CRAWLER EXCAVATOR

SERVICE MANUAL

R80CR-9

HYUNDAI

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4. WEIGHT

Item	kg	lb
Upperstructure assembly	4090	9020
Main frame weld assembly	720	1590
Engine assembly	270	600
Main pump assembly	60	130
Main control valve assembly	40	90
Swing motor assembly	80	170
Hydraulic oil tank assembly	75	165
Fuel tank assembly	70	155
Boom swing post	260	570
Counterweight	930	2050
Cab assembly	330	730
Lower chassis assembly	2940	6480
Track frame weld assembly	990	2180
Swing bearing	140	310
Travel motor assembly	85	190
Turning joint	30	60
Track recoil spring	110	240
Idler	130	290
Carrier roller	20	40
Track roller	160	360
Track-chain assembly (450 mm standard triple grouser shoe)	830	1830
Dozer blade assembly	320	700
Front attachment assembly (3.4 m boom, 1.67 m arm, 0.28 m^3 SAE heaped bucket)	1170	2580
3.4 m boom assembly	420	930
1.67 m arm assembly	180	400
0.28 m^3 SAE heaped bucket	230	510
Boom cylinder assembly	110	240
Arm cylinder assembly	90	200
Bucket cylinder assembly	60	130
Dozer cylinder assembly	80	180
Bucket control link assembly	80	180
Boom swing cylinder assembly	70	150

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5. LIFTING CAPACITIES

1) 3.4 m (11' 2") boom, 1.67m (5' 6") arm equipped with 0.28 m³ (SAE heaped) bucket and 450 mm (18") triple grouser shoe and dozer blade up with 930 kg (2050 lb) counterweight.

Load point height		Load radius						At max. reach		
		1.5 m (5 ft)		3.0 m (10 ft)		4.5 m (15 ft)		Capacity		Reach
										m (ft)
4.5 m (15.0 ft)	kg					*1550	1480	*1470	1040	5.47
	lb					*3420	3260	*3240	2290	(17.9)
3.0 m (10.0 ft)	kg					*1740	1430	*1530	780	6.23
	lb					*3840	3150	*3370	1720	(20.4)
1.5 m (5.0 ft)	kg			*4050	2510	*2260	1320	*1620	700	6.45
	lb			*8930	5530	*4980	2910	*3570	1540	(21.2)
Ground Line	kg			*4830	2320	*2650	1230	*1710	740	6.20
	lb			*10650	5110	*5840	2710	*3770	1630	(20.3)
-1.5 m (-5.0 ft)	kg	*4730	*4730	*4410	2320	*2550	1210	*1760	940	5.38
	lb	*10430	*10430	*9720	5110	*5620	2670	*3880	2070	(17.7)
-3.0 m (-10.0 ft)	kg			*2810	2430					
	lb			*6190	5360					

2) 3.4 m (11' 2") boom, 1.67 m (5' 6") arm equipped with 0.28 m³ (SAE heaped) bucket and 450 mm (18") triple grouser shoe and dozer blade down with 930 kg (2050 lb) counterweight.

Load point height		Load radius						At max. reach		
		1.5 m (5 ft)		3.0 m (10 ft)		4.5 m (15 ft)		Capacity		Reach
										m (ft)
4.5 m (15.0 ft)	kg					*1550	1380	1110	970	5.47
	lb					*3420	3040	2450	2140	(17.9)
3.0 m (10.0 ft)	kg					1540	1340	840	730	6.23
	lb					3400	2950	1850	1610	(20.4)
1.5 m (5.0 ft)	kg			2770	2320	1430	1230	760	650	6.45
	lb			6110	5110	3150	2710	1680	1430	(21.2)
Ground Line	kg			2570	2140	1330	1140	790	680	6.20
	lb			5670	4720	2930	2510	1740	1500	(20.3)
-1.5m (-5.0 ft)	kg	*4730	*4730	2670	2140	1310	1120	1010	870	5.38
	lb	*10430	*10430	5670	4720	2890	2470	2230	1920	(17.7)
-3.0 m (-10.0 ft)	kg			2690	2250					
	lb			5930	4960					

Note 1. Lifting capacity are based on SAE J1097 and ISO 10567.
2. Lifting capacity of the ROBEX series does not exceed 75 % of tipping load with the machine on firm, level ground or 87 % of full hydraulic capacity.
3. The load point is a hook located on the back of the bucket.
4. *indicates load limited by hydraulic capacity.

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6. BUCKET SELECTION GUIDE

1) GENERAL BUCKET

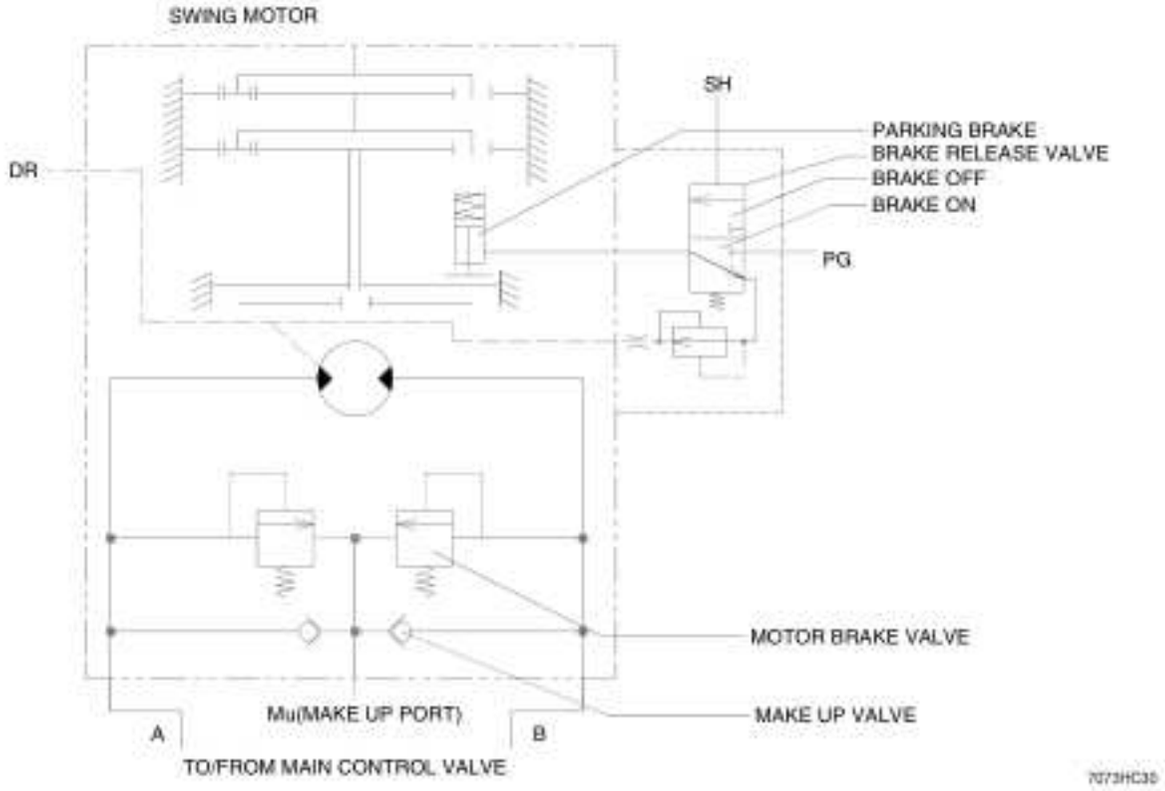


0.28 m³ SAE heaped bucket

Capacity		Width		Weight	Recommendation
					3.4 m (11' 2") Mono boom
SAE heaped	CECE heaped	Without side cutter	With side cutter		1.67 m arm (5' 6")
0.28 m³ (0.37 yd³)	0.25 m³ (0.33 yd³)	730 mm (28.7")	810 mm (31.9")	230 kg (510 lb)	Applicable for materials with density of 1600 kg/m³ (2700 lb/yd³) or less

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SWING CIRCUIT OPERATION



1) MOTOR BRAKE VALVE

Motor brake valve for the swing motor limits to cushion the starting and stopping pressure of swing operation.

2) MAKE UP VALVE

The make up valves prevent cavitation by supplying return oil to the vacuum side of the motor.

3) PARKING BRAKE

In case that the parking, of the machine at slope is required during operation, there is the danger of involuntary swing caused by the self weight of the machine. The brake is connected to prevent this involuntary swing.

PARKING BRAKE "OFF" OPERATION

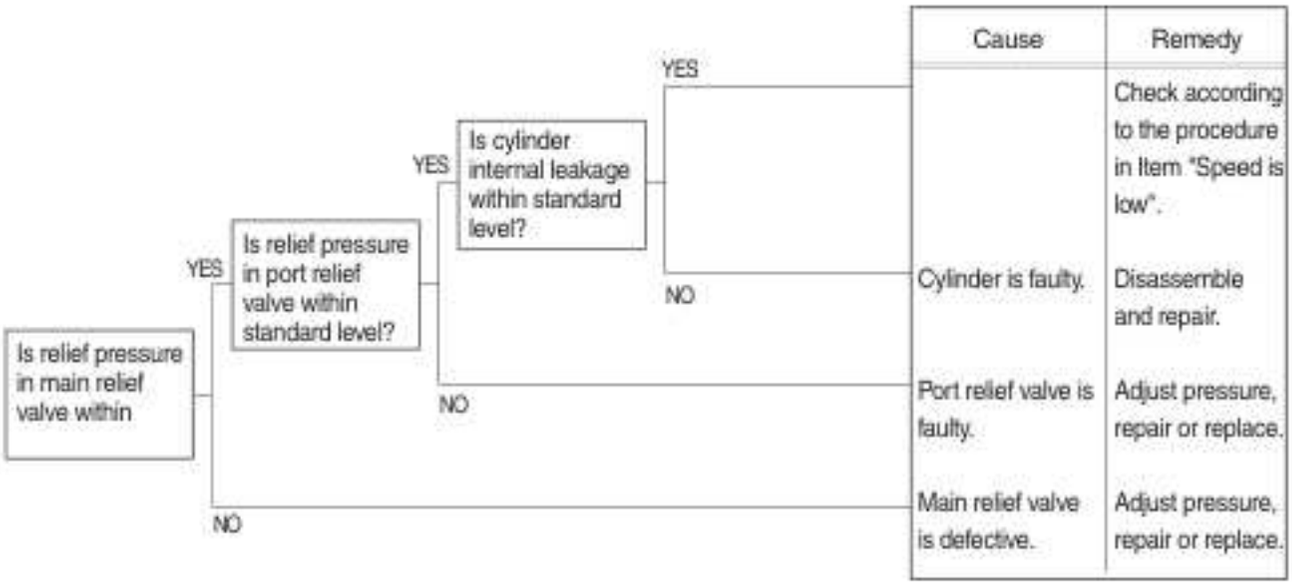
The parking brake is released by the pilot pressure oil from the pilot pump.
When the left control lever placed in the swing position, the pilot pressure at the shuttle valve is transferred to the brake release valve and the brake release valve is change over. Then the pilot pressure lift the brake piston and release the parking brake.

PARKING BRAKE "ON" OPERATION

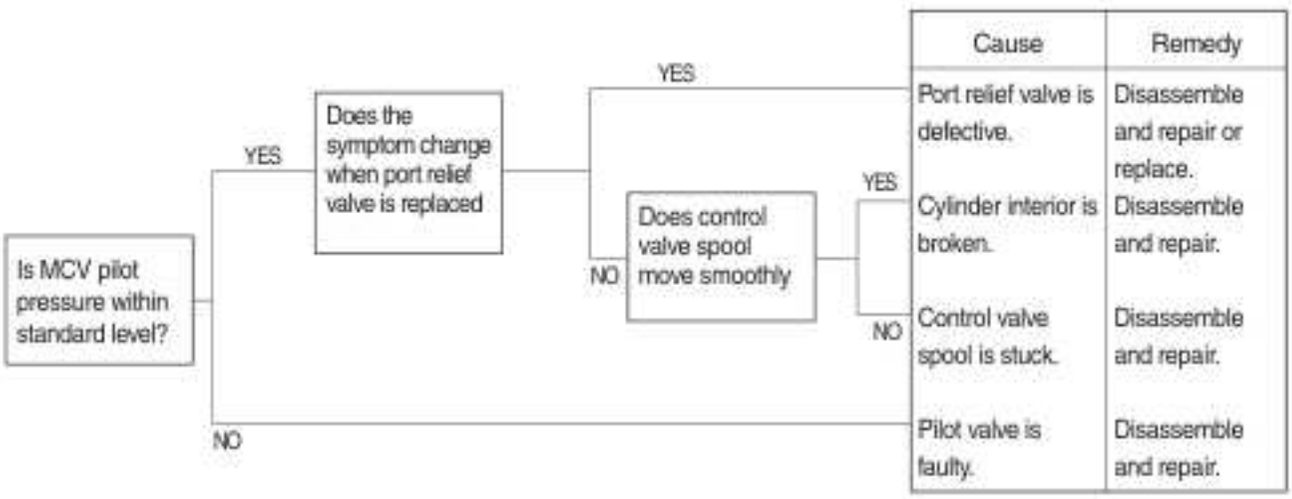
When the control lever placed in the neutral position, the pressure of the pilot oil passage down.
Then the brake release valve returned to the neutral position and the oil is returned from the brake piston to the tank. And the brake is set to 'ON".

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4) BOOM, ARM OR BUCKET POWER IS WEAK

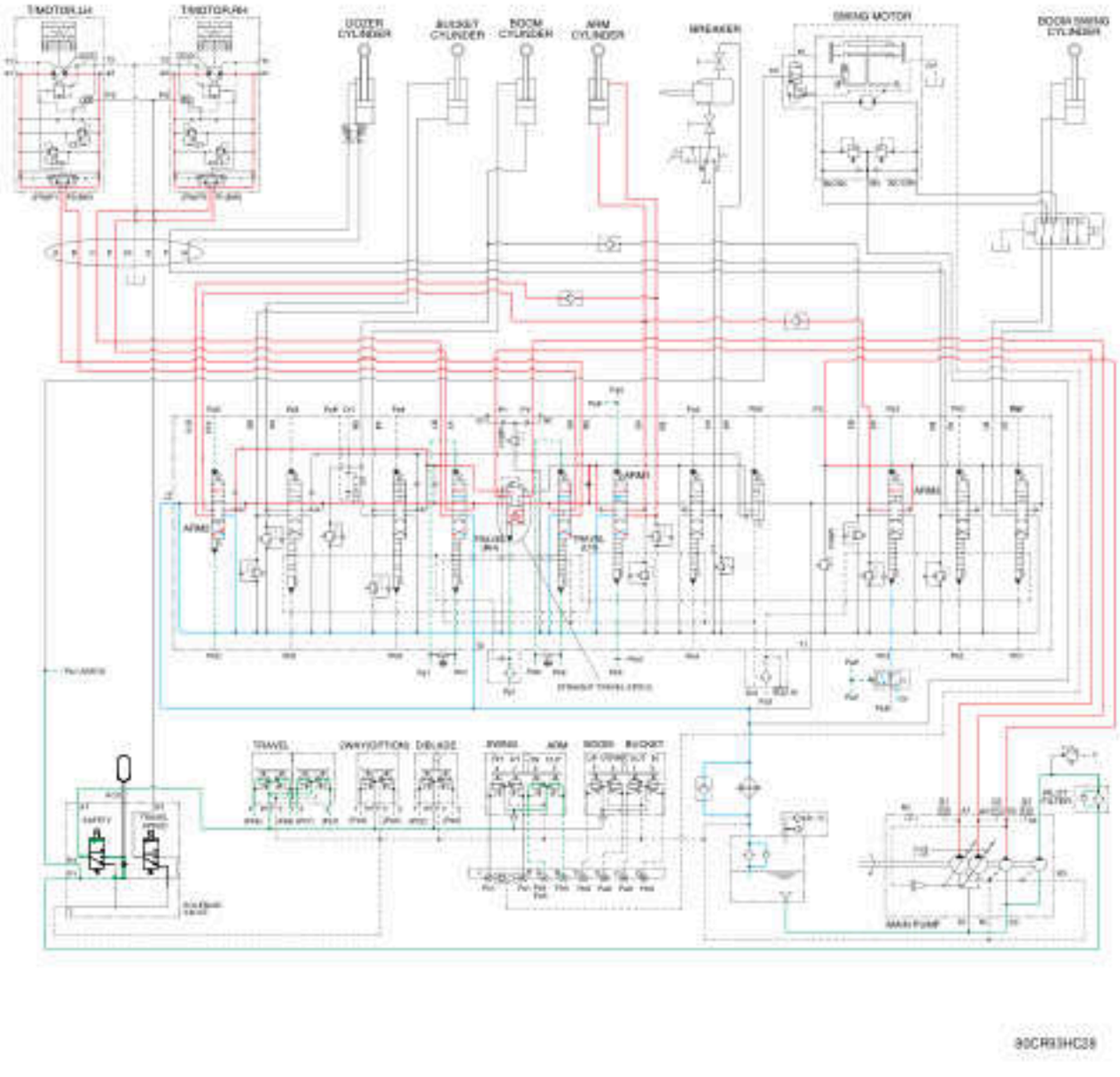


5) ONLY BUCKET OPERATION IS TOTALLY IMPOSSIBLE



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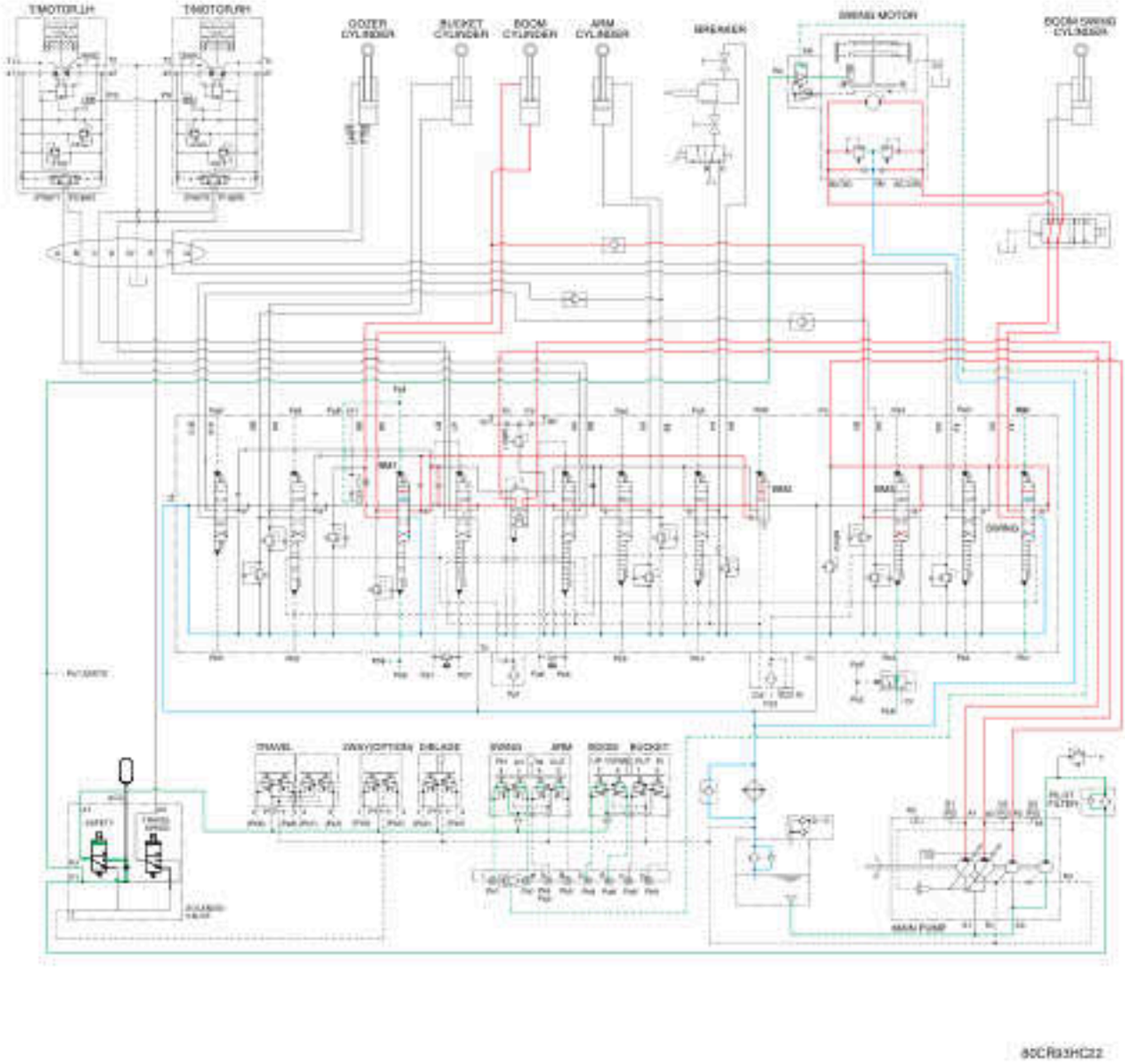
7. COMBINED ARM AND TRAVEL OPERATION



When the arm and travel functions are operated, simultaneously the arm spools and travel spools in the main control valve are moved to the functional position by the pilot oil pressure from the remote control valve and the straight travel spool is pushed to the up by the oil pressure from pilot pump.
The oil from the A1 and A2 pumps flows into the travel motors and the arm cylinder through travel spools and arm spools via the straight travel spool.
At the same time, the oil from the A3 pump flows into the arm cylinder through the arm 3 spool via the selector valve.
The arm is operated and the machine travels straight.

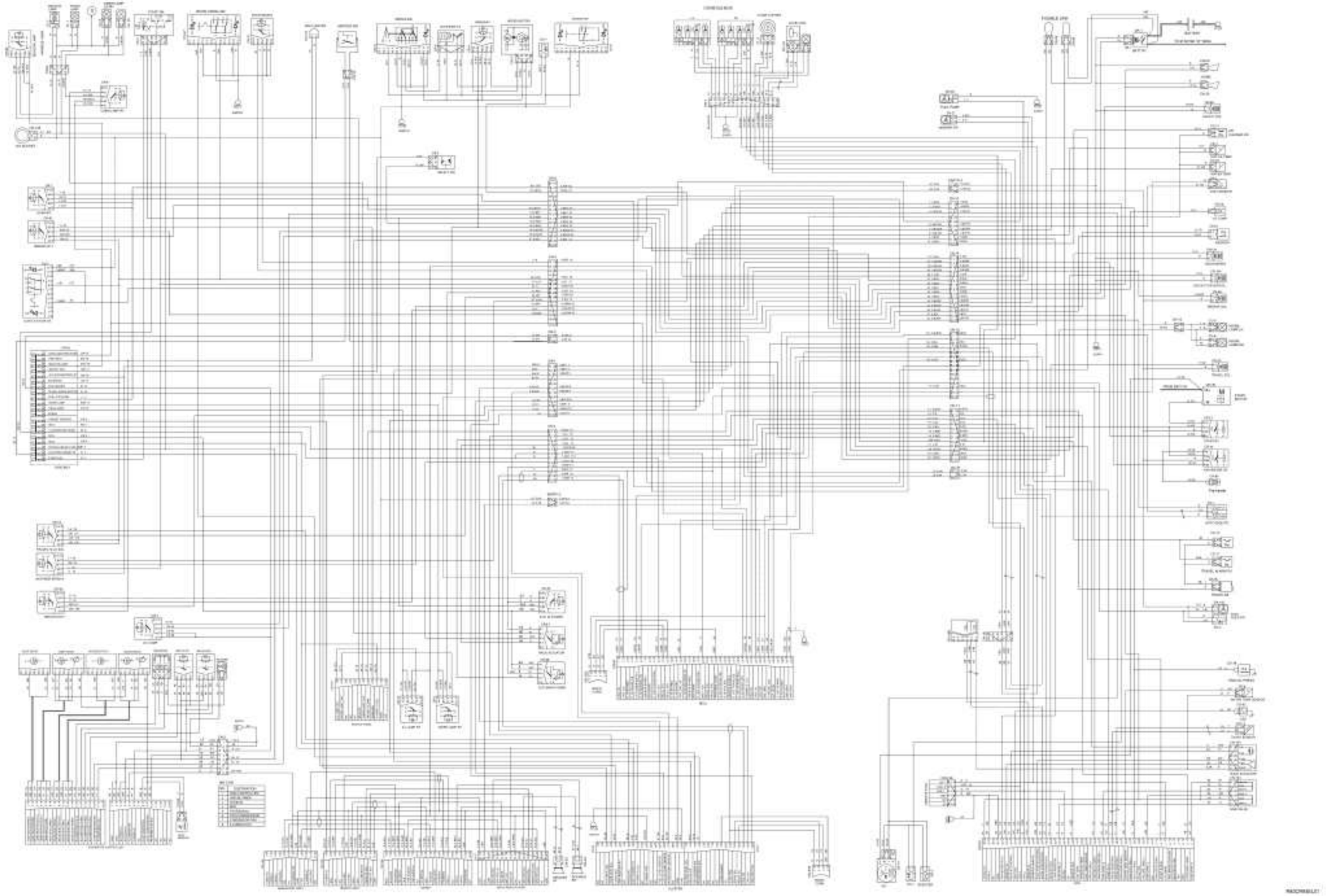
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2. COMBINED SWING AND BOOM OPERATION



When the swing and boom functions are operated, simultaneously the swing spool and boom spools in the main control valve are moved to the functional position by the pilot oil pressure from the remote control valve.
The oil from the A1, A2 and A3 pump flows into the boom cylinder through boom 1, boom 2 and boom 3 spool.
The oil from the A3 pump flows into the swing motor through the swing spool.
The superstructure swings and the boom is operated.

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