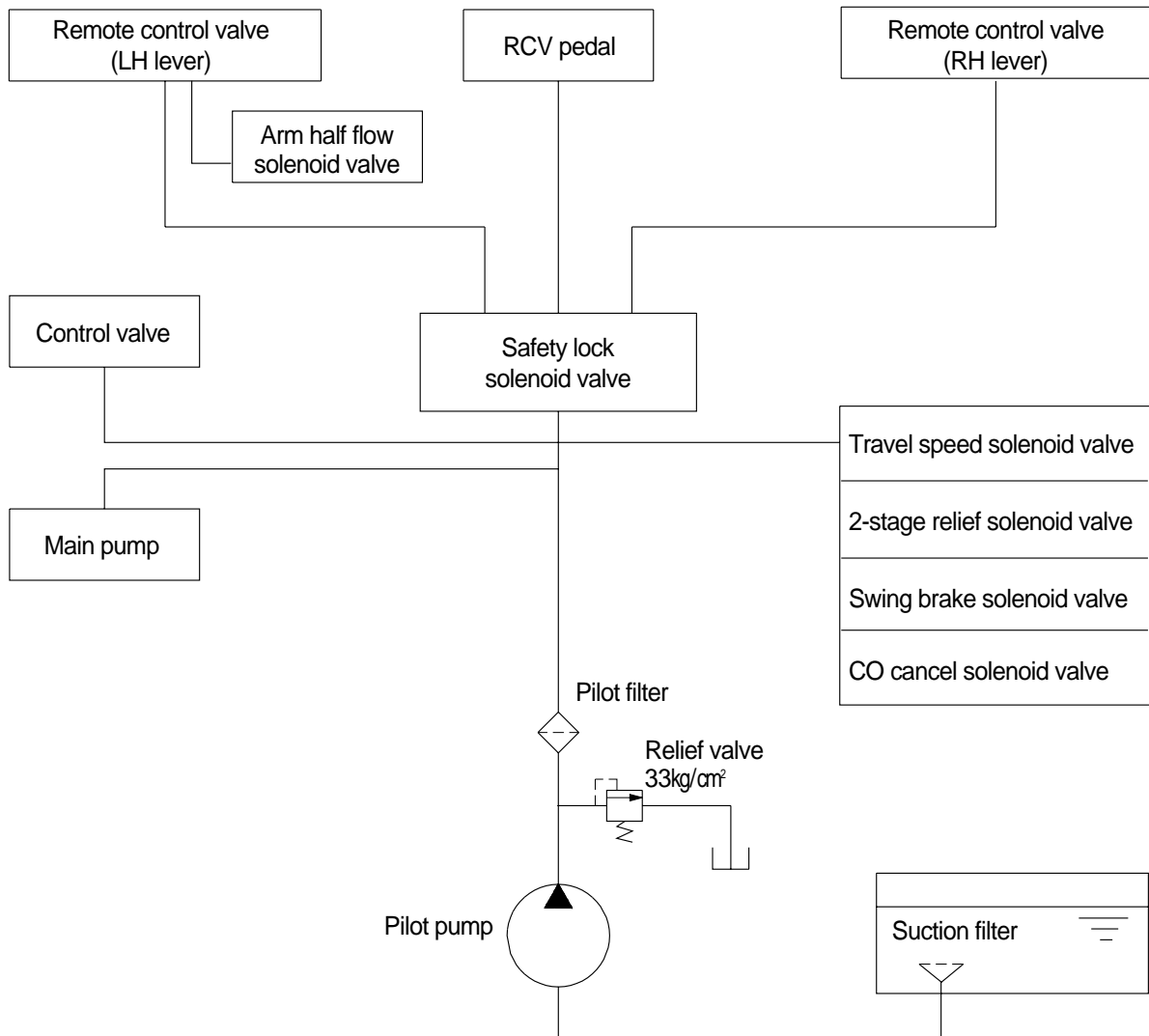


## GROUP 3 PILOT CIRCUIT

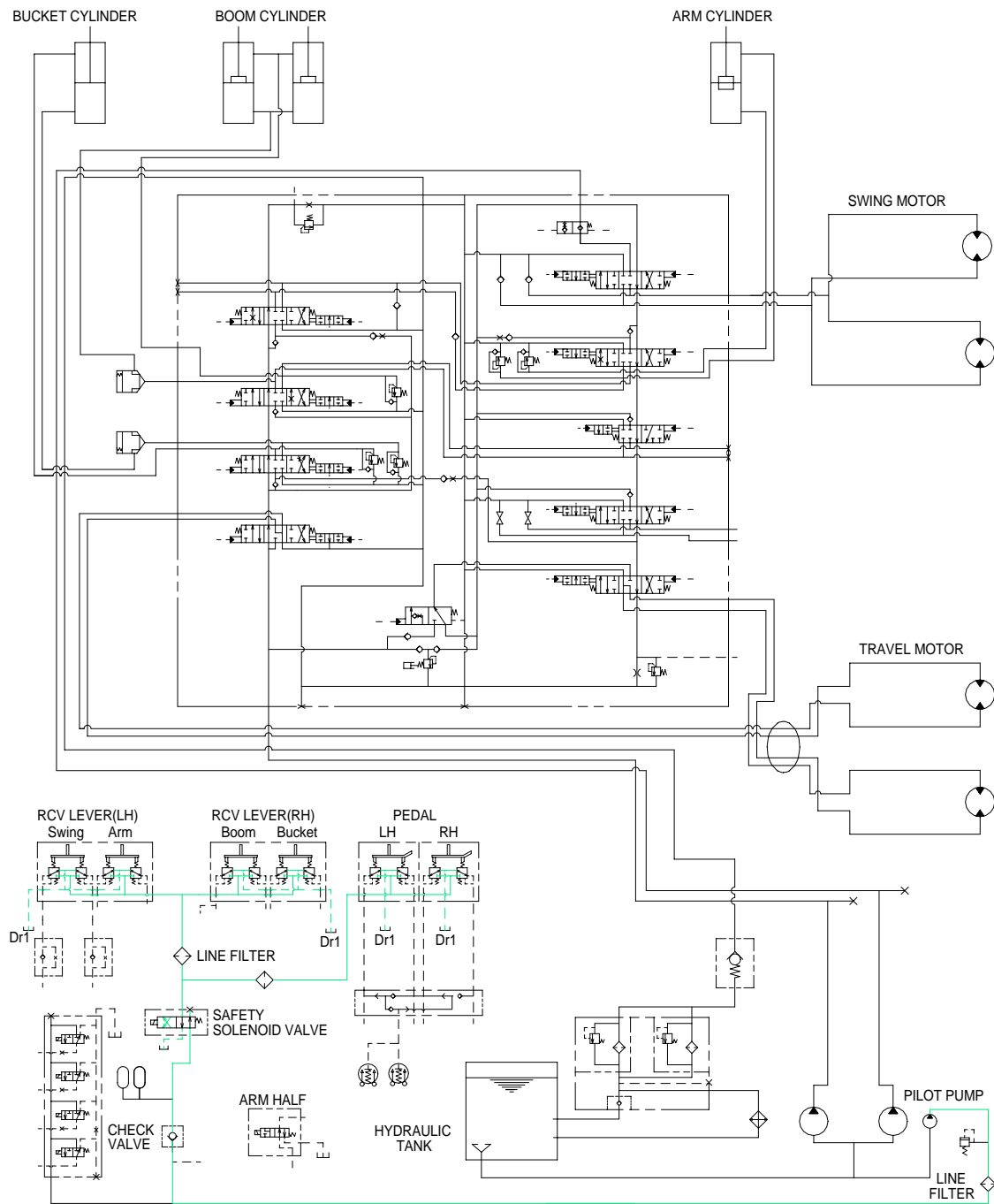


The pilot circuit consists of suction circuit, delivery circuit and return circuit.

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

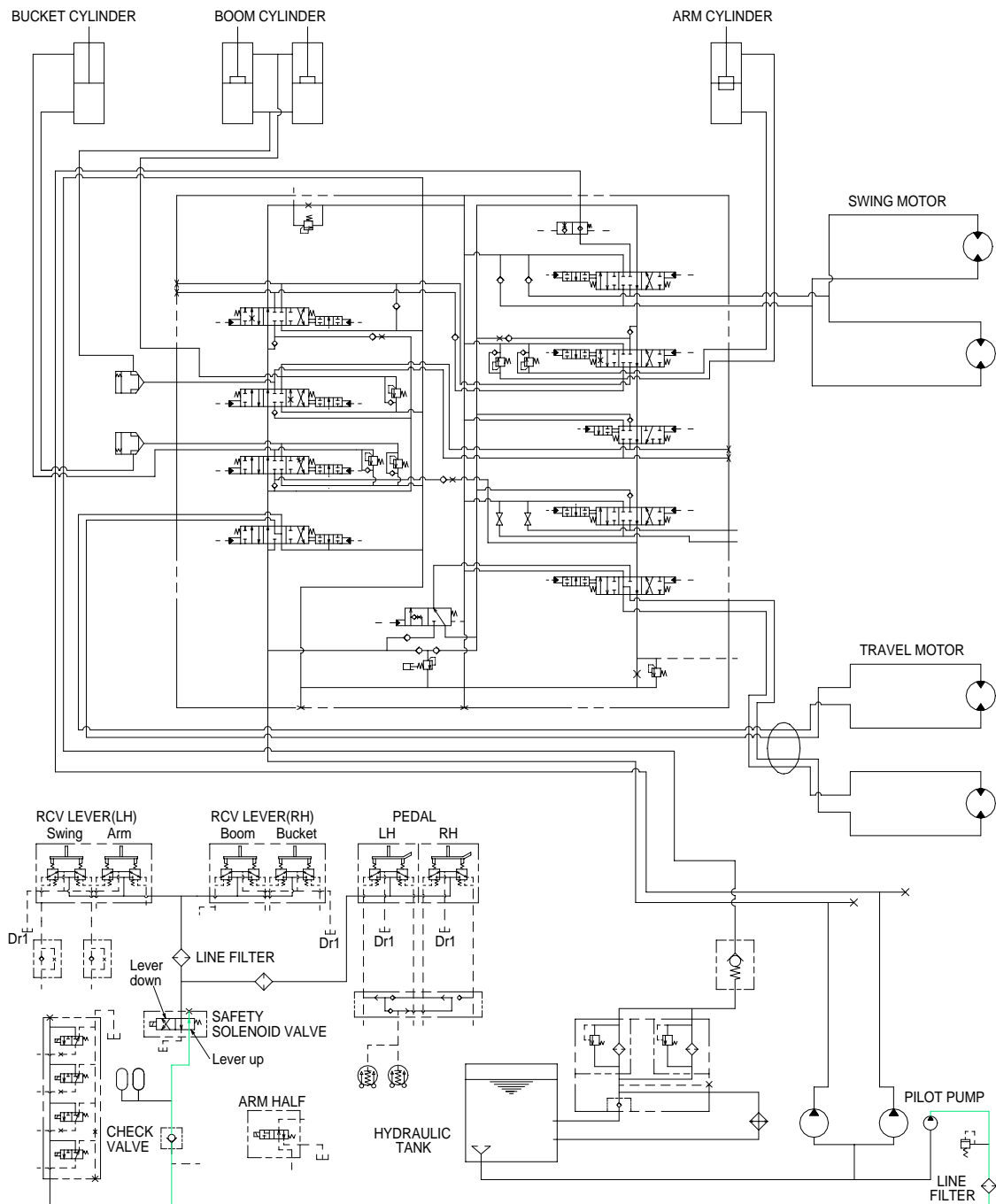
The discharged oil from the pilot pump flows to the remote control valve through pilot filter, EPPR valve, solenoid valve assembly, brake release valve, main control valve and safety lock solenoid valve.

# 1. SUCTION, DELIVERY AND RETURN CIRCUIT



The pilot pump receive oil from the hydraulic tank. The discharged oil from the pilot pump flows to the safety solenoid valve through the pilot filter. The oil is filtered by the pilot filter. The pilot relief valve is provided in the pilot pump for limiting the pilot circuit pressure. The oil filtered by pilot filter flows remote control valve through safety solenoid valve. The returned oil return to the hydraulic tank through the remote control valve.

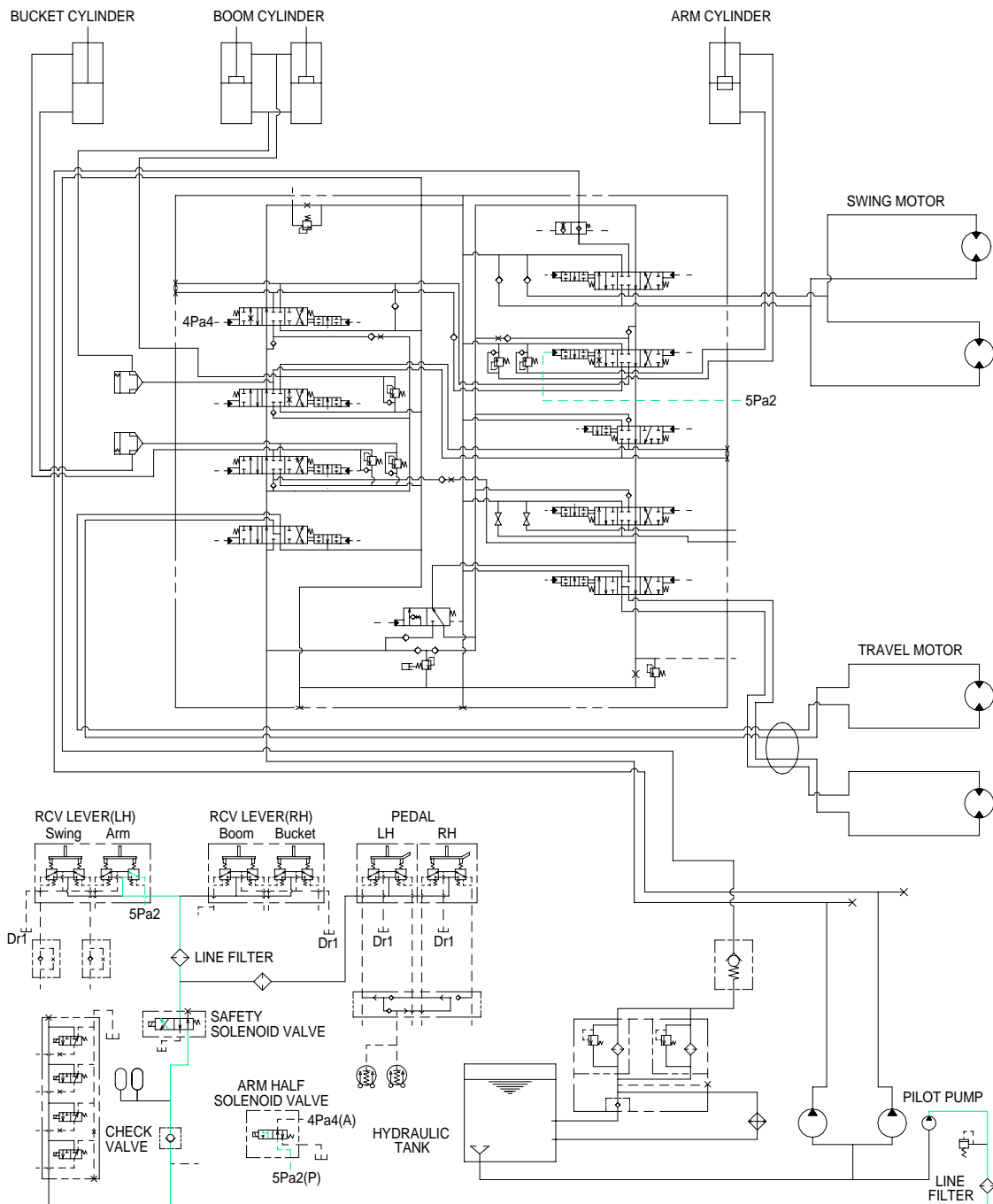
## 2. SAFETY VALVE (SAFETY LEVER)



When the lever of the safety solenoid valve is moved downward, oil flows into the remote control valve through solenoid valve and pilot filter.

When the lever of the safety solenoid valve is moved upward, oil does not flow into the remote control valve, because of the blocked port.

### 3. ARM HALF FLOW SYSTEM

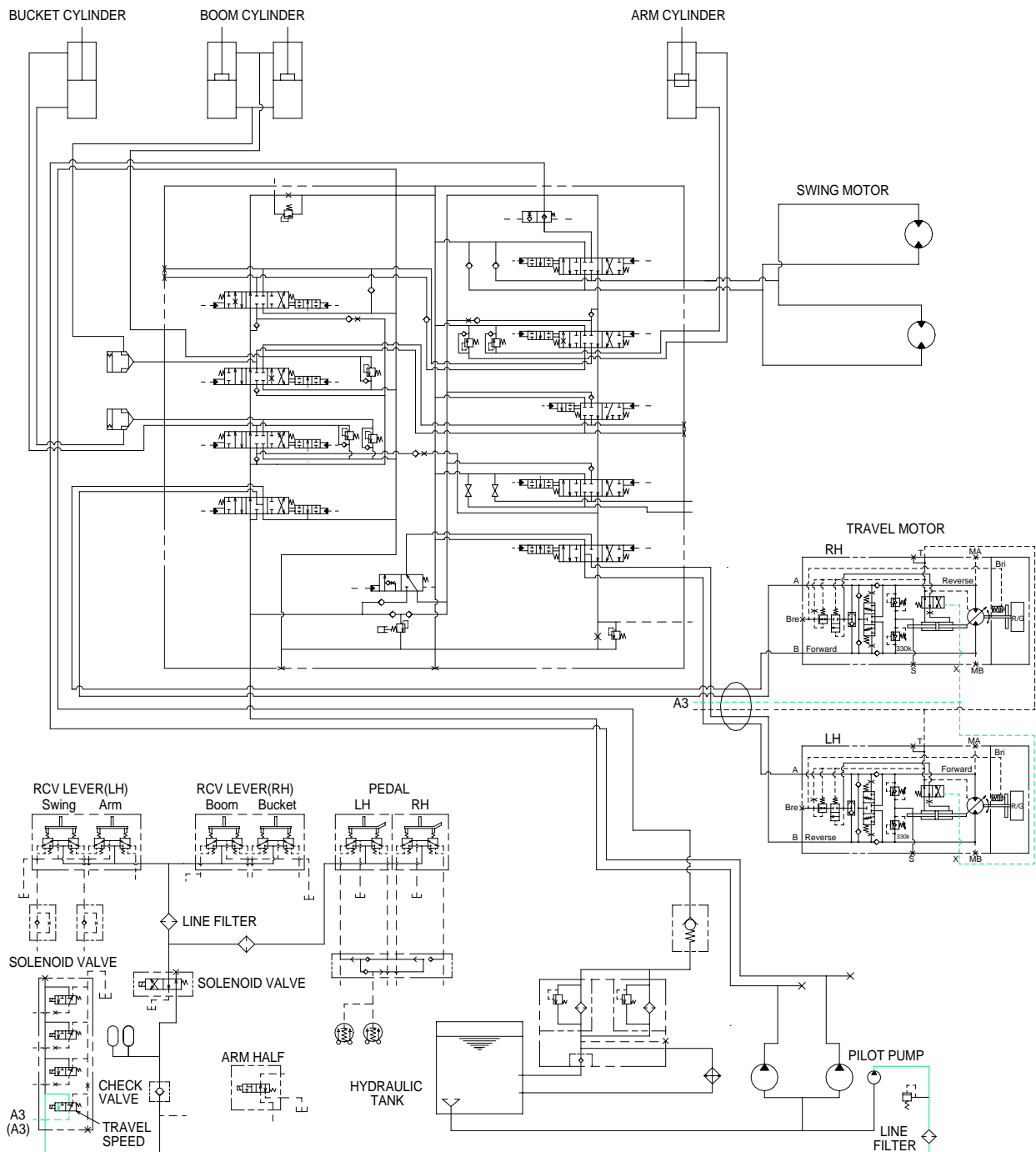


When the arm half flow switch is turned ON, the arm half flow solenoid valve is switched to ON and it cancels oil flow from 5pa2 to 4pa4 : then the spool of arm 2 is not actuated.

As a result, the arm in operation is only the arm 1 section.

This function is useful to fine control of the arm in case of finishing work.

## 4. TRAVEL SPEED CONTROL SYSTEM



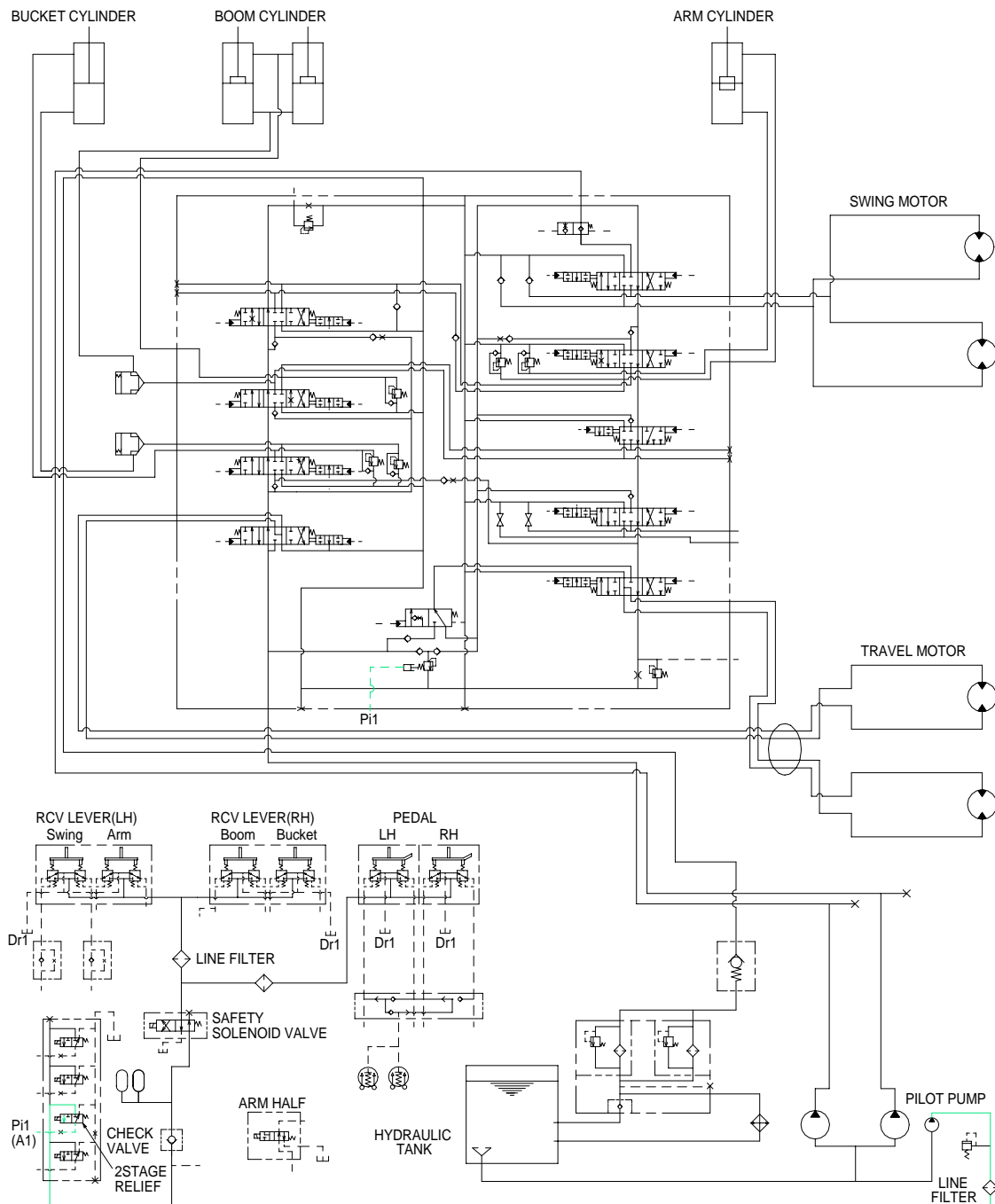
When the travel speed switch is pushed, the travel speed solenoid valve is actuated and the discharged oil from the pilot pump flows to the X port of pilot valve in the travel motors.

As a result, the control piston is pushed down by the main oil flow, thus minimizing the displacement.

When the travel speed switch is pushed once more, the travel speed solenoid valve is return to original position by the force of spring, the hydraulic oil in the pilot valve of the travel motors returns to the hydraulic tank.

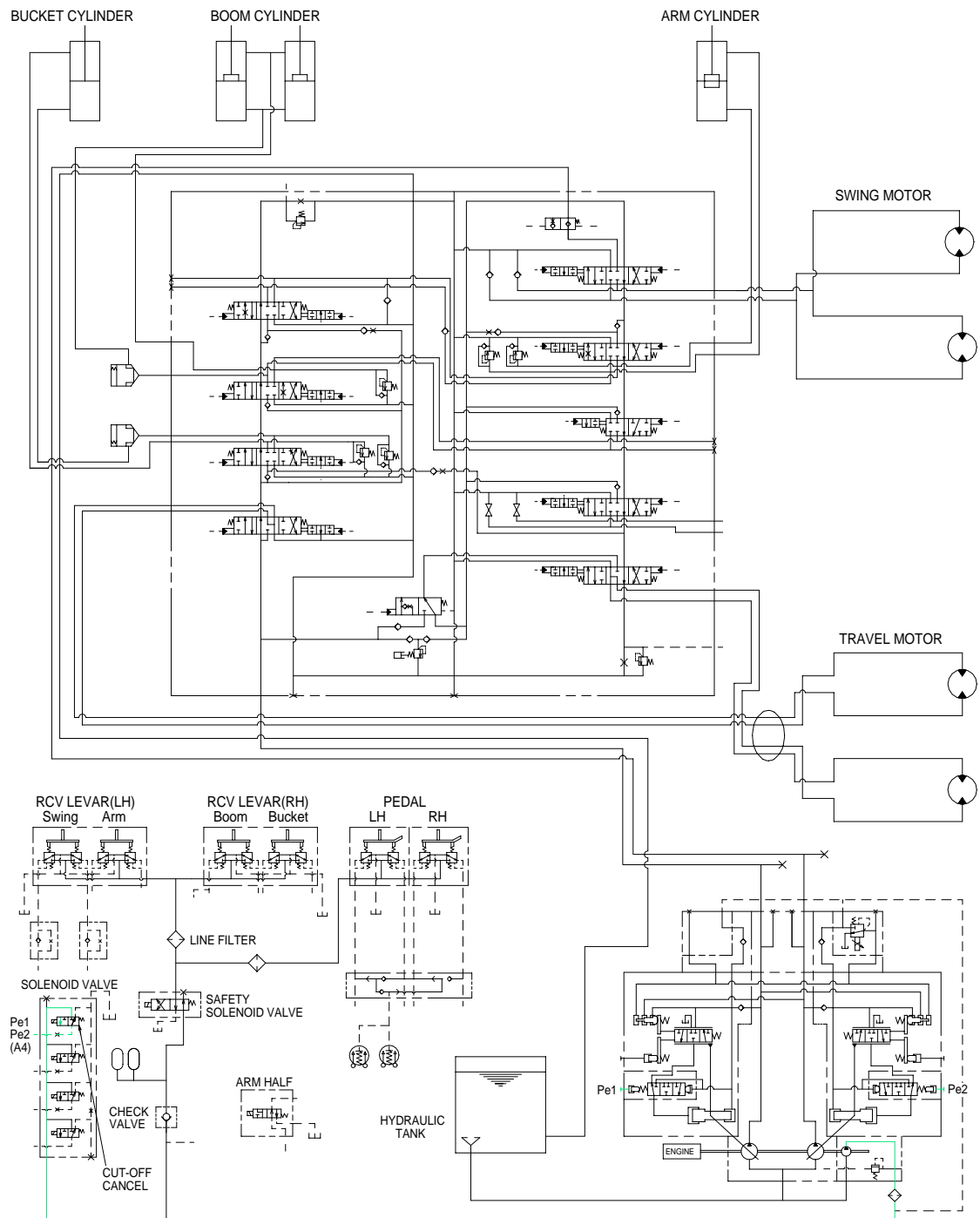
As s result, the control piston is pushed up by the main oil flow, thus maximizing the displacement.

## 5. MAIN RELIEF PRESSURE CHANGE SYSTEM



When the power boost switch on the left control lever is pushed ON, the 2-stage relief solenoid valve is actuated, the discharged oil from the pilot pump flows into Pi1 port of the main relief valve of main control valve ; then the setting pressure of the main relief valve is raises from 325kgf/cm<sup>2</sup> to 350kgf/cm<sup>2</sup> for increasing the digging power. And even when pressed continuously, it is canceled after 8 seconds.

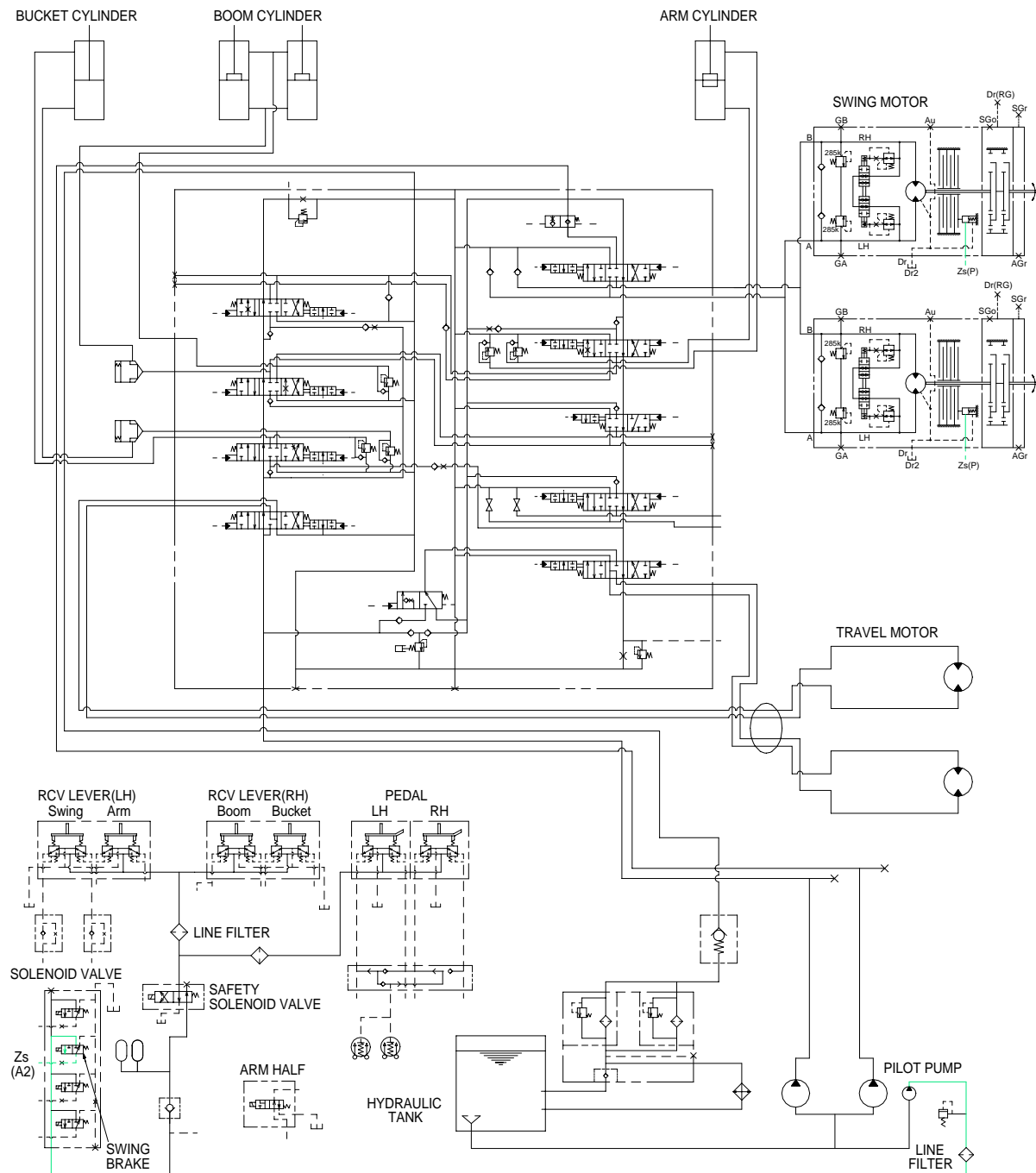
## 6. CUT-OFF(CO) CANCEL FUNCTION SYSTEM



Regarding the actuation and cancelation of the cut-off solenoid valve, it is determined automatically by the position of the power boost switch, travel levers and swing lock switch.

For detail function, see cut off function at page 5-11.

## 7. SWING PARKING BRAKE RELEASE



When the swing control lever is operated, the swing brake solenoid valve is switched to ON ; the discharged oil from the pilot pump flows to the Zs port in the swing motors. This pressure is applied to swing motor disc cylinder, thus the swing parking brake is kept released.

When swing control lever return to neutral position, the swing parking brake function activates by the force of the spring in the swing motors after 6 seconds to prevent hydraulic drift after stopping the swing.

For detail function, see swing control system at page 5-14.