KOBELCO

SERVICE MANUAL

HYDRAULIC EXCAVATOR

SK200(LC)VI

SK210(LC) VI

SK210NLC VI

S5YN0112E

APPLICABLE:
YN07-30001-
Y007-03501~

Issued: December, 1999

MidWestTech | Kobelco SK200(LC)VI, SK210(LC) VI, SK210NLC VI Hydraulic Excavator Service Manual | Publication S5YN0012E_gb

Order the manual at mid-west-tech.com >

KOBELCO

Book code No. S5YN0212E

SHOP MANUAL

SK200(LC)VI
SK210(LC)VI
SK210NLCVI YN02

SPECIFICATION

TABLE OF CONTENTS

1. NAME OF COMPONENTS 1
2. GENERAL DIMENSIONS 2
3. WEIGHT OF COMPONENTS 4
4. TRANSPORTATION 5
5. MACHINE LIFTING PROCEDURE 8
6. WORKING RANGE 11
7. LIFTING DIAGRAM 16
8. SPECIFICATIONS AND PERFORMANCE 25
9. TYPE OF CRAWLER 26
10. TYPE OF BUCKET 27
11. COMBINATIONS OF ATTACHMENT 28
12. ENGINE SPECIFICATIONS 29

KOBELCO CONSTRUCTION MACHINERY CO., LTD.

MidWestTech | Kobelco SK200(LC)VI, SK210(LC) VI, SK210NLC VI Hydraulic Excavator... Order the manual at mid-west-tech.com >

KOBELCO

Book code No. S5YN0312E

SHOP MANUAL

SK200(LC)VI
SK210(LC)VI
SK210NLCVI

YN03

ATTACHMENT DIMENSION

TABLE OF CONTENTS

1. BOOM
   - 1.1 Boom dimensional drawing 1
   - 1.2 Boom maintenance standard 2
2. ARM
   - 2.1 Arm dimensional drawing 4
   - 2.2 Arm maintenance standard 5
3. BUCKET
   - 3.1 Bucket dimensional drawing 7
   - 3.2 Bucket dimensional table 7
   - 3.3 Detail dimensional drawing of lug section 8
   - 3.4 Detail dimensional drawing of boss section 9

KOBELCO CONSTRUCTION MACHINERY CO., LTD.

MidWestTech | Kobelco SK200(LC)VI, SK210(LC) VI, SK210NLC VI Hydraulic Excavato... Order the manual at mid-west-tech.com >

KOBELCO

Book code No. S5YN11 12E

SHOP MANUAL

SK200(LC)VI
SK210(LC)VI
SK210NLCVI

YN11

TOOLS

TABLE OF CONTENTS

1. TIGHTENING TORQUES FOR CAPSCREWS AND NUTS 1
2. SCREW SIZE 2
3. TIGHTENING TORQUES FOR NUTS AND SLEEVES 3
4. PLUG 4
5. SPECIAL SPANNER FOR TUBE 7
6. SPECIAL TOOLS 8
7. APPLICATION OF SCREW LOCKING COMPOUND AND SEALING COMPOUND 10
8. SUCTION STOPPER 11
9. COUNTER WEIGHT LIFTING JIG 12
10. UPPER FRAME LIFTING JIG 13
11. ENGINE MOUNTING PEDESTAL 14
12. TRACK SPRING SET JIG 14

KOBELCO CONSTRUCTION MACHINERY CO., LTD.

MidWestTech | Kobelco SK200(LC)VI, SK210(LC) VI, SK210NLC VI Hydraulic Excavator... Order the manual at mid-west-tech.com >

1.1.4 TROUBLESHOOTING

(1) Locating causes of troubles

The pump is usually fitted with a regulator, auxiliary valves and auxiliary pumps, and this makes fault location extremely difficult. However, faults would be found out easily if the following check items were attended to.

1) Inspecting the filter and drain oil
Inspect the filter element to check for abnormal contaminations. Some metallic particles will be deposited on it as the shoe and the cylinder wear off. In case metallic particles are found in large quantity, the elements may be damaged. In that case check the drain oil in the pump casing as well.

2) Checking for abnormal vibration and sound
Check that the pump does not vibrate and make an abnormal sound.
Check that the hunting of the regulator and the attached valve's relief valve are of regular frequency. In case vibration and sound are abnormal, the pump may be making a cavitation or internally broken.

3) When two pumps are used
In case two single pumps or motors are used or when a double pump is used. change pump pipelines. This will make clear that the pumps are faulty or the circuit after the pumps is faulty.

4) Pressure measurements
If the problem is related to control functions, avoid disassembling the pumps carelessly, but look for causes by measuring pressures.

(2) Troubleshooting

1) Overloading to engine

Cause	Remedy	Remarks
1. Revolution and pressure are higher than set values.	1) Set pressure to specified value.	
2. Regulator torque is set higher than normal.	2) Readjust regulator.	2) Refer to Regulator Manual.
3. Pump's internal parts are seized or broken.	3) Replace damaged parts.	3) Check filter and drain oil to see if abnormal wear particles are present.
4. Regulator is piped incorrectly.	4) Pipe regulator correctly.	

MidWestTech | Kobelco SK200(LC)VI, SK210(LC) VI, SK210NLC VI Hydraulic Excavato... Order the manual at mid-west-tech.com >

6.3 MAINTENANCE STANDARD (2404N262)

Table 6-1

SPECIFICATION	PITCH	96.07mm (3.78in)	NUMBER OF TEETH	21
	ROLLER DIA.	Ø58.72 (2.31in)	PITCH DIA.	644.602 (25.333in)

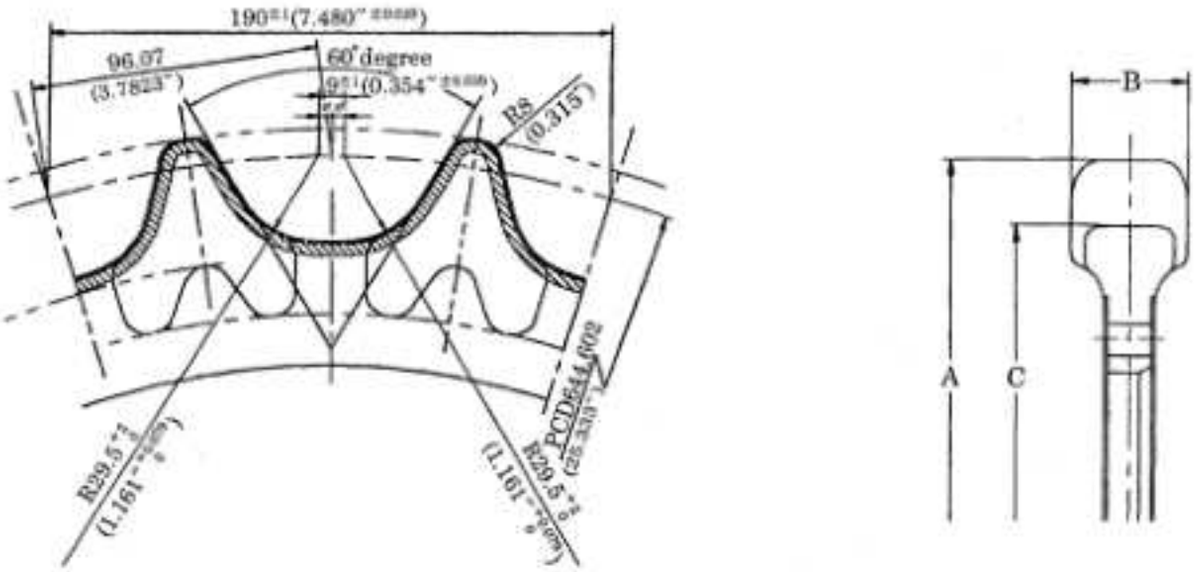


Fig. 6-4 Sprocket

Table 6-2 Unit:mm(in)

No.	NAME	STANDARD VALUE	REPAIRABLE LEVEL	SERVICE LIMIT	REMEDY
A	O.D. of sprocket	Ø664 (26.1)	Ø656 (25.8)	Ø654 (25.7)	Reinforcement weld, repair or replace.
B	Width of sprocket teeth	70 (2.751)	64 (2.52)	62 (2.44)	Replace.
C	O.D. of sprocket bottom	Ø586 (23.1)	Ø578 (22.8)	Ø576 (22.7)	Reinforcement weld, repair or replace.

6.4 TOOLS AND JIGS

(1) Tightening tools

Unit : mm (in)

NAME	OPPOSING FLATS
Socket	27

MidWestTech | Kobelco SK200(LC)VI, SK210(LC) VI, SK210NLC VI Hydraulic Excavator... Order the manual at mid-west-tech.com >

(2) Hydraulic circuit for Breaker

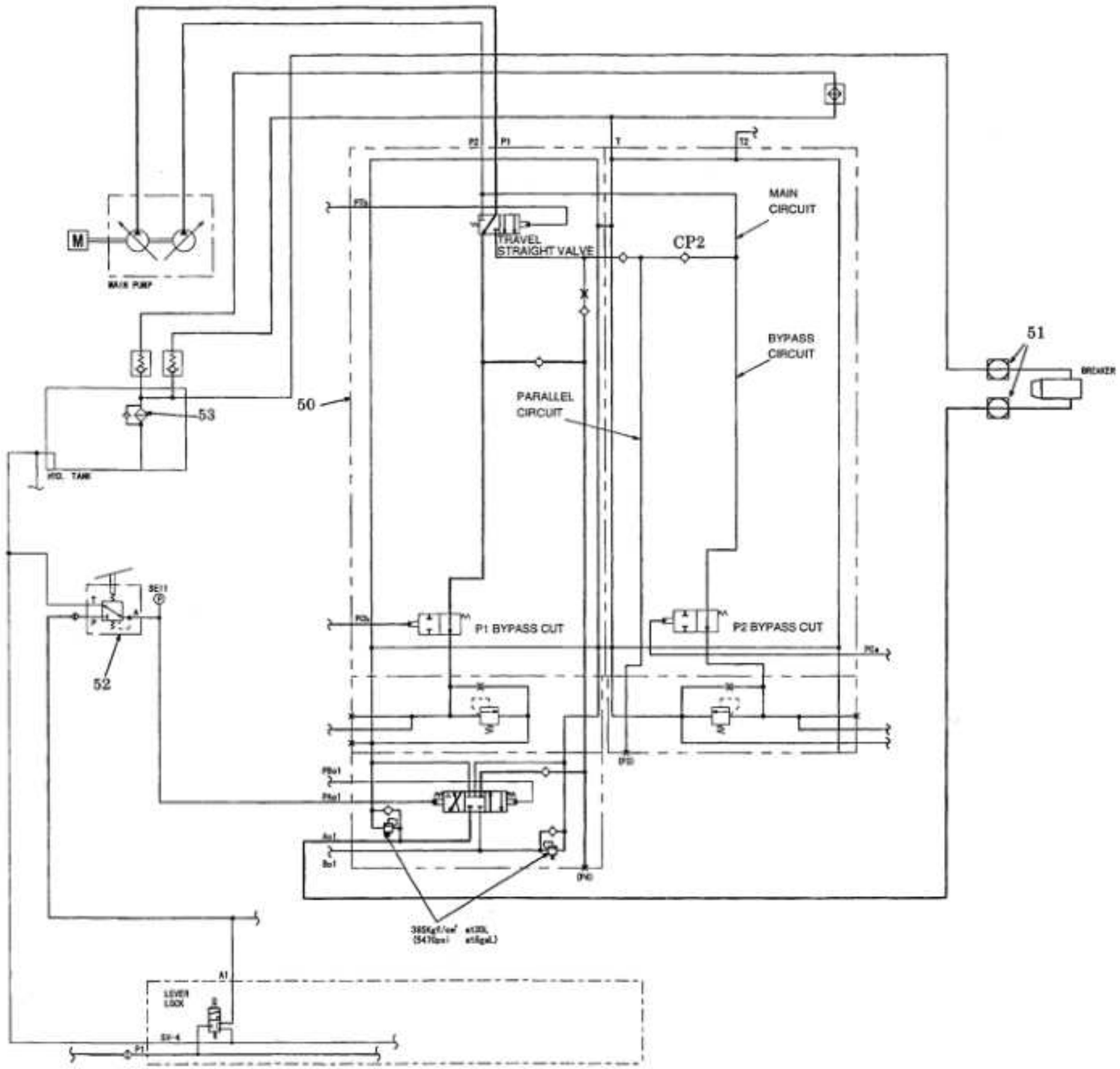


Fig. 4 Hydraulic circuit for Breaker (EU)

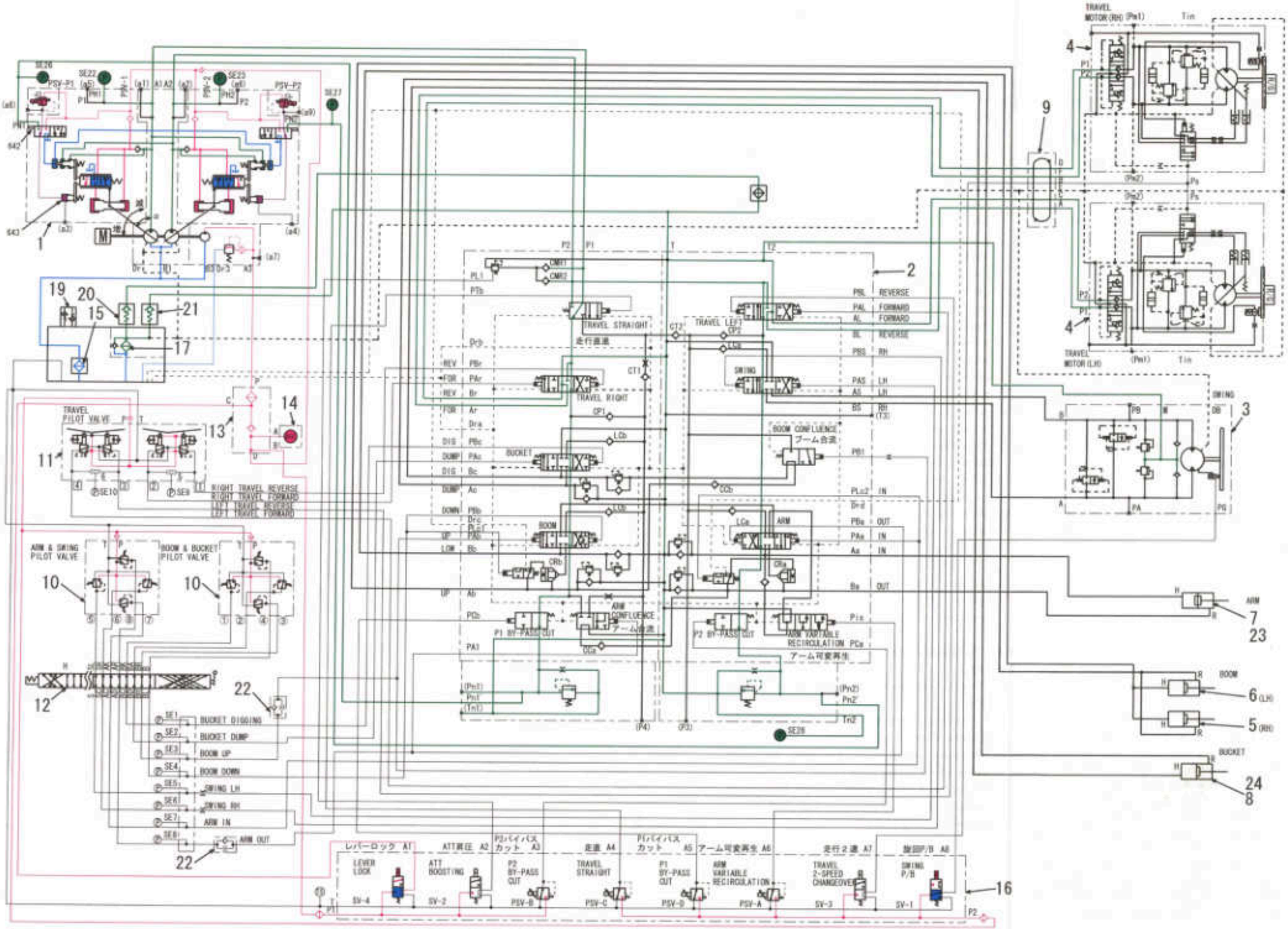
BREAKER SPECIFICATION		YN01Z00101P1 (EU)	
No.	NAME	PART No.	TYPE
50	CONTROL VALVE ASSY	YN30V00033F2	KMX15YB
51	STOP VALVE	24100P3133F1	—
52	PILOT VALVE	YT30V00004F1	07638-00000
53	RETURN FILTER	YN50V00009P1	Y-487000

NOTE :
This hydraulic circuit is used in combination with the standard circuit diagram YN01Z00082P1.

(2) Breaker impacting operation

1) If the breaker pedal is stepped on, the secondary pilot pressure enters the low-pressure sensor (SE-11). The output voltage of the low-pressure sensor put into the mechatronic controller. The mechatronic controller then processes the pilot signal and puts out a command to the P1 bypass cut selenoid proportional valve according to the input voltage level to change over the P1 bypass cut valve.
2) Pilot circuit
By depressing breaker pilot valve (52), the pilot secondary pressure flows into PA01 port of C/V and switches the breaker spool.
3) Main circuit
The P1 pump delivery oil flows out through A01 port of C/V and reaches to the breaker. The return oil from the breaker flows into the tank directly.
In the breaker independent operation, the delivery rate of the P1 pump rises only to a value set in the breaker mode.

MidWestTech | Kobelco SK200(LC)VI, SK210(LC) VI, SK210NLC VI Hydraulic Excavator Service Manual | Publication S5YN0012E_gb
Order the manual at mid-west-tech.com >



NEUTRAL CIRCUIT:NEGA-CON function at safety lock lever ON(Down:Unlocked position)

MidWestTech | Kobelco SK200(LC)VI, SK210(LC) VI, SK210NLC VI Hydraulic Excavator Service Manual | Publication S5YN0012E_gb

Order the manual at mid-west-tech.com >