

**PLANS & PRINTABLE TEMPLATES** 



## WWW.CELLOTAR.COM

YOUR PURCHASE OF THESE PLANS CONSTITUTES A SINGLE, NON-TRANSFERRABLE ROYALTY-FREE LICENSE TO BUILD THIS PLAN FOR COMMERCIAL OR NON-COMMERCIAL PURPOSES AS YOU SEE FIT

NO WARRANTY IS EXPRESSED OR IMPLIED, AND NEITHER
JESSE BOND NOR ANY OTHER AGENT OF CELLOTAR.COM
OR DIY MUSIC ARE LIABLE FOR ANY LOSS OR HARM, WHETHER
BODILY, FINANCIAL OR OTHERWISE, RESULTING FROM FOLLOWING
THESE PLANS OR DIRECTIONS IN THE ASSOCIATED VIDEOS. DON'T BE DUMB.



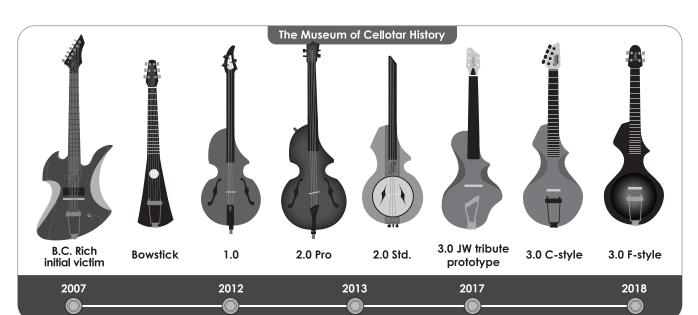
The Cellotar is a guitar-tuned, fretted cello/guitar hybrid bowed instrument that I created as a cost-effective solution for guitar players to be able to record and perform real bowed strings sounds with minimal time investment. The inspiration for it harkens back to 2006 when I ran across the TogaMan GuitarViol online and became obsessed with the idea of having a bowed guitar.

In early 2007, one of those music/movie stores was going out of business in our local mall, and had B.C. Rich Bronze single-pickup mockingbird starter guitar packs on sale for \$99. Fortunately for me, and unfortunately for that Mockingbird, I bought one of those

packs that day and took it home to do terrible things to it.

Not too much later, I had removed the frets, tried to sand the fingerboard into a curve, reinstalled the first 5-7 frets on the barely curved fingerboard, installed a jazz guitar tailpiece, and fashioned a curved bridge. The thing barely played, and sounded even worse (as it was "amplified" by its flat single humbucker pickup, which is totally wrong in every way for a bowed string instrument).

Fast-forward to 2018, and as you can see in the diagram below, it's been a long road--but we're finally here. Let's get building.





	Part	Where to find	Cost
1.	Child's 1/4 (19-20") scale electric guitar neck	~ \$20	
2.	strap buttons & neck plate / screws for both ^	ap buttons & neck plate / screws for both ^ (comes with the guitar you get above—hopefully	
3.	16.5" + long 4" diam. schedule 40 PVC pipe	'C pipe local or big box hardware store	
4.	beginner 1/2 scale cello bow	ebay or amazon	~ \$20
5.	cello rosin (sticky stuff that makes bow work)	ebay (or like \$6 on amazon)	~ \$1
6.	stratocaster-style output jack plate + screws ebay (or like \$7 on amazon)		~ \$2
7.	jazz guitar <b>SHORT</b> trapeze tailpiece + screws ebay / amazon (or sub. hardware store gate latch		~ \$7
8.	3/4 or 4/4 cello bridge ebay (or like \$8 on amazon)		~ \$2.50
9.	string retainer bar with screws ebay (or like \$5 on amazon)		~ \$1
10.	SEALED back replacement tuners	ebay or amazon	~ \$7
11.	Merano 1/4 cello string set (or other cheap set)	rano 1/4 cello string set (or other cheap set) ebay (or like \$10 on amazon)	
12.	1/2" x 3.5" x 2' oak craft board	1/2" x 3.5" x 2' oak craft board Lowe's / Home Depot	
13.	1" x 11.5" x 4' pine tread Lowe's / Home Depot		~ \$10.50
14.	/2" x 3.5" x 2' pine project board (to fill bow scoops) Lowe's / Home Depot		~ \$2.50
15.	2' x 4' x 1/4" luan plywood sheet Lowe's / Home Depot		~ \$7.50
16.	10-15 pieces piezo discs with wires attached	0-15 pieces piezo discs with wires attached ebay (or like \$6 on amazon)	
17.	couple dozen #4 3/4" zinc wood screws	e dozen #4 3/4" zinc wood screws Lowe's / Home Depot	
18.	baggie of 100 black 4" zip ties	Lowe's / Home Depot	~ \$4
19.	p-bass style cavity cover	ebay (or like \$3.50 on amazon)	~ \$2.50

Optional upgrades for extra scratch:

~ \$23<sub>or</sub> pre-soldered dual-head piezo pickup system jjb-electronics.com PPS-200-basic, sounds great ~ \$40 (instead of part #16 and soldering) jjb-electronics.com VTP-200, with volume/tone ~ \$10 rust-o-leum Walmart lacquer (1) color & (1) clear Walmart (or testors one-coat model lacquers for more \$) for making body a solid color... or wood stain amazon, ebay... \*note: you wil need to use d'addario electric guitar pickup with adjustable pole pieces varies Chromes flatwound guitar strings instead of cello strings (so you can adjust height per string to even out volume) for this to work, and it will only sound good for pluck/strum

Total parts cost: ~\$107



So here's the thing with tools... If you don't already have a huge collection of them, someone you know does--and you can probably just get away with **borrowing what you need** from that person for this project. Your dad, grandpa, neighbor, friend--someone you know has all this stuff and more. Go talk to them, then you don't have to pay any of the costs on this page. YW.

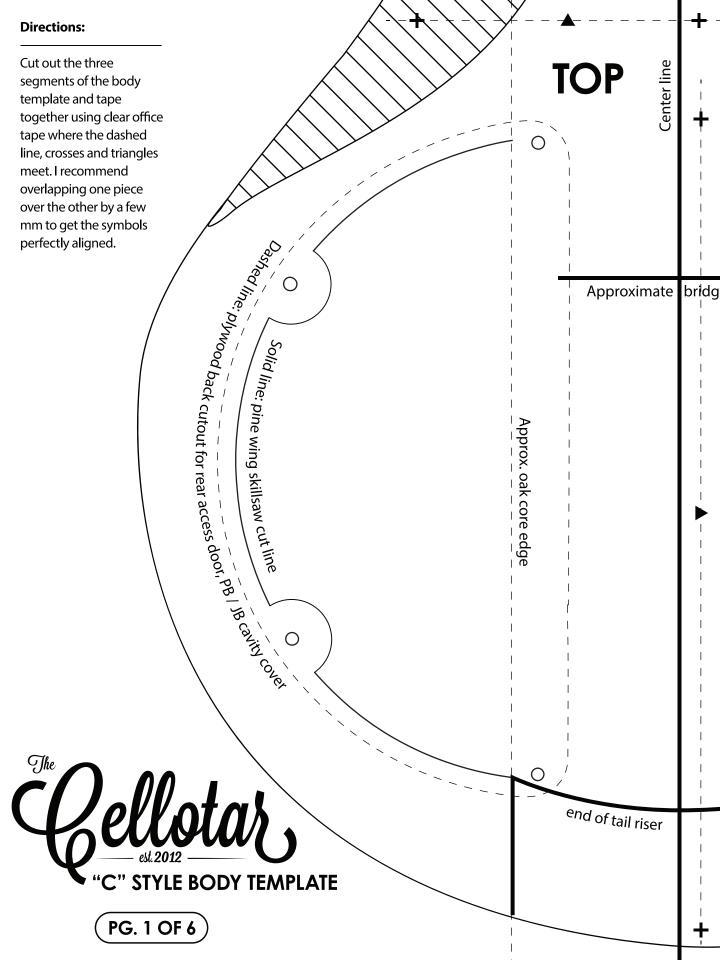
Tool	Where to find	Cost		
standard angle grinder + carbide cup for carving	d angle grinder + carbide cup for carving amazon, box hw stores, carbide cup from Harbor Freight			
basic jigsaw with wood blades, whatever brand	walmart, lowe's, home depot	~ \$20		
palm / mouse / detail sander and various grits of fitted sanding sheets (velcro back)	amazon, or \$20 at walmart/lowe's/home depotor sand by hand with sandpaper if you hate life	~ \$15		
small and medium philips head screwdrivers	they're everywhere just look around	FREE		
basic electric drill and various wood/metal bits	amazon, walmart, lowe's, home depot	~ \$20		
some higher-grit "by-hand" sandpaper	amazon, walmart, lowe's, home depot	~ \$5		
freaking safety glasses (don't ruin your eyes)	amazon, walmart, lowe's, home depot	~ \$10-15		
ruler, yardstick, scissors, office tape, pencils, sharpee markers you have these somewhere				
duct tape and a set of files for the nut/bridge	amazon, walmart, lowe's, home depot	~ \$15		
soldering iron or gun & solder (unless you buy one of the jjbelectronics pre-soldered systems, in which case you don't need one)	amazon, walmart, lowe's, home depot	~ \$10-15		
wood glue, wood filler (stainable / sandable)	amazon, walmart, lowe's, home depot	~ \$10		
rust-o-leum automotive primer, black lacquer	walmart, gurl!	~ \$10		
paper towels, computer printer & ink/paper	oh c'mon	FREE		

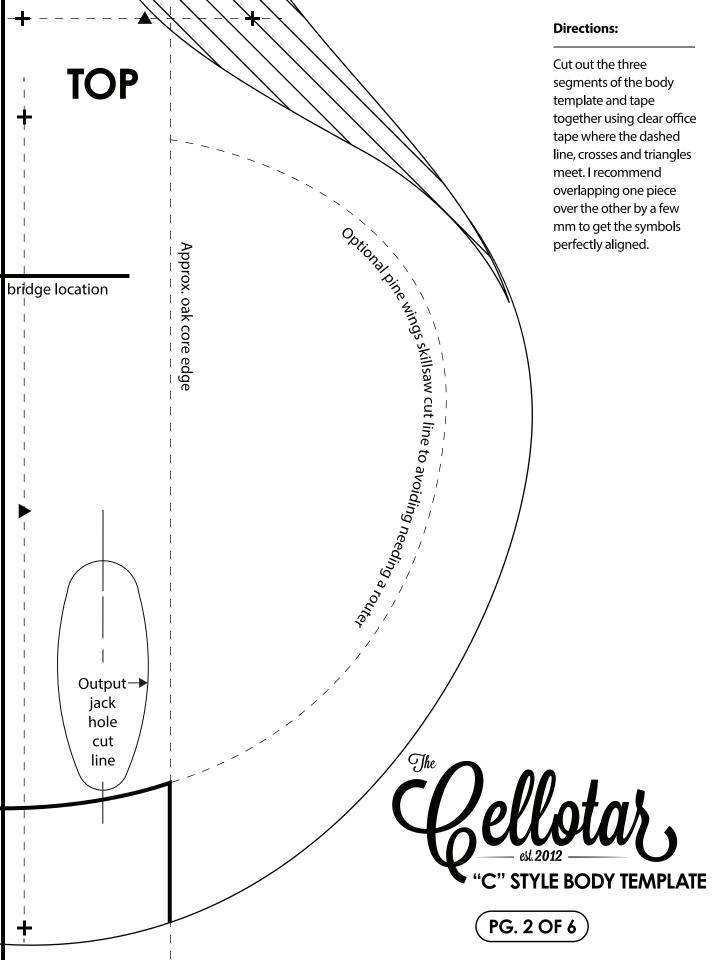
Total if you fail at the borrowing thing: ~\$170

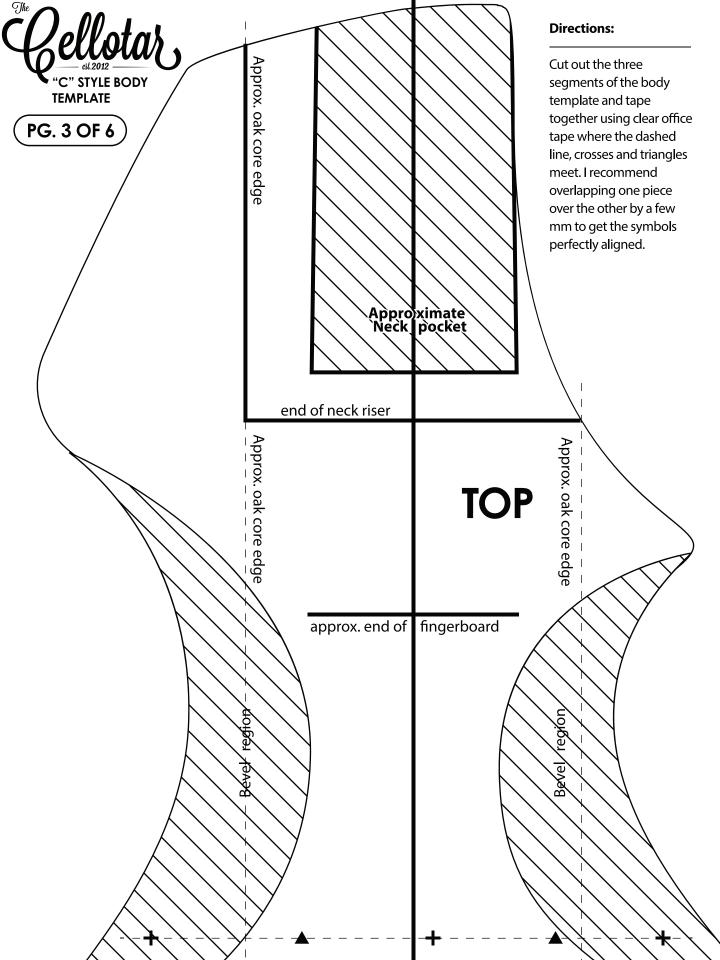
## Optional tools for more awesome:

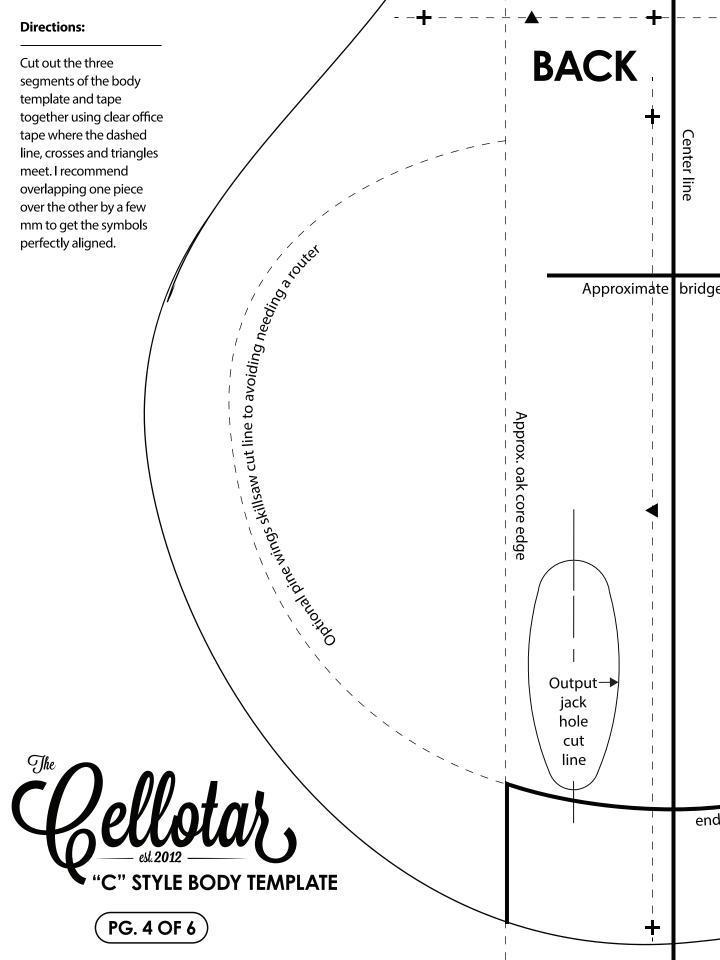
handheld wood router with standard bit	Lowe's, Home Depot, must have nerves of steel	~ \$100
bench drill press (instead of a lame hand drill)	seems that all the cool makers use these, um yard sale?	~ \$?
waterslide decal sheets, mod podge, spray adhesive	amazon, ebay, craft stores, mod/spray at walmart	~ \$40

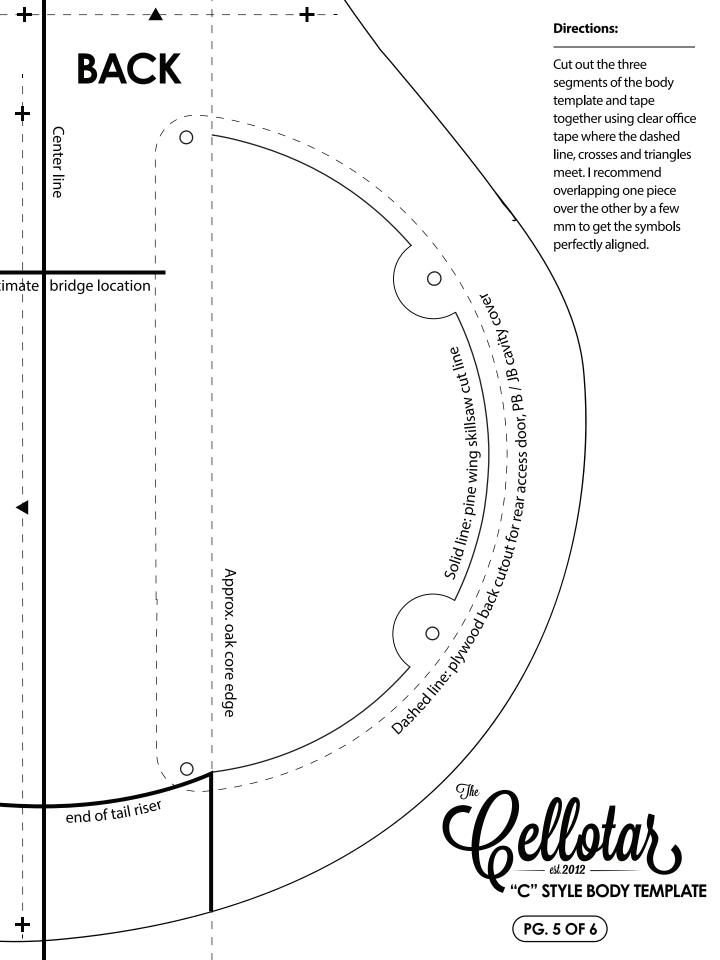
				IMPERIAL:		
Nut is line below		┦ <b>┯</b>	<b></b> _	22.000" fret scale		
				fret 1	from nut 1.235"	fret to fret 1.235" (nut-1)
		1 1		2 3	2.400" 3.500"	1.165" (1-2) 1.100" (2-3)
		1 1		4	4.539"	1.038" (3-4)
			1.1	5 6	5.519"	0.980" (4-5)
		<del>                                     </del>		7	6.444" 7.317"	0.925" (5 <b>-</b> 6) 0.873" (6 <b>-</b> 7)
				8	8.141"	0.824" (7-8)
		│ ⊗ ⊗		9	8.919"	0.778" (8-9)
				10 11	9.653" 10.346"	0.734" (9-10) 0.693" (10-11)
fret end drill hole				12*	11.000"	0.654" (11-12)
← alignment rails ←				13	11.617"	0.617" (12-13)
(I hand drew these in the				14 15	12.200" 12.750"	0.583" (13-14) 0.550" (14-15)
video, but you're gonna like			- 11	16	13.269"	0.519" (15-16)
these betterjust tape the				17	13.759"	0.490" (16-17)
template down and drill thru!)				18	14.222"	0.463" (17-18)
				19 20	14.658" 15.070"	0.437" (18-19) 0.412" (19-20)
	1 1			21	15.459"	0.389" (20-21)
				22	15.826"	0.367" (21-22)
⊗		⊗		* Frets that are bold are "octaves".		
			-H	METR	m fret scale	
	4					
				fret	from nut	fret to fret
				1 2	31.363mm 60.966mm	31.363mm (nut-1) 29.603mm (1-2)
		annrox back edge of ne	ck heel	3	88.907mm	27.941mm (2-3)
		approx. back edge of ne	·············	4	115.280mm	26.373mm (3-4)
11	1 1		1.1	5	140.173mm	24.893mm (4-5)
	1			6 7	163.669mm 185.846mm	23.496mm (5-6) 22.177mm (6-7)
	1 1			8	206.778mm	20.932mm (7-8)
	7			9	226.536mm	19.757mm (8-9)
	-			10	245.184mm	18.649mm (9-10)
	1 1			11 <b>12</b> *	262.786mm 279.400mm	17.602mm (10-11) 16.614mm (11-12)
🚫		⊗	1 1	13	295.082mm	15.682mm (12-13)
	l ⊢		+	14	309.883mm	14.801mm (13-14)
			1.1	15	323.854mm	13.971mm (14-15)
	_			16 17	337.040mm 349.486mm	13.187mm (15-16) 12.446mm (16-17)
	<b>ा ⊢</b>	-		18	361.234mm	11.748mm (17-18)
		$\otimes$		19	372.323mm	11.089mm (18-19)
		•		20	382.789mm	10.466mm (19-20)
1 1			<del> </del>	21 22	392.668mm 401.992mm	9.879mm (20-21) 9.324mm (21-22)
				22	401.99211111	9.324IIIII (21 <b>-</b> 22)
	╛┝			* Frets tha	t are bold are "octave	s".
				MEASU	JREMENTS T	AKEN FROM:
		nttp://www.ste	ewmac	.com	/FretCa	lculator
		Directions:				
			The			
		Cut out the two segments			$\Lambda$	
		of fretboard template and				
		·				4 a. I
		tape together using clear				
İ	$\sqcap$	office tape where the		∕~ ľ	A A M	<i>4            </i>
	11.	dashed line, two crosses		/ ) <b>~</b>	VVV	tal,
⊗		and triangle meet. I	<b>1</b>	IJ—	— est. <b>2012 —</b>	
💆		_		<b>T</b>		
		recommend overlapping		<b>▼</b> FRE	TBOARD	<b>TEMPLATE</b>
	$\vdash$	one piece over the other				
		by a few mm to get the				
		symbols perfectly aligned.	22 FR	FTC	(	PG. 1 OF 1
<b>┯</b> <del>▲</del>	<b>T</b>			LIJ		

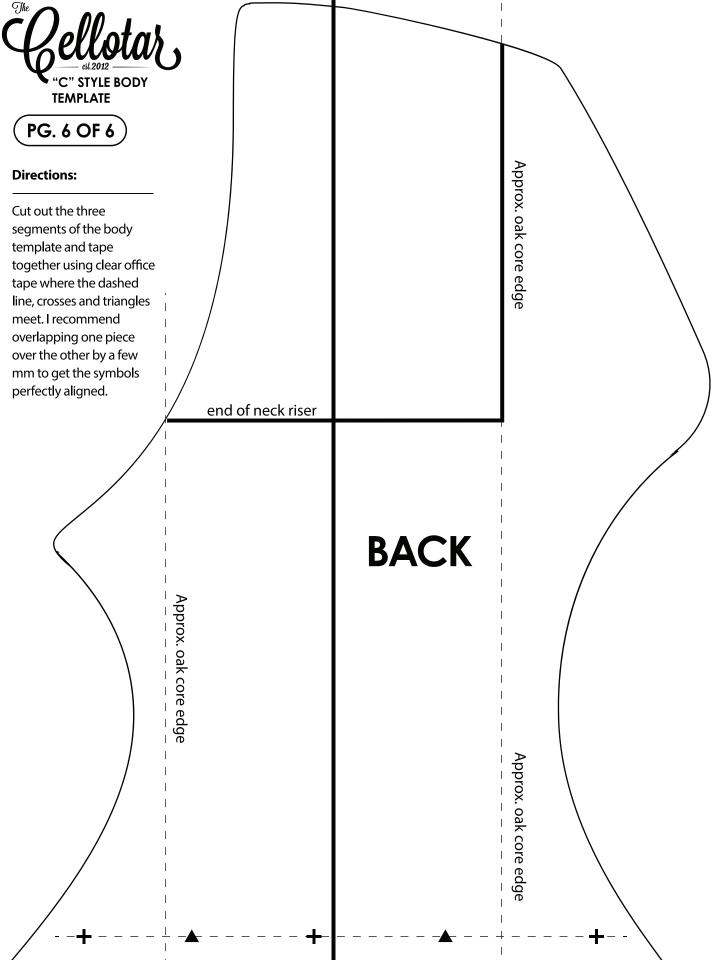












## **HEADSTOCK LOGOS (NORMAL AND REVERSED)**



Plain





Blob





Outlined



