defines the darker areas as the deeper depth of cut, and the lighter areas as the shallower depth of cut.

Check this box to invert the concave and convex areas of the carving. (*See example on page 22.*)



Scan step:

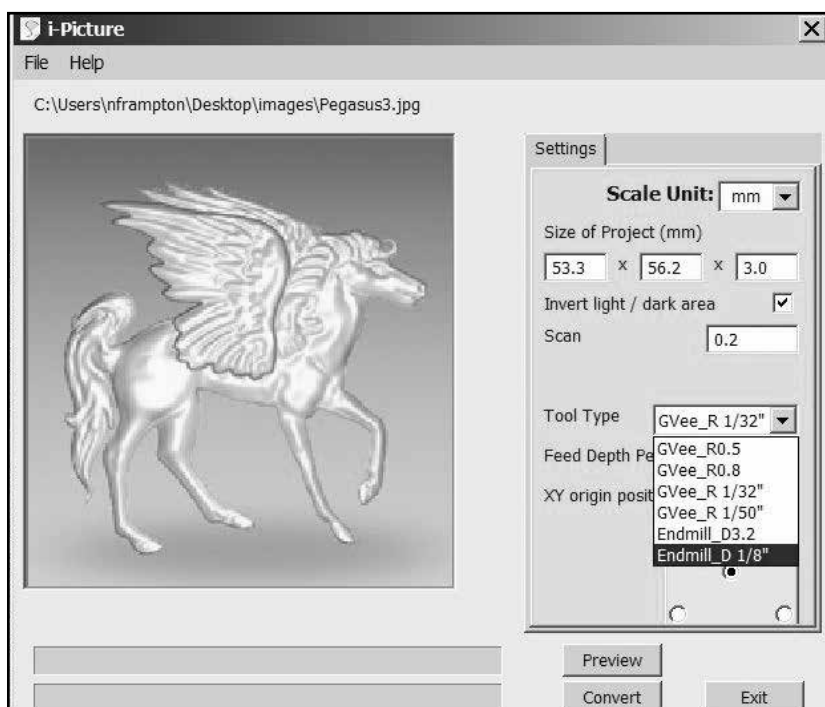
Scan step is the distance that the Y axis moves on every carving along the X axis. The lower the number the Scan step, the more detailed your image will be. Default setting is 0.2 (mm) or 0.007874".



Tool Type:

Click on the black arrow for a drop-down menu and select between the 6 tools listed:

- **GVec_R 1/32"**: if you are using the supplied #40-917: 1/32" conical/ carving cutting tool
- **Endmill_D 1/8"** if you are using the supplied #40-916 1/8" end mill /machining cutting tool



SETTINGS (CONTINUED)

Feed Depth Per Cycle:

Represents the depth of cut (Z axis) per cycle.

The default setting is 27 mm.

For example: when Z is 10 mm and the Feed Depth per Cycle is 24 mm, the cutter will carve the workpiece in a single pass. Conversely, when Z is 10 mm and the Feed Depth per Cycle is 5 mm, the cutter will carve the workpiece twice (2 passes) in order to meet Z depth (per cycle = 5 mm; two cycles = 10mm).

XY Origin Position:

Select the XY Origin Position

Note that whatever you choose as the origin position on the i-Carver must match the origin position you choose in i-Picture.

Center

Upper Left Corner

Upper Right Corner

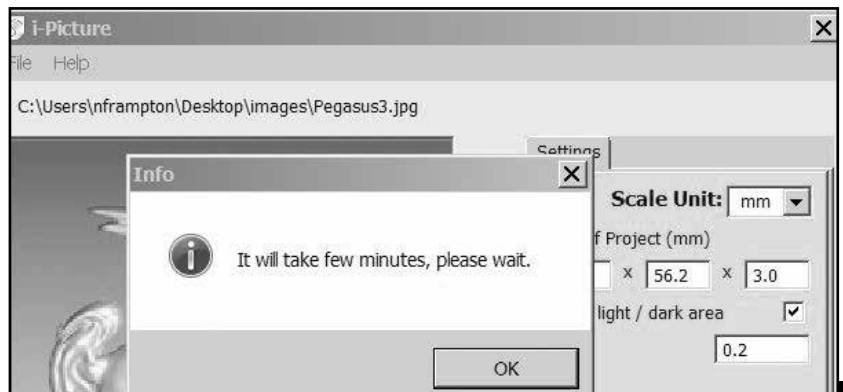
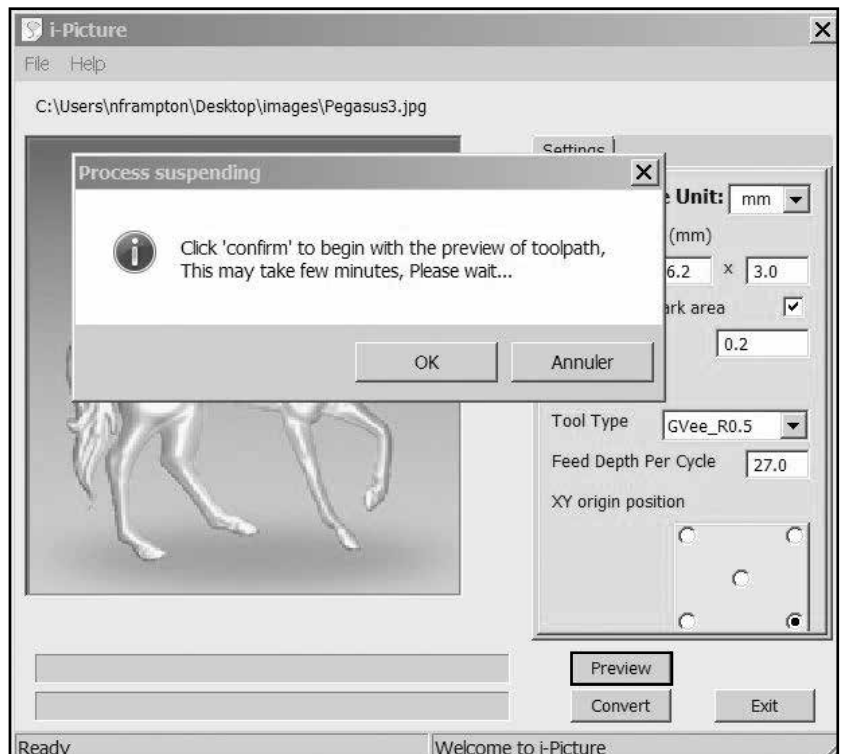
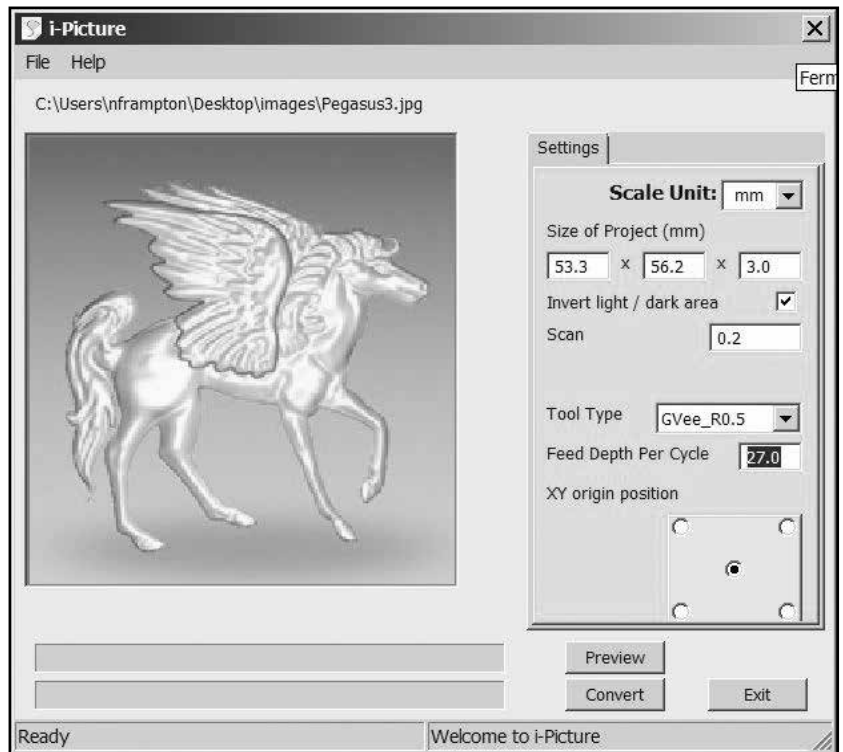
Lower Left Corner

Lower Right Corner

PREVIEW

With all of the parameters set, click on the **PREVIEW** button.

Note: The processing of the image preview may take a few minutes, depending on its complexity. Two dialog boxes will successively pop up. Click OK to continue.

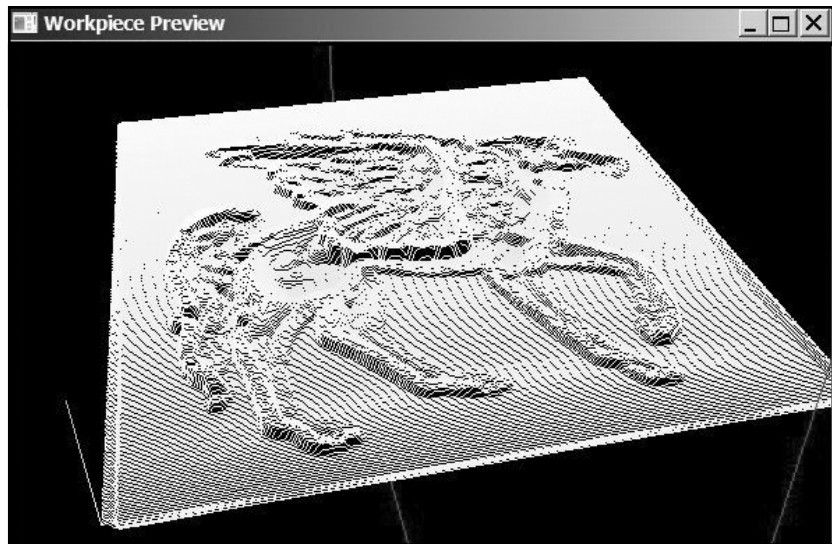


PREVIEW (CONTINUED)

Workpiece Preview window pops up showing the final image preview in 3D.

Note: Use the red line across this window to change the view at will.

If the image preview doesn't conform to what you expected, close the preview window and modify the settings as needed.



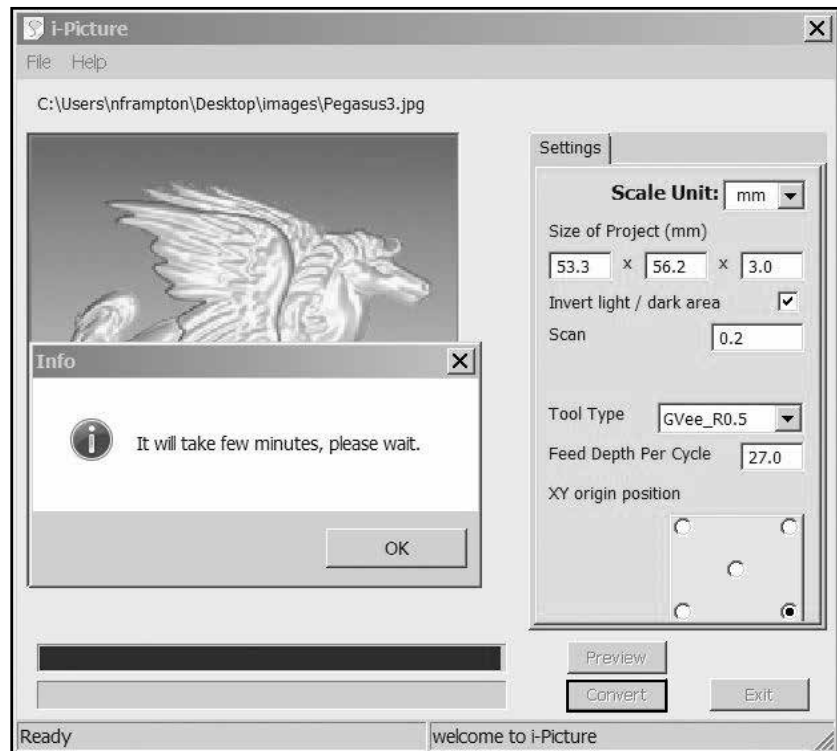
CONVERT

1. If the image preview conforms to what was expected, close the preview window, then, from the *i-Picture* window, click on the **CONVERT** button.

2. A new "save as file" window will open.

Type the name of the file in the "file name" field. The .gee extension will automatically be added to the end of the file name.

Note: The conversion of the image into gee code may take a few minutes, depending on its complexity. A dialog box will pop up. Click **OK** to continue.

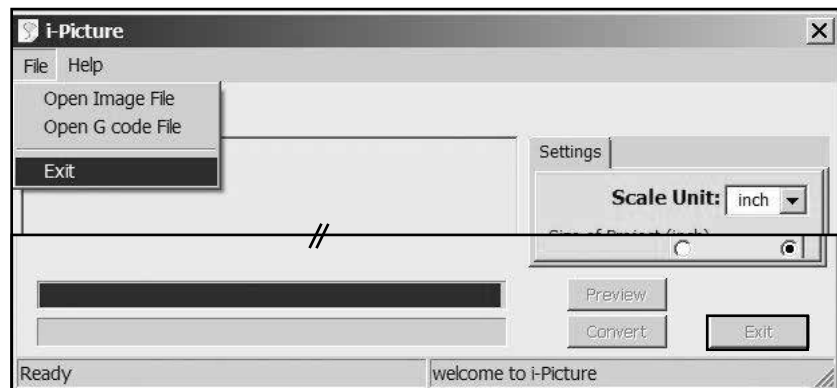


EXIT SOFTWARE

1. Click on the **EXIT** button to exit *i-Picture* software.
or, from **File** menu select **EXIT**.

TRANSFER GEE CODE FILE TO USB FLASH DRIVE

1. Save your Gee code file on the supplied USB flash drive.



BASIC ADJUSTMENTS & CONTROLS

CONNECTING TO A POWER SOURCE



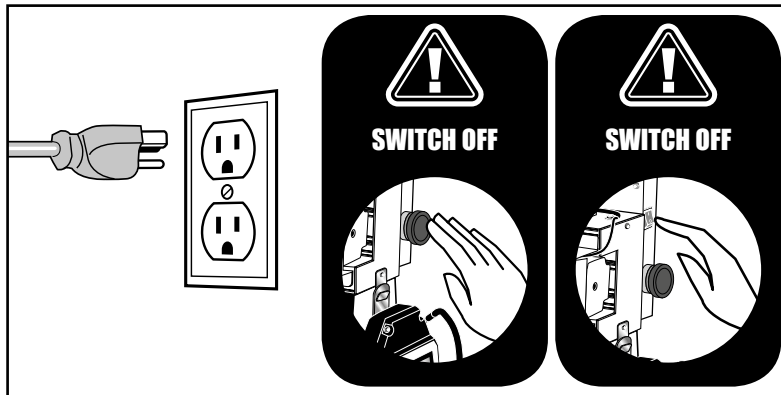
TO REDUCE THE RISK OF SHOCK OR FIRE DO NOT OPERATE THE UNIT WITH A DAMAGED POWER CORD OR PLUG. REPLACE DAMAGED CORD OR PLUG IMMEDIATELY.

TO AVOID UNEXPECTED OR UNINTENTIONAL START-UP, MAKE SURE THAT BOTH OF THE POWER SWITCHES ARE IN THE OFF POSITION BEFORE CONNECTING TO A POWER SOURCE.

Once the assembly steps have been completed and the unit is safely secured to a work surface, uncoil the power cord and plug the power cord into an appropriate outlet.

Refer back to the section entitled “Electrical Requirements” and make sure all requirements and grounding instructions are followed.

When carving operations have been completed unplug the i-Carver from the power source.

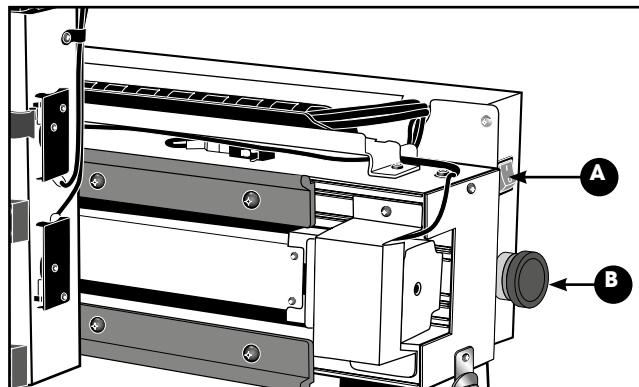


ON/OFF POWER SWITCH

To START the carver: Push switch **A** UP to power the i-Carver ON.

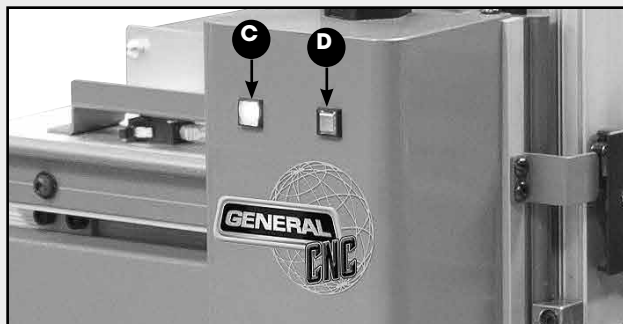
To STOP the carver: Press on the RED “STOP” BUTTON, **B**. Then, push switch **A** DOWN to power OFF the i-Carver.

Note: Once the RED “STOP” button has been pressed, the machine can only be started by turning the button to the right to release it.



INDICATOR LIGHTS

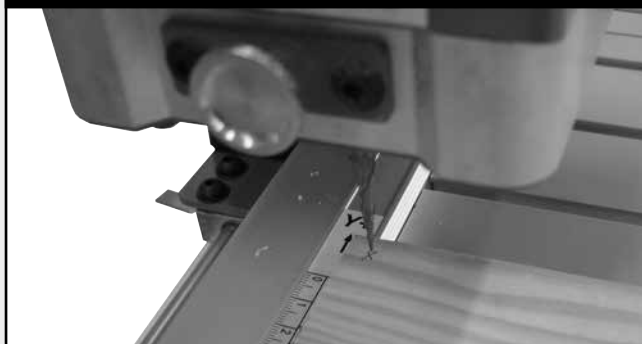
- Green light **C** is ON: Indicates that electrical current is flowing into the machine.
- Green light **C** is OFF: Indicates that there is no electrical current flowing into the machine.
- Green light **C** is flashing: Indicates that the program is running.
- Red light **D** is on: System error (an error message is displayed on the LCD screen on the control panel.)



OPERATING INSTRUCTIONS

POINT OF ORIGIN

POINT OF ORIGIN : LEFT CORNER



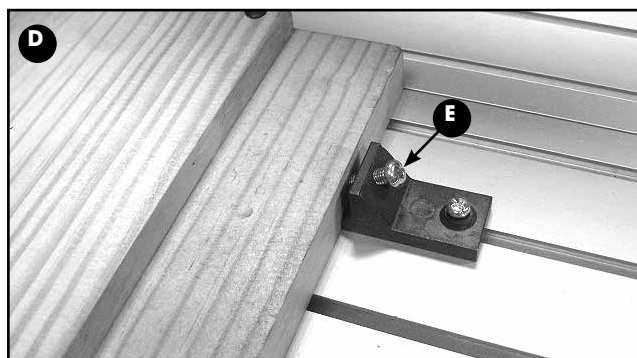
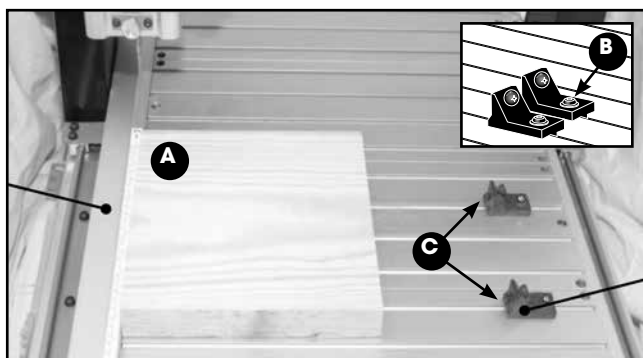
POINT OF ORIGIN: CENTER



You can choose to place the point of origin of the carving, either on one corner or on the center of your workpiece. The same origin position you chose in iPicture should be duplicated here.

Note: If you choose the center of the board as the point of origin, trace an "X" on the center point of the board with a pencil as shown above on right.

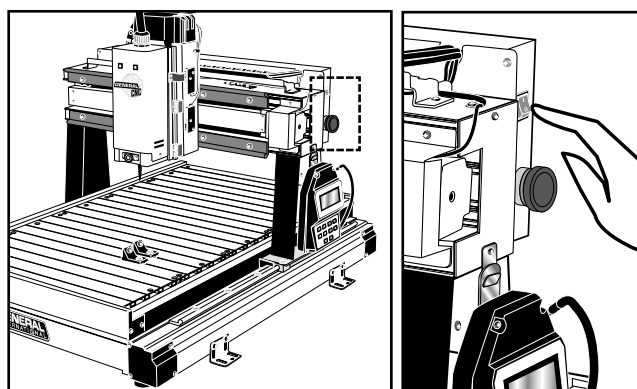
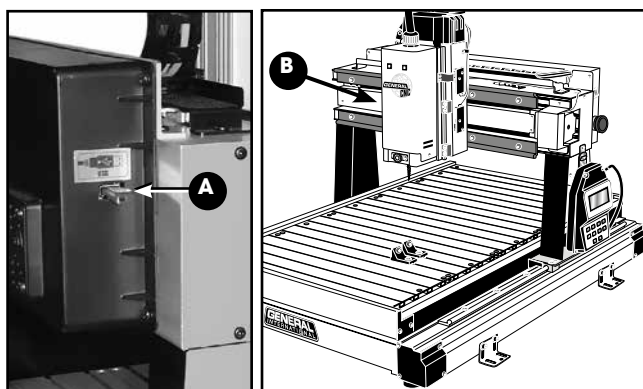
SECURE THE WORKPIECE



1. Place your board on the i-Carver table, flush against the left position plate as shown in A.
2. Loosen the Phillips head screws B on both work piece clamps C, then move the two clamps against the board.

3. Re-tighten the screws to lock clamps in position as shown in D.
4. Tighten the locking screw E on both clamps against the board to secure it in place.

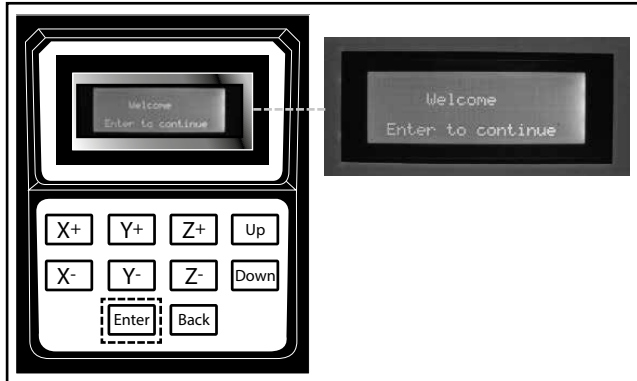
LOAD A GEE FILE FOR CARVING



1. Insert the USB flash drive into the USB port A, located on the left side of the i-Carver, B.

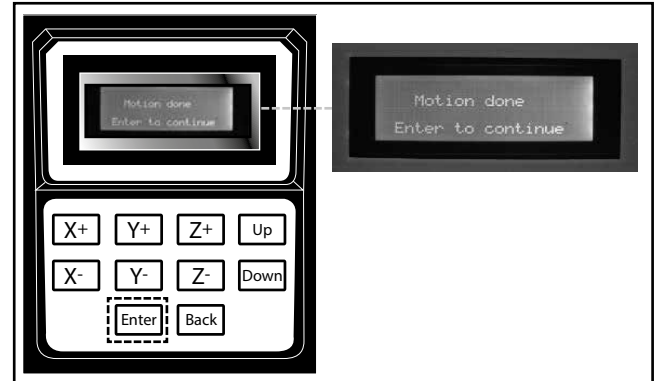
2. Turn the power switch on.

Upon turning the power switch on, the spindle automatically returns to the Home position (top left).



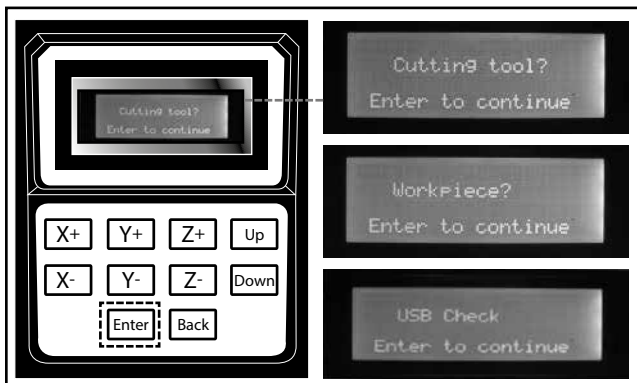
3. A welcome message is displayed on the LCD screen on the control panel.

Press on the (ENTER) key on the control panel.

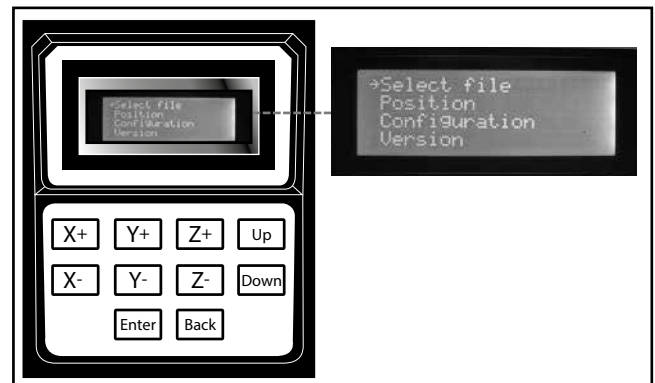


4. Once the spindle has returned to home position, the message above is displayed on the LCD screen.

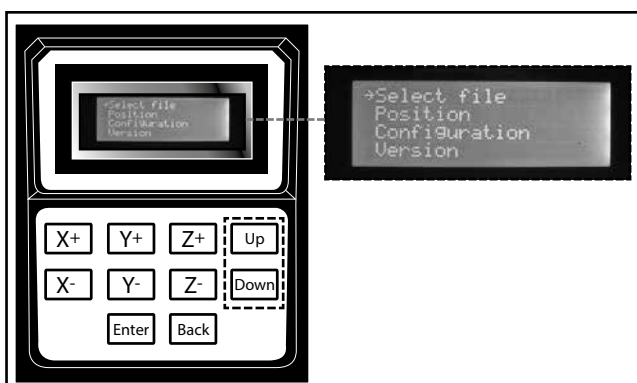
Press on the (ENTER) key on the control panel.



5. The three reminder messages above will be displayed on the LCD screen. Press on the (ENTER) key to skip and continue on each message.

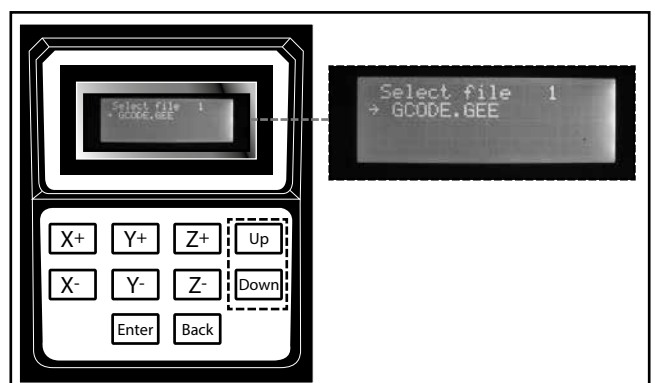


6. The main menu will appear.



7. Using the (UP) or (DOWN) key, move the cursor to SELECT FILE, then press on (ENTER).

The system will search for gee files on the USB flash drive, then all the gee files found on the USB flash drive will be displayed on the LCD screen.

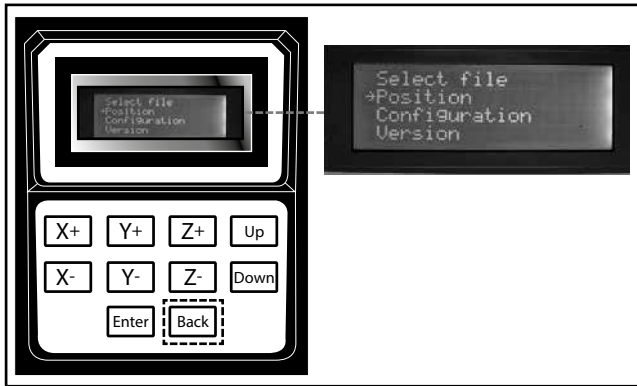


8. Use the (UP) or (DOWN) key to select the gee file to carve.

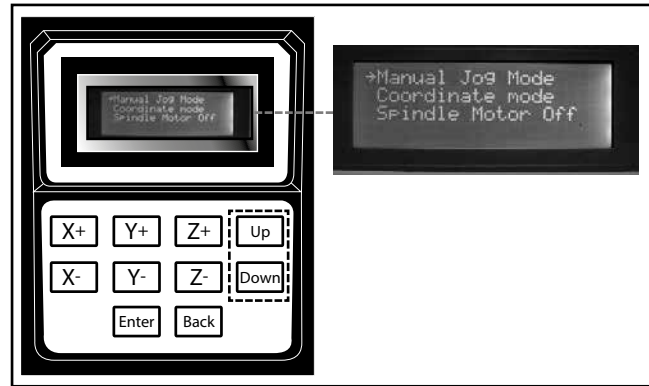
9. With the cursor next to the gee file to carve, press on (ENTER).

Note: the LCD screen can display a maximum of 48 files.

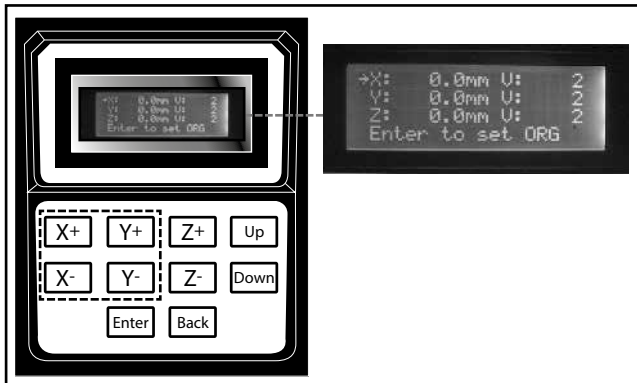
POSITION THE SPINDLE OVER THE POINT OF ORIGIN



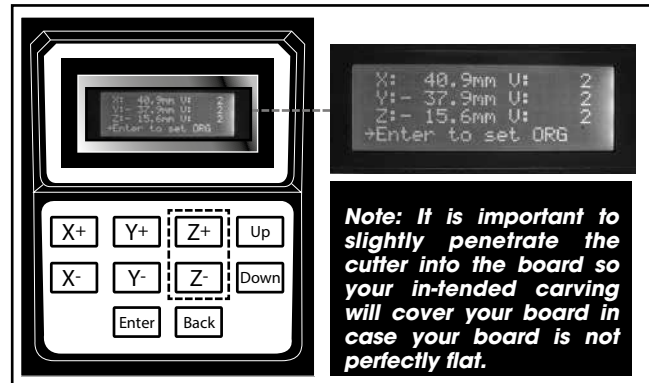
1. Press on the (BACK) key to go back to the main menu.
2. Using the (UP) or (DOWN) key select POSITION, then press on (ENTER).



3. Using the (UP) or (DOWN) key, select MANUAL JOG MODE, then press on (ENTER).

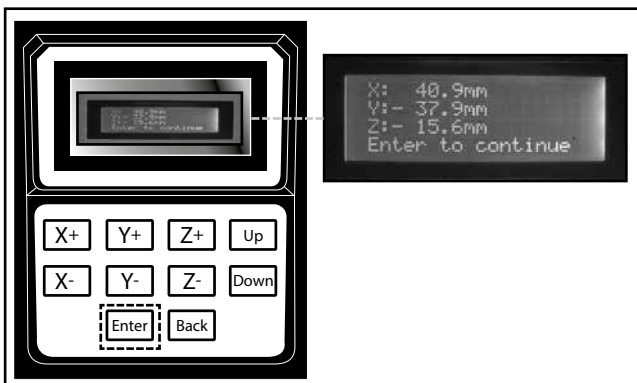


4. Use the (X+), (X-), (Y+) or (Y-) keys on the control panel to move the spindle over the point of origin.

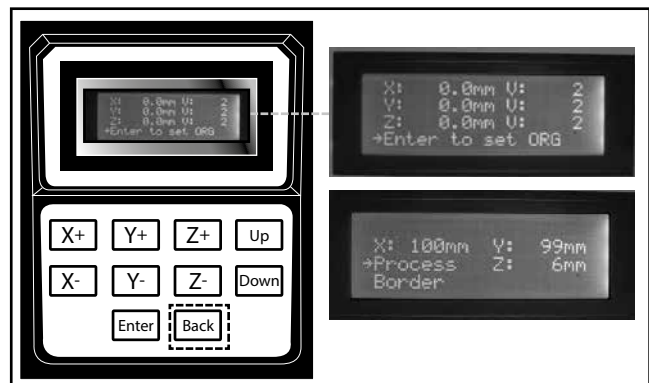


5. Use the (Z+) or (Z-) key to lower the spindle until the cutting tool (bit) slightly pierces into the board.
6. Move cursor to ENTER TO SET ORG then press (ENTER) to confirm spindle positioning.

Note: It is important to slightly penetrate the cutter into the board so your in-tended carving will cover your board in case your board is not perfectly flat.



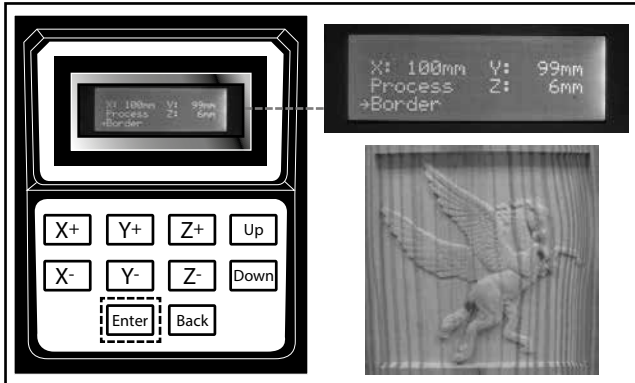
7. Once the point of origin has been set, the confirmation message above is displayed. Press (ENTER) to continue.



8. X, Y and Z values are now all back to 0.0. Press on the (BACK) key to continue. The screen will display the carving dimension settings.

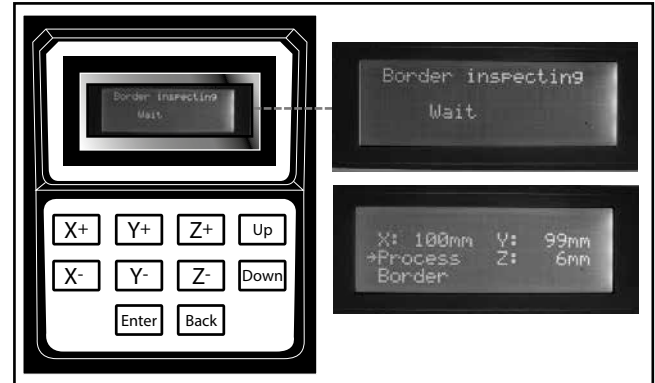
CHECKING SIZE OF YOUR IMAGE

To inspect your work to ensure correct size:



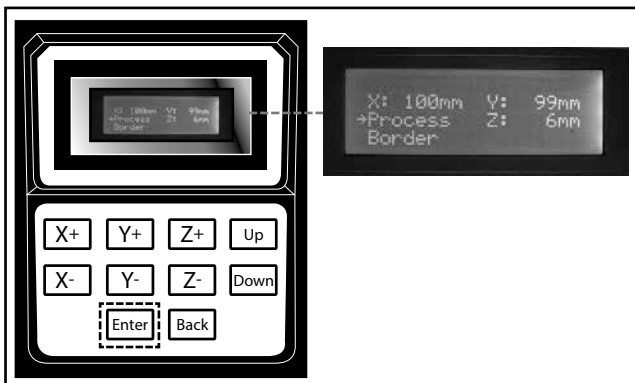
1. Move the cursor to BORDER, then press on (ENTER).

Note: During the border inspection the tool should move only where there is material below it. If the tool begins to move outside the material hit the Emergency Stop button immediately to avoid hitting a clamp. Review your image area and configuration of X and Y axis to determine where the error lies.



2. The message above will appear, then on completion of border inspection, the previous menu will be displayed.

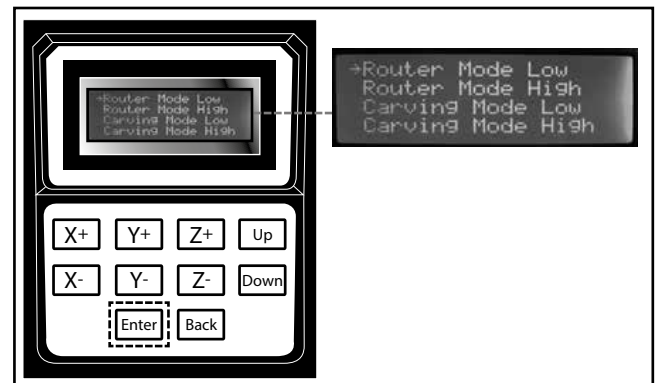
STARTING TO CARVE



Important! Do not cut the project until the border inspection is successful! (see previous step)

To start carving your artwork:

1. Select PROCESS, then press on (ENTER).



Note: Refer to the section below for helpful hints on speed selection.

2. Select the carving speed (ROUTER MODE LOW, ROUTER MODE HIGH, CARVING MODE LOW, CARVING MODE HIGH) then press on (ENTER). The i-Carver will start carving your artwork.

Speed Selection: Selecting the appropriate feed rate is dependant on a variety of factors: type and density of the material to be machined, depth of cut per pass, type of bit or cutting tool being used, required finish quality, as well as the amount of fine detail in the image being machined. There are no hard and fast rules. Be patient: practice and experience will be your best teacher.

There are however some general guidelines to consider and the following information will help you in selecting the correct feed rate:

Router Mode Low (Feed rate 23 inches per minute) - Is the slowest speed. It is recommended for projects where programs are designed in a CAD program such as ArtCAM particularly if there is small/fine detailing in the image to be machined.

Router Mode High (Feed rate 47 inches per minute) - For projects where material density is extremely high. This setting is not commonly used.

Carving Mode Low (Feed rate 70 inches per minute) - Best speed for raster based programs created from iPicture when using dense woods, or where machining depths exceed 1/4" per pass

Carving Mode High (Feed rate 118 inches per minute) - For raster based programs in less dense woods with machining depths of 1/4" or less per pass.

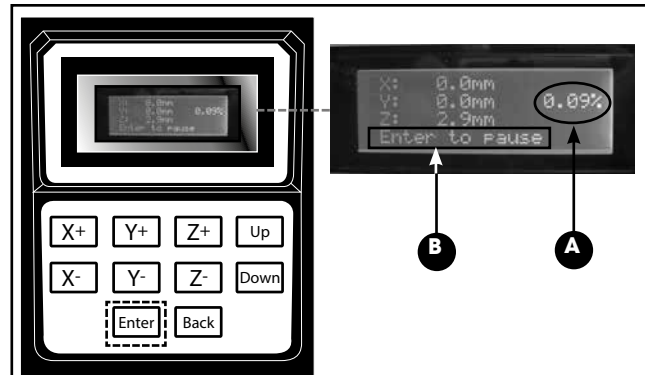
For further assistance with issues regarding feed rate selection, consult the trouble shooting guide available on the General CNC website at www.generalcnc.ca

PAUSE FUNCTION

When the i-Carver is carving your artwork, the percentage (%) of work in progress is displayed on the LCD screen, **A**.

Below is an explanation of the pause function, **B**, that allows the operator to pause and then resume the program when needed.

1. Press (ENTER) to pause the program.
2. After the cleaning/examination/tool change is done and you are ready to continue, press on (ENTER) once to resume carving.



When the pause function is activated:

- 1- The program stops running
- 2- The main spindle raises
- 3- The spindle stops

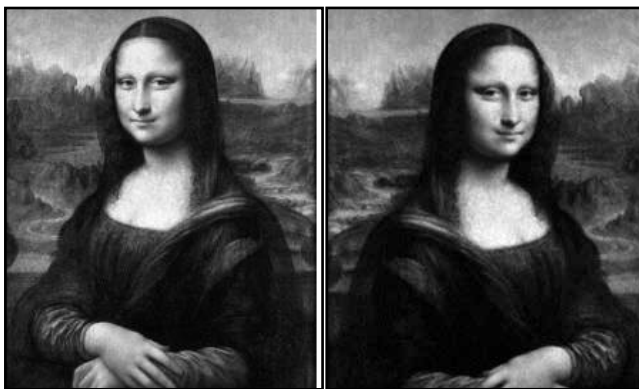
This allows the user to:

- 1- Clear dust from the work piece
- 2- Examine the work performed to that point
- 3- Change the bit

CONCAVE CARVING ON ACRYLIC/ROUTER MODE MACHINING

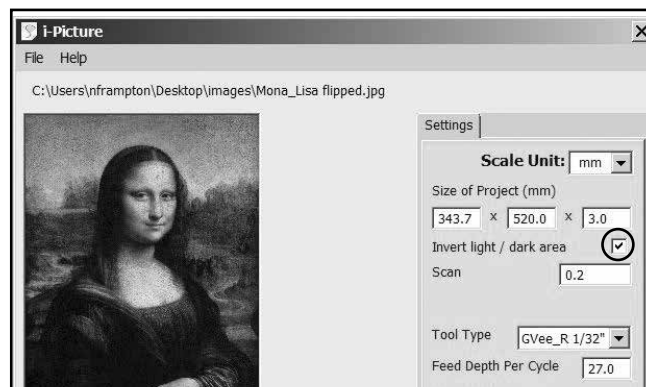
EXAMPLE 1: INVERT CONCAVE CARVING ON ACRYLIC

For carving on material other than wood such as **ACRYLIC**, the instructions are the same as for **NORMAL CONVEX CARVING ON WOOD** (page 13 to 22), except for the steps below:



Formatting your image file in an image editing software (p.12):

1. Open your image in an editing program such as *Adobe Photoshop* or *MS Paint* and flip the image as shown above.



Setting your image file parameters in i-Picture (p.13):

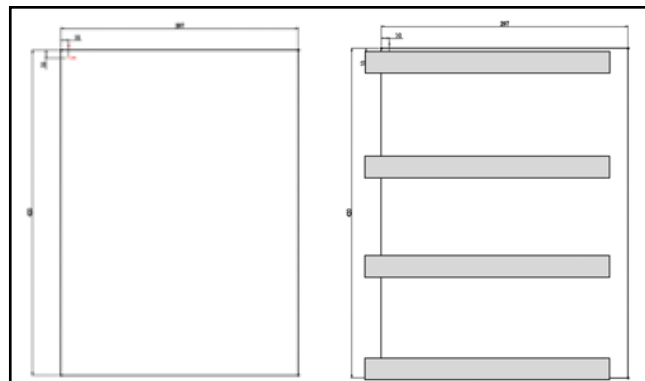
2. In *i-Picture* settings, check box **invert light/dark areas** to invert the concave and convex areas of the carving.

Preparing and securing your workpiece (p.18):

1. Put at least four strips of double sided tape on the back of you acrylic board.

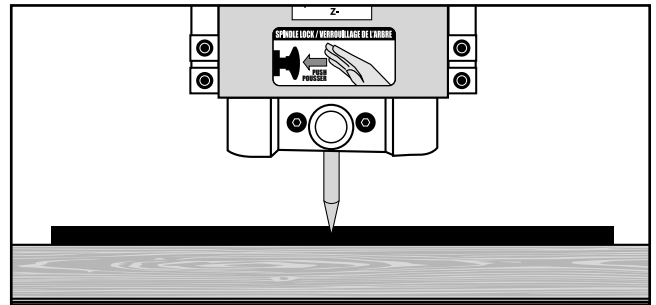
Note: The number of strips you should be using depends on the size of your workpiece. In this example, the work-piece size is A3 (297 x 420 mm - 11.69" x 16.54").

2. Prepare a wood board, larger than your acrylic board and planed on both sides.
3. Remove the protective strip from the tape and adhere the acrylic board to the wood board



Positioning the spindle over the point of origin (p.20)

4. When positioning the spindle over the chosen point of origin, it is important to slightly penetrate the cutter into the acrylic board so your intended carving will cover your board in case your board is not perfectly flat.



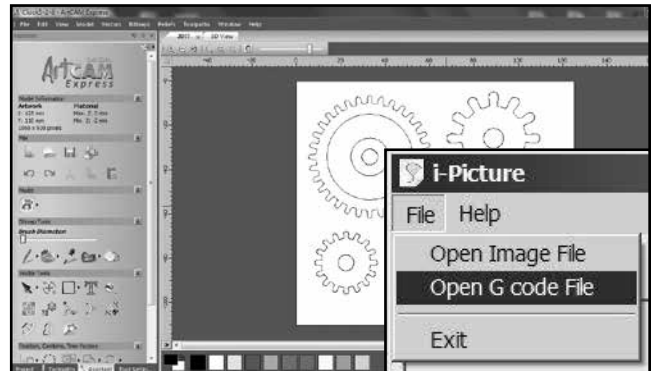
EXAMPLE 2: ROUTER MODE MACHINING

Complete instructions on the creation of projects in **ArtCAM Express** and file conversion in **iPicture** can be found on the **Getting Started** page of our website at www.generalcnc.ca.

For carving shapes out of wood, the instructions are the same as for **NORMAL CONVEX CARVING ON WOOD** (page 13 to 22), except for the steps below:

When preparing your image file (p.12):

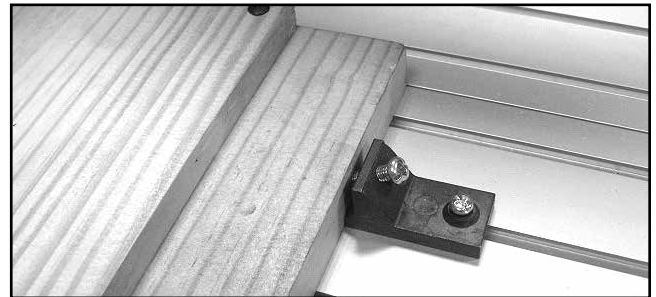
1. Using the supplied **ArtCAM Express** software, create a vectorial image, then save your image in G code format (.nc file extension, example: *sprocket wheel.nc*).



When preparing and securing your workpiece (p.18):

1. If the programmed machining depth is less than the workpiece thickness, it is safe to clamp the work piece directly to the table.

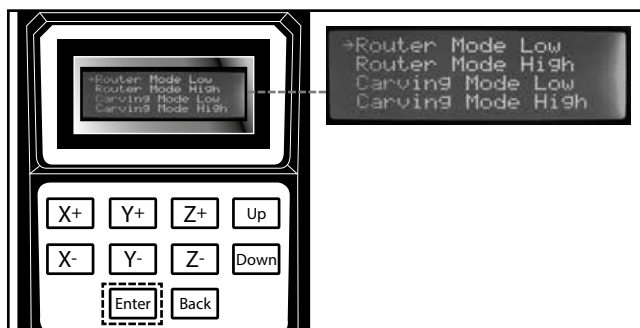
Note: The machining depth is the z value. (For example, on page 20, step 8, the z value - machining depth - is 6 mm.)



2. If the programmed machining depth is more than the work piece thickness, it is absolutely necessary to secure a sacrificial board under the workpiece (using 4 wood screws - not supplied) to avoid the tool cutting into and damaging the table.

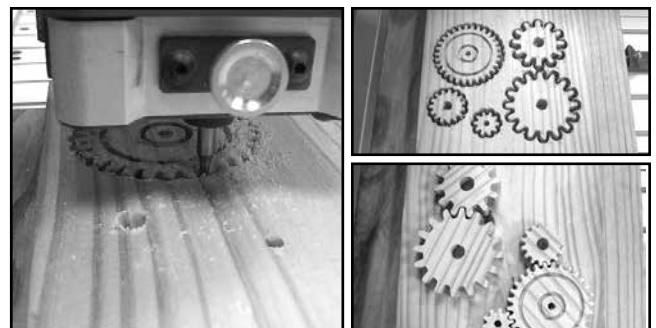
Note: Make sure to position the screws in a location on the workpiece that will not interfere, or come into contact with the cutting tool.

Hint: In some cases, it is preferable to start with a work-piece slightly bigger than the finished size required, that can be cut down to final size after machining.



When selecting carving speed (p.21):

1. Select ROUTER MODE LOW then press on (ENTER).

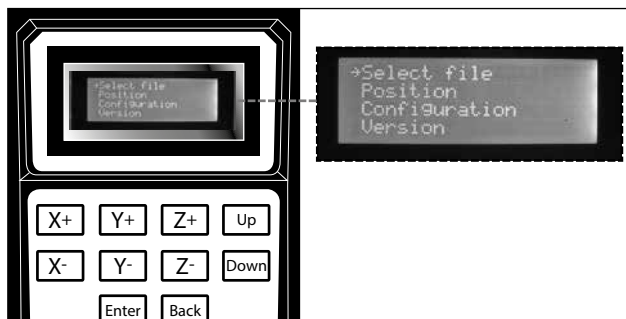


2. The i-Carver will start carving your artwork.

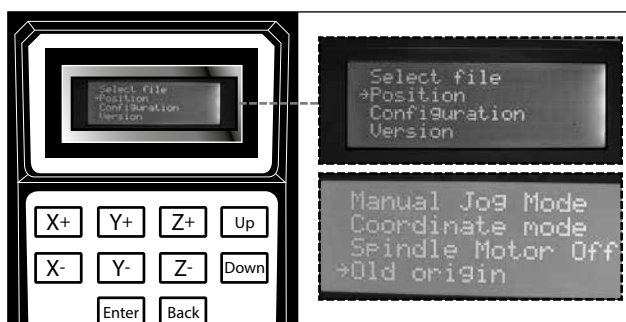
ADVANCED OPERATIONS

USING SAME POINT OF ORIGIN AS PREVIOUS PROJECT

Once a point of origin have been set once, a new option appears in POSITION menu, allowing you to use the same point of origin as the previous project instead of having to position the spindle over the point of origin again.



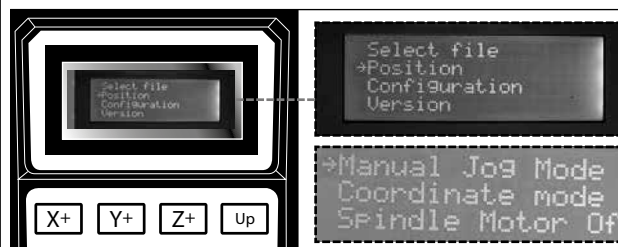
1. Upon completion of the first carving, move the cursor to SELECT FILE, then press on (ENTER).
2. Load the next project to carve.



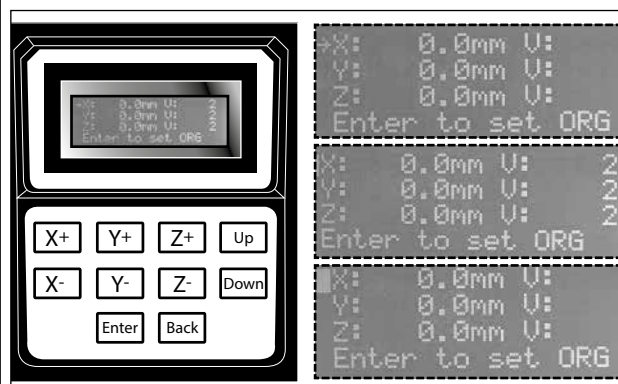
3. In POSITION menu, select OLD ORIGIN then press on (ENTER).

MANUALLY ADJUSTING JOGGING SPEED

Jogging speed can be set to 60 rpm (2) or 240 rpm (4). The default setting is 60 rpm (2). To set the jogging speed to 240 rpm (4):



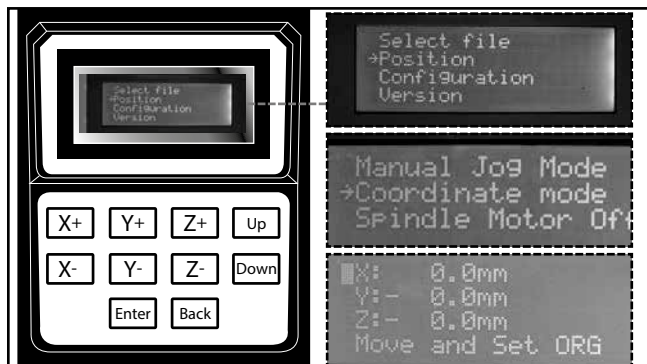
1. In POSITION menu, select MANUAL JOG MODE then press on (ENTER).



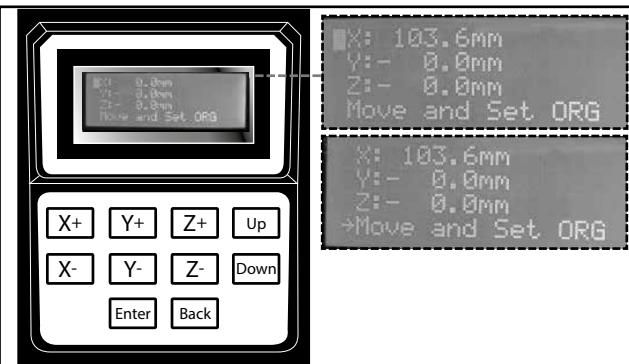
2. Select X then press on (ENTER). The cursor will turn into a flashing block for adjustment status.
3. Press on (UP) key to change X value to 4.
4. Press on (BACK) key to exit adjustment status. The flashing block will turn back into an arrow.
5. Repeat steps 2 to 4 for the Y and Z axes.

SPINDLE MANUAL POSITIONING

The spindle can be positioned by dialing the coordinates of the X, Y and Z axes.



1. In POSITION menu, move the cursor to COORDINATE MODE, then press (ENTER).
2. Select X then press (ENTER). The cursor will turn into a flashing block for adjustment status.
3. Using the (UP) or (DOWN) key, set the X value.



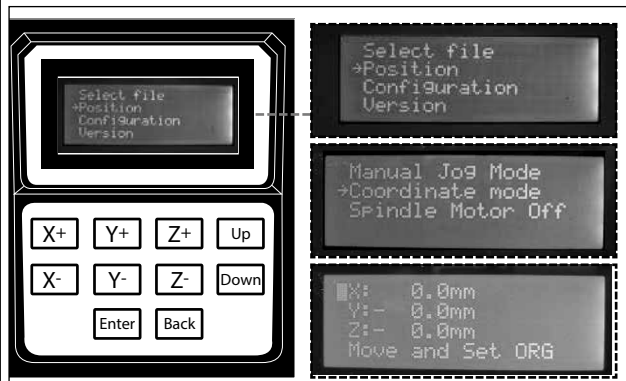
4. Press on (BACK) key to exit adjustment status. The flashing block will turn back into an arrow.
5. Once the X, Y and Z coordinates has been set to the required value, select MOVE AND SET ORG, then press on (ENTER).

TURNING SPINDLE MOTOR OFF/ON

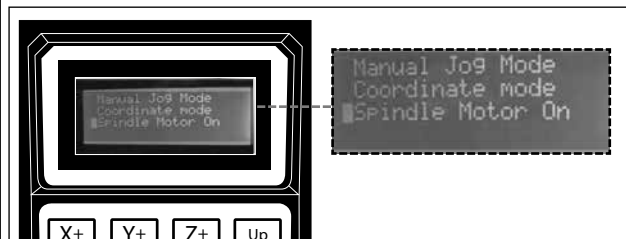
When using MANUAL JOG MODE, the user can turn the spindle motor OFF to avoid any accidental contact with the spindle turning at high speed, which could cause serious personal injuries and/or damage to the spindle.



KEEP HANDS WELL AWAY FROM THE SPINDLE, CUTTING TOOLS, AND ALL MOVING PARTS.



1. In MAIN menu, select POSITION then press (ENTER).
2. Select SPINDLE MOTOR OFF then press (ENTER). The cursor will turn into a flashing block for adjustment status.
3. Using the (UP) or (DOWN) key, set the spindle motor ON or OFF



4. Press on (BACK) key to exit adjustment status. The flashing block will turn back into an arrow.

M3 CODE

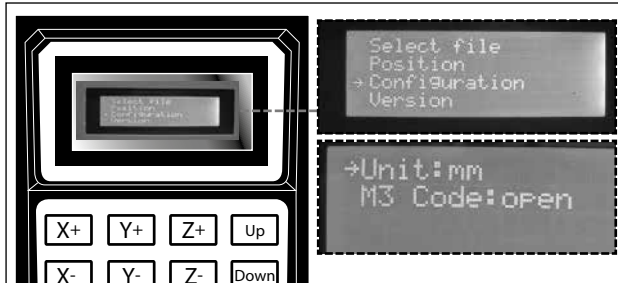
With standard NC code, opening/closing the M3 code allows you to turn the spindle on/off.

The spindle will not rotate. It will execute the program on the X, Y and Z axis but without engraving.

To turn the spindle OFF

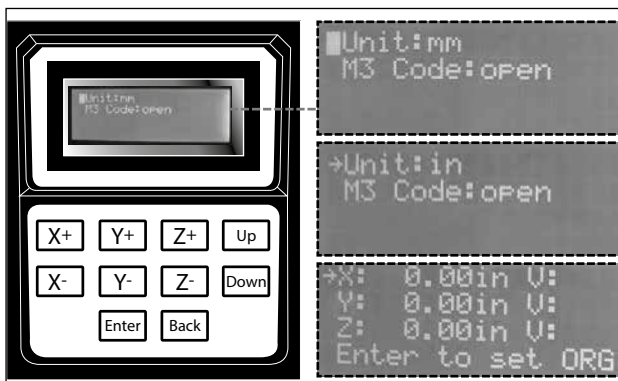
1. In MAIN menu, select CONFIGURATION then press (ENTER).
2. Select M3 CODE : OPEN then press (ENTER). The cursor will turn into a flashing block for adjustment status.

CHANGING UNIT SETTING FROM METRIC TO IMPERIAL



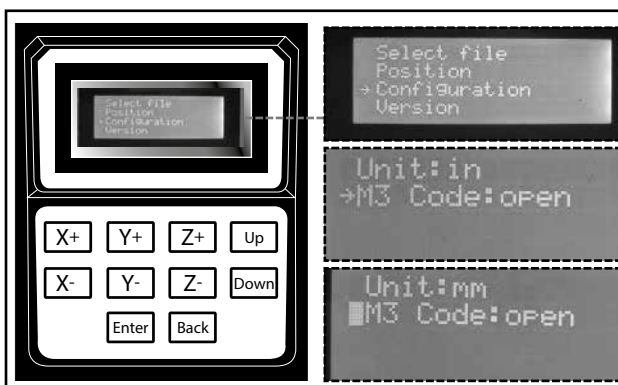
The default scale unit setting is in metric (mm). To change to imperial (inches):

1. In MAIN menu, select CONFIGURATION then press (ENTER).
2. Select UNIT : MM then press (ENTER). The cursor will turn into a flashing block for adjustment status.



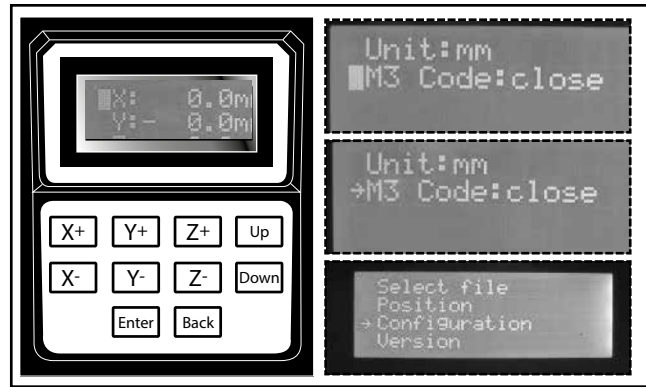
3. Press (DOWN) key to change to IN.
4. Press (BACK) key to exit adjustment status.
5. Press (BACK) key again to go back to MAIN menu. The coordinates are now displayed in INCHES.

This setting will remain after turning the carver off. To revert back to metric (mm) go back to CONFIGURATION menu and select UNIT : MM



To turn the spindle ON

1. Press (DOWN) key to change to M3 CODE : CLOSE.
2. Press (BACK) key to exit adjustment status.
3. Press (BACK) key again to go back to MAIN menu.



MAINTENANCE



MAKE SURE THE MACHINE HAS BEEN TURNED OFF AND UNPLUGGED FROM THE POWER SOURCE BEFORE PERFORMING ANY MAINTENANCE.

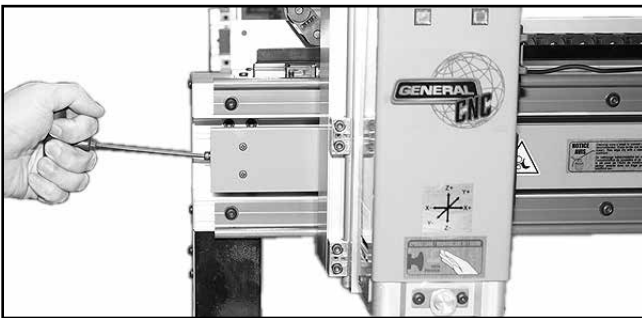
PERIODIC MAINTENANCE

- Inspect/test the ON/OFF switch before each use. Do not operate the i-Carver with a damaged switch; replace a damaged switch immediately.
- Keep the machine clean and free of saw dust, woodchips, pitch or glue. Vacuum or brush off any loose debris and wipe down the machine and table occasionally with a damp rag.
- Periodically inspect the power cord and plug for damage. To minimize the risk of electric shock or fire, never operate the i-Carver with a damaged power cord or plug. Replace a damaged power cord or plug at the first visible signs of damage.
- Regularly inspect carved workpieces for signs of cutting tool damage or wear and replace damaged or worn cutting tools immediately.

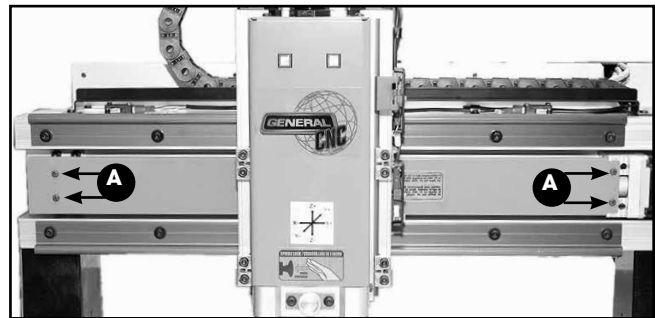
LUBRICATION

To prevent dirt or dust build-up, cleaning and lubrication of the 3 lead screws is recommended after every 60 hours of operation.

1. Disconnect the machine from the power source.



2. Using a 4 mm Allen wrench, rotate the X axis lead screw to move the spindle more or less to the middle of machine.



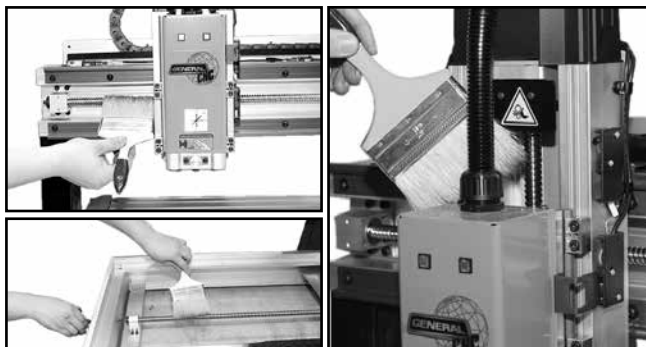
3. For the X Axis: Remove the 4 Phillips head screws **A** on the guard and remove the guard.



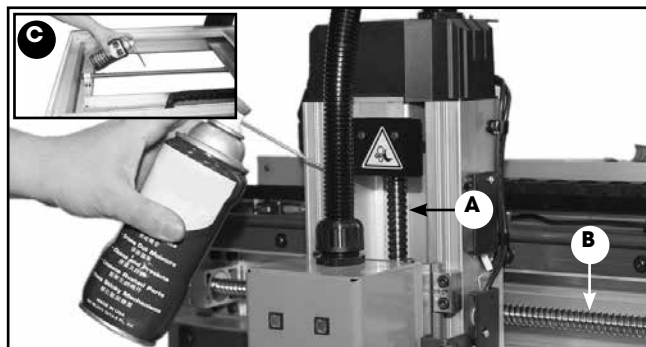
4. For the Y Axis: Using a 5 mm Allen wrench, remove the 16 cap screws and remove the table.



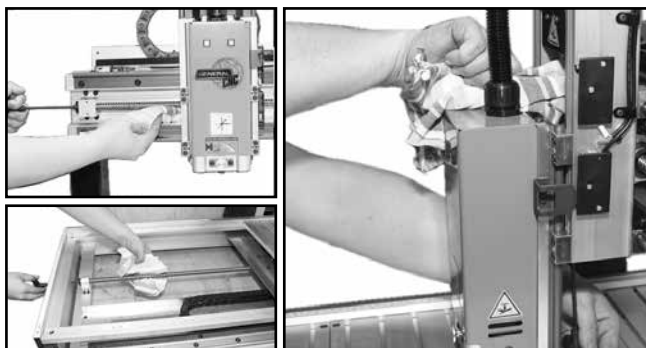
5. For the Z Axis: Using a 4 mm Allen wrench, move the spindle downward to expose the lead screw.



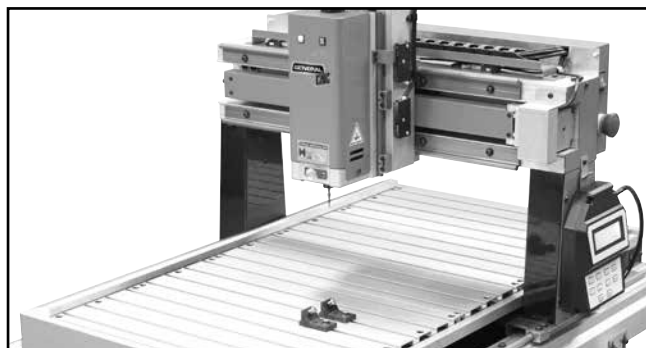
6. Using a long soft bristled brush clean the wood chips and dust from the 3 lead screws.



7. Oil the 3 lead screws, A, B and C, using SAE 20 or lower machine oil.



8. While applying oil, turn each lead screw and use a clean dry cloth to wipe off any excess oil.



9. Re-install the guard and the table.

RECOMMENDED OPTIONAL ACCESSORIES

Here are some of the optional accessories available from your local General International dealer. For more information about our products, please visit our website at www.general.ca



**STAND
#40-905**
For model
40-915X only.

Tooling Kit for i-Carver # 40-928

Specifically designed for General CNC series i-Carver models 40-915, and 40-915X.

Contains an assortment of eight the most requested bits:

- 60 & 90 degree V-bits for 2-D carving
- 1/4" end mill for clearing
- 1/8" & 1/4" down spiral end mill for through cutting
- 1/8" & 1/4" ball nose for 3-D carving
- 1/32" replacement conical V-bit



Conical cutter # 40-917

1/32" conical/carving tool for precision cutting and shape.



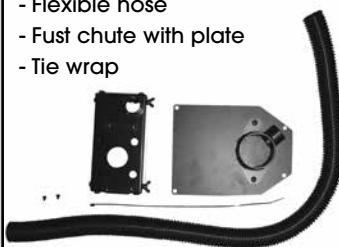
End mill cutter # 40-916

1/8" end mill/machining tool for cleaning larger areas.



DUST COLLECTION OUTLET # 40-914

- Contains:
- Dust collection skirt
 - Flexible hose
 - Fast chute with plate
 - Tie wrap



SAFETY ENCLOSURE # 40-919X

Ideal for educational users. Impact resistant Lexan™. Safety inter-lock door (auto-shut-off).

For model
40-915X only



TROUBLESHOOTING

LIMIT SWITCH ERROR

POSSIBLE CAUSES

The X, Y, or Z axis over travels and hits the limit switch or the limit switch wire is disconnected.

SOLUTIONS

Turn off the power and restart the machine. Then, the axes should function.

SPINDLE MOTOR OVERHEAT

POSSIBLE CAUSES

The spindle motor shuts down automatically when overheated.

SOLUTIONS

Turn off the power. Restart the power after 5 minutes.

ELECTRICAL ERROR 13

POSSIBLE CAUSES

Spindle motor shuts down automatically as a result of interference from external sources.

SOLUTIONS

Ensure power supply is properly grounded. Avoid plugging another machine into the same wall outlet.

ELECTRICAL ERROR 21

POSSIBLE CAUSES

Wire disconnection between the hand held controller and controller board.

SOLUTIONS

Turn off the power and ensure all the wires are well connected on the hand help controller and circuit board (refer to the exploded view drawing of the machine on our website for details). Restart the machine and it should function normally.

USB ERROR

POSSIBLE CAUSES

Improperly connected or defective USB.

SOLUTIONS

Solution: Unplug the USB and restart the machine. Re-plug in the USB. If this does not resolve the issue try another USB drive

ELECTRICAL ERROR 24 OR ERROR 26

POSSIBLE CAUSES

Hand held controller cannot detect controller board connection.

SOLUTIONS

Turn off the power and ensure all the wires are well connected on the hand help controller and circuit board (refer to the exploded view drawing of the machine on our website for details) . Restart the machine and it should function normally.

Notes

DIAGRAM-1

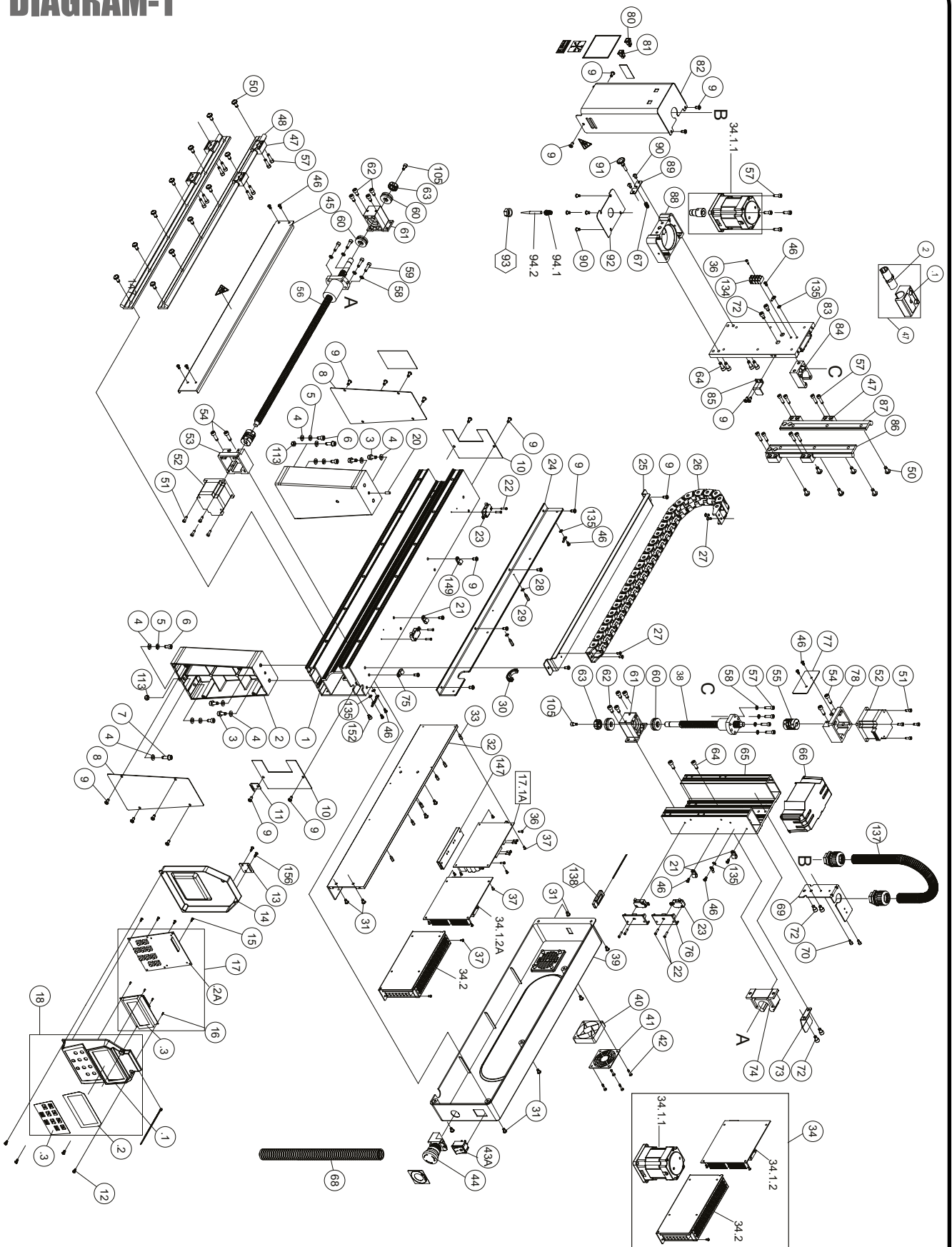
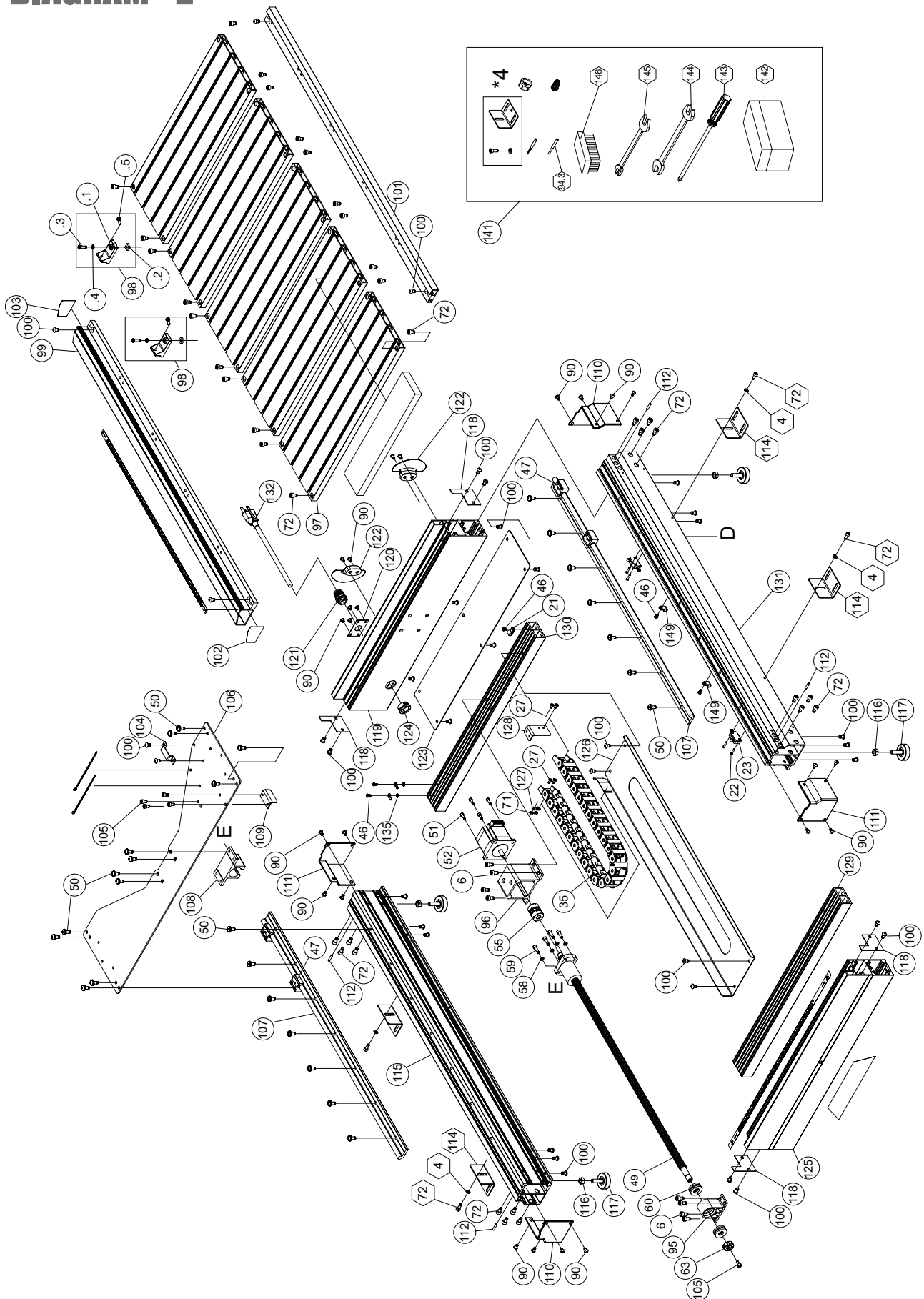


DIAGRAM - 2



PARTS LIST — i-Carver 40-915

REF #	PART. NO.	DESCRIPTION	SPECIFICATIONS	QTY
1	40915X-01	CROSS BEAM		1
2	40915X-02	VERTICAL POST	ADC12	2
3	40915X-03	FLANGE BOLT	M6 x 1.0P x 16/6.1 x 12.3	4
4	40915X-04	FLAT WASHER	6.3 x 13 x 1.0t	10
5	40915X-05	LOCK WASHER	6.1 x 12.3	4
6	40915X-06	CAP SCREW	M6 x 1.0P x 12	16
7	40915X-07	FLANGE BOLT	M6 x 1.0P x 20/6.1 x 12.3	2
8	40915X-08	VERTICAL POST COVER		2
9	40915X-09	BUTTON HEAD SCREW	M5 x 0.8P x 10	27
10	40915X-10	SIDE COVER		2
11	40915X-11	KEYPAD HOOK		1
12	40915X-12	SELF TAPPING SCREW	M4 x 1.59P x 12L	4
13	40915X-13	KEYPAD RECEPTACLE		1
14	40915X-14	KEYPAD BACK COVER		1
15	40915X-15	SELF TAPPING SCREW	M3 x 1.06P x 6	4
16	40915X-16	SELF TAPPING SCREW	M2 x 0.63P x 6L	4
17	40915X-17	CONTROLLER COMPLETE		1
17.1A	40915X-17-1A	CONTROL BOARD		1
17.2A	40915X-17-2A	KEYPAD CIRCUIT BOARD		1
17.3	40915X-17-3	LCD SCREEN	WH2004A	1
18	40915X-18	KEYPAD FRONT COVER ASS'Y		1
18.1	40915X-18-1	KEYPAD FRONT COVER		1
18.2	40915X-18-2	TRANSPARENT STICKER		1
18.3	40915X-18-3	KEYPAD STICKER		1
20	40915X-20	PIN	5 x 12	1
21	40915X-21	CORD CLIP	ACC-2-B	4
22	40915X-22	PHILLIPS HEAD SCREW	M3 x 0.5P x 15	12
23	40915X-23	LIMIT SWITCH		6
24	40915X-24	CONNECTING PLATE		1
25	40915X-25	CHAIN SEAT		1
26	40915X-26	CHAIN	(22-links)	1
27	40915X-27	COUNTERSUNK SCREW	M4 x 0.7P x 10	8
28	40915X-28	FLAT WASHER	3 x 8 x 1.0t	2
29	40915X-29	HEX BOLT		2
30	40915X-30	CORD PROTECTOR	AMB-3 65mm	1
31	40915X-31	PHILLIPS HEAD SCREW	M5 x 0.8P x 8	10
32	40915X-32	COVER PLATE		1
33	40915X-33	HEX BOLT		6
34	40915X-34	MAIN SPINDLE MOTOR ASS'Y		1
34.1	40915X-34-1	MAIN MOTOR & DRIVER	21000rpm 500W/110V/50-60Hz	1
34.1.1	40915X-34-1-1	MAIN MOTOR	21000rpm 500W/110V/50-60Hz	1
34.1.2A	40915X-34-1-2A	SPINDLE DRIVER BOARD	21000rpm 500W/110V/50-60Hz	1
34.2	40915X-34-2	POWER SUPPLY	NES-150(110V)	1
35	40915X-35	CABLE CHAIN	(27-links)	1
36	40915X-36	PHILLIPS HEAD SCREW	M3 x 0.5P x 10	6
37	40915X-37	PHILLIPS HEAD SCREW	M3 x 0.5P x 6	10
38	40915X-38	BALL SCREW (Z)		1
39	40915X-39	ELECTRIC BOX BACK COVER		1
40	40915X-40	FAN	DC 24V 2.04W	1
41	40915X-41	FAN COVER	ABS	1
42	40915X-42	SELF TAPPING SCREW	M4 x 1.59P x 25	4
43A	40915X-43A	POWER SWITCH		1
44	40915X-44	EMERGENCY STOP	(ALE16)	1
45	40915X-45	BALL SCREW COVER		1
46	40915X-46	PHILLIPS HEAD SCREW	M4 x 0.7P x 8	17
47	40915X-47	SLIDE BLOCK ASS'Y	WJ200M-01-10	12

PARTS LIST — i-Carver 40-915

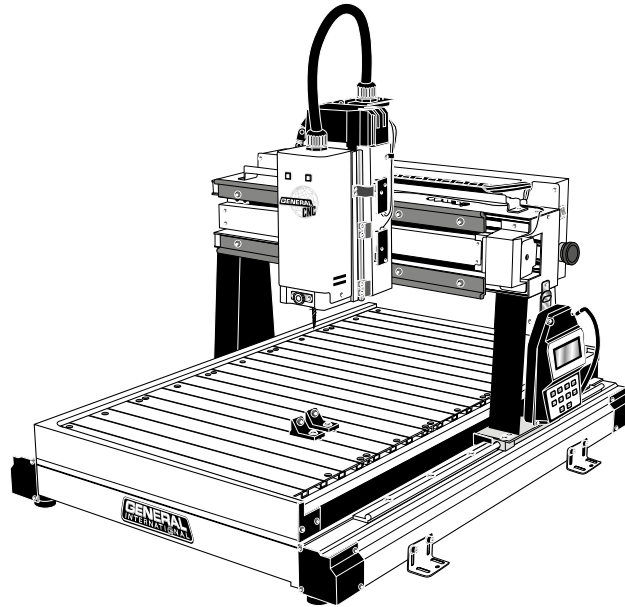
REF. #	PART NO.	DESCRIPTION	SPECIFICATION	QTY
47.1	40915X-47-1	NYLON SLEEVE		12
47.2	40915X-47-2	SLIDE BLOCK		12
48	40915X-48	RAIL FOR X AXIS		2
49	40915X-49	BALL SCREW (Y)		1
50	40915X-50	BUTTON HEAD SCREW/W WASHER	M6x1.0Px16/6.1x12.3/6.3x13x1.0t	44
51	40915X-51	CAP SCREW	M4 x 0.7P x 12	8
52	40915X-52	STEPPER MOTOR		3
53	40915X-53	STEPPER MOTOR SEAT		1
54	40915X-54	LOCKSCREW	M6 x 1.0P x 20	4
55	40915X-55	COUPLING	Ø8 x Ø10 x L31	3
56	40915X-56	BALL SCREW (X)		1
57	40915X-57	CAP SCREW	M5 x 0.8P x 20	24
58	40915X-58	LOCKWASHER	5.1 x 9.3	12
59	40915X-59	CAP SCREW	M5 x 0.8P x 15	8
60	40915X-60	THRUST BEARING	51201	6
61	40915X-61	SUPPORT BLOCK		2
62	40915X-62	LOCKSCREW	M6 x 1.0P x 12	8
63	40915X-63	SPECIAL NUT	MR12 x 1.0P	3
64	40915X-64	CAP SCREW	M6 x 1.0P x 16	2
65	40915X-65	SPINDLE SADDLE		1
66	40915X-66	STEPPER MOTOR COVER		1
67	40915X-67	SPRING	SUP6	1
68	40915X-68	PLASTIC CORRUGATED TUBING	NAP-022BC x 210mm	1
69	40915X-69	CABLE BRACKET	SPHC	1
70	40915X-70	CAP SCREW	M4 x 0.7P x 8	2
71	40915X-71	HEX. NUT	M4 x 0.7P(7B x 3.2H)	2
72	40915X-72	CAP SCREW	M6 x 1.0P x 10	42
73	40915X-73	CONTACT PLATE (X)		1
74	40915X-74	SLIDE BLOCK (X)		1
75	40915X-75	CORD CLIP	ACC-3-B	1
76	40915X-76	LIMIT SWITCH COVER		2
77	40915X-77	STEEL PLATE	SPHC	1
78	40915X-78	STEPPER MOTOR SEAT		1
80	40915X-80	LED (GREEN)	FH	1
81	40915X-81	LED (RED)	FH	1
82	40915X-82	SPINDLE FRONT COVER		1
83	40915X-83	SLIDE PLATE		1
84	40915X-84	SLIDE BLOCK (Z)		1
85	40915X-85	CONTACT PLATE (Z)		1
86	40915X-86	RAIL FOR Z AXIS (L)		1
87	40915X-87	RAIL FOR Z AXIS (R)		1
88	40915X-88	SPINDLE BOTTOM COVER		1
89	40915X-89	STEEL PLATE		1
90	40915X-90	BUTTON HEAD SCREW	M5 x 0.8P x 8	30
91	40915X-91	PIN		1
92	40915X-92	SPINDLE BOTTOM COVER PLATE		1
93	40915X-93	COLLET NUT	S45C	1
94.1	40915X-94-1	COLLET	ER11(Ø6.5)	1
94.2	40915X-94-2	CONICAL/CARVING CUTTING TOOL (item #40-917)	1/32"	1
94.3	40915X-94-3	END MILL/MACHINING TOOL (item #40-916)	1/8"	1
95	40915X-95	SUPPORT BLOCK		1
96	40915X-96	STEPPER MOTOR BASE (Y)		1
97	40915X-97	ALUMINUM TABLE		5
98	40915X-98	CLAMP		4
98.1	40915X-98-1	CLAMP BODY		1
98.2	40915X-98-2	SQUARE NUT	SPHC	1

PARTS LIST — i-Carver 40-915X

REF.#	PART NO.	DESCRIPTION	SPECIFICATION	QTY
98.3	40915X-98-3	PHILLIPS HEAD SCREW	M5 x 0.8P x 18	1
98.4	40915X-98-4	LOCK WASHER	5.1 x 9.3	1
98.5	40915X-98-5	PHILLIPS HEAD SCREW	M6 x 1.0P x 16	1
99	40915X-99	ALUMINUM TUBE (TR)		1
100	40915X-100	BUTTON HEAD SCREW	M6 x 1.0P x 10	36
101	40915X-101	ALUMINUM TUBE (TL)		1
102	40915X-102	ALUMINUM TUBE COVER		1
103	40915X-103	ALUMINUM TUBE COVER		1
104	40915X-104	CORD CLAMP	SPHC	1
105	40915X-105	CAP SCREW	M5 x 0.8P x 10	7
106	40915X-106	LINKAGE PLATE		1
107	40915X-107	RAIL FOR Y AXIS		2
108	40915X-108	SLIDING BLOCK (Y)		1
109	40915X-109	CONTACT PLATE (Y)		1
110	40915X-110	ALUMINUM COVER		2
111	40915X-111	ALUMINUM COVER		2
112	40915X-112	PIN	4 x 6	4
113	40915X-113	LOCKNUT	M6 x 1.0P(10B x 7H)	2
114	40915X-114	MOUNTING BRACKET		4
115	40915X-115	RIGHT MAIN RAIL		1
116	40915X-116	JAM NUT	M8 x 1.25P(13B x 6.5H)	4
117	40915X-117	LEVELLING FOOT		4
118	40915X-118	RAIL END COVER	SPHC	4
119	40915X-119	REAR CROSS RAIL		1
120	40915X-120	CORD RETAINER		1
121	40915X-121	STRAIN RELIEF	MGB16-10B	1
122	40915X-122	CORD STORAGE HOOKS		2
123	40915X-123	BOTTOM PLATE		1
124	40915X-124	SNAP BUSHING	NB-1925	1
125	40915X-125	REAR CROSS RAIL		1
126	40915X-126	CABLE CHAIN BRACKET (Y)		1
127	40915X-127	FLAT WASHER	4.3 x 10 x 1.0t	2
128	40915X-128	BRACKET		1
129	40915X-129	FRONT BOTTOM CROSS RAIL		1
130	40915X-130	REAR BOTTOM CROSS RAIL		1
131	40915X-131	LEFT MAIN RAIL		1
132	40915X-132	POWER CORD		1
134	40915X-134	TERMINAL BLOCK	PA-8DS	1
135	40915X-135	SPROCKET WASHER	4.3 x 8.5(BW-4)	7
137	40915X-137	PLASTIC CORRUGATED TUBING		1
138	40915X-138	USB FLASH DRIVE		1
141	40915X-141	TOOL KIT		1
142	40915X-142	TOOL BOX	175(L) x 110(W) x 95(H)	1
143	40915X-143	SCREW DRIVER	#1 x 75	1
144	40915X-144	11/13 MM COMBINATION WRENCH	11 x 13	1
145	40915X-145	14/17 MM COMBINATION WRENCH	14 x 17	1
146	40915X-146	BRUSH	125 x 54 x 40	1
147	40915X-147	COVER PLATE		1
149	40915X-149	CORD CLIP	ACC-1.5-B	3
152	40915X-152	CAP SCREW	M5 x 0.8P x 6	1
156	40915X-156	SELF TAPPING SCREW	M4 x 1.59P x 8L	2

IMPORTANT: When ordering replacement parts, always give the model number, serial number of the machine and part number. Also a brief description of each item and quantity desired

MODEL i-Carver 40-915X



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