KOBELCO

# SHOP MANUAL

## HYDRAULIC EXCAVATOR

# SK300-III
# SK300LC-III

S5YCU0001E-00 NA

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### 4.7.5 SEQUENCE CONFLUX CIRCUIT & VARIABLE RECIRCULATION CUT CIRCUIT AT HEAVY-DUTY ARM DIGGING

(1) Pilot circuit

1) Proportionate secondary pilot pressure PA3 of the operating pilot valve (11)
Refer to the explanation given previously.

2) PAa port of control valve (3)
Refer to the explanation given previously.

3) SH port of reducing valve (31)
Refer to the explanation given previously.

4) Piga port of control valve (3)
Proportionate secondary pilot pressure PA3 which enters the Piga port goes into the sequence valve (59) and adds to the parallel circuit pressure of the P2 main circuit to shift the sequence valve. The moment the sequence valve is shifted, port piga is connected with port pigs.

5) Pigb port of control valve (3)
Proportionate secondary pilot pressure enters the Pigb port and then the side bypass circuit. The pressure then shifts the neutral cut spool (306B) and the travel priority spool (305), in that order.

6) PiSd port of control valve (3)
The moment the sequence valve (59) is changed over, the PiSd port connects with the tank port via a restrictor. As the result, the boost pressure for variable arm recirculation falls to perform variable recirculation cut action.

(2) Main circuit
When the main circuit pressure on the arm digging side exceeds 147 kgf/cm² (2090 psi), it is added to the proportionate secondary pilot pressure and changes the sequence valve over. The result is that the oil delivered by the No.1 pump is combined in the control valve with the oil delivered by the No.2 pump and is supplied to the arm cylinder head (H) from the Aa port. This is called the sequence conflux circuit. Since the oil returned from the cylinder works for variable recirculation cut, the back pressure of the returned oil falls, thereby preventing the fall in the digging power resulting from the fall of the back pressure.

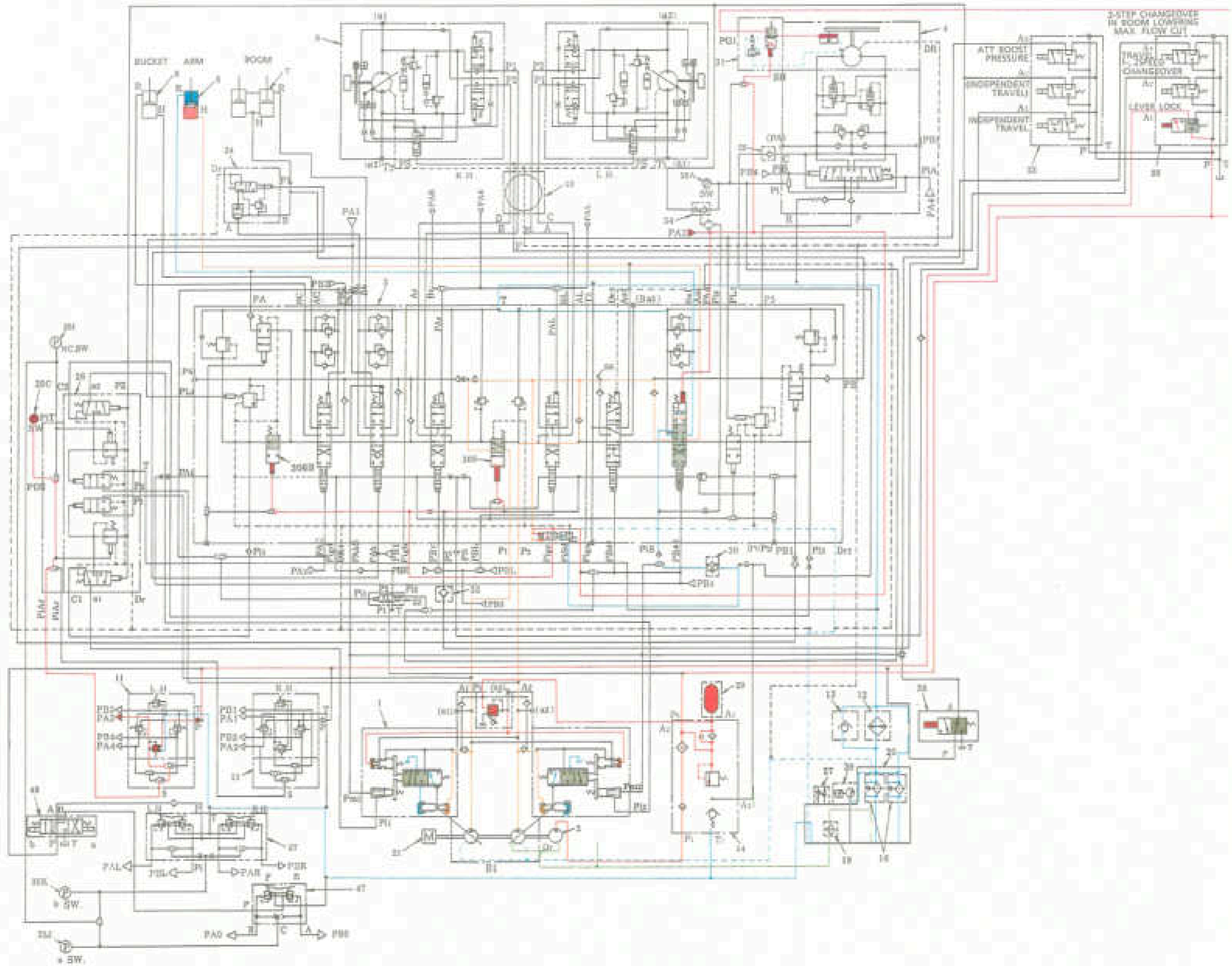



Fig. 17 Sequence conflux arm digging circuit at heavy duty




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