KL-6090

Upon receiving your KL6090, please go through the contents of the shipment and make sure you have received everything.
You should receive:

- KL-6090 machine
- Control box
- Plastic bin
  - Water pump
  - DB 25 cable
  - Part hold downs
  - 2 wrenches
  - 2 router bits
  - Power cable
  - A set of collets & endmills

PREPARATION OF YOUR NEW KL-6090 CNC MACHINE

Safely unpack and remove the machine from the shipping crate. Making sure the machine is placed on a level surface.

Set up your control box in an easily accessible location.

Plug in the corresponding wires for :

Spindle, Signal, X, Y, Z

Plug the power cord into a 220V power supply.

A step-up transformer will work fine, if you don't have access to 220V.

Locate the breakout board and plug one end of the DB25 cable in, and the other into the computer.

Assemble your water pump.

Fill a bucket of water. (distilled water recommended)

Place water pump and lines into the bucket.

Carefully take note on your water pumps' operating voltage.

Make sure everything is plugged in correctly and rotate the E-stop knob .

KL-6090

Setup

As you receive your machine, please check the following:

> Overspray, or paint on rails
>> Use a razorblade only to remove residue
> Grease/oil rails before operating
> Check for loose bolts or nuts
>> Things get shifted around in transit

Mach 3 settings

Setting up drivers

1600/200 = 8 microstep

1	2	3	4	5	6	7	8
On	On	Off	Off	On	Off	On	on

#4 = Off | Half current when the machine is idle

#4 = On | Full current when machine is idle

Motor Tuning

	Steps per	Velocity	Acceleration	G's	Step pulse	Dir pulse
X-axis	4065	250			2	2
Y-axis	4065	150			2	2
Z-axis	8233.02	50			2	2

Input Signals

	Enabled	Pin Number	Active Low	Emulated	
X home	Check	10	Check		
Y home	Check	11	Check		
Z home	Check	12	Check		

Homing/Limits

	Reversed	Soft max	Soft min	Slow zone	Home off.	Home neg.	Auto zero	Speed
X		22.5	-0.05		0		Check	
Y		35.5	-0.05		-35.00		Check	
Z		0.05	-5.30		0		Check	

Home Neg. – You are going to want to check this if, when homing your machine the axis travels the opposite way as your home limit switch.

SETTING UP MACH3 FOR USE WITH KL-6090

These are the parameters you need to set for your KL-6090 machine.
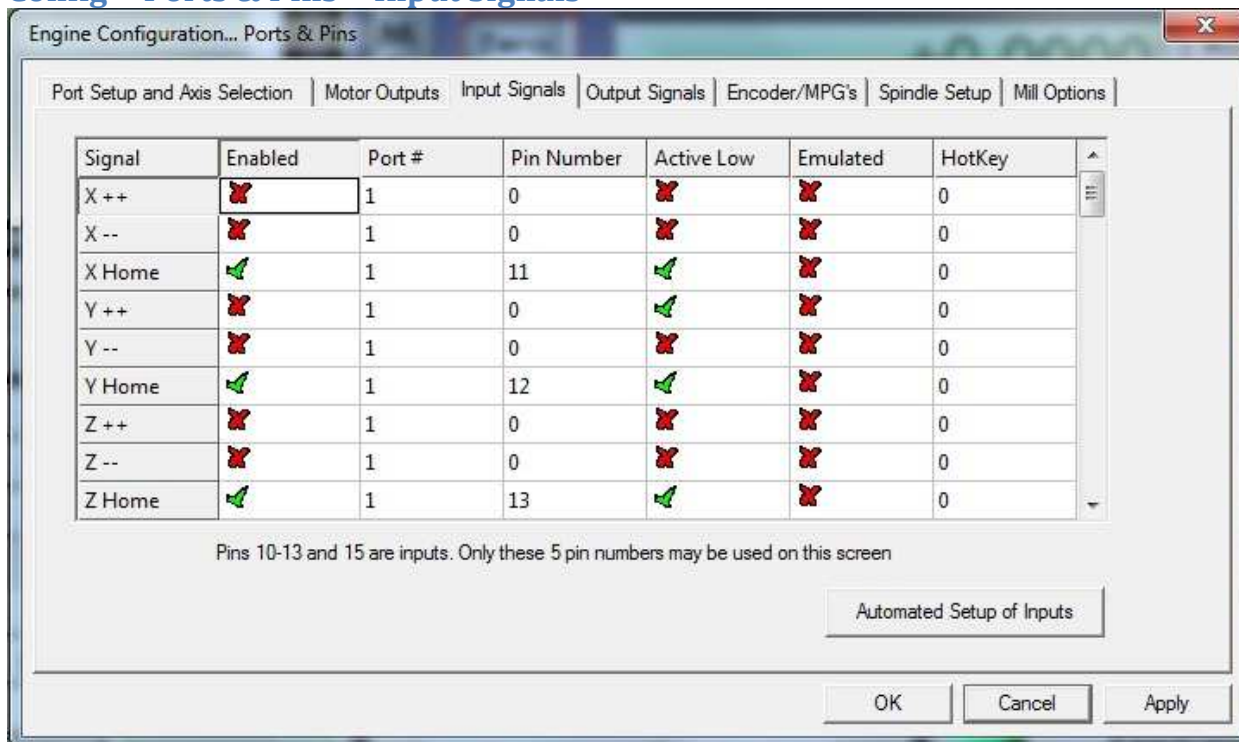
Config > Ports & Pins > Motor Outputs

Engine Configuration... Ports & Pins

Port Setup and Axis Selection | Motor Outputs | Input Signals | Output Signals | Encoder/MPG's | Spindle Setup | Mill Options

Signal	Enabled	Step Pin#	Dir Pin#	Dir LowActi...	Step Low A...	Step Port	Dir Port
X Axis	✔	2	3	✘	✔	1	1
Y Axis	✔	4	5	✔	✔	1	1
Z Axis	✔	6	7	✘	✔	1	1
A Axis	✘	0	0	✘	✘	1	1
B Axis	✘	0	0	✘	✘	0	0
C Axis	✘	0	0	✘	✘	0	0
Spindle	✘	0	0	✘	✘	0	0

OK   Cancel   Apply

Config > Ports & Pins > Input Signals

Signal	Enabled	Port #	Pin Number	Active Low	Emulated	HotKey
X ++	✖	1	0	✖	✖	0
X --	✖	1	0	✖	✖	0
X Home	✔	1	11	✔	✖	0
Y ++	✖	1	0	✔	✖	0
Y --	✖	1	0	✖	✖	0
Y Home	✔	1	12	✔	✖	0
Z ++	✖	1	0	✖	✖	0
Z --	✖	1	0	✖	✖	0
Z Home	✔	1	13	✔	✖	0

Pins 10-13 and 15 are inputs. Only these 5 pin numbers may be used on this screen

Pin numbers for the X, Y, Z home MAY not be the same for your machine. This will take some trial and error, Pin 10 is always used for E-stop.

Scroll down halfway to E-Stop

Signal	Enabled	Port #	Pin Number	Active Low	Emulated	HotKey
Input #4	✖	1	0	✖	✖	0
Probe	✖	1	0	✖	✖	0
Index	✖	1	0	✖	✖	0
Limit Ovrd	✖	1	0	✖	✖	0
EStop	✔	1	10	✖	✖	0
THC On	✖	1	0	✖	✖	0
THC Up	✖	1	0	✖	✖	0
THC Down	✖	1	0	✖	✖	0
OEM Trig #1	✖	1	0	✖	✖	0

Pins 10-13 and 15 are inputs. Only these 5 pin numbers may be used on this screen