HYUNDAI
CONSTRUCTION EQUIPMENT

Robex 300LC-9SH

CRAWLER EXCAVATOR

SERVICE MANUAL

TABLE OF CONTENT

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

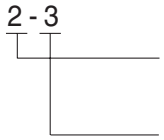
Distribution and updating

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



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.

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 55mm 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, 55mm = 2.165 inches.

2. Convert 550mm 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 55mm.

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

(3) The original value(550mm) 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 550mm = 21.65 inches.

Millimeters to inches

1mm = 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

Millimeters to inches

1mm = 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
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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

1kg = 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

1kgf · m = 7.233lbf · 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

1kgf / cm² = 14.2233lbf / 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

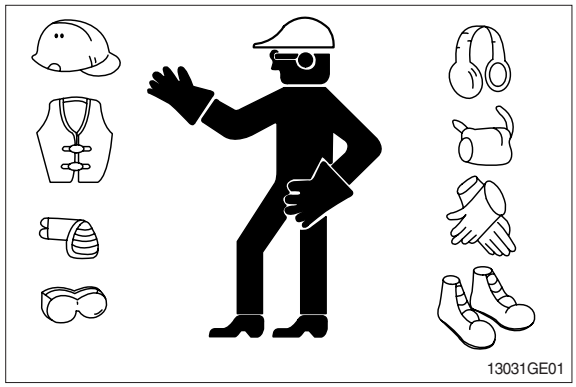
GROUP 1 SAFETY

FOLLOW SAFE PROCEDURE

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

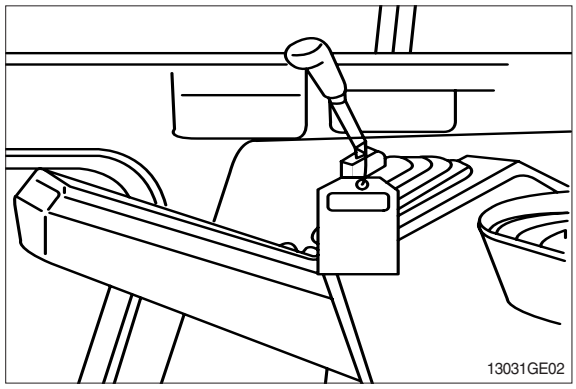
WEAR PROTECTIVE CLOTHING

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



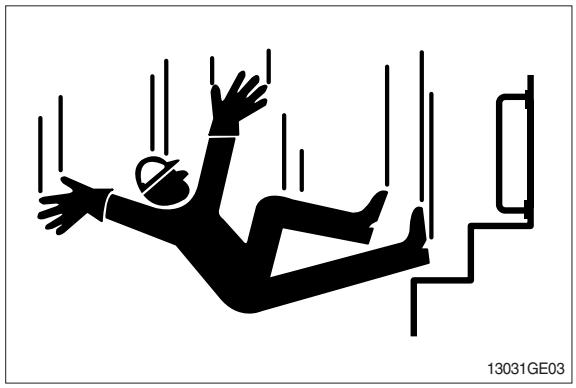
WARN OTHERS OF SERVICE WORK

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.

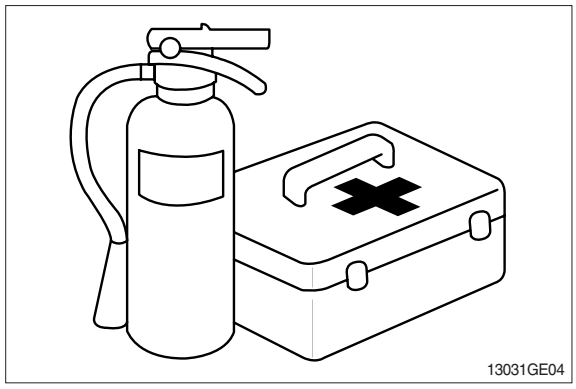


PREPARE FOR EMERGENCIES

Be prepared if a fire starts.

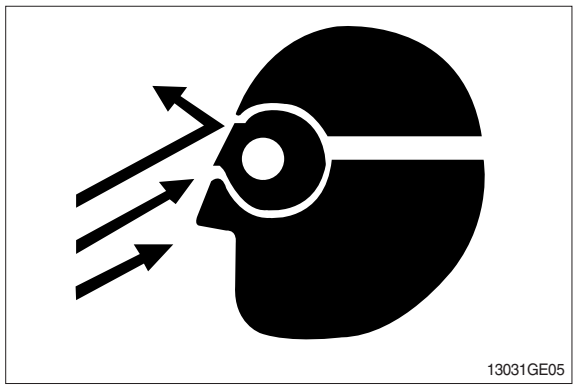
Keep a first aid kit and fire extinguisher handy.

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



PROTECT AGAINST FLYING DEBRIS

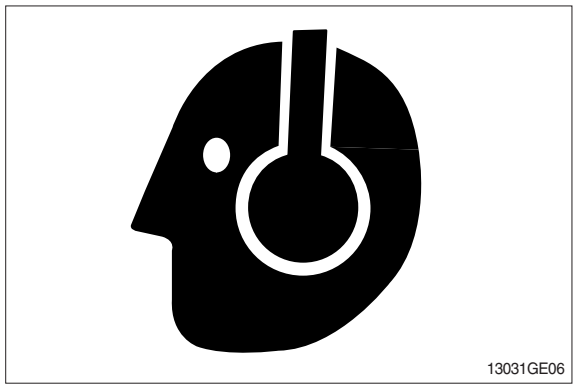
Guard against injury from flying pieces of metal or debris; Wear goggles or safety glasses.



PROTECT AGAINST NOISE

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

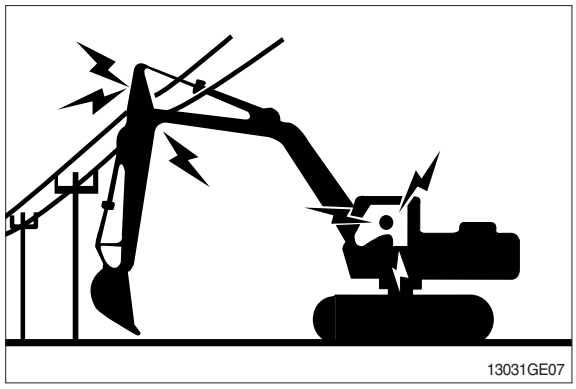
Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.



AVOID POWER LINES

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

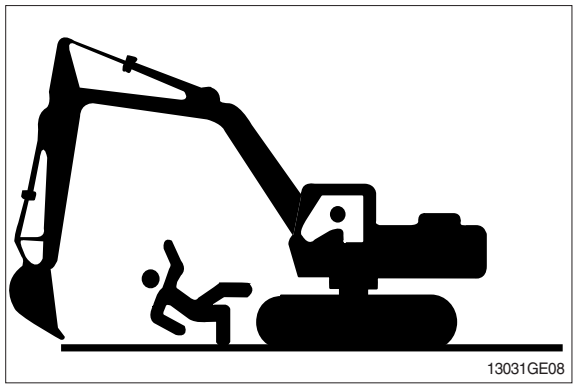
Never move any part of the machine or load closer to electric line than 3m(10ft) plus twice the line insulator length.



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.

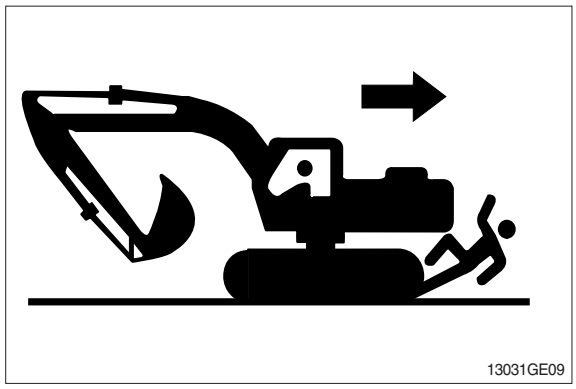

13031GE08

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.

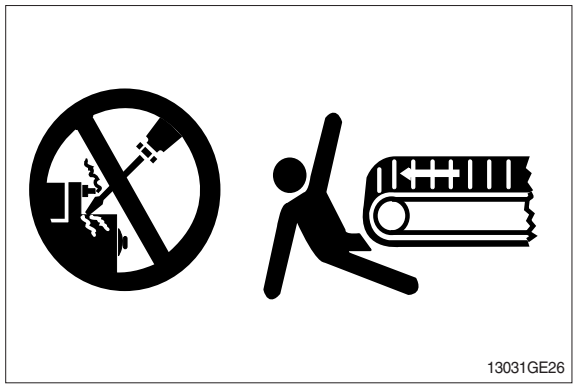
Use a signal person when moving, swinging, or operating the machine in congested areas. Coordinate hand signals before starting the excavator.


13031GE09

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.


13031GE26

PARK MACHINE SAFELY

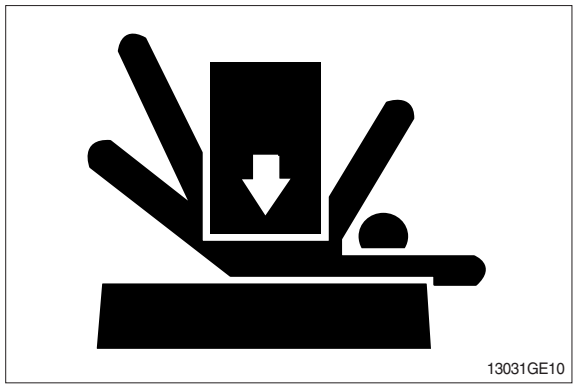
Before working on the machine:

- 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.

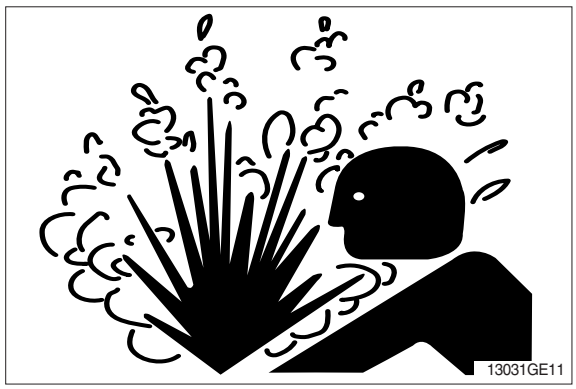
Do not support the machine on cinder blocks, hollow tiles, or props that may crumble under continuous load.
Do not work under a machine that is supported solely by a jack. Follow recommended procedures in this manual.


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

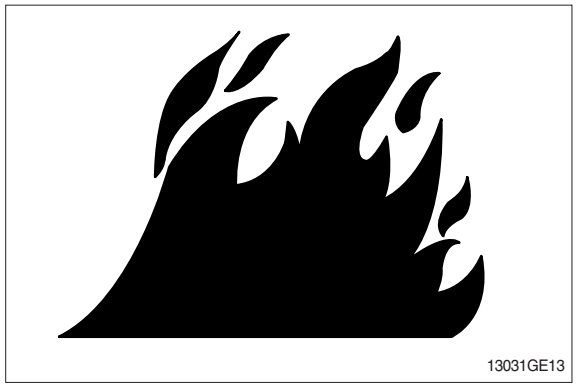
Handle fuel with care; It is highly flammable. Do not refuel the machine while smoking or when near open flame or sparks. Always stop engine before refueling machine.
Fill fuel tank outdoors.


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.

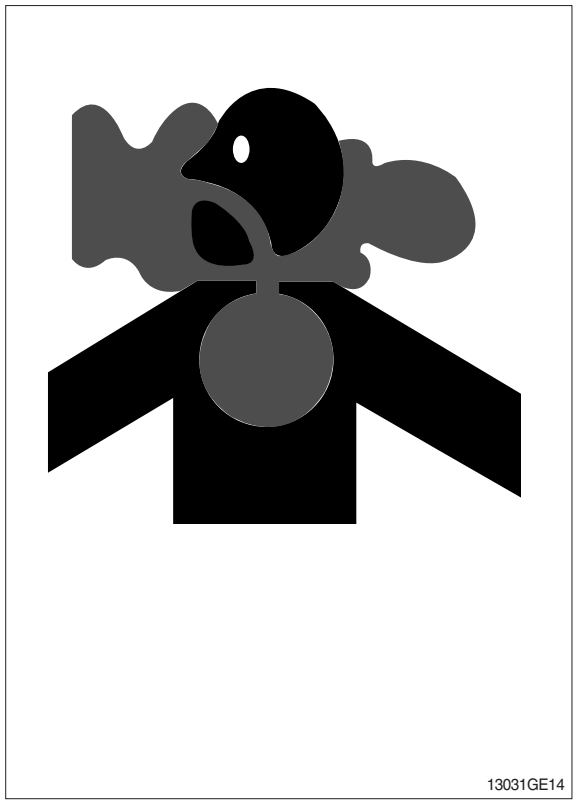
Do not store oily rags; They can ignite and burn spontaneously.


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.


13031GE14

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.

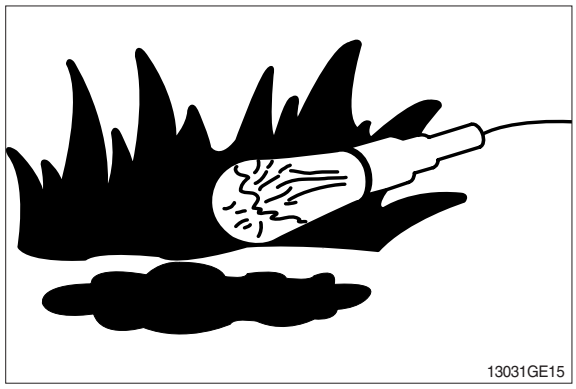
Do all work outside or in a well ventilated area. Dispose of paint and solvent properly.

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

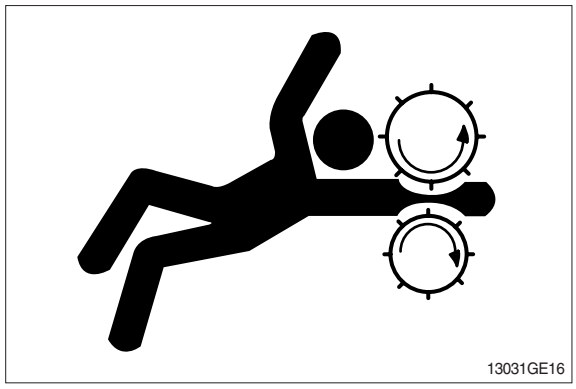
Illuminate your work area adequately but safely. Use a portable safety light for working inside or under the machine. Make sure the bulb is enclosed by a wire cage. The hot filament of an accidentally broken bulb can ignite spilled fuel or oil.


13031GE15

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.

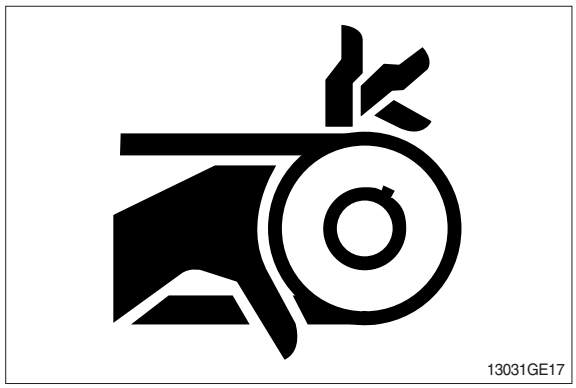
Remove rings and other jewelry to prevent electrical shorts and entanglement in moving parts.



STAY CLEAR OF MOVING PARTS

Entanglements in moving parts can cause serious injury.

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



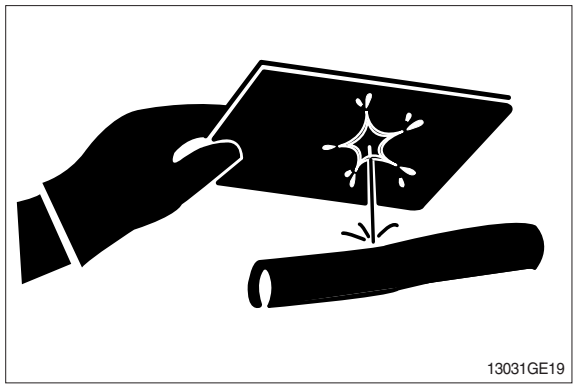
AVOID HIGH PRESSURE FLUIDS

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 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:

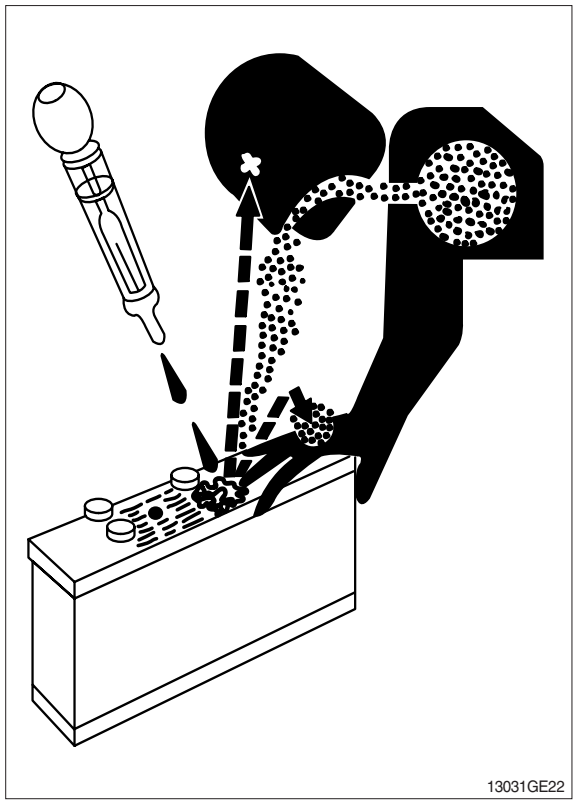
1. Filling batteries in a well-ventilated area.
2. Wearing eye protection and rubber gloves.
3. Avoiding breathing fumes when electrolyte is added.
4. Avoiding spilling of dripping electrolyte.
5. Use proper jump start procedure.

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.



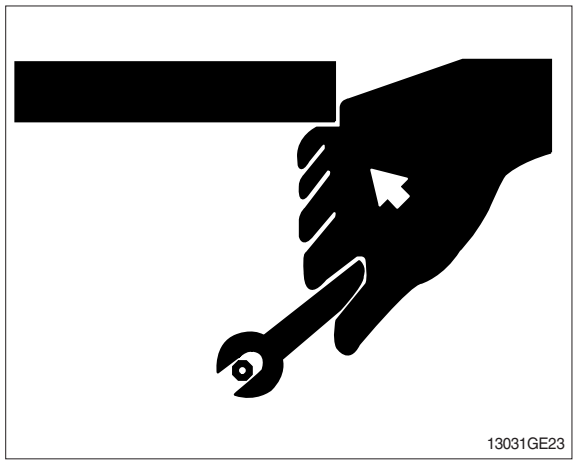
USE TOOLS PROPERLY

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.)

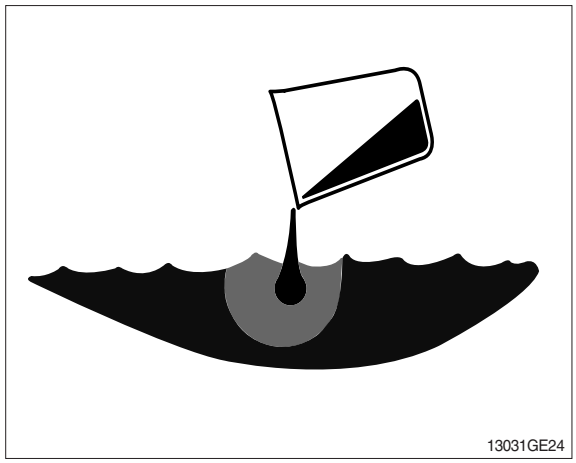


DISPOSE OF FLUIDS PROPERLY

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.

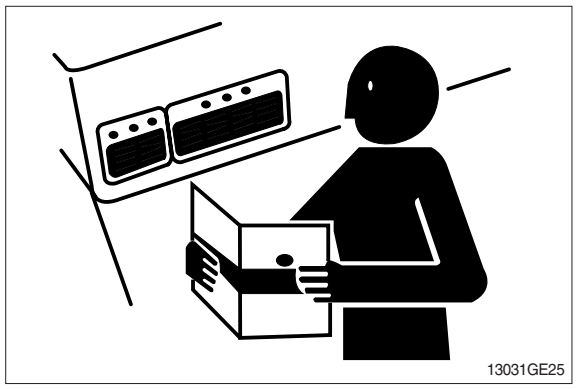
Use proper containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them.

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.

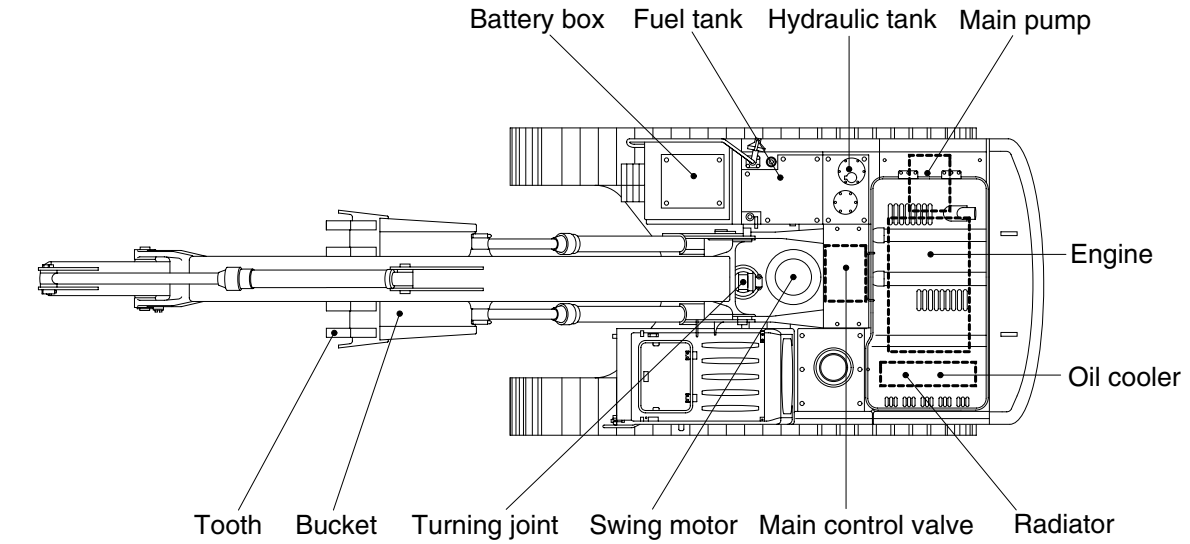

13031GE25

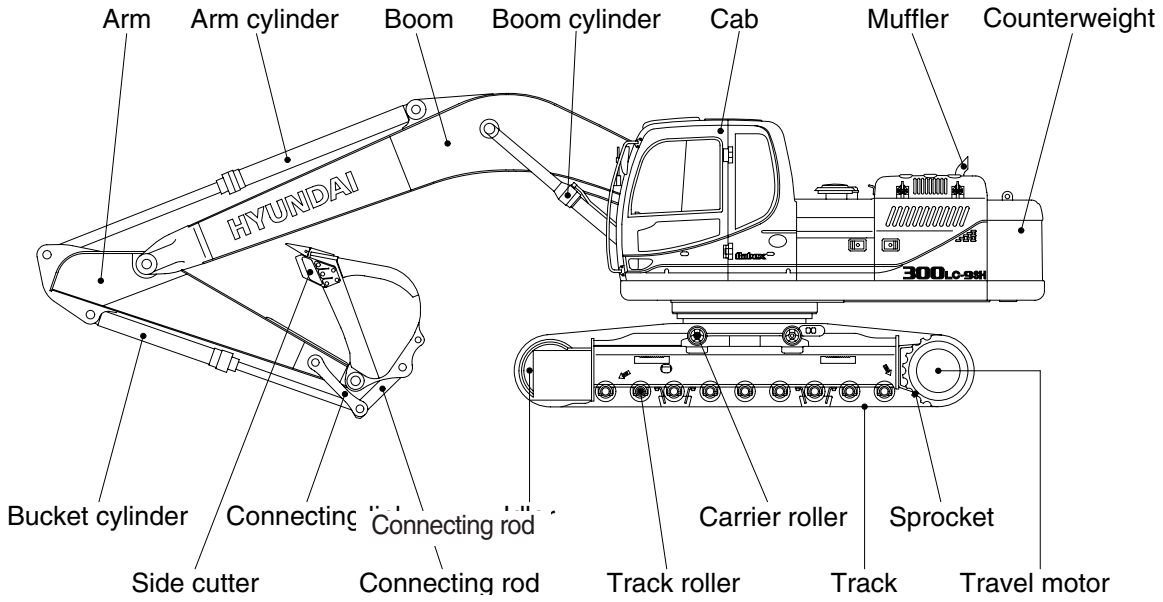
LIVE WITH SAFETY

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



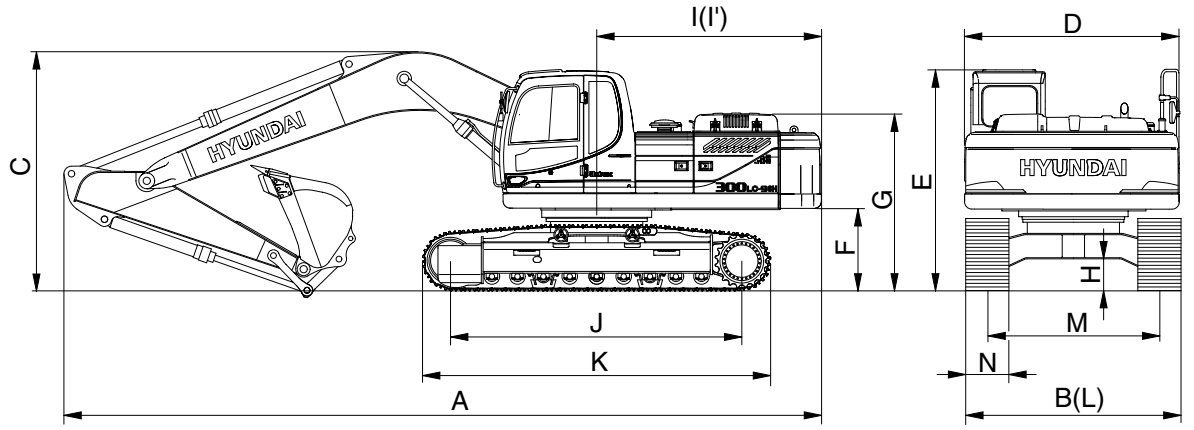


3009SH2SP01

2. SPECIFICATIONS

1) R300LC-9SH

· 6.25 m (20' 6") BOOM and 3.05 m (10' 0") ARM

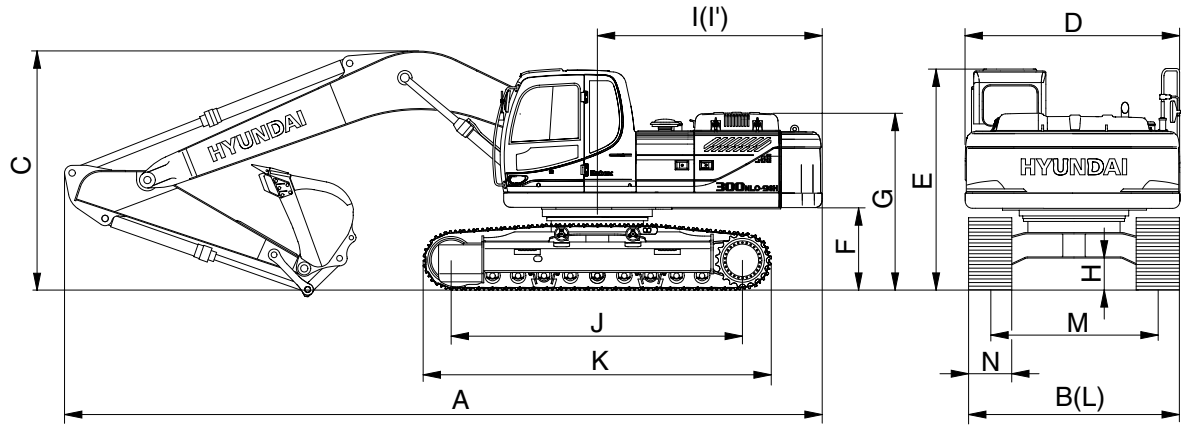


3009SH2SP02

Description		Unit	Specification
Operating weight		kg (lb)	29900 (65920)
Bucket capacity (SAE heaped), standard		m^3 (yd^3)	1.27 (1.66)
Overall length	A	mm (ft-in)	10705 (35' 1")
Overall width, with 600mm shoe	B		3200 (10' 6")
Overall height	C		3290 (10' 10")
Superstructure width	D		2980 (9' 9")
Overall height of cab	E		3010 (9' 11")
Ground clearance of counterweight	F		1190 (3' 11")
Engine cover height	G		3190 (10' 6")
Minimum ground clearance	H		500 (1' 8")
Rear-end distance	I		3265 (10' 9")
Rear-end swing radius	I'		3345 (11' 0")
Distance between tumblers	J		4030 (13' 3")
Undercarriage length	K		4940 (16' 2")
Undercarriage width	L		3200 (10' 6")
Track gauge	M		2600 (8' 6")
Track shoe width, standard	N		600 (24")
Travel speed (low/high)		km/hr (mph)	3.4/5.9 (2.1/3.7)
Swing speed		rpm	11.5
Gradeability		Degree (%)	35 (70)
Ground pressure (600 mm shoe)		kgf/cm^2 (psi)	0.57 (8.11)
Max traction force		kg (lb)	27300 (60200)

2) R300NLC-9SH

· 6.25 m (20' 6") BOOM and 3.05 m (10' 0") ARM

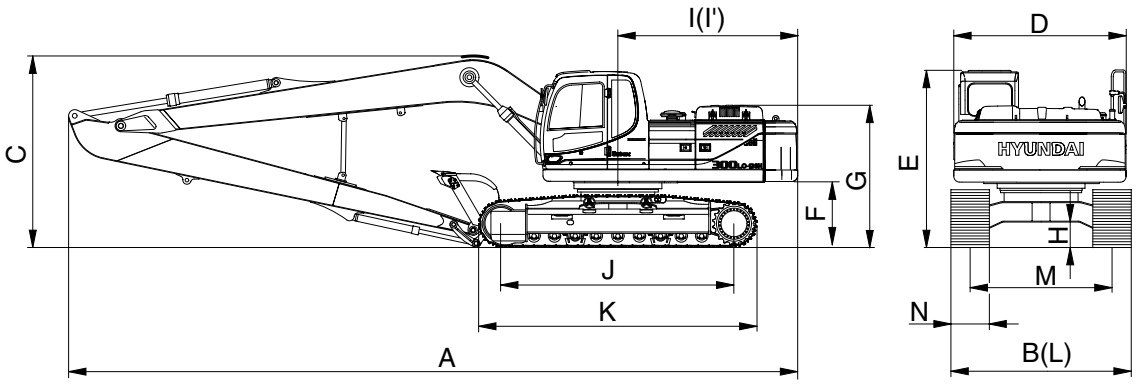


3009SH2SP03

Description		Unit	Specification
Operating weight		kg (lb)	29700 (64480)
Bucket capacity (SAE heaped), standard		m^3 (yd^3)	1.27 (1.66)
Overall length	A	mm (ft-in)	10705 (35' 1")
Overall width, with 600mm shoe	B		2990 (9' 10")
Overall height	C		3290 (10' 10")
Superstructure width	D		2980 (9' 9")
Overall height of cab	E		3010 (9' 11")
Ground clearance of counterweight	F		1190 (3' 11")
Engine cover height	G		3190 (10' 6")
Minimum ground clearance	H		500 (1' 8")
Rear-end distance	I		3265 (10' 9")
Rear-end swing radius	I'		3345 (11' 0")
Distance between tumblers	J		4030 (13' 3")
Undercarriage length	K		4940 (16' 2")
Undercarriage width	L		2990 (9' 10")
Track gauge	M		2390 (7' 10")
Track shoe width, standard	N		600 (24")
Travel speed (low/high)		km/hr (mph)	3.4/5.9 (2.1/3.7)
Swing speed		rpm	11.5
Gradeability		Degree (%)	35 (70)
Ground pressure (600 mm shoe)		kgf/cm^2 (psi)	0.57 (8.11)
Max traction force		kg (lb)	27300 (60200)

3) R300LC-9SH LONG REACH

· 10.2 m (33' 6") BOOM and 7.85 m (25' 9") ARM

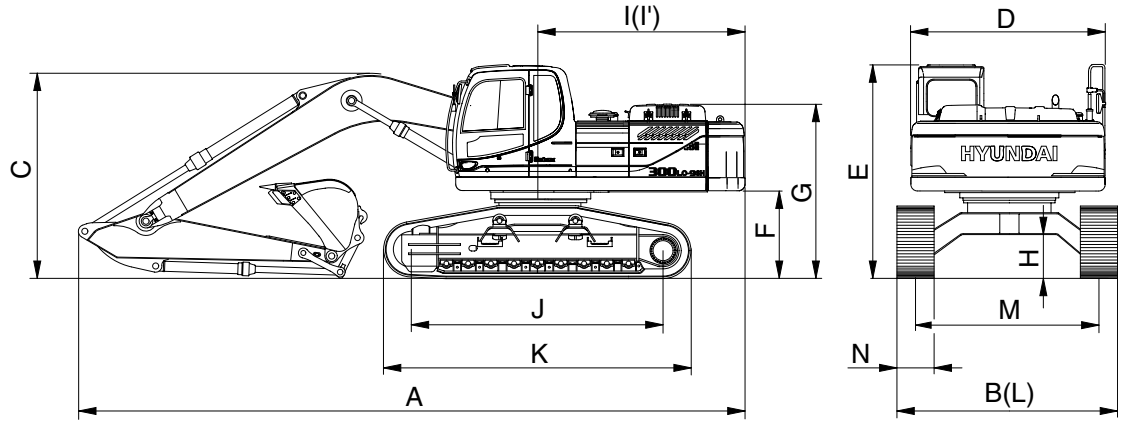


3009SH2SP04

Description		Unit	Specification
Operating weight		kg (lb)	33780 (74470)
Bucket capacity (SAE heaped), standard		m^3 (yd^3)	0.52 (0.68)
Overall length	A	mm (ft-in)	14695 (48' 3")
Overall width, with 800 mm shoe	B		3400 (11' 2")
Overall height	C		3550 (11' 8")
Superstructure width	D		2980 (9' 9")
Overall height of cab	E		3010 (9' 11")
Ground clearance of counterweight	F		1190 (3' 11")
Engine cover height	G		3190 (10' 6")
Minimum ground clearance	H		500 (1' 8")
Rear-end distance	I		3265 (10' 9")
Rear-end swing radius	I'		3145 (11' 0")
Distance between tumblers	J		4030 (13' 3")
Undercarriage length	K		4940 (16' 2")
Undercarriage width	L		3400 (11' 2")
Track gauge	M		2600 (8' 6")
Track shoe width, standard	N		800 (32")
Travel speed (low/high)		km/hr (mph)	3.4/5.9 (2.1/3.7)
Swing speed		rpm	11.5
Gradeability		Degree (%)	35 (70)
Ground pressure (800 mm shoe)		kgf/cm^2 (psi)	0.49 (6.97)
Max traction force		kg (lb)	27300 (60200)

4) R300LC-9SH HIGH WALKER

· 6.25 m (20' 6") BOOM and 3.05 m (10' 0") ARM



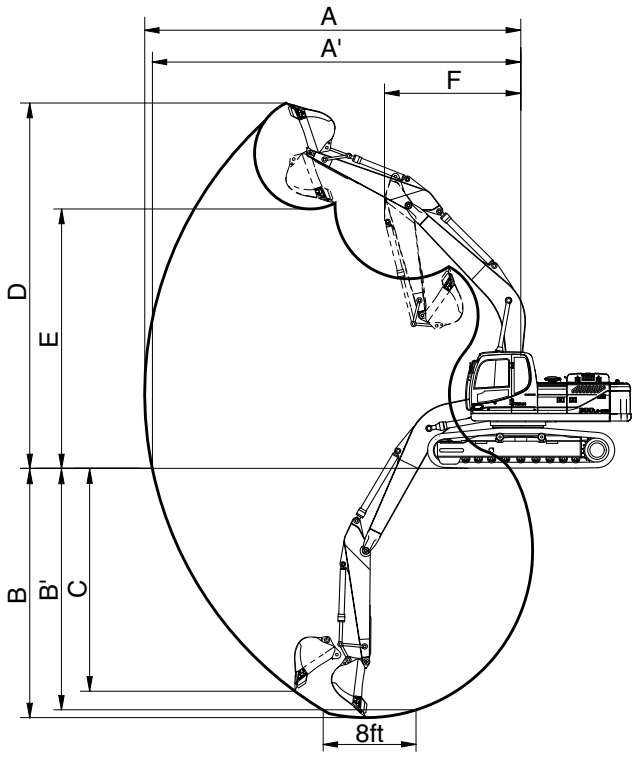
3009SH2SP05

Description		Unit	Specification
Operating weight		kg (lb)	32740 (72180)
Bucket capacity (SAE heaped), standard		m^3 (yd^3)	1.27 (1.66)
Overall length	A	mm (ft-in)	10575 (34' 8")
Overall width, with 600 mm shoe	B		3470 (11' 5")
Overall height	C		3350 (11' 0")
Superstructure width	D		2980 (9' 9")
Overall height of cab	E		3380 (11' 1")
Ground clearance of counterweight	F		1500 (4' 11")
Engine cover height	G		3500 (11' 6")
Minimum ground clearance	H		765 (2' 6")
Rear-end distance	I		3265 (10' 9")
Rear-end swing radius	I'		3345 (11' 0")
Distance between tumblers	J		4030 (13' 3")
Undercarriage length	K		4950 (16' 3")
Undercarriage width	L		3470 (11' 5")
Track gauge	M		2870 (9' 5")
Track shoe width, standard	N		600 (24")
Travel speed (low/high)		km/hr (mph)	3.4/5.9 (2.1/3.7)
Swing speed		rpm	11.5
Gradeability		Degree (%)	35 (70)
Ground pressure (600 mm shoe)		kgf/cm^2 (psi)	0.63 (8.96)
Max traction force		kg (lb)	27300 (60200)

3. WORKING RANGE

1) R300LC-9SH, R300NLC-9SH

· 6.25 m (20' 6") BOOM



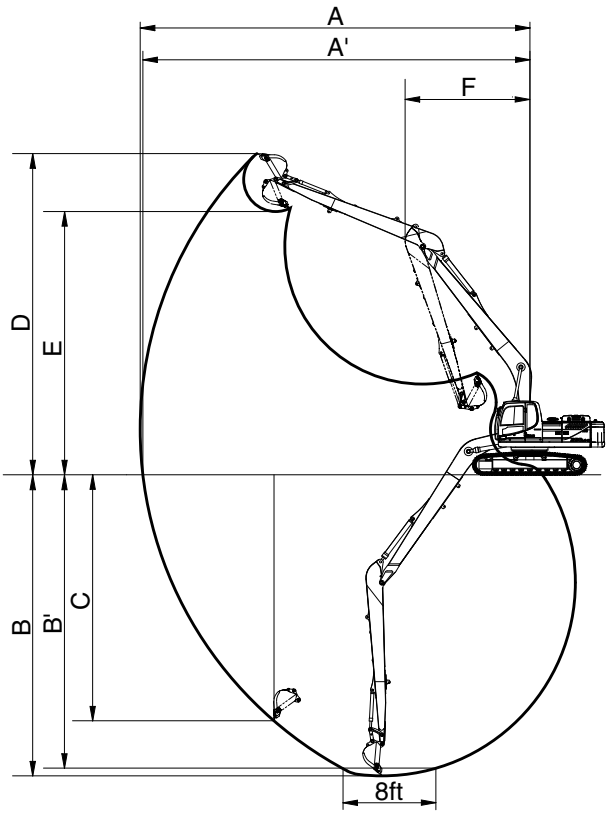
3009SH2SP06

Description		2.10m (6' 11") Arm	2.50 m (8' 2") Arm	3.05 m (10' 0") Arm	3.75 m (12' 4") Arm
Max digging reach	A	10020 mm (32' 10")	10280 mm (33' 7")	10820 mm (35' 6")	11400 mm (37' 5")
Max digging reach on ground	A'	9820 mm (32' 3")	10080 mm (33' 1")	10620 mm (34' 10")	11220 mm (36' 10")
Max digging depth	B	6440 mm (21' 1")	6840 mm (22' 5")	7390 mm (24' 3")	8090 mm (26' 7")
Max digging depth (8 ft level)	B'	6240 mm (20' 6")	6630 mm (21' 9")	7300 mm (23' 11")	7920 mm (26' 0")
Max vertical wall digging depth	C	6000 mm (19' 8")	5850 mm (19' 2")	6380 mm (20' 11")	7080 mm (23' 3")
Max digging height	D	10070 mm (33' 0")	10110 mm (33' 2")	10160 mm (33' 4")	10360 mm (34' 0")
Max dumping height	E	6940 mm (22' 9")	7030 mm (23' 1")	7110 mm (23' 4")	7310 mm (24' 0")
Min swing radius	F	4380 mm (14' 4")	4260 mm (14' 0")	4230 mm (13' 11")	4140 mm (13' 7")
Bucket digging force	SAE	168.7 [184] kN	168.7 [184] kN	168.7 [184] kN	168.7 [184] kN
		17200 [18760] kgf	17200 [18760] kgf	17200 [18760] kgf	17200 [18760] kgf
		37920 [41370] lbf	37920 [41370] lbf	37920 [41370] lbf	37920 [41370] lbf
	ISO	192.2 [209.7] kN	192.2 [209.7] kN	192.2 [209.7] kN	192.2 [209.7] kN
		19600 [21380] kgf	19600 [21380] kgf	19600 [21380] kgf	19600 [21380] kgf
		43210 [47140] lbf	43210 [47140] lbf	43210 [47140] lbf	43210 [47140] lbf
Arm digging force	SAE	180.4 [195.9] kN	156.9 [170.4] kN	131.4 [142.7] kN	114.7 [124.6] kN
		18400 [19980] kgf	16000 [17370] kgf	13400 [14550] kgf	11700 [12700] kgf
		40570 [44050] lbf	35270 [38290] lbf	29540 [32070] lbf	25790 [28000] lbf
	ISO	190.3 [206.6] kN	163.8 [177.8] kN	136.3 [148] kN	119.6 [129.9] kN
		19400 [21060] kgf	16700 [18130] kgf	13900 [15090] kgf	12200 [13250] kgf
		42770 [46440] lbf	36820 [39980] lbf	30640 [33270] lbf	26900 [29210] lbf

[ ] : Power boost

2) R300LC-9SH LONG REACH

· 10.2 m (33' 6") BOOM

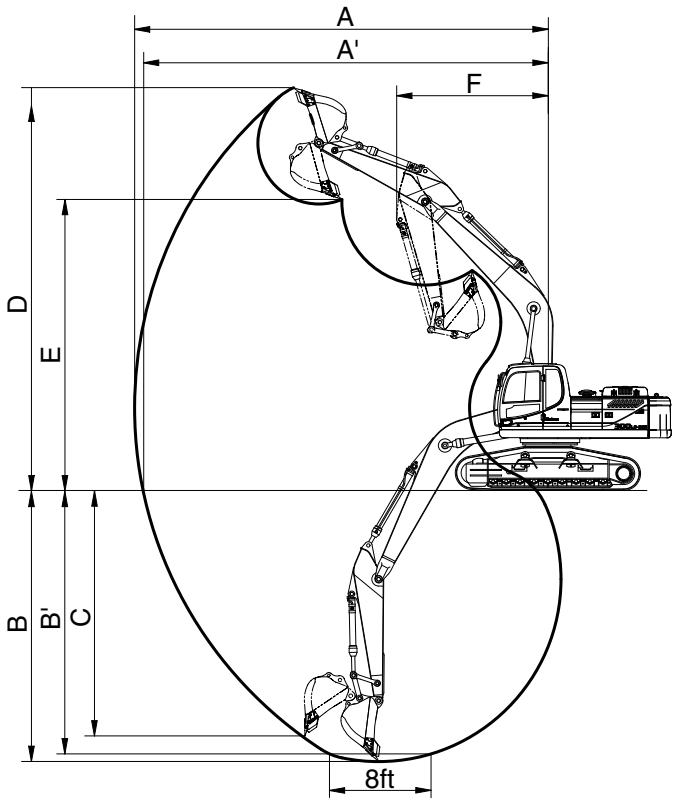


29092SP06

Description		7.85 m (25' 9") Arm
Max digging reach	A	18510 (60' 9")
Max digging reach on ground	A'	18400 (60' 4")
Max digging depth	B	14820 (48' 7")
Max digging depth (8 ft level)	B'	14690 (48' 2")
Max vertical wall digging depth	C	12020 (39' 5")
Max digging height	D	14500 (47' 7")
Max dumping height	E	12190 (39' 12")
Min swing radius	F	6250 (20' 6")
Bucket digging force	SAE	70 kN
		7100 kgf
		15650 lbf
	ISO	80 kN
		8200 kgf
		18080 lbf
Arm crowd force	SAE	47.1 kN
		4800 kgf
		10580 lbf
	ISO	48.1 kN
		4900 kgf
		10800 lbf

3) R300LC-9SH HIGH WALKER

· 6.25 m (20' 6") BOOM



3009SH2SP07

Description		2.10m (6' 11") Arm	2.50 m (8' 2") Arm	3.05 m (10' 0") Arm	3.75 m (12' 4") Arm
Max digging reach	A	10020 mm (32' 10")	10280 mm (33 ' 7")	10790 mm (35' 5")	11400 mm (37' 5")
Max digging reach on ground	A'	9750 mm (32' 0")	10020 mm (32' 10")	10530 mm (34' 7")	11160 mm (36' 7")
Max digging depth	B	6140 mm (20' 2")	6540 mm (21' 5")	7090 mm (23' 3")	7790 mm (25' 7")
Max digging depth (8 ft level)	B'	5930 mm (19' 5")	6330 mm (20' 9")	6910 mm (22' 8")	7630 mm (25' 0")
Max vertical wall digging depth	C	5700 mm (18' 8")	5560 mm (18' 3")	6090 mm (20' 0")	6790 mm (22' 3")
Max digging height	D	10370 mm (34' 0")	10220 mm (33' 6")	10440 mm (34' 3")	10660 mm (35' 0")
Max dumping height	E	7240 mm (23' 9")	7170 mm (23' 6")	7400 mm (24' 3")	7610 mm (25' 0")
Min swing radius	F	4380 mm (14' 4")	4260 mm (14' 0")	4230 mm (13' 11")	4140 mm (13' 7")
Bucket digging force	SAE	168.7 [184] kN	168.7 [184] kN	168.7 [184] kN	168.7 [184] kN
		17200 [18760] kgf	17200 [18760] kgf	17200 [18760] kgf	17200 [18760] kgf
		37920 [41370] lbf	37920 [41370] lbf	37920 [41370] lbf	37920 [41370] lbf
	ISO	192.2 [209.7] kN	192.2 [209.7] kN	192.2 [209.7] kN	192.2 [209.7] kN
		19600 [21380] kgf	19600 [21380] kgf	19600 [21380] kgf	19600 [21380] kgf
		43210 [47140] lbf	43210 [47140] lbf	43210 [47140] lbf	43210 [47140] lbf
Arm digging force	SAE	180.4 [195.9] kN	156.9 [170.4] kN	131.4 [142.7] kN	114.7 [124.6] kN
		18400 [19980] kgf	16000 [17370] kgf	13400 [14550] kgf	11700 [12700] kgf
		40570 [44050] lbf	35270 [38290] lbf	29540 [32070] lbf	25790 [28000] lbf
	ISO	190.3 [206.6] kN	163.8 [177.8] kN	136.3 [148] kN	119.6 [129.9] kN
		19400 [21060] kgf	16700 [18130] kgf	13900 [15090] kgf	12200 [13250] kgf
		42770 [46440] lbf	36820 [39980] lbf	30640 [33270] lbf	26900 [29210] lbf

[ ] : Power boost

4. WEIGHT

1) R300LC-9SH, R300NLC-9SH

Item	R300LC-9SH		R300NLC-9SH	
	kg	lb	kg	lb
Upperstructure assembly	12610	27800	←	←
Main frame weld assembly	2740	6040	←	←
Engine assembly	985	2170	←	←
Main pump assembly	140	310	←	←
Main control valve assembly	220	490	←	←
Swing motor assembly	390	860	←	←
Hydraulic oil tank assembly	250	560	←	←
Fuel tank assembly	240	530	←	←
Counterweight	4600	10140	←	←
Cab assembly	490	1080	←	←
Lower chassis assembly	10740	23680	10600	23370
Track frame weld assembly	3765	8300	3625	7990
Swing bearing	430	950	←	←
Travel motor assembly	400	880	←	←
Turning joint	54	120	←	←
Track recoil spring	205	450	←	←
Idler	252	560	←	←
Carrier roller	35	80	←	←
Track roller	54	119	←	←
Track-chain assembly (600 mm standard triple grouser shoe)	1860	4110	←	←
Front attachment assembly (6.25 m boom, 3.05 m arm, 1.27 m^3 SAE heaped bucket)	5550	12240	←	←
6.25 m boom assembly	2285	5040	←	←
3.05 m arm assembly	1025	2260	←	←
1.27 m^3 SAE heaped bucket	1010	2230	←	←
Boom cylinder assembly	270	600	←	←
Arm cylinder assembly	360	790	←	←
Bucket cylinder assembly	220	485	←	←
Bucket control link assembly	110	240	←	←

2) R300LC-9SH LONG REACH

Item	R300LC-9SH LONG REACH	
	kg	lb
Upperstructure assembly	14410	31810
Main frame weld assembly	2740	6040
Engine assembly	985	2170
Main pump assembly	140	310
Main control valve assembly	220	490
Swing motor assembly	390	860
Hydraulic oil tank assembly	250	560
Fuel tank assembly	240	530
Counterweight	7000	15450
Cab assembly	490	1080
Lower chassis assembly	10900	24030
Track frame weld assembly	3765	8300
Swing bearing	430	950
Travel motor assembly	400	880
Turning joint	54	120
Track recoil spring	205	450
Idler	252	560
Carrier roller	35	80
Track roller	54	119
Track-chain assembly (800 mm standard triple grouser shoe)	2340	5160
Front attachment assembly (10.2 m boom, 7.85 m arm, 0.52 m^3 SAE heaped bucket)	5920	13050
10.2 m boom assembly	2960	6530
7.85 m arm assembly	1340	2960
0.52 m^3 SAE heaped bucket	460	1010
Boom cylinder assembly	270	600
Arm cylinder assembly	360	790
Bucket cylinder assembly	96	212
Bucket control link assembly	110	240

3) R300LC-9SH HIGH WALKER

Item	R300LC-9SH HIGH WAKER	
	kg	lb
Upperstructure assembly	12610	27800
Main frame weld assembly	2740	6040
Engine assembly	985	2170
Main pump assembly	140	310
Main control valve assembly	220	490
Swing motor assembly	390	860
Hydraulic oil tank assembly	250	560
Fuel tank assembly	240	530
Counterweight	4600	10140
Cab assembly	490	1080
Lower chassis assembly	12800	28220
Track frame weld assembly	5825	12840
Swing bearing	430	950
Travel motor assembly	400	880
Turning joint	54	120
Track recoil spring	205	450
Idler	252	560
Carrier roller	35	80
Track roller	54	119
Track-chain assembly (600 mm standard triple grouser shoe)	1860	4110
Front attachment assembly (6.25 m boom, 3.05 m arm, 1.27 m^3 SAE heaped bucket)	5550	12240
6.25 m boom assembly	2285	5040
3.05 m arm assembly	1025	2260
1.27 m^3 SAE heaped bucket	1010	2230
Boom cylinder assembly	270	600
Arm cylinder assembly	360	790
Bucket cylinder assembly	220	485
Bucket control link assembly	110	240

5. LIFTING CAPACITIES

1) R300LC-9SH

(1) 6.25 m (20' 6") boom, 2.10 m (6' 11") arm equipped with 1.27 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)
7.5 m (25 ft)	kg lb					*6200 *13670	*6200 *13670			*5710 *12590	4680 10320	8.01 (26.3)
6.0 m (20 ft)	kg lb					*6560 *14460	*6560 *14460	*6370 *14040	5060 11160	*5810 *12810	3750 8270	8.90 (29.2)
4.5 m (15 ft)	kg lb			*9620 *21210	*9620 *21210	*7590 *16730	7230 15940	*6700 *14770	4940 10890	5390 11880	3280 7230	9.42 (30.9)
3.0 m (10 ft)	kg lb			*12550 *27670	10430 22990	*8910 *19640	6750 14880	*7330 *16160	4720 10410	5100 11240	3060 6750	9.64 (31.6)
1.5 m (5 ft)	kg lb			*14540 *32060	9420 21430	*10090 *22240	6360 14020	7500 16530	4510 9940	5090 11220	3040 6700	9.58 (31.4)
Ground Line	kg lb			*15120 *33330	9510 20970	*10480 *23100	6130 13510	7340 16180	4370 9630	5380 11860	3210 7080	9.23 (30.3)
-1.5 m (-5 ft)	kg lb	*14250 *31420	*14250 *31420	*14810 *32650	9530 21010	10410 22950	6070 13380	7310 16120	4340 9570	6100 13450	3680 8110	8.57 (28.1)
-3.0 m (-10 ft)	kg lb	*18890 *41650	*18890 *41650	*13670 *30140	9710 21410	*10170 *22420	6170 13600			*6670 *14700	4710 10380	7.47 (24.5)
-4.5 m (-15 ft)	kg lb	*15250 *33620	*15250 *33620	*11130 *24540	10120 22310							

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) 6.25 m (20' 6") boom, 2.50 m (8' 2") arm equipped with 1.27 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)
7.5 m (25 ft)	kg											*5240	4400	8.34
	lb											*11550	9700	(27.4)
6.0 m (20 ft)	kg									*5870	5140	*5400	3560	9.19
	lb									*12940	11330	*11900	7850	(30.2)
4.5 m (15 ft)	kg					*8760	*8760	*7090	*7090	*6310	4980	5150	3120	9.69
	lb					*19310	*19310	*15630	*15630	*13910	10980	11350	6880	(31.8)
3.0 m (10 ft)	kg					*11680	10630	*8460	6820	*7000	4740	4870	2910	9.90
	lb					*25750	23440	*18650	15040	*15430	10450	10740	6420	(32.5)
1.5 m (5 ft)	kg					*13960	9800	*9730	6380	*7500	4500	4850	2870	9.84
	lb					*30780	21610	*21450	14070	*16530	9920	10690	6330	(32.3)
Ground Line	kg					*14930	9460	10450	6100	7310	4340	5090	3020	9.51
	lb					*32910	20860	23040	13450	16120	9570	11220	6660	(31.2)
-1.5 m (-5 ft)	kg			*15220	*15220	*14910	9410	10330	5990	7240	4270	5710	3410	8.87
	lb			*33550	*33550	*32870	20750	22770	13210	15960	9410	12590	7520	(29.1)
-3.0 m (-10 ft)	kg	*17240	*17240	*20000	*20000	*14040	9550	*10390	6050			*6780	4270	7.82
	lb	*38010	*38010	*44090	*44090	*30950	21050	*22910	13340			*14950	9410	(25.7)
-4.5 m (-15 ft)	kg			*16720	*16720	*11970	9890							
	lb			*36860	*36860	*26390	21800							

(3) 6.25 m (20' 6") boom, 3.05 m (10' 0") arm equipped with 1.27 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)
7.5 m (25 ft)	kg													*4780	3890	8.94
	lb													*10540	8580	(29.3)
6.0 m (20 ft)	kg									*5270	*5230			*4940	3200	9.74
	lb									*11620	*11530			*10890	7050	(32.0)
4.5 m (15 ft)	kg							*6380	*6380	*5780	5030			4710	2820	10.20
	lb							*14070	*14070	*12740	11090			10380	6220	(33.5)
3.0 m (10 ft)	kg			*10490	*10490	*10510	*10510	*7800	6900	*6530	4760	*4420	3420	4460	2630	10.40
	lb			*23130	*23130	*23170	*23170	*17200	15210	*14400	10490	*9740	7540	9830	5800	(34.1)
1.5 m (5 ft)	kg					*13100	9940	*9190	6400	*7320	4490	*5230	3280	4430	2590	10.35
	lb					*28880	21910	*20260	14110	*16140	9900	*11530	7230	9770	5710	(34.0)
Ground Line	kg			*10140	*10140	*14530	9440	*10220	6060	7260	4290	*4600	3180	4610	2700	10.04
	lb			*22350	*22350	*32030	20810	*22530	13360	16010	9460	*10140	7010	10160	5950	(32.9)
-1.5 m (-5 ft)	kg	*10990	*10990	*14250	*14250	*14890	9280	*10230	5900	7140	4180			5100	3000	9.44
	lb	*24230	*24230	*31420	*31420	*32830	20460	*22550	13010	15740	9220			11240	6610	(31.0)
-3.0 m (-10 ft)	kg	*14880	*14880	*19250	*19250	*14380	9340	10230	5900	7160	4200			6120	3660	8.48
	lb	*32800	*32800	*42440	*42440	*31700	20590	22550	13010	15790	9260			13490	8070	(27.8)
-4.5 m (-15 ft)	kg	*19470	*19470	*18400	*18400	*12820	9600	*9370	6080					*6400	5200	6.97
	lb	*42920	*42920	*40570	*40570	*23260	21160	*20660	13400					*14110	11460	(22.9)

(4) 6.25 m (20' 6") boom, 3.75 m (12' 4") arm equipped with 1.27 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)
7.5 m (25 ft)	kg													*4230	3350	9.67
	lb													*9330	7390	(31.7)
6.0 m (20 ft)	kg									*4470	*4470	*2540	*2540	*4400	2800	10.40
	lb									*9850	*9850	*5600	*5600	*9700	6170	(34.1)
4.5 m (15 ft)	kg									*5050	*5050	*3970	3590	4220	2490	10.83
	lb									*11130	*11130	*8750	7910	9300	5490	(35.5)
3.0 m (10 ft)	kg			*14430	*14430	*8910	*8910	*6870	*6870	*5870	4830	*5060	3440	4010	2320	11.02
	lb			*31810	*31810	*19640	*19640	*15150	*15150	*12940	10650	*11160	7580	8840	5110	(36.2)
1.5 m (5 ft)	kg			*10550	*10550	*11820	10250	*8410	6520	*6760	4530	5530	3270	3970	2270	10.97
	lb			*23260	*23260	*26060	22600	*18540	14370	*14900	9990	12190	7210	8750	5000	(36.0)
Ground Line	kg	*6830	*6830	*10900	*10900	*13790	9540	*9670	6100	*7260	4270	5380	3130	4110	2350	10.68
	lb	*15060	*15060	*24030	*24030	*30400	21030	*21320	13450	*16010	9410	11860	6900	9060	5180	(35.0)
-1.5 m (-5 ft)	kg	*9850	*9850	*13520	*13520	*14680	9220	10200	5850	7080	4110	5290	3050	4470	2580	10.12
	lb	*21720	*21720	*29810	*29810	*32360	20330	22490	12900	15610	9060	11660	6720	9850	5690	(33.2)
-3.0 m (-10 ft)	kg	*13010	*13010	*17210	*17210	*14640	9170	10100	5770	7030	4060			5220	3060	9.25
	lb	*28680	*28680	*37940	*37940	*32280	20220	22270	12720	15500	8950			11510	6750	(30.3)
-4.5 m (-15 ft)	kg	*16680	*16680	*20250	19650	*13660	9330	*9980	5850					*6200	4080	7.92
	lb	*36770	*36770	*44640	43320	*30120	20570	*22000	12900					*13670	8990	(26.0)

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.