KOBELCO

SHOP MANUAL

CRAWLER EXCAVATOR

SK295-8

TIER 3

87694088 NA

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SK295-8 SHOP MANUAL

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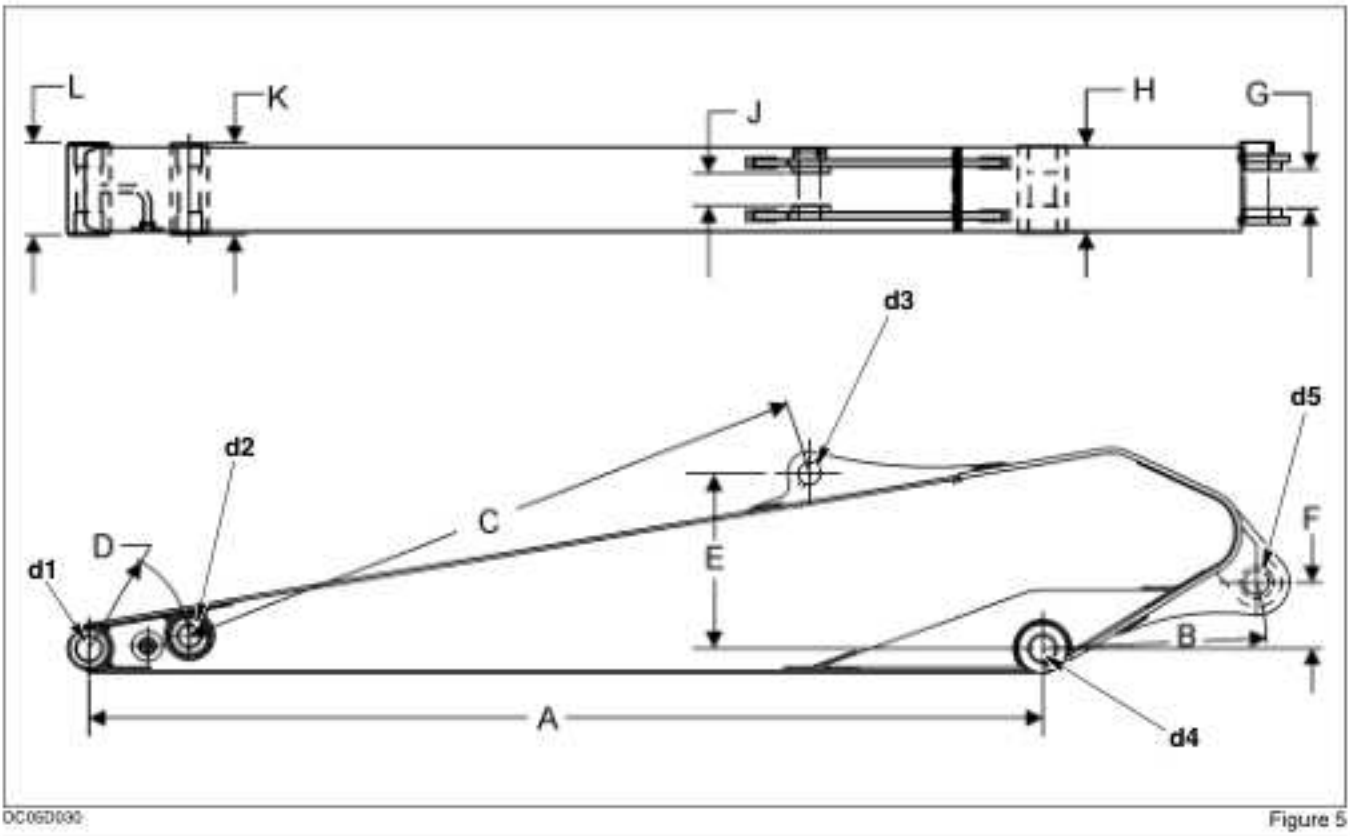
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ARM

ARM DIMENSIONAL DRAWING - STANDARD ARM 3.2 METER (10 FT 6 IN)



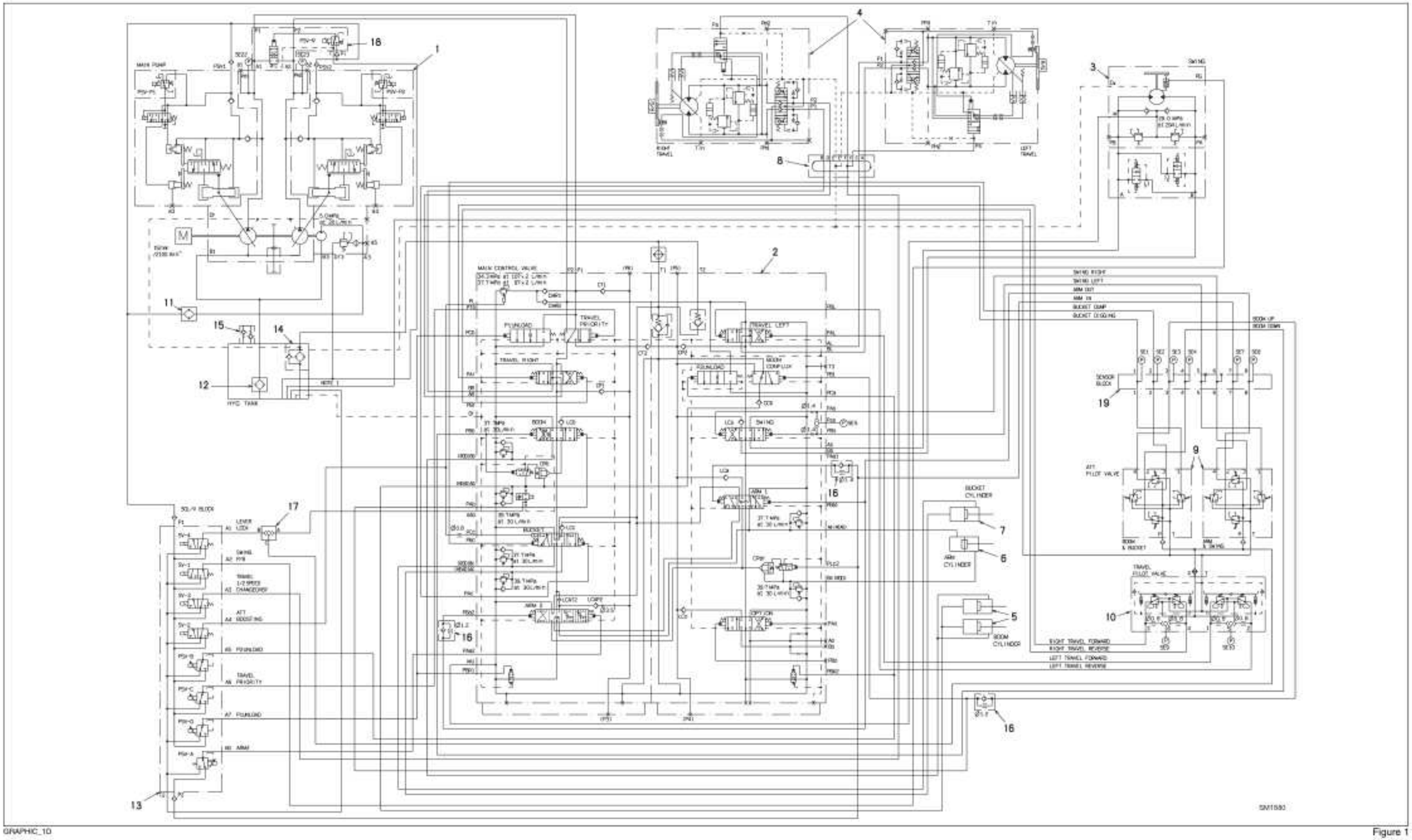
OC05D030 Figure 5

ARM DIMENSIONS			
Ref.	Description	DIMENSIONS	
A	Arm Length	3200 mm	(125.98 in)
B	Distance between Arm pivot pin and Arm Cylinder (rod side) pin	R930 mm	(36.61 in)
C	Distance between Bucket Cylinder (head side) pin and Bucket Link pin	R2407 mm	(94.77 in)
D	Distance between bucket pivot pin and bucket link pin	R450 mm	(17.72 in)
E	Height between Arm pivot pin and bucket cylinder (head side) pin	717 mm	(28.23 in)
F	Height between Arm pivot pin and arm cylinder (rod side) pin	282 mm	(11.10 in)
G	Arm cylinder (rod side) pin boss inner width	137 mm	(5.39 in)
H	Arm pivot boss outer width	393 mm	(15.47 in)
J	Bucket cylinder (head side) pin boss inner width	124 mm	(4.88 in)
K	Bucket link boss outer width	342 mm	(13.46 in)
L	Bucket pivot boss outer width	368 mm	(14.49 in)
d1	Bucket pivot pin diameter	Ø 90 mm	(4.54 in)
d2	Bucket link pin diameter	Ø 80 mm	(3.15 in)
d3	Bucket cylinder (head side) pin diameter	Ø 80 mm	(3.15 in)
d4	Arm pivot pin diameter	Ø 100 mm	(3.94 in)
d5	Arm cylinder (rod side) pin diameter	Ø 100 mm	(3.94 in)

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SECTION 2 - SYSTEMS
CHAPTER 2 - HYDRAULIC SYSTEM

HYDRAULIC CIRCUIT DIAGRAM



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Figure 1

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Table 96

Error code	**R154**		
Trouble	Travel alarm relay error.		
Judging condition	The mechatro controller output line to travel alarm relay is short-circuited with the power source.		
Symptom	Travel alarm does not actuate.		
Control in the event of failure	Relay output is stopped.		
Returned in normal condition	When the power is OFF.		
Service diagnosis checking screen	Screen No.	23	D15
	Screen No.		
	Screen No.		
Checking object			Checking contents and remedy
1	Travel alarm relay R-8		When error is cancelled after removing of travel alarm relay, check relay unit for failure, replace it with new one if failed. When resistance between relays (1) and (2) is 0 Ω it is in abnormal condition. 
2	Wiring between travel alarm relay and controller CN-109F, CN2-2 Fuse & relay box E-1		When R154 is left displayed with the relay removed Check that no power 24 V is produced on relay (-) line according to the wiring checking procedure and replace it if necessary. When no failure found after checking on wiring and R154 is left displayed. Replace fuse/relay box.
3	Mechatro controller		Check that the error is corrected after replacement of controller.

Table 97

Error code	**R164**		
Trouble	Auto idle stop relay 2 relay error.		
Judging condition	The mechatro controller output line to auto idle stop relay 2 is short-circuited with the power source.		
Symptom	Power source for mechatro controller often turns off. Auto idle stop relay 2 does not actuate.		
Control in the event of failure	Relay output is stopped.		
Returned in normal condition	When the power is OFF.		
Service diagnosis checking screen	Screen No.	4	K-1 AIS RELAY 2
	Screen No.		
	Screen No.		
Checking object			Checking contents and remedy
1	Auto idle stop relay 2 relay R-24		When error is cancelled after removing of auto idle stop relay 2, check relay unit for failure, replace it with new one if failed. When resistance between relays (1) and (2) is 0 Ω it is in abnormal condition. 
2	Wiring between auto idle stop relay 2 and controller CN-109F, CN2-2 Fuse & relay box E-1		When R164 is left displayed with the relay removed Check that no power 24 V is produced on relay (-) line according to the wiring checking procedure and replace it if necessary. When no failure found after checking on wiring and R164 is left displayed. Replace fuse/relay box.
3	Mechatro controller		Check that the error is corrected after replacement of controller.

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Arm Cylinder Disassembly

Be sure to read all the precautions for disassembly/ assembly work before starting the disassembly procedure.

The disassembly procedure below starts on the premise that the hydraulic lines and the line securing bands have been removed.

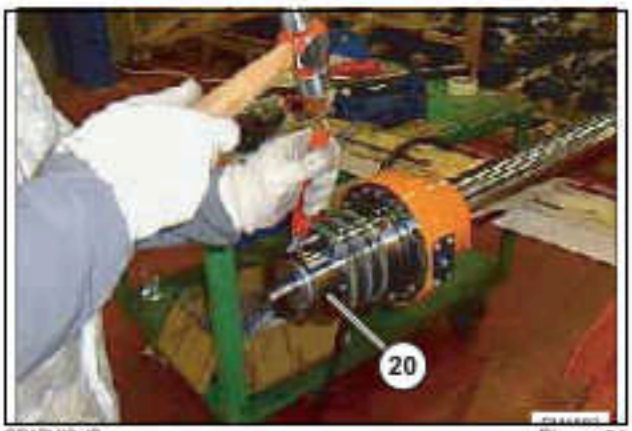
NOTE: *Arm cylinder mass: 330 kg (728 lbs)*

1. Lift and securely place the cylinder on a workbench using a crane. Be sure that the cylinder is placed horizontally. Drain hydraulic oil from the cylinder.
2. Fully extend cylinder rod (**11**). Secure the rod end using a crane. Remove socket bolts (**8**) from cylinder head (**7**).

IMPORTANT: *Be sure to pull cylinder rod (**11**) straight so as not to damage the sliding surfaces.*

3. Pull out cylinder head (**7**) from cylinder tube (**12**) by tapping with a plastic hammer.
4. .Remove set screw (21) and loosen the nut (20).

NOTE: *Cut away its mushroomed portion using a drill first, as set screw was mushroomed with a punch and hammer at two places after it had been screwed in.*



GRAPHIC_ID
Figure 51

5. Remove the piston (15) using appropriate tool (A) then remove the piston from cylinder rod.



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Figure 52

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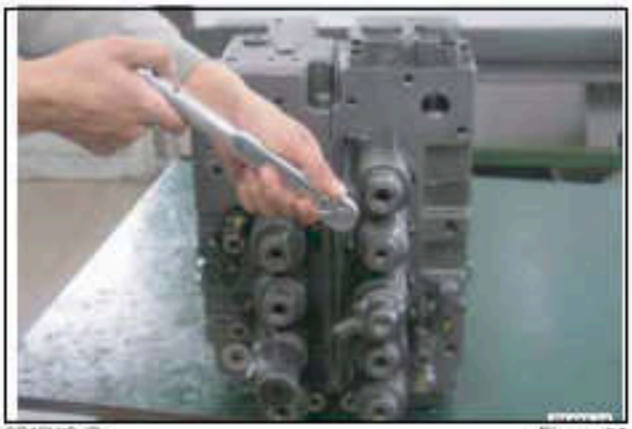
3. Fix the P1 unload spool assy with vise via a protective plate (aluminum plate, etc.) and remove bolt (**333**). Then separate spring seat (**331**), springs (**327**), (**329**) and stopper (**336**) from P1 unload spool (**309**).



GRAPHIC_ID Figure 89

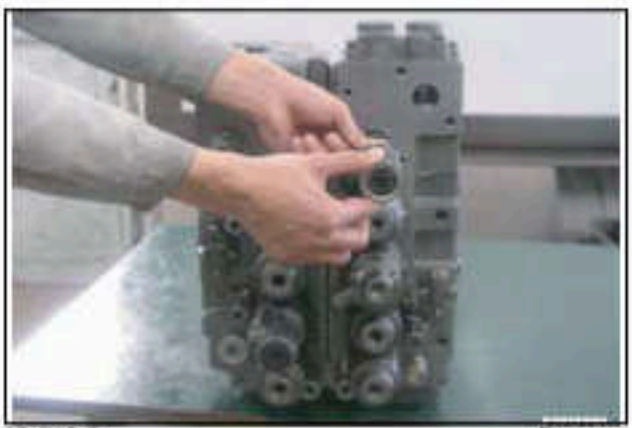
Disassembling the Travel Spool (Left Travel and Right Travel)

1. Loosen the socket bolts (**273**) and remove the spring cover (**201**) and the O-ring (**261**) for travel.



GRAPHIC_ID Figure 90

2. Draw out the assy of travel spool (**306**), spring seat (**331**), springs (**323**), (**324**), stopper (**336**) and bolt (**333**) from casing A (**101**) or casing B (**102**).

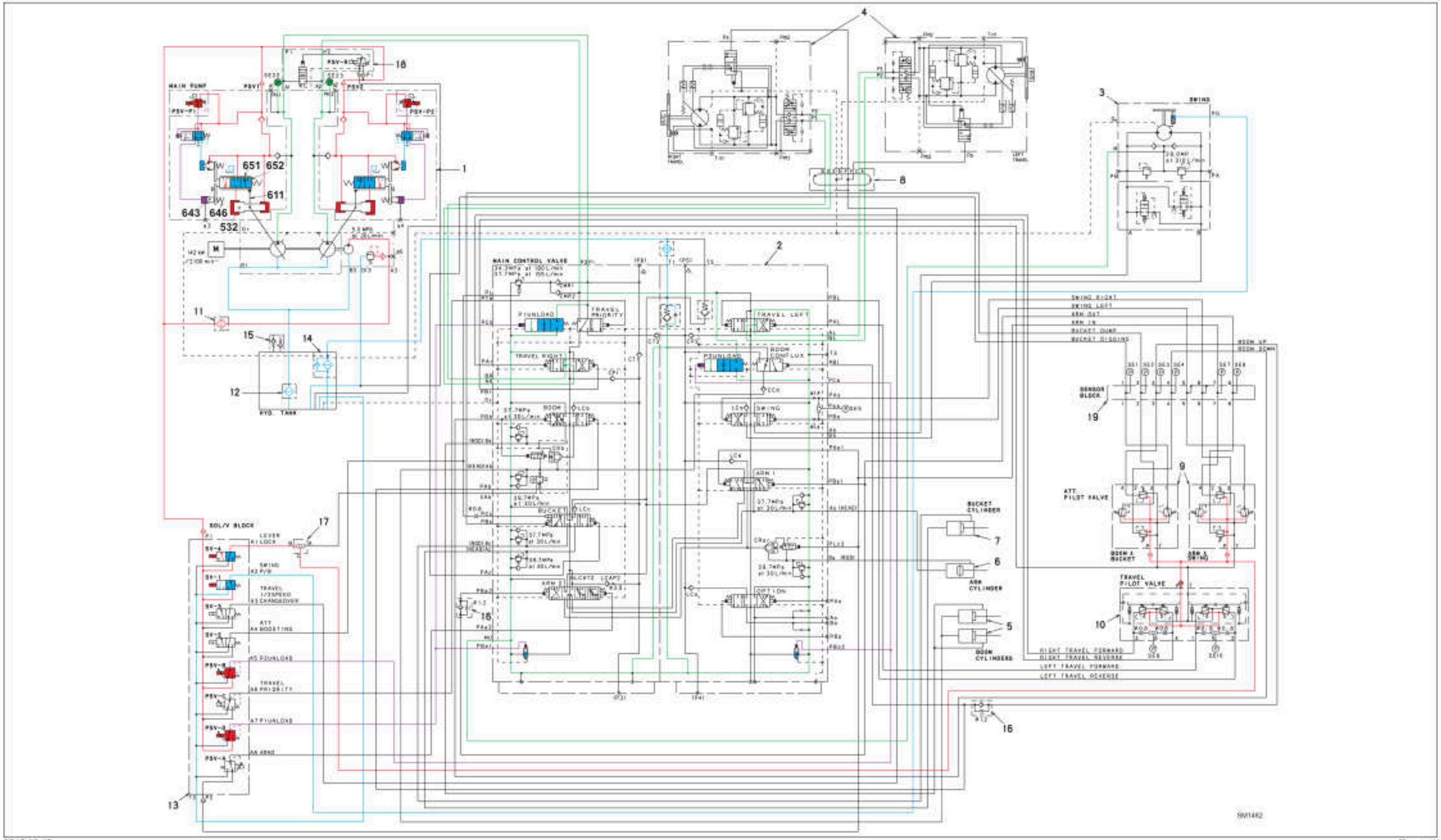


GRAPHIC_ID Figure 91

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SECTION 2 - SYSTEMS
CHAPTER 2 - HYDRAULIC SYSTEM

NEUTRAL CIRCUIT: POSITIVE CONTROL FUNCTION AT SAFETY LOCK LEVER DOWN (UNLOCKED POSITION)



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Figure 4

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