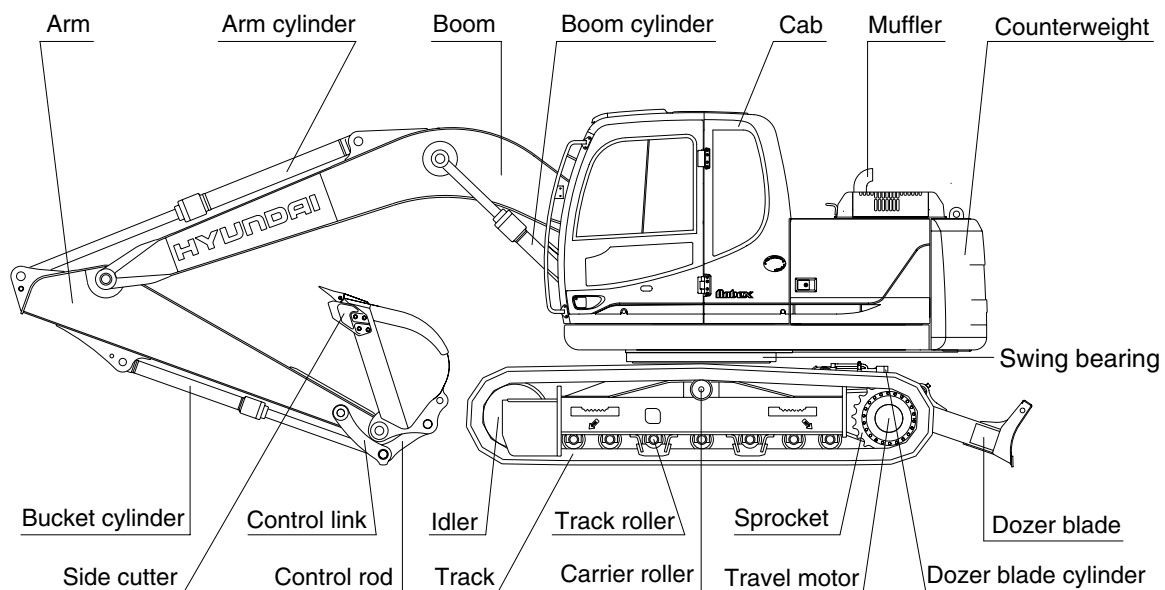
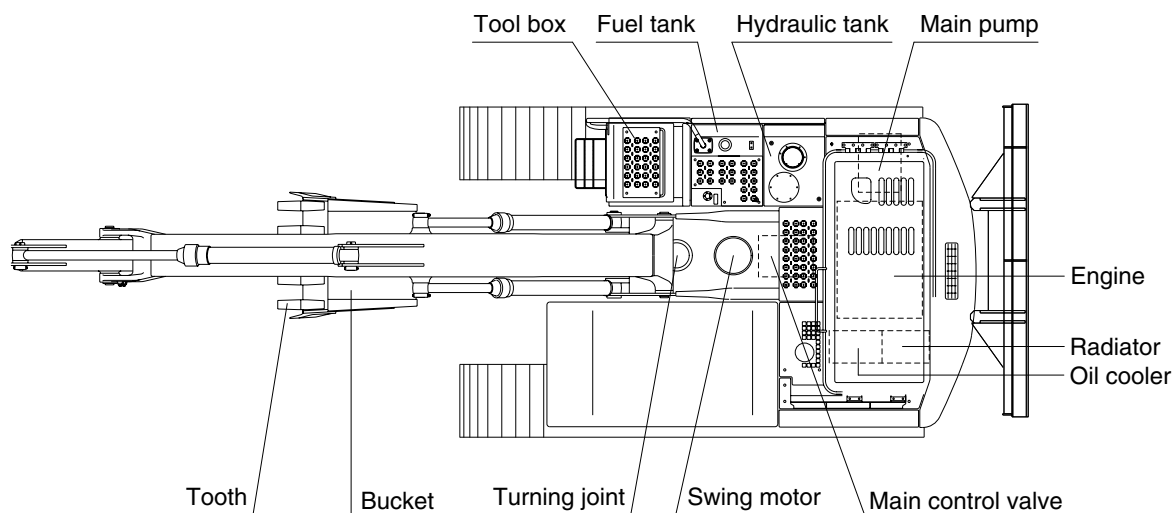


SPECIFICATIONS

1. MAJOR COMPONENT

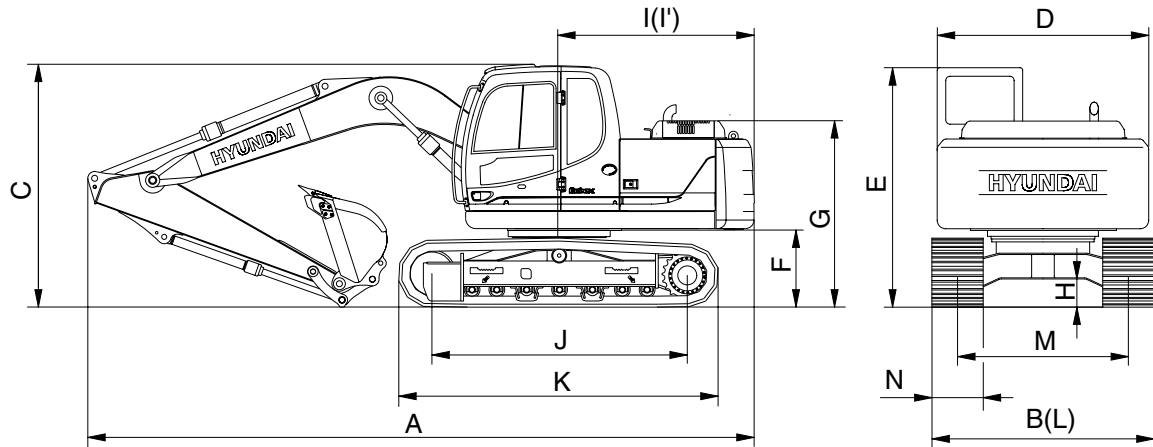


1409SB2SP01

2. SPECIFICATIONS

1) R140LC-9S

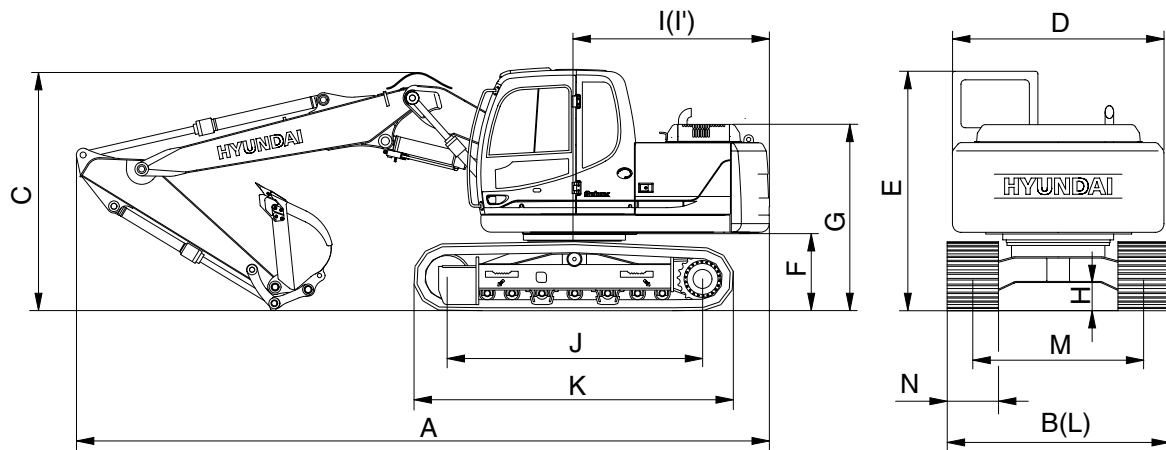
· 4.60 m (15' 1") BOOM and 2.50 m (8' 2") ARM



14092SP02

Description		Unit	Specification
Operating weight		kg (lb)	13980 (30820)
Bucket capacity (SAE heaped), standard		m ³ (yd ³)	0.58 (0.76)
Overall length	A	mm (ft-in)	7810 (25' 7")
Overall width, with 600 mm shoe	B		2600 (8' 6")
Overall height	C		2780 (9' 1")
Superstructure width	D		2500 (8' 2")
Overall height of cab	E		2860 (9' 4")
Ground clearance of counterweight	F		935 (3' 1")
Engine cover height	G		2050 (6' 7")
Minimum ground clearance	H		440 (1' 5")
Rear-end distance	I		2280 (7' 6")
Rear-end swing radius	I'		2310 (7' 7")
Distance between tumblers	J		3000 (9' 10")
Undercarriage length	K		3750 (12' 4")
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)	3.2/5.5 (2.0/3.4)
Swing speed		rpm	12.0
Gradeability		Degree (%)	35 (70)
Ground pressure (600 mm shoe)		kgf/cm ² (psi)	0.36 (5.12)
Max traction force		kgf (lbf)	13300 (29320)

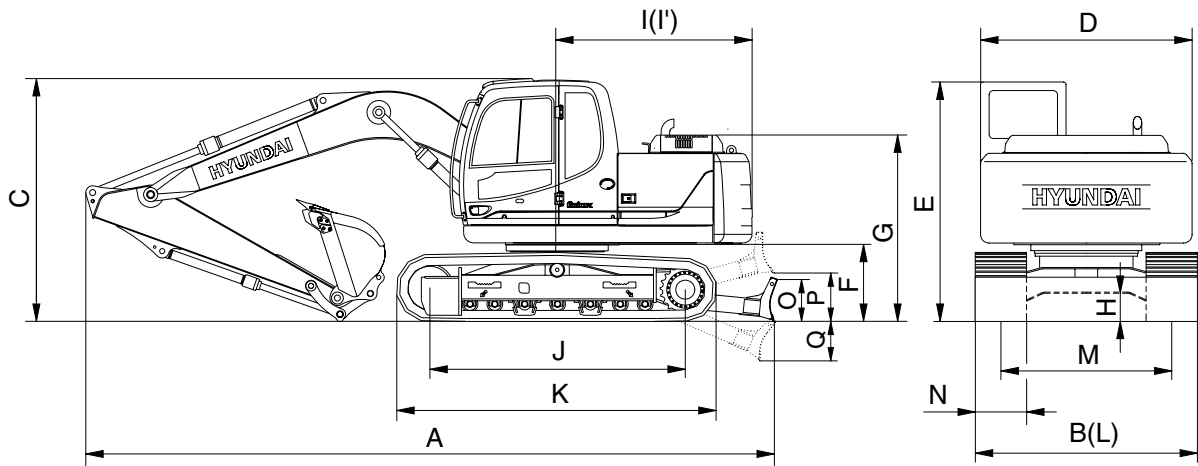
2) R140LC-9S, 4.90 m (16' 1") HYDRAULIC ADJUSTABLE BOOM and 2.50 m (8' 2") ARM



14092SP03

Description		Unit	Specification
Operating weight		kg (lb)	13980 (30860)
Bucket capacity (SAE heaped), standard		m ³ (yd ³)	0.58 (0.76)
Overall length	A	mm (ft-in)	8170 (26' 8")
Overall width, with 600 mm shoe	B		2600 (8' 6")
Overall height	C		2940 (9' 8")
Superstructure width	D		2500 (8' 2")
Overall height of cab	E		2860 (9' 4")
Ground clearance of counterweight	F		935 (3' 1")
Engine cover height	G		2050 (6' 7")
Minimum ground clearance	H		440 (1' 5")
Rear-end distance	I		2280 (7' 6")
Rear-end swing radius	I'		2310 (7' 7")
Distance between tumblers	J		3000 (9' 10")
Undercarriage length	K		3750 (12' 4")
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)	3.2/5.5 (2.0/3.4)
Swing speed		rpm	12.0
Gradeability		Degree (%)	35 (70)
Ground pressure (600 mm shoe)		kgf/cm ² (psi)	0.36 (5.12)
Max traction force		kgf (lbf)	13300 (29320)

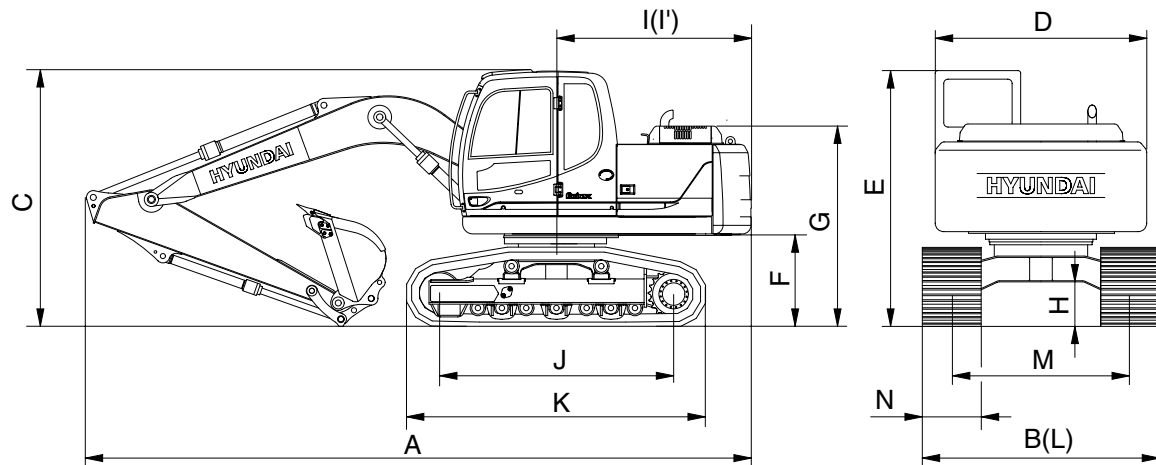
3) R140LCD-9S



14092SP04

Description		Unit	Specification
Operating weight		kg (lb)	14800 (32630)
Bucket capacity (SAE heaped), standard		m ³ (yd ³)	0.58 (0.76)
Overall length	A	mm (ft-in)	8210 (26' 11")
Overall width, with 600 mm shoe	B		2600 (8' 6")
Overall height	C		2780 (9' 1")
Superstructure width	D		2500 (8' 2")
Overall height of cab	E		2860 (9' 4")
Ground clearance of counterweight	F		935 (3' 1")
Engine cover height	G		2050 (6' 7")
Minimum ground clearance	H		440 (1' 5")
Rear-end distance	I		2280 (7' 6")
Rear-end swing radius	I'		2310 (7' 7")
Distance between tumblers	J		3000 (9' 10")
Undercarriage length	K		3750 (12' 4")
Undercarriage width	L		2600 (8' 6")
Track gauge	M		2000 (6' 7")
Track shoe width, standard	N		600 (24")
Height of blade	O		550 (1' 8")
Ground clearance of blade up	P		560 (1' 8")
Depth of blade down	Q		500 (1' 6")
Travel speed (low / high)		km/hr (mph)	3.2 / 5.5 (2.0 / 3.4)
Swing speed		rpm	12.0
Gradeability		Degree (%)	35 (70)
Ground pressure (600 mm shoe)		kgf/cm ² (psi)	0.38 (5.40)
Max traction force		kgf (lbf)	13300 (29320)

4) R140LCM-9S



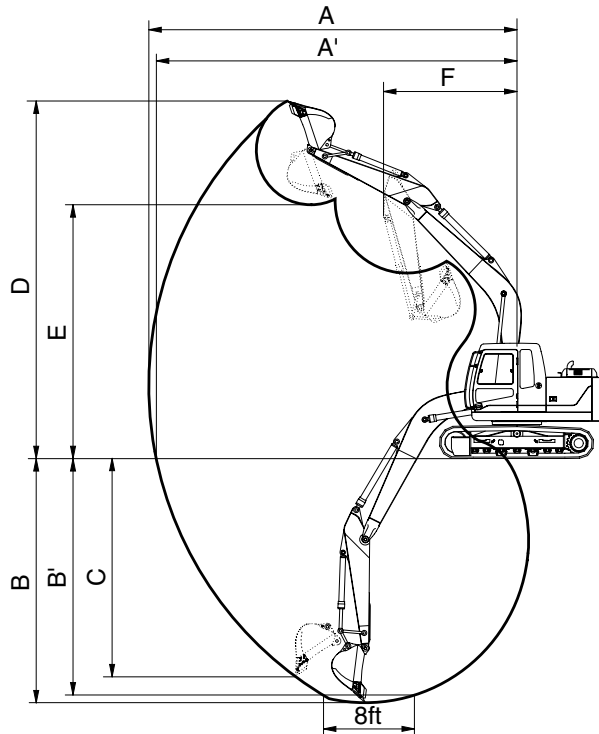
14092SP05

Description		Unit	Specification
Operating weight		kg (lb)	16880 (37210)
Bucket capacity (SAE heaped), standard		m ³ (yd ³)	0.58 (0.76)
Overall length	A	mm (ft-in)	7790 (25' 6")
Overall width, with 800 mm shoe	B		2840 (9' 4")
Overall height	C		2830 (9' 3")
Superstructure width	D		2500 (8' 2")
Overall height of cab	E		3120 (10' 2")
Ground clearance of counterweight	F		1195 (3' 11")
Engine cover height	G		2310 (7' 6")
Minimum ground clearance	H		600 (2' 0")
Rear-end distance	I		2280 (7' 6")
Rear-end swing radius	I'		2310 (7' 7")
Distance between tumblers	J		3030 (9' 6")
Undercarriage length	K		3860 (12' 8")
Undercarriage width	L		2840 (9' 4")
Track gauge	M		2040 (6' 8")
Track shoe width, standard	N		800 (32")
Travel speed (low / high)		km / hr (mph)	3.2 / 5.5 (2.0 / 3.4)
Swing speed		rpm	12.0
Gradeability		Degree (%)	35 (70)
Ground pressure (800 mm shoe)		kgf/cm ² (psi)	0.32 (4.55)
Max traction force		kgf (lbf)	13300 (29320)

3. WORKING RANGE

1) R140LC/LCD-9S

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



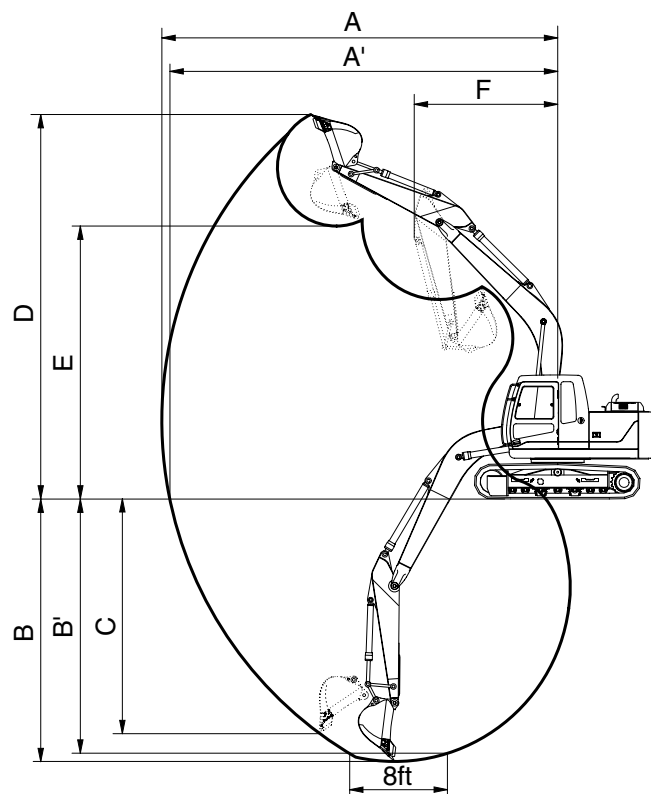
14092SP06

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	7750 mm (25' 5")	7920 mm (25' 11")	8330 mm (27' 4")	8790 mm (28' 10")
Max digging reach on ground	A'	7600 mm (24' 11")	7770 mm (25' 6")	8180 mm (26' 10")	8650 mm (28' 4")
Max digging depth	B	4950 mm (16' 2")	5150 mm (16' 10")	5550 mm (18' 3")	6050 mm (19' 10")
Max digging depth (8ft level)	B'	4680 mm (15' 4")	4900 mm (16' 1")	5340 mm (17' 6")	5870 mm (19' 3")
Max vertical wall digging depth	C	4650 mm (15' 3")	4900 mm (16' 1")	5330 mm (17' 6")	5850 mm (19' 2")
Max digging height	D	8100 mm (26' 7")	8180 mm (26' 10")	8500 mm (27' 11")	8780 mm (28' 10")
Max dumping height	E	5670 mm (18' 7")	5750 mm (18' 10")	6060 mm (19' 11")	6330 mm (20' 9")
Min swing radius	F	2630 mm (8' 8")	2670 mm (8' 9")	2650 mm (8' 8")	2680 mm (8' 10")
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 [9660] kgf	8900 [9660] kgf	8900 [9660] kgf	8900 [9660] 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

(2) 4.10 m (13' 5") MONO BOOM

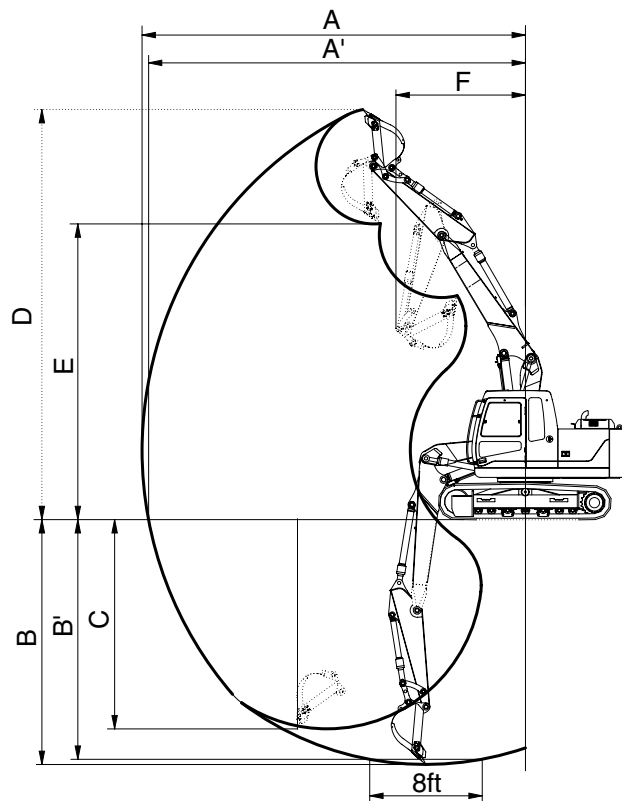


14092SP06

Description		1.90 m (6' 3") Arm	2.10 m (6' 11") Arm
Max digging reach	A	7260 mm (23' 10")	7420 mm (24' 4")
Max digging reach on ground	A'	7090 mm (23' 3")	7260 mm (23' 10")
Max digging depth	B	4540 mm (14' 11")	4740 mm (15' 7")
Max digging depth (8ft level)	B'	4280 mm (14' 1")	4490 mm (14' 9")
Max vertical wall digging depth	C	4240 mm (13' 11")	4350 mm (14' 3")
Max digging height	D	7700 mm (25' 3")	7770 mm (25' 6")
Max dumping height	E	5260 mm (17' 3")	5340 mm (17' 6")
Min swing radius	F	2350 mm (7' 9")	2460 mm (8' 1")
Bucket digging force	SAE	87.3 [94.8] kN	87.3 [94.8] kN
		8900 [9660] kgf	8900 [9660] kgf
		19620 [21300] lbf	19620 [21300] lbf
	ISO	102 [110.8] kN	102 [110.8] kN
		10400 [11290] kgf	10400 [11290] kgf
		22930 [24890] lbf	22930 [24890] lbf
Arm crowd force	SAE	76.5 [83.1] kN	73.6 [79.9] kN
		7800 [8470] kgf	7500 [8140] kgf
		17200 [18670] lbf	16530 [17950] lbf
	ISO	80.4 [87.3] kN	77.5 [84.1] kN
		8200 [8900] kgf	7900 [8580] kgf
		18080 [19630] lbf	17420 [18910] lbf

[] : Power boost

(3) 4.90 m (16' 1") ADJUST BOOM



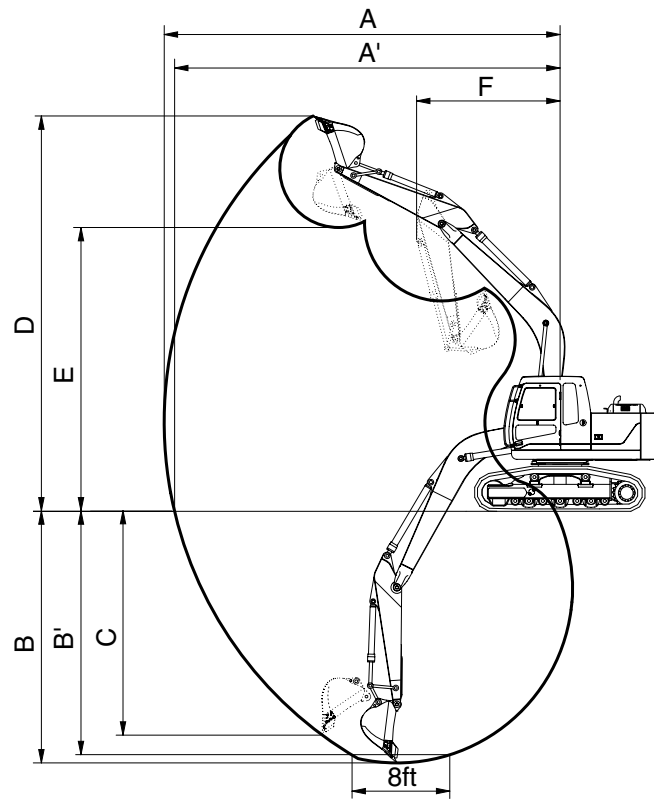
14092SP08

Description		1.90 m (6' 3") Arm	2.10 m (6' 11") Arm	2.50 m (8' 2") Arm
Max digging reach	A	8140 mm (26' 8")	8320 mm (27' 4")	8720 mm (28' 7")
Max digging reach on ground	A'	8000 mm (26' 3")	8180 mm (26' 10")	8590 mm (28' 2")
Max digging depth	B	5110 mm (16' 9")	5310 mm (17' 5")	5710 mm (18' 9")
Max digging depth (8ft level)	B'	5000 mm (16' 5")	5190 mm (17' 0")	5610 mm (18' 5")
Max vertical wall digging depth	C	4490 mm (14' 9")	4660 mm (15' 3")	5120 mm (16' 10")
Max digging height	D	8810 mm (28' 11")	8890 mm (29' 2")	9270 mm (30' 5")
Max dumping height	E	6330 mm (20' 9")	6410 mm (21' 0")	6780 mm (22' 3")
Min swing radius	F	2670 mm (8' 9")	2830 mm (9' 3")	2690 mm (8' 10")
Bucket digging force	SAE	87.3 [94.8] kN	87.3 [94.8] kN	87.3 [94.8] kN
		8900 [9660] kgf	8900 [9660] kgf	8900 [9660] kgf
		19620 [21300] lbf	19620 [21300] lbf	19620 [21300] lbf
	ISO	102 [110.8] kN	102 [110.8] kN	102 [110.8] kN
		10400 [11290] kgf	10400 [11290] kgf	10400 [11290] kgf
		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
		7800 [8470] kgf	7500 [8140] kgf	6400 [6950] kgf
		17200 [18670] lbf	16530 [17950] lbf	14110 [15320] lbf
	ISO	80.4 [87.3] kN	77.5 [84.1] kN	65.7 [71.4] kN
		8200 [8900] kgf	7900 [8580] kgf	6700 [7270] kgf
		18080 [19630] lbf	17420 [18910] lbf	14770 [16040] lbf

[] : Power boost

2) R140LCM-9S

(1) 4.6 m (15' 1") MONO BOOM



14092SP09

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	7750 mm (25' 5")	7920 mm (26' 0")	8330 mm (27' 4")	8790 mm (28'10")
Max digging reach on ground	A'	7540 mm (24' 9")	7710 mm (25' 4")	8110 mm (26' 7")	8580 mm (28' 2")
Max digging depth	B	4690 mm (15' 5")	4890 mm (16' 1")	5290 mm (17' 4")	5790 mm (19' 0")
Max digging depth (8ft level)	B'	4420 mm (14' 6")	4640 mm (15' 3")	5080 mm (16' 8")	5610 mm (18' 5")
Max vertical wall digging depth	C	4390 mm (14' 9")	4640 mm (15' 3")	5070 mm (16' 8")	5590 mm (18' 4")
Max digging height	D	8360 mm (27' 5")	8440 mm (27' 8")	8760 mm (28' 9")	9040 mm (29' 7")
Max dumping height	E	5930 mm (19' 5")	6010 mm (19' 8")	6320 mm (20' 9")	6590 mm (21' 7")
Min swing radius	F	2630 mm (8' 8")	2670 mm (8' 9")	2650 mm (8' 8")	2680 mm (8' 10")
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 [9660] kgf	8900 [9660] kgf	8900 [9660] kgf	8900 [9660] 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

1) R140LC-9S, R140LCD-9S

Item	R140LC-9S		R140LCD-9S	
	kg	lb	kg	lb
Upper structure assembly	5630	12420	←	
Main frame weld assembly	1160	2560	←	
Engine assembly	430	950	←	
Main pump assembly	90	200	←	
Main control valve assembly	140	310	←	
Swing motor assembly	120	260	←	
Hydraulic oil tank assembly	160	350	←	
Fuel tank assembly	130	290	←	
Counterweight	2000	4410	←	
Cab assembly	440	970	←	
Lower chassis assembly	5340	11760	6160	13580
Track frame weld assembly	1590	3510	1840	4060
Swing bearing	190	410	←	
Travel motor assembly	305	670	←	
Turning joint	50	110	←	
Track recoil spring	210	460	←	
Idler	250	550	←	
Carrier roller	40	90	←	
Track roller	490	1080	←	
Track-chain assembly (600 mm standard triple grouser shoe)	1010	2230	←	
Dozer blade assembly	-		550	1220
Front attachment assembly (4.6 m boom, 2.5 m arm, 0.58 m³ SAE heaped bucket)	2420	5330	←	
4.6 m boom assembly	830	1830	←	
2.5 m arm assembly	435	960	←	
0.58 m³ SAE heaped bucket	480	1060	←	
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

2) R140LCM-9S

Item	R140LCM-9S	
	kg	lb
Upper structure assembly	5630	12420
Main frame weld assembly	1160	2560
Engine assembly	430	950
Main pump assembly	90	200
Main control valve assembly	140	310
Swing motor assembly	120	260
Hydraulic oil tank assembly	160	350
Fuel tank assembly	130	290
Counterweight	2000	4410
Cab assembly	440	970
Lower chassis assembly	8700	19180
Track frame weld assembly	2180	4810
Swing bearing	190	410
Travel motor assembly	305	670
Turning joint	50	110
Tension cylinder assembly	280	620
Idler assembly	320	710
Carrier roller assembly	200	440
Track roller assembly	700	1540
Track-chain assembly (800 mm standard triple grouser shoe)	1370	3020
Front attachment assembly (4.6 m boom, 2.5 m arm, 0.58 m³ SAE heaped bucket)	2420	5330
4.6 m boom assembly	830	1830
2.5 m arm assembly	435	960
0.58 m³ SAE heaped bucket	480	1060
Boom cylinder assembly	130	290
Arm cylinder assembly	160	350
Bucket cylinder assembly	100	220
Bucket control rod assembly	90	200

5. LIFTING CAPACITIES

1) R140LC-9S

(1) 4.60 m (15' 1") boom, 2.50 m (8' 2") arm equipped with 0.58 m³ (SAE heaped) bucket and 600 mm (24") triple grouser shoe and 2000 kg (4410 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 (20.0 ft)	kg lb									*2810 *6190	1920 4230	6.69 (21.9)
4.5 m (15.0 ft)	kg lb							*2770 *6110	2270 5000	2440 5380	1500 3310	7.53 (24.7)
3.0 m (10.0 ft)	kg lb			*4930 *10870	*4930 *10870	*3830 *8440	3570 7870	*3380 *7450	2190 4830	2170 4780	1310 2890	7.95 (26.1)
1.5 m (5.0 ft)	kg lb			*8030 *17700	6240 13760	*5010 *11050	3300 7280	3380 7450	2070 4560	2100 4630	1250 2760	8.03 (26.3)
Ground Line	kg lb			*8780 *19360	5800 12790	5200 11460	3090 6810	3270 7210	1970 4340	2180 4810	1300 2870	7.77 (25.5)
-1.5 m (-5.0 ft)	kg lb	*5740 *12650	*5740 *12650	*9910 *21850	5700 12570	5080 11200	2990 6590	3220 7100	1920 4230	2500 5510	1500 3310	7.15 (23.5)
-3.0 m (-10 ft)	kg lb	*8760 *19310	*8760 *19310	*9040 *19930	5770 12720	5100 11240	3000 6610			3340 7360	2030 4480	6.01 (19.7)
-4.5 m (-15.0 ft)	kg lb			*6590 *14530	6030 13290							

- 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 0.58 m³ (SAE heaped) bucket and 600 mm (24") triple grouser shoe and 2000 kg (4410 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					*3340 *7360	*3340 *7360			*3170 *6990	2350 5180	5.95 (19.5)
4.5 m (15.0 ft)	kg lb					*3550 *7830	*3550 *7830			2820 6220	1760 3880	6.90 (22.6)
3.0 m (10.0 ft)	kg lb			*6270 *13820	*6270 *13820	*4440 *9790	3510 7740	3480 7670	2170 4780	2480 5470	1520 3350	7.37 (24.2)
1.5 m (5.0 ft)	kg lb			*8490 *18720	6040 13320	5400 11900	3270 7210	3380 7450	2080 4590	2390 5270	1450 3200	7.45 (24.4)
Ground Line	kg lb			*8230 *18140	5790 12760	5200 11460	3100 6830	3300 7280	2000 4410	2510 5530	1520 3350	7.17 (23.5)
-1.5 m (-5.0 ft)	kg lb	*6670 *14700	*6670 *14700	*9690 *21360	5800 12790	5140 11330	3050 6720			2960 6530	1810 3990	6.48 (21.3)
-3.0 m (-10 ft)	kg lb	*10970 *24180	*10970 *24180	*8330 *18360	5930 13070	5220 11510	3110 6860			*3690 *8140	2670 5890	5.15 (16.9)

2) R140LC-9S, ADJUST BOOM

(1) 4.90 m (16' 1") adjust boom, 1.90 m (6' 3") arm equipped with 0.58 m³ (SAE heaped) bucket and 600 mm (24") triple grouser shoe and 2000 kg (4410 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)		Capacity		Reach
										m (ft)
6.0 m (20.0 ft)	kg lb			*2900 *6390	*2900 *6390			*2880 *6350	2010 4430	6.45 (21.2)
4.5 m (15.0 ft)	kg lb			*3280 *7230	*3280 *7230	*3150 *6940	2220 4890	2530 5580	1540 3400	7.33 (24.0)
3.0 m (10.0 ft)	kg lb	*6420 *14150	*6420 *14150	*4230 *9330	3440 7580	3470 7650	2130 4700	2240 4940	1340 2950	7.76 (25.5)
1.5 m (5.0 ft)	kg lb			5310 11710	3160 6970	3340 7360	2020 4450	2170 4780	1280 2820	7.84 (25.7)
Ground Line	kg lb	*5430 *11970	*5430 *11970	5110 11270	2980 6570	3240 7140	1930 4250	2270 5000	1340 2950	7.58 (24.9)
-1.5 m (-5.0 ft)	kg lb	*9210 *20300	5620 12390	5050 11130	2940 6480	3220 7100	1900 4190	2630 5800	1570 3460	6.93 (22.7)
-3.0 m (-10 ft)	kg lb	*8450 *18630	5780 12740	5130 11310	3000 6610					

- 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) 4.90 m (16' 1") adjust boom, 2.10 m (6' 11") arm equipped with 0.58 m³ (SAE heaped) bucket and 600 mm (24") triple grouser shoe and 2000 kg (4410 lb) counterweight.

Load point height		Load radius						At max. reach		
		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			*2690 *5930	*2690 *5930			*2760 *6080	1900 4190	6.68 (21.9)
4.5 m (15.0 ft)	kg lb			*3080 *6790	*3080 *6790	*2990 *6590	2230 4920	2420 5340	1470 3240	7.52 (24.7)
3.0 m (10.0 ft)	kg lb	*5930 *13070	*5930 *13070	*4030 *8880	3460 7630	*3360 *7410	2140 4720	2150 4740	1280 2820	7.94 (26.0)
1.5 m (5.0 ft)	kg lb			*5140 *11330	3160 6970	3340 7360	2010 4430	2080 4590	1220 2690	8.02 (26.3)
Ground Line	kg lb	*5690 *12540	5540 12210	5090 11220	2960 6530	3230 7120	1910 4210	2170 4780	1270 2800	7.77 (25.5)
-1.5 m (-5.0 ft)	kg lb	*8930 *19690	5560 12260	5020 11070	2900 6390	3190 7030	1870 4120	2490 5490	1470 3240	7.14 (23.4)
-3.0 m (-10 ft)	kg lb	*8650 *19070	5690 12540	5070 11180	2950 6500					

3) R140LCD-9S

(1) 4.60 m (15' 1") boom, 1.9 m (6' 3") arm equipped with 0.58 m³ (SAE heaped) bucket and 600 mm (24") triple grouser shoe and 2000 kg (4410 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 (20.0 ft)	kg lb					*3340 *7360	*3340 *7360			*3170 *6990	2490 5490	5.95 (19.5)
4.5 m (15.0 ft)	kg lb					*3550 *7830	*3550 *7830			3070 6770	1870 4120	6.90 (22.6)
3.0 m (10.0 ft)	kg lb			*6270 *13820	*6270 *13820	*4440 *9790	3700 8160	3780 8330	2300 5070	2710 5970	1620 3570	7.37 (24.2)
1.5 m (5.0 ft)	kg lb			*8490 *18720	6380 14070	*5520 *12170	3460 7630	3680 8110	2210 4870	2610 5750	1550 3420	7.45 (24.4)
Ground Line	kg lb			*8230 *18140	6130 13510	5650 12460	3290 7250	3590 7910	2130 4700	2750 6060	1630 3590	7.17 (23.5)
-1.5 m (-5.0 ft)	kg lb	*6670 *14700	*6670 *14700	*9690 *21360	6140 13540	5590 12320	3240 7140			3230 7120	1930 4250	6.48 (21.3)
-3.0 m (-10 ft)	kg lb	*10970 *24180	*10970 *24180	*8330 *18360	6270 13820	*5520 *12170	3300 7280			*3690 *8140	2830 6240	5.15 (16.9)

- 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, 2.50 m (8' 2") arm equipped with 0.58 m³ (SAE heaped) bucket and 600 mm (24") triple grouser shoe and 2000 kg (4410 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									*2810 *6190	2040 4500	6.69 (21.9)
4.5 m (15.0 ft)	kg lb							*2770 *6110	2410 5310	2660 5860	1600 3530	7.53 (24.7)
3.0 m (10.0 ft)	kg lb			*4930 *10870	*4930 *10870	*3830 *8440	3770 8310	*3380 *7450	2320 5110	2380 5250	1400 3090	7.95 (26.1)
1.5 m (5.0 ft)	kg lb			*8030 *17700	6580 14510	*5010 *11050	3490 7690	3680 8110	2210 4870	2300 5070	1340 2950	8.03 (26.3)
Ground Line	kg lb			*8780 *19360	6140 13540	5640 12430	3280 7230	3570 7870	2110 4650	2400 5290	1400 3090	7.77 (25.5)
-1.5 m (-5.0 ft)	kg lb	*5740 *12650	*5740 *12650	*9910 *21850	6040 13320	5530 12190	3180 7010	3510 7740	2060 4540	2730 6020	1610 3550	7.15 (23.5)
-3.0 m (-10 ft)	kg lb	*8760 *19310	*8760 *19310	*9040 *19930	6110 13470	5550 12240	3200 7050			*3540 *7800	2170 4780	6.01 (19.7)
-4.5 m (-15 ft)	kg lb			*6590 *14530	6370 14040							

4) R140LCM-9S

(1) 4.60 m (15' 1") boom, 1.90 m (6' 3") arm equipped with 0.58 m³ (SAE heaped) bucket and 800 mm (32") triple grouser shoe and 2000 kg (4410 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 (20.0 ft)	kg lb					*3310 *7300	*3310 *7300			*3180 *7010	2610 5750	6.16 (20.2)
4.5 m (15.0 ft)	kg lb					*3670 *8090	*3670 *8090	*2830 *6240	2640 5820	3200 7050	2050 4520	7.01 (23.0)
3.0 m (10.0 ft)	kg lb			*6820 *15040	*6820 *15040	*4620 *10190	4090 9020	*3860 *8510	2580 5690	2880 6350	1820 4010	7.41 (24.3)
1.5 m (5.0 ft)	kg lb			*7800 *17200	7120 15700	*5680 *12520	3850 8490	3930 8660	2480 5470	2820 6220	1770 3900	7.43 (24.4)
Ground Line	kg lb			*8700 *19180	6940 15300	6050 13340	3700 8160	3850 8490	2410 5310	3020 6660	1890 4170	7.09 (23.3)
-1.5 m (-5.0 ft)	kg lb	*7330 *16160	*7330 *16160	*9540 *21030	6960 15340	6010 13250	3670 8090			3630 8000	2290 5050	6.31 (20.7)
-3.0 m (-10 ft)	kg lb			*7950 *17530	7130 15720	*5200 *11460	3760 8290					

- 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.

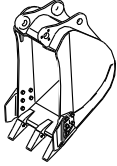
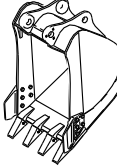
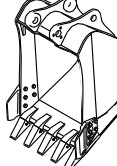
(2) 4.60 m (15' 1") boom, 2.50 m (8' 2") arm equipped with 0.58 m³ (SAE heaped) bucket and 800 mm (32") triple grouser shoe and 2000 kg (4410 lb) counterweight.

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									*2830 *6240	2180 4810	6.87 (22.5)
4.5 m (15.0 ft)	kg lb					*3040 *6700	*3040 *6700	*2930 *6460	2690 5930	2790 6150	1770 3900	7.63 (25.0)
3.0 m (10.0 ft)	kg lb			*5460 *12040	*5460 *12040	*4030 *8880	*4030 *8880	*3470 *7650	2590 5710	2540 5600	1590 3510	7.99 (26.2)
1.5 m (5.0 ft)	kg lb			*8460 *18650	7290 16070	*5200 *11460	3880 8550	3930 8660	2480 5470	2490 5490	1540 3400	8.01 (26.3)
Ground Line	kg lb	*3600 *7940	*3600 *7940	*8880 *19580	6920 15260	6030 13290	3680 8110	3820 8420	2380 5250	2630 5800	1630 3590	7.70 (25.3)
-1.5 m (-5.0 ft)	kg lb	*6200 *13670	*6200 *13670	*9840 *21690	6850 15100	5940 13100	3600 7940	3780 8330	2340 5160	3050 6720	1900 4190	7.00 (23.0)
-3.0 m (-10 ft)	kg lb	*9390 *20700	*9390 *20700	*8770 *19330	6960 15340	*5760 *12700	3640 8020			*3520 *7760	2650 5840	5.74 (18.8)

6. BUCKET SELECTION GUIDE

1) R140LC-9S, R140LCD-9S

(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				4.1 m (13' 5") 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")	1.9 m arm (6' 3")	2.1 m arm (6' 11")
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)	760 mm (29.9")	860 mm (33.9")	410 kg (900 lb)						
0.46 m³ (0.60 yd³)	0.40 m³ (0.52 yd³)	850 mm (33.5")	950 mm (37.4")	435 kg (960 lb)						
0.52 m³ (0.68 yd³)	0.45 m³ (0.59 yd³)	935 mm (36.8")	1035 mm (40.8")	460 kg (1010 lb)						
※ 0.58 m³ (0.76 yd³)	0.50 m³ (0.65 yd³)	1030 mm (40.6")	1130 mm (44.5")	480 kg (1060 lb)						
0.65 m³ (0.85 yd³)	0.55 m³ (0.72 yd³)	1110 mm (43.7")	1210 mm (47.6")	500 kg (1100 lb)						
0.71 m³ (0.93 yd³)	0.60 m³ (0.78 yd³)	1205 mm (47.4")	1305 mm (51.4")	540 kg (1190 lb)						

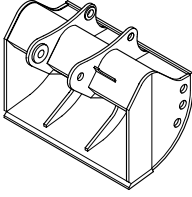
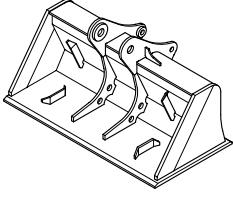
※ : Standard bucket

 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				4.1 m (13' 5") 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")	1.9 m arm (6' 3")	2.1 m arm (6' 11")
★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

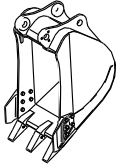
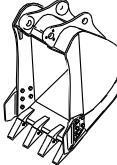
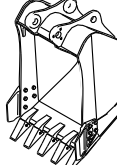
 Applicable for materials with density of 2000 kgf/m³ (3370 lbf/yd³) or less

 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

2) R140LC-9S, ADJUST BOOM

(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		
					4.9 m (16' 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")
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)	760 mm (29.9")	860 mm (33.9")	410 kg (900 lb)			
0.46 m³ (0.60 yd³)	0.40 m³ (0.52 yd³)	850 mm (33.5")	950 mm (37.4")	435 kg (960 lb)			
0.52 m³ (0.68 yd³)	0.45 m³ (0.59 yd³)	935 mm (36.8")	1035 mm (40.8")	460 kg (1010 lb)			
※ 0.58 m³ (0.76 yd³)	0.50 m³ (0.65 yd³)	1030 mm (40.6")	1130 mm (44.5")	480 kg (1060 lb)			
0.65 m³ (0.85 yd³)	0.55 m³ (0.72 yd³)	1110 mm (43.7")	1210 mm (47.6")	500 kg (1100 lb)			
0.71 m³ (0.93 yd³)	0.60 m³ (0.78 yd³)	1205 mm (47.4")	1305 mm (51.4")	540 kg (1190 lb)			

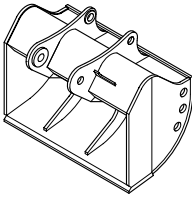
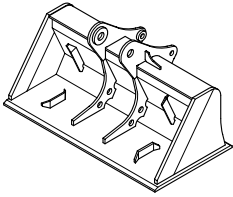
※ : Standard bucket

 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

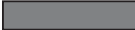
Capacity		Width		Weight	Recommendation		
					4.9 m (16' 1") boom		
SAE heaped	CECE heaped	Without side cutter	With side cutter		1.9 m arm (6' 3")	2.1 m arm (6' 11")	2.5 m arm (8' 2")
★0.45 m ³ (0.59 yd ³)	0.40 m ³ (0.52 yd ³)	1520 mm (59.8")	-	410 kg (900 lb)			
◎0.55 m ³ (0.72 yd ³)	0.45 m ³ (0.59 yd ³)	1800 mm (70.9")	-	585 kg (1290 lb)			

★ : Ditch cleaning bucket

◎ : Slope finishing bucket

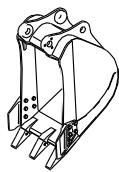
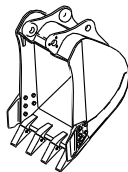
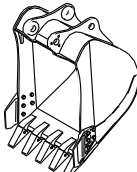
 Applicable for materials with density of 2000 kgf/m³ (3370 lbf/yd³) or less

 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

3) R140LCM-9S

(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)	760 mm (29.9")	860 mm (33.9")	410 kg (900 lb)				
0.46 m³ (0.60 yd³)	0.40 m³ (0.52 yd³)	850 mm (33.5")	950 mm (37.4")	435 kg (960 lb)				
0.52 m³ (0.68 yd³)	0.45 m³ (0.59 yd³)	935 mm (36.8")	1035 mm (40.7")	460 kg (1010 lb)				
※ 0.58 m³ (0.76 yd³)	0.50 m³ (0.65 yd³)	1030 mm (40.6")	1130 mm (44.5")	480 kg (1060 lb)				
0.65 m³ (0.85 yd³)	0.55 m³ (0.72 yd³)	1110 mm (43.7")	1210 mm (47.6")	500 kg (1100 lb)				
0.71 m³ (0.93 yd³)	0.60 m³ (0.78 yd³)	1205 mm (47.4")	1305 mm (51.4")	540 kg (1190 lb)				

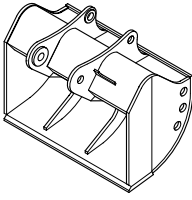
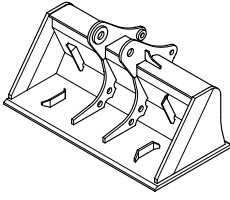
※ : Standard bucket

 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

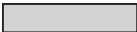
(2) Special bucket

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

Capacity		Width		Weight	Recommendation		
					4.9 m (16' 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")
★0.45 m³ (0.59 yd³)	0.40 m³ (0.52 yd³)	1520 mm (59.8")	-	410 kg (900 lb)			
◎0.55 m³ (0.72 yd³)	0.45 m³ (0.59 yd³)	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

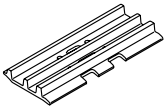
 Applicable for materials with density of 1100 kgf/m³ (1850 lbf/yd³) or less

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		
					
R140LC-9S	Shoe width	mm (in)	500 (20)	※ 600 (24)	700 (28)
	Operating weight	kg (lb)	13790 (30400)	13980 (30820)	14210 (31330)
	Ground pressure	kgf/cm ² (psi)	0.43 (6.11)	0.36 (5.12)	0.32 (4.55)
	Overall width	mm (ft-in)	2500 (8' 2")	2600 (8' 6")	2700 (8' 10")
R140LCD-9S	Shoe width	mm (in)	500 (20)	※ 600 (24)	700 (28)
	Operating weight	kg (lb)	14590 (32160)	14800 (32630)	15030
	Ground pressure	kgf/cm ² (psi)	0.45 (6.40)	0.38 (5.40)	0.33 (4.70)
	Overall width	mm (ft-in)	2500 (8' 2")	2600 (8' 6")	2700 (8' 10")
R140LCM-9S	Shoe width	mm (in)	710 (28)	※ 800 (32)	960 (38)
	Operating weight	kg (lb)	16880 (37210)	16880 (37210)	17110 (37720)
	Ground pressure	kgf/cm ² (psi)	0.36 (5.12)	0.32 (4.55)	0.27 (3.84)
	Overall width	mm (ft-in)	2750 (9' 0")	2840 (9' 4")	3000 (9' 10")

※ : Standard

3) NUMBER OF ROLLERS AND SHOES ON EACH SIDE

Item	Quantity	
	R140LC/LCD-9S	R140LCM-9S
Carrier rollers	1 EA	2 EA
Track rollers	7 EA	7 EA
Track shoes	46 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
600 mm triple grouser	Standard	A
500 mm triple grouser	Option	A
700 mm triple grouser	Option	B
710 mm triple grouser	R140LCM-9S only	B
810 mm triple grouser	R140LCM-9S only	B
960 mm single grouser	R140LCM-9S only	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	Cummins 6BT5.9
Type	4-cycle turbocharged diesel engine, low emission
Cooling method	Water cooling
Number of cylinders and arrangement	6 cylinders, in-line
Firing order	1-5-3-6-2-4
Combustion chamber type	Direct injection type
Cylinder bore × stroke	102 × 120 mm (4.02" × 4.72")
Piston displacement	5880 cc (359 cu in)
Compression ratio	17.3 : 1
Rated gross horse power (SAE J1995)	126 Hp (94 kW) at 2100 rpm
Maximum torque	53.6 kgf · m (388 lbf · ft) at 1500 rpm
Engine oil quantity	24 l (6.3 U.S. gal)
Dry weight	432 kg (952 lb)
High idling speed	2100 ± 50 rpm
Low idling speed	800 ± 100 rpm
Rated fuel consumption	170 g/Hp · hr at 2100 rpm
Starting motor	24 V-4.5 kW
Alternator	24 V-70 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	2000 rpm

[]: Power boost

3) GEAR PUMP

Item	Specification
Type	Fixed displacement gear pump single stage
Capacity	15 cc/rev
Maximum pressure	40 kgf/cm ² (570 psi)
Rated oil flow	28.5 l /min (7.5 U.S. gpm / 6.3 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	260 kgf/cm ² (3698 psi)
Braking system	Automatic, spring applied hydraulic released
Braking torque	Minimum 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	Specification		
	Type 1	Type 2	Type 3, 4
Type	Variable displacement axial piston motor		
Relief pressure	350 kgf/cm ² (4980 psi)	365 kgf/cm ² (5190 psi)	350 kgf/cm ² (4980 psi)
Capacity (max / min)	77/45 cc/rev	76.6/44.6 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)	8.75 kgf/cm ² (125 psi)	14.3 kgf/cm ² (205 psi)
Braking torque	Min. 19.7 kgf · m (140 lbf · ft)		

7) CYLINDER

Item		Specification
Boom cylinder	Bore dia × Rod dia × Stroke	ø 105 × ø 75 × 1075 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 (opt)	Bore dia × Rod dia × Stroke	ø 100 × ø 70 × 250 mm
	Cushion	-
Adjust cylinder (opt)	Bore dia × Rod dia × Stroke	ø 145 × ø 90 × 613 mm
	Cushion	Extend only
Adjust boom cylinder (opt)	Bore dia × Rod dia × Stroke	ø 105 × ø 75 × 975 mm
	Cushion	Extend only

※ 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
R140LC-9S	Standard	600 mm (24")	0.36 kgf/cm ² (5.12 psi)	46	2600 mm (8' 6")
	Option	500 mm (20")	0.43 kgf/cm ² (6.11 psi)	46	2500 mm (8' 2")
		700 mm (28")	0.31 kgf/cm ² (4.41 psi)	46	2700 mm (8' 10")
R140LCD-9S	Standard	600 mm (24")	0.38 kgf/cm ² (5.40 psi)	46	2600 mm (8' 6")
	Option	500 mm (20")	0.45 kgf/cm ² (6.40 psi)	46	2500 mm (8' 2")
		700 mm (28")	0.33 kgf/cm ² (4.70 psi)	46	2700 mm (8' 10")
R140LCM-9S	Standard	800 mm (32")	0.32 kgf/cm ² (4.55 psi)	47	2840 mm (9' 4")
	Option	710 mm (28")	0.36 kgf/cm ² (5.12 psi)	47	2750 mm (9' 0")
		960 mm (38")	0.27 kgf/cm ² (3.84 psi)	47	3000 mm (9' 10")

9. RECOMMENDED OILS

Use only oils listed below or equivalent.

Do not mix different brand oil.

Service point	Kind of fluid	Capacity l (U.S. gal)	Ambient temperature °C (°F)							
			-50 (-58)	-30 (-22)	-20 (-4)	-10 (14)	0 (32)	10 (50)	20 (68)	30 (86)
Engine oil pan	Engine oil	24 (6.3)	★SAE 5W-40							
			SAE 30							
			SAE 10W							
			SAE 10W-30							
			SAE 15W-40							
Swing drive	Gear oil	2.5 (0.7)	★SAE 75W-90							
Final drive		2.2×2 (0.6×2)	SAE 85W-140							
Hydraulic tank	Hydraulic oil	Tank; 124 (32.8) System; 210 (55.5)	★ISO VG 15							
			ISO VG 46							
			ISO VG 68							
Fuel tank	Diesel fuel	270 (71.0)	★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 water	17 (4.5)	Ethylene glycol base permanent type (50 : 50)							
			★Ethylene glycol base permanent type (60 : 40)							

SAE : Society of Automotive Engineers

★ : Cold region

API : American Petroleum Institute

ISO : International Organization for Standardization

NLGI : National Lubricating Grease Institute

ASTM : American Society of Testing and Material