



Robex 250LC-9

CRAWLER EXCAVATOR



SERVICE MANUAL

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FOREWORD

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.

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

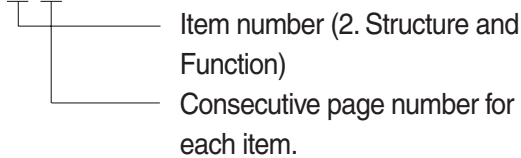
1. See the page number on the bottom of the page.

File the pages in correct order.

2. Following examples shows how to read the page number.

Example 1

2 - 3



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

10 - 5

Added pages

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.

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 50 in the vertical column at the left side, take this as ①, then draw a horizontal line from ①.
- (2) Locate the number 5 in the row across the top, take this as ②, then draw a perpendicular line down from ②.
- (3) Take the point where the two lines cross as ③. This point ③ 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

②

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
① 50	1.969	2.008	2.047	2.087	2.126	③ 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

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
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

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	6.076	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	7.699	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	296.6	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 Hints	1-1
Group 2 Specifications	1-10

SECTION 1 GENERAL

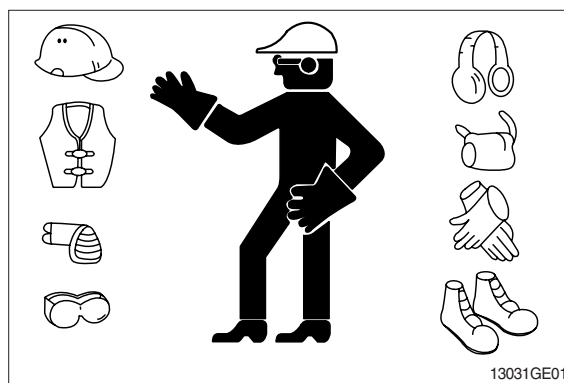
GROUP 1 SAFETY

FOLLOW SAFE PROCEDURE

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

WEAR PROTECTIVE CLOTHING

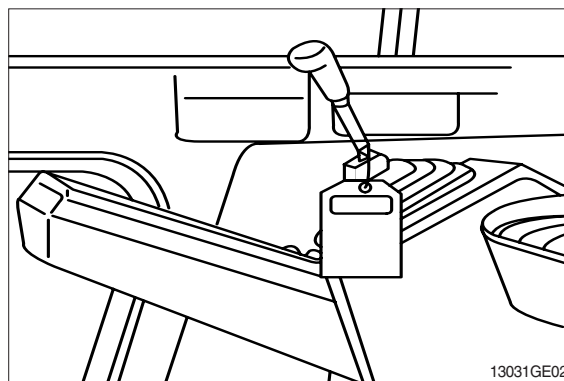
Wear close fitting clothing and safety equipment appropriate to the job.



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.



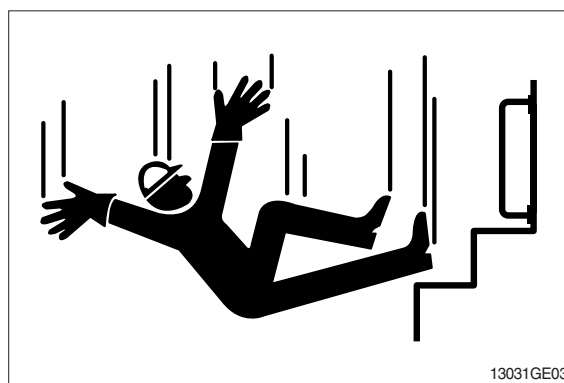
USE HANDHOLDS AND STEPS

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.

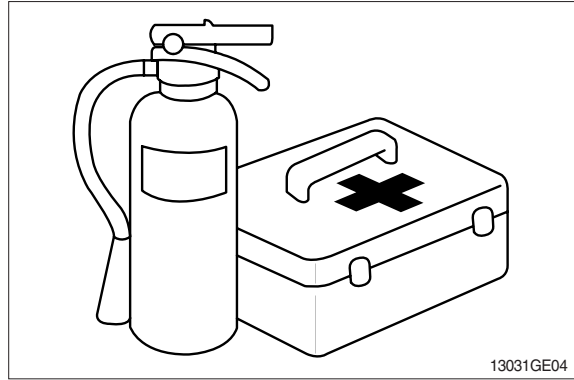


PREPARE FOR EMERGENCIES

Be prepared if a fire starts.

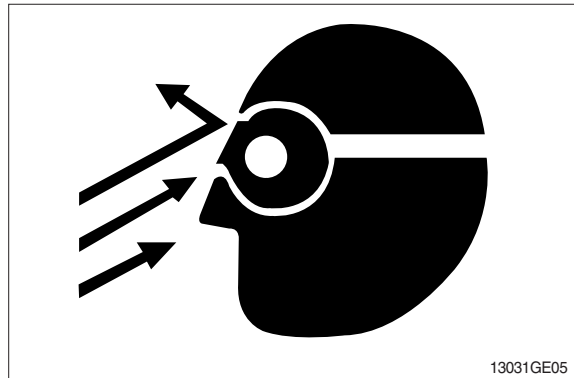
Keep a first aid kit and fire extinguisher handy.

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



PROTECT AGAINST FLYING DEBRIS

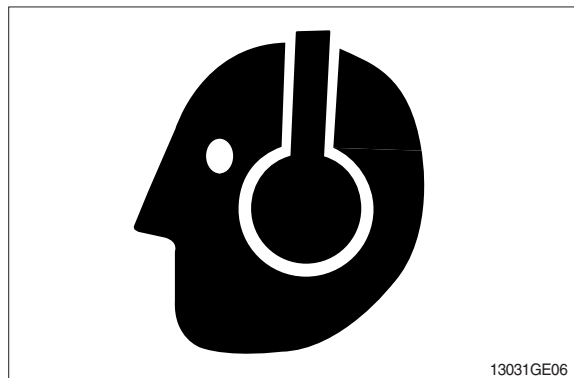
Guard against injury from flying pieces of metal or debris; Wear goggles or safety glasses.



PROTECT AGAINST NOISE

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

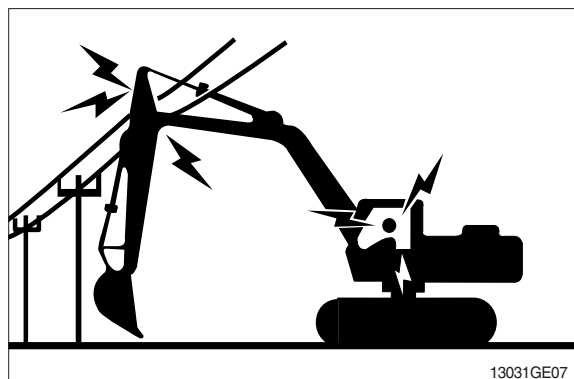
Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.



AVOID POWER LINES

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

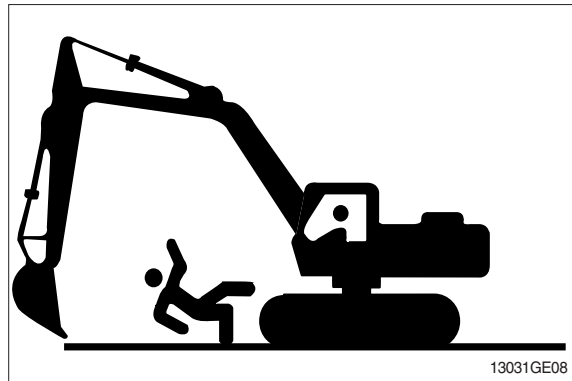
Never move any part of the machine or load closer to electric line than 3m(10ft) plus twice the line insulator length.



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.

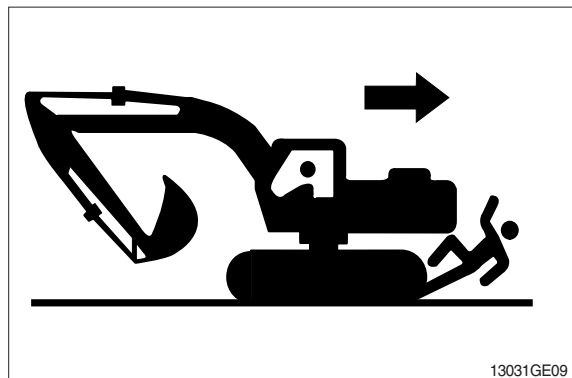


MOVE AND OPERATE MACHINE SAFELY

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 FROM 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:

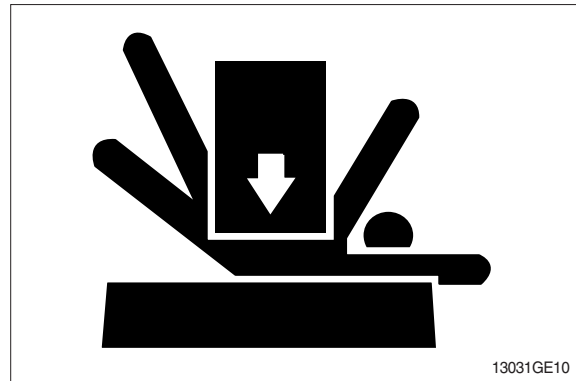
- Park machine on a level surface.
- Lower bucket to the ground.
- Turn auto idle switch off.
- Run engine at 1/2 speed without load for 2 minutes.
- Turn key switch to OFF to stop engine. Remove key from switch.
- Move pilot control shutoff lever to locked position.
- Allow engine to cool.

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.

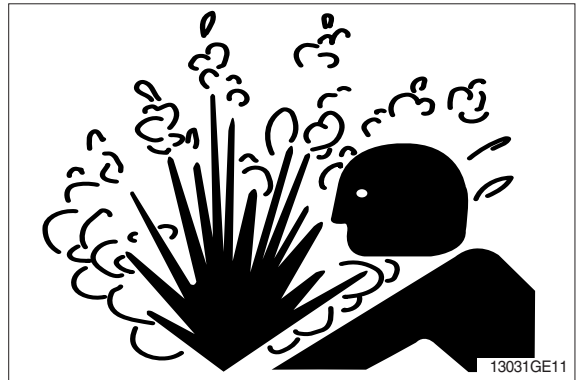
Do not work under a machine that is supported solely by a jack. Follow recommended procedures in this manual.



SERVICE COOLING SYSTEM SAFELY

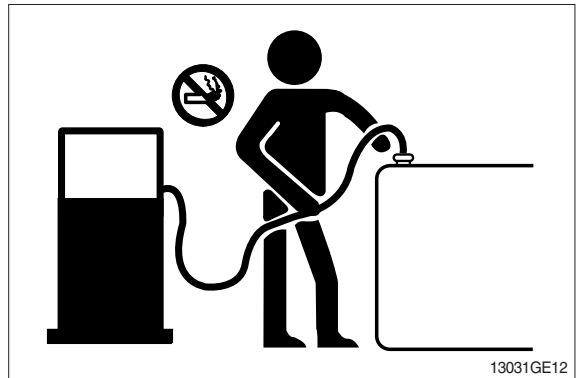
Explosive release of fluids from pressurized cooling system can cause serious burns.

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



HANDLE FLUIDS SAFELY-AVOID FIRES

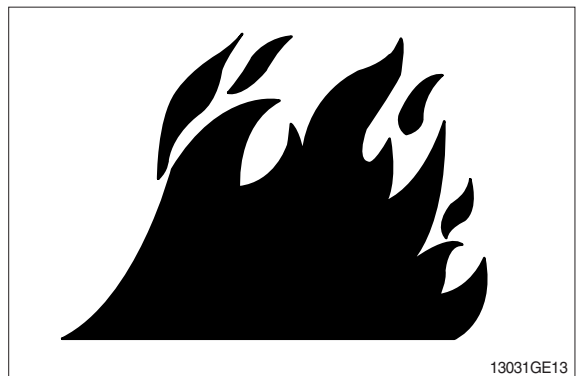
Handle fuel with care; It is highly flammable. Do not refuel the machine while smoking or when near open flame or sparks. Always stop engine before refueling machine. Fill fuel tank outdoors.



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.



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

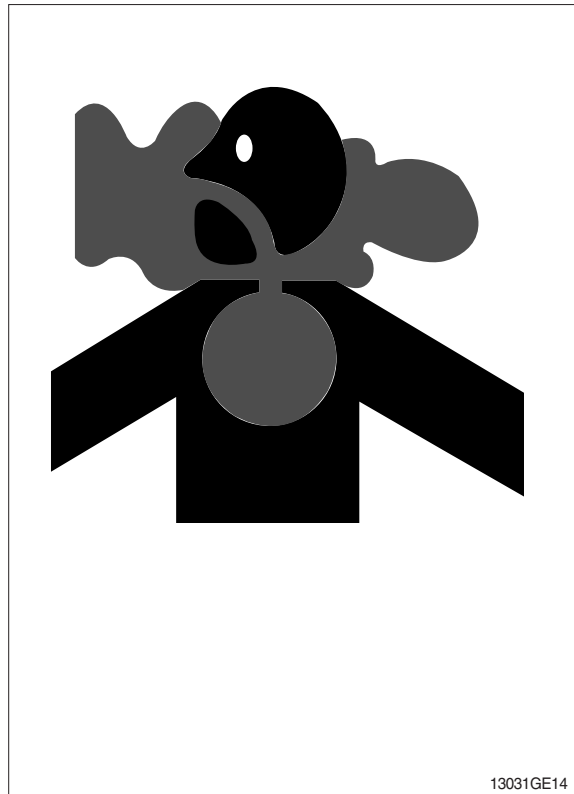
Avoid potentially toxic fumes and dust.

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

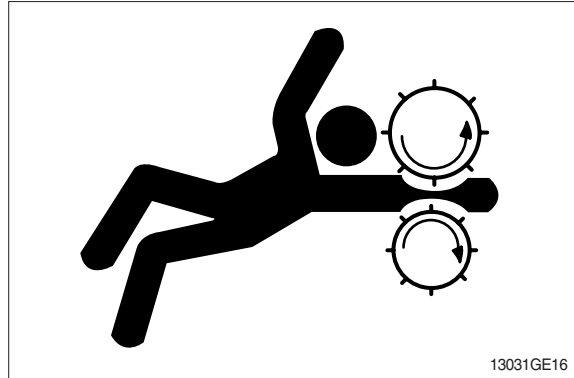
Illuminate your work area adequately but safely. Use a portable safety light for working inside or under the machine. Make sure the bulb is enclosed by a wire cage. The hot filament of an accidentally broken bulb can ignite spilled fuel or oil.



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.

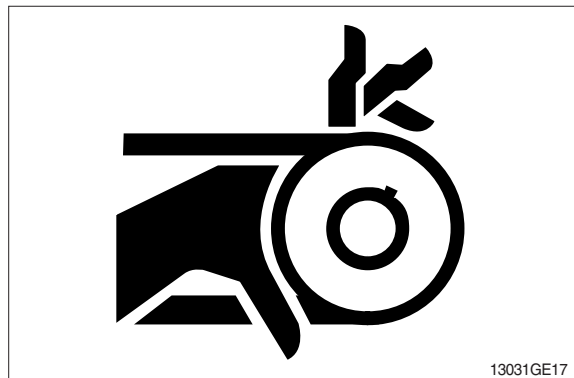
Remove rings and other jewelry to prevent electrical shorts and entanglement in moving parts.



STAY CLEAR OF MOVING PARTS

Entanglements in moving parts can cause serious injury.

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



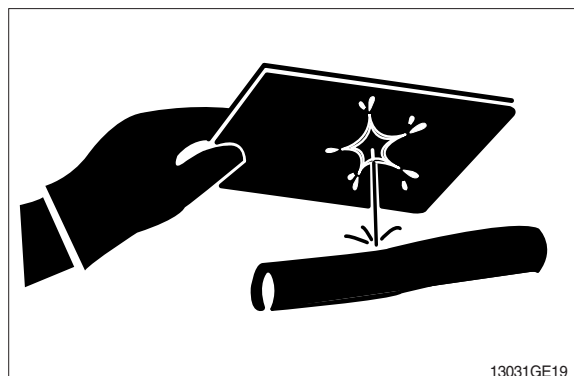
AVOID HIGH PRESSURE FLUIDS

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.



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).



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:

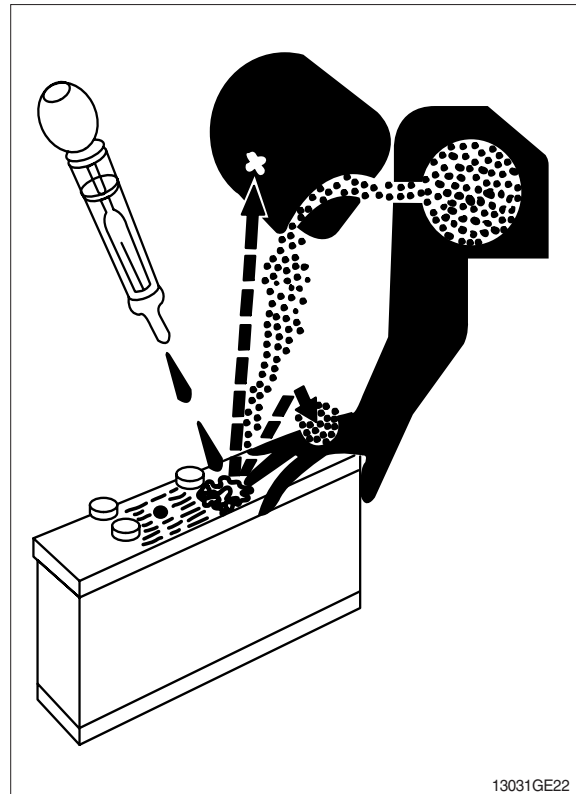
1. Filling batteries in a well-ventilated area.
2. Wearing eye protection and rubber gloves.
3. Avoiding breathing fumes when electrolyte is added.
4. Avoiding spilling or dripping electrolyte.
5. Use proper jump start procedure.

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.



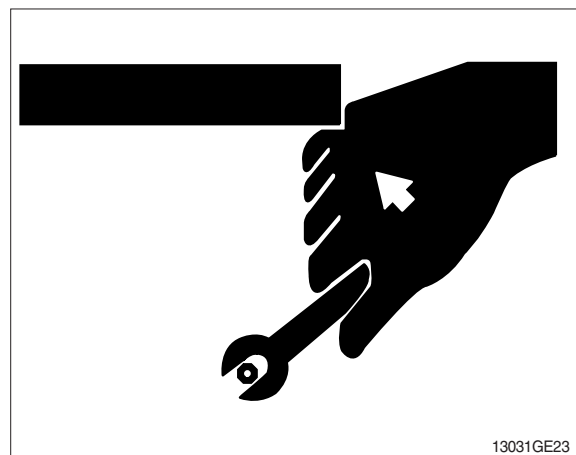
USE TOOLS PROPERLY

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.)

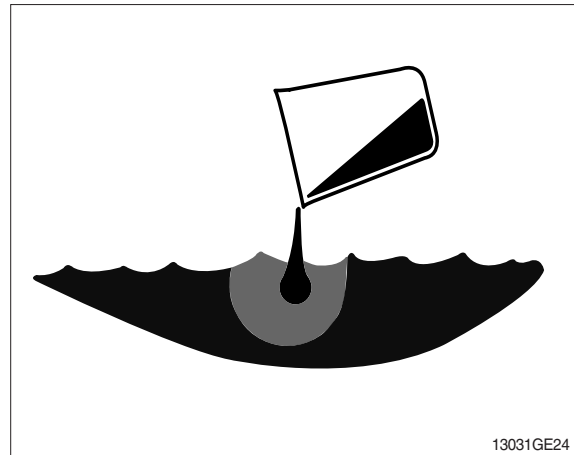


DISPOSE OF FLUIDS PROPERLY

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.

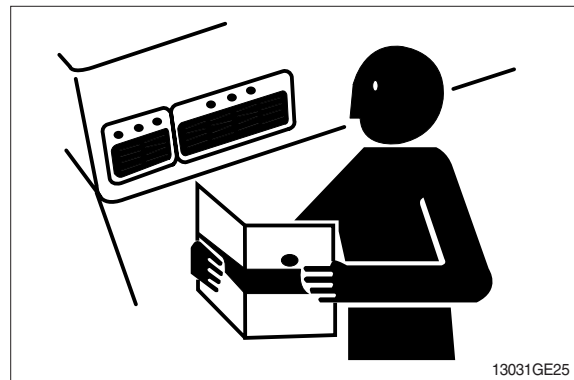
Use proper containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them.

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.



REPLACE SAFETY SIGNS

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

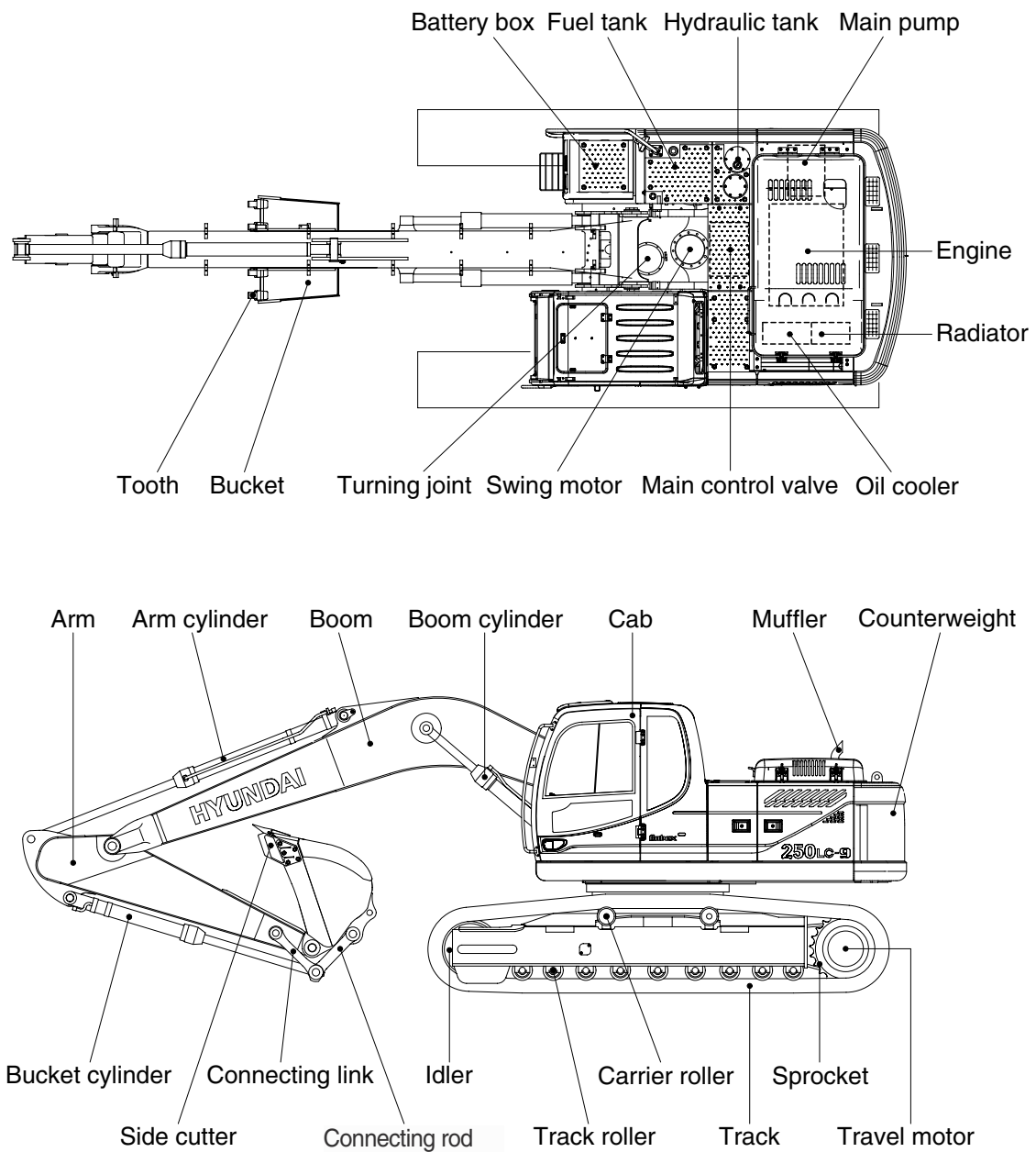


LIVE WITH SAFETY

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

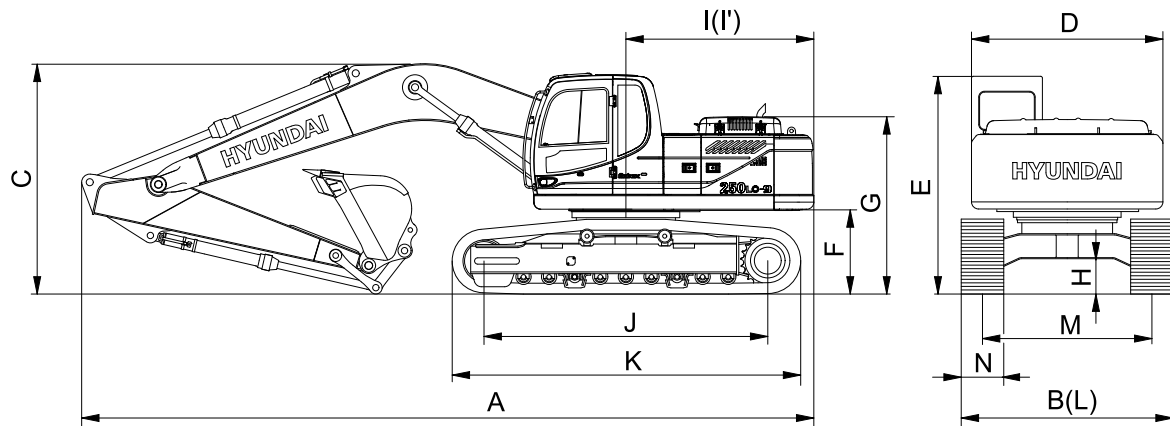


25092SP01

2. SPECIFICATIONS

1) R250LC-9

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

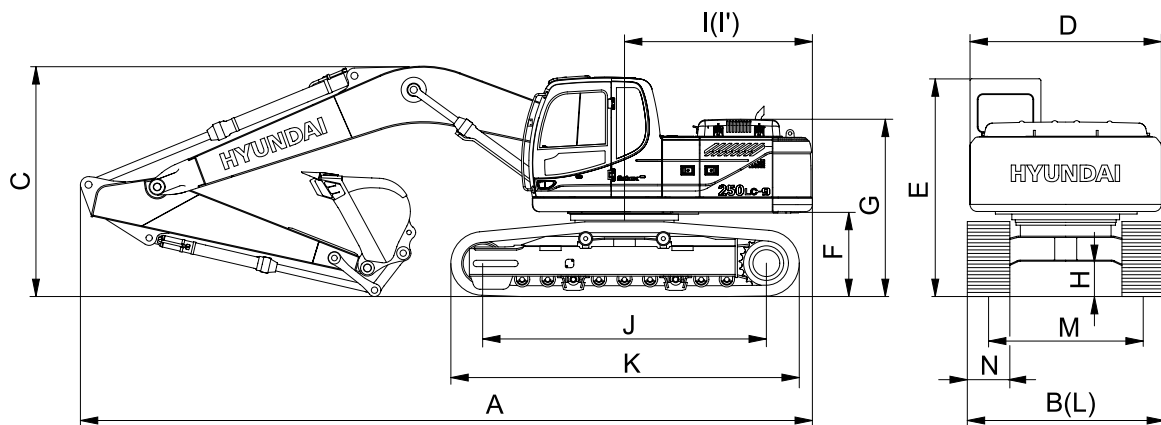


25092SP02

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

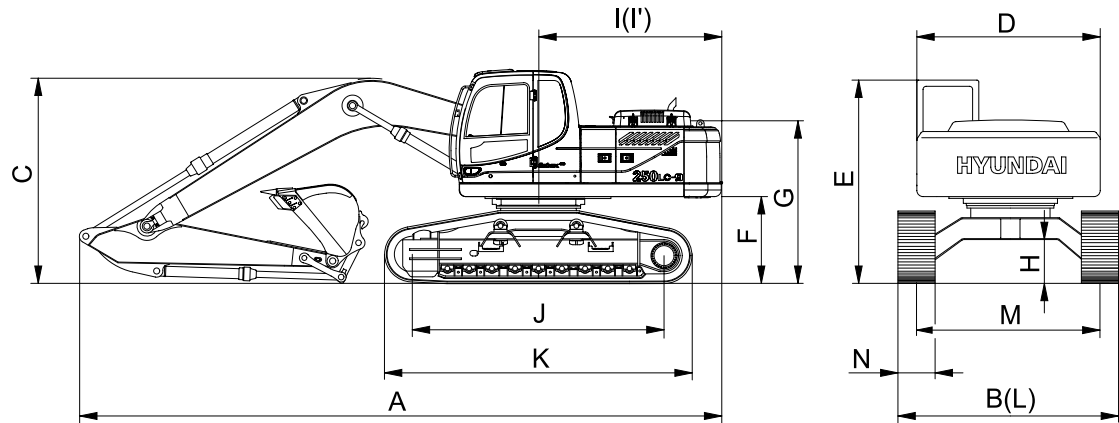


25092SP04

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

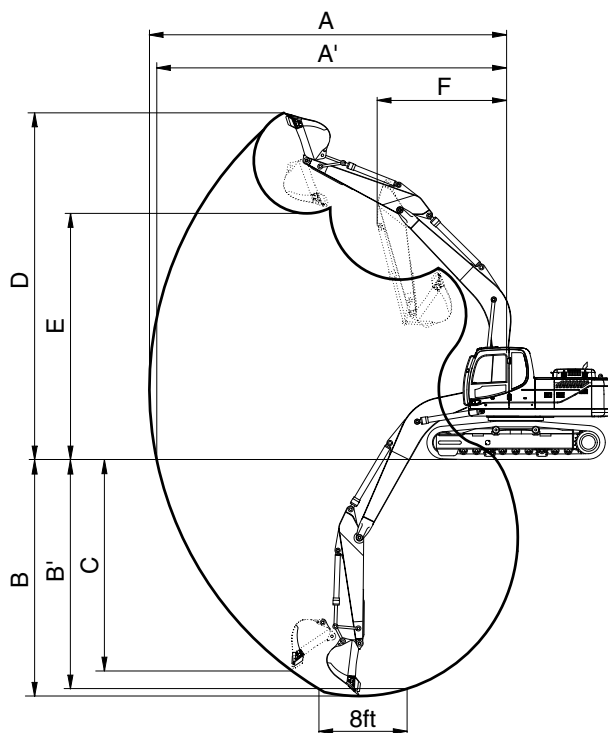


25092SP05

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]

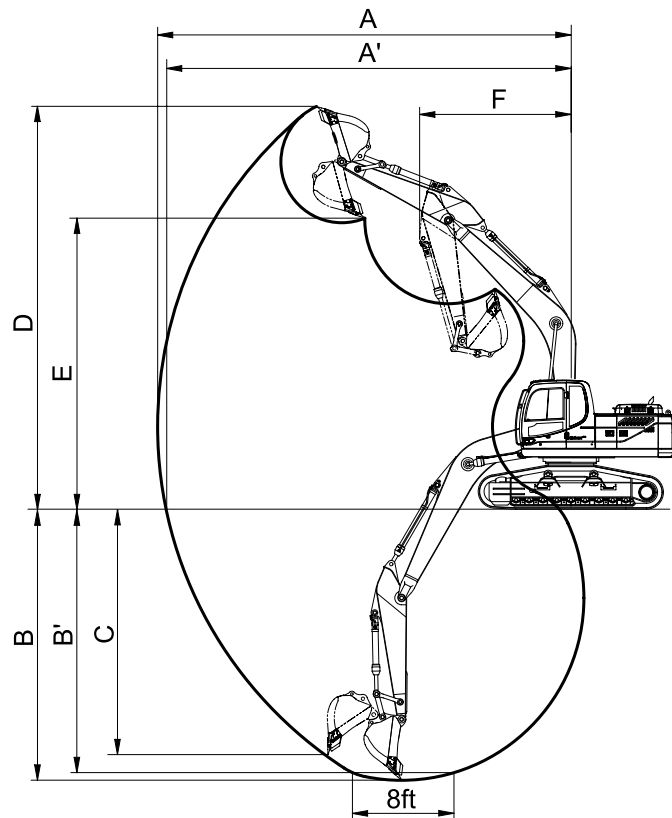


21092SP03

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 m³ SAE heaped bucket)	4950	10910	←	←
5.85 m boom assembly	1940	4280	←	←
3.05 m arm assembly	1020	2250	←	←
1.08 m³ 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 m³ SAE heaped bucket)	4950	10910
5.85 m boom assembly	1940	4280
3.05 m arm assembly	1020	2250
1.08 m³ 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 lb					*5790 *12760	*5790 *12760			5220 11510	3200 7050	8.32 (27.3)
4.5 m (15 ft)	kg lb			*7810 *17220	*7810 *17220	*6510 *14350	5570 12280	*6000 *13230	3690 8140	4520 9960	2710 5970	8.91 (29.2)
3.0 m (10 ft)	kg lb			*10260 *22620	8200 18080	*7600 *16760	5190 11440	5900 13010	3550 7830	4210 9280	2480 5470	9.17 (30.1)
1.5 m (5 ft)	kg lb			*12300 *27120	7520 16580	8250 18190	4850 10690	5720 12610	3380 7450	4170 9190	2430 5360	9.14 (30.0)
Ground Line	kg lb			13110 28900	7250 15980	8010 17660	4640 10230	5600 12350	3270 7210	4410 9720	2580 5690	8.80 (28.9)
-1.5 m (-5 ft)	kg lb	*15460 *34080	15160 33420	13090 28860	7230 15940	7940 17500	4580 10100			5060 11160	2990 6590	8.13 (26.7)
-3.0 m (-10 ft)	kg lb	*17100 *37700	15470 34110	*12090 *26650	7390 16290	8050 17750	4680 10320			*6290 *13870	3980 8770	6.98 (22.9)
-4.5 m (-15 ft)	kg lb	*13360 *29450	*13360 *29450	*9460 *20860	7790 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 lb											4900 10800	3000 6610	8.67 (28.4)
4.5 m (15 ft)	kg lb							*6070 *13380	5670 12500	*5630 *12410	3770 8310	4280 9440	2550 5620	9.23 (30.3)
3.0 m (10 ft)	kg lb					*9550 *21050	8410 18540	*7210 *15900	5280 11640	5950 13120	3590 7910	3990 8800	2340 5160	9.48 (31.1)
1.5 m (5 ft)	kg lb					*11790 *25990	7650 16870	8310 18320	4910 10820	5750 12680	3410 7520	3950 8170	2290 5050	9.45 (31.0)
Ground Line	kg lb					*12990 *28640	7280 16050	8030 17700	4660 10270	5600 12350	3270 7210	4150 9150	2410 5310	9.13 (30.0)
-1.5 m (-5 ft)	kg lb			*15100 *33290	14960 32980	13050 28770	7190 15850	7910 17440	4560 10050	5550 12240	3220 7100	4690 10340	2750 6060	8.49 (27.9)
-3.0 m (-10 ft)	kg lb	*16360 *36070	*16360 *36070	*18120 *39950	15250 33620	*12470 *27490	7300 16090	7970 17570	4610 10160			5940 13100	3550 7830	7.41 (24.3)
-4.5 m (-15 ft)	kg lb			*14860 *32760	*14860 *32760	*10430 *22990	7620 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 lb									*3700 *8160	*3700 *8160	4400 9700	2660 5860	9.22 (30.2)
4.5 m (15 ft)	kg lb							*5350 *11790	*5350 *11790	*5060 *11160	3830 8440	3880 8550	2280 5030	9.74 (32.0)
3.0 m (10 ft)	kg lb			*13640 *30070	*13640 *30070	*8400 *18520	*8400 *18520	*6540 *14420	5360 11820	*5660 *12480	3620 7980	3630 8000	2090 4610	9.98 (32.7)
1.5 m (5 ft)	kg lb			*9450 *20830	*9450 *20830	*10870 *23960	7800 17200	*7820 *17240	4950 10910	5750 12680	3400 7500	3580 7890	2040 4500	9.95 (32.6)
Ground Line	kg lb			*10570 *23300	*10570 *23300	*12490 *27540	7280 16050	8010 17660	4640 10230	5560 12260	3230 7120	3730 8220	2130 4700	9.65 (31.7)
-1.5 m (-5 ft)	kg lb	*9940 *21910	*9940 *21910	*13870 *30580	*13870 *30580	12930 28510	7090 15630	7830 17260	4480 9880	5460 12040	3140 6920	4150 9150	2390 5270	9.05 (29.7)
-3.0 m (-10 ft)	kg lb	*13540 *29850	*13540 *29850	*18430 *40630	14860 32760	*12780 *28180	7110 15670	7820 17240	4470 9850			5080 11200	2980 6570	8.06 (26.4)
-4.5 m (-15 ft)	kg lb	*17830 *39310	*17830 *39310	*16580 *36550	15340 33820	*11360 *25040	7340 16180	8020 17680	4640 10230			*5940 *13100	4480 9880	6.48 (21.3)

(4) 5.85 m (19' 2") boom, 3.60 m (11' 10") 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 (20 ft)		7.5 m (25 ft)		9.0 m (30 ft)		Capacity		Reach
																m (ft)
6.0 m (20 ft)	kg lb									*3930 *8660	*3930 *8660			3960 8730	2360 5200	9.77 (32.1)
4.5 m (15 ft)	kg lb									*4530 *9990	3890 8580	*2500 *5510	*2500 *5510	3530 7780	2040 4500	10.27 (33.7)
3.0 m (10 ft)	kg lb							*5890 *12990	5490 12100	*5190 *11440	3670 8090	*3590 *7910	2550 5620	3310 7300	1870 4120	10.49 (34.4)
1.5 m (5 ft)	kg lb			*12610 *27800	*12610 *27800	*9960 *21960	8040 17730	*7260 *16010	5040 11110	5790 12760	3430 7560	4210 9280	2430 5360	3260 7190	1820 4010	10.46 (34.3)
Ground Line	kg lb			*11020 *24290	*11020 *24290	*11930 *26300	7390 16290	8070 17790	4680 10320	5570 12280	3230 7120	4090 9020	2320 5110	3380 7450	1890 4170	10.18 (33.4)
-1.5 m (-5 ft)	kg lb	*9010 *19860	*9010 *19860	*13200 *29100	*13200 *29100	*12900 *28440	7090 15630	7830 17260	4470 9850	5430 11970	3100 6830			3710 8180	2100 4630	9.62 (31.6)
-3.0 m (-10 ft)	kg lb	*12120 *26720	*12120 *26720	*16820 *37080	14680 32360	12880 28400	7040 15520	7750 17090	4400 9700	5390 11880	3070 6770			4420 9740	2550 5620	8.71 (28.6)
-4.5 m (-15 ft)	kg lb	*15830 *34900	*15830 *34900	*17940 *39550	15050 33180	*12020 *26500	7180 15830	7850 17310	4490 9900					*5790 *12760	3580 7890	7.30 (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 lb					*5790 *12760	5290 11660			5200 11460	2870 6330	8.32 (27.3)
4.5 m (15 ft)	kg lb			*7810 *17220	*7810 *17220	*6510 *14350	5030 11090	*6000 *13230	3310 7300	4500 9920	2410 5310	8.91 (29.2)
3.0 m (10 ft)	kg lb			*10260 *22620	7330 16160	*7600 *16760	4660 10270	5870 12940	3170 6990	4190 9240	2190 4830	9.17 (30.1)
1.5 m (5 ft)	kg lb			*12300 *27120	6670 14700	8210 18100	4330 9550	5690 12540	3010 6640	4150 9150	2150 4740	9.14 (30.0)
Ground Line	kg lb			13050 28770	6410 14130	7970 17570	4120 9080	5570 12280	2900 6390	4390 9680	2280 5030	8.80 (28.9)
-1.5 m (-5 ft)	kg lb	*15460 *34080	13120 28920	13030 28730	6390 14090	7900 17420	4060 8950			5040 11110	2660 5860	8.13 (26.7)
-3.0 m (-10 ft)	kg lb	*17100 *37700	13420 29590	*12090 *26650	6540 14420	8020 17680	4160 9170			*6290 *13870	3560 7850	6.98 (22.9)
-4.5 m (-15 ft)	kg lb	*13360 *29450	*13360 *29450	*9460 *20860	6930 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 (20 ft)		7.5 m (25 ft)		Capacity		Reach
														m (ft)
6.0 m (20 ft)	kg lb											4880 10760	2680 5910	8.67 (28.4)
4.5 m (15 ft)	kg lb							*6070 *13380	5130 11310	*5630 *12410	3380 7450	4260 9390	2270 5000	9.23 (30.3)
3.0 m (10 ft)	kg lb					*9550 *21050	7530 16600	*7210 *15900	4750 10470	5920 13050	3210 7080	3970 8750	2070 4560	9.48 (31.3)
1.5 m (5 ft)	kg lb					*11790 *25990	6790 14970	8270 18230	4380 9660	5720 12610	3030 6680	3930 8660	2020 4450	9.45 (31.0)
Ground Line	kg lb					*12990 *28640	6440 14200	7990 17610	4140 9130	5570 12280	2900 6390	4130 9110	2120 4670	9.13 (30.0)
-1.5 m (-5 ft)	kg lb			*15100 *33290	12930 28510	12990 28640	6350 14000	7880 17370	4040 8910	5520 12170	2850 6280	4670 10300	2440 5380	8.49 (27.9)
-3.0 m (-10 ft)	kg lb	*16360 *36070	*16360 *36070	*18120 *39950	13210 29120	*12470 *27490	6450 14220	7940 17500	4090 9020			5910 13030	3170 6990	7.41 (24.3)
-4.5 m (-15 ft)	kg lb			*14860 *32760	13750 30310	*10430 *22990	6760 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 (20 ft)		7.5 m (25 ft)		Capacity		Reach
														m (ft)
6.0 m (20 ft)	kg lb									*3700 *8160	3570 7870	4380 9660	2370 5220	9.22 (30.2)
4.5 m (15 ft)	kg lb							*5350 *11790	5230 11530	*5060 *11160	3440 7580	3860 8510	2020 4450	9.74 (32.0)
3.0 m (10 ft)	kg lb			*13640 *30070	*13640 *30070	*8400 *18520	7780 17150	*6540 *14420	4830 10650	*5660 *12480	3240 7140	3610 7960	1840 4060	9.98 (32.7)
1.5 m (5 ft)	kg lb			*9450 *20830	*9450 *20830	*10870 *23960	6940 15300	*7820 *17240	4420 9740	5720 12610	3030 6680	3560 7850	1790 3950	9.95 (32.6)
Ground Line	kg lb			*10570 *23300	*10570 *23300	*12490 *27540	6430 14180	7980 17590	4120 9080	5530 12190	2850 6280	3710 8180	1860 4100	9.65 (31.7)
-1.5 m (-5 ft)	kg lb	*9940 *21910	*9940 *21910	*13870 *30580	12620 27820	12870 28370	6250 13780	7790 17170	3960 8730	5430 11970	2760 6080	4130 9110	2100 4630	9.05 (29.7)
-3.0 m (-10 ft)	kg lb	*13540 *29850	*13540 *29850	*18430 *40630	12840 28310	*12780 *28180	6270 13820	7780 17150	3950 8710			5060 11160	2640 5820	8.06 (26.4)
-4.5 m (-15 ft)	kg lb	*17830 *39310	*17830 *39310	*16580 *36550	13290 29300	*11360 *25040	6490 14310	7980 17590	4120 9080			*5940 *13100	4010 8840	6.48 (21.3)

(4) 5.85 m (19' 2") boom, 3.60 m (11' 10") 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 (20 ft)		7.5 m (25 ft)		9.0 m (30 ft)		Capacity		Reach
																m (ft)
6.0 m (20 ft)	kg lb									*3930 *8660	3660 8070			3940 8690	2090 4610	9.77 (32.1)
4.5 m (15 ft)	kg lb									*4530 *9990	3510 7740	*2500 *5510	2350 5180	3510 7740	1790 3950	10.27 (33.7)
3.0 m (10 ft)	kg lb							*5890 *12990	4940 10890	*5190 *11440	3290 7250	*3590 *7910	2250 4960	3290 7250	1630 3590	10.49 (34.4)
1.5 m (5 ft)	kg lb			*12610 *27800	*12610 *27800	*9960 *21960	7160 15790	*7260 *16010	4510 9940	5760 12700	3060 6750	4180 9220	2130 4700	3240 7140	1580 3480	10.46 (34.3)
Ground Line	kg lb			*11020 *24290	*11020 *24290	*11930 *26300	6540 14420	8030 17700	4160 9170	5540 12210	2860 6310	4070 8970	2030 4480	3360 7410	1640 3620	10.18 (33.4)
-1.5 m (-5 ft)	kg lb	*9010 *19860	*9010 *19860	*13200 *29100	12560 27690	12890 28420	6250 13780	7790 17170	3950 8710	5400 11900	2730 6020			3690 8140	1830 4030	9.62 (31.6)
-3.0 m (-10 ft)	kg lb	*12120 *26720	*12120 *26720	*16820 *37080	12660 27910	12820 28260	6190 13650	7710 17000	3880 8550	5370 11840	2700 5950			4390 9680	2240 4940	8.71 (28.6)
-4.5 m (-15 ft)	kg lb	*15830 *34900	*15830 *34900	*17940 *39550	13010 28680	*12020 *26500	6330 13960	7820 17240	3970 8750					*5790 *12760	3190 7030	7.30 (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 lb					*5910 *13030	*5910 *13030			*5290 *11660	3780 8330	8.49 (27.9)
4.5 m (15 ft)	kg lb			*8350 *18410	*8350 *18410	*6750 *14880	6680 14730	*6080 *13400	4530 9990	5310 11710	3310 7300	9.00 (29.5)
-3.0 m (-10 ft)	kg lb			*10830 *23880	9880 21780	*7870 *17350	6290 13870	*6580 *14510	4370 9630	5040 11110	3110 6860	9.19 (30.2)
-1.5 m (-5 ft)	kg lb			*12610 *27800	9280 20460	*8890 *19600	5970 13160	6840 15080	4210 9280	5080 11200	3120 6860	9.09 (30.2)
Ground Line	kg lb			*13240 *29190	9080 20020	*9480 *20900	5790 12760	6740 14860	4120 9080	5450 12020	3360 7410	8.68 (28.5)
-1.5 m (-5 ft)	kg lb	*17510 *38600	*17510 *38600	*12940 *28530	9100 20060	*9460 *20860	5760 12700			*6350 *14000	3950 8710	7.91 (26.0)
-3.0 m (-10 ft)	kg lb	*16440 *36240	*16440 *36240	*11670 *25730	9310 20530	*8440 *18610	5920 13050			*6190 *13650	5420 11950	6.61 (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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