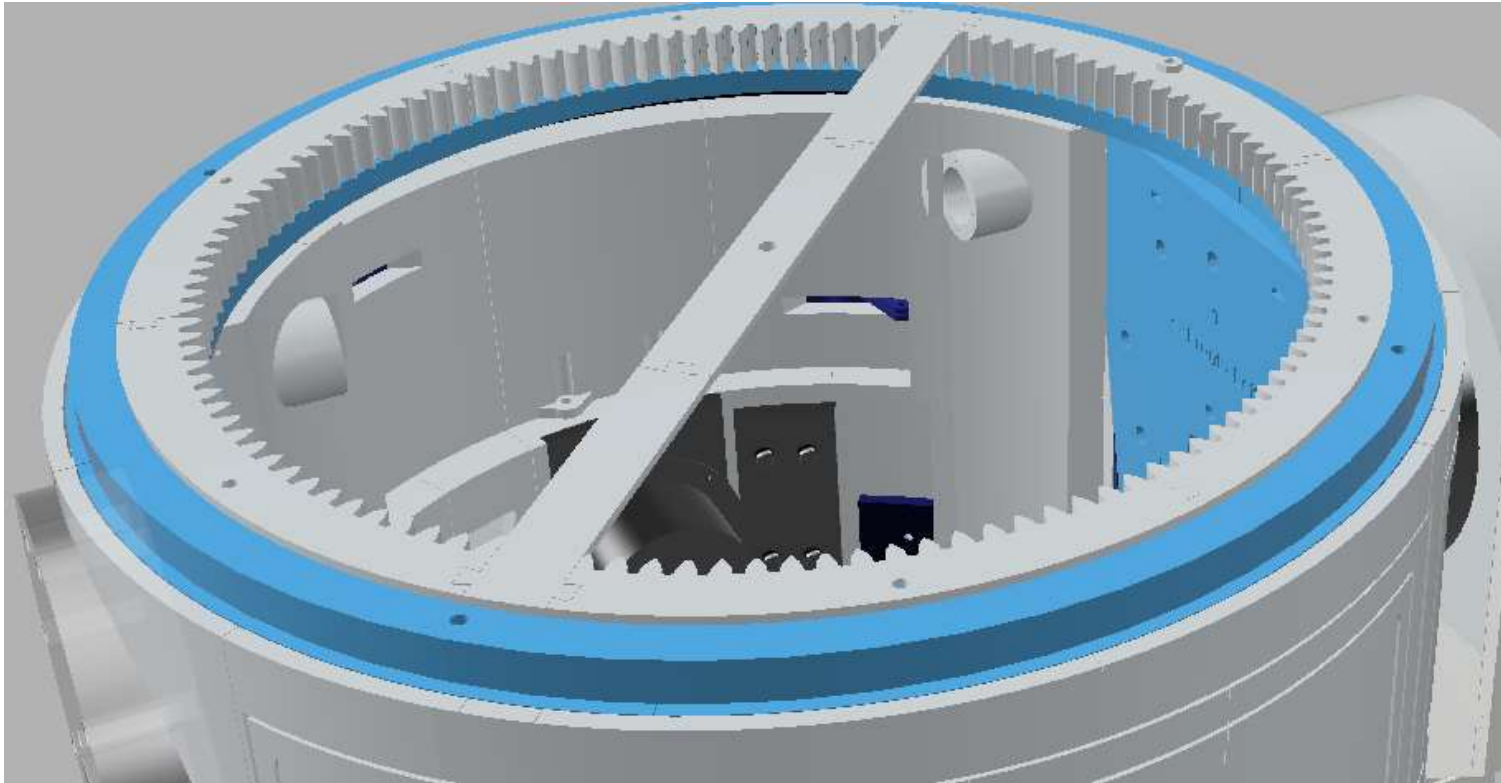


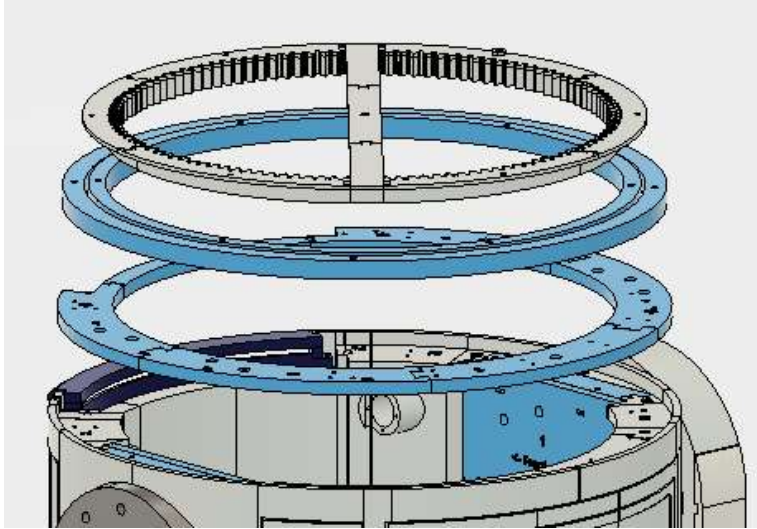
MrBaddeley  
R2D2 version 2 – Attaching the  
Lazy Susan  
instructions  
Version 0.1 (Draft)

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

# The Lazy Susan...



The Lazy Susan / Top Ring assembly requires that the Outer Lazy Susan is bolted to the body with the inner ring having the gear installed. The dome sits on protruding bolts on the inner ring. There is a variety of Susans, with different holes and sizes (even though 450mm is standard, or the standard Rockler Bearing) so this does require drilling and manual fitting. The Top Ring I've made separate so if you do make a mistake you can start again. There's also holes on the top ring basically to see if any fit but expect you may have to manually drill / modify due to variety.



The ring assembly has three main parts (you need to assembly these first if you haven't already).

First the Inner Gear, the Lazy Susan (obviously this is bought, I used a 450mm from ebay and another one from Amazon on my second droid), they are slightly different.

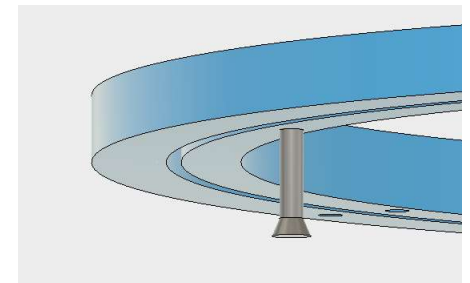
Lastly the lower ring which sits inside the main body (but does NOT glue in).

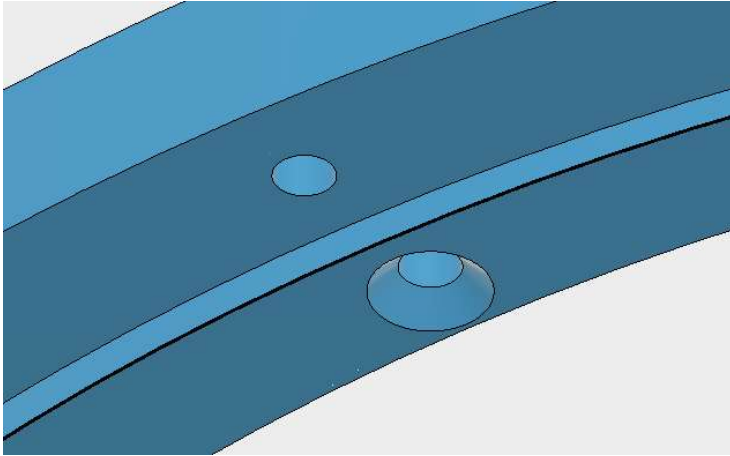
The diagram shows the order etc.

First of all you will have to prepare the Lazy Susan. You'll find the Lazy Susan comes with Plastic plugs and some holes around to mount to a standard board etc. (Standard Internet pic to the left).

What we want to do is firstly remove all the plastic plugs and basically we're going to drill 4mm holes around the inner and outer ring where the plugs go. You can keep with the 3 holes on the inner, but you'll have 6 on the out ring (I had six in both the inner and out, the inner 6 gives a better fixing to the inner gear but is probably overkill. Obviously use the holes where the plastic plugs came from as the guide holes, you're just drilling them through at 4.5mm

Once drilled these also need slightly countersinking as we're going to use 4mm bolts which can be countersunk on the inner ring.



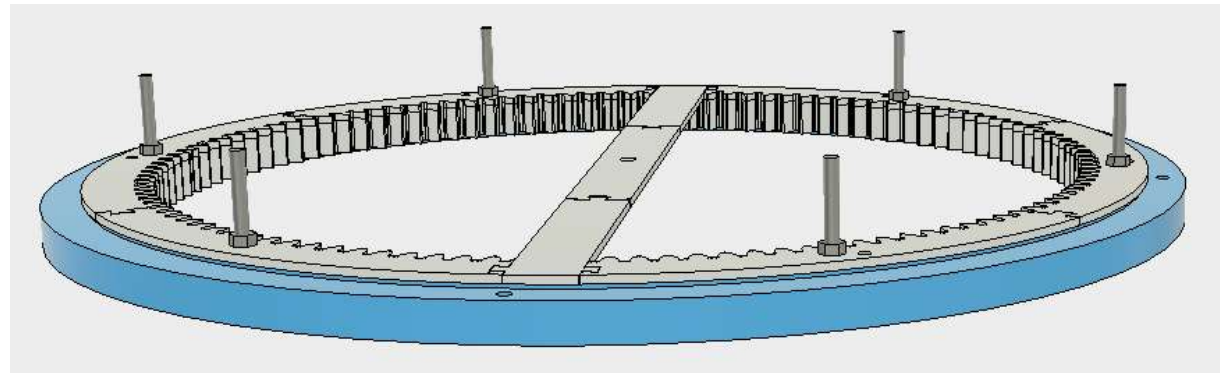
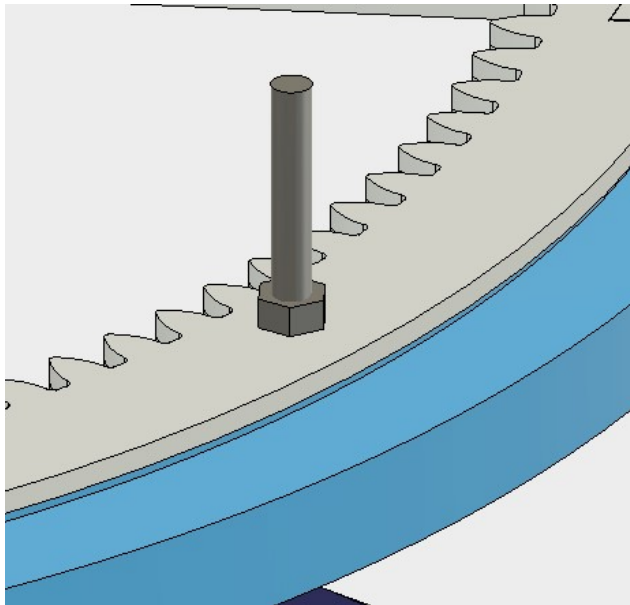


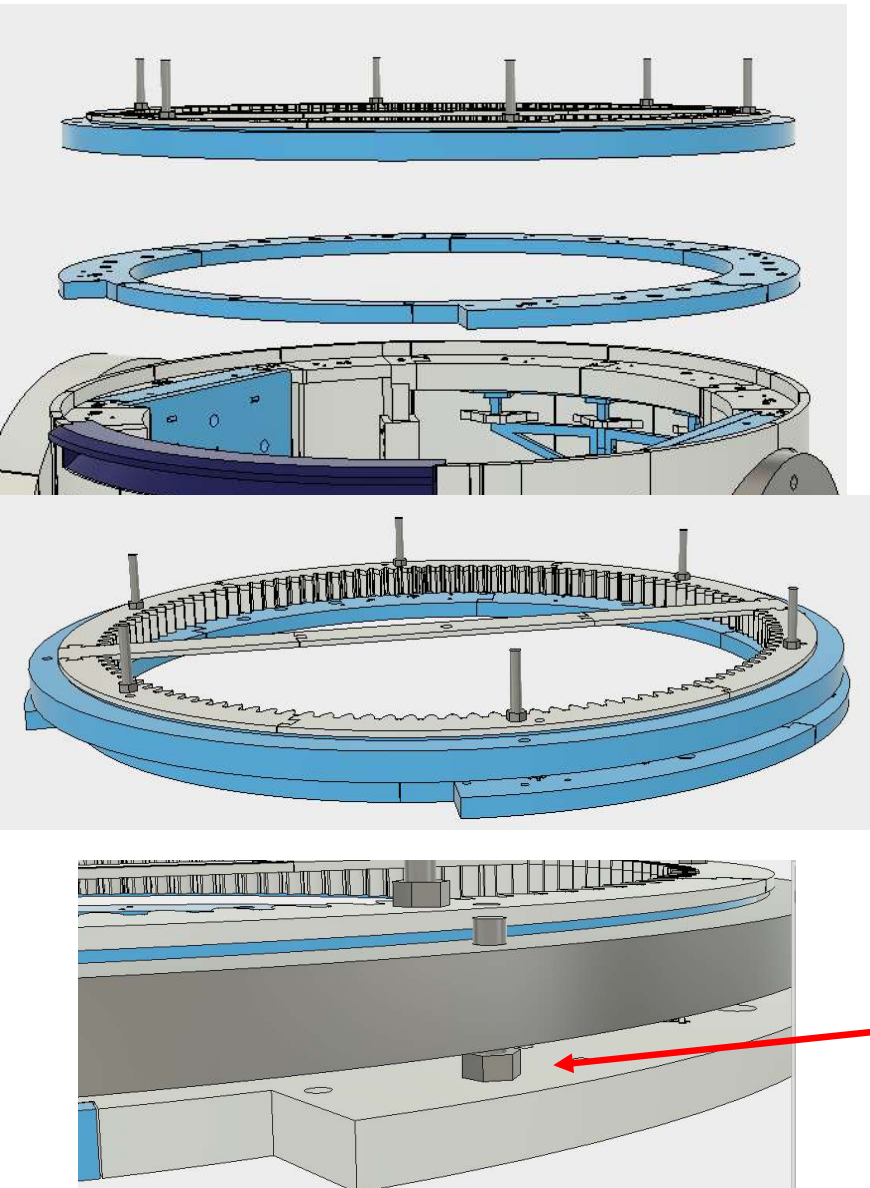
So at the end of the drilling process you should have 6 holes on the outer ring evenly spaced and 3 or 6 countersunk (Countersunk only underneath) on the inner ring.

Next you can attach the inner gear so it sits on the top of the inner ring and use M4 bolts which sit in the countersunk holes in the susan. These should be flush underneath and the bolt sticks out quite a bit at the top. I used 50mm (or 45mm) M4 countersunk bolts, the holes on the dome effectively sit on these. Now again, if the holes you've drilled and the gear holes don't line up, you may have to drill or file out the holes to fit. Similarly the holes in the dome may need adjusting.

***Basically it's impossible to cater exactly for every susan configuration so I've tried to hit the size I used and make the parts reprintable if any mistakes are made.***

So after this, you should have the modified susan with a firmly attached inner gear ready for assembly.





Next we're going to prepare the printed upper ring so it can bolt to the susan.

Firstly place the susan on top of the upper ring (***note the upper ring is not attached to the main frame at the moment***).

Make sure it's complete centered and spin it around to see if any of the pre-drilled holes match up.

This whole assembly is in a couple of stages, firstly we match up (or drill) the holes on the outer susan ring to the printed upper ring.

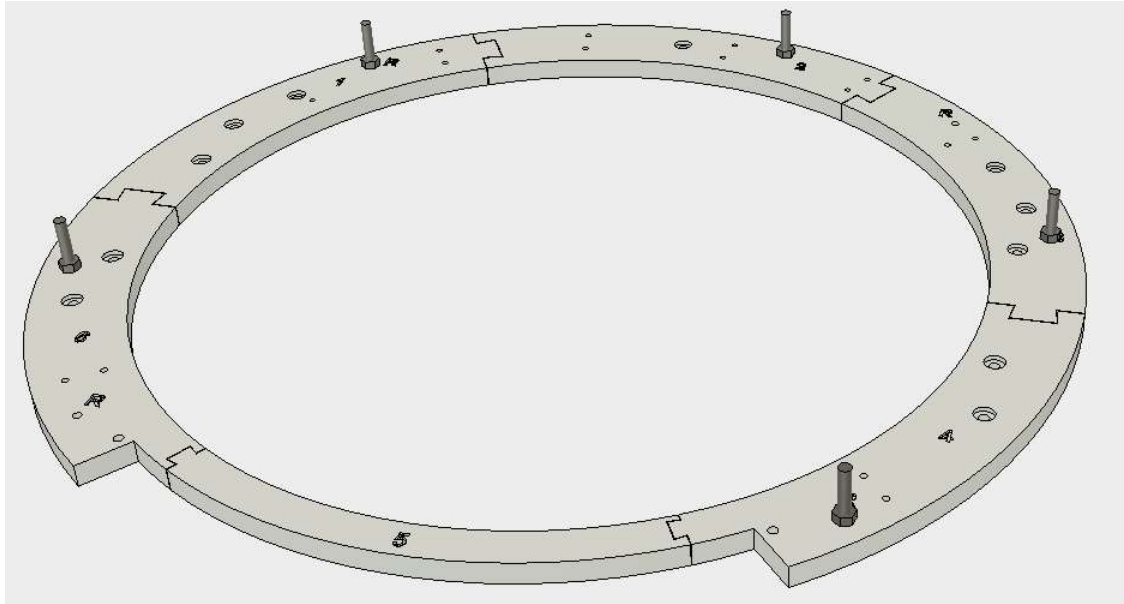
Then using M4x30 countersunk bolts, we put bolts through the upper ring, use nuts / washers on the top side to give some spacing for the susan and fix these in.

(the susan is not attached at this point). Then we attach the upper ring to the body,

Finally bolting the susan in place.

So, let's step through that.. Firstly the susan needs some holes in the printed upper ring to attach to, if the ones there don't match, place, mark and drill some more 4.5mm holes and countersink underneath. (Note drilling printed plastic and countersinking is easy, so go lightly and slowly so you don't damage the printed ring too much). You may be lucky and find holes which match. Then, we push the 30mm M4 Countersunk bolts through the Upper Ring and bolt / washer on the top side, this give something for the susan to sit on.





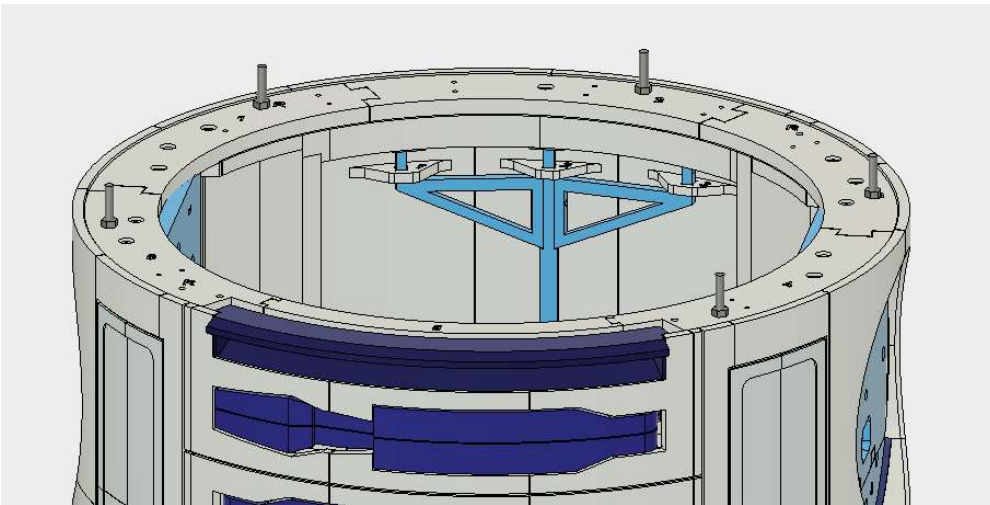
This should give you an assembly which looks something like this picture. We have M4x30 countersunk 5 bolts (can't do 6 as we have a recess), each countersunk underneath and bolted on top with some washers between the upper ring and the bolt.

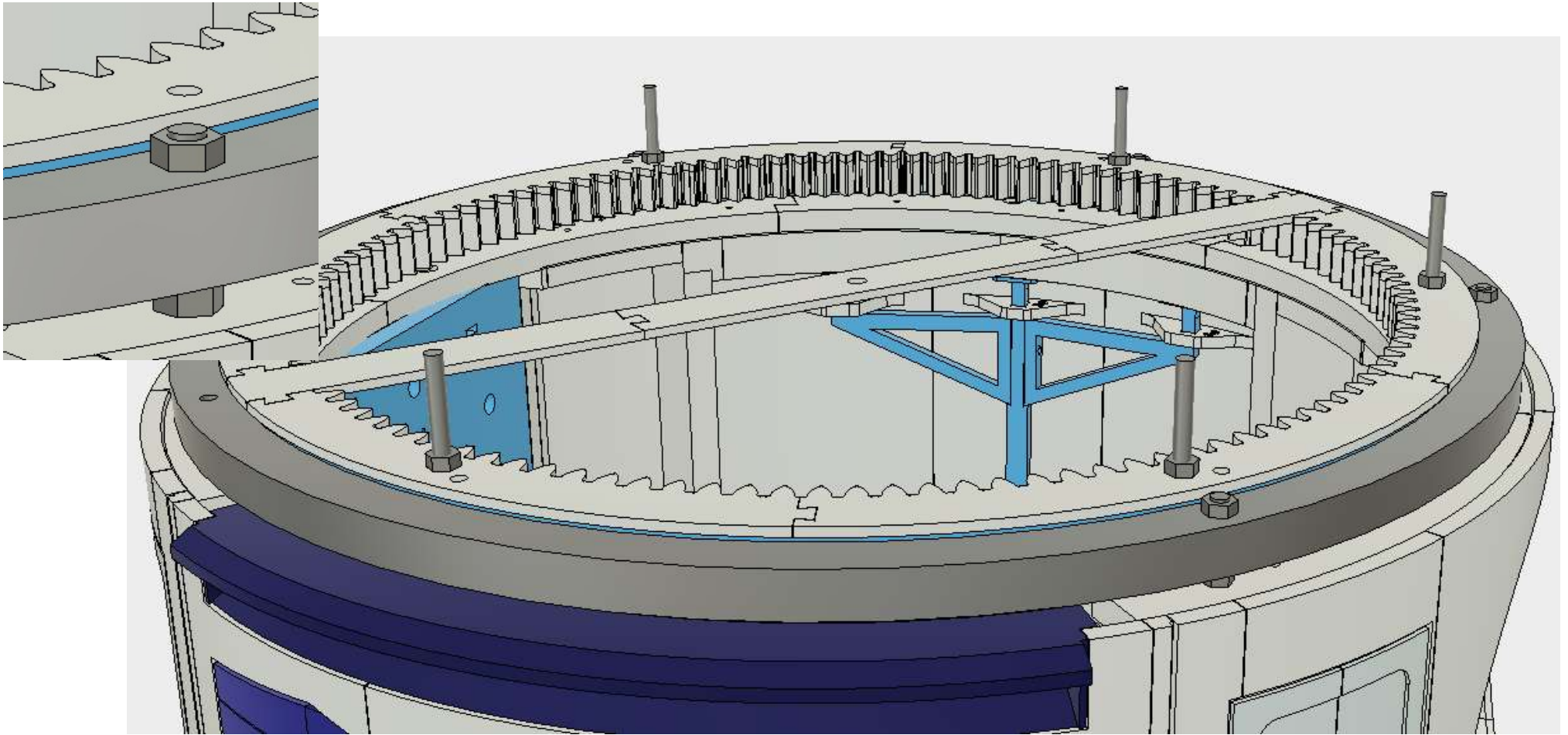
The washers are for spacing to adjust the height of the susan, you'll have to test to get the right gap for the dome, I used two washers and it was perfect.

I'd also advise using some locktight to hold the nuts firm as we then bolt the susan on top of the upper ring once it's attached to the body.

**Before we attach the susan** we're now going to fit the upper ring to the main body. This is fairly easy compared to the manually stuff we've just done as we're back in the printed parts world! So, fit the ring into the body, there's various bolt holes and self tapping holes to screw / bolt the upper ring to the body. I wouldn't recommend gluing as you may need to remove for maintenance later on.

This should then give you a firmly attached Upper Ring, with 5 protruding bolts which are already bolted to the body. Then it's just a matter of finally fitting the susan with the geared ring already in place and fixing the finaly top nuts to hold it all together.





And you're all done! This is one of the more "manual" fixings, but step by step it's not too difficult.



Supported and tested by Sean Lavigne, Steffen N rgaard, Christopher Grey, Chris Welder, Andy Foster, Filament Tattoo Co, leonardobiagi , Rudolph Bescherer Jr, Anthony Jukes, Colin Dick, Rob Dinniwell, Rob Saey, Gregory Welch, Robert Gusek, Simon Ruel, William Meyers (Wayward Perspective), Christopher Edwards, Ian Hughes, adam mantium, Andrew Wigg, Harold Harmon, Jona Smith, ross hobbins, Morpheus , YCSWYD , Danny Bijlsma, Randy Burns, Nick Kelly, Mark , Simon Freeborn, Greg Severson, Carlos Aguilar, Eric Sevy, Tim , Steven Lewis, 3DNublet , Toby Sabol, David Goodfellow, Charles Williams, Luc Hygonnet, Derek's Workshop, David Rawsthorne, Martin Beveridge, CrisisFilms , Leon Steijger, Krijn Schaap, Kevin Thomas, Anders Sandstrom, Gareth Becker, Jesse king, Hajuskin , Gage Mclvor, 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, Jeff Johnson, Dennis Bouffard, Jochem Steenbakkers, Jeroen De Boeck, Iorncampbell , Jim , Ben Ramsey, Shayne Aspaas, 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 K rkk inen, Andrew Gilmour, Stephen Schmidt, Sean P. Harrington, John harris, Richard H McPherson, Andrew Baker, Chuck Arrivas, jericho63 , Travis Crusenberry, Leon de Graaff, mark coombes, Jason Hawkins, Charles Everette, Rick Ahrendt, Dave VanderWekke, Orpheus1103 , 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, Brandon Peden, Steven Lawrence, Joshua Escutia, David Pruett, steve niuttall, Ben Langley, Ben W Bell, Tarak Sillini, James VanDusen, Brian Bishop, Danny Olsson, Jay Williams, Steven (Bungeecow) Elford, wes thierry, Jon Haag, John Gardner, Oiva Ranta, Robert Bean, Mitchell Young, Jake Danible, Mark Oram, tevens , Joseph Masci, Paul Godden, Rob Dinniwell, LarryJ , Rick Davis, Brendan Faulkner, Nicolas Carr , Brian , !!

