BACKHOE LOADER

SERVICE MANUAL

H940S-4WS

HYUNDAI

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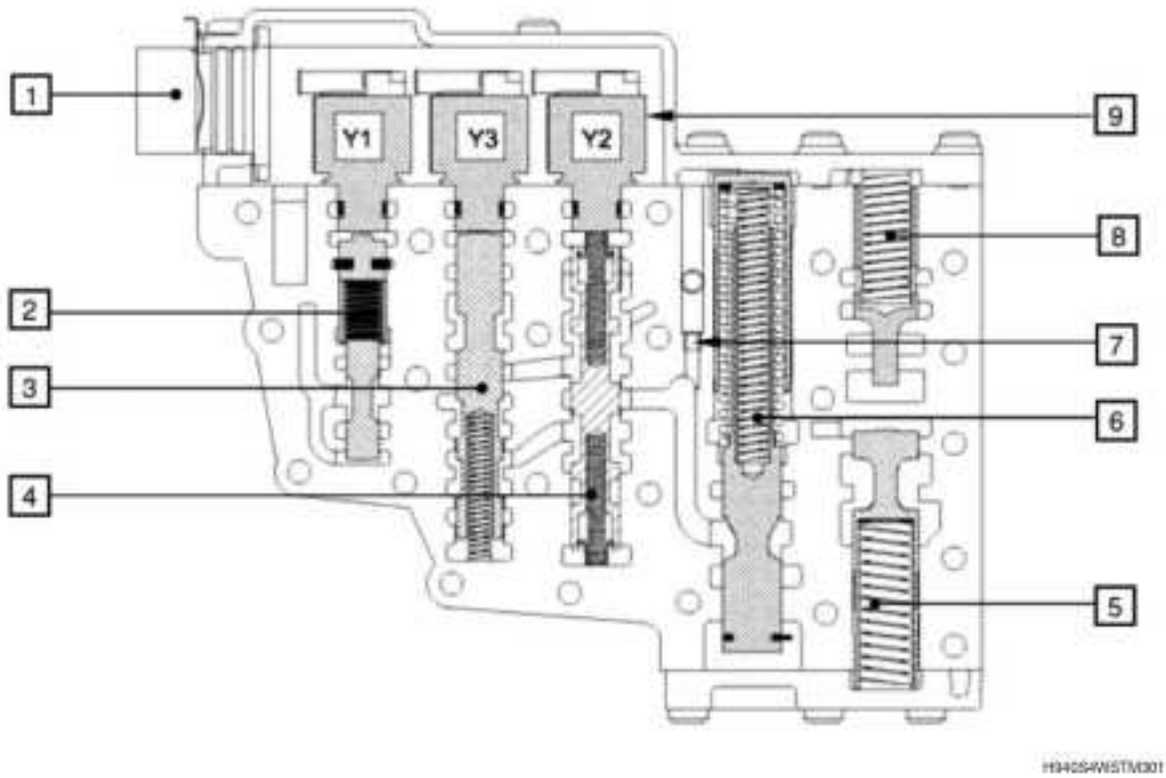
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2) ASSEMBLY

※ Check all components for damage, respective wear, and renew if necessary.
※ Prior to the installation, check the free travel of the movable parts in the housing.
※ Oil the components prior to the assembly.

(1) Shift control component - control circuit "I"



H940S4WSTM001

1 = Cable harness		
2 = Reducing valve	RDV	10 bar
3 = Shift valve	S-N/K4 (neutral/K4)	
4 = Shift valve	S-V/R (forward/reverse)	
5 = Control pressure valve	SDV	16+3 bar
6 = Modulation valve	DMV	3-12 bar
7 = Orifice	C2 (for DMV)	
8 = Converter safety valve	WSV	8+2 bar
9 = Solenoid valves	Y1, Y2, Y3	

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2. TROUBLESHOOTING

※ Diagnose malfunction charts are arranged from most probable and simplest to verify, to least likely, more difficult to verify. Remember the following steps when troubleshooting a problem :

Step 1. Operational check out procedure (see section 1)
Step 2. Operational checks (see group 2)
Step 3. Troubleshooting
Step 4. Tests and adjustments (see group 3)

Problem	Cause	Remedy
Noisy hydraulic pump	Low oil supply or wrong viscosity.	Fill reservoir with recommended oil.
	Plugged or pinched suction line.	Clean or replace line.
	Air in oil.	Check for foamy oil. Tighten connections. Replace O-rings and or lines.
	Loose or missing hydraulic line clamps.	Tighten or replace clamps.
	Hydraulic lines in contract with frame.	Inspect and repair.
	Worn or damaged pump.	Do hydraulic pump performance check in group 2. Do hydraulic pump flow test in group 3.
No or Slow hydraulic functions	Failed or worn hydrualic pump.	Do performance check.
	Cold oil.	Warm oil up.
	Slow engine speed.	Adjust engine speed. Check high idle speed.
	Suction line air leak.	Check for foamy oil.
	Low oil supply.	Add recommended oil.
	Wrong oil viscosity.	Use recommended oil.
	Oil leaking past cylinders or control valve.	Check cylinder drift in group 2.
	Blocked or damaged line.	Inspect lines.
	Faulty or misadjusted pilot oil supply unit.	Do pilot oil supply unit pressure test in group 3.
	Faulty pilot control valve (RCV).	Do pilot control valve (RCV) pressure test in group 3.
	Binding main control valve spool.	Inspect valve.
	Faulty priority valve in pump.	Check priority valve specification.

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11. PILOT OIL SUPPLY UNIT PRESSURE TEST

- SPECIFICATION

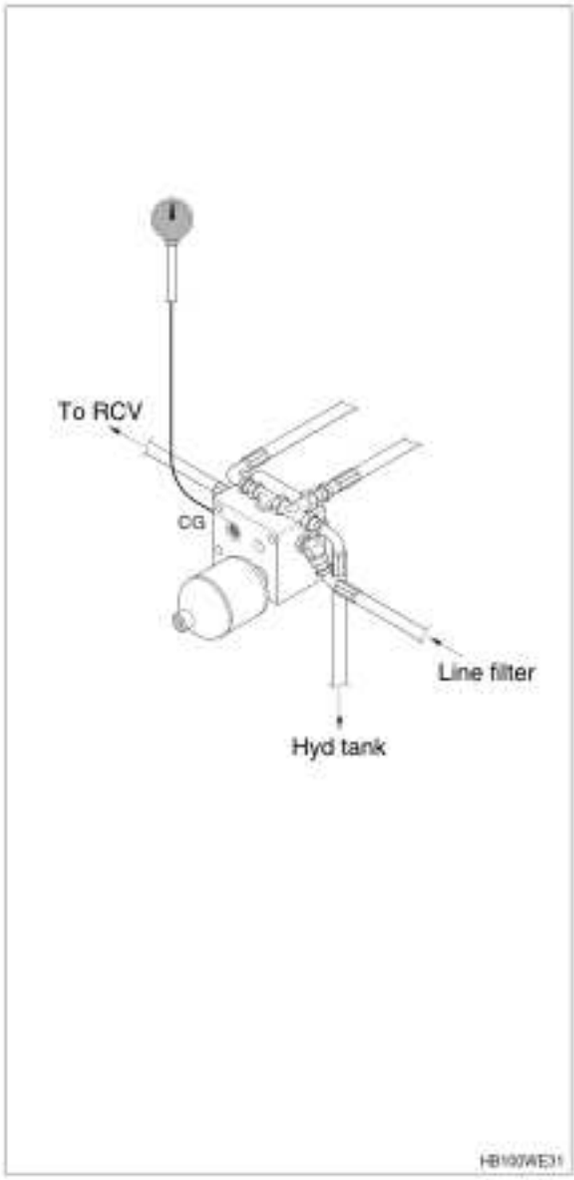
Oil temperature	45±5°C (113±9°F)
Engine speed	Low idle and stop
Pilot pressure setting (backhoe)	30 kgf/cm² (430psi)
Pilot pressure setting (stabilizer)	30 kgf/cm² (430psi)
Reducing & relief valve setting pressure	30 kgf/cm² (430psi)
Accumulator precharging pressure	15 kgf/cm² (215psi)

- GAUGE AND TOOL

Gauge 0~7MPa(0~70bar, 0~1000psi)

The pilot supply unit consist of the pressure reducing & relief valve, solenoid valve and an accumulator. This regulates pressure to the pilot control circuit.

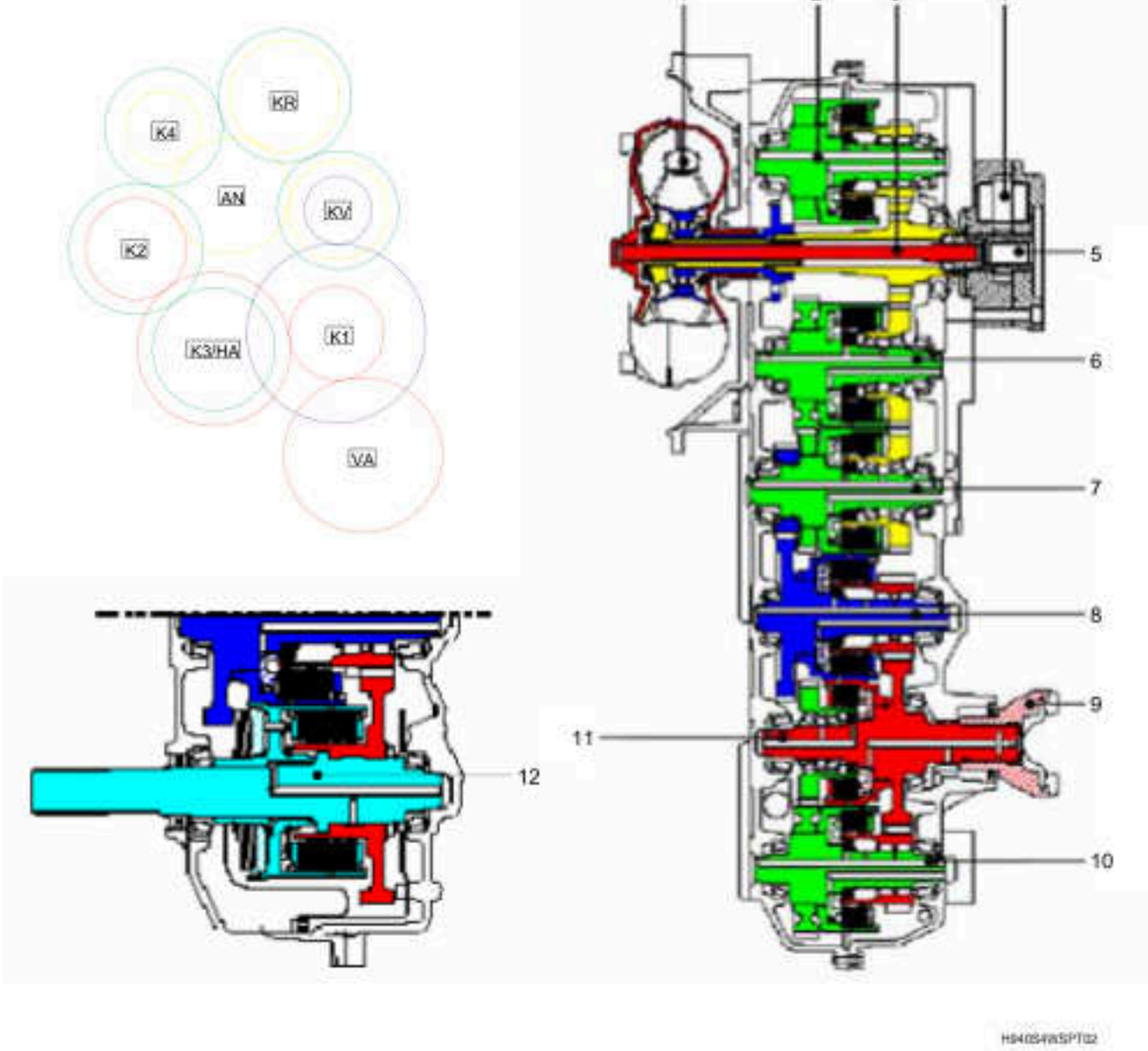
1) Connect gauge to test port on the block.
2) Install temperature reader. (See temperature reader installation procedure in this group.)
3) Heat hydraulic oil to specification.(See hydraulic oil warm up procedure in this group.)
4) Run engine at low idle for 1 minute and stop engine, wait for 5 minutes. Then start measuring.
5) If pressure in not within specifications, replace valve. The valve is staked and should not be adjusted.



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4. TRANSMISSION

1) LAYOUT



1	Converter	7	Clutch shaft (KV)
2	Clutch shaft (K4)	8	Clutch shaft (K1)
3	Input (AN)	9	Output rear axle (HA)
4	Transmission pump	10	Clutch shaft (K2)
5	Attachment possibility power take-off	11	Clutch shaft (K3)
6	Clutch shaft (KR)	12	Front axle drive

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(2) Disassembly

① Clamp the unit in vice.

Clamp lightly on both sides of the unit, making spline end of the housing facing down.
Use soft jawed vice or add protective material between jaws and the unit. Do not over tight the housing.

② Remove the 6 cap screws, one rolled screw, and washers.

Remove the cap screws and a rolled screw with 13 mm socket. Inspect for damaged threads, bent or broken bolts. Remove the washer under the bolt head and discard them.

③ Lift end cap and O-ring seal.

Lift end cap and O-ring seal. Discard the O-ring seal. Inspect for good bolt sealing.
Check the wear or scoring from rotor set. A polished pattern on the rotor side caused by rotor set is normal.

④ Remove gerotor.

Remove gerotor. Be careful not to drop the inner rotor. The drive link stays in the steering unit.
Discard the O-ring seal. Inspect the gerotor for nicks, scoring, spalling, or chipping on any internal contacting surfaces. Replace the entire set if there is any damage on them.

⑤ Lift spacer, drive link and plate.

Lift spacer, if exist, drive link and plate. Discard the O-ring seal. Inspect the plate for cracks, surface scoring, discoloration. A polished pattern on the gerotor side is normal.

⑥ Remove bore screw and the ball.

Turn out the bore screw by thin bladed screw driver. Remove the housing from the vice then remove the ball from the hole. Check the ball for wear or scoring.

⑦ Remove the rolled pin and ball.

Remove the rolled pins and balls from the suction valve. Check the ball and rolled pin for wear or scoring

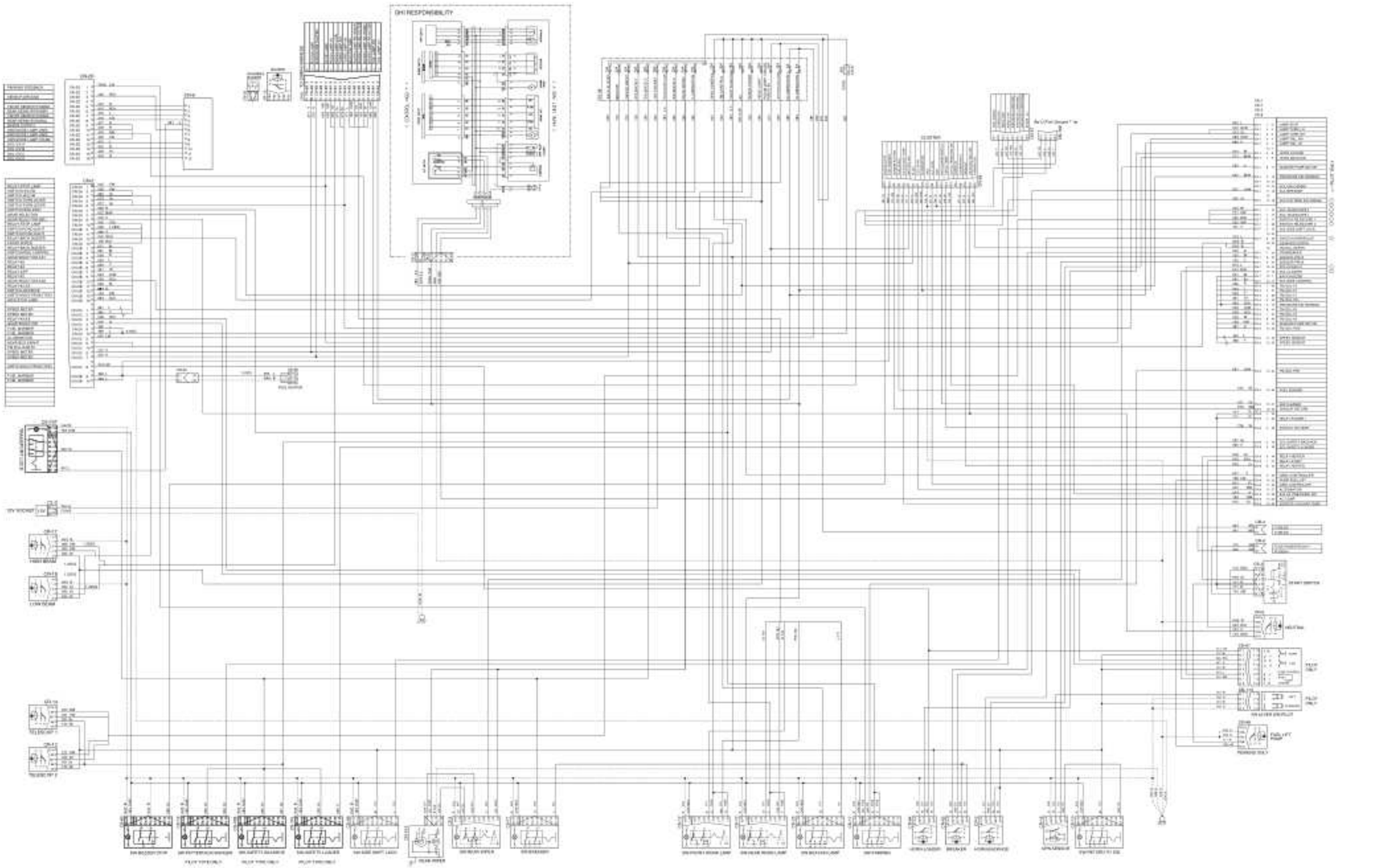
⑧ Remove the retaining ring.

Place housing on clean soft cloth, gerotor end down, to protect surface finish. Use thin bladed screw driver to pry retaining ring from housing. Check if there is any bent or corrosion on it.



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1. ELECTRICAL CIRCUIT (1/3)



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