HYUNDAI
CONSTRUCTION EQUIPMENT

Robex 250LC-9

CRAWLER EXCAVATOR

SERVICE MANUAL

TABLE OF CONTENT

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1. STRUCTURE

This service manual has been prepared as an aid to improve the quality of repairs by giving the serviceman an accurate understanding of the product and by showing him the correct way to perform repairs and make judgements. Make sure you understand the contents of this manual and use it to full effect at every opportunity.
This service manual mainly contains the necessary technical information for operations performed in a service workshop.
For ease of understanding, the manual is divided into the following sections.

SECTION 1 GENERAL
This section explains the safety hints and gives the specification of the machine and major components.

SECTION 2 STRUCTURE AND FUNCTION
This section explains the structure and function of each component. It serves not only to give an understanding of the structure, but also serves as reference material for troubleshooting.

SECTION 3 HYDRAULIC SYSTEM
This section explains the hydraulic circuit, single and combined operation.

SECTION 4 ELECTRICAL SYSTEM
This section explains the electrical circuit, monitoring system and each component. It serves not only to give an understanding electrical system, but also serves as reference material for trouble shooting.

SECTION 5 MECHATRONICS SYSTEM
This section explains the computer aided power optimization system and each component.

SECTION 6 TROUBLESHOOTING
This section explains the troubleshooting charts correlating **problems** to **causes**.

SECTION 7 MAINTENANCE STANDARD
This section gives the judgement standards when inspecting disassembled parts.

SECTION 8 DISASSEMBLY AND ASSEMBLY
This section explains the order to be followed when removing, installing, disassembling or assembling each component, as well as precautions to be taken for these operations.

SECTION 9 COMPONENT MOUNTING TORQUE
This section shows bolt specifications and standard torque values needed when mounting components to the machine.

The specifications contained in this shop manual are subject to change at any time and without any advance notice. Contact your HYUNDAI distributor for the latest information.

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2. HOW TO READ THE SERVICE MANUAL

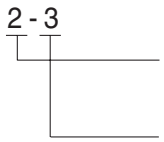
Distribution and updating

Any additions, amendments or other changes will be sent to HYUNDAI distributors.

Get the most up-to-date information before you start any work.

Filing method

1. See the page number on the bottom of the page.
   File the pages in correct order.
2. Following examples shows how to read the page number.
   Example 1



Item number (2. Structure and Function)

Consecutive page number for each item.

3. Additional pages : Additional pages are indicated by a hyphen (-) and number after the page number. File as in the example.

10 - 4
10 - 4 - 1
10 - 4 - 2 ┐ Added pages
10 - 5

Revised edition mark (①②③…)

When a manual is revised, an edition mark is recorded on the bottom outside corner of the pages.

Revisions

Revised pages are shown at the list of revised pages on the between the contents page and section 1 page.

Symbols

So that the shop manual can be of ample practical use, important places for safety and quality are marked with the following symbols.

Symbol	Item	Remarks
	Safety	Special safety precautions are necessary when performing the work.
		Extra special safety precautions are necessary when performing the work because it is under internal pressure.
※	Caution	Special technical precautions or other precautions for preserving standards are necessary when performing the work.

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3. CONVERSION TABLE

Method of using the Conversion Table

The Conversion Table in this section is provided to enable simple conversion of figures. For details of the method of using the Conversion Table, see the example given below.

Example

1. Method of using the Conversion Table to convert from millimeters to inches

Convert 55 mm into inches.

(1) Locate the number 50in the vertical column at the left side, take this as ⓐ, then draw a horizontal line from ⓐ.

(2) Locate the number 5in the row across the top, take this as ⓑ, then draw a perpendicular line down from ⓑ.

(3) Take the point where the two lines cross as ⓒ. This point ⓒ gives the value when converting from millimeters to inches. Therefore, 55 mm = 2.165 inches.

2. Convert 550 mm into inches.

(1) The number 550 does not appear in the table, so divide by 10 (move the decimal point one place to the left) to convert it to 55 mm.

(2) Carry out the same procedure as above to convert 55 mm to 2.165 inches.

(3) The original value (550 mm) was divided by 10, so multiply 2.165 inches by 10 (move the decimal point one place to the right) to return to the original value.
This gives 550 mm = 21.65 inches.

Millimeters to inches

1 mm = 0.03937 in

	0	1	2	3	4	5 ⓑ	6	7	8	9
0		0.039	0.079	0.118	0.157	0.197	0.236	0.276	0.315	0.354
10	0.394	0.433	0.472	0.512	0.551	0.591	0.630	0.669	0.709	0.748
20	0.787	0.827	0.866	0.906	0.945	0.984	1.024	1.063	1.102	1.142
30	1.181	1.220	1.260	1.299	1.339	1.378	1.417	1.457	1.496	1.536
40	1.575	1.614	1.654	1.693	1.732	1.772	1.811	1.850	1.890	1.929
ⓐ 50	1.969	2.008	2.047	2.087	2.126	2.165 ⓒ	2.205	2.244	2.283	2.323
60	2.362	2.402	2.441	2.480	2.520	2.559	2.598	2.638	2.677	2.717
70	2.756	2.795	2.835	2.874	2.913	2.953	2.992	3.032	3.071	3.110
80	3.150	3.189	3.228	3.268	3.307	3.346	3.386	3.425	3.465	3.504
90	3.543	3.583	3.622	3.661	3.701	3.740	3.780	3.819	3.858	3.898

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Millimeters to inches

1 mm = 0.03937in

	0	1	2	3	4	5	6	7	8	9
0		0.039	0.079	0.118	0.157	0.197	0.236	0.276	0.315	0.354
10	0.394	0.433	0.472	0.512	0.551	0.591	0.630	0.669	0.709	0.748
20	0.787	0.827	0.866	0.906	0.945	0.984	1.024	1.063	1.102	1.142
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50	1.969	2.008	2.047	2.087	2.126	2.165	2.205	2.244	2.283	2.323
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70	2.756	2.795	2.835	2.874	2.913	2.953	2.992	3.032	3.071	3.110
80	3.150	3.189	3.228	3.268	3.307	3.346	3.386	3.425	3.465	3.504
90	3.543	3.583	3.622	3.661	3.701	3.740	3.780	3.819	3.858	3.898

Kilogram to Pound

1 kg = 2.2046lb

	0	1	2	3	4	5	6	7	8	9
0		2.20	4.41	6.61	8.82	11.02	13.23	15.43	17.64	19.84
10	22.05	24.25	26.46	28.66	30.86	33.07	35.27	37.48	39.68	41.89
20	44.09	46.30	48.50	50.71	51.91	55.12	57.32	59.5.	61.73	63.93
30	66.14	68.34	70.55	72.75	74.96	77.16	79.37	81.57	83.78	85.98
40	88.18	90.39	92.59	94.80	97.00	99.21	101.41	103.62	105.82	108.03
50	110.23	112.44	114.64	116.85	119.05	121.25	123.46	125.66	127.87	130.07
60	132.28	134.48	136.69	138.89	141.10	143.30	145.51	147.71	149.91	152.12
70	154.32	156.53	158.73	160.94	163.14	165.35	167.55	169.76	171.96	174.17
80	176.37	178.57	180.78	182.98	185.19	187.39	189.60	191.80	194.01	196.21
90	198.42	200.62	202.83	205.03	207.24	209.44	211.64	213.85	216.05	218.26

Liter to U.S. Gallon

1 ℓ = 0.2642 U.S.Gal

	0	1	2	3	4	5	6	7	8	9
0		0.264	0.528	0.793	1.057	1.321	1.585	1.849	2.113	2.378
10	2.642	2.906	3.170	3.434	3.698	3.963	4.227	4.491	4.755	5.019
20	5.283	5.548	5.812	6.6076	6.340	6.604	6.869	7.133	7.397	7.661
30	7.925	8.189	8.454	8.718	8.982	9.246	9.510	9.774	10.039	10.303
40	10.567	10.831	11.095	11.359	11.624	11.888	12.152	12.416	12.680	12.944
50	13.209	13.473	13.737	14.001	14.265	14.529	14.795	15.058	15.322	15.586
60	15.850	16.115	16.379	16.643	16.907	17.171	17.435	17.700	17.964	18.228
70	18.492	18.756	19.020	19.285	19.549	19.813	20.077	20.341	20.605	20.870
80	21.134	21.398	21.662	21.926	22.190	22.455	22.719	22.983	23.247	23.511
90	23.775	24.040	24.304	24.568	24.832	25.096	25.631	25.625	25.889	26.153

Liter to U.K. Gallon

1 ℓ = 0.21997 U.K.Gal

	0	1	2	3	4	5	6	7	8	9
0		0.220	0.440	0.660	0.880	1.100	1.320	1.540	1.760	1.980
10	2.200	2.420	2.640	2.860	3.080	3.300	3.520	3.740	3.950	4.179
20	4.399	4.619	4.839	5.059	5.279	5.499	5.719	5.939	6.159	6.379
30	6.599	6.819	7.039	7.259	7.479	7.969	7.919	8.139	8.359	8.579
40	8.799	9.019	9.239	9.459	9.679	9.899	10.119	10.339	10.559	10.778
50	10.998	11.281	11.438	11.658	11.878	12.098	12.318	12.528	12.758	12.978
60	13.198	13.418	13.638	13.858	14.078	14.298	14.518	14.738	14.958	15.178
70	15.398	15.618	15.838	16.058	16.278	16.498	16.718	16.938	17.158	17.378
80	17.598	17.818	18.037	18.257	18.477	18.697	18.917	19.137	19.357	19.577
90	19.797	20.017	20.237	20.457	20.677	20.897	21.117	21.337	21.557	21.777

kgf · m to lbf · ft

1 kgf · m = 7.233 lbf · ft

	0	1	2	3	4	5	6	7	8	9
		7.2	14.5	21.7	28.9	36.2	43.4	50.6	57.9	65.1
10	72.3	79.6	86.8	94.0	101.3	108.5	115.7	123.0	130.2	137.4
20	144.7	151.9	159.1	166.4	173.6	180.8	188.1	195.3	202.5	209.8
30	217.0	224.2	231.5	238.7	245.9	253.2	260.4	267.6	274.9	282.1
40	289.3	396.6	303.8	311.0	318.3	325.5	332.7	340.0	347.2	354.4
50	361.7	368.9	376.1	383.4	390.6	397.8	405.1	412.3	419.5	426.8
60	434.0	441.2	448.5	455.7	462.9	470.2	477.4	484.6	491.8	499.1
70	506.3	513.5	520.8	528.0	535.2	542.5	549.7	556.9	564.2	571.4
80	578.6	585.9	593.1	600.3	607.6	614.8	622.0	629.3	636.5	643.7
90	651.0	658.2	665.4	672.7	679.9	687.1	694.4	701.6	708.8	716.1
100	723.3	730.5	737.8	745.0	752.2	759.5	766.7	773.9	781.2	788.4
110	795.6	802.9	810.1	817.3	824.6	831.8	839.0	846.3	853.5	860.7
120	868.0	875.2	882.4	889.7	896.9	904.1	911.4	918.6	925.8	933.1
130	940.3	947.5	954.8	962.0	969.2	976.5	983.7	990.9	998.2	10005.4
140	1012.6	1019.9	1027.1	1034.3	1041.5	1048.8	1056.0	1063.2	1070.5	1077.7
150	1084.9	1092.2	1099.4	1106.6	1113.9	1121.1	1128.3	1135.6	1142.8	1150.0
160	1157.3	1164.5	1171.7	1179.0	1186.2	1193.4	1200.7	1207.9	1215.1	1222.4
170	1129.6	1236.8	1244.1	1251.3	1258.5	1265.8	1273.0	1280.1	1287.5	1294.7
180	1301.9	1309.2	1316.4	1323.6	1330.9	1338.1	1345.3	1352.6	1359.8	1367.0
190	1374.3	1381.5	1388.7	1396.0	1403.2	1410.4	1417.7	1424.9	1432.1	1439.4

kgf/cm² to lbf/in²

1 kgf / cm² = 14.2233 lbf / in²

	0	1	2	3	4	5	6	7	8	9
		14.2	28.4	42.7	56.9	71.1	85.3	99.6	113.8	128.0
10	142.2	156.5	170.7	184.9	199.1	213.4	227.6	241.8	256.0	270.2
20	284.5	298.7	312.9	327.1	341.4	355.6	369.8	384.0	398.3	412.5
30	426.7	440.9	455.1	469.4	483.6	497.8	512.0	526.3	540.5	554.7
40	568.9	583.2	597.4	611.6	625.8	640.1	654.3	668.5	682.7	696.9
50	711.2	725.4	739.6	753.8	768.1	782.3	796.5	810.7	825.0	839.2
60	853.4	867.6	881.8	896.1	910.3	924.5	938.7	953.0	967.2	981.4
70	995.6	1010	1024	1038	1053	1067	1081	1095	1109	1124
80	1138	1152	1166	1181	1195	1209	1223	1237	1252	1266
90	1280	1294	1309	1323	1337	1351	1365	1380	1394	1408
100	1422	1437	1451	1465	1479	1493	1508	1522	1536	1550
110	1565	1579	1593	1607	1621	1636	1650	1664	1678	1693
120	1707	1721	1735	1749	1764	1778	1792	1806	1821	1835
130	1849	2863	1877	1892	1906	1920	1934	1949	1963	1977
140	1991	2005	2020	2034	2048	2062	2077	2091	2105	2119
150	2134	2148	2162	2176	2190	2205	2219	2233	2247	2262
160	2276	2290	2304	2318	2333	2347	2361	2375	2389	2404
170	2418	2432	2446	2460	2475	2489	2503	2518	2532	2546
180	2560	2574	2589	5603	2617	2631	2646	2660	2674	2688
200	2845	2859	2873	2887	2901	2916	2930	2944	2958	2973
210	2987	3001	3015	3030	3044	3058	3072	3086	3101	3115
220	3129	3143	3158	3172	3186	3200	3214	3229	3243	3257
230	3271	3286	3300	3314	3328	3343	3357	3371	3385	3399
240	3414	3428	3442	3456	3470	3485	3499	3513	3527	3542

TEMPERATURE

Fahrenheit-Centigrade Conversion.

A simple way to convert a fahrenheit temperature reading into a centigrade temperature reading or vice verse is to enter the accompanying table in the center or boldface column of figures.

These figures refer to the temperature in either Fahrenheit or Centigrade degrees.

If it is desired to convert from Fahrenheit to Centigrade degrees, consider the center column as a table of Fahrenheit temperatures and read the corresponding Centigrade temperature in the column at the left.

If it is desired to convert from Centigrade to Fahrenheit degrees, consider the center column as a table of Centigrade values, and read the corresponding Fahrenheit temperature on the right.

˚C		˚F	˚C		˚F	˚C		˚F	˚C		˚F
-40.4	-40	-40.0	-11.7	11	51.8	7.8	46	114.8	27.2	81	117.8
-37.2	-35	-31.0	-11.1	12	53.6	8.3	47	116.6	27.8	82	179.6
-34.4	-30	-22.0	-10.6	13	55.4	8.9	48	118.4	28.3	83	181.4
-31.7	-25	-13.0	-10.0	14	57.2	9.4	49	120.2	28.9	84	183.2
-28.9	-20	-4.0	-9.4	15	59.0	10.0	50	122.0	29.4	85	185.0
-28.3	-19	-2.2	-8.9	16	60.8	10.6	51	123.8	30.0	86	186.8
-27.8	-18	-0.4	-8.3	17	62.6	11.1	52	125.6	30.6	87	188.6
-27.2	-17	1.4	-7.8	18	64.4	11.7	53	127.4	31.1	88	190.4
-26.7	-16	3.2	-6.7	20	68.0	12.8	55	131.0	32.2	90	194.0
-26.1	-15	5.0	-6.7	20	68.0	12.8	55	131.0	32.2	90	194.0
-25.6	-14	6.8	-6.1	21	69.8	13.3	56	132.8	32.8	91	195.8
-25.0	-13	8.6	-5.6	22	71.6	13.9	57	134.6	33.3	92	197.6
-24.4	-12	10.4	-5.0	23	73.4	14.4	58	136.4	33.9	93	199.4
-23.9	-11	12.2	-4.4	24	75.2	15.0	59	138.2	34.4	94	201.2
-23.3	-10	14.0	-3.9	25	77.0	15.6	60	140.0	35.0	95	203.0
-22.8	-9	15.8	-3.3	26	78.8	16.1	61	141.8	35.6	96	204.8
-22.2	-8	17.6	-2.8	27	80.6	16.7	62	143.6	36.1	97	206.6
-21.7	-7	19.4	-2.2	28	82.4	17.2	63	145.4	36.7	98	208.4
-21.1	-6	21.2	-1.7	29	84.2	17.8	64	147.2	37.2	99	210.2
-20.6	-5	23.0	-1.1	35	95.0	21.1	70	158.0	51.7	125	257.0
-20.0	-4	24.8	-0.6	31	87.8	18.9	66	150.8	40.6	105	221.0
-19.4	-3	26.6	0	32	89.6	19.4	67	152.6	43.3	110	230.0
-18.9	-2	28.4	0.6	33	91.4	20.0	68	154.4	46.1	115	239.0
-18.3	-1	30.2	1.1	34	93.2	20.6	69	156.2	48.9	120	248.0
-17.8	0	32.0	1.7	35	95.0	21.1	70	158.0	51.7	125	257.0
-17.2	1	33.8	2.2	36	96.8	21.7	71	159.8	54.4	130	266.0
-16.7	2	35.6	2.8	37	98.6	22.2	72	161.6	57.2	135	275.0
-16.1	3	37.4	3.3	38	100.4	22.8	73	163.4	60.0	140	284.0
-15.6	4	39.2	3.9	39	102.2	23.3	74	165.2	62.7	145	293.0
-15.0	5	41.0	4.4	40	104.0	23.9	75	167.0	65.6	150	302.0
-14.4	6	42.8	5.0	41	105.8	24.4	76	168.8	68.3	155	311.0
-13.9	7	44.6	5.6	42	107.6	25.0	77	170.6	71.1	160	320.0
-13.3	8	46.4	6.1	43	109.4	25.6	78	172.4	73.9	165	329.0
-12.8	9	48.2	6.7	44	111.2	26.1	79	174.2	76.7	170	338.0
-12.2	10	50.0	7.2	45	113.0	26.7	80	176.0	79.4	172	347.0

SECTION 1 GENERAL

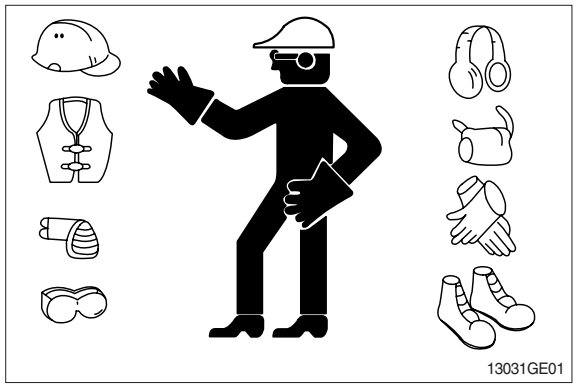
GROUP 1 SAFETY

FOLLOW SAFE PROCEDURE

Unsafe work practices are dangerous. Understand service procedure before doing work; Do not attempt shortcuts.

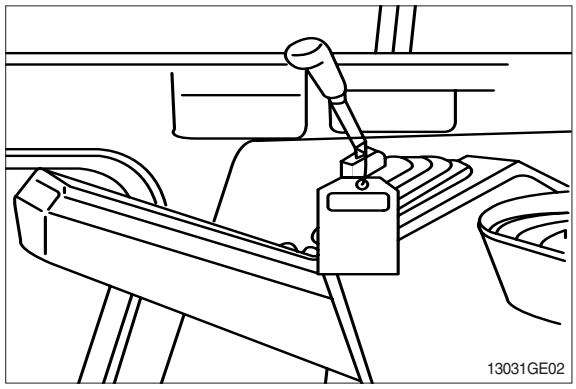
WEAR PROTECTIVE CLOTHING

Wear close fitting clothing and safety equipment appropriate to the job.



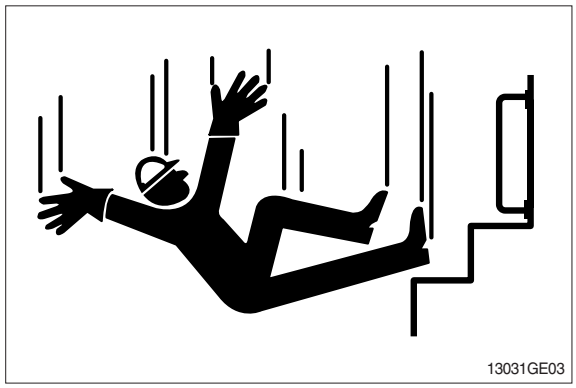
WARN OTHERS OF SERVICE WORK

Unexpected machine movement can cause serious injury.
Before performing any work on the excavator, attach a 「**Do Not Operate**」 tag on the right side control lever.



USE HANDHOLDS AND STEPS

Falling is one of the major causes of personal injury.
When you get on and off the machine, always maintain a three point contact with the steps and handrails and face the machine. Do not use any controls as handholds.
Never jump on or off the machine. Never mount or dismount a moving machine.
Be careful of slippery conditions on platforms, steps, and handrails when leaving the machine.

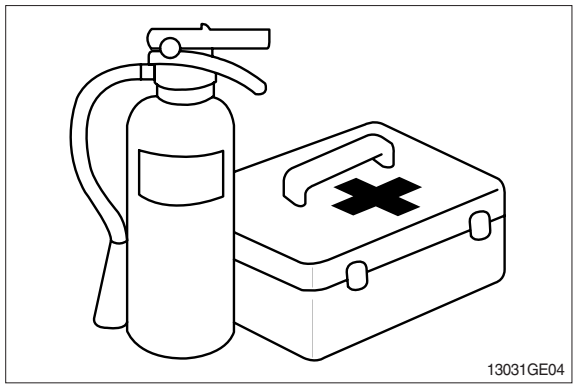


PREPARE FOR EMERGENCIES

Be prepared if a fire starts.

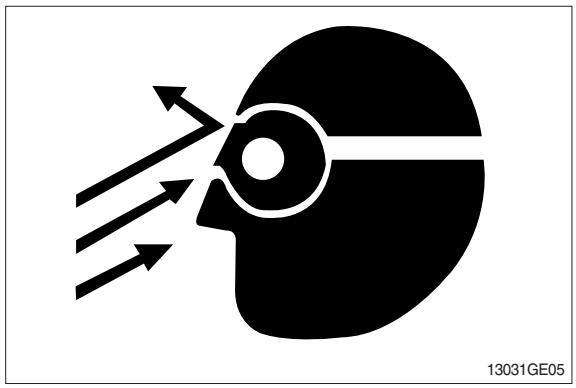
Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctors, ambulance service, hospital, and fire department near your telephone.



PROTECT AGAINST FLYING DEBRIS

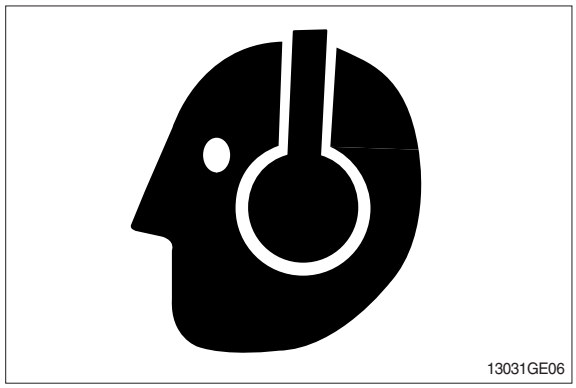
Guard against injury from flying pieces of metal or debris; Wear goggles or safety glasses.



PROTECT AGAINST NOISE

Prolonged exposure to loud noise can cause impairment or loss of hearing.

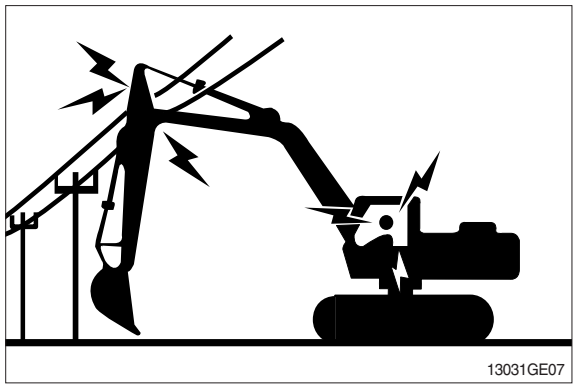
Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.



AVOID POWER LINES

Serious injury or death can result from contact with electric lines.

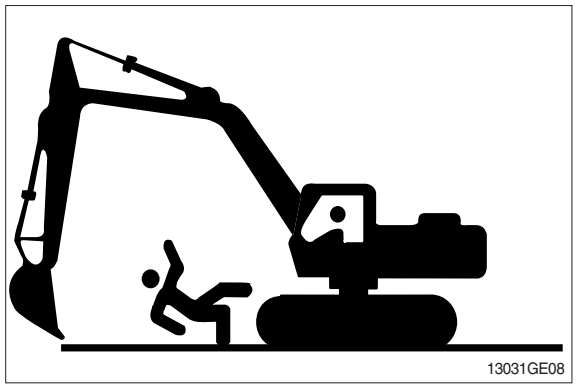
Never move any part of the machine or load closer to electric line than 3m(10ft) plus twice the line insulator length.



KEEP RIDERS OFF EXCAVATOR

Only allow the operator on the excavator. Keep riders off.

Riders on excavator are subject to injury such as being struck by foreign objects and being thrown off the excavator. Riders also obstruct the operator's view resulting in the excavator being operated in an unsafe manner.

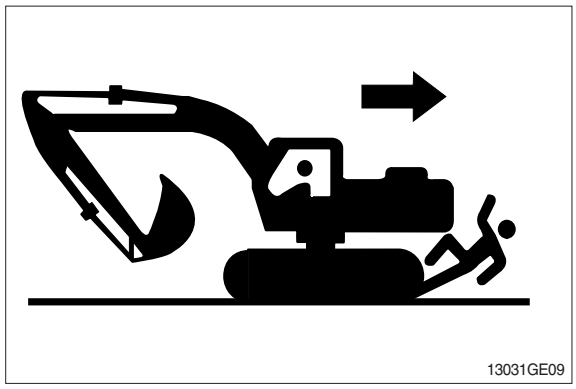


MOVE AND OPERATE MACHINE SAFELY

Bystanders can be run over. Know the location of bystanders before moving, swinging, or operating the machine.

Always keep the travel alarm in working condition. It warns people when the excavator starts to move.

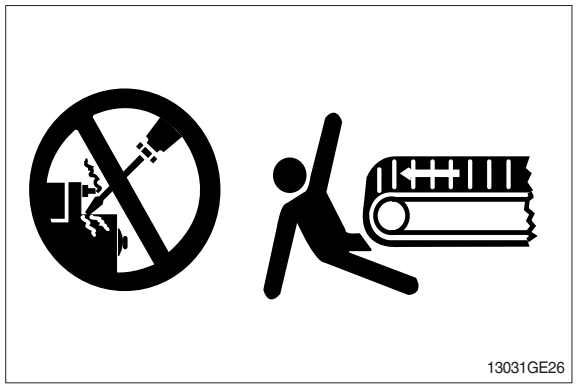
Use a signal person when moving, swinging, or operating the machine in congested areas. Coordinate hand signals before starting the excavator.



OPERATE ONLY FORM OPERATOR'S SEAT

Avoid possible injury machine damage. Do not start engine by shorting across starter terminals.

NEVER start engine while standing on ground. Start engine only from operator's seat.



PARK MACHINE SAFELY

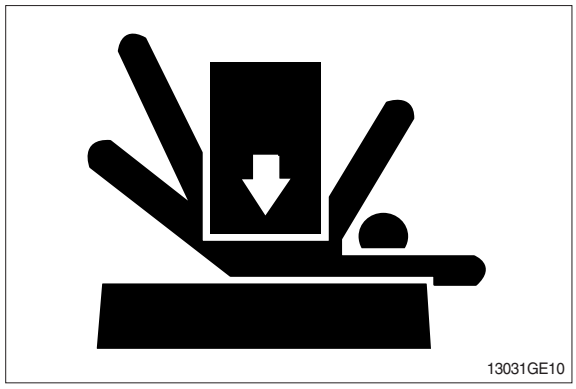
Before working on the machine:

- Park machine on a level surface.
- Lower bucket to the ground.
- Turn auto idle switch off.
- Run engine at 1/2 speed without load for 2 minutes.
- Turn key switch to OFF to stop engine. Remove key from switch.
- Move pilot control shutoff lever to locked position.
- Allow engine to cool.

SUPPORT MACHINE PROPERLY

Always lower the attachment or implement to the ground before you work on the machine. If you must work on a lifted machine or attachment, securely support the machine or attachment.

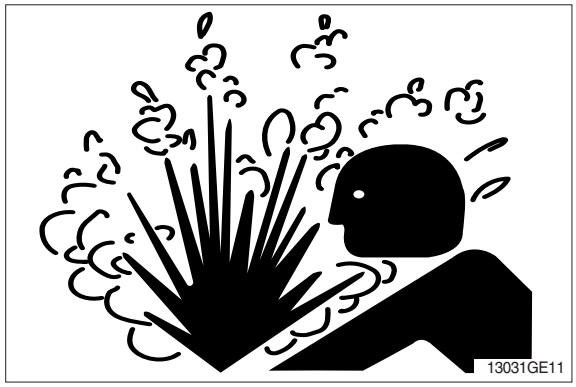
Do not support the machine on cinder blocks, hollow tiles, or props that may crumble under continuous load.
Do not work under a machine that is supported solely by a jack. Follow recommended procedures in this manual.


13031GE10

SERVICE COOLING SYSTEM SAFELY

Explosive release of fluids from pressurized cooling system can cause serious burns.

Shut off engine. Only remove filler cap when cool enough to touch with bare hands.


13031GE11

HANDLE FLUIDS SAFELY-AVOID FIRES

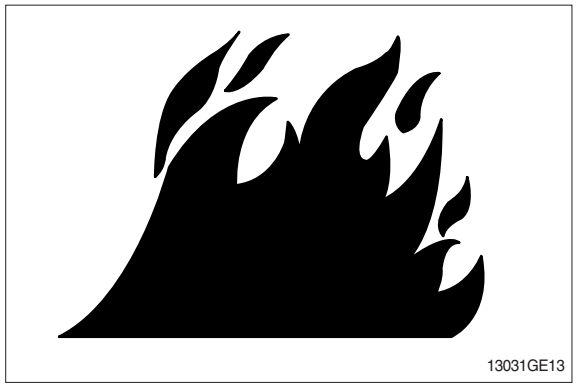
Handle fuel with care; It is highly flammable. Do not refuel the machine while smoking or when near open flame or sparks. Always stop engine before refueling machine.
Fill fuel tank outdoors.


13031GE12

Store flammable fluids away from fire hazards. Do not incinerate or puncture pressurized containers.

Make sure machine is clean of trash, grease, and debris.

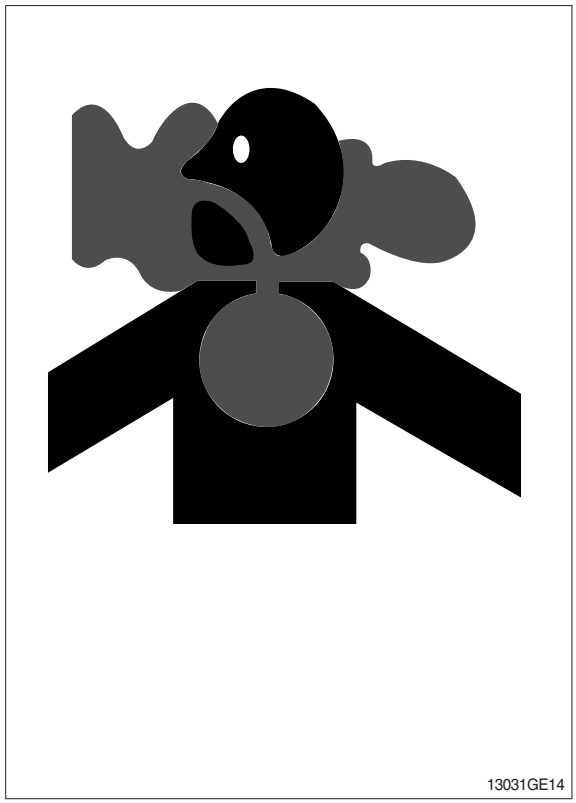
Do not store oily rags; They can ignite and burn spontaneously.


13031GE13

BEWARE OF EXHAUST FUMES

Prevent asphyxiation. Engine exhaust fumes can cause sickness or death.

If you must operate in a building, be positive there is adequate ventilation. Either use an exhaust pipe extension to remove the exhaust fumes or open doors and windows to bring enough outside air into the area.



REMOVE PAINT BEFORE WELDING OR HEATING

Avoid potentially toxic fumes and dust.

Hazardous fumes can be generated when paint is heated by welding, soldering, or using a torch.

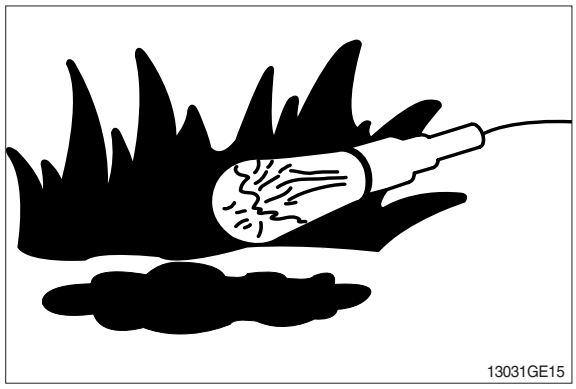
Do all work outside or in a well ventilated area. Dispose of paint and solvent properly.

Remove paint before welding or heating:

- If you sand or grind paint, avoid breathing the dust.
  Wear an approved respirator.
- If you use solvent or paint stripper, remove stripper with soap and water before welding. Remove solvent or paint stripper containers and other flammable material from area. Allow fumes to disperse at least 15 minutes before welding or heating.

ILLUMINATE WORK AREA SAFELY

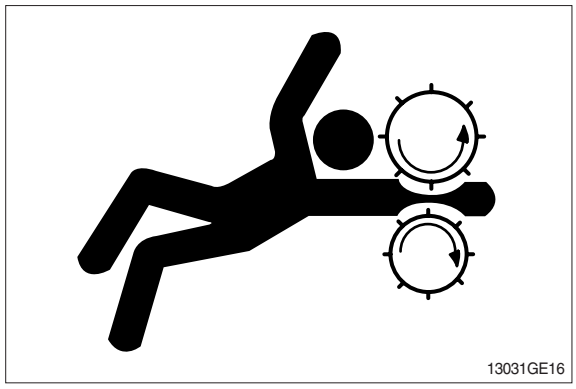
Illuminate your work area adequately but safely. Use a portable safety light for working inside or under the machine. Make sure the bulb is enclosed by a wire cage. The hot filament of an accidentally broken bulb can ignite spilled fuel or oil.



SERVICE MACHINE SAFELY

Tie long hair behind your head. Do not wear a necktie, scarf, loose clothing or necklace when you work near machine tools or moving parts. If these items were to get caught, severe injury could result.

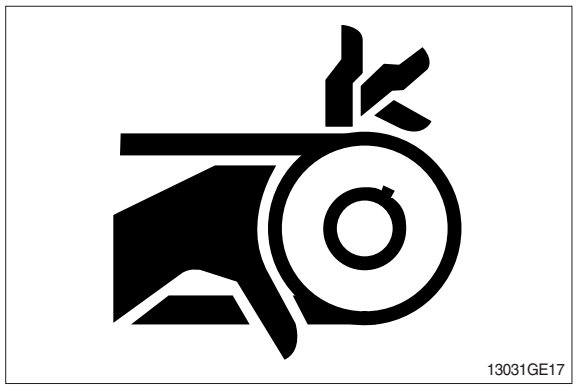
Remove rings and other jewelry to prevent electrical shorts and entanglement in moving parts.



STAY CLEAR OF MOVING PARTS

Entanglements in moving parts can cause serious injury.

To prevent accidents, use care when working around rotating parts.



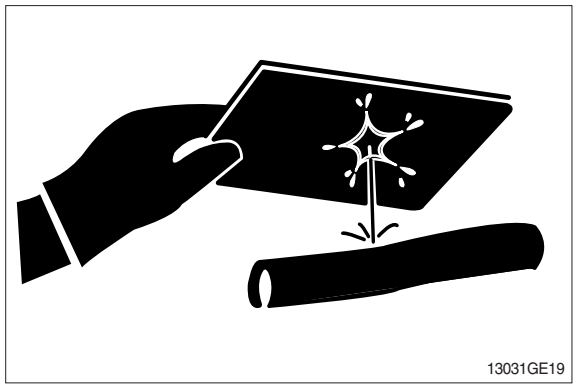
AVOID HIGH PRESSURE FLUIDS

Escaping fluid under pressure can penetrate the skin causing serious injury.

Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.



AVOID HEATING NEAR PRESSURIZED FLUID LINES

Flammable spray can be generated by heating near pressurized fluid lines, resulting in severe burns to yourself and bystanders. Do not heat by welding, soldering, or using a torch near pressurized fluid lines or other flammable materials.

Pressurized lines can be accidentally cut when heat goes beyond the immediate flame area. Install fire resisting guards to protect hoses or other materials.


13031GE20

PREVENT BATTERY EXPLOSIONS

Keep sparks, lighted matches, and flame away from the top of battery. Battery gas can explode.

Never check battery charge by placing a metal object across the posts. Use a volt-meter or hydrometer.

Do not charge a frozen battery; It may explode. Warm battery to 16° C (60° F).


13031GE21

PREVENT ACID BURNS

Sulfuric acid in battery electrolyte is poisonous. It is strong enough to burn skin, eat holes in clothing, and cause blindness if splashed into eyes.

Avoid the hazard by:

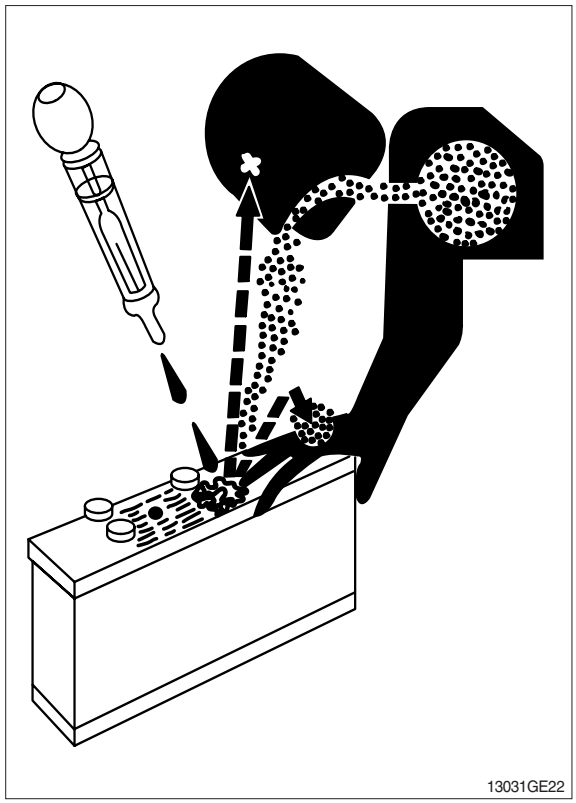
1. Filling batteries in a well-ventilated area.
2. Wearing eye protection and rubber gloves.
3. Avoiding breathing fumes when electrolyte is added.
4. Avoiding spilling of dripping electrolyte.
5. Use proper jump start procedure.

If you spill acid on yourself:

1. Flush your skin with water.
2. Apply baking soda or lime to help neutralize the acid.
3. Flush your eyes with water for 10-15 minutes. Get medical attention immediately.

If acid is swallowed:

1. Drink large amounts of water or milk.
2. Then drink milk of magnesia, beaten eggs, or vegetable oil.
3. Get medical attention immediately.



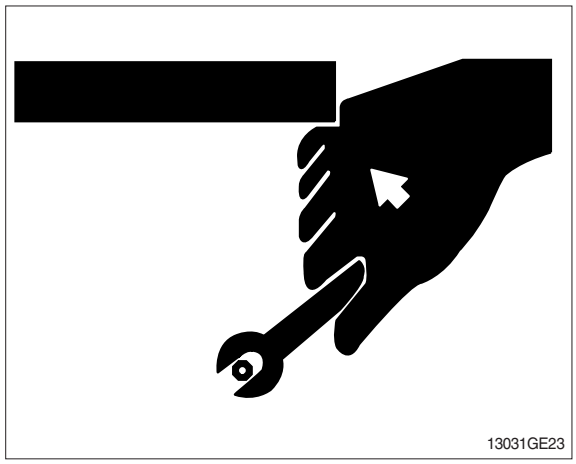
USE TOOLS PROPERLY

Use tools appropriate to the work. Makeshift tools, parts, and procedures can create safety hazards.

Use power tools only to loosen threaded tools and fasteners.

For loosening and tightening hardware, use the correct size tools. DO NOT use U.S. measurement tools on metric fasteners. Avoid bodily injury caused by slipping wrenches.

Use only recommended replacement parts. (See Parts catalogue.)

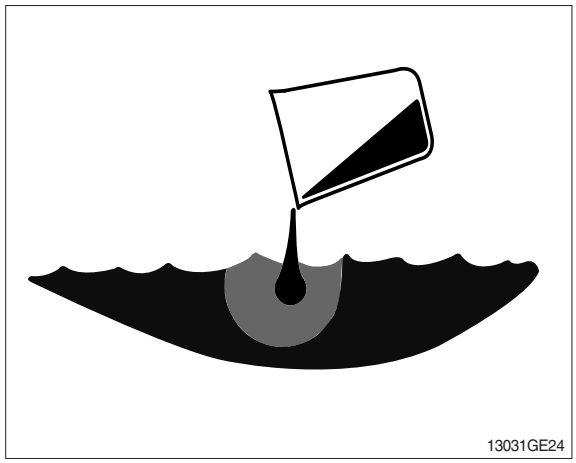


DISPOSE OF FLUIDS PROPERLY

Improperly disposing of fluids can harm the environment and ecology. Before draining any fluids, find out the proper way to dispose of waste from your local environmental agency.

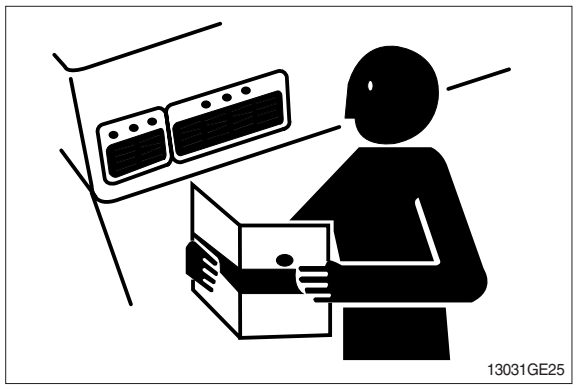
Use proper containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them.

DO NOT pour oil into the ground, down a drain, or into a stream, pond, or lake. Observe relevant environmental protection regulations when disposing of oil, fuel, coolant, brake fluid, filters, batteries, and other harmful waste.


13031GE24

REPLACE SAFETY SIGNS

Replace missing or damaged safety signs. See the machine operator's manual for correct safety sign placement.

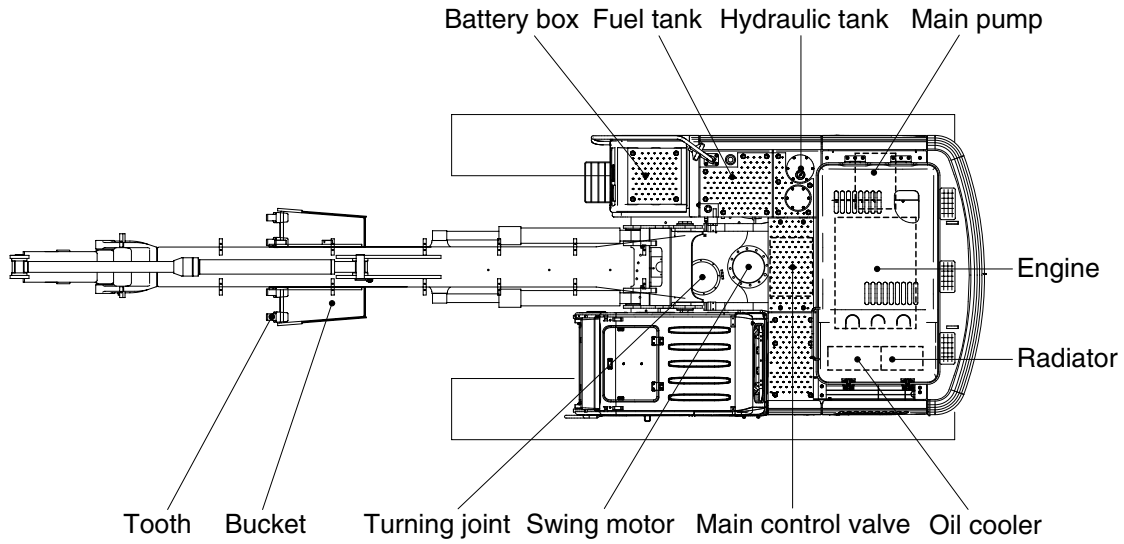

13031GE25

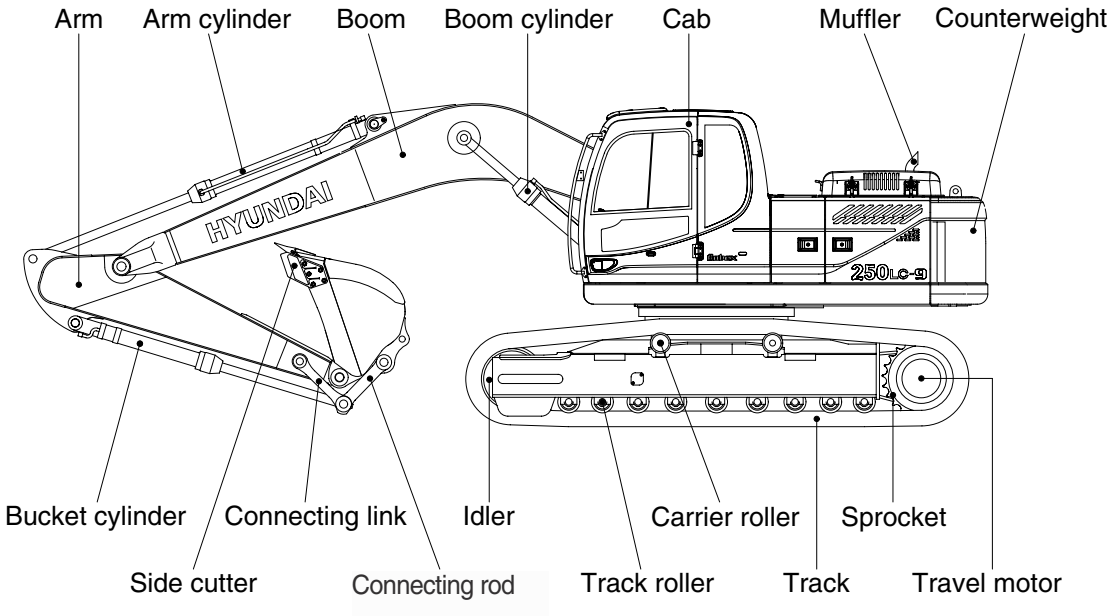
LIVE WITH SAFETY

Before returning machine to customer, make sure machine is functioning properly, especially the safety systems. Install all guards and shields.

GROUP 2 SPECIFICATIONS

1. MAJOR COMPONENT



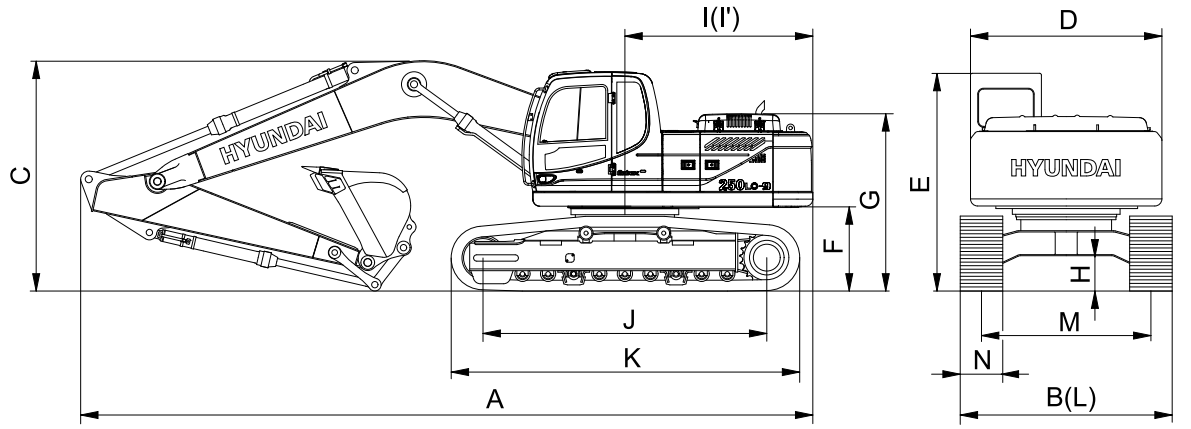


25092SP01

2. SPECIFICATIONS

1) R250LC-9

· 5.85 m (19' 2") BOOM and 3.05 m (10' 0") ARM

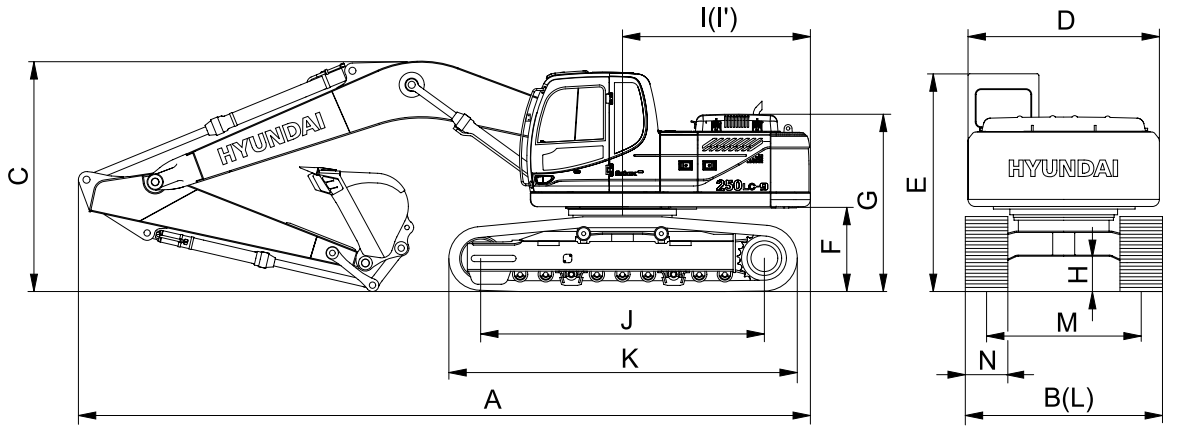


25092SP02

Description		Unit	Specification
Operating weight		kg (lb)	25200 (55560)
Bucket capacity (SAE heaped), standard		m^3 (yd^3)	1.08 (1.41)
Overall length	A	mm (ft-in)	9920 (32' 7")
Overall width, with 600mm shoe	B		3180 (10' 5")
Overall height	C		3220 (10' 7")
Superstructure width	D		2840 (9' 4")
Overall height of cab	E		2990 (9' 10")
Ground clearance of counterweight	F		1115 (3' 8")
Engine cover height	G		2427 (7' 12")
Minimum ground clearance	H		480 (1' 7")
Rear-end distance	I		2870 (9' 5")
Rear-end swing radius	I'		2975 (9' 9")
Distance between tumblers	J		3830 (12' 7")
Undercarriage length	K		4640 (15' 3")
Undercarriage width	L		3180 (10' 5")
Track gauge	M		2580 (8' 6")
Track shoe width, standard	N		600 (24")
Travel speed (low/high)		km/hr (mph)	3.3/5.3 (2.0/3.3)
Swing speed		rpm	12
Gradeability		Degree (%)	35 (70)
Ground pressure (600 mm shoe)		kgf/cm^2 (psi)	0.51 (7.25)
Max traction force		kg (lb)	21600 (47600)

2) R250NLC-9

· 5.85 m (19' 2") BOOM and 3.05 m (10' 0") ARM

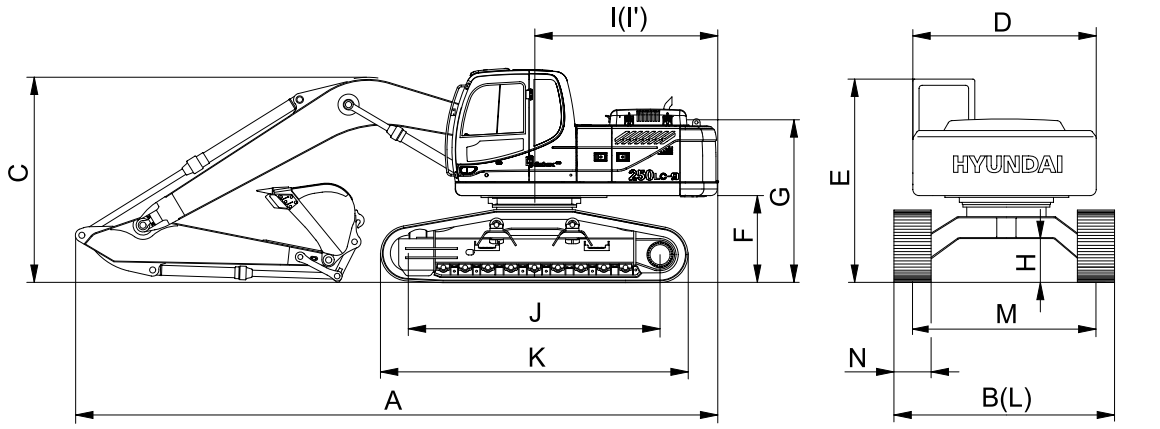


25092SP04

Description		Unit	Specification
Operating weight		kg (lb)	25100 (55300)
Bucket capacity (SAE heaped), standard		m^3 (yd^3)	1.08 (1.41)
Overall length	A	mm (ft-in)	9920 (32' 7")
Overall width, with 600 mm shoe	B		2980 (9' 9")
Overall height	C		3220 (10' 7")
Superstructure width	D		2840 (9' 4")
Overall height of cab	E		2990 (9' 10")
Ground clearance of counterweight	F		1115 (3' 8")
Engine cover height	G		2427 (7' 12")
Minimum ground clearance	H		480 (1' 7")
Rear-end distance	I		2870 (9' 5")
Rear-end swing radius	I'		2975 (9' 9")
Distance between tumblers	J		3830 (12' 7")
Undercarriage length	K		4640 (15' 3")
Undercarriage width	L		2980 (9' 9")
Track gauge	M		2380 (7' 10")
Track shoe width, standard	N		600 (24")
Travel speed (low/high)		km/hr (mph)	3.3/5.3 (2.1/3.3)
Swing speed		rpm	12
Gradeability		Degree (%)	35 (70)
Ground pressure (600 mm shoe)		kgf/cm^2 (psi)	0.51 (7.25)
Max traction force		kg (lb)	21600 (47600)

3) R250LC-9 HIGH WALKER

· 5.85 m (19' 2") BOOM and 3.05 m (10' 0") ARM

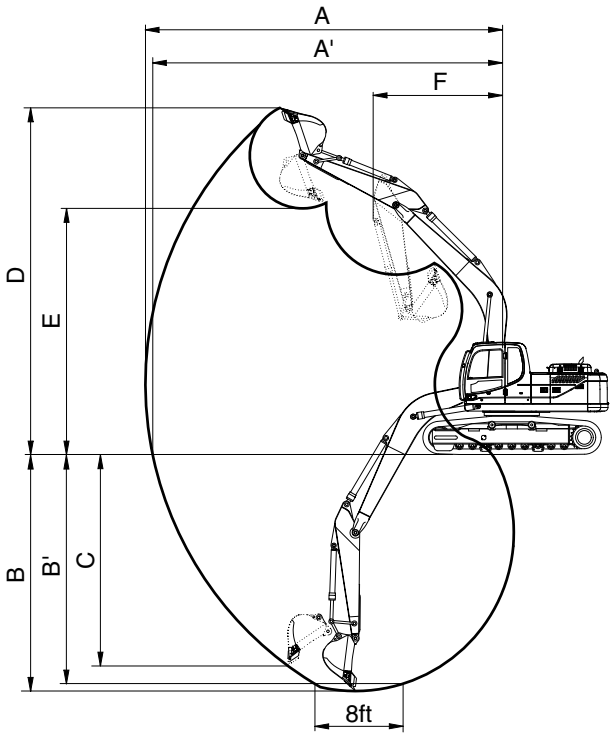


25092SP05

Description		Unit	Specification
Operating weight		kg (lb)	27450 (60520)
Bucket capacity (SAE heaped), standard		m^3 (yd^3)	1.08 (1.41)
Overall length	A	mm (ft-in)	9760 (32' 0")
Overall width, with 600 mm shoe	B		3390 (11' 1")
Overall height	C		3240 (10' 8")
Superstructure width	D		2840 (9' 4")
Overall height of cab	E		3345 (11' 0")
Ground clearance of counterweight	F		1470 (4' 10")
Engine cover height	G		2782 (9' 2")
Minimum ground clearance	H		765 (2' 6")
Rear-end distance	I		2975 (9' 9")
Rear-end swing radius	I'		2870 (9' 5")
Distance between tumblers	J		4030 (13' 3")
Undercarriage length	K		4940 (16' 2")
Undercarriage width	L		3390 (11' 1")
Track gauge	M		2790 (9' 2")
Track shoe width, standard	N		600 (24")
Travel speed (low/high)		km/hr (mph)	3.3/5.3 (2.1/3.3)
Swing speed		rpm	12
Gradeability		Degree (%)	35 (70)
Ground pressure (600 mm shoe)		kgf/cm^2 (psi)	0.53 (7.54)
Max traction force		kg (lb)	21600 (47600)

3. WORKING RANGE

1) R250LC-9, R250NLC-9 [5.85 m (19' 2") BOOM]

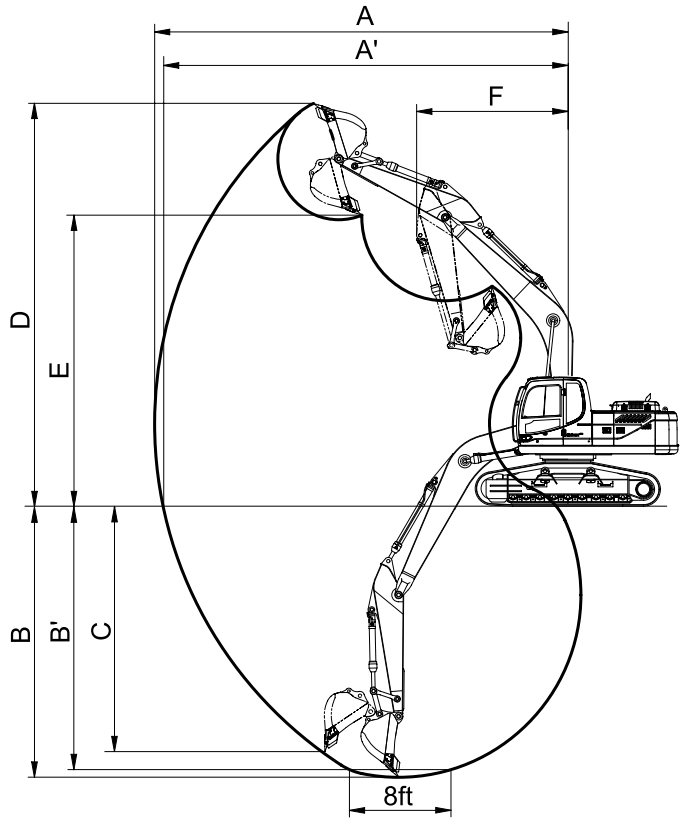


21092SP03

Description		2.10m (6' 11") Arm	2.50m (8' 2") Arm	※3.05m (10' 0") Arm	3.60m (11' 10") Arm
Max digging reach	A	9550 mm (31' 4")	9870 mm (32' 5")	10360 mm (34' 0")	10870 mm (35' 8")
Max digging reach on ground	A'	9360 mm (30' 9")	9680 mm (31' 9")	10190 mm (33' 5")	10700 mm (35' 1")
Max digging depth	B	6050 mm (19'10")	6450 mm (21' 2")	7000 mm (23' 0")	7550 mm (24' 9")
Max digging depth (8 ft level)	B'	5840 mm (19' 2")	6260 mm (20' 6")	6830 mm (22' 5")	7400 mm (24' 3")
Max vertical wall digging depth	C	5480 mm (18' 0")	5640 mm (18' 6")	6150 mm (20' 2")	6830 mm (22' 5")
Max digging height	D	9450 mm (31' 0")	9460 mm (31' 0")	9670 mm (31' 9")	9920 mm (32' 7")
Max dumping height	E	6360 mm (20'10")	6420 mm (21' 1")	6630 mm (21' 9")	6860 mm (22' 6")
Min swing radius	F	4420 mm (14' 6")	4200 mm (13' 9")	3980 mm (13' 1")	3900 mm (12' 10")
Bucket digging force	SAE	154 [167.2] kN	154 [167.2] kN	154 [167.2] kN	154 [167.2] kN
		15700 [17080] kgf	15700 [17080] kgf	16000 [17080] kgf	15700 [17080] kgf
		34610 [37580] lbf	34610 [37580] lbf	35270 [37580] lbf	34610 [37580] lbf
	ISO	175.5 [190.6] kN	175.5 [190.6] kN	175.5 [190.6] kN	175.5 [190.6] kN
		17900 [19430] kgf	17900 [19430] kgf	17900 [19430] kgf	17900 [19430] kgf
		39460 [42840] lbf	39460 [42840] lbf	39460 [42840] lbf	39460 [42840] lbf
Arm digging force	SAE	134.4 [145.9] kN	128.5 [139.5] kN	114.7 [124.6] kN	103.0 [111.8] kN
		13700 [14870] kgf	13100 [14220] kgf	11700 [12700] kgf	10500 [11400] kgf
		30200 [32790] lbf	28880 [31360] lbf	25790 [28000] lbf	23150 [25130] lbf
	ISO	139.3 [151.2] kN	133.4 [144.8] kN	118.7 [128.8] kN	106.9 [116.1] kN
		14200 [15420] kgf	13600 [14770] kgf	12100 [13100] kgf	10900 [11830] kgf
		31310 [33990] lbf	29980 [32550] lbf	26680 [28970] lbf	24030 [26090] lbf

[ ] : Power boost ※ : STD

2) R250LC-9 HIGH WALKER [5.85 m (19' 2") BOOM]



25092SP09

Description		2.10m (6' 11") Arm	2.50m (8' 2") Arm	※3.05m (10' 0") Arm	3.60m (11' 10") Arm
Max digging reach	A	9550 mm (31' 4")	9870 mm (32' 5")	10360 mm (34' 0")	10870 mm (35' 8")
Max digging reach on ground	A'	9280 mm (30' 5")	9160 mm (31' 6")	10110 mm (33' 2")	10360 mm (34'11")
Max digging depth	B	5680 mm (18' 8")	6080 mm (19'11")	6630 mm (21' 9")	7180 mm (23' 7")
Max digging depth (8 ft level)	B'	5470 mm (17'11")	5890 mm (19' 4")	6460 mm (21' 2")	7030 mm (23' 1")
Max vertical wall digging depth	C	5120 mm (16'10")	5300 mm (17' 5")	5790 mm (19' 0")	6470 mm (21' 3")
Max digging height	D	9820 mm (32' 3")	9840 mm (32' 3")	10040 mm (32'11")	10280 mm (33' 9")
Max dumping height	E	6730 mm (22' 1")	6790 mm (22' 3")	7000 mm (23' 0")	7220 mm (23' 8")
Min swing radius	F	4140 mm (13' 7")	4030 mm (13' 3")	3940 mm (12'11")	3900 mm (12'10")
Bucket digging force	SAE	154 [167.2] kN	154 [167.2] kN	154 [167.2] kN	154 [167.2] kN
		15700 [17080] kgf	15700 [17080] kgf	15700 [17080] kgf	15700 [17080] kgf
		34610 [37580] lbf	34610 [37580] lbf	34610 [37580] lbf	34610 [37580] lbf
	ISO	175.5 [190.6] kN	175.5 [190.6] kN	175.5 [190.6] kN	175.5 [190.6] kN
		17900 [19430] kgf	17900 [19430] kgf	17900 [19430] kgf	17900 [19430] kgf
		39460 [42840] lbf	39460 [42840] lbf	39460 [42840] lbf	39460 [42840] lbf
Arm crowd force	SAE	134.4 [145.9] kN	128.5 [139.5] kN	114.7 [124.6] kN	103.0 [111.8] kN
		13700 [14870] kgf	13100 [14220] kgf	11700 [12700] kgf	10500 [11400] kgf
		30200 [32790] lbf	28880 [31360] lbf	25790 [28000] lbf	23150 [25130] lbf
	ISO	139.3 [151.2] kN	133.4 [144.8] kN	118.7 [128.8] kN	106.9 [116.1] kN
		14200 [15420] kgf	13600 [14770] kgf	12100 [13100] kgf	10900 [11830] kgf
		31310 [33990] lbf	29980 [32550] lbf	26680 [28970] lbf	24030 [26090] lbf

[ ] : Power boost ※ : STD

4. WEIGHT

1) R250LC-9, R250NLC-9,

Item	R250LC-9		R250NLC-9	
	kg	lb	kg	lb
Upperstructure assembly	10500	23150	←	←
Main frame weld assembly	2360	5200	←	←
Engine assembly	560	1240	←	←
Main pump assembly	136	300	←	←
Main control valve assembly	220	485	←	←
Swing motor assembly	345	760	←	←
Hydraulic oil tank assembly	220	485	←	←
Fuel tank assembly	200	440	←	←
Counterweight	4600	10140	←	←
Cab assembly	310	680	←	←
Lower chassis assembly	9750	21500	9810	21630
Track frame weld assembly	3070	6770	2980	6570
Swing bearing	280	800	←	←
Travel motor assembly	276	608	←	←
Turning joint	53	117	←	←
Track recoil spring	140	309	←	←
Idler	160	353	←	←
Carrier roller	20	45	←	←
Track roller	40	88	←	←
Track-chain assembly (600 mm standard triple grouser shoe)	1500	3310	←	←
Front attachment assembly (5.85 m boom, 3.05 m arm, 1.08 m^3 SAE heaped bucket)	4950	10910	←	←
5.85 m boom assembly	1940	4280	←	←
3.05 m arm assembly	1020	2250	←	←
1.08 m^3 SAE heaped bucket	910	2010	←	←
Boom cylinder assembly	240	530	←	←
Arm cylinder assembly	340	750	←	←
Bucket cylinder assembly	220	490	←	←
Bucket control rod assembly	110	240	←	←

2) R250LC-9 HIGH WALKER

Item	R250LC-9 HIGH WALKER	
	kg	lb
Upperstructure assembly	10500	23150
Main frame weld assembly	2360	5200
Engine assembly	560	1240
Main pump assembly	136	300
Main control valve assembly	220	485
Swing motor assembly	345	760
Hydraulic oil tank assembly	220	485
Fuel tank assembly	200	440
Counterweight	4600	10140
Cab assembly	310	680
Lower chassis assembly	12000	26460
Track frame weld assembly	5280	11640
Swing bearing	360	800
Travel motor assembly	276	608
Turning joint	53	117
Track recoil spring	200	440
Idler	250	550
Carrier roller	55	120
Track roller	55	120
Track-chain assembly (600 mm standard triple grouser shoe)	1860	4100
Front attachment assembly (5.85 m boom, 3.05 m arm, 1.08 m^3 SAE heaped bucket)	4950	10910
5.85 m boom assembly	1940	4280
3.05 m arm assembly	1020	2250
1.08 m^3 SAE heaped bucket	910	2010
Boom cylinder assembly	240	530
Arm cylinder assembly	340	750
Bucket cylinder assembly	220	490
Bucket control rod assembly	110	240

5. LIFTING CAPACITIES

1) R250LC-9

(1) 5.85 m (19' 2") boom, 2.10 m (6' 11") arm equipped with 1.08 m³ (SAE heaped) bucket and 600 mm (24") triple grouser shoe and 4600 kg (10140 lb) counterweight.

· : Rating over-front · : Rating over-side or 360 degree

Load point height		Load radius								At max. reach		
		3.0 m (10 ft)		4.5 m (15 ft)		6.0 m (20 ft)		7.5 m (25 ft)		Capacity		Reach
												m (ft)
6.0 m (20 ft)	kg					*5790	*5790			5220	3200	8.32
	lb					*12760	*12760			11510	7050	(27.3)
4.5 m (15 ft)	kg			*7810	*7810	*6510	5570	*6000	3690	4520	2710	8.91
	lb			*17220	*17220	*14350	12280	*13230	8140	9960	5970	(29.2)
3.0 m (10 ft)	kg			*10260	8200	*7600	5190	5900	3550	4210	2480	9.17
	lb			*22620	18080	*16760	11440	13010	7830	9280	5470	(30.1)
1.5 m (5 ft)	kg			*12300	7520	8250	4850	5720	3380	4170	2430	9.14
	lb			*27120	16580	18190	10690	12610	7450	9190	5360	(30.0)
Ground Line	kg			13110	7250	8010	4640	5600	3270	4410	2580	8.80
	lb			28900	15980	17660	10230	12350	7210	9720	5690	(28.9)
-1.5 m (-5 ft)	kg	*15460	15160	13090	7230	7940	4580			5060	2990	8.13
	lb	*34080	33420	28860	15940	17500	10100			11160	6590	(26.7)
-3.0 m (-10 ft)	kg	*17100	15470	*12090	7390	8050	4680			*6290	3980	6.98
	lb	*37700	34110	*26650	16290	17750	10320			*13870	8770	(22.9)
-4.5 m (-15 ft)	kg	*13360	*13360	*9460	7790							
	lb	*29450	*29450	*20860	17170							

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 (standard equipment) located on the back of the bucket.
4. *indicates load limited by hydraulic capacity.

(2) 5.85 m (19' 2") boom, 2.50 m (8' 2") arm equipped with 1.08 m³ (SAE heaped) bucket and 600 mm (24") triple grouser shoe and 4600 kg (10140 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)		6.0 m (20ft)		7.5 m (25ft)		Capacity		Reach
														m (ft)
6.0 m (20 ft)	kg											4900	3000	8.67
	lb											10800	6610	(28.4)
4.5 m (15 ft)	kg							*6070	5670	*5630	3770	4280	2550	9.23
	lb							*13380	12500	*12410	8310	9440	5620	(30.3)
3.0 m (10 ft)	kg					*9550	8410	*7210	5280	5950	3590	3990	2340	9.48
	lb					*21050	18540	*15900	11640	13120	7910	8800	5160	(31.1)
1.5 m (5 ft)	kg					*11790	7650	8310	4910	5750	3410	3950	2290	9.45
	lb					*25990	16870	18320	10820	12680	7520	8170	5050	(31.0)
Ground Line	kg					*12990	7280	8030	4660	5600	3270	4150	2410	9.13
	lb					*28640	16050	17700	10270	12350	7210	9150	5310	(30.0)
-1.5 m (-5 ft)	kg			*15100	14960	13050	7190	7910	4560	5550	3220	4690	2750	8.49
	lb			*33290	32980	28770	15850	17440	10050	12240	7100	10340	6060	(27.9)
-3.0 m (-10 ft)	kg	*16360	*16360	*18120	15250	*12470	7300	7970	4610			5940	3550	7.41
	lb	*36070	*36070	*39950	33620	*27490	16090	17570	10160			13100	7830	(24.3)
-4.5 m (-15 ft)	kg			*14860	*14860	*10430	7620							
	lb			*32760	*32760	*22990	16800							

(3) 5.85 m (19' 2") boom, 3.05 m (10' 0") arm equipped with 1.08 m³ (SAE heaped) bucket and 600 mm (24") triple grouser shoe and 4600 kg (10140 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)		6.0 m (20ft)		7.5 m (25ft)		Capacity		Reach
														m (ft)
6.0 m (20 ft)	kg									*3700	*3700	4400	2660	9.22
	lb									*8160	*8160	9700	5860	(30.2)
4.5 m (15 ft)	kg							*5350	*5350	*5060	3830	3880	2280	9.74
	lb							*11790	*11790	*11160	8440	8550	5030	(32.0)
3.0 m (10 ft)	kg			*13640	*13640	*8400	*8400	*6540	5360	*5660	3620	3630	2090	9.98
	lb			*30070	*30070	*18520	*18520	*14420	11820	*12480	7980	8000	4610	(32.7)
1.5 m (5 ft)	kg			*9450	*9450	*10870	7800	*7820	4950	5750	3400	3580	2040	9.95
	lb			*20830	*20830	*23960	17200	*17240	10910	12680	7500	7890	4500	(32.6)
Ground Line	kg			*10570	*10570	*12490	7280	8010	4640	5560	3230	3730	2130	9.65
	lb			*23300	*23300	*27540	16050	17660	10230	12260	7120	8220	4700	(31.7)
-1.5 m (-5 ft)	kg	*9940	*9940	*13870	*13870	12930	7090	7830	4480	5460	3140	4150	2390	9.05
	lb	*21910	*21910	*30580	*30580	28510	15630	17260	9880	12040	6920	9150	5270	(29.7)
-3.0 m (-10 ft)	kg	*13540	*13540	*18430	14860	*12780	7110	7820	4470			5080	2980	8.06
	lb	*29850	*29850	*40630	32760	*28180	15670	17240	9850			11200	6570	(26.4)
-4.5 m (-15 ft)	kg	*17830	*17830	*16580	15340	*11360	7340	8020	4640			*5940	4480	6.48
	lb	*39310	*39310	*36550	33820	*25040	16180	17680	10230			*13100	9880	(21.3)

(4) 5.85 m (19' 2") boom, 3.60 m (11' 10") arm equipped with 1.08 m^3 (SAE heaped) bucket and 600 mm (24") triple grouser shoe and 4600 kg (10140 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)		6.0 m (20 ft)		7.5 m (25 ft)		9.0 m (30 ft)		Capacity		Reach
																m (ft)
6.0 m (20 ft)	kg									*3930	*3930			3960	2360	9.77
	lb									*8660	*8660			8730	5200	(32.1)
4.5 m (15 ft)	kg									*4530	3890	*2500	*2500	3530	2040	10.27
	lb									*9990	8580	*5510	*5510	7780	4500	(33.7)
3.0 m (10 ft)	kg							*5890	5490	*5190	3670	*3590	2550	3310	1870	10.49
	lb							*12990	12100	*11440	8090	*7910	5620	7300	4120	(34.4)
1.5 m (5 ft)	kg			*12610	*12610	*9960	8040	*7260	5040	5790	3430	4210	2430	3260	1820	10.46
	lb			*27800	*27800	*21960	17730	*16010	11110	12760	7560	9280	5360	7190	4010	(34.3)
Ground Line	kg			*11020	*11020	*11930	7390	8070	4680	5570	3230	4090	2320	3380	1890	10.18
	lb			*24290	*24290	*26300	16290	17790	10320	12280	7120	9020	5110	7450	4170	(33.4)
-1.5 m (-5 ft)	kg	*9010	*9010	*13200	*13200	*12900	7090	7830	4470	5430	3100			3710	2100	9.62
	lb	*19860	*19860	*29100	*29100	*28440	15630	17260	9850	11970	6830			8180	4630	(31.6)
-3.0 m (-10 ft)	kg	*12120	*12120	*16820	14680	12880	7040	7750	4400	5390	3070			4420	2550	8.71
	lb	*26720	*26720	*37080	32360	28400	15520	17090	9700	11880	6770			9740	5620	(28.6)
-4.5 m (-15 ft)	kg	*15830	*15830	*17940	15050	*12020	7180	7850	4490					*5790	3580	7.30
	lb	*34900	*34900	*39550	33180	*26500	15830	17310	9900					*12760	7890	(24.0)

2) R250NLC-9

(1) 5.85 m (19' 2") boom, 2.10 m (6' 11") arm equipped with 1.08 m³ (SAE heaped) bucket and 600 mm (24") triple grouser shoe and 4600 kg (10140 lb) counterweight.

· : Rating over-front · : Rating over-side or 360 degree

Load point height		Load radius								At max. reach		
		3.0 m (10 ft)		4.5 m (15 ft)		6.0 m (20 ft)		7.5 m (25 ft)		Capacity		Reach
												m (ft)
6.0 m (20 ft)	kg					*5790	5290			5200	2870	8.32
	lb					*12760	11660			11460	6330	(27.3)
4.5 m (15 ft)	kg			*7810	*7810	*6510	5030	*6000	3310	4500	2410	8.91
	lb			*17220	*17220	*14350	11090	*13230	7300	9920	5310	(29.2)
3.0 m (10 ft)	kg			*10260	7330	*7600	4660	5870	3170	4190	2190	9.17
	lb			*22620	16160	*16760	10270	12940	6990	9240	4830	(30.1)
1.5 m (5 ft)	kg			*12300	6670	8210	4330	5690	3010	4150	2150	9.14
	lb			*27120	14700	18100	9550	12540	6640	9150	4740	(30.0)
Ground Line	kg			13050	6410	7970	4120	5570	2900	4390	2280	8.80
	lb			28770	14130	17570	9080	12280	6390	9680	5030	(28.9)
-1.5 m (-5 ft)	kg	*15460	13120	13030	6390	7900	4060			5040	2660	8.13
	lb	*34080	28920	28730	14090	17420	8950			11110	5860	(26.7)
-3.0 m (-10 ft)	kg	*17100	13420	*12090	6540	8020	4160			*6290	3560	6.98
	lb	*37700	29590	*26650	14420	17680	9170			*13870	7850	(22.9)
-4.5 m (-15 ft)	kg	*13360	*13360	*9460	6930							
	lb	*29450	*29450	*20860	15280							

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.

(2) 5.85 m (19' 2") boom, 2.50 m (8' 2") arm equipped with 1.08 m³ (SAE heaped) bucket and 600 mm (24") triple grouser shoe and 4600 kg (10140 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)		6.0 m (20ft)		7.5 m (25ft)		Capacity		Reach
														m (ft)
6.0 m (20 ft)	kg											4880	2680	8.67
	lb											10760	5910	(28.4)
4.5 m (15 ft)	kg							*6070	5130	*5630	3380	4260	2270	9.23
	lb							*13380	11310	*12410	7450	9390	5000	(30.3)
3.0 m (10 ft)	kg					*9550	7530	*7210	4750	5920	3210	3970	2070	9.48
	lb					*21050	16600	*15900	10470	13050	7080	8750	4560	(31.3)
1.5 m (5 ft)	kg					*11790	6790	8270	4380	5720	3030	3930	2020	9.45
	lb					*25990	14970	18230	9660	12610	6680	8660	4450	(31.0)
Ground Line	kg					*12990	6440	7990	4140	5570	2900	4130	2120	9.13
	lb					*28640	14200	17610	9130	12280	6390	9110	4670	(30.0)
-1.5 m (-5 ft)	kg			*15100	12930	12990	6350	7880	4040	5520	2850	4670	2440	8.49
	lb			*33290	28510	28640	14000	17370	8910	12170	6280	10300	5380	(27.9)
-3.0 m (-10 ft)	kg	*16360	*16360	*18120	13210	*12470	6450	7940	4090			5910	3170	7.41
	lb	*36070	*36070	*39950	29120	*27490	14220	17500	9020			13030	6990	(24.3)
-4.5 m (-15 ft)	kg			*14860	13750	*10430	6760							
	lb			*32760	30310	*22990	14900							

(3) 5.85 m (19' 2") boom, 3.05 m (10' 0") arm equipped with 1.08 m³ (SAE heaped) bucket and 600 mm (24") triple grouser shoe and 4600 kg (10140 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)		6.0 m (20ft)		7.5 m (25ft)		Capacity		Reach
														m (ft)
6.0 m (20 ft)	kg									*3700	3570	4380	2370	9.22
	lb									*8160	7870	9660	5220	(30.2)
4.5 m (15 ft)	kg							*5350	5230	*5060	3440	3860	2020	9.74
	lb							*11790	11530	*11160	7580	8510	4450	(32.0)
3.0 m (10 ft)	kg			*13640	*13640	*8400	7780	*6540	4830	*5660	3240	3610	1840	9.98
	lb			*30070	*30070	*18520	17150	*14420	10650	*12480	7140	7960	4060	(32.7)
1.5 m (5 ft)	kg			*9450	*9450	*10870	6940	*7820	4420	5720	3030	3560	1790	9.95
	lb			*20830	*20830	*23960	15300	*17240	9740	12610	6680	7850	3950	(32.6)
Ground Line	kg			*10570	*10570	*12490	6430	7980	4120	5530	2850	3710	1860	9.65
	lb			*23300	*23300	*27540	14180	17590	9080	12190	6280	8180	4100	(31.7)
-1.5 m (-5 ft)	kg	*9940	*9940	*13870	12620	12870	6250	7790	3960	5430	2760	4130	2100	9.05
	lb	*21910	*21910	*30580	27820	28370	13780	17170	8730	11970	6080	9110	4630	(29.7)
-3.0 m (-10 ft)	kg	*13540	*13540	*18430	12840	*12780	6270	7780	3950			5060	2640	8.06
	lb	*29850	*29850	*40630	28310	*28180	13820	17150	8710			11160	5820	(26.4)
-4.5 m (-15 ft)	kg	*17830	*17830	*16580	13290	*11360	6490	7980	4120			*5940	4010	6.48
	lb	*39310	*39310	*36550	29300	*25040	14310	17590	9080			*13100	8840	(21.3)

(4) 5.85 m (19' 2") boom, 3.60 m (11' 10") arm equipped with 1.08 m^3 (SAE heaped) bucket and 600 mm (24") triple grouser shoe and 4600 kg (10140 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)		6.0 m (20 ft)		7.5 m (25 ft)		9.0 m (30 ft)		Capacity		Reach
																m (ft)
6.0 m (20 ft)	kg									*3930	3660			3940	2090	9.77
	lb									*8660	8070			8690	4610	(32.1)
4.5 m (15 ft)	kg									*4530	3510	*2500	2350	3510	1790	10.27
	lb									*9990	7740	*5510	5180	7740	3950	(33.7)
3.0 m (10 ft)	kg							*5890	4940	*5190	3290	*3590	2250	3290	1630	10.49
	lb							*12990	10890	*11440	7250	*7910	4960	7250	3590	(34.4)
1.5 m (5 ft)	kg			*12610	*12610	*9960	7160	*7260	4510	5760	3060	4180	2130	3240	1580	10.46
	lb			*27800	*27800	*21960	15790	*16010	9940	12700	6750	9220	4700	7140	3480	(34.3)
Ground Line	kg			*11020	*11020	*11930	6540	8030	4160	5540	2860	4070	2030	3360	1640	10.18
	lb			*24290	*24290	*26300	14420	17700	9170	12210	6310	8970	4480	7410	3620	(33.4)
-1.5 m (-5 ft)	kg	*9010	*9010	*13200	12560	12890	6250	7790	3950	5400	2730			3690	1830	9.62
	lb	*19860	*19860	*29100	27690	28420	13780	17170	8710	11900	6020			8140	4030	(31.6)
-3.0 m (-10 ft)	kg	*12120	*12120	*16820	12660	12820	6190	7710	3880	5370	2700			4390	2240	8.71
	lb	*26720	*26720	*37080	27910	28260	13650	17000	8550	11840	5950			9680	4940	(28.6)
-4.5 m (-15 ft)	kg	*15830	*15830	*17940	13010	*12020	6330	7820	3970					*5790	3190	7.30
	lb	*34900	*34900	*39550	28680	*26500	13960	17240	8750					*12760	7030	(24.0)

3) R250LC-9 HIGH WALKER

(1) 5.85 m (19' 2") boom, 2.10 m (6' 11") arm equipped with 1.08 m³ (SAE heaped) bucket, 600 mm (24") triple grouser shoe and 4600 kg (10140 lb) counterweight.

· : Rating over-front · : Rating over-side or 360 degree

Load point height		Load radius								At max. reach		
		3.0 m (10 ft)		4.5 m (15 ft)		6.0 m (20 ft)		7.5 m (25 ft)		Capacity		Reach
												m (ft)
6.0 m (20 ft)	kg					*5910	*5910			*5290	3780	8.49
	lb					*13030	*13030			*11660	8330	(27.9)
4.5 m (15 ft)	kg			*8350	*8350	*6750	6680	*6080	4530	5310	3310	9.00
	lb			*18410	*18410	*14880	14730	*13400	9990	11710	7300	(29.5)
-3.0 m (-10 ft)	kg			*10830	9880	*7870	6290	*6580	4370	5040	3110	9.19
	lb			*23880	21780	*17350	13870	*14510	9630	11110	6860	(30.2)
-1.5 m (-5 ft)	kg			*12610	9280	*8890	5970	6840	4210	5080	3120	9.09
	lb			*27800	20460	*19600	13160	15080	9280	11200	6860	(30.2)
Ground Line	kg			*13240	9080	*9480	5790	6740	4120	5450	3360	8.68
	lb			*29190	20020	*20900	12760	14860	9080	12020	7410	(28.5)
-1.5 m (-5 ft)	kg	*17510	*17510	*12940	9100	*9460	5760			*6350	3950	7.91
	lb	*38600	*38600	*28530	20060	*20860	12700			*14000	8710	(26.0)
-3.0 m (-10 ft)	kg	*16440	*16440	*11670	9310	*8440	5920			*6190	5420	6.61
	lb	*36240	*36240	*25730	20530	*18610	13050			*13650	11950	(21.7)

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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