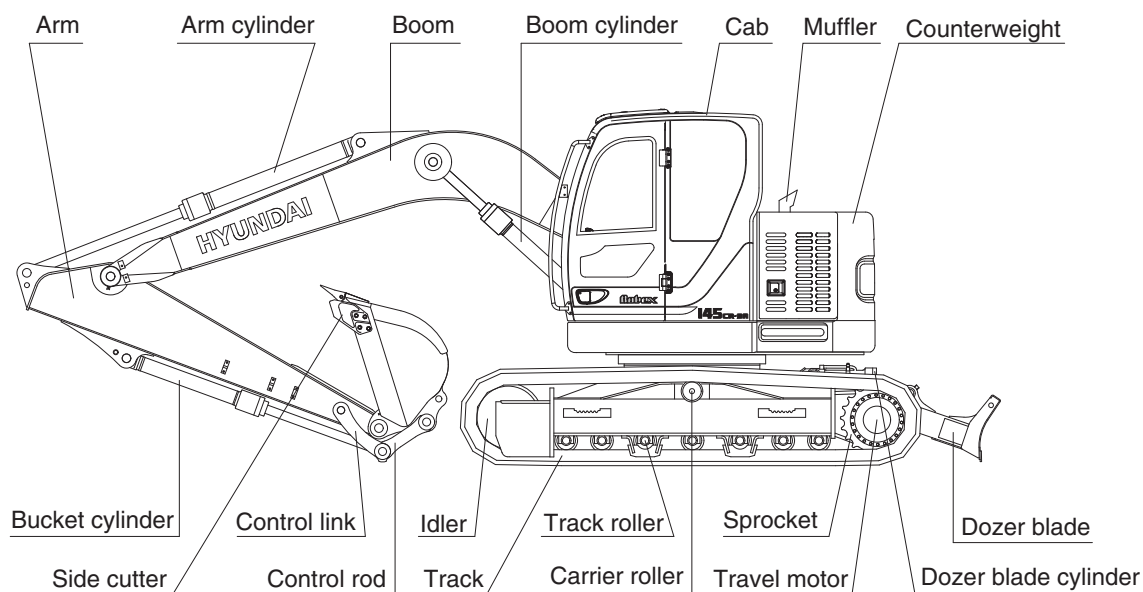
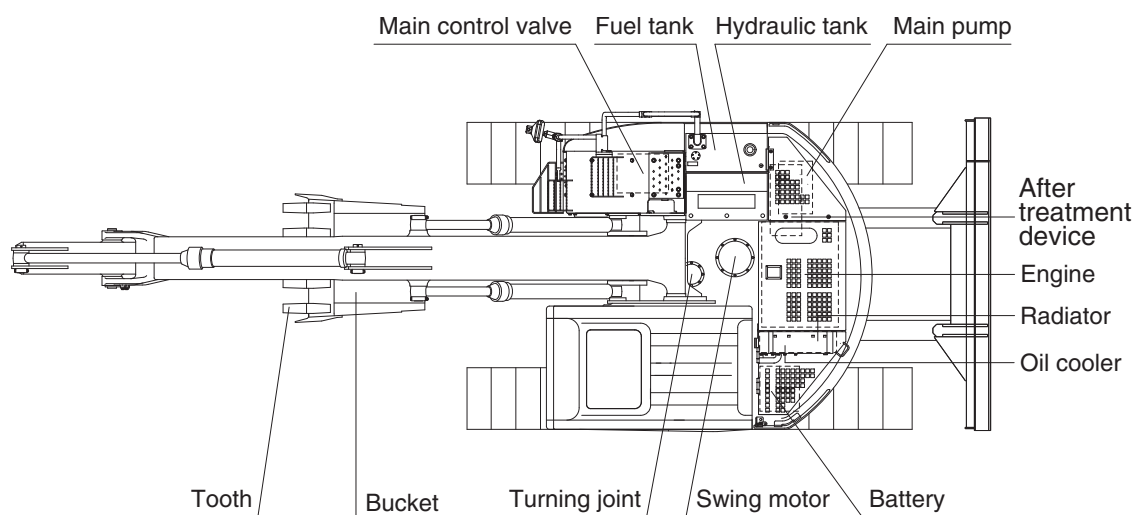


SPECIFICATIONS

1. MAJOR COMPONENT

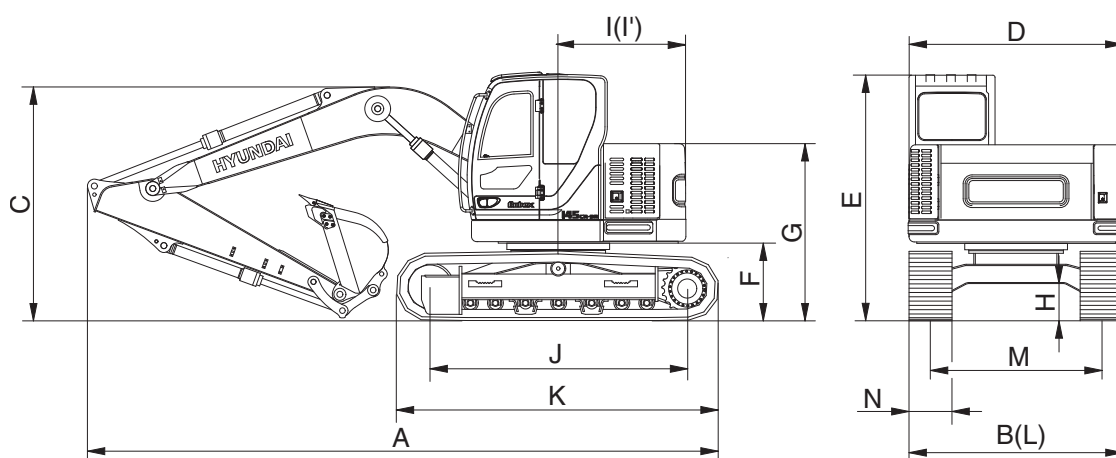


145Z9A2SP01

2. SPECIFICATIONS

1) R145CR-9A

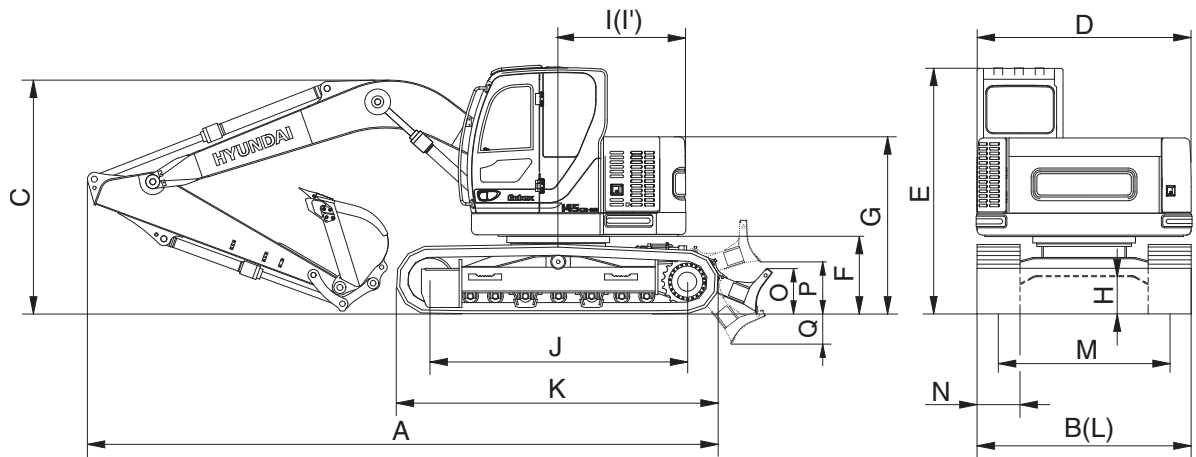
· 4.60 m (15' 1") BOOM and 2.50 m (8' 2") ARM



145Z9A2SP02

Description		Unit	Specification
Operating weight		kg (lb)	14600 (32190)
Bucket capacity (SAE heaped), standard		m ³ (yd ³)	0.52 (0.68)
Overall length	A	mm (ft-in)	7270 (23' 10")
Overall width, with 500 mm shoe	B		2500 (8' 2")
Overall height	C		2860 (9' 5")
Superstructure width	D		2500 (8' 2")
Overall height of cab	E		2900 (9' 6")
Ground clearance of counterweight	F		930 (3' 1")
Engine cover height	G		2215 (7' 3")
Minimum ground clearance	H		440 (1' 5")
Rear-end distance	I		1480 (4' 10")
Rear-end swing radius	I'		1480 (4' 10")
Distance between tumblers	J		2910 (9' 7")
Undercarriage length	K		3640 (11' 11")
Undercarriage width	L		2500 (8' 2")
Track gauge	M		2000 (6' 7")
Track shoe width, standard	N		500 (20")
Travel speed (low/high)		km/hr (mph)	3.3/5.5 (2.1/3.4)
Swing speed		rpm	11.5
Gradeability		Degree (%)	35 (70)
Ground pressure (500 mm shoe)		kgf/cm ² (psi)	0.46 (6.54)
Max traction force		kg (lb)	13300 (29320)

2) R145CRD-9A

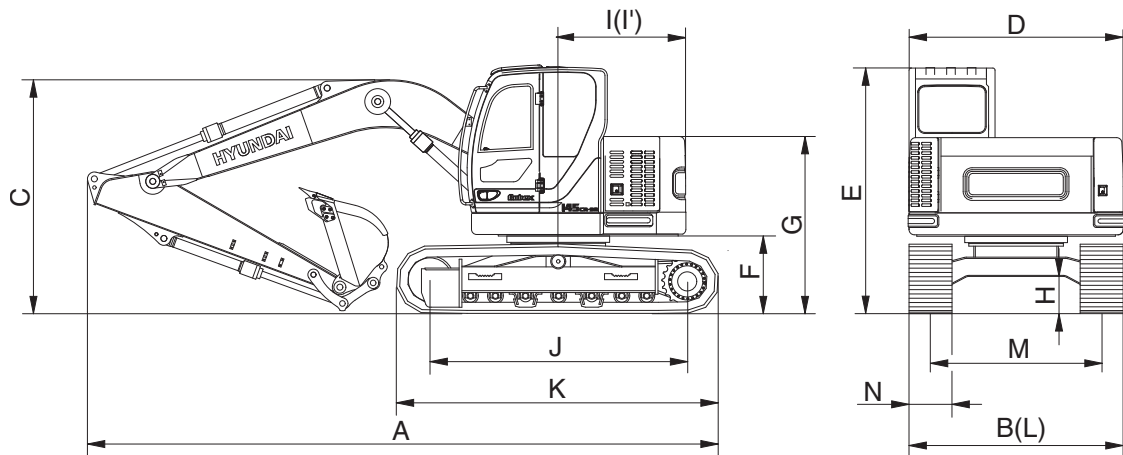


145Z9A2SP03

Description		Unit	Specification
Operating weight		kg (lb)	15400 (33950)
Bucket capacity (SAE heaped), standard		m ³ (yd ³)	0.52 (0.68)
Overall length	A	mm (ft-in)	7820 (25' 8")
Overall width, with 500 mm shoe	B		2500 (8' 2")
Overall height	C		2860 (9' 5")
Superstructure width	D		2500 (8' 2")
Overall height of cab	E		2900 (9' 6")
Ground clearance of counterweight	F		930 (3' 1")
Engine cover height	G		2215 (7' 3")
Minimum ground clearance	H		440 (1' 5")
Rear-end distance	I		1480 (4' 10")
Rear-end swing radius	I'		1480 (4' 10")
Distance between tumblers	J		2910 (9' 7")
Undercarriage length	K		3640 (11' 11")
Undercarriage width	L		2500 (8' 2")
Track gauge	M		2000 (6' 7")
Track shoe width, standard	N		500 (20")
Height of blade	O		575 (1' 8")
Ground clearance of blade up	P		420 (1' 8")
Depth of blade down	Q		430 (1' 6")
Travel speed (low/high)		km/hr (mph)	3.3/5.5 (2.1/3.4)
Swing speed		rpm	11.5
Gradeability		Degree (%)	35 (70)
Ground pressure (500 mm shoe)		kgf/cm ² (psi)	0.49 (6.97)
Max traction force		kg (lb)	13300 (29320)

3) R145LCR-9A

· 4.60 m (15' 1") BOOM and 2.50 m (8' 2") ARM



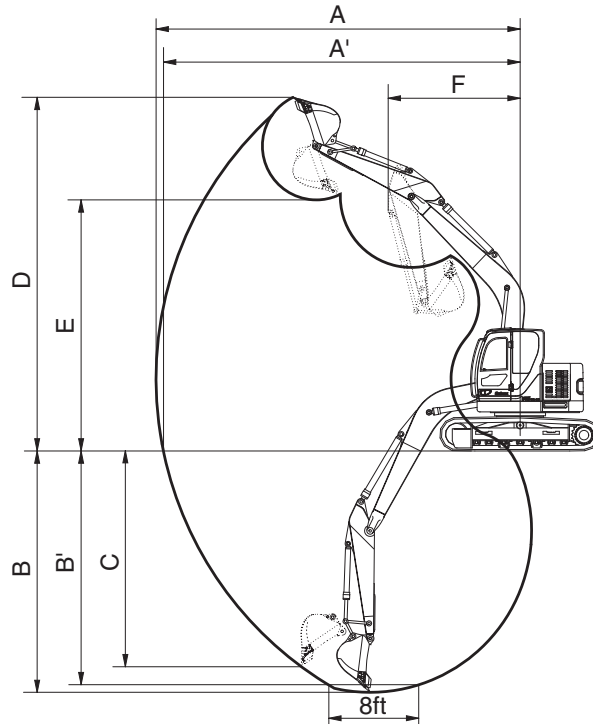
145Z9A2SP02

Description		Unit	Specification
Operating weight		kg (lb)	14980 (33030)
Bucket capacity (SAE heaped), standard		m ³ (yd ³)	0.52 (0.68)
Overall length	A	mm (ft-in)	7360 (24' 2")
Overall width, with 600 mm shoe	B		2600 (8' 6")
Overall height	C		2860 (9' 5")
Superstructure width	D		2500 (8' 2")
Overall height of cab	E		2900 (9' 6")
Ground clearance of counterweight	F		930 (3' 1")
Engine cover height	G		2215 (7' 3")
Minimum ground clearance	H		440 (1' 5")
Rear-end distance	I		1480 (4' 10")
Rear-end swing radius	I'		1480 (4' 10")
Distance between tumblers	J		3090 (10' 2")
Undercarriage length	K		3820 (12' 6")
Undercarriage width	L		2600 (8' 6")
Track gauge	M		2000 (6' 7")
Track shoe width, standard	N		600 (24")
Travel speed (low/high)		km/hr (mph)	3.3/5.5 (2.1/3.4)
Swing speed		rpm	11.5
Gradeability		Degree (%)	35 (70)
Ground pressure (600 mm shoe)		kgf/cm ² (psi)	0.37 (5.26)
Max traction force		kg (lb)	13300 (29320)

3. WORKING RANGE

1) R145CR/CRD/LCR-9A

(1) 4.60 m (15' 1") MONO BOOM



145Z9A2SP04

Description		1.90 m (6' 3") Arm	2.10 m (6' 11") Arm	※2.50 m (8' 2") Arm	3.00 m (9' 10") Arm
Max digging reach	A	7730 mm (25' 4")	7900 mm (25' 11")	8310 mm (27' 3")	8770 mm (28' 9")
Max digging reach on ground	A'	7580 mm (24' 10")	7750 mm (25' 0")	8170 mm (26' 10")	8630 mm (28' 4")
Max digging depth	B	4890 mm (16' 1")	5100 mm (16' 9")	5500 mm (18' 1")	5990 mm (19' 8")
Max digging depth (8ft level)	B'	4640 mm (15' 3")	4870 mm (16' 0")	5290 mm (17' 4")	5810 mm (19' 1")
Max vertical wall digging depth	C	4400 mm (14' 5")	4600 mm (15' 1")	5000 mm (16' 5")	5400 mm (17' 9")
Max digging height	D	8840 mm (29' 0")	8970 mm (29' 5")	9350 mm (30' 8")	9730 mm (31' 11")
Max dumping height	E	6350 mm (20' 10")	6470 mm (21' 3")	6850 mm (22' 6")	7230 mm (23' 9")
Min swing radius	F	1860 mm (6' 1")	2030 mm (6' 8")	1980 mm (6' 6")	2260 mm (7' 5")
Bucket digging force	SAE	87.3 [94.8] kN	87.3 [94.8] kN	87.3 [94.8] kN	87.3 [94.8] kN
		8900 [9670] kgf	8900 [9670] kgf	8900 [9670] kgf	8900 [9670] kgf
		19620 [21300] lbf	19620 [21300] lbf	19620 [21300] lbf	19620 [21300] lbf
	ISO	102 [110.8] kN	102 [110.8] kN	102 [110.8] kN	102 [110.8] kN
		10400 [11290] kgf	10400 [11290] kgf	10400 [11290] kgf	10400 [11290] kgf
		22930 [24890] lbf	22930 [24890] lbf	22930 [24890] lbf	22930 [24890] lbf
Arm crowd force	SAE	76.5 [83.1] kN	73.6 [79.9] kN	62.8 [68.2] kN	55.9 [60.7] kN
		7800 [8470] kgf	7500 [8140] kgf	6400 [6950] kgf	5700 [6190] kgf
		17200 [18670] lbf	16530 [17950] lbf	14110 [15320] lbf	12570 [13640] lbf
	ISO	80.4 [87.3] kN	77.5 [84.1] kN	65.7 [71.4] kN	57.9 [62.8] kN
		8200 [8900] kgf	7900 [8580] kgf	6700 [7270] kgf	5900 [6410] kgf
		18080 [19630] lbf	17420 [18910] lbf	14770 [16040] lbf	13010 [14120] lbf

※ : STD

[] : Power boost

4. WEIGHT

Item	R145CR-9A		R145CRD-9A		R145LCR-9A	
	kg	lb	kg	lb	kg	lb
Upper structure assembly	6950	15320	←		←	
Main frame weld assembly	1315	2900	←		←	
Engine assembly	540	1190	←		←	
Main pump assembly	90	200	←		←	
Main control valve assembly	140	310	←		←	
Swing motor assembly	120	260	←		←	
Hydraulic oil tank assembly	150	330	←		←	
Fuel tank assembly	120	260	←		←	
Counterweight	2800	6170	←		←	
Cab assembly	450	990	←		←	
Lower chassis assembly	5230	11530	6030	13290	5600	12350
Track frame weld assembly	1480	3260	1640	3620	1820	4010
Swing bearing	215	470	←		←	
Travel motor assembly	240	530	←		←	
Turning joint	50	110	←		←	
Track recoil spring	105	230	←		←	
Idler	125	280	←		←	
Carrier roller	20	45	←		←	
Track roller	35	80	←		←	
Track-chain assembly (500 mm standard triple grouser shoe)	910	2010	←		940	2070
Dozer blade assembly	-		465	1025	-	
Front attachment assembly (4.6 m boom, 2.5 m arm, 0.52 m³ SAE heaped bucket)	2420	5330	←		←	
4.6 m boom assembly	830	1830	←		←	
2.5 m arm assembly	435	960	←		←	
0.52 m³ SAE heaped bucket	460	1010	←		←	
Boom cylinder assembly	130	290	←		←	
Arm cylinder assembly	160	350	←		←	
Bucket cylinder assembly	100	220	←		←	
Bucket control rod assembly	90	200	←		←	
Dozer blade cylinder assembly	-		55	120	-	

5. LIFTING CAPACITIES

1) R145CR-9A

(1) 4.60 m (15' 1") boom, 2.50 m (8' 2") arm equipped with 0.52 m³ (SAE heaped) bucket and 500 mm (20") triple grouser shoe and 2800 kg (6170 lb) counterweight.

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

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)		Capacity		Reach
												m (ft)
6.0 m	kg					*2960	*2960			2710	1700	6.50
(20.0 ft)	lb					*6530	*6530			5970	3750	(21.3)
4.5 m	kg					*3460	3310	*2670	1930	2120	1280	7.37
(15.0 ft)	lb					*7630	7300	*5890	4250	4670	2820	(24.2)
3.0 m	kg			*6090	*6090	*4480	3090	2990	1850	1870	1090	7.81
(10.0 ft)	lb			*13430	*13430	*9880	6810	6590	4080	4120	2400	(25.6)
1.5 m	kg			*8480	5380	4640	2810	2870	1730	1780	1030	7.90
(5.0 ft)	lb			*18700	11860	10230	6190	6330	3810	3920	2270	(25.9)
Ground Line	kg			9050	4920	4390	2590	2750	1630	1850	1060	7.67
	lb			19950	10850	9680	5710	6060	3590	4080	2340	(25.2)
-1.5 m	kg	*5850	*5850	*8700	4820	4280	2490	2700	1580	2120	1240	7.07
(-5.0 ft)	lb	*12900	*12900	*19180	10630	9440	5490	5950	3480	4670	2730	(23.2)
-3.0 m	kg	*8930	*8930	*7030	4900	4300	2510			*2400	1700	5.97
(-10 ft)	lb	*19690	*19690	*15500	10800	9480	5530			*5290	3750	(19.6)
-4.5 m	kg			*3750	*3750							
(-15.0 ft)	lb			*8270	*8270							

- 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) 4.60 m (15' 1") boom, 1.90 m (6' 3") arm equipped with 0.52 m³ (SAE heaped) bucket and 500 mm (20") triple grouser shoe and 2800 kg (6170 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)		Capacity		Reach
												m (ft)
6.0 m	kg					*3270	*3270			3360	2130	5.75
(20.0 ft)	lb					*7210	*7210			7410	4700	(18.9)
4.5 m	kg			*4960	*4960	*4310	3250			2500	1550	6.73
(15.0 ft)	lb			*10930	*10930	*9500	7170			5510	3420	(22.1)
3.0 m	kg			*7230	5970	4900	3050	2980	1850	2170	1310	7.22
(10.0 ft)	lb			*15940	13160	10800	6720	6570	4080	4780	2890	(23.7)
1.5 m	kg			*9120	5220	4620	2800	2880	1750	2070	1230	7.32
(5.0 ft)	lb			*20110	11510	10190	6170	6350	3860	4560	2710	(24.0)
Ground Line	kg			*8610	4970	4430	2640	2800	1680	2170	1290	7.06
	lb			*18980	10560	9770	5820	6170	3700	4780	2840	(23.2)
-1.5 m	kg	*6830	*6830	*8140	4970	4370	2580			2560	1540	6.40
(-5.0 ft)	lb	*15060	*15060	*17950	10960	9630	5690			5640	3400	(21.0)
-3.0 m	kg			*6010	5100	*4100	2650			*2250	*2250	5.12
(-10 ft)	lb			*13250	11240	*9040	5840			*4960	*4960	(16.8)

(3) 4.60 m (15' 1") boom, 3.0 m (9' 10") arm equipped with 0.52 m³ (SAE heaped) bucket and 700 mm (20") triple grouser shoe and 2800 kg (6170 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)		7.0 m (25 ft)		Capacity		Reach
														m (ft)
6.0 m (20.0 ft)	kg lb					*2560 *5640	*2560 *5640	*1730 *3810	*1730 *3810			2350 5180	1450 3200	7.07 (23.2)
4.5 m (15.0 ft)	kg lb					*2760 *6080	*2760 *6080	*2550 *5620	1980 4370			1890 4170	1120 2470	7.86 (25.8)
3.0 m (10.0 ft)	kg lb			*3690 *8140	*3690 *8140	*3690 *8140	3170 6990	3030 6680	1880 4140	*1430 *3150	1180 2600	1680 3700	960 2120	8.27 (27.1)
1.5 m (5.0 ft)	kg lb			*7740 *17060	5620 12390	4720 10410	2880 6350	2890 6370	1750 3860	1950 4300	1130 2490	1610 3550	910 2010	8.36 (27.4)
Ground Line	kg lb			9180 20240	5020 11070	4440 9790	2630 5800	2760 6080	1630 3590	*1830 *4030	1080 2380	1660 3660	930 2050	8.14 (26.7)
-1.5 m (-5.0 ft)	kg lb	*5380 *11860	*5380 *11860	8930 19690	4820 10630	4280 9440	2490 5490	2680 5910	1560 3440			1860 4100	1060 2340	7.59 (24.9)
-3.0 m (-10 ft)	kg lb	*7860 *17330	*7860 *17330	*7790 *17170	4830 10650	4250 9370	2460 5420	2680 5910	1560 3440			2380 5250	1400 3090	6.59 (21.6)
-4.5 m (-15 ft)	kg lb	*8050 *17750	*8050 *17750	*5160 *11380	5020 11070	*3260 *7190	2580 5690							

2) R145CRD-9A (with dozer blade)

(1) 4.60 m (15' 1") boom, 2.50 m (8' 2") arm equipped with 0.52 m³ (SAE heaped) bucket and 500 mm (20") triple grouser shoe and 2800 kg (6170 lb) counterweight with dozer blade.

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

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)		Capacity		Reach
												m (ft)
6.0 m (20.0 ft)	kg lb					*2960 *6530	*2960 *6530			*2910 *6420	1820 4010	6.50 (21.3)
4.5 m (15.0 ft)	kg lb					*3460 *7630	*3460 *7630	*2670 *5890	2060 4540	2340 5160	1380 3040	7.37 (24.2)
3.0 m (10.0 ft)	kg lb			*6090 *13430	*6090 *13430	*4480 *9880	3280 7230	3270 7210	1980 4370	2070 4560	1190 2620	7.81 (25.6)
1.5 m (5.0 ft)	kg lb			*8480 *18700	5720 12610	5060 11160	3000 6610	3150 6940	1860 4100	1980 4370	1120 2470	7.90 (25.9)
Ground Line	kg lb			*9170 *20220	5260 11600	4810 10600	2780 6130	3030 6680	1760 3880	2060 4540	1160 2560	7.67 (25.2)
-1.5 m (-5.0 ft)	kg lb	*5850 *12900	*5850 *12900	*8700 *19180	5160 11380	4700 10360	2680 5910	2980 6570	1710 3770	2350 5180	1340 2950	7.07 (23.2)
-3.0 m (-10 ft)	kg lb	*8930 *19690	*8930 *19690	*7030 *15500	5230 11530	4720 10410	2700 5950			*2400 *5290	1830 4030	5.97 (19.6)
-4.5 m (-15.0 ft)	kg lb			*3750 *8270	*3750 *8270							

- 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) 4.60 m (15' 1") boom, 3.0 m (9' 10") arm equipped with 0.52 m³ (SAE heaped) bucket and 700 mm (20") triple grouser shoe and 2800 kg (6170 lb) counterweight with dozer blade.

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)		7.0 m (25 ft)		Capacity		Reach
														m (ft)
6.0 m (20.0 ft)	kg lb					*2560 *5640	*2560 *5640	*1730 *3810	*1730 *3810			2570 5670	1560 3440	7.07 (23.2)
4.5 m (15.0 ft)	kg lb					*2760 *6080	*2760 *6080	*2550 *5620	2110 4650			2090 4610	1220 2690	7.86 (25.8)
3.0 m (10.0 ft)	kg lb			*3690 *8140	*3690 *8140	*3690 *8140	3360 7410	*3210 *7080	2020 4450	*1430 *3150	1280 2820	1860 4100	1050 2310	8.27 (27.1)
1.5 m (5.0 ft)	kg lb			*7740 *17060	5950 13120	*5030 *11090	3070 6770	3170 6990	1890 4170	*1990 *4390	1230 2710	1790 3590	990 2180	8.36 (27.4)
Ground Line	kg lb			*9190 *20260	5360 11820	4850 10690	2820 6220	3040 6700	1770 3900	*1830 *4030	1180 2600	1850 4080	1020 2250	8.14 (26.7)
-1.5 m (-5.0 ft)	kg lb	*5380 *11860	*5380 *11860	*9060 *19970	5160 11380	4700 10360	2680 5910	2960 6530	1690 3730			2070 4560	1160 2560	7.59 (24.9)
-3.0 m (-10 ft)	kg lb	*7860 *17330	*7860 *17330	*7790 *17170	5170 11400	4670 10300	2650 5840	2960 6530	1690 3730			*2460 *5420	1520 3350	6.59 (21.6)
-4.5 m (-15 ft)	kg lb	*8050 *17750	*8050 *17750	*5160 *11380	*5160 *11380	3260 7190	2770 6110							

3) R145LCR-9A

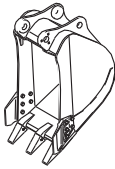
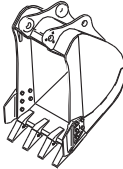
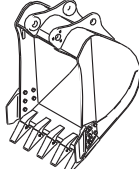
(1) 4.60 m (15' 1") boom, 2.50 m (8' 2") arm equipped with 0.52 m³ (SAE heaped) bucket and 500 mm (20") triple grouser shoe and 2800 kg (6170 lb) counterweight.

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)		Capacity		Reach
												m (ft)
6.0 m (20.0 ft)	kg lb					*2960 *6530	*2960 *6530			2870 6330	1710 3770	6.50 (21.3)
4.5 m (15.0 ft)	kg lb					*3460 *7630	3340 7360	*2670 *5890	1950 4300	2250 4960	1300 2870	7.37 (24.2)
3.0 m (10.0 ft)	kg lb			*6090 *13430	*6090 *13430	*4480 *9880	3120 6880	3170 6990	1870 4120	1990 4390	1110 2450	7.81 (25.6)
1.5 m (5.0 ft)	kg lb			*8480 *18700	5420 11950	4930 10870	2840 6260	3040 6700	1750 3860	1900 4190	1040 2290	7.90 (25.9)
Ground Line	kg lb			*9170 *20220	4970 10960	4680 10320	2620 5780	2930 6460	1650 3640	1970 4340	1080 2380	7.67 (25.2)
-1.5 m (-5.0 ft)	kg lb	*5850 *12900	*5850 *12900	*8700 *19180	4870 10740	4570 10080	2520 5560	2870 6330	1600 3530	2260 4980	1250 2760	7.07 (23.2)
-3.0 m (-10 ft)	kg lb	*8930 *19690	*8930 *19690	*7030 *15500	4940 10890	4590 10120	2540 5600			*2400 *5290	1720 3790	5.97 (19.6)
-4.5 m (-15 ft)	kg lb			*3750 *8270	*3750 *8270							

6. BUCKET SELECTION GUIDE

1) R145CR-9A, R145CRD-9A, R145LCR-9A

(1) General bucket

		
0.23 m³ SAE heaped bucket	0.40, 0.46 m³ SAE heaped bucket	0.52, 0.58, 0.65, 0.71 m³ SAE heaped bucket

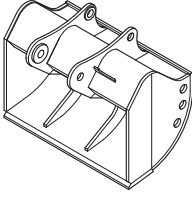
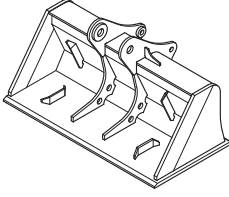
Capacity		Width		Weight	Recommendation			
					4.6 m (15' 1") boom			
SAE heaped	CECE heaped	Without side cutter	With side cutter		1.9 m arm (6' 3")	2.1 m arm (6' 11")	2.5 m arm (8' 2")	3.0 m arm (9' 10")
0.23 m³ (0.30 yd³)	0.20 m³ (0.26 yd³)	520 mm (20.5")	620 mm (24.4")	335 kg (740 lb)				
0.40 m³ (0.52 yd³)	0.35 m³ (0.46 yd³)	750 mm (29.5")	850 mm (33.5")	410 kg (900 lb)				
0.46 m³ (0.60 yd³)	0.40 m³ (0.52 yd³)	840 mm (33.1")	940 mm (37.0")	435 kg (960 lb)				
0.52 m³ (0.68 yd³)	0.45 m³ (0.59 yd³)	915 mm (36.0")	1015 mm (40.0")	460 kg (1010 lb)				
0.58 m³ (0.76 yd³)	0.50 m³ (0.65 yd³)	1000 mm (39.4")	1100 mm (43.3")	480 kg (1060 lb)				
0.65 m³ (0.85 yd³)	0.55 m³ (0.72 yd³)	1105 mm (43.5")	1205 mm (47.4")	500 kg (1100 lb)				
0.71 m³ (0.93 yd³)	0.60 m³ (0.78 yd³)	1190 mm (46.9")	1290 mm (50.8")	540 kg (1190 lb)				

 Applicable for materials with density of 2000 kg/m³ (3370 lb/yd³) or less

 Applicable for materials with density of 1600 kg/m³ (2700 lb/yd³) or less

 Applicable for materials with density of 1100 kg/m³ (1850 lb/yd³) or less

(2) Special bucket

Ditch cleaning bucket 	Slope finishing bucket 
★0.45 m³ SAE heaped bucket	◎0.55 m³ SAE heaped bucket

Capacity		Width		Weight	Recommendation			
					4.6 m (15' 1") boom			
SAE heaped	CECE heaped	Without side cutter	With side cutter		1.9 m arm (6' 3")	2.1 m arm (6' 11")	2.5 m arm (8' 2")	3.0 m arm (9' 10")
★0.45 m ³ (0.59 yd ³)	0.40 m ³ (0.52 yd ³)	1520 mm (59.8")	-	410 kg (900 lb)				—
◎0.55 m ³ (0.72 yd ³)	0.45 m ³ (0.59 yd ³)	1800 mm (70.9")	-	585 kg (1290 lb)				—

★ : Ditch cleaning bucket

◎ : Slope finishing bucket

 Applicable for materials with density of 2000 kgf/m³ (3370 lbf/yd³) or less

 Applicable for materials with density of 1600 kgf/m³ (2700 lbf/yd³) or less

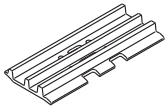
 Applicable for materials with density of 1100 kgf/m³ (1850 lbf/yd³) or less

7. UNDERCARRIAGE

1) TRACKS

X-leg type center frame is integrally welded with reinforced box-section track frames. The design includes dry tracks, lubricated rollers, idlers, sprockets, hydraulic track adjusters with shock absorbing springs and assembled track-type tractor shoes with triple grousers.

2) TYPES OF SHOES

Model	Shapes		Triple grouser		
					
R145CR-9A	Shoe width	mm (in)	※ 500 (20)	600 (24)	700 (28)
	Operating weight	kg (lb)	14600/32190	14790 (32610)	15020 (33110)
	Ground pressure	kgf/cm ² (psi)	0.46 (6.54)	0.39 (5.55)	0.34 (4.83)
	Overall width	mm (ft-in)	2500 (8' 2")	2600 (8' 6")	2700 (8' 10")
R145CRD-9A	Shoe width	mm (in)	※ 500 (20)	600 (24)	700 (28)
	Operating weight	kg (lb)	15400 (33950)	15610 (34610)	15840 (34920)
	Ground pressure	kgf/cm ² (psi)	0.49 (6.97)	0.41 (5.83)	0.36 (5.12)
	Overall width	mm (ft-in)	2500 (8' 2")	2600 (8' 6")	2700 (8' 10")
R145LCR-9A	Shoe width	mm (in)	※ 500 (20)	600 (24)	700 (28)
	Operating weight	kg (lb)	14660 (32320)	14850 (32740)	15080 (33250)
	Ground pressure	kgf/cm ² (psi)	0.44 (6.26)	0.37 (5.26)	0.32 (4.55)
	Overall width	mm (ft-in)	2500 (8' 2")	2600 (8' 6")	2700 (8' 10")

※ : Standard

3) NUMBER OF ROLLERS AND SHOES ON EACH SIDE

Item	Quantity	
	R145CR-9A/R145CRD-9A	R145LCR-9A
Carrier rollers	1 EA	2 EA
Track rollers	7 EA	7 EA
Track shoes	45 EA	47 EA

4) SELECTION OF TRACK SHOE

Suitable track shoes should be selected according to operating conditions.

Method of selecting shoes

Confirm the category from the list of applications in **table 2**, then use **table 1** to select the shoe. Wide shoes (Categories B and C) have limitations on applications. Before using wide shoes, check the precautions, then investigate and study the operating conditions to confirm if these shoes are suitable.

Select the narrowest shoe possible to meet the required flotation and ground pressure. Application of wider shoes than recommendations will cause unexpected problem such as bending of shoes, crack of link, breakage of pin, loosening of shoe bolts and the other various problems.

※ **Table 1**

Track shoe	Specification	Category
500 mm triple grouser	Standard	A
600 mm triple grouser	Option	A
700 mm triple grouser	Option	B

※ **Table 2**

Category	Applications	Applications
A	Rocky ground, river beds, normal soil	• Travel at low speed on rough ground with large obstacles such as boulders or fallen trees
B	Normal soil, soft ground	• These shoes cannot be used on rough ground with large obstacles such as boulders or fallen trees • Travel at high speed only on flat ground • Travel slowly at low speed if it is impossible to avoid going over obstacles

8. SPECIFICATIONS FOR MAJOR COMPONENTS

1) ENGINE

Item	Specification
Model	Perkins 1204E
Type	4-cycle turbocharged charge air cooled diesel engine
Cooling method	Water cooling
Number of cylinders and arrangement	4 cylinders, in-line
Firing order	1-3-4-2
Combustion chamber type	Direct injection type
Cylinder bore × stroke	105 × 127 mm (4.1" × 5.0")
Piston displacement	4400 cc (269 cu in)
Compression ratio	16.5 : 1
Rated gross horse power (SAE J1995)	124 Hp (92.7 kW) at 1950 rpm
Maximum torque	54 kgf · m (391 lbf · ft) at 1400 rpm
Engine oil quantity	10.5 l (2.8 U.S. gal)
Dry weight	507 kg (1118 lb)
High idling speed	2000 ± 50 rpm
Low idling speed	800 ± 100 rpm
Rated fuel consumption	163 g/Hp · hr at 1950 rpm
Starting motor	24 V-4.5 kW
Alternator	24 V-85 A
Battery	2 × 12 V × 100 Ah

2) MAIN PUMP

Item	Specification
Type	Variable displacement tandem axis piston pumps
Capacity	2 × 65 cc/rev
Maximum pressure	350 kgf/cm ² (4980 psi) [380 kgf/cm ² (5400 psi)]
Rated oil flow	2 × 123.5 l /min (32.6 U.S. gpm / 27.2 U.K. gpm)
Rated speed	1950 rpm

[]: Power boost

3) GEAR PUMP

Item	Specification
Type	Fixed displacement gear pump single stage
Capacity	15cc/rev
Maximum pressure	40 kgf/cm ² (570 psi)
Rated oil flow	29.2 l /min (7.7 U.S. gpm / 6.4 U.K. gpm)

4) MAIN CONTROL VALVE

Item	Specification
Type	11 spools
Operating method	Hydraulic pilot system
Main relief valve pressure	350 kgf/cm ² (4980 psi) [380 kgf/cm ² (5400 psi)]
Overload relief valve pressure	400 kgf/cm ² (5690 psi)

[]: Power boost

5) SWING MOTOR

Item	Specification
Type	Fixed displacement axial piston motor
Capacity	72 cc/rev
Relief pressure	285 kgf/cm ² (4050 psi)
Braking system	Automatic, spring applied hydraulic released
Braking torque	30 kgf · m (217 lbf · ft)
Brake release pressure	15~50 kgf/cm ² (213~711 psi)
Reduction gear type	2 - stage planetary

6) TRAVEL MOTOR

Item	Type 1	Type 2	Type 3
Type	Variable displacement axial piston motor		
Relief pressure	350 kgf/cm ² (4970 psi)		
Capacity (max / min)	77/45 cc/rev	76.62/44.8 cc/rev	77/44.5 cc/rev
Reduction gear type	2-stage planetary		
Braking system	Automatic, spring applied hydraulic released		
Brake release pressure	9.5 kgf/cm ² (135 psi)		14.1 kgf/cm ² (201 psi)
Braking torque	19.7 kgf · m (142.5 lbf · ft)		33 kgf/cm ² (238.7 psi)

7) CYLINDER

Item		Specification
Boom cylinder	Bore dia × Rod dia × Stroke	ø 105 × ø 75 × 1105 mm
	Cushion	Extend only
Arm cylinder	Bore dia × Rod dia × Stroke	ø 115 × ø 80 × 1138 mm
	Cushion	Extend and retract
Bucket cylinder	Bore dia × Rod dia × Stroke	ø 100 × ø 70 × 840 mm
	Cushion	Extend only
Dozer cylinder (option)	Bore dia × Rod dia × Stroke	ø 100 × ø 70 × 250 mm
	Cushion	-

※ Discoloration of cylinder rod can occur when the friction reduction additive of lubrication oil spreads on the rod surface.

※ Discoloration does not cause any harmful effect on the cylinder performance.

8) SHOE

Item		Width	Ground pressure	Link quantity	Overall width
R145CR-9A	Standard	500 mm (20")	0.46 kgf/cm ² (6.54 psi)	45	2500 mm (8' 2")
	Option	600 mm (24")	0.39 kgf/cm ² (5.55 psi)	45	2600 mm (8' 6")
		700 mm (28")	0.34 kgf/cm ² (4.83 psi)	45	2700 mm (8' 10")
R145CRD-9A	Standard	500 mm (20")	0.49 kgf/cm ² (6.97 psi)	45	2500 mm (8' 2")
	Option	600 mm (24")	0.41 kgf/cm ² (5.81 psi)	45	2600 mm (8' 6")
		700 mm (28")	0.36 kgf/cm ² (5.12 psi)	45	2700 mm (8' 10")
R145LCR-9A	Standard	500 mm (20")	0.44 kgf/cm ² (6.26 psi)	47	2500 mm (8' 2")
	Option	600 mm (24")	0.37 kgf/cm ² (5.26 psi)	47	2600 mm (8' 6")
		700 mm (28")	0.32 kgf/cm ² (4.55 psi)	47	2700 mm (8' 10")

BUCKET

Item	Capacity		Tooth quantity	Width	
	SAE heaped	CECE heaped		Without side cutter	With side cutter
R145CR-9A R145CRD-9A R145LCR-9A	0.52 m ³ (0.68 yd ³)	0.45 m ³ (0.59 yd ³)	5	915 mm (36.0")	1015 mm (40.0")
	0.23 m ³ (0.30 yd ³)	0.20 m ³ (0.26 yd ³)	3	520 mm (20.5")	620 mm (24.4")
	0.40 m ³ (0.52 yd ³)	0.35 m ³ (0.46 yd ³)	4	750 mm (29.5")	850 mm (33.5")
	0.46 m ³ (0.60 yd ³)	0.40 m ³ (0.52 yd ³)	4	840 mm (33.1")	940 mm (37.0")
	0.58 m ³ (0.76 yd ³)	0.50 m ³ (0.65 yd ³)	5	1000 mm (39.4")	1100 mm (43.3")
	0.65 m ³ (0.85 yd ³)	0.55 m ³ (0.72 yd ³)	5	1105 mm (43.5")	1205 mm (47.4")
	0.71 m ³ (0.93 yd ³)	0.60 m ³ (0.78 yd ³)	5	1190 mm (46.9")	1290 mm (50.8")
	★0.45 m ³ (0.59 yd ³)	0.40 m ³ (0.52 yd ³)	-	1520 mm (59.8")	-
	◎0.55 m ³ (0.72 yd ³)	0.45 m ³ (0.59 yd ³)	-	1800 mm (70.9")	-

★ : Ditch cleaning bucket

◎ : Slope finishing bucket

9. RECOMMENDED OILS

Use only oils listed below. Do not mix different brand oil.

Please use HYUNDAI genuine oil and grease.

Service point	Kind of fluid	Capacity <i>l</i> (U.S. gal)	Ambient temperature °C (°F)								
			-50 (-58)	-30 (-22)	-20 (-4)	-10 (14)	0 (32)	10 (50)	20 (68)	30 (86)	40 (104)
Engine oil pan	Engine oil	10.5 (2.8)	★SAE 5W-40								
							SAE 30				
							SAE 10W				
							SAE 10W-30				
							SAE 15W-40				
Swing drive	Grease	0.35 (0.09)	★NLGI NO.1								
							NLGI NO.2				
Swing drive	Gear oil	2.5 (0.7)	★SAE 75W-90								
Final drive		2.2×2 (0.6×2)					SAE 80W-90				
Hydraulic tank	Hydraulic oil	Tank: 96 (25.4) System: 180 (47.6)	★ISO VG 15								
							ISO VG 32				
							ISO VG 46				
							ISO VG 68				
Fuel tank	Diesel fuel★1	232 (61.3)	★ASTM D975 NO.1								
							ASTM D975 NO.2				
Fitting (Grease nipple)	Grease	As required	★NLGI NO.1								
							NLGI NO.2				
Radiator (Reservoir tank)	Mixture of antifreeze and soft water★2	20 (5.3)	Ethylene glycol base permanent type (50 : 50)								
			★Ethylene glycol base permanent type (60 : 40)								

SAE : Society of Automotive Engineers

API : American Petroleum Institute

ISO : International Organization for Standardization

NLGI : National Lubricating Grease Institute

ASTM : American Society of Testing and Materia

UTTO : Universal Tractor Transmission Oil

★¹ : Ultra low sulfur diesel

- sulfur content ≤ 15 ppm

★² : Soft water

City water or distilled water

★ : Cold region

Russia, CIS, Mongolia