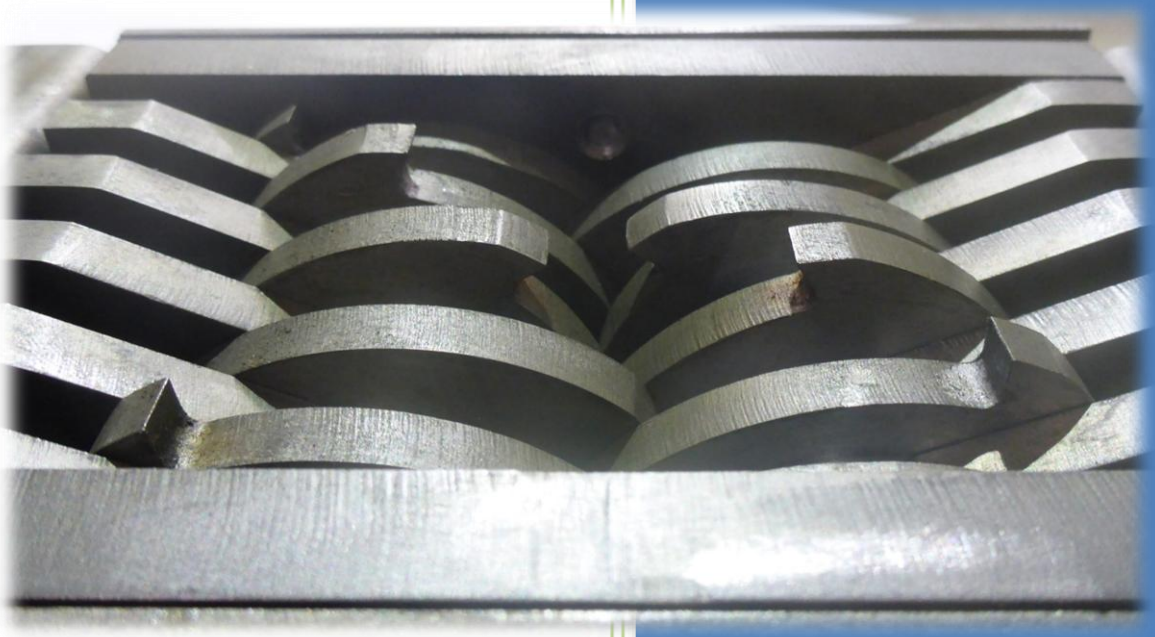
2014

User manual for shredder KIT



Thymark

FilaMaker

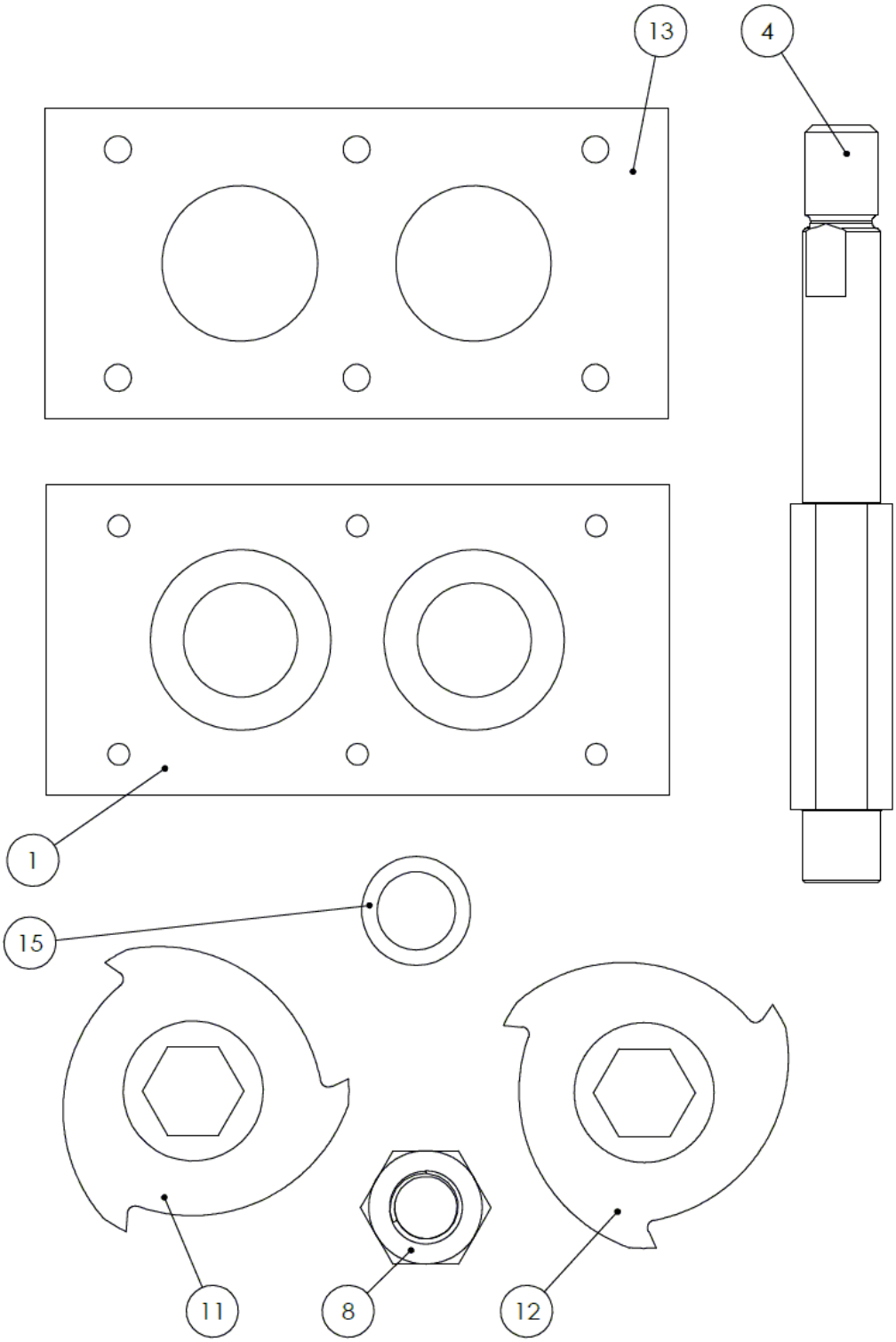
1.1.2014

User manual

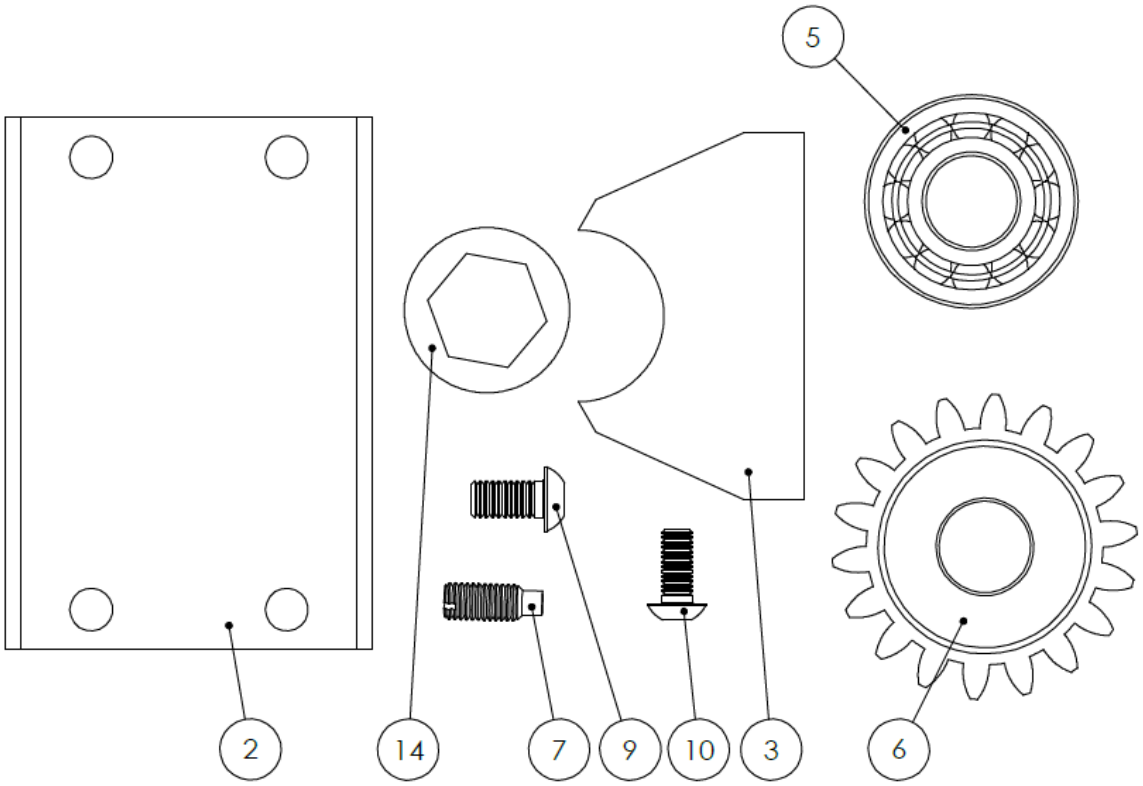
shredder KIT

1) what is in your kit.
2) which tool do you need
3) building your shredder step by step
4) Warnings and safety
5) what you can do, and what no
6) warranty

What is in your kit



What is in your kit



ITEM NO.	PART NAME	QTY.
1	bearing housing al	2
2	mounting side	2
3	anti reeling guard	10
4	shaft	2
5	SKF - 6202 - Full,DE,AC,Full_68	4
6	Gear M2,5x18sw	2
7	ISO 7435 - M6 x 16-S	4
8	nut m14	2
9	ISO 7380 - M6 x 12 -- - 12S	8
10	ISO 7380 - M5 x 12 -- - 12S	12
11	blade n0	4
12	blade n1	6
13	bearing cover 1,5mm	2
14	distanc ring	10
15	spacer 15x21	6

Whych tool do you need

1) Allen key set (hex key) metric.
2) screw clamp
3) Torque wrench with metric nut 22 mm (if you don't have vice, than you need wrench 17mm too.)

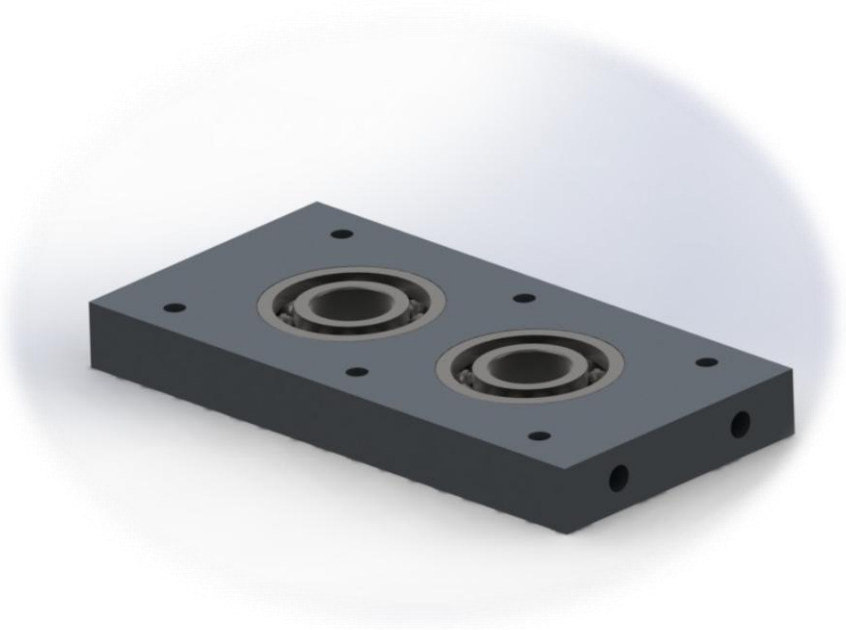
Building your shredder step by step

we start with this parts

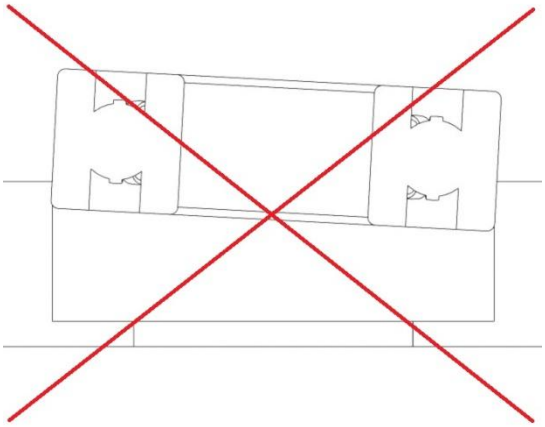
1) one piece of bearing housing al.
2) one piece of bearing cover 1,5mm
3) two pieces of 6202 ZZ ball bearing
4) six pieces of M5x12 screws
5) 3mm allen key tool

Building your shredder step by step

Push the ball bearings in the bearing housing al.
Use just pressure of your hand, the ball bearings should slide easily in place.



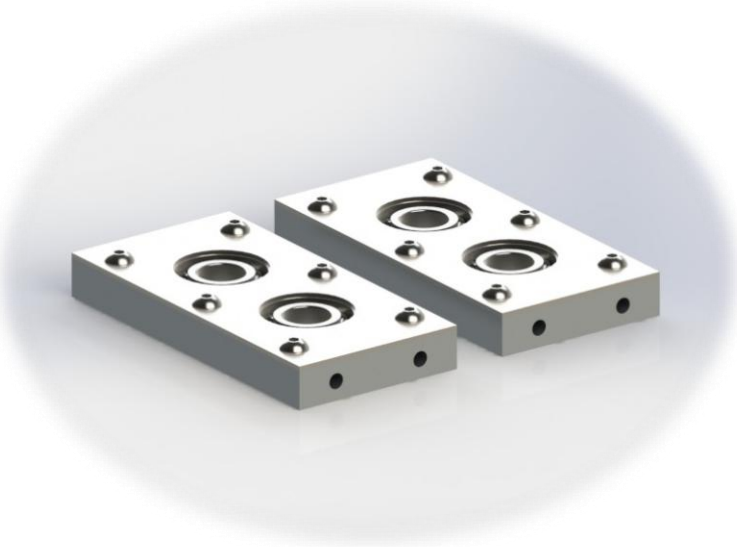
Don't use hammer or any other metal object to push the ball bearing in housing !



Building your shredder step by step

Next screw the bearing cover 1,5mm with six M5x12mm screws to bearing housing al with allen key 3mm.

Now repeat this process one more time to assemble the second bearing housing.
And this is what you should have now in front of you.



Building your shredder step by step

For next step you need :

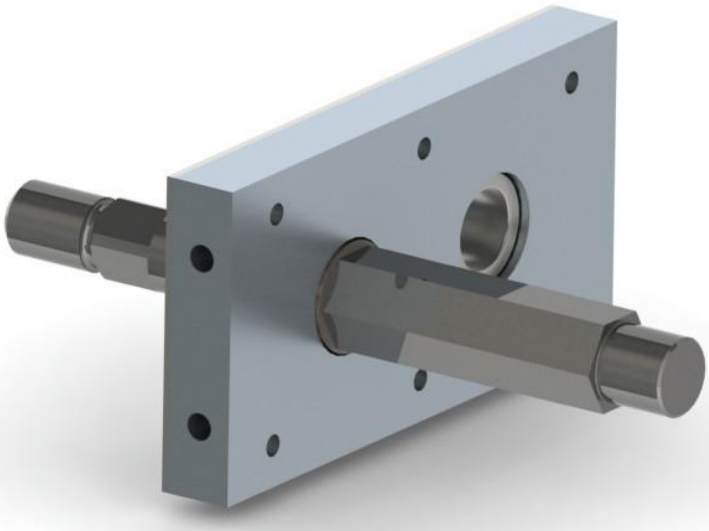
1) one piece of assembled bearing housing
2) one piece of shaft M14
3) two pieces of spacer 15x21
4) one piece of gear M2,5
5) one piece of nut 14mm
6) two pieces of tappet screw M6
7) vice or metric wrench 17 mm
8) allan key 2 mm
9) torque wrench with 22mm nut.

There are two shafts, one have standard M14 thread and the second one is M14 Left. We are now working with standard M14 thread

Building your shredder step by step

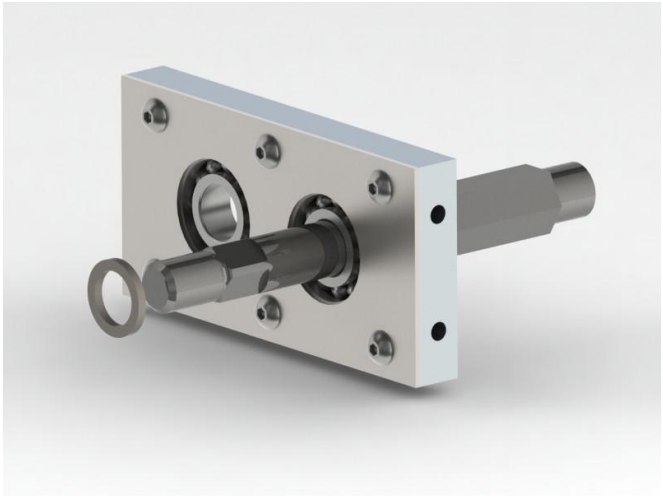
Slide one spacer 15x21 on the shaft.

Then insert the shaft assembly into the bearing housing.



Building your shredder step by step

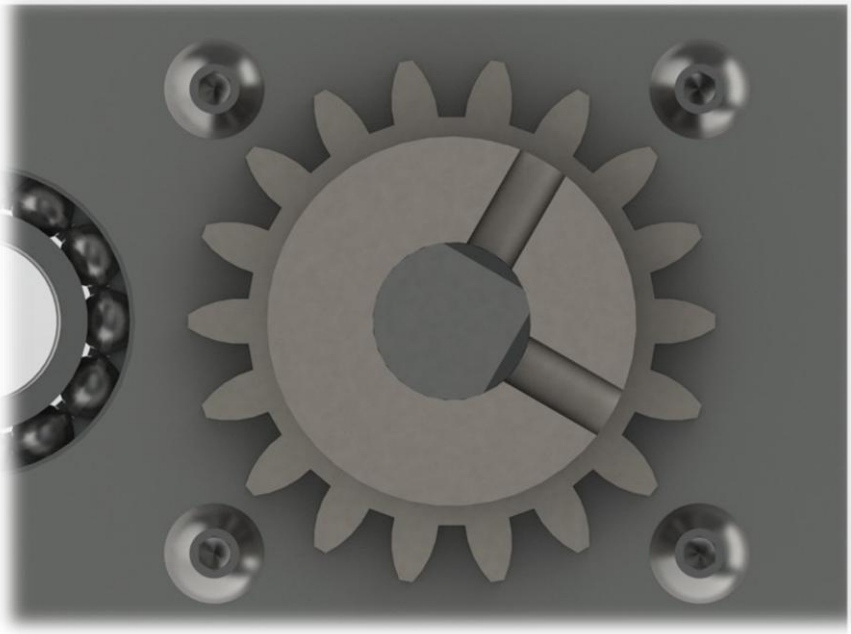
Next slide second spacer 15x21 in the shaft.



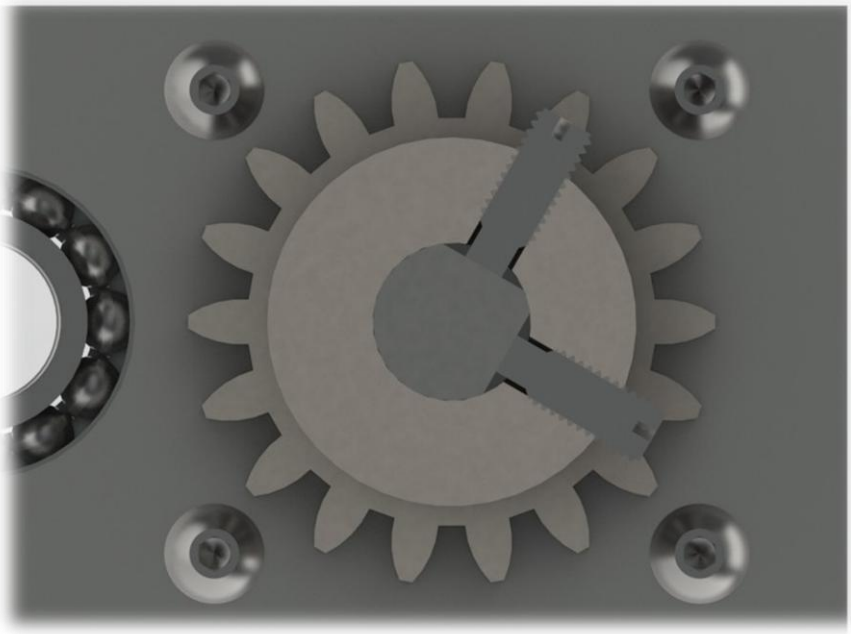
And then slide the gear on the shaft and insert the tappet screw M6 in the gear, check the aligment of the gear so that the bottom flat part of the tappet screw M6 is in contact with the flat milled place on the shaft. Use just your hand.

Do not use lot of power to tighten the tappet screw M6, you shuld just feel that they are touching .

Building your shredder step by step

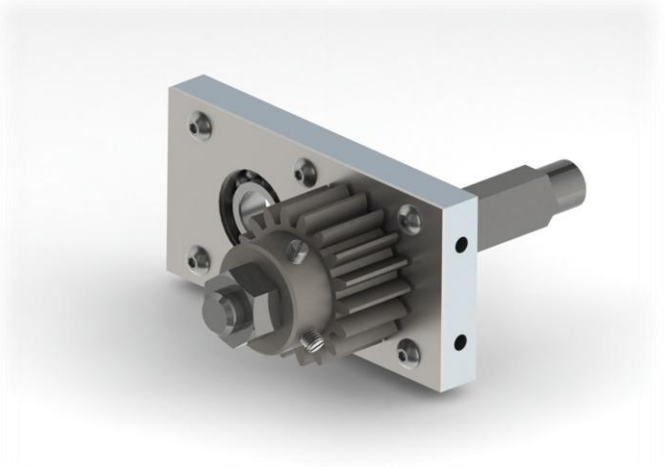


The standard version use one tappet screw M6 on each gear. But if you have the reinforced version for heavy duty shredding, you need to use 2 tappet screw M6 on each gear.

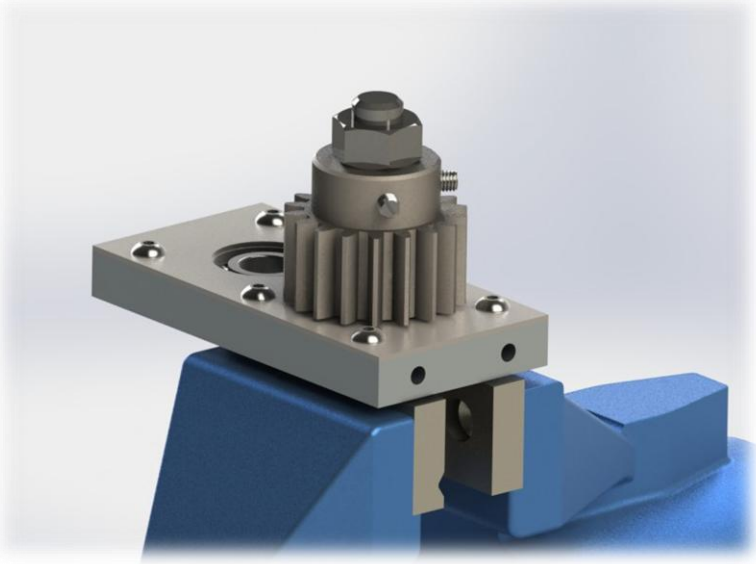


Building your shredder step by step

Now insert the M14 nut on the shaft just with your hand. Next take the allan key 2 mm and tighten the tappet screw M6. Then use wrench 17mm or vice to hold the shaft for the hexagon and tight the M14 nut with torque wrench with 22mm nut. Do not use more than 50 Nm torque.(7080 oz-in)

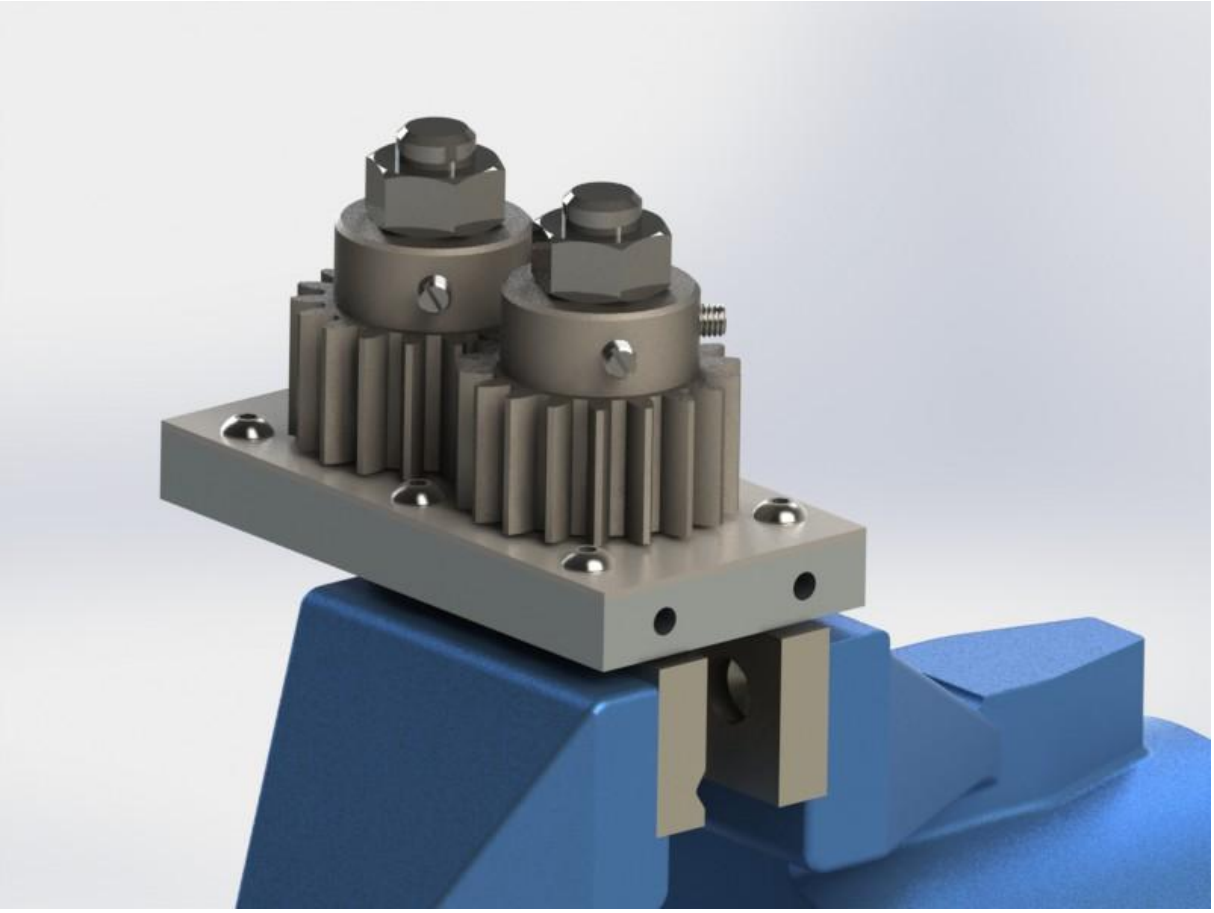


Use any marker or a piece of duct tape to mark this shaft .



Building your shredder step by step

Now repeat that same process with the second shaft which have M14 Left thread. You should end up with this state :

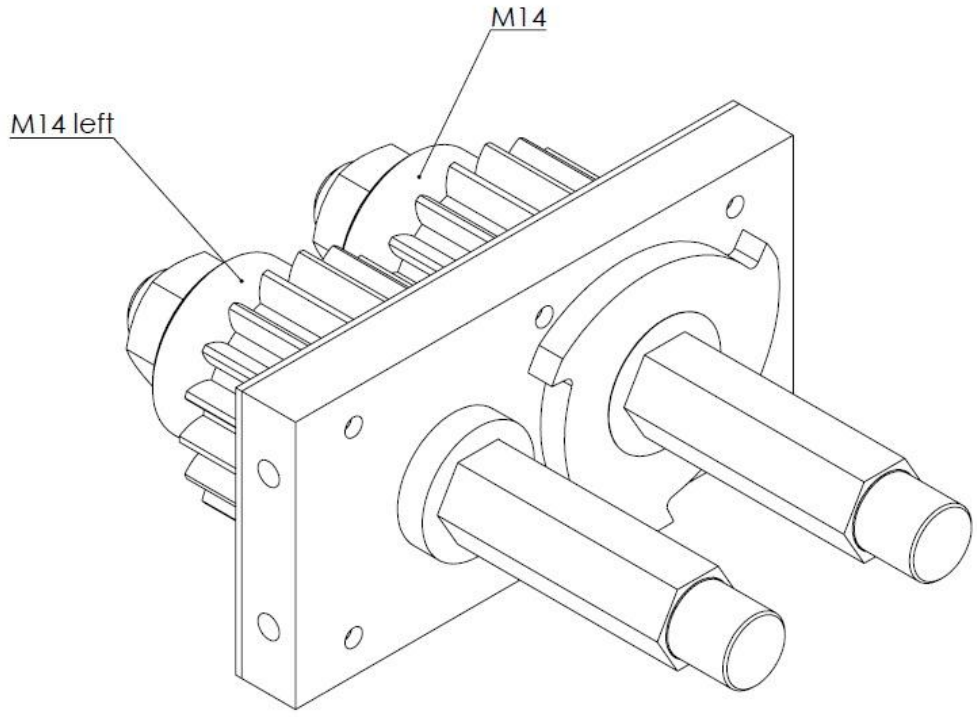


Building your shredder step by step

For next step you need :

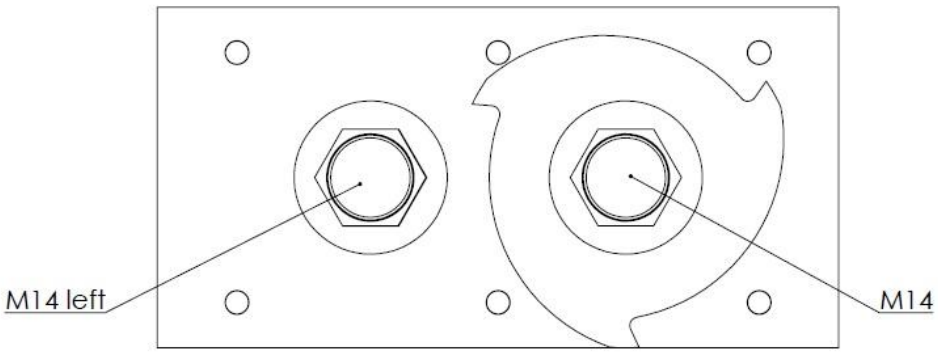
1) four pieces of blade n0
2) six pieces of blade n1
3) ten pieces of distanc ring
4) two pieces of spacer 15x21
5) one piece of assembled bearing housing

First take one distanc ring and slide it on the M14 left threaded shaft and one blade n1 and slide it on the M14 threaded shaft.

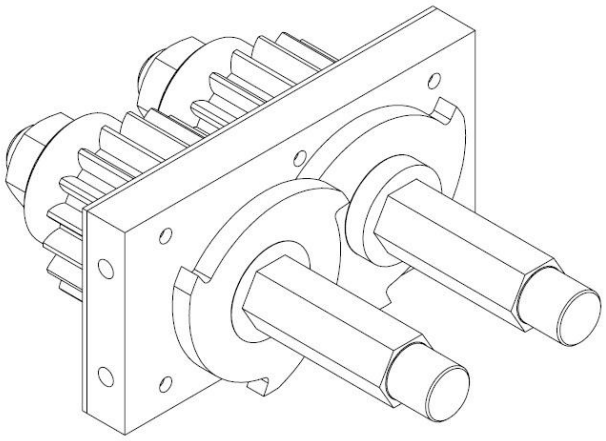


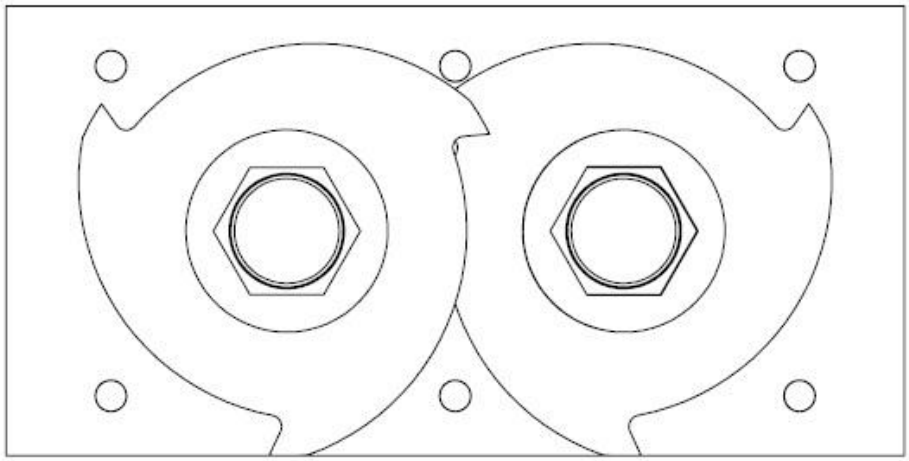
Building your shredder step by step

This is how you should see the shredder now.



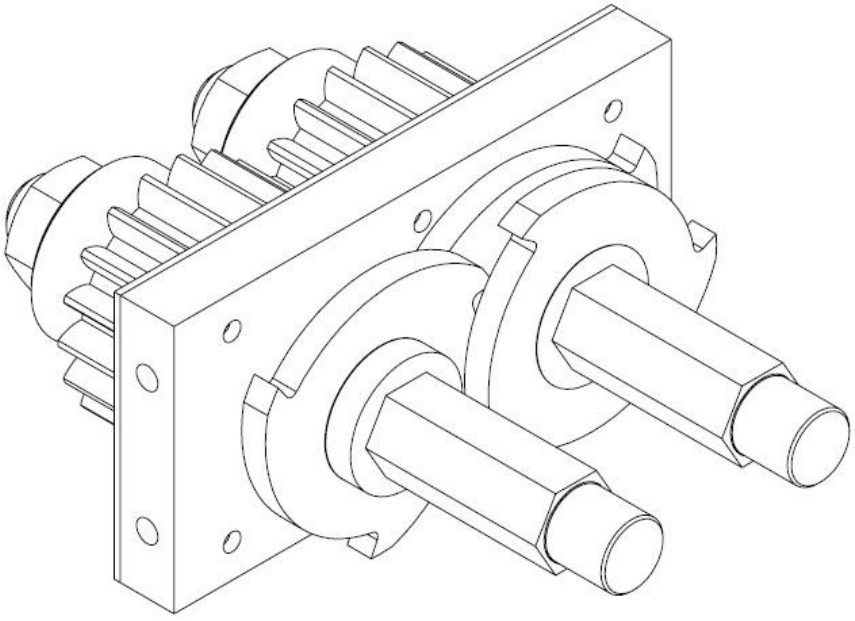
next take one distanc ring and one blade n1 and slide it on the shafts like the picture show.

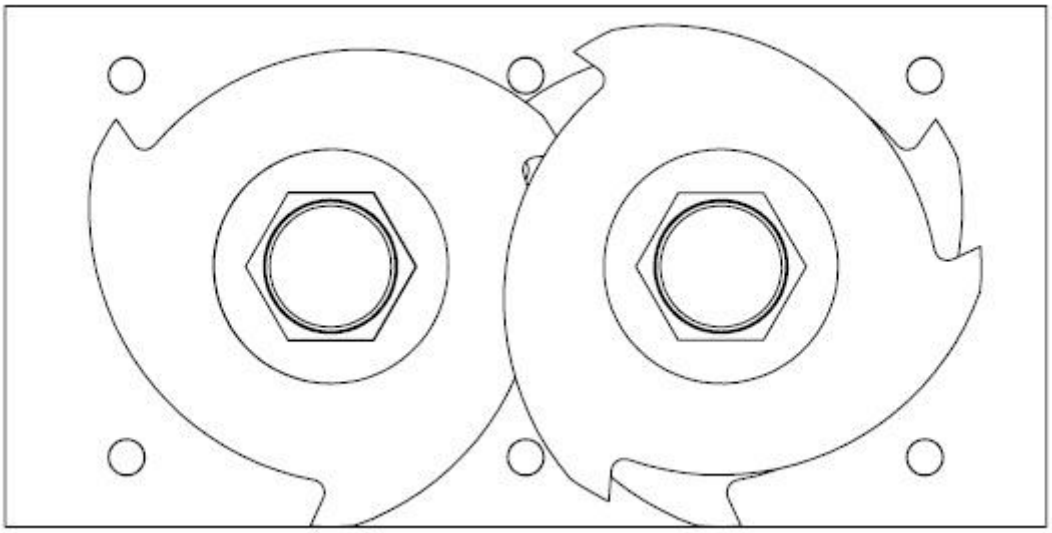




Building your shredder step by step

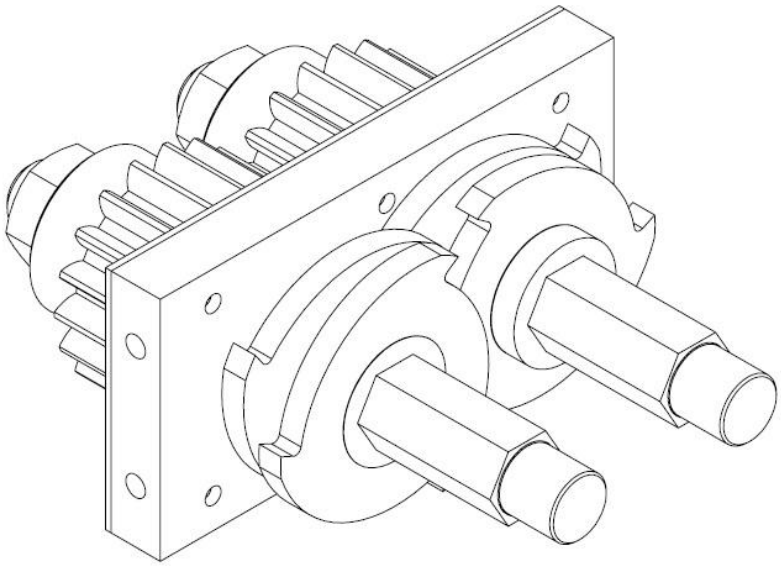
next take one distanc ring and one blade n0 and slide it on the shafts like the picture show.

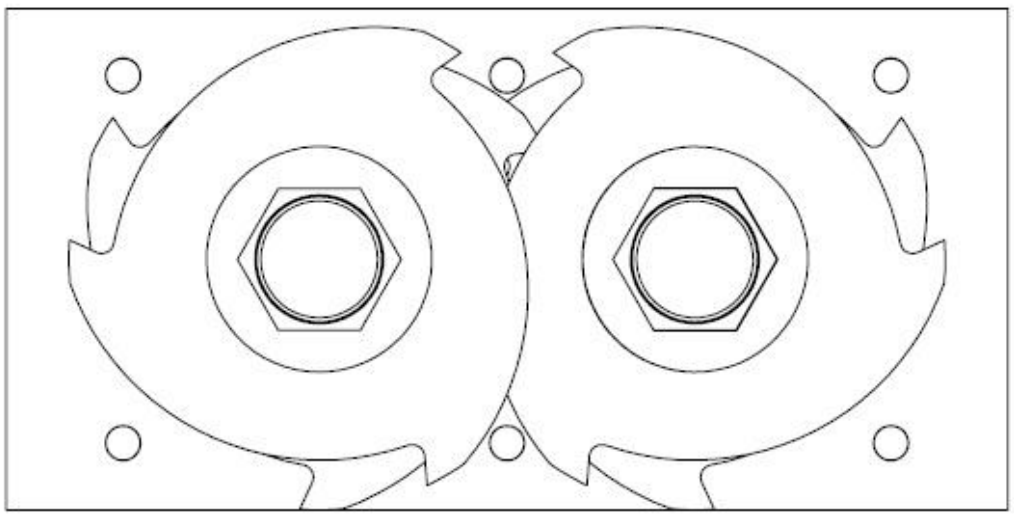




Building your shredder step by step

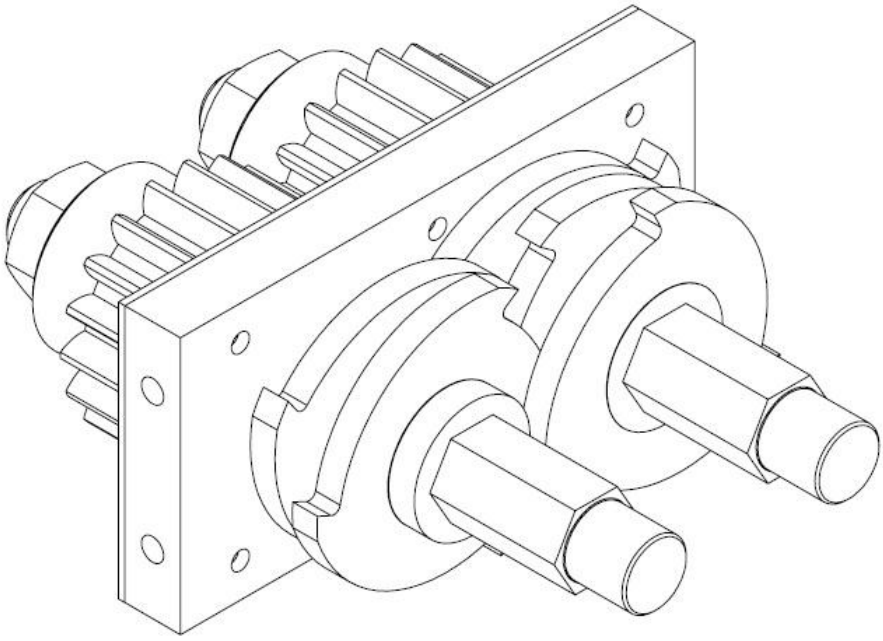
next take one distanc ring and one blade n0 and slide it on the shafts like the picture show.

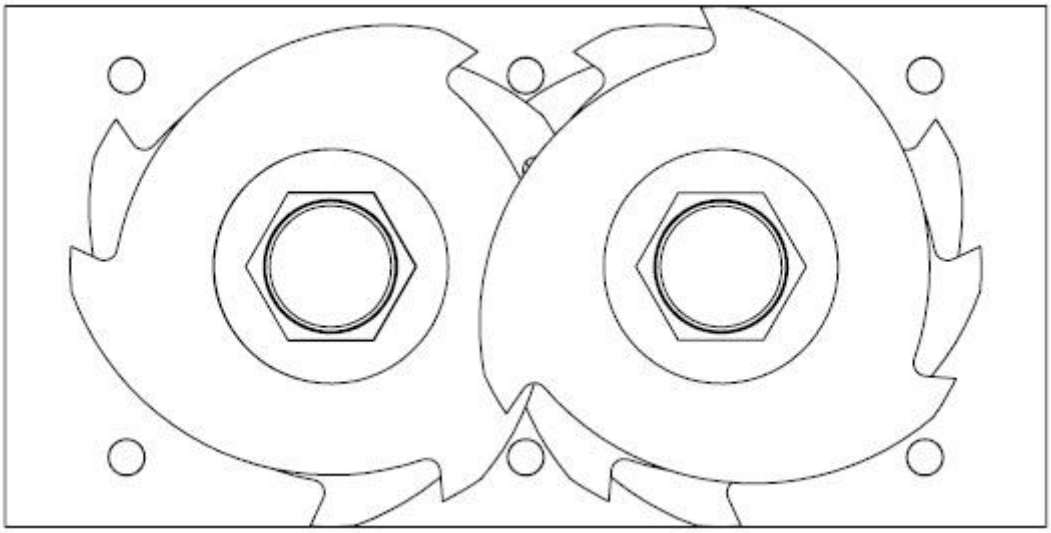




Building your shredder step by step

next take one distanc ring and one blade n1 and slide it on the shafts like the picture show.





Building your shredder step by step

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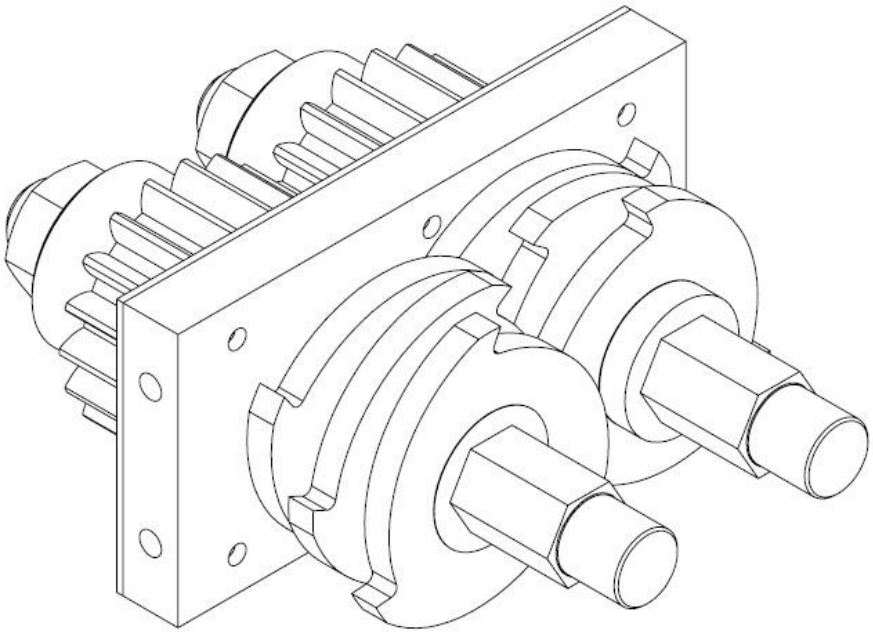

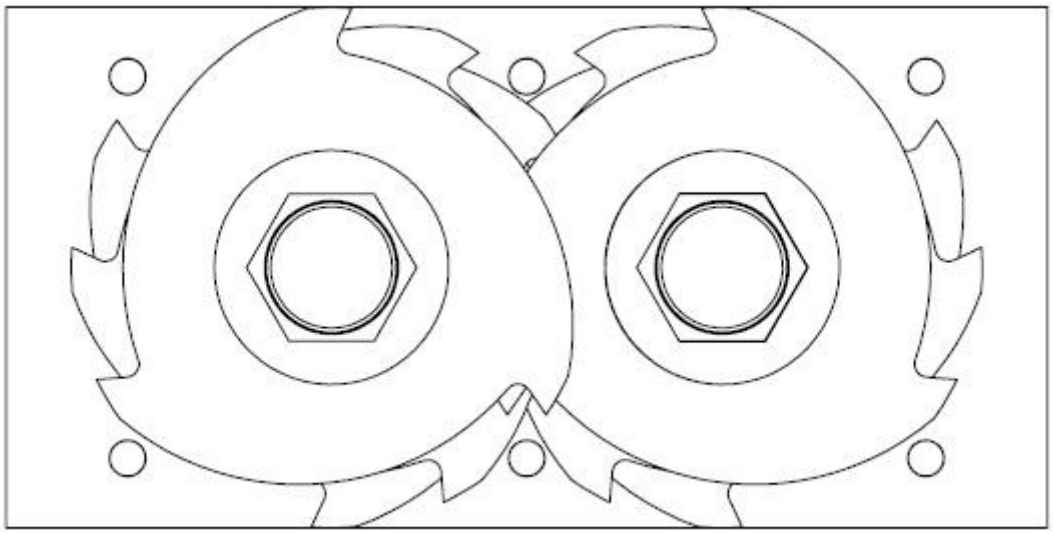

Building your shredder step by step

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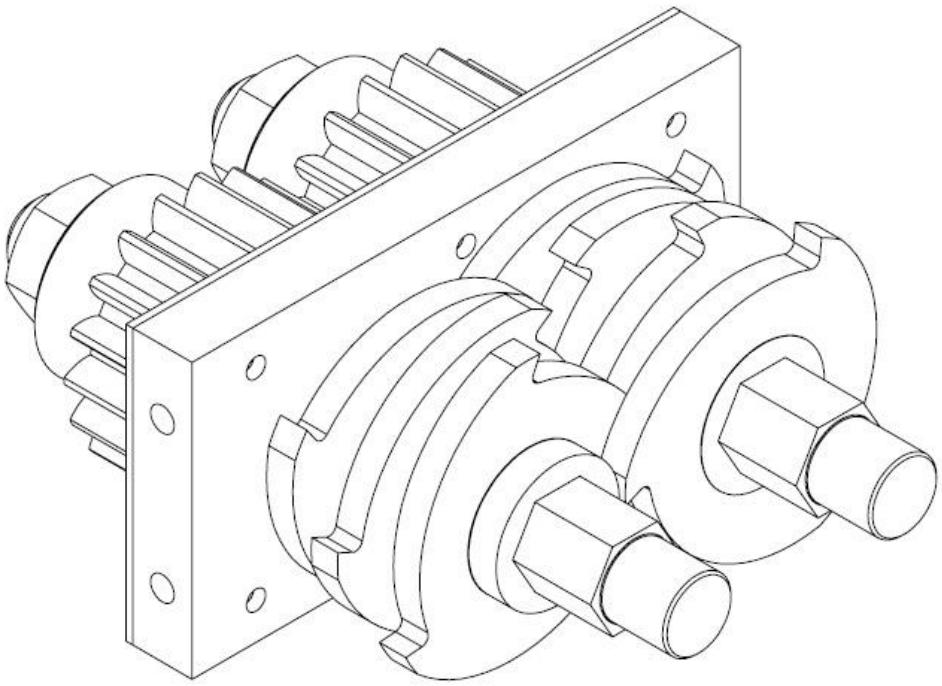

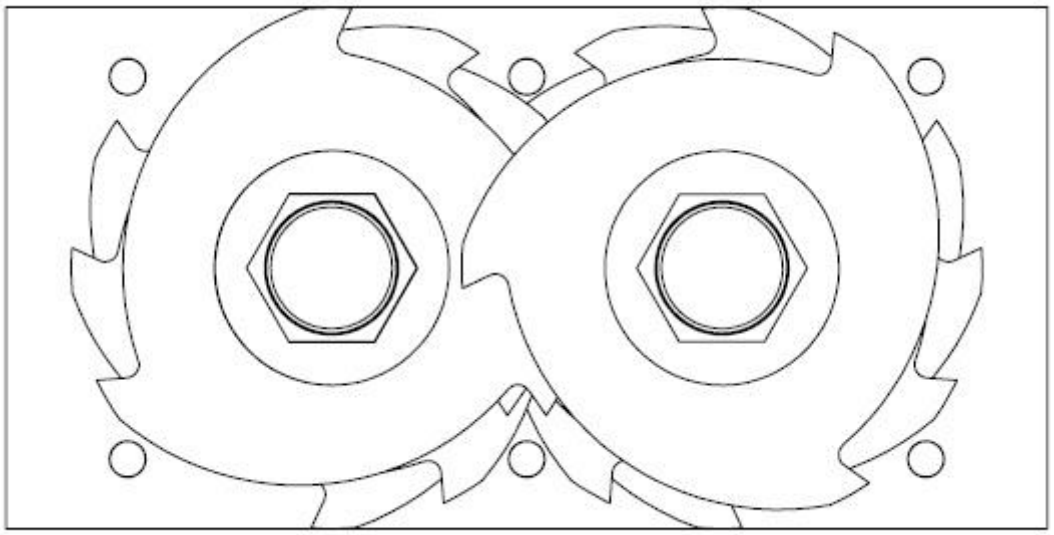

Building your shredder step by step

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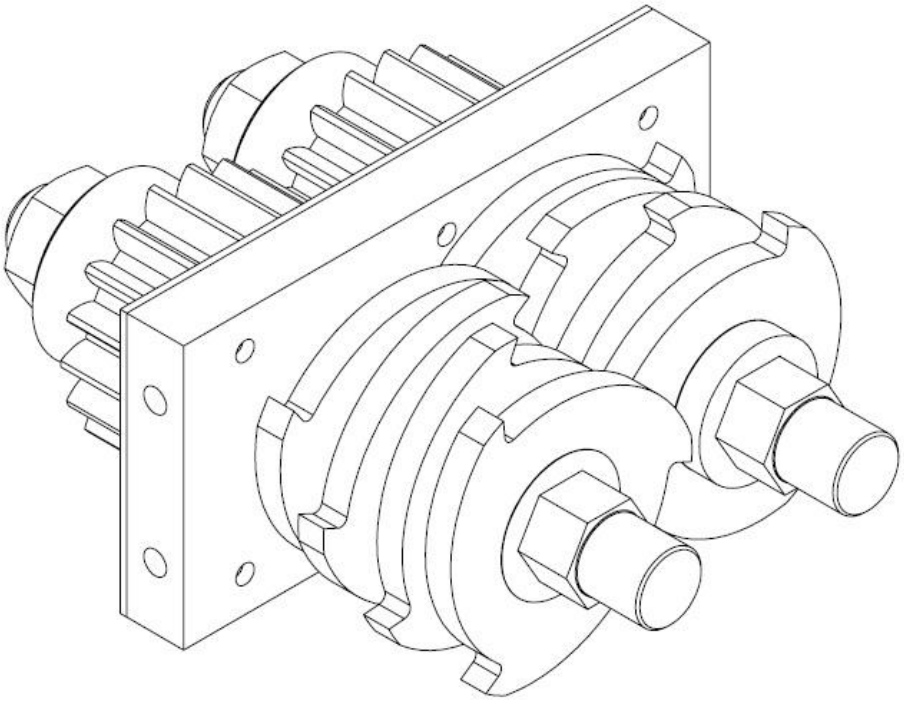

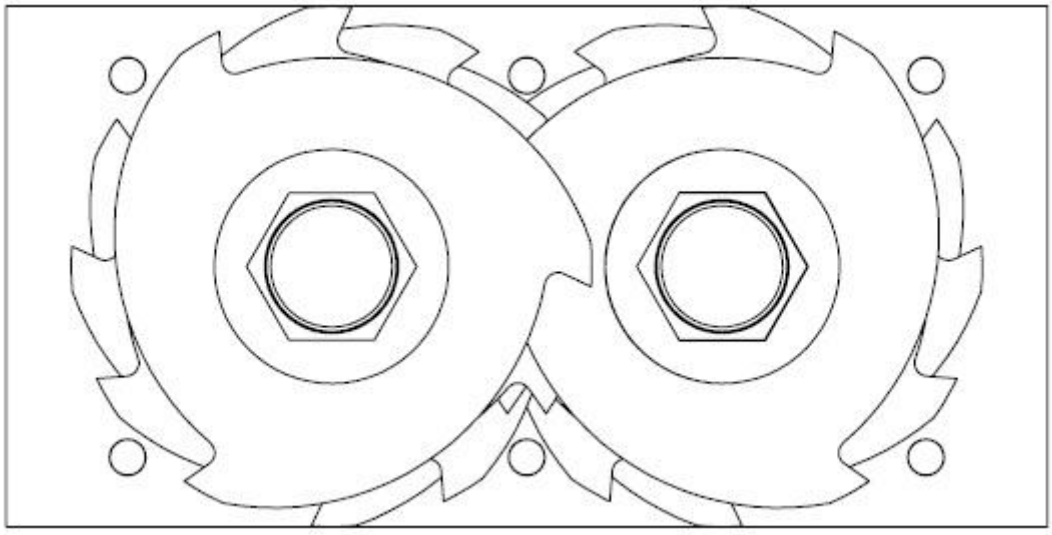

Building your shredder step by step

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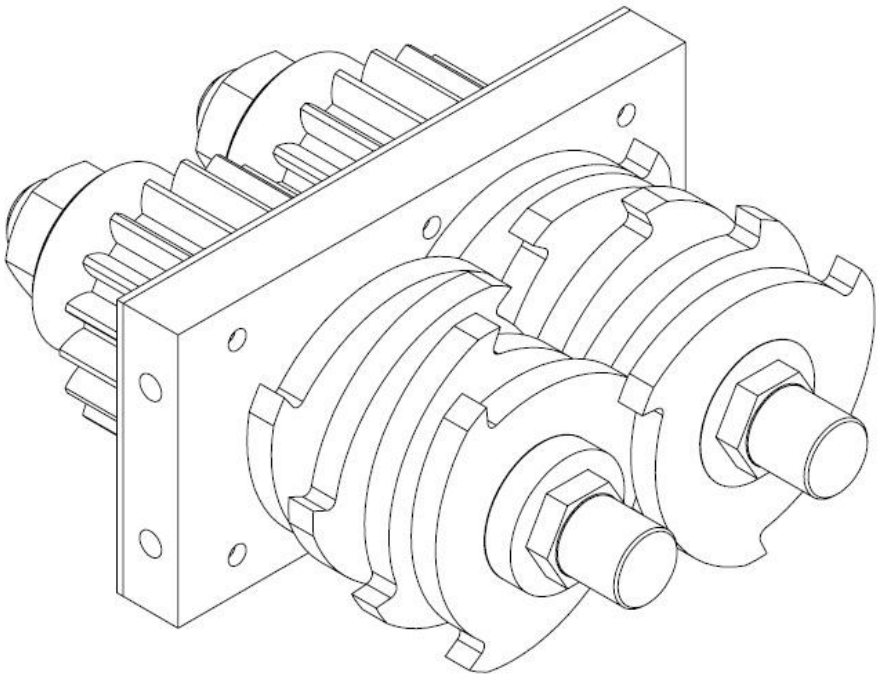

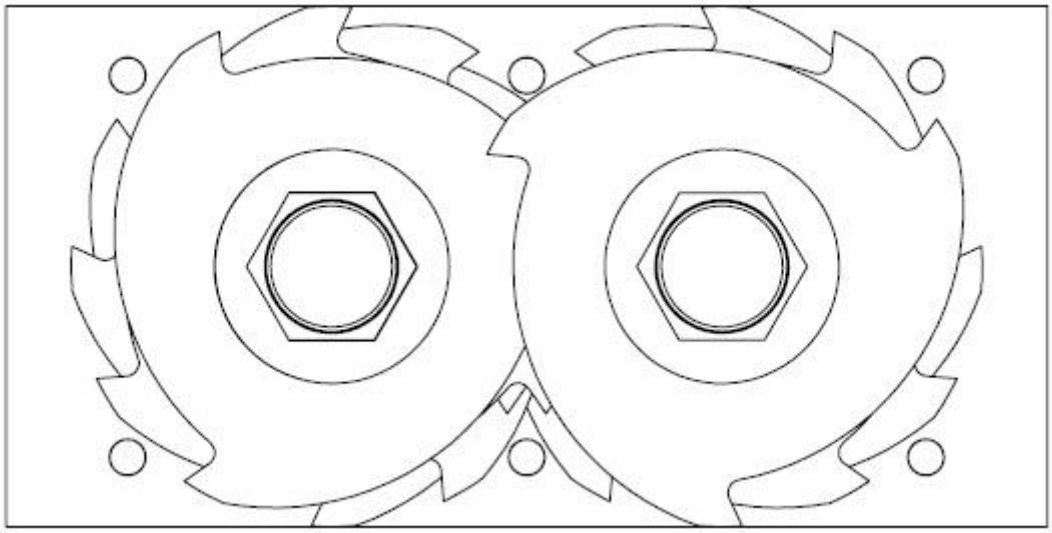

Building your shredder step by step

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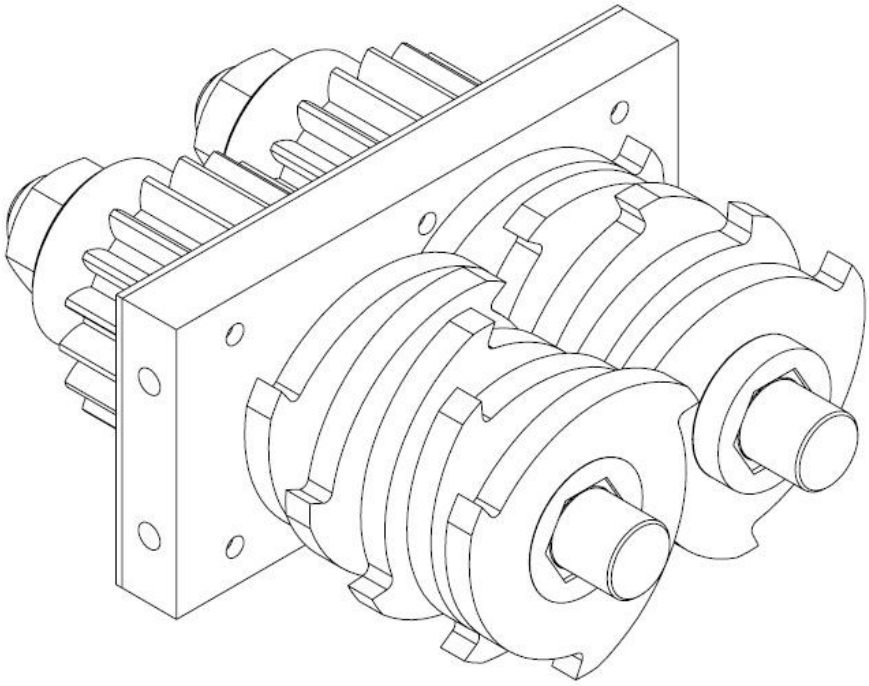
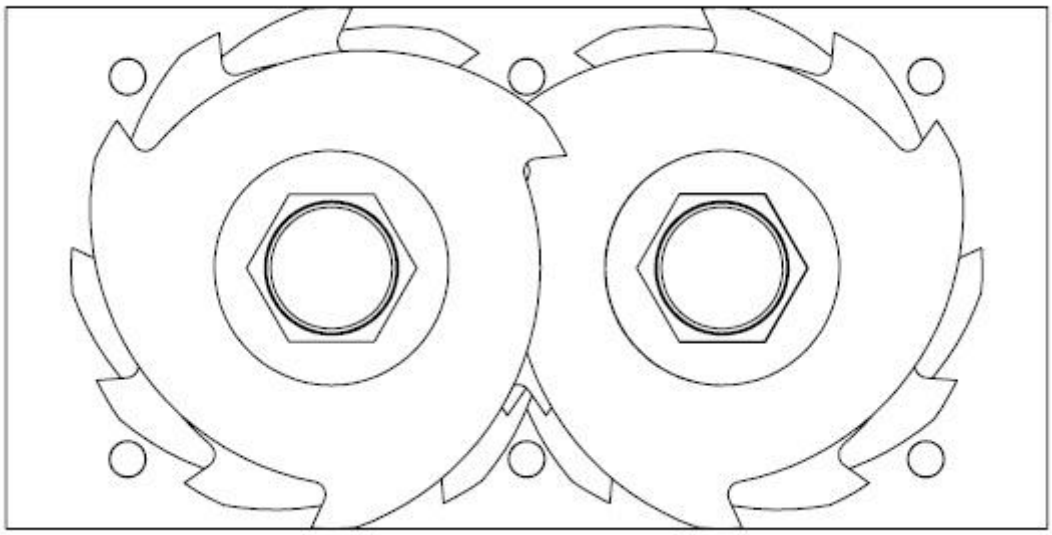
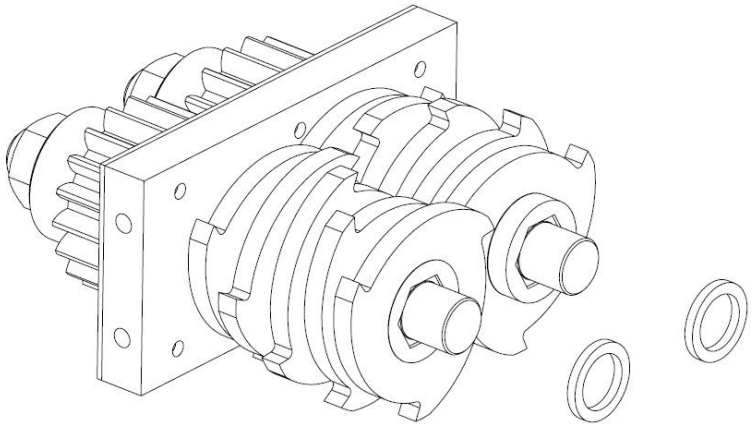
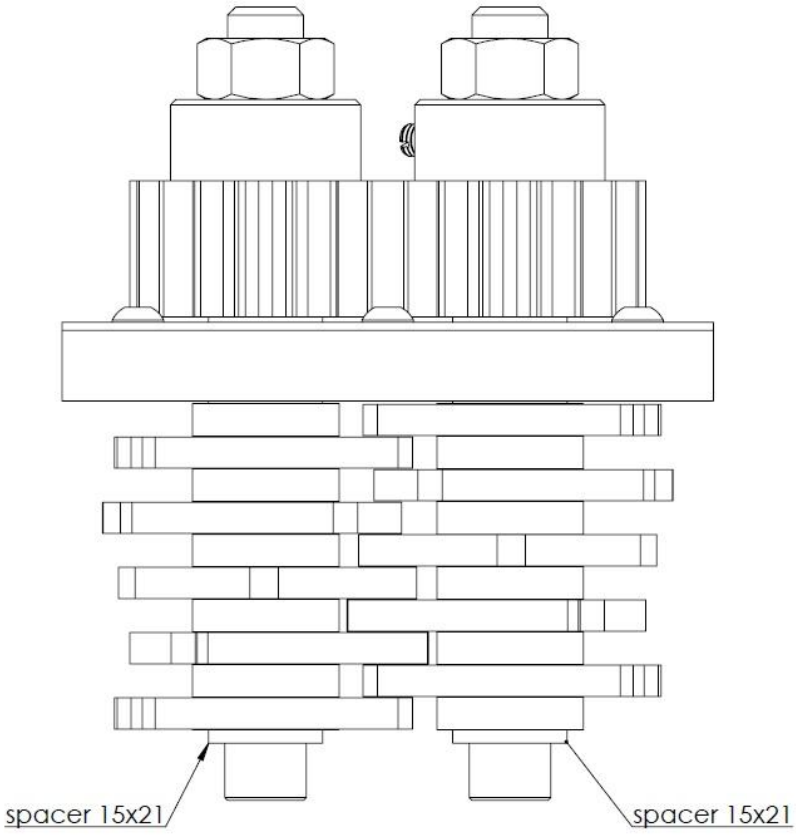




Building your shredder step by step

Now add the spacer 15x21 on each shaft like the picture show

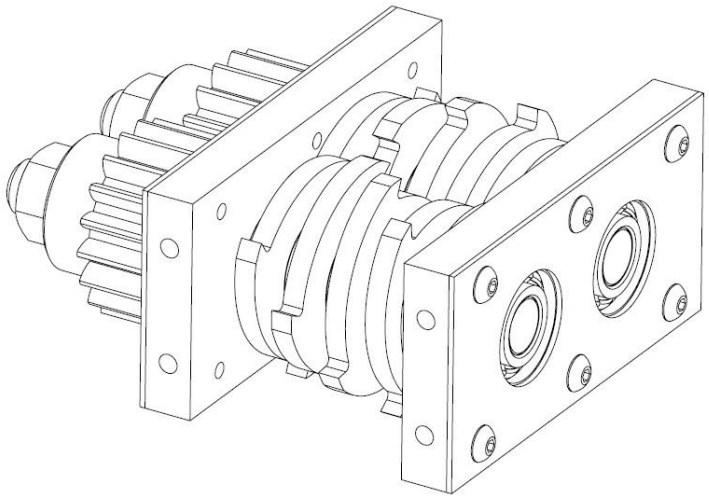


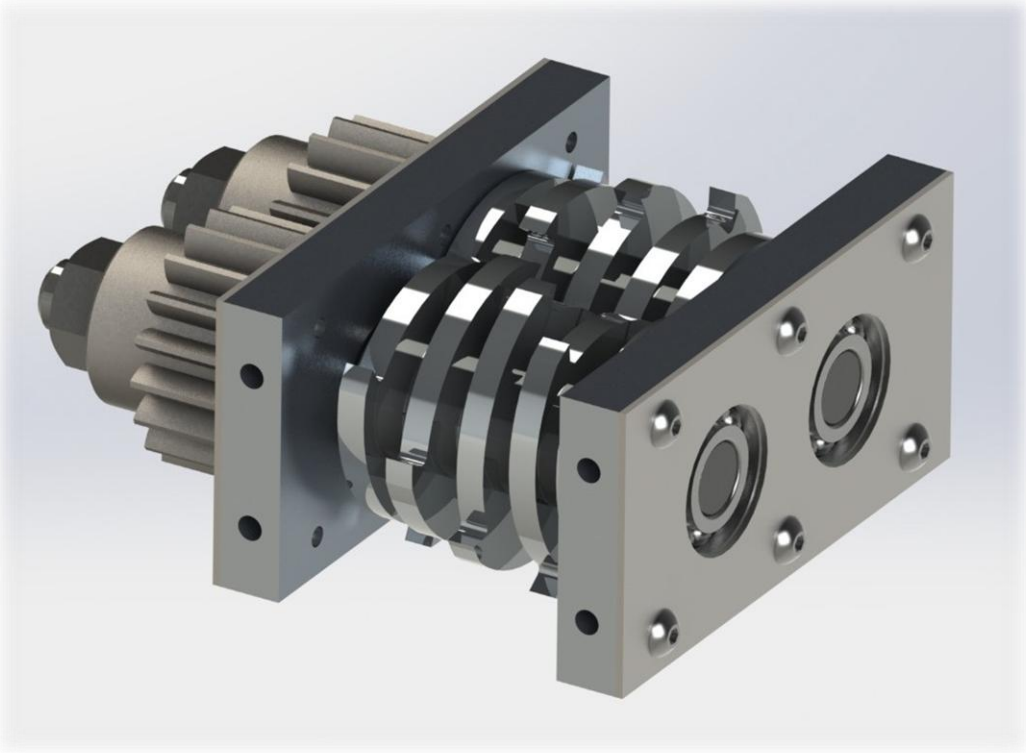


Building your shredder step by step

Next step ist to instal the assembled bearing housing.

Just slide the housing in the shafts.



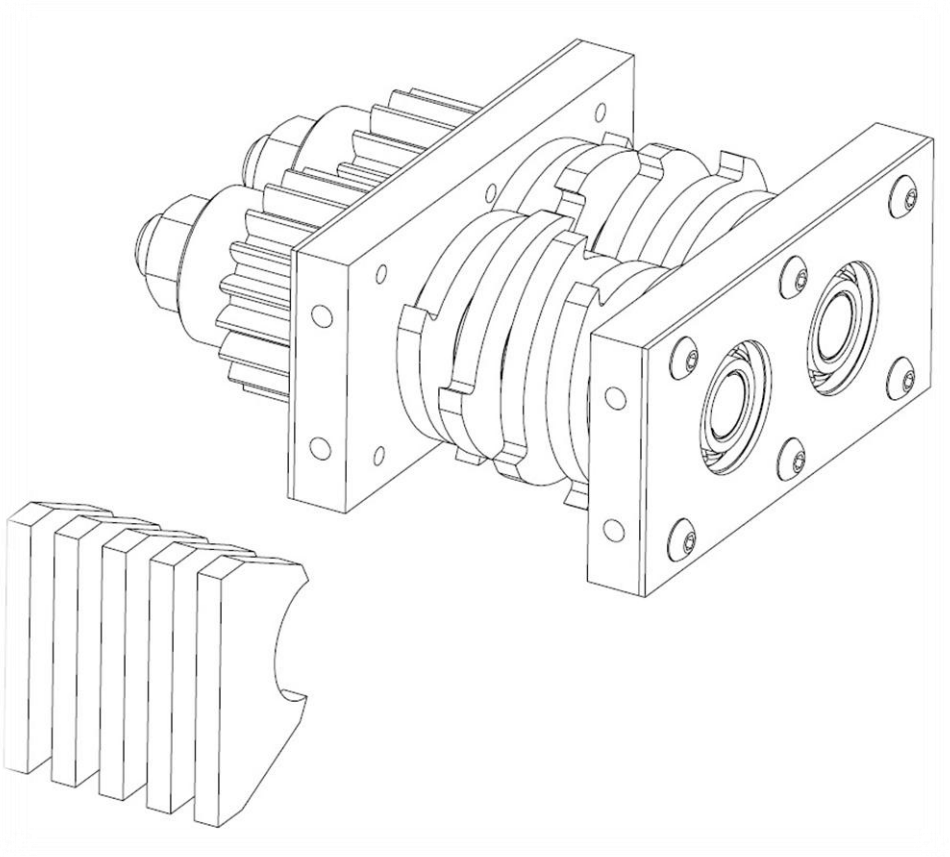


Building your shredder step by step

For next step you need :

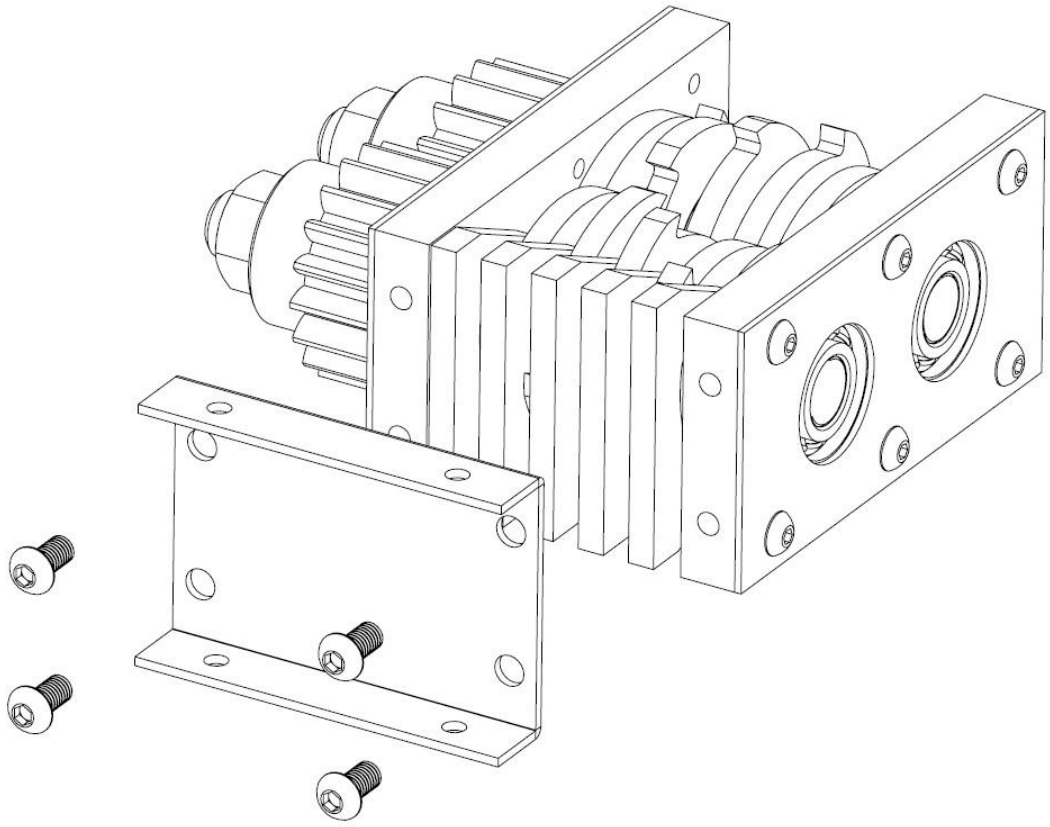
1) ten pieces of anti realing guard
2) two pieces of mounting side
3) eight screws M6x12
4) Allen key for M6 screw.

Take 5 pieces of anti realing guard and slide them in shreder assembly.



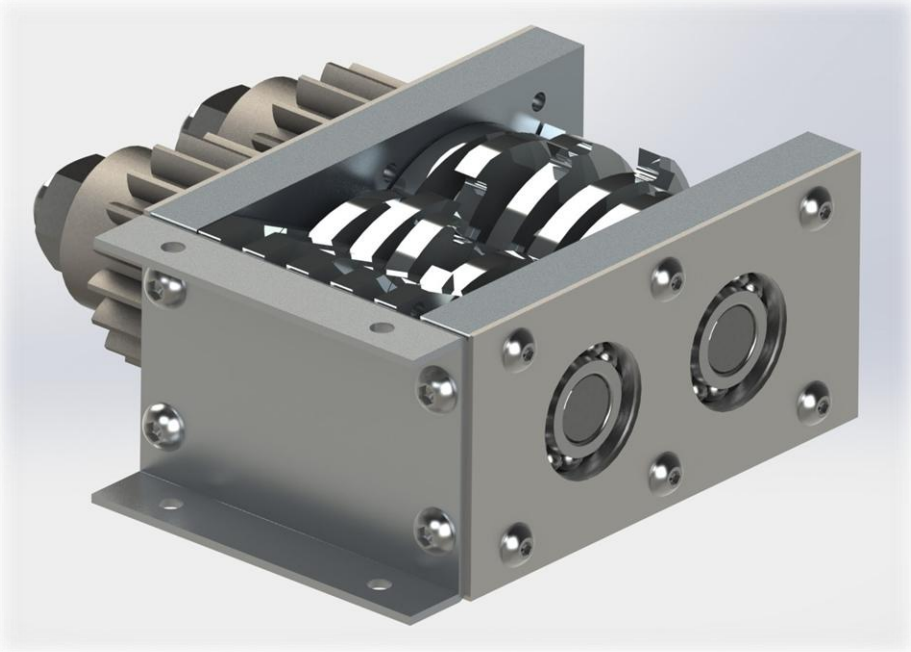
Building your shredder step by step

Take one mounting side and use 4 pieces of M6x12 screws to mount it on the shredder assembly.

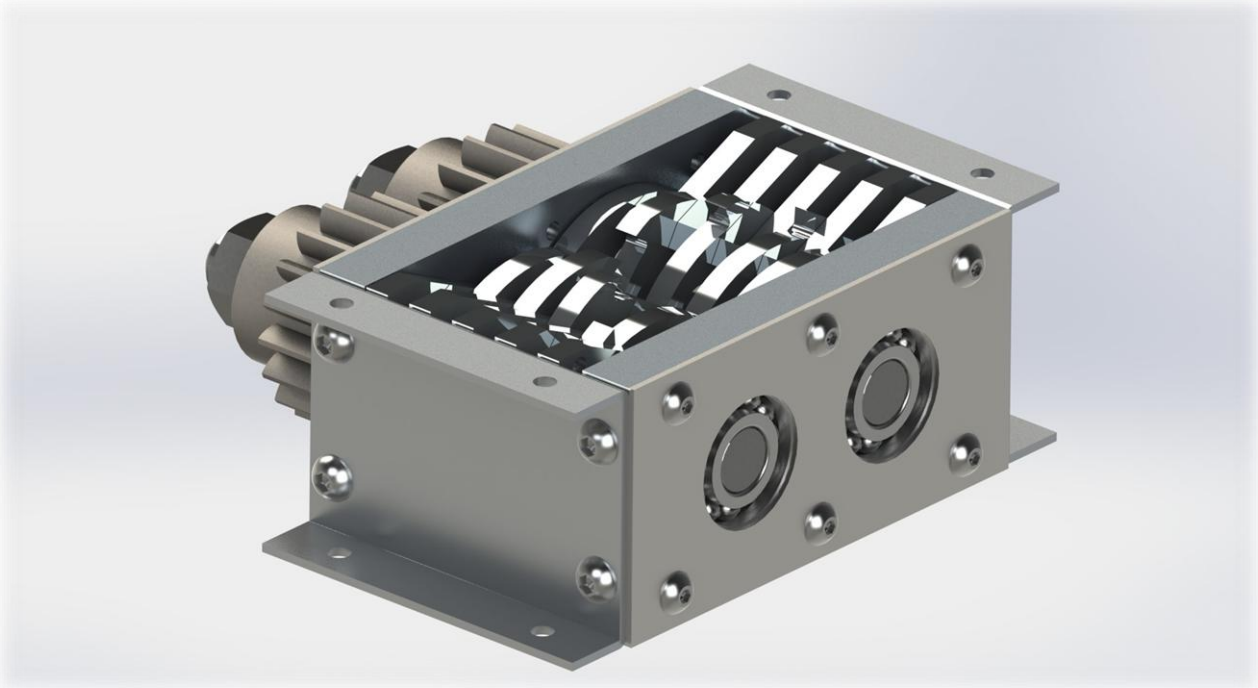


Building your shredder step by step

You should now see this :



Now repeat that same with the rest parts on the other side.



Building your shredder step by step

And you are done !

Congratulation you have just build your mini shredder.

But before you start to crash some stuff go to next page and read Warnings and safety and of-course what you can shredd and what not.

Warnings and safety

This shredder is build to be powered only with human power through a hand crank.

Never use a electric, hydraulic or any other driving mechanism than your own hand.
If you do so, we are not responsible for any injuries you will suffer or you make to somebody else.
And you loose the waranty.

Only one person can operate this shredder at a time, to avoid injuries.
Never let somebody else to hand crank the shredder if you are feeding the shredder with material.
To feed the shredder use leather glove to protect your hand.
You can't use this shredder without protecting casing, which you need to build be yourself.

Under protective case is understood ani metal, wood or plastic casing which allow tight fitting with table and protect operator from all rotating and sharp parts which cane cause injury.

What you can do, and what no

The Chrome steel shredder can crash this things :

1) Failed prints from PLA
2) Failed prints from ABS
3) Failed prints from laywoo
4) Failed prints from bendlay
5) Failed prints from Laybrick
6) Failed prints from poro-lay
7) Any ABS from home appliances
8) PP or PE parts which are not thicker than 3 mm.
9) PET bottles need to be processed before shredding. Cut the the bottleneck and the bottom of the bottle away and process only the soft middle part . If you want to process the bottleneck and the bottle bottom, you need to cut them in 2 or 3 pieces before shreding.
10) Any fruits and vegetables, with pebbles.
11) Any food remains, not containing any bones.
12) Any meat, not containing any bones
13) Bones from poultry
14) Plants and small wood parts, not biger than 12 mm in diameter.
15) Any printed circuits which do not have any metals thicker than 0,3 mm.
16) Cables and connectors which which do not have any metals thicker than 1 mm.
17) Steel max 0,3mm thick, Aluminum max 1mm thick.

What you can do, and what no

If you want to shredd something what is not in the list write to : thymarks@hotmail.com and ask for written permision to shredd what you need to avoid losing the warranty.

Do not use more than 150 Nm torque or you can demage the shredder.

Warranty

Using the shredder with other drive than human power mean loss of warranty.

Using the shredder without protective housing mean loss of warranty.

Making any changes in shredder hardware mean loss of warranty.

Shredding something what is not on the shred list mean loss of warranty.

All the shredder parts are from normalized metal parts which can be damaged if is used too much torque. (tested with 180 Nm.)

Any mechanical damage will be seen as using more than 150 Nm torque and mean loss of warranty.

And that is all.

If you have any questions or wishes, contact me direct on :
Thymarks@hotmail.com

Marcus.