



Parts List

- (2) Limit Switches
- Front Cable Clip
- X Cable Clip
- LCD Assembly

Step 1

• Using the 2 supplied screws and 2 T Nuts, attach Front Cable Clip to front of front rail between left leg and control box





• Using the 2 supplied screws and 2 T Nuts, attach Y Limit Switch in inside of left rail

- Remove the two right side screws from the left top stepper motor
- Using the 2 supplied screws attach X Cable Clip to stepper motor





- Remove the two screws from the left end of the X gantry.
- Reuse the 2 screws to attach X Limit Switch to X gantry

Step 5

• Using the 2 supplied screws and 2 T Nuts, attach LCD Assembly to bottom of front rail, between leg and control box



Assembly Finish

- Route cables to from the control box to their labeled connections
- All done, you're ready for Lightburn

Lightburn Setup



Required Files

- Hybrid1 lbdev file
- Hybrid1 lbset file
- <u>https://drive.google.com/drive/folders/170Zt</u>
 <u>l1PM9yT0JRz1B_9RawkW0cqyu4nP?usp=share_link</u>

- Start With Hybrid1 on and connected via USB to your computer
- On the Laser tab in Lightburn, click the **Devices** button

			Name	Date modified
			bybrid2.lbdev	12/25/2022 11:20 F
Create Manually	LightBurn Bridge	Import		
Create Manually Edit	LightBurn Bridge Remove	Import Export Import I		
Create Manually Edit	LightBurn Bridge Remove	Import Export Import I		

• On the *Devices* window, click the **Import** button

- Select the Hybrid1 lbdev file
- Click the **Open** button

Pause		Stop	Start
		C Frame	
) Cut Selecte	d Graphics	C Enable R	Red Light
) Optimize Cu	ut Path	Opt	imization Settings
Devices	(Auto)	 ✓ JCZ 	ZFiber (Unknown) 🛛 🗸
		xTo	pol D1
		Dev	vil1 Beta
		Mid	crp
		JCZ	ZFiber (Unknown)
		Hy	brid2
		GR	BL

Undo Clear selection	Ctrl+Z	
Redo	Ctrl+Shift+Z	
elect All	Ctrl+A	Notate 0.00 CRotate 0.00
Invert Selection	Ctrl+Shift+I	% DOO
Cut	Ctrl+X	120 160 200 240 280 320
Сору	Ctrl+C	
Duplicate	Ctrl+D	
Paste	Ctrl+V	
Paste in place	Alt+V	
Delete		
Convert to Path	Ctrl+Shift+C	
Convert to Bitman	Ctrl+Shift+B	
Close Path		
Close selected paths with tolera	nce	
Auto-Join selected shapes	Alt+1	
Optimize selected shapes	Alt+Shift+O	
Delete Duplicates	Alt+D	
Select open shapes		
Select open shapes set to fill		
Select all shapes in current cut li	aver	
Select on shopes in current curre	ayer	
Select contained snapes		
Image options	•	
Settings		
Device Settings		
Machine Settings	N	
Debug Drawing	13	120 160 200 240 280 320
Convert to cut (debug)		

• Select Hybrid1 from the list of devices on the **Laser** tab

- Click Edit
- Click Machine Settings

Pri	operty		Value	
V	General config			
	Status: Position reporting (\$10)		Machine Position	
	Status: Show buffer data (\$10)		True	
	Junction deviation (mm) (\$11)		0.0100	
	Arc tolerance (mm) (\$12)		0.0020	
	Report inches (\$13)		False	
~	Homing and Limits			
	Soft limits (\$20)		False	
	Hard limits (\$21)		True	
	Homing cycle (\$22)		True	
	Homing feed rate (slow) (mm/min) (\$24)	1,000.00	
	Homing seek rate (fast) (mm/min) (\$25)		3,000.00	
	Homing debounce (ms) (\$26)		250	
	Homing pull-off (mm) (\$27)		2.000	
	Max spindle speed (RPM), S-Value max (\$30)		1000	
	Min spindle speed (RPM), S-Value min (31)	0	
	Laser mode enable (\$32)		True	
~	Outputs setup			
	Step pulse (microseconds) (\$0)		10	
	Step idle delay (ms) (\$1)		25	
Step enable invert (\$4) Limit pins invert (\$5) Probe pin invert (\$6)			 False True True 	
Cor	troller settings read successfully			
	Save to File Calibrat	e Axis	F	Read
	Load from File	Backur	n \	Nrite

Machine Settings - LightBu	rn 1.2.04		?	×	🗘 Align X Middle 🗸 No	
					Align Y Middle 🗸 Off	
Property		Value		^	Camera Control	
 General config 					Camera Control	
Status: Position reporting	(\$10)	Machine Positi	on		Camera	
Status: Show buffer data (Status: Show buffer data (\$10)				Update Overlay	
Junction deviation (mm) ((\$11)	0.0100			C Fade	
Arc tolerance (mm) (\$12)	0.0020			C Show		
Report inches (\$13)	False					
 Homing and Limits 						
Soft limits (\$20)		False			Console	
Hard limits (\$21)	True		1	\$105=100.000		
Homing cycle (\$22)	True			\$111=10000.000		
Homing feed rate (slow) (1,000.00		_	\$112=2000.000		
Homing seek rate (fast) (n	3,000.00			\$114=1000.000		
Homing debounce (ms) (250			\$115=1000.000		
Homing pull-off (mm) (\$2	2.000		1	\$121=800.000		
Max spindle speed (RPM),	1000 0 ① True			\$122=250.000		
Min spindle speed (RPM),				\$124=200.000		
Laser mode enable (\$32)				\$125=200.000		
 Outputs setup 					\$131=450.000	
Step pulse (microseconds) (\$0)		10			\$132=0.000	
Step idle delay (ms) (\$1)		25			\$134=300.000	
Step enable invert (\$4)		False			\$135=300.000	
Limit pins invert (\$5)	True			OK		
Probe pin invert (\$6)	🚺 True 🗸			(type commands here)		
Controller settings read successfi	ılly			1	Focus	
Save to File Calibrate Axis		Read			Macro3	
Load from File	Load from Back	q	Write		Layers Laser	

- Click Load from File button
- Select the Hybrid1 lbset file

- Click Write button
- Click **OK** button
- Power Hybrid1 off and then back on