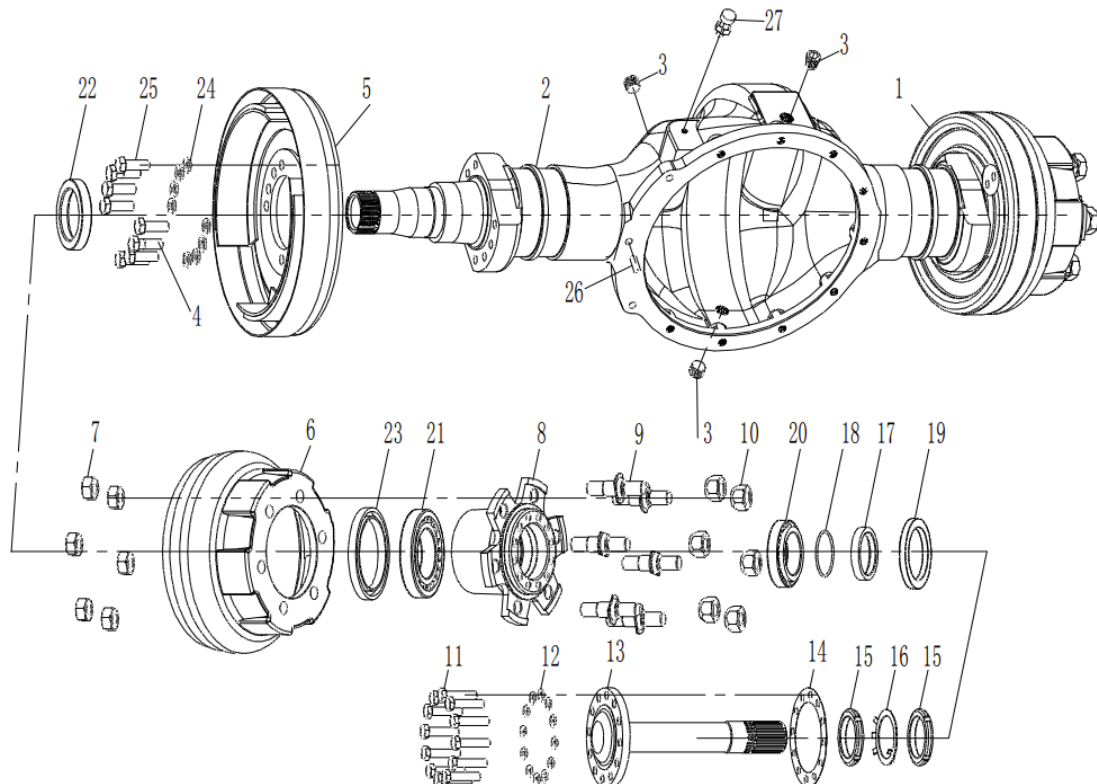


SECTION 3 POWER TRAIN SYSTEM

GROUP 1 STRUCTURE AND OPERATION

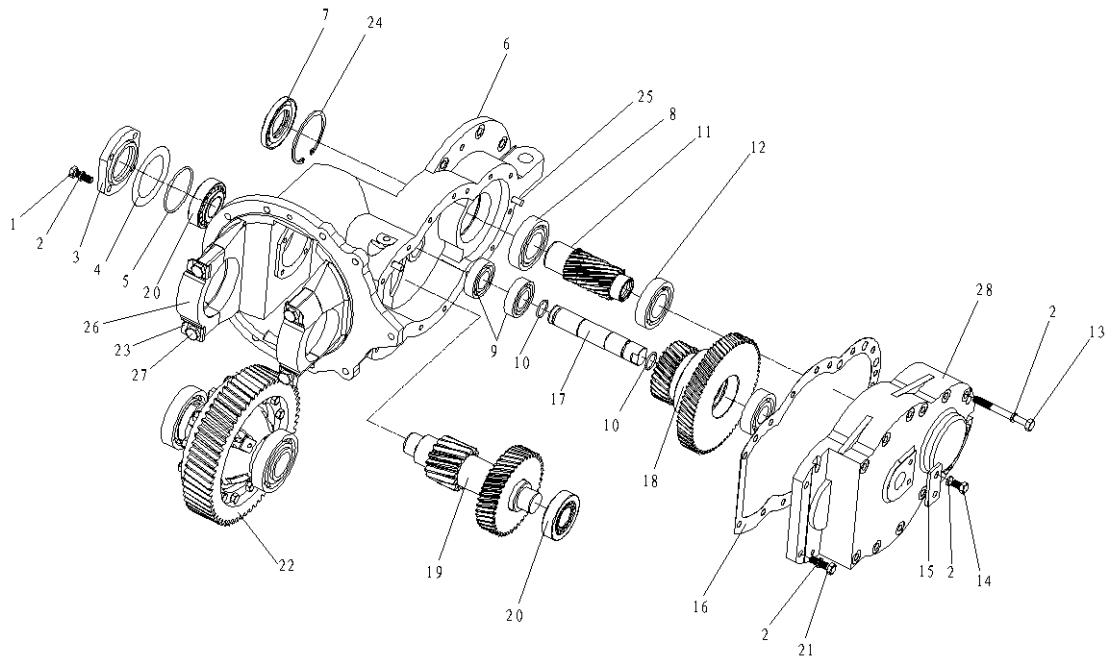
1. STRUCTURE

1) Drive Axle

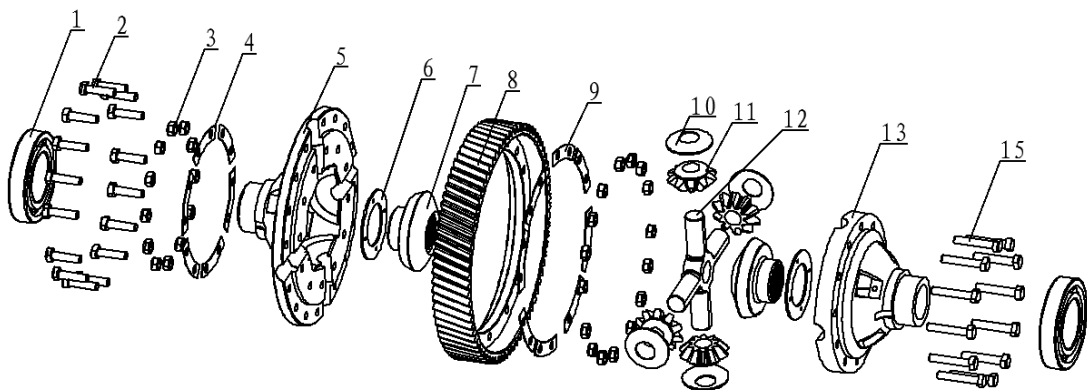


1	RH Brake Assy	10	Nut-Hub	19	Oil Seal
2	Housing-Axle	11	Bolt-Axle Shaft	20	Bearing
3	Plug	12	Spring Washer	21	Bearing
4	Jack Bolt	13	Axle Shaft	22	Ring-Seal
5	LH Brake Assy	14	Gasket-Axle Shaft	23	Oil Seal
6	Brake Drum	15	Nut	24	Ring-Spring
7	Nut	16	Ring-Stop	25	Bolt-Brake Assy
8	Hub	17	Ring-Retain	26	Pin
9	Bolt-Hub	18	O-Ring	27	Plug-Breath

2) Transmission



1 Bolt	11 Input Shaft Assy	21 Bolt
2 Washer-Spring	12 Bearing	22 Differential Assy
3 Cover-Bearing	13 Bolt	23 Washer-Spring
4 Washer	14 Bolt	24 Ring-Block
5 O-Ring	15 Block	25 Pin
6 Body	16 Gasket	26 Boss-Bearing
7 Oil Seal	17 Shaft	27 Bolt
8 Bearing	18 Gear Assy	28 Spring lock washer
9 Bearing	19 Gear Assy	
10 O-Ring	20 Bearing	



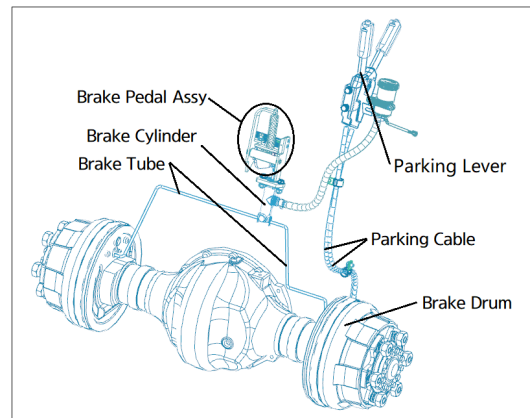
Differential

1 Bearing	6 Washer	11 Planetary Gear
2 Bolt	7 Axle Shaft Gear	12 Cross Axle
3 Nut	8 Gear Ring	13 Housing-LH
4 Plate-Lock	9 Washer-Lock	14 Bolt
5 Housing-RH	10 Washer-Block	

2. OPERATION

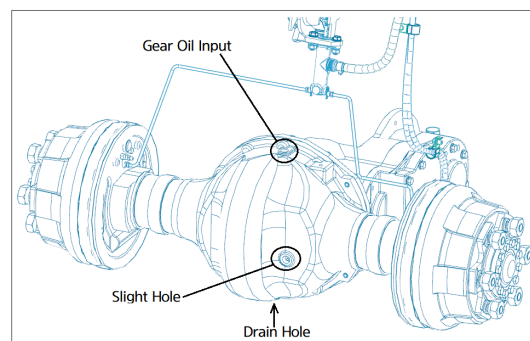
The drive axle and the transmission transmit the power from motor to drive wheels.

Service brake and parking brake will affect brake drum by brake tube and parking cable, and work in dry mode.



Add gear oil

- 1) Remove the bolts in sight hole and oil input.
 - 2) Add the gear oil in oil input until the oil level rise to the sight hole which means the oil level can be observed from sight hole.
 - 3) Mount two bolts.
- ※ **Do not spill gear oil on the floor, or discharge it into drain.**



3. SPECIFICATIONS

Drive Axle

Item	Unit	Specifications
Rated axle load	Kg	8500
Weight (excluding oil)	Kg	165
Gear oil volume	L	7

Transmission

Item	Unit	Specifications
Gear ratio	-	26.0545
Transmission efficiency	-	≥90%
Noise	dB(A)	≤86
Max. input speed	Rpm	3300

GROUP 2 FAILURE DIAGNOSIS AND CORRECTIVE ACTIONS

Drive axle

Trouble		Cause	Corrective action
Oil leak	Oil seal	· O-ring or ring-spring broken · Oil seal broken	· Replace · Replace
	Outer of axle shaft	· Bolt loose · Gasket-axle shaft broken	· Tighten, torque 125Nm · Replace
	Axle Body	· The bottom plug loose	· Tighten, replace parts if required
	Connection of axle and T/M	· Gasket broken · Bolt loose	· Replace · Tighten, replace parts if required
Nosie	Bearing	· Space between bearings is too big · Bearing broken	· Remount the axle shaft assy · Replace

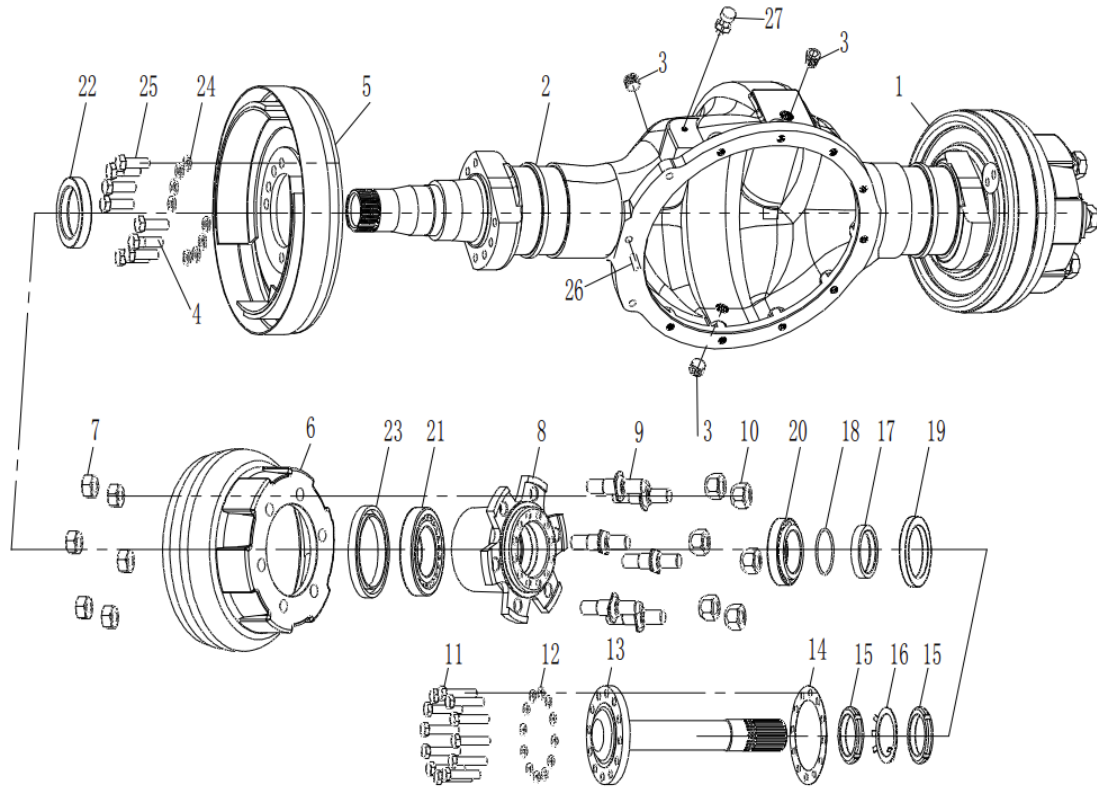
Transmission

Trouble		Cause	Corrective action
Oil leak	Input shaft	· Oil seal broken · Input shaft cover loosen	· Replace the oil seal, check the shaft for scratches, replace the shaft if there are scratches · Apply sealant on the outer circle of the cover
	Middle shaft	· O-ring broken	· Replace
	Body cover	· Gasket broken	· Replace
	Bearing cover-gear shaft	· O-ring broken · Slot of O-ring is too deep	· Replace · Replace the cover
Noise	Periodic noise	· There are scratches or bumping on tooth surface of gear	· Polish the protruding point above the tooth surface.
	Big noise in reduce	· Lack of oil · Bearing broken · Gear in reduce broken	· Add · Replace · Replace gear ring
Truck cannot move	Differential	· Connect bolts broken	· Replace

GROUP 3 DISASSEMBLY AND ASSEMBLY

DRIVE AXLE

Disassembly



- 1) Disassemble the bottom and top plug (3#) to drain gear oil.
 - 2) Remove the bolt-axle shaft (11#) to disassemble the axle shafts.
 - 3) Remove nuts (15#) and ring-stop (16#), then disassemble brake drum (6#).
 - 4) Remove nuts (7#) to disassemble hub (8#) from brake drum (6#).
 - 5) Remove ring-seal (22#) and bolts-brake assy (25#) to disassemble brake assy (5#).
- ※ Care should be exercised to protect O-ring and bearings.
 - ※ Store LH and RH axle shafts respectively.

Assembling is the reverse order of removal and for more details please refer disassemble in next page.

Assembling

- 1) Mount outer ring of bearing (21#) into hub (8#) with a fixture.



- 2) Mount outer ring of bearing (20#) into hub (8#) with a fixture.



- 3) Apply lithium base grease on inside of hub (8#) until 1/3-1/2 of inside surface is applied.



- 4) Mount inner ring of bearing (21#) into hub (8#).



5) Mount oil seal (23#) into hub (8#).



6) Mount bolt (9#) × 6 in Hub (8#).



7) Mount hub (8#) and brake drum (6#) together.



8) Lubricate bolt (9#) × 6 with Loctite 242.



9) Mount bolt (7#).

Fastening torque: 49-57 kgf · m



10) Lubricate housing-axle (2#) in mounting position of ring-seal (22#) with sealant.



11) Mount the ring-seal (22#) on housing-axle (2#) with a fixture.



- 12) Lubricate housing-axle (2#) in mounting position of brake assy (5#) with sealant



- 13) Mount brake assy (5#) and housing-axle (2#) together.



- 14) Lubricate bolt-brake assy (25#) $\times$ 6 with Loctite 242.



- 15) Mount the bolt-brake assy (25#) $\times$ 6 and remark.
Fastening torque: 49-57 kgf $\cdot$ m



16) Mount brake drum (6#) and housing-axle (2#) together



17) Knock the brake drum (6#) with copper rod to ring-seal (22#) match up oil seal (23#).



18) Lubricate inner ring of bearing (20#) with grease.



19) Mount inner ring of bearing (20#) into hub (8#).



20) Mount the O-ring (18#) into hub (8#).



21) Mount the ring-retain (17#) into hub (8#).



22) Lubricate outside of oil seal (19#).



23) Mount the oil seal (19#) into hub (8#) with a fixture.



24) Mount the nut (15#) with a fixture. After tightening the nut, brake drum cannot rotate freely, then return the nut 1/8-1/6 circle.

Check if the start torque of hub is 7-18 kgf • m. If not, adjust the nut.



25) Mount the ring-stop (16#)



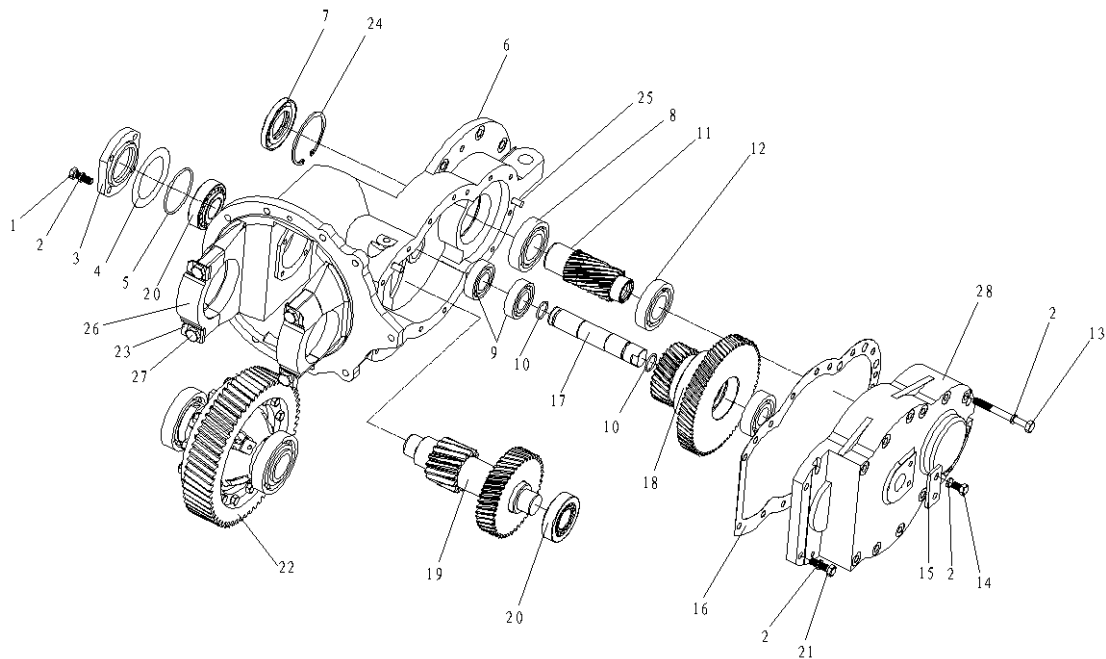
26) Mount the nut (15#) with a fixture and lock it with ring-stop (16#).



27) Mount gasket-axle shaft (14#) and axle shaft (13#) with bolt-axle shaft (11#) $\times$ 12 and spring washer (12#) $\times$ 12.

Transmission

Disassembly



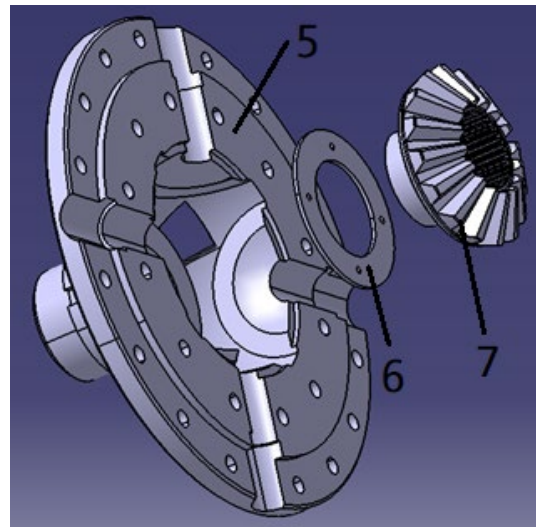
- 1) Remove bolts (27#) to disassemble the dissertential.
- 2) Remove oil seal and ring-block to disassemble input shaft assy.
- 3) Remove bolts (14#) to disassemble the shaft (17#).
- 4) Remove bolts (13#) and bolts (21#) to disconnect body (6#) and cover (28#).
- 5) Remove shaft (17#) and two gear assy (18#/19#).

※ Care should be exercised to protect O-ring, gasket and bearings.

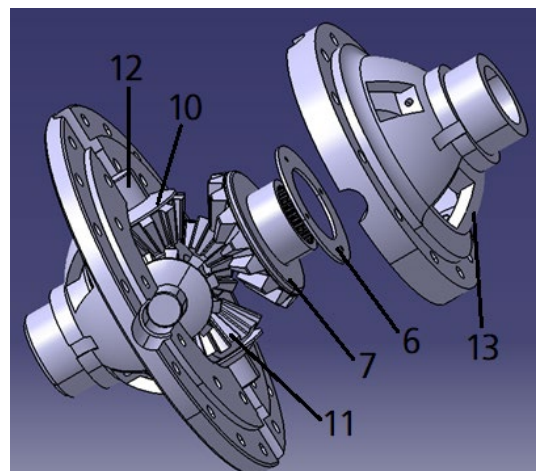
Assembling is the reverse order of removal and for more details please refer disassemble in next page.

ASSEMBLING

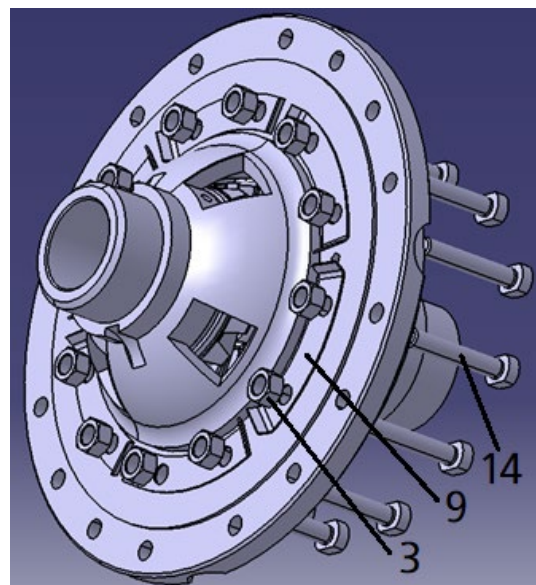
- 1) Mount the washer (6#) and axle shaft gear (7#) on RH housing (5#)



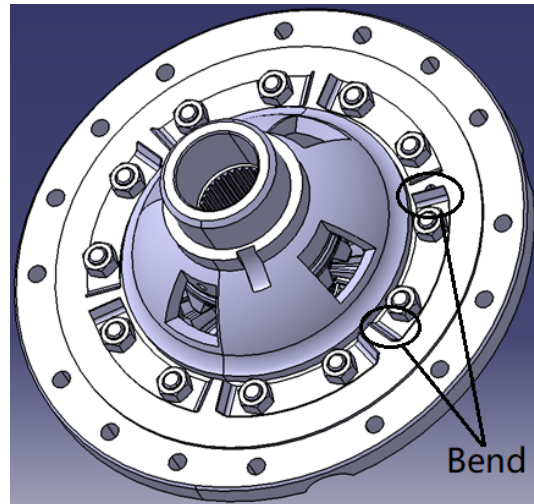
- 2) Mount the washer (6#), axle shaft gear (7#), planetary gear (11) $\times$ 4, washer-block (10#) $\times$ 4, cross axle (12#) and housing LH (13).



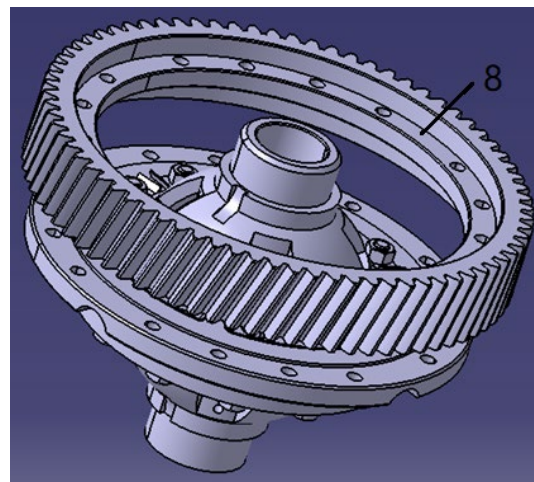
- 3) Mount the bolt (14#) $\times$ 12, washer- lock (9#) $\times$ 6 and nut (3#) $\times$ 12.



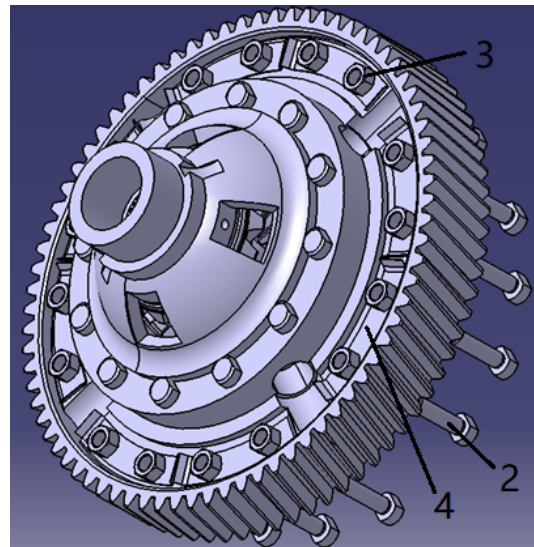
- 4) Bend all washer-lock (9#) to contact with the nut (3#) to prevent nuts loosening.



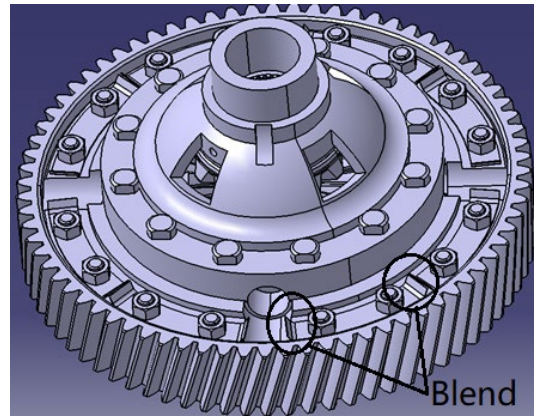
- 5) Mount the gear ring (8#).



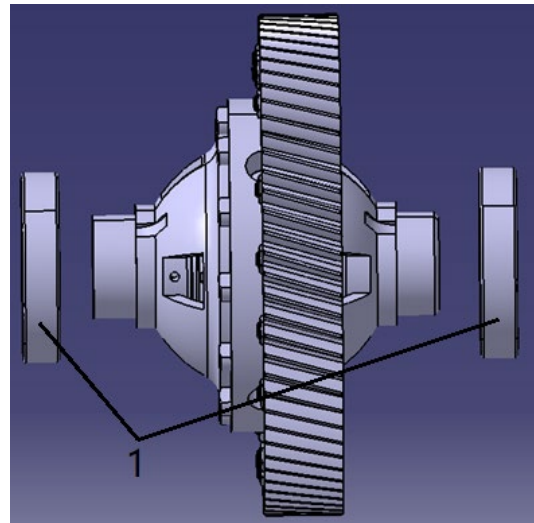
- 6) Mount the bolt (2#) $\times$ 16, washer- lock (4#) $\times$ 8 and nut (3#) $\times$ 16.



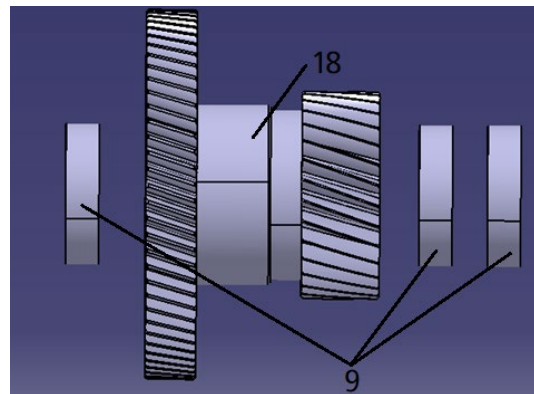
- 7) Blend all washer-lock (9#) to contact with the nut (3#) to prevent nuts loosening.



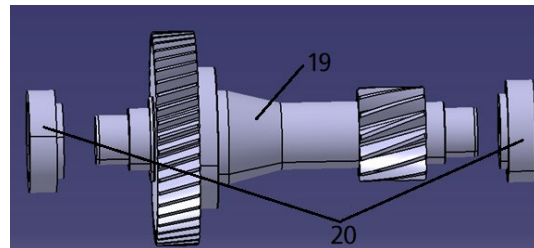
- 8) Mount the bearing (1#) $\times$ 2. Now the differential has been assembled.



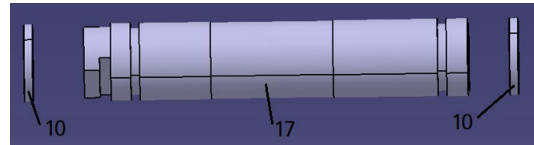
- 9) Part 1: Mount the bearing (9#) $\times$ 3 in the gear assy (18#).



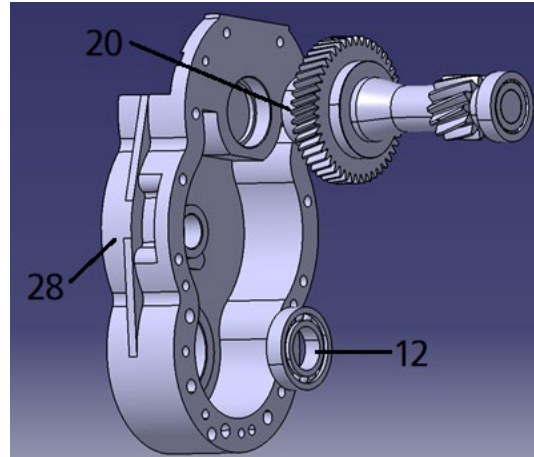
- 10) Part 2: Mount the bearing (19#) $\times$ 2 in the gear assy (20#).



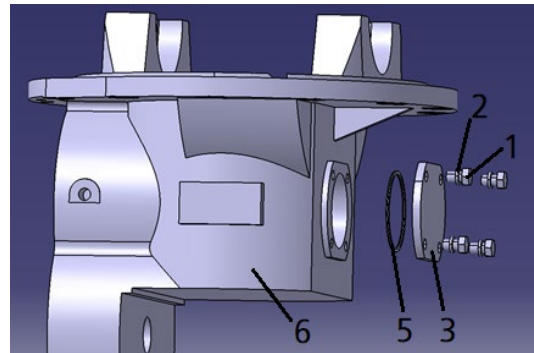
- 11) Part 3: Mount the O-ring (10#) $\times$ 2 on the shaft (17#).



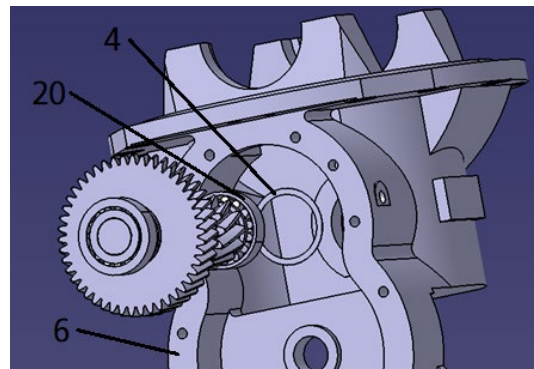
- 12) Mount the bearing (12#) and the outer ring of bearing (20#) in cover-body (28#).



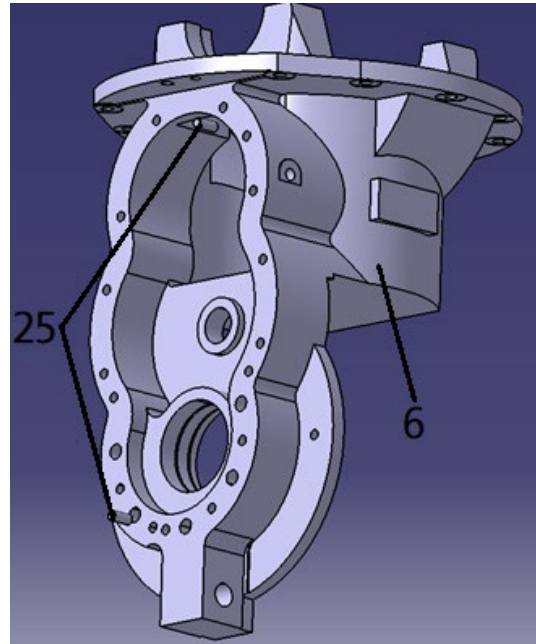
- 13) Mount the O-ring (5#), cover-bearing (3#), washer-spring (2#) $\times$ 4 and bolt (1#) $\times$ 4 on body (6#).



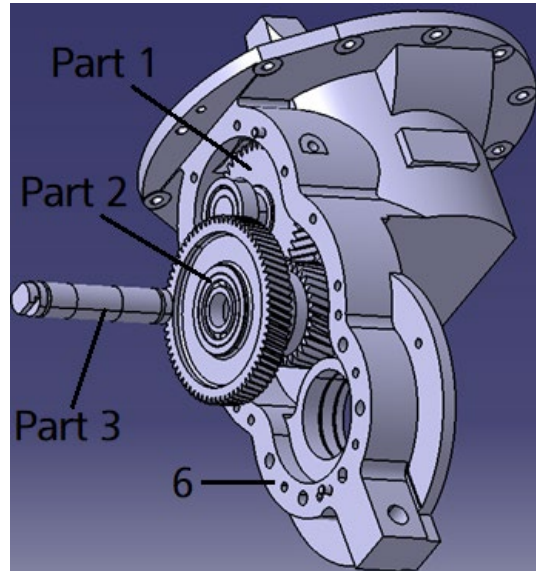
- 14) Mount the outer ring of bearing (20#) and washer in body (6#).



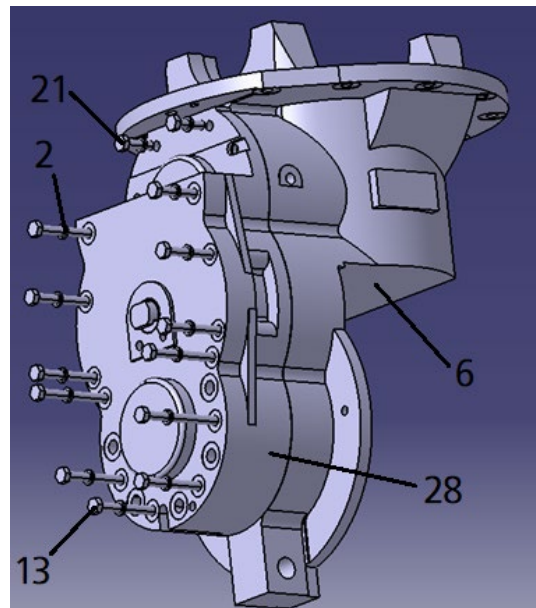
15) Mount the pin (25#) $\times$ 2 in body (6#).



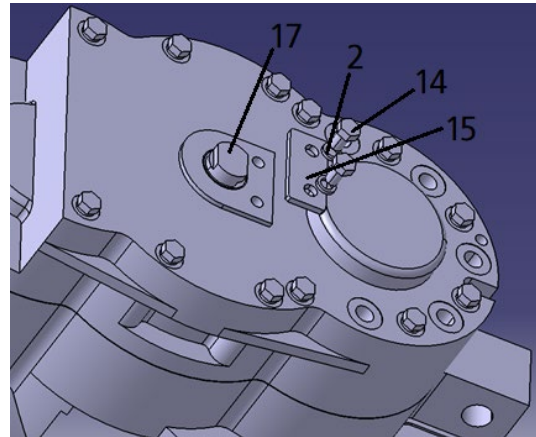
16) Mount part 1, part 2 and part 3 in body (6#).



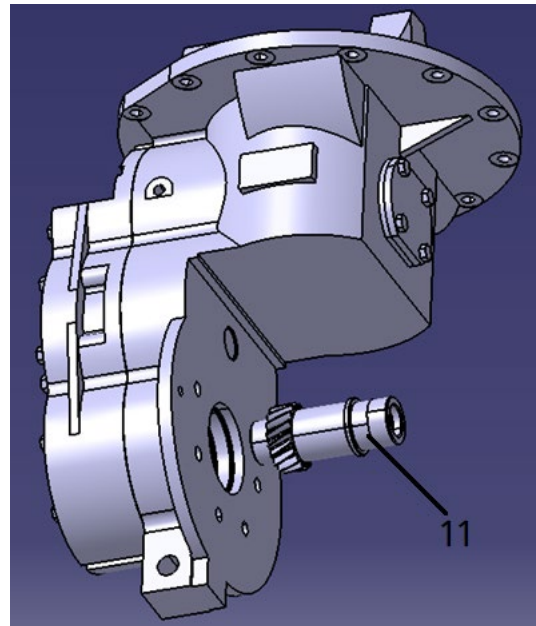
17) Mount body (6#) and cover-body (28#) with nut (2#) $\times$ 14, bolt (13#) $\times$ 12 and bolt (21#) $\times$ 2.



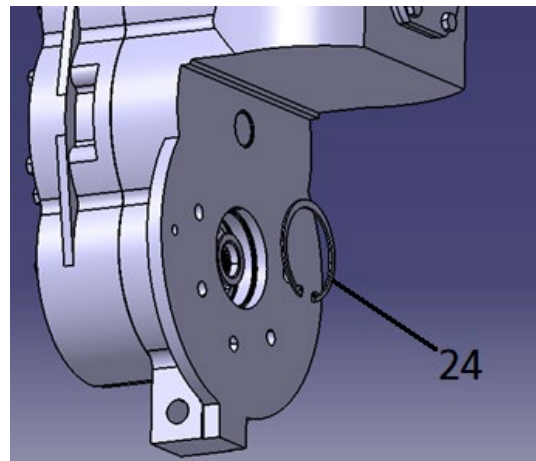
- 18) Mount the shaft (17#) and block (15#) as shown in photo with bolt (14#) $\times$ 2 and washer (2#) $\times$ 2.



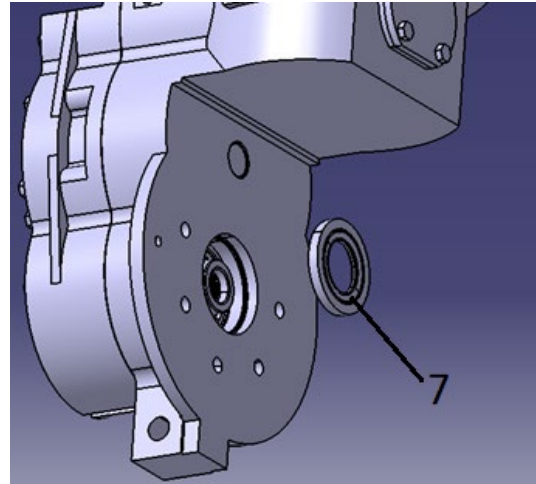
- 19) Mount the input shaft assy (11#).



- 20) Mount the ring-block (24#).



21) Mount the oil seal (7#).



22) Mount the differential (step 8) with boss-bearing (26#) $\times$ 2, spring lock washer (23) $\times$ 4 and bolt (27) $\times$ 4.

