CRAWLER EXCAVATOR

SERVICE MANUAL

R80CR-9A

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	380	840
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 (2EA)	110	240
Idler (2EA)	130	290
Carrier roller (2EA)	16	35
Track roller (10EA)	160	360
Track-chain assembly (450 mm standard triple grouser shoe, 2EA)	810	1790
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, 1.67 m (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					

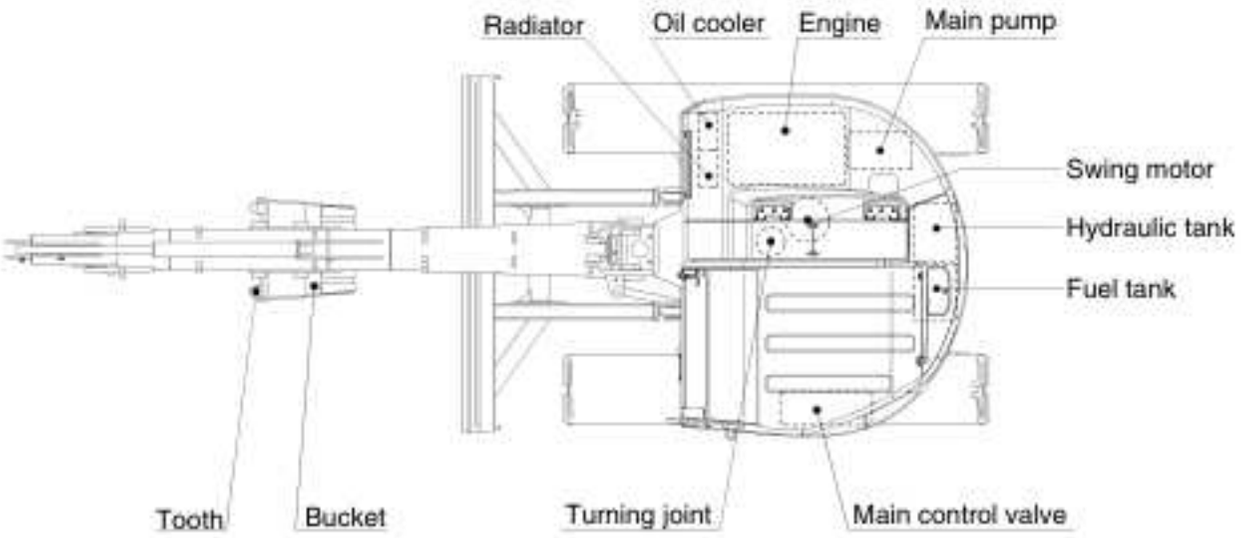
2) 3.4 m (11' 2") boom, 1.67 m (5' 6") arm equipped with 0.28 m³ (SAE heaped) bucket and 450 mm (18") triple grouser shoe and dozer blade up with 930 kg (2050 lb) counterweight.

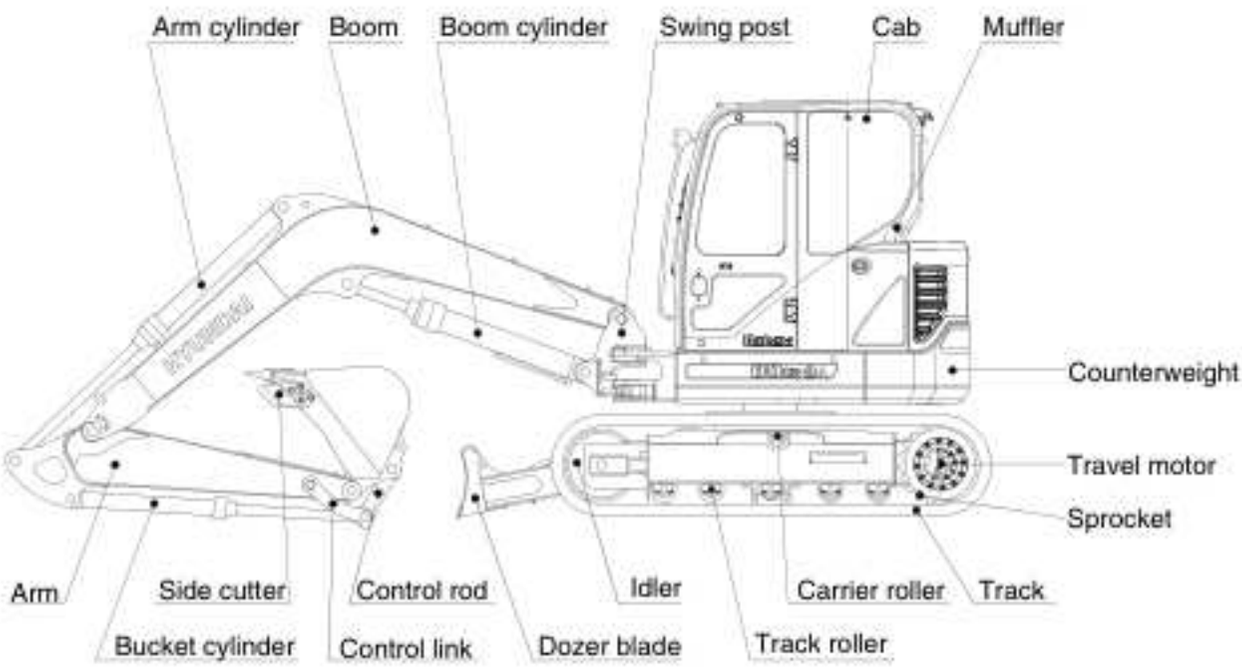
Load point height		Load radius						At max. reach		
		1.5 m (5 ft)		3.0 m (10 ft)		4.5 m (15 ft)		Capacity		Reach
										m (ft)
4.5 m (15.0 ft)	kg					*1550	1380	1110	970	5.47
	lb					*3420	3040	2450	2140	(17.9)
3.0 m (10.0 ft)	kg					1540	1340	840	730	6.23
	lb					3400	2950	1850	1610	(20.4)
1.5 m (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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1. MAJOR COMPONENT



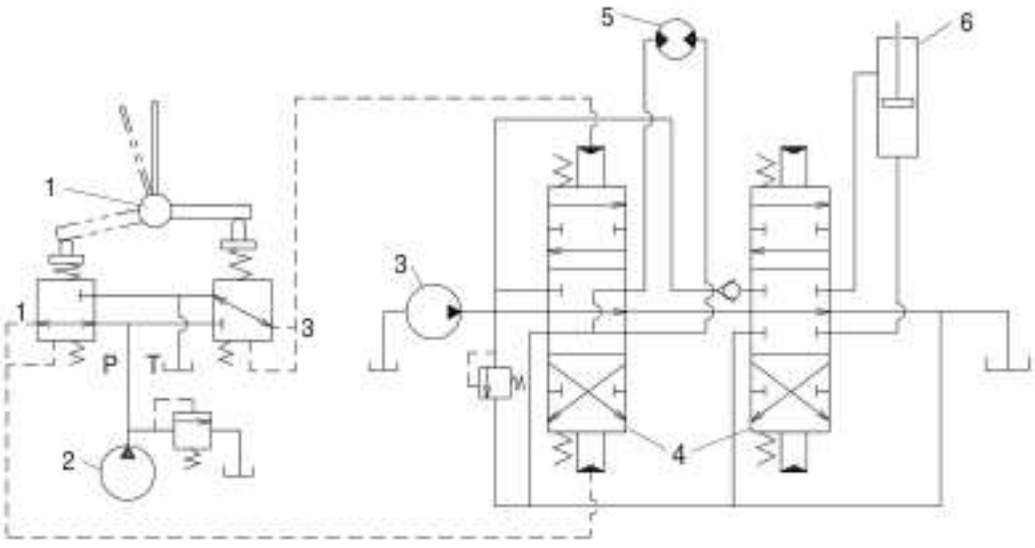


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3) OPERATION

The operation of the pilot valve will be described on the basis of the hydraulic circuit diagram shown below and the attached operation explanation drawing.

The diagram shown below is the typical application example of the pilot valve.



2-70

1	Pilot valve	3	Main pump	5	Hydraulic motor
2	Pilot pump	4	Main control valve	6	Hydraulic cylinder

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1. MACHINE FAULT CODE

Fault code		Description
HCESPN	FMI	
101	3	Hydraulic oil temperature sensor circuit - voltage above normal or shorted to high source (or open circuit)
	4	Hydraulic oil temperature sensor circuit - voltage below normal or shorted to low source
105	0	Working pressure sensor data above normal range (or open circuit)
	1	Working pressure sensor data below normal range
	2	Working pressure sensor data error
	3	Engine intake maniford #1 temperature - voltage above normel
	4	Working pressure sensor circuit - voltage below normal, or shorted to low source
108	0	Travel oil pressure sensor data above normal range (or open circuit)
	1	Travel oil pressure sensor data below normal range
	2	Travel oil pressure sensor data error
	4	Travel oil pressure sensor circuit - voltage below normal or shorted to low source
122	0	Overload pressure sensor data above normal range (or open circuit)
	1	Overload pressure sensor data below normal range
	2	Overload pressure sensor data error
	3	Overload pressure sensor circuit - voltage below normal or shorted to low source
301	3	Fuel level sensor circuit - voltage above normal or shorted to high source (or open circuit)
	4	Fuel level sensor circuit - voltage below normal or shorted to low source
503	0	Brake pressure sensor data above normal range (or open circuit)
	1	Brake pressure sensor data below normal range
	2	Brake pressure sensor data error
	4	Brake pressure sensor data - voltage below normal or shorted to low source
505	0	Working brake pressure sensor data above normal range (or open circuit)
	1	Working brake pressure sensor data below normal range
	2	Working brake pressure sensor data error
	4	Working brake pressure sensor circuit - voltage below normal, or shorted to low source
530	0	Travel fwd pilot pressure sensor data above normal range (or open circuit)
	1	Travel fwd pilot pressure sensor data below normal range
	2	Travel fwd pilot pressure sensor data error
	4	Travel fwd pilot pressure sensor circuit - voltage below normal, or shorted to low source
	14	Travel fwd pilot pressure sensor circuit - special instructions
	16	Travel fwd pilot pressure sensor circuit - voltage valid but above normal operational range
701	4	Hour meter circuit - voltage below normal, or shorted to low source
705	0	MCU input voltage high
	1	MCU input voltage low
707	1	Alternator node I voltage low (or open circuit)
714	3	Acc. dial circuit - voltage above normal, or shorted to high source (or open circuit)
	4	Acc. dial circuit - voltage below normal, or shorted to low source
840	2	Cluster communication data error
841	2	ECM communication data error
IDSP		Water in fuel warning
Lo bat		Low battery warning

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⑤ Insert main spool (32), spring-seat (33), spring (34) to the rear cover (21) and assemble plug (35) with L-wrench.



⑥ Assemble relief valve assembly (38) (with left-right symmetry) to the rear cover (21) and then tighten with a torque wrench.



⑦ Using a plier jig, assemble snap ring (26), stopper (25), spring (24), spool (23) to the rear cover.



⑧ Assemble roller bearing (45), pin (46) and valve plate (12) to the rear cover (21).



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(4) Loose the hexagon socket head cap bolts (224), and take out it.

· Tools required :
Hexagon bar wrench : 8 mm



(5) Take out the plate S (202).

※ Pay attention not to drop off swash plate (210).



(6) Take out the swash plate (210) and the shaft kit from the plate S (202).

※ When it is difficult to take out the shaft, hit the opposite side slightly by the plastic hammer.
As the bearing (216) is pressed into the shaft, do not disassemble unless it is necessary to change the bearing.



(7) Take out the spring B (218) from the brake piston (217).

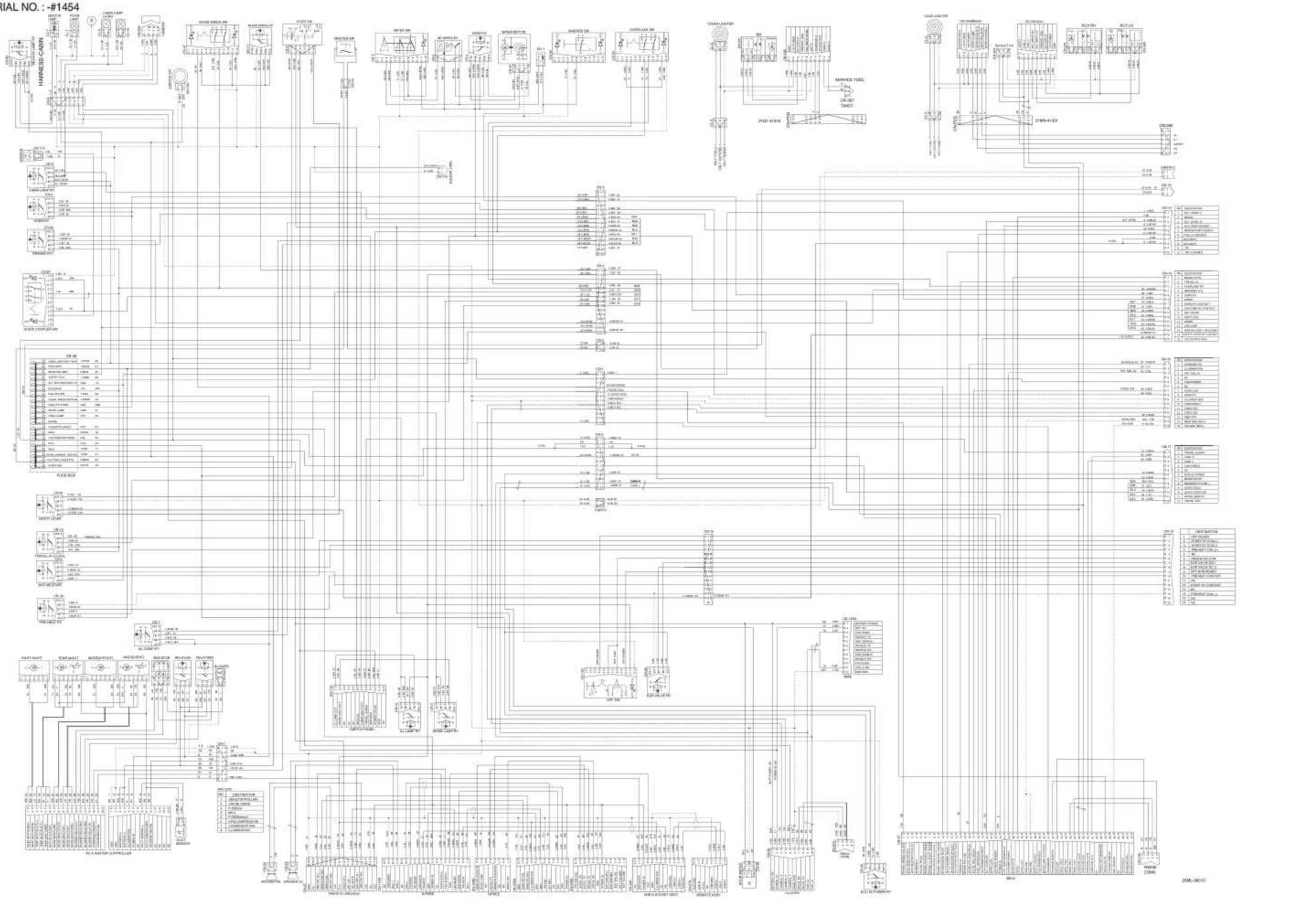
· Spring B (218) : 20 pcs



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ELECTRICAL CIRCUIT (1/2)

- MACHINE SERIAL NO. : -#1454


HARNESS-CABIN
FUSE BOX
SAFETY LEVER
TRAVEL RH LEVER
BAT-RELAY
PRESSURE SW
SERVICE TOOL
AC CONTROLLER
AC EVAPORATOR CONTROLLER
SELECT SENSOR
SPEAKER
OPERATOR I/F
RADIO
WIPER
HORN
RADIO CONN
ROOM LAMP
CABIN LAMP
WORK LIGHT RH
BOOM LIGHT
ROOM LAMP
ENGINE
ECM
MAIN
ENGINE
ECM
MAIN
ENGINE
ECM
MAIN