1. ENGINE SYSTEM

Trouble symptom	Probable cause	Remedy
Oil pressure caution lamp fails to go out.	 Low oil level in oil pan. Oil filter element clogged. Loose or worn oil pipe joint leaks oil. 	 Add oil. Replace element. Check and repair.
Radiator pressure valve spouts steam.	 Lack of cooling water or water lea- kage. Loosen fan belt. Dust and scale accumulated in, cool- ing system. 	 Add water or repair. Adjust belt. Change water and clean the interior of cooling system.
Water temp gauge indicates red range, on right.	 Radiator fin clogged or fin damaged. Thermostat or water temp gauge faulty. Radiator filler cap loosening. 	 Clean or repair. Replace Retighten cap or replace packing.
Water temp gauge indicates red range, on left.	 Thermostat faulty. Water temperature gauge faulty. 	ReplaceReplace
Engine fails to start.	 Lack of fuel. Air mixed in fuel system. Fuel injection pump or nozzle defective. Starting motor rotates slowly. Engine compression insufficient. Valve clearance out of adjustment. 	 Addfuel. Repair. Replace. See " Electrical system." Adjust clearance
Engine emits whitish or bluish smoke.	 Excessive quantity of oil in oil pan. Poor quality of fuel. 	Reduce oil quantity.Replace with specified fuel.
Abnormal sound heard. (Fuel combustion or mechani- cal sound)	 Poor quality of fuel. Overheating Muffler interior damaged. Excessively large valve clearance. 	 Replace with specified fuel. See Symptom "Radiator pressure valve spouts steam". Replace Adjust clearance.

2. ELECTRICAL SYSTEM

Trouble symptom	Probable cause	Remedy
Lamps dimming even at maxi- mum engine speed.	· Faulty wiring.	Check for loose terminal and discon- nected wire.
Lamps flicker during engine operation.	Improper belt tension.	Adjust belt tension.
Charge lamp does not light du -ring normal engine operation.	 Charge lamp defective. Faulty wiring. 	Replace. Check and repair.
Alternator makes abnormal sounds.	Alternator defective.	· Replace
Starting motor fails to run.	 Faulty wiring. Insufficient battery voltage. 	 Check and repair. Recharge battery.
Starting motor pinion repeats going in and out.	Insufficient battery voltage.	Recharge battery.
Excessively low starting motor speed.	 Insufficient battery voltage. Starting motor defective. 	 Recharge battery. Replace
Starting motor comes to a stop before engine starts up.	 Faulty wiring. Insufficient battery voltage. 	Check and repair. Recharge battery.
Heater signal does not beco- me red.	 Faulty wiring. Glow plug damaged. 	Check and repair. Replace
Engine oil pressure caution lamp does not light when enig- ne is stopped (with starting switch left in"ON" position).	 Caution lamp defective. Caution lamp switch defective. 	Replace Replace

3. TORQUE FLOW SYSTEM

Trouble symptom	Probable cause	Remedy
1. Excessive oil temperature rise	Improper oil level.	· Check oil level. Add or drain oil as
1) Torque converter	Impeller interfering with surroundings.	 After draining oil from oil tank and transmission, check and replace
	• Stator and free wheel malfunctioning.	 interfering parts. Check enigne (stalling) speed. If necessary, replace.
	Air sucked in.	 Check the inlet side joint or pipe. If necessary, retighten joint or replace gasket.
	Water intruding into transmission case Bearing worn or seizing.	 Check drained oil. If necessary, change oil. Disassemble, inspect, repair or repla-
2) Transmission	Gauge malfunctioning. Clutch dragging.	ce. • Check and, if necessary, replace. • Check to see whether or not machi-
	Bearing worn or seized.	ne moves even when transmission is placed in neutral position. If so, repl- ace clutch plate. • Disassemble, check and replace.
	· Dealing wom of seized.	· Disassemble, check and replace.
 Noise operation Torque converter 	 Cavitation produced. Flexible plate damaged. 	 Change oil, replace parts leaking air. Listen to rotating sound at lowspeed operation. If necessary, repacle flex- ible plate.
	 Bearing damaged or worn. Gear damaged. Impeller interfering with surroundings. 	 Disassemble, check and replace. Disassemble, check and replace. Check impeller or check drained oil for mixing of foreign matter.
	· Bolt loosening.	If necessary, change oil. Disassemble and check. If necessary, retighten or repalce.
	Spline worn.	• Disassemble, check and replace.
2) Transmission	 Noise gear pump operation. Dragging caused by seizing clutch. 	 Disassemble, check and replace. Check to see whether or not truck moves even when transmission is in neutral position. If so, replace clutch
	Bearing worn or seizing.	plate.
	· Gear damaged.	• Disassemble, check and replace
	Bolt loosening.	 Disassemble, check and replace Disassemble, check and retighten or replace
	Spline worn.	\cdot Disassemble, check and replace

Trouble symptom	Probable cause	Remedy
3.Low output power 1) Torque converter	Insufficient hydraulic pressure : Low oil level. Air sucked in.	 Check oil level and add oil Check joints and pipes.
	Oil filter clogging.Oil pump worn.	If necessary, retighten joint or repla- ce packing. - Check and replace - Check oil pressure. If necessary rep-
	(Low delivery flow)Regulator valve coil spring fatigued.	lace pump.Check spring tension. If necessary, replace.
	Control valve spool malfunctioning.Piston or O-ring worn.	Disassemble, check and repair or replace.Disassemble, check measure and re-
	• Stator free wheel cam damaged.	 place. Check stalling speed. (Increased engine load will cause excessive drop of stalling speed.) Check oil temperature rise.
	Stator free wheel seizing.	 If any, replace free wheel. Check temperature plate. (No-load will cause temperature rise) Replace free wheel if a drop of start- ing output is found.
2) Transmission	 Impeller damaged for interfering with the surroundings. Flexile plate deformed Use of poor quality of oil or arising of air bubbles. 	 Check drained oil for foreign matter. If any, change oil. Replace flexible plate Check and change oil.
	- Air sucked in from inlet side.	 Check joints and pipes. If necessary, retighten joint or replace packing.
	 Low torque converter oil pressure accelerates generation of air beb- bles. 	- Check oil pressure.
	Oil mixing with water.Inching rod out of adjustment.	Check drained oil and change oil.Check and adjust.
	 Clutch slipping Lowering of weight. Piston ring or O-ring worn. 	 Check oil pressure. Disassemble, check, measure and replace.
	 Clutch piston damaged. Clutch plate seizing or dragging. 	 Disassemble, check and replace. Check to see whether or not truck moves even when transmission is in neutral position. If so, replace.

Trouble symptom	Probable cause	Remedy
4.Unusual oil pressure1) Oil pressure is high	Control valve malfunctioning.	(1)Check for spool operation.If necessary, replace valve.(2)Check for clogging of small hole in
	 Cold weather. (high oil viscosity) 	 valve body. If necessary, clean or repair. When atmospheric temp is below freezing point (when normal oil pressure is recovered if heated to 60 ~ 80°C), change oil.
2) Oil pressure is low	 Use of improper oil. Gear pump malfunctioning(worn). Oil leaks excessively : 	 Check and change oil. Disassemble, check and replace.
	(1)Control valve oil spring defective.	 Check spring tension (see spring sp- ecification). If necessary replace.
	(2)Control valve spool defective.	Disassemble, check, and repair or re- place valve.
	· Air sucked in.	Check joints and pipes. If necessary, retighten joint or replace packing.
	Low oil level. Oil filter clogging.	 Check oil level and add oil. Check and replace.
3) Transmission	Oil leaks excessively.	 Disassemble, check (piston ring and O-ring for wear and other defects), and replace.
5.Power is not transmitted		
1) Torque converter	Clutch plate damaged.	 Check for damage by listening to ab- normal sounds at a low converter sp- eed and replace.
	· Low oil level.	Check oil level and add oil
	 Oil pump driving system faulty. 	 Disassemble and check for wear of pump gear, shaft and spline. Replace defective parts.
	 Shaft broken. Lack of oil pressure. 	 Check and replace. Check oil pump gear for wear and for oil suction force. If necessary, replace pump.
2) Transmission	· Low oil level.	Check oil level and add oil.
	Inching valve and link lever improper- ly positioned.	· Check measure and adjust.
	 Forward/reverse spool and link lever improperly positioned. Clutch fails to disengage : 	Check and adjust.
	(1)Clutch case piston ring defective.(2)Main shaft plug slipping out.	 Disassemble, check and replace Disassemble, check and repair or replace
	Clutch seizing.	Check to see whether or not truck moves even then transmission is in neutral position. If so, replace.
	Shaft broken off.	Disassemble, check(main shaft, etc.), and replace.
	 Clutch drum damaged (spring groove). Clutch snap ring broken. 	 Disassemble, check and replace. Disassemble, check and repair or replace.

Trouble symptom	Probable cause	Remedy
5. Power is not transmitted (Continue)	 Foreign matter intruding into oil passage to clutch. Shaft spline worn. 	 Disassemble, check and repair or replace. Disassemble, check and replace.
6. Oil leakage (Transmission and torque converter)	• Oil leaks from oil seal.	 Disassemble and check for wear of seal lips and mating sliding surfaces (pump boss, coupling etc.) Replace oil seal, pump boss, coupl- ing, etc.
	Oil leaks from case joining surfaces.	 Check and retighten or replace pack- ing.
	 Oil leaks from joint or pipe. Oil leaks from drain plug. 	Check and repair or replace gasket.
	\cdot Oil leaks from a crack.	 Check and retighten or gasket. Check and replace cracked part.

4. STEERING SYSTEM

Trouble symptom	Probable cause	Remedy
1. Steering wheel drags.	 Low oil pressure. Bearing faulty. Spring spool faulty. Reaction plunger faulty. Ball-and-screw assembly faulty. Sector shaft adjusting screw excessively tight. Gears poorly meshing. Flow divider coil spring fatigued. 	 Check locknut. Repair. Clean or replace. Clean or replace. Replace. Clean or replace. Adjust. Check and correct meshing. Replace.
2. Steering wheel fails to return smoothly.	 Bearing faulty. Reaction plunger faulty. Ball-and-screw assy faulty. Gears poorly meshing. 	 Clean or replace. Replace. Clean or replace. Check and correct meshing.
 Steering wheel turns unstea- dily. Steering system makes abn- ormal sound or vibration. 	Metal spring deteriorated.	 Retighten. Replace. Adjust. Bleed air.
 Abnormal sound heard when steering wheel is turned fully 	 Valve Faulty. (Valve fails to open.) Piping Pipe (from pump to power steering cylinder) dented or clogged. 	 Adjust valve set pressure and check for specified oil pressure. Repair or replace.
5. Piping makes abnormal sounds.	Oil pump • Lack of oil. • Oil inlet pipe sucks air. • Insufficient air bleeding.	 Add oil. Repair. Bleed air completely.
6. Valve or valve unit makes abnormal sounds.	 Oil pump Oil inlet pipe sucks air. Valve Faulty. (Unbalance oil pressure) Piping Pipe (from pump to power steering) dented or clogged. Insufficient air bleeding. 	 Repair or replace. Adjust valve set pressure and check specified oil pressure. Repair or replace. Bleed air completely.
7. Insufficient or variable oil flow.	Flow control valve orifice clogged.	· Clean.
8. Insufficient or variable dis- charge pressure.	Piping Pipe (from tank to pipe) dented or clogged. 	Repair or replace.

5. BRAKE SYSTEM

Trouble symptom	Probable cause	Remedy
1. Insufficient braking force	 Hydraulic system leaks oil. Hydraulic system leaks air. Disk worn. Brake valve malfunctioning Hydraulic system clogged 	 Repair and add oil. Bleed air. Replace Repair or replace. Clean.
 Brake acting unevenly. (Truck is turned to one side during braking.) 	 Tires unequally inflated. Brake out of adjustment. Disk surface roughened. Wheel bearing out of adjustment. Hydraulic system clogged. 	 Adjust tire pressure. Adjust. Repair by polishing or replace. Adjust or replace. Clean.
3. Brake trailing.	 Pedal has no play. Piston cup faulty. Brake valve return port clogged. Hydraulic system clogged. Wheel bearing out of adjustment. 	 Adjust. Replace. Clean. Clean. Adjust or replace.

6. HYDRAULIC SYSTEM

Trouble symptom	Probable cause	Remedy
1. Large fork lowering speed.	 Seal inside control valve defective. Oil leaks from joint or hose. Seal inside cylinder defective. 	 Replace spool or valve body. Replace. Replace packing.
2. Large spontaneous tilt of mast.	 Tilting backward : Check valve defective. Tilting forward : tilt lock valve defective. Oil leaks from joint or hose. Seal inside cylinder defective. 	 Clean or replace. Clean or replace. Replace. Replace seal.
3. Slow fork lifting or slow mast tilting.	 Lack of hydruilc oil. Hydrauic oil mixed with air. Oil leaks from joint or hose. Excessive restriction of oil flow on pump suction side. Relief valve fails to keep specified pressure. Poor sealing inside cylinder. High hydraulic oil viscosity. Mast fails to move smoothly. Oil leaks from lift control valve spool. Oil leaks from tilt control valve spool. 	 Add oil. Bleed air. Replace. Clean filter. Adjust relief valve. Replace packing. Change to SAE10W, class CF engine oil. Adjust roll to rail clearance. Replace spool or valve body. Replace spool or valve body.
4. Hydraulic system makes abnormal sounds.	 Excessive restriction of oil flow pump suction side. Gear or bearing in hydraulic pump defective. 	 Clean filter. Replace gear or bearing.
5. Control valve lever is locked	 Foreign matter jammed between sp- ool and valve body. Valve body defective. 	 Clean. Tighten body mounting bolts uniform- ly.
6. High oil temperature.	 Lack of hydraulic oil. High oil viscosity. Oil filter clogged. 	 Add oil. Change to SAE10W, class CF engine oil. Clean filter.