KOBELCO

SHOP MANUAL

HYDRAULIC EXCAVATOR

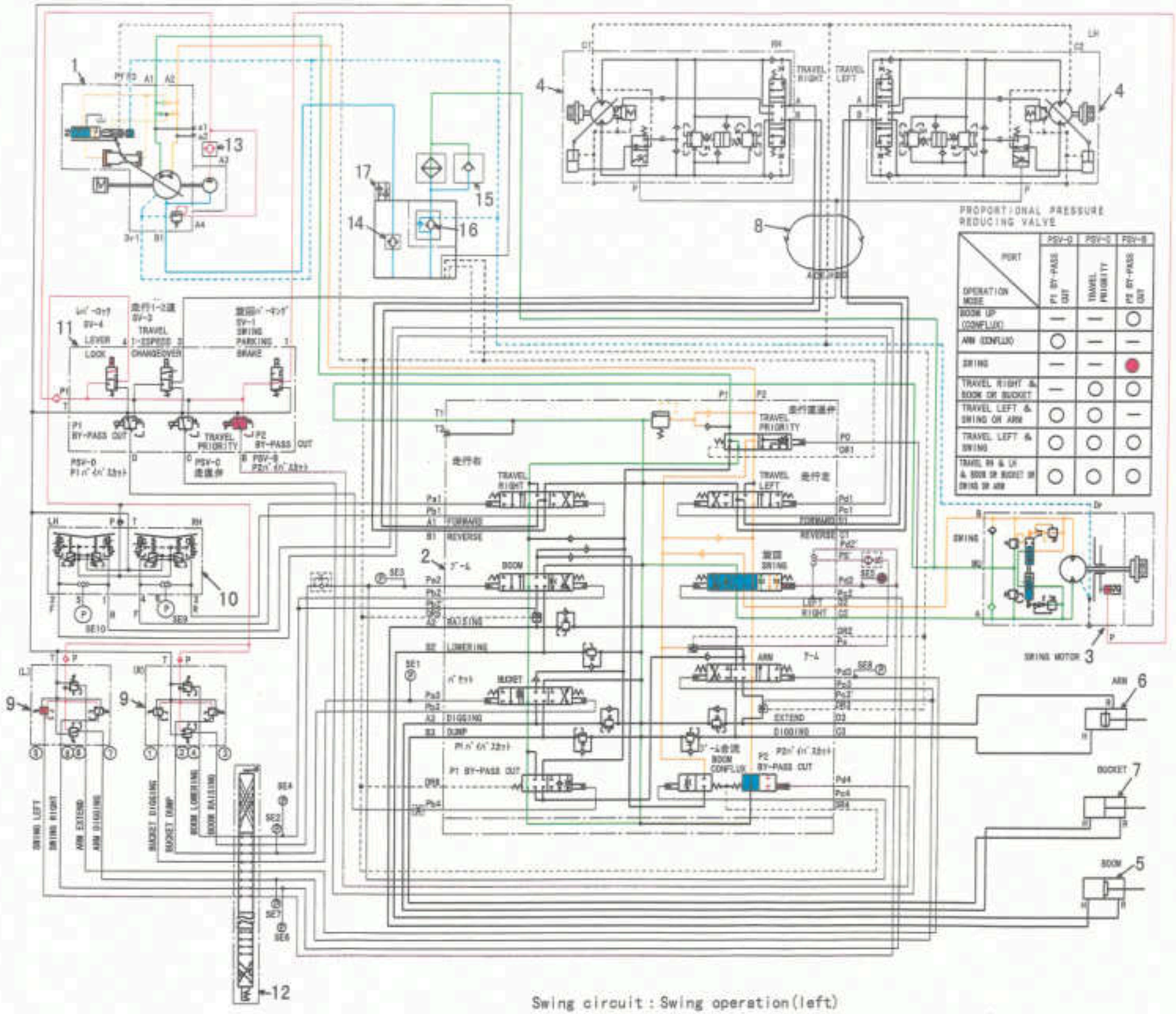
SK70SR

Applicable: YT00101~

S5YT0001E 07/03

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Swing circuit : Swing operation (left)

8. SWING CIRCUIT

This section describes the following operations.
1) Swing left pilot circuit
2) Swing auto parking brake
3) Swing main circuit
4) Swing motor function

8.1 SWING LEFT PILOT CIRCUIT

Operation:

1) Start swing left operation, and pilot proportional secondary pressure through port(5) of left pilot valve(9) is output, and acts on low pressure sensor(SE5), and at the same time the pressure is branched into 2 circuits and acts on Pd2 and Pd2' ports of C/V(2).
2) The voltage output by low pressure sensor is processed by mechatro controller and outputs command current to P2 by-pass cut valve(PSV-B) and solenoid valve outputs proportional secondary pressure and the pressure acts on C/V(2) Pd4 port.
3) Then, the secondary pressure fed into C/V(2) P2 port switches swing spool. And the secondary pressure fed into Pd2' port flows into PS' port through check ball, then into PS port, and acts on load check valve for arm operation. In addition, the solenoid proportional secondary pressure switches P2 by-pass cut valve.

8.2 SWING AUTO PARKING BRAKE

Purpose:

Swing lock and parking in neutral position

Principle: Release only when required to operate mechanical brake.

Operation:

1) Swing parking release SW-4 excites swing parking SOL (SV-1) by turning switch on.
2) Only when operation secondary pressure during swing ans arm digging operation acts on any of low pressure sensors(SE5,6,7), it release the excitation to swing parking SOL.
3) After 5 seconds when the pressure of low pressure sensor(SE5,6) from swing operation has exhausted, the swing parking SOL(SV-1) is excited. And in case of arm digging operation, at the same time when the pressure of pressure sensor(SE7) for arm digging operation has been exhausted, the swing parking SOL(SV-1) is excited.

8.3 SWING MAIN CIRCUIT

Operation:

1) The oil delivered through A2 port of P2 pump passes through C/V(2) P2 port and flows into travel straight section, and branches into by-pass circuit and parallel circuit. However since the swing spool is moved and by-pass circuit is closed, the oil opens load check valve through parallel circuit and flows into B port of swing motor through C/V(2) D2 port, and has swing motor rotated in counterclockwise.

8.4 SWING MOTOR OPERATION

1) Anticavitation circuit when reducing swing speed
2) Shockless relief to protect it from reverse rotation

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