

Š O L S K I  C E N T E R

Š K O F J A L O K A

Višja strokovna šola za strojništvo in lesarstvo



LT TA – Learning Trainig and Teaching Activity

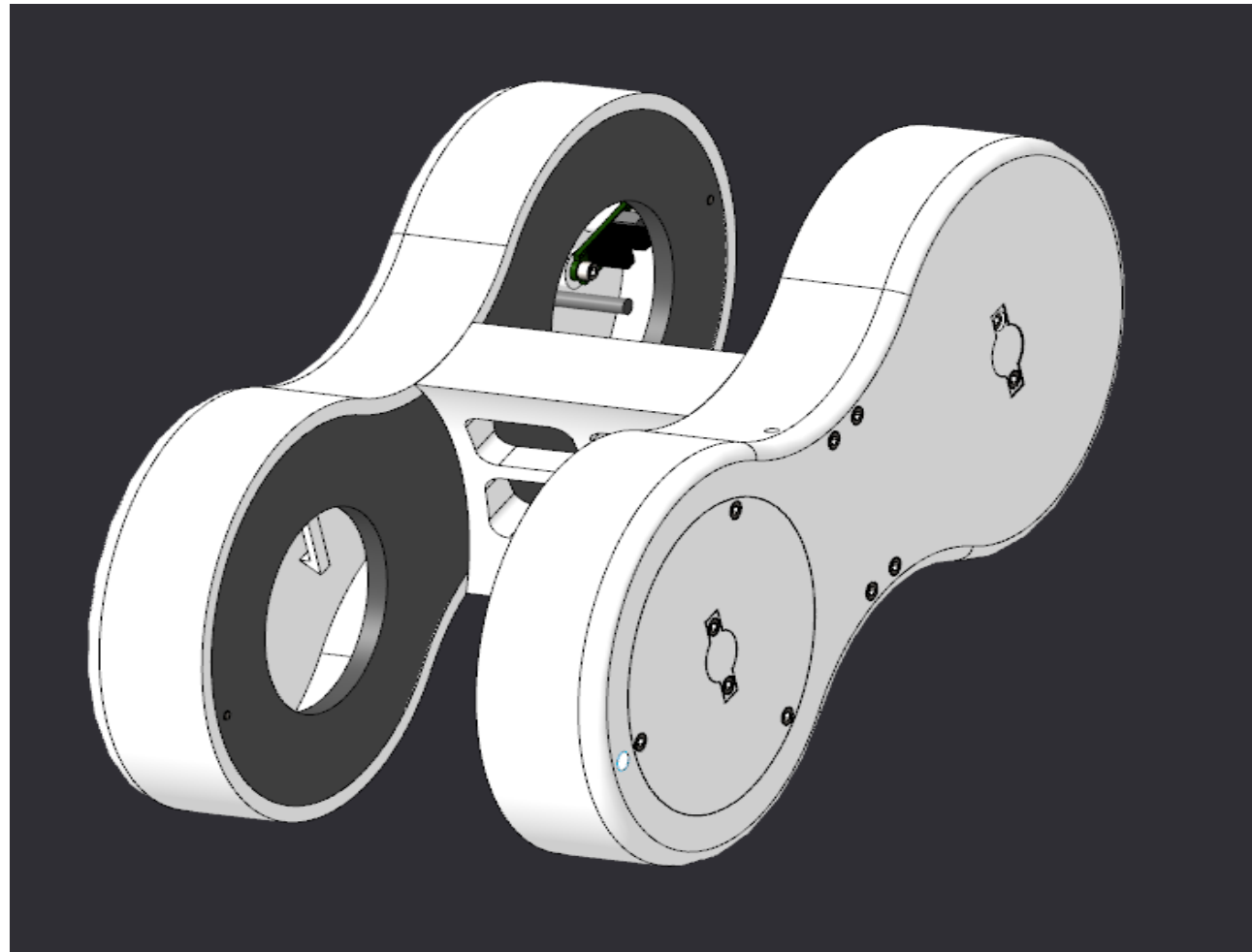
Thor_art_2

Urban Tratnik

20. May 2021

VACIDE LT TA activity – presented online by ŠC Škofja Loka

Complete Assembly of Thor_art_2



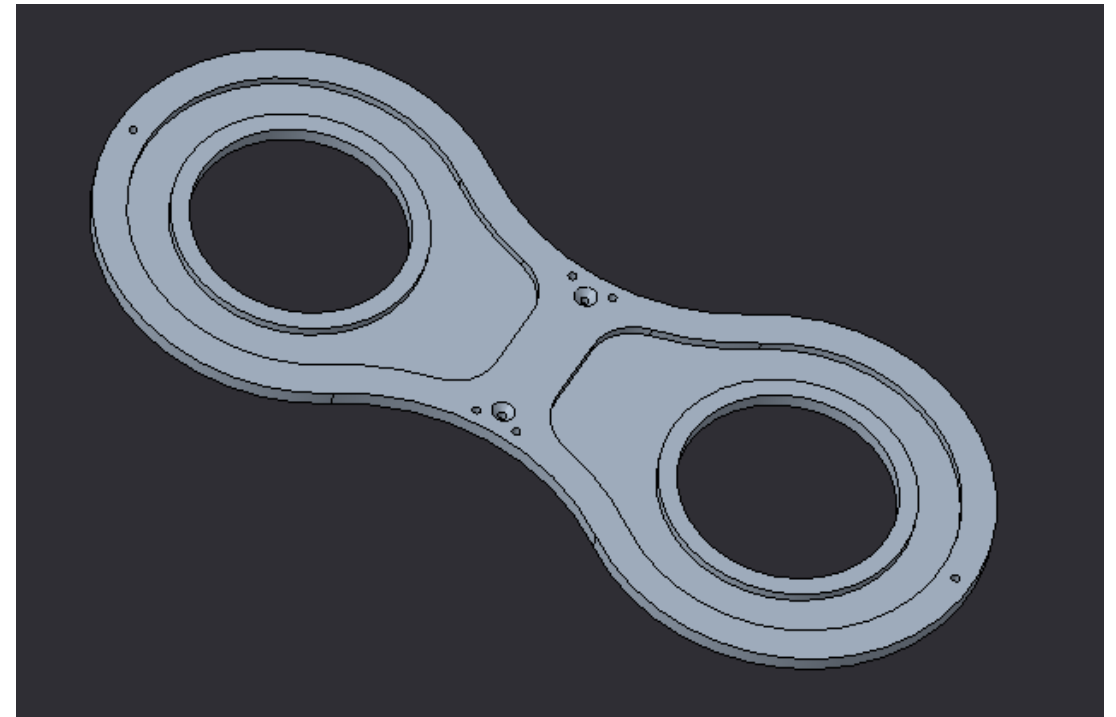
ART2BODYACOVER

- Addition of threaded holes
- Addition of threaded hole to fix ART2BODYACOVER onto ART2UNION
- Material removal for the purpose of making ART2BODYACOVER lighter



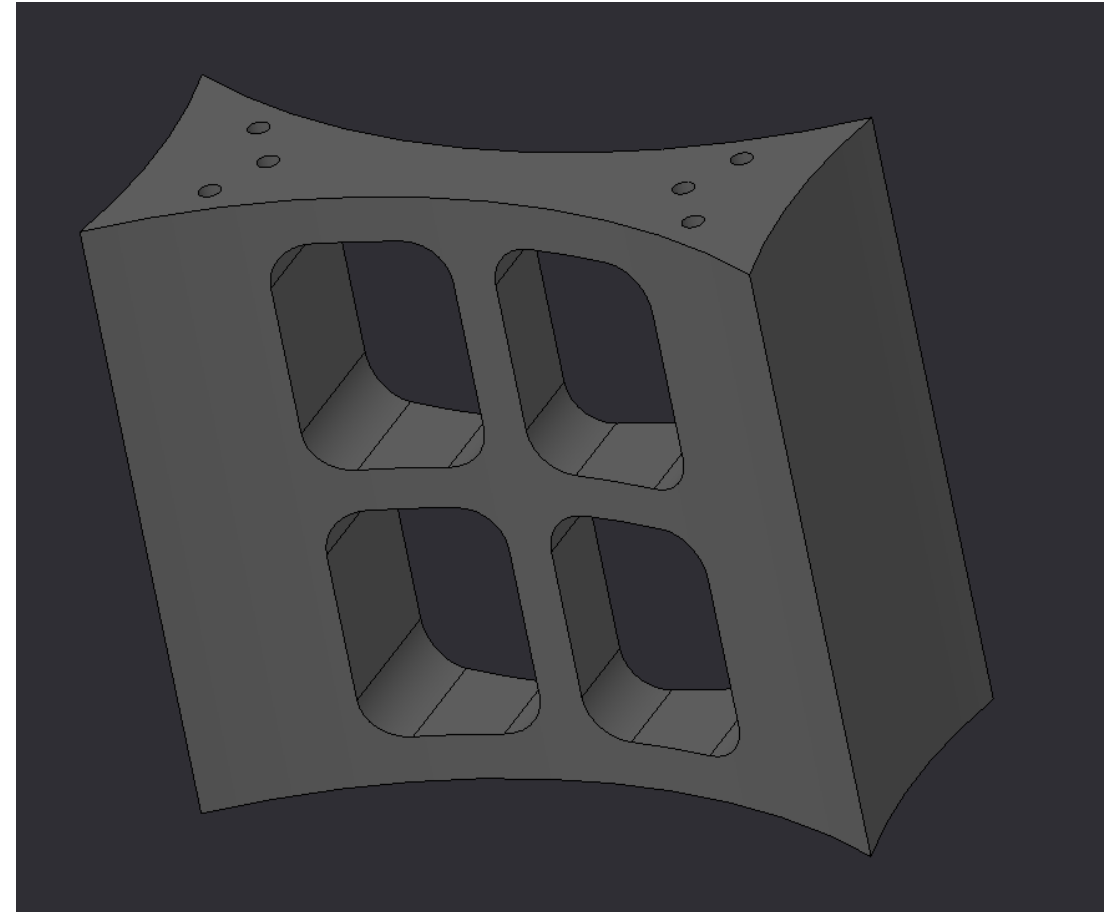
ART2BODYCOVER

- Addition of threaded holes
- Addition of threaded hole to fix ART2BODYCOVER onto ART2UNION
- Material removal for the purpose of making ART2BODYCOVER lighter



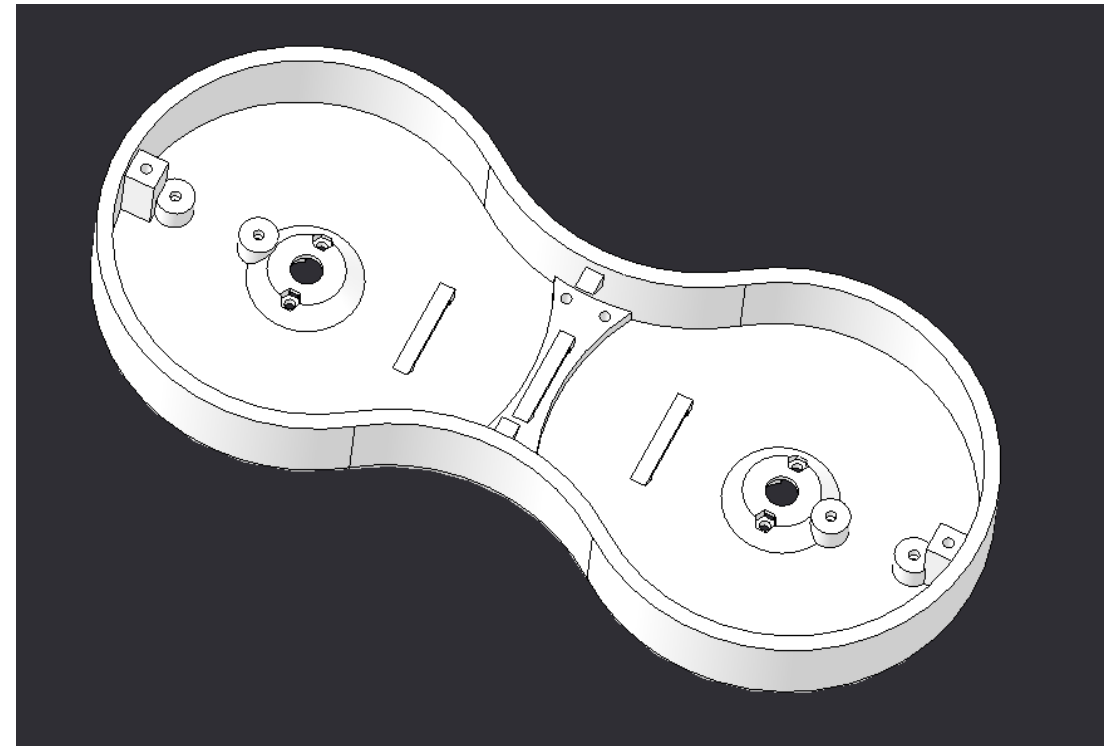
ART2UNION

- Removal of all holes, replaced with 8 shorter threaded holes
- Extra threaded holes added to fix ART2BODYCOVER and ART2BODYACOVER to ART2UNION separately
- Reduction of weight of ART2UNION by removing excess material



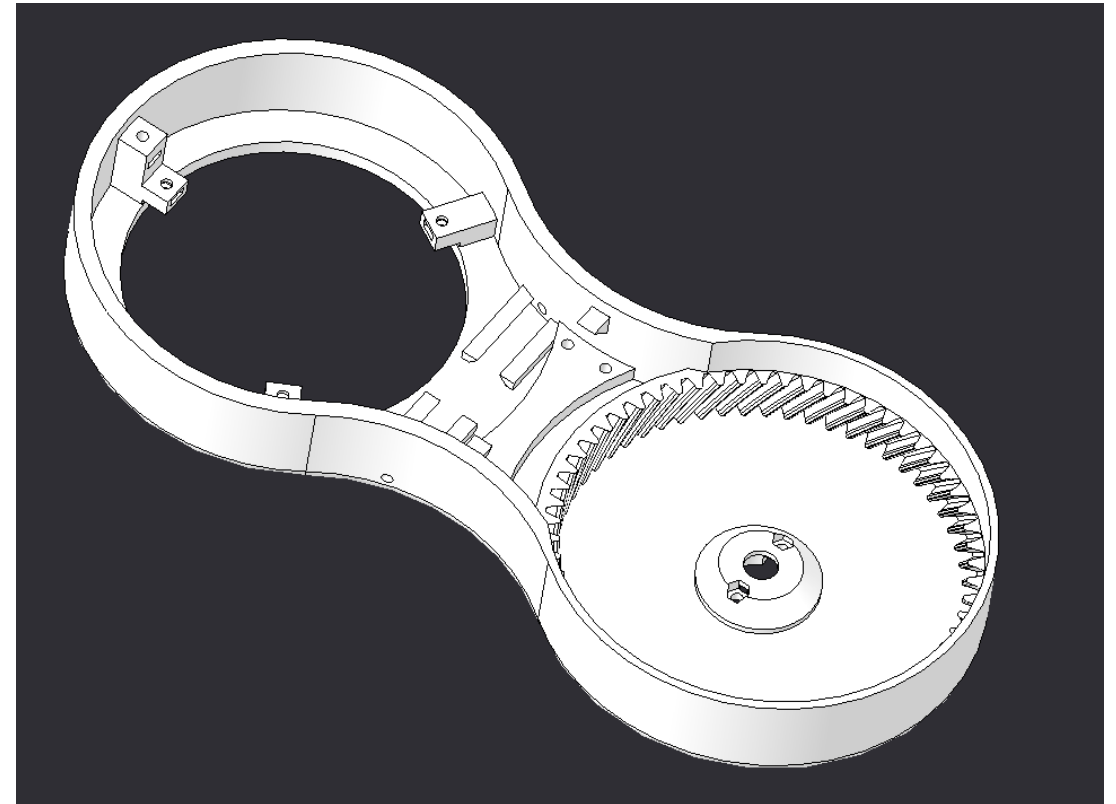
ART2BODYB

- Extended support for aluminum plate



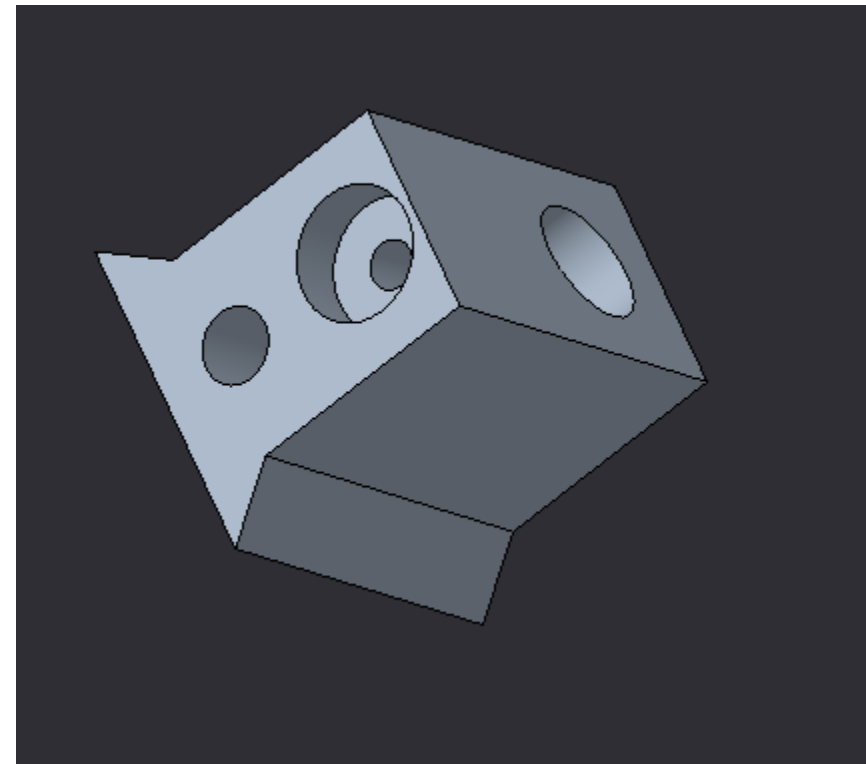
ART2BODYA

- Extended support for aluminum plate
- Solution enables screws to be inserted from the outside



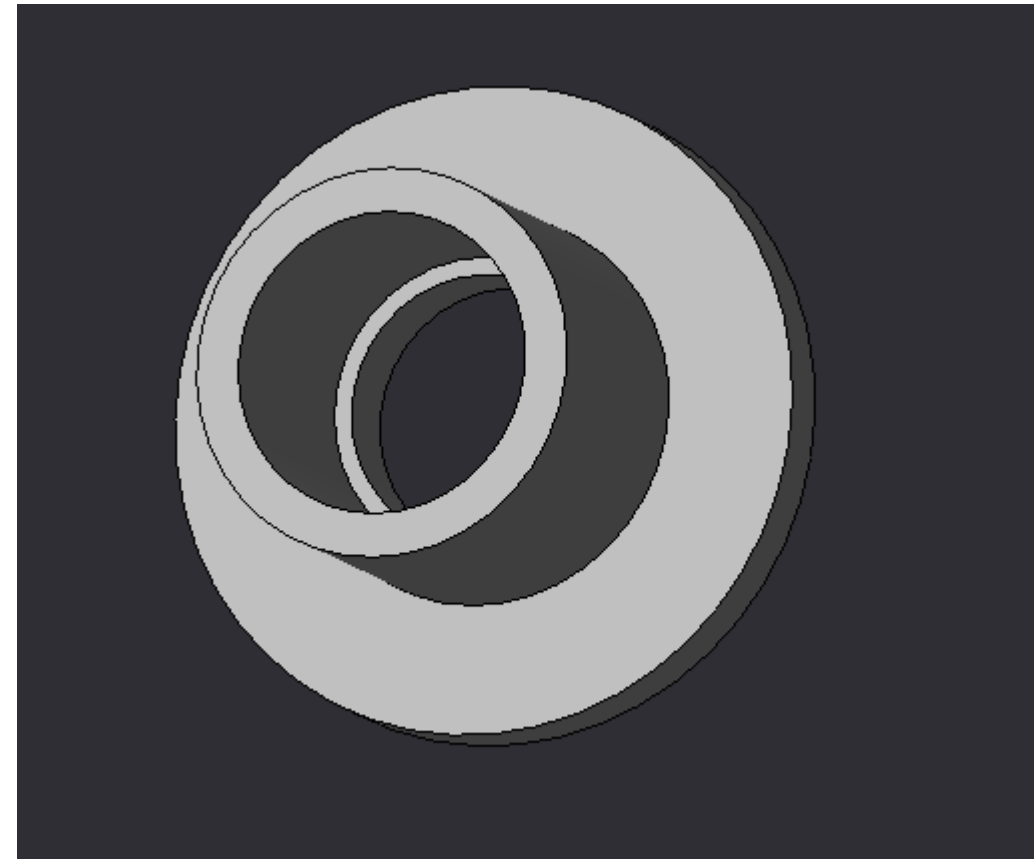
ART3TENSIONERBODY

- New addition of two threaded holes
- Solution enables fixing of axis with a screw that can be adjusted

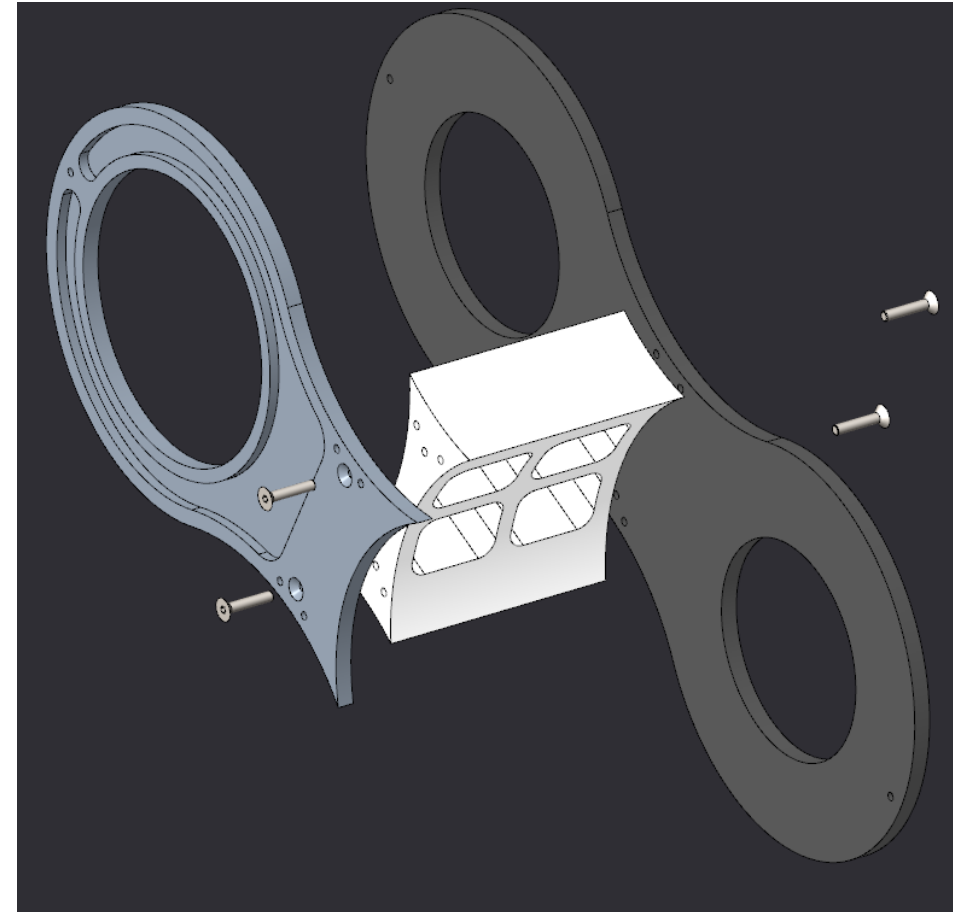


ART3TENSIONERPULLEY

- ART3TENSIONERPULLEY was extended by 2 mm
- Part was remade for easier assembly

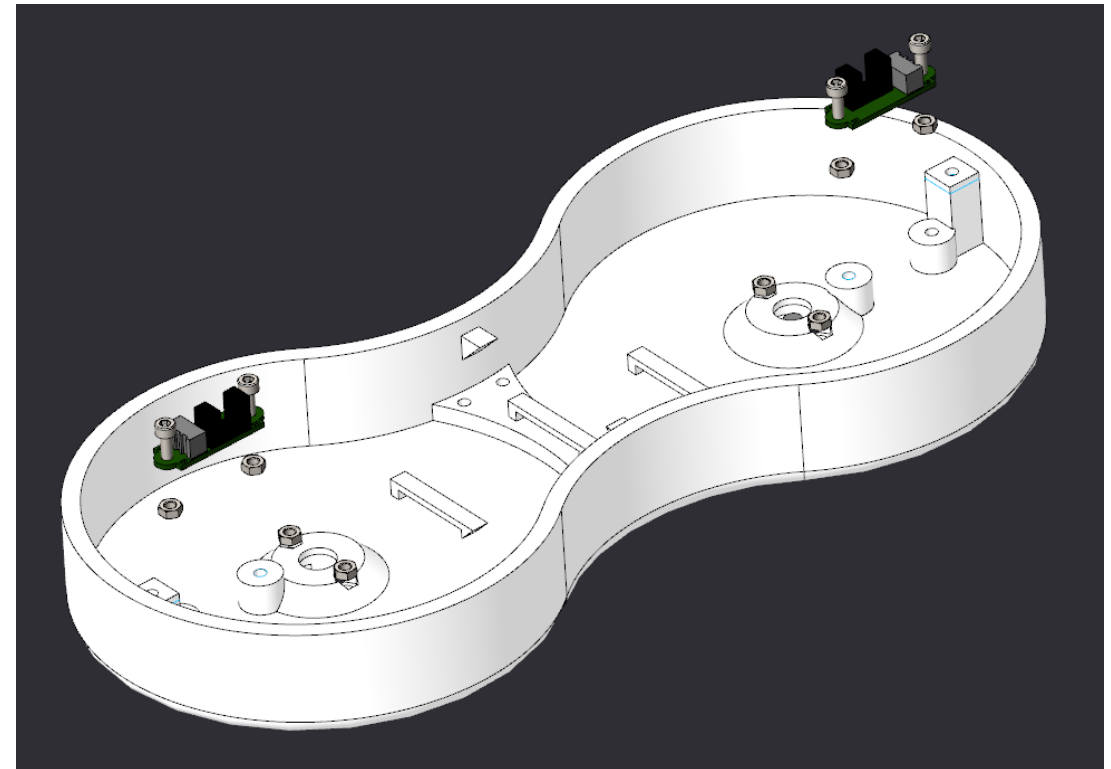


- ART2BODYCOVER and ART2BODYACOVER aluminum plates are attached to ART2UNION with screws
- Skeleton is prepared for further assembly
- Easier assembly and disassembly is enabled
- Faster access to components

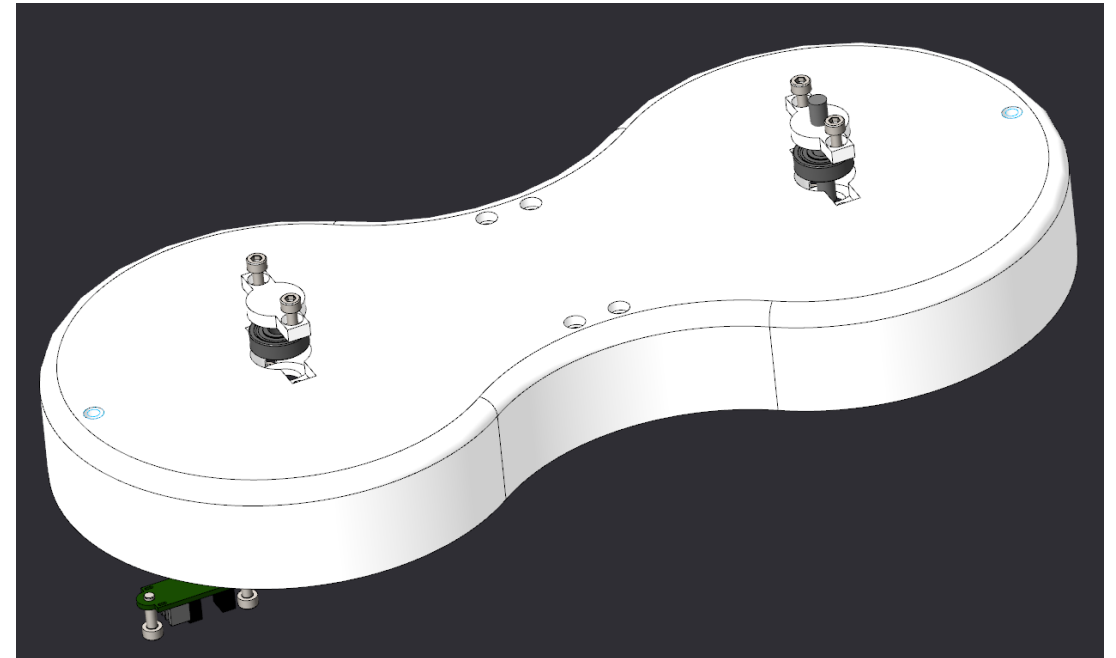


THOR_ART_2B

- Attachment of sensors on the inside of shell
- Detection of pulley movement

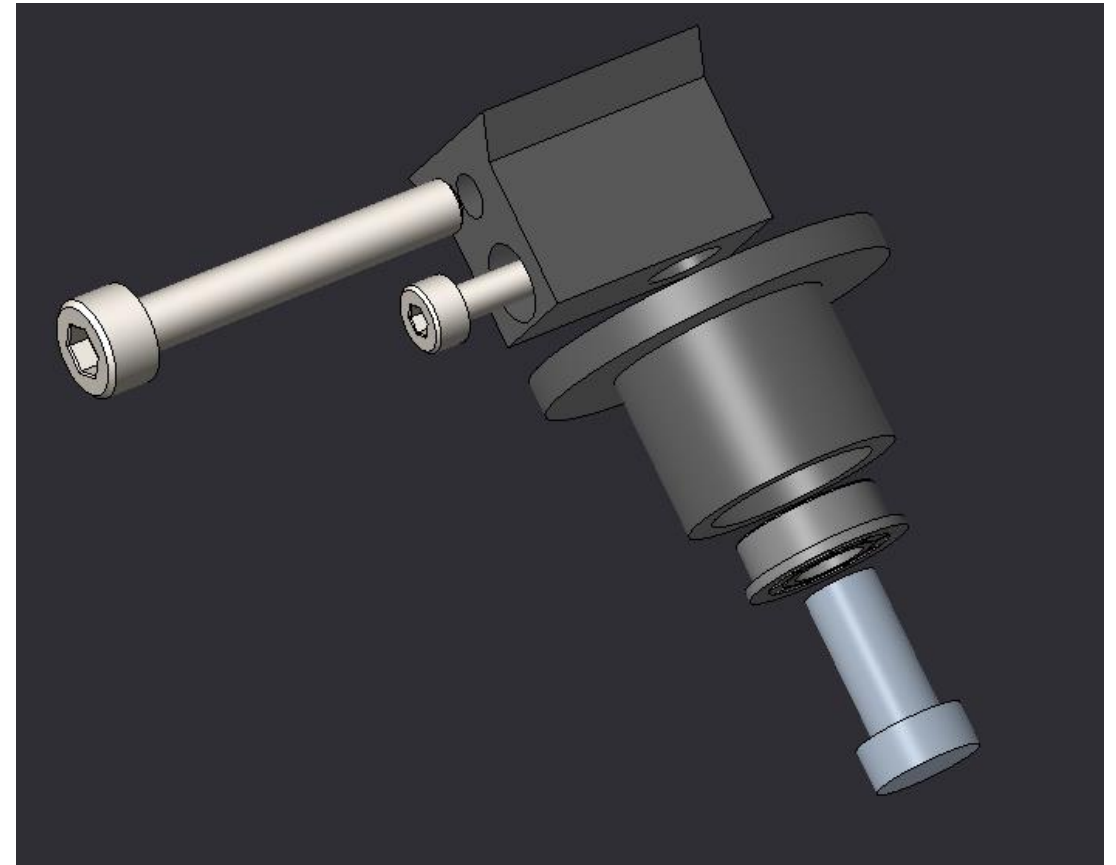


- Ball bearings are attached from the outer side
- Bearings are covered by a cover



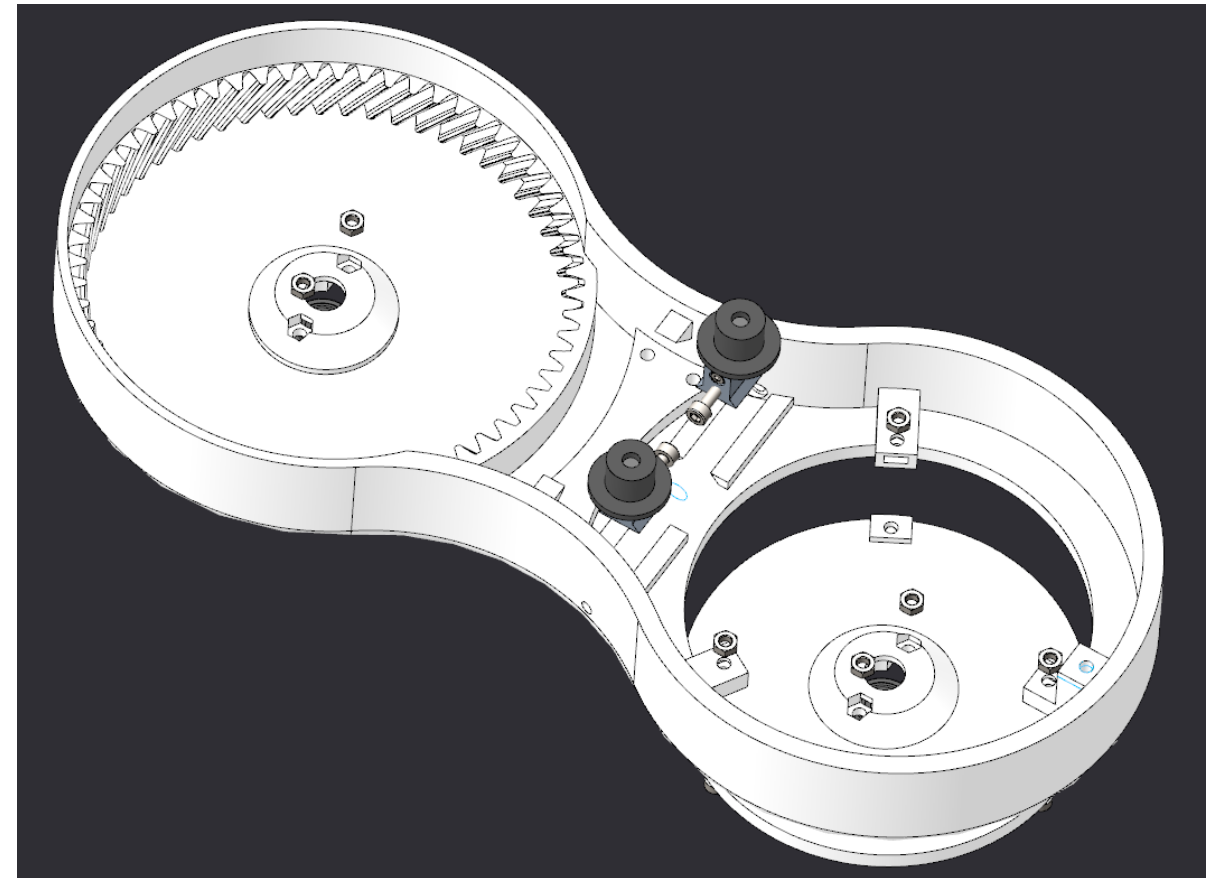
ROLLERPIN

- Subassembly of the belt tensioner
- Axis is held in place by an M2 screw (the smaller screw)
- Ledge holds the bearing at a certain position and restricts movement

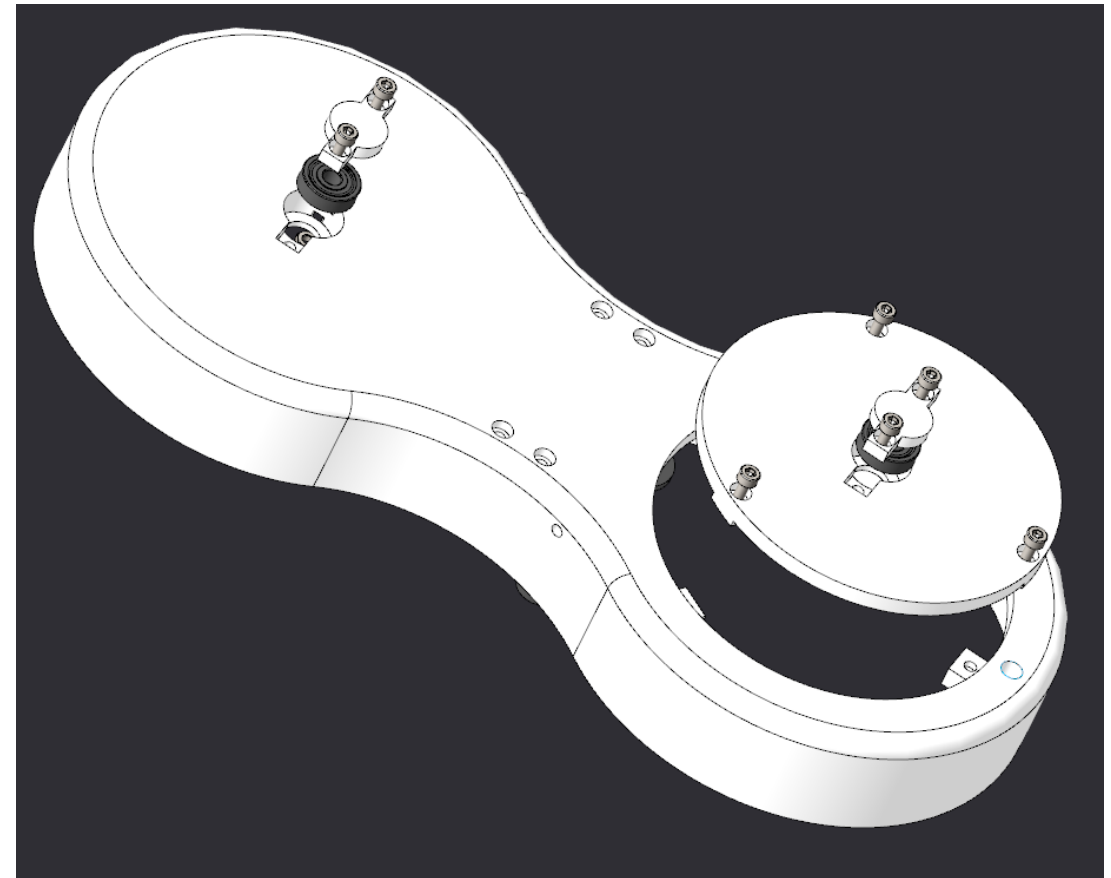


THOR_ART_2A

- Nuts and belt tensioners are placed in the inside of the shell
- Extra nuts hold the subassembly, that is fitted with a bearing

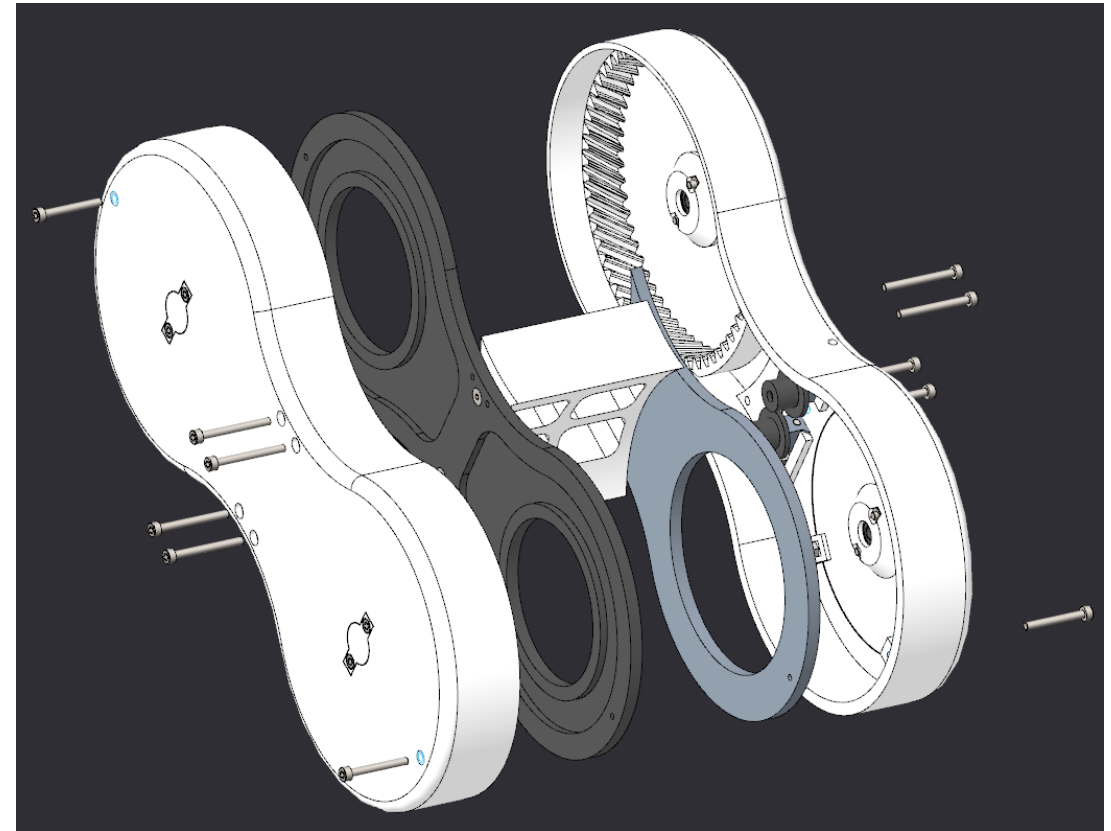


- Ball bearings are attached from the outer side
- Bearings are covered by a cover
- One bearing is attached on a separate piece

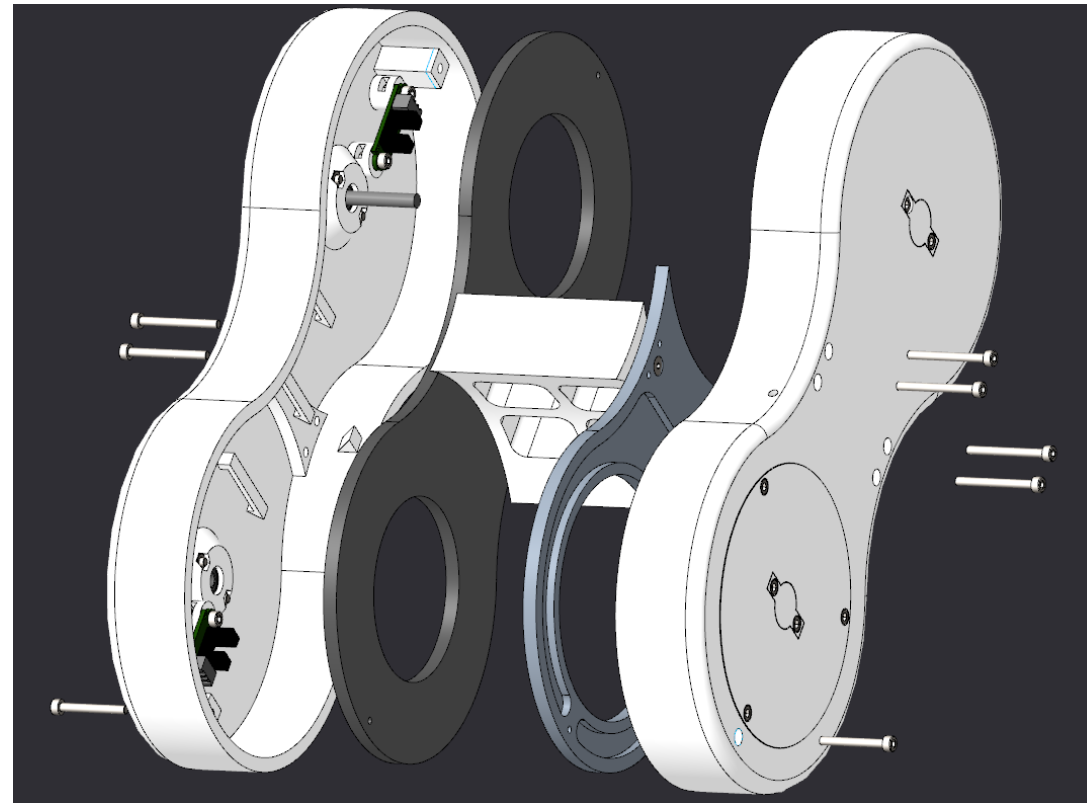


THOR_ART_2

- THOR_ART_2A and THOR_ART_2B are mounted on aluminum plates with five and six screws



- View from another perspective



Weight of Components in Thor_art_2 Assembly

Name	Quantity	Material	Weight	Combined weight	Discription	Label
ART2BODYB_V-1	1	PLA	0.3242	0.3242 kg	X	
OPTOSWITCH	2	STEEL	0.0104	0.0208 kg	X	
625_2Z_PART1	4		0.0015	0.0060 kg		
625_2Z_PART2	4		0.0031	0.0124 kg		
625_2Z_PART3	32		0.0001	0.0032 kg		
625_2Z_PART4	32		0.0000	0.0000 kg		
32MMAXIS	1	STEEL	0.0049	0.0049 kg	X	
622ZZBEARINGFIX	4	PLA	0.0012	0.0048 kg	X	
ART2BODYCOVER_V-1	1	AL_ALUMINIUM	0.1948	0.1948 kg	X	
DIN934_8_10-M3	15	STEEL_CUSTOM	0.0004	0.0060 kg	Nut	M3
DIN912-M3X10	7	STEEL_CUSTOM	0.0010	0.0070 kg	Hex screw	M3X10
DIN912-M3X8	8	STEEL_CUSTOM	0.0009	0.0072 kg	Hex screw	M3X8
ART2UNION_V-1	1	AL_ALUMINIUM	0.1799	0.1799 kg	X	
ART2BODYA_V-1	1	PLA	0.2424	0.2424 kg	X	
ART2BODYACOVER_V-1	1	AL_ALUMINIUM	0.0893	0.0893 kg	X	
ART2BODYAWINDOW	1	PLA	0.0488	0.0488 kg	X	
ART3TENSIONERBODY_V	2	AL_ALUMINIUM	0.0027	0.0054 kg	X	
4MMAXIS_V-1	2	AL_ALUMINIUM	0.0005	0.0010 kg	X	
CLONE_OF_MF84ZZ_1	2	STEEL	0.0002	0.0004 kg	X	
CLONE_OF_MF84ZZ_2	2	STEEL	0.0004	0.0008 kg	X	
CLONE_OF_MF84ZZ_3	2	STEEL	0.0004	0.0008 kg	X	
DIN912-M3X20	2	STEEL_CUSTOM	0.0016	0.0032 kg	Hex screw	M3X20
DIN912-M2X6	2	STEEL_CUSTOM	0.0003	0.0006 kg	Hex screw	M2X6
ART3TENSIONERPULLEY	2	AL6061	0.0037	0.0074 kg	X	
DIN912-M3X25	3	STEEL_CUSTOM	0.0019	0.0057 kg	Hex screw	M3X25
DIN912-M3X30	8	STEEL_CUSTOM	0.0021	0.0168 kg	Hex screw	M3X30
DIN7991-M3X16	4	STEEL_CUSTOM	0.0010	0.0040 kg	Hex screw	M3X16
Sum	146			1.1978 kg		