CRAWLER EXCAVATOR

SERVICE MANUAL

R180LC-3

HYUNDAI

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4. WEIGHT

Item	R180LC-3	
	kg	lb
Upperstructure assembly	7450	16420
Main frame weld assembly	1254	2760
Engine assembly	423	930
Main pump assembly	80	180
Main control valve assembly	135	300
Swing motor assembly	190	420
Hydraulic oil tank assembly	210	460
Fuel tank assembly	115	250
Counterweight	2950	6500
Cab assembly	275	610
Lower chassis assembly	7350	16200
Lower frame weld assembly	2506	5520
Swing bearing	260	570
Travel motor assembly	187	410
Turning joint	40	90
Track recoil spring and idler	270	600
Idler	168	370
Carrier roller	21	50
Track roller	38	80
Track-chain assembly(600mm triple grouser shoe)	1340	2950
Front attachment assembly(5.2m boom, 2.6m arm, 0.7m³ PCSA heaped bucket)	3000	6610
5.2m one piece boom assembly	1064	2350
5.0m two piece boom assembly	1534	3380
2.6m arm assembly	540	1190
0.7m³ CECE heaped bucket assembly	540	1190
Boom cylinder assembly	145	320
Arm cylinder assembly	183	400
Bucket cylinder assembly	135	300
Bucket control link assembly	145	320
2.2m arm assembly	469	1030

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3) GEAR PUMP

Item	Specification
Type	Fixed displacement gear pump single stage
Capacity	11.4cc/rev
Maximum pressure	40$^{+2}_{0}$kg/cm^2(570psi)
Rated oil flow	30 ℓ /min(7.93U.S. gpm/6.6U.K. gpm)

4) MAIN CONTROL VALVE

Item	Specification
Type	9 spool
Operating method	Hydraulic pilot system
Main relief valve pressure	320kg/cm^2(4550psi) /[350kg/cm^2(4980psi)]
Overload relief valve pressure	380kg/cm^2(5400psi)

[ ] : Power boost

5) SWING MOTOR

Item	Specification
Type	Fixed displacement axial piston motor
Capacity	151cc/rev
Relief pressure	240kg/cm^2(3410psi)
Braking system	Automatic, spring applied hydraulic released
Braking torque	27kg · m(195lb · ft)
Brake release pressure	20~50kg/cm^2(285~710psi)
Reduction gear type	2 - stage planetary
Swing speed	11.5rpm

6) TRAVEL MOTOR

Item	Specification
Type	Variable displacement axial piston motor
Capacity	80kg/cm^2(1138psi)
Relief pressure	335kg/cm^2(4765psi)
Reduction gear type	3-stage planetary
Braking system	Automatic, spring applied hydraulic released
Brake release pressure	30kg/cm^2(427psi)
Brake torque	3473kg · m(25120lb · ft)

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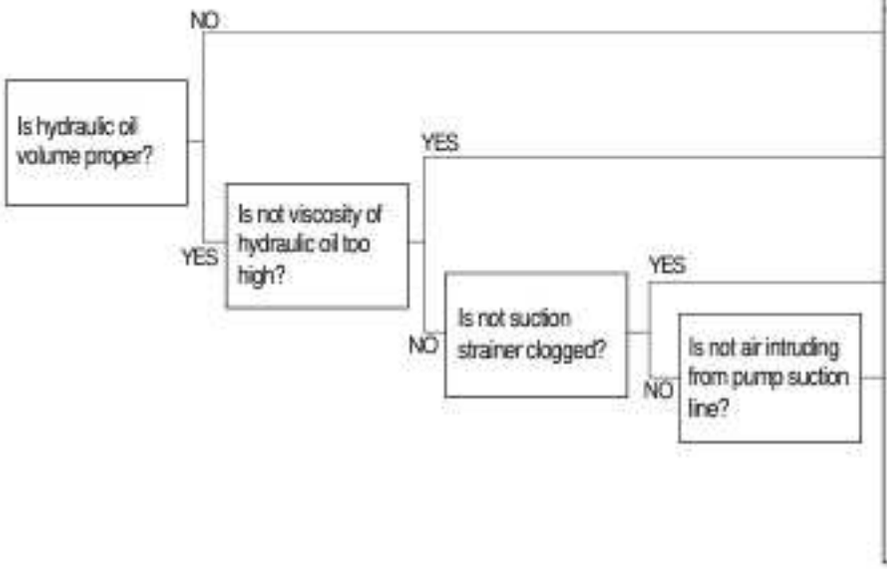
GROUP 5 CONNECTORS

1. CONNECTOR DESTINATION

Connector number	Type	No of pin	Destination	Connector part No	
				Femal	Male
CN-1	SWP	8	I/conn(Engine harness-main harness)	S814-008000	S814-108000
CN-2	SWP	12	I/conn(Engine harness-main harness)	S814-012000	S814-112000
CN-3	SWP	6	I/conn(Engine harness-main harness)	S814-006000	S814-106000
CN-4	SWP	12	I/conn(R.H harness-main harness)	S814-012000	S814-112000
CN-5	370FASTON	2	I/conn(R.H harness-main harness)	S813-030200	S813-130200
CN-6	SWP	8	I/conn(Cabin harness-main harness)	S814-008000	S814-108000
CN-7	SWP	12	I/conn(Cabin harness-main harness)	S814-012000	S814-112000
CN-8	SWP	14	I/conn(Cabin harness-main harness)	S814-014000	S814-114000
CN-9	SWP	4	I/conn(Cabin harness-main harness)	S814-004000	S814-104000
CN-10	BS	2	I/conn(Boom harness-main harness)	S812-002011	-
CN-11	SWP	8	I/conn(Solenoid harness-main harness)	S814-008000	S814-108000
CN-12	SWP	12	I/conn(Aircon evaporator)	S814-012000	S814-112000
CN-13	CN	4	I/conn(Wiper harness-main harness)	S810-004204	S810-104204
CN-14	CN	4	I/conn(Cabin harness-main harness)	S810-004204	-
CN-15	AMP	8	I/conn(Aircon evaporator)	S810-008202	S810-108202
CN-16	SWP	1	Emergency power supply(cluster)	S814-001000	S814-101000
CN-20	MARK-II	1	Horn	S819-010122	-
CN-21	CN	4	Wiper motor	S810-004204	-
CN-22	CN	2	Washer tank	S810-002202	-
CN-23	-	1	Speaker (LH)	S819-010222	S819-110222
CN-24	-	1	Speaker (RH)	S819-010222	S819-110222
CN-25	MARK-II	1	Horn	S819-010122	-
CN-27	PA	9	Cassette & radio	S811-009003	-
CN-28	PACKARD	2	Compressor	0297-3407	-
CN-29	-	2	Receiver dryer	S812-002001	-
CN-30	CN	14	Aircon controller	S810-006202	-
CN-36	SWP	12	Fuse box	S814-012000	-
CN-37	AMP	4	Fuse box	S810-003202	-
CN-38	SWP	4	Fuse box	S814-008000	-
CN-40	58-L	2	Fuse box	S813-030200	-
CN-45	RING-TERM	-	Start motor B^+	S820-310000	-
CN-47	CN	2	Resistor	S810-002202	-
CN-48	CN	2	Hour meter	S810-002202	-
CN-50	LC	10	CPU & controller	S815-010000	-
CN-51	LC	18	CPU & controller	S815-018000	-
CN-52	LC	24	CPU & controller	S815-024000	-
CN-53	PA	13	CPU & controller	AMP,172498-1	-
CN-56	ML	16	Cluster	AMP,174046-2	-

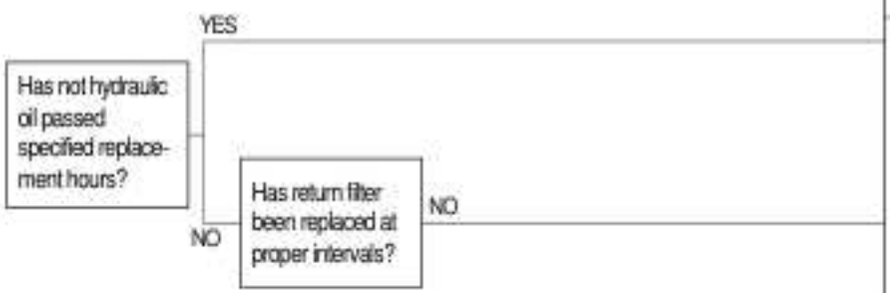
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3) CAVITATION OCCURS WITH PUMP



Cause	Remedy
	Replenish specified oil to the standard level. Replace oil with one of proper viscosity. Clean suction strainer. Check for air intrusion in suction line and retighten or replace parts.

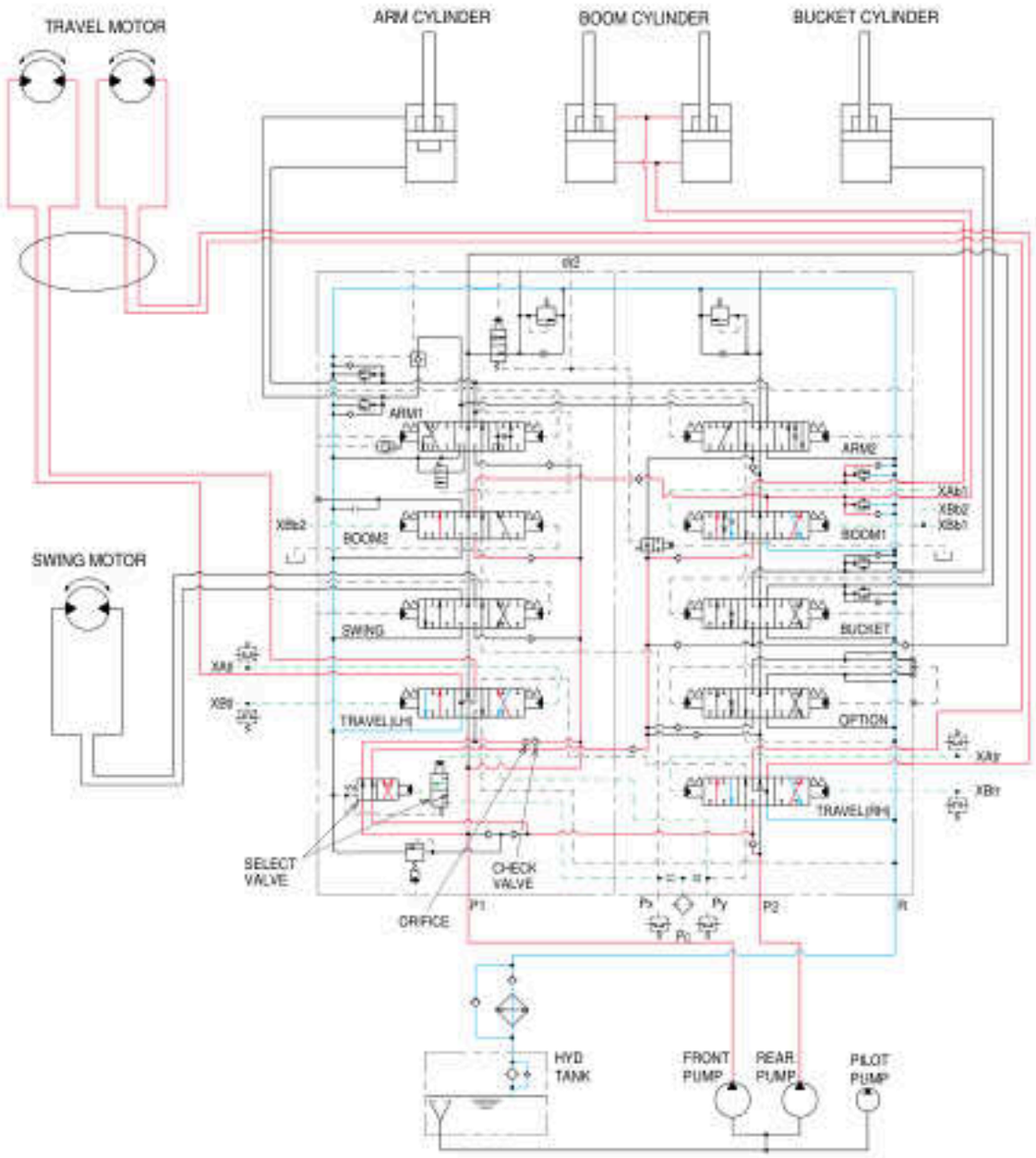
4) HYDRAULIC OIL IS CONTAMINATED



Cause	Remedy
	Replace hydraulic oil to be specified. Flush with hydraulic oil and replace return filter.

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7. COMBINED BOOM AND TRAVEL OPERATION



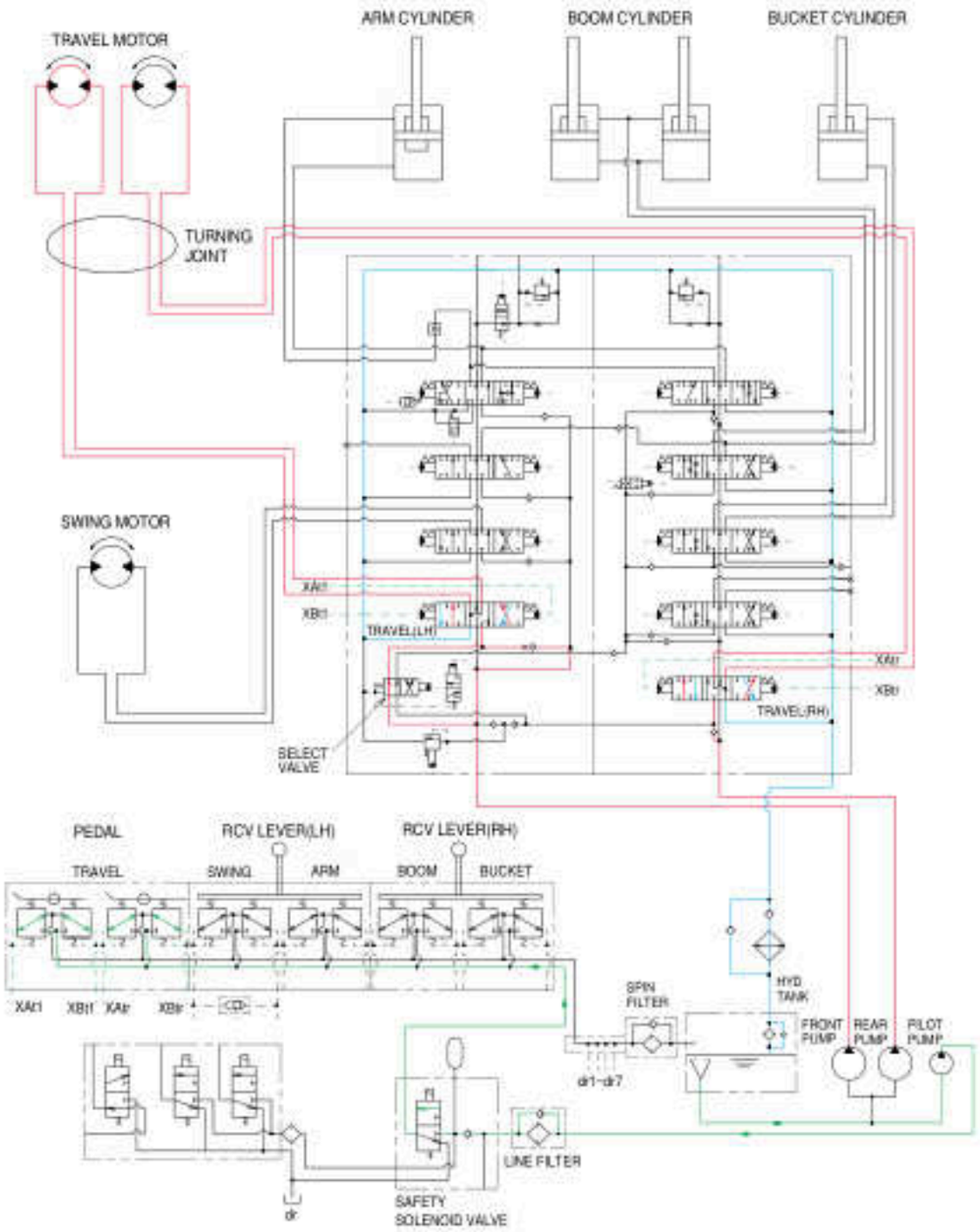
When the boom and travel (RH,LH) functions are operated, the boom and travel (RH,LH) spools and the select valve changed. The oil flows from rear pump through the travel (RH,LH) section of the main control valve to the right and left travel motor.

And the oil flows front pump through boom1 and 2 section of the main control valve to the boom cylinders.

Check valve the pressure in the travel circuit can be high while the boom pressure is low. When the travel circuit pressure drops lower than boom pressure, as when traveling downhill. boom priority and smoothness are maintained because of the orifice. In either case, the machine will continue to travel straight.

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8. TRAVEL FORWARD AND REVERSE OPERATION

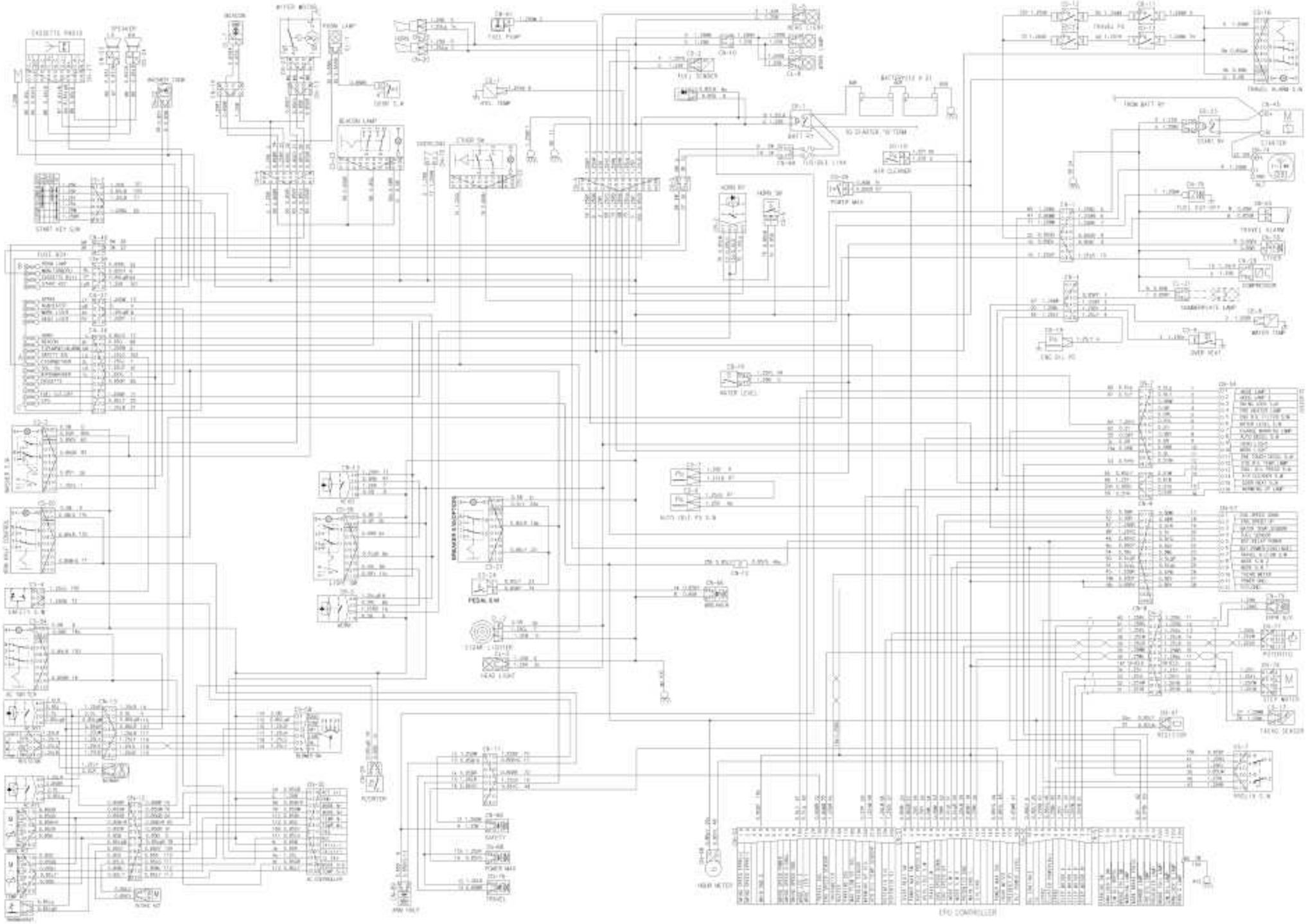


When the right and left travel levers are manually placed to the forward or reverse position. Then the oil flows from pilot pump through the pilot valve to travel sections of travel sections of the main control valve.

Here, spool position is moved to forward and reverse position. the oil flows from rear pump through the travel(RH) section of the main control valve and turning joint to the right travel motor and oil flows from front pump through the travel(LH) section of the main control valve and turning joint to the left travel motor and move the machine forward and reverse.

The return oil flows from both travel motor through the turning joint and travel(RH,LH) section returned to the tank.

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