MrBaddeley
R2D2 version 2 Jabba Tray 3 legs instructions
Version 0.1 (Draft)

https://www.patreon.com/user?u=4294285
for other parts and instructions

Features…

Modular sections bolted with M4 Bolts

4 6mm x 10mm Magnets in all trays for cups etc.

Revised and accurate to movie prop.

Three part trays for faster printing & reduced filament.

Note** This is as accurate as I can get, this is the 3 leg version which will work with the existing tray assembly from v2, but note trays 1 and 7 have a different base plate!

The same as the two leg version, the dome will not rotate with this in place, the 3 leg is harder as the holoprojector sits between the trays.

The dimensions and angles work for a standard design and with 18 degree leg / body (36 degree overall). The trays are level when fitted and the top trays have magnets which hold any accessories in place.

MrBaddeley Jabba Tray

You'll also need
6 x Pins3LegA and 6 x PinsLegB
12 x InternalSupportANut
12 x InternalSupportB
1 set of T1 and T7 Leg Brackets (A&B)

Firstly the basics, I printed this out in Bronze coloured PLA (I normally choose ABS), only because I found some cheap PLA. PLA is glued with superglue and ABS with Acetone.
I used Simply3d for my slicer and split the process to print the majority in .3 layer, whilst doing the top details in .1. The pattern faces will show stepping at .2 and above, so print them in as high a setting as possible, using split processes in Simply3d let me keep the speed for the lower bits and the detail on the faces.
You need some "rare metal" magnets, 6mm diameter and 10mm long. I got these from ebay. You'll need 24 for the tray and more for any accessories you make.
For the tray assembly you'll need 12 of M4x15, 12 M4x30 along with at least 36 square M4 nuts. For the legs you'll need 4 M4x40.
Also 8 of M4x15 for the leg assembly and 10 M4x20 along with 10 nuts.

The trays are made of 3 sections, with 4 types of trays.
Print **3 x** (TrayA-1, TrayA-2,TrayA-3) and **2x** (TrayB-1,TrayB-2,TrayB-3)
Tray A is the upper trays and B is the lower.
Print **1 x** (Tray1-1,Tray1-2,Tray1-3) and **1x** (Tray7-1,Tray7-2.Tray7-3)

You also need two sets of the leg files (Leg1A,B,C Leg2A,B,C and four "buttons".

Attaching the magnets….

On every upper tray (7 in total) you need to fit the magnets firstly.

The magnets needed are 6mm diameter by 10mm long Neodymium Magnets. I got them from Ebay, there's loads of sellers.

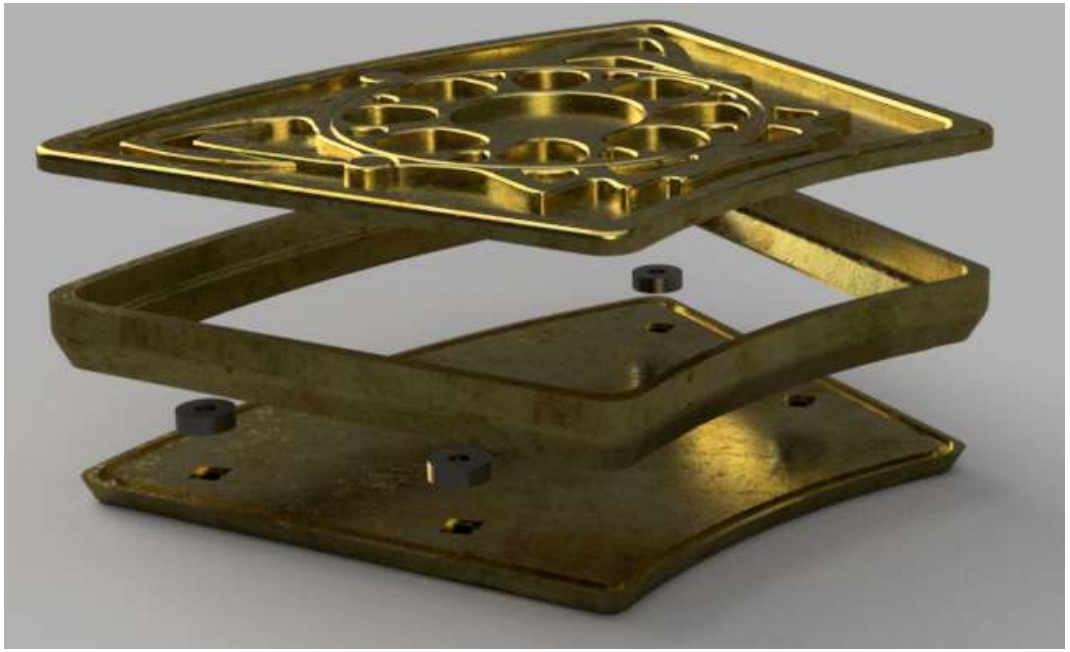
IMPORTANT, IN THE WORDS OF DOCTOR WHO.. "NEVER Reverse the polarity of the neutron flow!".

Make sure all magnets in all trays have the same polarity. I check every one twice before fitting, this makes any items you make for the tray will work with all trays……

The Magnets are a tight fit, I used a metal spatula to push them into the holes, they clicked in tightly without the need for glue. I suggest a little super glue for each magnet though.

Once you've fitted 28 magnets into the 7 tray (4 in each) you're ready to start the tray assembly.

Making the trays…. (TrayA, Upper trays…)



TrayA-1
TrayA-2
TrayA-3

InternalSupportANut

Upper Tray (TrayA-1, TrayA-2,TrayA-3) and we need three of these…

1) Assembly is quite simple. Firstly we're going to fit the captive nuts needed for assembly later on. You'll see four indents in TrayA-3 for M4 Square nuts. I pushed 4 nuts through the holes and tightened them to pull the nuts into the indents. You want these tight fitting. You can also apply a little superglue to hold these firm (obviously no were near the threads). Then glue / weld the InternalSupportANut piece over the top, gluing to TrayA-3 (I used another nut to hold it in place while it set). This is to fix the four captive nuts for assembly later and need to be solid as we will seal this tray once assembled.

Once set, remove the bolt and you should have 4 captive nuts fixed in TrayA-3.

2) Assemble the tray, basically glue or weld TrayA-3 to TrayA-2 and glue the top on. Hold in place with clamps until set. This should give you a fully assembled Tray. You just need to repeat 3 times!

Making the trays…. (TrayB, Lower trays…)

InternalSupportB

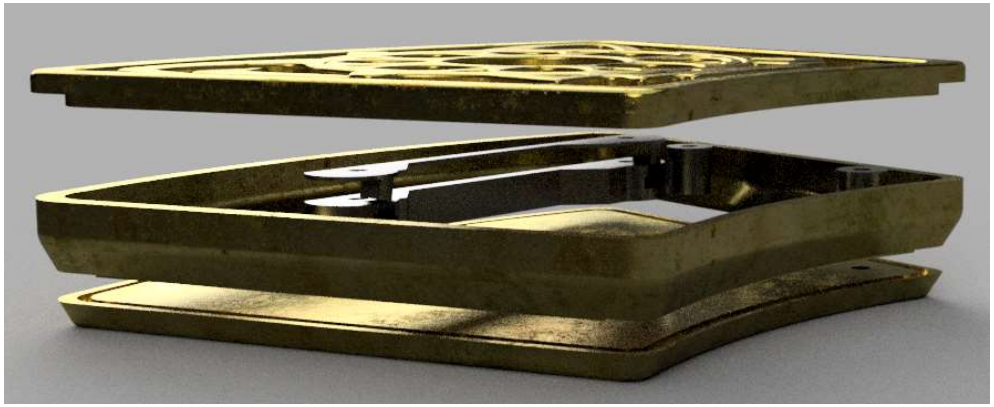
TrayB-1
TrayB-2
TrayB-3

Upper Tray (TrayB-1, TrayB-2,TrayB-3) and we need two of these…

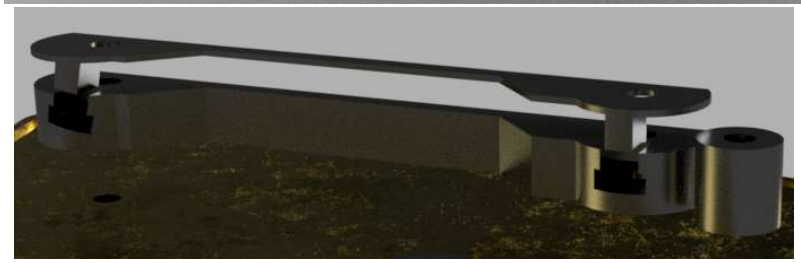
1) Assembly is quite simple. Firstly we'll fit the 4 InternalSupportB. These are tubes which provide extra support as you tighten the bolts which hold the trays together. Again I used 4mm bolts to align correctly and hold whilst gluing. Apply glue or acetone to the InternalSupportB and glue onto TrayB-3, use bolts to align with the holes and nuts can be put in place to hold whilst it sets.
2) Once set, Assemble the tray, basically glue or weld TrayB-3 to TrayB-2, apply glue to the top of InternalSupportB and glue the top on. Four bolts can be used to hold solid again while the glue sets. Remove the bolts and nuts once set. These lower trays have four bolts running through them to attach to the upper trays.

You'll need to repeat this twice.

Making the trays…. (Tray1 & 7)

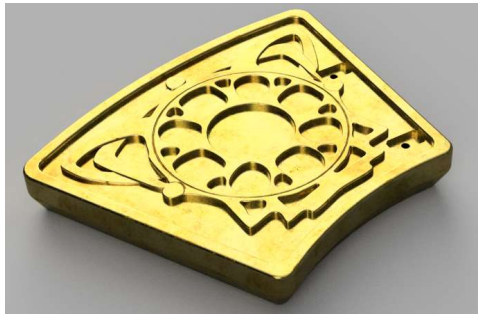


Tray1-1
Tray1-2
Tray1-3



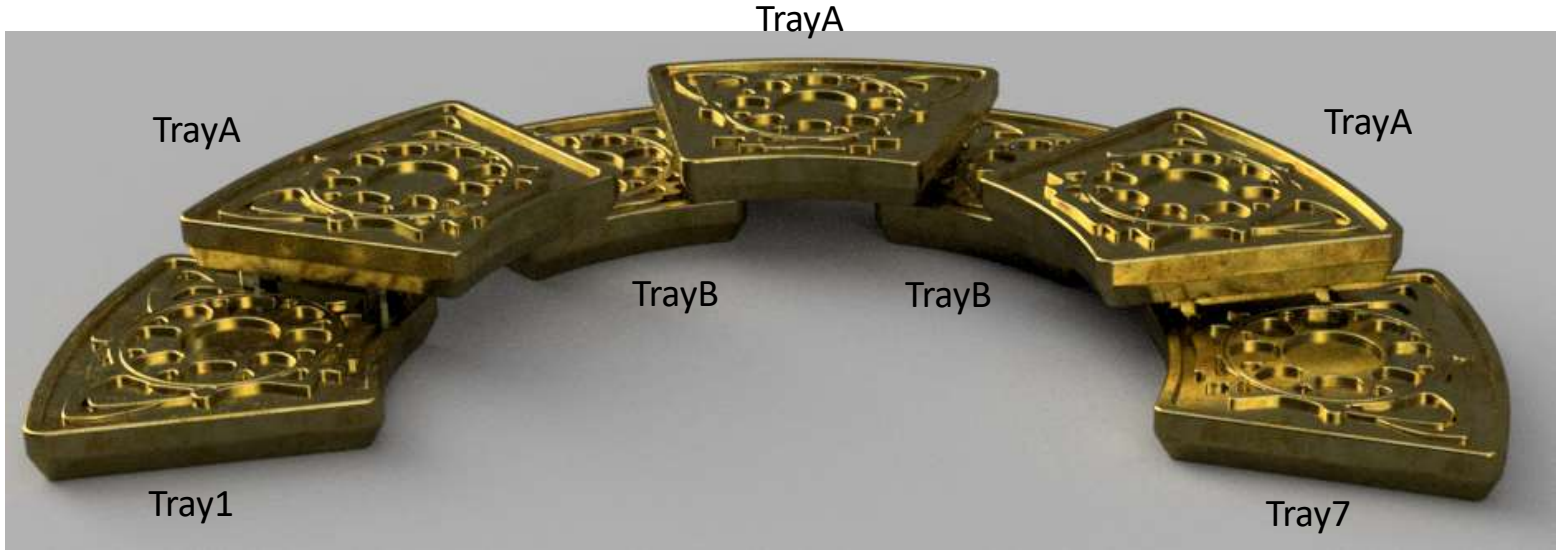
T1-LegBracket-A&B

Repeat this for Tray 1 and Tray 7 to make the end trays.



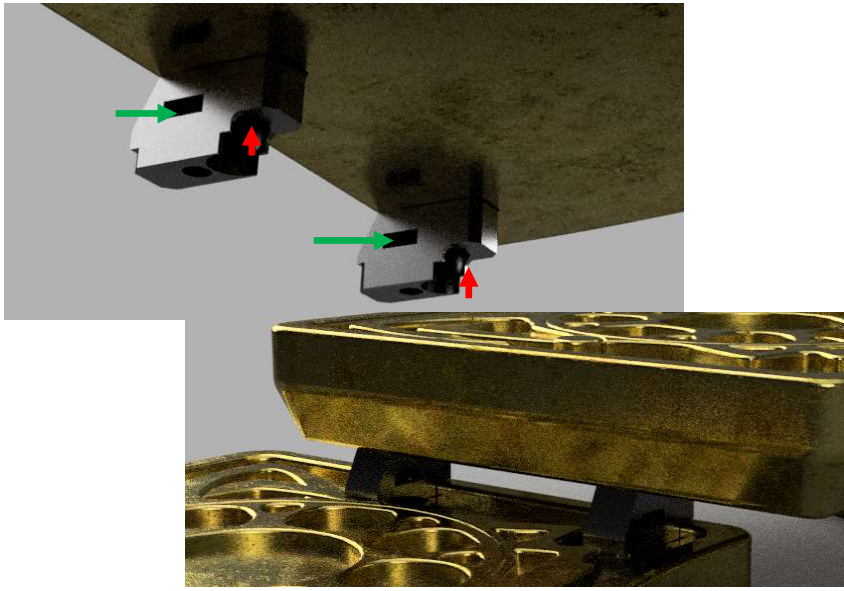
Tray 1 & 7 (Tray1-1, Tray1-2,Tray1-3) Tray 7 is basically a mirror of this and same build.

1) Assembly is quite simple. Firstly we'll fit the 2 InternalSupportB. These are tubes which provide extra support as you tighten the bolts which hold the trays together. Again I used 4mm bolts to align correctly and hold whilst gluing. Apply glue or acetone to the T1-LegBracket-A&B, these glue together to hold the nut, then glue onto Tray1-3, use bolts to align with the holes and nuts can be put in place to hold whilst it sets.
2) Next, fit T1-LegBracket assembly, this has two M4 square nuts fitted in either end. Again, this will we a sealed tray so make sure they're fixed well. Glue the bracket to the lower Tray and hold in place with bolts going from the lower tray through the captive nuts, remove once the glue has set.
3) Finally once you're happy all is glued correctly, assemble the tray, 1-3 to 1-2 and finally glue the top on.



Assembling the Tray

Take each piece as shown above, with the 6 PinsLegA & 6 Pins Leg B. Notice they are slightly different on how they fit around the patterning on the tray. These screw into the upper trays, into the captive nuts using the M4 15 bolts which should countersink. Then add square M4 nuts into the holes (marked in green). Finally bolt the lower tray into the upper tray with the M4 30 bolts and tighten up.



Note I did this so the TrayA and TrayB can be used for either 2 or 3 leg mode, the pins just space differently the 3 leg is slightly wider.

Assembling the legs (you'll need two of these).

Firstly print Leg1A,B,C Leg2A,B,C and four "buttons".

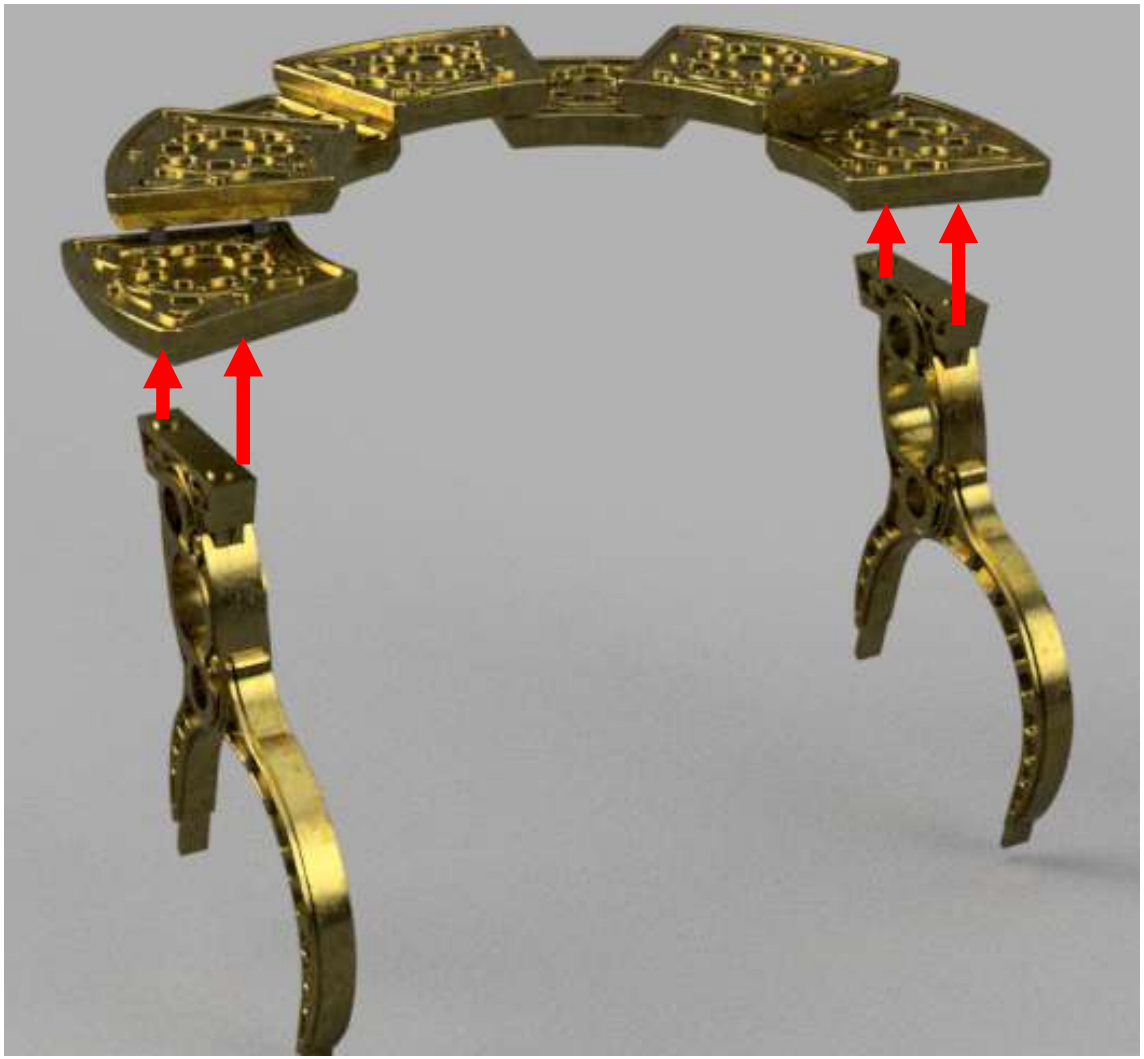
Leg1 is the main frame, it's the load bearing piece and held together with M4 bolts (20mm ones should do), 5 bolts and nuts in total.

Take Leg1A, B and C, clean / sand to make sure it's a good fit, glue together and bolt with the 5 bolts to hold solidly. I applied a little superglue to keep the nuts from working loose after tightening.

Secondly, take Leg2A, B & C, clean / sand to make sure it's a good fit and glue together on the pegs / face. Note there's no bolts to hold this together.

Next, take 4 M4 Square nuts and put into the Leg1 Frame, you'll see slots in the circular "pegs" they may need a little clean, I used a Allen Key and pushed them into firmly. This is for the 4 M4x15 bolts which attach Leg2 to Leg1.

Finally glue along the complete edge (and internal edges) on the Leg1 frame, making sure you glue the lower curved "legs" well as these have no bolts. Bolt Let2 to Leg1 with the 4 M4x15 and clamp the curved legs together so you make a solid, well fitting assembly.
Finish off with the 4 "buttons", these glue over the bolt heads finishing the overall look. You've assembled the leg, repeat to make the second one.



Final Assembly

Last bit's the easiest….

Attached both legs using 2 M4x40 bolts.

It's up to you whether you glue or not.

I would also suggest putting some felt on the inside of the two legs where they slot onto R2, to give a snug fit and protect the paintwork.

Supported and tested by Sean Lavigne, Chris Welder, Andy Foster, Filament Tattoo Co, leonardobiagi , Rudolph Bescherer Jr, Anthony Jukes, Colin Dick, Rob Dinniwell, Rob Saey, Gregory Welch, Robert Gusek, William Meyers, Simon Ruel, Christopher Edwards, Jesse king, Hajo Dahnken, Ron de Leos, Gage McIvor, Alain de Masson, Martin Conway, Robert McCown, Mark Warner, David Hooie, Dariusz Wojtow, Timothy Hebel, Peter Richards, Jim Huffman, Daniel Drake, Troy Thorne, Lord Hotwing, Armando Ferreira, Mel gough, Jeff Johnson, Dennis Bouffard, Jochem Steenbakkers, Sam Morton, Jeroen De Boeck, lorncampbell , Jim , Ben Ramsey, Shayne Aspaas, Mik Dahl-Nielsen, derek mills, Connor Leland, Stuart Fleming, Jonathan Lemieux, Adam Shiver, Patrick Eradus, Travis Carney, Matt Kasdorf, Mel Harris, Matt Campbell, wayne comrie, Cuco Nunes, Bryan Clayton, Tero KÃ¤rkkÃ¤inen, Andrew Gilmour, Stephen Schmidt, Sean P. Harrington, John harris, Richard H McPherson, Andrew Baker, Chuck Arrivas, jericho63 , Travis Crusenberry, Leon de Graaff, Ryan Roehrich, mark coombes, Jason Hawkins, Charles Everette, Rick Ahrendt, Dave VanderWekke, Orpheus1103 , Simon Freeborn, Alistair Blake, Charles Wright, Phillip Williams, John Springer, Richard Gregory, Mighty Jabba's Collection, dawn_kitsune , Joseph Powell, James Dyer, Joe Gravelle, Pierre-Alain Ney, Mauro Santini, Aitor Zorita, Brandon Peden, Steven Lawrence, Joshua Escutia, David Pruett, steve niuttall, Ben Langley, Ben W Bell, Tarak Sillini, James VanDusen, Brian Bishop, Danny Olsson, Sam D. Fenimore, Jay Williams, Steven (Bungeecow) Elford, wes thierry, Tim Parr, Jon Haag, John Gardner, Oiva Ranta, Robert Bean, Mitchell Young, Jake Danible, Mark Oram, tevans , Joseph Masci, Paul Godden, Rob Dinniwell, LarryJ , Rick Davis, Brendan Faulkner, Nicolas Carre and Brian!!