

SETUP & OPERATION MANUAL

Features

New! Renown Excalibur by General International design expertise now available in CNC technology.

Controller powered by **Masso**. Software version 3.40 included. **Free** software updates from Masso included. Also included with Masso is WIFI chip.

Plug and play controller to CNC. Parameters for Masso are preinstalled!

No computer needed! Masso is a stand alone processor. (Monitor, USB keyboard, USB mouse and USB hub needed. *Not included*).

Powerful 550 watt variable frequency motor for excellent performance and low maintenance.

Smooth and accurate ball screw transmission on all axis.

Positional accuracy up to ± 0.004 inches.

Variable cutting speeds up to 118 inches per minute.

Spindle speeds up to 24,000 rpm with automatic spindle on/off control.

Aluminum table with integrated hold down clamps.

1 year limited warranty.

Options

EC-617BSD stand and dust collector

EC-617X safety enclosure (ideal for educational users.)

Specifications

Cutting capacity (X,Y and Z axis)
16", 24" and 6"

Positional accuracy
 ± 0.004 "

Assembly dimensions

-EC-617 M1 only

27 3/4" x 38 1/2" x 27 1/2" (704 x 980 x 700mm)

-With optional stand

40 1/8" x 31 1/2" x 55 1/8" (1020 x 800 x 1400mm)

-With optional stand & optional enclosure (EC617X)

Spindle/ motor type

550W-variable frequency motor

Table surface material

Aluminium

Masso programming software included. Version 3.40
Free upgrades directly from Masso

Input power requirements
110/115v - 9A

Collet

1 x 1/4" (6mm)

Weight (shipping/net) EC-617M1 without enclosure
308/264 lbs (140/120kg)

16" X 24" CNC CARVING MACHINE

Powered by industrial grade MASSO Controller



MODEL

#EC-617 M1



Version 2 May 2019

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Visit us at www.general.ca



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THANK YOU

for choosing this Excalibur by General International model EC-617 M1 16" x 24" CNC carving machine with the Masso controller. This 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® INTERNATIONAL WARRANTY

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

Standard 1-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 1 year (12 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 1-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 technical support department at 419-877-5234. 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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For Video Instructions visit us at www.general.ca

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 work area should be well lit, clean and free of debris.
4. Keep children and visitors at a safe distance when the CNC carver is in operation; do not permit them to operate the CNC 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. Respect the rated limits of this machine.
20. To ensure safety, all maintenance should be performed by a qualified technician.
21. To avoid electrical shock, do not touch the transformers, motors or control box when the power is on.
22. Make sure to always have full unimpeded access to the emergency stop button at all times.
23. To ensure safety, do not tamper with the safety cover, limit switch or any other accessories.
24. Be sure to keep a record before changing any settings on the machine.
25. Place the unit on a sturdy surface, in a dry area.
26. Avoid exposing the machine to extremely high temperatures.
27. Unplug the unit from the power source before replacing fuses. Use only recommended fuses.
28. 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.

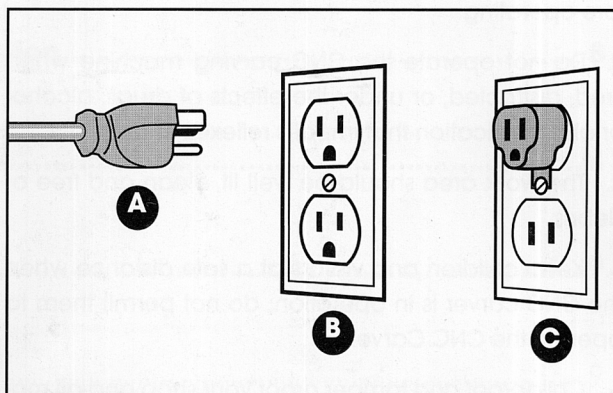
THIS TOOL IS FOR INDOOR USE ONLY. DO NOT EXPOSE TO RAIN OR USE IN WET OR DAMP LOCATIONS.

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.

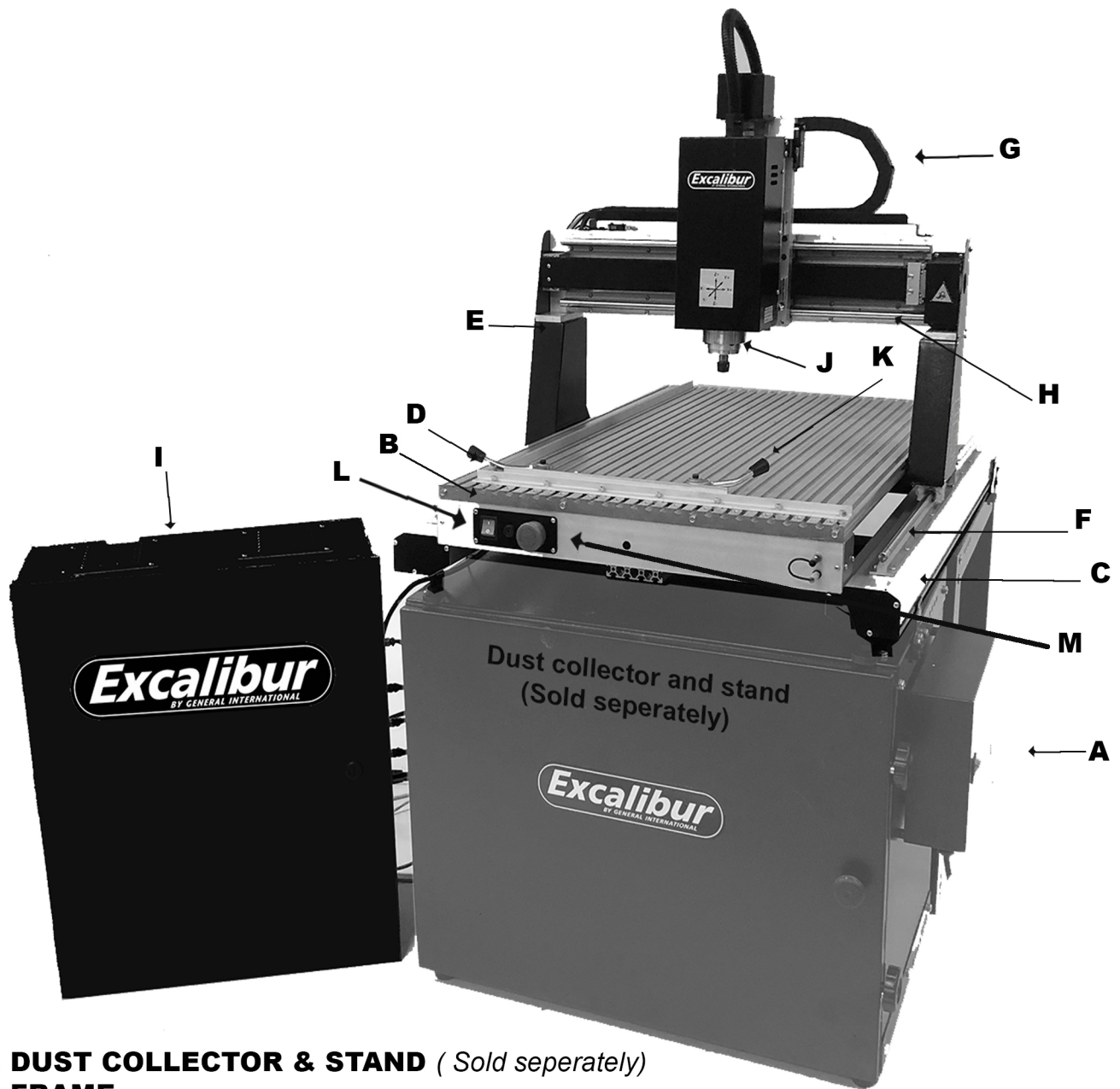
Make sure the cord rating is suitable for the amperage listed on the motor I.D. plate. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. In some cases this may cause the machine to stop its cutting operation and an error message will appear on your controller.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

EXTENSION CORD LENGTH				
AMPERES	50 feet	100 feet	200 feet	300 feet
< 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

IDENTIFICATION OF MAIN PARTS AND COMPONENTS



- A. DUST COLLECTOR & STAND** (Sold seperately)
- B. FRAME**
- C. SIDE RAIL**
- D. WORK TABLE**
- E. GANTRY**
- F. Y AXIS RAIL**
- G. CABLE CHAIN**
- H. X AXIS RAIL**
- I. CONTROL BOX**
- J. SPINDLE**
- K. WORKPIECE CLAMP**
- L. POWER ON/OFF SWITCH**
- M. EMERGENCY STOP BUTTON**

UNPACKING AND PREPARATION FOR SET-UP INSTALLATION



THE MACHINE IS HEAVY (132 LBS - 60 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

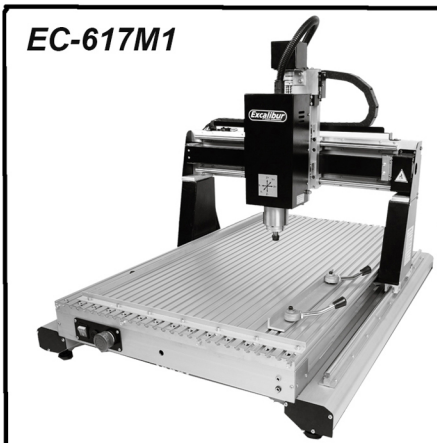
Your EX-617 M1 is supplied as a standard version CNC machine including the control system powered by Masso HTG 5A15 with WIFI. (www.massco.com.au). The CNC machine is shipped in two cartons. The CNC machine alone and the control box in another carton.

NOTE: A saftey enclosure with auto lock-out # EC-617X is also available as an optional accessory (see the section "Optional accessories").

Carefully unpack and remove the CNC machine and its components from the carton and check for damage or missing items as per the parts list in this manual.

Note: Please report any damage or missing items directly to General International immediately. Do this by sending email to info@gipowerproducts.com. Please provide as much information to General International. Pictures are most helpful. A representative will respond asap!

EC-617M1



Control Box



For Video Set up step by step instructions visit www.general.ca

PLACEMENT WITHIN THE SHOP / SAFETY ZONE



THIS MODEL EC-617M1 IS HEAVY! 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 POWER SOURCE UNTIL INSTRUCTED TO DO SO.

THE EC-617M1 HAS A YELLOW END ON ONE CORD. IT IS IMPORTANT THAT ONLY THE CONTROLLER BE PLUGGED INTO THAT CONNECTION. FAILURE TO PLUG THE CONTROLLER INTO THE YELLOW CONNECTOR WILL OVER RIDE THE SAFTEY SHUTOFF AND SERIOUS INJURY MAY OCCUR!

PLACEMENT IN THE SHOP

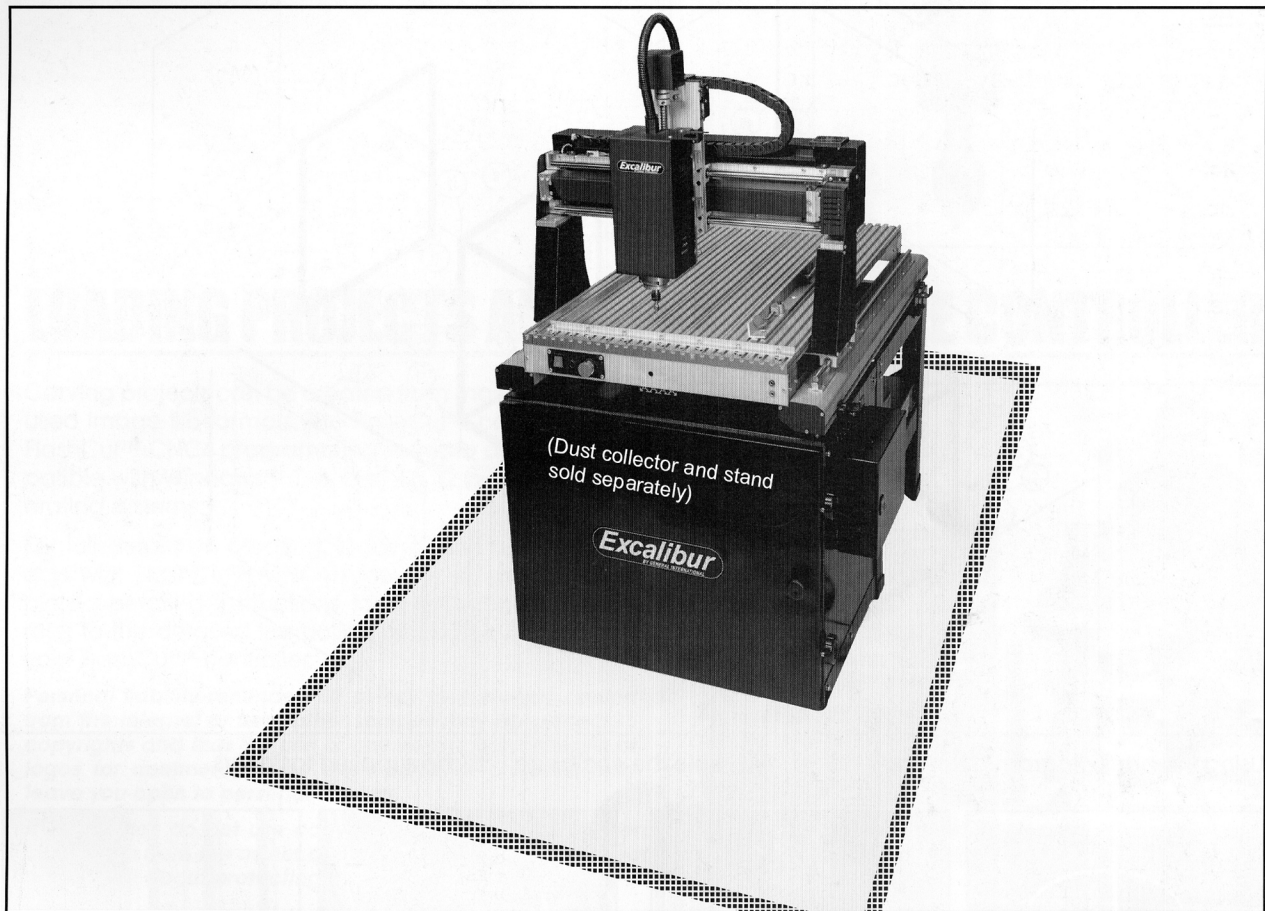
This machine should be installed and operated only on a solid, flat and stable work surface that is able to support the weight of the EC-617M1 CNC and work piece. Plan for placement within your shop that will allow the operator to work unencumbered and unobstructed by foot traffic (either passing shop visitors or other shop workers) or other tools or machinery.

Electronic Control Box

Place control box in a permanent position. Enclosure has hanging keyhole slots to position on a stable wall.

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.



ASSEMBLY AND INSTALLATION INSTRUCTIONS



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.

For your convenience the EC-617M1 is shipped from the factory partially assembled and requires only minimal assembly for the stand, and minor set up before being put into service.

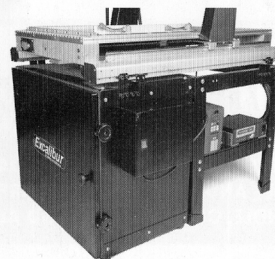
ASSEMBLING THE STAND

Using the parts diagram in the section "Parts and diagrams" as a guide, assemble the stand with the supplied fasteners.

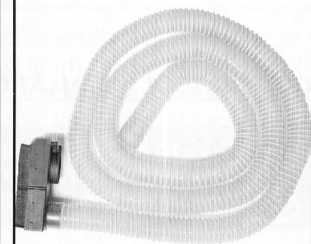
Attach the dust collection/controller cabinet and secure the EC-617M1 to the stand and cabinet as shown. Then connect the end of dust hose to the dust port on the cabinet and the other end of the dust hose with mounting bracket to the spindle head.

Note: If ordered with the optional EC-617X safety enclosure, proceed with enclosure installation before connecting the dust hose.

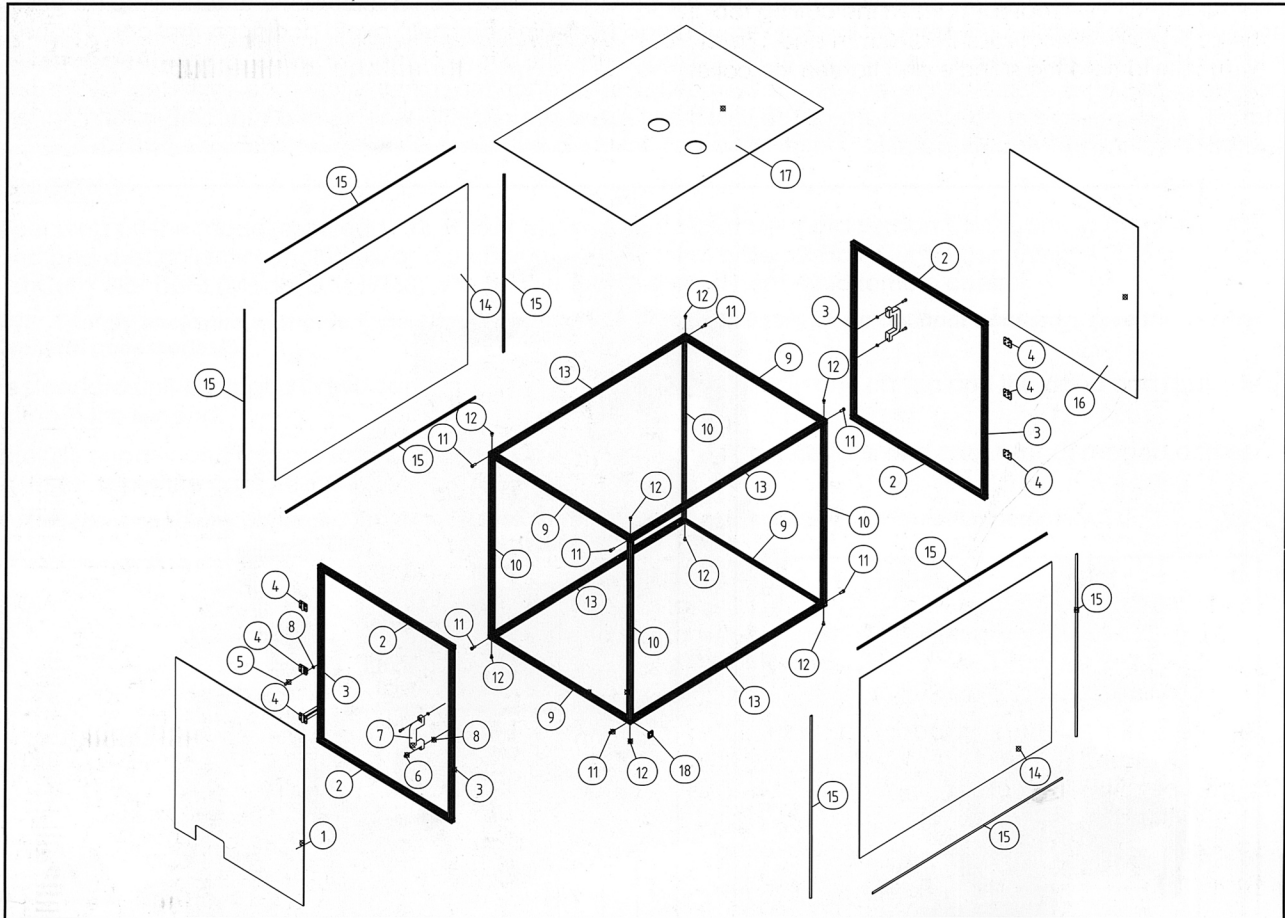
(Dust collector and stand sold separately)



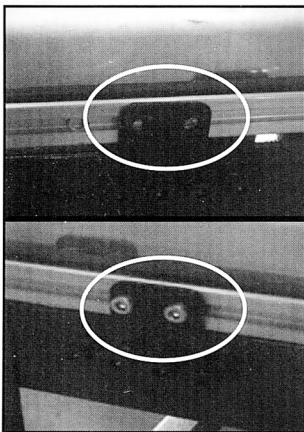
Hose and hose adapter come with the dust collector



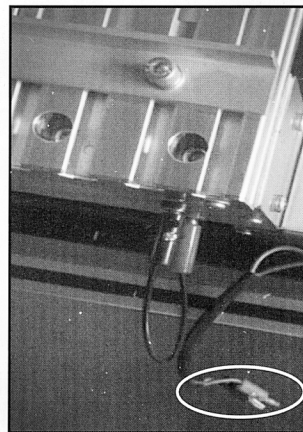
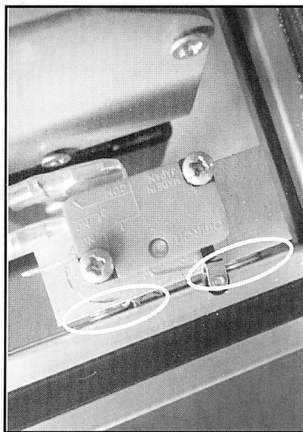
ASSEMBLING & INSTALLING THE OPTIONAL EC-617X SAFETY ENCLOSURE



Using the parts diagram below as a guide, assemble the enclosure with the supplied fasteners.

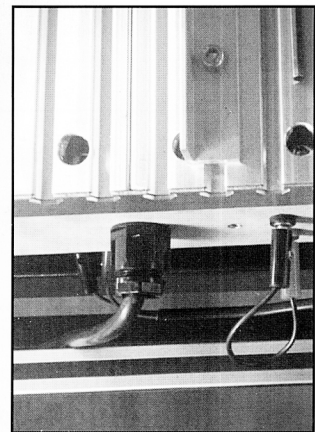


Secure the enclosure to the base. Install two flat washers between the cut-off switch and the frame of the safety enclosure as shown below.



Connect the wires from the cut-off switch on the enclosure in place of ones supplied with the basic unit.

Note: Take care during installation that the main power cable does not obstruct the rear door.



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.

The spindle's collet on this unit is designed to accept standard $\frac{1}{4}$ " or 6mm bits. A wide range of bits in various cutting shapes can be used based on the project and type of cutting tool needed. See your retailer for details of the various bits that may be available in your area.

Connecting Control Box to the EC-617M1 CNC Machine.

Locate your machine where you plan to use it. The control box is able to be mounted on the wall, with the vents at the top of the control box.

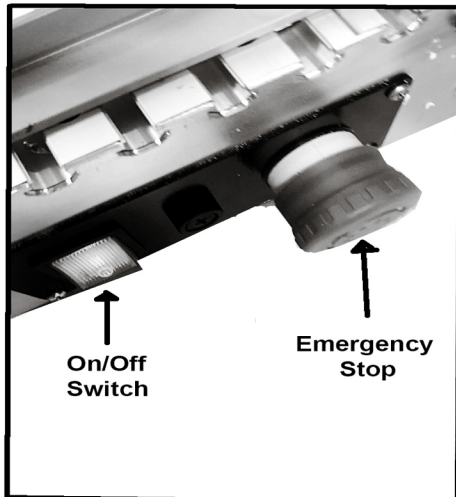
Step by step starting guide. **For video step by step please visit www.general.ca**

- 1.)  **THE YELLOW FEMALE END ON CNC MACHINE MUST BE PLUGGED INTO THE POWER CORD THAT COMES FROM THE CONTROLLER!**
FAILURE TO DO SO WILL DISABLE THE SAFETY SHUTOFF ON THE CNC MACHINE.
- 2.) The cords are labeled. Plug the cords in according to corresponding label. From top to bottom plug in the spindle. The connectors only go on one way. Turn plug until it aligns up and slides in, and then tighten ring.
- 3.) The next connection is the X axis. Repeat the above connection.
- 4.) Y is next.
- 5.) Followed by Z.
6. Next is the emergency stop connection.
- 7.) Now the limit switch connection.
- 8.) The monitor (not included) is to be connected to its plug. (May not always be on the same side as the other connections.
- 9.) There are two USB slots. The slot closest to the monitor is for the keyboard.
- 10.) The final connection is the mouse (*not included*) and gcode USB flashdrive. A USB hub (*not included*) is needed to connect flashdrive that has your gcodes stored on it, created from another computer.

Where to get the G-code?

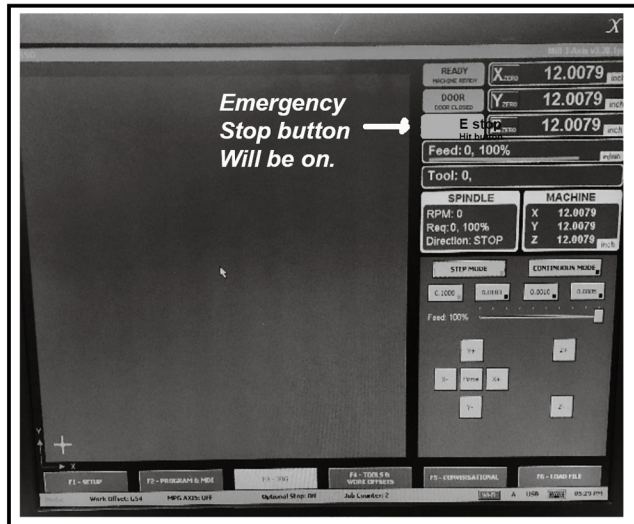
First, you can use pictures or drawings. However you need to use Cad/Cam software on a separate computer that generates drawings into G-code. While there are a few Free programs, the best and most user friendly is VCarve by VETRIC Software. Visit Vetric.com for free trial!

Now you are ready to power up. If you have to change any connections you must turn off controller before making a change. Turn on power button on CNC machine. You should see everything powering up.



For Tech support please email markeasterwood@gipowerproducts.com

Now that you have powered up your monitor should look like this. The yellow E Stop will be lit.



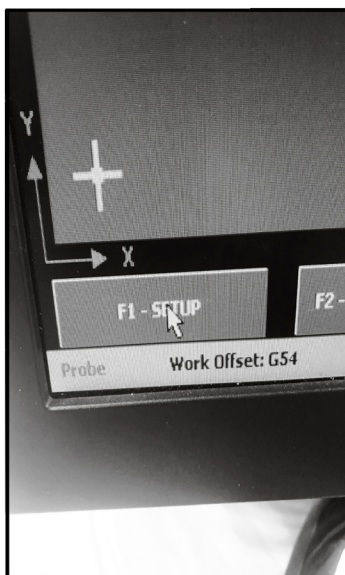
This is a safety feature. On the CNC machine you must push in the Emergency Stop button then twist the button to release it.



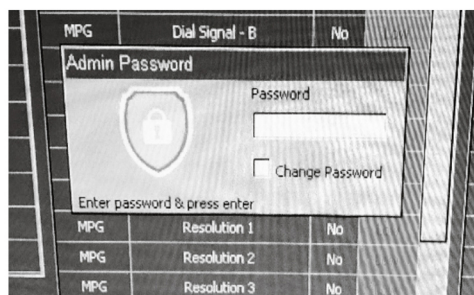
Stop Button Activated in the In Position.



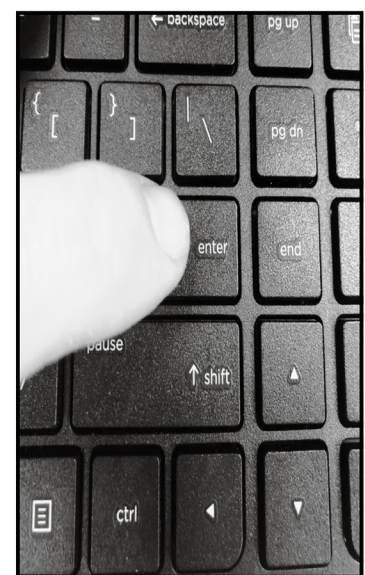
Emergency Stop Button Deactivated in the Out Position.



To enter password and unlock machine Click on Setup



No password has been assigned. Put cursor in the Password Box



Hit Enter

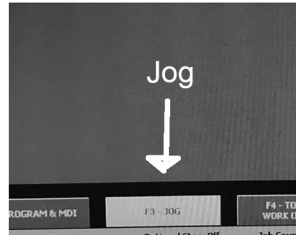
Ready to start CNC machine

Now the time you have been waiting for. It's time to start running the machine.
Until you become familiar with your machine don't put a cutting bit in yet.

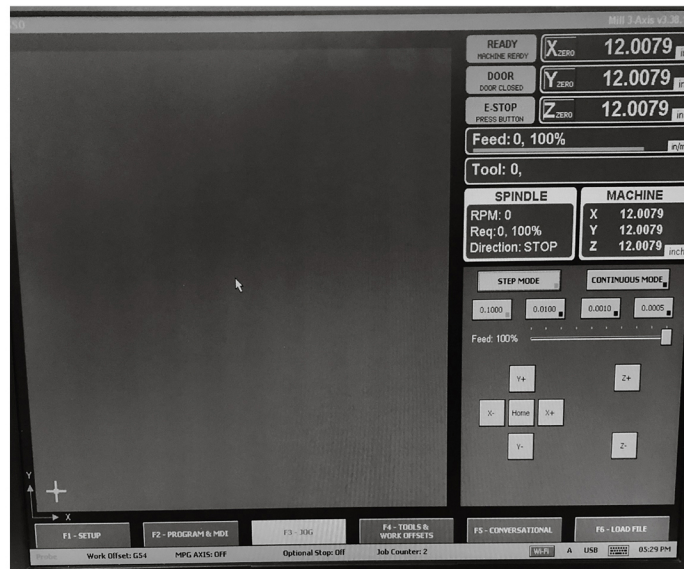
For Tech support: email markeasterwood@gipowerproducts.com

For step by step video instructions visit www.general.ca

Go to the Jog button at the bottom middle and click on it.



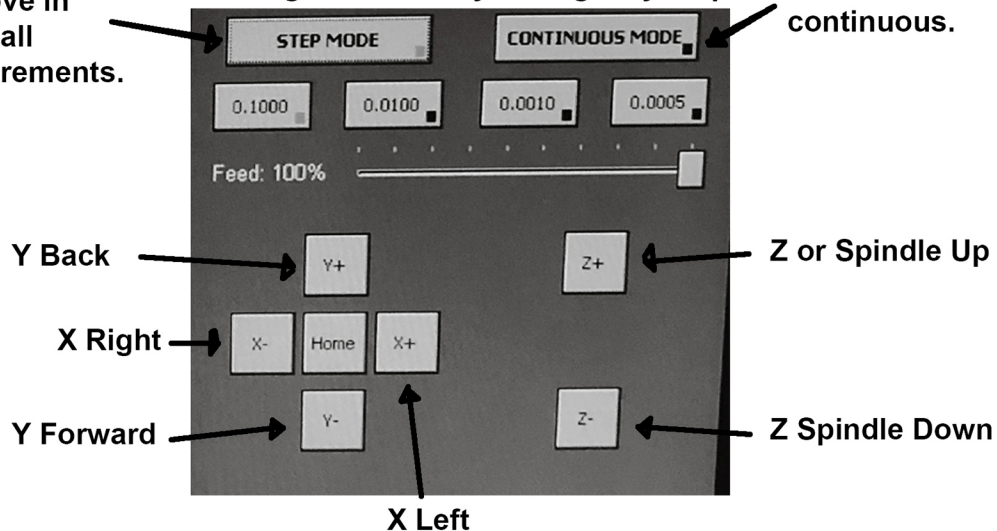
At this point you should be in this screen.



To make axis move in small increments.

Jogging the machine. (Moving)
Facing machine by Emergency stop

To make axis move continuous.

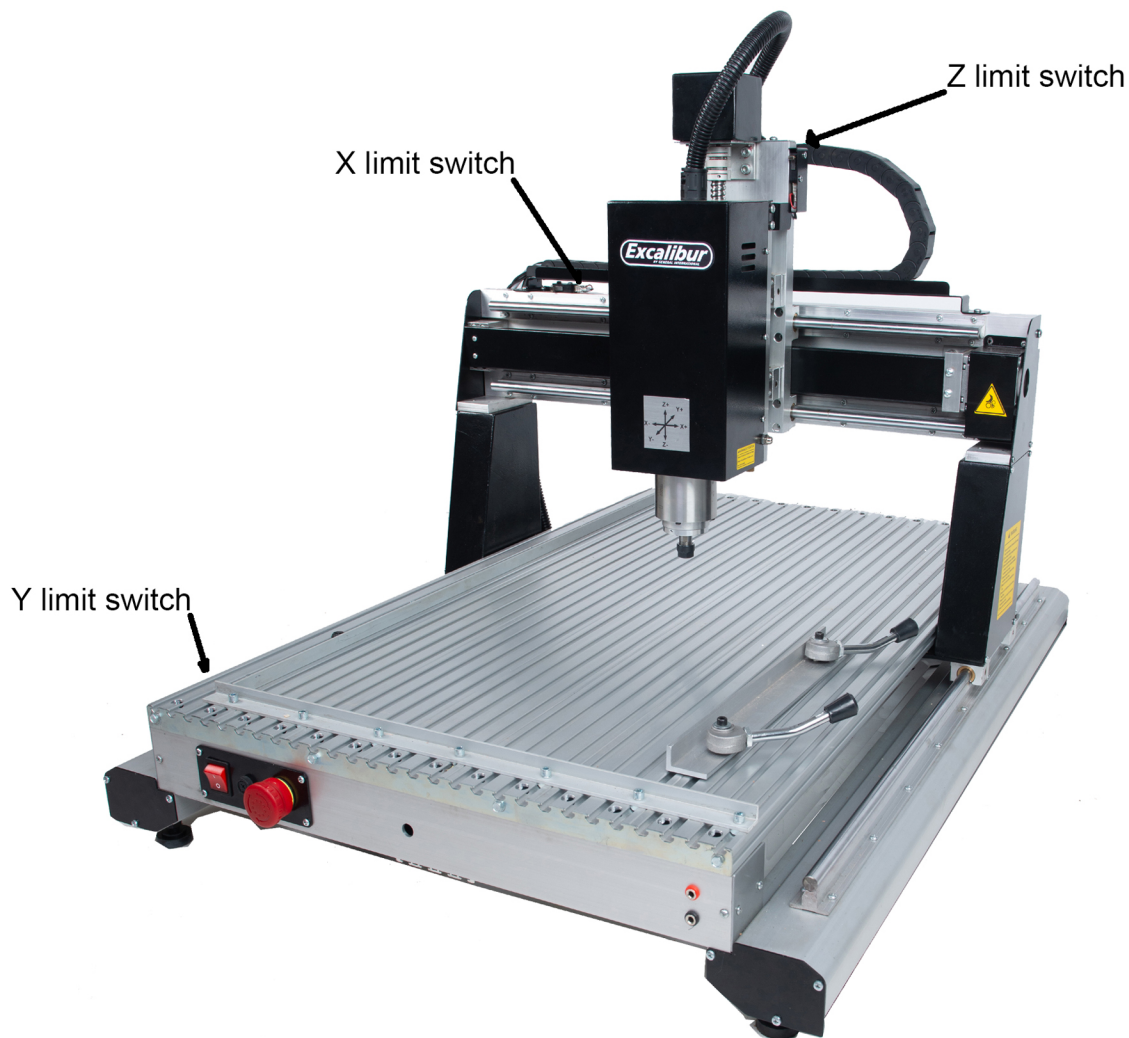


Homing the CNC

Before we can start cutting a project we have to bring the machine to the home position. This is so the machine knows where it's at. It also is the position where we can change the bits.

To start the homing process we can hold the "Home" button located in the middle of the X&Y jog axis. The quickest way it to simultaneously press control, alt and home on the keyboard.

Machine will move the Z axis or spindle away from the project first to prevent damage to project. Then the X and Y will move. All axis are moving until it comes in contact with the limit switches. The machine is programed once it triggers the switch it will reverse and come off the switch .25 in. Once this is complete the machine is now ready to cut a project.



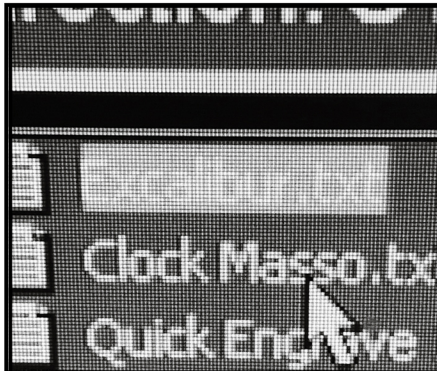
Loading and running program

To load a g-code select “Load File” in lower right hand corner. Must have the g-code loaded on a USB flashdrive.

All g-code files on the USB drive will load.

Select the file you want to cut.
File will load.

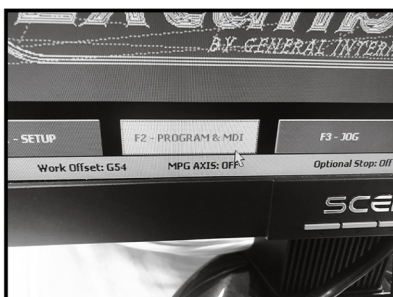
File Example



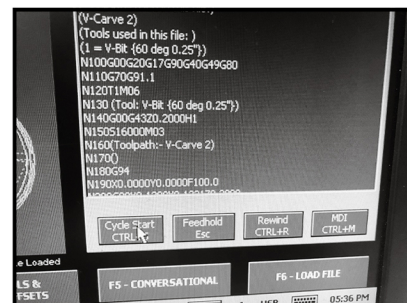
File loaded



Once file is completely loaded it's time to cut.
Press “Program & MDI”



Now select “Cycle Start”
Caution Machine Will Start Running!



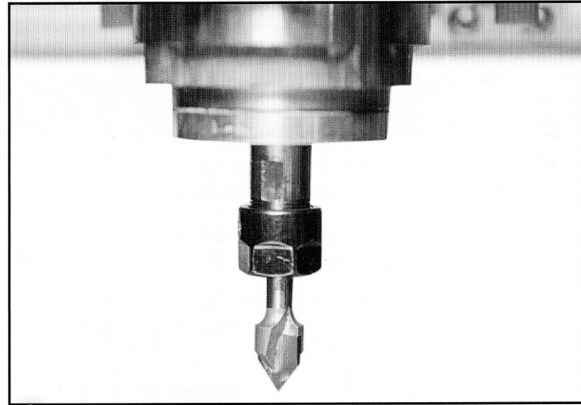
Final preparation before cutting.

It is suggested that you make a spoil board to protect the work table from damage.

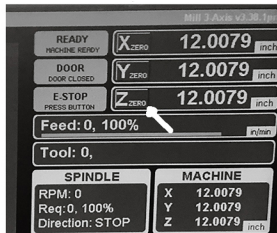
Now it's time to install the bit.

CUTTING TOOL INSTALLATION / REMOVAL (CONTINUED)

To install a cutting tool (bit) , insert the cutting tool in the collet and use the supplied 13 mm and 17mm wrenches to hold the spindle and tighten the collet onto the bit.



Once bit is installed, secure the workpiece onto the table and secure clamps to hold the workpiece securely. Use the “Jog” commands to position the spindle when in desired position. Lower Z axis spindle should be very close to the wood, depending on the program. You may have to zero out the axis.



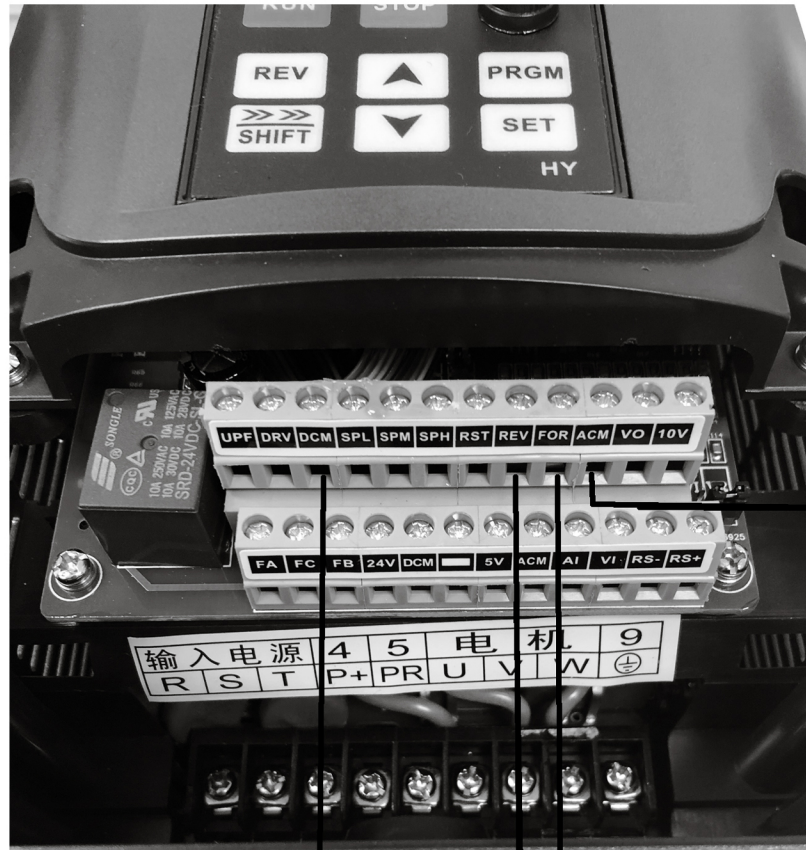
Zero out the axis.

All efforts have been taken to make this process as user friendly as possible. It takes time and patience. Happy Cutting!



Caution! Never leave machining running unattended! Fire Can Result!

VFD to MASSO



VFD

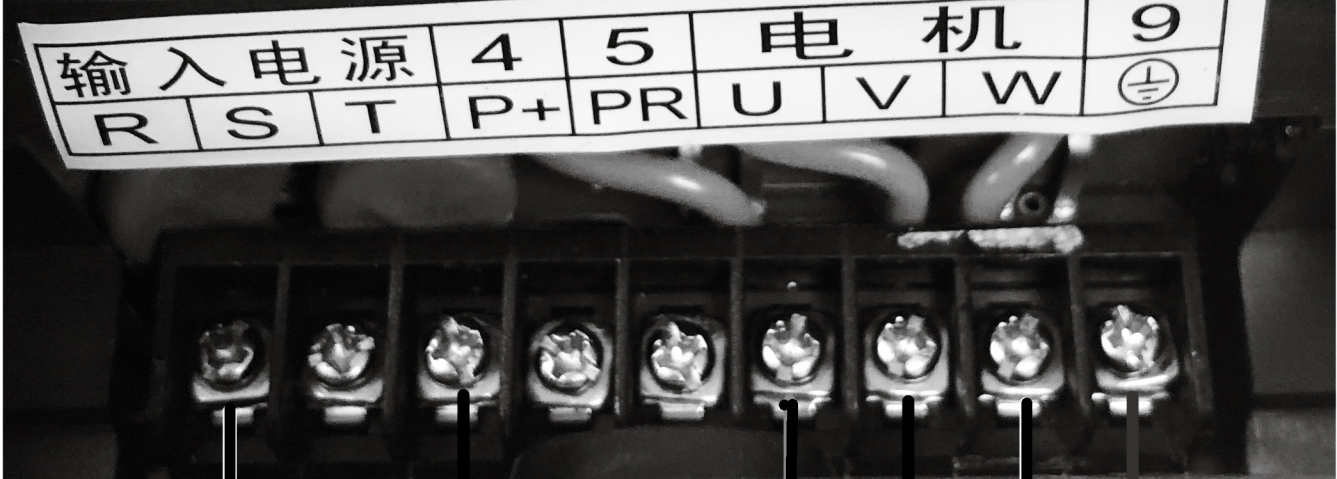


12v Power



Masso Controller

VFD Power Supply



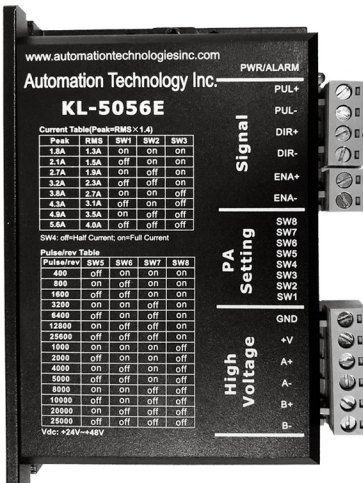
To 120v
Power Supply

To Spindle

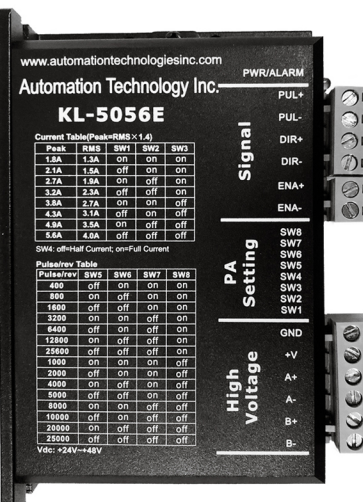
X Stepper Motor Driver



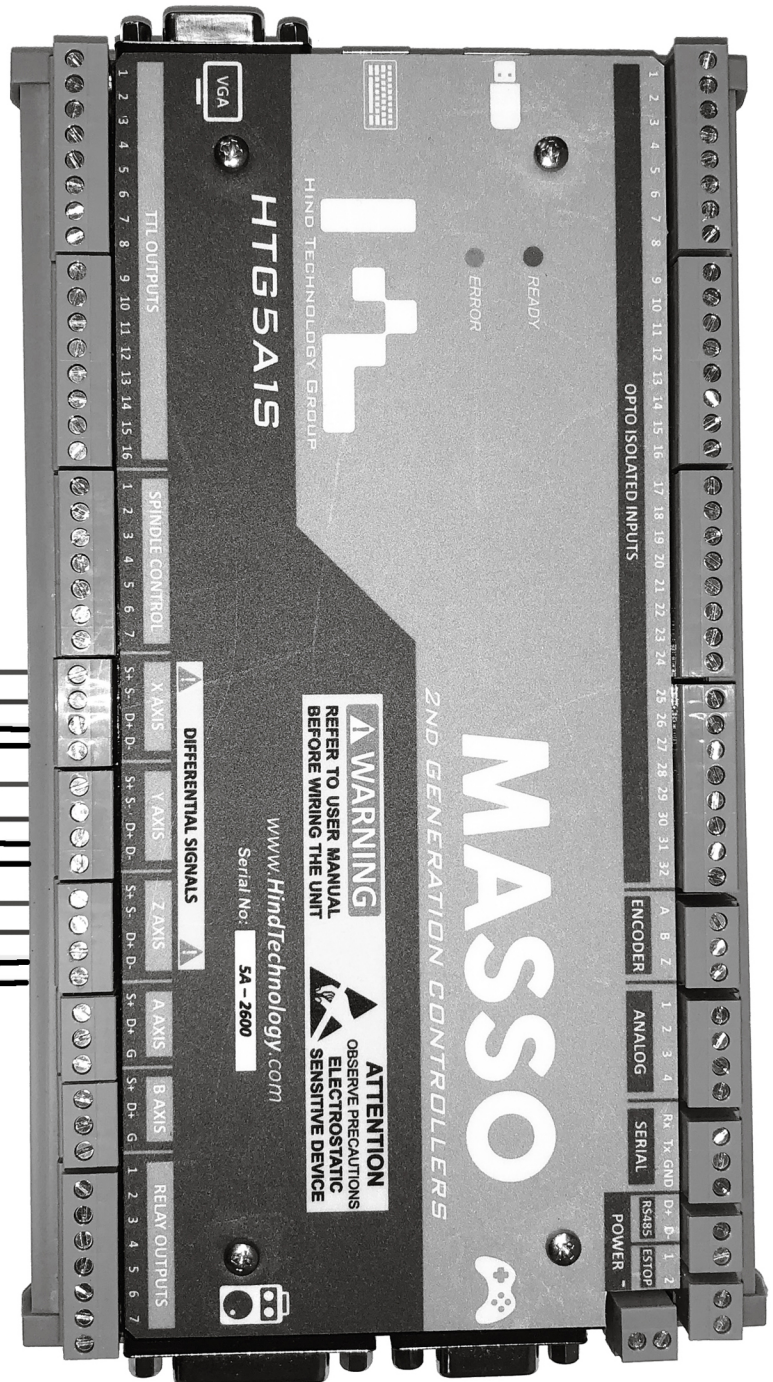
Y Stepper Motor Driver



Z Stepper Motor Driver



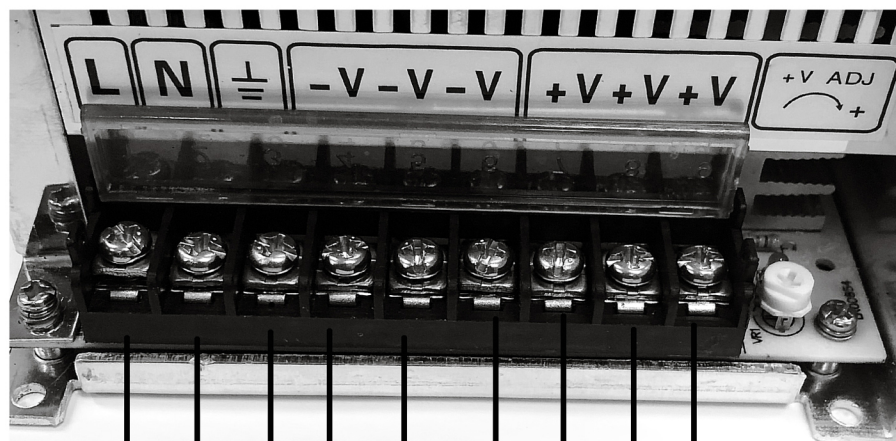
Stepper Drivers to Masso Wiring diagram



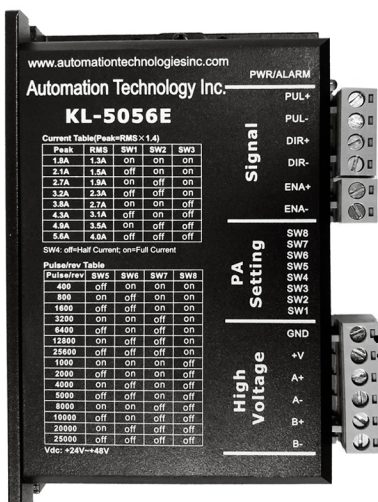
To 110v Power supply

48V Power Supply

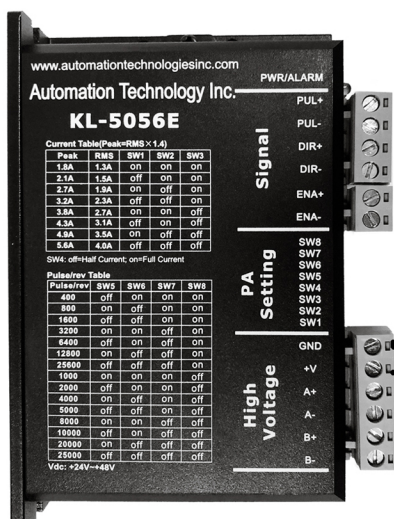
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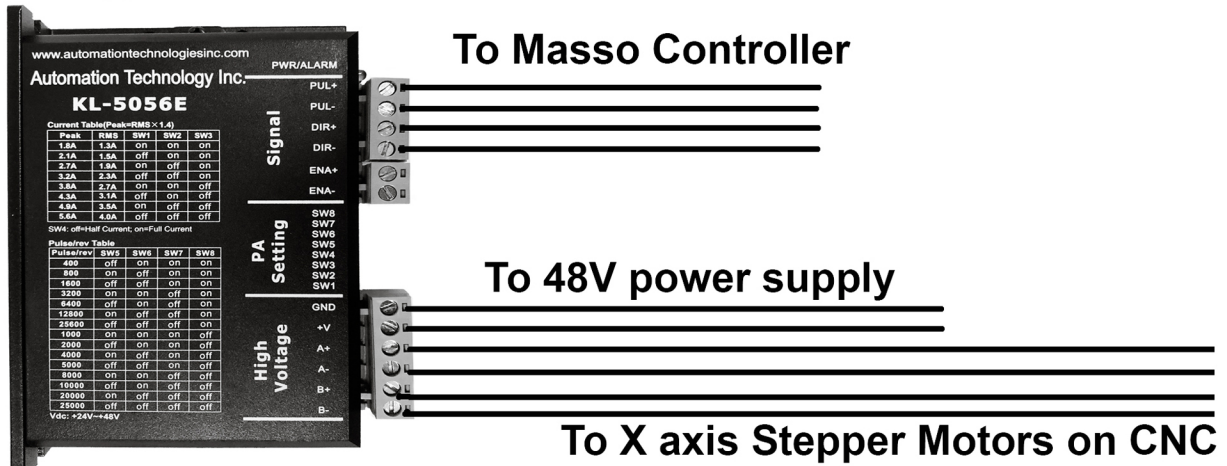
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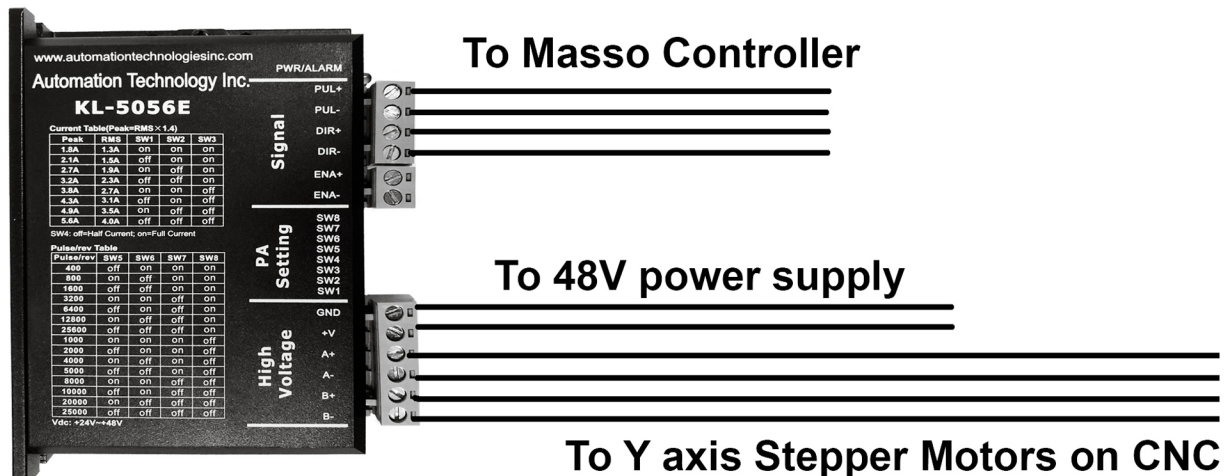
Stepper Drivers to 48v power supply

Stepper Driver Wiring

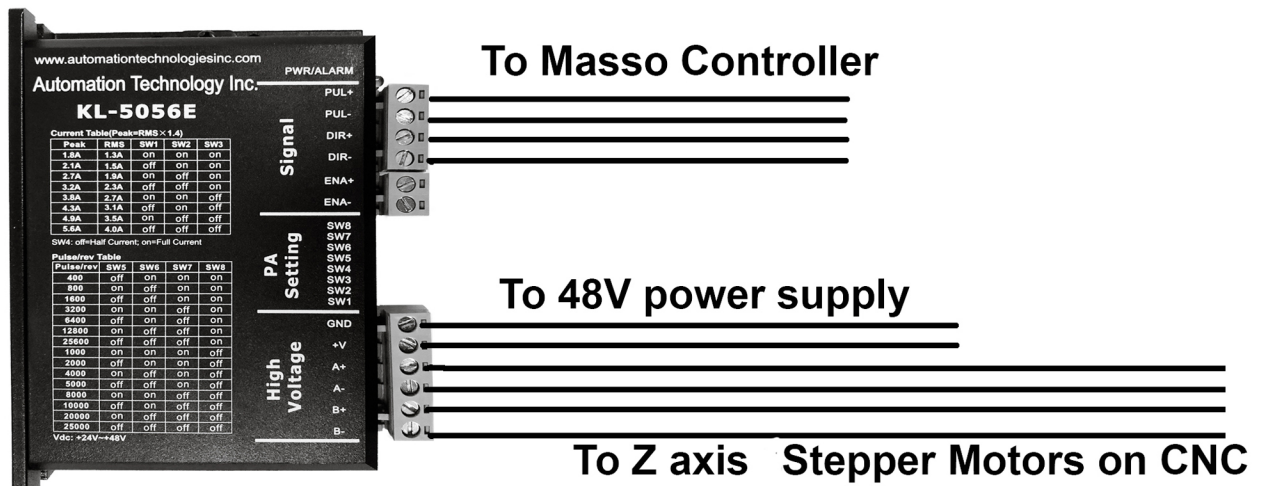
X Stepper Motor Driver



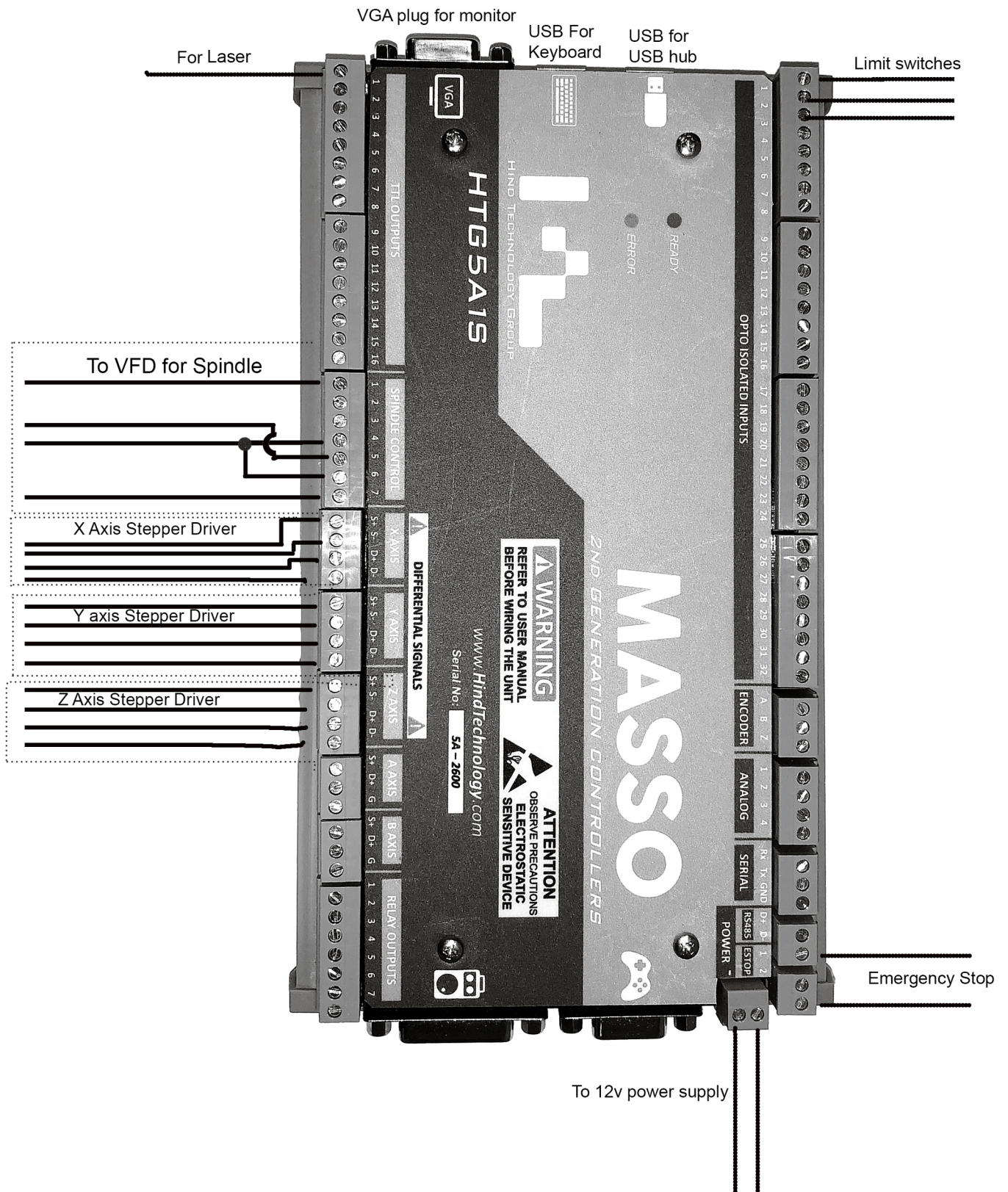
Y Stepper Motor Driver



Z Stepper Motor Driver



MASSO CONNECTIONS



PERIODIC MAINTENANCE



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

- Inspect/test the ON/OFF switch before each use. Do not operate the EC-617M1 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 after each use, 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 EC-617M1 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.
- After a prolonged period without being used (1 month or more) run the spindle at 10% speed for 30 minutes to warm the unit up before cutting/carving.

LUBRICATION

The only part of the EC-617M1 that requires regular lubrication is the ball screw rod. Apply a liberal amount of a #2 lithium-based grease to the rod at least once every 90 days.

OPTIONAL ACCESSORIES

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

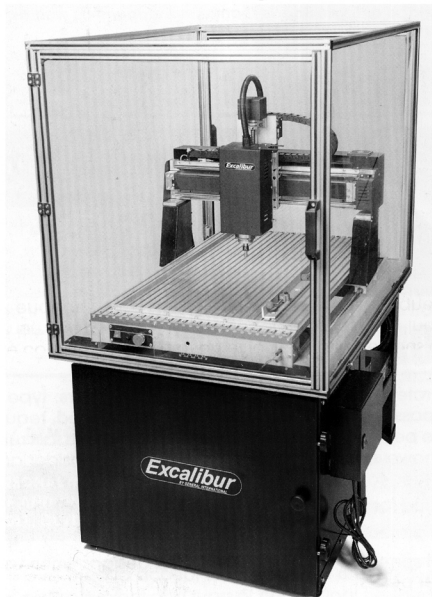
SAFETY ENCLOSURE # EC-617X

See-through impact resistant enclosure with safety inter-lock doors (auto-shut-off). Designed specifically for Model EC-617 M1 only.

Stand and dust collector #EC-617BSD

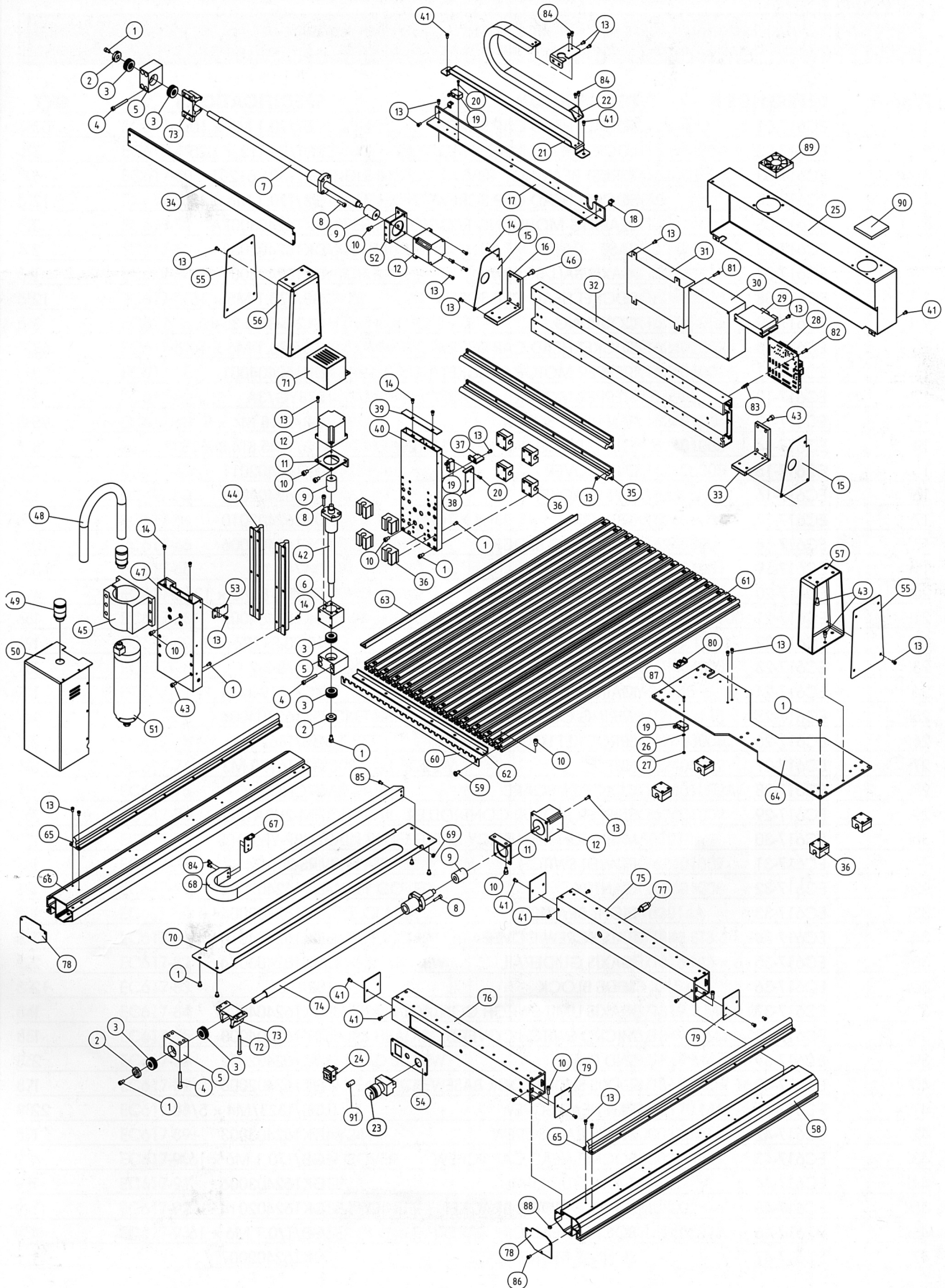
Stand with integral dust collection, include hose and pick up adapter.

EC-617X safety enclosure



**Stand and Dust collection
Hose adapter and hose included**

DIAGRAM



PARTS LIST

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.

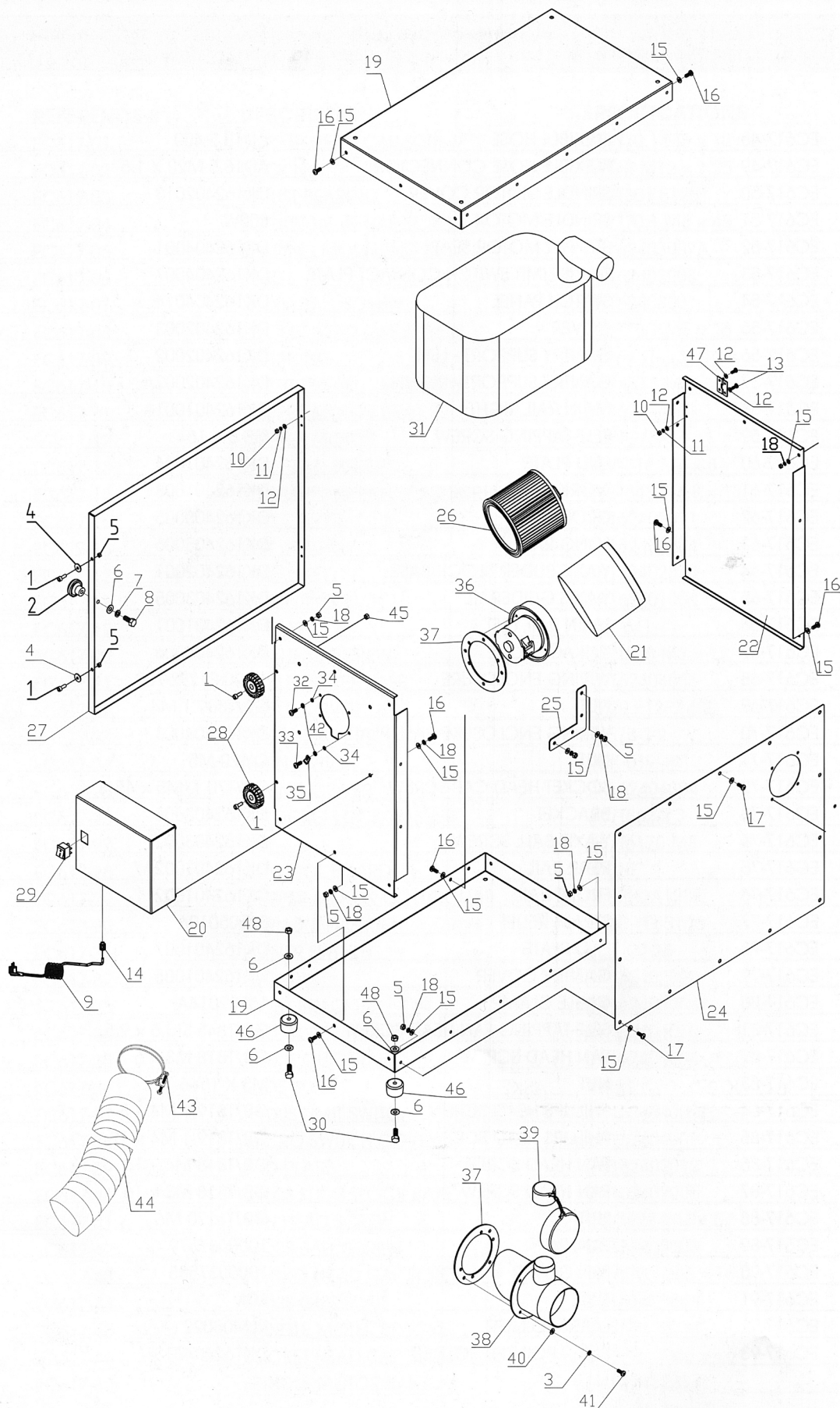
PART #	REFERENCE #	DESCRIPTION	SPECIFICATIONS	QTY
1	EC617-01	SOCKET HEAD CAP SCREW	GB/T70.1 M5 x 10	57
2	EC617-02	LOCK NUT	SWT/R M12 x 1.25	3
3	EC617-03	THRUST BEARING	GB/T301 51201	6
4	EC617-04	SOCKET HEAD CAP SCREW	GB/T70.1 M6 x 45	12
5	EC617-05	BEARING MOUNTING BLOCK	DK162403007A	3
6	EC617-06	BASE	DK162403008	2
7	EC617-07	X-AXIS BALL SCREW	DK162403001	1
8	EC617-08	SOCKET HEAD CAP SCREW	GB/T70.1 M5 x 16	12
9	EC617-09	COUPLING	GL26x31-6.35-10	3
10	EC617-10	SOCKET HEAD CAP SCREW	GB/T70.1 M6 x 10	64
11	EC617-11	STEPPER MOTOR BRACKET	DK162404001	2
12	EC617-12	STEPPER MOTOR	57BYG/3A	3
13	EC617-13	PAN HEAD SCREW	GB/T818 M4 x 8	95
14	EC617-14	SELF-TAPPING PAN HEAD SCREW	GB/T845 ST4.8 x 13	8
15	EC617-15	END COVER	DK162402011	2
16	EC617-16	LEFT BRACKET	DK162402004	1
17	EC617-17	L-BRACKET	DK162402010	1
18	EC617-18	MOUNTING BLOCK	DK162401006	10
19	EC617-19	LIMIT SWITCH	DA7-6/1	3
20	EC617-20	PAN HEAD SCREW	GB/T818 M3 x 12	4
21	EC617-21	CABLE COVER BASE	DK162404005	1
22	EC617-22	CABLE COVER	15.20.F.12PZ-600	1
23	EC617-23	EMERGENCY STOP BUTTON	HY57B-3-2	1
24	EC617-24	MAIN SWITCH	XCK-019-141	1
25	EC617-25	WIRING COVER	DK162404004	1
26	EC617-26	SPROCKET LOCK WASHER	GB/T862.2 3	2
27	EC617-27	NUT	GB/T6170 M3	2
28	EC617-28	CONTROL BOARD	57CNC	1
29	EC617-29	STEPPER MOTOR CONTROLLER	HM-2H2A128K	3
30	EC617-30	VARIABLE FREQUENCY DRIVE	YNBP-YF6510B	1
31	EC617-31	POWER SWITCH	LRS-200-24	1
32	EC617-32	GANTRY	DK162402005	1
33	EC617-33	RIGHT BRACKET	DK162402004A	1
34	EC617-34	BALL SCREW COVER	DK162404010	1
35	EC617-35	X-AXIS GUIDERAIL	DK162403004	2
36	EC617-36	SLIDE BLOCK	SBR12	12
37	EC617-37	X-AXIS LIMIT SWITCH CONTACT PLATE	DK162404009/	1
38	EC617-38	MICRO SWITCH COVER	DK162404008	1
39	EC617-39	END PLATE	DK162402012	2
40	EC617-40	Z-AXIS SLIDE BLOCK BASE	DK162402006	1
41	EC617-41	PAN HEAD SCREW	GB/T823/M4 x 5/	22
42	EC617-42	Z-AXIS BALL SCREW	DK162403003	1
43	EC617-43	SOCKET HEAD CAP SCREW	GB/T70.1 M6 x 16	4
44	EC617-44	Z-AXIS GUIDERAIL	DK162403006	1
45	EC617-45	SPINDLE MOTER BRACKET	DK162402014	1
46	EC617-46	SOCKET HEAD CAP SCREW	GB/T70.1 M6 x 16	4
47	EC617-47	SPINDLE MOTOR BASE	DK162402007	1

PARTS LIST

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.

48	EC617-48	FLEXIBLE HOSE	AD18.5-400	1
49	EC617-49	FLEXIBLE HOSE CONNECTOR	AD18.5-M20 X 1.5	2
50	EC617-50	SPINDLE MOTOR COVER	DK162402013	1
51	EC617-51	SPINDLE MOTOR	800W	1
52	EC617-52	STEPPER MOTOR SEAT	DK162404001	1
53	EC617-53	Z-AXIS LIMIT SWITCH CONTACT PLATE	DK162404007	1
54	EC617-54	SWITCH PANEL	DK162404014	1
55	EC617-55	COVER	DK162402003	2
56	EC617-56	GANTRY SUPPORT - LEFT	DK162402002	1
57	EC617-57	GANTRY SUPPORT - RIGHT	DK162402002A	1
58	EC617-58	MAIN RAIL RIGHT	DK162401001A	1
59	EC617-59	SELF-TAPPING SCREW	ST5.5 x 16	4
60	EC617-60	END PLATE	DK162401004	2
61	EC617-61	WORK TABLE	DK162401003	6
62	EC617-62	CROSS RAIL	DK162405005	1
63	EC617-63	LONG RAIL	DK162405006	1
64	EC617-64	Y-AXIS SLIDER BLOCK BASE	DK162402001	1
65	EC617-65	Y-AXIS GUIDERAIL	DK162403005	2
66	EC617-66	MAIN RAIL LEFT	DK162401001	1
67	EC617-67	LINKAGE PLATE ^x	DK162404006	1
68	EC617-68	WIRING ENCLOSURE	15.20.F.12PZ-700	1
69	EC617-69	NUT	GB/T889.1 M4	1
70	EC617-70	WIRING ENCLOSURE BASE PLATE	DK162404003	1
71	EC617-71	NUT	QY-20-M5	10
72	EC617-72	SOCKET HEAD CAP SCREW	GB/T70.1/M5 x 45	4
73	EC617-73	BRACKET	DK162403008	1
74	EC617-74	Y-AXIS BALL SCREW	DK162403002	1
75	EC617-75	REAR RAIL	DK162401002A/	1
76	EC617-76	FRONT RAIL	DK162401002	1
77	EC617-77	STRAIN RELIEF	31505010A	1
78	EC617-78	END PLATE	DK162401007	2
79	EC617-79	GANTRY COVER	DK162401005	4
80	EC617-80	CABLE CLAMP	16102014A	1
81	EC617-81	SELF-TAPPING PAN HEAD SCREW	GB/T845 ST3.5 x 9.5	12
82	EC617-82	PAN HEAD SCREW	GB/T818 M3 x 6	4
83	EC617-83	NUT	M3 X 15+6	4
84	EC617-84	PHILLIPS HEAD SCREW	GB/T819.1 M4 x 8	6
85	EC617-85	PHILLIPS HEAD SCREW	GB/T819.1 M4 x 12	1
86	EC617-86	PAN HEAD SCREW	GB/T818 M4 x 16	4
87	EC617-87	PAN HEAD SCREW	GB/T818 M3 x 16	4
88	EC617-88	NUT	GB/T6170 M6	8
89	EC617-89	FAN/24V	1000037579	1
90	EC617-90	FAN COVER	1000037585	1
91	EC617-91	FUSE	10A	1
92	EC617-92	LASER POINTER	RLM08022	2
93	EC617-93	LASER POINTER HOLDER	DK162404013	2

DIAGRAM-DUST COLLECTOR

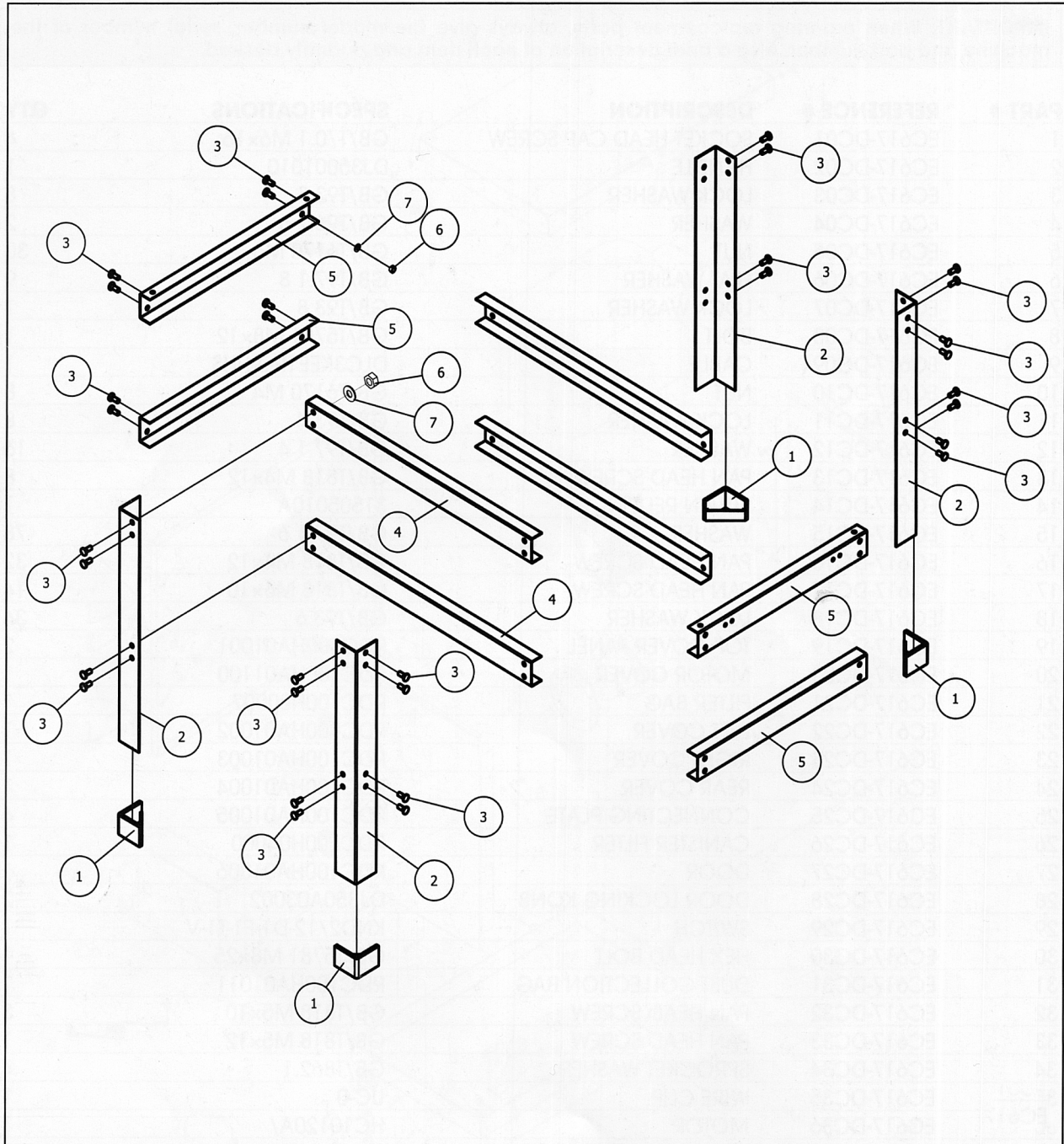


PARTS LIST

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.

PART #	REFERENCE #	DESCRIPTION	SPECIFICATIONS	QTY
1	EC617-DC01	SOCKET HEAD CAP SCREW	GB/T70.1 M6×16	4
2	EC617-DC02	HANDLE	DJ35001010	1
3	EC617-DC03	LOCK WASHER	GB/T93 5	8
4	EC617-DC04	WASHER	GB/T96.2 6	2
5	EC617-DC05	NUT	GB/T6170 M6	30
6	EC617-DC06	FLAT WASHER	GB/T97.1 8	9
7	EC617-DC07	LOCK WASHER	GB/T93 8	1
8	EC617-DC08	BOLT	GB/T5781 M8×12	1
9	EC617-DC09	CABLE	DLC3KEE1R-J-HHS	1
10	EC617-DC10	NUT	GB/T6170 M4	8
11	EC617-DC11	LOCK WASHER	GB/T93 4	8
12	EC617-DC12	WASHER	GB/T97.1 4	16
13	EC617-DC13	PAN HEAD SCREW	GB/T818 M4×12	8
14	EC617-DC14	STRAIN RELIEF	31505010A	1
15	EC617-DC15	WASHER	GB/T97.1 6	78
16	EC617-DC16	PAN HEAD SCREW	GB/T818 M4×12	32
17	EC617-DC17	PAN HEAD SCREW	GB/T818 M6×10	14
18	EC617-DC18	LOCK WASHER	GB/T93 6	34
19	EC617-DC19	TOP COVER PANEL	RDC100HA01001	2
20	EC617-DC20	MOTOR COVER	RDC100HA01100	1
21	EC617-DC21	FILTER BAG	RDC100H00007	1
22	EC617-DC22	LEFT COVER	RDC100HA01002	1
23	EC617-DC23	RIGHT COVER	RDC100HA01003	1
24	EC617-DC24	REAR COVER	RDC100HA01004	1
25	EC617-DC25	CONNECTING PLATE	RDC100HA01005	4
26	EC617-DC26	CANISTER FILTER	RDC100H04000	1
27	EC617-DC27	DOOR	RDC100HA01006	1
28	EC617-DC28	DOOR LOCKING KONB	DJ350A03002	2
29	EC617-DC29	SWITCH	KND2/12-D1-F1-T1-V	1
30	EC617-DC30	HEX HEAD BOLT	GB/T5781 M8×25	1
31	EC617-DC31	DUST COLLECTION BAG	RDC100HA01011	1
32	EC617-DC32	PAN HEAD SCREW	GB/T818 M5×10	3
33	EC617-DC33	PAN HEAD SCREW	GB/T818 M5×12	1
34	EC617-DC34	SPROCKET WASHER	GB/T862.1	4
35	EC617-DC35	WIRE CLIP	UC-0	1
36	EC617-DC36	MOTOR	HC10120A/	1
37	EC617-DC37	RUBBER GASKET	RDC100H00008	2
38	EC617-DC38	DUST PORT	RDC100HA01008	1
39	EC617-DC39	DUST PORT CAP	RDC100HA01009	1
40	EC617-DC40	FLAT WASHER	GB/T97.1 5	4
41	EC617-DC41	PAN HEAD SCREW	GB/T818 M5×16	4
42	EC617-DC42	LOCK WASHER	GB/T93 5	8
43	EC617-DC43	HOSE CLAMP	Ø60MM	2
44	EC617-DC44	DUST HOSE	Ø60MM-3.5M	1
45	EC617-DC45	NUT	GB/T889.1 M6	2
46	EC617-DC46	RUBBER FOOT	ROC1510B01008	4
47	EC617-DC47	HINGE	DJ315S02011-06/	2
48	EC617-DC48	NUT	GB/T6170 M8	4

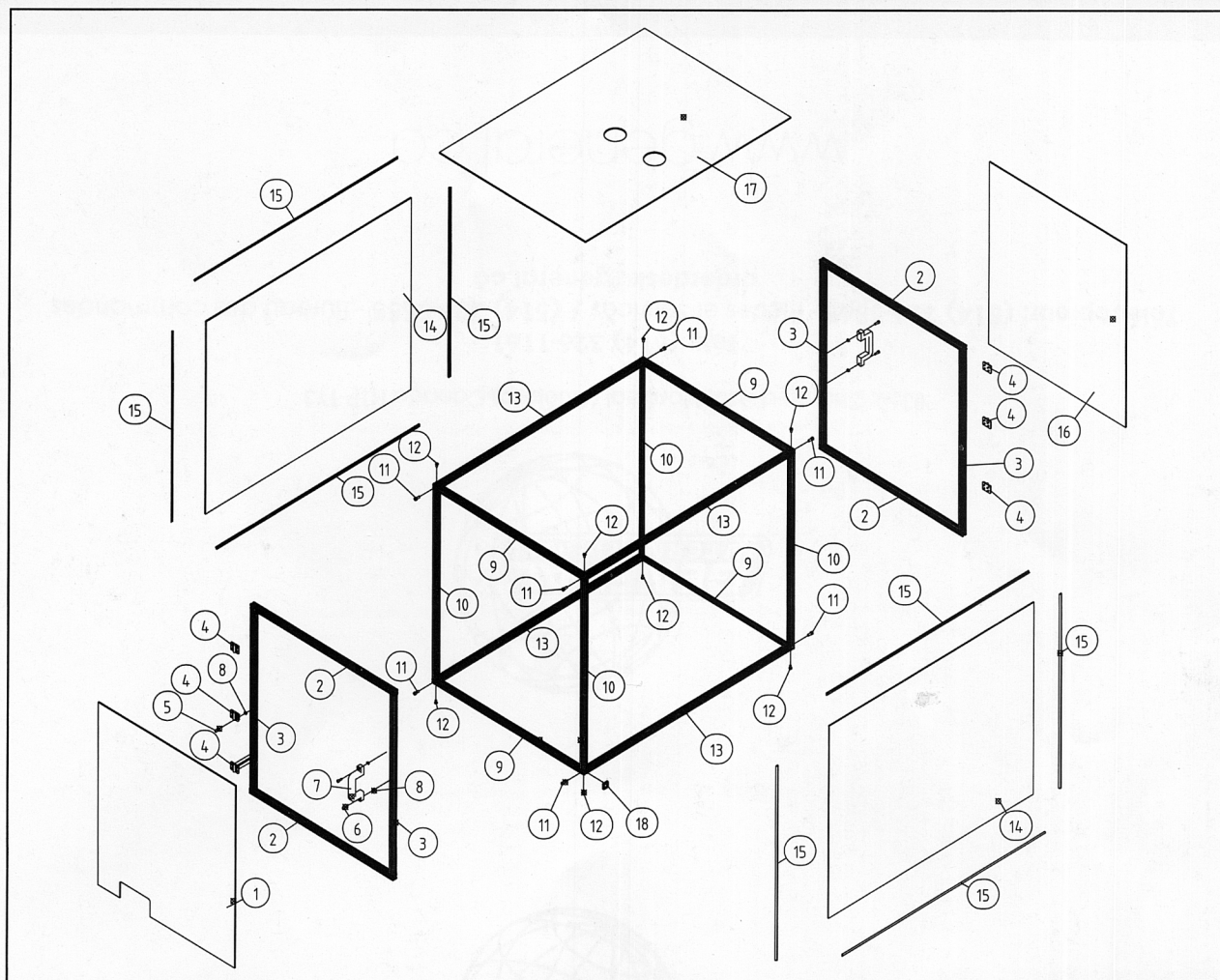
DIAGRAM - STAND



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.

PART #	REFERENCE #	DESCRIPTION	SPECIFICATIONS	QTY
1	EC617-S01	FOOT	DT/01-009	4
2	EC617-S02	LEG	DK162407103	1
3	EC617-S03	CARRIAGE BOLT	GB/T801 M8x20	32
4	EC617-S04	LONG TIE BAR	DK162407101	4
5	EC617-S05	SHORT TIE BAR	DK162407102	4
6	EC617-S06	NUT	GB/T6170 M8	24
7	EC617-S07	FLAT WASHER	GB/T97.1 8	24

DIAGRAM - OPTIONAL ENCLOSURE



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.

PART #	REFERENCE #	DESCRIPTION	SPECIFICATIONS	QTY
1	EC617X-01	FRONT COVER	698 X 758	1
2	EC617X-02	DOOR FRAME - SHORT	20 X 20-688	4
3	EC617X-03	DOOR FRAME - LONG	20 X 20-782	4
4	EC617X-04	HINGES	HM2020-6	6
5	EC617X-05	SCREW	HM4 X 10	24
6	EC617X-06	BOLT	HM5 X 10	4
7	EC617X-07	HANDLE	M26	2
8	EC617X-08	NUT	HM20-M4	40
9	EC617X-09	RAIL - SHORT	20 X 20-764	4
10	EC617X-10	STILE	20+C46 X 20 -790	4
11	EC617X-11	BOLT	GB/T 70.1 M6 X 30	16
12	EC617X-12	SCREW	GB/T 70.2 M6 X 16	8
13	EC617X-13	RAIL - LONG	20 X 20-1025	4
14	EC617X-14	SIDE PANNEAU	800 X 1035 X 3	2
15	EC617X-15	FOAM GASKET	HM-6	12M
16	EC617X-16	REAR COVER	698 X 758 X 3	1
17	EC617X-17	TOP COVER	740 X 1035 X 3	1
18	EC617X-18	END CAP	HM2020	1



PROPOSITON 65 WARNING



WARNING



This product can expose you to chemicals including DEHP, which is known to the State of California to cause cancer and birth defects or other reproductive harm.

For more information go to

www.P65Warnings.ca.gov



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www.general.ca