

The assembly section fourth fast RT11509C gear box

(a) assembly matters needing attention:

1 in the re assembly of the gearbox, should all use the new sealing gasket.

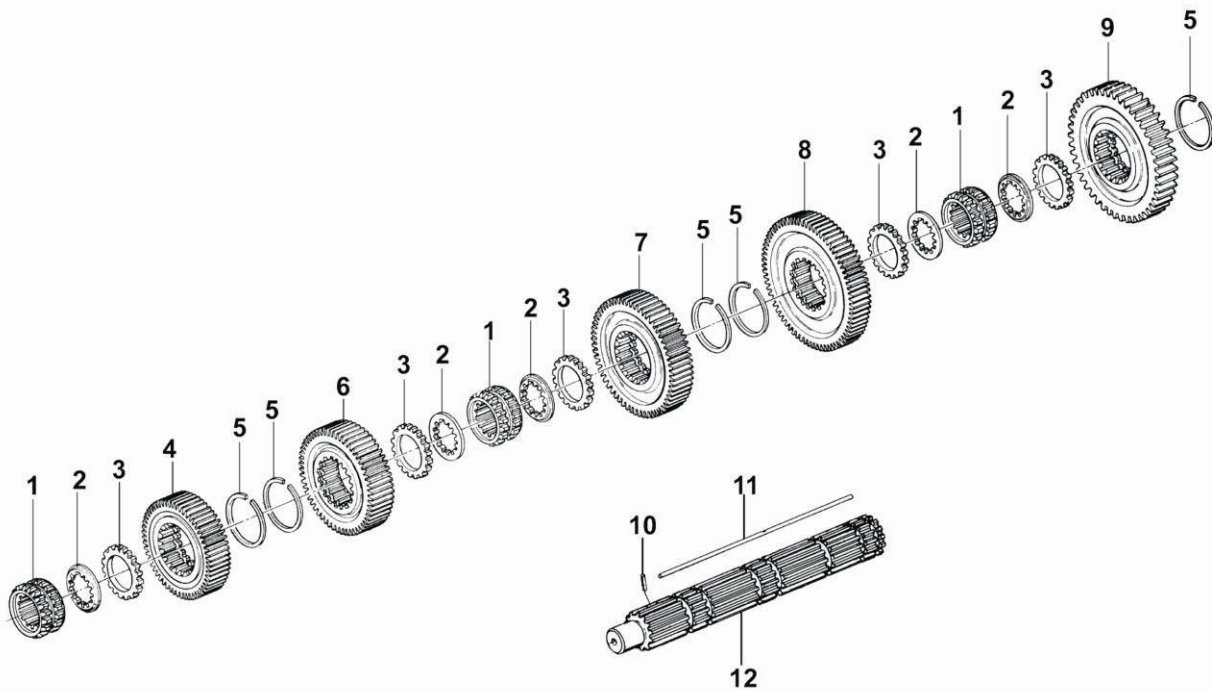
2 in the assembly, all bolts, screw threads should be coated with thread locking sealant. 3 in the assembly, application of silicone lubricant with O shape all of the sealing ring.

4 in the assembly, the application of grease to apply all of the thrust pad, in order to achieve the purpose of initial lubrication.

5 in the assembly, should choose the appropriate thickness of the adjustment of the gasket, to ensure that the two shaft on the forward gear axial clearance in the 0.13 ~ 0.30 mm, reverse gear axial clearance in 0.30 ~ 0.90 mm.

6. In accordance with the provisions of torque, the tightening bolt on all parts. Output shaft flange nut must to 610 ~ 680 N-M torque final tightening, otherwise it will cause serious consequences.

(two) assembly of the two axle assembly of the main box Two shaft assembly parts decomposition diagram see figure 3-1.

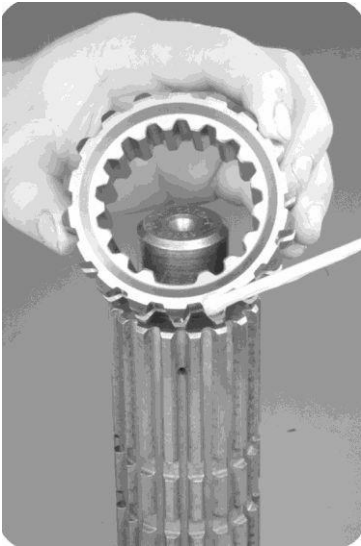


1 two 2 two axle shaft gear meshing sleeve adjusting pad 3 two axle gear spline shaft third gear gasket 4 two 5. Clasp. Second shaft second gear. Two axis first gear. Two axis low-speed gear. The second shaft reverse gear. Round elastic cylindrical Xiao 11. Two axis hexagonal pass key 12. The second shaft spline shaft

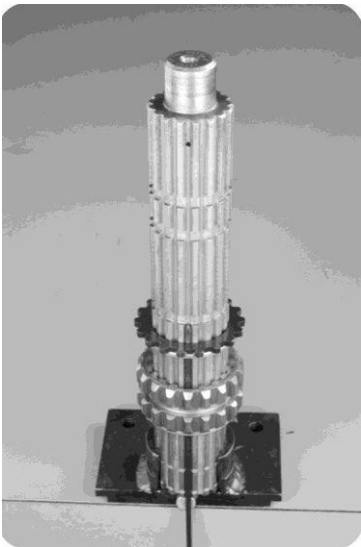
Figure 3-1 two shaft assembly parts breakdown



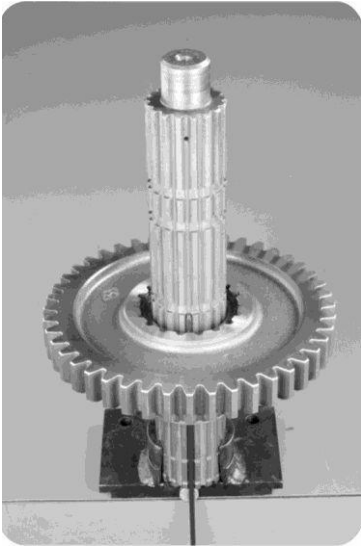
1, assembly. Two axis vertical placement will be adjusted upward into the two axis convex pad, turned a pitch and then penetrates the long bond.



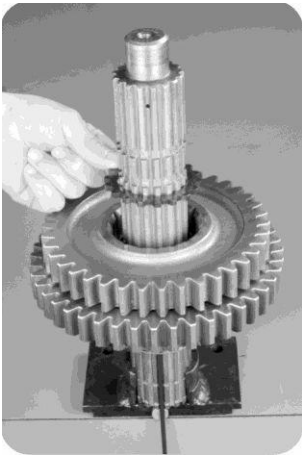
2, low load / reverse sliding sleeve, the tooth defect towards the two axis. With a groove hole. Note: three interchangeable sliding sleeve shaft on the two.



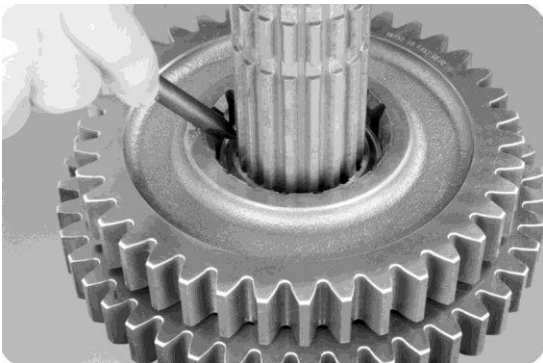
3, in a downward convex adjustment pad, turned a long pitch push button, add a spline pad.



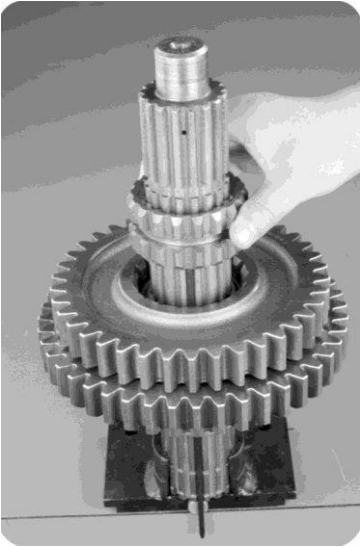
4, the two shaft gear with low gear teeth down into the two axis.



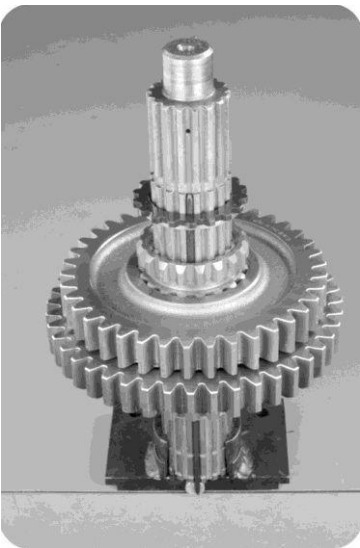
5, the two shaft gear with a gear combined with the two shaft, into a spline pad.



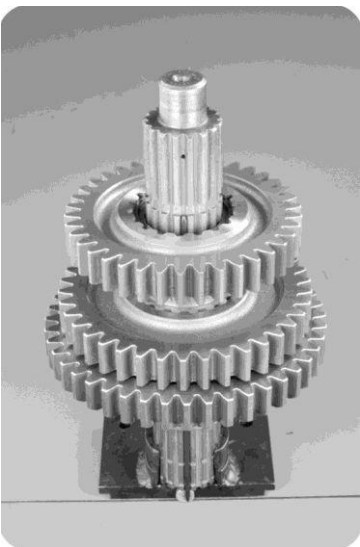
6, convex upward into a spacer, turned a pitch to push long key.



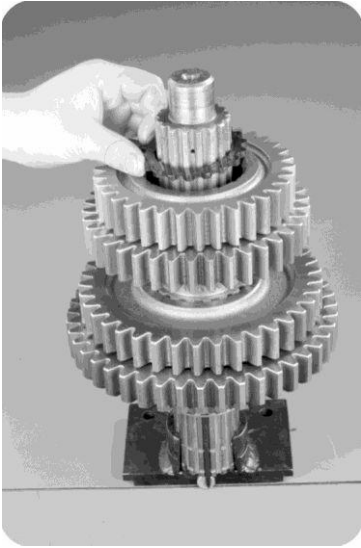
In 7, 1/2 gear sliding sleeve, the tooth defect with two axis hole toward the keyway.



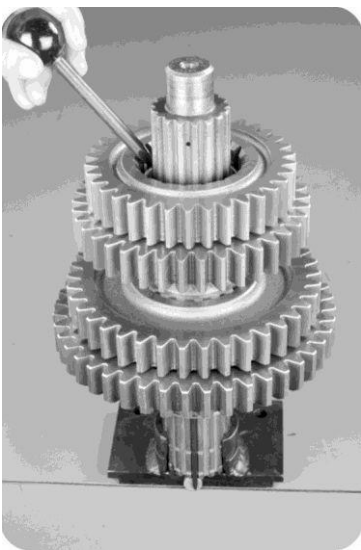
8, in a downward convex adjustment pad, turned a pitch to push long keys into a spline pad.



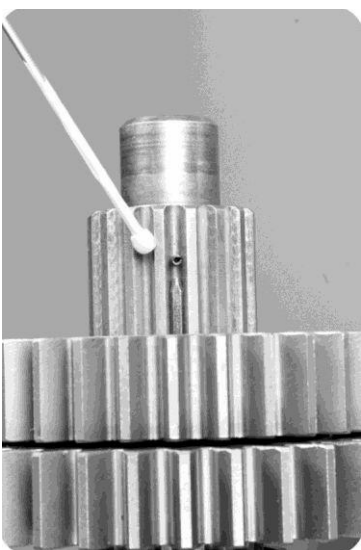
9, two axis gear with gear down into two axis.



10, two axis third gear up into two combined tooth shaft, into a spline pad.



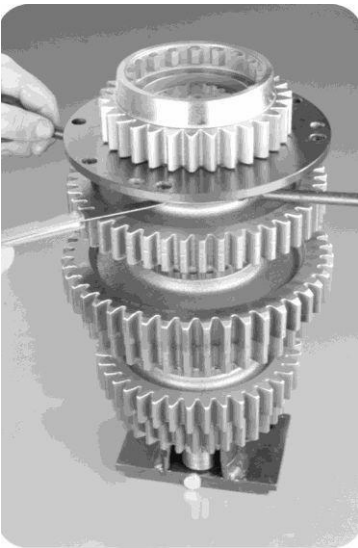
11, convex upward into a spacer, turned a pitch upward after long push button.



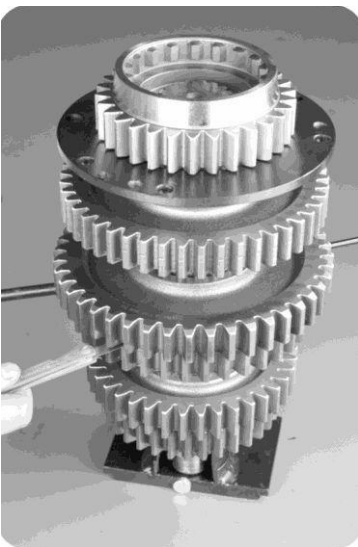
12, the elastic pin type two shaft holes, a 3/4 gear sliding sleeve.



13, will be two axis horizontal, into the second shaft reverse gear, spline pad; and in the second shaft end into a snap ring, check the movable ring openings to stagger a long key groove.



14, examining the axial clearance: the second shaft is vertically placed, check into reverse gear ring and assembly vice box drive gear assembly and the locking ring. With feeler to check the reverse gear wheel and drive between tooth gaps (0.3-0.9mm).



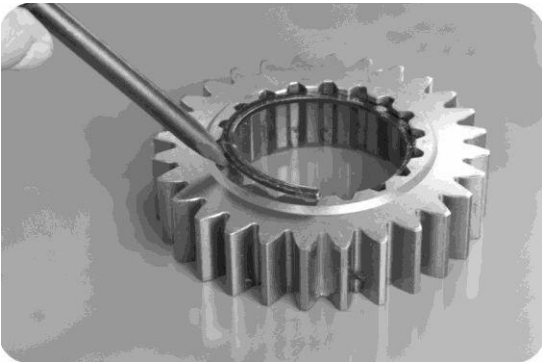
15, check the two axis low, reverse and two gear tooth axial clearance (0.13-0.3mm).

(three) assembly of a shaft assembly of the main case

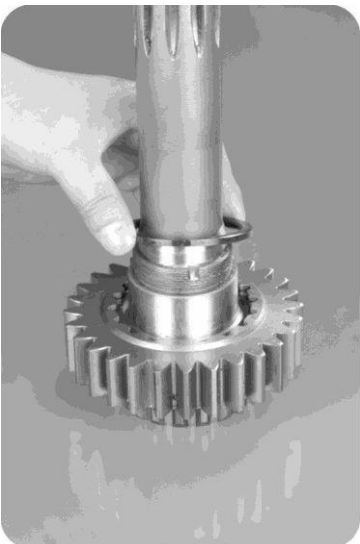
A shaft assembly part breakdown diagram is shown in figure 3-2.



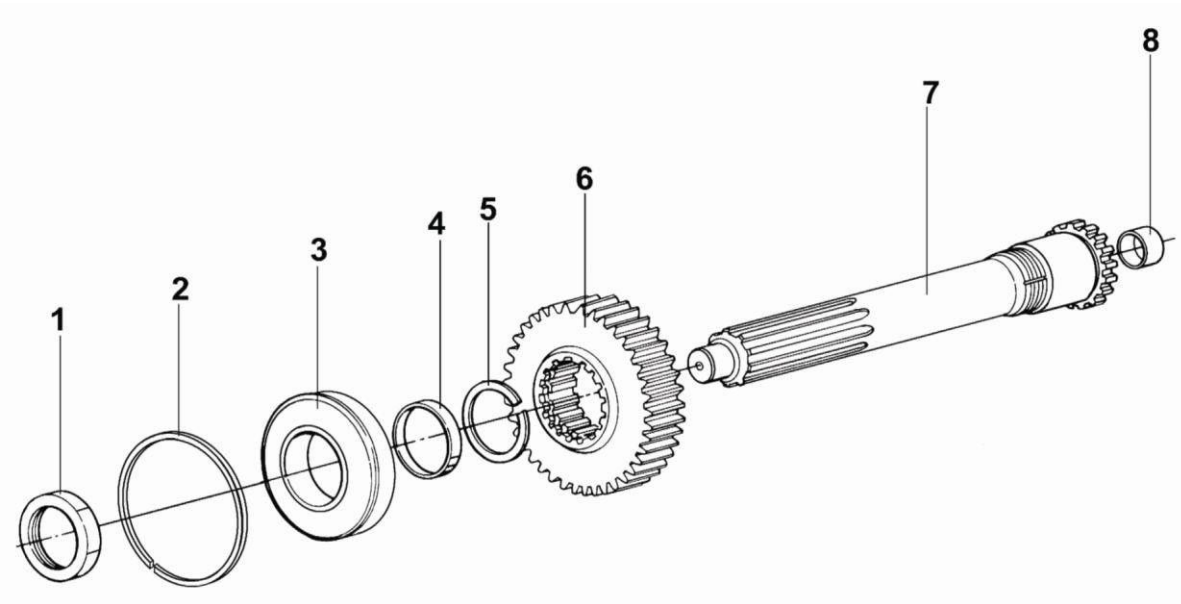
1, the two axis guide set into a hole in the shaft.



2, load a shaft gear stop ring.



3, a shaft gear is sheathed in a shaft, and the shaft is arranged in a shaft.
Shaft gear spacer.



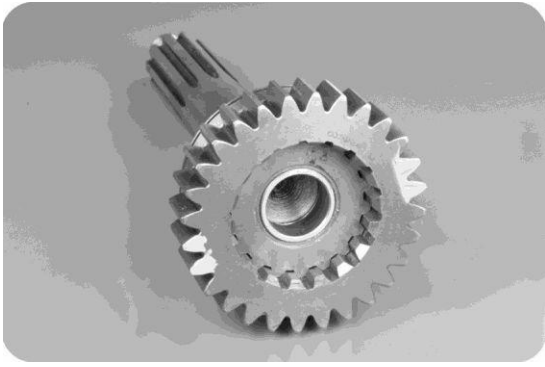
1 a shaft nut 2 card ring 3 a shaft bearing 4 gear sleeve 5 check ring 6 a shaft gear 8 a shaft two 7 shaft guide 3-2 a shaft assembly part breakdown chart



4, a shaft bearing assembly in place, the oil baffle side up.



In 5, a shaft nut with anaerobic adhesive, tightening shaft nut and riveting die locking.



6, in the 180 degree direction of a shaft gear optional two sets of teeth on the gear mark.

RT1509C type gear box in addition to Reptilia (ultra low gear) and a reverse gear shaft and a body, the rest of the gear through the

Woodruff key or a key is connected with the shaft. If the replacement of gear in the demolition, install with sequence respectively the gears and passive transmission gear are respectively pressed into the counter shaft. On the counter shaft assembly passive gear facing the keyway position of teeth on the tooth marks.

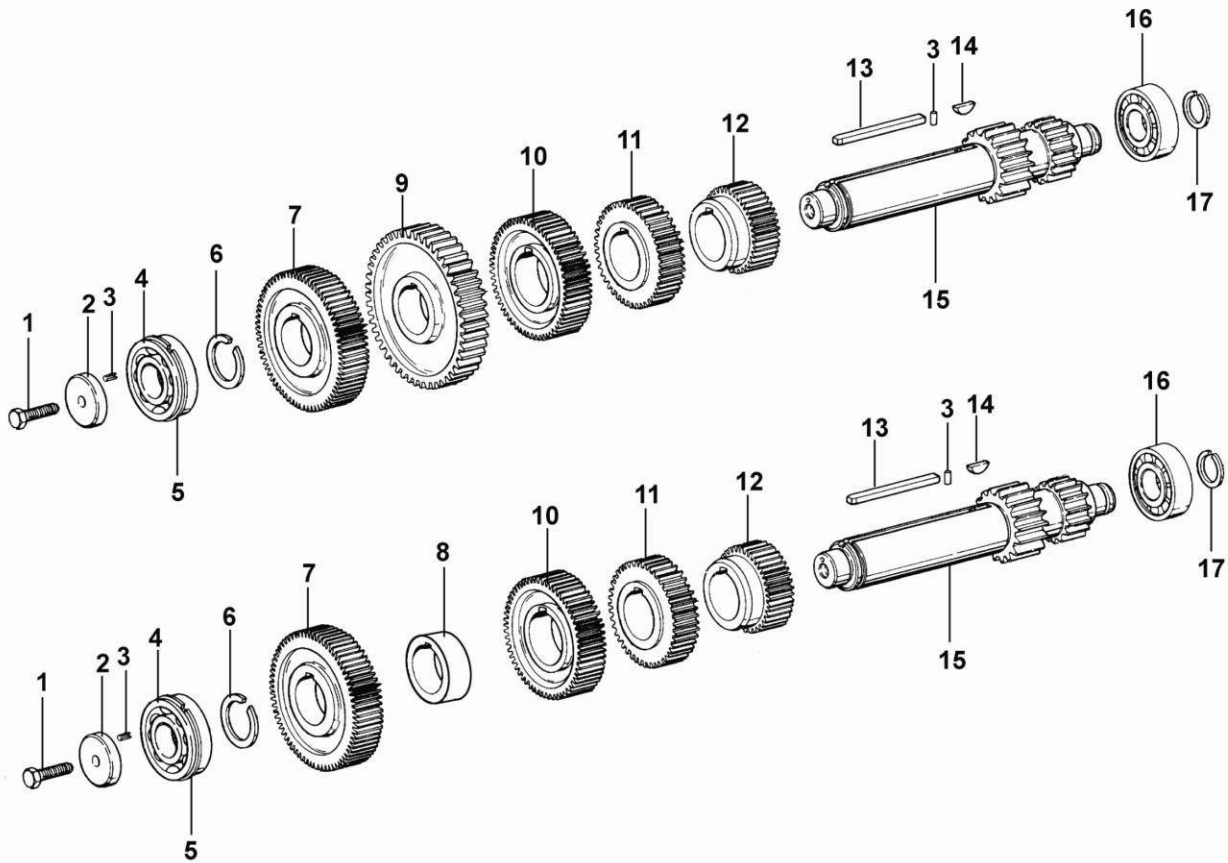
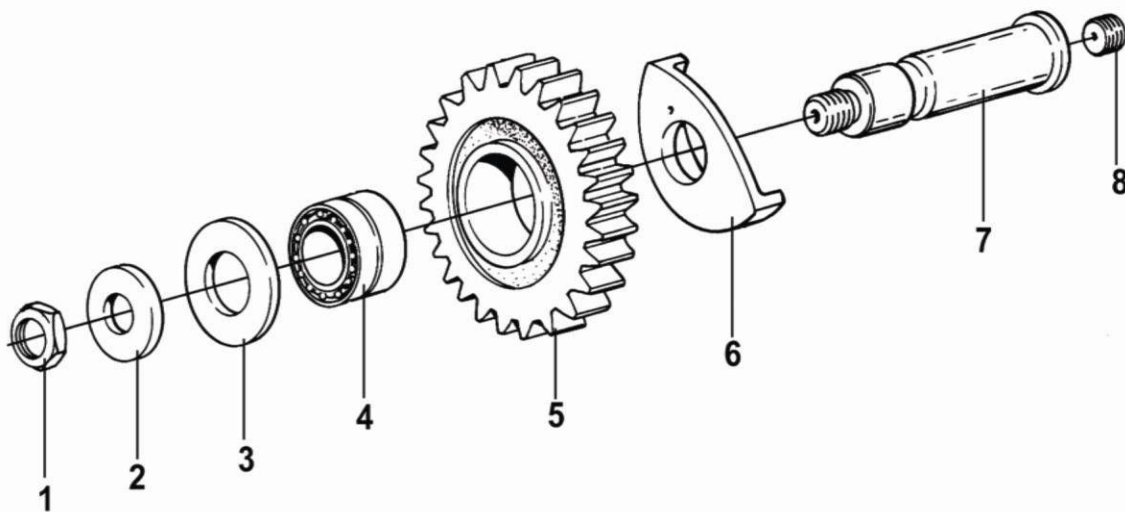


Figure 3-3 counter shaft assembly parts diagram

1. 2 bolt bearing retainer plate cylinder with elastic. Shaw. Counter shaft front bearing. The bearing ring. The counter shaft clasp. Counter shaft passive gear. Spacer sleeve (Zuo Fuzhou). Right counter shaft braking gear 10. The counter shaft gear box 11. Counter shaft second gear 12. Counter shaft first gear 13. Counter shaft pass key 14. Wood ruff key 15. The auxiliary shaft 16. Counter shaft bearing 17. Shaft snap ring

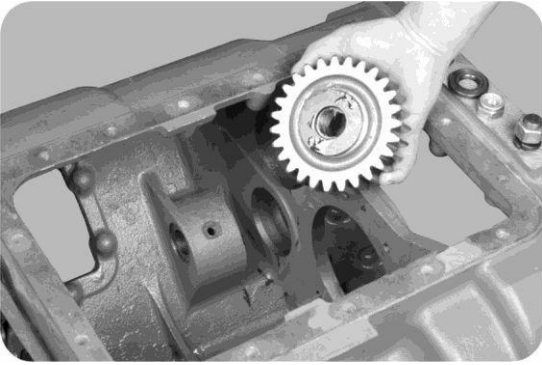
(five) the intermediate shaft assembly assembly

Reverse shaft assembly parts decomposition is shown in figure 3-4.

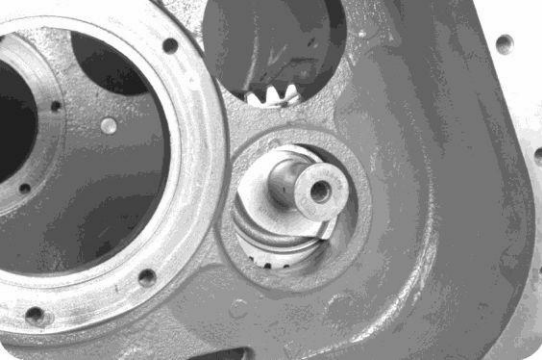


8. 2. 1. Self locking nut washer 3. Check washer. Needle roller bearings. Reverse idler gear 6. The reverse gear shaft eccentric support washer. Reverse gear middle shaft plug

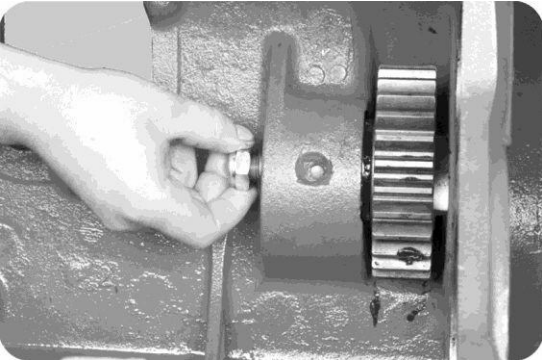
Figure 3-4 reversing counter shaft assembly parts diagram



1, the reverse idler gear convex toward the front load shell.



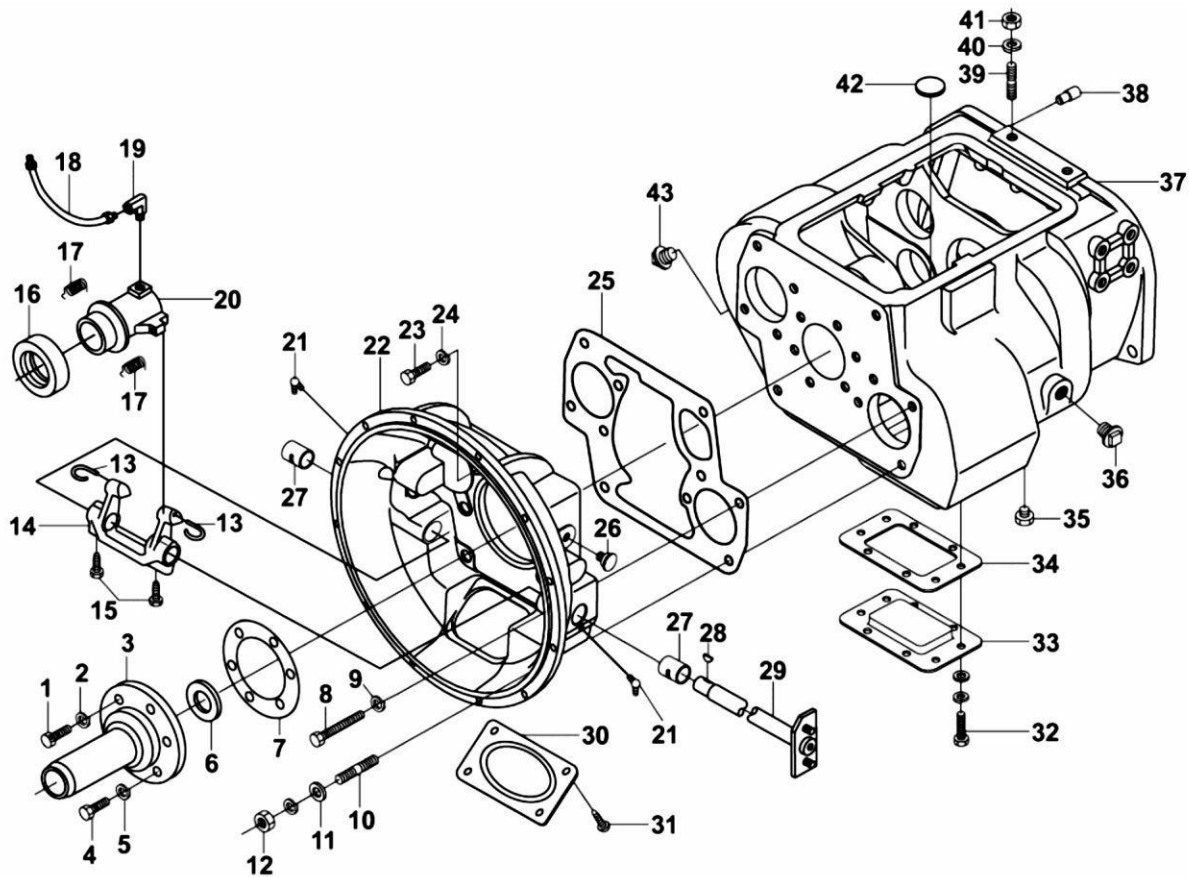
2, assembly reverse idler gear shaft. Note: reverse shaft eccentric support washer assembly direction is unique. Do not knock. On the counter shaft assembly constant mesh gear key way is the teeth on the tooth marks.



1, assembly of gasket, self-locking nut reverse idler gear shaft.

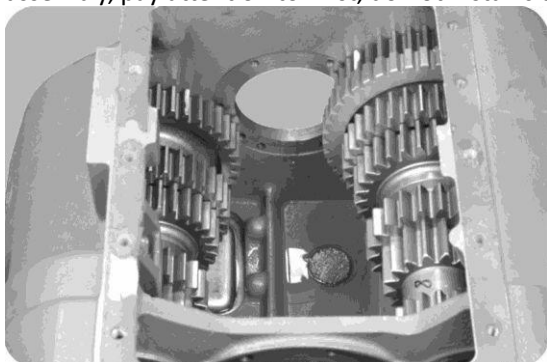
(six) the assembly of the main box

The main box shell assembly of the decomposition of the parts diagram see figure 3-5.



1. 2 bolt spring washer 3. A shaft bearing cover. The bolt 5. Spring pad. A shaft bearing cover seal. Bearing cover gasket. Bolt. Spring pad. Studs 11. Washer 12. Lock nut 13. The separation bearing return spring 14. The separation bearing shifting fork bolt 15. 16. The separation bearing. 17 spring 18 tubing assembly 19 elbow 20 clutch release bearing 21 elbow grease fitting 22 clutch shell 23 bolt 24. Spring washer clutch housing gasket 26. Cover type oil cup 27. Separate shaft bushing 28. Wood ruff key 29. Separation shifting fork shaft assembly 30. Inspection cover 31. Bolt bolt 32. 33. Bottom take force device window cover 4. Liner 35. Oil drain plug 36. Gas plug 37. The shell of the gearbox 38. Cover fixed position 41. Shaw 39. Stud 40. Spring washer nut 42. The circular magnet 43. The main box oil drain plug

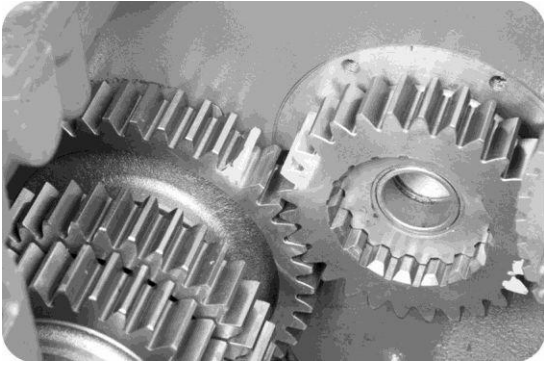
Figure 3-5 shell of the gearbox parts decomposition if in removing need to replace the shell of the gearbox parts and the disintegration of the shell, then the first thing will according to figure 3-5 assembly relationship will shell of the gearbox assembly, pay attention to: first, do not install clutch housing and related accessories.



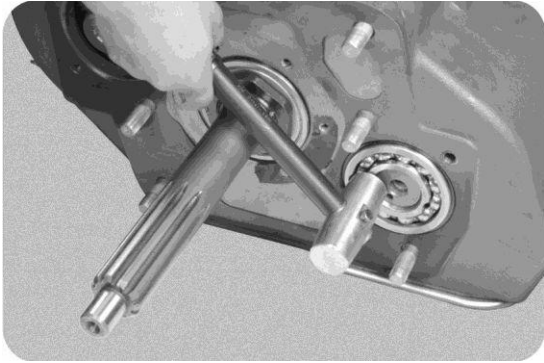
1, will two counter shaft assembly into the main tank shell. Note: two counter shaft take gear size different, force the smaller gear shaft assembly is arranged at the upper right corner of the shell.



2, a shaft assembly into the main box housing.



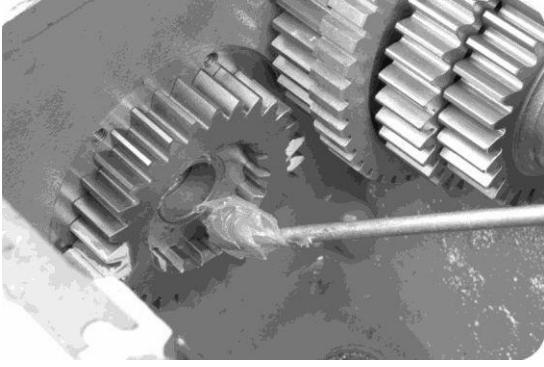
3, the bottom counter shaft marked a shaft gear tooth insert marked in the slot, and the bearing assembly shaft after the stop ring positioning.



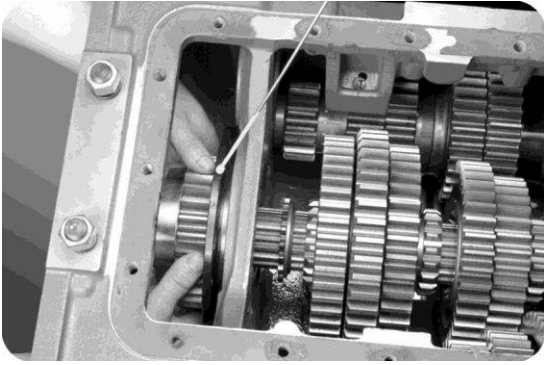
4, the bottom assembly counter shaft front bearing.



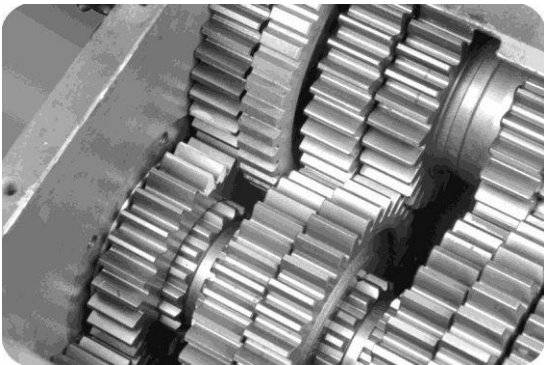
5, the assembly of a shaft bearing on the stop ring.



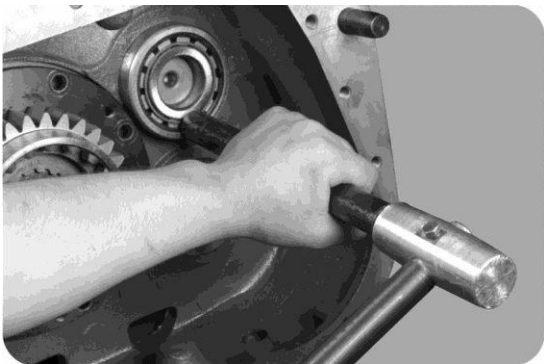
6, a shaft hole in the lubrication grease (initial lubrication).



7, the right side to the shell side of the two shaft, shaft assembly into the main drive gear box, locate the back end.



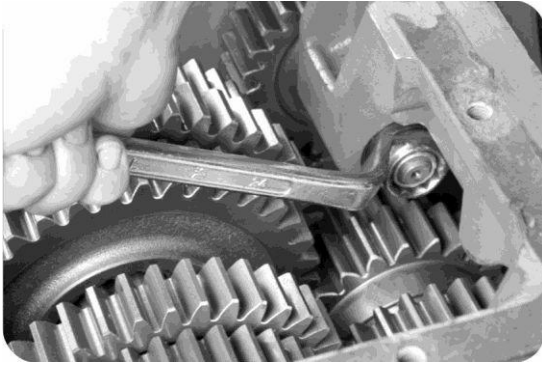
8, will be on the side marked a counter shaft gear tooth insert marked splines.



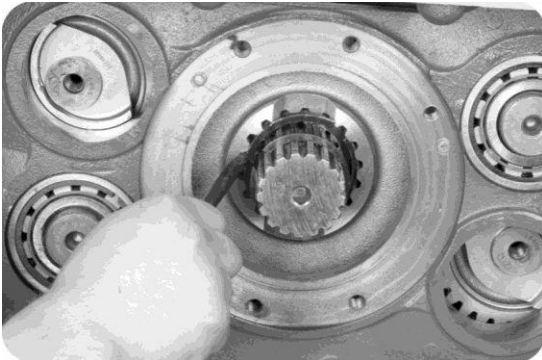
9, the upper right side of the rear shaft bearing assembly, and thrust ring for positioning.



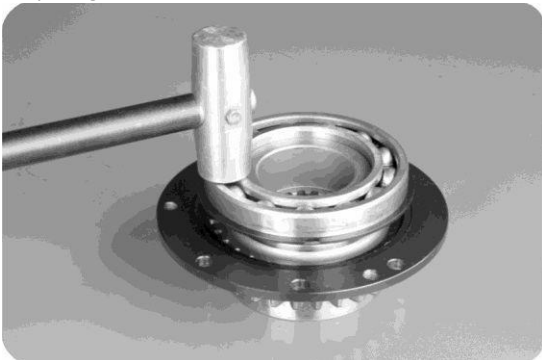
10, the upper right side of the front end of the shaft assembly and bearing plate. Note: platen bolts should be coated with anaerobic adhesive.



11, another assembly reverse wheel assembly, fastening nuts.



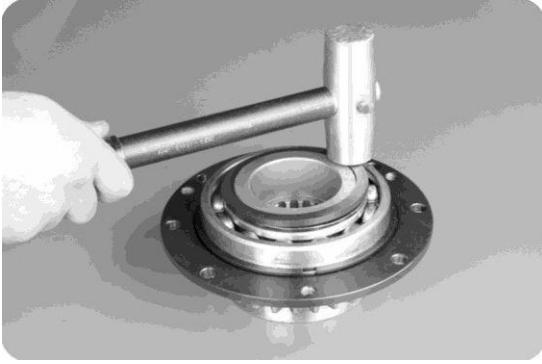
12, two axis reverse gear shifting and reverse gear meshing wheel, pull down drive gear assembly, assembly reverse gear stop ring.



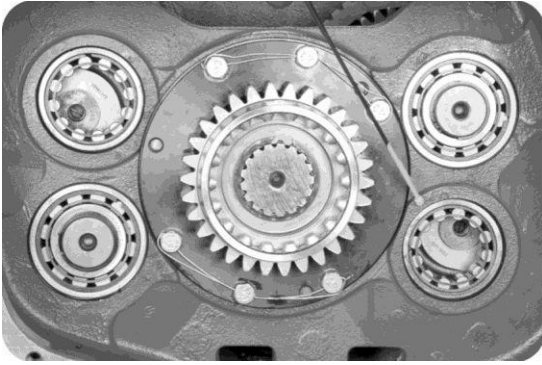
13, the assembly of the drive gear assembly: the drive gear flat, into the positioning plate and bearing.



14, assembly drive gear stop ring.



15, the driving gear ring assembly fixed ring.



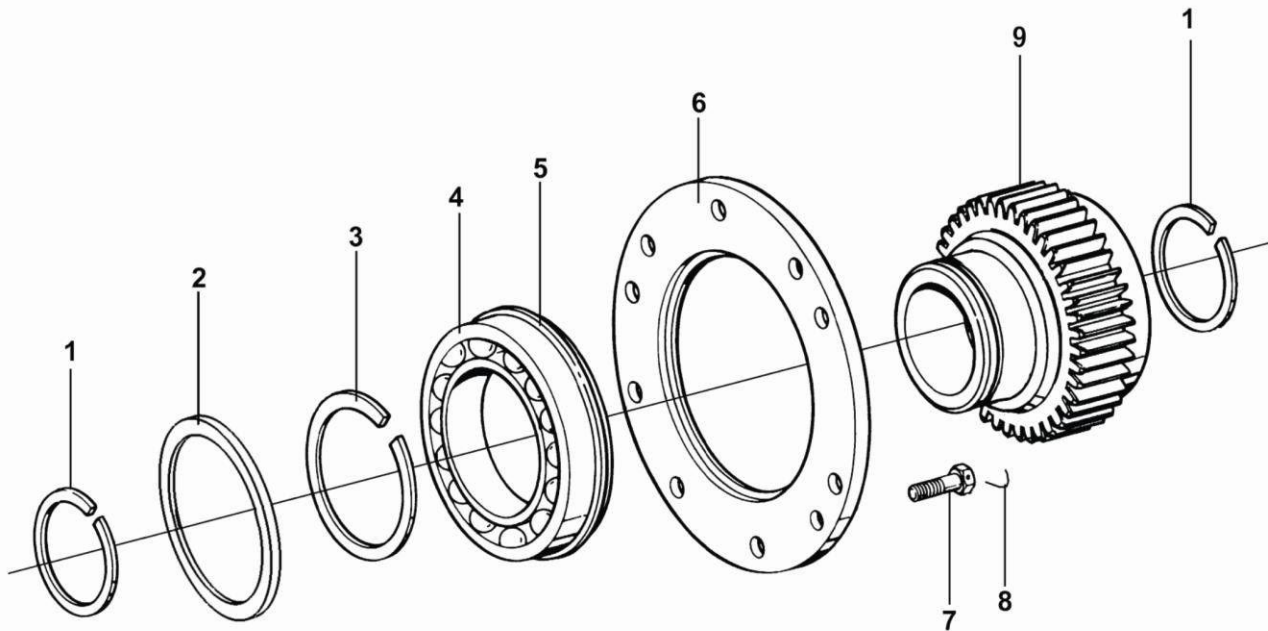
16 drive gear assembly, assembly and two auxiliary box counter shaft front bearing.



17, an assembly of the brake assembly.

(seven) assembly of sub box assembly

Vice box drive gear assembly parts decomposition diagram shown in Figure 3-6. Vice spindle box assembly parts decomposition diagram shown in Figure 3-7. Vice box counter shaft assembly parts decomposition diagram shown in Figure 3-8. Vice box cover assembly parts decomposition shown in Figure 3-9.



1 ring 2 ring 3 ring 4 snap ring main box output shaft bearing 5 bearing ring 6 bearing ring 7 bearing ring 8 bolt wire 9 box drive gear figure 3-6 vice box drive gear assembly part breakdown diagram.

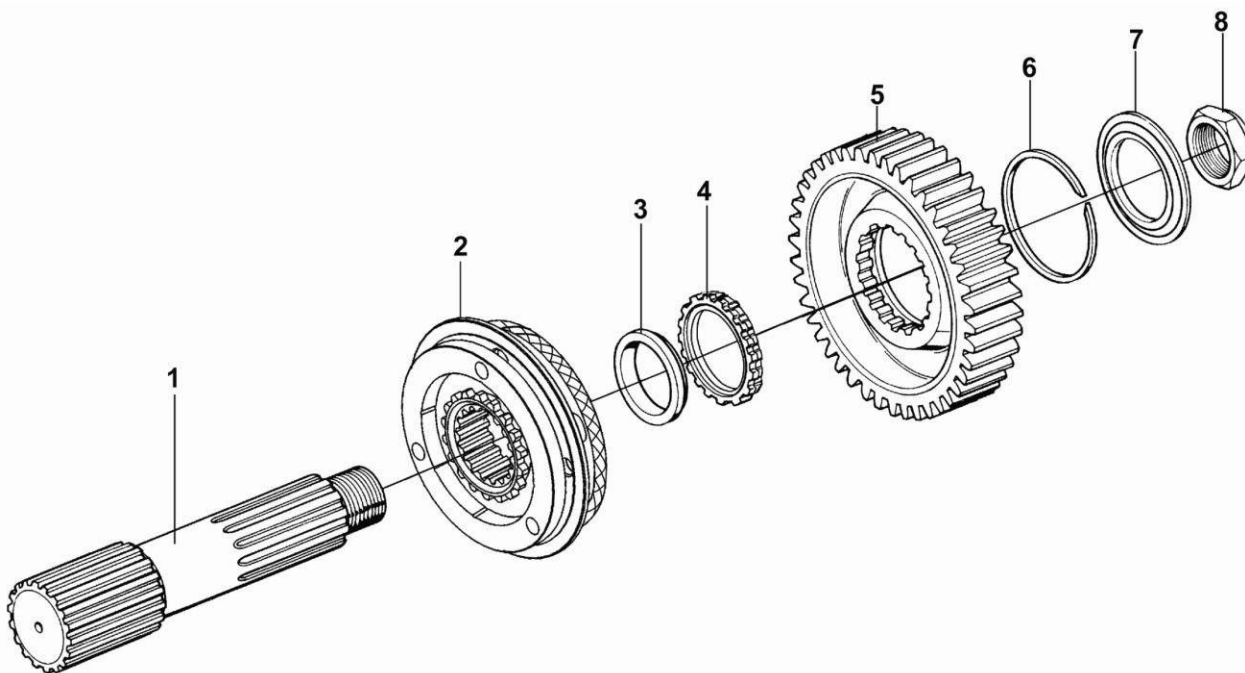
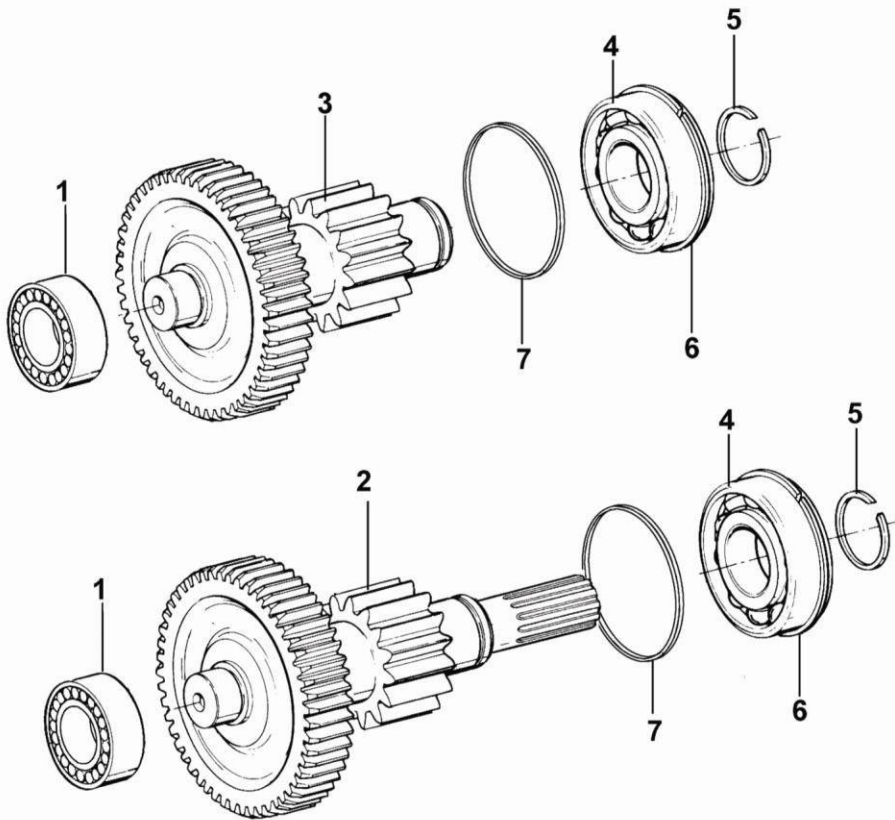


Figure 3-7 vice spindle assembly parts breakdown

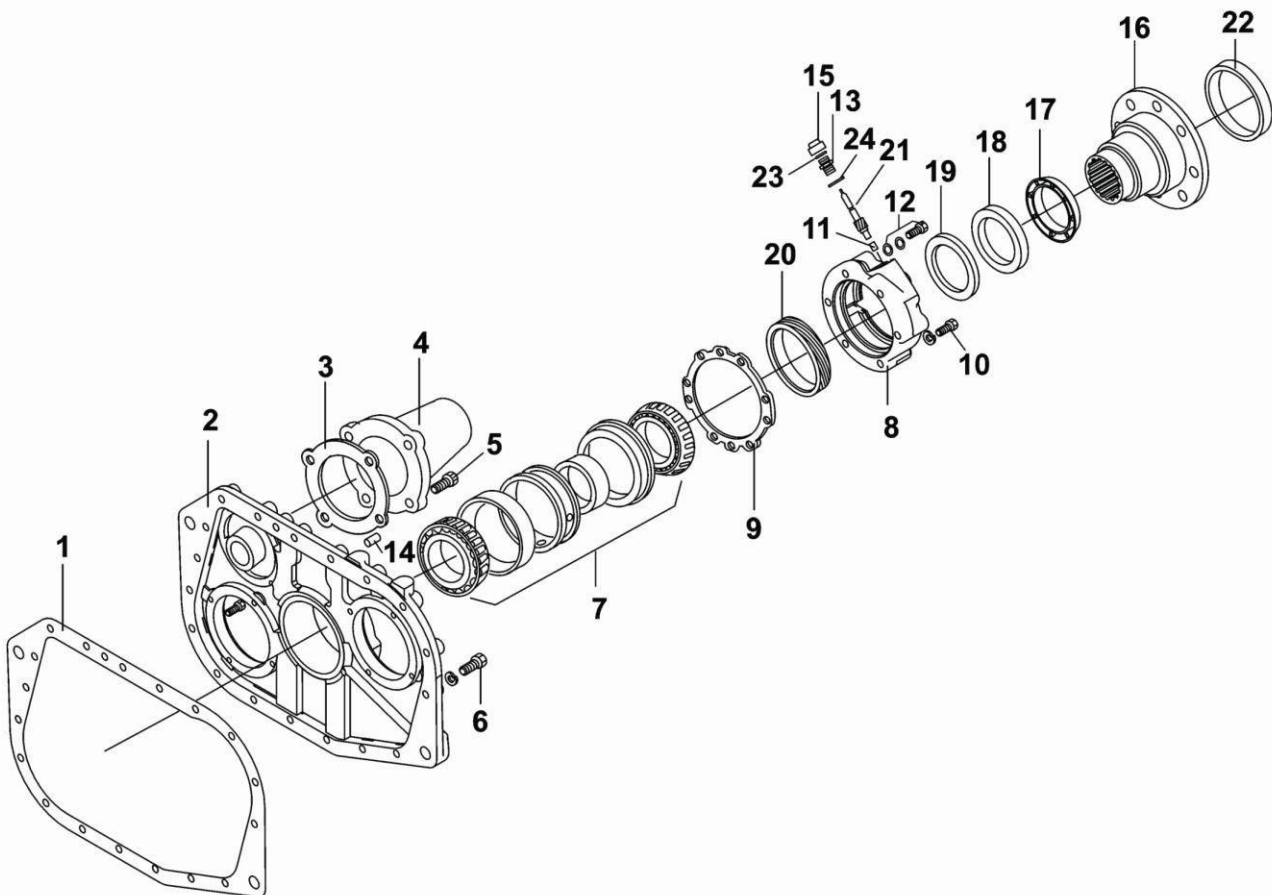
1 pairs of case 2 main shaft synchronous machine 3 main shaft washer 4 main shaft gear spline washer 5 vice box main shaft reduction gear 6 clip ring 7 main shaft gear pad 8 Collar nut

Figure 3-7 vice spindle assembly parts breakdown



1 short cylindrical roller bearing box 2 side welding assembly 3 extended counter shaft box assembly
4 short cylindrical roller bearings 5 snap ring 6 bearing ring

Figure 3-8 auxiliary box counter shaft assembly parts diagram



1. Side tank lining. Cover shell. The bearing cover gasket. Lengthened shaft bearing cap bolt 5. 6. Bolt 7. The output shaft bearing assembly. The output bearing cover shaft bearing cap liner. Bolt 11. An odometer driven gear bearing 12. Bolt assembly 13. Odometer joint 14. Position rear lid Shaw 15. Odometer door set of 16. The output shaft flange 17. Door cover 18. Seal 19. After the spindle bearing oil seal cover 20. Odometer active gear 21. An odometer driven gear 22. The positioning flange ring 23. O ring 24 .gaskets

Figure 3-9 Deputy box cover assembly parts breakdown



1, the sub box synchronization device low cone ring plane placed, put the slider set.



2, the three springs into the high-grade cone ring hole, plus a rotation force to the rest of the synchronization with the other parts of the match.



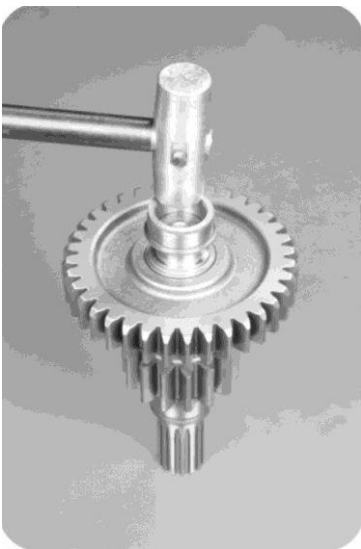
3, the synchronizer cone ring to low on a 50 mm high block, inserted into the output shaft.



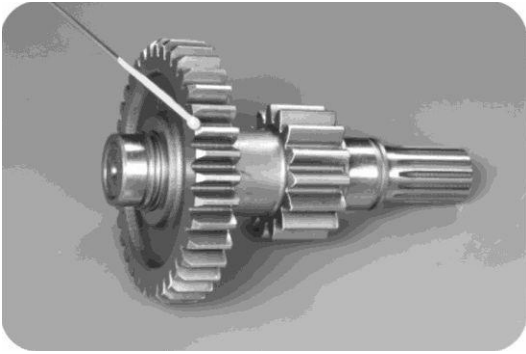
4, into the vice - box of the main shaft gear and vice - box of the main shaft washer.



5, the gear gasket convex downward set into the output shaft to do initial lubrication of the gasket.



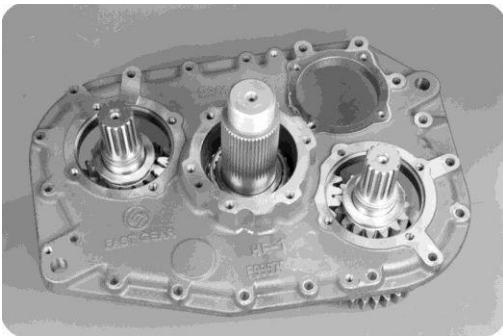
6, the inner ring of the bearing load side box lengthened counter shaft.



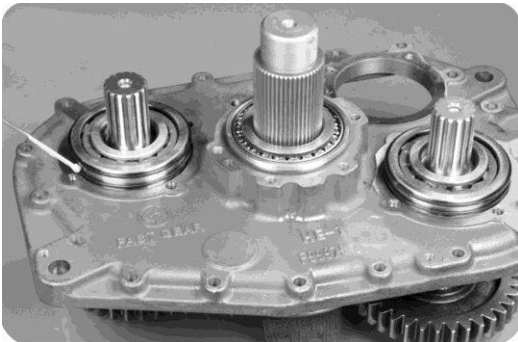
7, in the box on the side lengthened counter shaft tooth marks.



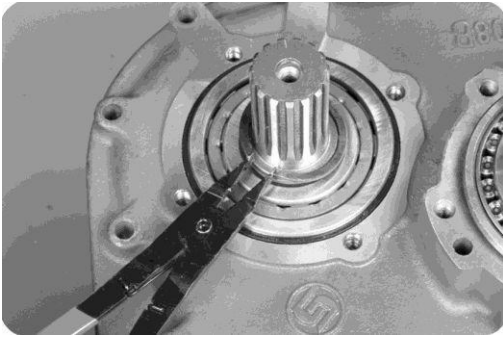
8, two pairs of teeth on the secondary gear reducer adjacent to the direction of the 180 pairs of teeth marks, as shown in figure.



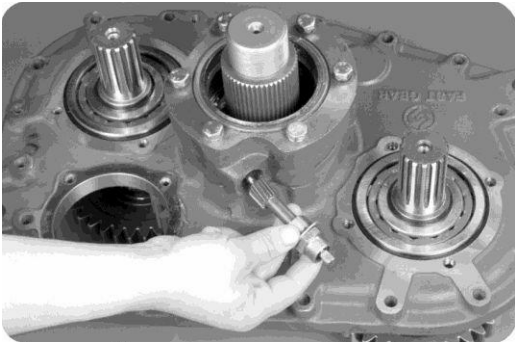
9, into the back cover of the shell. **Note: if only a splined shaft is lengthened, the shaft is arranged below the rear cover of the right.**



10, roller bearing assembly bearings and two counter shafts. Note: Bearing with snap ring, and a bearing pad Ring.



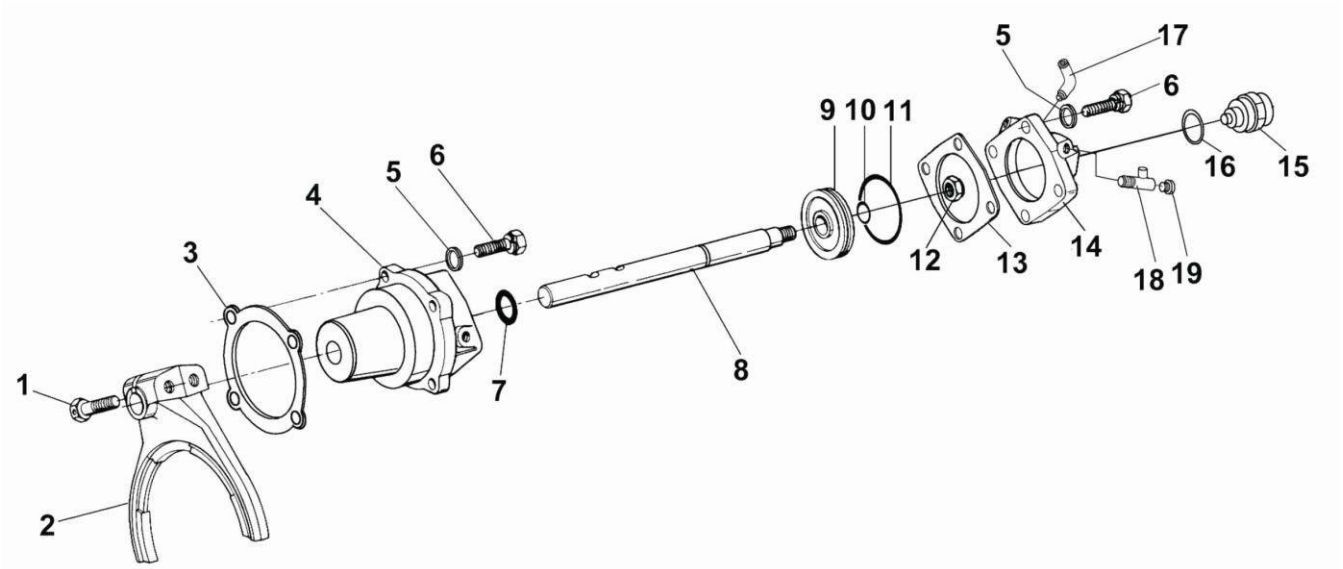
11, the assembly of the two auxiliary stop ring.



12, bearing cover and odometer assembly output driven gear, speedometer connector.

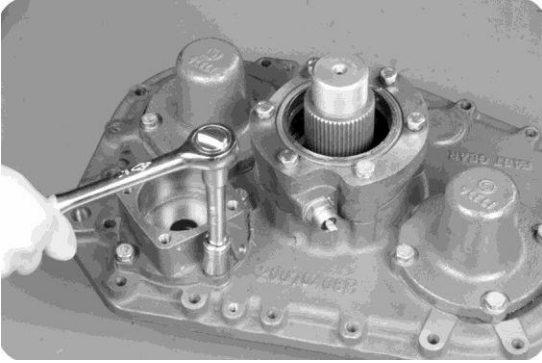


13, the assembly of the two end cap. Side gear shifting shaft cylinder parts decomposition is shown in figure 3-10.

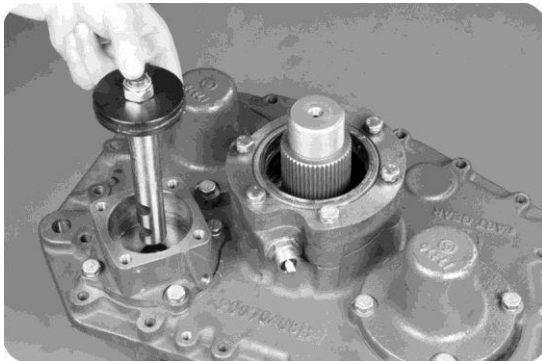


1. With bolt hole 2. Vice box synchronizer shifting fork. Sealing gasket. Vice box high, low-grade cylinder 5. Spring washers. Bolt 7.0 ring. Dial fork shaft 9. Shift live plug. The piston shaft O-ring 11. Piston O shape sealing ring 12. Self-locking nut 13. Shift cylinder head gasket 14. The gear changing cylinder cover 15. High, low-grade indicating lamp switch 16. O-ring 17. The bending pipe joint pipe 18. Three-way pipe joint 19. Plug

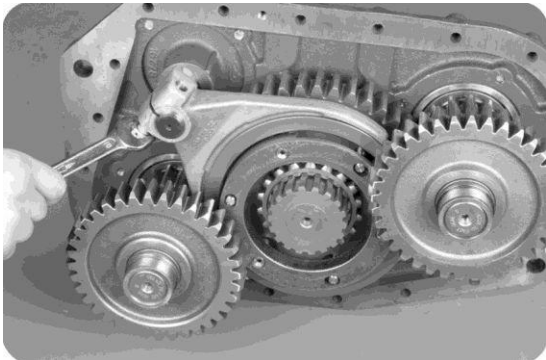
Figure 3-10 sub box high, low cylinder parts breakdown



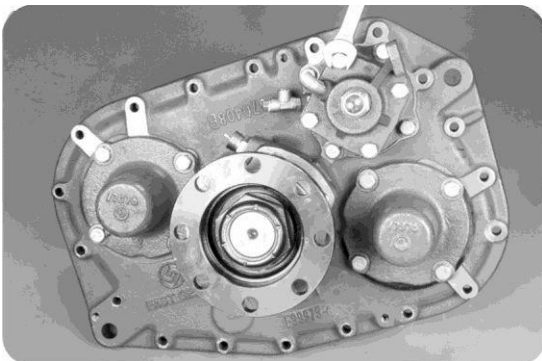
14. Assemble the cylinder housing.



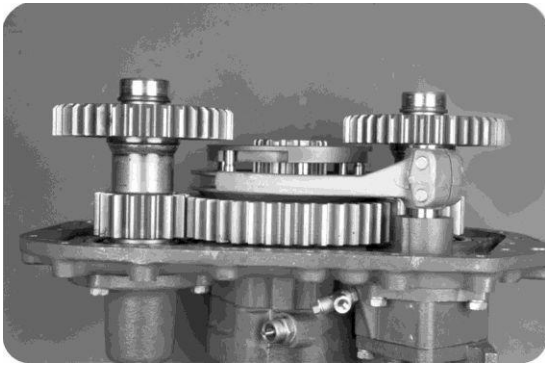
15. Assemble the cylinder piston. Note: the piston plane is up.



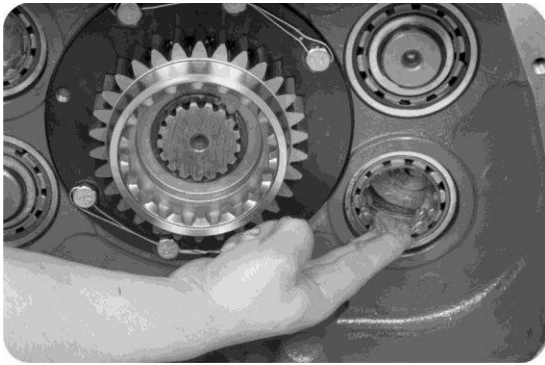
16, insert the vice - box shift fork into the slider and the shifting fork shaft, the assembly of the fork shaft on the bolt, and wire lock.



17, assembly shift cylinder head.



18, the sub box synchronization device into the low area.



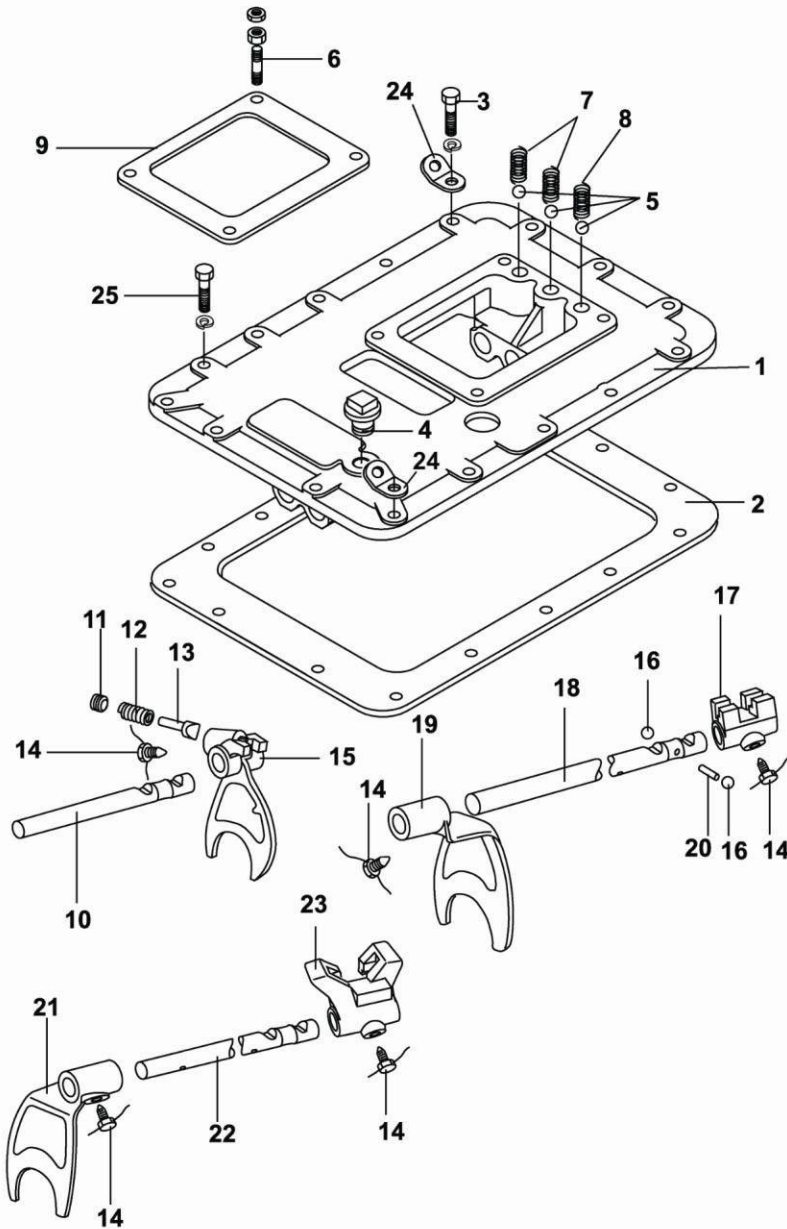
19, in the two counter shaft front bearing hole and into the grease. This step in the assembly process of auxiliary box is very important.



20, with vice box hanger will be vice box assembly hoisting shift to the main box after the end, rotating flange, move the side box assembly vice box assembly in place, tighten the back cover bolts.

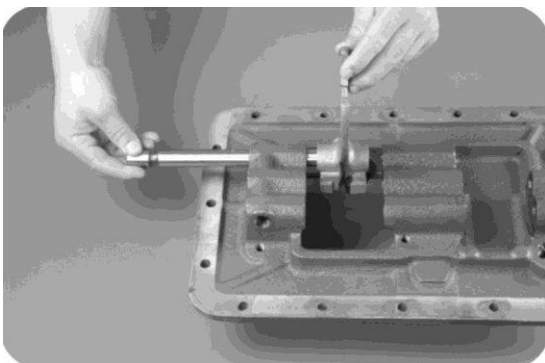
(eight) assembly of transmission case

Top cover assembly parts breakdown diagram see Figure 3-11

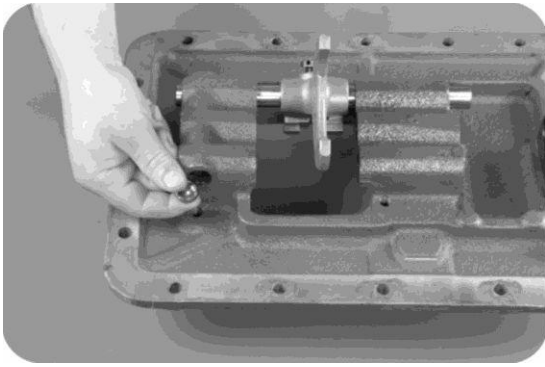


1 gear box cover 2 cover gasket 3 bolt 4 plug 5 interlocking 6 ball stud 7.8. interlocking spring 9 lining Dial block 18. 1 / 2 file pad. Low and reverse gear shifting fork shaft 11. Reverse gear lock plug 12. Reverse latch 13. Reverse lock Shaw 14. Shifting fork locking screw 15 percent lower, reverse gear shifting fork 16. Interlock ball 17. 1/2,5/6 gear shifting fork shaft dial block 24. Lifting plate bending 19. 1 / 2 shift fork 20. Shifting fork shaft interlocking Shaw 21. 3 / 4 file fork 22. 3 / 4 file shifting fork shaft 23. 3/4,7/8 file 25. Bolt

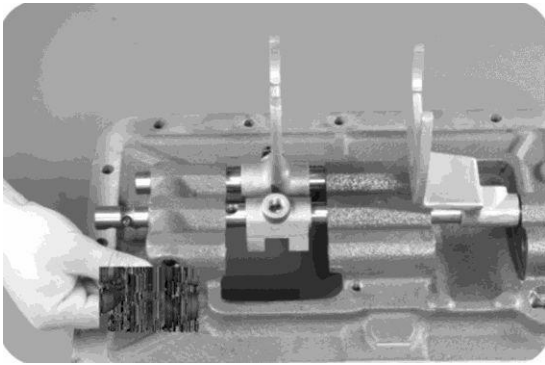
Figure 3-11 top cover assembly parts breakdown



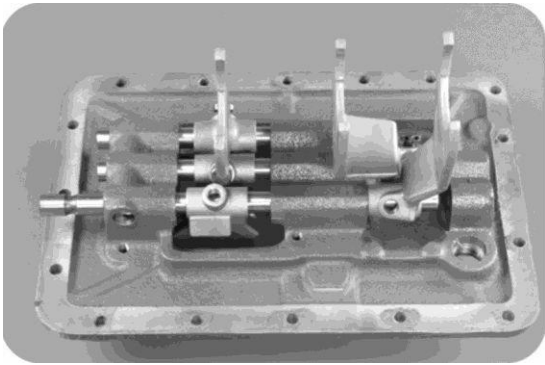
1, the assembly of low reverse gear shifting fork and fork shaft, a fastening bolt, wire binding.



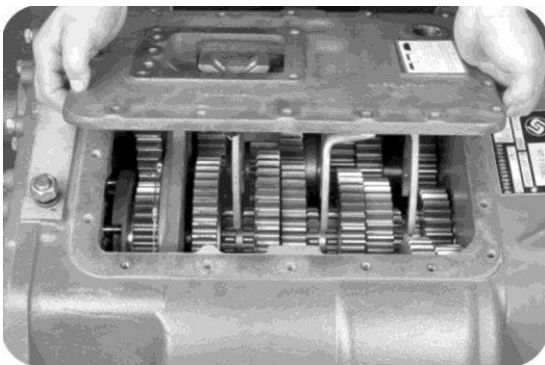
2, into an interlocking steel ball.



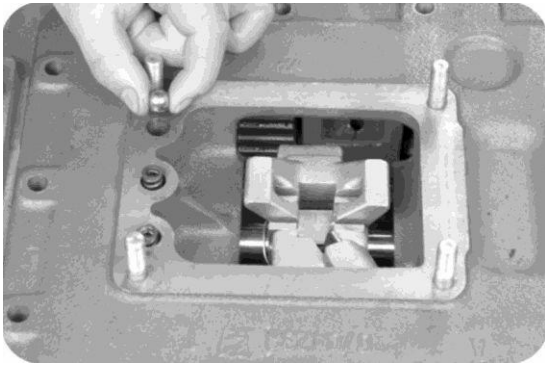
In 3, 1/2 gear shifting fork shaft, the guide block and 1/2 gear shifting fork, fastening bolts, wire binding; loading interlocking pin and interlocking steel ball.



4, assembly 3/4 shift fork shaft, guide block, fork, and tighten the bolt, with wire binding



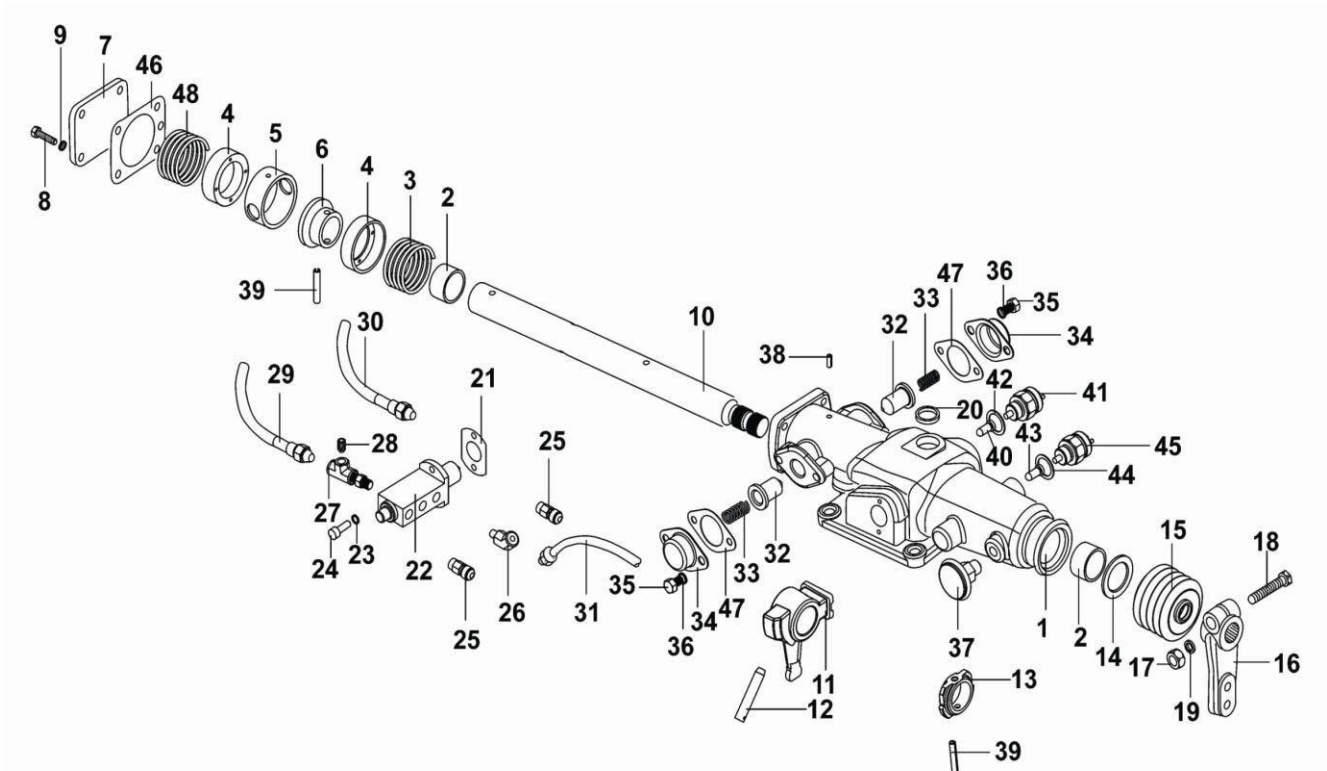
5, the fork is allocated to the neutral position, assembly and cover assembly.



6, the assembly of four double headed bolt, install the self locking steel ball and the spring. Pay attention to: 3/4 gear shift fork shaft hole inner spring is thicker.

(nine) assembly of gear assembly

Gear assembly parts decomposition diagram see Figure 3-12

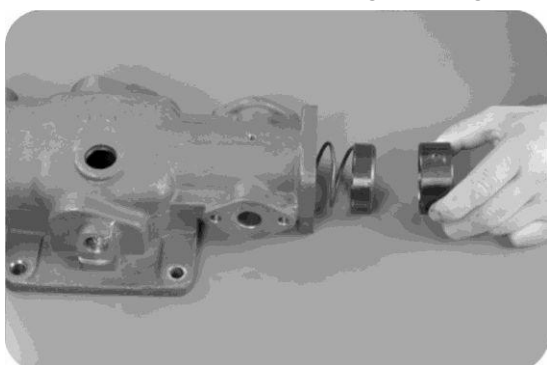


1 double H shift device case 2 shift shaft bushing 3 compression spring 4 spring seat 5 spring spacer ring 7 ring 6 end cap 8 bolt 9 bullet Spring washer 10. The shift lever 11. Dial head 12. Cylindrical Shaw low 13. And reverse switch control block 14. Seal 15. Dust sets of 16. Shift turn arm 17. Nut 19. 18. Bolt washer 20. Bowl plug 21. Liner 22. Double h valve 23. Spring washer bolt 24. 25. Ventilation plug 26. Air pipe elbow 27. Tracheal tee joint 28. Plug 29.30.31. tracheal assembly 32. Positioning Shaw 33. Spring 36. 34. A spring pressing 35. Bolt washer 37. Gas plug 38. Stop 39. Screw positioning ring Shaw 40. Neutral Shaw 41. Neutral switch 42. Washer switch 43. Reverse Shaw 44. Washer 45. Reverse gear switch 46. Pad switch 47. Liner 48. A compression spring

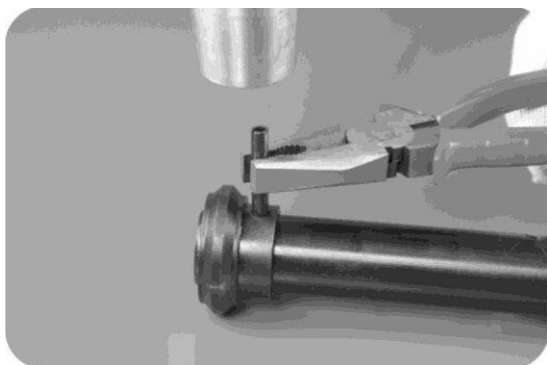
Figure 3-12 gear parts breakdown diagram



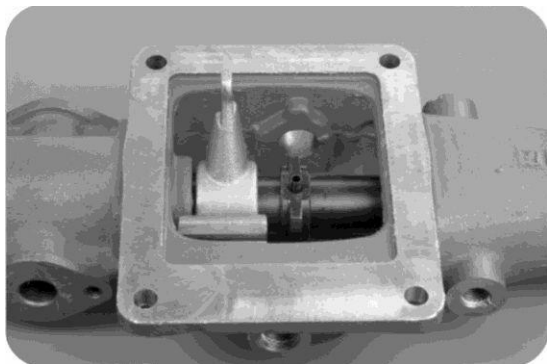
1, into the oil seal, and at the edge of the grease.



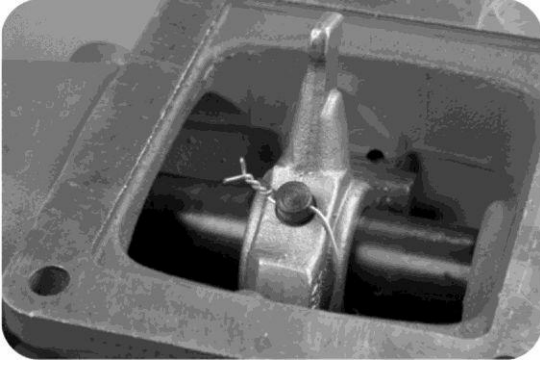
2, assemble the spring, spring seat and spacer sleeve of the double H shell body and lock with the locking screw.



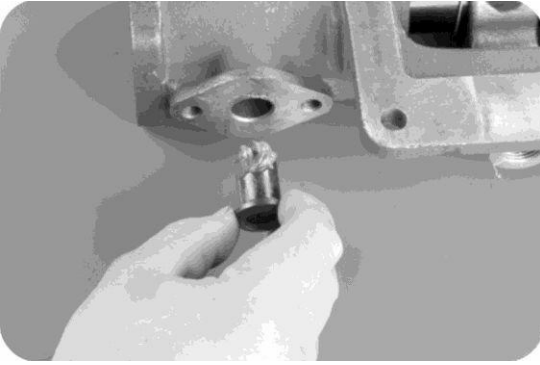
3 assemble the elastic pin on the locating ring, pay attention to the direction of the locating ring.



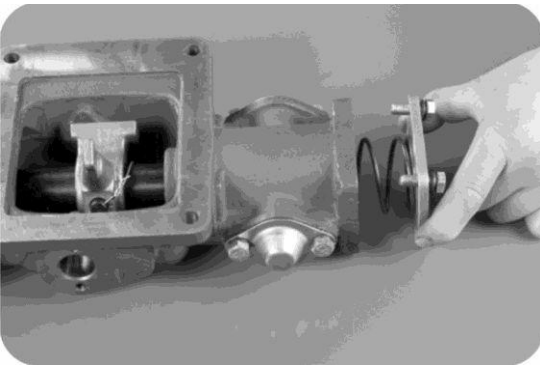
4, the horizontal shifting rod is arranged in the shell, the elastic pin assembly on the reverse control block.



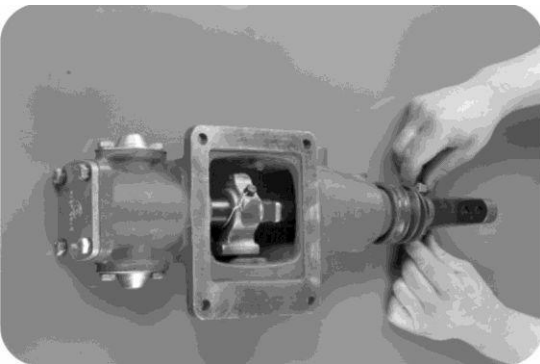
5, the head of the cylinder pin assembly, and wire lock.



6, the installation of both sides of the plunger, the spring and the spring seat and the initial lubrication of the plunger.



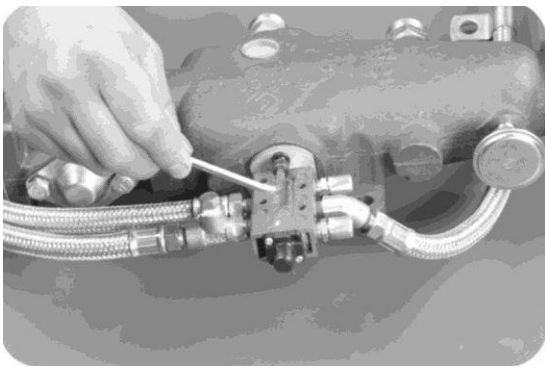
7, seat and a spring, the spring assembly installation plate.



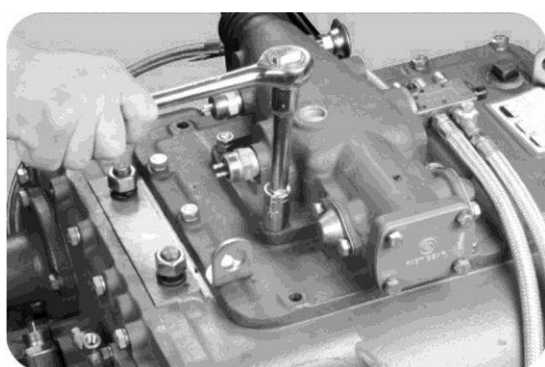
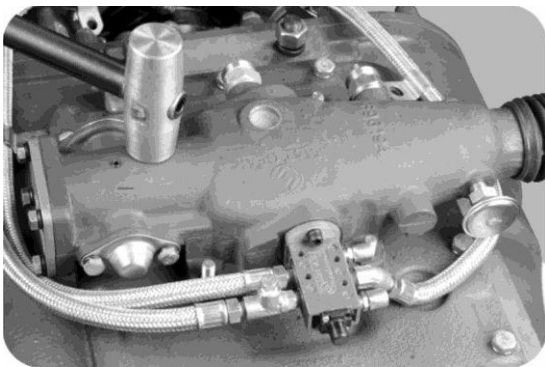
8, the assembly of the dust cover and shift the rocker arm. **Note: to ensure that the rocker arm and dial the head in a straight line.**



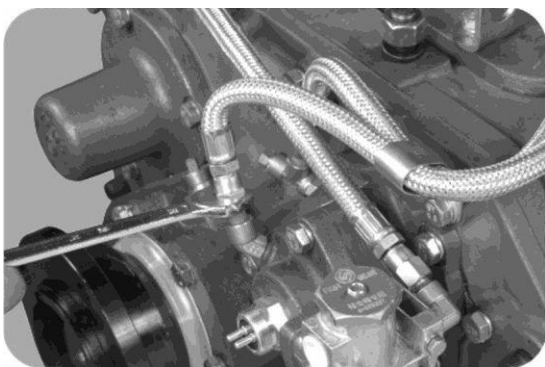
9, in reverse, neutral switch and a pin.



10, with the six angle wrench assembly double H valve two positioning screws.



11, double H shift mechanism assembly is mounted to the gearbox cover, tighten the four bolts.



12, the double H gas pipeline valve and the filter pressure regulating valve connection, install the clutch shell and its accessories, gear box assembly matching is completed.

Tightening torque value

No	Use site	Bolt (nut)	Recommend
1	Clutch housing	6— M16×1.5	244~271 N m
2	Clutch housing	4— M12	108~135 N m
3	Shaft bearing cap	6— M10	47.5~61 N m
4	Shaft bearing	M54×1.5 左旋	338~406 N m
5	Dual H control device	16— M10	47.5~61 N m
6	On the cover	5 — M12×1.25	67.5~88 N m
7	Shift fork lock screw	2— M12×1.5	67.5~88 N m
8	Vice box fork	2— M6	13.5~20.3 N m
9	Air filter bracket	M50×1.5	609~677 N m
10	Output shaft	19— M10	47.5~61 N m
11	Auxiliary box rear cover	3/4"	61~74.5 N m
12	Oil drain hole	1/4"	81~101.5 N m
13	Refueling hole	6— M10	47.5~61 N m
14	Vice box drive gear positioning disk	2— M16×1.5	67.5~81 N m
15	Reverse gear wheel	8— M10	47.5~61 N m
16	Counter shaft side cover	8— M12	67.5~88 N m
17	Bottom force cover	8— M10	47.5~61 N m
18	Intermediate shaft brake	6— M10	24.5~31 N m
19	Transmission side window cover	6— M10	47.5~61 N m
20	Main shaft rear bearing cover	4— M10	47.5~61 N m
21	The cylinder cover	4— M10	47.5~61 N m
22	Clutch housing bottom cover	4— M8	20~27 N m
23	Intermediate shaft	2— M16×1.5	122~162 N m