

## 1 The third section fast RT11509C gearbox dis assembly

(a) removing precautions Fast twin counter shaft transmission structure is simple, but in the demolition process should pay attention to the following issues:

1before the start of the gearbox, the transmission should be the external cleaning, so as not to remove the process, the foreign body into the body parts, such as cleaning in the assembly process is not clean, will cause impurities and foreign matter into the body.

2in the removal of the sub assembly, all parts should be removed in order to neatly placed in the clean working table, so as not to lose parts in the re assembly.

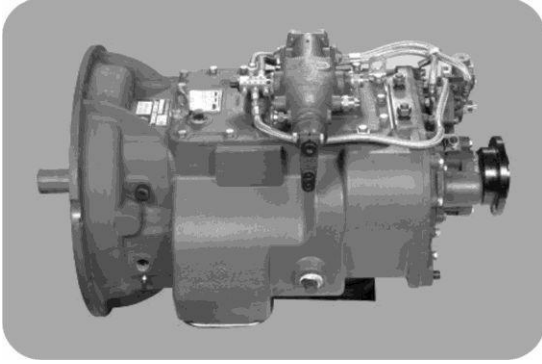
3special tools must be used to ensure that all parts will not be damaged during removal. 4 after removing the parts should be carefully cleaned.

5. Remove after responding to the parts carefully examined. Inspection of steel ball bearings, roller and an inner, outer ring raceway whether there is pitting and spalling; check the bearing, outer ring and the shaft, bearing outer ring and the hole with, if bearing outer ring can in the bearing hole of the casing body free to rotate, changing housings and bearing.

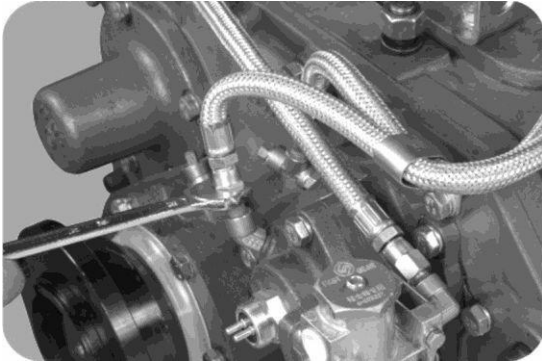
Check the gear tooth surface, whether there is injury or pitting, check the tooth surface wear, replacement of tooth surface strain and significant pitting corrosion and wear of the gear. Check the gear axial clearance, two axis forward gear axial clearance should be from 0.13 to 0.30 mm range, the reverse gear is 0.30 to 0.90 mm. Such as axial clearance tolerance should be as the replacement of axial washer and gear, gear attrition in the normal range should be re adjust the axial shim thickness, in order to ensure the accuracy of gear axial clearance.

Examining the spline shaft wear, such as obvious partial grinding side, or spline deformation, replacing the spline shaft. Check the main box, the gear is engaged in the sliding sleeve of the spline hole, the meshing gear and a shifting fork groove wear, deformation and axial Songkuang. Check for side box synchronizer cone torus with and without excessive wear, eccentric wear and thermal discoloration. Check the lock stop Shaw is too Degree wear, if any of the above conditions should be replaced with the synchronization device assembly.

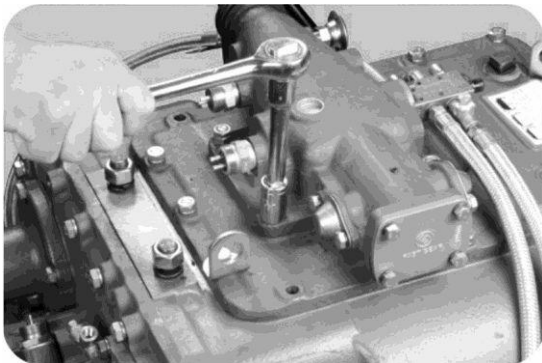
(two) removal of double H shift mechanism



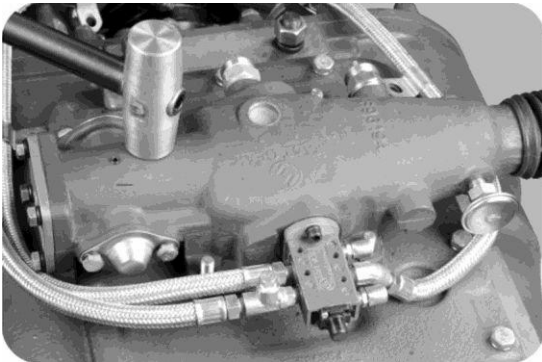
1, single rod left control of the dual H assembly.



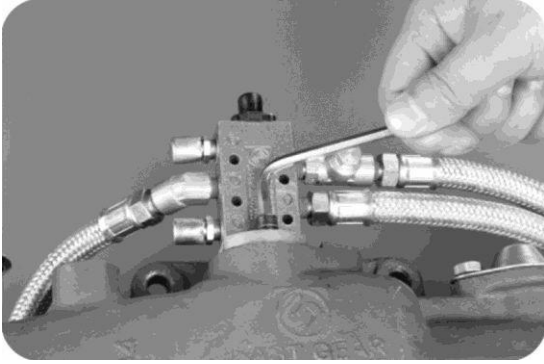
2, remove the three pipe and two air filter bolt.



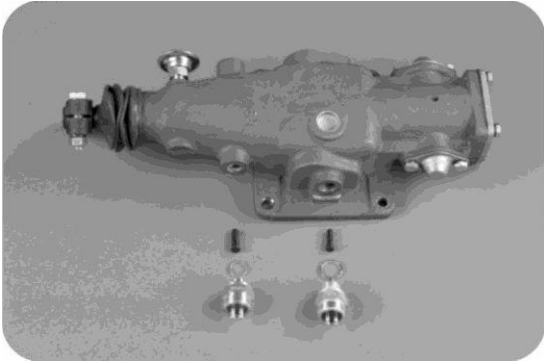
3, remove the gear shaft assembly on the four fixed nuts.



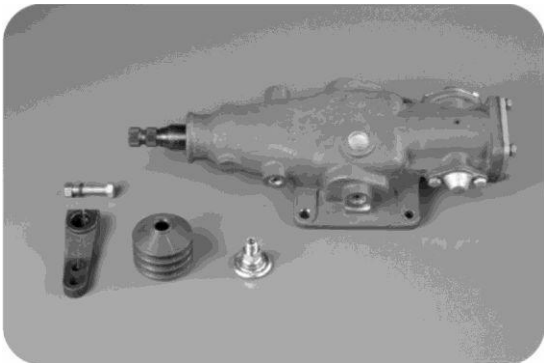
4, use the copper percussion shift shaft assembly casing which is loose.



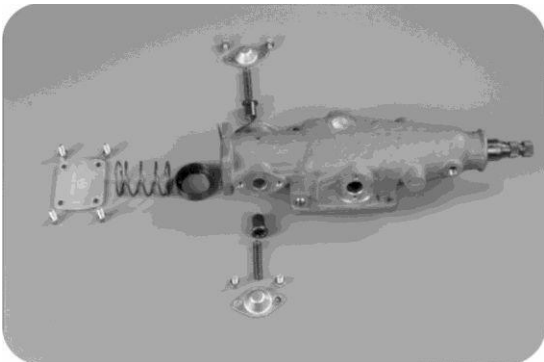
5, use the six square wrench to remove the double H air valve and the trachea.



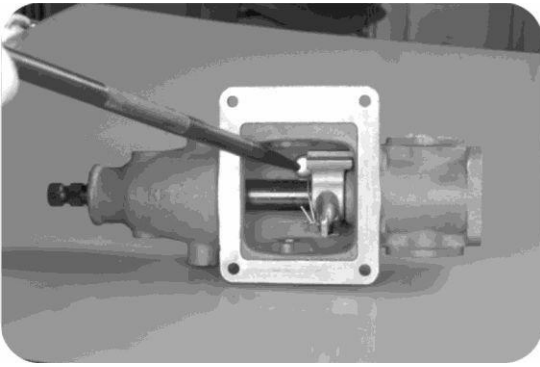
6, remove the reverse, neutral switch and a pin.



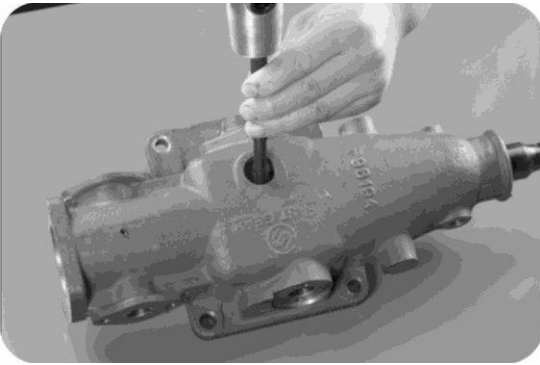
7, remove the rocker arm, dust cover, vent plug.



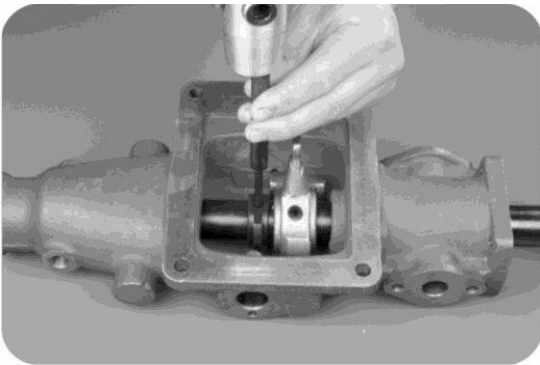
8, remove the side panel and on both sides of the spring seat spring out, such as positioning plunger.



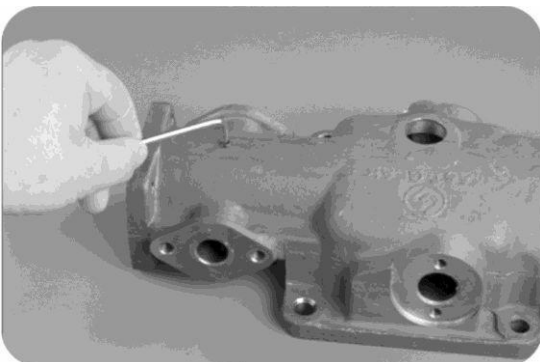
9, remove the bowl plug locking plate and dial wire head.



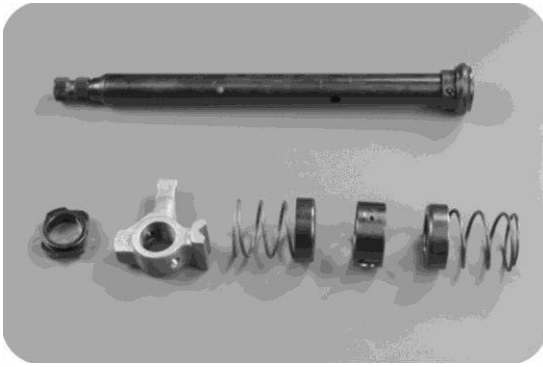
10, use the tool to knock down the cylinder pin



11, remove the elastic pin reverse on the control block.



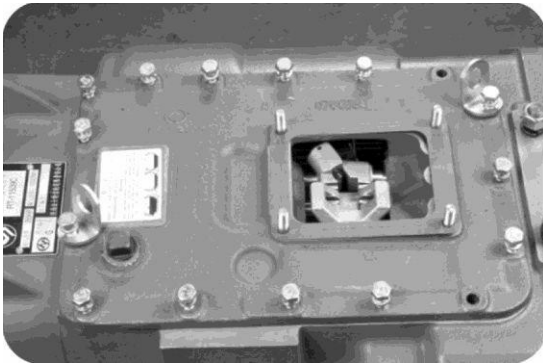
12, remove the stop screw, remove the gear shaft in the body of another set of spring and spring seat, to prevent the spring pop-up.



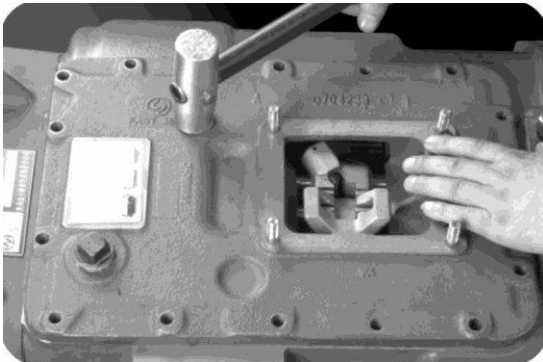
13, dual H control assembly within the main components:

Dial head, reverse control block, spring, spring seat, vibration and transverse shift rod. Note: two springs, near the inside of the shell is a slightly shorter length of some.

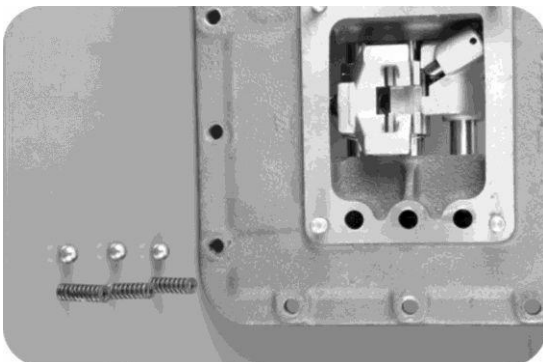
(three) removal of the upper cover assembly



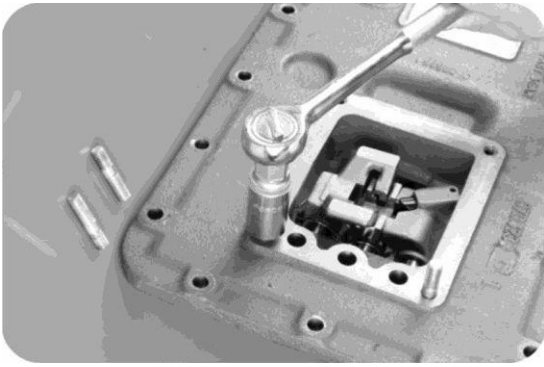
1, remove the bolts on the top cover assembly.



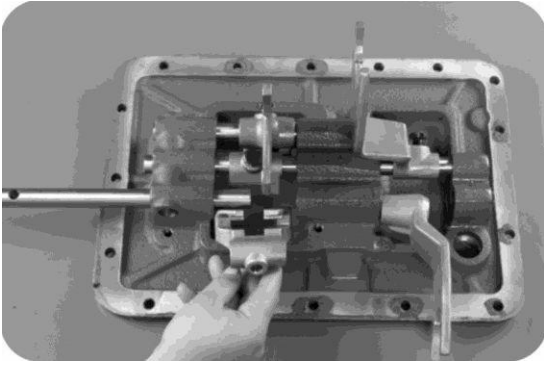
2, by knocking a copper rod cover, and the separation pad. Note: hand blocked spring to prevent falling into the box.



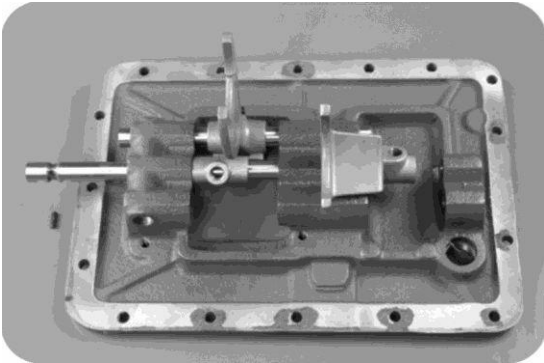
3, take off the upper cover assembly from the transmission, remove the shift and self locking steel ball and spring.



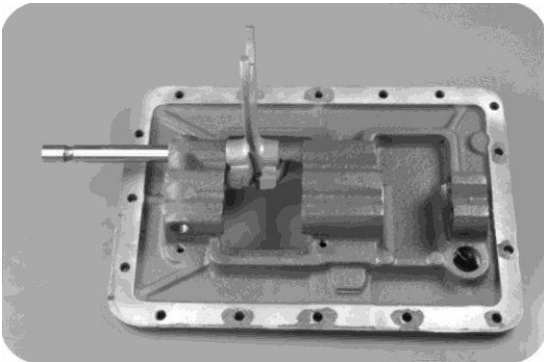
4, remove the four headed bolt



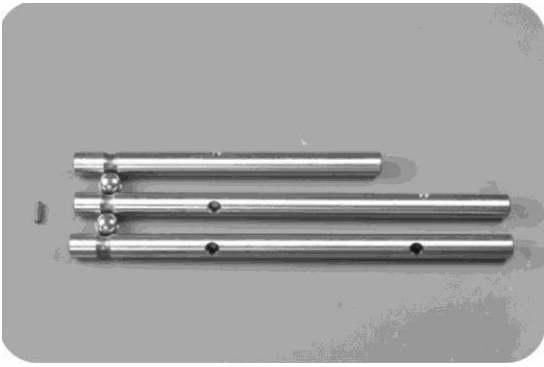
5, flip top cover assembly, remove the 3/4 file shifting fork shaft, guide block and 3/4 shift fork.



6, remove the 1/2 file fork guide block, 1/2 shift fork and interlocking pin.

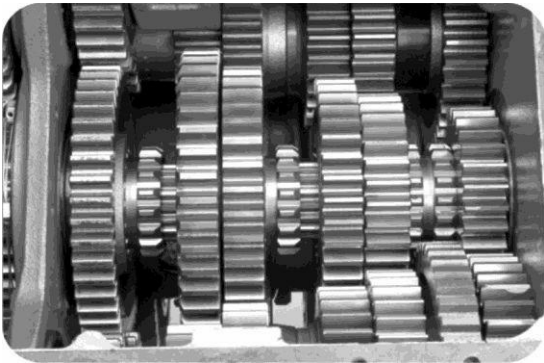


7, remove the low reverse gear shifting fork shaft and low reverse gear shifting fork.

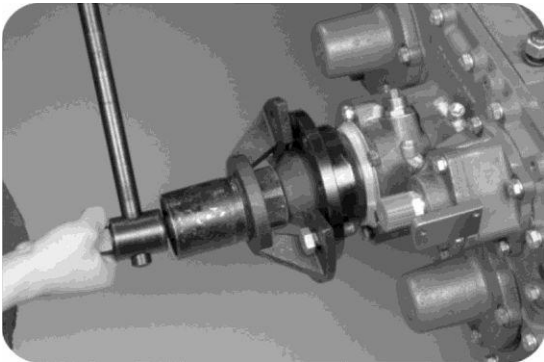


8, a shifting fork shaft, interlock and interlock pin ball.

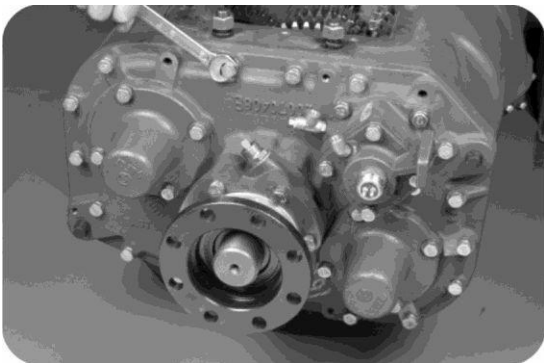
(four) removal of sub box assembly



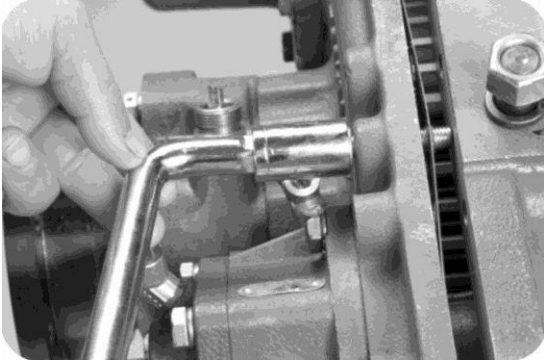
1, the two meshing sliding sleeves are respectively engaged with the main box gear.



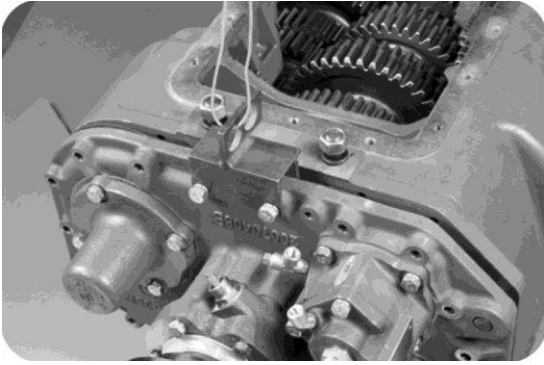
2, remove the flange flange nut with a special labor saving wrench.



3, remove the bolts on the back cover of the housing.



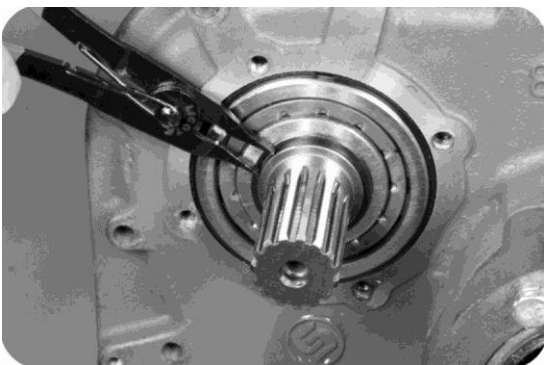
4, with three bolts to the Deputy box assembly to top out of about 10 mm.



5, auxiliary box hanger lift vice box assembly after the shift, separating it from the main box.

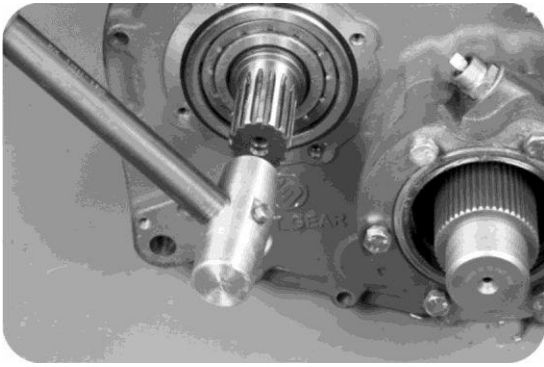


6, remove the output flange and odometer driving gear.

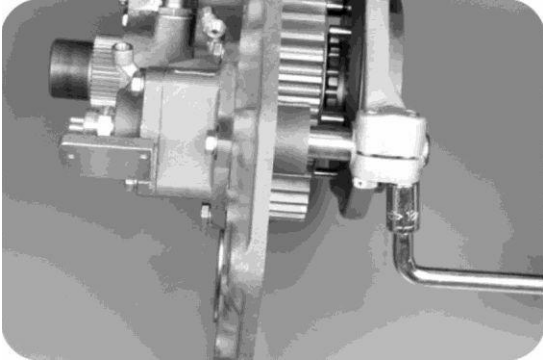


7, remove the cover with the tools of extended counter shaft, remove the extension clasp on the intermediate shaft.

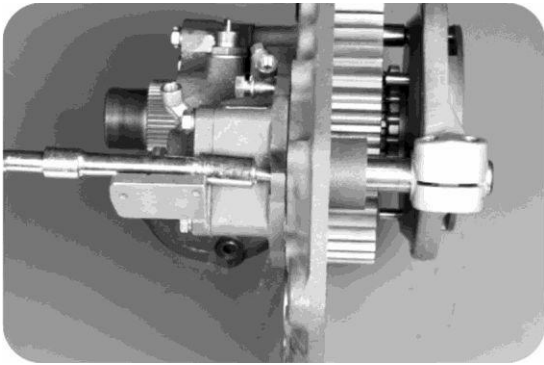




8, with the copper percussion lengthened and bearing counter shaft separation.



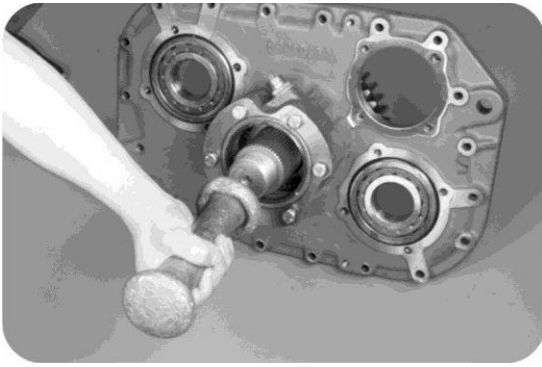
9. Cut off the wire and remove the bolts from the side of the box.



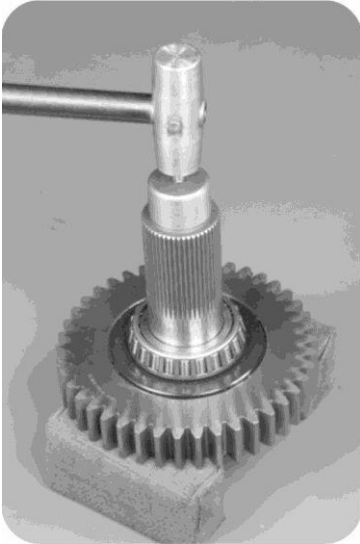
10, remove the shift cylinder and the back cover of the bolt to take off the cylinder assembly.



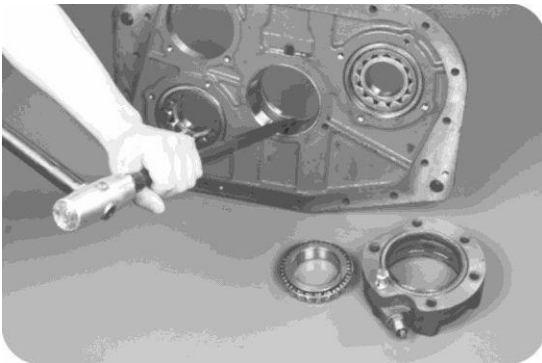
11, remove the sub box synchronization device.



12, the output shaft to knock out from the rear cover.



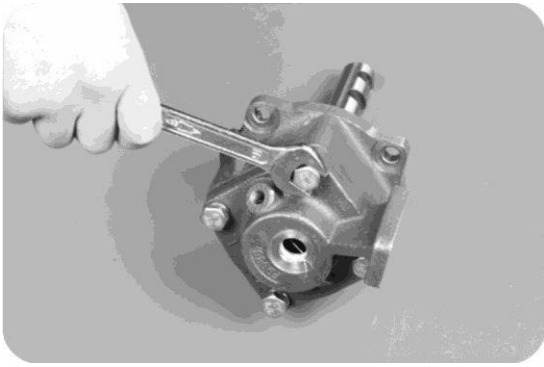
13, the knock on the output shaft and the bearing separation.



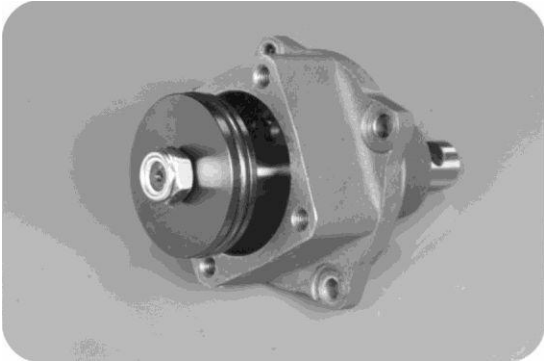
14, remove the output bearing end cover, use a soft rod to knock out the outer ring of the bearing shell hole.



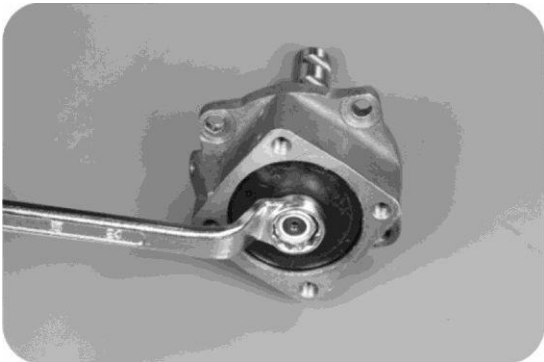
15, the sub box synchronization decomposition.



16, remove the four bolts on the cylinder head and remove the cylinder head.



17, before removing the piston plane should pay attention to the outside.

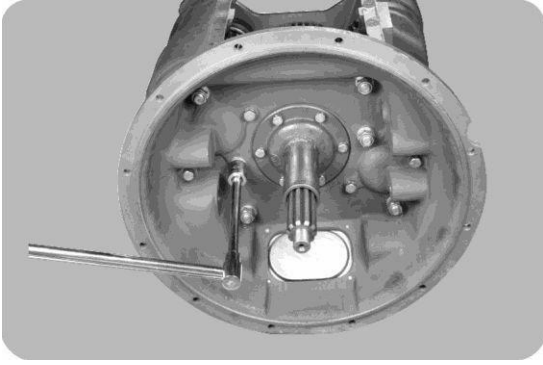


18, remove the piston on the self - locking nut.

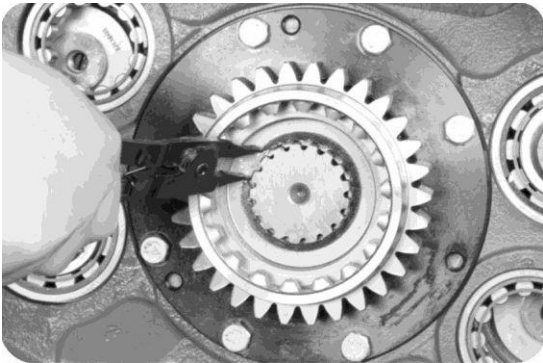


19, shift the cylinder piston and the three O type sealing ring.

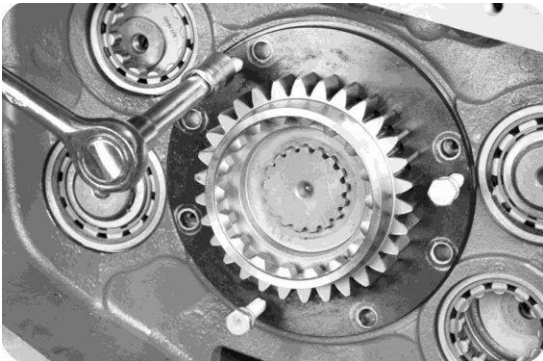
(five) the main box part of the demolition



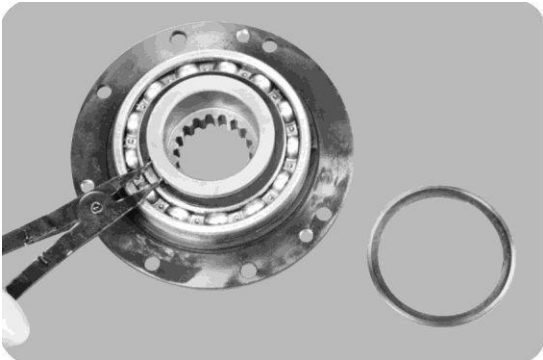
1, remove the clutch housing assembly.



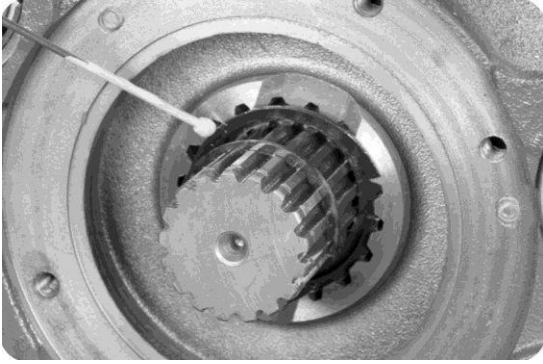
2, remove the rear end of the gear box drive ring, cut off the wire locking bolt six bolts, remove the six bolts of the positioning plate.



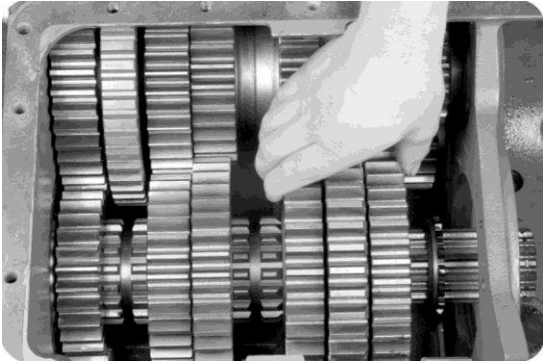
3, with the three bolts will drive tooth assembly out.



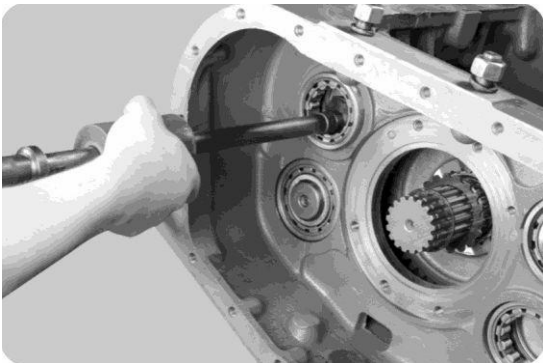
4, remove the auxiliary box drive ring fixing ring of the tooth and the open ring, the bearing and gear on separation.



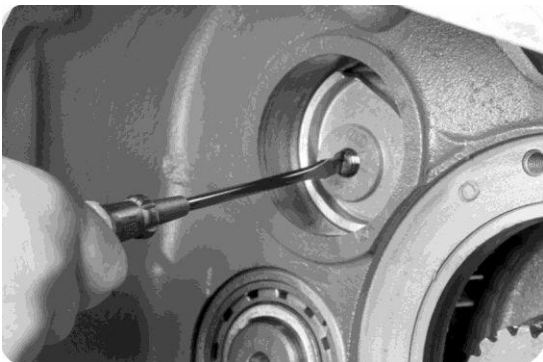
5, remove the two shaft reverse gear within the stop ring.



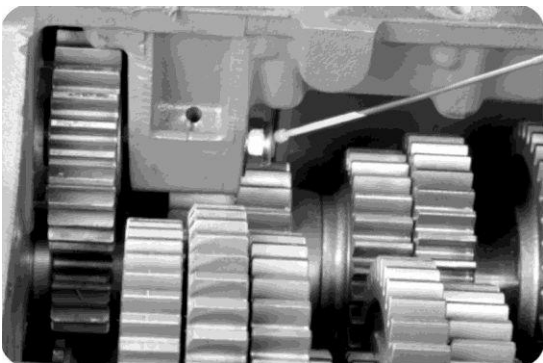
6, the reverse gear and low gear shaft two together.



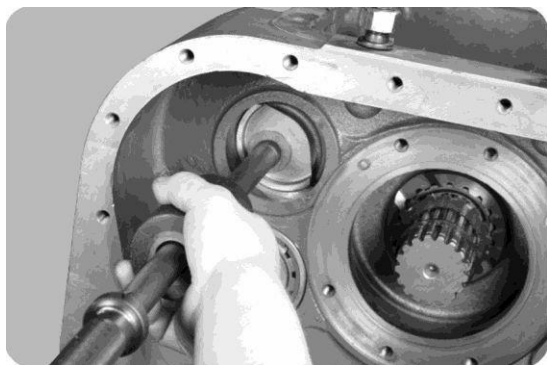
7, remove the auxiliary box counter shaft front bearing with special tools.



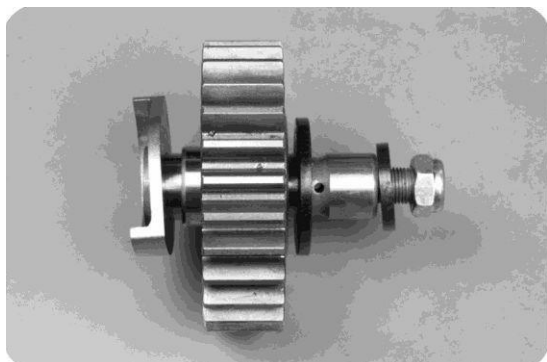
8, remove the plug in the intermediate shaft reverse gear.



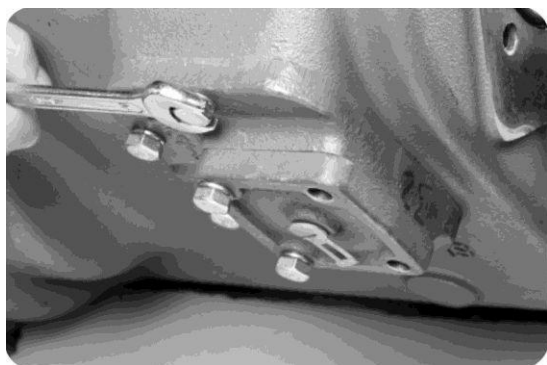
9, remove the lock nut on intermediate shaft reverse gear.



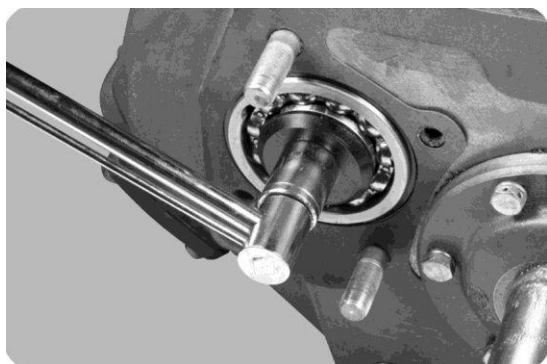
10, use special tools to pull out reverse intermediate shaft and eccentric bearing plate



11, reverse wheel assembly.



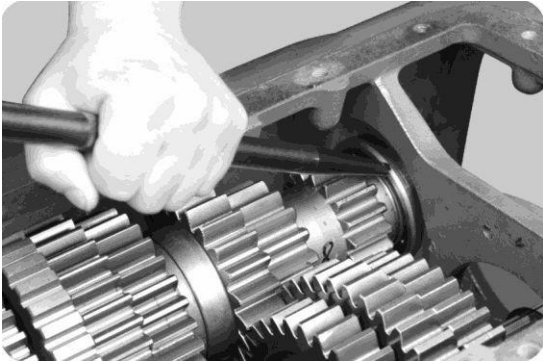
12, remove the main box counter shaft brake assembly.



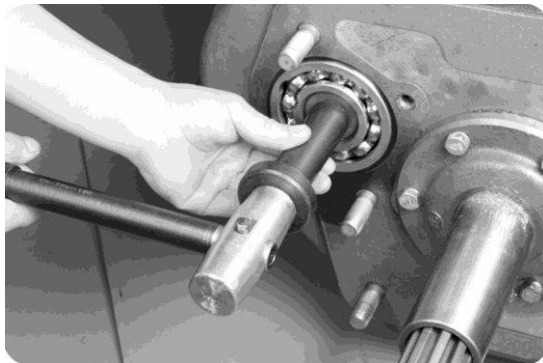
13, the main bearing box counter shaft front baffle removed.



14, remove the main bearings on the counter shaft box rear stop ring.



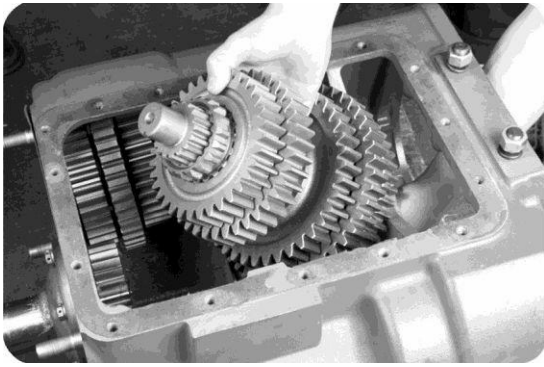
15, with special rods removed after the counter shaft bearing.



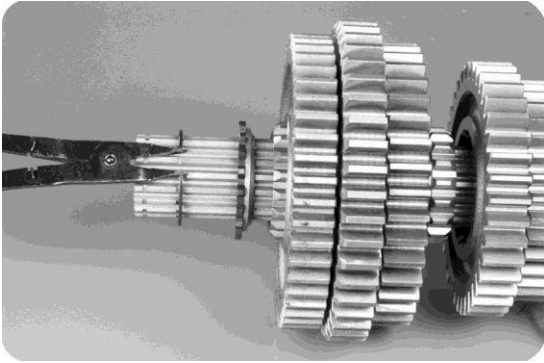
16, a counter shaft, the subsequent shift of about 10 mm.



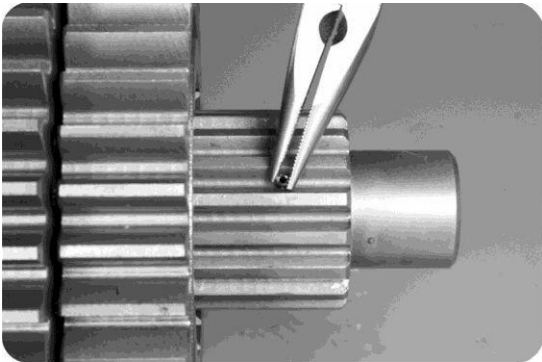
17, from the forward after knocking counter shaft, bearing retainer ring from the housing with at least 5 mm, bearing down counter shaft front with special tools.



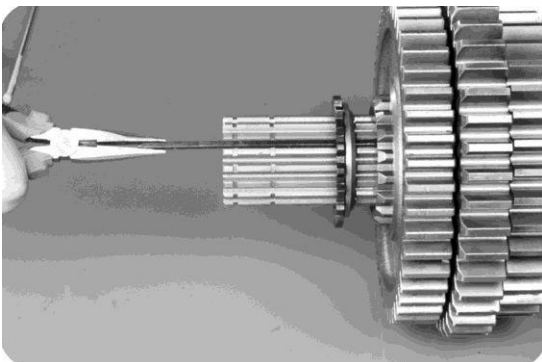
18, take out the upper countershaft assembly and two shaft assembly from the main case.



19, remove the rear end of the two shaft stop ring.

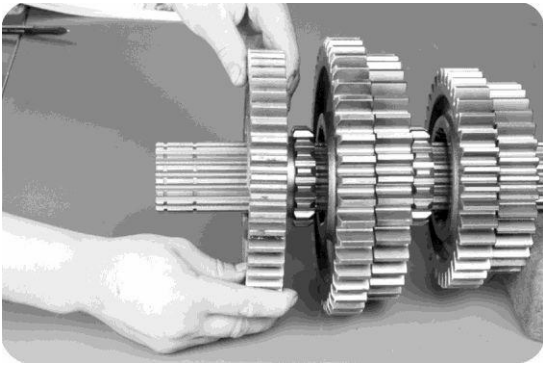


20, pull out the elastic pin on the two axle.

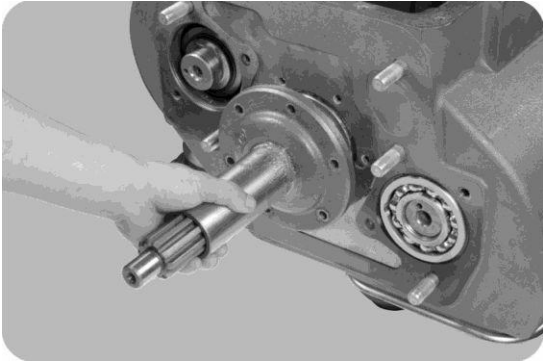


21, draw the long key.





22, in turn from the two axis to take off the two shaft gear.



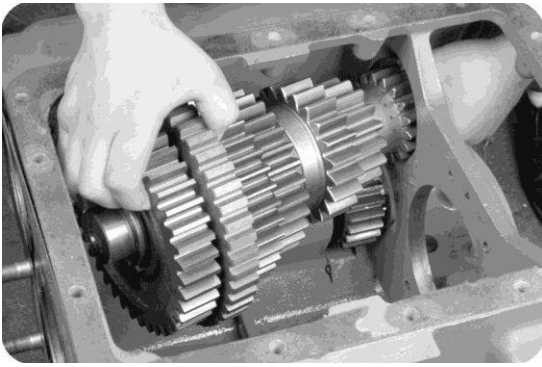
23, a loose shaft bearing end cover six bolts, remove a shaft bearing end cover.



24, pull down a shaft bearing on the stop ring, knocking out a head, shaft assembly from the shell.



25, use special tools to remove a shaft nut



26, take out the bottom shaft from the main tank shell assembly.

## 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.

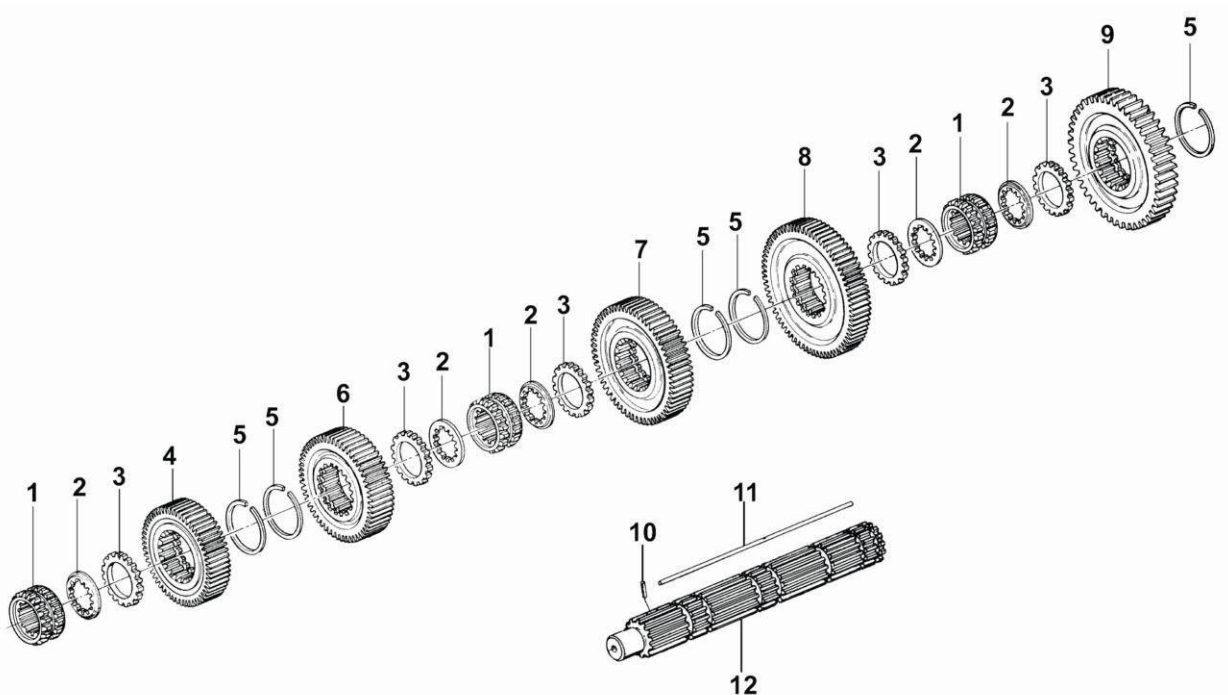
2 in the assembly, all bolts, screw threads should be coated with thread locking sealant. 3 in the assembly, application of silicone lubricant with O shape all of the sealing ring.

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.

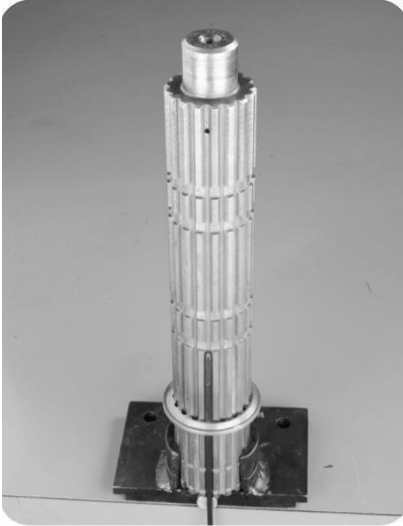
6. In accordance with the provisions of torque, the tightening bolt on all parts. Output shaft flange nut must to 610 ~ 680 N-M torque final tightening, otherwise it will cause serious consequences.

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

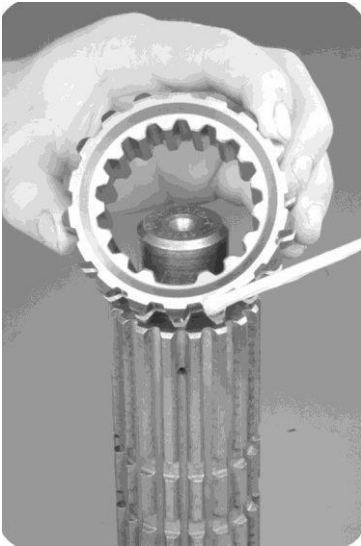


1 two axle shaft gear meshing sleeve adjusting pad 3 two axle gear spline shaft third gear gasket 4 two  
5. Clasp. Second shaft second gear. Two axis first gear. Two axis low-speed gear. The second shaft reverse gear. Round  
elastic cylindrical Xiao 11. Two axis hexagonal pass key 12. The second shaft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

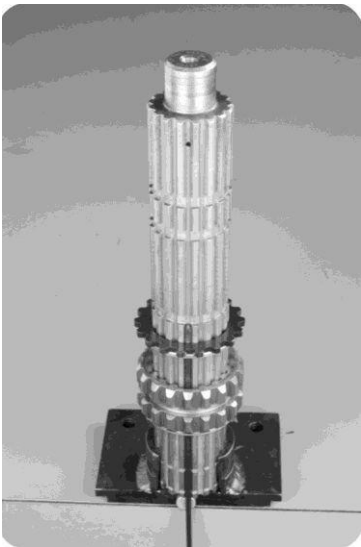
Figure 3-1 two shaft assembly parts breakdown



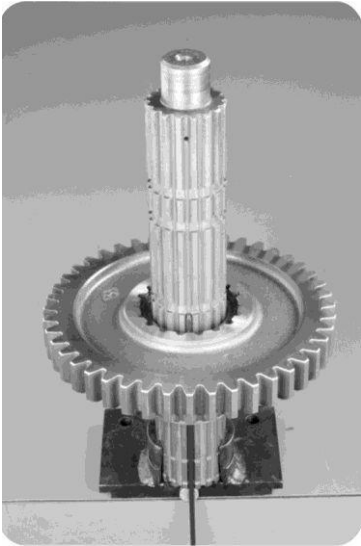
1, assembly. Two axis vertical placement will be adjusted upward into the two axis convex pad, turned a pitch and then penetrates the long bond.



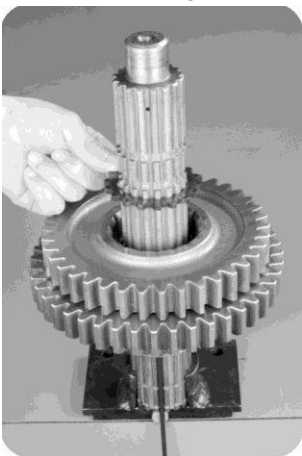
2, low load / reverse sliding sleeve, the tooth defect towards the two axis. With a groove hole. Note: three interchangeable sliding sleeve shaft on the two.



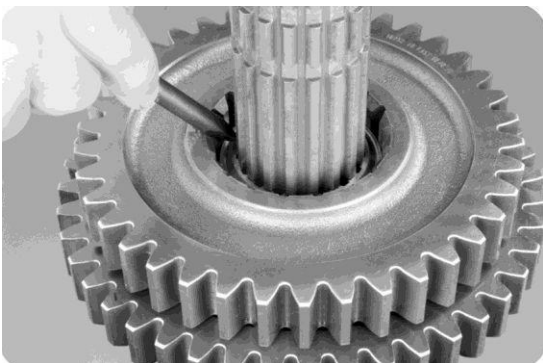
3, in a downward convex adjustment pad, turned a long pitch push button, add a spline pad.



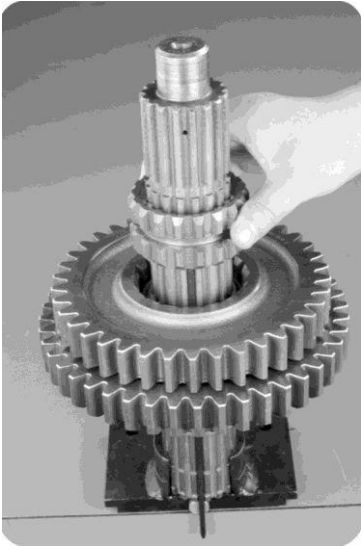
4, the two shaft gear with low gear teeth down into the two axis.



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



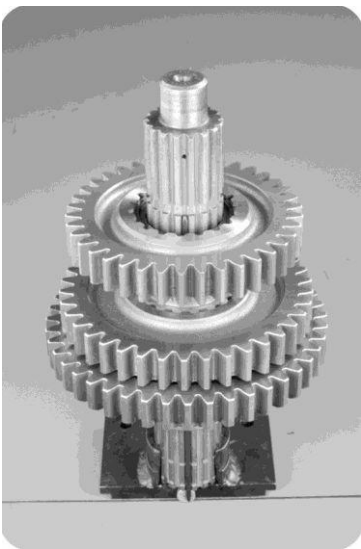
6, convex upward into a spacer, turned a pitch to push long key.



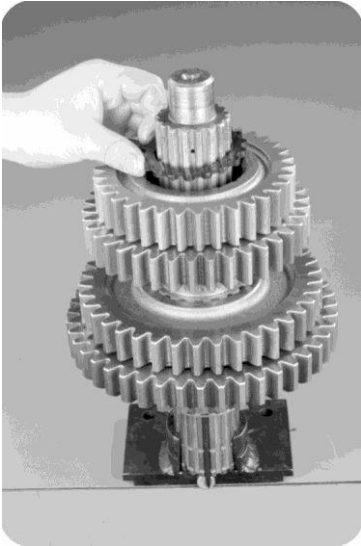
In 7, 1/2 gear sliding sleeve, the tooth defect with two axis hole toward the keyway.



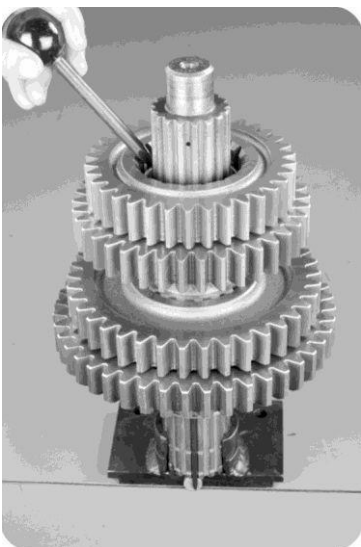
8, in a downward convex adjustment pad, turned a pitch to push long keys into a spline pad.



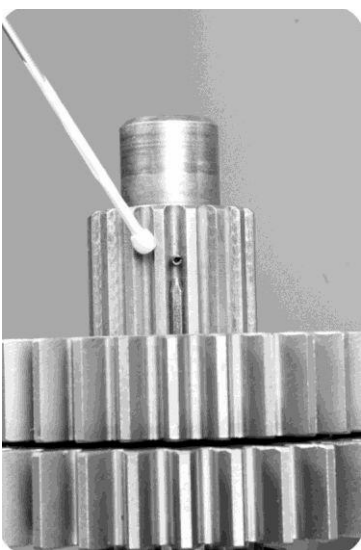
9, two axis gear with gear down into two axis.



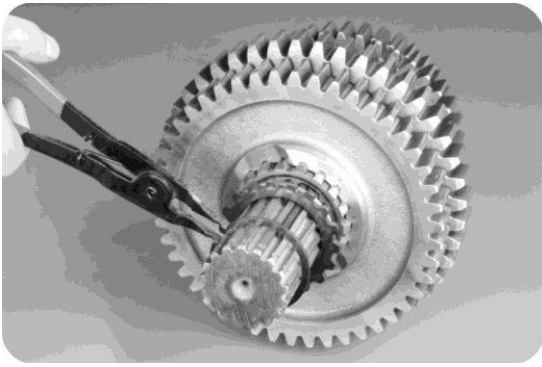
10, two axis third gear up into two combined tooth shaft, into a spline pad.



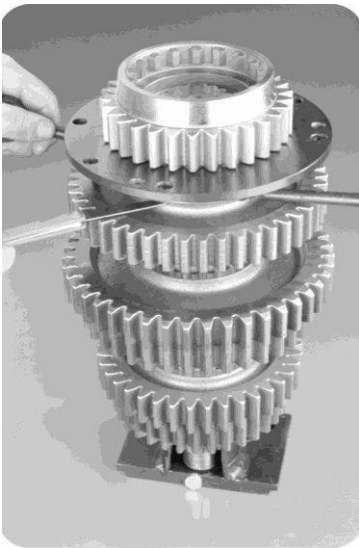
11, convex upward into a spacer, turned a pitch upward after long push button.



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.



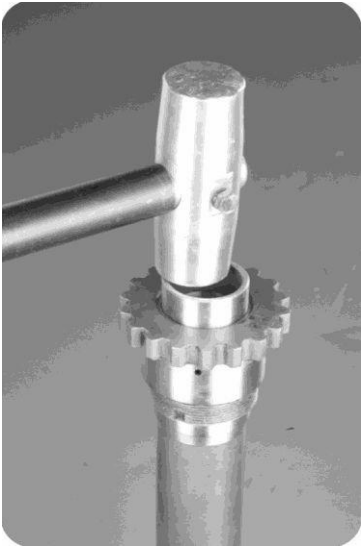
14, examining the axial clearance: the second shaft is vertically placed, check into reverse gear ring and assembly vice box drive gear assembly and the locking ring. With feeler to check the reverse gear wheel and drive between tooth gaps (0.3-0.9mm).



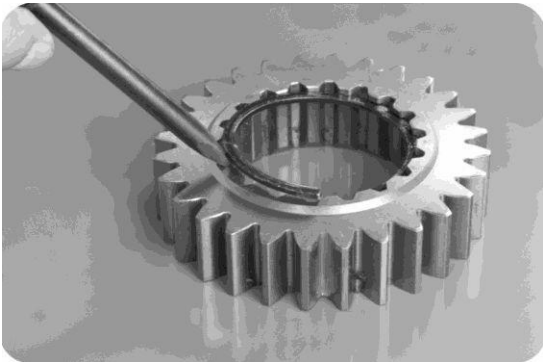
15, check the two axis low, reverse and two gear tooth axial clearance (0.13-0.3mm).

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

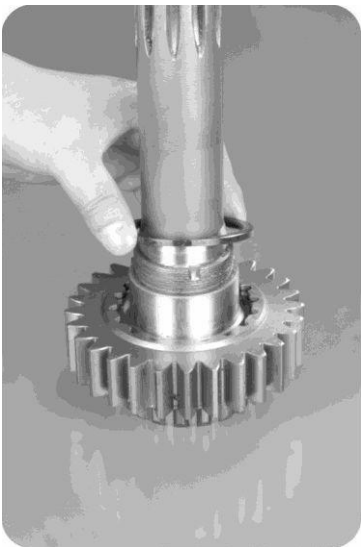
A shaft assembly part breakdown diagram is shown in figure 3-2.



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

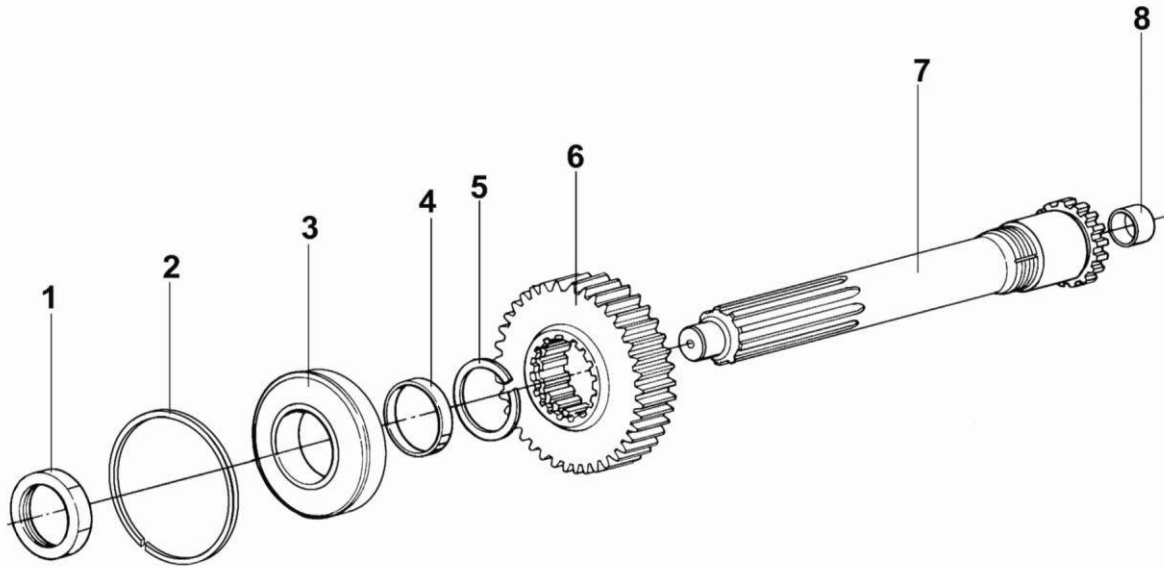


2, load a shaft gear stop ring.



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.