

At the bottom of the transmission, there is a front and rear axle release device (see to figure 2), which can control single- or dual-axle drive. Pull the control rod outward for single-axle drive and push inside for dual-axle drive. Generally, use single-axle drive in long-distance transport with light load to reduce loss from power recycling; and use dual-axle drive when operating under heavy load on slushy roads or crossing bridges.

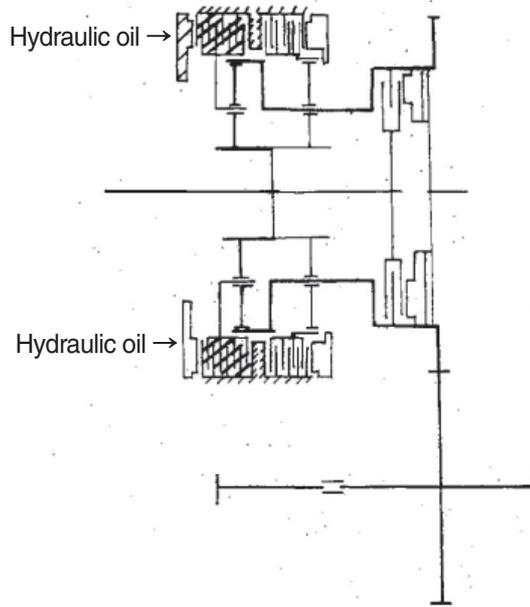


Figure 6 Diagram of reverse gear power flow chart

3) HYDRAULIC SYSTEM

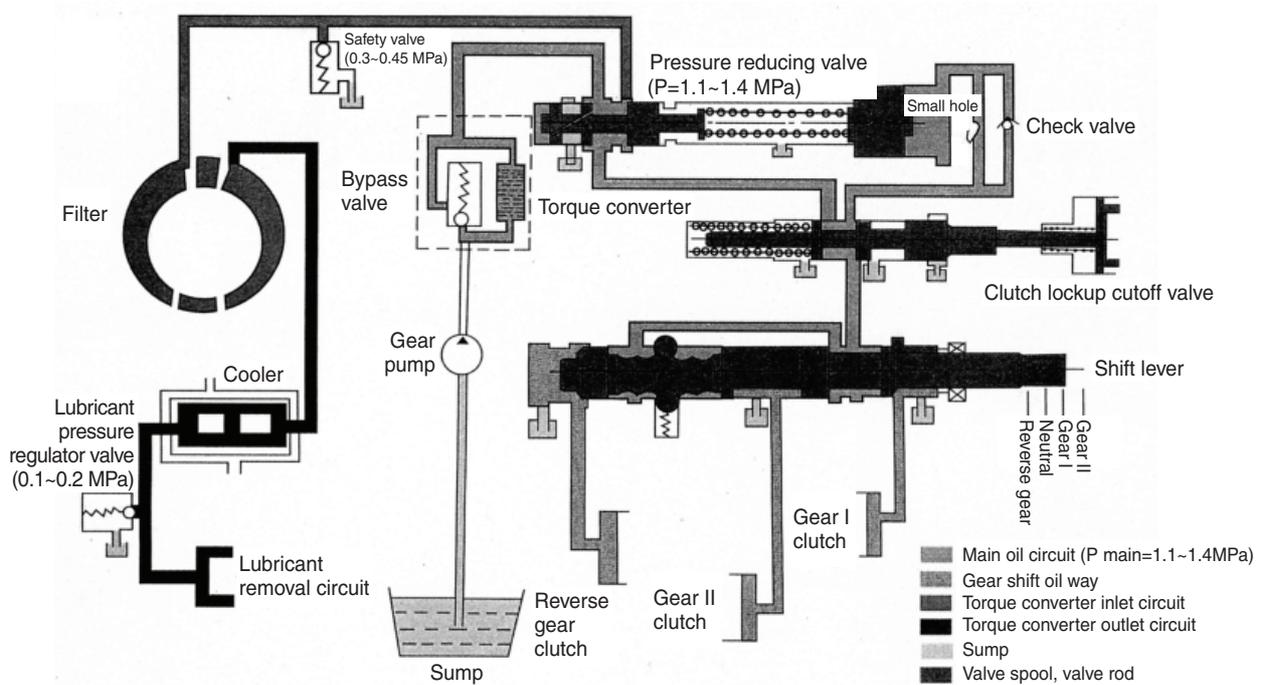


Diagram of hydraulic system of hydraulic transmission

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6. APPLICATION AND INSTALLATION

1) INSTALLATION AND CONNECTION

(1) Connection to engine

Surface of torque converter casing is directly connected to that of engine flywheel casing by bolts. Through the connection between flexible steel board of converter and engine flywheel by stud bolts and nuts, power is transferred. Head of centering shaft at front end of pump pulley cover inserts flywheel centering hole as centering.

When installing, screw stud bolts into flywheel, open a chock on torque converter, lift the transmission and make hole on flexible steel board and centering hole lining up, screw end-face bolts and tighten the nuts through square holes at lower side of the chock, at last, cover the chock.

※ Difference between the plane of flywheel casing and that of flywheel ≤ 0.50 mm.

(2) Connection to oil pump

Working oil pump and steering oil pump are directly mounted onto PTO1 and PTO2 of transmission. (Shaft head length 60~65 mm, key connection useful length ≥ 40 mm).

※ Connection parameter must be correct.

(3) Installation on vehicle

Had better apply three- or four-point flexible supporting installation. There is each one V-block at both sides of transmission for installation and it's required to weld corresponding V-blocks on the vehicle body, too. Between two V-blocks insert a rubber plate of 10~12 mm as elastic layer, avoiding stress from vehicle chassis being transmitted to transmission housing directly.

(4) Selection and assembly of filter

Select filter meeting parameter as follows : Min. filter flow: 120 ℓ/min

Filter accuracy not less than 150 mesh/inch. Use sintered filter as far as possible.

The installation height of filter and oil pipes must not be higher than that of the oil pipe connector of housing.

(5) Selection and assembly of cooler

Calculate cooling capacity required on the basis of an ambient temperature 30, which should be 35~40% of the rated power of engine. Normal flow must be assured.

Cooler for transmission should be located at cool water end of the cooling system.

Diameter of oil pipe and thread connector for cooler and filter should be more than 20, and when oil pipe exceeds 1m in length, the value increases by 20%.

※ The system maker is liable for correct installation.

2) APPLICATION REQUIREMENTS

(1) After installation of hydraulic transmission, fill in about AFT (DEXRON III) from the oil hole. Check the oil level again after 5min running from starting engine, which should reach the height of oil-level plug. During checking, be sure to take safety measures to avoid vehicle moving or rolling.

(2) Oil level should be checked before each shift operating.

(3) When the transmission works, the hydraulic oil pressure should be kept within 1.1~1.4 MPa. In case of the value is lower than 1 MPa or higher than 1.6 MPa, stop and check to avoid damaging the parts inside.

- (4) The oil temperature should be lower than 120°C. When it exceeds, keep the engine speed within 1200~1500 rpm and make the transmission at neutral, then the oil temperature should decrease to a normal value in 2~3 min. If not, it shows there are problems in the system, which must be resolved before operation.
- (5) Reduce machine speed before transmission changing down. And stop before reversing.
- (6) The shifting lever should be at neutral position when starting the engine.
- (7) Stop when control by using the axle releasing device.
After installation of a new T/M, keep running in for twelve hours under a load less than 70%, four hours for each of three gears. Check the oil temperature, oil pressure and the tightness of bolts. After running in, clean the sump strainer of transmission and then renew oil.

3) MAINTENANCE

Maintenance is carried out after running for 50, 250, 1000 and 2000 hours.

- (1) 50 hours maintenance : ① check oil level ② Inspect the control system.
- (2) 250 hours maintenance : Clean filter and clean sump.
- (3) 500 hours maintenance : Change oil.
- (4) 1000 hours maintenance : Replace filter.
- (5) 2000 hours maintenance : Dismantle and inspect the transmission and the torque converter, replace easily-worn parts, regulate or replace parts when necessary.

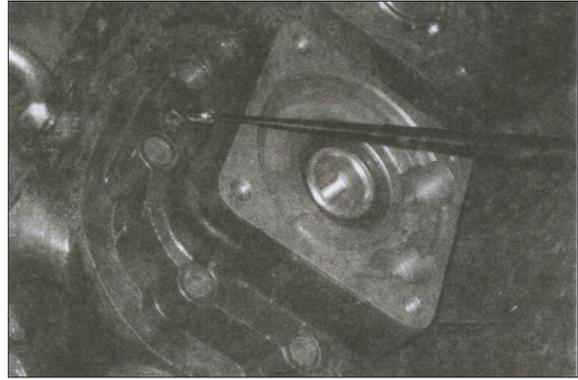
7. MAIN FAILURES AND REMEDIES

Main Failures	Remedies
The engine rotating, but machine can not run	
<ol style="list-style-type: none"> 1. Did not in any gears 2. Hydraulic oil level too low 3. Brake rod of shift valve can not return 4. Insufficient oil supply due to shifting oil pump damaged or oil seals broken 	<ol style="list-style-type: none"> 1. Put into gear or check if it correct 2. Add oil 3. Dismantle and check the brake rod 4. Replace oil pump or oil seals
Insufficient driving force	
<ol style="list-style-type: none"> 1. Low oil pressure at inlet of torque converter 2. Clutch sliding 3. Insufficient engine speed 	<ol style="list-style-type: none"> 1. Check oil level; clean sump strainer and filter; check the pressure regulating valve of torque converter 2. Inspect clutch oil pressure and piston oil seal 3. Inspect the engine
Variable speed oil pressure too low	
<ol style="list-style-type: none"> 1. Misalignment of reducing valve 2. Obstructed oil filter 3. Damaged oil pump 4. Serious oil leakage in clutch oil seal 	<ol style="list-style-type: none"> 1. Realignment 2. Clean oil filter 3. Replace oil pump 4. Replace oil seals
Oil temperature in torque converter too high	
<ol style="list-style-type: none"> 1. Oil level in transmission too low or too high 2. Clutch sliding 3. Long-time, heavy load operation 	<ol style="list-style-type: none"> 1. Fill oil acc. to specified 2. Check oil pressure of clutch 3. Stop to cool
Can not put into gear after emergent braking	
<ol style="list-style-type: none"> 1. Misalignment limit screws of air brake valve pedal 2. Choked piston of air brake valve. Return is unavailable after release of brake. 3. Choked brake valve rod 	<ol style="list-style-type: none"> 1. Realign the limit screws of pedal so that air brake valve can return completely. 2. Clean and repair the piston 3. Dismantle and check brake valve rod

8. DISASSEMBLY AND ASSEMBLY

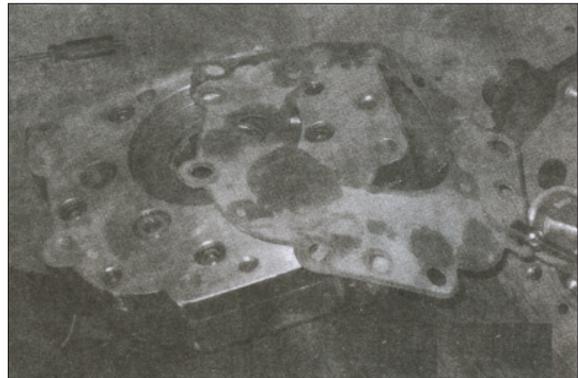
1) DISASSEMBLY

- (1) Use a M16 socket wrench to unscrew 6-M10×60 bolts on the interface between oil pump and casing. Use a copper bar to lightly knock on the outside of oil pump and remove the oil pump.

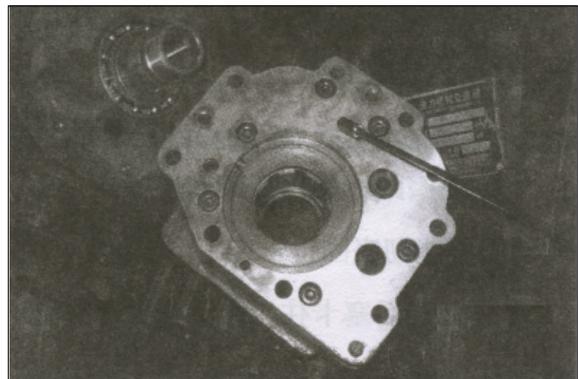


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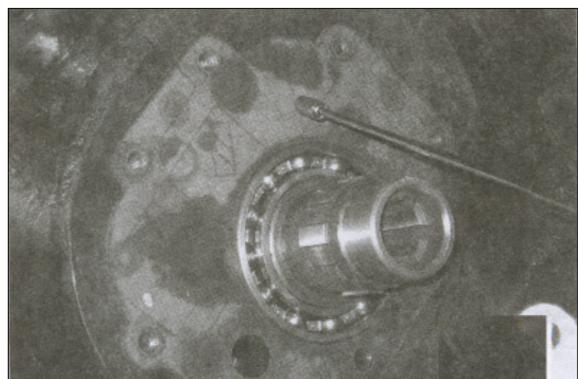
- (2) When assembling, set a paper washer on the surface of oil pump with grease, set 6-M10×60 bolts and fasten up one by one.



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850KTM03



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