FORKLIFT

SERVICE MANUAL

60, 70L-7A

HYUNDAI

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(2) Remove the torque converter housing cover, mounting bolts installed to flywheel housing.
For details, see page 2-9.

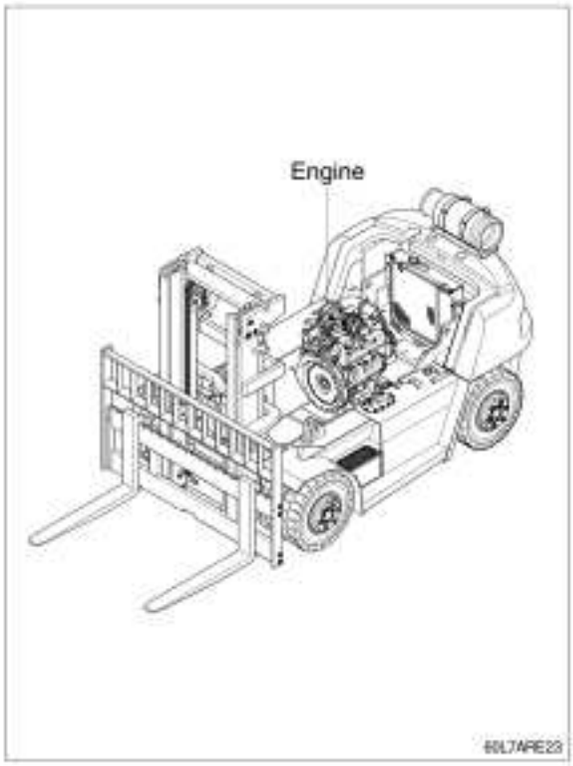
(3) Engine accessory

Remove all wiring harnesses, cables and hoses around the engine, dashboard and frame.

① Wiring harness to alternator and starter.
② Wiring harness for oil pressure and engine water temperature gauges.
③ Cables for meters, buttons and accelerator pedal.
④ Hoses to fuel tank and air cleaner.
⑤ Exhaust pipe.

(4) Radiator hose

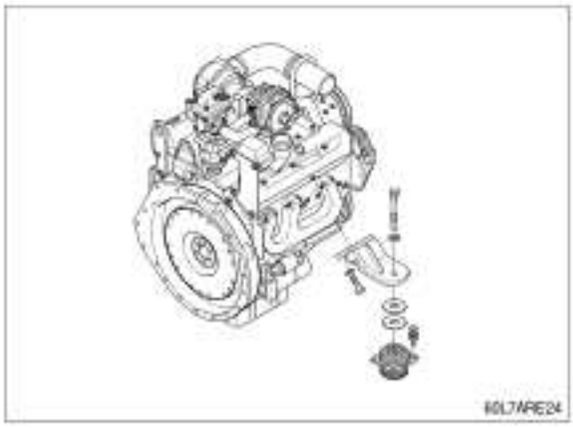
Open the drain valve of the radiator and drain the cooling water, then remove the radiator hose.



(5) Mounting bolt

Attach a crane to the engine hook and raise, then remove mounting bolts. Raise the engine slightly, slide towards the radiator, then lift up.

※ When sliding the engine, be careful of the collision engine and radiator.



2) INSTALLATION

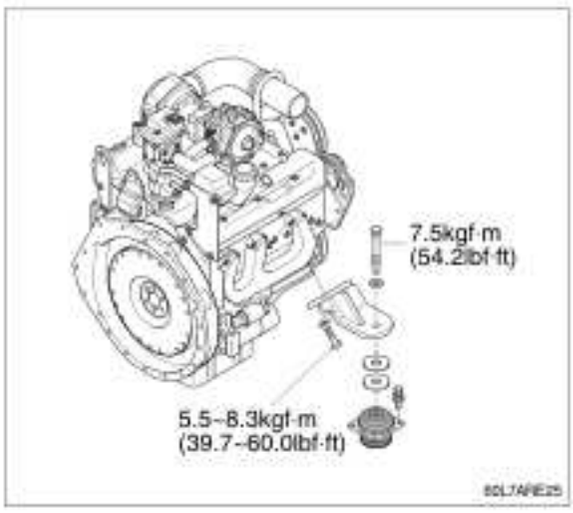
Installation is the reverse order of removal, but be careful of the following points.

(1) Tighten the engine mounting bolts and nuts.

(2) Tighten the engine mounting bracket bolts.

※ Do not remove the bolts unless necessary. Loctite is coated over the threads of bolt. So, once the bolts were removed, coat them with loctite(#243) when installing.

※ Before installing the bolts, loctite in the holes should be removed by a tap.



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GROUP 2 INSPECTION AND TROUBLESHOOTING

1. INSPECTION

To check the problems of transmission, operate the machine and test its performance.
Check and record the abnormal noise and if the machine doesn't operate perfectly, refer to problem and possible cause in the troubleshooting table.

1) VISUAL CHECK

(1) Start engine and check T/M oil level at the neutral gear shift.
(2) Check any kind of damage or leakage on the oil piping, hose, connection, etc.
(3) Operate the Forward/Reverse lever to both of directions.
(4) Check the contamination in the strainer and filter inside the transmission.
① If rubbed paper particles detected, check clutch defects.
② If metal particles detected inside the filter, check metallic friction inside the T/M or mechanical faults.
③ If rubber particles detected, check seal or hose defects.
④ If Aluminum particles detected, check converter or control valve damage.
(5) If metal or rubber particles found, clean all of the T/M hydraulic parts.
(6) Replace damaged parts with the new one.

2) DRIVE CHECK

Fill T/M oil to the proper level before starting the machine.
Improper oil level can cause the damages on the components.

(1) After starting engine, step on the brake pedal and then operate the Forward/Reverse lever to both of directions.
(2) If the machine moves to each of directions, it will operates normally but check noise and cause and then note them.
In case of abnormal operation, refer to troubleshooting table.

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GROUP 2 OPERATIONAL CHECKS AND TROUBLESHOOTING

1. OPERATIONAL CHECKS

Check item	Checking procedure
Steering wheel 	- Set rear wheels facing straight forward, then turn steering wheel to left and right. Measure range of steering wheel movement before rear wheel starts to move. Range should be 30-60mm at rin of steering wheel. If play is too large, adjust at gear box. Test steering wheel play with engine at idling.
Knuckle	- Check knuckle visually or use crack detection method. If the knuckle is bent, the tire wear is uneven, so check tire wear.
Steering axle	- Put camber gauge in contact with hub and measure camber. If camber is not within 0±0.5° ; rear axle is bent. - Ask assistant to drive machine at minimum turning radius. - Fit bar and a piece of chalk at outside edge of counterweight to mark line of turning radius. - If minimum turning radius is not within±100mm (±4in)of specified value, adjust turning angle stopper bolt. Min turning radius(Outside) 60L-7A: 3315mm(131in) 70L-7A: 3360mm(132in)
Hydraulic pressure of power steering	Remove screw coupling from CF port of priority valve and install oil pressure gauge. Turn steering wheel fully and check oil pressure. ※ Oil pressure : 125kgf\cm² (1780psi)

2. TROUBLESHOOTING

Problem	cause	Remedy
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 lockout. Repair. · Clean or replace. · Clean or replace. · Replace. · Clean or replace. · Adjust. · Check and correct meshing. · Replace.
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.

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② Remove the rear end cover along with dowel pin to facilitate removal of the thrust plate.



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③ Carefully disassemble gear housing assembly which is composed of thrust plate, drive gear set(drive gear and driven gear) and gear housing.

Disassemble the thrust plate, drive gear set and gear housing.



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④ Disassemble the bearing carrier assy and then remove the connecting shaft.



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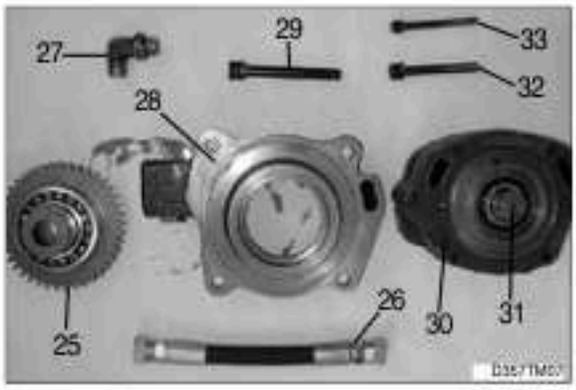
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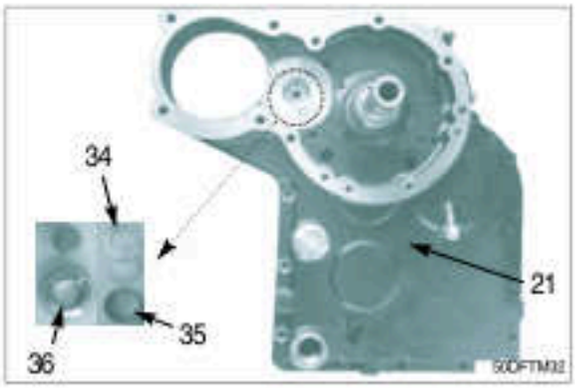
9) Remove four socket bolts (29), flange pump (28) from bearing plate (21).

Remove a bolt.soc(32) and four socket bolt (33) from flange pump.

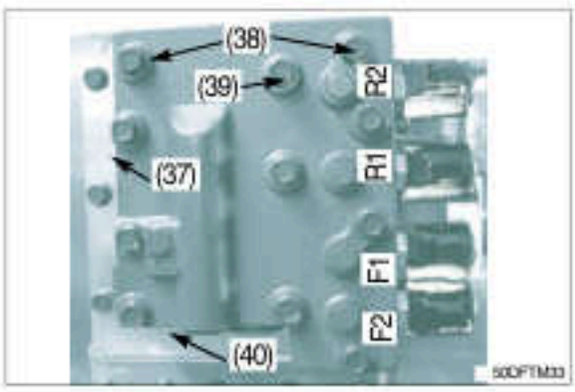
Remove charging pump(31) and pump gasket(30), then seperate to gear-P.T.O output(25) and ball bearing, 90° elbow(27).



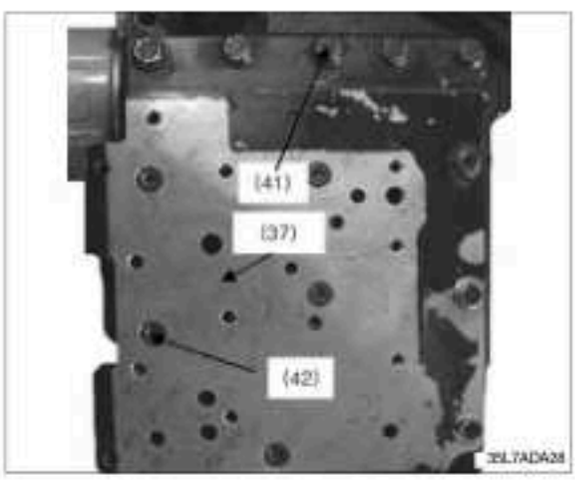
10) Separate to two thrust washers(34), needle bearing(35), gear- P.T.O Idle(36) from front cover.



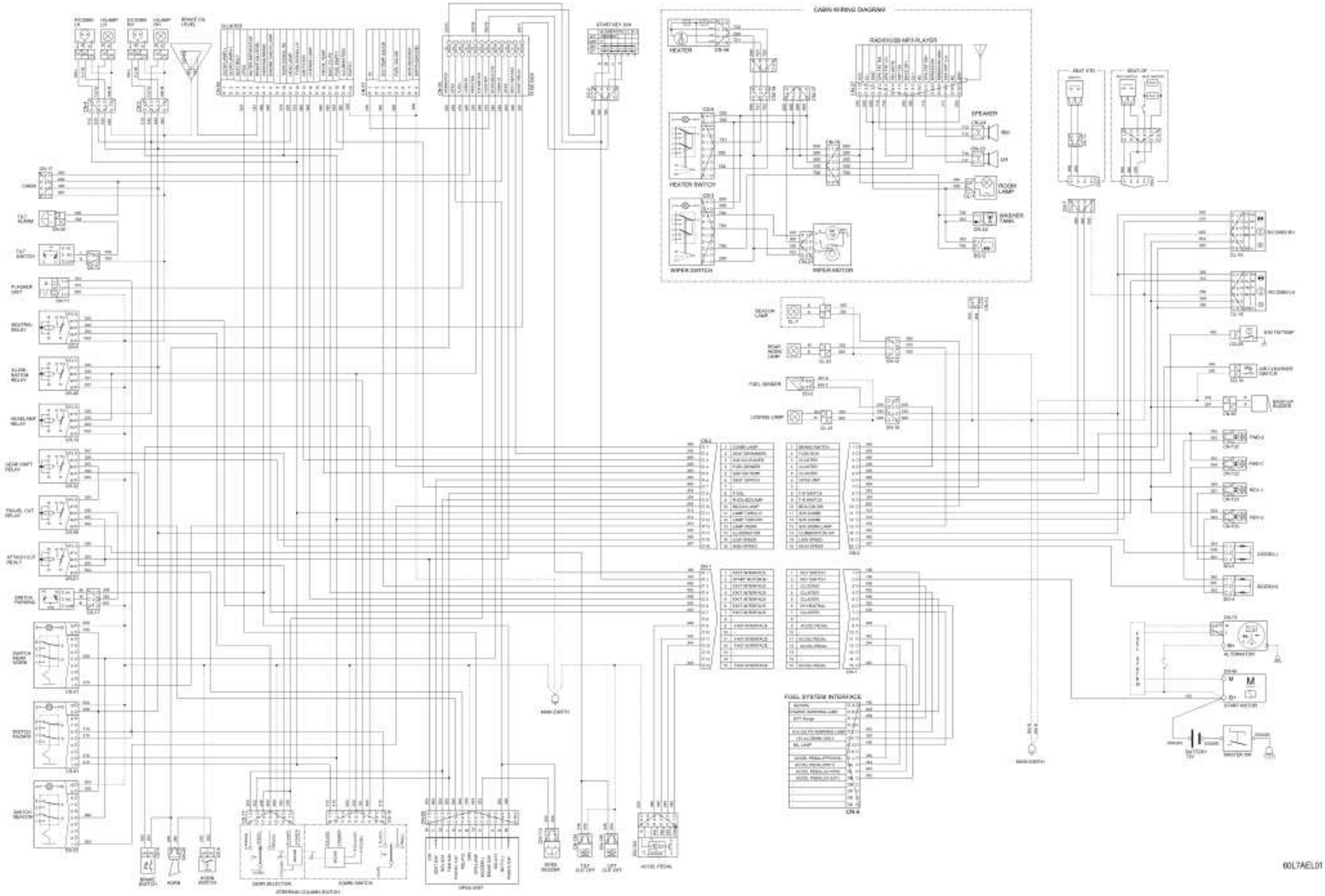
11) Remove two bolts(38), nine bolts(39), valve gasket(40), valve plate(37).



12) Remove eight bolts(41), five socket bolt(42), then separate valve plate(37) from transmission case.



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