KOBELCO

SERVICE MANUAL

HYDRAULIC EXCAVATOR

SK300

SK300LC

Applicable: SK300 LCU0001~
Applicable: SK300LC YCU00301~

S5YCU0002E-01 05/95

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4.3 TRAVEL CIRCUIT

The travel circuit has the following functions. Travel boost pressure, travel automatic 2-speed changeover for travel action, travel straight, travel independent prevention of runaway on a slope, automatic parking brake and travel flow cut. Travel operation is carried out by hydraulic pilot valve operation. Pedal 1 travel can be effected during travel straight operation. The travel independent function will be mentioned later.

4.3.1 2-SPEED OPERATION CIRCUIT FOR TRAVEL INDEPENDENT (ADVANCE) ACTION

(1) Pilot circuit

1) 2-speed changeover signal for travel action
The travel 2-speed changeover signal is turned on if the momentary switch having a tortoise-and-hare sign on the travel lever grip is pressed one time. This changes over the A2 spool of solenoid valve (28) to admit primary pressure to port A2 and becomes a 2-speed changeover signal pressure for the travel motor.

2) Travel motor (5)
2-speed changeover signal pressure enters the PS port and changes the swash plate angle of the variable displacement motor.

3) Travel pilot valve (37)
If the travel pedals or the travel levers are operated, secondary pilot pressure is discharged from travel pilot valve (37), whereupon the higher of secondary proportionate pressures is selected in the travel pilot valve (37) and goes out port Pi.

4) Solenoid valve (38)
If the travel pedal is actuated, secondary pressure from travel pilot valve (37) acts upon pressure switch (35I).
Since the pressure switch is of normally closed type, the contact is turned off electrically the moment pressure is applied it. The result is that primary pressure passes through solenoid valve (38) and cuts off the maximum flow of the main pump.

5) Bypass valve (26)
Secondary proportionate pressure for travel operation which has entered port PiT enters pressure switch (35B) at the PDS port and sends out an electric auto accel signal.

6) Electromagnetic proportionate reducing valve attached to the No.1 pump (1)
The primary pilot pressure at port P1 serves as a pressure source for power shift control (To reduce pump flow when engine horsepower raise over).

(2) Main circuit

1) Travel pressure
The travel relief valve pressure is 350kgf/cm² (4980psi) which is the highest.

2) Travel 2-speed variable motor
1-, 2-speed changeover for travel action is done manually. It is necessary to manually choose the 1-speed under heavy load, such as travel on a slope.

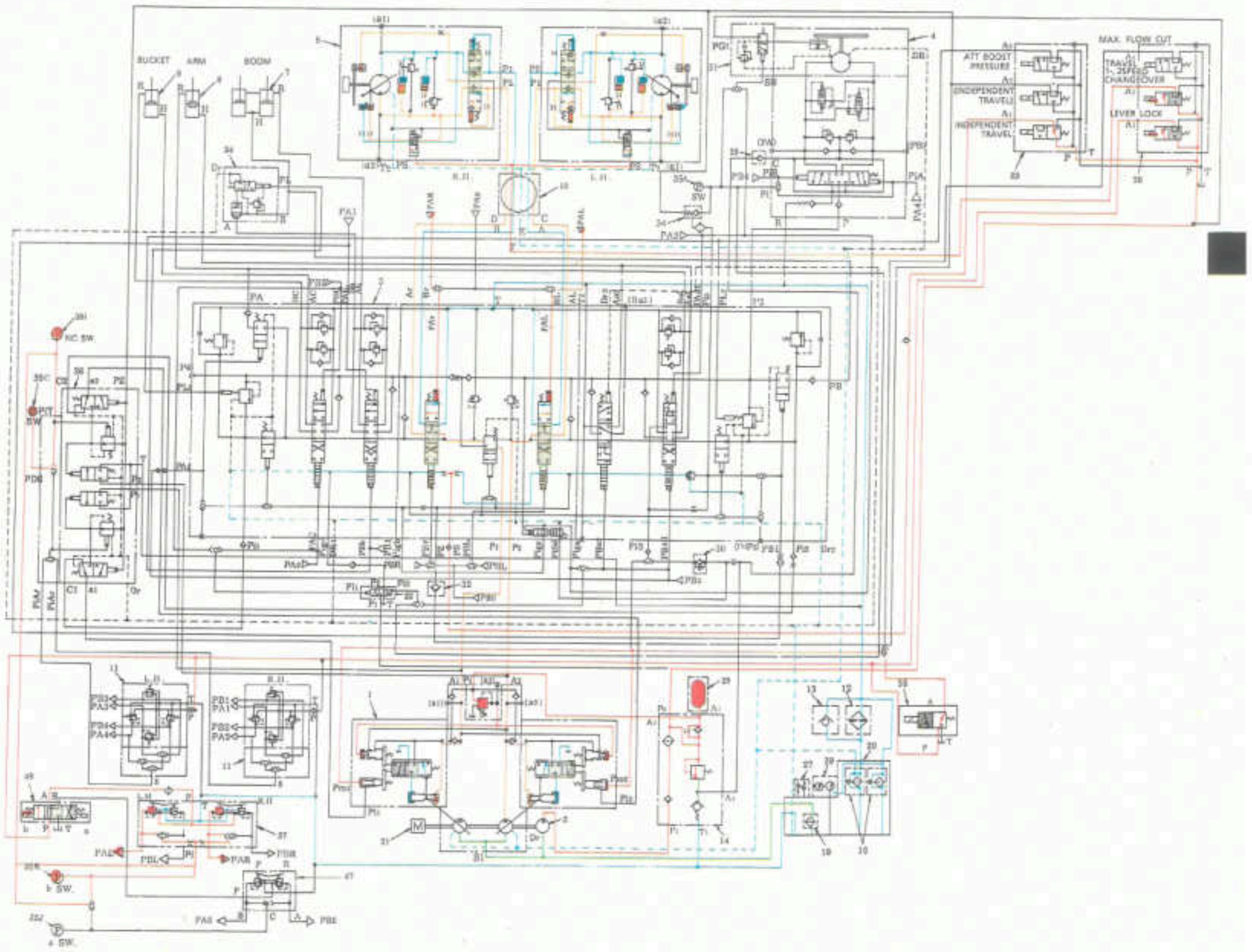


Fig. 4 Single travel (advance) 2-speed operation circuit

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