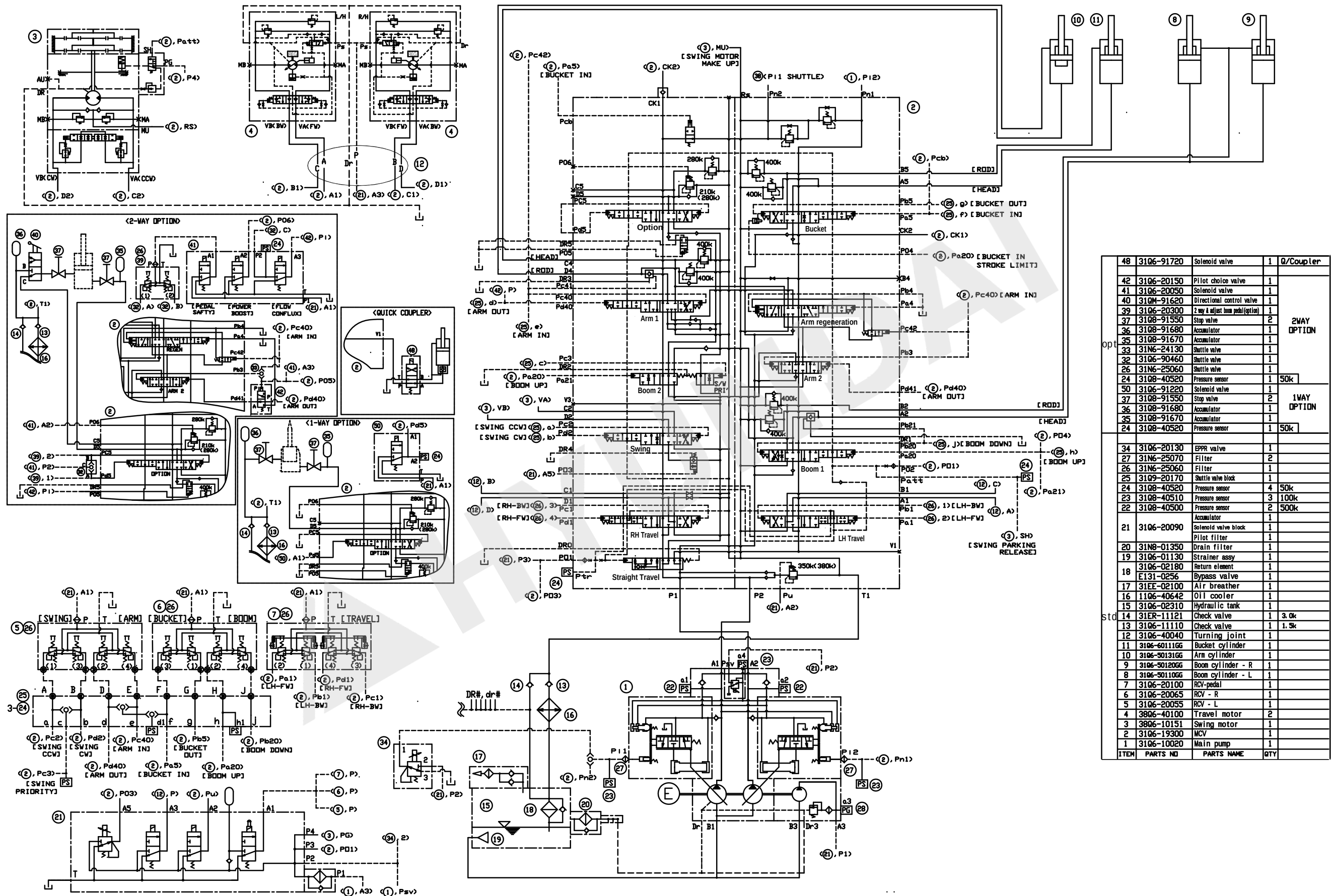


SECTION 3 HYDRAULIC SYSTEM

Group 1 Hydraulic Circuit	3-1
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Group 3 Pilot Circuit	3-5

GROUP 1 HYDRAULIC CIRCUIT



48	3106-91720	Solenoid valve	1	Q/Coupler
42	3106-20150	Pilot choice valve	1	
41	3106-20050	Solenoid valve	1	
40	3106-91620	Directional control valve	1	
39	3106-20300	2 way & adjust boom pedal(option)	1	
37	3108-91550	Stop valve	2	2WAY OPTION
36	3108-91680	Accumulator	1	
35	3108-91670	Accumulator	1	
33	31N6-24130	Shuttle valve	1	
32	3106-90460	Shuttle valve	1	
26	31N6-25060	Shuttle valve	1	
24	3108-40520	Pressure sensor	1	50k
50	3106-91220	Solenoid valve	1	
37	3108-91550	Stop valve	2	1WAY OPTION
36	3108-91680	Accumulator	1	
35	3108-91670	Accumulator	1	
24	3108-40520	Pressure sensor	1	50k
34	3106-20130	EPFR valve	1	
27	31N6-25070	Filter	2	
26	31N6-25060	Filter	1	
25	3109-20170	Shuttle valve block	1	
24	3108-40520	Pressure sensor	4	50k
23	3108-40510	Pressure sensor	3	100k
22	3108-40500	Pressure sensor	2	500k
21	3106-20090	Accumulator	1	
20	31N8-01350	Solenoid valve block	1	
19	3106-01130	Pilot filter	1	
18	3106-02180	Drain filter	1	
17	E131-0256	Strainer assy	1	
16	31EE-02100	Return element	1	
15	1106-40642	Bypass valve	1	
14	3106-02310	Air breather	1	
13	31ER-11121	Oil cooler	1	
12	3106-40040	Hydraulic tank	1	3.0k
11	3106-60111G6	Check valve	1	1.5k
10	3106-50131G6	Turning joint	1	
9	3106-50120G6	Bucket cylinder	1	
8	3106-50110G6	Arm cylinder	1	
7	3106-20100	Boom cylinder - R	1	
6	3106-20065	Boom cylinder - L	1	
5	3106-20055	RCV - pedal	1	
4	3806-40100	RCV - R	2	
3	3806-10151	RCV - L	1	
2	3106-19300	Travel motor	1	
1	3106-10020	Swing motor	1	
ITEM	PARTS NO	PARTS NAME	QTY	

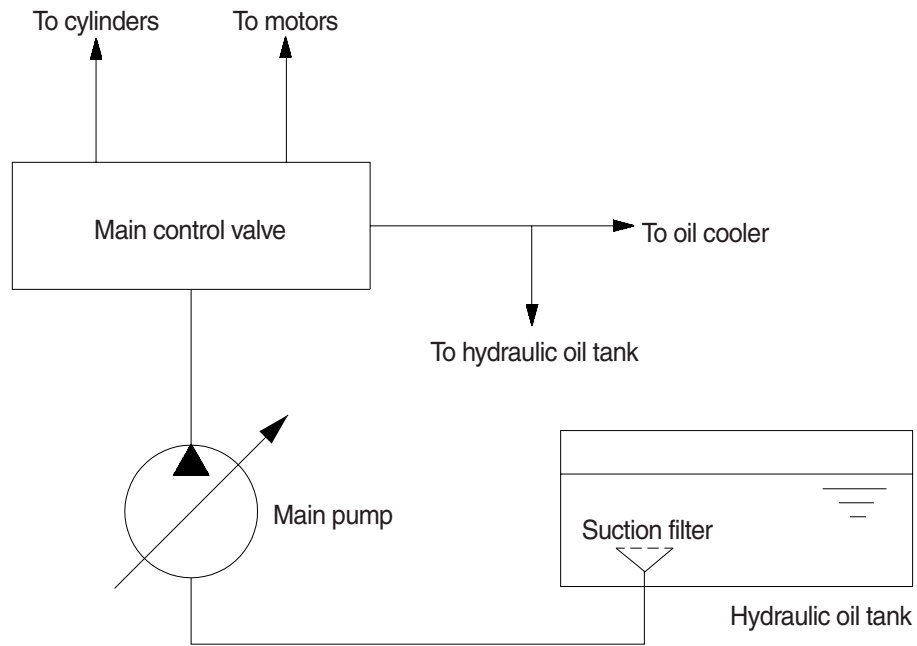
GROUP 2 MAIN CIRCUIT

The main hydraulic circuit consists of suction circuit, delivery circuit, return circuit and drain circuit.

The hydraulic system consists of one main pump, one control valve, one swing motor, four cylinders and two travel motors.

The swash plate type variable displacement tandem axial piston pump is used as the main pump and is driven by the engine at ratio 1.0 of engine speed.

1. SUCTION AND DELIVERY CIRCUIT



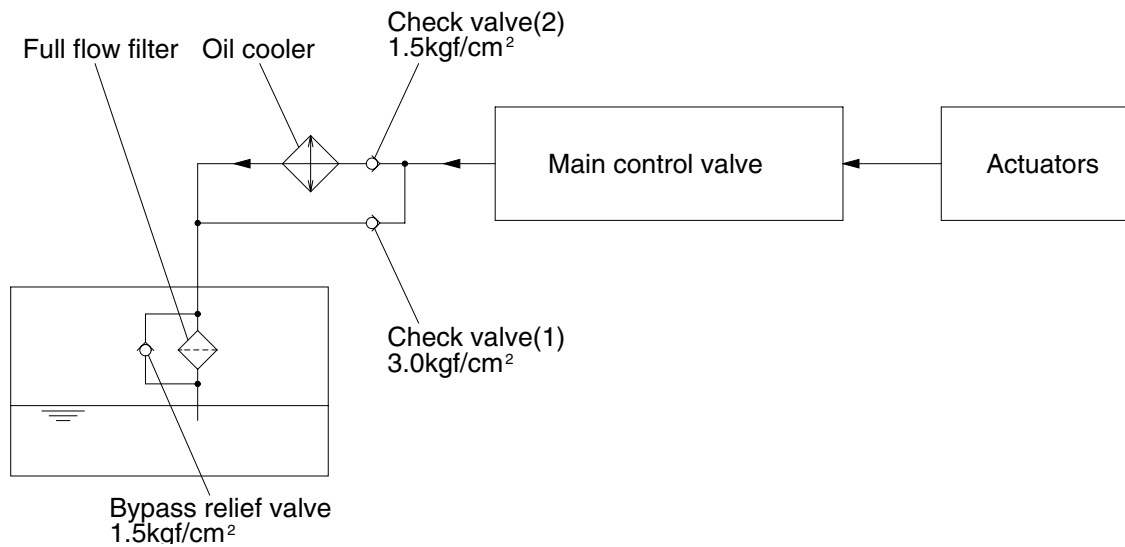
The pumps receive oil from the hydraulic tank through a suction filter. The discharged oil from the pump flows into the control valve and goes out the tank ports.

The oil discharged from the main pump flows to the actuators through the control valve.

The control valve controls the hydraulic functions.

The return oil from the actuators flows to the hydraulic tank through the control valve and the oil cooler.

2. RETURN CIRCUIT



All oil from each actuator returns to the hydraulic tank through the control valve.

The bypass check valves are provided in the return circuit.

The setting pressure of bypass check valves are 1.5 kgf/cm² (21psi) and 3.0 kgf/cm² (43psi). Usually, oil returns to the hydraulic tank from the left side of control valve through oil cooler.

When oil temperature is low, viscosity becomes higher and flow resistance increases when passing through the oil cooler. The oil pressure exceeds 3.0 kgf/cm² (43psi), the oil returns directly to the hydraulic tank, resulting in the oil temperature being raised quickly at an appropriate level.

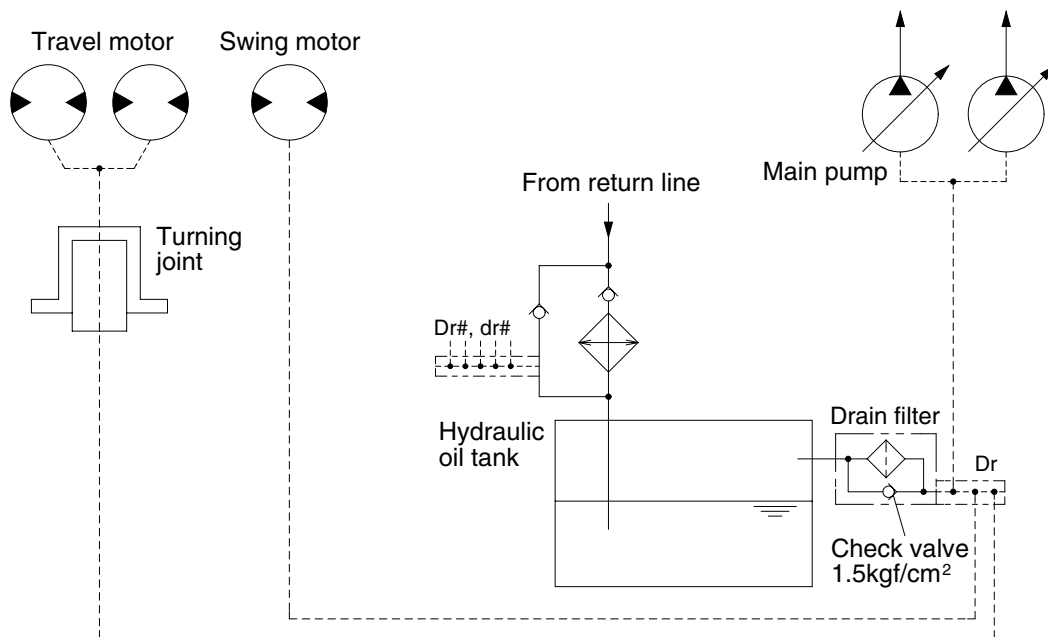
When the oil cooler is clogged, the oil returns directly to the hydraulic tank through bypass check valve (1).

The full-flow filter and bypass relief valve are provided in the hydraulic tank.

The oil from right and left side of control valve is combined and filtered by the return filter. A bypass relief valve is provided in the full-flow filter.

When the filter element is clogged, the bypass relief valve opens at 1.5 kgf/cm² (21psi) differential pressure.

3. DRAIN CIRCUIT



Besides internal leaks from the motors and main pump, the oil for lubrication circulates. These oil have to be fed to the hydraulic tank passing through drain filter.

When the drain oil pressure exceed 1.5 kgf/cm² (21psi), the oil returns to the hydraulic tank directly.

1) TRAVEL MOTOR DRAIN CIRCUIT

Oil leaking from the right and left travel motors comes out of the drain ports provided in the respective motor casing and join with each other. These oils pass through the turning joint and return to the hydraulic tank after being filtered by drain filter.

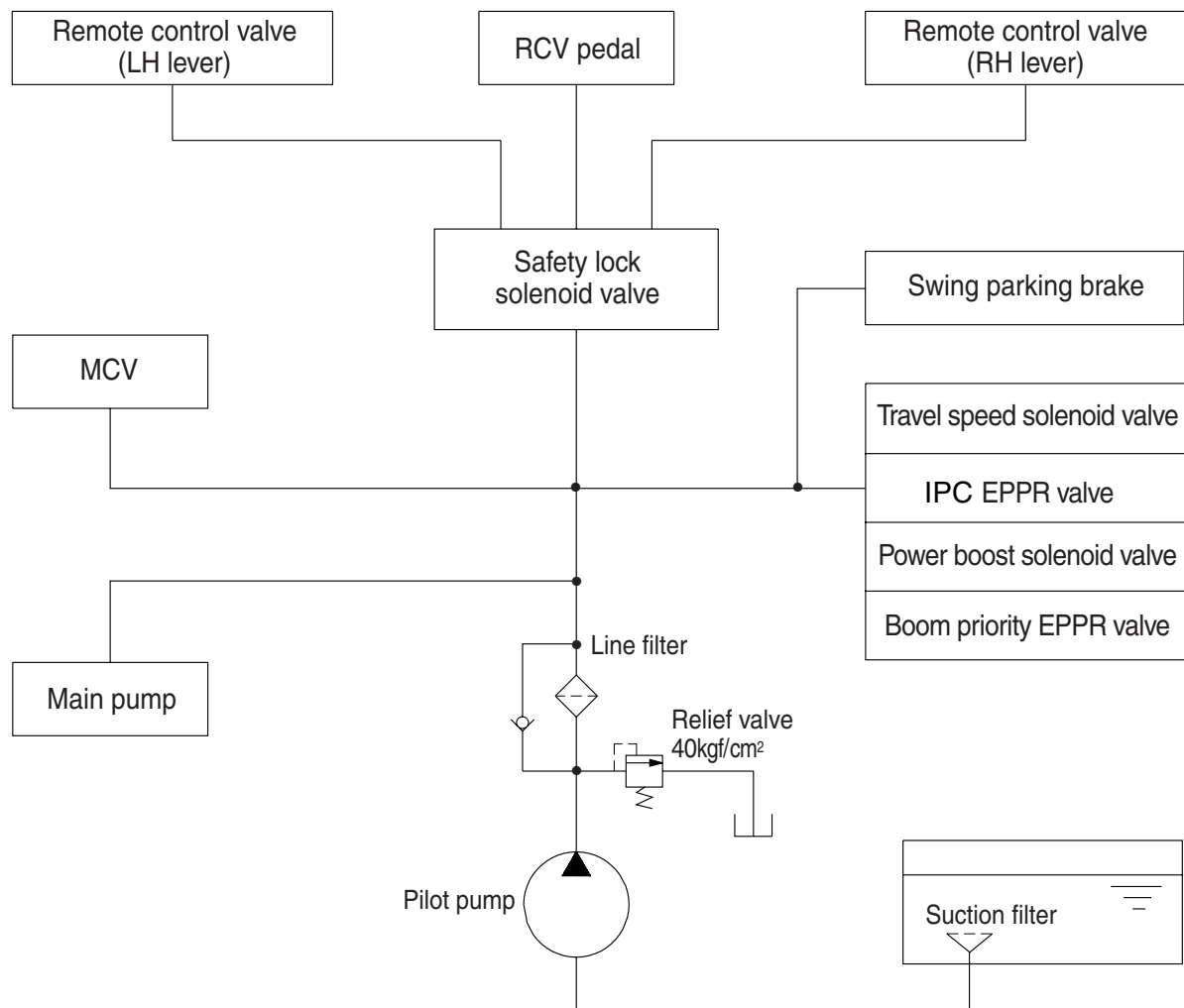
2) SWING MOTOR DRAIN CIRCUIT

Oil leaking from the swing motor comes out and returns to the hydraulic tank passing through a drain filter.

3) MAIN PUMP DRAIN CIRCUIT

Oil leaking from main pump comes out and returns to the hydraulic tank passing through drain filter.

GROUP 3 PILOT CIRCUIT



The pilot circuit consists of suction circuit, delivery circuit and return circuit.

The pilot pump is provided with relief valve, receives the oil from the hydraulic tank through the suction filter.

The discharged oil from the pilot pump flows to the remote control valve through line filter, EPPR valve, solenoid valve assemblies, swing parking brake, main control valve and safety lock solenoid valve.