KOBELCO

SERVICE MANUAL

HYDRAULIC EXCAVATOR

SK60V

S5LE0106E

APPLICABLE:
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SHOP MANUAL SK60V

SPECIFICATION

LE01

CONTENTS

1. DESIGNATION 1
2. GENERAL DIMENSION 2
3. SPECIFICATION AND PERFORMANCE 3
4. TYPE OF SHOES 4
5. TYPE OF BUCKETS 5
6. COMBINATION OF ATTACHMENTS 6
7. WORKING RANGE OF ATTACHMENTS 7
8. LIFTING CAPACITY DIAGRAM 9
9. ENGINE SPECIFICATION 11

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3.5 Swing Operation Circuit

The swing operation circuit has the following functions.

Swing flasher lights in swing operation.
Auto swing parking brake
Delay parking brake at inertial swing
Reverse rotation protection caused by inertial swing
Swing speed fine control mode at switching
Swing priority circuit (In swing/arm in combined operation)

[Swing priority circuit is described in Item 3.10 "Swing/arm in combined operation".]

■ Swing (L) operation circuit

(1) Pilot Circuit

1) Left operation circuit (10)
The swing (L) operation delivers the proportional secondary pressure PB4.

2) Shuttle valve (14)
The proportioanl secondary pressure is branched in three ways. One of them turns on the pressure switch to light swing flasher electrically.

3) Reducing valve (501)
The pressure oil arriving at SH port switches valve, and releases brake with continuity across PG port and brake releasing cylinder circuit.
Then the brake actuation is delayed to avoid the influence of inertia force generated when operating lever is shifted to the "Neutral" position.

4) Control valve (3)
The proportioanl secondary pressure PB4 switches the spool of swing valve.

(2) Main circuit

1) Control valve (3)
The oil P1 pumped by the variable delivery pump (1) flows to P2U port, and passes through flow control valve (403). Then it flows to B5 port through swing valve, and reaches swing motor (4).

2) Swing motor (4)
The pressure oil arriving at B port rotates the swing motor. The difference of pressue at inlet and outlet of swing motor actuates the reverse rotation preventive mechanism (502) to prevent it from the swing back.

■ Swing (Left) fine control operation circuit

(1) Pilot circuit
By selecting the swing fine control mode, the pilot primary pressure is exerted on the solenoid valve (12) A1 port. This selected swing fine control command is exerted on the control valve (3) PSS port, and switches the two-way valve (404) to close the main circuit.

(2) Main circuit
The pressure oil discharged form two-way valve is cut. As the result of the cut off of the pressure oil from two-way valve, the oil is distributed to the drain circuit in flow control valve (403). And the oil quantity delivered to swing motor is decreased lowering the swing speed.

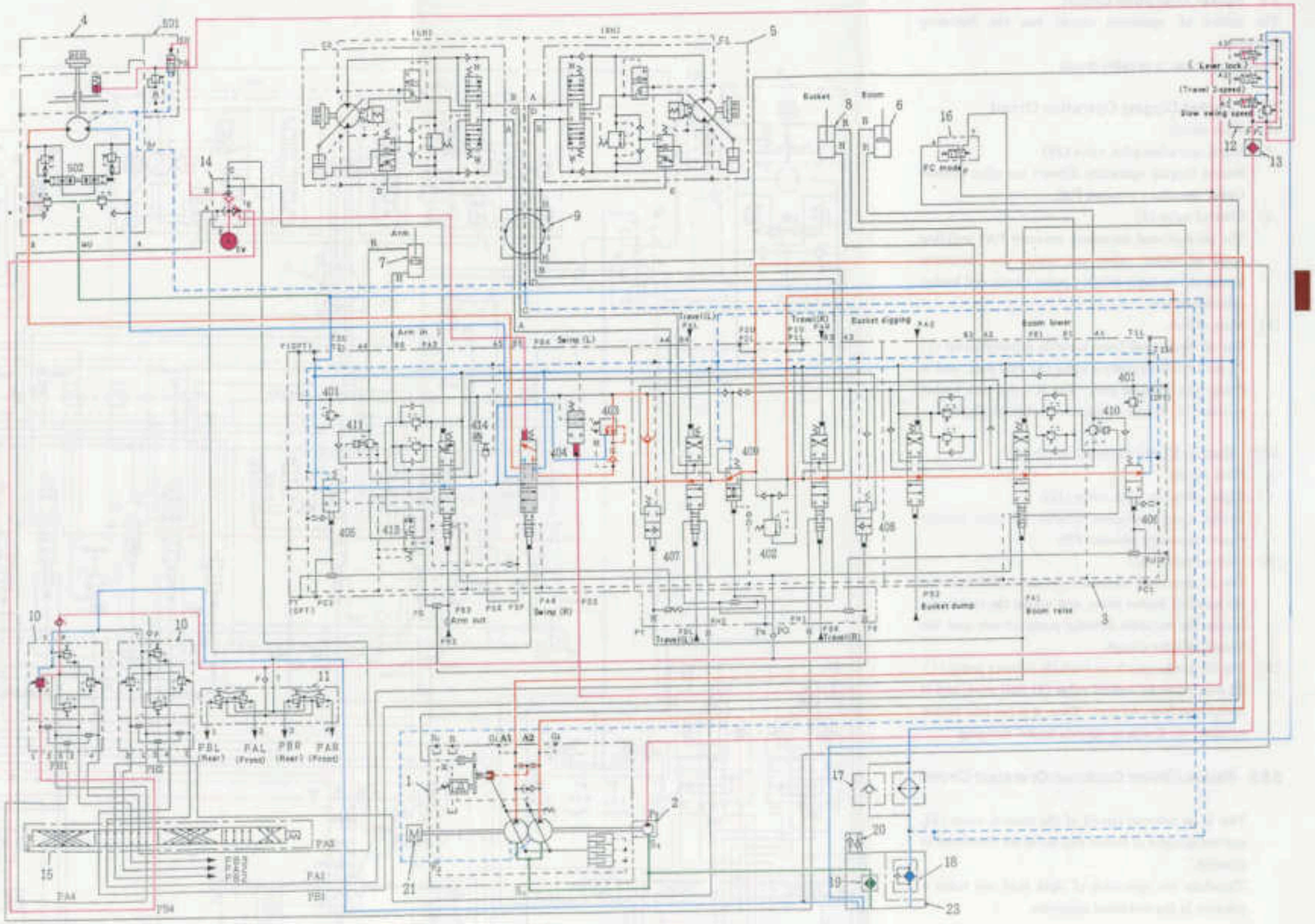


Fig. 4 Swing independent (Left swing) fine control mode circuit

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