CRAWLER EXCAVATOR

SERVICE MANUAL

R290LC-3

HYUNDAI

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4. WEIGHT

Item	R290-3		R290LC-3		R290NLC-3	
	kg	lb	kg	lb	kg	lb
Upperstructure assembly	12470	27500	12630	27800	12420	27400
Main frame weld assembly	—		2170	4780	—	
Engine assembly	—		590	1300	—	
Main pump assembly	—		160	350	—	
Main control valve assembly	—		120	260	—	
Swing motor assembly	—		320	700	—	
Hydraulic oil tank assembly	—		280	620	—	
Fuel tank assembly	—		160	350	—	
Counterweight	—		4900	10800	—	
Cab assembly	—		300	660	—	
Undercarriage assembly	10600	23400	10930	24100	10700	23600
Track frame weld assembly	3390	7500	3740	8200	3660	8100
Swing bearing	—		410	900	—	
Travel motor assembly	—		410	900	—	
Turning joint	—		50	110	—	
Track recoil spring and idler	—		230	510	—	
Idler	—		210	460	—	
Carrier roller	—		40	80	—	
Track roller	—		50	110	—	
Track-chain assembly (standard triple grouser shoe)	2130	4700	2260	4980	1900	4200
Front attachment assembly (6.25 m boom, 3.05 arm, 1.1 m^3(CECE heaped) bucket)	—		4030	8880	—	
6.25 m boom assembly	—		2140	4720	—	
3.05 m arm assembly	—		930	2050	—	
1.1 m^3 (CECE heaped) bucket	—		960	2120	—	
Boom cylinder assembly	—		260	570	—	
Arm cylinder assembly	—		350	770	—	
Bucket cylinder assembly	—		230	500	—	
Bucket control rod assembly	—		110	240	—	

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7) REMOTE CONTROL VALVE

Item		Specification
Type		Pressure reducing type
Operating pressure	minimum	5 kg/cm² (71 psi)
	maximum	20 kg/cm² (284 psi)
Single operation stroke	lever	61 mm (2.4 in)
	pedal	123 mm (4.84 in)

8) CYLINDER

Item		Specification
Boom cylinder	Bore dia × Rod dia × Stroke	ø 140 × ø 100 × 1465 mm
	Cushion	Extend only
Arm cylinder	Bore dia × Rod dia × Stroke	ø 150 × ø 105 × 1765 mm
	Cushion	Extend and retract
Bucket cylinder	Bore dia × Rod dia × Stroke	ø 140 × ø 95 × 1185 mm
	Cushion	Extend only

9) SHOE

Item		Width	Ground pressure	Link quantity	Overall width
R 290-3	Standard	810 mm (32")	0.43 kg/cm² (6.12 psi)	48	3410 mm (11' 2")
	Option	600 mm (24")	0.57 kg/cm² (8.11 psi)	48	3200 mm (10' 6")
		710 mm (28")	0.49 kg/cm² (6.97 psi)	48	3310 mm (10' 10")
		900 mm (35")	0.40 kg/cm² (5.79 psi)	48	3500 mm (11' 6")
R 290LC-3	Standard	810 mm (32")	0.41 kg/cm² (5.83 psi)	51	3410 mm (11' 2")
	Option	600 mm (24")	0.54 kg/cm² (7.68 psi)	51	3200 mm (10' 6")
		710 mm (28")	0.47 kg/cm² (6.68 psi)	51	3310 mm (10' 10")
		900 mm (35")	0.37 kg/cm² (5.26 psi)	51	3500 mm (11' 6")
R 290NLC-3	Standard	600 mm (24")	0.52 kg/cm² (7.40 psi)	51	2990 mm (9' 9")
	Option	710 mm (28")	0.44 kg/cm² (6.26 psi)	51	3100 mm (10' 2")
		810 mm (32")	0.39 kg/cm² (5.55 psi)	51	3200 mm (10' 5")
		900 mm (35")	0.35 kg/cm² (4.98 psi)	51	3300 mm (10' 9")

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1. ONE TOUCH DECELERATION FUNCTION

1) When one touch deceleration function is selected by touching the switch on, the one touch-deceleration lamp on the cluster turns on, at the same time the CPU controller receives and one touch-deceleration signal from the cluster.

2) When one touch deceleration function is selected by touching the switch ON, the CPU controller receives the signal, it moves the engine governor motor lever to the low idle position in order to cut down engine speed to one touch deceleration speed (1000 rpm). Thereby fuel consumption and noise are reduced.

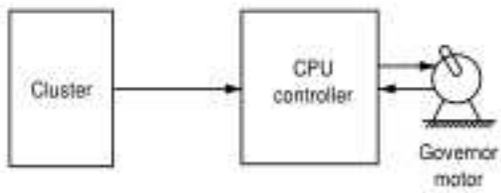
3) When the one touch-deceleration switch is touched again and the lamp turns OFF, the CPU controller moves the governor motor lever quickly back to the position set before. So it is possible to restart the work quickly by returning engine speed to the high rpm in a few seconds.

4) Logic table

	Auto deceleration lamp	
	ON	OFF
Signal	Low(GND)	High
Function	Actuated	Canceled

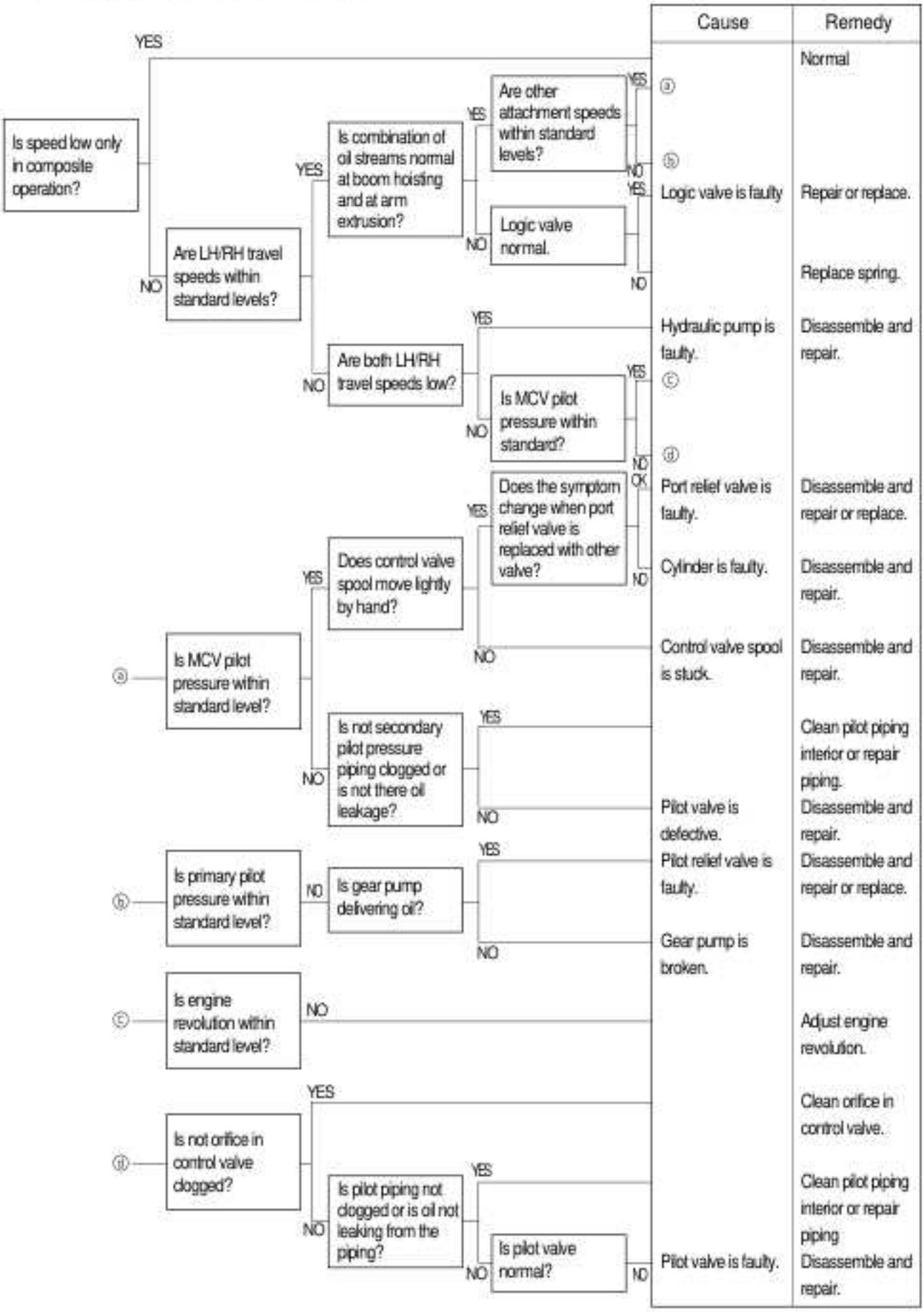
※ Default : One touch deceleration lamp ON
The cluster turns ON.

· Circuit diagram



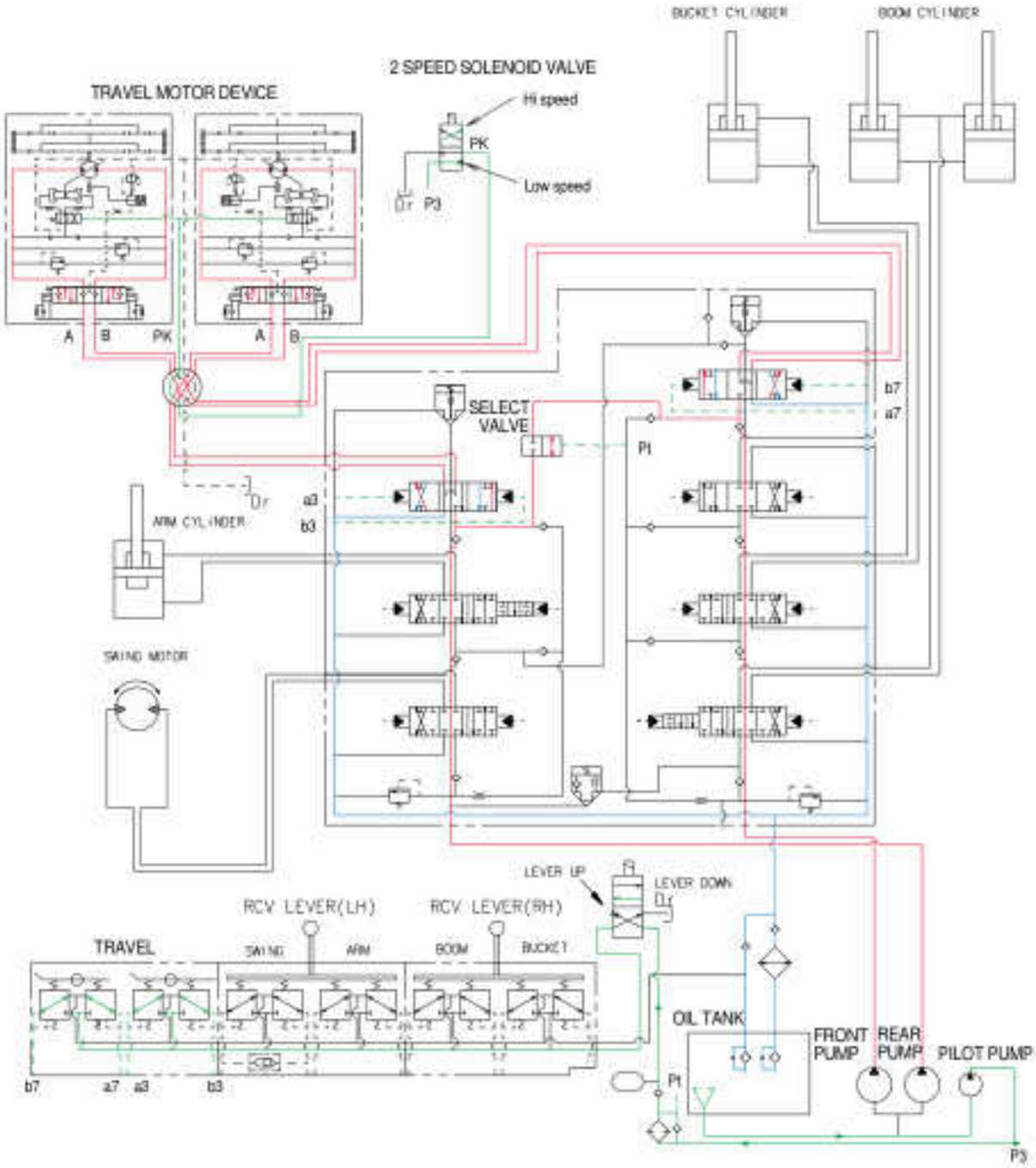
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2) BOOM, ARM OR BUCKET SPEED IS LOW



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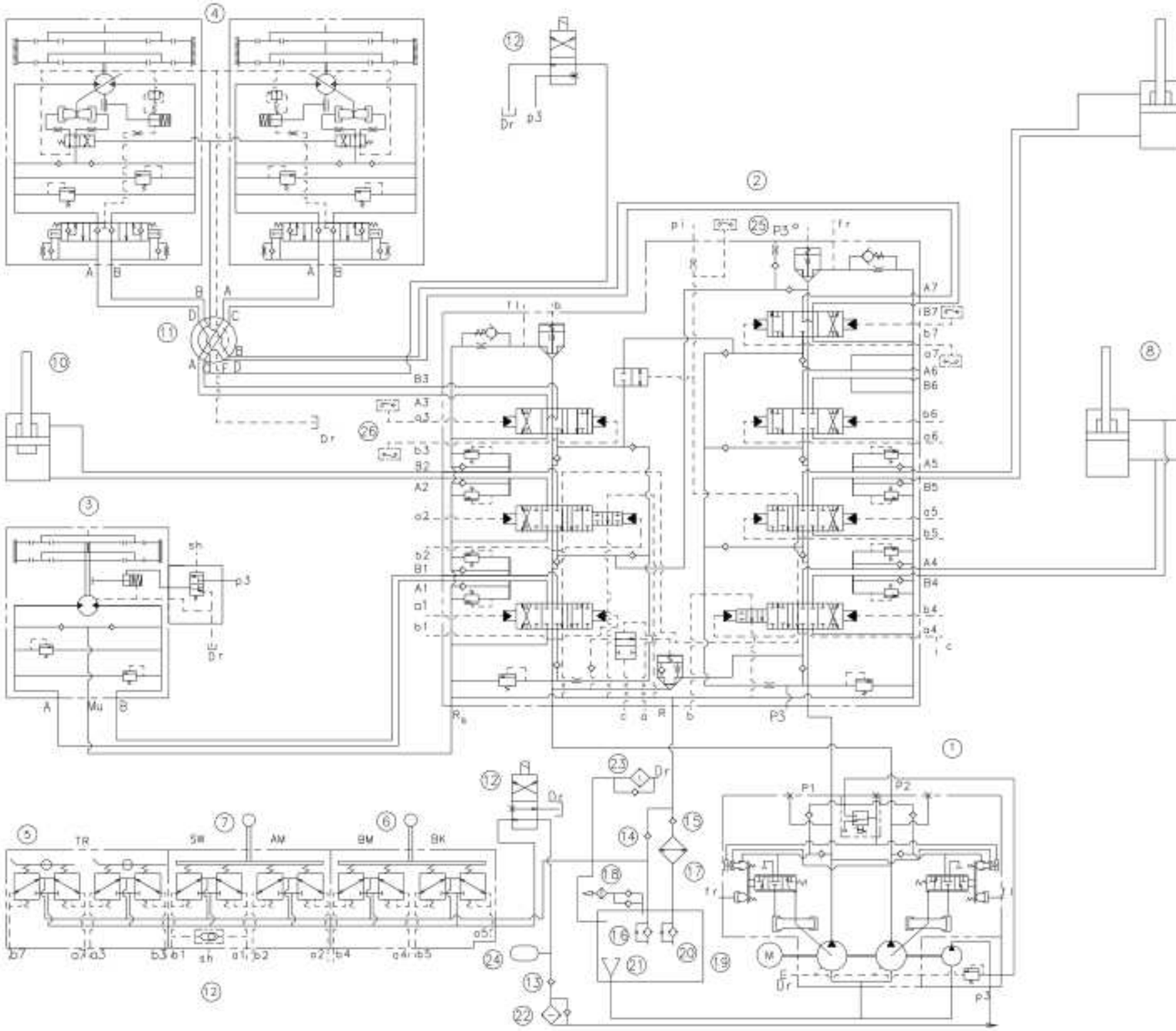
8. TRAVEL CIRCUIT OPERATION



When the travel levers are manually placed to the forward or reverse position.
Then the oil flows from pilot pump through the pilot valve to travel sections of the control valve. Here, spools position is moved to forward and reverse position. The oil flows from both main pumps through the travel sections of the control valves to the travel motors, and move the machine forward and reverse.
Brake valves are provided on travel motors to offer the following functions.

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GROUP 1 HYDRAULIC CIRCUIT



1 PUMP
2 MCV
3 SWING MOTOR
4 TRACK MOTOR
5 RCV PEDAL
6 RCV LEVER
7 RCV LEVER
8 BOOM CYL
9 BUKT CYL
10 ARM CYL
11 TURNING JOINT
12 SOLENOID VALVE
13 CHECK VALVE
14 CHECK VALVE
15 CHECK VALVE
16 HYD TANK
17 OILCOOLER
18 BREATHER
19 BY PASS VALVE
20 RETURN FILTER
21 STRAINER
22 LINE FILTER
23 SPIN FILTER
24 ACCUMULATOR
25 PRESSURE SWITCH
26 PRESSURE SWITCH

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