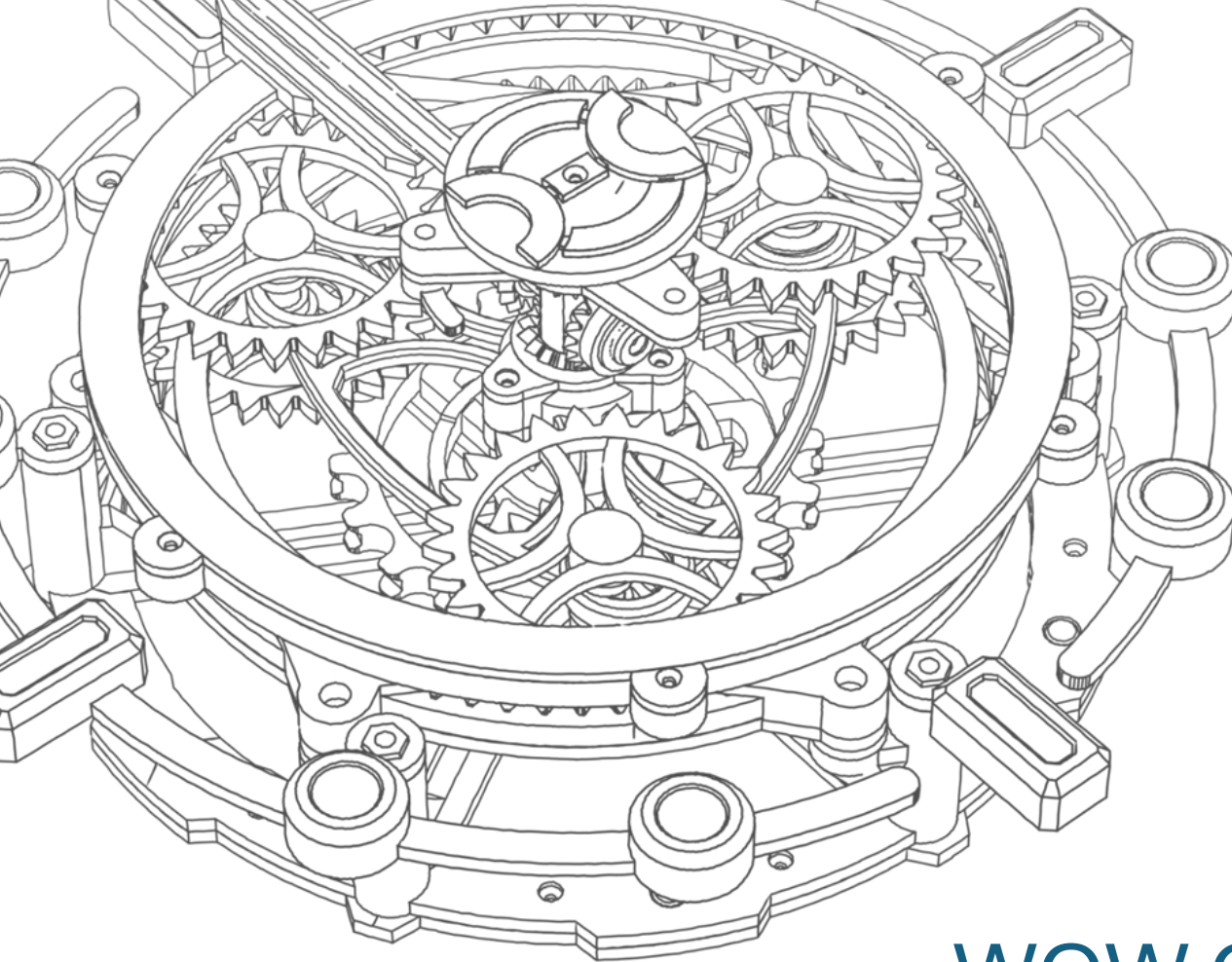




WOW CLOCK

WALL-OF-WONDER CLOCK ASSEMBLY INSTRUCTION MANUAL
PARTS / PRINT / ASSEMBLY

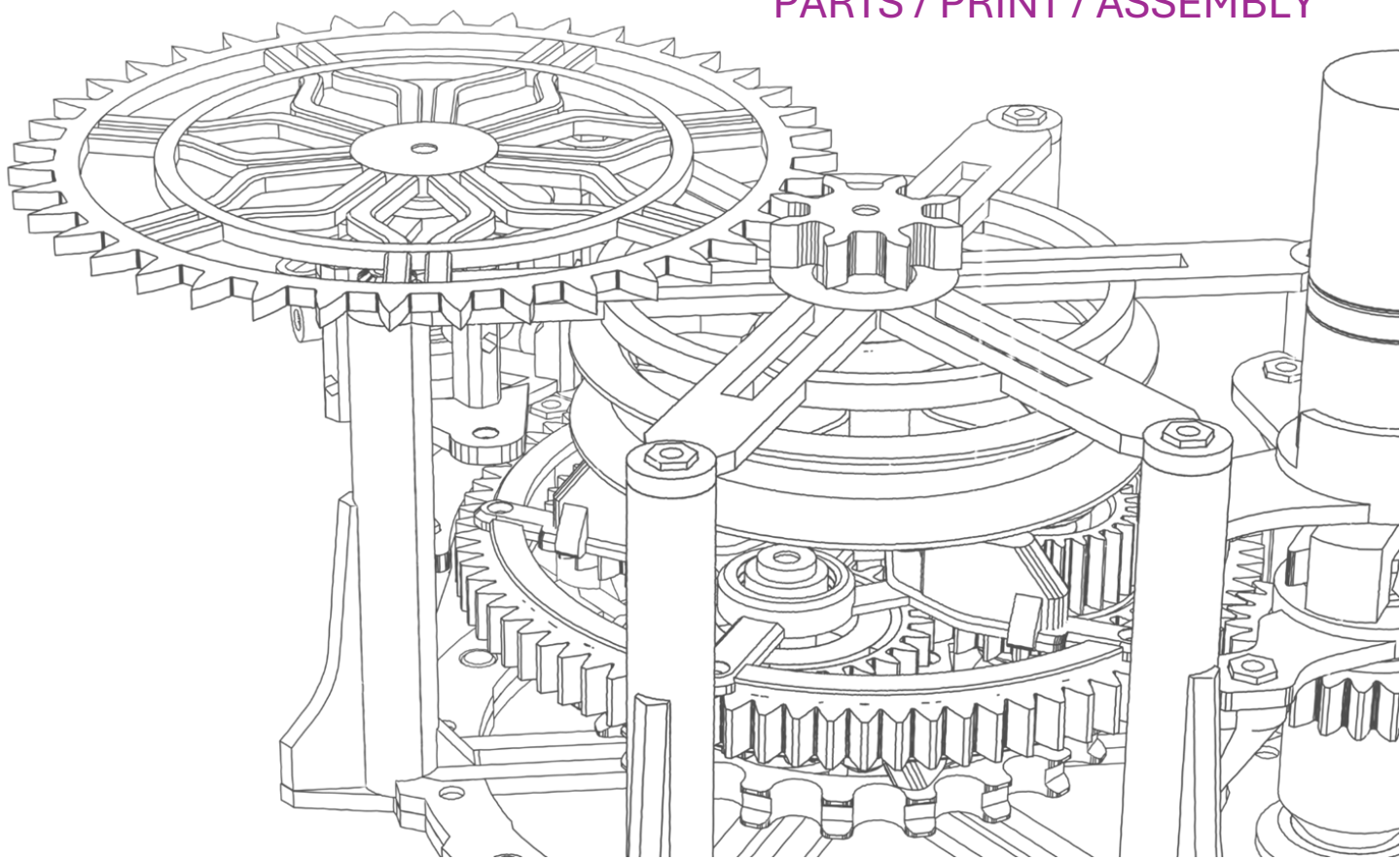
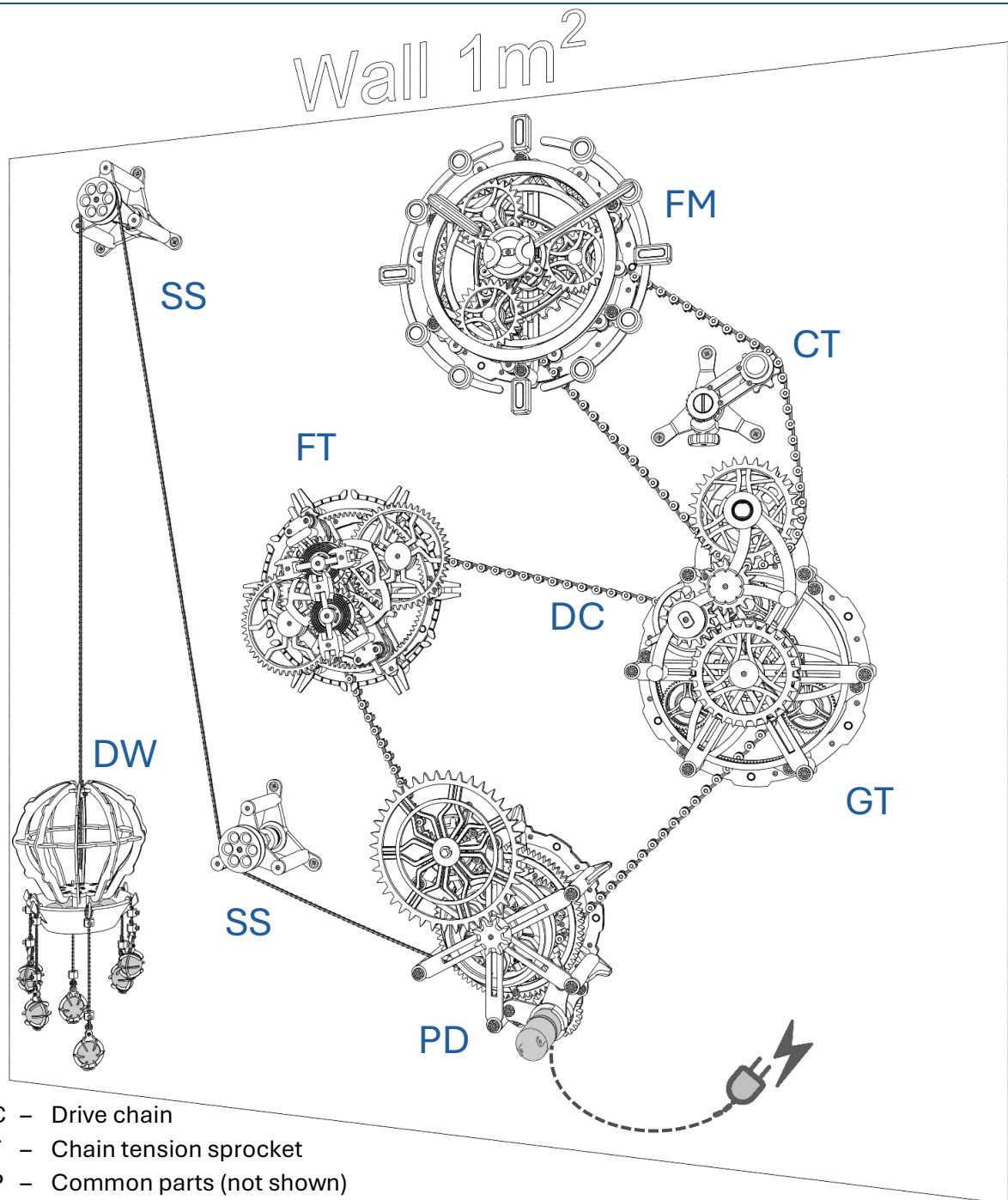


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Introduction



A mechanical clock is a wonder — a wonder of contradictions. Its purpose is extremely simple: to measure time. It's like a ruler for the fourth dimension. Why, then, is a clock mechanism so much more complex than a simple ruler? A notched stick suffices for one, two, and three dimensions, yet is completely inadequate for the fourth. Why is that I wonder?

Time is constant. Time is orderly. Well, not according to Dr. Einstein, but let's not delve into relativity just yet. In our everyday (non-relativistic) lives, time flows at the same rate and in the same direction for everyone and everything. Therefore, measuring time requires absolute order and precision. Clocks embody this — they are orderly and precise. Why, then, does a clock mechanism appear so chaotic, so asymmetrical, so... arbitrary? How does this apparent chaos maintain absolute order? I wonder...

"WoW" in WoW Clock stands for "Wall of Wonder." Instead of concealing the complexity of a clock mechanism within an intricately crafted, orderly, and symmetrical baroque case, the WoW Clock intends to expose and accentuate this complexity for all to see, spreading it across the wall in all its glory. The viewer is invited to immerse themselves in it without limits, to appreciate the wonder of these contradictions, not hide from them. That is the philosophy behind the Wall of Wonder. It's not just a tool to measure time; it's an art piece to spend time with.

This project is not for beginners. Building this clock is a challenge requiring patience, dedication, experience, and financial investment. The next chapter outlines the requirements for completing this project. The clock consists of a series of stand-alone units, each encapsulating a unique portion of the clock's functionality. The units are connected and interface with each other via a drive chain mechanism. This arrangement provides a degree of freedom in unit placement, allowing for a unique build each time. You are free to arrange your own chaos.

Practically speaking, the clock can be tuned to keep relatively accurate time. However, due to material and tool limitations, don't expect it to compete with traditional clocks. I was able to tune it to +/- one minute per 24 hours.

The clock is powered by a hanging drive weight (H). Additionally, it has a mechanism to automatically detect and rewind the weight using a 6V DC electric motor powered by an adapter plugged into a standard 110V or 240V wall outlet. This makes the clock self-sufficient and eliminates the need for manual winding. Just plug it in and enjoy perpetually.

WOW Clock Power Pipeline

1. Drive weight (H) supplies force to power differential unit (F)
2. Via drive chain (A) power differential unit (F) transmits the force to escapement unit (G) and gear train unit (D).
3. When weight (H) reaches the lowest position, unit (F) rewinds the weight (H) back to the top position. Consistency of force output is managed by a flat differential transmission mechanism.
4. Escapement unit (G) regulates the release of force to gear train unit (D), completing one rotation of the sprocket in 60 seconds.
5. Gear train unit (D) reduces the rotational velocity by the factor of 60, completing one rotation of the output sprocket in 60 minutes.
6. 60-minute rotation force is transmitted to the motion works mechanism, which displays the

I. Tools, Parts, and materials

1.1 Tools and materials

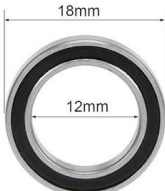
- FDM 3D printer with minimum build volume of (X)250mm by (Y)250mm by (Z)200mm
- PLA filament – 2KG
- Soldering iron for heat press threaded inserts and wire soldering
- Hobby knife
- Screwdriver compatible with M2 screws
- Drill and screwdriver for wall mounting
- Sandpaper
- Small sanding files
- A lot of patience!!!

1.2 Parts

Printed parts

- For parts printing reference see [Appendix A](#).

Non-printed parts

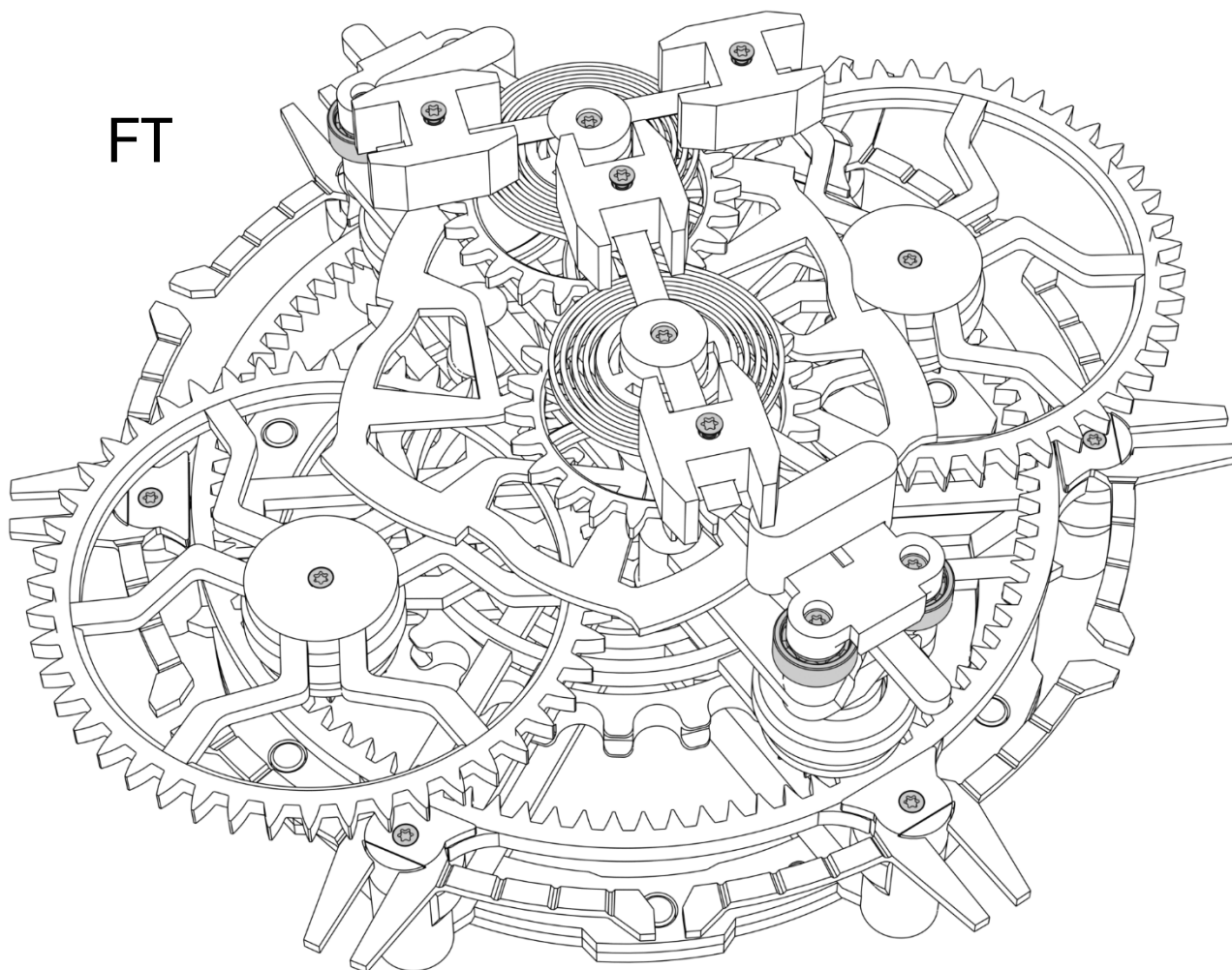
Part #	Part name	Cnt.	Description	
NP1	Power adapter	1	24W Universal AC/DC Adapter 12V	
NP2	DC motor	1	25GA-370 25mm DC 12V Micro Motor Speed Reduction Geared Motor Low Speed (5RPM)	
NP3	Screw M-3 6mm	2	M-3 x 6mm	
NP4	Ball bearing 6701-2RS	29	6701-2RS Deep Groove Ball Bearings Z2 12mm x 18mm x 4mm	
NP5	Ball bearing R188	31	R188 Open Deep Groove Ball Bearing, 1/4" (6.35 mm) x 1/2 (12.7 mm) x 3/16 (4.762 mm)	
NP6	6x3 mm Neodymium magnet ring	9	6x3mm Hole:3mm Strong Rare Earth Neodymium Disc Ring Magnet N50	

I – Tools, Parts, and materials

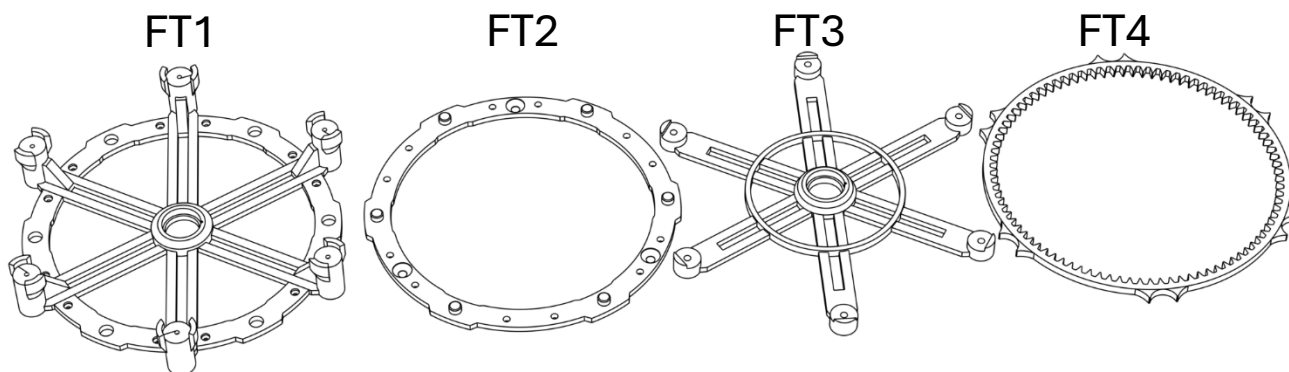
Part #	Part name	Cnt.	Description	
NP7	Steel ball	12	PGN - 3/4" Inch (19mm) Precision Steel Bearing Balls, 28g	
NP8	M2 heat press threaded insert (3,2mm OD 3mm length)	264	Knurled Insert Nuts - M2 x 3mm Length x 3.2mm OD	
NP9	M2 nut	3	M2 304 Stainless Steel Hex-Nuts	
NP10	M2 screw 4mm	155	M2 countersunk screws 4-20mm	
NP11	M2 screw 6mm	87		
NP12	M2 screw 8mm	13		
NP13	M2 screw 10mm	1		
NP14	M2 screw 12mm	3		
NP15	M2 screw 20mm	5		
NP16	Magnetic induction switch 14mm	1	Plastic Reed Switch. Reed Contact Normally Open (N/O) Magnetic Induction Switch (3mm×14mm)	
NP17	Electrical wire	1M	22awg Electrical Wire 22 Gauge. Red/Black Wires 12V/24V DC	
NP18	Heat-shrink tube	10 cm		
NP19	Steel link chain	5M	Stainless Steel Link Chain (1.5 mm Wide)	
NP20	Wall screw	24	6 x 1 Drywall Screws	
NP21	Wall anchor	24	Wall Anchors #8-#10 1-Inch	

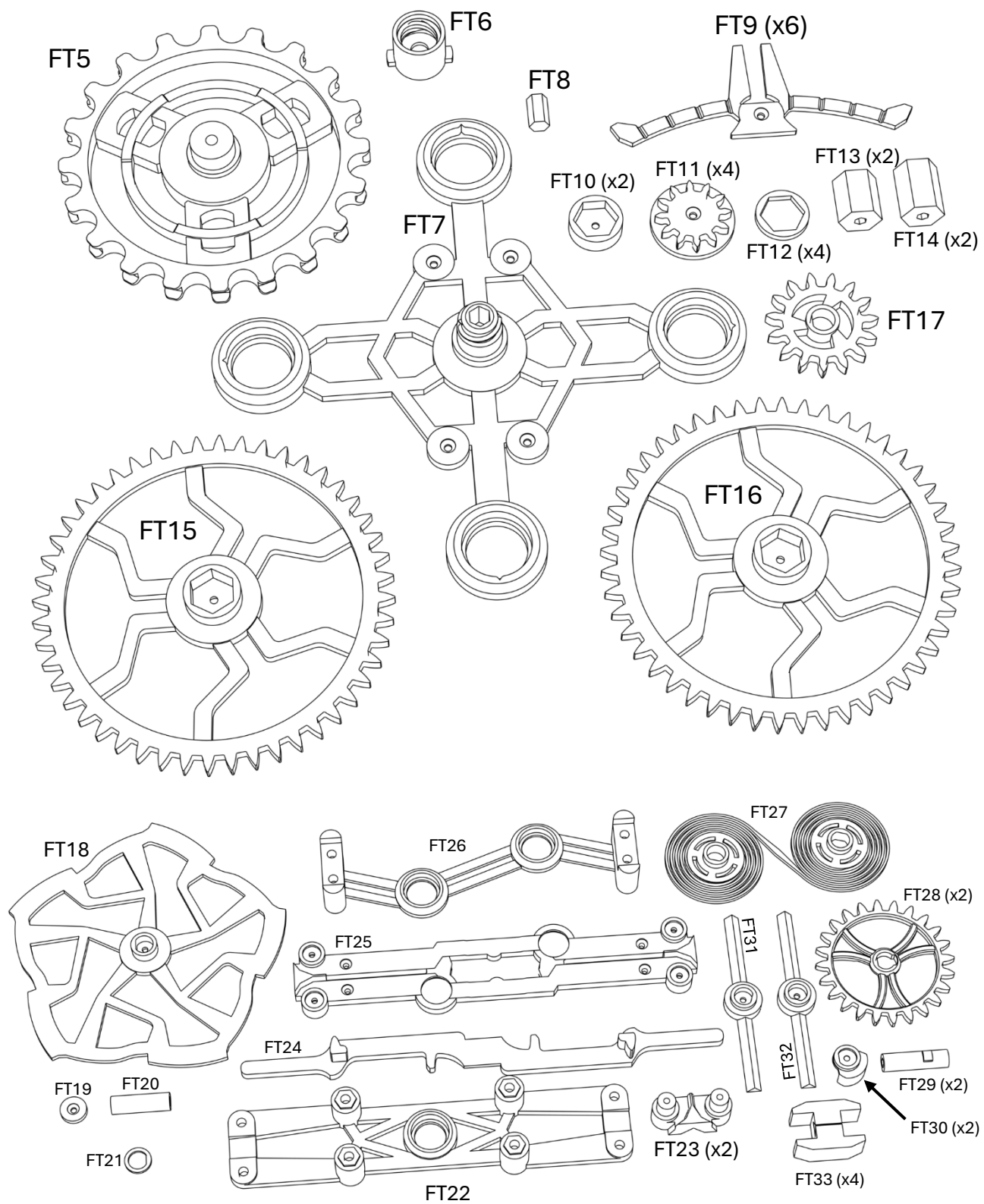
II. Main units' assembly

2.1 Dual-balance flying tourbillon escapement



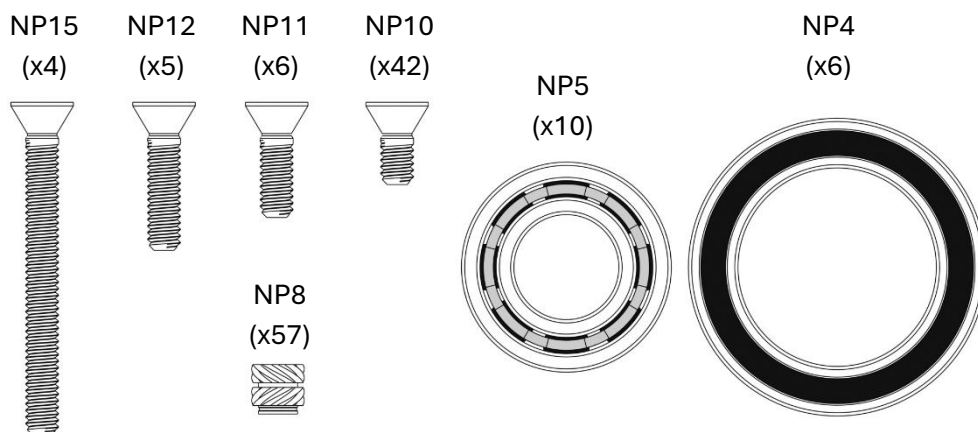
Printed parts



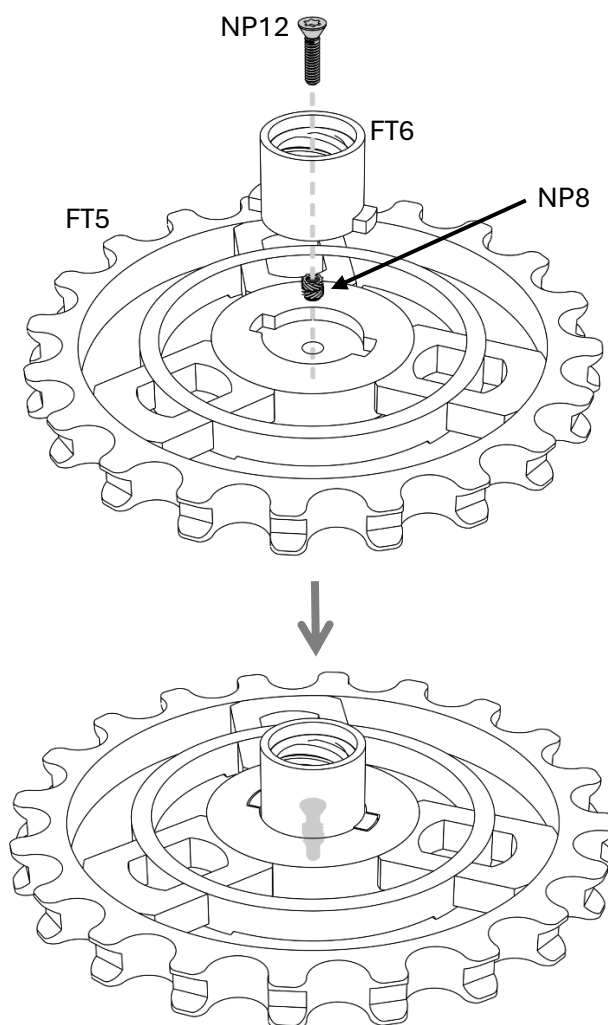


II - Main units' assembly

Non-printed parts

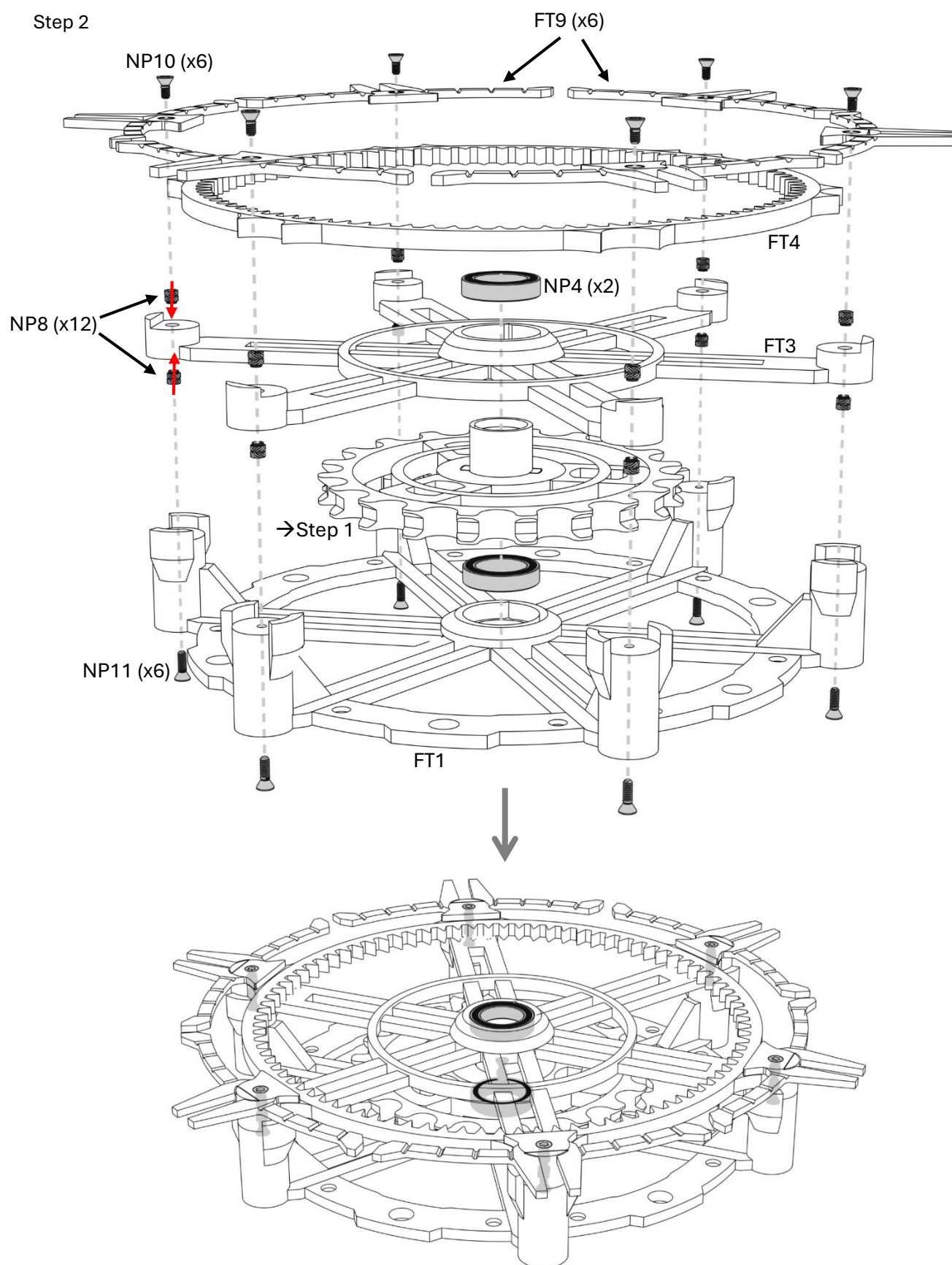


Step 1

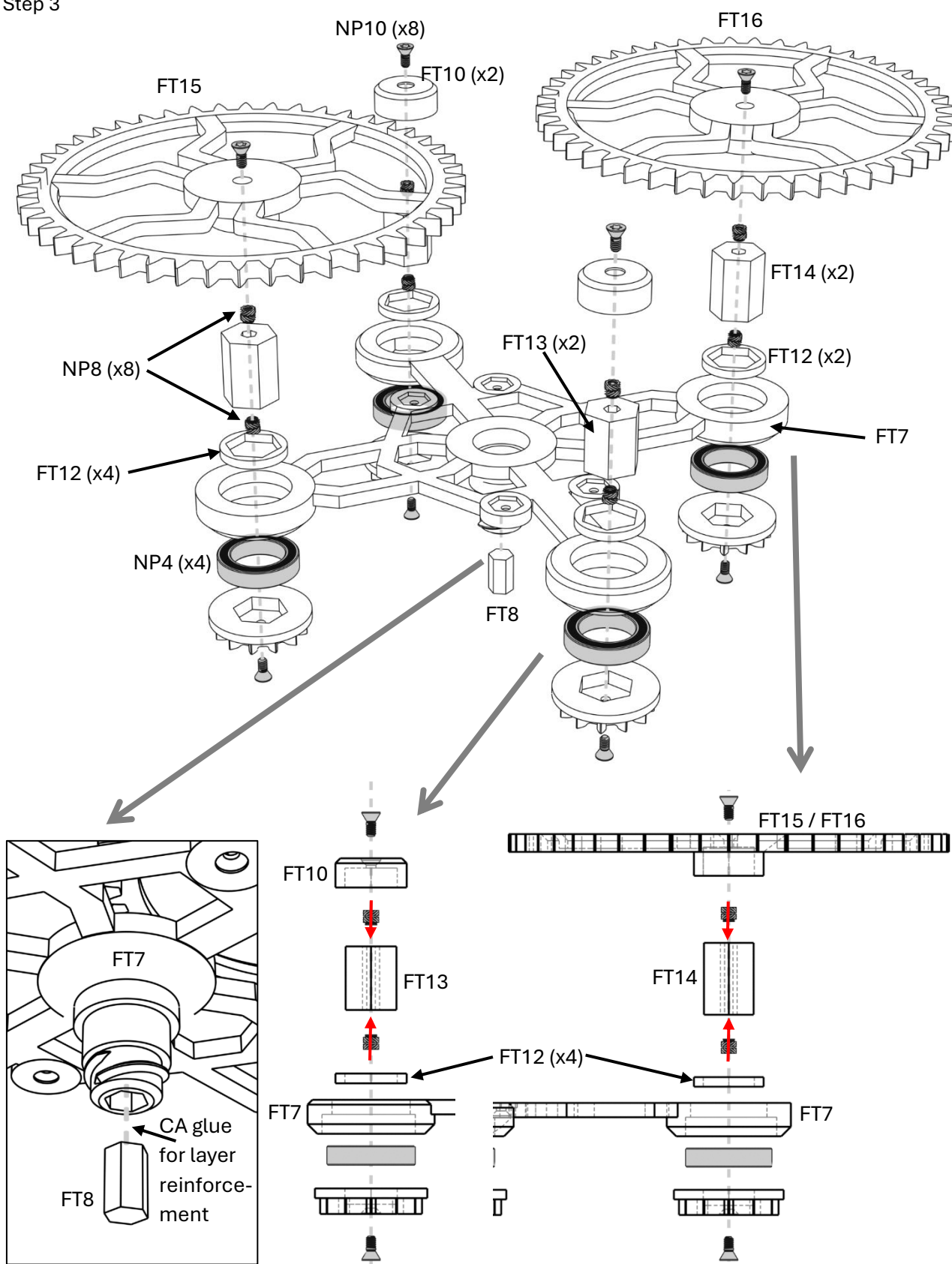


II - Main units' assembly

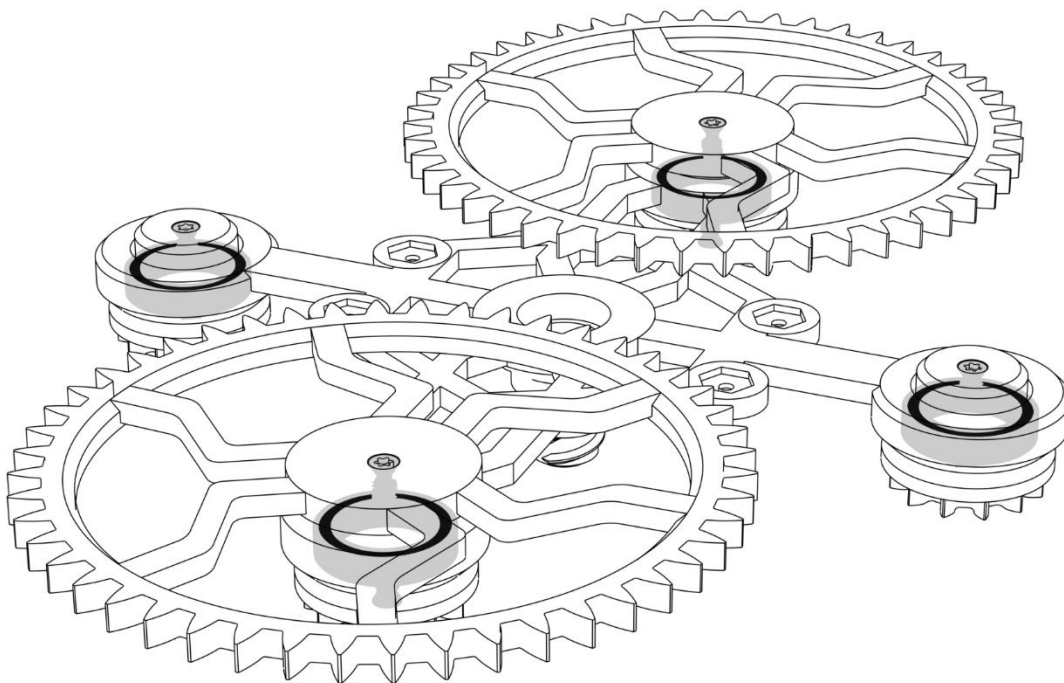
Step 2



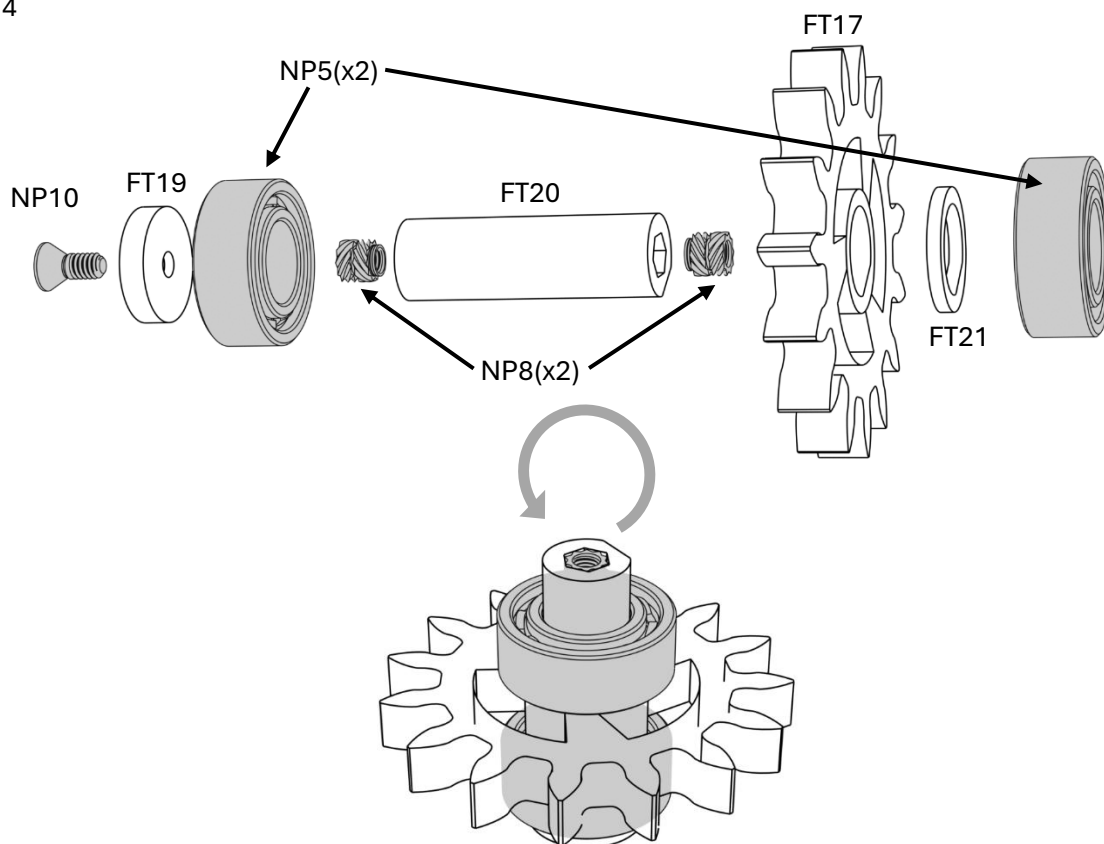
Step 3



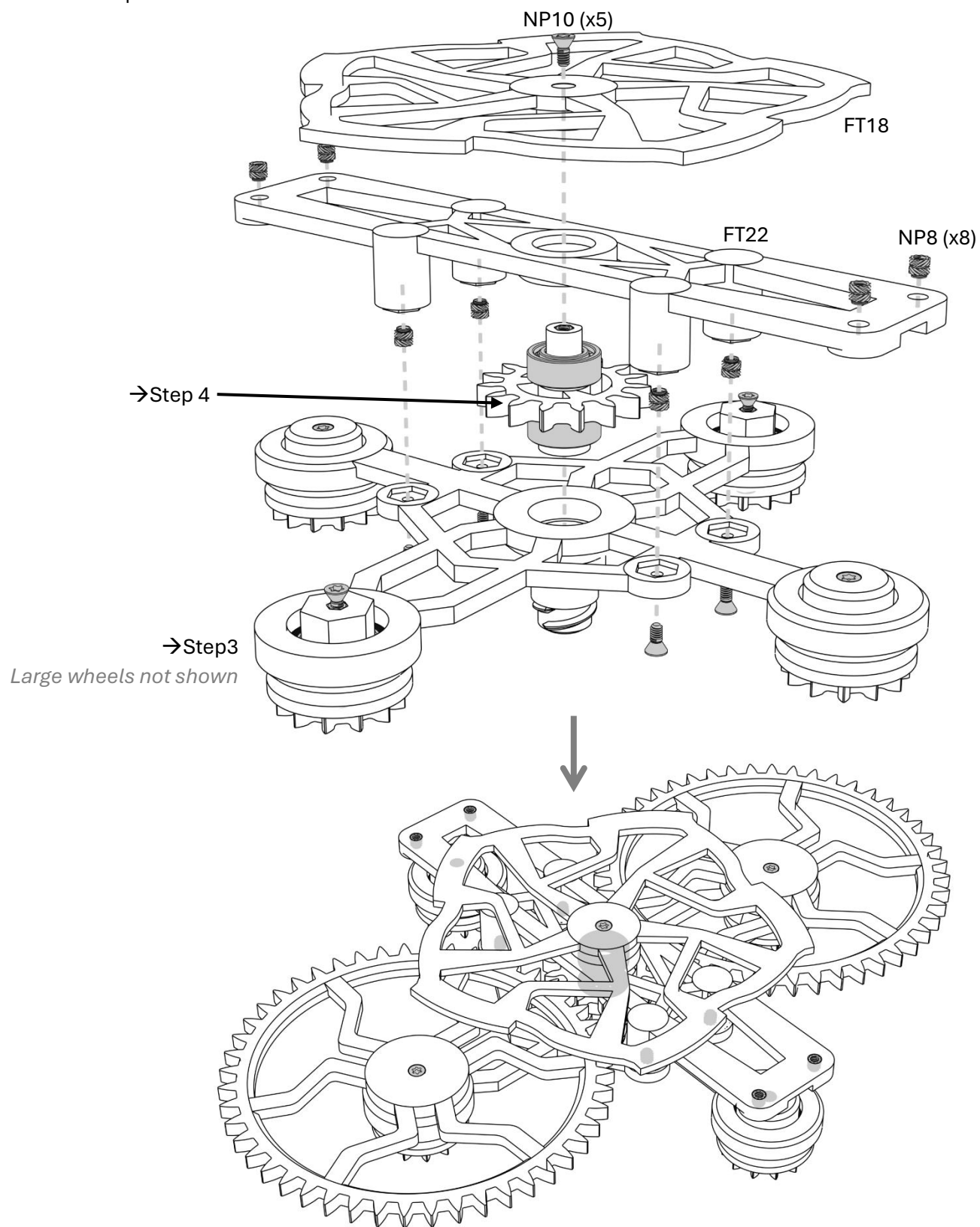
Step 3 (result)



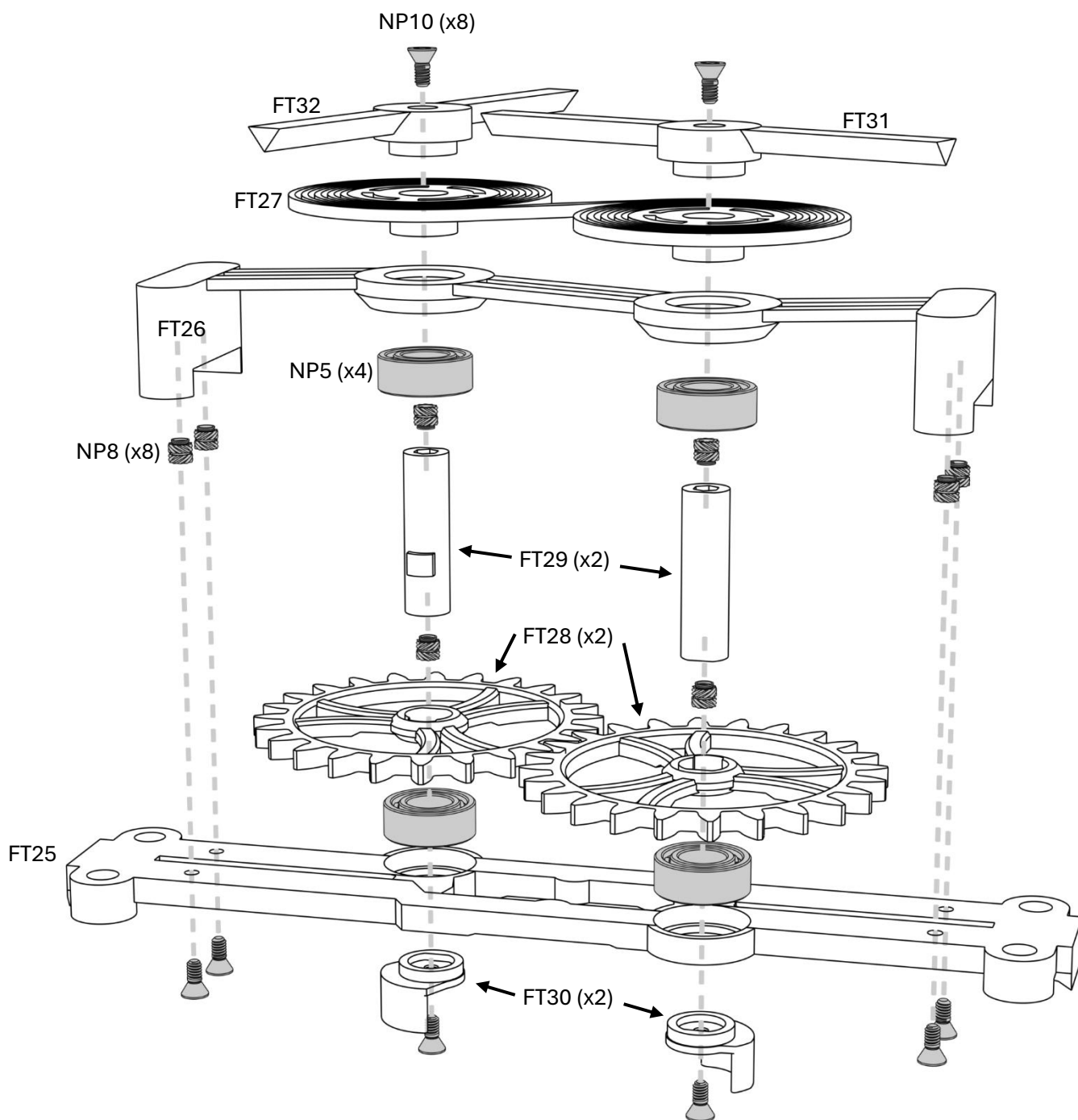
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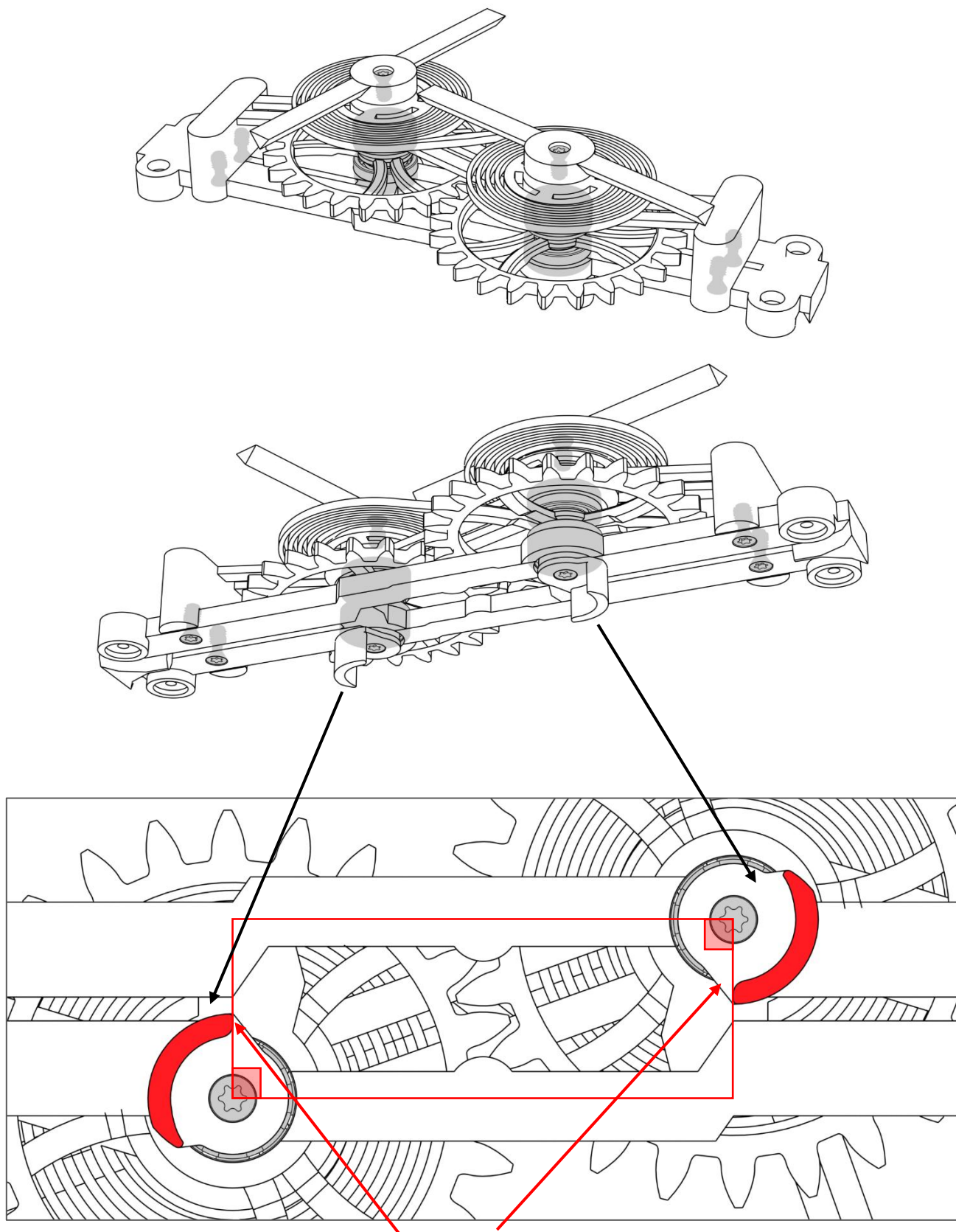
Step 5



Step 6

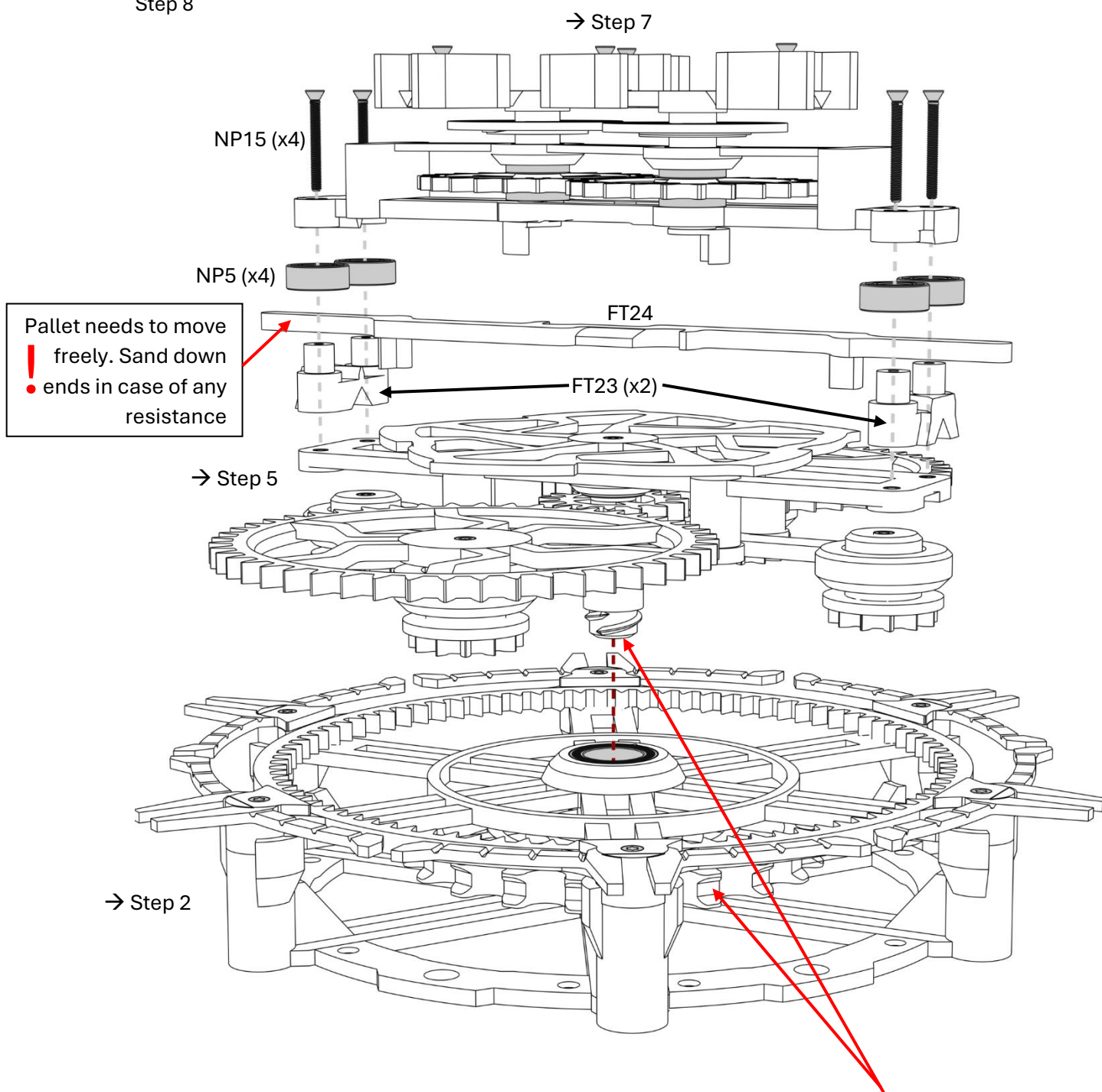


Step 6 (result)



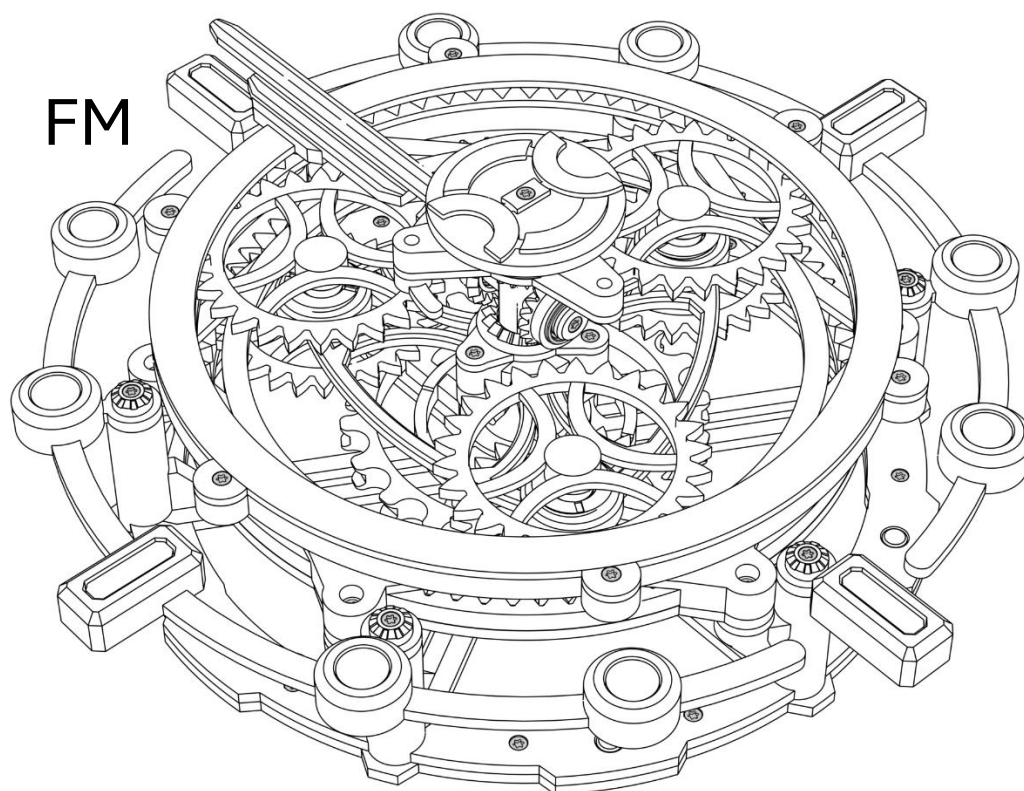
Escapement lever alignment: parallel to each other and 90° to the balance bridge

Step 8

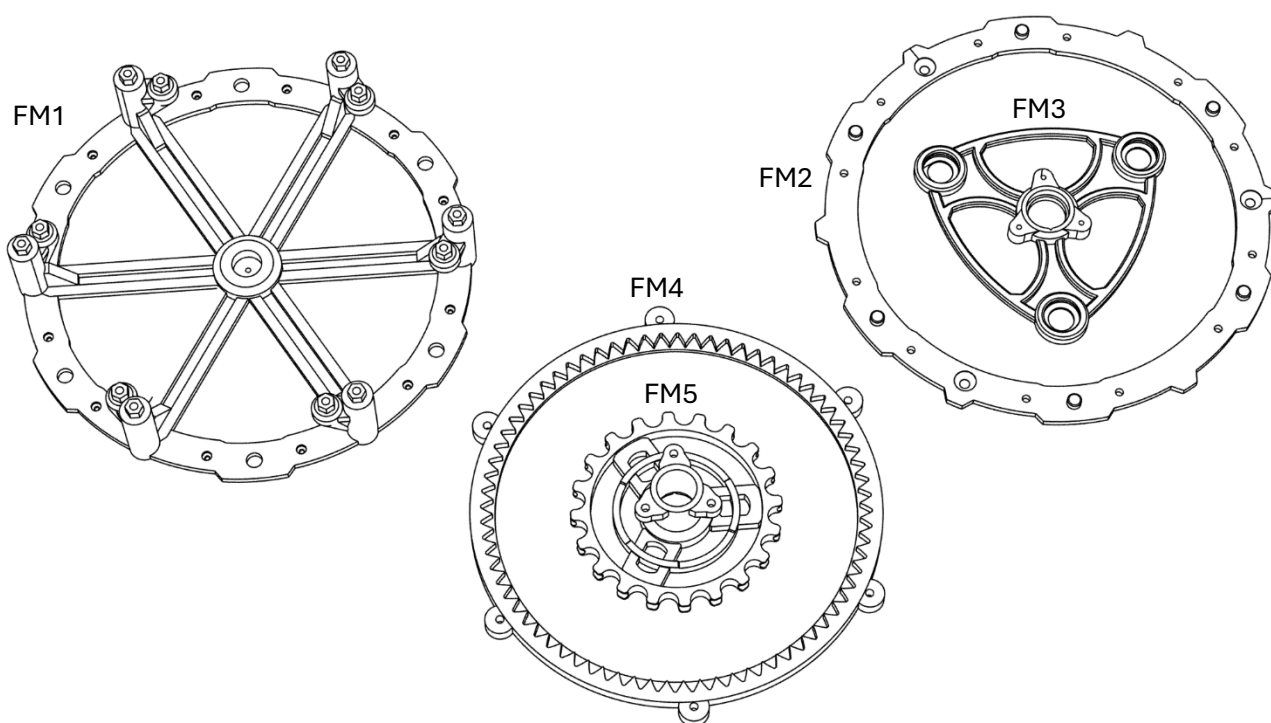


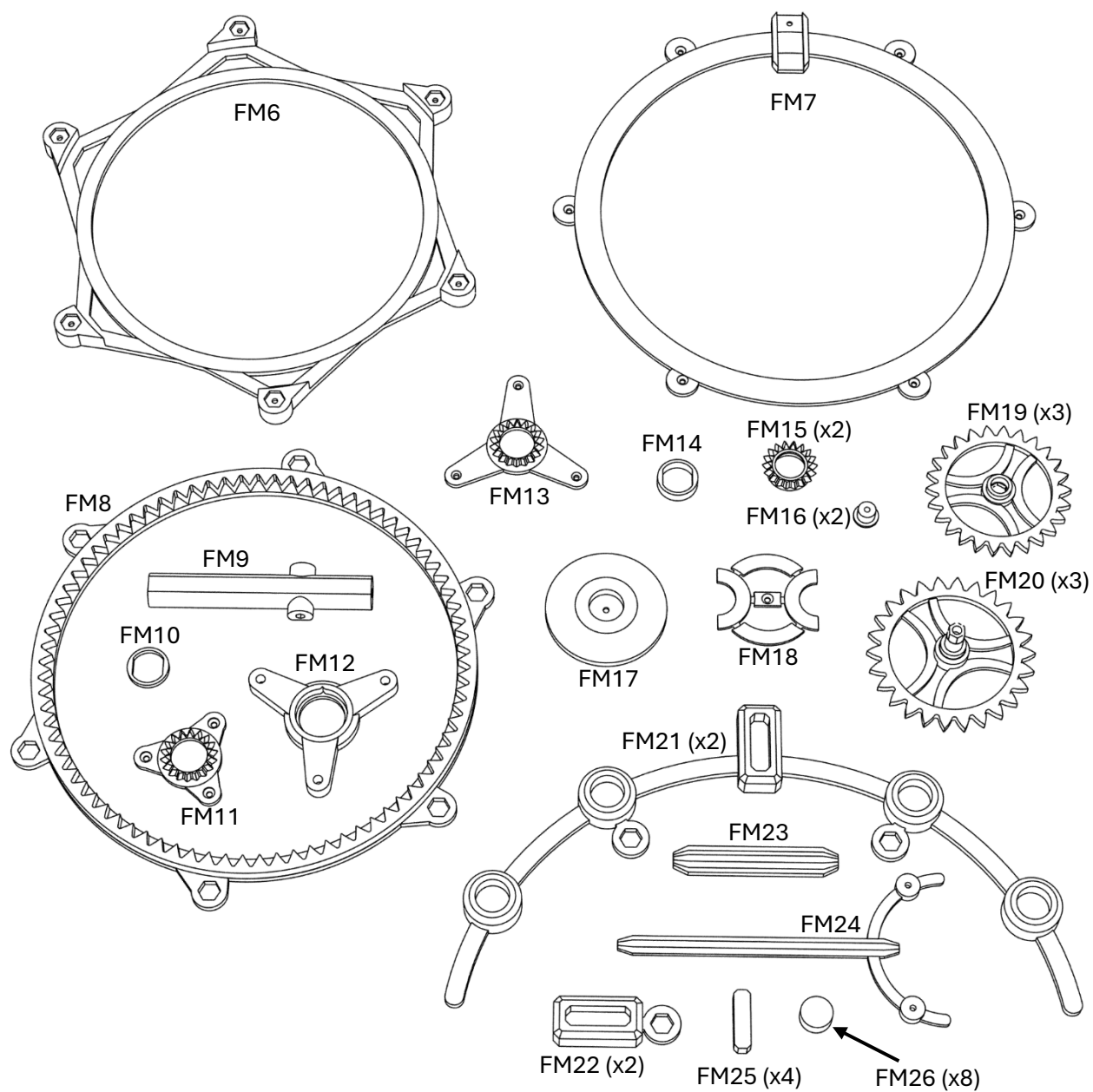
Screw in and tighten by turning the sprocket counterclockwise

2.2 Clock face and harmonic motion works

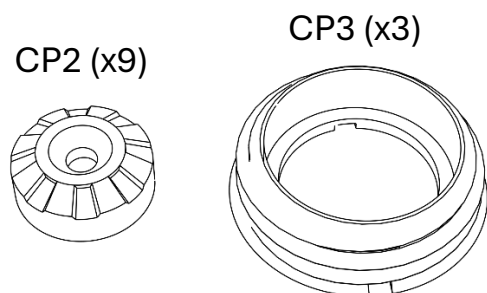


Printed parts



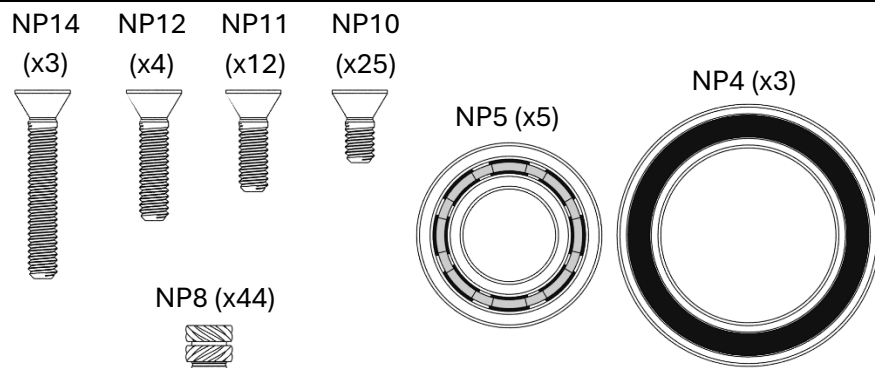


Printed Common parts (CP)

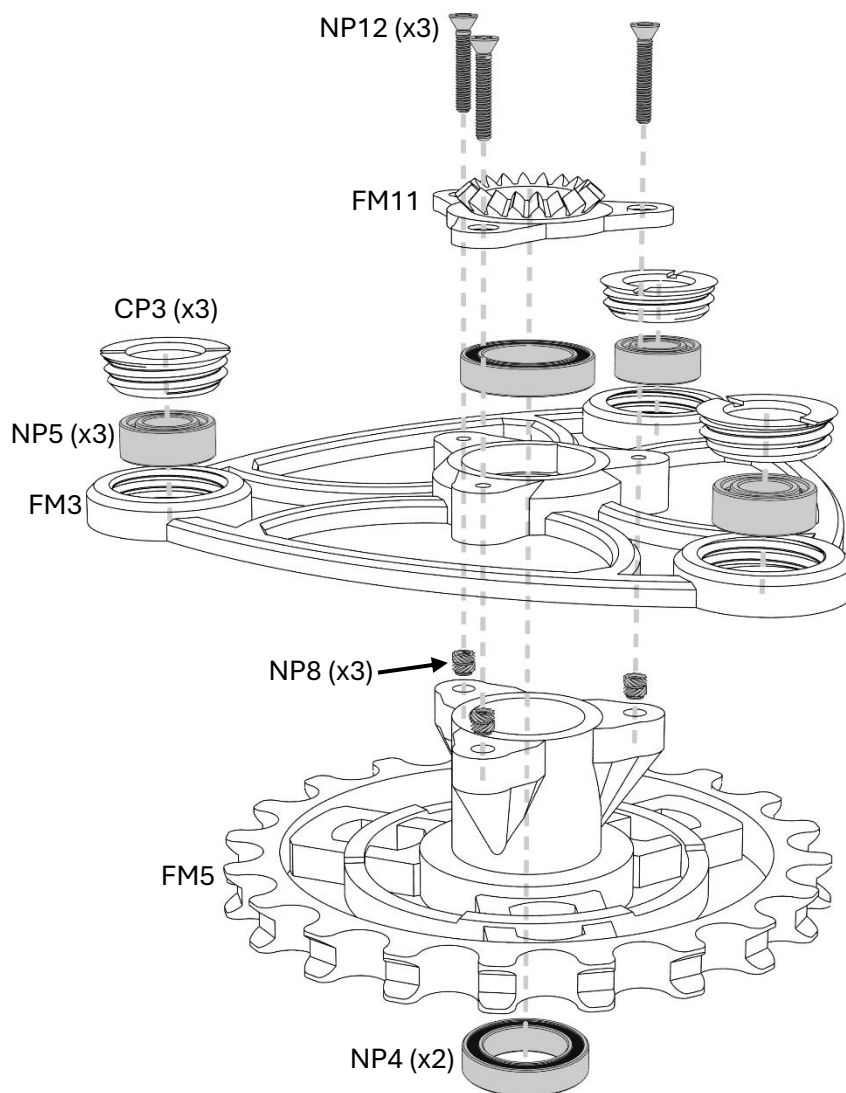


II - Main units' assembly

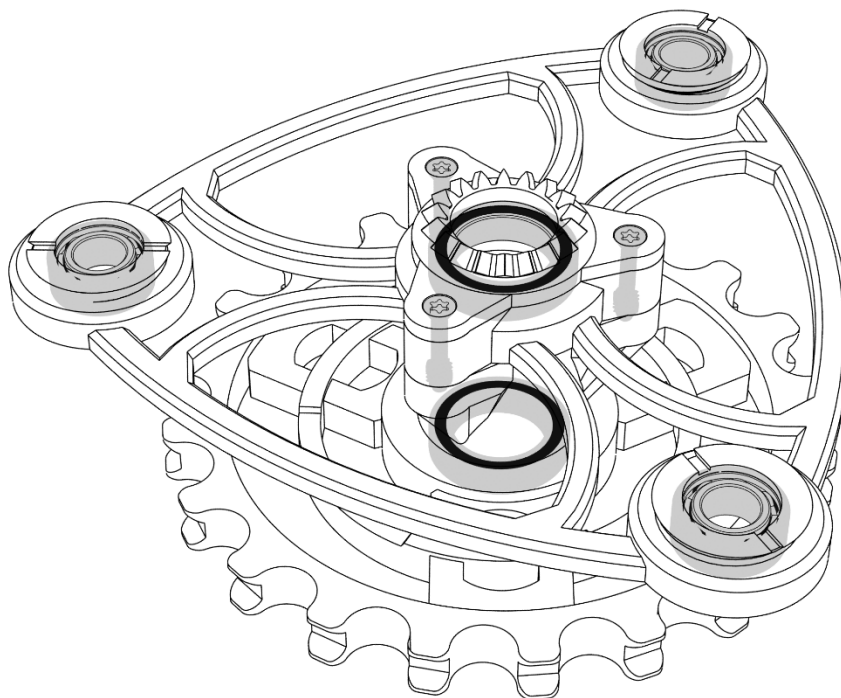
Non-printed parts



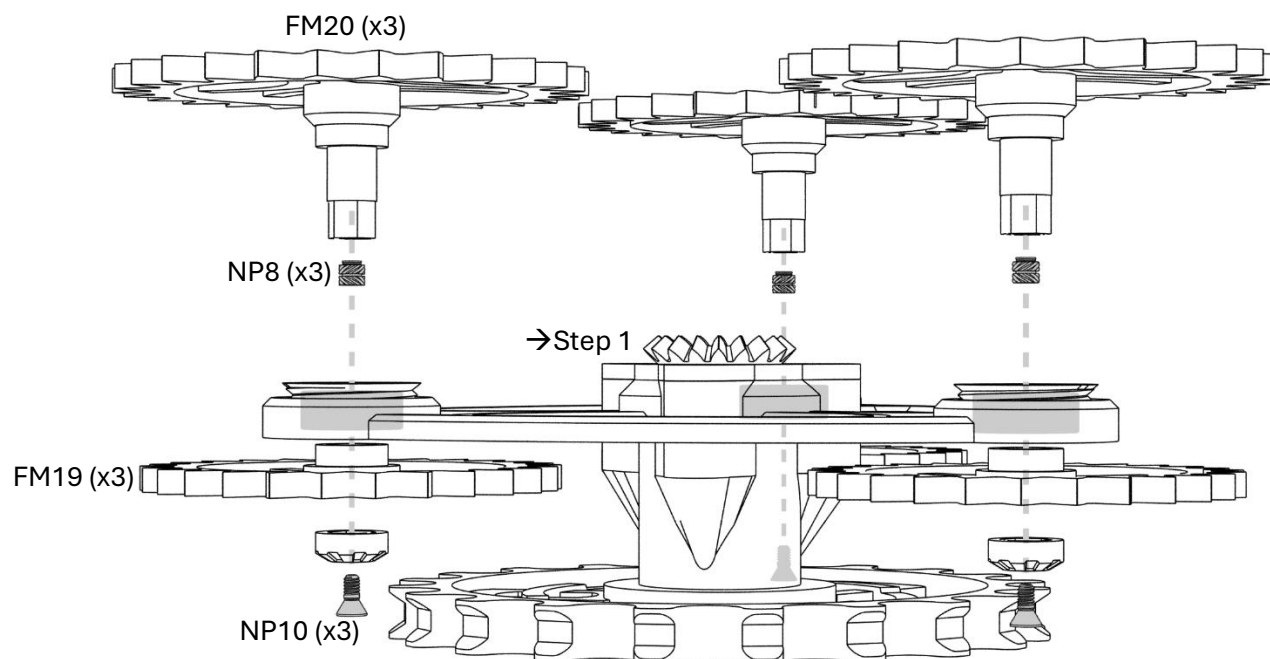
Step 1



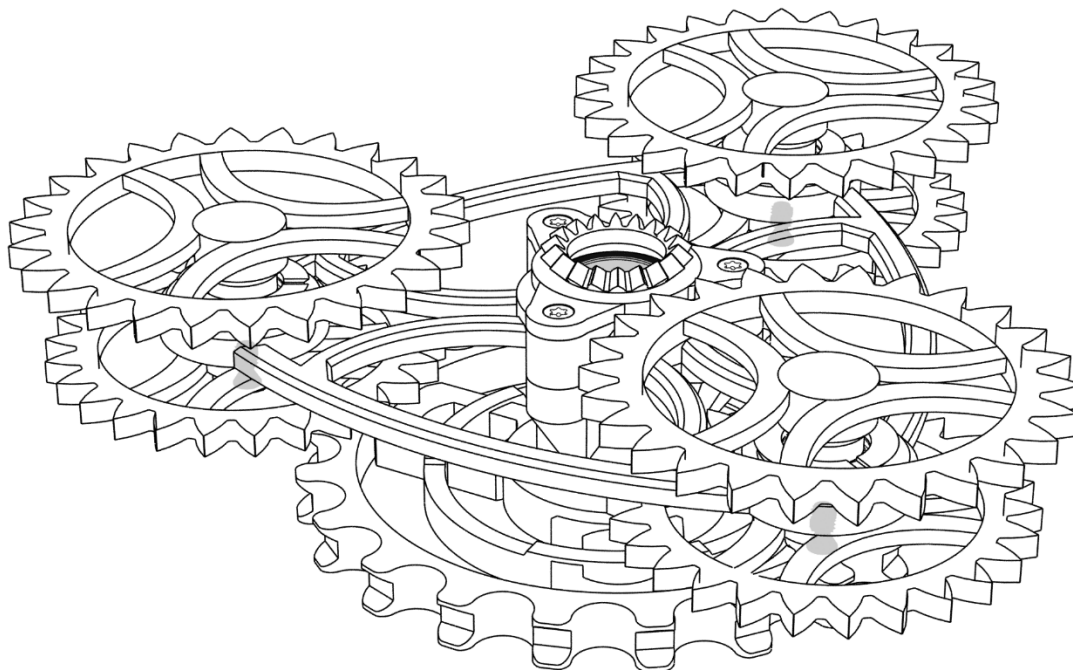
Step 1 (result)



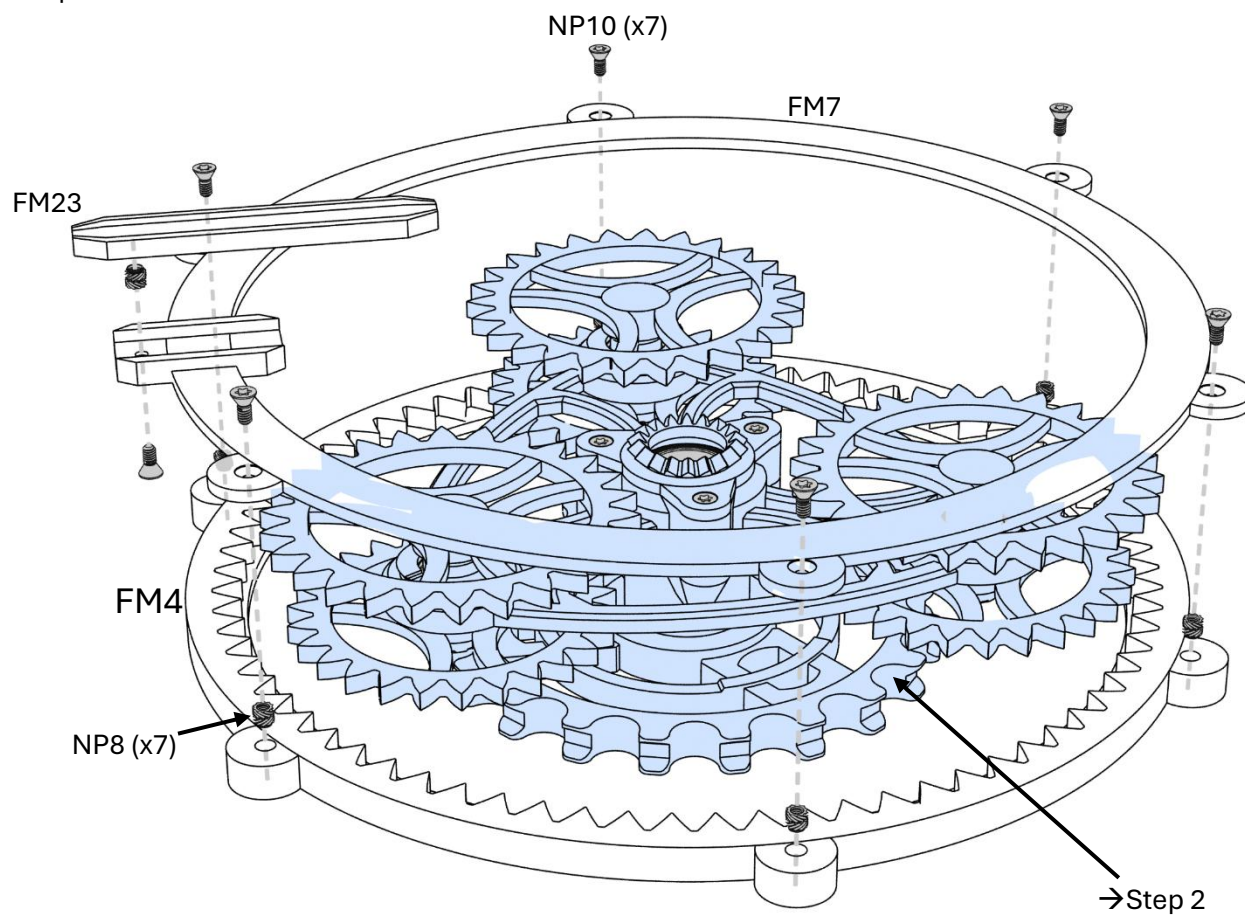
Step 2



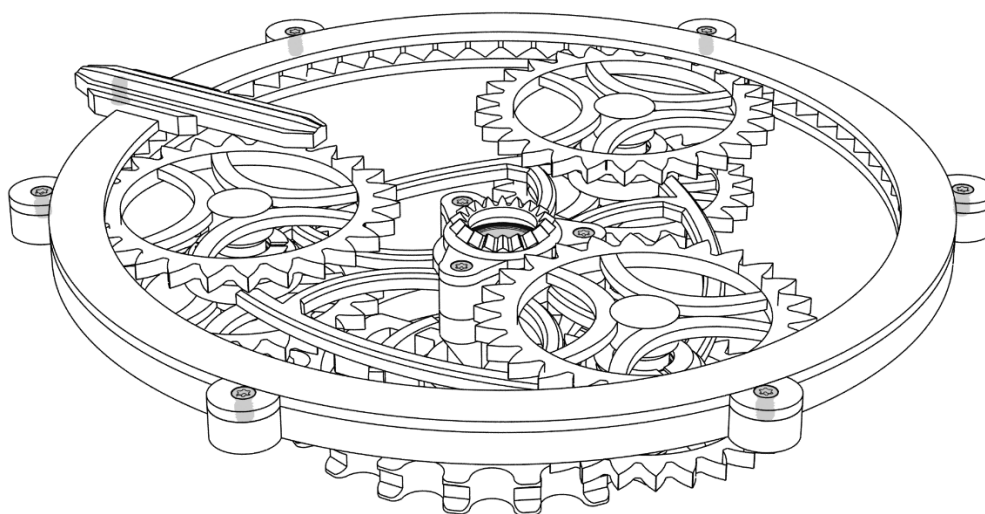
Step 2 (result)



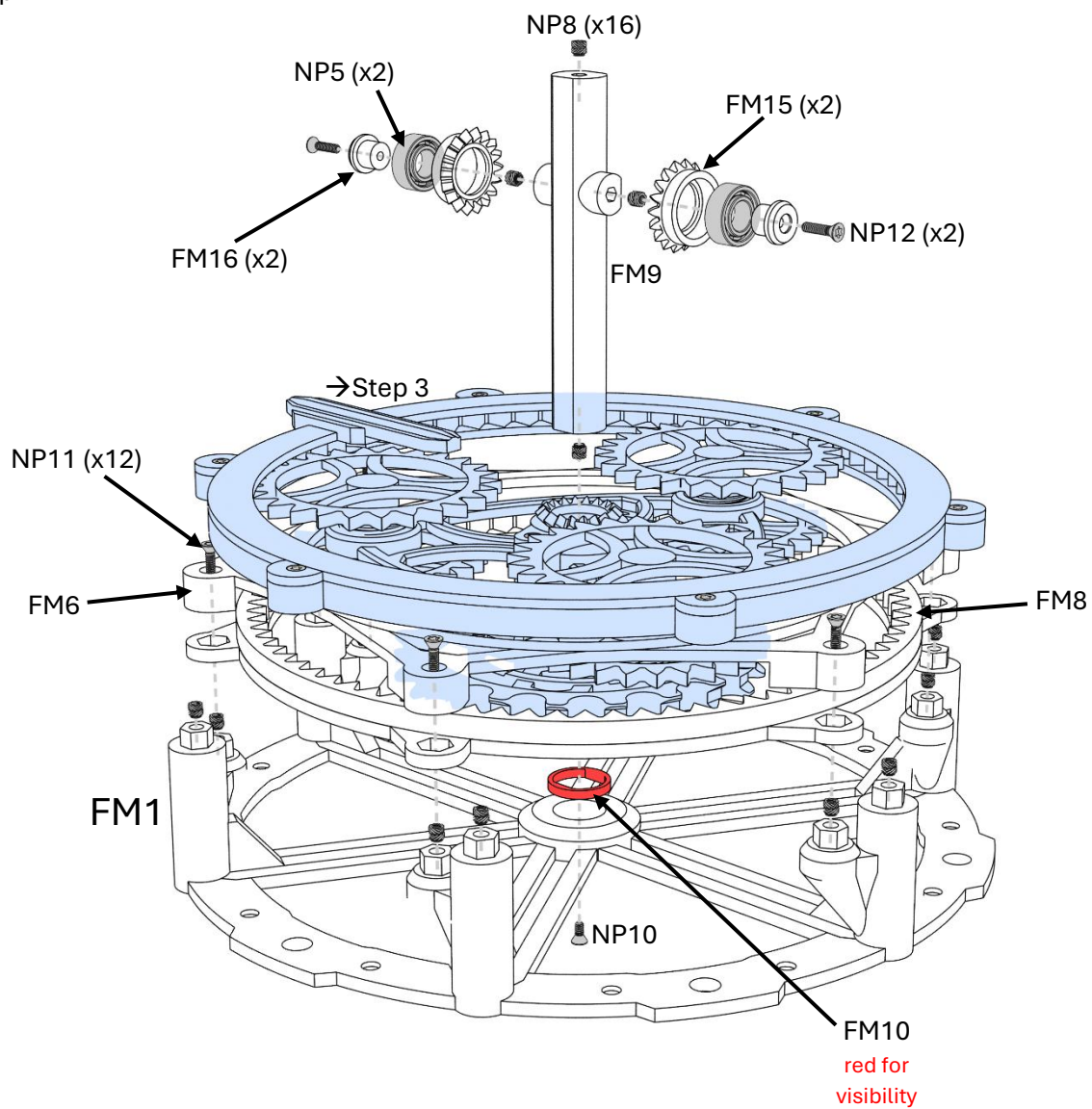
Step 3



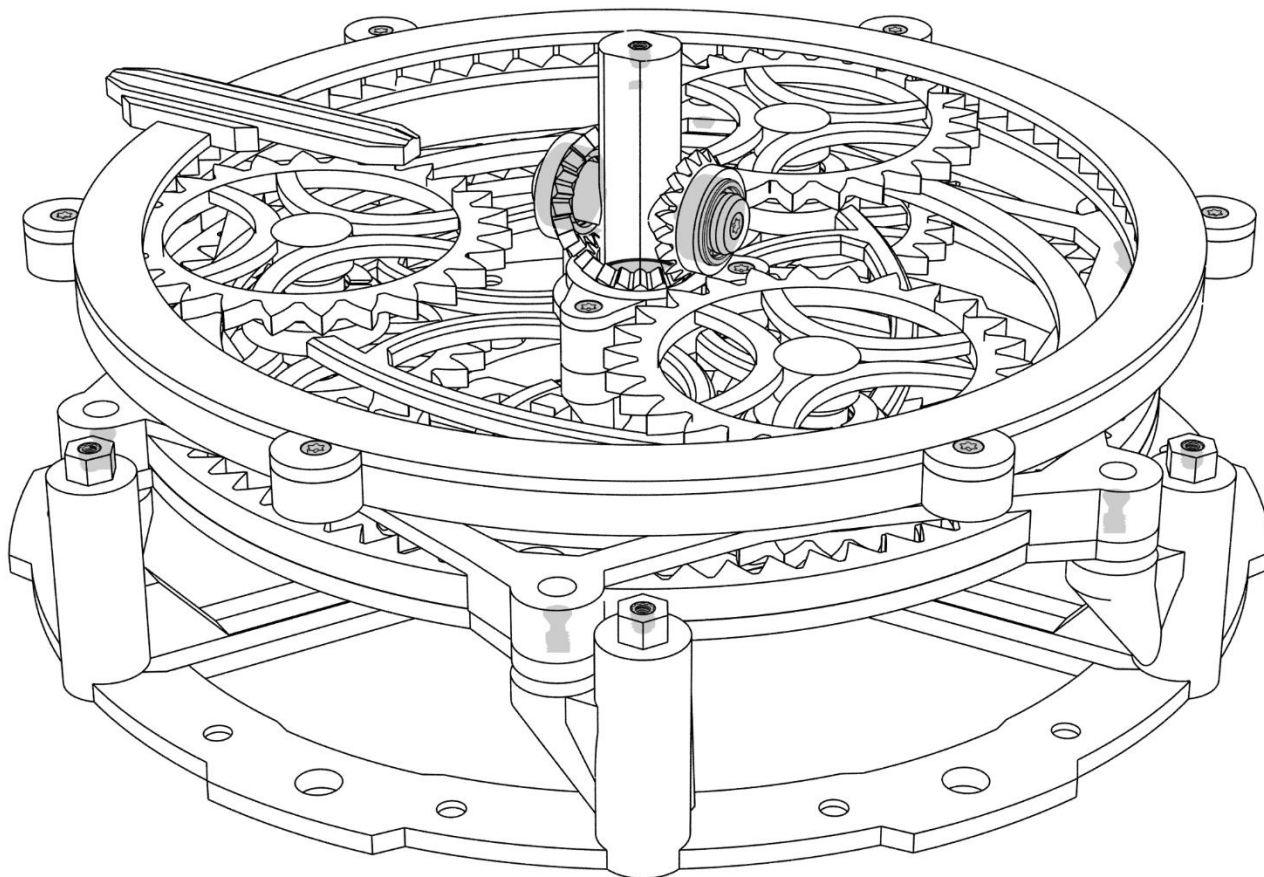
Step 3 (result)



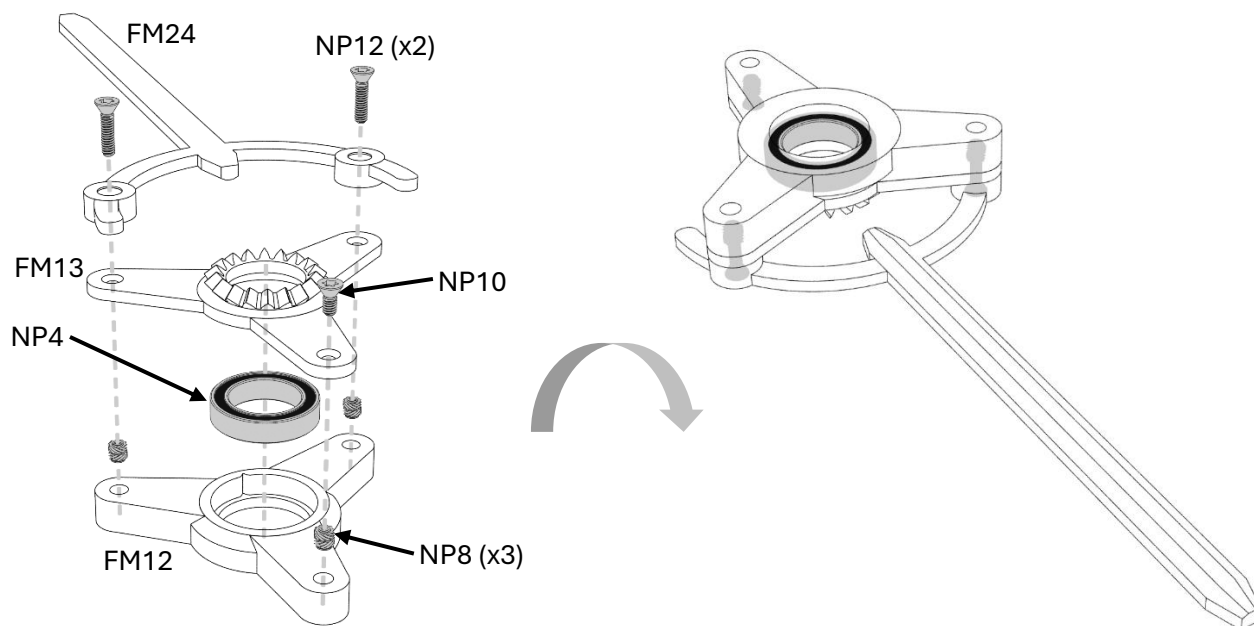
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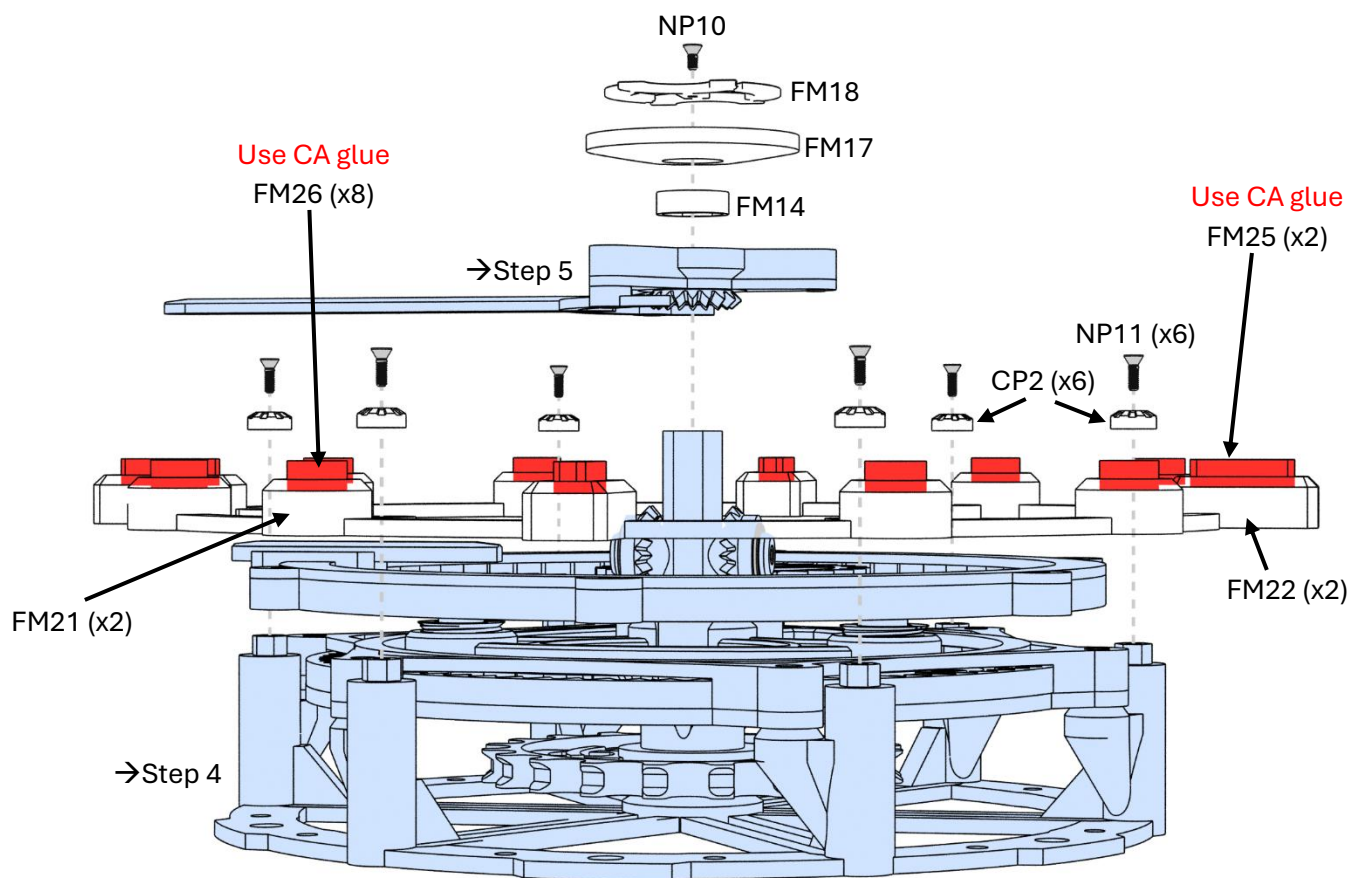
Step 4 (result)



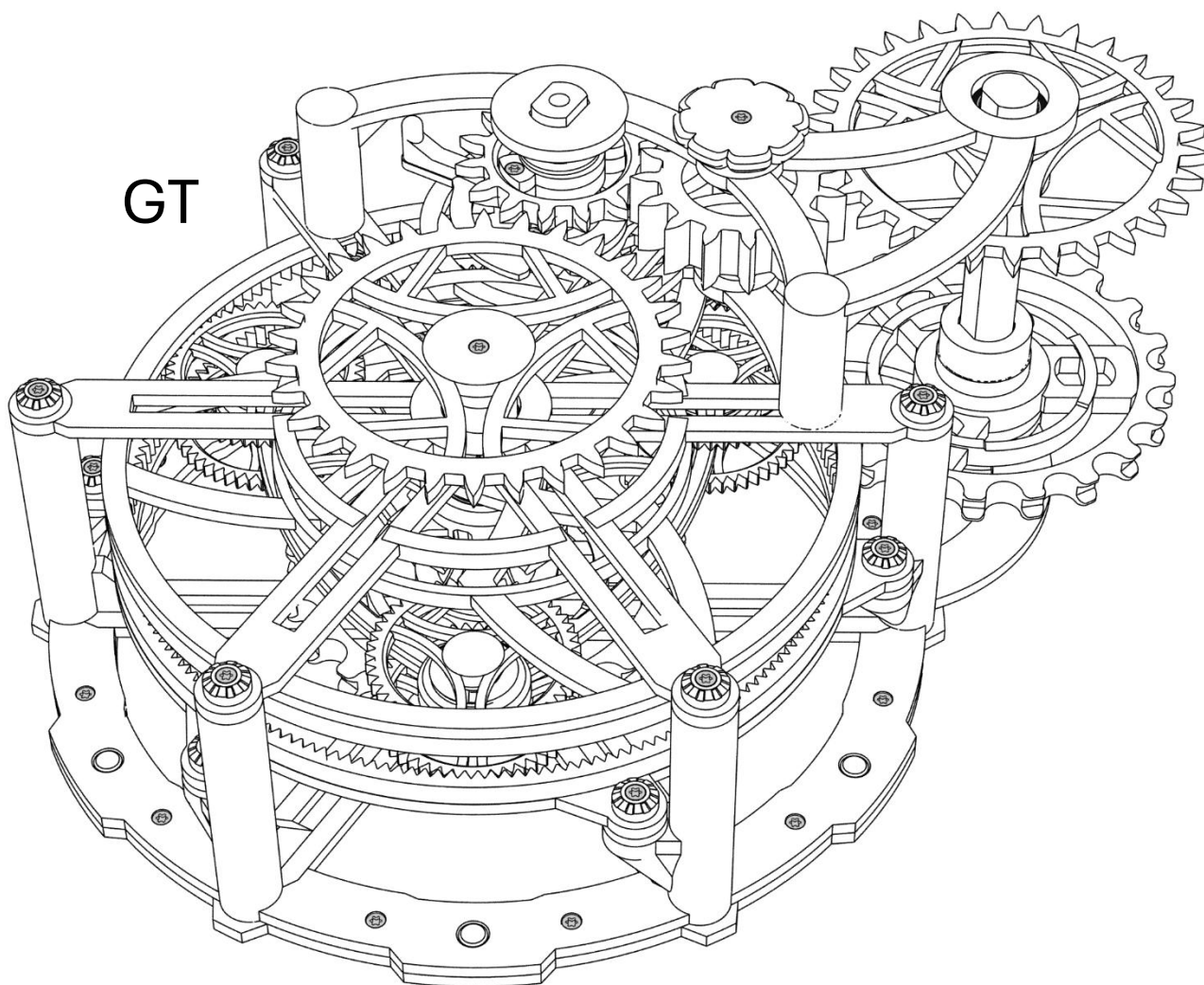
Step 5



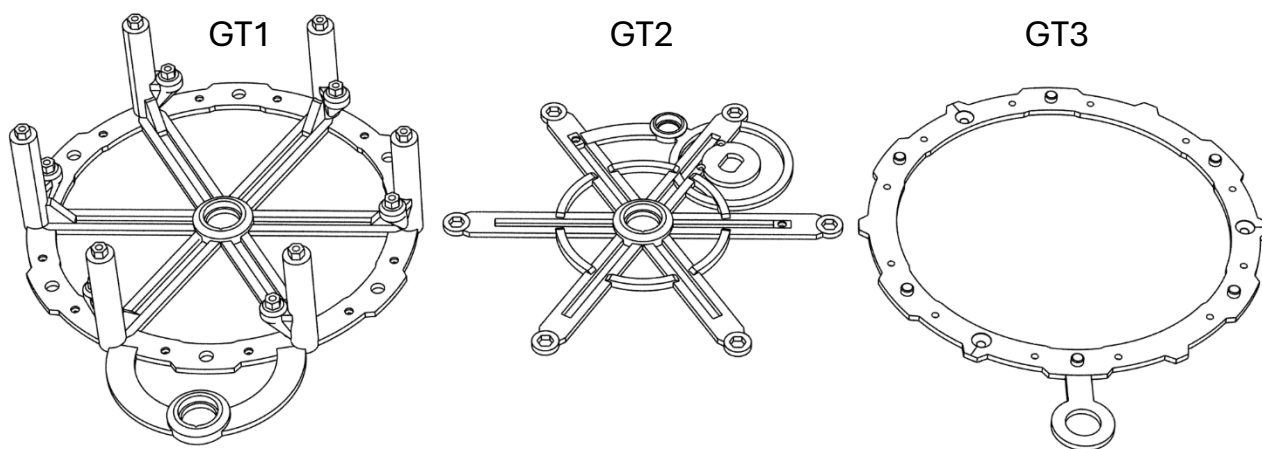
Step 6

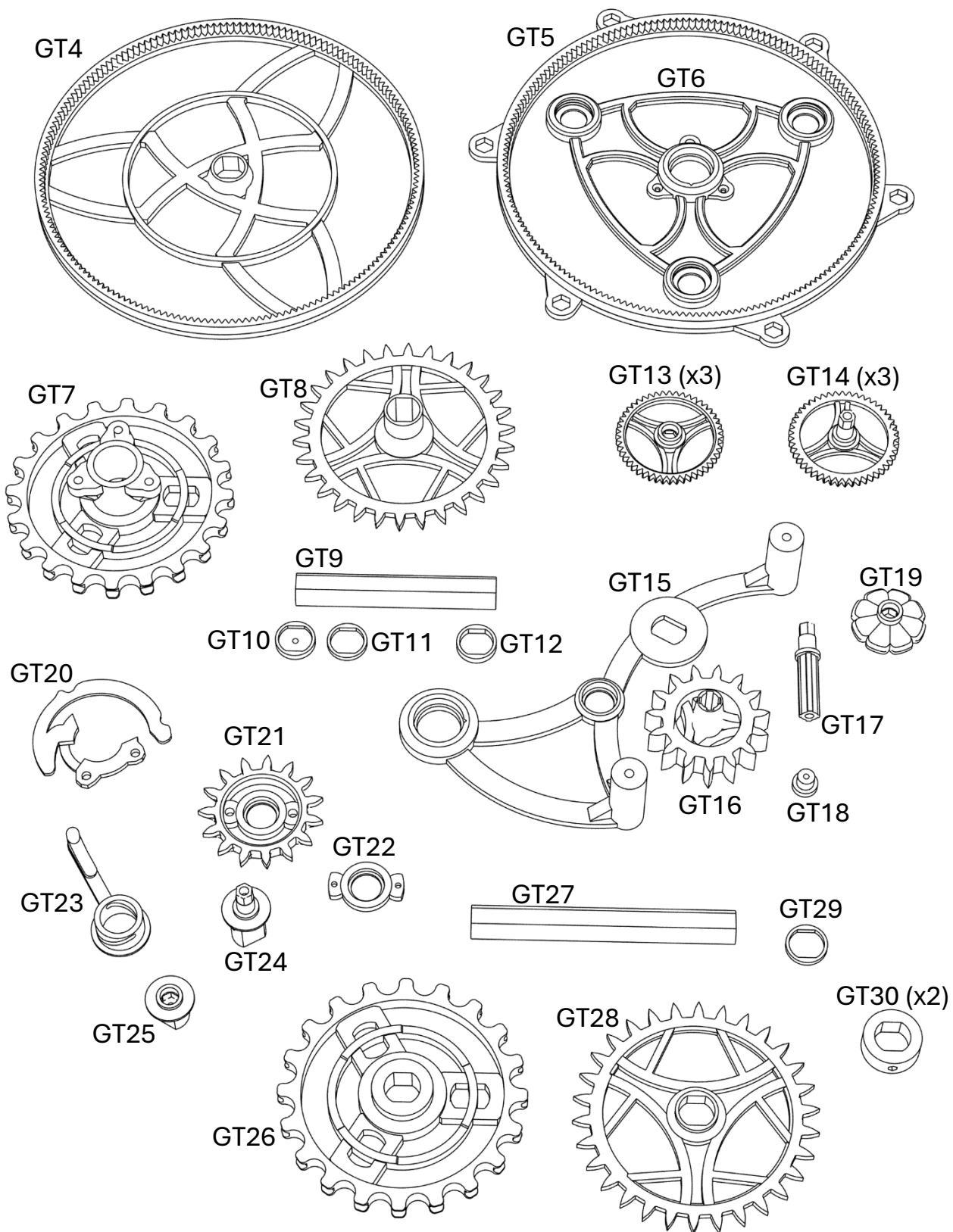


2.3 Harmonic gear train



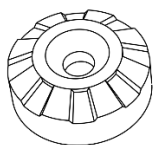
Printed parts



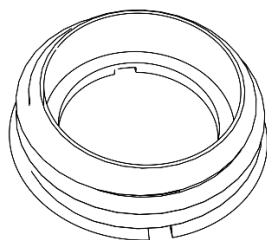


Printed Common parts (CP)

CP2 (x15)



CP3 (x3)



Non-printed parts

NP13
(x1)



NP12
(x2)



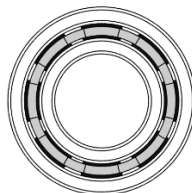
NP11
(x19)



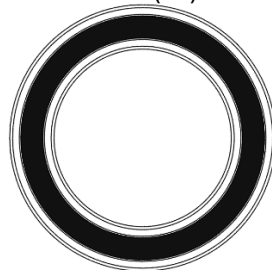
NP10
(x23)



NP5 (x6)



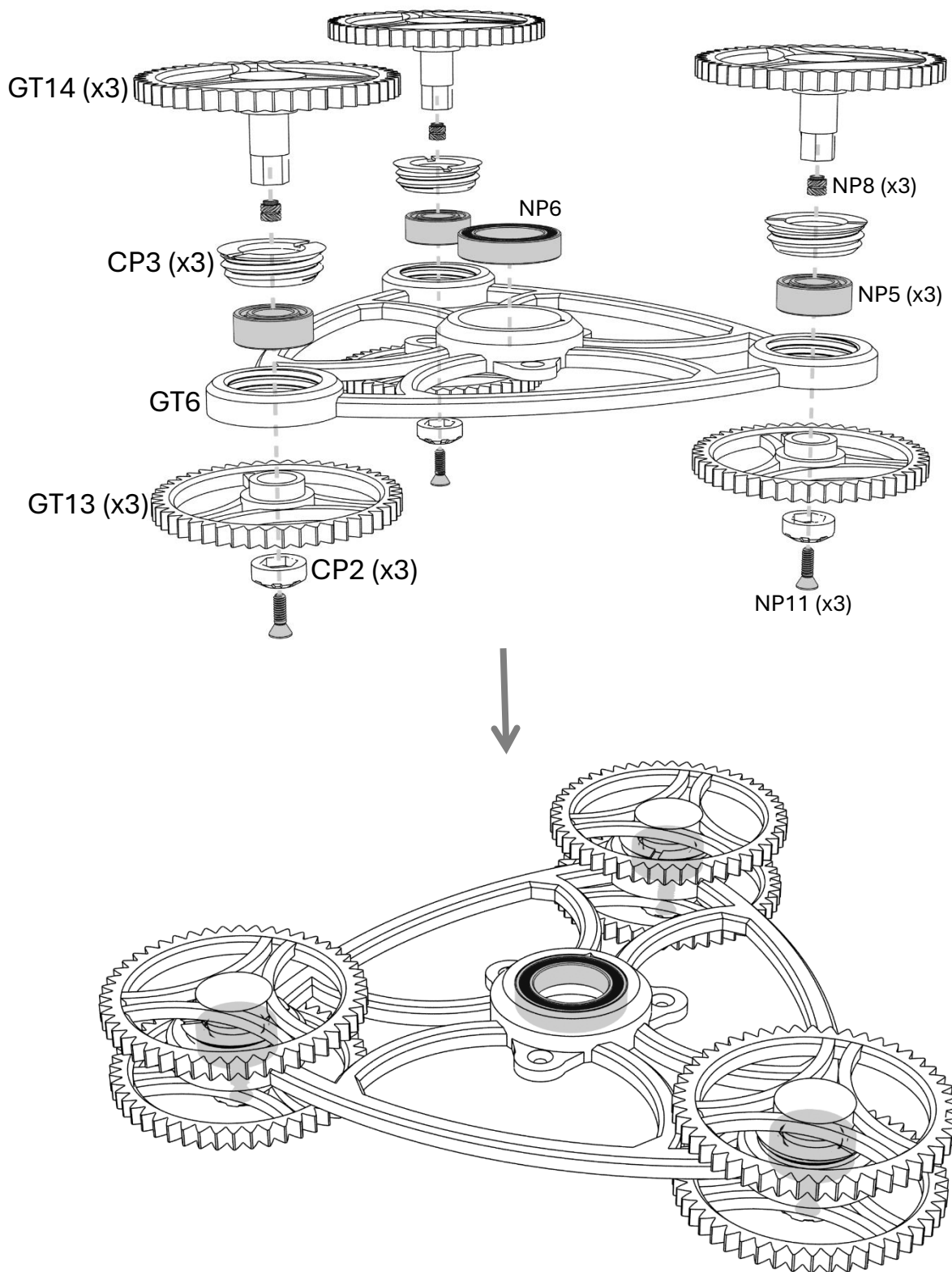
NP4 (x6)



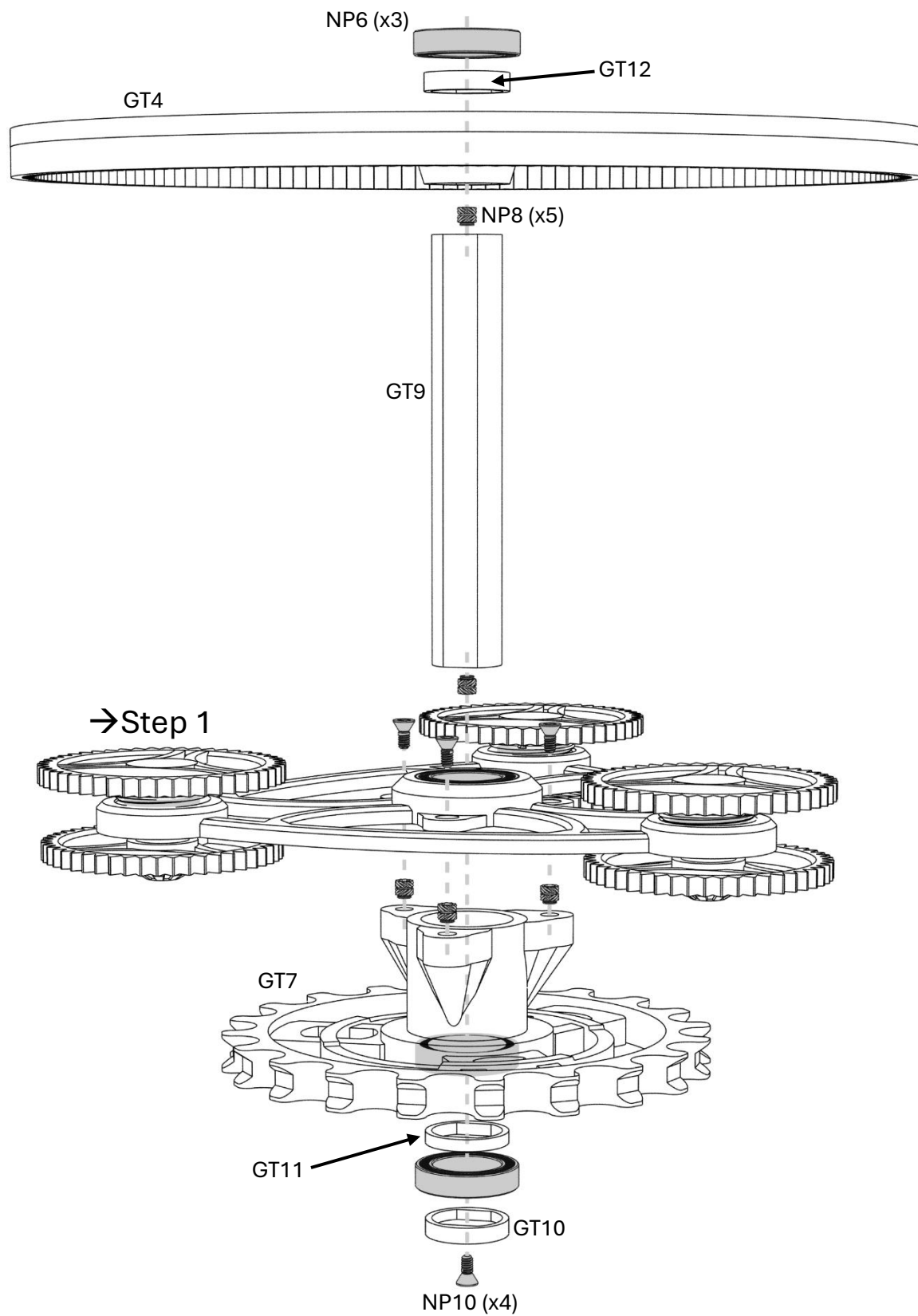
NP8 (x45)



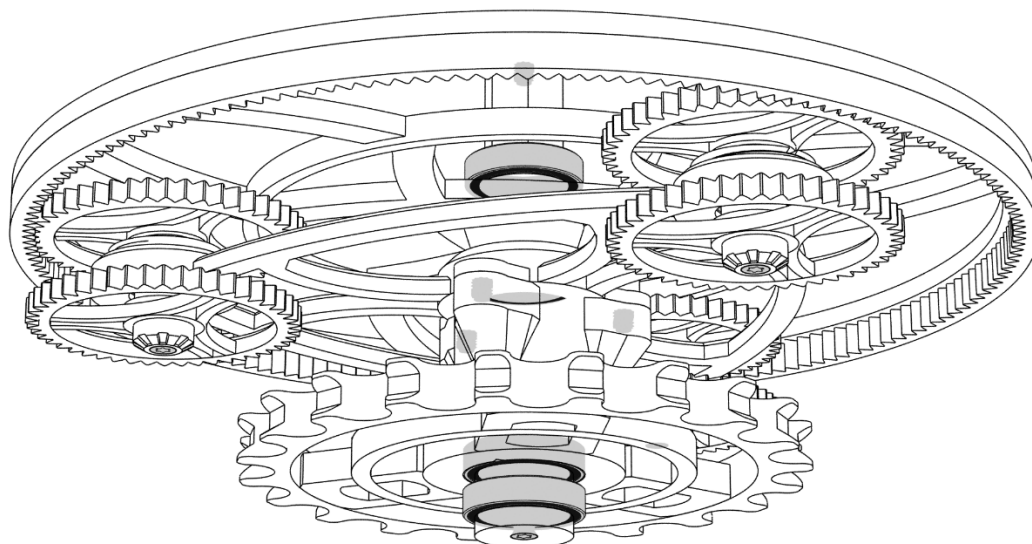
Step 1



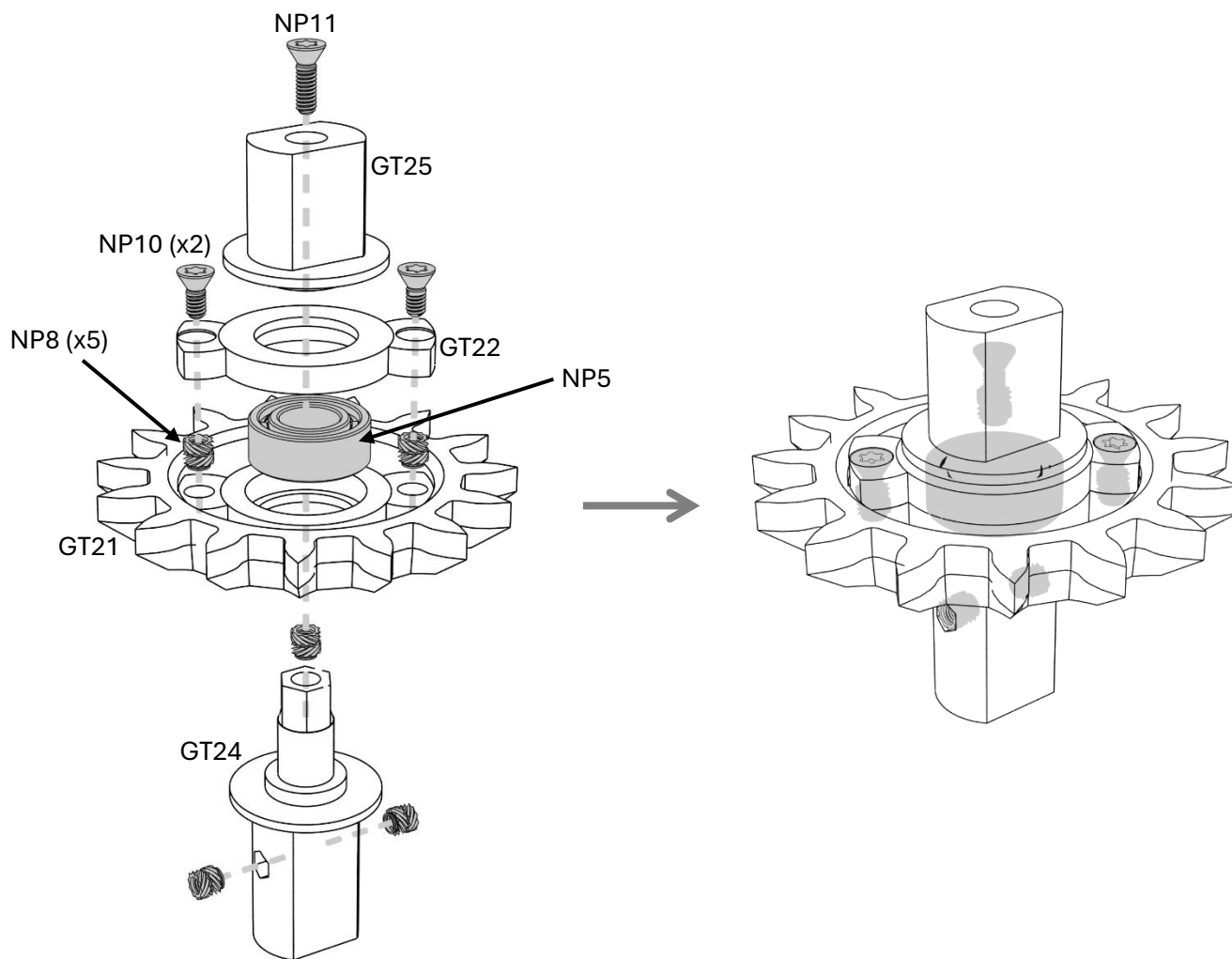
Step 2



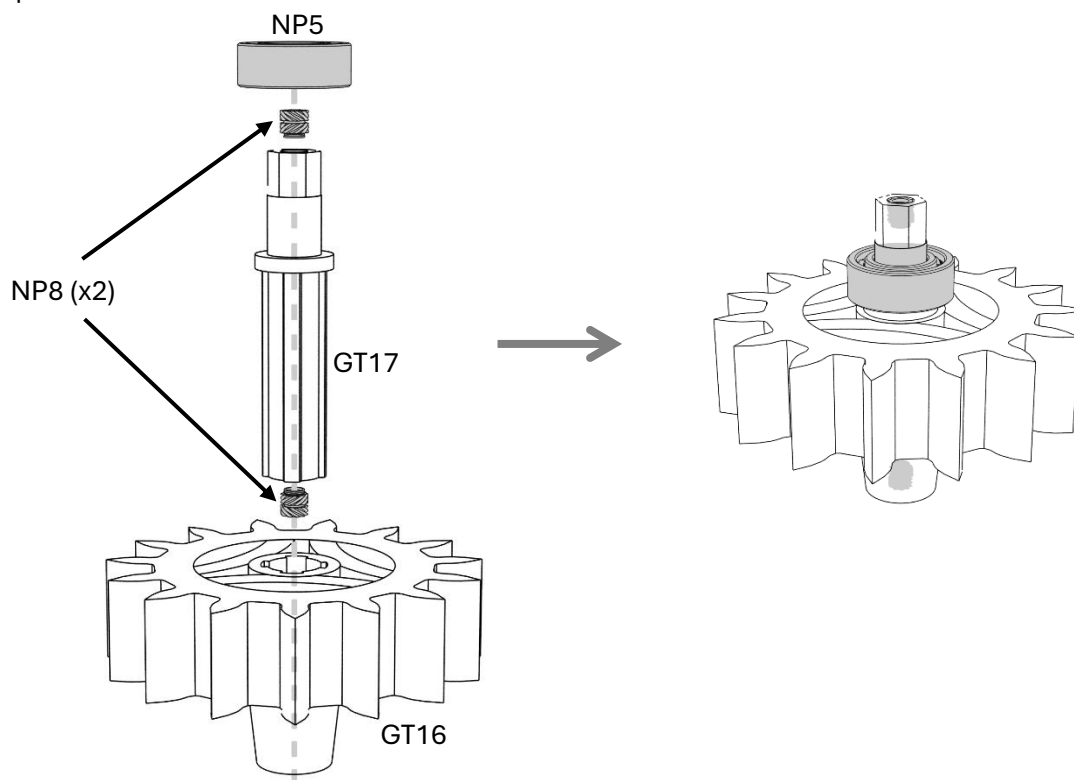
Step 2 (result)



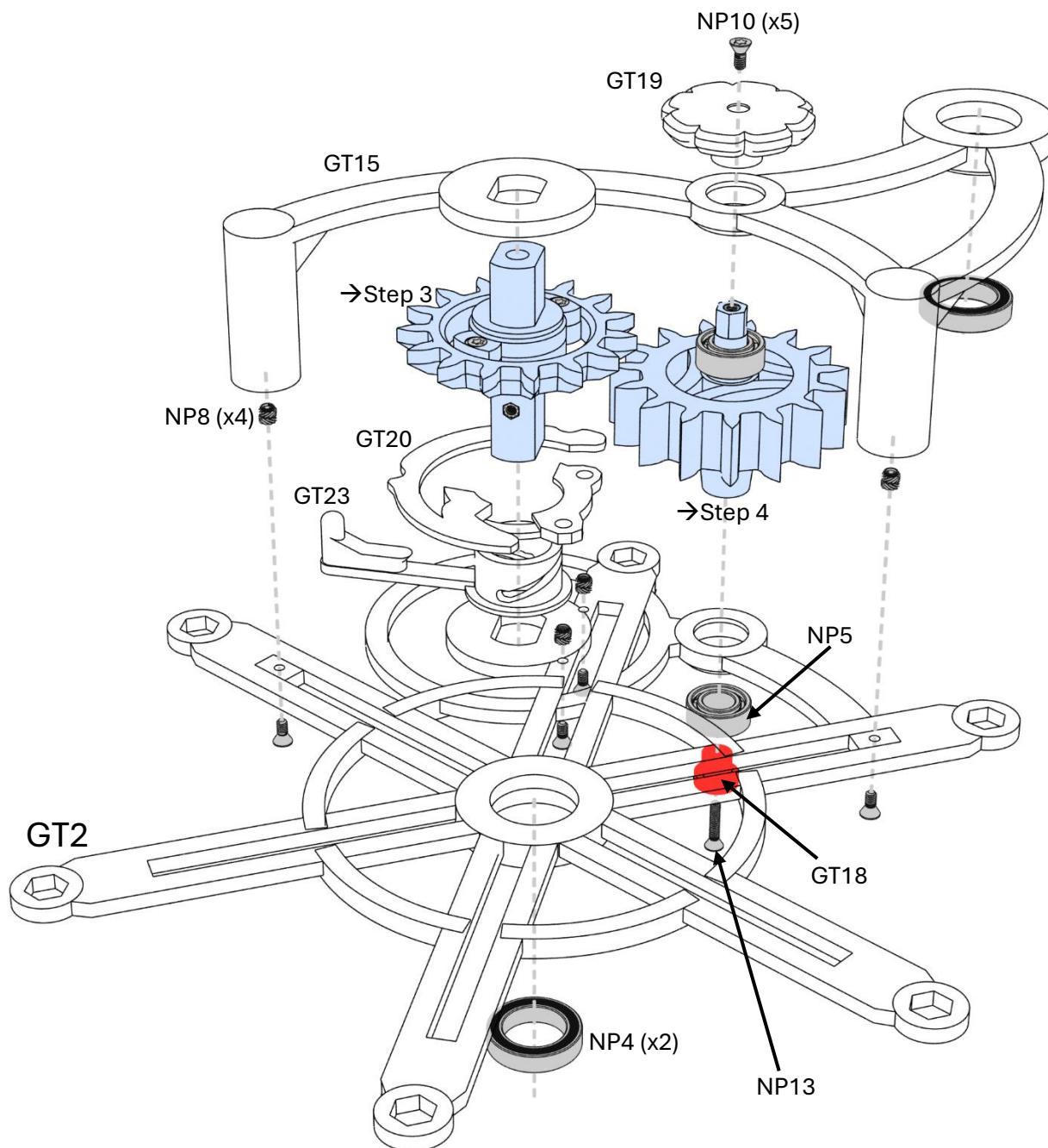
Step 3



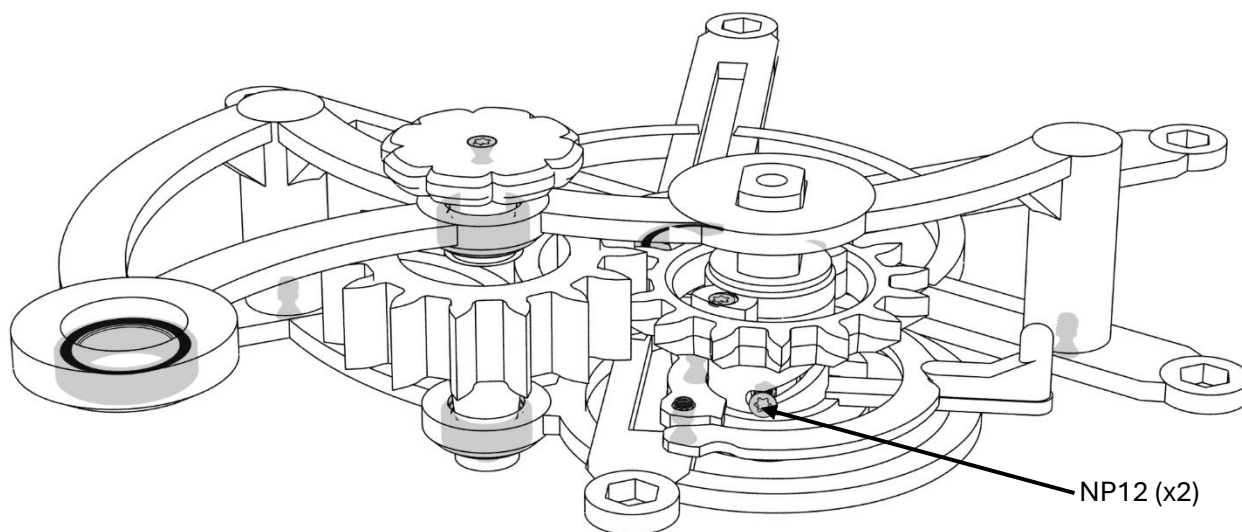
Step 4



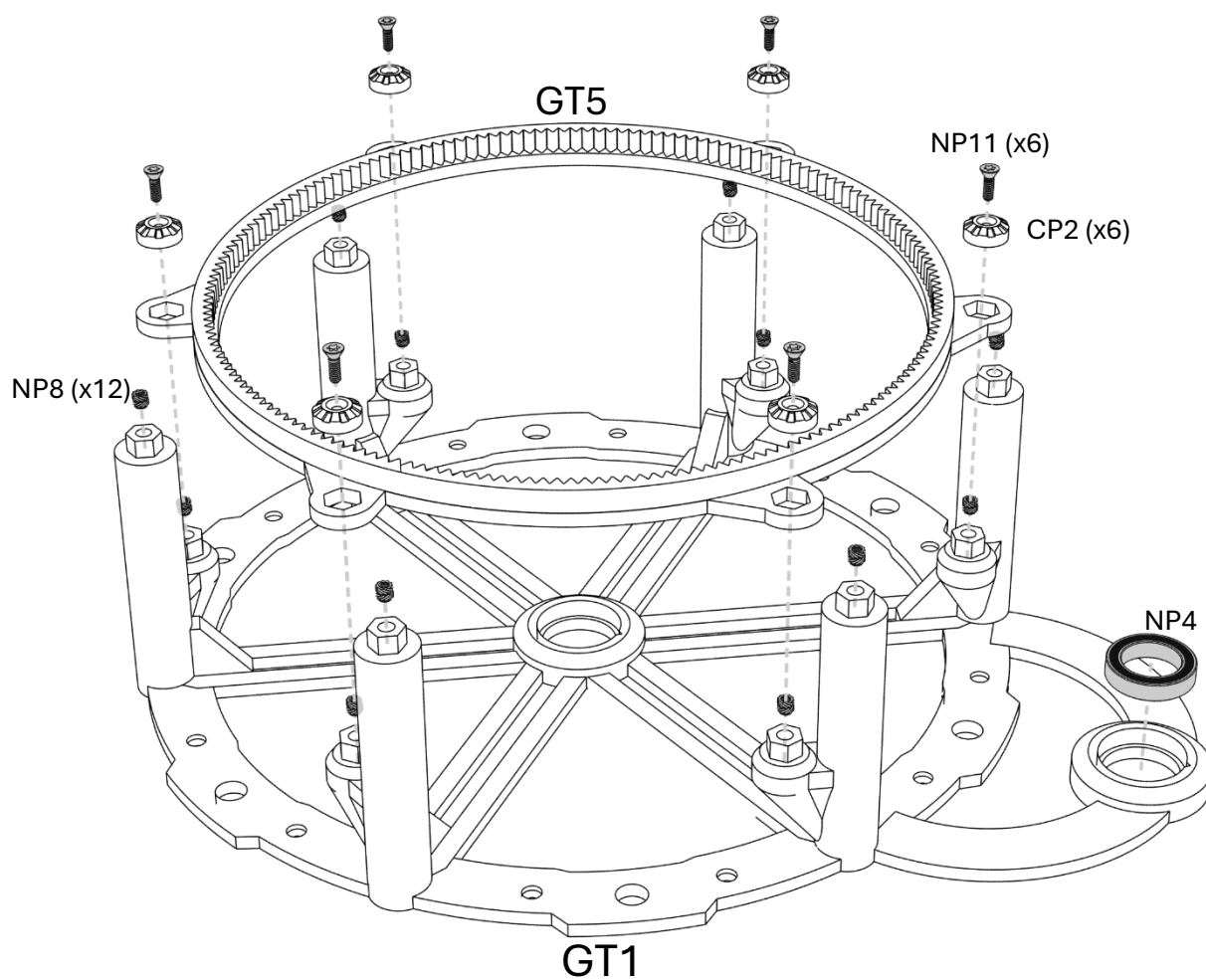
Step 5



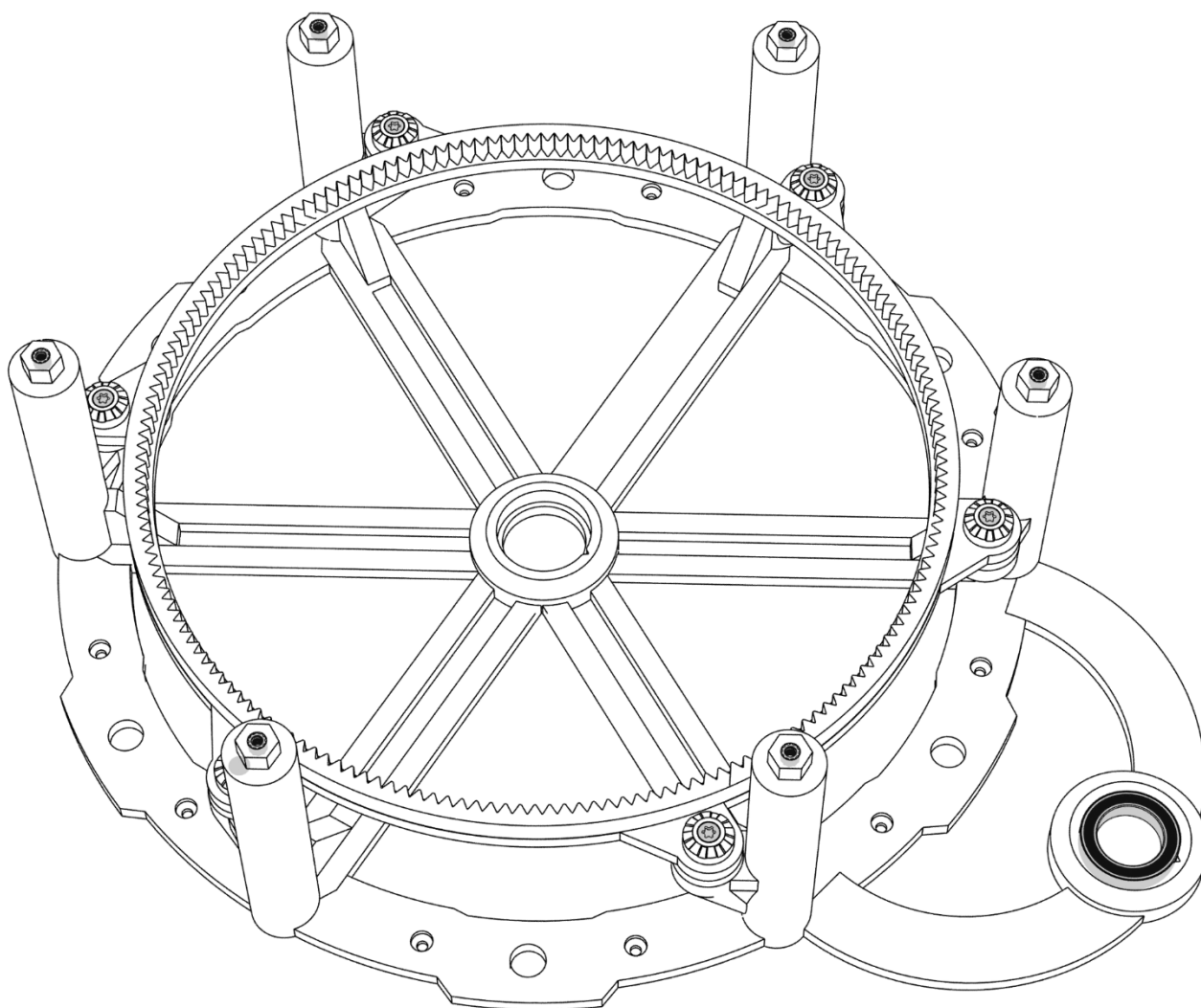
Step 5 (result)



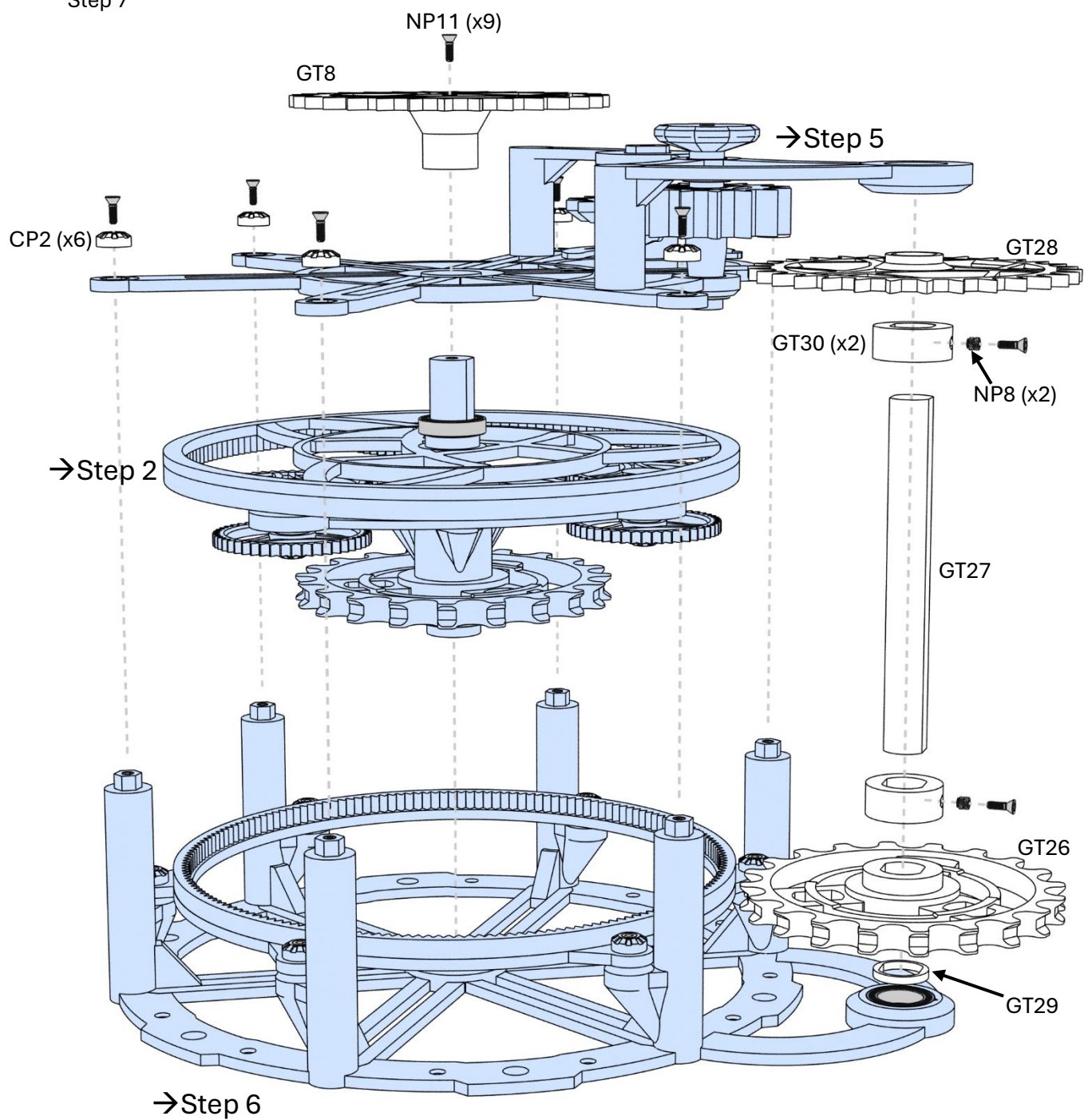
Step 6



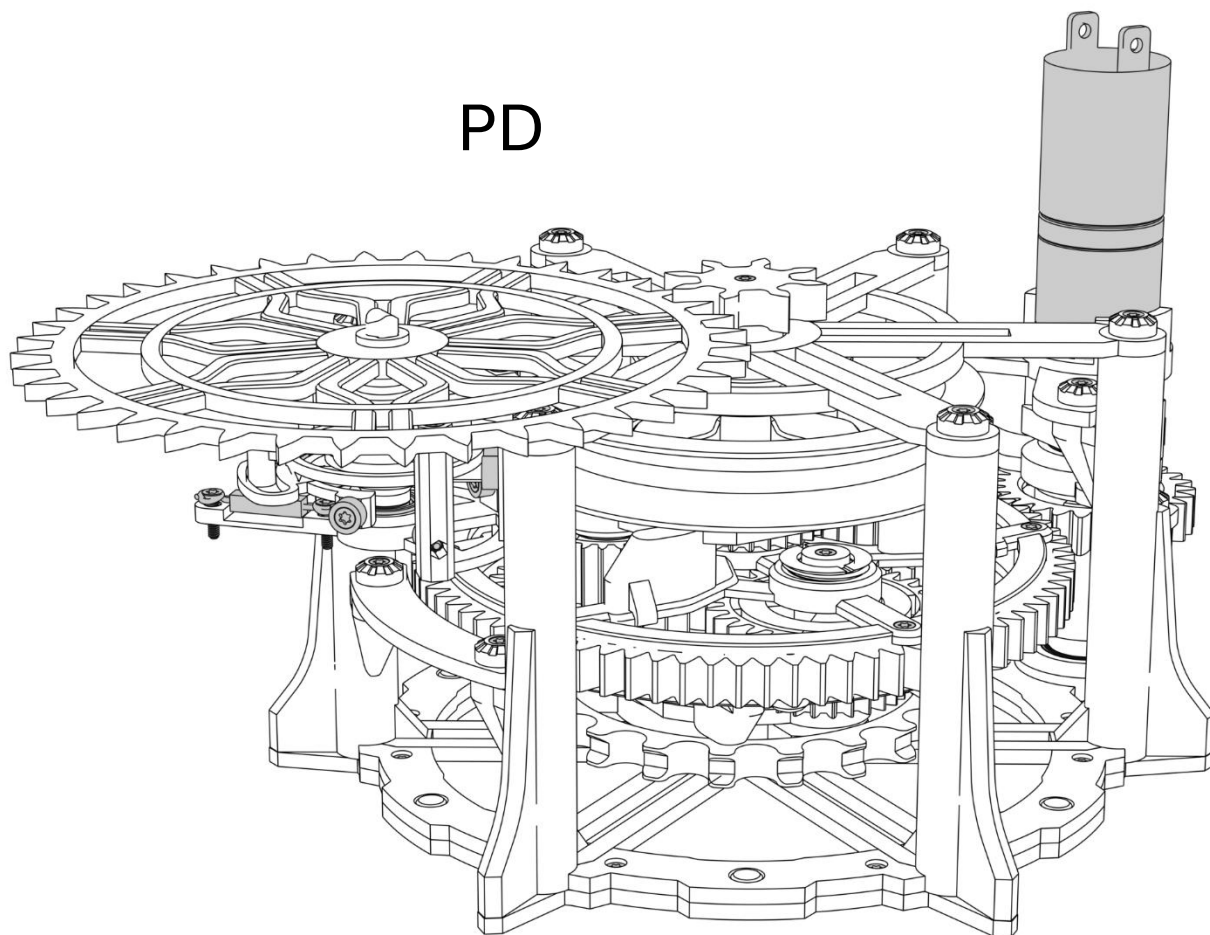
Step 6 (result)



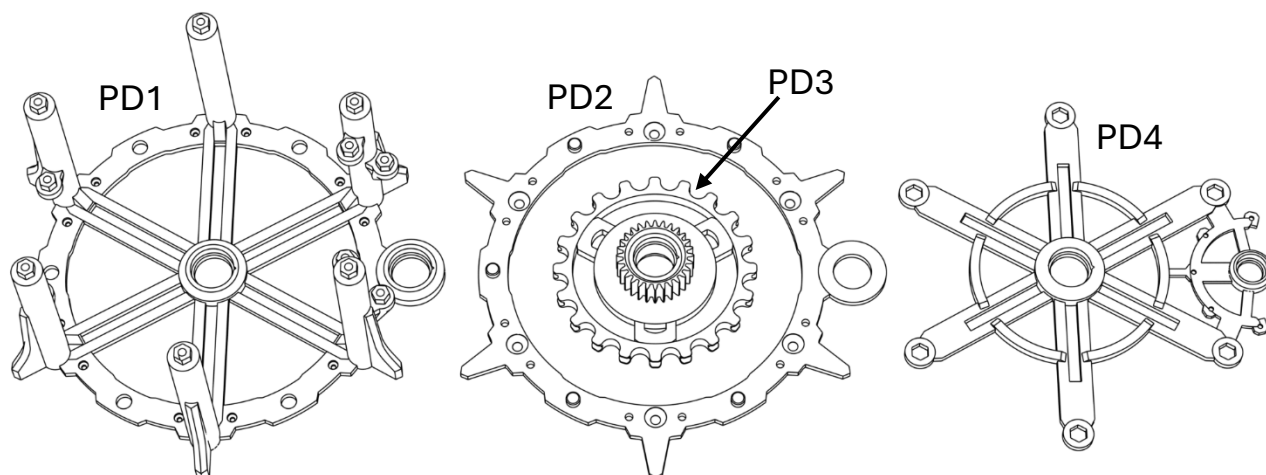
Step 7

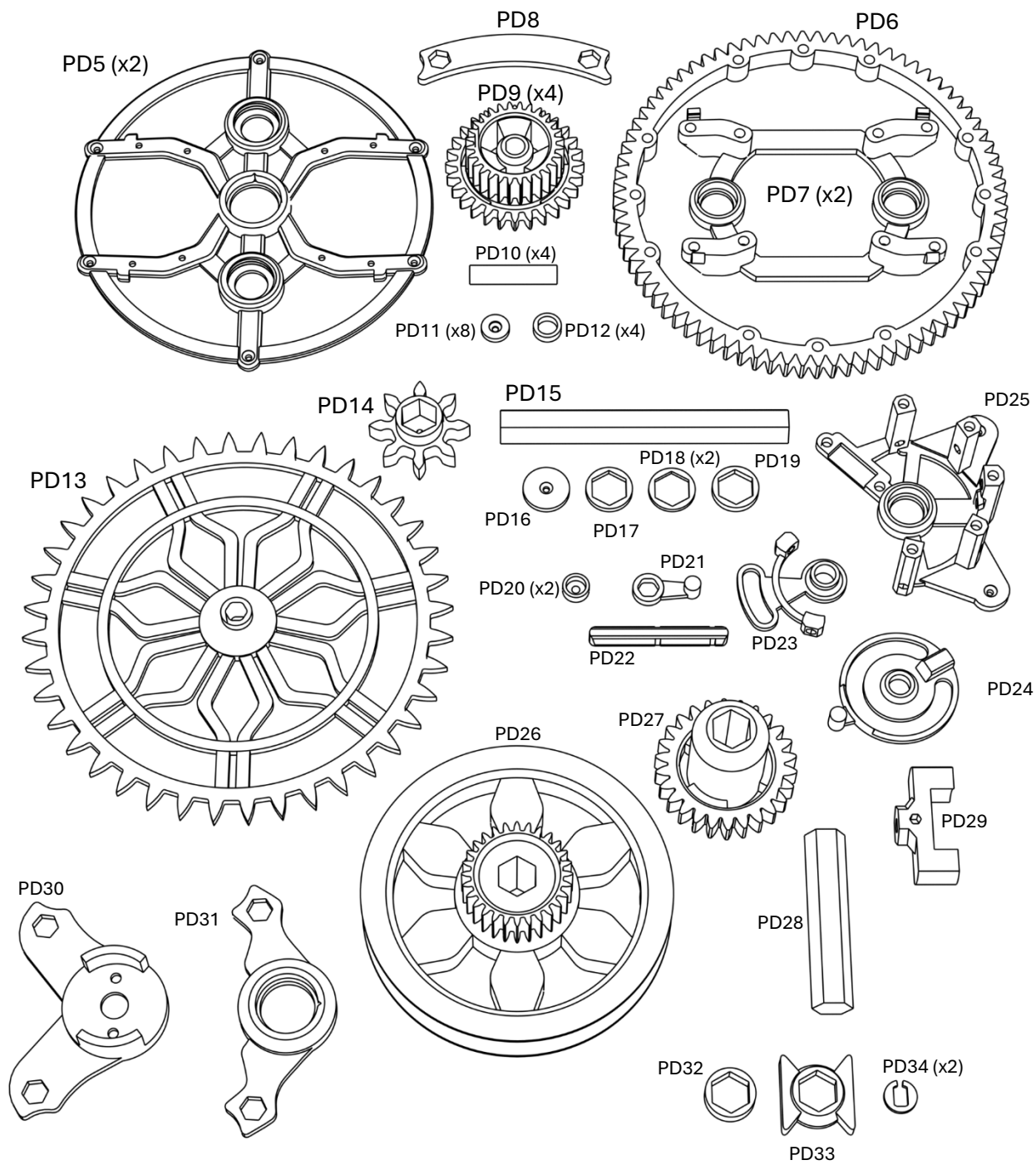


2.4 Power differential



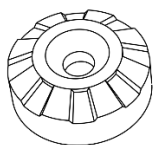
Printed parts



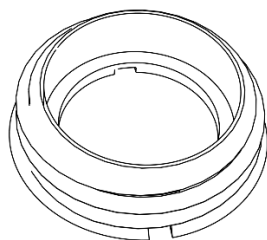


Printed Common parts (CP)

CP2 (x12)



CP3 (x4)



Non-printed parts

NP10



NP12

(x2)



NP11

(x22)

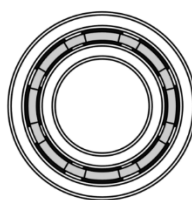


NP10

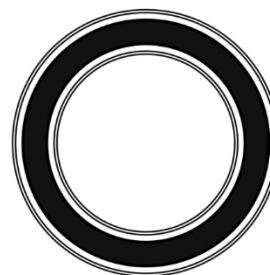
(x55)



NP5 (x10)



NP4 (x8)



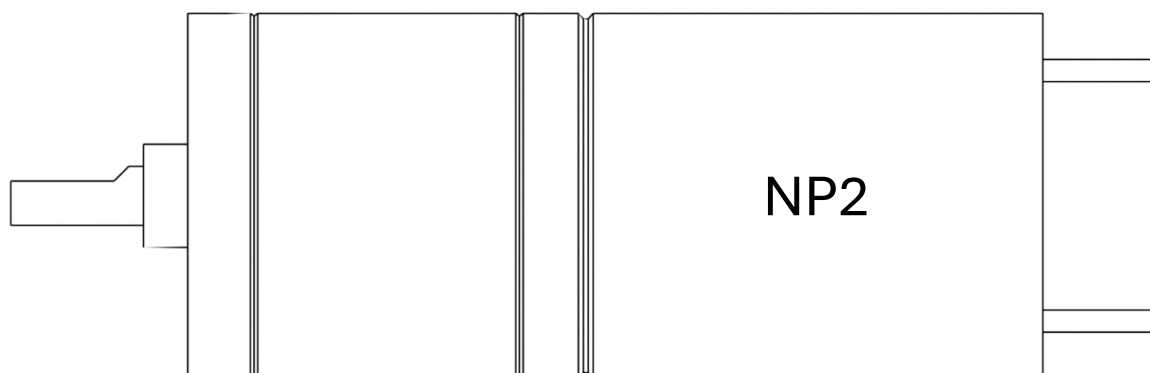
NP8 (x79)



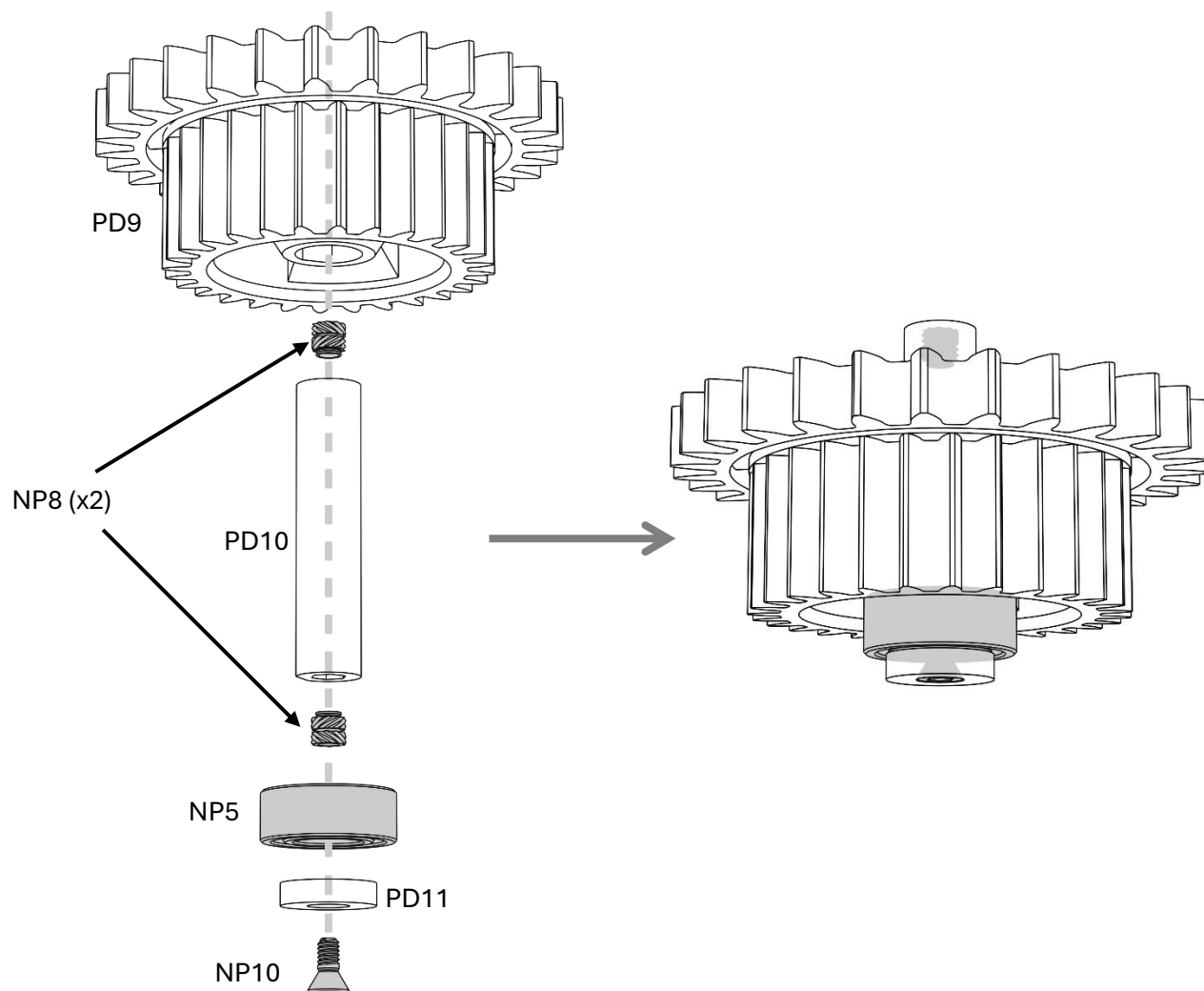
NP3 (x2)



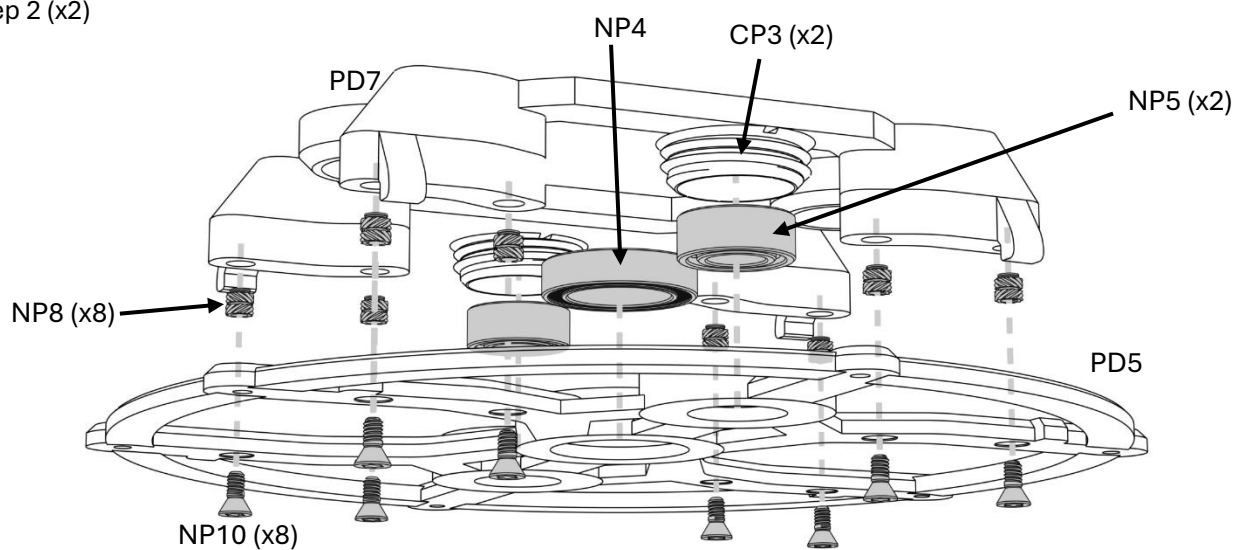
NP6 (x9)



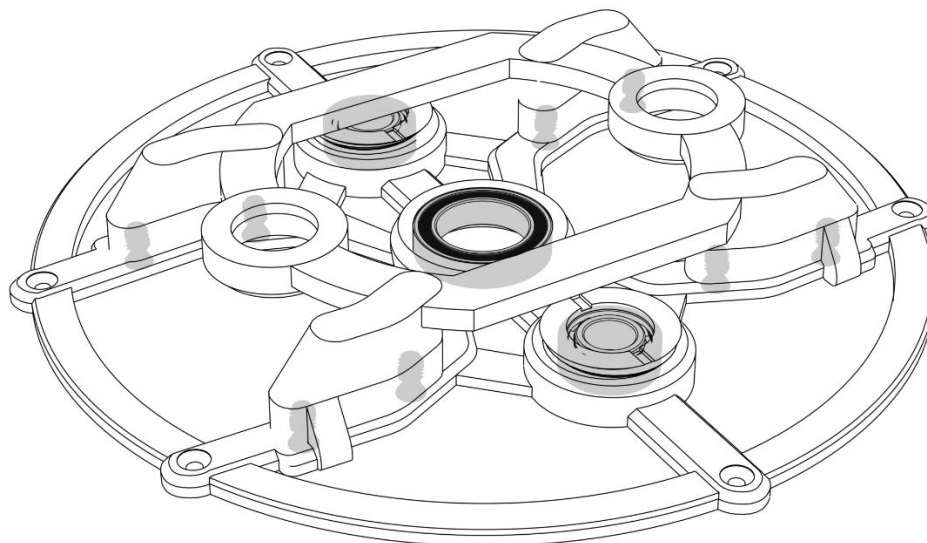
Step 1 (x4)



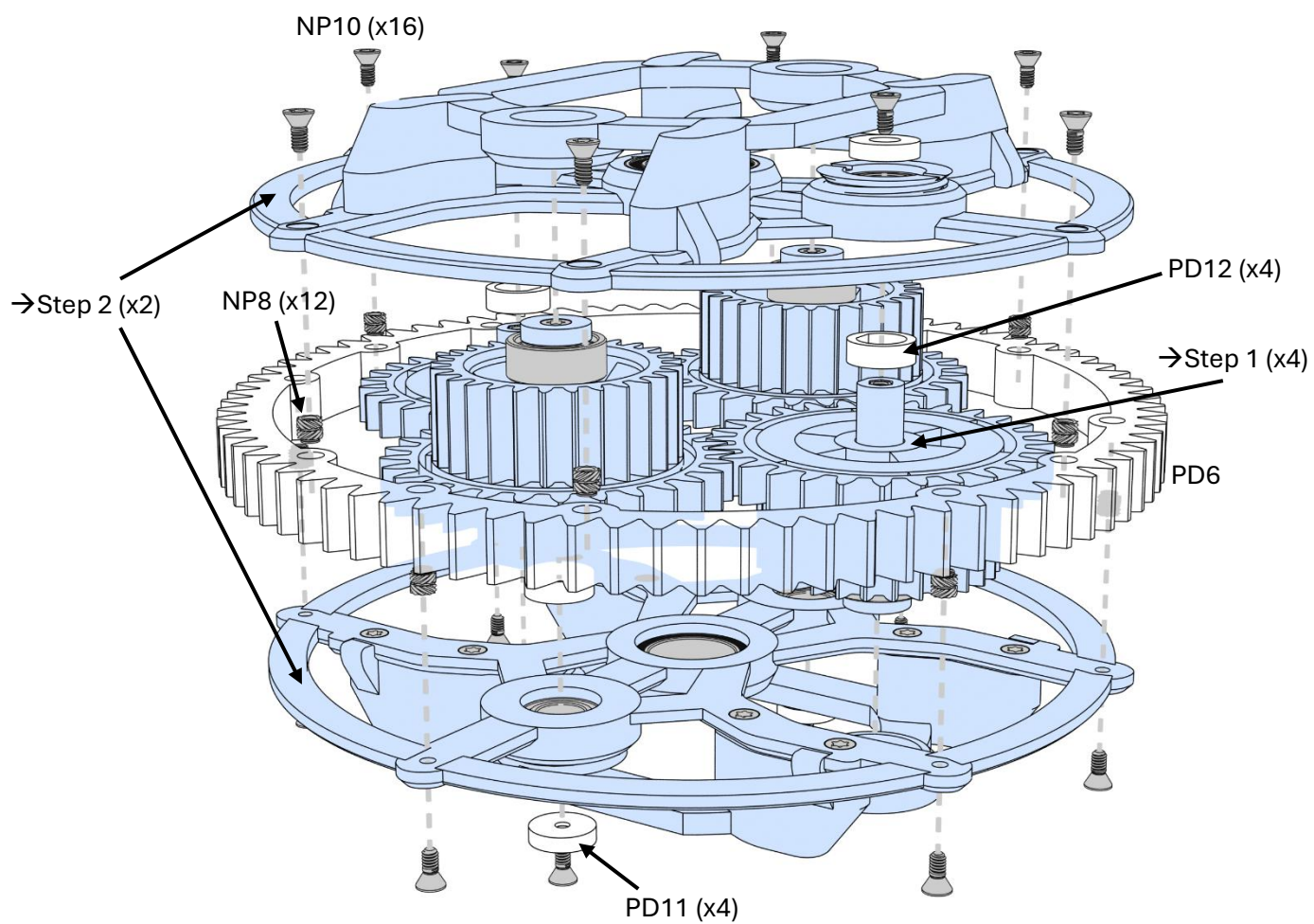
Step 2 (x2)



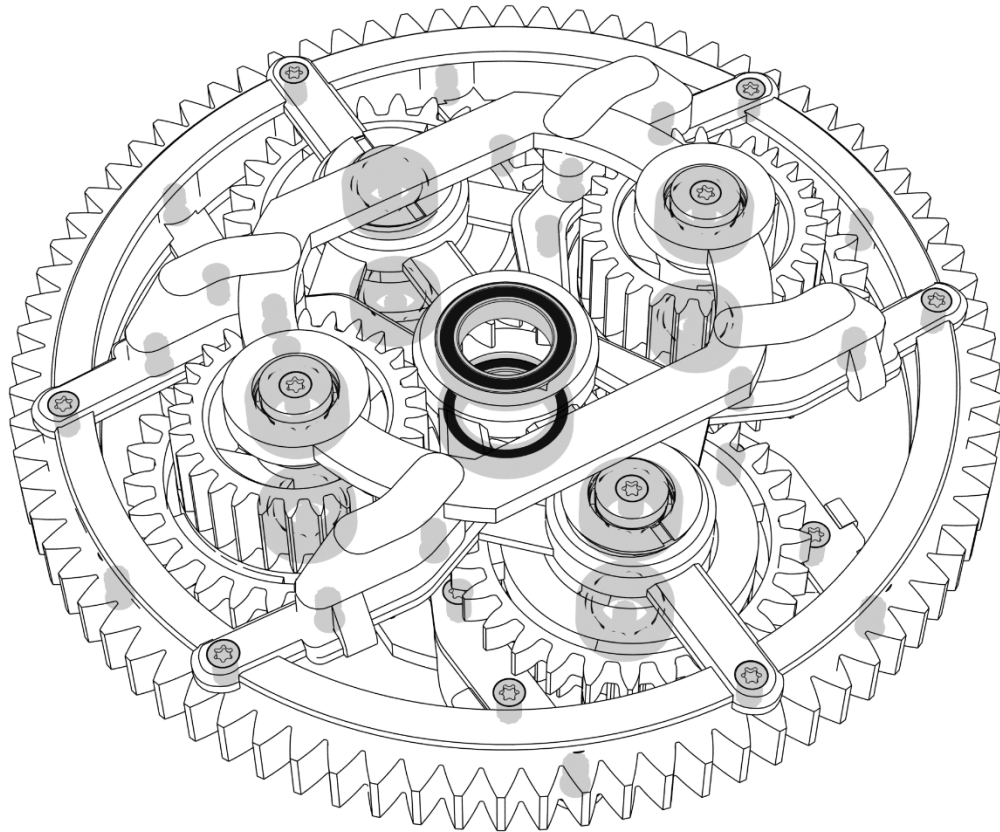
Step 2 (x2) result



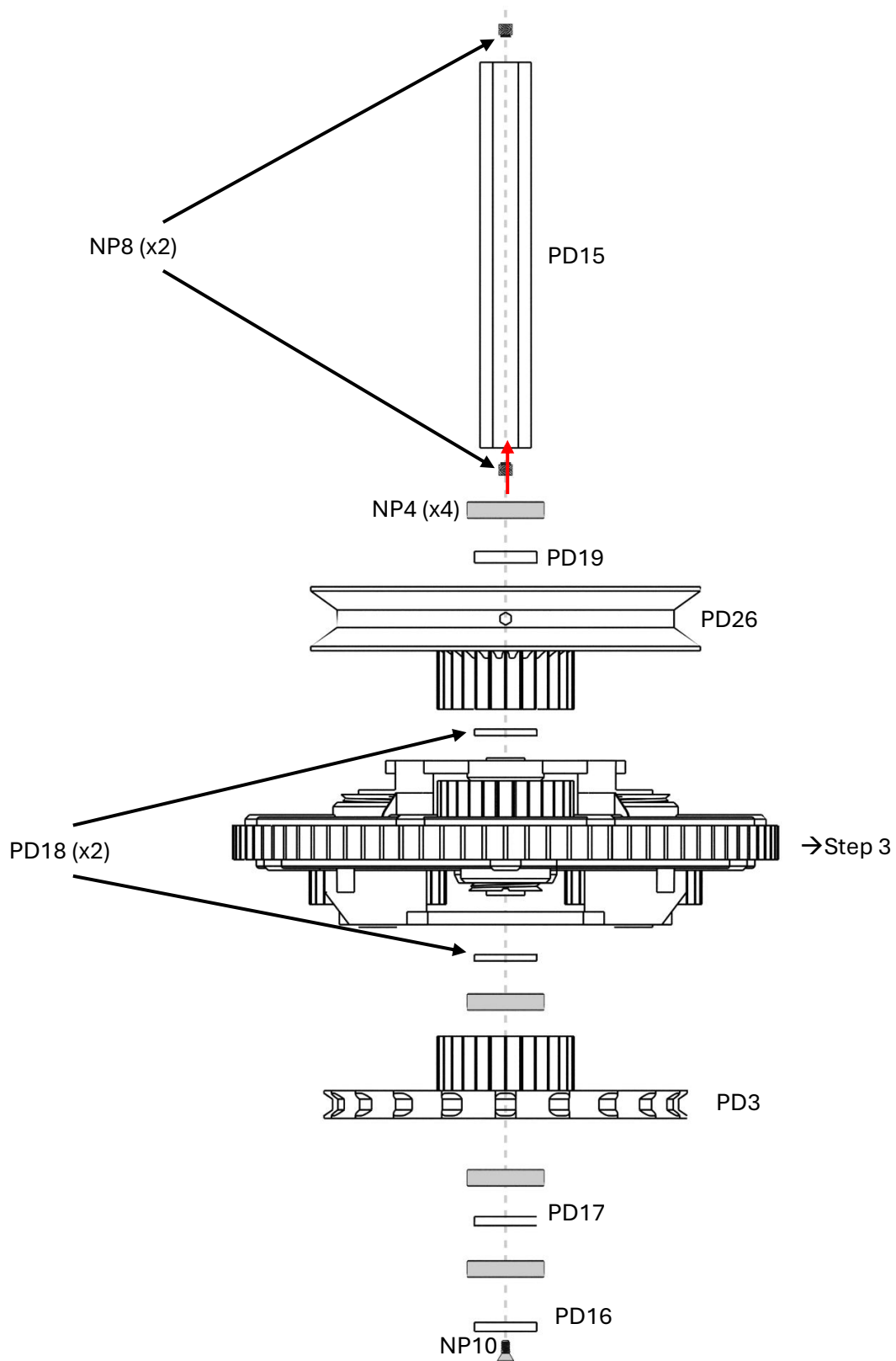
Step 3



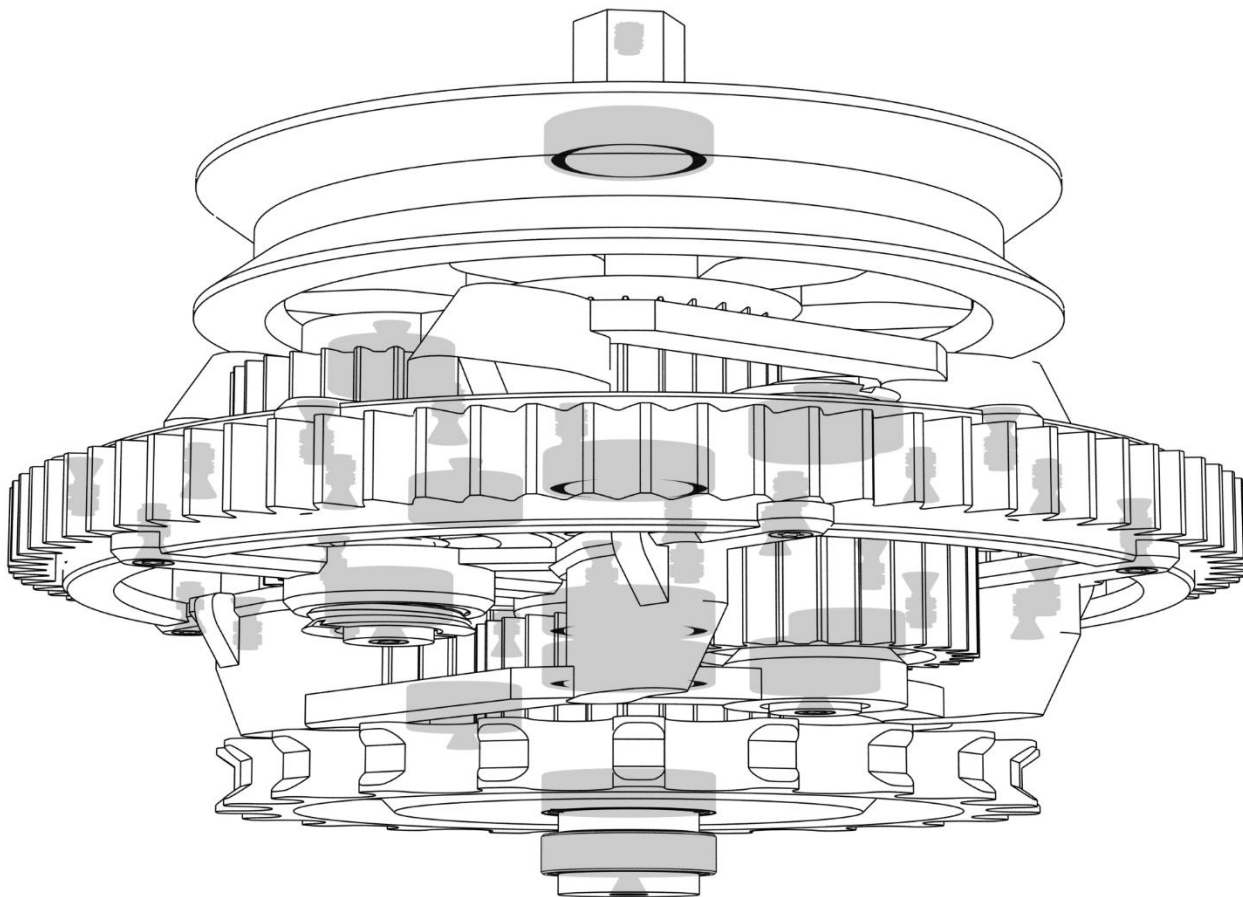
Step 3 (result)



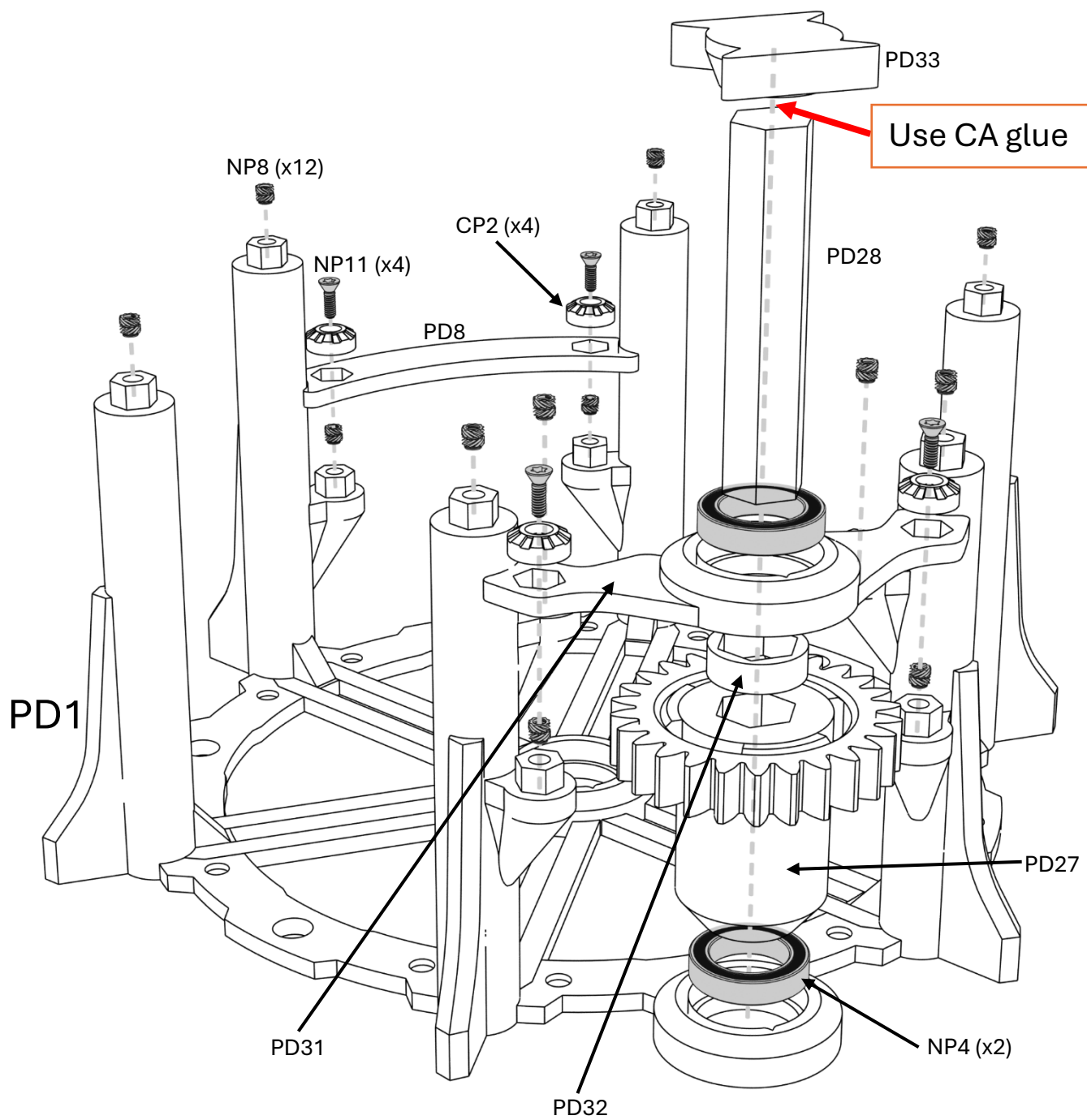
Step 4



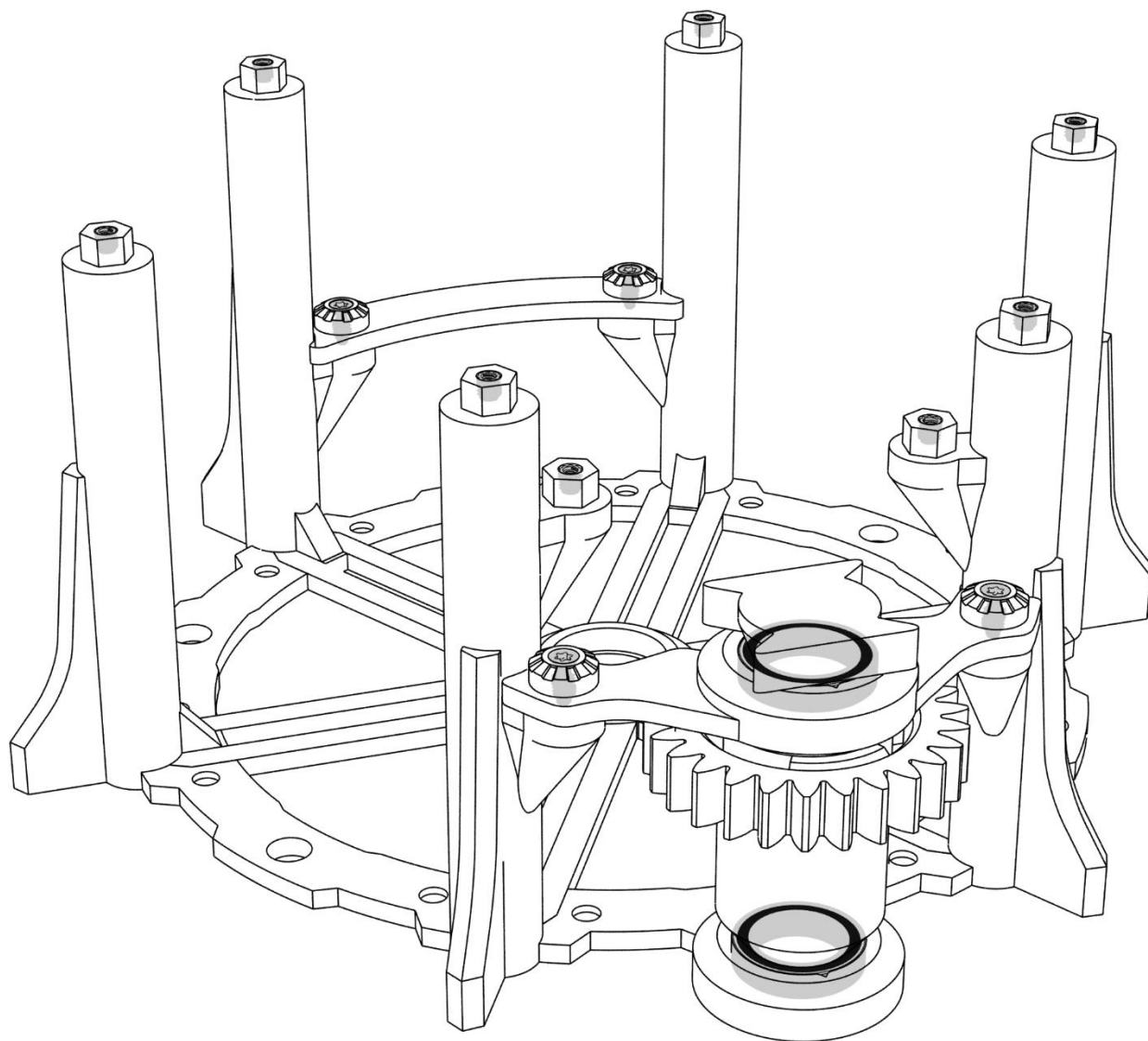
Step 4 (result)



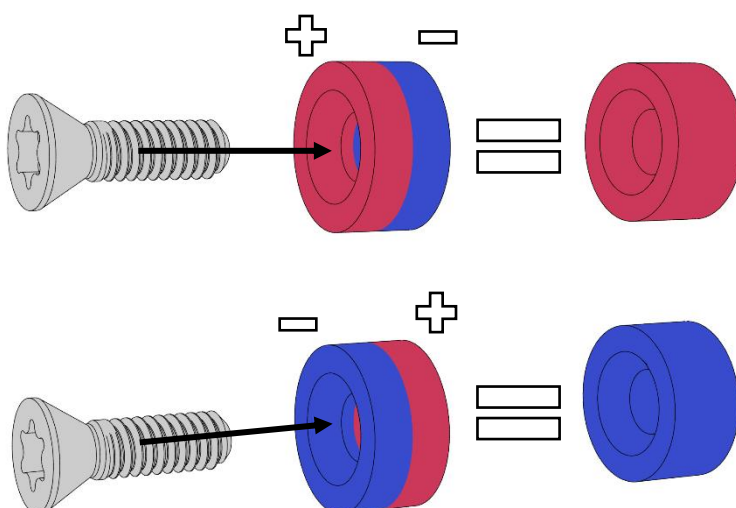
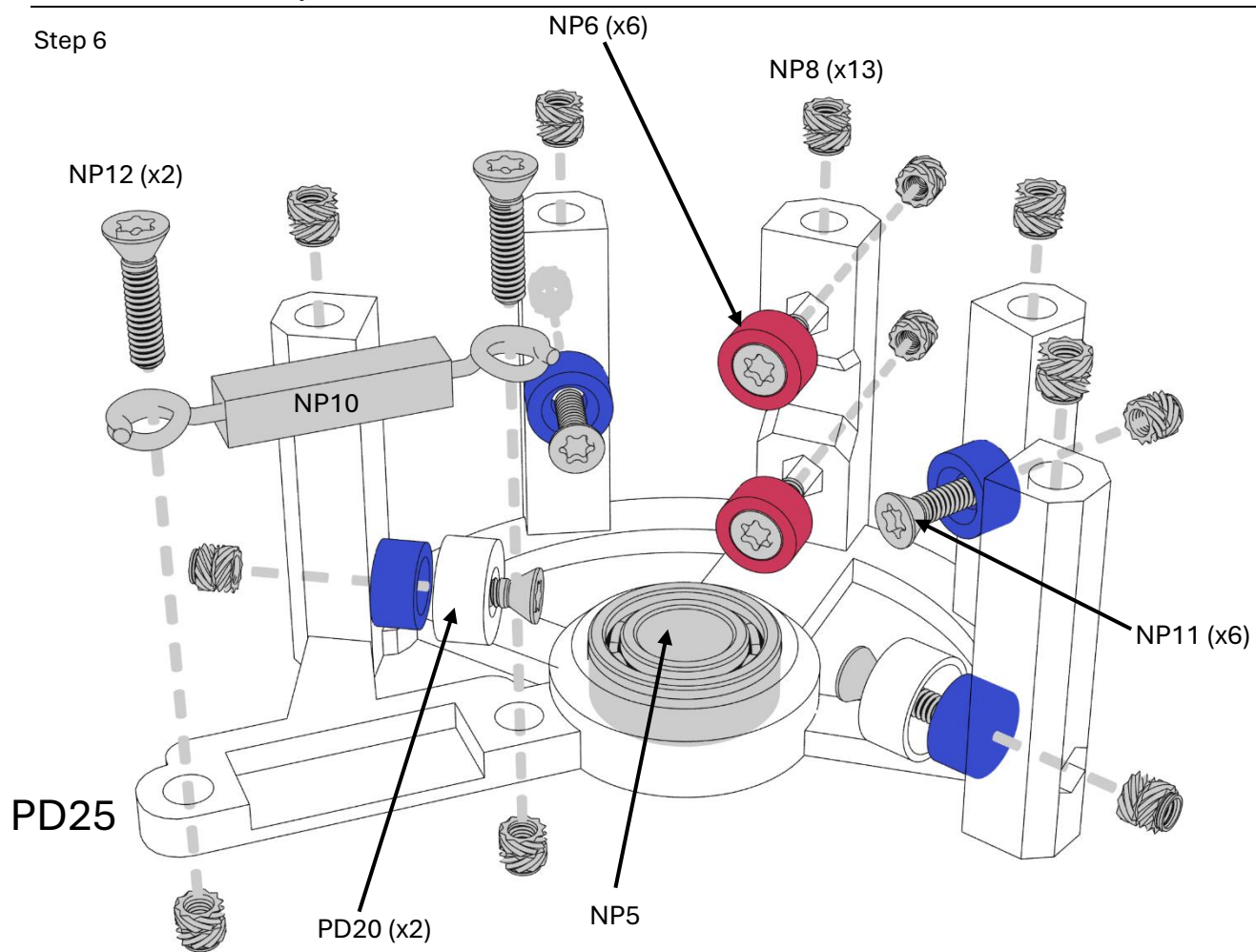
Step 5



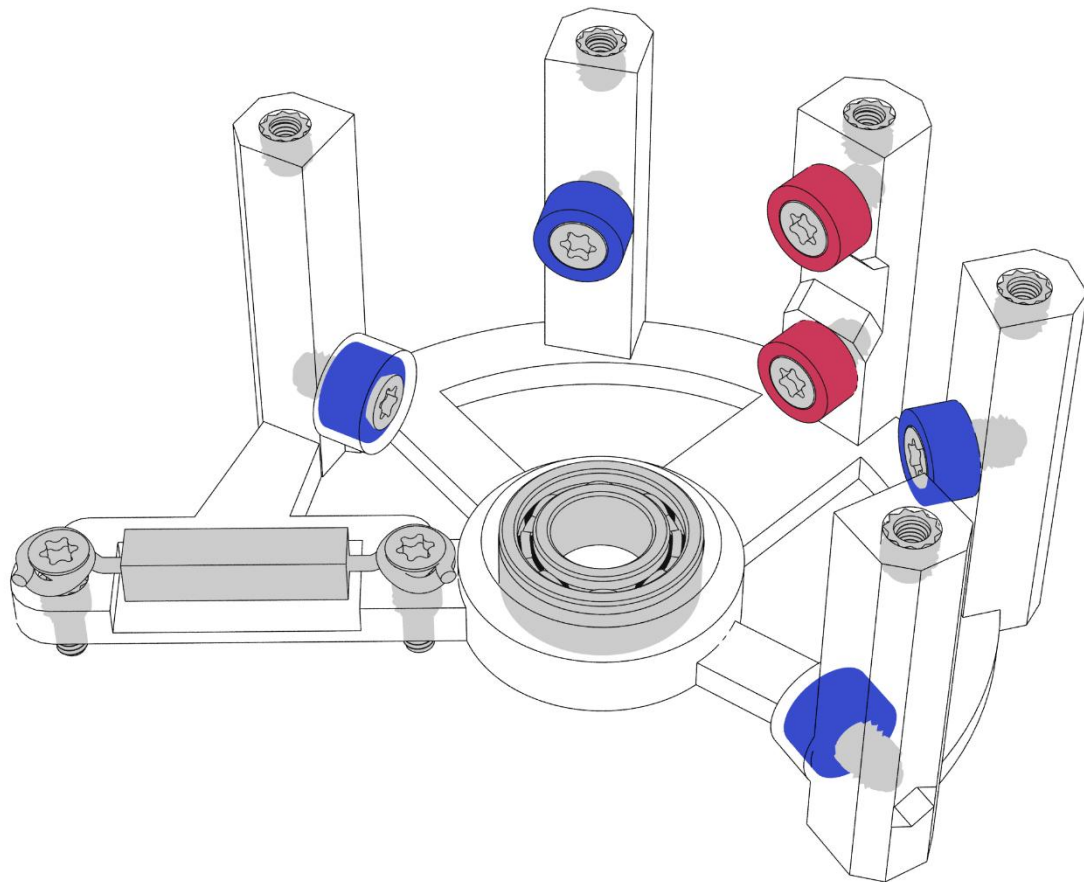
Step 5 (result)



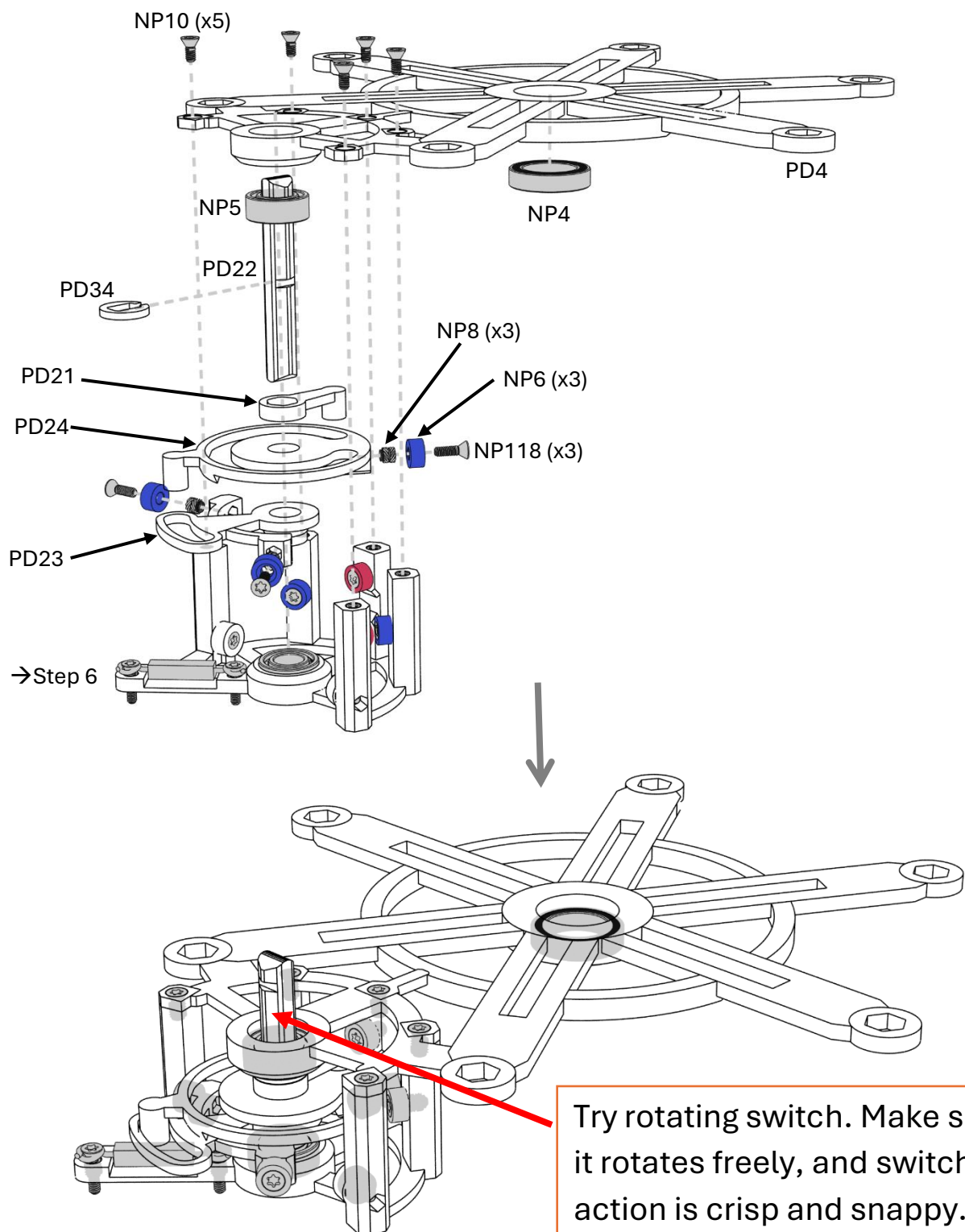
Step 6



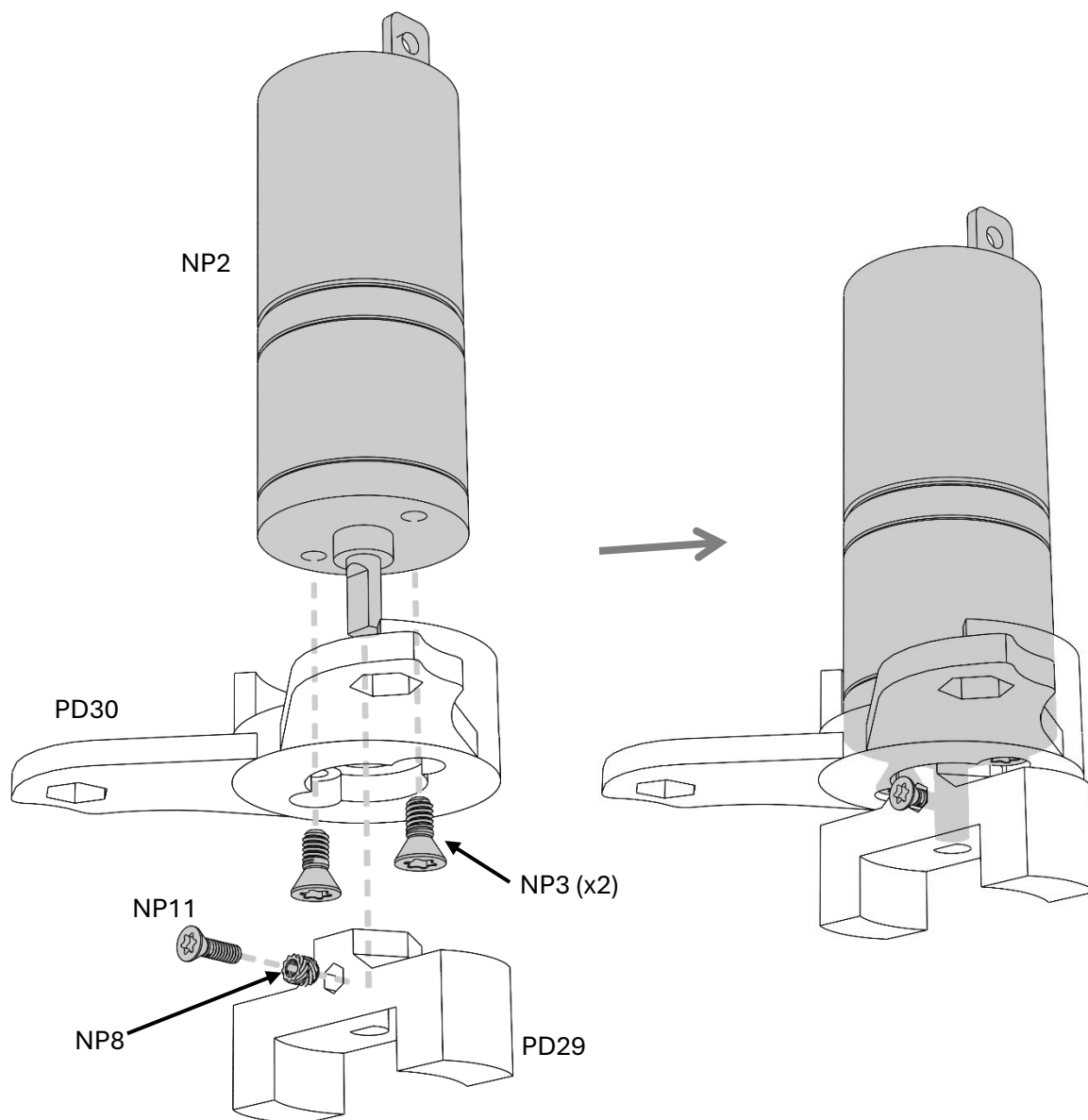
Step 6 (result)



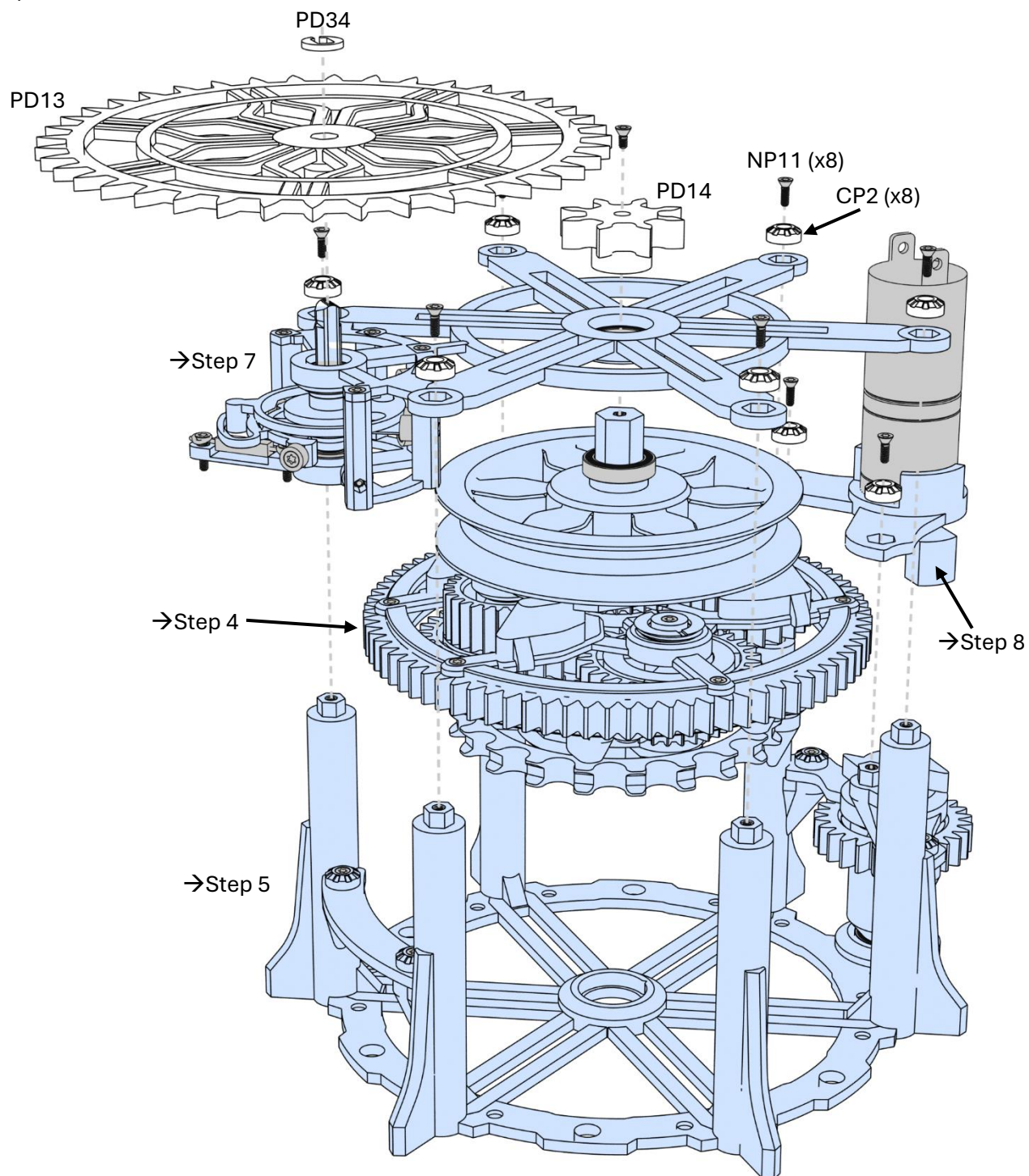
Step 7



Step 8

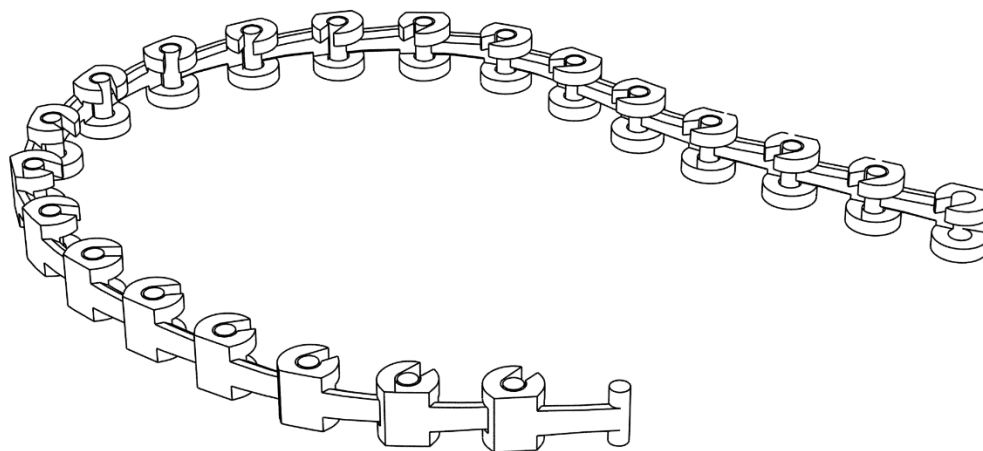


Step 9



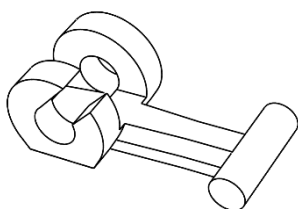
III. Support units

3.1 Drive chain

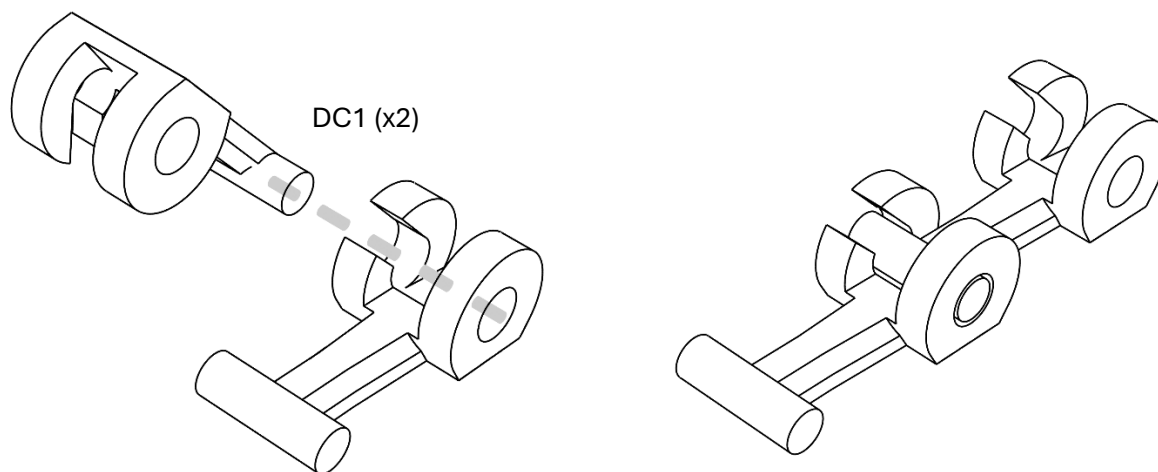


Printed parts

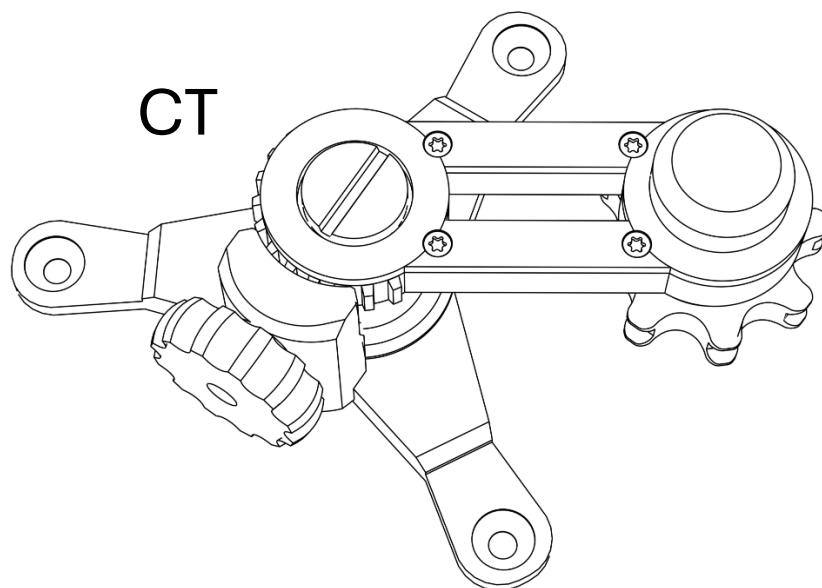
DC1 (~ x80 parts per 1M)



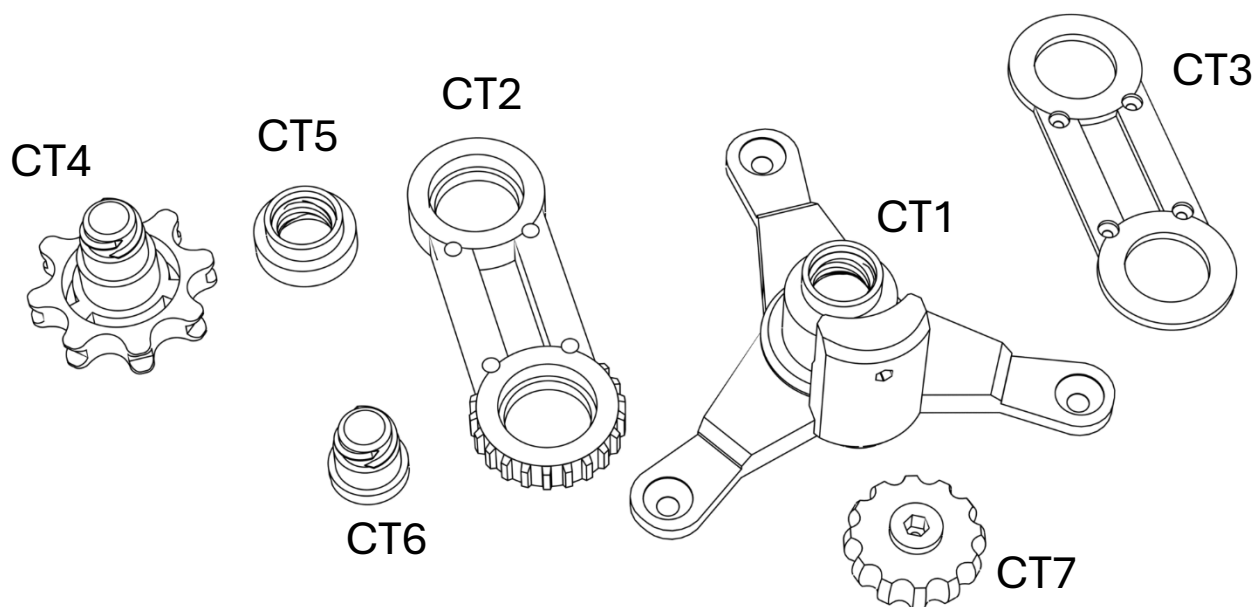
Step 1



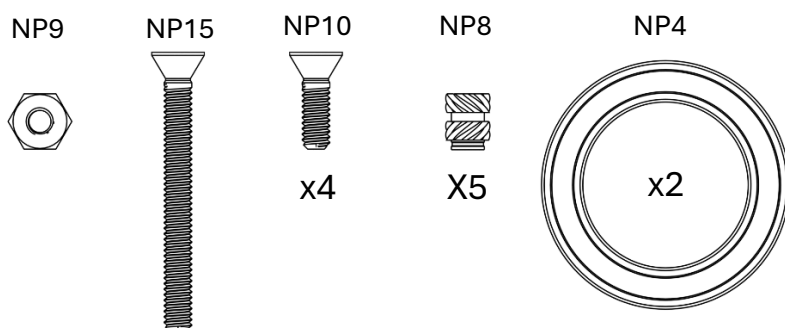
3.2 Chain tension sprocket



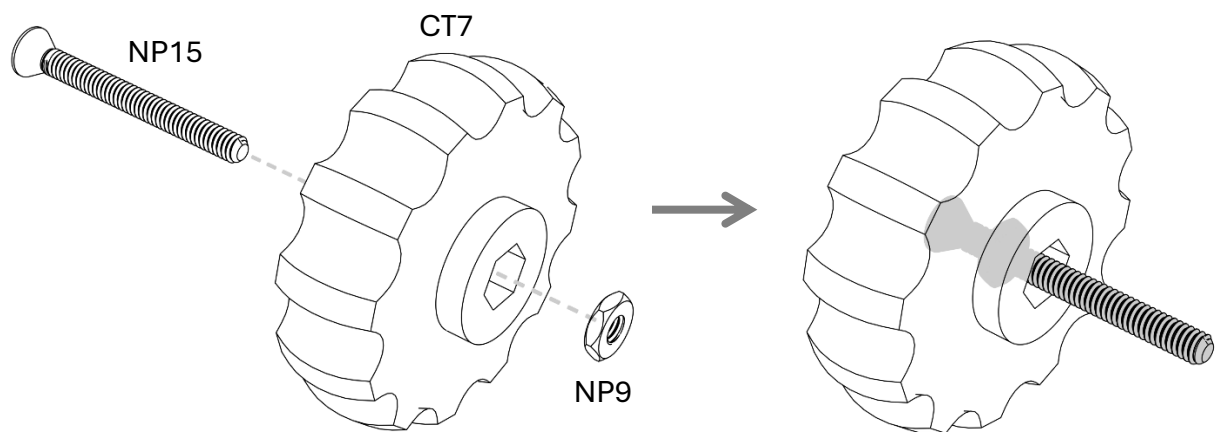
Printed parts



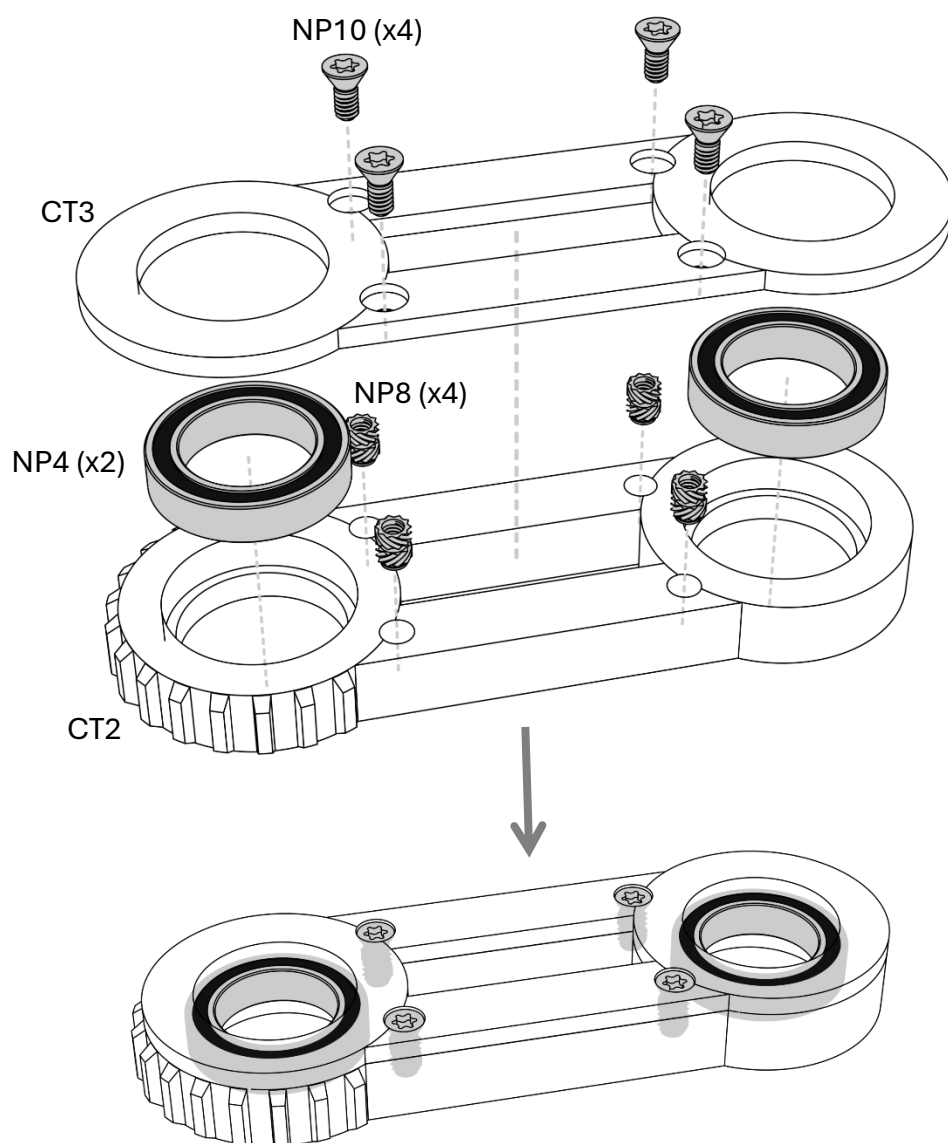
Non-printed parts



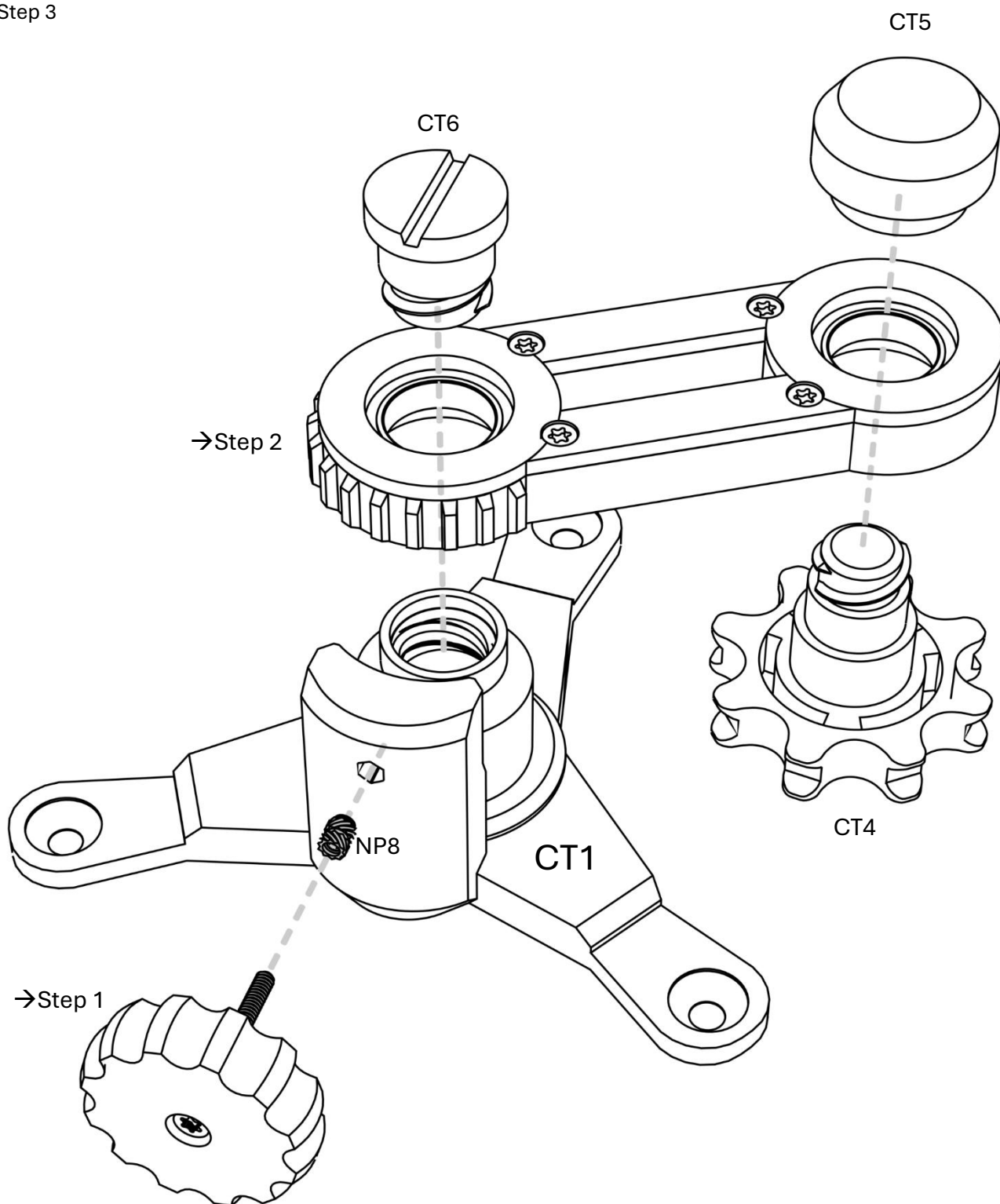
Step 1



Step 2

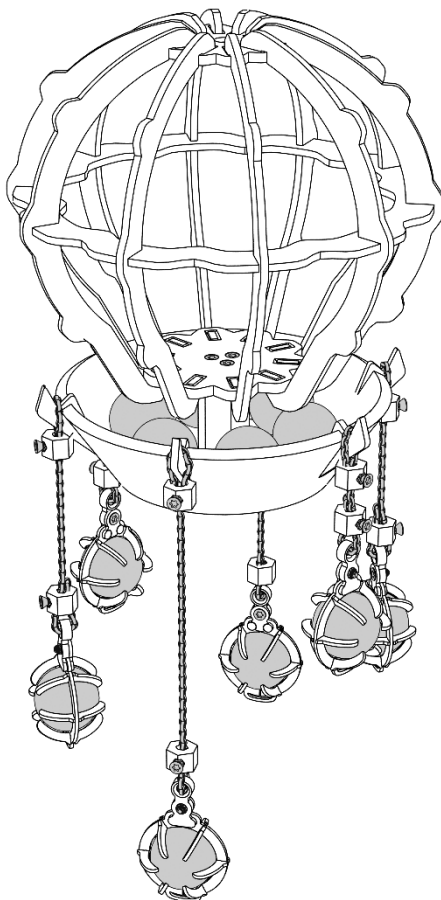


Step 3

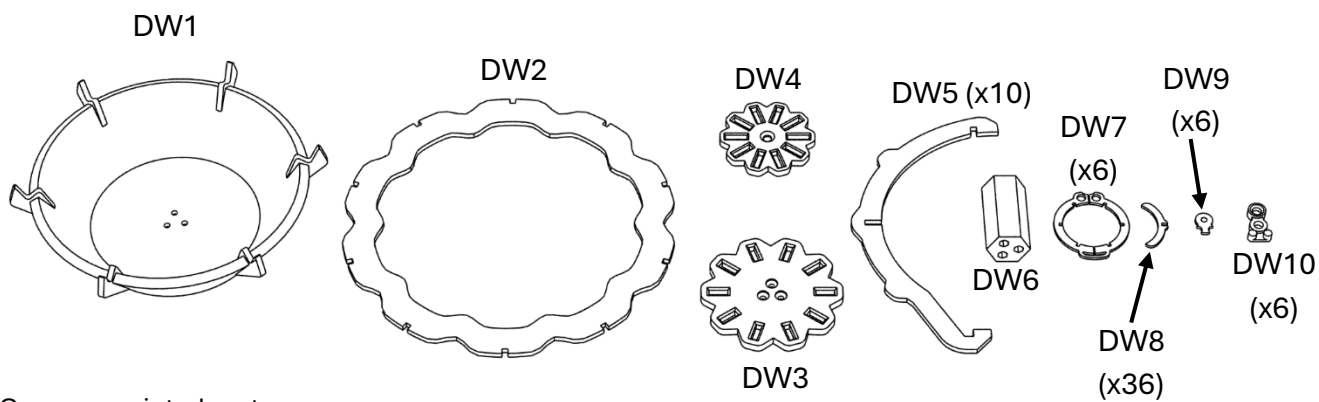


3.3 Drive weight

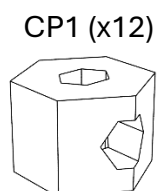
DW

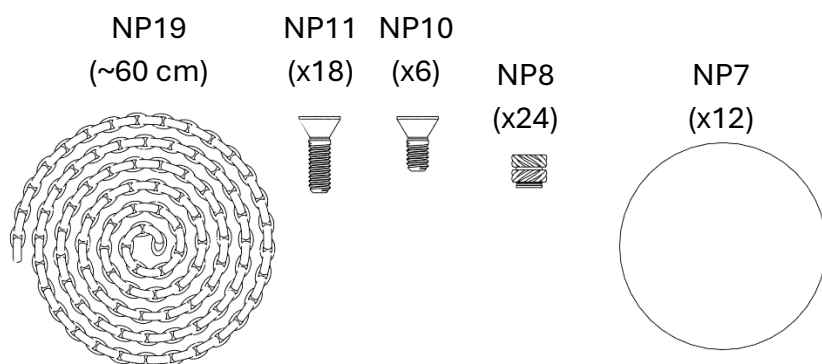


Printed parts

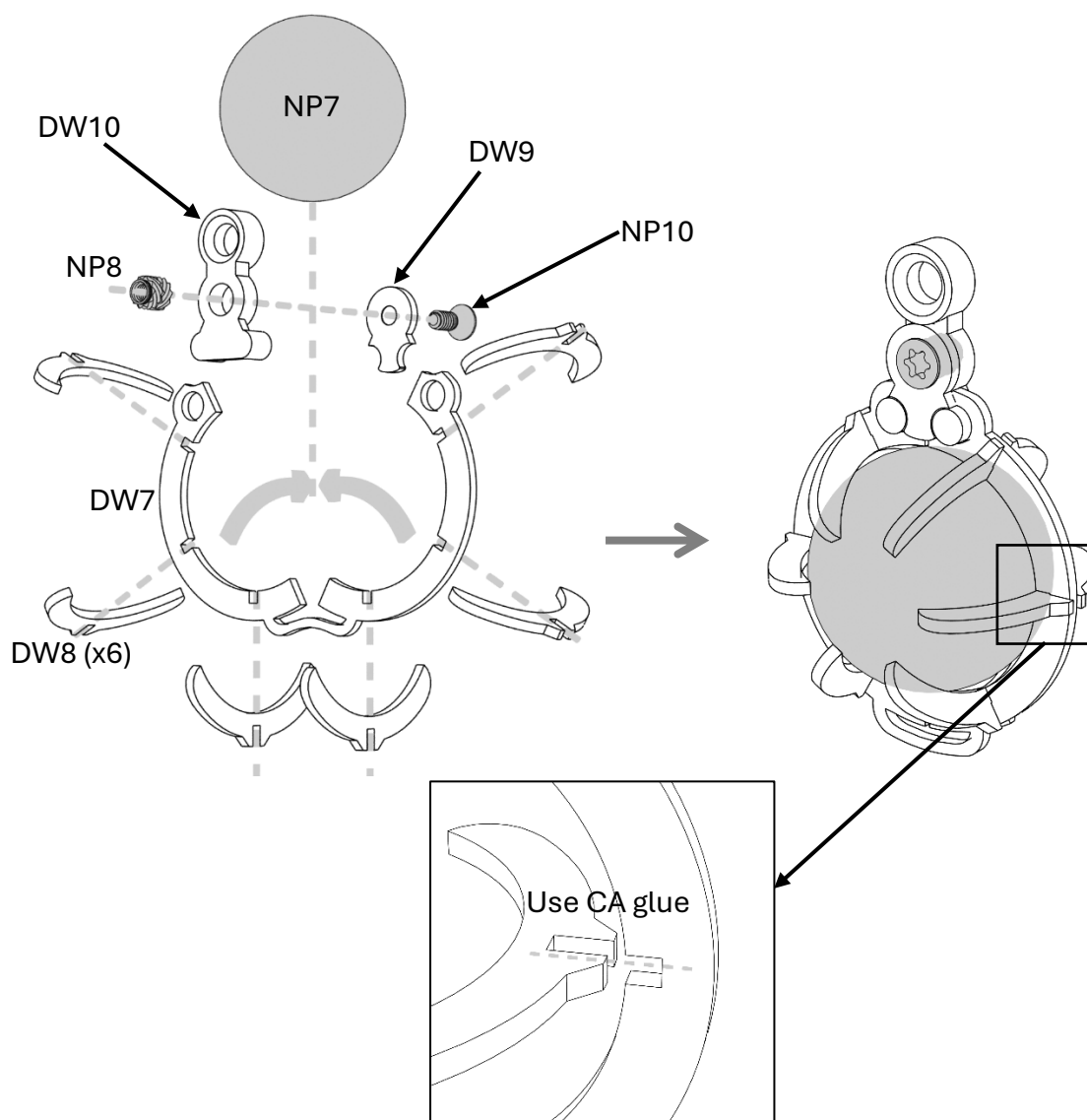


Common printed parts

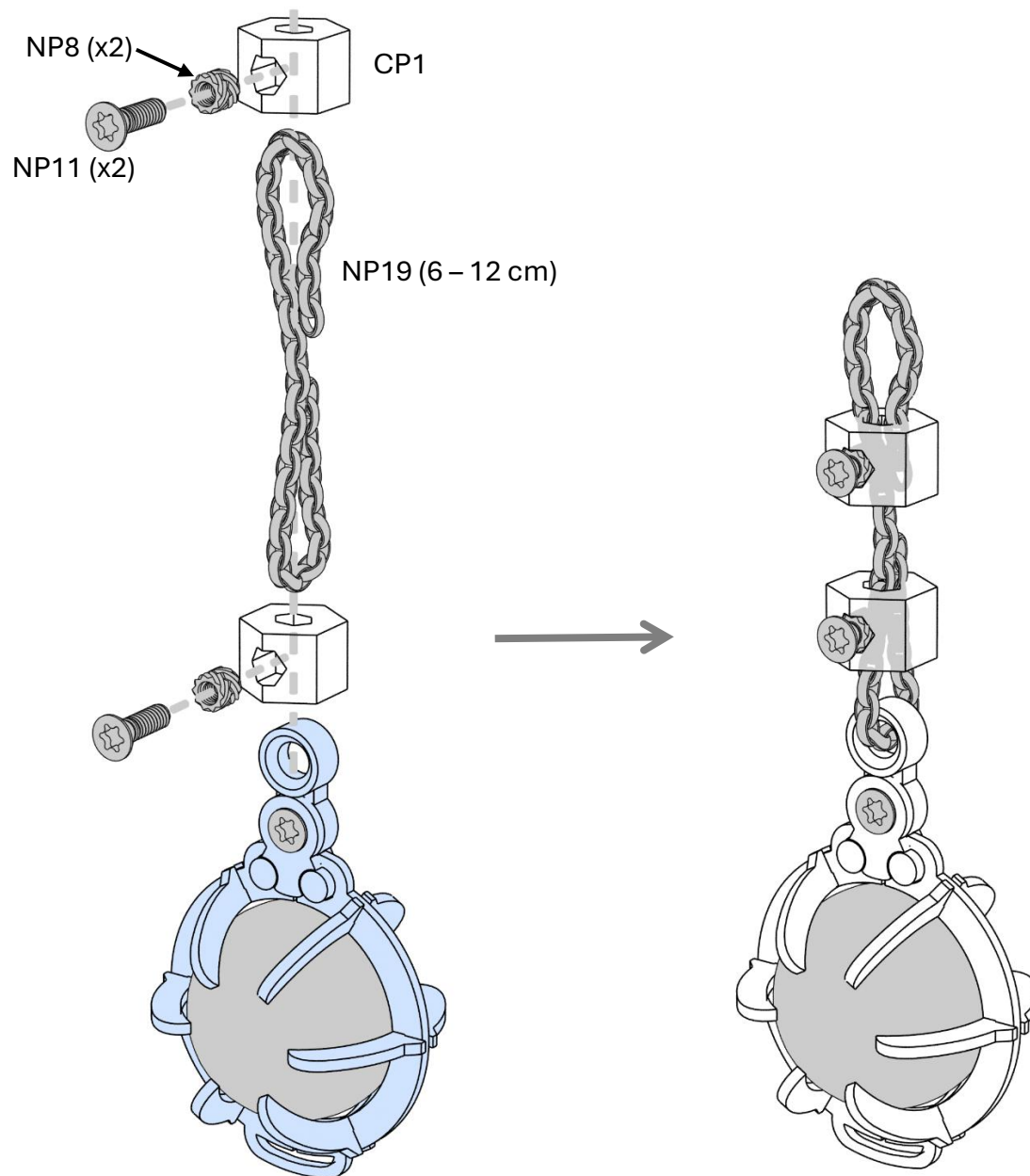




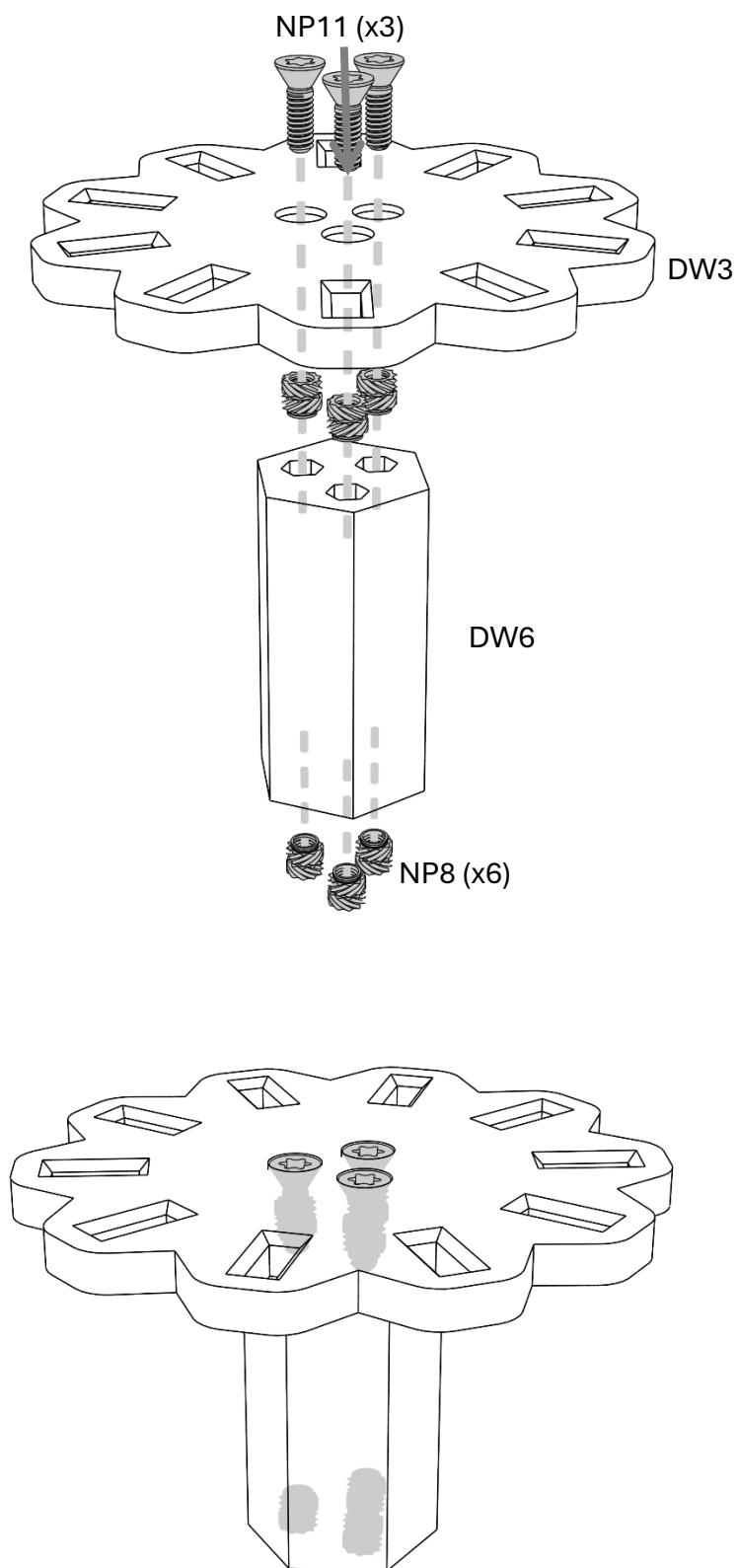
Step 1 (x6)



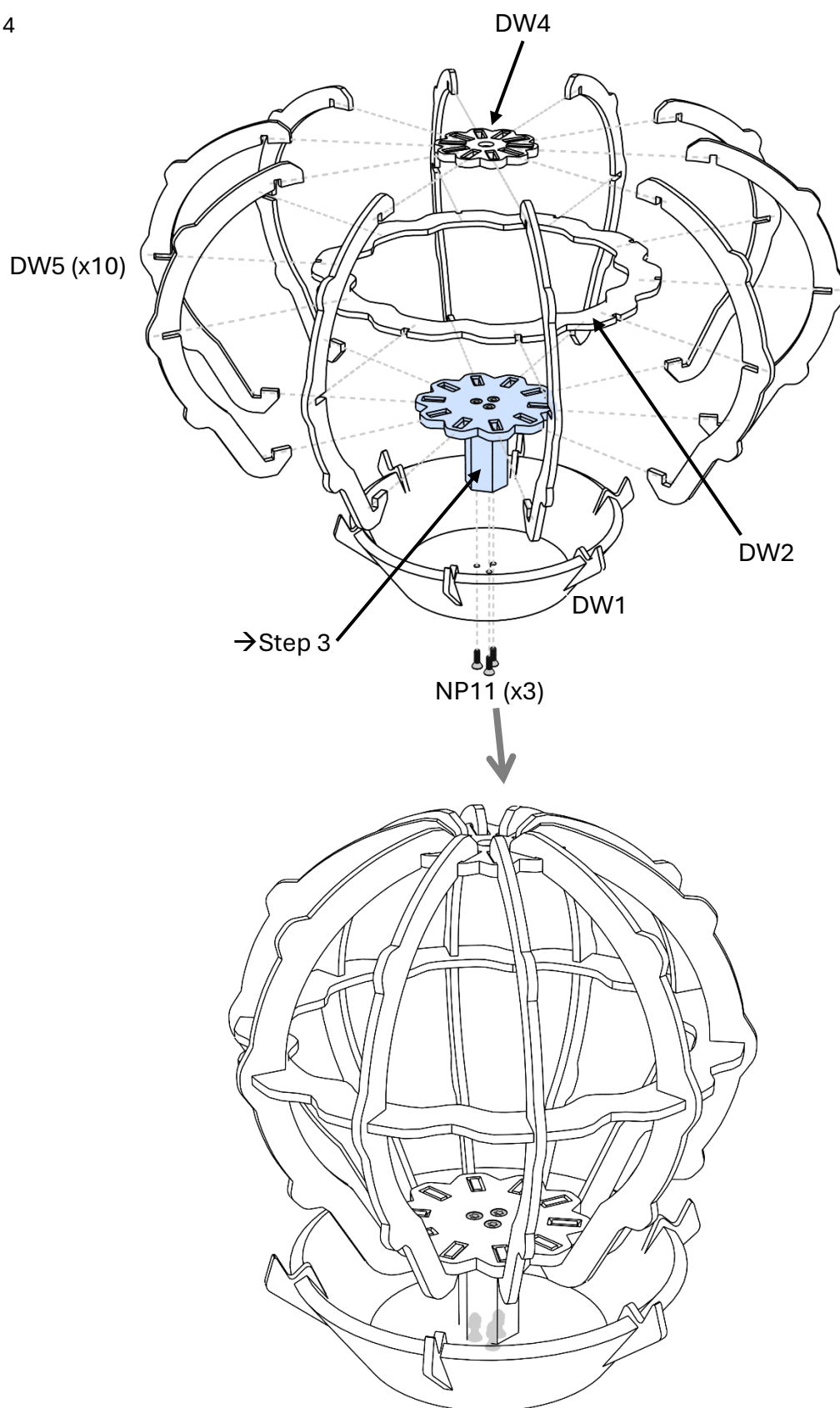
Step 2 (x6)



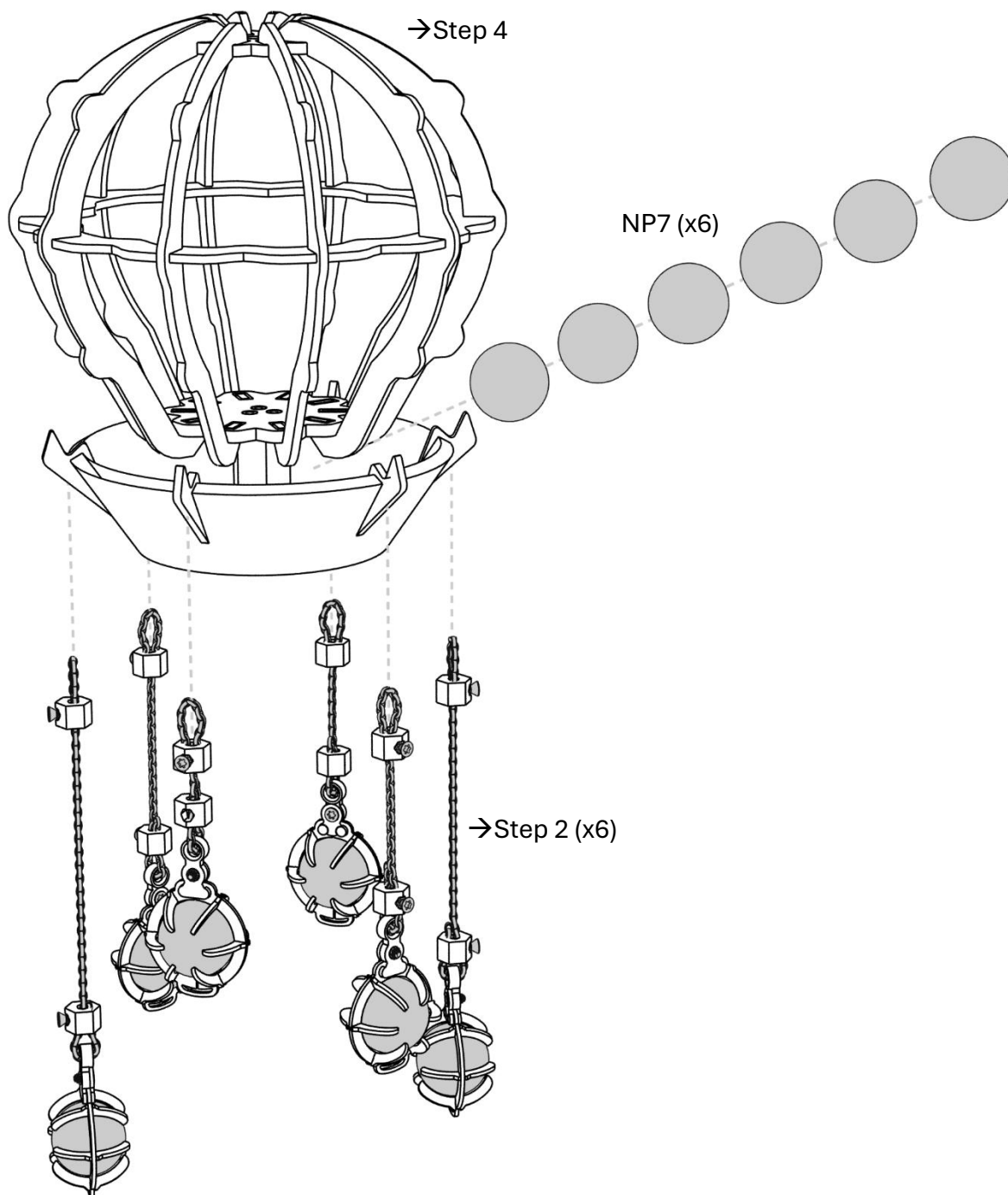
Step 3



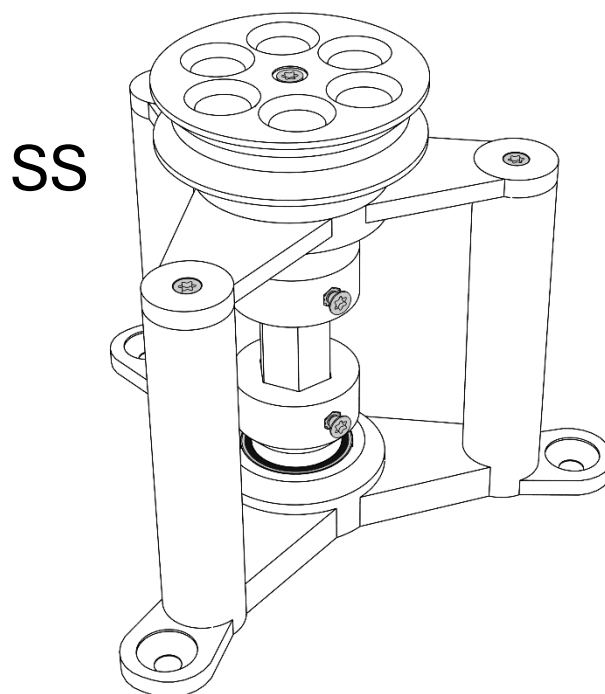
Step 4



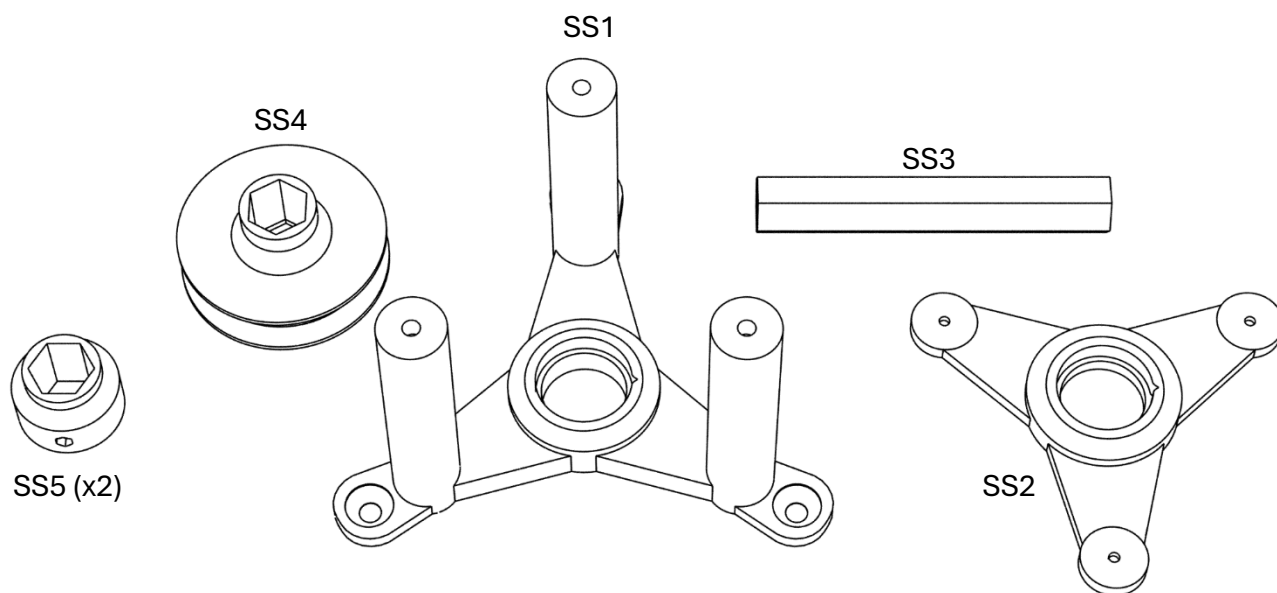
Step 5



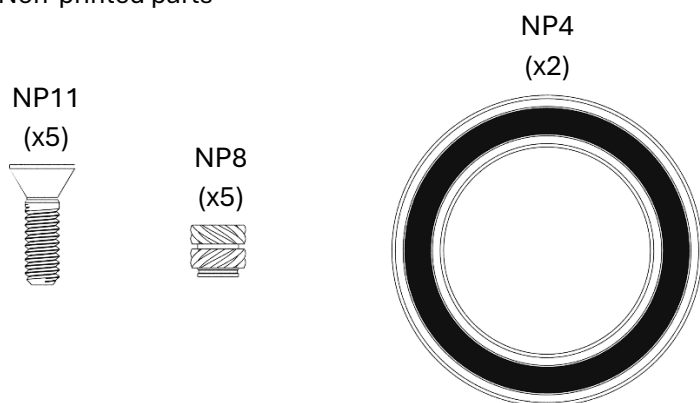
3.4 Weight support spindle



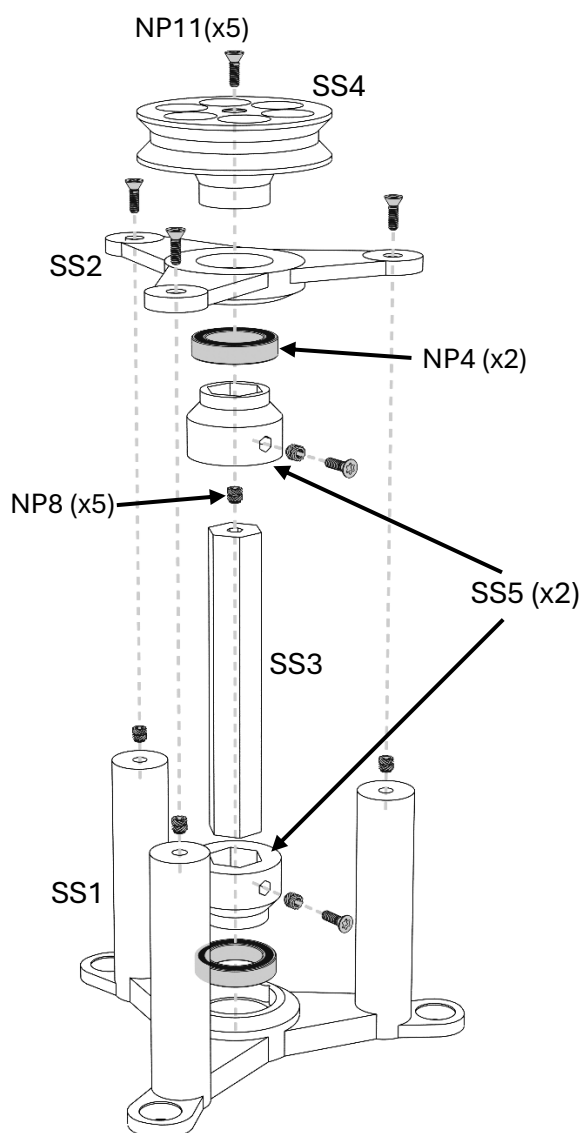
Printed Parts



Non-printed parts

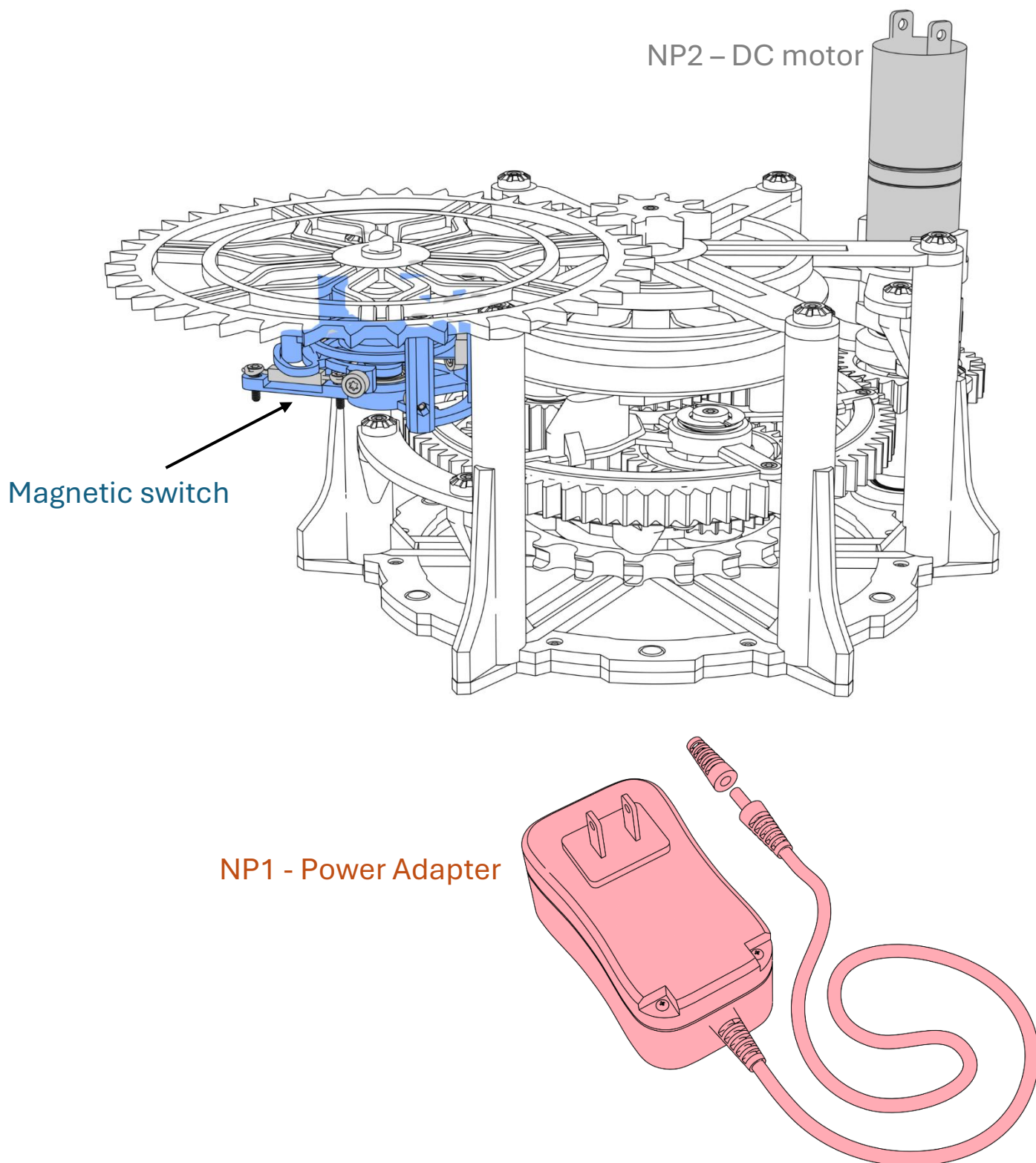


Step 1

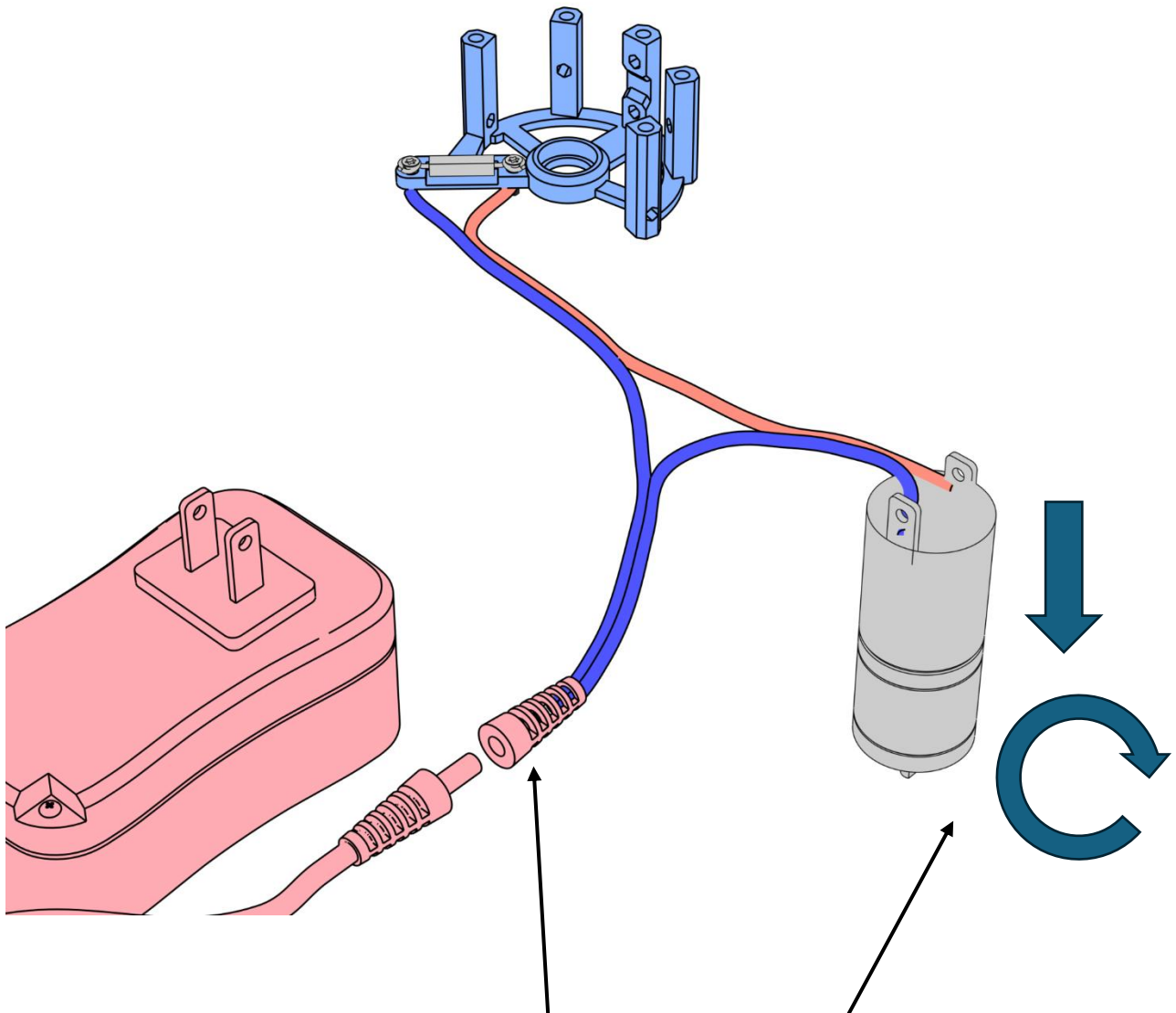


IV. Electric component and wall mounting

4.1. Electric component

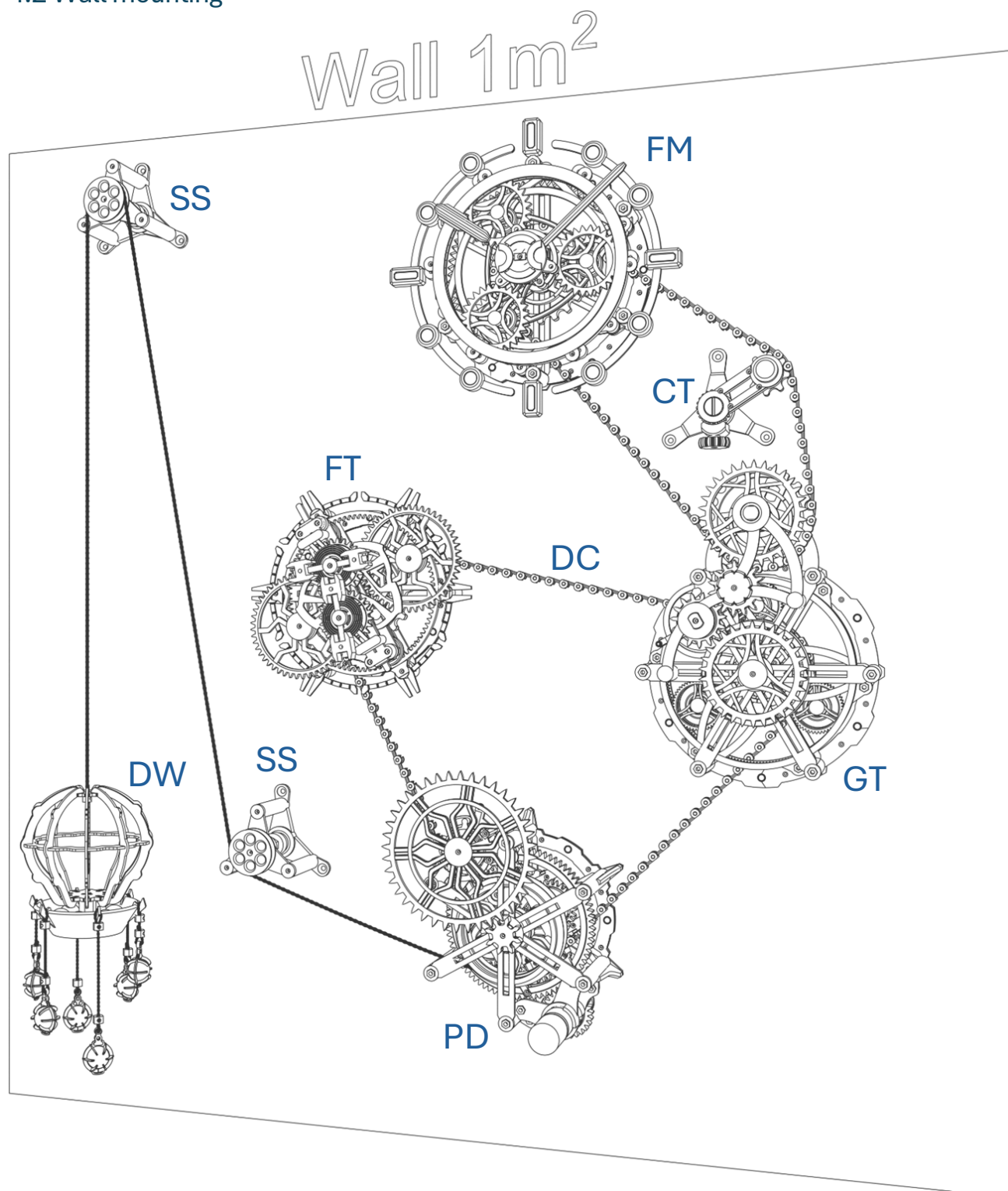


Circuit



If done correctly, turning the switch counterclockwise engages the motor. When on, the motor should be rotating **clockwise** when viewed from top down. If the motor rotates in the wrong direction, switch contact writes at adapter terminal.

4.2 Wall mounting



Non-printed Parts

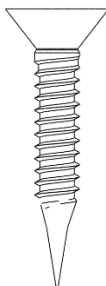
NP8
(x48)



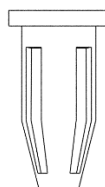
NP10
(x48)



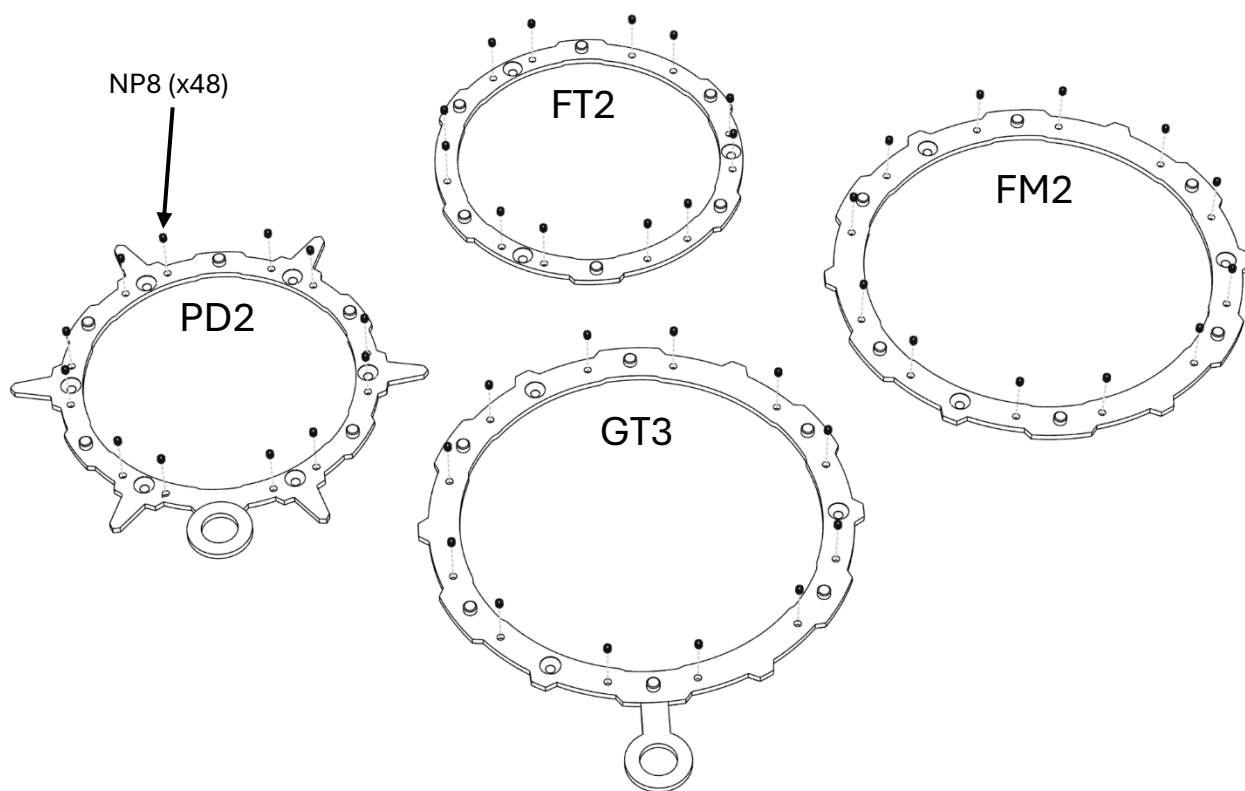
NP20
(x24)



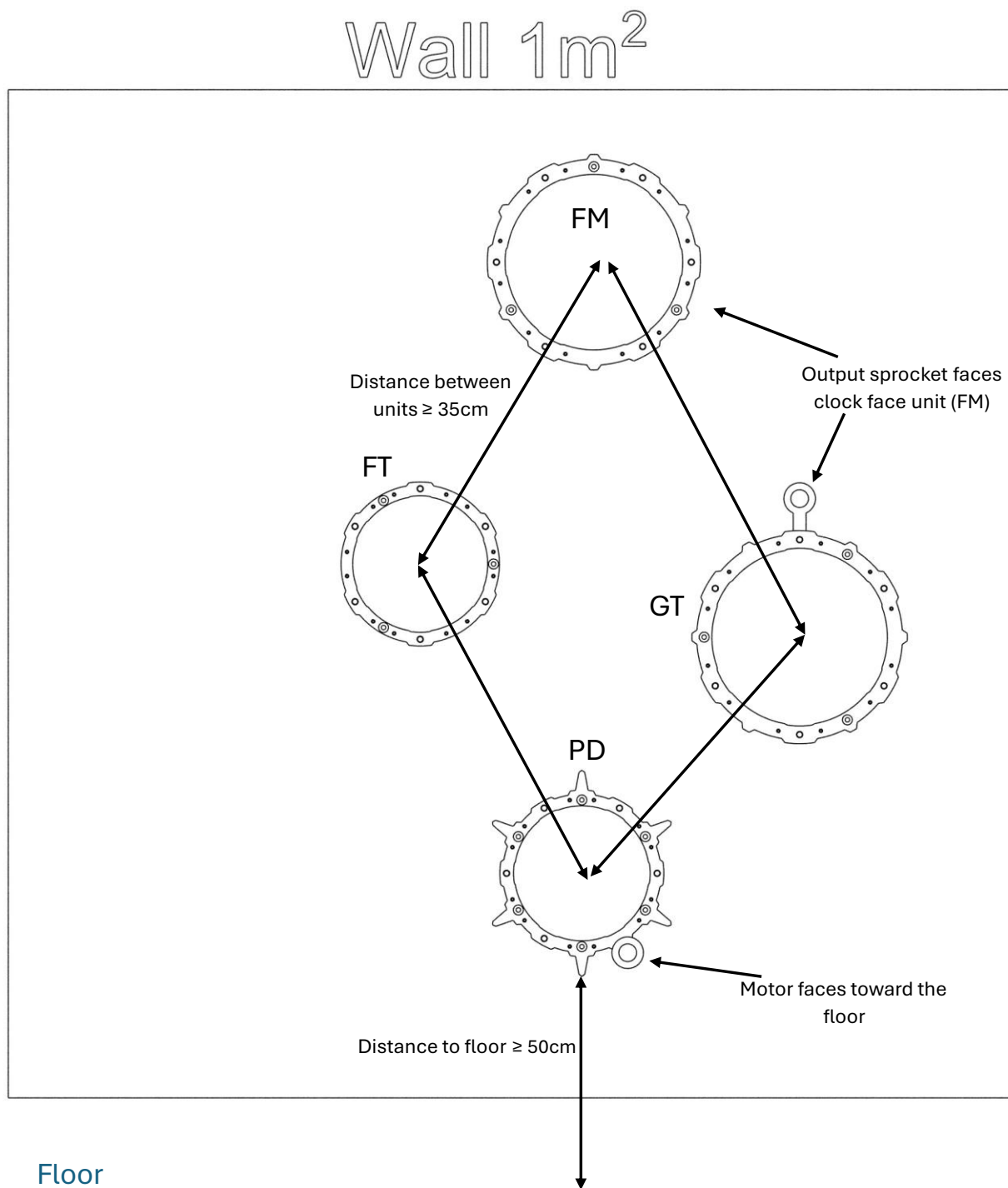
NP21
(x24)



Step 1

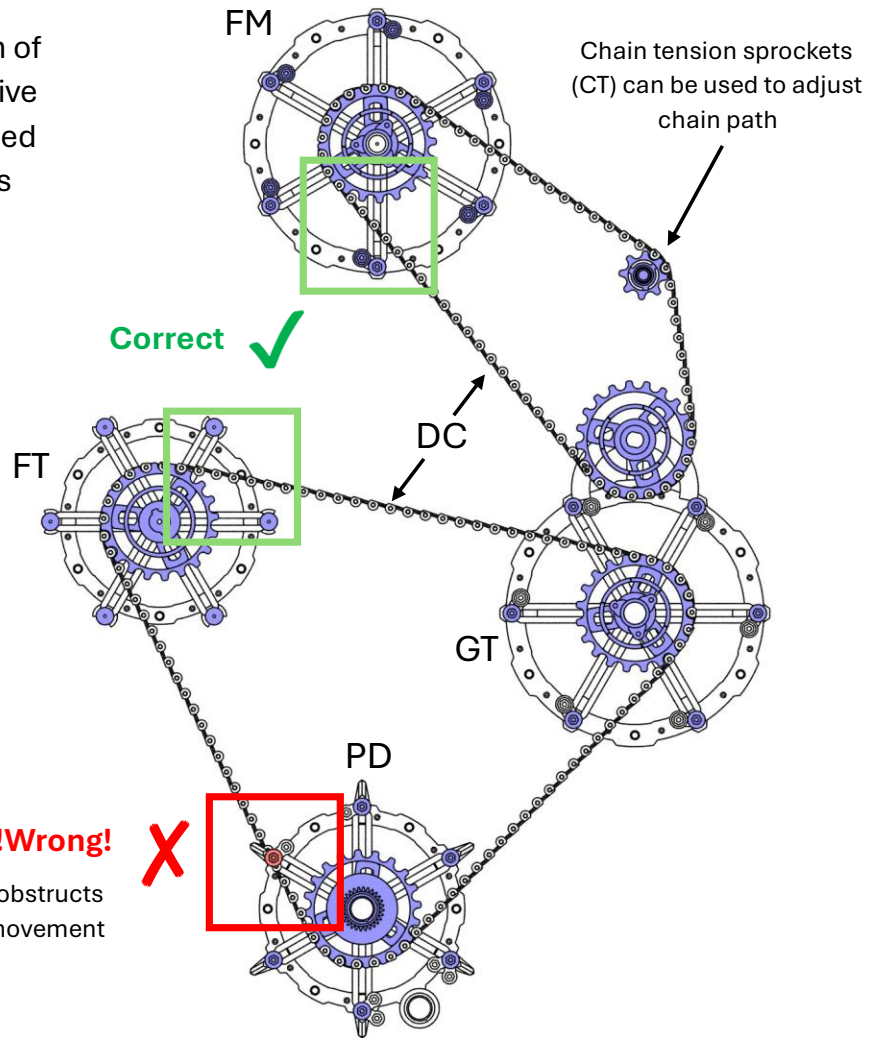


Step 2 – Positioning of wall mounting plates

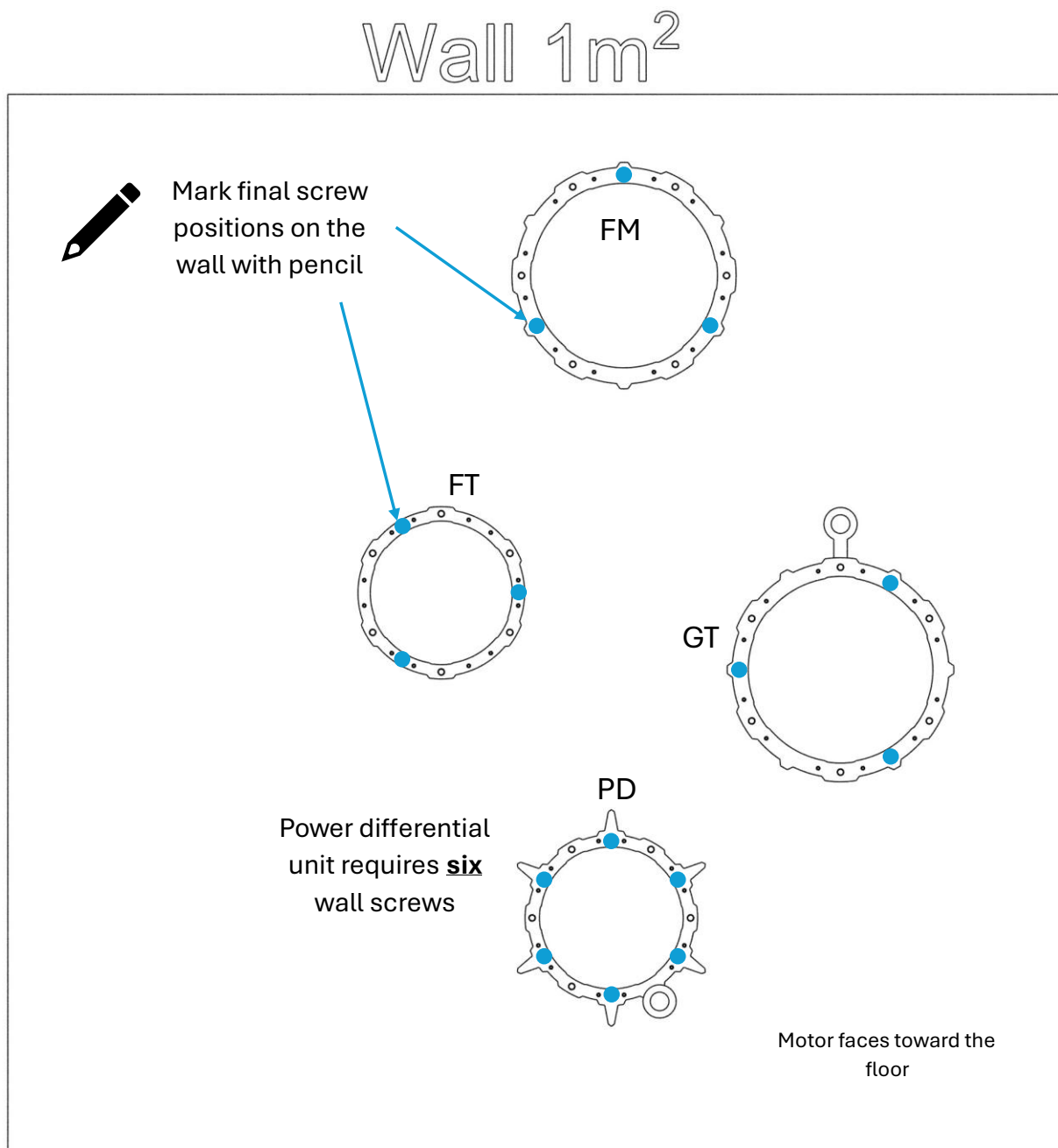


Wall 1m²

Approximate position of units making sure drive chain is not obstructed by unit frame pillars



Step 2 (continued)

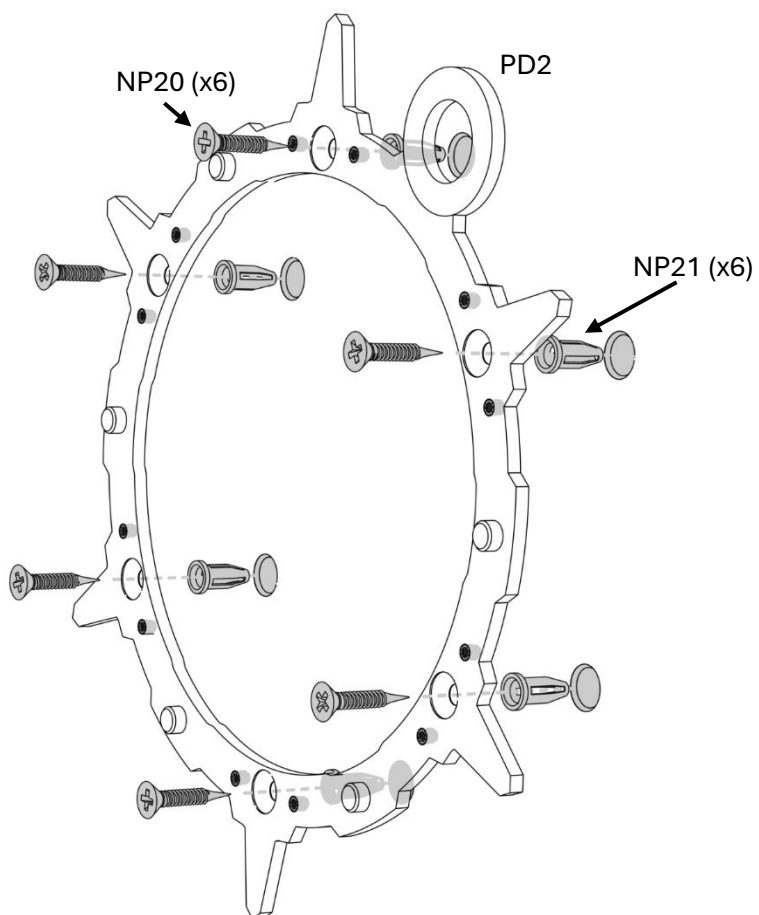


Floor

Step 3 (x4)

Wall

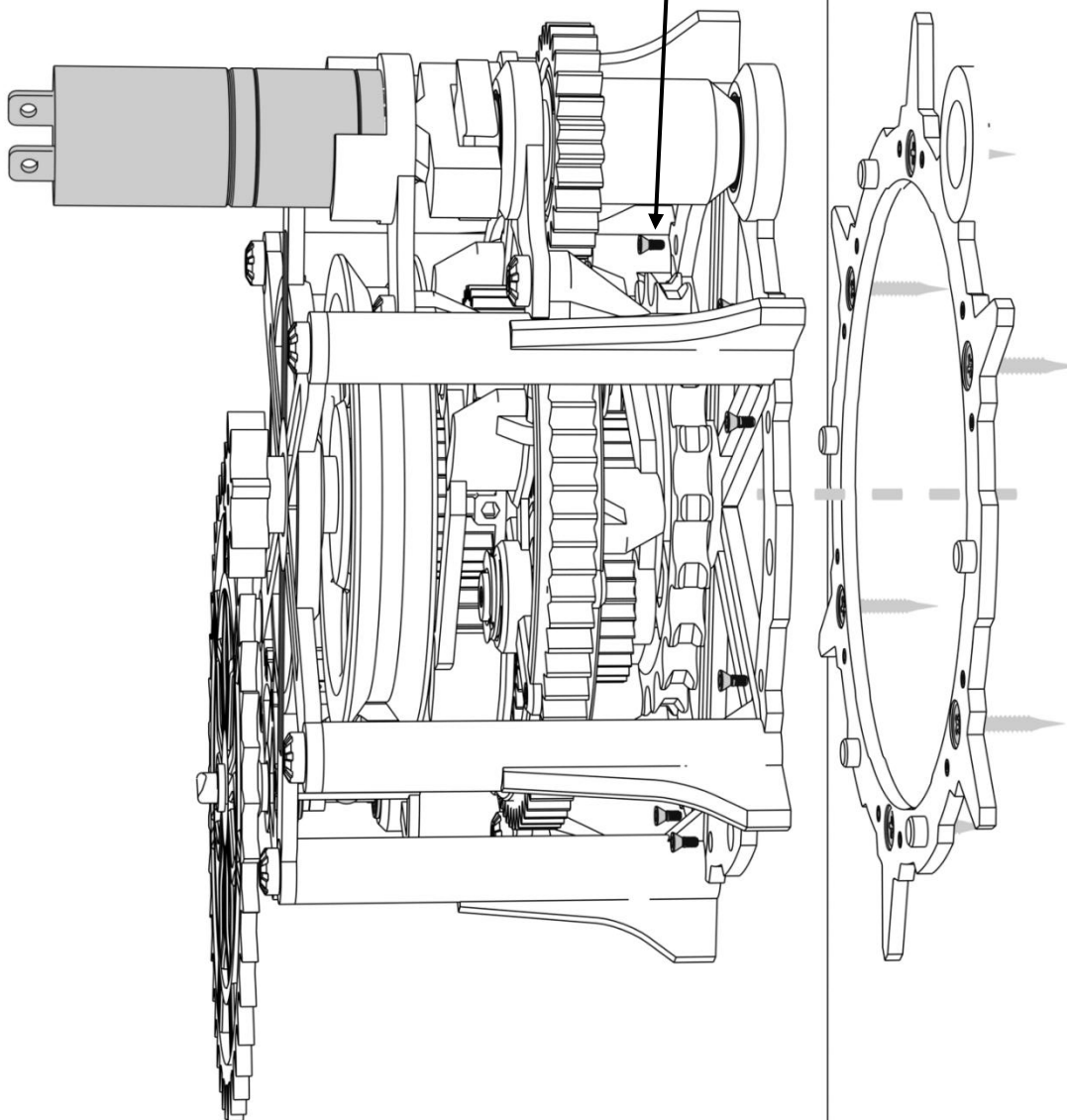
Repeat for
other three
units



Step 3 (continued)

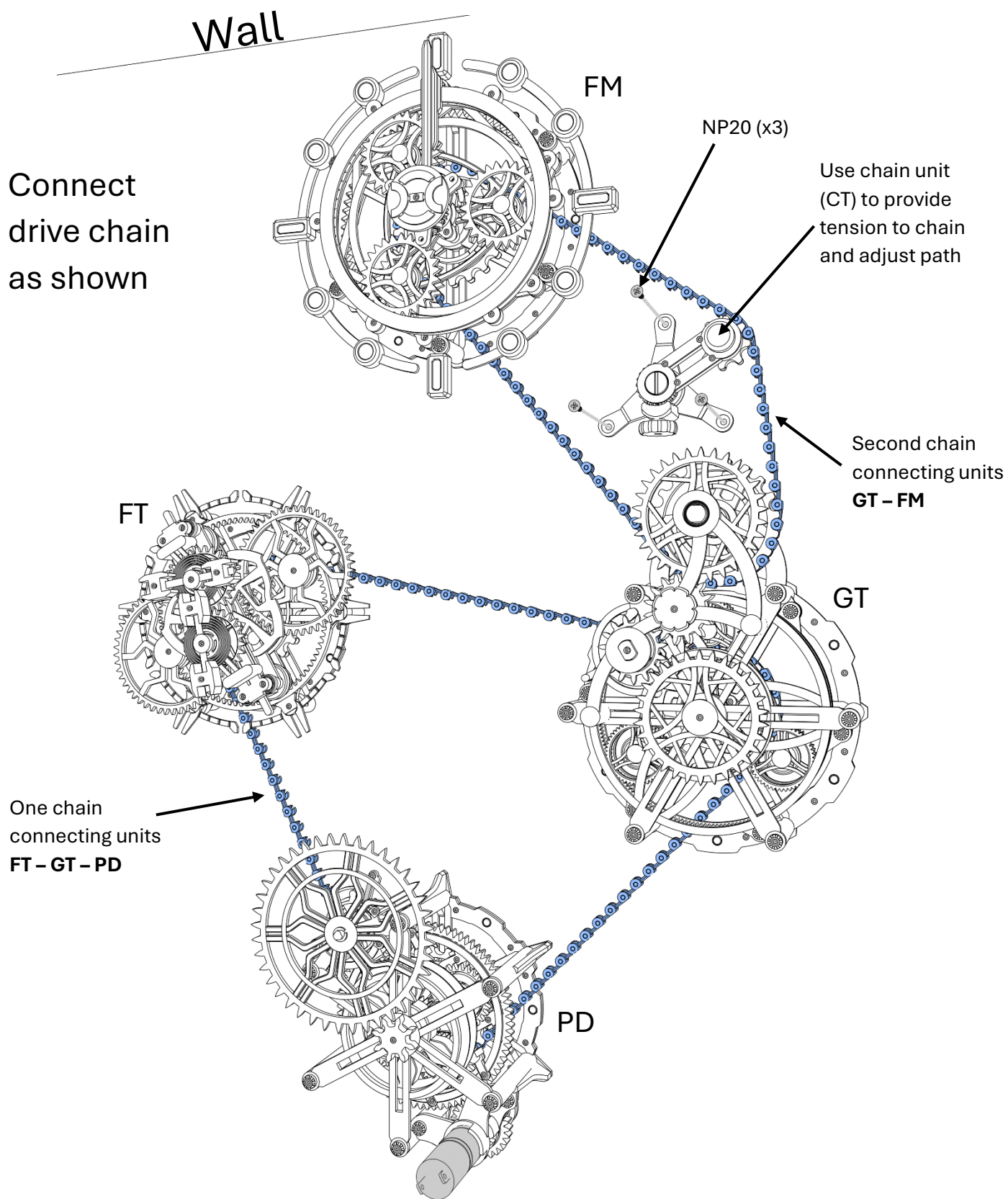
Note: it is not necessary to use 12 NP10 screws. If difficult to reach, secure the unit with 6 screws or more

NP10 (x12)

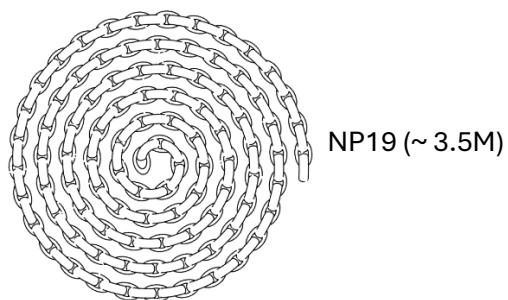


Wall

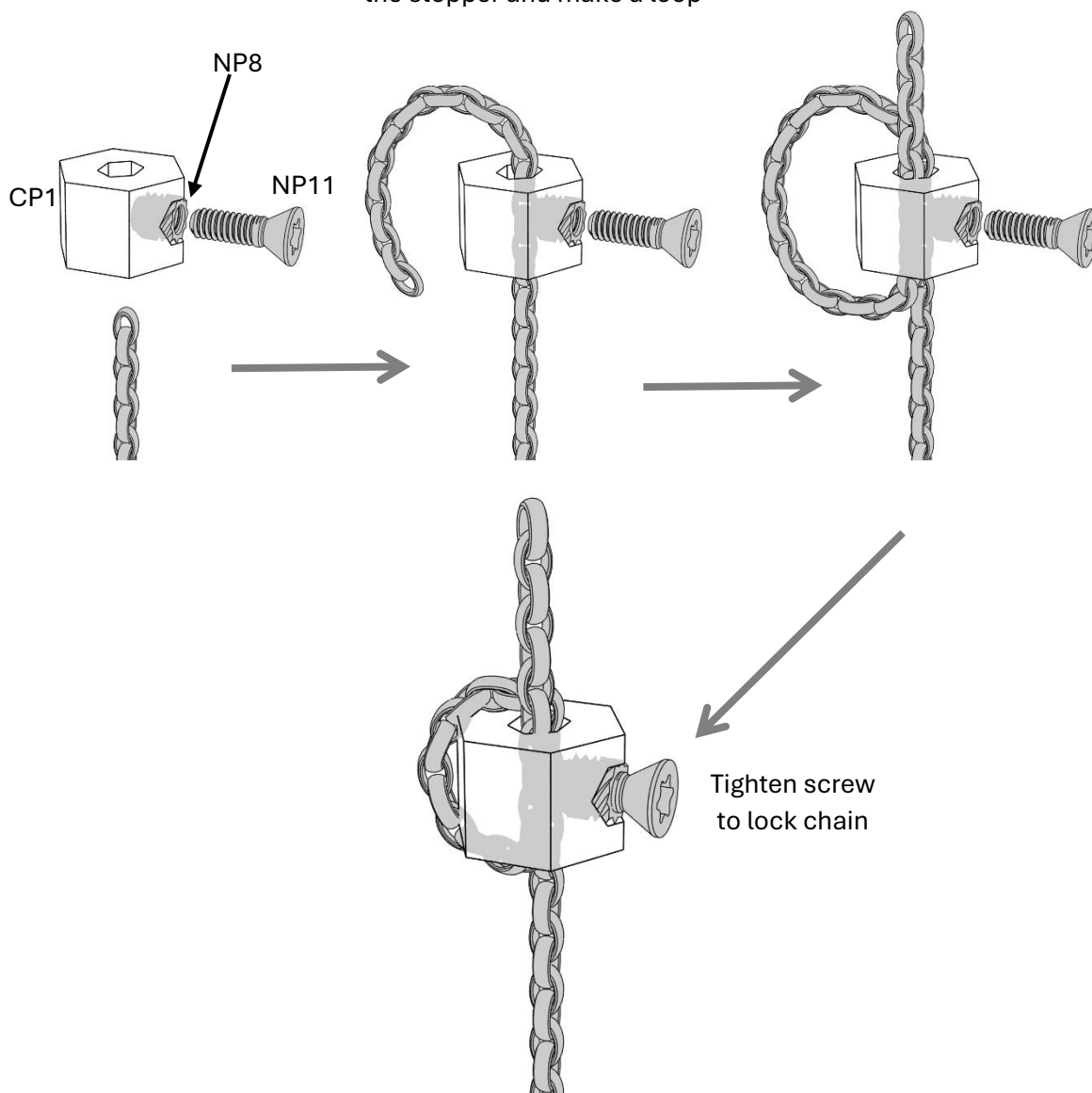
Step 5



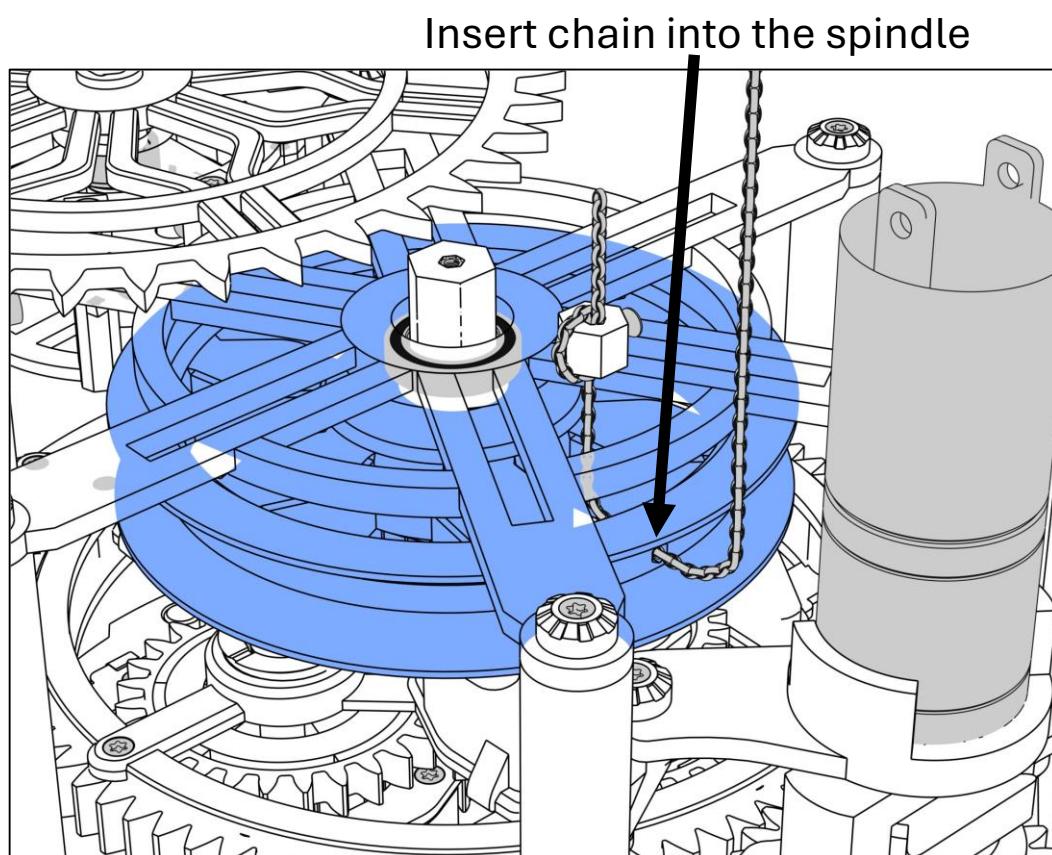
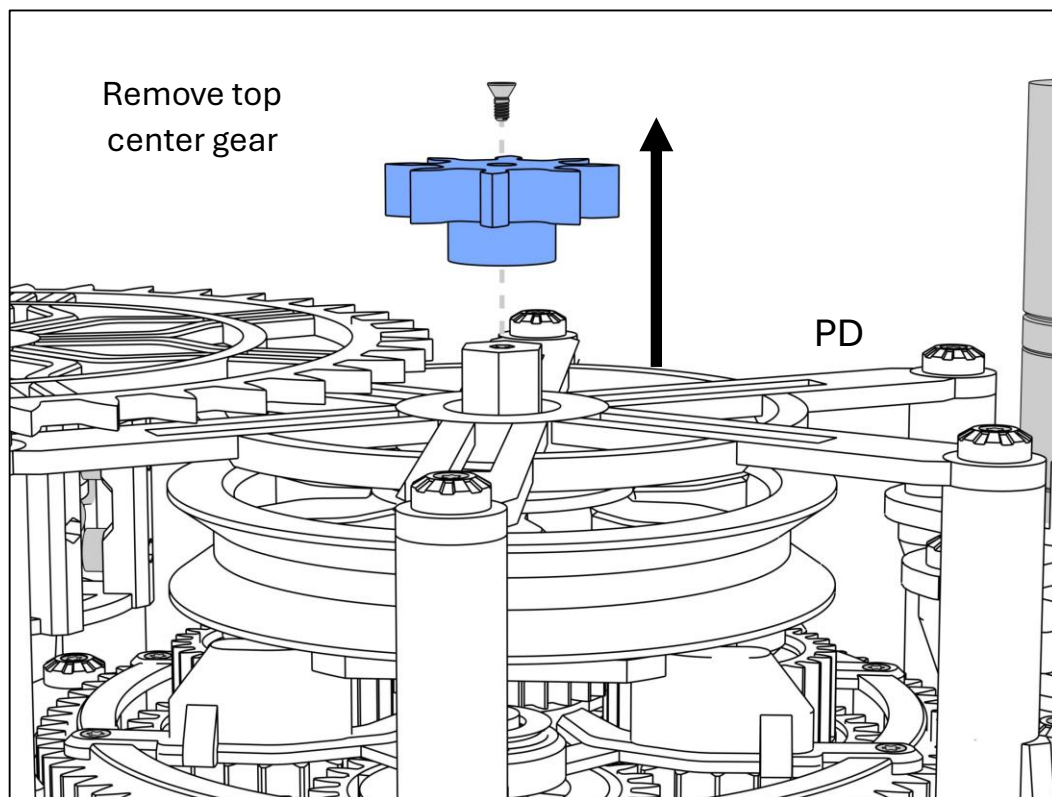
Step 6 – Connecting drive weight



Insert one end of chain into the stopper and make a loop

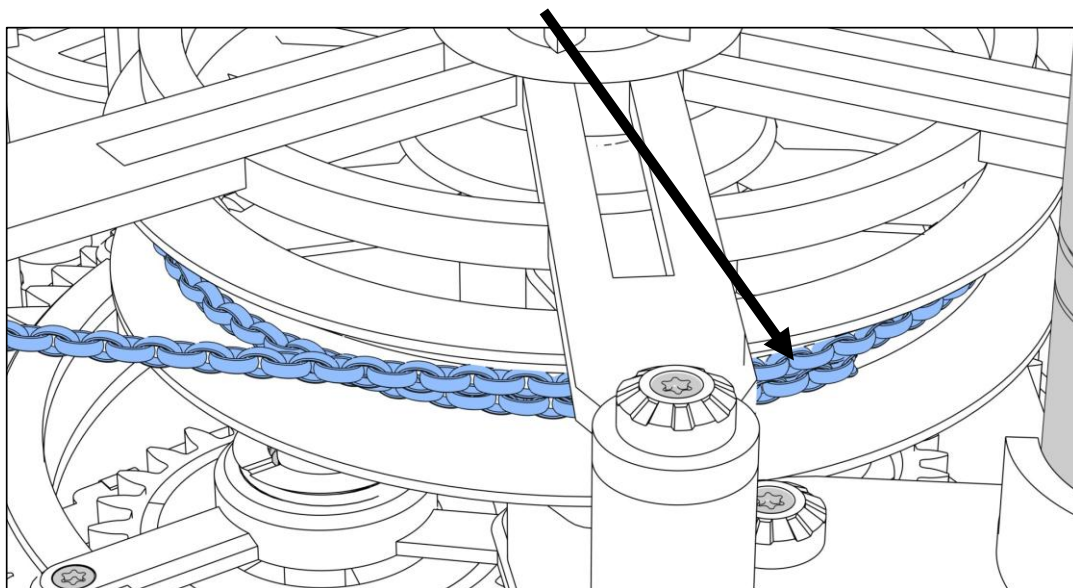


Step 6 (continued)

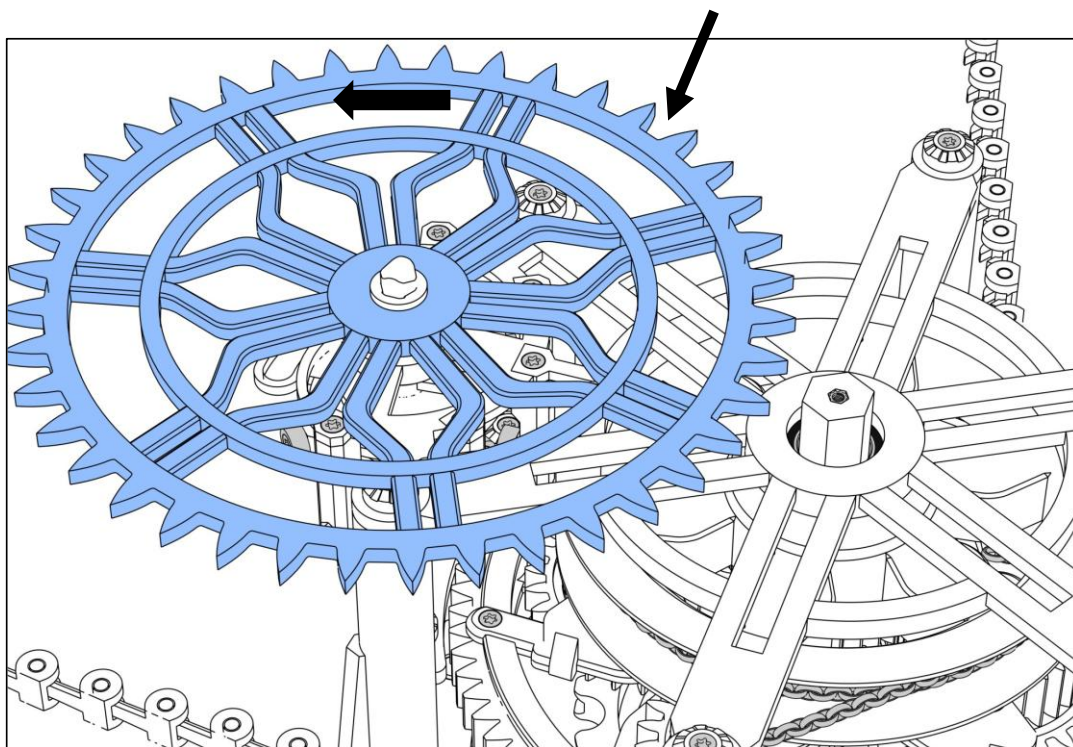


Step 6 (continued)

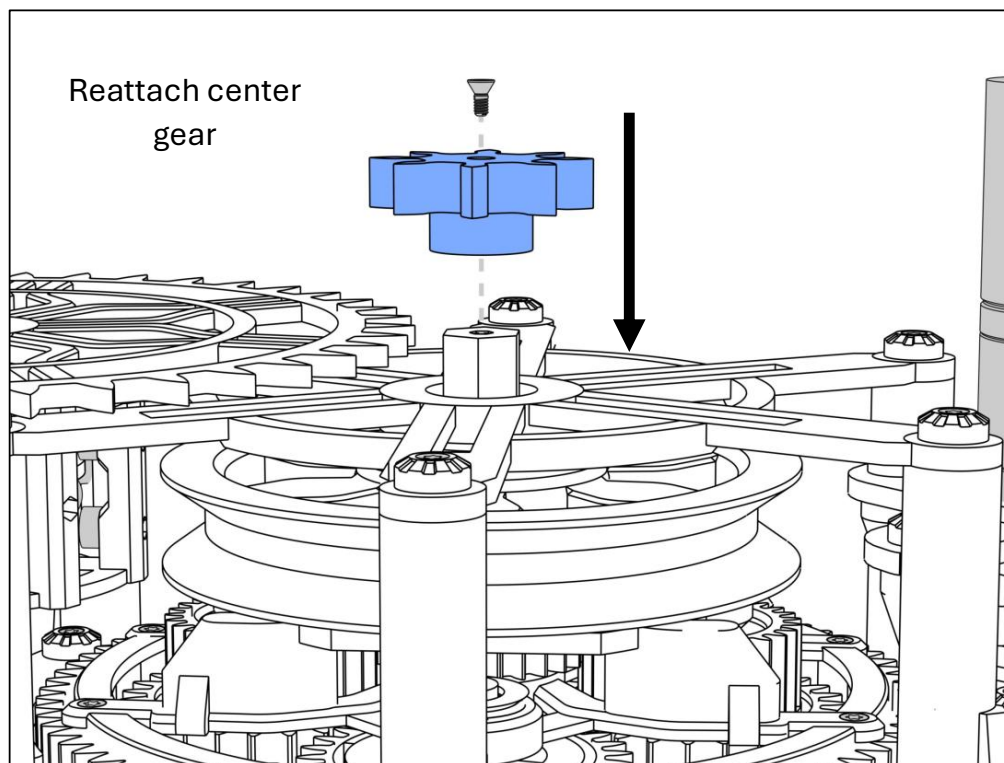
Rotate spindle counterclockwise for one full rotation



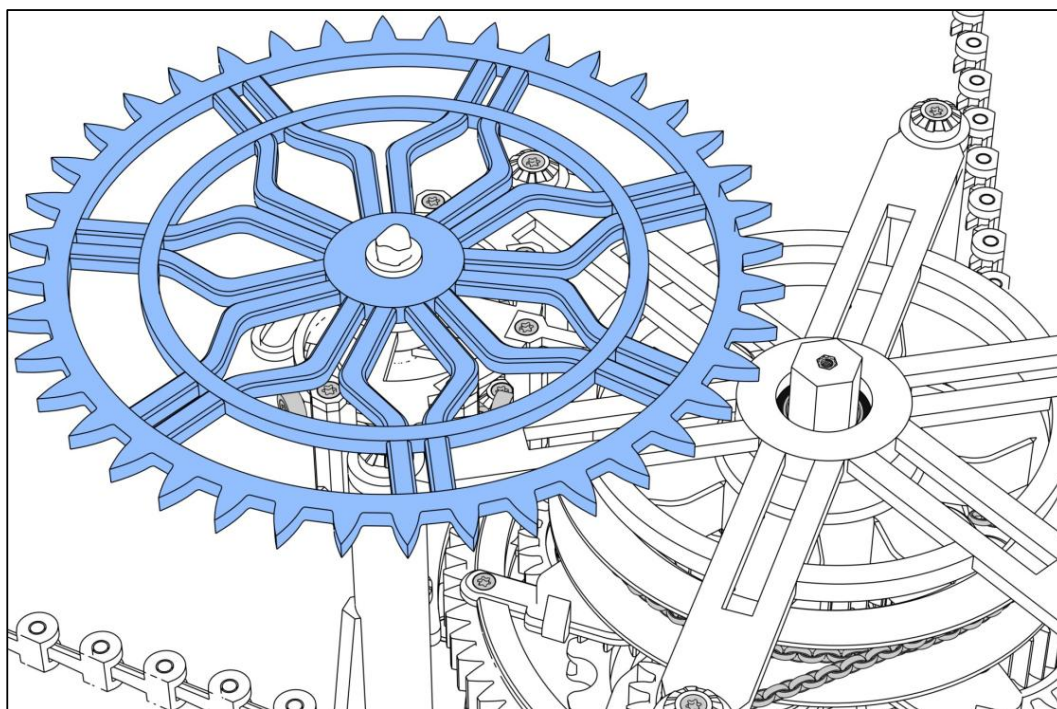
Rotate switch gear counterclockwise until click.
Stop immediately – this is the lowest weight position



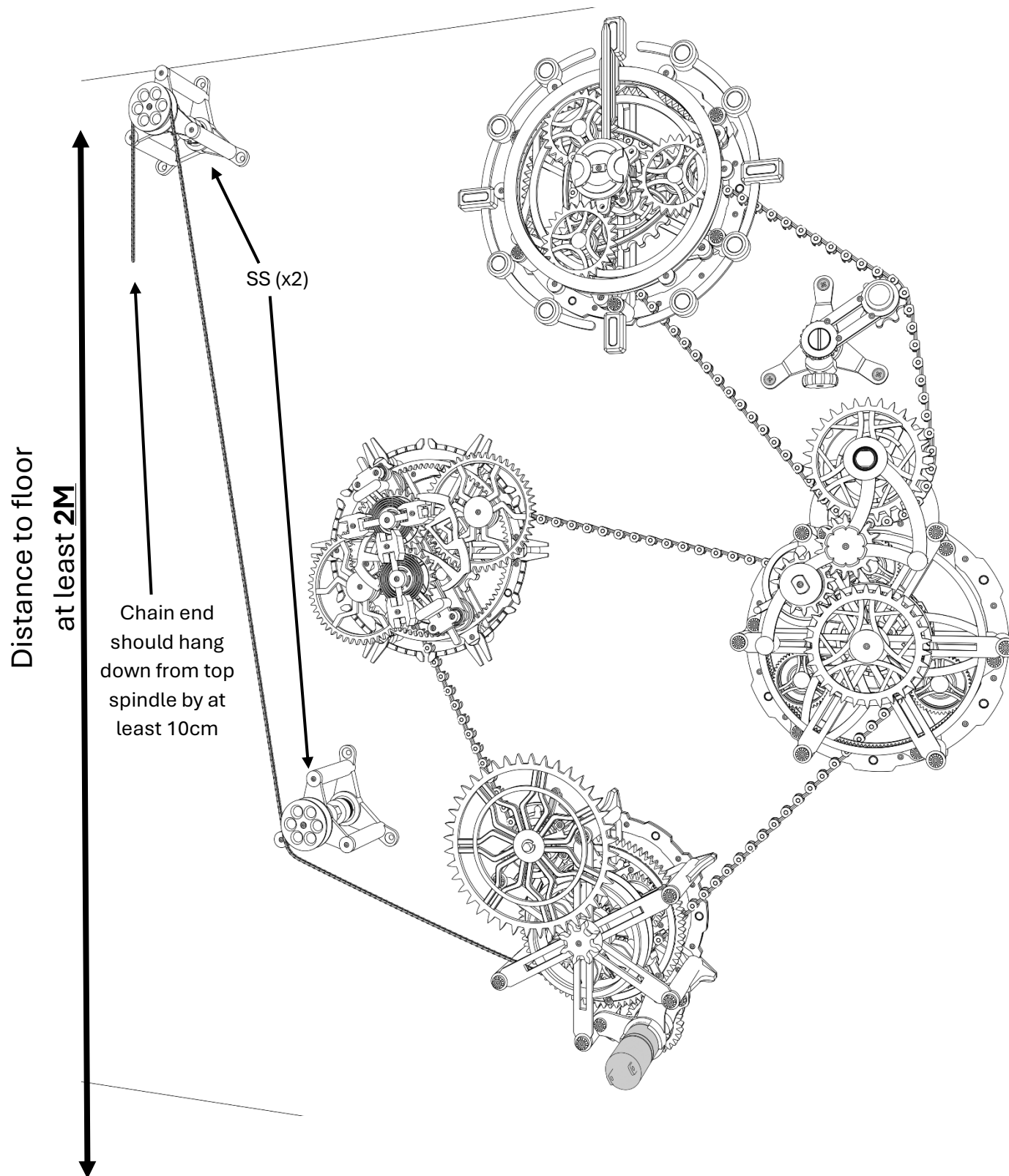
Step 6 (continued)



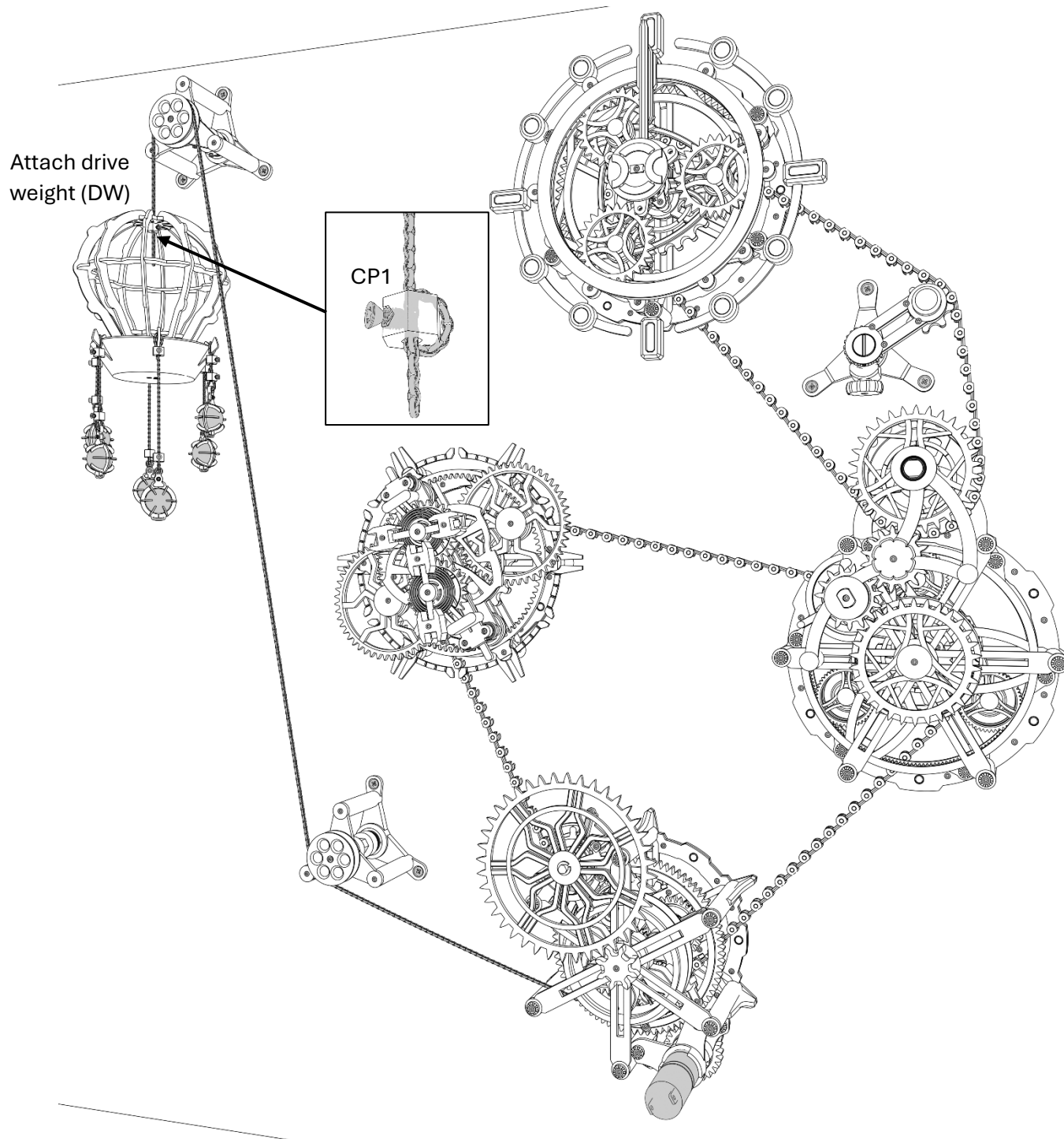
Plug in power adapter. Motor will start rotating the spindle and roll in the chain. When the motor stops – that is the highest weight position.



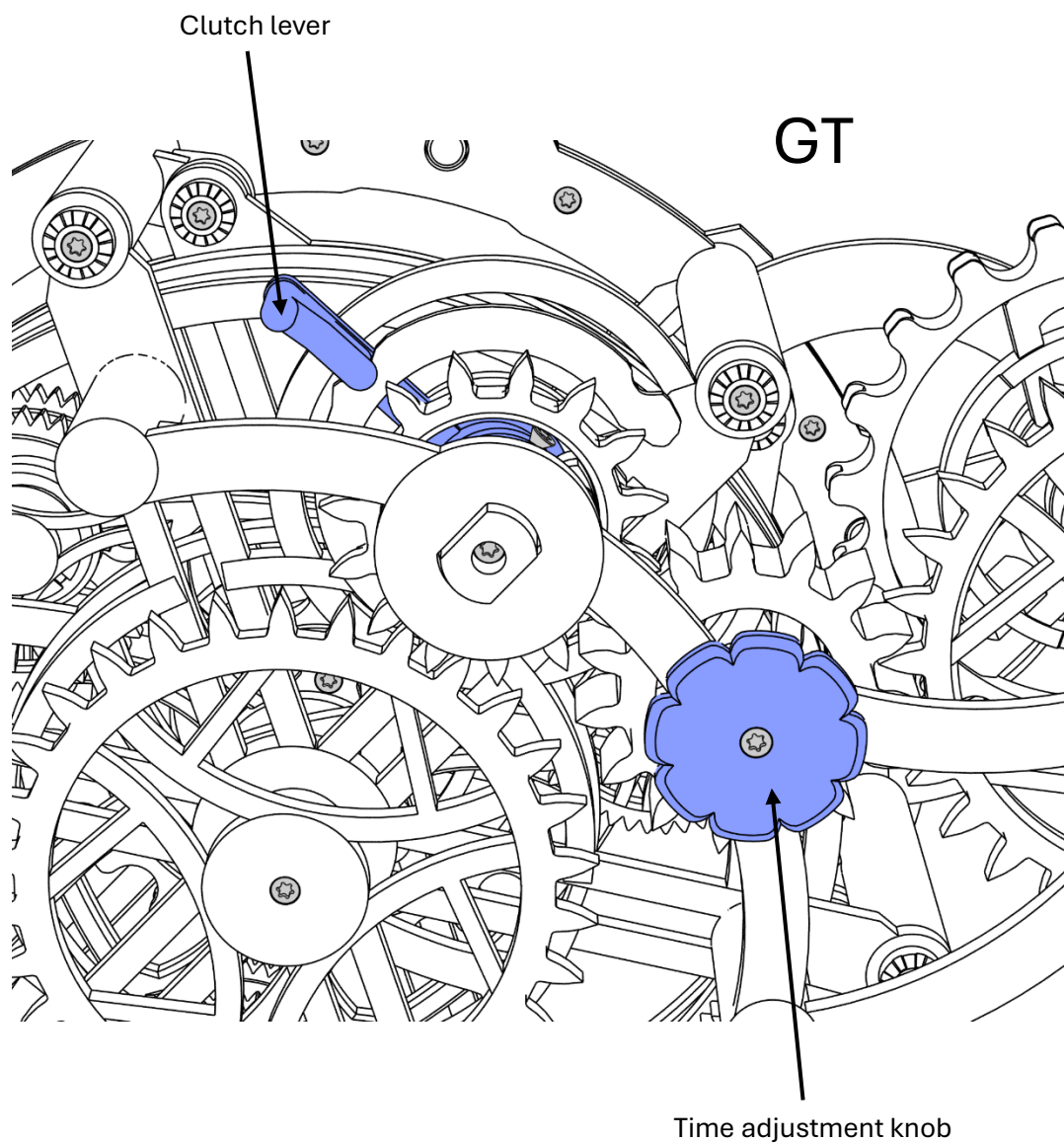
Step 6 (continued)



Step 6 (continued)



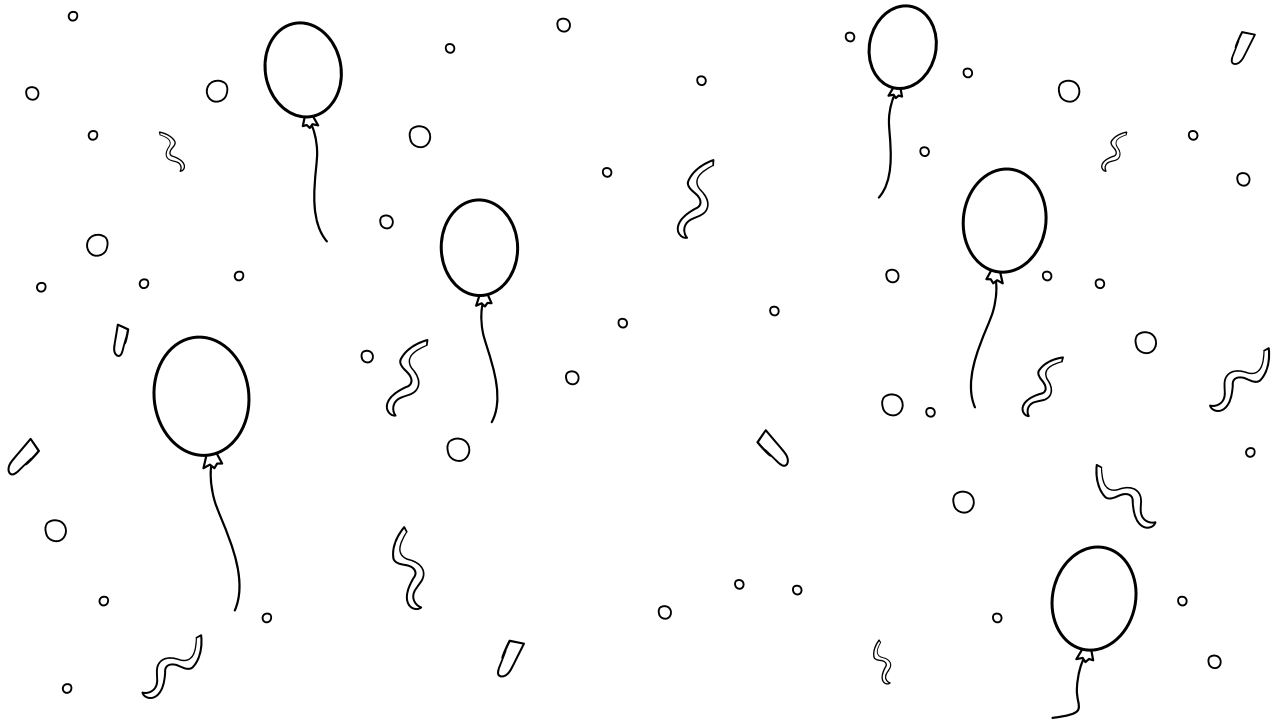
Step 7



To adjust time:

1. Release clutch lever →
2. Turn time adjustment knob
3. Reengage clutch lever ←

Congrats!



You have a new clock

Appendix A – Parts printing reference

Part #	Part name	Count	STL files	Maximum layer height (mm)	Recommended layer height (mm)	Support
CP1	Chain stopper	14	CP-Common parts/1.stl	0.2	0.2	
CP2	Screw cap	36	CP-Common parts/1x5.stl CP-Common parts/2.stl CP-Common parts/2x20.stl CP-Common parts/2x6.stl CP-Common parts/3.stl	0.2	0.1	1
CP3	Threaded r188 bearing housing	10	CP-Common parts/3x5.stl	0.2	0.2	
CT1	Base	1	CT-Chain tension sprocket/1.stl	0.3	0.2	
CT2	Crane	1	CT-Chain tension sprocket/2.stl	0.2	0.2	
CT3	Crane plate	1	CT-Chain tension sprocket/3.stl	0.2	0.2	
CT4	Sprocket	1	CT-Chain tension sprocket/4.stl	0.2	0.2	
CT5	Sprocket cap	1	CT-Chain tension sprocket/5.stl	0.2	0.2	
CT6	Screw	1	CT-Chain tension sprocket/6.stl	0.2	0.2	
CT7	Knob	1	CT-Chain tension sprocket/7.stl	0.2	0.2	
DC1	Chain link	~300	DC-Drive chain/1x10.stl DC-Drive chain/1x100.stl	0.2	0.2	
DW1	Gondola	1	DW-Drive weight/1.stl	0.3	0.2	
DW2	Middle ring	1	DW-Drive weight/2.stl	0.2	0.2	
DW3	Bottom hub	1	DW-Drive weight/3.stl	0.2	0.2	
DW4	Top hub	1	DW-Drive weight/4.stl	0.2	0.2	
DW5	Rib	10	DW-Drive weight/5.stl DW-Drive weight/5x10.stl	0.2	0.2	
DW6	Central pillar	1	DW-Drive weight/6.stl	0.2	0.2	
DW7	Weight ring	1	DW-Drive weight/7.stl	0.2	0.1	
DW8	Weight rib	6	DW-Drive weight/8.stl DW-Drive weight/8x6.stl	0.2	0.1	
DW9	Weight lock top	1	DW-Drive weight/9.stl	0.2	0.1	
DW10	Weight lock bottom	1	DW-Drive weight/10.stl	0.2	0.1	
FM1	Main frame	1	FM-Motion works/1.stl	0.3	0.2	
FM2	Mounting plate	1	FM-Motion works/2.stl	0.3	0.2	
FM3	Carrier	1	FM-Motion works/3.stl	0.2	0.2	
FM4	Hour gear	1	FM-Motion works/4.stl	0.2	0.2	
FM5	Sprocket	1	FM-Motion works/5.stl	0.2	0.2	1
FM6	Ring gear cover	1	FM-Motion works/6.stl	0.2	0.2	
FM7	Hour gear cover	1	FM-Motion works/7.stl	0.2	0.2	
FM8	Ring gear	1	FM-Motion works/8.stl	0.2	0.2	
FM9	Stem	1	FM-Motion works/9.stl	0.2	0.2	1
FM10	Sprocket bottom washer	1	FM-Motion works/10.stl	0.2	0.2	

Part #	Part name	Count	STL files	Maximum layer height (mm)	Recommended layer height (mm)	Support
FM11	Minute hand diff gear bottom	1	FM-Motion works/11.stl	0.2	0.2	
FM12	Minute hand bearing housing	1	FM-Motion works/12.stl	0.2	0.2	
FM13	Minute hand diff gear top	1	FM-Motion works/13.stl	0.2	0.2	
FM14	Stem washer top	1	FM-Motion works/14.stl	0.2	0.2	
			FM-Motion works/15.stl			
FM15	Diff gear side	2	FM-Motion works/15x2.stl	0.2	0.2	1
			FM-Motion works/16.stl			
FM16	Diff gear side bearing plug	2	FM-Motion works/16x2.stl	0.2	0.1	
FM17	Stem top cover	1	FM-Motion works/17.stl	0.2	0.2	
FM18	DEC logo	1	FM-Motion works/18.stl	0.2	0.2	
			FM-Motion works/19.stl			
FM19	Planet gear bottom	3	FM-Motion works/19x3.stl	0.2	0.2	
			FM-Motion works/20.stl			
FM20	Planet gear top	3	FM-Motion works/20x3.stl	0.2	0.2	
			FM-Motion works/21.stl			
FM21	Chapter ring half	2	FM-Motion works/21x2.stl	0.3	0.2	
			FM-Motion works/22.stl			
FM22	Hour marker	2	FM-Motion works/22x2.stl	0.3	0.2	
FM23	Hour hand	1	FM-Motion works/23.stl	0.3	0.2	
FM24	Minute hand	1	FM-Motion works/24.stl	0.3	0.2	
			FM-Motion works/25.stl			
FM25	Hour marker lume	4	FM-Motion works/25x4.stl	0.3	0.2	
			FM-Motion works/26.stl			
FM26	Hour marker round lume	8	FM-Motion works/26x8.stl	0.3	0.2	
FT1	Main frame	1	FT-Tourbillon/1.stl	0.3	0.2	
FT2	Mounting plate	1	FT-Tourbillon/2.stl	0.3	0.2	
FT3	Top plate	1	FT-Tourbillon/3.stl	0.2	0.2	
FT4	Ring gear	1	FT-Tourbillon/4.stl	0.2	0.2	
FT5	Sprocket	1	FT-Tourbillon/5.stl	0.2	0.2	1
FT6	Sprocket tip	1	FT-Tourbillon/6.stl	0.2	0.2	
FT7	Tourbillon cage	1	FT-Tourbillon/7.stl	0.2	0.2	1
FT8	Tourbillon cage arbor reinforcement	1	FT-Tourbillon/8.stl	0.2	0.2	
			FT-Tourbillon/9.stl			
FT9	Chpater ring segment	6	FT-Tourbillon/9x6.stl	0.2	0.2	
			FT-Tourbillon/10.stl			
FT10	Planet gear cap	2	FT-Tourbillon/10x2.stl	0.2	0.2	
			FT-Tourbillon/11.stl			
FT11	Planet gear	4	FT-Tourbillon/11x4.stl	0.2	0.2	1
			FT-Tourbillon/12.stl			
FT12	Planet gear washer	4	FT-Tourbillon/12x4.stl	0.2	0.2	

Part #	Part name	Count	STL files	Maximum layer height (mm)	Recommended layer height (mm)	Support
FT13	Planet gear arbor short	2	FT-Tourbillon/13.stl FT-Tourbillon/13x2.stl	0.2	0.2	
FT14	Planet gear arbor long	2	FT-Tourbillon/14.stl FT-Tourbillon/14x2.stl	0.2	0.2	
FT15	Transmission gear left	1	FT-Tourbillon/15.stl	0.2	0.2	
FT16	Transmission gear right	1	FT-Tourbillon/16.stl	0.2	0.2	
FT17	Escape wheel gear	1	FT-Tourbillon/17.stl	0.2	0.2	
FT18	Escape wheel	1	FT-Tourbillon/18.stl	0.2	0.2	
FT19	Escape wheel arbor tip	1	FT-Tourbillon/19.stl	0.2	0.1	
FT20	Escape wheel arbor	1	FT-Tourbillon/20.stl	0.2	0.1	
FT21	Escape wheel washer	1	FT-Tourbillon/21.stl	0.2	0.1	
FT22	Pallet bridge	1	FT-Tourbillon/22.stl	0.2	0.2	
FT23	Pallet bearing holder	2	FT-Tourbillon/23.stl FT-Tourbillon/23x2.stl	0.2	0.2	
FT24	Pallet	1	FT-Tourbillon/24.stl	0.2	0.2	
FT25	Ballance bridge bottom	1	FT-Tourbillon/25.stl	0.2	0.2	1
FT26	Ballance bridge top	1	FT-Tourbillon/26.stl	0.2	0.2	
FT27	Hairspring	1	FT-Tourbillon/27.stl	0.2	0.2	
FT28	Ballance gear	2	FT-Tourbillon/28.stl FT-Tourbillon/28x2.stl	0.2	0.2	1
FT29	Ballance arbor	2	FT-Tourbillon/29.stl FT-Tourbillon/29x2.stl	0.2	0.2	
FT30	Escapement lever	2	FT-Tourbillon/30.stl FT-Tourbillon/30x2.stl	0.2	0.2	
FT31	Ballance frame left	1	FT-Tourbillon/31.stl	0.2	0.2	
FT32	Ballance frame right	1	FT-Tourbillon/32.stl	0.2	0.2	
FT33	Ballance weight	4	FT-Tourbillon/33.stl FT-Tourbillon/33x4.stl	0.2	0.2	
GT1	Main frame	1	GT-Gear train/1.stl	0.3	0.2	
GT2	Top plate	1	GT-Gear train/2.stl	0.3	0.2	
GT3	Mounting plate	1	GT-Gear train/3.stl	0.3	0.2	
GT4	Hour gear	1	GT-Gear train/4.stl	0.2	0.2	
GT5	Ring gear	1	GT-Gear train/5.stl	0.2	0.2	
GT6	Carrier	1	GT-Gear train/6.stl	0.2	0.2	
GT7	Input sprocket	1	GT-Gear train/7.stl	0.2	0.2	1
GT8	Hour output gear	1	GT-Gear train/8.stl	0.2	0.2	
GT9	Main arbor	1	GT-Gear train/9.stl	0.2	0.2	
GT10	Bottom arbor cap	1	GT-Gear train/10.stl	0.2	0.2	
GT11	Bottom sprocket washer	1	GT-Gear train/11.stl	0.2	0.2	
GT12	Top washer	1	GT-Gear train/12.stl	0.2	0.2	

Part #	Part name	Count	STL files	Maximum layer height (mm)	Recommended layer height (mm)	Support
GT13	Bottom planet gear	3	GT-Gear train/13.stl			
			GT-Gear train/13x3.stl	0.2	0.2	
GT14	Top planet gear	3	GT-Gear train/14.stl			
			GT-Gear train/14x3.stl	0.2	0.2	
GT15	Keyless plate	1	GT-Gear train/15.stl	0.3	0.2	
GT16	Keyless gear	1	GT-Gear train/16.stl	0.2	0.2	
GT17	Keyless gear arbor	1	GT-Gear train/17.stl	0.2	0.2	1
GT18	Keyless gear arbor bottom cap	1	GT-Gear train/18.stl	0.2	0.1	
GT19	Keyless crown	1	GT-Gear train/19.stl	0.2	0.2	
GT20	Keyless lock spring	1	GT-Gear train/20.stl	0.2	0.2	
GT21	Keyless clutch wheel	1	GT-Gear train/21.stl	0.2	0.2	
GT22	Keyless clutch wheel cap	1	GT-Gear train/22.stl	0.2	0.2	
GT23	Keyless set lever	1	GT-Gear train/23.stl	0.2	0.2	1
GT24	Keyless arbor bottom	1	GT-Gear train/24.stl	0.2	0.2	1
GT25	Keyless arbor top	1	GT-Gear train/25.stl	0.2	0.2	1
GT26	Output sprocket	1	GT-Gear train/26.stl	0.2	0.2	
GT27	Output arbor	1	GT-Gear train/27.stl	0.2	0.2	
GT28	Output top gear	1	GT-Gear train/28.stl	0.2	0.2	
GT29	Output sprocket bottom washer	1	GT-Gear train/29.stl	0.2	0.2	
			GT-Gear train/30.stl			
GT30	Output arbor stop washer	2	GT-Gear train/30x2.stl	0.2	0.2	
PD1	Main frame	1	PD-Power differential/1.stl	0.3	0.2	
PD2	Mounting plate	1	PD-Power differential/2.stl	0.3	0.2	
PD3	Sprocket	1	PD-Power differential/3.stl	0.2	0.2	1
PD4	Top plate	1	PD-Power differential/4.stl	0.3	0.2	
			PD-Power differential/5.stl			
PD5	Diff main bridge	2	PD-Power differential/5x2.stl	0.2	0.2	
PD6	Diff main gear	1	PD-Power differential/6.stl	0.2	0.2	
			PD-Power differential/7.stl			
PD7	Diff small bridge	2	PD-Power differential/7x2.stl	0.2	0.2	
PD8	frame support	1	PD-Power differential/8.stl	0.2	0.2	
			PD-Power differential/9.stl			
PD9	diff transmission gear	4	PD-Power differential/9x4.stl	0.2	0.2	
			PD-Power differential/10.stl			
PD10	diff transmission gear arbor	4	PD-Power differential/10x4.stl	0.2	0.2	
			PD-Power differential/11.stl			
PD11	diff transmission gear arbor cap	8	PD-Power differential/11x8.stl	0.2	0.1	
			PD-Power differential/12.stl			
PD12	diff transmission gear arbor washer	4	PD-Power differential/12x4.stl	0.2	0.2	
PD13	Switch gear large	1	PD-Power differential/13.stl	0.2	0.2	
PD14	Switch gear small	1	PD-Power differential/14.stl	0.2	0.2	

Part #	Part name	Count	STL files	Maximum layer height (mm)	Recommended layer height (mm)	Support
PD15	Main arbor	1	PD-Power differential/15.stl	0.2	0.2	
PD16	Main arbor cap bottom	1	PD-Power differential/16.stl	0.2	0.2	
PD17	Main arbor sprocket washer	1	PD-Power differential/17.stl	0.2	0.2	
			PD-Power differential/18.stl			
PD18	Main arbor diff washer	2	PD-Power differential/18x2.stl	0.2	0.2	
PD19	Main arbor spindle washer	1	PD-Power differential/19.stl	0.2	0.2	
			PD-Power differential/20.stl			
PD20	Magnet cover	2	PD-Power differential/20x2.stl	0.2	0.1	
PD21	Switch lever	1	PD-Power differential/21.stl	0.2	0.2	
PD22	Switch arbor	1	PD-Power differential/22.stl	0.2	0.2	
PD23	Switch	1	PD-Power differential/23.stl	0.2	0.2	
PD24	Switch timing lever	1	PD-Power differential/24.stl	0.2	0.2	
PD25	Switch cage	1	PD-Power differential/25.stl	0.2	0.2	
PD26	Spindle	1	PD-Power differential/26.stl	0.2	0.2	
PD27	Motor gear	1	PD-Power differential/27.stl	0.2	0.2	
PD28	Motor gear arbor	1	PD-Power differential/28.stl	0.2	0.2	
PD29	Motor tip	1	PD-Power differential/29.stl	0.2	0.2	1
PD30	Motor bridge	1	PD-Power differential/30.stl	0.2	0.2	1
PD31	Motor top bearing bridge	1	PD-Power differential/31.stl	0.2	0.2	
PD32	Motor top bearing washer	1	PD-Power differential/32.stl	0.2	0.2	
PD33	Motor gear transmission tip	1	PD-Power differential/33.stl	0.2	0.2	
			PD-Power differential/34.stl			
PD34	Switch arbor clip	2	PD-Power differential/34x2.stl	0.2	0.2	
SS1	Base	1	SS-Weight support spindle/1.stl	0.3	0.2	
SS2	Plate	1	SS-Weight support spindle/2.stl	0.3	0.2	
SS3	Arbor	1	SS-Weight support spindle/3.stl	0.2	0.2	
SS4	Spindle	1	SS-Weight support spindle/4.stl	0.3	0.2	1
			SS-Weight support spindle/5.stl			
SS5	Stop	2	SS-Weight support spindle/5x2.stl	0.2	0.2	