

Troubleshooting ninth Fast gear box

The following common failures and troubleshooting fast gear box:

1. Shift difficult general new users in just contact with fast gear box of heavy vehicles, often reflect the the car start gear, This is often without reading the instructions for use, or not after training, do not understand the operation characteristics of the fast gear box to the. Already mentioned above, because there is no old-fashioned Fast gear box main box synchronizer, it started hanging files must have clutch brake with. Step, if only the clutch pedal is stepped on and not to open the top of the clutch and brake valve, then the brake doesn't work, apparently gear difficulties. Some users know that starting operation requirements, but also reflect the start of a gear, generally speaking, driver is too low, short legs, and seat is too high, started straight leg set to brake The seat height should be adjusted at this time to meet the requirements. If, say, the clutch pedal has truly turned to open the top of brake valve, and started stalls are still difficult to hang (like clutch separation is not complete) is illustrated in the clutch brake system failure. At this time, should first check the braking gas road, will brake valve to a gear box on the left below the brake cylinder gas pipeline joints loosen, set foot clutch pedal peaked clutch brake valve position, observation of trachea joint whether exhaust outward, if the exhaust is not smooth, brake valve fault should be overhauled or replaced. If the exhaust shows normal on-off valve is no problem, the problem may occur in the brake cylinder. Need to disassemble the clutch brake cylinder observed brake cylinder live Higher letter "O" ring wear and leakage, piston is moving freely without the issuing of the phenomenon, if leakage is the need to change the type of "O" ring. Final check the brake piston concave arc is a serious wear and tear, if the serious wear and tear in need of replacement brake cylinder piston.

It is worth noting that many of the current heavy car is not equipped with a clutch brake device, at this time, and other types of gearbox, starting gear, the clutch pedal should be stepped down after a moment and then hang gear.

If it is found that the normal running of the automobile when the shift is difficult, you should first check whether it is remote control shift linkage fault to. Fast gear box in the heavy duty truck using remote shift mechanism, if shift lever adjustment inappropriate or is connected to the joint and bushings tight or excessive wear will produce an increased resistance and the difficulty of shift clutch failure. Especially some gear a gear difficulties, adjusting gear box shift turn arm bearing and adjusting screw, in order to make the control lever is in the right position.

Provided with a double pole double h shift mechanism of the gearbox, due to the manipulation of a gear selecting shifting rod lever or soft adjustment inappropriate, in the edge of the gear shift do not hang up (for example 9 gear box of the reverse, crawling or file is one of the seven eight stalls). At this time, the operating lever

The length of the flexible shaft or from the selector lever on the removed, then the selector lever is placed in the edge of the gear selector position, adjust control bar rod or shaft, in order to achieve the ultimate gear selector position will manipulate rod or shaft and selector lever is connected.

Is at present, the series of gearbox has a full synchronizer configuration. This kind of gearbox shift is very light. When a gear is not good gear, the general should check the File Synchronizer burning. In manipulating the synchronizer gear box, should be particularly palm grip fortunately reasonable shift car speed shift, this will reduce the synchronizer wear and prolong the synchronizer of life. In high and low two adjacent shift (such as 9 gear box of four or five stalls), in the high-low position slide and push the gear to have appropriate interval, a shift action is consistent, easy to cause the side box synchronizer burning. If the long distance operating rod system is separated from the transmission gear box, the shift is still found by the way of direct operation of the shift gear.

Some difficult to change gears, fault in the interior of the gearbox and need to overhaul. Generally speaking is due to the shift of the transmission case cover shaft deformation, engaging sleeve and the second shaft deformation or excessive wear, or shifting shaft and the shifting rod lock Xiao Song kuang caused.

2. Wear and tear of the lock cover but also easy to grind in a gearbox. Off (off) profile vehicle in running gear often fall file, especially the rapid acceleration (suddenly applied load) or sudden deceleration (losing the throttle) is obvious. The swap file, the main reason is engaging sleeve and the gear meshing teeth long-term impact wear, tooth cone shape, force transmission process of meshing sleeve to generate axial thrust to, at this time should be replaced with serious wear and tear of meshing sleeve or gear transmission box of a shaft such as fruit and a flywheel shaft hole of the guide bearing misalignment results in the failure of gear fault of gearbox shift rail positioning concave wear gear Shaw, spring failure will result in off the gear fault. Due to the long range Manipulation of the longer frame shifting mechanism, automobile driving cause the rod system swing will occasionally resulted in the swap file. Apparently due to improper remote control linkage adjustment, make certain file a meshing sleeve hanging is not in place, that is, only eat together a half gear will also results in the failure of gear fault.

Auxiliary gearbox swap file is also due to the gear sets serious wear and tear or teeth caused by the long tooth meshing. It should also note Italian Deputy box output shaft disc double cone bearing is loose, the duplex bearing Songkuang will not only result in the sub tank swap file, serious will cause bad gear accident. Supporting engine damage can sometimes result in each stall swap file.

3. Without instead of only 3. High speed low gear, or is only low gear and no high gear driving suddenly only high-grade and no low-grade or only low-grade high-grade, the fault occurred frequently. It is said that the car in a low speed gear driving, change into high gear. The results are still in low gear position operation. Such as the car in the file to run, change into 5 files. As a result, but it has a low speed of a stall condition. This fault is generally appear in the side box is high, low-grade shift control system. The fault, first of all, the car stopped, check the pressure is to meet the requirements, and then place the gear lever in the neutral position left and right high and low File and toggle, observe the gearbox cover double h shift valve has no "Jenna. Jenna" deflated voice. If there is any reaction, check the shift gas valve is blocked or the valve output pressure is too low, cleaning or replacement valve. "If the gear lever by the low-speed gear shifting into high gear position, double h shift valve outlet continued to venting, apparently the car running with low profile and no high gear. On the contrary, if the shift lever by a high-speed stall zone dial in low gear zone, double h shift valve outlet continued outward exhaust, car operation with high gear and low profile. This fault can take the gear lever in the neutral position left and right (high speed and low speed) location repeatedly call, often fault is excluded, the double h shift valve" O type sealing ring occasionally closed strictly leaking fault. If repeatedly call the shift lever is invalid, then double h shift Valve leakage of steam or high, low-grade shift cylinder leakage. Both double h shift valve leakage, or high, low-grade shift cylinder leakage will cause high-grade low, or is low and high-grade fault. Leak check method is very simple: if the gearbox is low and high-grade, will shift lever by low-grade District pushed to high-grade district, and the low-speed gear shifting cylinder intake joint 1 (2-12) Dis assembly, if at this time from the cylinder connector 1 leaking out, then the gear changing cylinder leak. If this still double h shift valve outlet exhaust outward, that is double h shift valve leakage. By the same token, if the gearbox high low, the transmission lever is pushed into the low-grade area, high gear working cylinder air inlet connector 2 (as shown in Figure 2-12) dis assembly, if from the joint continued to leak, then shift cylinder leak. If this still

from the double h shift valve exhaust, that is double h shift valve leak. Generally speaking, double h shift valve failure, if there is no replaceable seal ring is only the replacement of the valve parts. If the judge is high, low-grade shift cylinder failure, in general, mainly due to the shift of the piston on the large, small two "O" type of sealing ring 6 (Figure 2-12) wear due to tight. And a value of the attention, the gearbox only high-grade and low-grade, double h shift valve did not exhibit continued to exhaust the phenomenon, it is generally due to the shift lever "O" type sealing ring (Figure 2-11) caused by a leak. This time only need to replace the sealing ring can be repaired.

4.No differences lead to shift any files are not linked to the car driving occasionally occur any file do not hang up, the gear lever without any stalls, showing a "free" state. This is generally due to the shifting shaft and the shifting rod fixation. Shaw nail broken, the poking rod and the shaft is completely from the shift shaft does not play a role. In the old the Fashite gear box, gear shifting shaft and a deflector rod lock Shaw is a hollow elastic conical Shaw, due to heat treatment, a hollow lock Xiao breaks frequently, often produce the gear fault. The recent production of special box instead of solid core lock Shaw, the fault rarely occurs.

5.Gear cars cannot normal start this kind of fault, hanging a starting gear clutch lift car can not be normal start, carry a clutch engine flameout. And there are high gear without low gear fault is the same. In other words, because of the double h shift valve leakage or high, low shift cylinder sealing ring leakage, or shift gas pressure is not the side box in high gear and cannot be pushed into a low gear, leading to auto start in high gear, resulting in a starting engine flameout fault. Solution as the three fault the same.

6.Random file occasional random file failure is often due to the shift rail interlocking mechanism of serious wear and tear, and Dan gear lock also serious wear and tear, in operation compared with the fierce cracks easily while hanging together two stalls resulting mess gear fault.

7.Transmission gearbox sound abnormal sound fault involves many aspects, at the time of diagnosis first to parts of the abnormal sound judgment, if it is abnormal sound in the front of the gear box, fault location in the main box, otherwise fault location in the auxiliary box. General noise abnormal sound there are several, a is knocking, or said "bite" sound, which is generally due to the impact of tooth surface cause spalling, fight tooth or tooth surface local severe wear to. "Bearing" fall apart or serious damage will produce this abnormal sound. This abnormal sound in the low speed is very obvious. Another abnormal sound is sustained abnormal noise, the noise or scream or thunder, is often gear tooth surface producing rust corrosion or bearing corrosion. In a word, the gearbox occurred abnormal sound to the breakup of inspection and replacement of worn parts of severe. In maintenance to be replaced gear, gear shaft and the corresponding file a second shaft gear must be paired with replacement.

If abnormal sound position significantly in the side box output shaft position, but also accompanied by the output shaft flange traverse back and forth, apparently vice box output shaft double bearing looseness or damage caused by the, when emergency inspection and repair, or easy to cause the tooth of a serious accident. In use should be on output shaft coupled bearing often checked and adjusted. When the gearbox re dissolution of the assembly, the gearbox produce serious roar, and that is evident transmission rotary "don't trouble". This is generally in the re assembly no press "tooth" assembly requirements. Generally speaking, according to the "tooth" requirements of the second shaft and the auxiliary shaft is hold up. But if the serious wear of gear, bearing looseness, if the dislocation is a, two teeth occasionally can hold, but this time running inevitable "don't trouble", even though they are capable of rotating will produce huge noise.

8.Gearbox dis assembly and re assembly cannot rotate. Obviously this failure is due to the assembly not according to "the tooth" program requirements and wrong attire, after assembly completely can not rotate. Only the old transmission will occurred such problems. In order to move a counter shaft assembly series due to 16JS gear box fine tooth design, and the adjacent gear ratio range is small, so in "the tooth" installation should pay special attention to; before assembly must be carefully "on the tooth mark, and strictly according to the tooth marks on assembly. Sometimes the" tooth "is not accurate, occasionally also can be assembled, and the assembly and the shaft also can turn a few laps, but this assembly of gear box is installed in the vehicle, as long as the engine is driven to rotate, it will cause serious damage. In the main box counter shaft, if have to spend great effort plate alignment bearing inner hole, that" the tooth "installation problems, should be carefully checked. Transmission in the assembly is completed, we must check whether the operation of free.

9.Gearbox overheating Fashite gear box allowed working temperature does not exceed 120 DEG C, so the hot summer weather operation of automobile gearbox "hot" is a normal phenomenon. But if gearbox patent leather burned bifida, exhibit high temperature condition, should pay attention to check the resulting speed changing box heat causes more. First

10. of all, if charging gear oil too much or is a serious shortage of oil will cause overheating. Secondly, the abnormal wear, bearing fit too tight will cause overheating. Gear box for a long time in low gear high-speed will cause overheating phenomenon. Gearbox gear oil grades (especially viscosity grades) in the wrong way, resulting in lubrication condition Bad also makes the gearbox overheating. The transmission of the ventilation holes will not only cause overheating and will cause the transmission from the input, the output of serious oil leakage.

11. Neutral, then the master of engineering vehicle power device is not working properly, can not put it in neutral above already mentioned, Fast gear box is to use the auxiliary box counter shaft power, so power box must hang together forward gears. When asked to take force device in automobile suspended state, vice box must have put it in neutral. When gap switch spin to the neutral position, vice box is in a low speed gear, which cannot realize gap should first check the shift cylinder gas joint 6 (Figure 2-14) if there is gas, if the neutral switch is rotated to a neutral position "and open the joint 6 without pressure display, illustrating the null shift switch blocked or damaged, if joint 6 have enough Leading to the 9 7 4 shows pressure and still no gap. At the same time, double h shift valve outlet continued to leak, then neutral piston "O" type sealing ring is damaged or is high, low-grade piston seal ring leakage (Figure 2-14). Power is a hanging device is electric power switch controls the electric magnetic valve, when the switch is switched on, the electromagnetic valve open, compressed air force taking device working cylinder, cylinder piston rod to push the power take off device hanging mechanism will take force device and vice box counter shaft hang together. Therefore, the circuit is illogical, the electromagnetic valve failure and gas road impass ability, working cylinder fault will cause can not be normal power failure. Should turn on electricity, gas path Check.

12. Failure of the gear shift mechanism: As discussed previously RT11509C; 7JS; high 8JS and 9JS series gearbox double h shift gas Louis fault. 12JS series, low-grade shift mechanism is by pre selection valve control shift valve to operate the. And by the shift valve of the gas gap gas path control valve control. Therefore, high and low shift if there is a fault, it should be given to selected valve, neutral gas path control valve and the shift valve and the gear changing cylinder four pneumatic element initiated investigation. 16JS series gearbox main box and rear - mounted gearbox shift mechanism and conventional 9 file box is the same, so fault diagnosis and 9 files box similar. However, front side box half gear shifting mechanism is a new mechanism, it is by pre selecting valve, front auxiliary gearbox shift valve, front side box shifting cylinder and clutch switching valve. Therefore, high and low half gear shift appears fault, the reader is not difficult to from the four gas path components were analysis and troubleshooting.

Fast gear box fault exclusion table

Fault classification	Failure phenomena	Maintenance and identification	Replacement standard
Deputy transmission Gear fault	Transmission gear shift out of Dan	1. Air filter regulator leak	Replace air filter regulator
		2. Low pressure air filter regulator	Re adjust the air filter regulator pressure reaches the specified value
		3. Air filter regulator failure	The replacement of the air filter regulator and related parts
		4. Hose or joint loose, air leakage	Re install or replace the parts
		5. Air pipe or joint is clamped flat	Re install or replace the parts
		6. The tooth sleeve of the synchronous machine is provided with a taper.	Replace the corresponding parts
		7. Drive gear teeth with taper	Replace the corresponding parts
		8. Gear tooth taper	Replace the corresponding parts
		9. Output spindle distortion	Looking for damage caused by other, replace the corresponding parts
		10. The pressure is too large, resulting in	Replace the parts and adjust the air

		air filter regulator failure	pressure.
		11.Vehicle pressure is low	Adjust pressure
		12.High and low fork wear	Replace the corresponding parts
		13.Combined bearing damage	Replace the parts and look for other damage.
	High-low rank shift slowly	1.Air filter regulator leak	Replace air filter
		2.Low pressure air filter regulator	Re adjust the air filter regulator pressure reaches the specified value
		3.Air filter regulator failure	The replacement of the air filter regulator and related parts
		4.Hose or joint loose, air leakage	Re install or replace the parts
		5.Air pipe or joint is clamped flat	Re install or replace the parts
		6.Shift cylinder "O" type ring damage	Replacing cylinder "O" type ring
		7.Cylinder block, pulling fork shaft strain	Replace the corresponding parts
		8.Cylinder "O" type no lubricant, piston card	Re install, apply oil
		9.Cylinder "O" type of ring lubricant too much	To re install, to apply the correct oil lubrication
		10.Double H valve plunger back bit slow	Replace the corresponding parts
		11.Vehicle gear shift connecting rod system	Re install
	No high-grade area or low grade area	1.High and low fork	Re install
		2.Synchronous counter	Re install
		3.Cylinder piston nut loosening	Re install
		4.High and low gear cylinder piston fork shaft rust, card dead	Re install
		5.Ride the air pressure is too large, resulting in air filter regulator failure	Re adjust the vehicle detection pressure, air filter regulator, the required pressure value
		6.Sync spring damage	Replace the corresponding parts
		7.High end cone ring lock stop	Replace the corresponding parts
		8.Synchronous low taper ring lock check	Replace the corresponding parts
		9.High cone ring	Replace the corresponding parts
		10.Low cone ring	Replace the corresponding parts
		11.Dual H valve assembly to the control valve on the dual H valve plunger stroke is not enough	Re adjust or replace the parts
		12.Double H valve plunger stuck	Double H valve replacement
		13.Double H valve plunger wear	Double H valve replacement
		14.Double H valve fixed screw loosening	Re install
		15.Double H valve end plastic cap damage	Replace the corresponding parts
		1.Shifting fork wear	Replace the dial fork several related parts

Main Transmission gear fault	The main transmission gear jumping or out of gear	2.Self locking spring becomes weak	Replace the corresponding parts
		3.Self locking spring	Self locking spring
		4.The gear affected by the distortion of the shaft, leaving the position of the tooth	Look for other causes of damage, replace the corresponding parts, re - on the teeth
		5.Engage teeth or hang gear with a taper	Replace the corresponding parts
		6.Sliding sleeve fork groove wear, hang gear is not in place	Replace the corresponding parts
		7.A shaft is not concentric with the engine guide bearing	Replace the corresponding parts
		8 in the bumpy road driving, the steering mechanism is too large to cause	Adjusting the linkage of the control mechanism, reducing the swing of the pendulum
		9.Anti wear out cone synchronizer	Replace the corresponding parts
		10.Excessive wear of the positioning groove of the shifting fork shaft	Replace the corresponding parts
		Difficult or unable to shift the main transmission	1 shifting fork shaft bending
	2 in the hole of the shifting fork shaft has a burr		Grinding shift fork shaft hole
	3 lock spring		Replace the corresponding parts
	4Shift mechanism shell rupture		Replace the corresponding parts
	5.Spindle distortion		Looking for damage caused by other, replace the corresponding parts
	6.Shift dial head hypertrophy		Grinding head
	7.The turning angle of the guide block around the shifting fork shaft center is large.		Replace the corresponding parts
	8.Large gap between the cone ring of the main transmission		Replace the corresponding parts
	9.Synchronous friction material to get up early wear		Replace the corresponding parts
	10.The reverse gear lock from the hollow elastic control block		Reinstall
	11.Fork fracture		Replace the corresponding parts
12.Shifting fork wear	Replace the corresponding parts		
13.Shifting fork deformation	Replace the corresponding parts		
14.Reverse lock spring hard	Replace the corresponding parts		
15.Transmission shift lever ratio is small (shift rocker arm is short)	Replace the corresponding parts, or re adjust the lever ratio		
16.Three, four gear guide block up	Replace the corresponding parts		
17.Vehicle gear shifting connecting rod	Reinstall, remove obstacles		

			system movement obstacle	
			18.Shifting booster leak	Replace the corresponding parts
			19.Shifting booster failure	The replacement of shifting booster
			20.Stop ring off	Reinstall
			21.Clutch and its separation mechanism failure	Replace the corresponding parts
			22.Shaft nut loose	Re install and replace the parts
	Cannot pick		1.Spindle distortion	Looking for damage caused by other, replace the corresponding parts
			2.The main transmission of a gear bit synchronization to burn	Replace the corresponding parts
			3Six angle key on the main shaft, a gear shift	Replace the corresponding parts
			4.Shift dial in the guide block	Remove and re install
			5.Shift dial out slot	Reinstall
			6.Locking screw loosening	Reinstall
			7.Stop ring off	Reinstall
			8.Vehicle gear shifting connecting rod system movement obstacle	Reinstall, remove obstacles
			9.Missing adjustment pad or spline pad	Fill in the corresponding parts, replace the corresponding damaged parts
	Random file		1.Missing interlocking pin	Fill in the corresponding parts
			2.Leakage interlock steel ball	Fill in the corresponding parts
			3.Six angle key on the main shaft, a gear shift	Replace the corresponding parts, re install
			4.Locking screw loosening	Reinstall
			5.Top cover assembly housing	Replace the corresponding parts
			6.Shaft nut loose	Re install and replace the parts
	No reverse gear, or the most upscale		1.Vehicle gear shifting connecting rod system movement obstacle	Reinstall, remove obstacles
	Hang Hang reverse speed fast or start gear engine		1.High or low profile tracheal connection error	Reinstall
Gas path fault	Transmission gas path fault	No upscale area	1.Dual H valve plunger can not be reduced in place	Double H valve replacement
			2.Low-grade ventilation plug does not exhaust	Cleaning vent plug
			3.Poor ventilation or air leakage of the primary valve	Re install, replace the corresponding parts
			4.Cylinder hole	Replace the corresponding parts
			5.The pressure is too large, resulting in air filter regulator failure	Re adjust the vehicle detection pressure, air filter regulator, the required pressure value

		No low-grade area	6.High and low lights loose, flat or lost	Re install, or replace the corresponding parts	
			1.Dual H valve plunger can not be reduced in place	Replace the corresponding parts	
			2.High-grade ventilation plug does not exhaust	Cleaning vent plug	
			3.Pre selected valve is not gas	Replace the corresponding parts	
			4.Middle position cylinder	Replacing cylinder "O" type ring	
			5.Cylinder hole	Replace the corresponding parts	
			6.The pressure is too large, resulting in air filter regulator failure	Re adjust the vehicle detection pressure, air filter regulator, the required pressure value	
		Dual H valve vent plug	1.Shift cylinder "O" type ring damage	Replacing cylinder "O" type ring	
			2.Double H valve	Double H valve replacement	
			3.Middle position cylinder "O" type ring damage	Replacing cylinder "O" type ring	
		Dual H valve vent plug does not exhaust	1.Plug plug	Cleaning vent plug	
		High or low profile can not be converted	1.Double H valve does not work	Double H valve replacement	
			2.Air filter (no gas, low air pressure)	According to the specific circumstances to replace the air filter or adjust the air filter pressure to the specified value	
			3.Cylinder block	Reinstall	
			4.The vehicle did not enter the air filter pressure regulator	Check intake pipe	
			5.Ventilation plug does not exhaust	Cleaning vent plug	
		High and low conversion slow	1.Low air pressure system	Adjust the gas pressure, to achieve the specified value	
			2.Dual H valve vent plug vent slow	Clean the air plug or replace the double H valve	
			3.Air filter regulator leak	Replace air filter regulator	
			4.Tracheal ventilation is not smooth	Re install or replace the parts	
		Air leakage of air pipe joint	1.Hose or joint loose, air leakage, joint fracture	Re install or replace the parts	
		Gas path fault	Can not stop the force	1.Intermediate position cylinder without ventilation	Check whether the vehicle solenoid valve failure
				2.Air filter (outlet air pressure is too high or no gas)	Adjust or replace the air filter regulator
3.Middle position cylinder "O" type ring damage	Replacing cylinder "O" type ring				
4.PTO without gear or gear is not in place	Check and take power device				

			5.Cylinder exhaust hole plug	Cleaning vent plug
			6.Vehicle electrical control part failure	Replace the corresponding parts
		Can not drive the driving force	1.Middle position cylinder	Replacing cylinder "O" type ring
			2.PTO for gear or gear is not in place	Remove and pick up the power
			3.Cylinder exhaust hole plug	Cleaning vent plug
			4.Part of the electrical control failure of the vehicle	Replace the corresponding parts
		leak	1.Cylinder O type ring damage	Replacing cylinder "O" type ring
			2.Cylinder strain	Replacement housing
		Pressure switch leakage	1.Defective switch	Replace paper pad
		The oil spill	Bottom power window cover with oil leakage	1.The shell casting defects (voids, porosity)
2.Paper pad leakage or damage	Replace the corresponding "O" type ring			
3.Sealant leakage or uneven	Cleaning vent plug			
4.Screw loosening or screw loosening	Reinstall			
Oil spill at the output shaft of the power takeoff	1.Oil seal damage		Replacement housing	
	2.Flange plate and oil seal working surface wear		Replace paper pad	
	3.Output shaft and oil seal working surface wear		Re coating	
	4.Flange disc screw loosening		Reinstall	
	5.PTO transmission shaft swing		Replace the corresponding parts	
Odometer transmission oil	1.Oil seal or "O ring" damage		Replace the corresponding parts	
The oil drain plug or the oil surface observation hole plug at	1.Sealant leakage or uneven		Re coating	
	2.Screw fastening		Reinstall	
Double H air valve plug leakage	1.Shift cylinder "O" ring damage		Replacing cylinder "O" type ring	
	2.Double H valve seal is not good		Double H valve replacement	
Oil spill at the back of the rocker arm	1.Oil seal damage		Replace oil seal	
	2.Compressed air into the transmission		Replacing cylinder "O" type ring	
The rear bearing cover and the rear cover combination of surface leakage	1.Shell casting defects		Replace the corresponding parts	
	2.Paper pad leakage or damage		Replace paper pad	
	3.Sealant leakage or uneven		Re coating	
	4.Oil surface is too high		Release excess gear oil	
	5.Output shaft bearing damage		Replace the corresponding parts	
	6.Fastening screw loose or screw thread		Reinstall	
The oil leakage of the clutch casing and the main box	1.The shell casting defects (voids, porosity)		Replacement housing	
	2.Paper pad leakage or damage		Replace paper pad	
	3.Sealant leakage or uneven		Replace paper pad	

	4.Fastening screw loose or screw thread	Replace paper pad
The oil leakage at the interface of the power takeoff	1.The shell casting defects (voids, porosity)	Replacement housing
	2.Paper pad leakage or damage	Replace paper pad
	3.Sealant leakage or uneven	Replace paper pad
	4.Fastening screw loose or screw thread	Reinstall
Force input shaft oil leakage	1."O" type of ring damage	Replace the "O" type
Welding shaft bearing cover and back cover with oil leakage	1.The shell casting defects (voids, porosity)	Replacement housing
	2.Paper pad leakage or damage	Replace paper pad
	3.Sealant leakage or uneven	Re coating
	4.Fastening screw loose or screw thread	Reinstall
Pressure switch and control combined with surface leakage	1.The shell casting defects (voids, porosity)	Replacement housing
	2.Copper gasket leakage	Fill the copper pad
	3.Sealant leakage or uneven	Re coating
	4.Ventilation Kong Dusai	Clear vent
	5.Switch loose or screw off wire	Reinstall
	6.Pressure switch leakage	Replace the corresponding parts
Oil leak off	1.Cylinder "O" type ring damage	Replacing cylinder "O" type ring
Oil leakage on the upper cover and the main box	1.The shell casting defects (voids, porosity)	Replacement housing
	2.Paper pad leakage or damage	Replace paper pad
	3.Sealant leakage or uneven	Re coating
	4.Compressed air into the transmission	Replace the corresponding "O" type ring
	5.Plug plug	Cleaning vent plug
	6.Fastening screw loose or screw thread	Reinstall
Double H with upper cover combined with surface leakage	1.The shell casting defects (voids, porosity)	Fastening screw loose or screw thread
	2.Paper pad leakage or damage	Replace paper pad
	3.Sealant leakage or uneven	Re coating
	4.Compressed air into the transmission	Replace the corresponding "O" type ring
	5.Plug plug	Cleaning vent plug
	6.Fastening screw loose or screw thread	Reinstall
Double H air valve and double H casing combined with surface leakage	1.The shell casting defects (voids, porosity)	Replacement housing
	2.Paper pad leakage or damage	Replace paper pad
	3.Sealant leakage or uneven	Re coating
	4.Oil surface is too high	Release excess gear oil
	5.Plug plug	Cleaning vent plug
	6.Fastening screw loose or screw thread	Reinstall

Back cover and main bo with oil leakage	1.The shell casting defects (voids, porosity)	Replacement housing
	2.Paper pad leakage or damage	Replace paper pad
	3.Sealant leakage or uneven	Re coating
	4.Compressed air into the transmission	Replace the corresponding "O" type ring
	5.Plug plug	Cleaning vent plug
	6.Fastening screw loose or screw thread	Reinstall
A shaft bearing cover and the main box with oil leakage	1.The shell casting defects (voids, porosity)	Replacement housing
	2.Paper pad leakage or damage	Replace paper pad
	3.Sealant leakage or uneven	Re coating
	4.Oil surface is too high	Release excess gear oil
	5.Plug plug	Cleaning vent plug
	6.Fastening screw loose or screw thread	Reinstall
Brake binding surface leakage	1.The shell casting defects (voids, porosity)	Replacement housing
	2.Paper pad leakage or damage	Replace paper pad
	3.Sealant leakage or uneven	Re coating
	4.Oil surface is too high	Release excess gear oil
	5.Plug plug	Cleaning vent plug
	6.Fastening screw loose or screw thread	Reinstall
Shaft oil seal	1.Oil seal damage	Replace oil seal
	2.Shaft and oil seal working surface wear	Replace the corresponding parts
	3.Oil surface is too high	Release excess gear oil
	4.Compressed air into the inner cavity of the transmission	Replace the corresponding "O" type ring
	5.A shaft bearing a big beating	Replace the corresponding parts
	6.Back to the oil Kong Dusai	Re install, clear the oil return hole
	7.A shaft is not concentric with the engine guide bearing	Replace the corresponding parts
Transmission output shaft oil seal	1.Oil seal damage	Replace the corresponding parts
	2.Flange plate and oil seal working surface wear	Replace the corresponding parts
	3.Oil surface is too high	Release excess gear oil
	4.Compressed air into the transmission	Replace the corresponding "O" type ring
	5.Output shaft bearing	Replace the corresponding parts
	6.Back to the oil Kong Dusai	Re install, clear the oil return hole
	7Transmission shaft dynamic balance adjustment is not in place, causing vibration	Dynamic balance of transmission shaft
	8.The rear bearing cover and the rear cover are not concentric	Replace the corresponding parts

		9.The flange and the flange plate. The outer circle spline hole concentric	Replace the corresponding parts
		10.Rear nut loosening	Reinstall
	Transmission vent plug leakage	1.Compressed air into the transmission	Replace the corresponding "O" type ring
		2.Oil surface is too high	Release excess gear oil
Transmission abnormal sound	Pressure switch itself leakage	1.Pressure switch itself defect	Replace the corresponding parts
	Transmission noise	1.The gear affected by the distortion of the shaft, leaving the position of the teeth	Looking for damage caused by other, replace the corresponding parts
		2.The gear has a crack or a tooth with a burr	Replace the corresponding parts
		3.Spindle gear tolerance is too large	Replace the corresponding parts
		4.Pair of countershaft front bearing cone off	Fill bearing inner ring, replace the corresponding parts
		5.Poor lubrication of bearing	Replace the corresponding parts
		6.Oil level is too low	Replace the parts, check
		7.Inferior quality of lubricating oil	Supplementary lubricating oil
		8.The oil is not timely	Replacement of lubricating oil
		9.Different oil mix	Replacement of lubricating oil
		10.Drive shaft dynamic balance adjustment is not in place, cause vibration	Replacement of lubricating oil
		11.Gear surface pitting, spalling	Dynamic balance of transmission shaft
		12.Bearing failure	Replace the corresponding parts
		13.Rear bearing housing bearing Kong Yanda	Replace the corresponding parts
		14.Output shaft nut loose	Re tighten and replace the parts
		15.Adjustment pad or spline pad wear	Replace the corresponding parts
		16.Input shaft nut loose	Re tighten and replace the parts
	Transmission broken tooth	1.Overload caused by overload	Replace the corresponding parts
		2.On the wrong tooth	Replace the corresponding parts
		3.Poor lubrication caused fatigue broken tooth	Replace the corresponding parts
		4.Improper operation (such as: in the process of heavy duty climbing sudden reduction of gear	Replace the corresponding parts
		5.Two long shaft key	
			1.Spindle gear tolerance
		2.Engine idle speed is not stable	Adjust the engine idle speed
		3.Clutch disc spline guide bearing, wear plate failure	Replace the corresponding parts
		4.Main shaft gear clearance	Re adjustment

Transmission gap ring	5.Spline gear wear at the end of transmission two shaft and gear box drive gear	Replace the corresponding parts
	6.Resonance induced	Exclude resonance
	7.Shifting fork over gear sleeve	Re assembly
	8.The neutral position of the guide block are not allowed	Re assembly
	9.Gear crack	Replace the corresponding parts
	10.Guide sleeve leakage, guide sleeve wear, guide sleeve rupture	Fill or replace the corresponding parts
High and low conversion abnormal sound	1.High-grade low-grade ring, high-grade synchronous cone ring friction material abnormal wear	Replace the corresponding parts
	2.Low-grade to high-grade ring, low-grade synchronous cone ring friction material abnormal wear	Replace the corresponding parts
	3.Loose on one or several locking pins on the top end of the synchronization cone ring	Replace the corresponding parts
	4.Loosening of one or several locking pins on the low - end synchronization cone ring	Replace the corresponding parts
	5.The trachea compressed, airflow obstruction	Repair or replace parts
	6.Low pressure air filter regulator	Replace air filter regulator
Transmission gear ring	1.Shaft bearing cap	Replace a shaft bearing cap
	2.Separation bearing damage	Replace the corresponding parts
	3.The speed difference between adjacent stalls is large, and is not synchronous.	Correct operation
	4.The clutch is not separated, which belongs to the phenomenon of tension and torsion.	Adjusting clutch
Low-grade area abnormal sound	1.Welding shaft leakage welding or welding	Replace the corresponding parts
	2.Welding gear, gear reducer	Replace the corresponding parts
	3.Driven gear stop ring off	Reinstall
High-grade abnormal sound	1.Driven tooth pitting	Replace the corresponding parts
	2.Rear axle fault cause	Post bridge failure
	1The gear affected by the distortion of the shaft, leaving the position of the teeth	Looking for damage caused by other, replace the corresponding parts
	2.Bearing failure	Replace the corresponding parts
	3.Oil level is too low	Supplementary lubricating oil
	4.Oil surface is too high	Release excess gear oil

	Transmission overheating	5.The poor quality of lubricating oil	Replace the lubricating oil, replace the corresponding parts
		6.The oil is not timely	Replace the lubricating oil, replace the corresponding parts
		7.Different oil mixed oil	Replace the lubricating oil, replace the corresponding parts
		8.Transmission working angle more than 12 degrees	Use the transmission, or strengthen the lubrication system
		9.Driving speed is usually below 32km/h, the speed is too low	Correctly using transmission
		10.Engine speed is too high	Correct driving
		11.The airflow around the transmission is blocked.	Ensure the smooth flow around the transmission
		12.Engine exhaust system too close to transmission	Eliminate interference of transmission
		13.High ambient temperature	Free cooling or forced cooling
		14.Overload, speeding	Correct driving
Mechanical failure of mechanical force	Take the power device to hang the file is difficult or can not hang	1.Screw loose or fall off of cylinder piston	Re install the fixed screw
		2.Screw loosening or breaking in the power of the force.	Re install the fixed screw or replace
		3.Power takeoff gear slip	Reinstall
		4.The locking screw of the fork locking screw is loosened or broken off or broken off.	Re install the fixed screw or replace
		5.Cylinder return spring material defects	Replace return spring
		6.Cylinder corrosion, piston stuck	Replace the corresponding parts or re install
		7.Part of the electrical control failure of the vehicle	Replace the corresponding parts
Vehicle dashboard no mileage display or display error	Odometer passive fault	1.External accidental factors	Replace the parts, find other reasons
		2.Processing quality of the rear bearing cover of the main shaft	Replace the corresponding parts
		3.The course list is not strong enough in itself.	Replace the corresponding parts
		4.Odometer passive mismatch	Re install the correct parts
		5The main passive with bad odometer	Reinstall
	Shell crack	1.Cause of casting	Replacement housing
		2.Position deviation of screw hole in support	Replace the shell and the corresponding parts
		3.Resonance induced	Exclude resonance, replace the housing
		4.Engine support damage	Replace the corresponding parts, replace the shell
		5.Drive shaft dynamic balance	Dynamic balance of the transmission

other		adjustment is not in place	shaft, the replacement of the housing
		6 contingency factors	Replace the case, look for other causes of damage
A shaft burn		1.Burr is not clean	Replace the corresponding parts
		2.Between a shaft and the bearing cover to enter the debris	Replace the corresponding parts
		3.Separation device damage	Replace the corresponding parts
		4.Shaft bearing	Replace the corresponding parts
Shaft bearing cap		1.Separation device damage	Replace the corresponding parts
		2.Parts have problems	Replace the corresponding parts
		3.Separation of the bearing seat without lubrication	Replace the corresponding parts
		4.Clutch shell separation shifting fork shaft copper sleeve wear	Replace the corresponding parts
One shaft fracture		1.Separation device damage	Replace the corresponding parts
		2.Machined parts have problems	Replace the corresponding parts
		3.External accidental factors	Replace the corresponding parts
		4.Brake not unlocked	Replace the corresponding parts, Lift brake
		5.Hang unreasonable gear	Correct driving
Other incidental factors resulting in transmission damage		1.Two axis wear	Replace the corresponding parts
		2.Two axis fracture	Replace the corresponding parts
		3.Two axis ablation	Replace the corresponding parts
		4.Flange movement	Replace the corresponding parts
		5.Flange deformation	Replace the corresponding parts
Other incidental factors cause the transmission to completely damaged.			Replace assembly, look for other causes of damage
The neutral and reverse gear, without any display or display error		1.Pressure switch control pin hole	Grinding control pin hole
		2.Pressure indicator switch failure	Replace the corresponding parts
		3.Failure of the whole vehicle circuit	Replace the corresponding parts
Bearing failure		1.Cage damage	Replace the corresponding parts
		2.indentation	Replace the corresponding parts
		3.The relative slip between the mating surfaces	Replace the corresponding parts
		4.burn	Replace the corresponding parts
		5.crack	Replace the corresponding parts
		6.abrasion	Replace the corresponding parts
		7.abrasion	Replace the corresponding parts