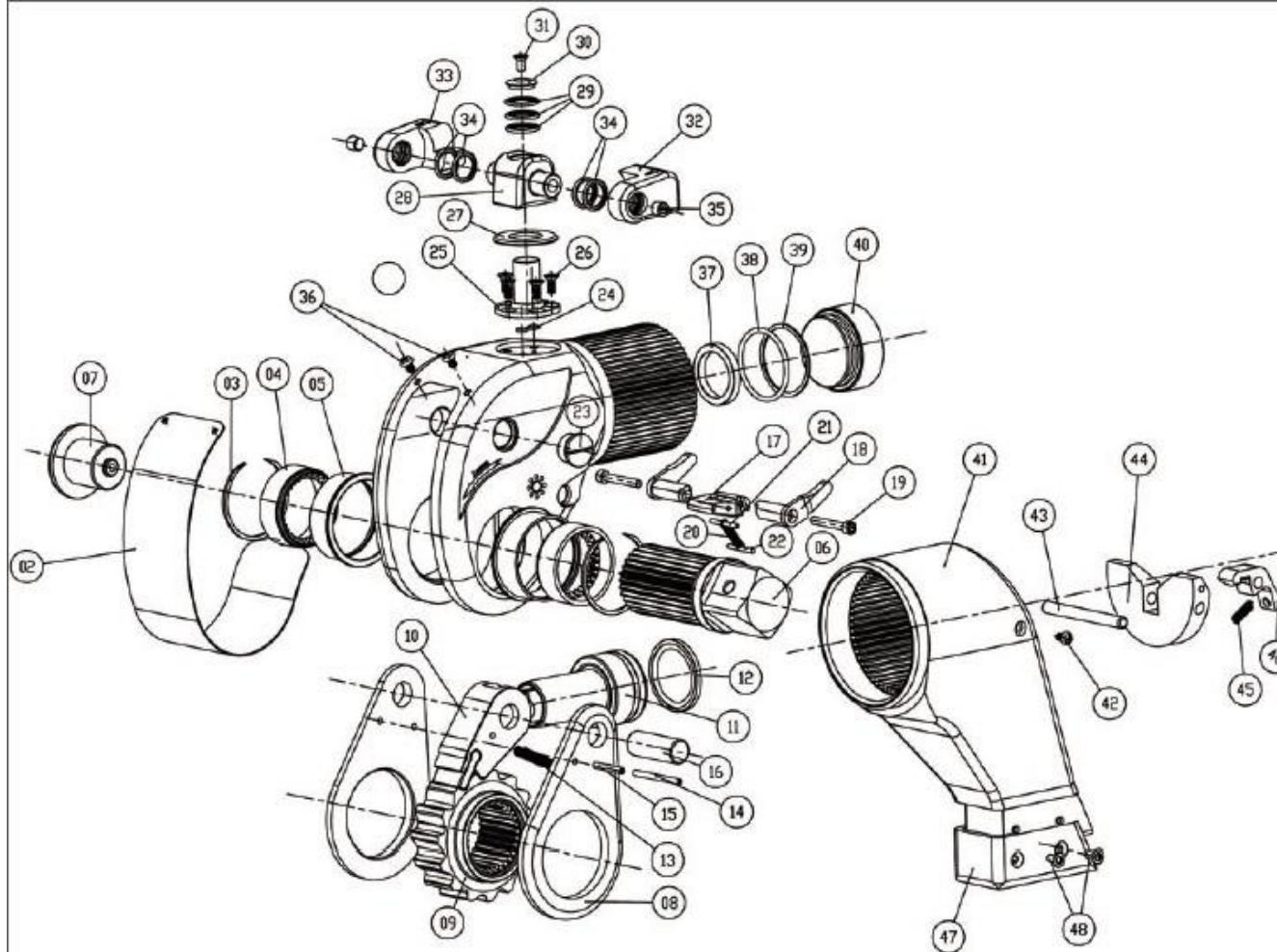


Assemble-Square drive series

Introduction:

- spare parts of square drive wrench
- assemble skills of square drive wrench
- wear out of spare parts
- trouble analysis system

Spare parts name



1	Body
2	Shroud
3	Bush sleeve Circlip
4	Drive sleeve spline
5	Bush sleeve
6	Square drive
7	Square Drive retainer
8	Drive Plate Universal
9	Ratchet spline
10	Drive Pawl Assembly
11	Piston Assembly
12	Seal kit for piston
13	Drive pawl spring
14	Drive plate link pin
15	Pin for drive pawl spring
16	Drive pin
17	Reaction pawl
18	Button lever
19	Screw for button lever
20	Spring for reaction pawl
21	Reaction pawl pin
22	Pin for reaction pawl spring
23	Screw for body
24	O-ring for swivel joint base
25	Swivel joint base
26	Swivel joint base Screw
27	Gasket kit
28	Swivel joint
29	Seal kit for swivel joint
30	Cover for swivel joint
31	Cover screw
32	"A" swivel joint coupler
33	"R" swivel joint coupler
34	Seal kit for swivel joint coupler
35	Screw for coupler
36	Shroud Screw
37	U-ring for cylinder
38	End cap O ring
39	End cap retaining ring
40	End cap
41	Reaction arm
42	Reaction arm fixer screw
43	Pin for reaction arm fixer
44	Reaction arm fixer
45	Compressed spring
46	Reaction arm fixer retainer
47	Reaction arm cover
48	Reaction arm cover screw

Main parts of Square drive wrench

- 1.Body
- 2.Ratchet spline ass.
- 3.Reaction pawl ass.
- 4.Piston and End cap ass.
- 5.Swivel joint ass.
- 6.Reaction arm ass.

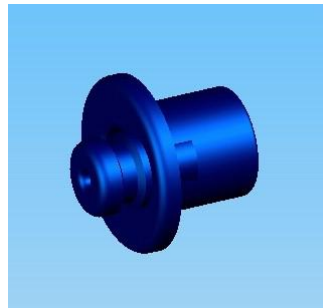
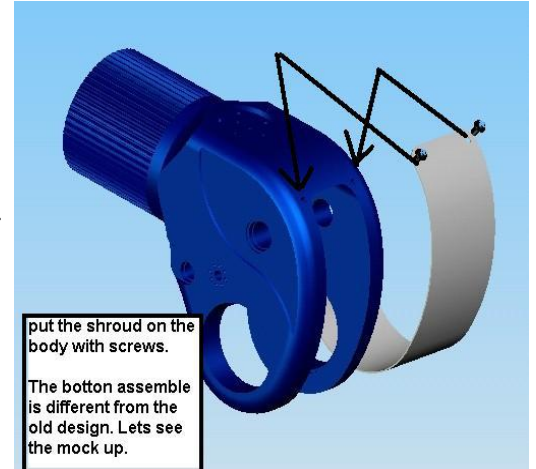
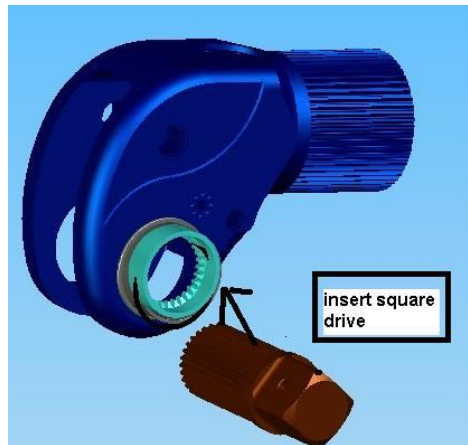
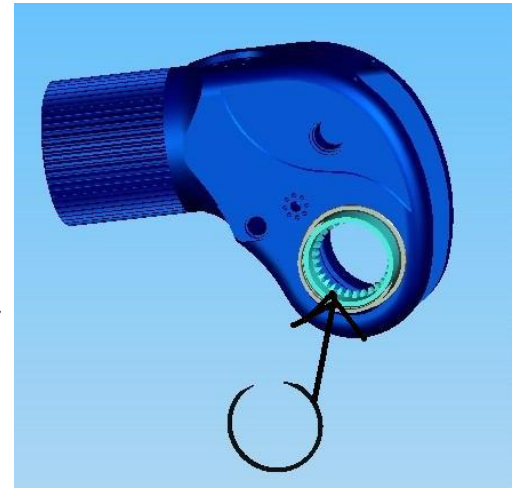
Body-parts

Body includes:

1. square drive (explosive No.6)
2. shroud (No.2)
3. bush sleeve circlip (No.3)
4. drive sleeve spline (No.4)
5. bush sleeve (No.5)
6. Square drive retainer (No.7)
7. screw for body (No.23)
8. shroud screw (No.36)



Body assemble

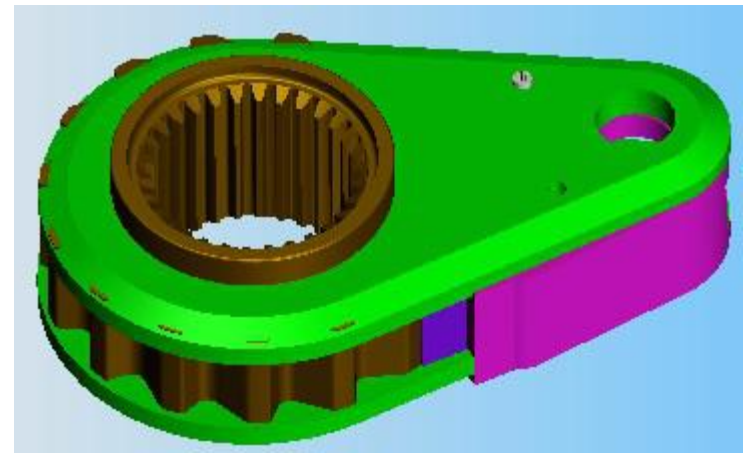
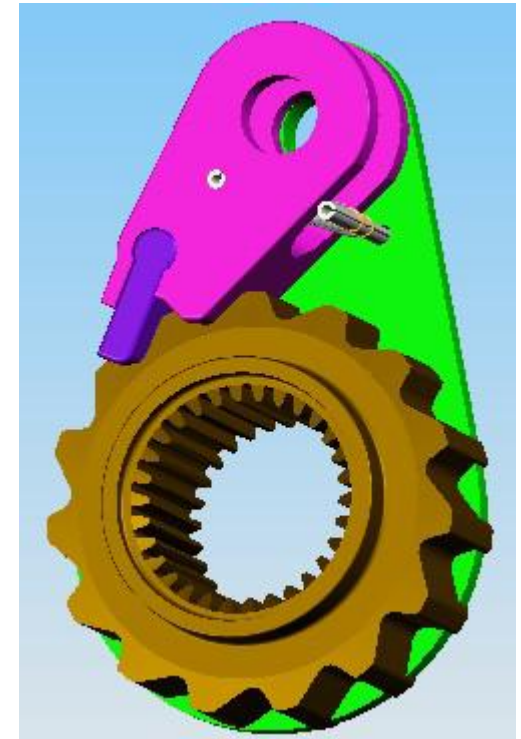
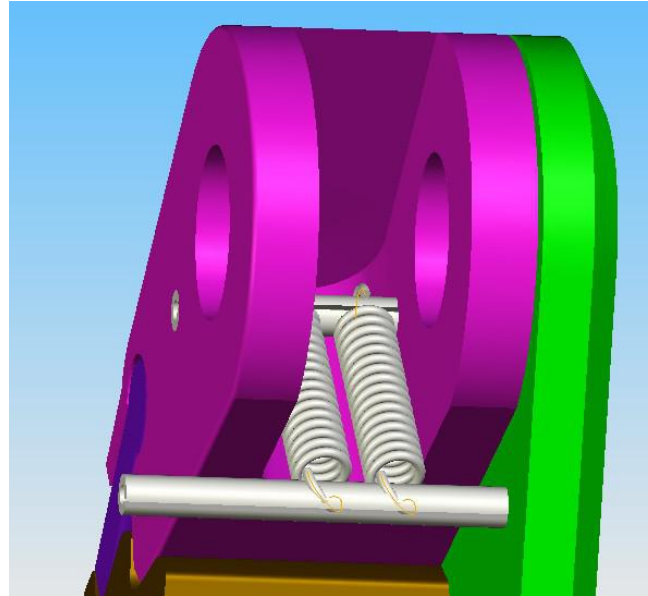


Ratchet spline ass.-parts

- Ratchet include:
- 1. Drive Plate Universal(No. 08)
- 2. Ratchet spline(No. 09)
- 3. Drive Pawl Assembly(No. 10)
- 4. Drive pawl spring(No. 13)
- 5. Drive plate link pin(No. 14)
- 6. Pin for drive pawl spring(No. 15)



Ratchet spline assembly

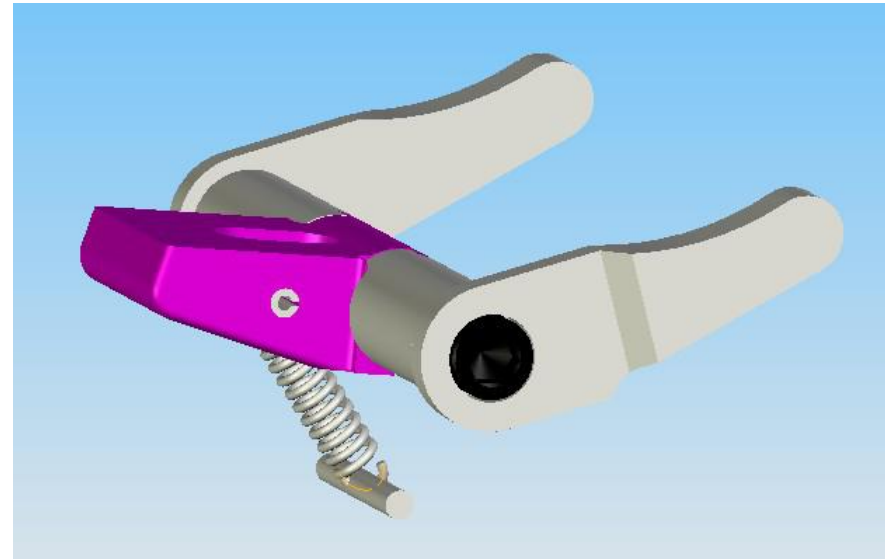


Description

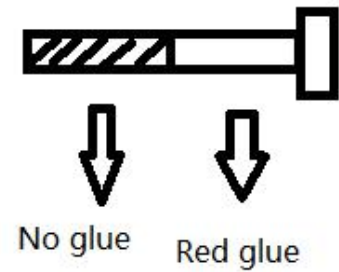
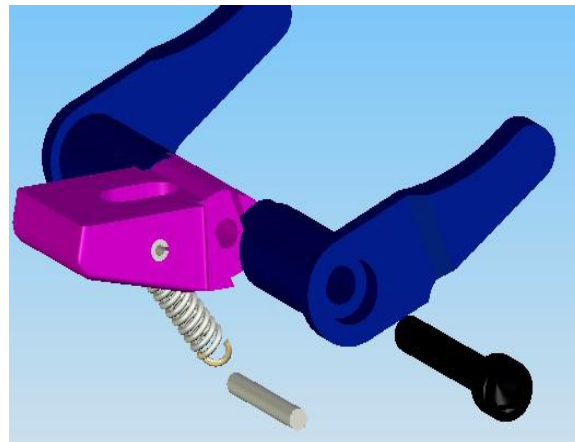
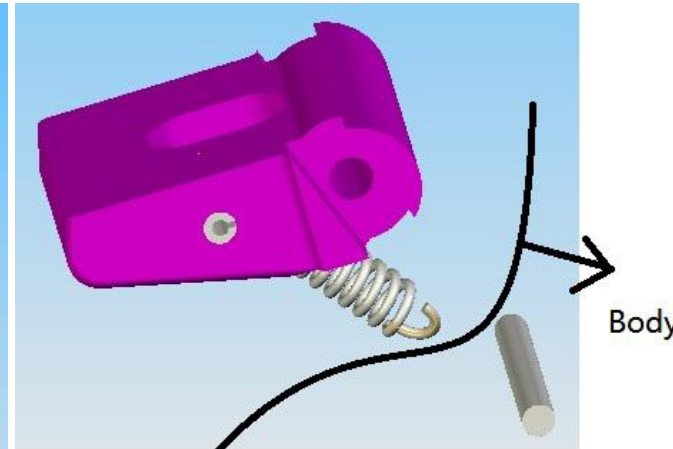
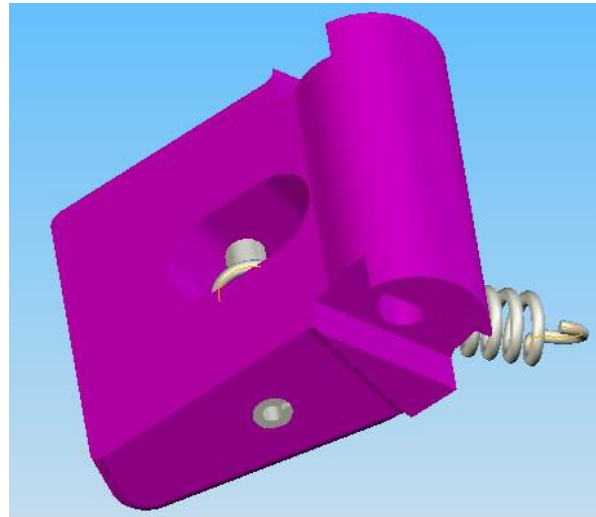
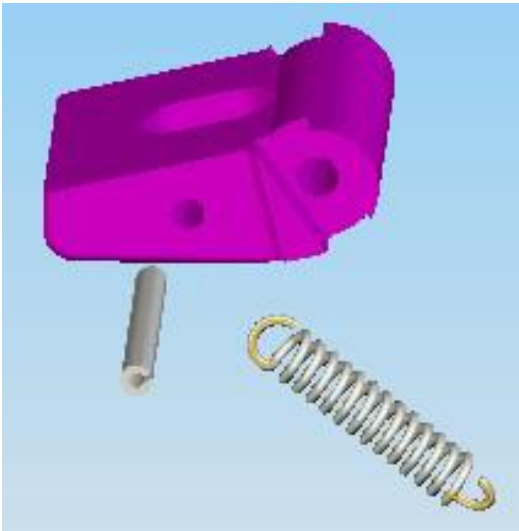
- Use two pins to fix the drive pawl with spring onto one drive plate.
(when hammer the pin,keep the pin vertical,if it become crooked,need to try again)
 - Put the ratchet spline into the drive plate, meanwhile,make sure drive pawl into the gear of ratchet spline,then use another drive plate to cover
- *This process need to use some grease to lube

Reaction pawl ass.-parts

- Reaction pawl include:
- 1.Reaction pawl(No. 17)
- 2.Button lever(No.18)
- 3.Screw for button lever(No.19)
- 4.Spring for reaction pawl(No.20)
- 5.Reaction pawl pin(No.21)
- 6.Pin for reaction pawl spring(No.22)



Reaction pawl assembly

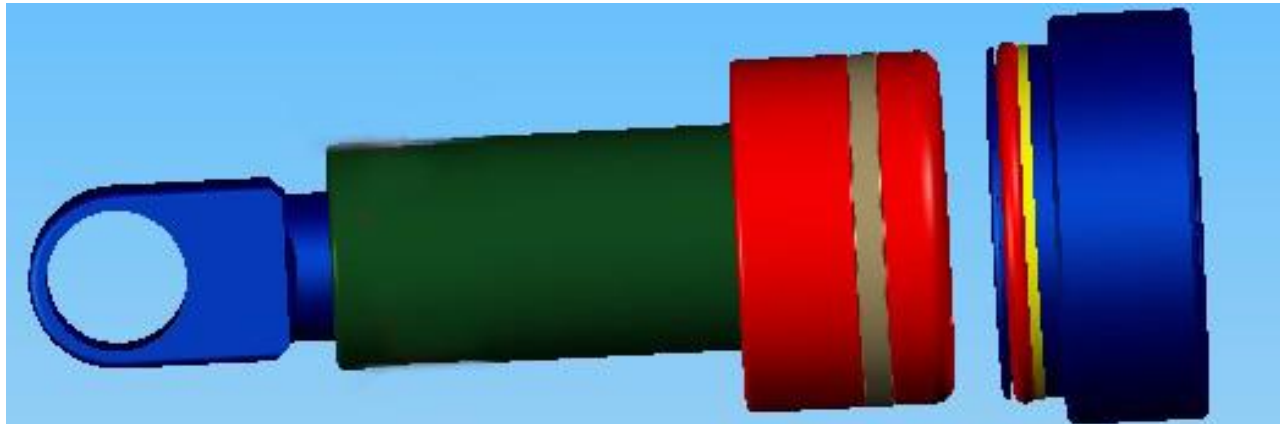


Description

- Use a short pin connect the spring and reaction pawl(this process is similar as drive pawl)
- Use a galvanized wire drag the reaction pawl,and move to the right position,then use another pin fix the spring on the body.
- Use screw put button level on the reaction pawl,need to use red glue(fixing glue).
- Please notice when you loosen the screw,no need to tighten too much,it's convenient for move

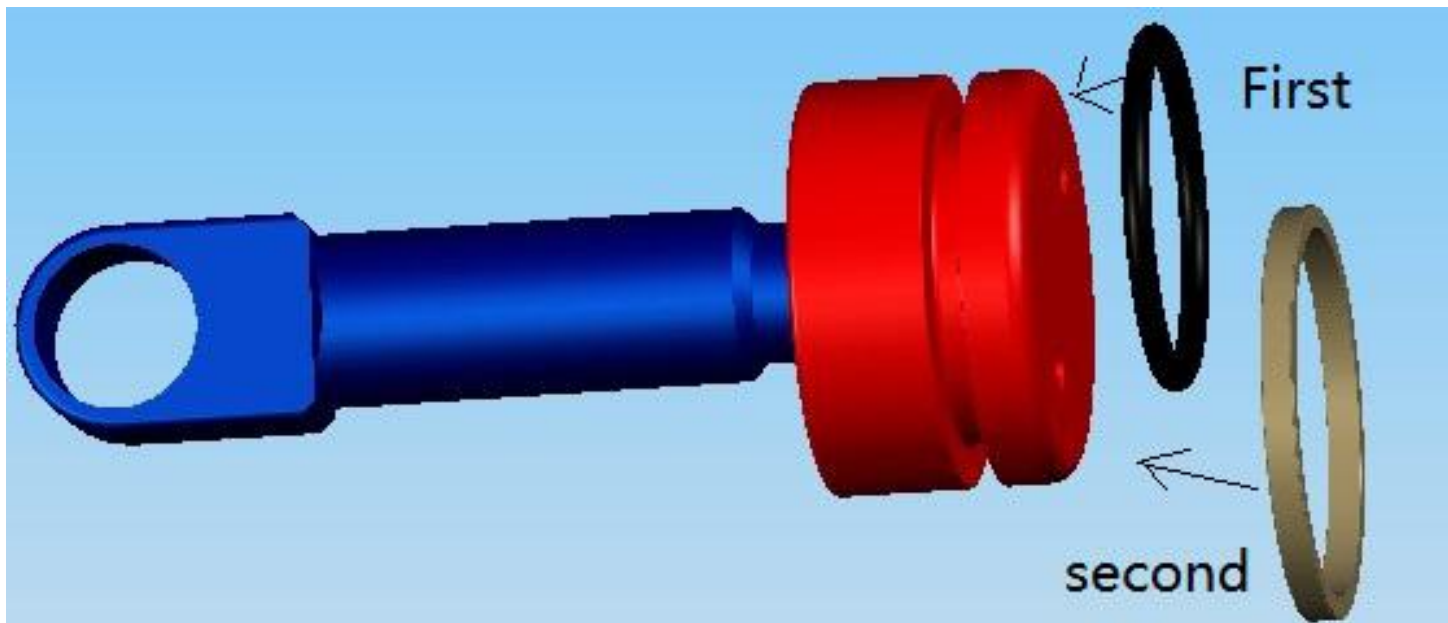
Piston and End cap ass.-parts

- Piston include:
 - 1.Piston Assembly(No. 11)
 - 2.Seal kit for piston(No. 12)
- End cap include:
 - 1.End cap O ring(No. 38)
 - 2.End cap retaining ring(No. 39)
 - 3.End cap (No. 40)



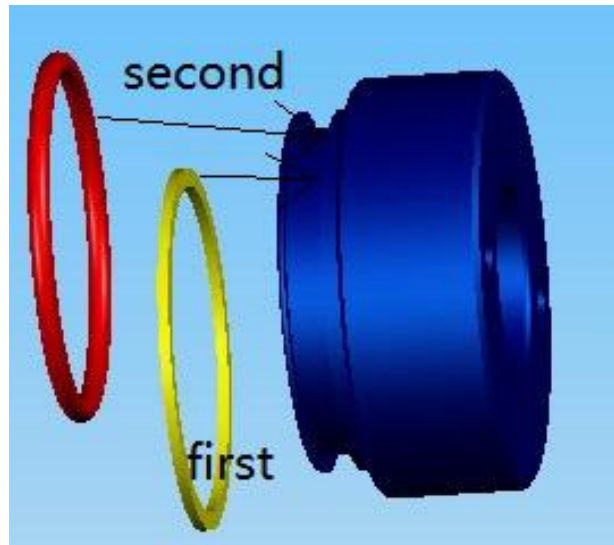
Piston assemble

- Before install the seal kit,can put the seal kit into hot water for few minutes,it will become soft and more easy to install.



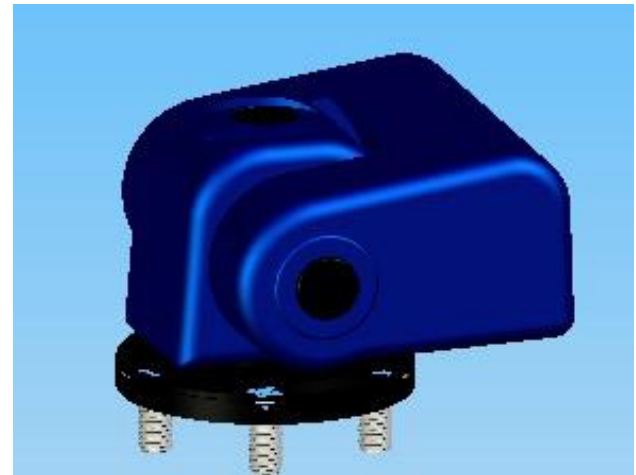
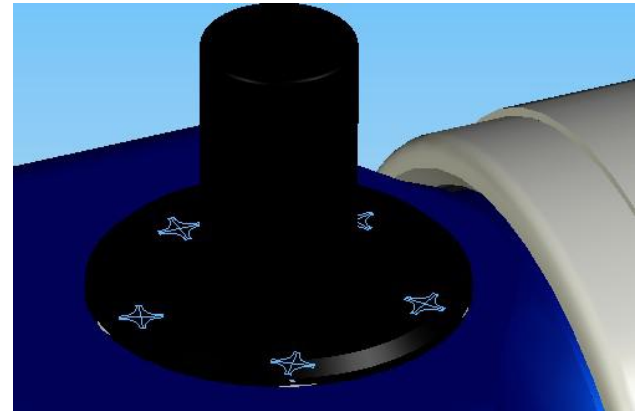
End cap assemble

- *To install the seal kit,it's similar as piston,can use hot water to help(if temperature is low).
- *When prepare to install the end cap on body,remember to use blue glue.

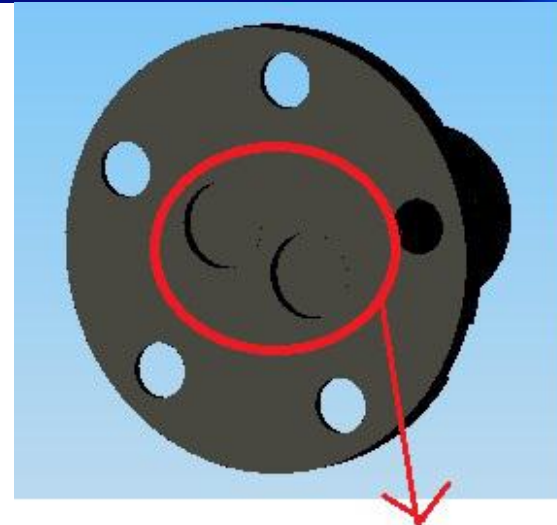
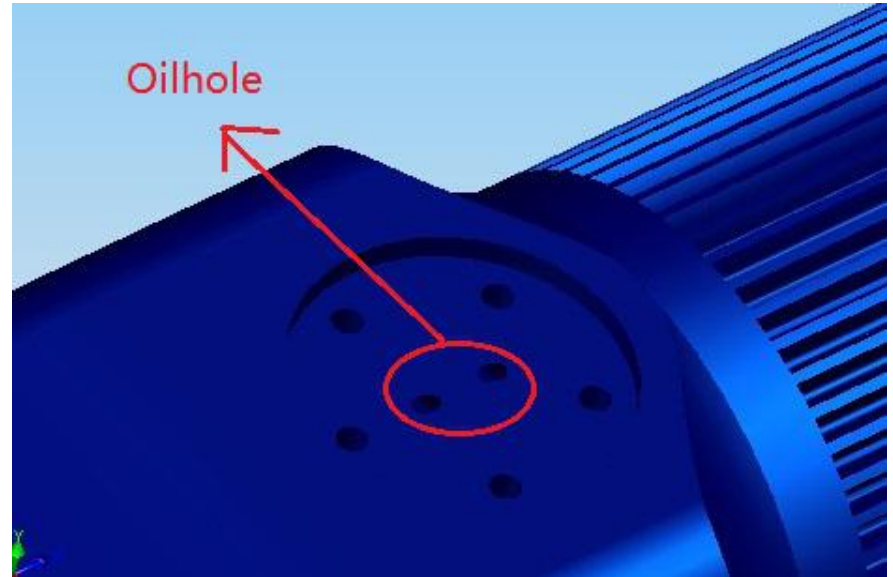


Swivel joint ass.-parts

- Swivel joint base:
 - 1.O-ring for swivel joint base(No. 24)
 - 2.Swivel joint base(No. 25)
 - 3.Swivel joint base Screw(No. 26)
- Swivel joint:
 - 1.Gasket kit (No.27)
 - 2.Swivel joint (No.28)
 - 3.Seal kit for swivel joint (No.29)
 - 4.Cover for swivel joint(No.30)
 - 5.Cover screw(No.31)
 - 6."A" swivel joint coupler(No.32)
 - 7."R" swivel joint coupler(No.33)
 - 8.Seal kit for swivel joint coupler(No.34)
 - 9.Screw for coupler(No.35)



Swivel joint base assembly

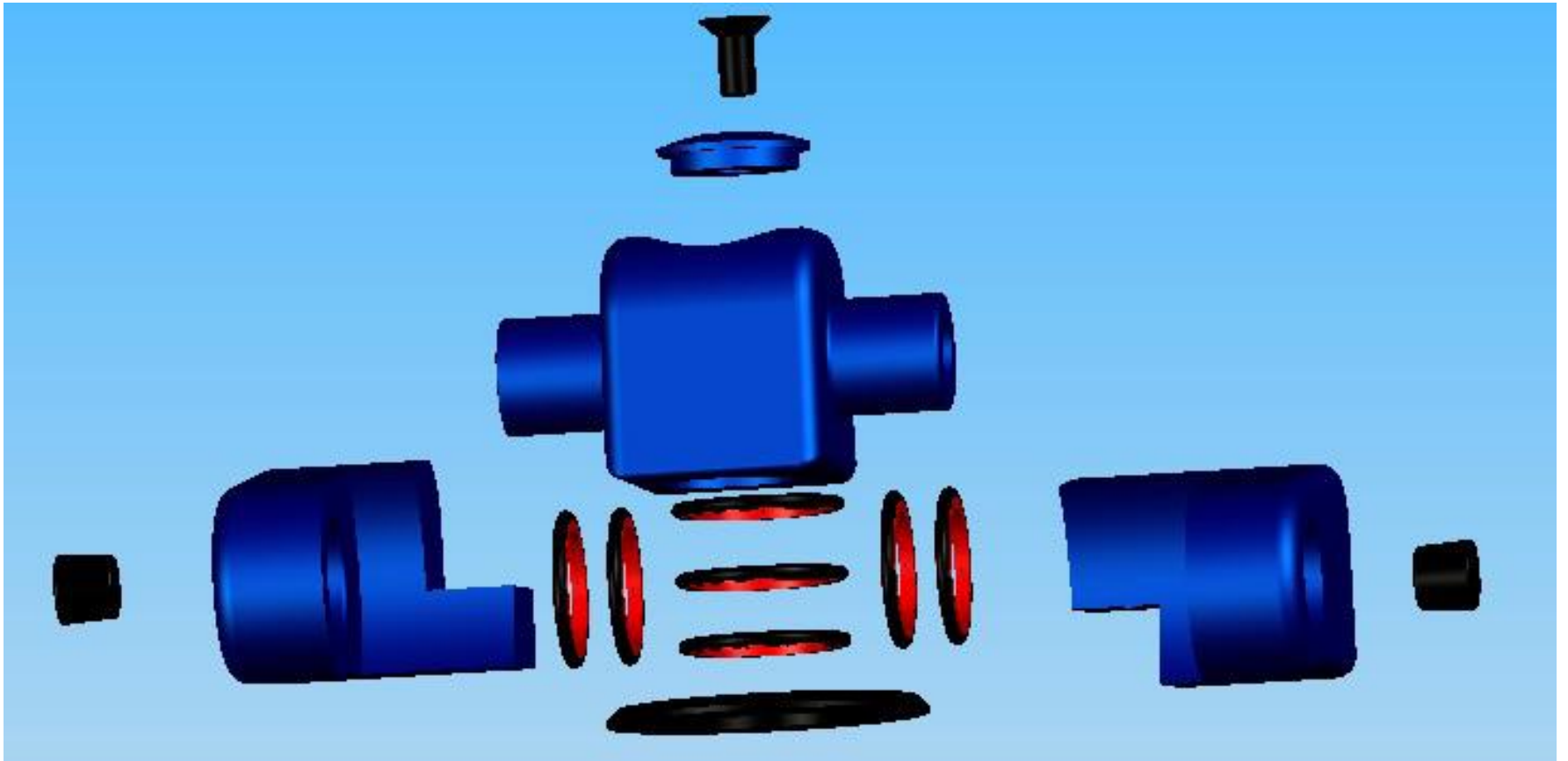


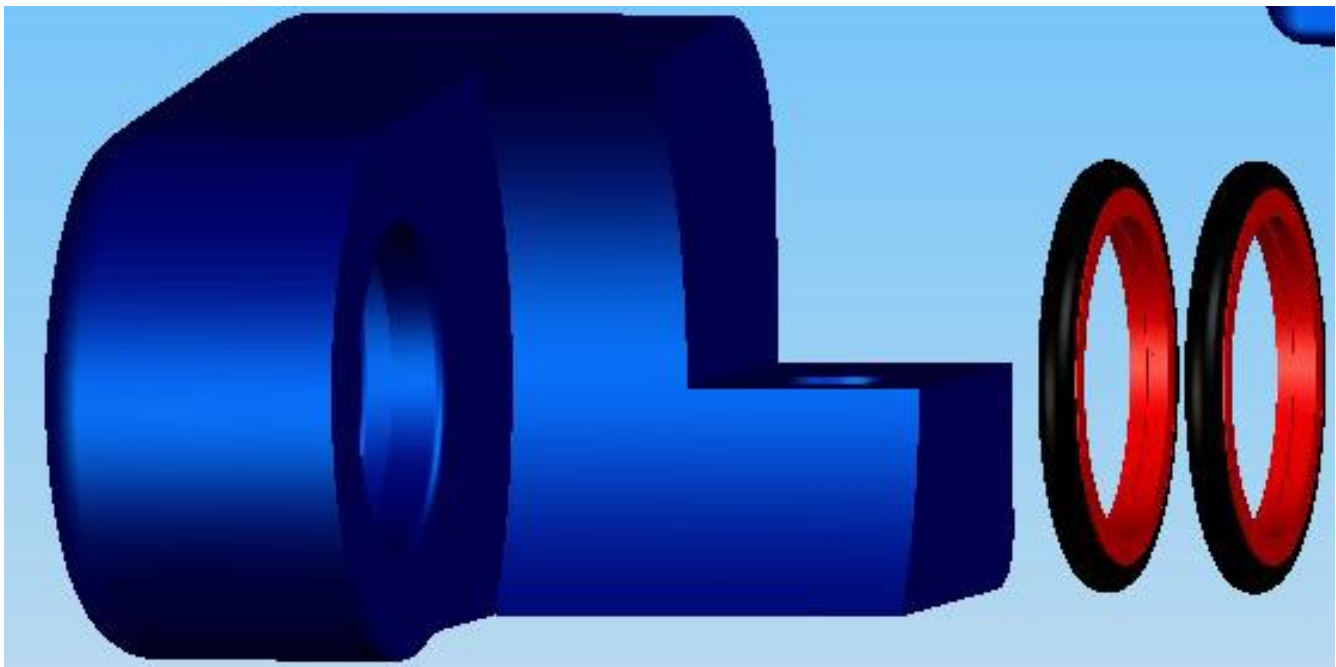
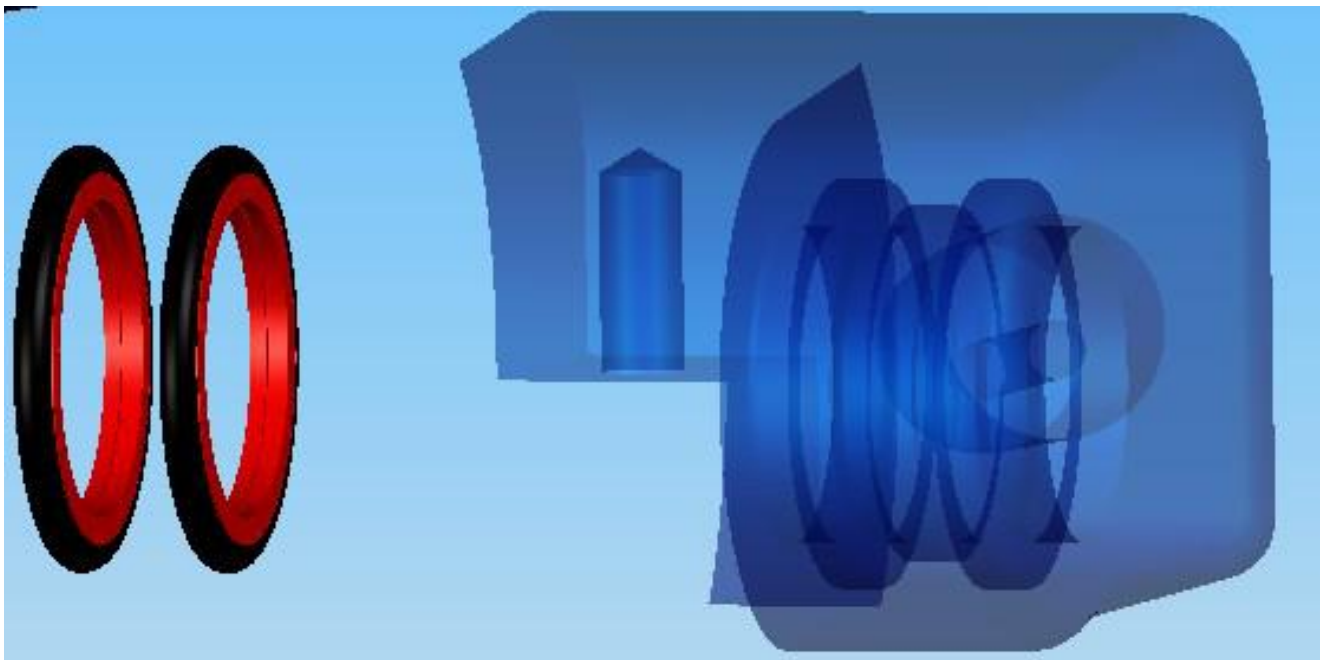
Need to meet oilhole

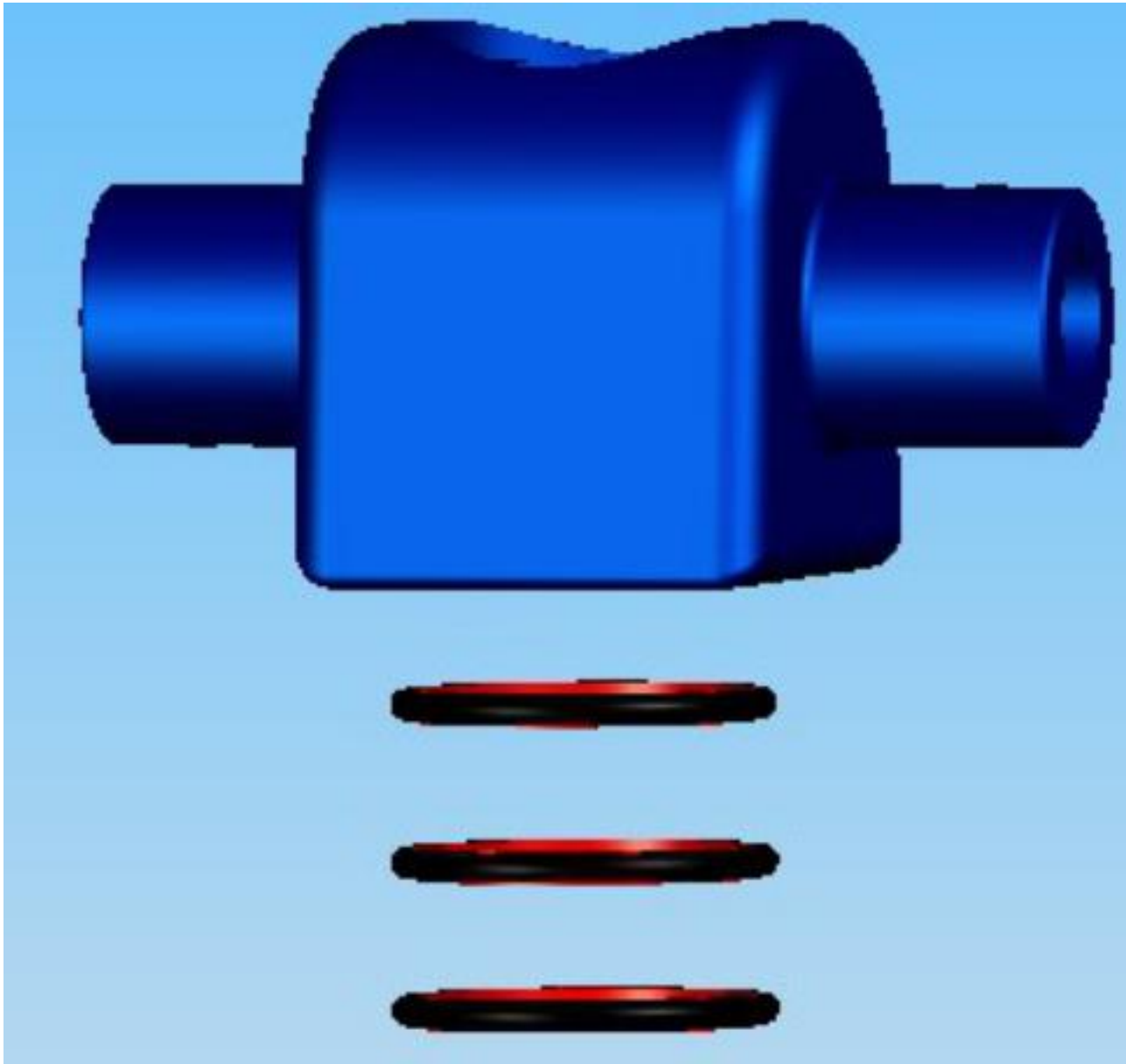
Description

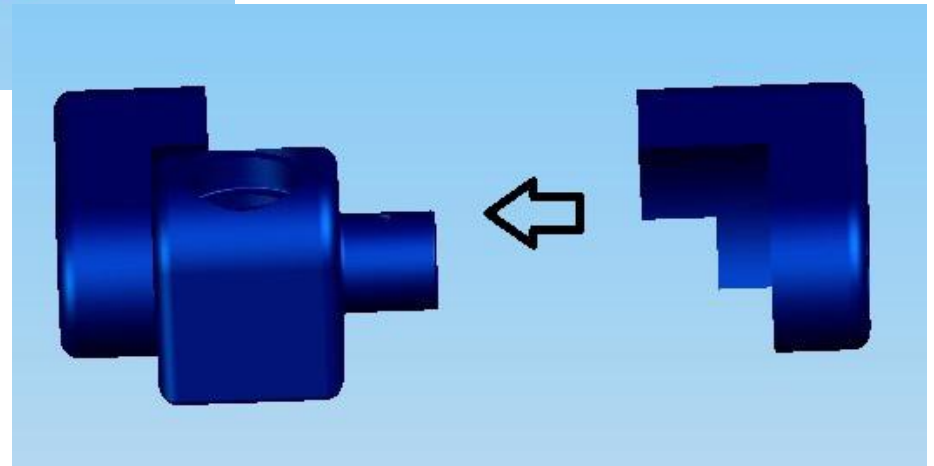
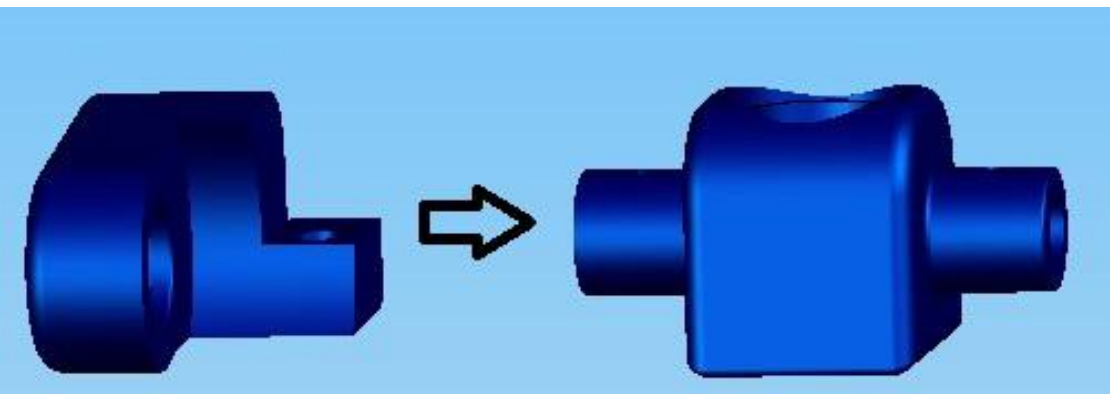
- 1. when install the swivel joint base, please make sure the oilhole is correct, otherwise the oil-way is wrong.
- 2. Don't forget the o-ring.
- 3. When tighten the screw, usually 3 of the five screws need to use blue glue.

Swivel joint assembly

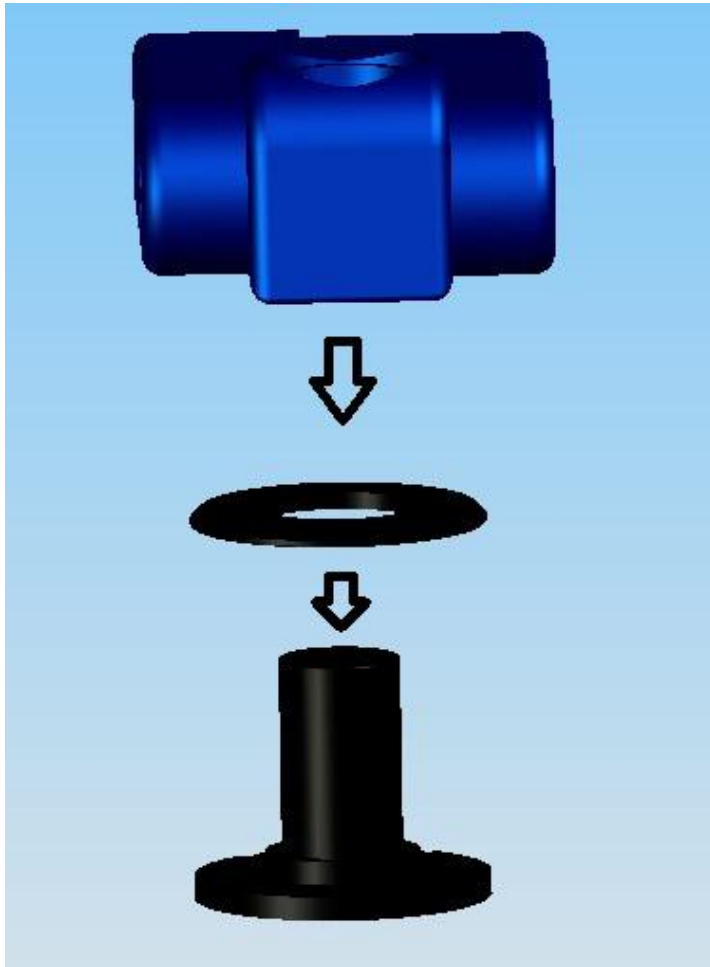






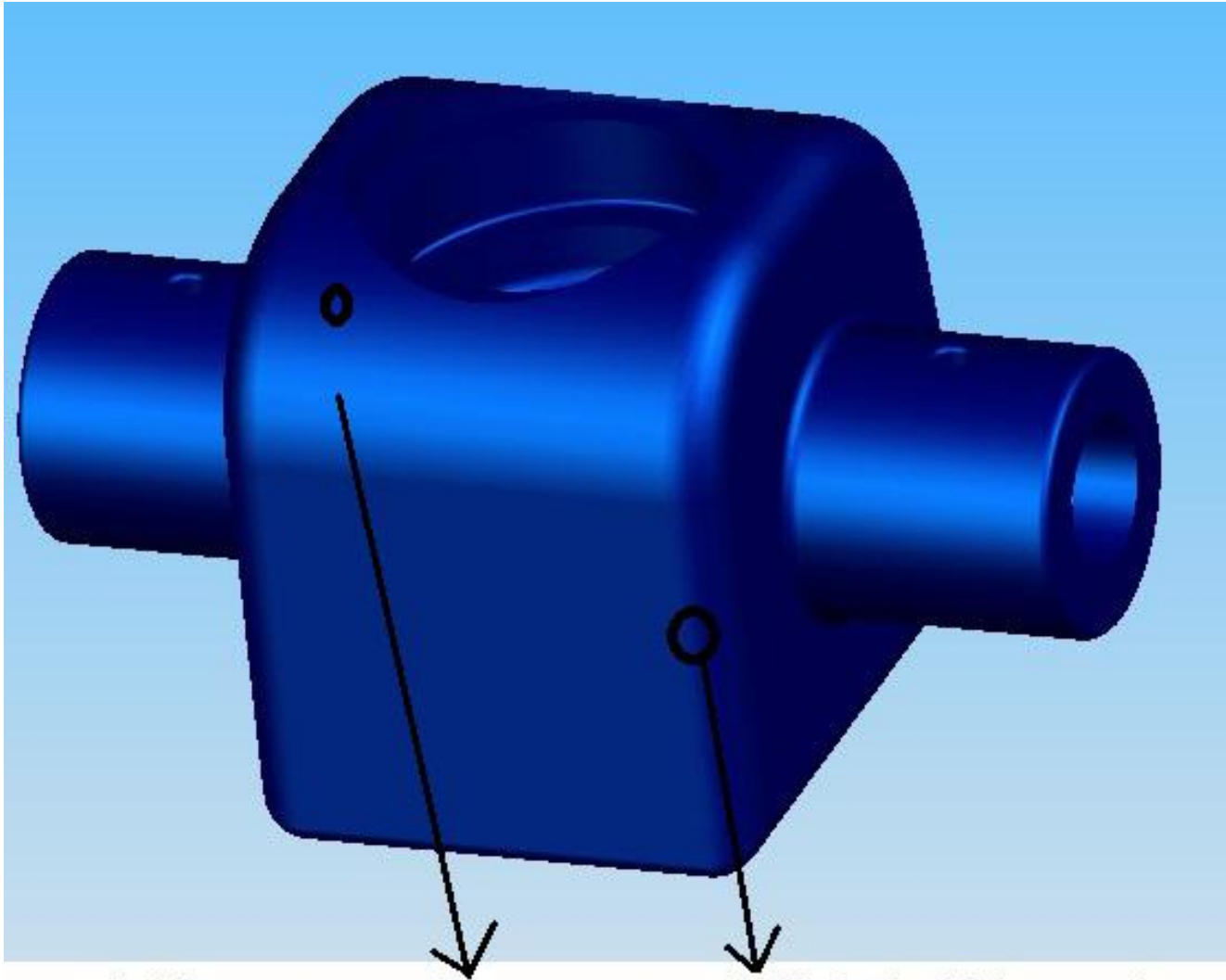


- This process also need to use guide tube.
- Also please notice which is "A" coupler and which is "R" coupler

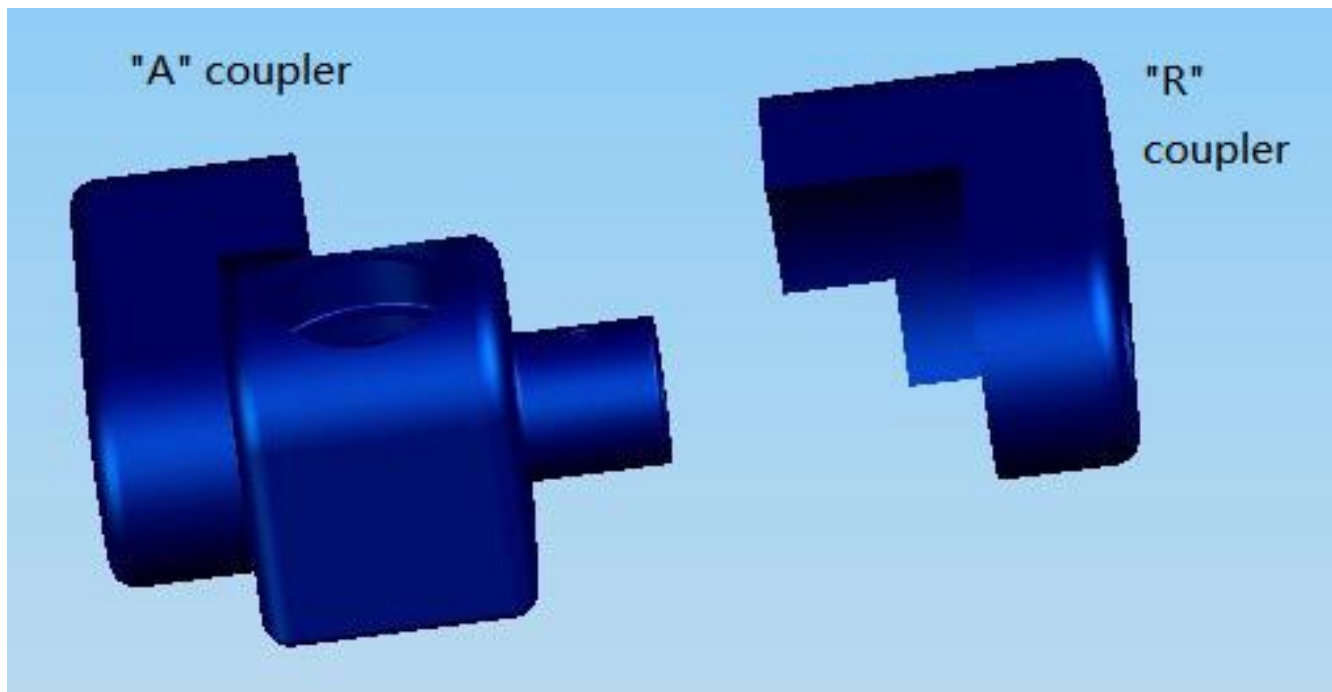


- This process need to use guide tube.It will protect the seal kits.

How to distinguish "A" coupler and "R" coupler

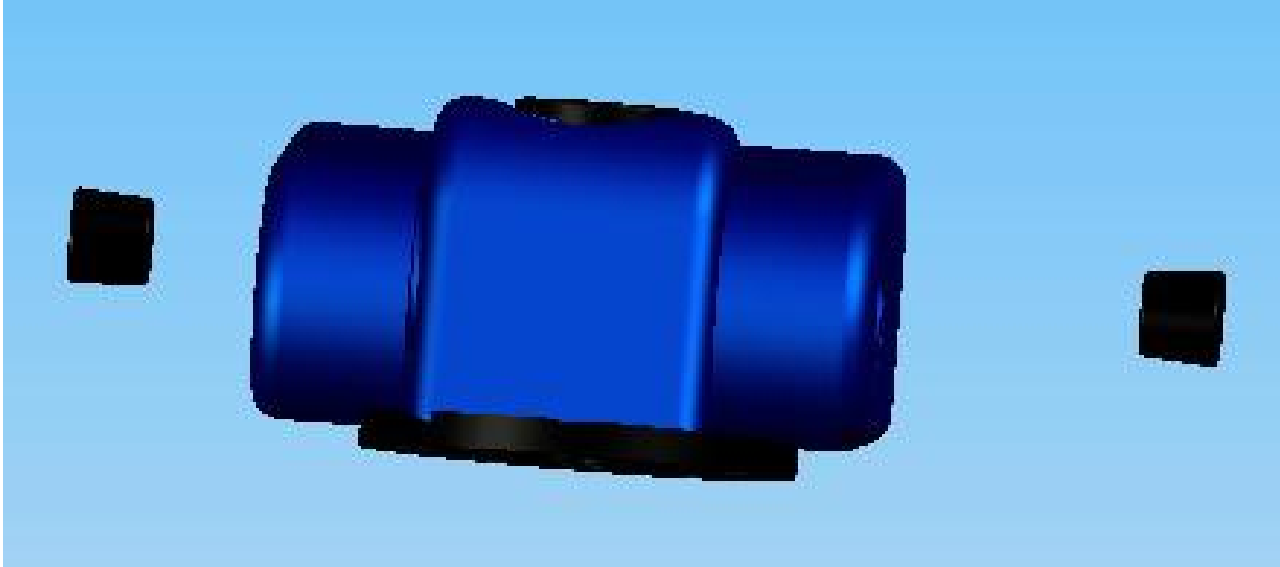


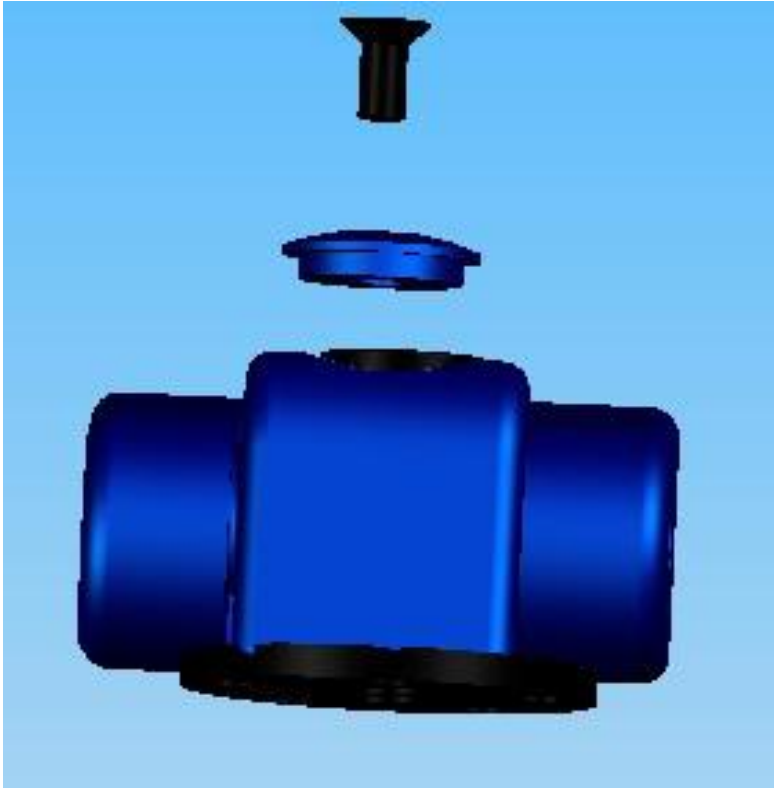
From inside you can see there are two small oilhole,the higher one is for "R" coupler the lower one is for "A" coupler



- The above picture means "A" coupler connect lower oilhole side,"R" coupler connect higher oilhole side.
- "A"=High pressure
- "R"=Low pressure

- This process need to use red glue(fixing glue),to make sure the screw is fixed for long time,also can keep Sealing.

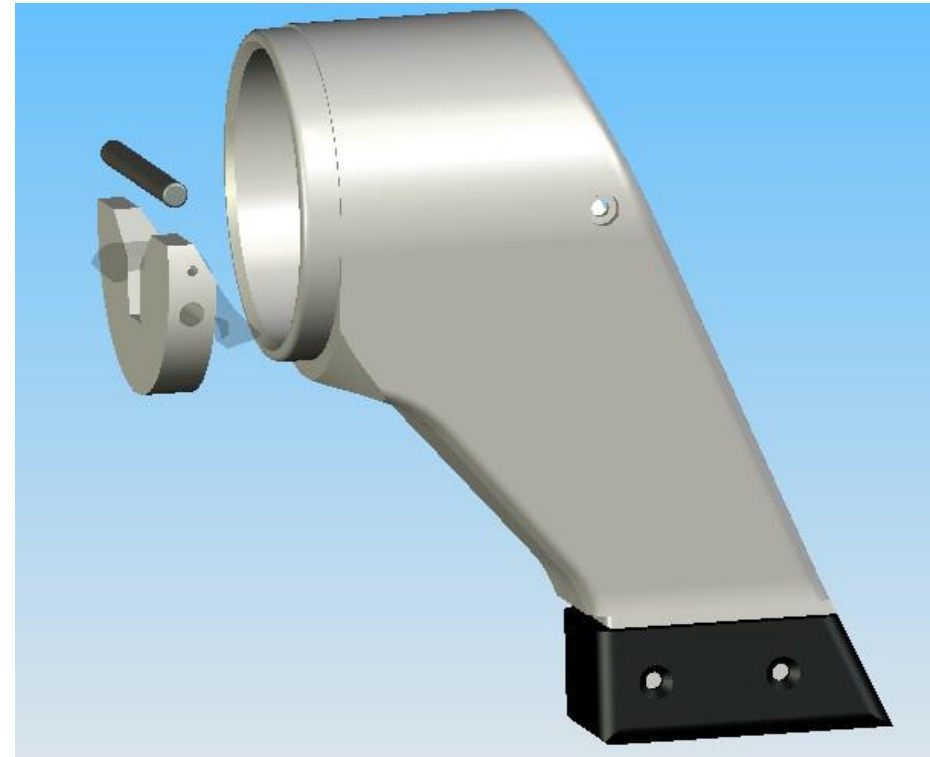




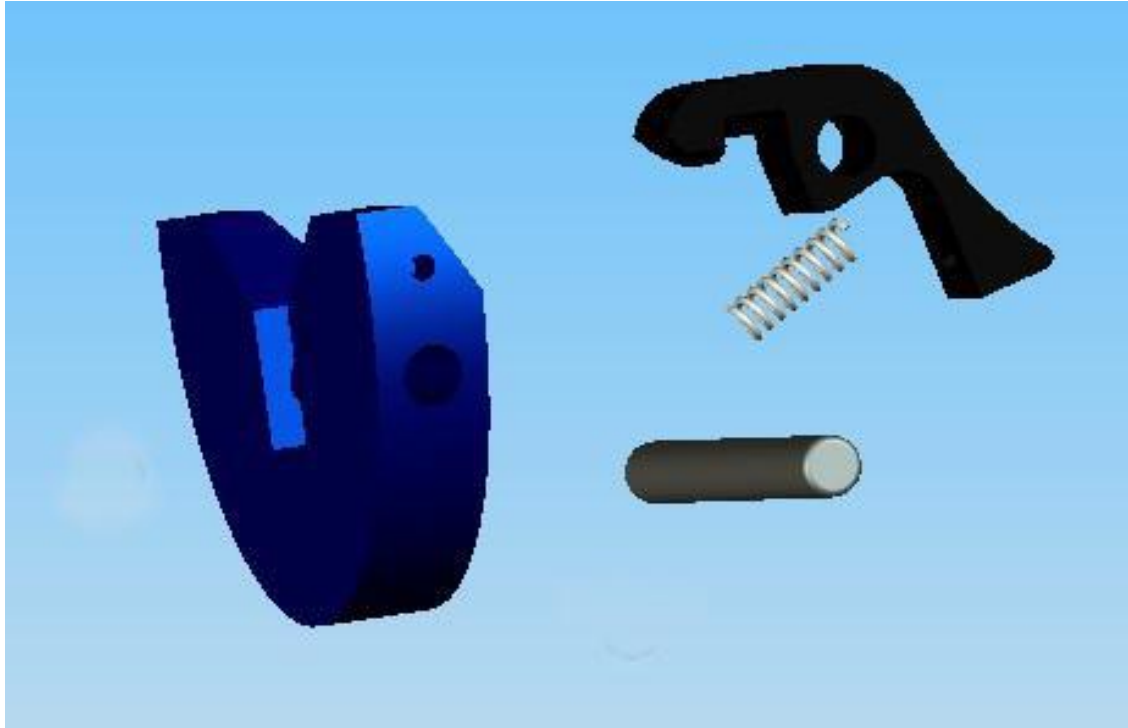
- This process use blue glue.

Reaction arm ass.-parts

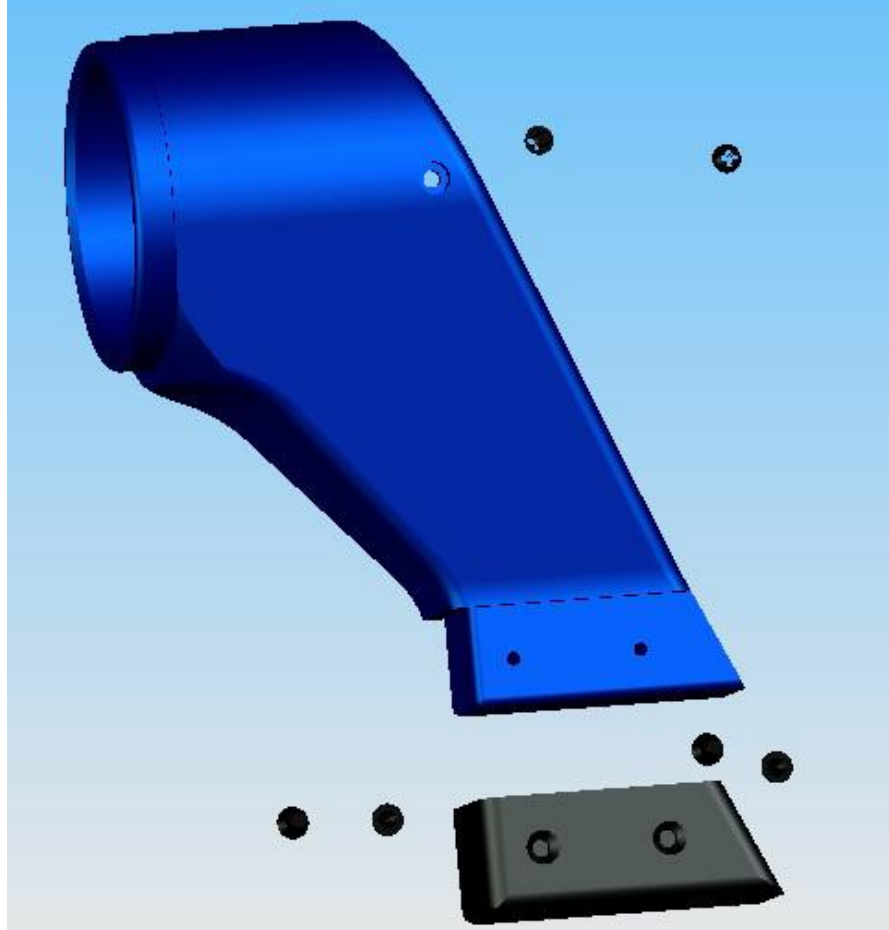
- Reaction arm include:
- 1.Reaction arm (No.41)
- 2.Reaction arm fixer screw(No.42)
- 3.Pin for reaction arm fixer(No.43)
- 4.Reaction arm fixer (No.44)
- 5.Compressed spring (No.45)
- 6.Reaction arm fixer retainer(No.46)
- 7.Reaction arm cover(No.47)
- 8.Reaction arm cover screw(No.48)



Reaction arm retainer assemble



- When tighten the screw, need to use red glue(fixing glue)



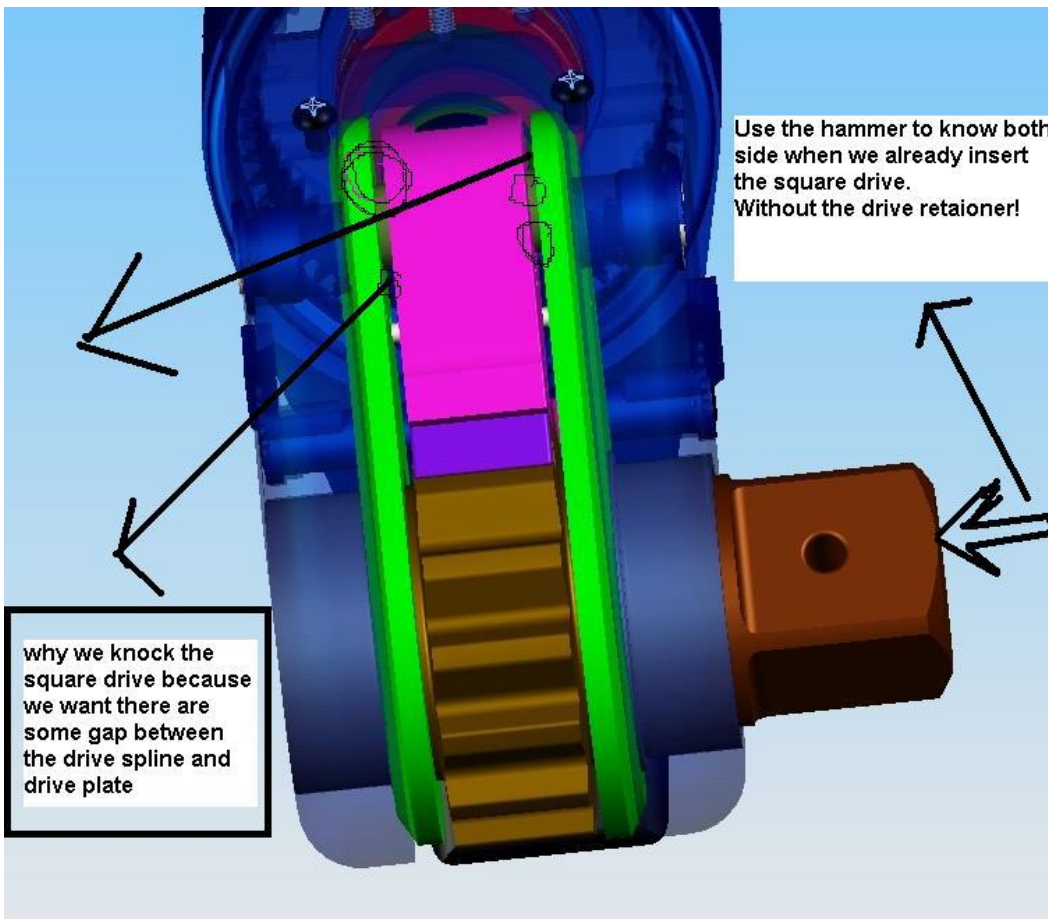
- When tighten the up two screws, need to use red glue(fixing glue)
- The lower for screws use blue glue

Assembly steps

- 1.Piston ass.
- 2.End cap
- 3.Body bushing
- 4.Ratchet spline ass.
- 5.Reaction pawl ass.
- 6.Use drive pin connect piston and drive pawl
- 5.Body sleeve and circlip
- 7.Swivel joint ass.
- 8.Reaction arm ass.
- 9.Square drive and retainer
- 10.Shroud.

Square drive

Skills of assemble square drive insert body:



Wear out of spare parts

- Usually include:
 - 1.Swivel joint (seal kit)
 - 2.Spring(reaction pawl,drive pawl)
 - 3.Ratchet spline
 - 4.Drive pawl
- Wrong working way and fatigue work may broken the parts.

Deleave and repair

- 1. Check the problems existing in the wrench, to make sure which part is broken
- 2. Learn how to deleave a whole wrench
- 3. Learn how to replace the parts.
- 4. When finish the replacement, test the wrench again to see if it's done.