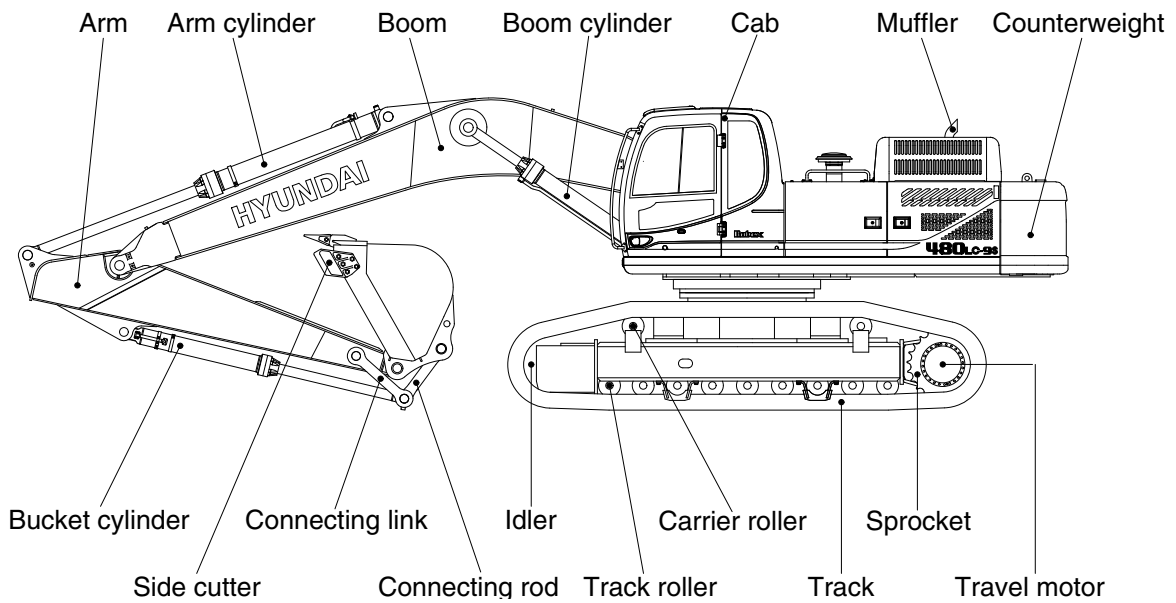
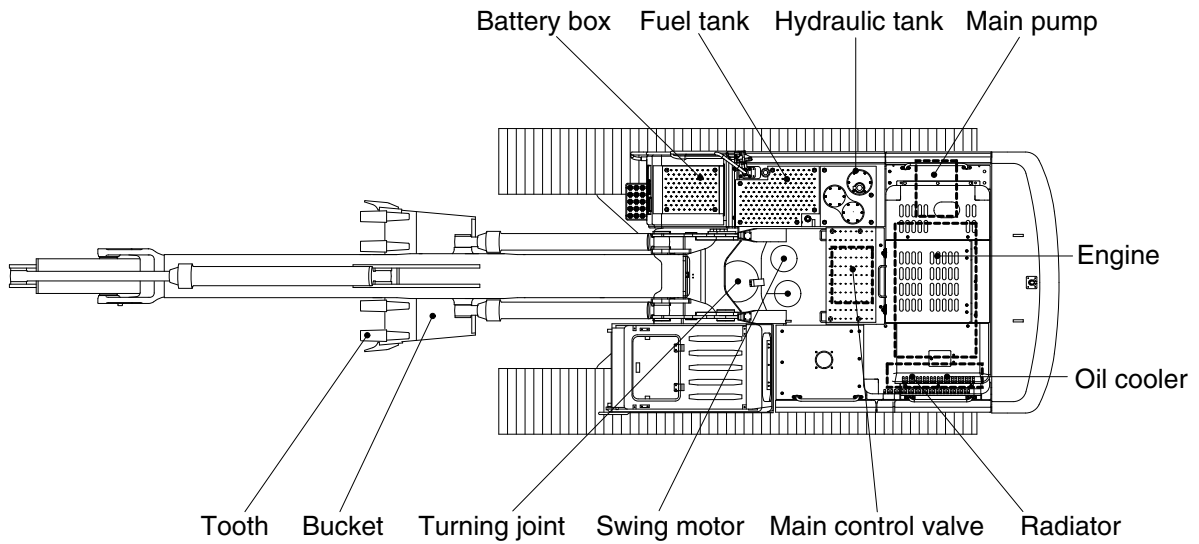


GROUP 2 SPECIFICATIONS

1. MAJOR COMPONENT

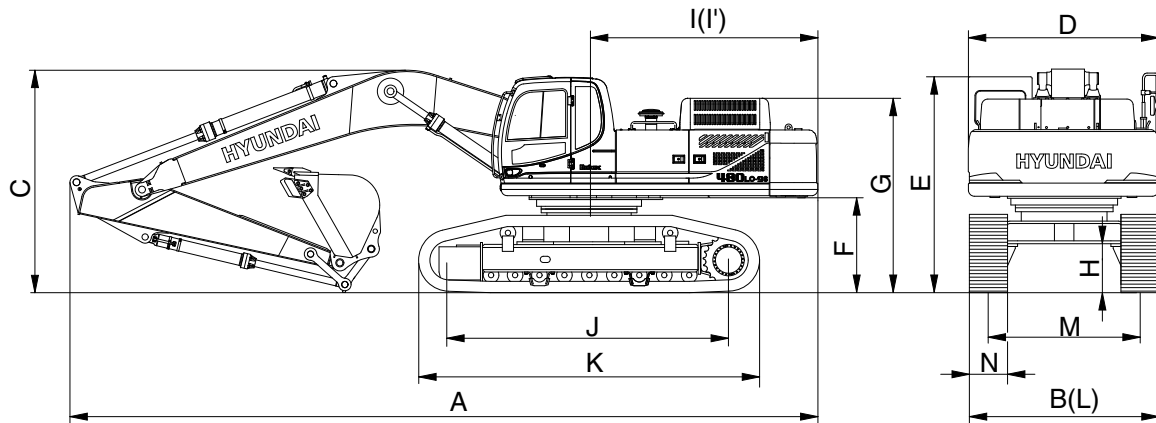


4809S2SP01

2. SPECIFICATIONS

1) ROBEX 480LC-9S

· 7.06 m (23' 2") BOOM, 3.38 m (11' 1") ARM

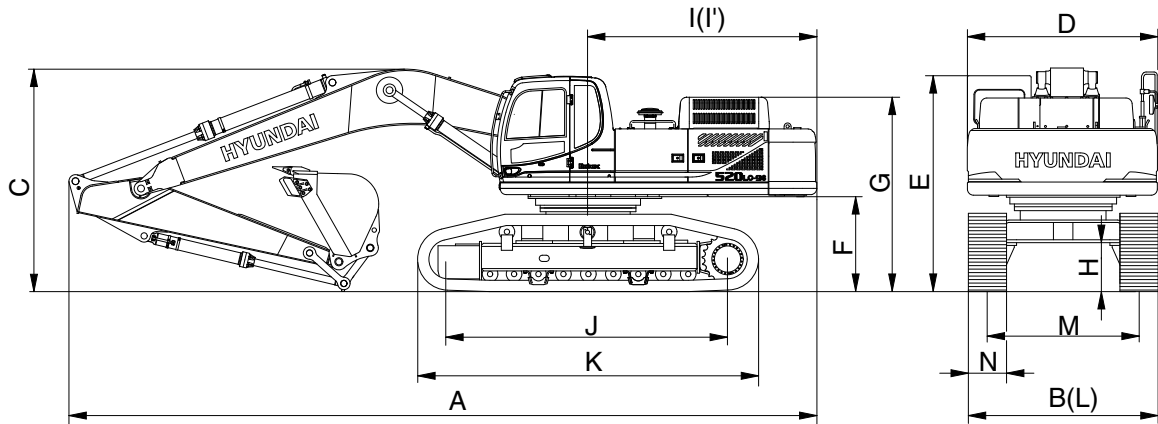


4809S2SP02

Description		Unit	Specification
Operating weight		kg (lb)	49500 (109130)
Bucket capacity (SAE heaped), standard		m ³ (yd ³)	2.15 (2.81)
Overall length	A	mm (ft-in)	12060 (39' 7")
Overall width, with 600 mm shoe	B		3340 (10' 11")
Overall height	C		3730 (12' 3")
Superstructure width	D		2980 (9' 9")
Overall height of cab	E		3190 (10' 6")
Ground clearance of counterweight	F		1295 (4' 3")
Engine cover height	G		2850 (9' 4")
Minimum ground clearance	H		560 (1' 10")
Rear-end distance	I		3725 (12' 3")
Rear-end swing radius	I'		3780 (12' 5")
Distance between tumblers	J		4470 (14' 8")
Undercarriage length	K		5402 (17' 9")
Undercarriage width	L		3340 (10' 11")
Track gauge	M		2740 (9' 0")
Track shoe width, standard	N		600 (24")
Travel speed (low/high)		km/hr (mph)	3.2/5.0 (2.0/3.1)
Swing speed		rpm	9.0
Gradeability		Degree (%)	35 (70)
Ground pressure (600 mm shoe)		kgf/cm ² (psi)	0.83 (11.80)
Max traction force		kg (lb)	38500 (84880)

2) ROBEX 520LC-9S

· 7.06 m (23' 2") BOOM, 3.38 m (11' 1") ARM

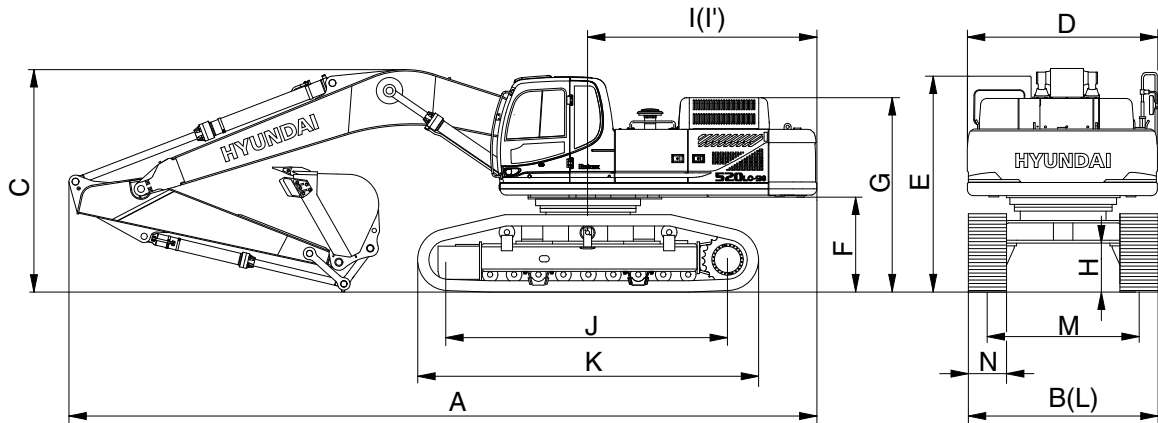


4809S2SP03

Description		Unit	Specification
Operating weight		kg (lb)	52400 (115522)
Bucket capacity (SAE heaped), standard		m ³ (yd ³)	2.15 (2.81)
Overall length	A	mm (ft-in)	12060 (39' 7")
Overall width, with 600 mm shoe (transport position / working position)	B		2990/3540 (9' 10"/11' 7")
Overall height	C		3850 (12' 8")
Superstructure width	D		2980 (9' 9")
Overall height of cab	E		3400 (11' 2")
Ground clearance of counterweight	F		1500 (4' 11")
Engine cover height	G		3060 (10' 1")
Minimum ground clearance	H		770 (2' 6")
Rear-end distance	I		3725 (12' 3")
Rear-end swing radius	I'		3780 (12' 5")
Distance between tumbler rollers	J		4470 (14' 8")
Undercarriage length	K		5460 (17' 11")
Undercarriage width (transport position / working position)	L		2980/3540 (9' 9"/11' 7")
Track gauge (transport position / working position)	M		2380/2940 (7' 10"/9' 8")
Track shoe width, standard	N	600 (24")	
Travel speed (low/high)		km/hr (mph)	3.2/5.0 (2.0/3.1)
Swing speed		rpm	9.0
Gradeability		Degree (%)	35 (70)
Ground pressure (600 mm shoe)		kgf/cm ² (psi)	0.88 (12.51)
Max traction force		kg (lb)	38500 (84880)

3) ROBEX 520LC-9S

· 6.55 m (21' 6") BOOM, 2.4 m (7' 10") ARM

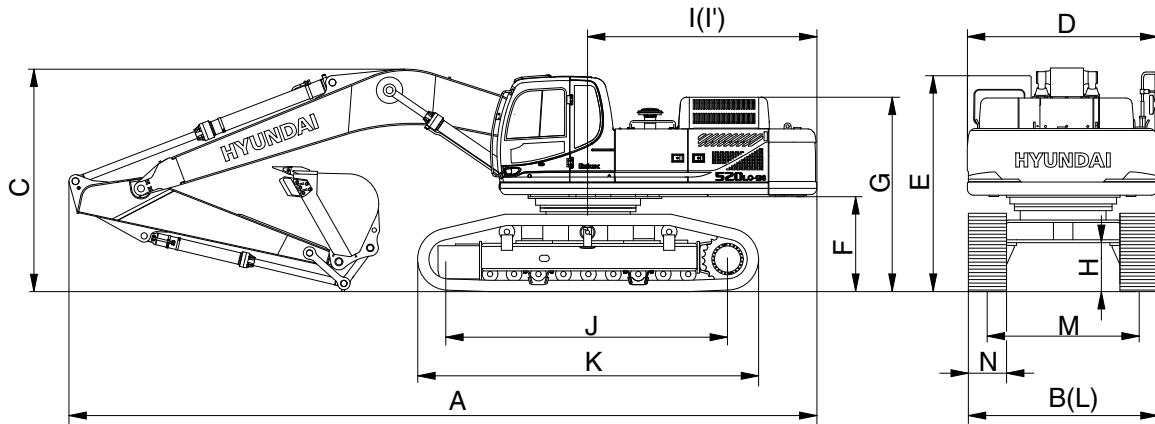


4809S2SP03

Description		Unit	Specification
Operating weight		kg (lb)	50820 (112040)
Bucket capacity (SAE heaped), standard		m ³ (yd ³)	2.15 (2.81)
Overall length	A	mm (ft-in)	11780 (38' 8")
Overall width, with 600 mm shoe (transport position / working position)	B		2980/3540 (9' 9"/11' 7")
Overall height	C		4100 (13' 5")
Superstructure width	D		2980 (9' 9")
Overall height of cab	E		3400 (11' 2")
Ground clearance of counterweight	F		1500 (4' 11")
Engine cover height	G		3060 (10' 1")
Minimum ground clearance	H		770 (2' 6")
Rear-end distance	I		3725 (12' 3")
Rear-end swing radius	I'		3780 (12' 5")
Distance between tumblers	J		4470 (14' 8")
Undercarriage length	K		5460 (17' 11")
Undercarriage width (transport position / working position)	L		2980/3540 (9' 9"/11' 7")
Track gauge (transport position / working position)	M		2380/2940 (7' 10"/9' 8")
Track shoe width, standard	N		600 (24")
Travel speed (low/high)		km/hr (mph)	3.2/5.0 (2.0/3.1)
Swing speed		rpm	9.0
Gradeability		Degree (%)	35 (70)
Ground pressure (600 mm shoe)		kgf/cm ² (psi)	0.88 (12.51)
Max traction force		kg (lb)	38500 (84880)

4) ROBEX 520LC-9S

· 9.00 m (29' 6") BOOM, 5.85 m (19' 2") ARM

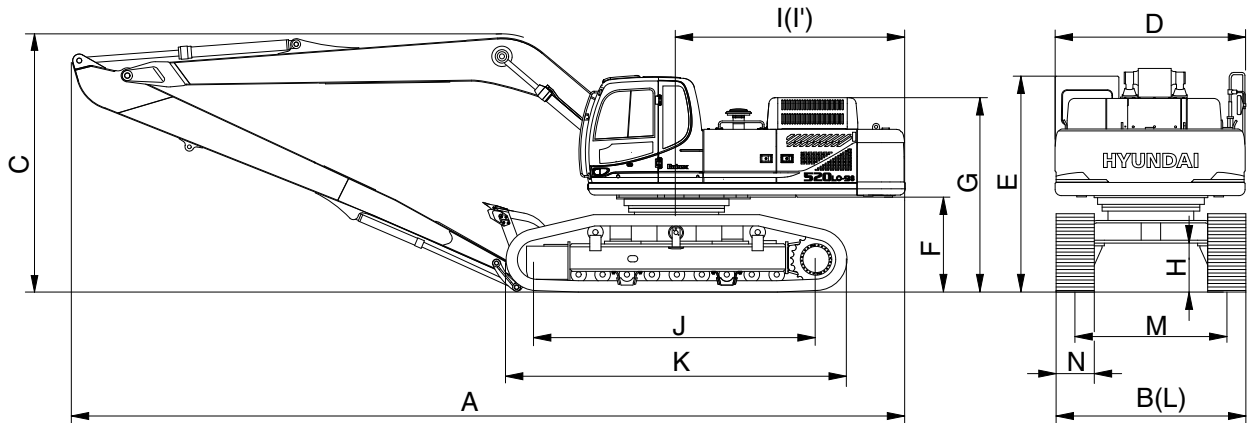


4809S2SP03

Description		Unit	Specification
Operating weight		kg (lb)	52410 (115540)
Bucket capacity (SAE heaped), standard		m ³ (yd ³)	2.15 (2.81)
Overall length	A	mm (ft-in)	13800 (45' 3")
Overall width, with 600 mm shoe (transport position / working position)	B		2980/3540 (9' 9"/11' 7")
Overall height	C		5190 (17' 0")
Superstructure width	D		2980 (9' 9")
Overall height of cab	E		3400 (11' 2")
Ground clearance of counterweight	F		1500 (4' 11")
Engine cover height	G		3060 (10' 1")
Minimum ground clearance	H		770 (2' 6")
Rear-end distance	I		3725 (12' 3")
Rear-end swing radius	I'		3780 (12' 5")
Distance between tumblers	J		4470 (14' 8")
Undercarriage length	K		5460 (17' 11")
Undercarriage width (transport position / working position)	L		2980/3540 (9' 9"/11' 7")
Track gauge (transport position / working position)	M		2380/2940 (7' 10"/9' 8")
Track shoe width, standard	N		600 (24")
Travel speed (low/high)		km/hr (mph)	3.2/5.0 (2.0/3.1)
Swing speed		rpm	9.0
Gradeability		Degree (%)	35 (70)
Ground pressure (600 mm shoe)		kgf/cm ² (psi)	0.91 (12.94)
Max traction force		kg (lb)	38500 (84880)

5) ROBEX 520LC-9S

· 10.00 m (32' 10") BOOM, 6.85 m (22' 6") ARM



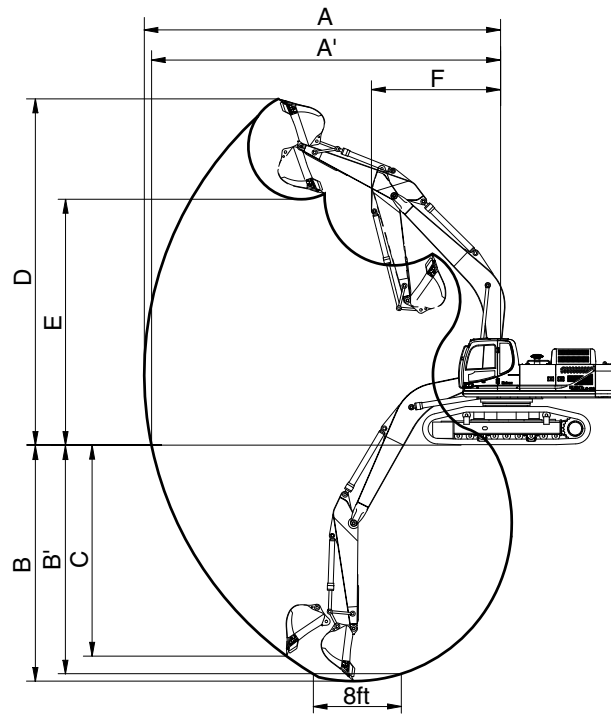
5209S2SP01

Description		Unit	Specification
Operating weight		kg (lb)	51630 (113820)
Bucket capacity (SAE heaped), standard		m ³ (yd ³)	1.00 (1.31)
Overall length	A	mm (ft-in)	10730 (35' 2")
Overall width, with 600 mm shoe (transport position / working position)	B		2980/3540 (9' 9"/11' 7")
Overall height	C		6000 (19' 8")
Superstructure width	D		2980 (9' 9")
Overall height of cab	E		3340 (10' 11")
Ground clearance of counterweight	F		1500 (4' 11")
Engine cover height	G		2920 (9' 7")
Minimum ground clearance	H		770 (2' 6")
Rear-end distance	I		3725 (12' 3")
Rear-end swing radius	I'		3780 (12' 5")
Distance between tumblers	J		4470 (14' 8")
Undercarriage length	K		5477 (18' 0")
Undercarriage width (transport position / working position)	L		2980/3540 (9' 9"/11' 7")
Track gauge (transport position / working position)	M		2380/2940 (7' 10"/9' 8")
Track shoe width, standard	N		600 (24")
Travel speed (low/high)		km/hr (mph)	3.3/5.0 (2.0/3.1)
Swing speed		rpm	8.5
Gradeability		Degree (%)	35 (70)
Ground pressure (600 mm shoe)		kgf/cm ² (psi)	0.90 (12.8)
Max traction force		kg (lb)	37300 (82230)

3. WORKING RANGE

1) ROBEX 480LC-9S

· 7.06 m (23' 2") BOOM



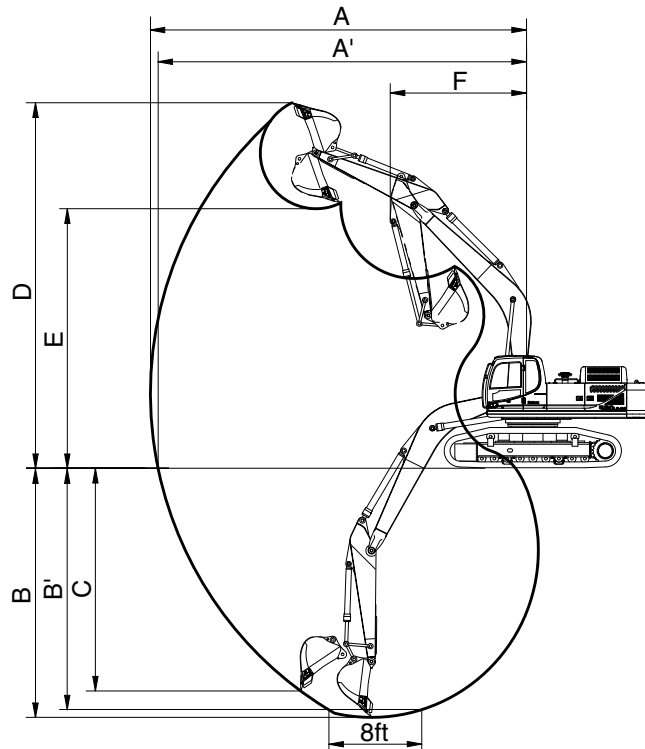
4809S2SP04

Description		2.40 m (7' 10") Arm	2.90 m (9' 6") Arm	3.38 m (11' 1") Arm	4.00 m (13' 1") Arm
Max digging reach	A	11160 mm (36' 7")	11550 mm (37'11")	12100 mm (39' 8")	12660 mm (41' 6")
Max digging reach on ground	A'	10940 mm (35'11")	11340 mm (37' 2")	11900 mm (39' 1")	12470 mm (40'11")
Max digging depth	B	6830 mm (22' 5")	7330 mm (24' 1")	7810 mm (25' 7")	8430 mm (27' 9")
Max digging depth (8ft level)	B'	6670 mm (21'11")	7190 mm (23' 7")	7670 mm (25' 2")	8320 mm (27' 4")
Max vertical wall digging depth	C	5960 mm (19' 7")	5930 mm (19' 5")	6590 mm (21' 7")	7170 mm (23' 6")
Max digging height	D	10560 mm (34' 8")	10530 mm (34' 7")	10980 mm (36' 0")	11210 mm (36' 9")
Max dumping height	E	7110 mm (23' 4")	7180 mm (23' 7")	7620 mm (25' 0")	7830 mm (25' 8")
Min swing radius	F	5090 mm (16' 8")	4910 mm (16' 1")	4780 mm (15' 8")	4910 mm (16' 1")
Bucket digging force	SAE	216.7 [236.4] kN	219.7 [239.6] kN	220.7 [240.7] kN	222.6 [242.9] kN
		22100 [24110] kgf	22400 [24440] kgf	22500 [24550] kgf	22700 [24760] kgf
		48720 [53150] lbf	49380 [53870] lbf	49600 [54120] lbf	50040 [54590] lbf
	ISO	251.1 [273.9] kN	254.0 [277.1] kN	255.0 [278.2] kN	256.9 [280.3] kN
		25600 [27930] kgf	25900 [28250] kgf	26000 [28360] kgf	26200 [28580] kgf
		56440 [61570] lbf	57100 [62290] lbf	57320 [62520] lbf	57760 [63010] lbf
Arm crowd force	SAE	276.6 [301.7] kN	224.6 [245.0] kN	191.2 [208.6] kN	170.6 [186.2] kN
		28200 [30760] kgf	22900 [24980] kgf	19500 [21270] kgf	17400 [18980] kgf
		62170 [67820] lbf	50490 [55080] lbf	42990 [46890] lbf	38360 [41850] lbf
	ISO	290.3 [316.7] kN	234.4 [255.7] kN	199.1 [217.2] kN	176.5 [192.6] kN
		29600 [32290] kgf	23900 [26070] kgf	20300 [22150] kgf	18000 [19640] kgf
		65260 [71190] lbf	52690 [57480] lbf	44750 [48830] lbf	39680 [43290] lbf

[] : Power boost

2) ROBEX 480LC-9S

· 6.55 m (21' 6") BOOM



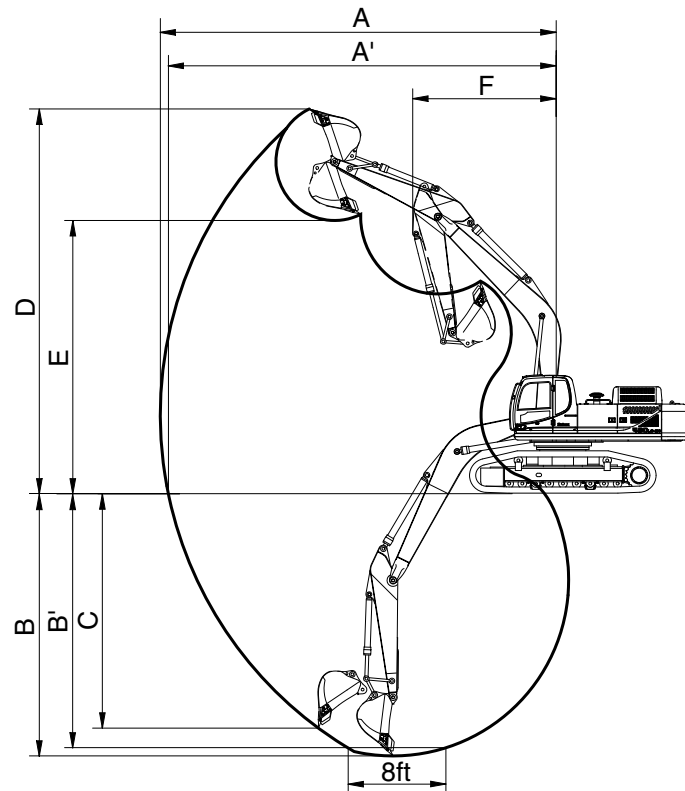
4809S2SP04

Description		2.40 m (7' 10") Arm
Max digging reach	A	10610 mm (34'10")
Max digging reach on ground	A'	10370 mm (34' 0")
Max digging depth	B	6370 mm (20'11")
Max digging depth (8ft level)	B'	6190 mm (20' 4")
Max vertical wall digging depth	C	5400 mm (17' 9")
Max digging height	D	10170 mm (33' 4")
Max dumping height	E	6750 mm (22' 2")
Min swing radius	F	4620 mm (15' 2")
Bucket digging force	SAE	216.7 [236.4] kN
		22100 [24110] kgf
		48720 [53150] lbf
	ISO	251.1 [273.9] kN
		25600 [27930] kgf
		56440 [61570] lbf
Arm crowd force	SAE	276.6 [301.7] kN
		28200 [30760] kgf
		62170 [67820] lbf
	ISO	290.3 [316.7] kN
		29600 [32290] kgf
		65260 [71190] lbf

[] : Power boost

3) ROBEX 480LC-9S

· 9.00 m (29' 6") BOOM

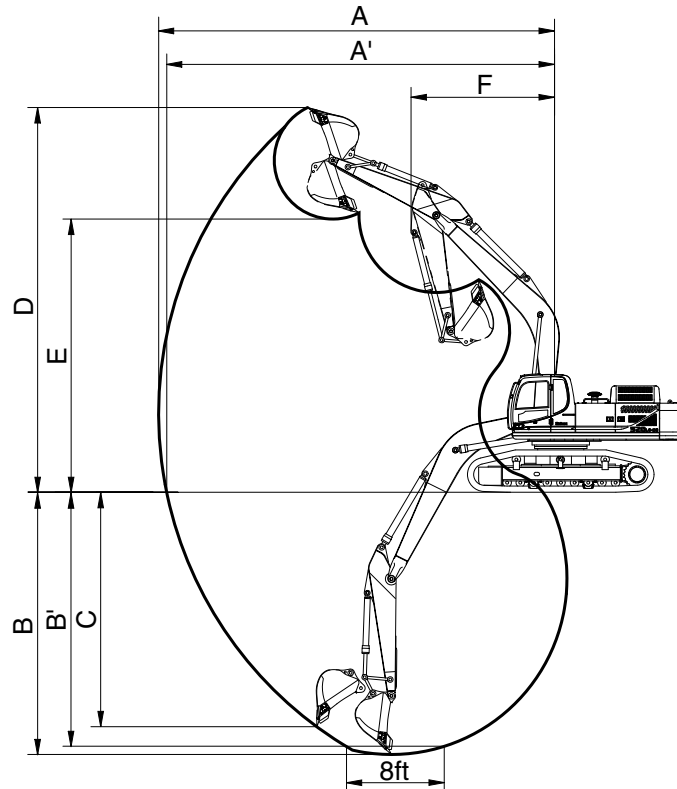


4809S2SP04

Description		5.85 m (19' 2") Arm
Max digging reach	A	16350 mm (53' 8")
Max digging reach on ground	A'	16200 mm (53' 2")
Max digging depth	B	11560 mm (37'11")
Max digging depth (8ft level)	B'	11460 mm (37' 7")
Max vertical wall digging depth	C	10320 mm (33'10")
Max digging height	D	13840 mm (45' 5")
Max dumping height	E	10440 mm (34' 3")
Min swing radius	F	5940 mm (19' 6")
Bucket digging force	SAE	189.3 kN
		19300 kgf
		42550 lbf
	ISO	217.7 kN
		22200 kgf
		48940 lbf
Arm crowd force	SAE	107.9 kN
		11000 kgf
		24250 lbf
	ISO	110.3 kN
		11250 kgf
		24800 lbf

4) ROBEX 520LC-9S

· 7.06 m (23' 2") BOOM

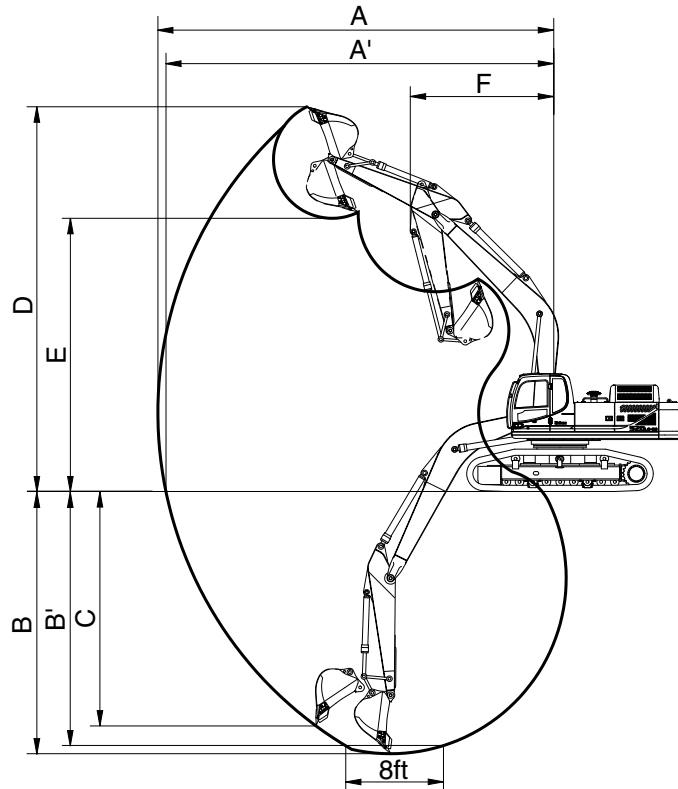


4809S2SP05

Description		2.40 m (7' 10") Arm	2.90 m (9' 6") Arm	3.38 m (11' 1") Arm	4.00 m (13' 1") Arm
Max digging reach	A	11140 mm (36' 7")	11530 mm (37'10")	12080 mm (39' 8")	12640 mm (41' 6")
Max digging reach on ground	A'	10890 mm (35' 9")	11290 mm (37' 0")	11840 mm (38'10")	12420 mm (40' 9")
Max digging depth	B	6610 mm (21' 8")	7110 mm (23' 4")	7590 mm (24'11")	8210 mm (26'11")
Max digging depth (8ft level)	B'	6430 mm (21' 1")	6940 mm (22' 9")	7440 mm (24' 5")	8080 mm (26' 6")
Max vertical wall digging depth	C	4880 mm (16' 0")	4780 mm (15' 8")	5470 mm (17'11")	5980 mm (19' 7")
Max digging height	D	10640 mm (34'11")	10610 mm (34'10")	11080 mm (36' 4")	11290 mm (37' 0")
Max dumping height	E	7290 mm (23'11")	7350 mm (24' 1")	7760 mm (25' 6")	7980 mm (26' 2")
Min swing radius	F	5110 mm (16' 9")	4910 mm (16' 1")	4830 mm (15'10")	4910 mm (16' 1")
Bucket digging force	SAE	247.1 [269.6] kN	251.1 [273.9] kN	253.0 [276.0] kN	253.0 [276.0] kN
		25200 [27490] kgf	25600 [27930] kgf	25800 [28150] kgf	25800 [28150] kgf
		55560 [60610] lbf	56440 [61570] lbf	56880 [62050] lbf	56880 [62050] lbf
	ISO	286.4 [312.4] kN	290.3 [316.7] kN	292.2 [318.8] kN	292.2 [318.8] kN
		29200 [31850] kgf	29600 [32290] kgf	29800 [32510] kgf	29800 [32510] kgf
		64370 [70220] lbf	65260 [71190] lbf	65700 [71670] lbf	65700 [71670] lbf
Arm crowd force	SAE	278.5 [303.8] kN	225.6 [246.1] kN	192.2 [209.7] kN	171.6 [187.2] kN
		28400 [30980] kgf	23000 [25090] kgf	19600 [21380] kgf	17500 [19090] kgf
		62610 [68300] lbf	50710 [55320] lbf	43210 [47140] lbf	38580 [42090] lbf
	ISO	291.3 [317.7] kN	235.4 [256.8] kN	200.1 [218.2] kN	177.5 [193.6] kN
		29700 [32400] kgf	24000 [26180] kgf	20400 [22250] kgf	18100 [19750] kgf
		65480 [71430] lbf	52910 [57720] lbf	44970 [49050] lbf	39900 [43530] lbf

[] : Power boost

5) ROBEX 520LC-9S
 · 6.55 m (21' 6") BOOM



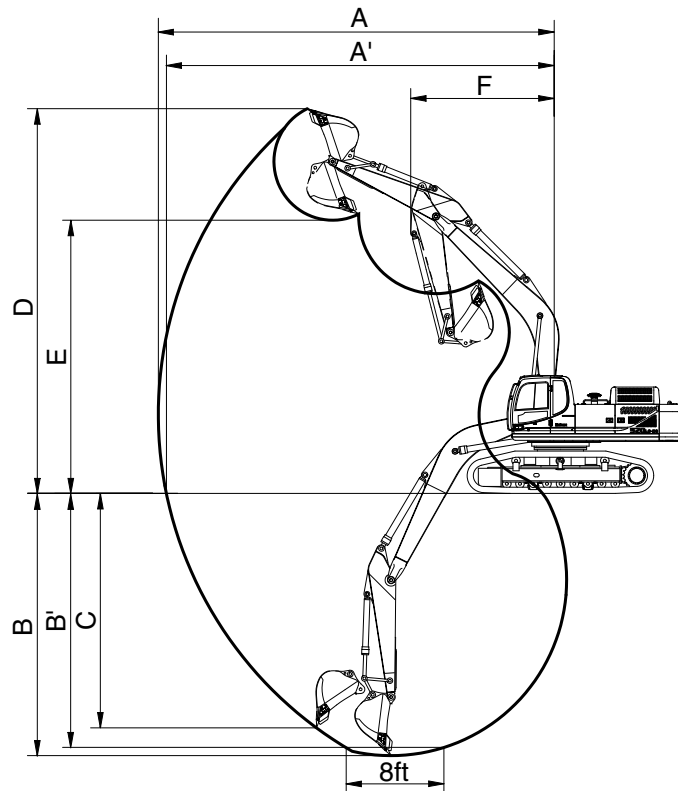
4809S2SP05

Description		2.40 m (7' 10") Arm	
Max digging reach	A	10590 mm (34' 9")	
Max digging reach on ground	A'	10320 mm (33' 10")	
Max digging depth	B	6130 mm (20' 1")	
Max digging depth (8ft level)	B'	5950 mm (19' 6")	
Max vertical wall digging depth	C	4390 mm (14' 5")	
Max digging height	D	10260 mm (33' 8")	
Max dumping height	E	6920 mm (22' 8")	
Min swing radius	F	4650 mm (15' 3")	
Bucket digging force	SAE	247.1 [269.6] kN	
		25200 [27490] kgf	
		55560 [60610] lbf	
	ISO	286.4 [312.4] kN	
		29200 [31850] kgf	
		64370 [70220] lbf	
Arm crowd force	SAE	278.5 [303.8] kN	
		28400 [30980] kgf	
		62610 [68300] lbf	
	ISO	291.3 [317.7] kN	
		29700 [32400] kgf	
		65480 [71430] lbf	

[] : Power boost

6) ROBEX 520LC-9S

· 9.00 m (29' 6") BOOM

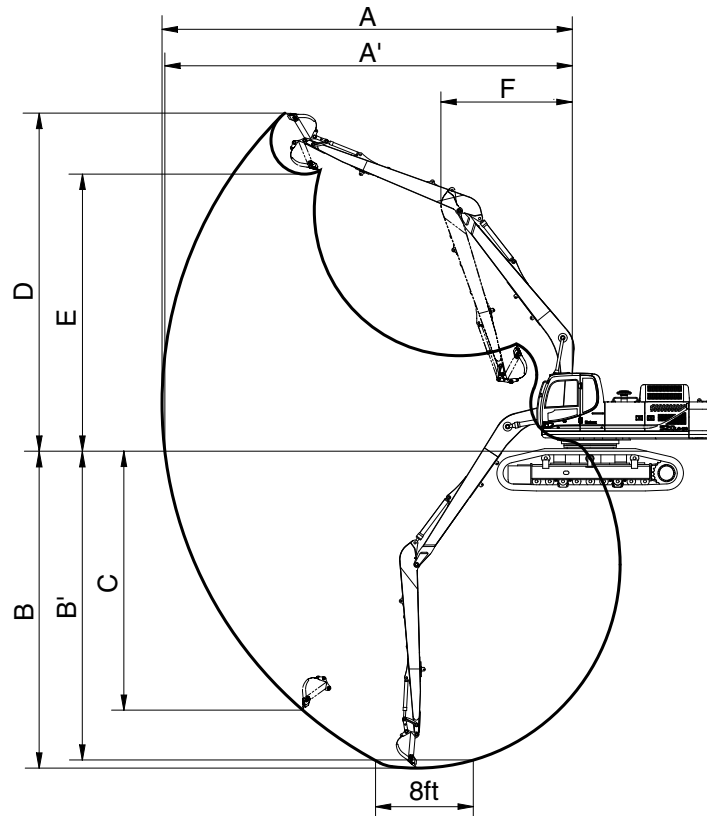


4809S2SP05

Description		5.85 m (19' 2") Arm
Max digging reach	A	16280 mm (53' 5")
Max digging reach on ground	A'	16100 mm (52'10")
Max digging depth	B	11380 mm (37' 4")
Max digging depth (8ft level)	B'	11280 mm (37' 0")
Max vertical wall digging depth	C	10070 mm (33' 0")
Max digging height	D	13930 mm (45' 8")
Max dumping height	E	10530 mm (34' 7")
Min swing radius	F	5940 mm (19' 6")
Bucket digging force	SAE	212.8 kN
		21700 kgf
		47840 lbf
	ISO	251.1 kN
		25600 kgf
		56440 lbf
Arm crowd force	SAE	107.9 kN
		11000 kgf
		24250 lbf
	ISO	110.8 kN
		11300 kgf
		24910 lbf

7) ROBEX 520LC-9S

· 10.00 m (32' 10") BOOM



5209S2SP02

Description		6.85 m (22' 6") Arm
Max digging reach	A	18170 mm (59' 7")
Max digging reach on ground	A'	18020 mm (59' 1")
Max digging depth	B	13080 mm (42' 11")
Max digging depth (8ft level)	B'	13000 mm (42' 8")
Max vertical wall digging depth	C	12230 mm (40' 1")
Max digging height	D	15270 mm (50' 1")
Max dumping height	E	11850 mm (38' 11")
Min swing radius	F	6280 mm (20' 7")
Bucket digging force	SAE	222.6 kN
		22700 kgf
		50045 lbf
	ISO	261.8 kN
		26700 kgf
		58863 lbf
Arm crowd force	SAE	111.8 kN
		11400 kgf
		25133 lbf
	ISO	114.7 kN
		11700 kgf
		25794 lbf

4. WEIGHT

1) ROBEX 480LC-9S

Item	R480LC-9S		
	kg	lb	
Upperstructure assembly	20000	44090	
Main frame weld assembly	4430	9770	
Engine assembly	940	2070	
Main pump assembly	190	420	
Main control valve assembly	420	930	
Swing motor assembly	230	510	
Hydraulic oil tank assembly	450	990	
Fuel tank assembly	270	600	
Counterweight	7.06 m boom	9200	20280
	9.0 m boom	10700	23590
Cab assembly	490	1080	
Lower chassis assembly	19000	41890	
Track frame weld assembly	7060	15570	
Swing bearing	720	1590	
Travel motor assembly	440	970	
Turning joint	50	110	
Track recoil spring	310	680	
Idler	250	550	
Carrier roller	40	90	
Track roller	80	180	
Track-chain assembly (600 mm standard triple grouser shoe)	2700	5950	
Front attachment assembly (7.06 m boom, 3.38 m arm, 2.15 m ³ SAE heaped bucket)	9100	20060	
7.06 m boom assembly	3260	7190	
6.55 m boom assembly	3180	7010	
9.0 m boom assembly	4050	8930	
3.38 m arm assembly	1630	3590	
2.15 m ³ SAE heaped bucket	1740	3840	
Boom cylinder assembly	830	1830	
Arm cylinder assembly	630	1390	
Bucket cylinder assembly	300	660	
Bucket control rod assembly	155	340	

2) ROBEX 520LC-9S

Item	R520LC-9S		
	kg	lb	
Upperstructure assembly	17630	38870	
Main frame weld assembly	4430	9770	
Engine assembly	940	2070	
Main pump assembly	190	420	
Main control valve assembly	420	930	
Swing motor assembly	230	510	
Hydraulic oil tank assembly	450	990	
Fuel tank assembly	270	600	
Counterweight	7.06 m boom	10200	22500
	9.0 m boom	10700	23590
Cab assembly	490	1080	
Lower chassis assembly	24100	53130	
Lower track frame	2130	4700	
Center frame support	8070	17790	
Swing bearing	720	1590	
Travel motor assembly	440	970	
Turning joint	50	110	
Track recoil spring	310	680	
Idler	250	550	
Carrier roller	40	90	
Track roller	80	180	
Track-chain assembly (600 mm standard triple grouser shoe)	2700	5850	
Front attachment assembly (7.06 m boom, 3.38 m arm, 2.15 m ³ SAE heaped bucket)	9270	20440	
7.06 m boom assembly	3260	7190	
6.55 m boom assembly	3180	7010	
9.0 m boom assembly	4060	8950	
3.38 m arm assembly	1610	3550	
2.15 m ³ SAE heaped bucket	1740	3840	
Boom cylinder assembly	830	1830	
Arm cylinder assembly	630	1390	
Bucket cylinder assembly	380	840	
Bucket control rod assembly	180	400	











5. LIFTING CAPACITIES

1) ROBEX 480LC-9S

(1) 6.55 m (21' 6") boom, 2.40 m (7' 10") arm equipped with 2.15 m³ (SAE heaped) bucket and 600 mm (24") triple grouser shoe and 9200 kg (20280 lb) counterweight.













·  : Rating over-front

·  : Rating over-side or 360 degree













Load point height		Load radius								At max. reach		
		3.0 m (10.0 ft)		4.5 m (15.0 ft)		6.0 m (20.0 ft)		7.5 m (25.0 ft)		Capacity		Reach m (ft)
												
6.0 m (20.0 ft)	kg lb					*12480 *27510	*12480 *27510	*11020 *24290	9310 20530	*9470 *20880	6570 14480	9.15 (30.0)
4.5 m (15.0 ft)	kg lb			*18440 *40650	*18440 *40650	*13960 *30780	13040 28750	*11650 *25680	9010 19860	*9440 *20810	5790 12760	9.65 (31.7)
3.0 m (10.0 ft)	kg lb					*15580 *34350	12220 26940	*12420 *27380	8610 18980	*9470 *20880	5410 11930	9.86 (32.3)
1.5 m (5.0 ft)	kg lb					*16700 *36820	11550 25460	*13000 *28660	8240 18170	*9510 *20970	5340 11770	9.80 (32.2)
Ground Line	kg lb			*22790 *50240	17330 38210	*16900 *37260	11170 24630	*13090 *28860	8000 17640	*9480 *20900	5590 12320	9.47 (31.1)
-1.5 m (-5.0 ft)	kg lb	*25320 *55820	*25320 *55820	*20990 *46270	17370 38290	*16060 *35410	11060 24380	*12360 *27250	7920 17460	*9240 *20370	6280 13850	8.83 (29.0)
-3.0 m (-10.0 ft)	kg lb	*21780 *48020	*21780 *48020	*17910 *39480	17670 38960	*13920 *30690	11190 24670			*8390 *18500	7800 17200	7.79 (25.6)
-4.5 m (-15.0 ft)	kg lb			*12770 *28150	*12770 *28150							

- 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) 7.06 m (23' 2") boom, 3.38 m (11' 1") arm equipped with 2.15 m³ (SAE heaped) bucket and 600 mm (24") triple grouser shoe and 9200 kg (20280 lb) counterweight.

Load point height		Load radius										At max. reach		
		3.0 m (10.0 ft)		4.5 m (15.0 ft)		6.0 m (20.0 ft)		7.5 m (25.0 ft)		9.0 m (30.0 ft)		Capacity		Reach
														kg
6.0 m (20.0 ft)	kg							*9220	*9220	*8240	6740	*7490	4800	10.75
	lb							*20330	*20330	*18170	14860	*16510	10580	(35.3)
4.5 m (15.0 ft)	kg					*12140	*12140	*10130	9050	*8910	6530	*7530	4320	11.17
	lb					*26760	*26760	*22330	19950	*19640	14400	*16600	9520	(36.6)
3.0 m (10.0 ft)	kg			*19830	18930	*14060	12170	*11170	8540	*9450	6260	7470	4070	11.35
	lb			*43720	41730	*31000	26830	*24630	18830	*20830	13800	16470	8970	(37.2)
1.5 m (5.0 ft)	kg			*22320	17460	*15610	11360	*12080	8080	*9940	5990	7420	4010	11.30
	lb			*49210	38490	*34410	25040	*26630	17810	*21910	13210	16360	8840	(37.1)
Ground Line	kg			*22800	16860	*16390	10850	*12610	7730	*10190	5790	7670	4140	11.02
	lb			*50270	37170	*36130	23920	*27800	17040	*22470	12760	16910	9130	(36.2)
-1.5 m (-5.0 ft)	kg	*18070	*18070	*21950	16730	*16290	10610	*12600	7550	*10010	5680	*7770	4500	10.49
	lb	*39840	*39840	*48390	36880	*35910	23390	*27780	16640	*22070	12520	*17130	9920	(34.4)
-3.0 m (-10.0 ft)	kg	*24350	*24350	*20080	16870	*15280	10610	*11850	7530			*7590	5240	9.66
	lb	*53680	*53680	*44270	37190	*33690	23390	*26120	16600			*16730	11550	(31.7)
-4.5 m (-15.0 ft)	kg	*22100	*22100	*16990	*16990	*13120	10820	*9890	7710			*6910	6720	8.43
	lb	*48720	*48720	*37460	*37460	*28920	23850	*21800	17000			*15230	14820	(27.7)
-6.0 m (-20.0 ft)	kg			*11930	*11930	*8900	*8900							
	lb			*26300	*26300	*19620	*19620							











(3) 9.0 m (29' 6") boom, 5.85 m (19' 2") arm equipped with 1.38 m³ (SAE heaped) bucket and 600 mm (24") triple grouser shoe and 10700 kg (23590 lb) counterweight.

Load point height		Load radius										At max. reach				
		3.0 m (10.0 ft)		5.0 m (15.0 ft)		7.0 m (25.0 ft)		9.0 m (30.0 ft)		11.0 m (35.0 ft)		13.0 m (45.0 ft)		Capacity		Reach
														kg	lb	m (ft)
10.0 m (35.0 ft)	kg													*4310	3590	13.54
	lb													*9500	7910	(44.4)
8.0 m (25.0 ft)	kg										*2660	*2660	*4240	2910	14.55	
	lb										*5860	*5860	*9350	6420	(47.7)	
6.0 m (20.0 ft)	kg									*5190	*5190	*4250	3640	*4230	2490	15.20
	lb									*11440	*11440	*9370	8020	*9330	5490	(49.9)
4.0 m (15.0 ft)	kg							*6800	*6800	*5710	4950	*4990	3450	*4270	2240	15.55
	lb							*14990	*14990	*12590	10910	*11000	7610	*9410	4940	(51.0)
2.0 m (5.0 ft)	kg			*16010	16000	*10420	9730	*7780	6520	*6260	4560	*5280	3230	*4320	2110	15.61
	lb			*35300	35270	*22970	21450	*17150	14370	*13800	10050	*11640	7120	*9520	4650	(51.2)
Ground Line	kg			*16790	14290	*11730	8750	*8570	5940	*6720	4210	*5510	3020	*4390	2110	15.38
	lb			*37020	31500	*25860	19290	*18890	13100	*14820	9280	*12150	6660	*9680	4650	(50.5)
-2.0 m (-5.0 ft)	kg	*10920	*10920	*17330	13650	*12300	8170	*9000	5540	*6970	3950	*5550	2880	*4450	2250	14.87
	lb	*24070	*24070	*38210	30090	*27120	18010	*19840	12210	*15370	8710	*12240	6350	*9810	4960	(48.8)
-4.0 m (-15.0 ft)	kg	*14070	*14070	*17370	13550	*12100	7950	*8940	5340	*6850	3820	*4730	2830	*4450	2560	14.02
	lb	*31020	*31020	*38290	29870	*26680	17530	*19710	11770	*15100	8420	*10430	6240	*9810	5640	(46.0)
-6.0 m (-20.0 ft)	kg	*17730	*17730	*15490	13780	*11110	7980	*8260	5340	*6160	3850			*4320	3160	12.76
	lb	*39090	*39090	*34150	30380	*24490	17590	*18210	11770	*13580	8490			*9520	6970	(41.9)
-8.0 m (-25.0 ft)	kg	*17880	*17880	*12400	*12400	*9090	8270	*6620	5560					*3820	*3820	10.94
	lb	*39420	*39420	*27340	*27340	*20040	18230	*14590	12260					*8420	*8420	(35.9)
-10.0 m (-35.0 ft)	kg					*5220	*5220									
	lb					*11510	*11510									

2) ROBEX 520LC-9S















(1) 6.55 m (21' 6") boom, 2.40 m (7' 10") arm equipped with 2.15 m³ (SAE heaped) bucket and 600 mm (24") triple grouser shoe and 10200 kg (22490 lb) counterweight.

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















Load point height		Load radius								At max. reach		
		3.0 m (10.0 ft)		4.5 m (15.0 ft)		6.0 m (20.0 ft)		7.5 m (25.0 ft)		Capacity		Reach
												m (ft)
7.5 m (25.0 ft)	kg lb									*9680 *21340	9450 20830	8.27 (27.1)
6.0 m (20.0 ft)	kg lb					*12520 *27600	*12520 *27600	*10940 *24120	10930 24100	*9510 *20970	7850 17310	9.07 (29.8)
4.5 m (15.0 ft)	kg lb			*18820 *41490	*18820 *41490	*14060 *31000	*14060 *31000	*11610 *25600	10610 23390	*9480 *20900	7010 15450	9.53 (31.3)
3.0 m (10.0 ft)	kg lb					*15650 *34500	14440 31830	*12390 *27320	10200 22490	*9510 *20970	6620 14590	9.71 (31.9)
1.5 m (5.0 ft)	kg lb					*16660 *36730	13790 30400	*12920 *28480	9840 21690	*9540 *21030	6600 14550	9.62 (31.6)
Ground Line	kg lb			*22490 *49580	21060 46430	*16730 *36880	13430 29610	*12920 *28480	9610 21190	*9500 *20940	6960 15340	9.26 (30.4)
-1.5 m (-5.0 ft)	kg lb	*25000 *55120	*25000 *55120	*20550 *45300	*20550 *45300	*15740 *34700	13350 29430	*12050 *26570	9550 21050	*9220 *20330	7870 17350	8.59 (28.2)
-3.0 m (-10.0 ft)	kg lb	*20980 *46250	*20980 *46250	*17260 *38050	*17260 *38050	*13380 *29500	*13380 *29500			*8260 *18210	*8260 *18210	7.49 (24.6)
-4.5 m (-15.0 ft)	kg lb			*11720 *25840	*11720 *25840							

- 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) 7.06 m (23' 2") boom, 3.38 m (11' 1") arm equipped with 2.15 m³ (SAE heaped) bucket and 600 mm (24") triple grouser shoe and 10200 kg (22490 lb) counterweight.

Load point height		Load radius										At max. reach				
		3.0 m (10.0 ft)		4.5 m (15.0 ft)		6.0 m (20.0 ft)		7.5 m (25.0 ft)		9.0 m (30.0 ft)		Capacity		Reach		
																m (ft)
7.5 m (25.0 ft)	kg													*7510	6700	10.00
	lb													*16560	14770	(32.8)
6.0 m (20.0 ft)	kg							*9190	*9190	*8380	7980	*7470	5810	10.66		
	lb							*20260	*20260	*18470	17590	*16470	12810	(35.0)		
4.5 m (15.0 ft)	kg			*16290	*16290	*12260	*12260	*10120	*10120	*8830	7750	*7510	5290	11.05		
	lb			*35910	*35910	*27030	*27030	*22310	*22310	*19470	17090	*16560	11660	(36.3)		
3.0 m (10.0 ft)	kg			*20110	*20110	*14150	*14150	*11160	10110	*9380	7470	*7590	5040	11.20		
	lb			*44330	*44330	*31200	*31200	*24600	22290	*20680	16470	*16730	11110	(36.7)		
1.5 m (5.0 ft)	kg			*22300	21040	*15600	13560	*12020	9640	*9840	7200	*7680	5000	11.13		
	lb			*49160	46390	*34390	29890	*26500	21250	*21690	15870	*16930	11020	(36.5)		
Ground Line	kg			*22570	20490	*16260	13060	*12490	9310	*10050	7000	*7750	5190	10.82		
	lb			*49760	45170	*35850	28790	*27540	20530	*22160	15430	*17090	11440	(35.5)		
-1.5 m (-5.0 ft)	kg	*19050	*19050	*21590	20400	*16040	12850	*12390	9130	*9790	6900	*7740	5670	10.26		
	lb	*42000	*42000	*47600	44970	*35360	28330	*27320	20130	*21580	15210	*17060	12500	(33.7)		
-3.0 m (-10.0 ft)	kg	*25420	*25420	*19580	*19580	*14900	12870	*11510	9130			*7520	6620	9.40		
	lb	*56040	*56040	*43170	*43170	*32850	28370	*25380	20130			*16580	14590	(30.8)		
-4.5 m (-15.0 ft)	kg	*21120	*21120	*16290	*16290	*12560	*12560	*9330	*9330			*6750	*6750	8.11		
	lb	*46560	*46560	*35910	*35910	*27690	*27690	*20570	*20570			*14880	*14880	(26.6)		
-6.0 m (-20.0 ft)	kg			*10870	*10870											
	lb			*23960	*23960											

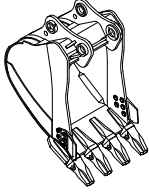
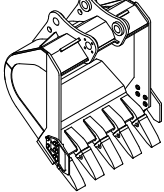
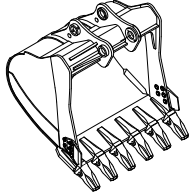
(3) 9.0 m (29' 6") boom, 5.85 m (19' 2") arm equipped with 1.38 m³ (SAE heaped) bucket and 600 mm (24") triple grouser shoe and 10700 kg (23590 lb) counterweight.

Load point height		Load radius												At max. reach		
		3.0 m (10.0 ft)		5.0 m (15.0 ft)		7.0 m (25.0 ft)		9.0 m (30.0 ft)		11.0 m (35.0 ft)		13.0 m (45.0 ft)		Capacity		Reach
																m (ft)
10.0 m (35.0 ft)	kg													*4210	3970	13.66
	lb													*9280	8750	(44.8)
8.0 m (25.0 ft)	kg								*4750	*4750	*2800	*2800	*4140	3270	14.63	
	lb								*10470	*10470	*6170	*6170	*9130	7210	(48.0)	
6.0 m (20.0 ft)	kg								*5130	*5130	*4310	4110	*4130	2840	15.25	
	lb								*11310	*11310	*9500	9060	*9110	6260	(50.0)	
4.0 m (15.0 ft)	kg					*8700	*8700	*6790	*6790	*5650	5520	*4910	3900	*4170	2580	15.57
	lb					*19180	*19180	*14970	*14970	*12460	12170	*10820	8600	*9190	5690	(51.1)
2.0 m (5.0 ft)	kg			*16120	*16120	*10440	*10440	*7740	7260	*6190	5110	*5190	3670	*4230	2470	15.60
	lb			*35540	*35540	*23020	*23020	*17060	16010	*13650	11270	*11440	8090	*9330	5450	(51.2)
Ground Line	kg			*16710	16170	*11660	9800	*8490	6670	*6630	4760	*5400	3460	*4290	2490	15.35
	lb			*36840	35650	*25710	21610	*18270	14700	*14620	10490	*11900	7630	*9460	5490	(50.4)
-2.0 m (-5.0 ft)	kg	*11290	*11290	*17600	15570	*12130	9250	*8870	6270	*6840	4500	*5410	3320	*4340	2660	14.80
	lb	*24890	*24890	*38800	34330	*26740	20390	*19550	13820	*15080	9920	*11930	7320	*9570	5860	(48.6)
-4.0 m (-15.0 ft)	kg	*14480	*14480	*16990	15500	*11860	9040	*8750	6090	*6680	4380	*4170	3290	*4330	3030	13.91
	lb	*31920	*31920	*37460	34170	*26150	19930	*19290	13430	*14730	9660	*9190	7250	*9550	6680	(45.6)
-6.0 m (-20.0 ft)	kg	*18200	*18200	*15010	*15010	*10780	9100	*8000	6110	*5900	4430			*4180	3740	12.60
	lb	*40120	*40120	*33090	*33090	*23770	20060	*17640	13470	*13010	9770			*9220	8250	(41.3)
-8.0 m (-25.0 ft)	kg	*16860	*16860	*11770	*11770	*8630	*8630	*6210	*6210					*3610	*3610	10.71
	lb	*37170	*37170	*25950	*25950	*19030	*19030	*13690	*13690					*7960	*7960	(35.1)

6. BUCKET SELECTION GUIDE

1) ROBEX 480LC-9S

(1) GENERAL BUCKET

		
1.38 m³ SAE heaped bucket	2.15 m³ SAE heaped bucket	3.00 m³ SAE heaped bucket

Capacity m³ (yd³)		Width mm (in)	Weight kg (lb)	Tooth EA	Recommendation mm (ft-in)						
					6550 (21' 6") boom		7060 (23' 2") boom			9000 (29' 6") boom	
SAE heaped	CECE heaped				2400 (7' 10") Arm	2550 (8' 4") Arm	2400 (7' 10") Arm	2900 (9' 6") Arm	3380 (11' 1") Arm	4000 (13' 1") Arm	6000 (19' 8") Arm
1.38 (1.80)	1.24 (1.62)	1135 (45")	1690 (3730)	4	●	●	●	●	●	●	▲
2.15 (2.81)	1.88 (2.46)	1575 (62")	2050 (4520)	5	●	●	●	●	◐	■	
3.00 (3.92)	2.70 (3.53)	1905 (75")	2460 (5420)	6	◐	■	■	▲	▲		

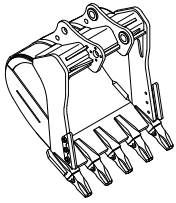
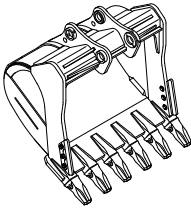
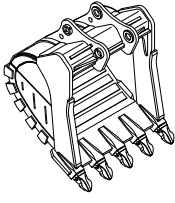
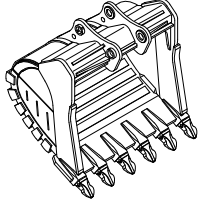
● Applicable for materials with density of 2100 kg/m³ (3500 lb/yd³) or less

◐ Applicable for materials with density of 1800 kg/m³ (3000 lb/yd³) or less

■ Applicable for materials with density of 1500 kg/m³ (2500 lb/yd³) or less

▲ Applicable for materials with density of 1200 kg/m³ (2000 lb/yd³) or less

(2) HEAVY DUTY AND ROCK-HEAVY DUTY BUCKET

			
<ul style="list-style-type: none"> ◆ 2.20 m³ SAE ◆ 2.43 m³ SAE ◆ 2.79 m³ SAE heaped bucket 	<ul style="list-style-type: none"> ◆ 3.00 m³ SAE ◆ 3.20 m³ SAE heaped bucket 	<ul style="list-style-type: none"> ⊙ 2.20 m³ SAE ⊙ 2.43 m³ SAE ⊙ 2.79 m³ SAE heaped bucket 	<ul style="list-style-type: none"> ⊙ 3.20 m³ SAE heaped bucket

Capacity m ³ (yd ³)		Width mm (in)	Weight kg (lb)	Tooth EA	Recommendation mm (ft-in)					
					6550 (21' 6") boom		7060 (23' 2") boom			
SAE heaped	CECE heaped				2400 (7' 10") Arm	2550 (8' 4") Arm	2400 (7' 10") Arm	2900 (9' 6") Arm	3380 (11' 1") Arm	4000 (13' 1") Arm
◆ 2.20 (2.88)	1.93 (2.52)	1605 (63")	2320 (5110)	5	●	●	●	◐	◐	■
◆ 2.43 (3.18)	2.11 (2.76)	1750 (69")	2450 (5400)	5	●	●	◐	◐	■	▲
◆ 2.79 (3.65)	2.47 (3.23)	1785 (70")	2630 (5800)	5	◐	◐	■	■	▲	▲
◆ 3.00 (3.92)	2.67 (3.49)	1905 (75")	2790 (6150)	6	◐	■	■	▲	▲	
◆ 3.20 (4.19)	2.82 (3.69)	1995 (79")	2870 (6330)	6	■	■	▲	▲		
⊙ 2.20 (2.88)	1.93 (2.52)	1605 (63")	2610 (5750)	5	●	●	●	◐	■	
⊙ 2.43 (3.18)	2.11 (2.76)	1750 (69")	2730 (6020)	5	●	◐	◐	■	■	
⊙ 2.79 (3.65)	2.47 (3.23)	1785 (70")	2950 (6500)	5	◐	■	■	▲	▲	
⊙ 3.20 (4.19)	2.82 (3.69)	1995 (79")	3230 (7120)	6	■	▲	▲	▲		

◆ : Heavy duty bucket

⊙ : Rock-heavy duty bucket

● Applicable for materials with density of 2100 kg/m³ (3500 lb/yd³) or less

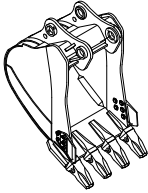
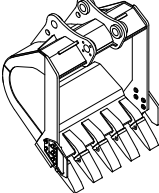
◐ Applicable for materials with density of 1800 kg/m³ (3000 lb/yd³) or less

■ Applicable for materials with density of 1500 kg/m³ (2500 lb/yd³) or less

▲ Applicable for materials with density of 1200 kg/m³ (2000 lb/yd³) or less

2) ROBEX 520LC-9S

(1) GENERAL BUCKET

	
1.00 m ³ SAE 1.38 m ³ SAE heaped bucket	2.15 m ³ SAE 2.79 m ³ SAE heaped bucket

Capacity m ³ (yd ³)		Width mm (in)	Weight kg (lb)	Tooth EA	Recommendation mm (ft-in)							
					6550 (21' 6") boom		7060 (23' 2") boom				9000 (29' 6") boom	10000 (32' 10") boom
SAE heaped	CECE heaped				2400 (7' 10") Arm	2550 (8' 4") Arm	2400 (7' 10") Arm	2900 (9' 6") Arm	3380 (11' 1") Arm	4000 (13' 1") Arm	6000 (19' 8") Arm	6850 (22' 6") Arm
1.00 (1.31)	0.90 (1.18)	800 (31.5")	1240 (2730)	3								■
1.38 (1.80)	1.24 (1.62)	1135 (45")	1690 (3730)	4	●	●	●	●	●	●	■	
2.15 (2.81)	1.88 (2.46)	1575 (62")	2050 (4520)	5	●	●	●	●	●	●		
2.79 (3.65)	2.47 (3.23)	1785 (70")	2320 (5110)	5	●	●	●	◐	◐	■		

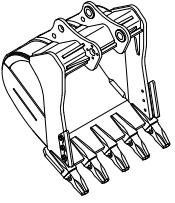
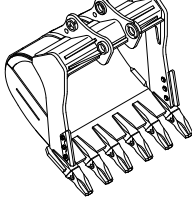
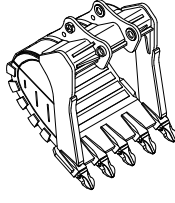
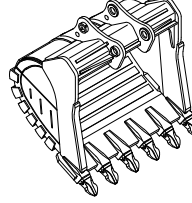
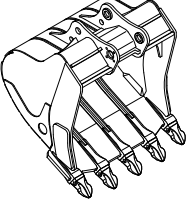
● Applicable for materials with density of 2100 kg/m³ (3500 lb/yd³) or less

◐ Applicable for materials with density of 1800 kg/m³ (3000 lb/yd³) or less

■ Applicable for materials with density of 1500 kg/m³ (2500 lb/yd³) or less

▲ Applicable for materials with density of 1200 kg/m³ (2000 lb/yd³) or less

(2) HEAVY DUTY AND ROCK-HEAVY DUTY BUCKET

				
◆ 2.79 m ³ SAE heaped bucket	◆ 3.20 m ³ SAE heaped bucket	○ 2.20 m ³ SAE ○ 2.43 m ³ SAE ○ 2.79 m ³ SAE heaped bucket	○ 3.00 m ³ SAE ○ 3.20 m ³ SAE heaped bucket	◆ 2.70 m ³ SAE ◆ 3.00 m ³ SAE heaped bucket

Capacity m ³ (yd ³)		Width mm (in)	Weight kg (lb)	Tooth EA	Recommendation mm (ft-in)					
					6550 (21' 6") boom		7060 (23' 2") boom			
SAE heaped	CECE heaped				2400 (7' 10") Arm	2550 (8' 4") Arm	2400 (7' 10") Arm	2900 (9' 6") Arm	3380 (11' 1") Arm	4000 (13' 1") Arm
◆ 2.79 (3.65)	2.47 (3.23)	1785 (70")	2630 (5800)	5	●	●	●	◐	■	■
◆ 3.20 (4.19)	2.82 (3.69)	1995 (79")	2870 (6330)	6	◐	◐	■	■	▲	▲
○ 2.20 (2.88)	1.93 (2.52)	1605 (63")	2610 (5750)	5	●	●	●	●	●	◐
○ 2.43 (3.18)	2.11 (2.76)	1750 (69")	2730 (6020)	5	●	●	●	●	◐	■
○ 2.79 (3.65)	2.47 (3.23)	1785 (70")	2950 (6500)	5	●	●	◐	◐	■	▲
○ 3.00 (3.92)	2.67 (3.49)	1905 (75")	3140 (6920)	6	●	◐	◐	■	■	▲
○ 3.20 (4.19)	2.82 (3.69)	1995 (79")	3230 (7120)	6	◐	◐	■	■	▲	▲
◆ 2.70 (3.53)	2.39 (3.13)	1755 (69")	2770 (6110)	5	●	●	●	◐	■	■
◆ 3.00 (3.92)	2.76 (3.61)	1950 (77")	3040 (6700)	6	●	◐	◐	■	■	▲

◆ : Heavy duty bucket

○ : Rock-heavy duty bucket

◆ : Rock-heavy duty bucket (Spade nose)

● Applicable for materials with density of 2100 kg/m³ (3500 lb/yd³) or less

◐ Applicable for materials with density of 1800 kg/m³ (3000 lb/yd³) or less

■ Applicable for materials with density of 1500 kg/m³ (2500 lb/yd³) or less

▲ Applicable for materials with density of 1200 kg/m³ (2000 lb/yd³) or less

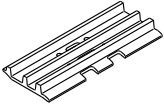
7. UNDERCARRIAGE

1) ROBEX 480LC-9S

(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				
							
R480LC-9S	Shoe width	mm (in)	600 (24)	700 (28)	750 (30)	800 (32)	900 (36)
	Operating weight	kg (lb)	48100 (106040)	48640 (107230)	48910 (107830)	49180 (108420)	49720 (109610)
	Ground pressure	kgf/cm ² (psi)	0.83 (11.80)	0.72 (10.24)	0.68 (9.67)	0.64 (9.10)	0.57 (8.11)
	Overall width	mm (ft-in)	3340 (10' 11")	3440 (11' 3")	3490 (11' 5")	3540 (11' 7")	3640 (11' 11")

(3) NUMBER OF ROLLERS AND SHOES ON EACH SIDE

Item	Quantity
Carrier rollers	2 EA
Track rollers	9 EA
Track shoes	53 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
700 mm triple grouser	Option	B
750 mm triple grouser	Option	B
800 mm triple grouser	Option	C
900 mm triple grouser	Option	C

※ **Table 2**

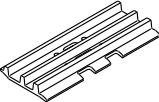

Category	Applications	Applications
A	Rocky ground, river beds, normal soil	<ul style="list-style-type: none"> · Travel at low speed on rough ground with large obstacles such as boulders or fallen trees
B	Normal soil, soft ground	<ul style="list-style-type: none"> · These shoes cannot be used on rough 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
C	Extremely soft ground (swampy ground)	<ul style="list-style-type: none"> · Use the shoes only in the conditions that the machine sinks and it is impossible to use the shoes of category A or B · 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

2) ROBEX 520LC-9S

(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				Double grouser	
								
R520LC-9S	Shoe width	mm (in)	600 (24)	700 (28)	750 (30)	800 (32)	600 (24)	700 (28)
	Operating weight	kg (lb)	51000 (112430)	51540 (113630)	51810 (114220)	52080 (114820)	51000 (112430)	51540 (113630)
	Ground pressure	kgf/cm ² (psi)	0.88 (12.51)	0.76 (10.81)	0.72 (10.24)	0.67 (9.53)	0.88 (12.51)	0.76 (10.81)
	Overall width	mm (ft-in)	3540 (11' 7")	3640 (11' 11")	3690 (12' 1")	3740 (12' 3")	3540 (11' 7")	3640 (11' 11")

(3) NUMBER OF ROLLERS AND SHOES ON EACH SIDE

Item	Quantity
Carrier rollers	3 EA
Track rollers	9 EA
Track shoes	53 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
600 mm double grouser	Option	A
700 mm triple grouser, double grouser	Option	B
750 mm triple grouser	Option	B
800 mm triple grouser	Option	C

※ **Table 2**

Category	Applications	Applications
A	Rocky ground, river beds, normal soil	<ul style="list-style-type: none"> Travel at low speed on rough ground with large obstacles such as boulders or fallen trees
B	Normal soil, soft ground	<ul style="list-style-type: none"> 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
C	Extremely soft ground (swampy ground)	<ul style="list-style-type: none"> Use the shoes only in the conditions that the machine sinks and it is impossible to use the shoes of category A or B 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 QSM 11
Type	4-cycle turbocharged charger air cooled diesel engine
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	125 × 147.1 mm (4.92" × 5.79")
Piston displacement	10800 cc (659 cu in)
Compression ratio	16.3 : 1
Rated gross horse power (SAE J1995)	353 hp at 1900 rpm (263 kW at 1900 rpm)
Maximum torque	183 kgf · m (1324 lbf · ft) at 1400 rpm
Engine oil quantity	37.85 ℓ (10 U.S. gal)
Dry weight	942 kg (2077 lb)
Low idling speed	1950 ± 50 rpm
High idling speed	950 + 50 rpm
Rated fuel consumption	144 g/Hp · hr at 1900 rpm
Starting motor	Delco Remy 42MT (24V-7.2 kW)
Alternator	Delco Remy 24V-90A
Battery	2 × 12V × 200Ah

2) MAIN PUMP

Item	Specification
Type	Variable displacement tandem axis piston pumps
Capacity	2 × 200 cc/rev
Maximum pressure	330 kgf/cm ² (4690 psi) [360 kgf/cm ² (5120 psi)]
Rated oil flow	2 × 380 ℓ /min (100.4 U.S. gpm / 83.6 U.K. gpm)
Rated speed	1900 rpm

[] : Power boost

3) GEAR PUMP

Item	Specification
Type	Fixed displacement gear pump single stage
Capacity	16 cc/rev
Maximum pressure	40 kgf/cm ² (570 psi)
Rated oil flow	28.8 ℓ /min (7.6 U.S. gpm/6.3 U.K. gpm)

4) MAIN CONTROL VALVE

Item	Specification	
	R480/520LC-9S	R480/520LC-9S Long reach
Type	9 spools	←
Operating method	Hydraulic pilot system	←
Main relief valve pressure	330 kgf/cm ² (4690 psi) [360 kgf/cm ² (5120 psi)]	330 kgf/cm ² (4690 psi) [Not applied power boost]
Port relief valve pressure	Boom	380 kgf/cm ² (5400 psi)
	Arm	380 kgf/cm ² (5400 psi)
	Bucket	380 kgf/cm ² (5400 psi)

[]: Power boost

5) SWING MOTOR

Item	Specification
Type	Fixed displacement axial piston motor
Capacity	151 cc/rev
Relief pressure	285 kgf/cm ² (4050 psi)
Braking system	Automatic, spring applied hydraulic released
Braking torque	59 kgf · m (427 lbf · ft)
Brake release pressure	33~50 kgf/cm ² (470~711 psi)
Reduction gear type	2 - stage planetary

6) TRAVEL MOTOR

Item	Specification
Type	Variable displacement axial piston motor
Relief pressure	330 kgf/cm ² (4690 psi)
Capacity (max / min)	253/158 cc/rev
Reduction gear type	3-stage planetary
Braking system	Automatic, spring applied hydraulic released
Brake release pressure (cranking/stroke end)	8.2/9.4 kgf/cm ² (116.6/113.7 psi)
Braking torque	87 kgf · m (629 lbf · ft)

7) CYLINDER

Item		Specification
Boom cylinder	Bore dia × Rod dia × Stroke	∅170 × ∅115 × 1570 mm
	Cushion	Extend only
Arm cylinder	Bore dia × Rod dia × Stroke	∅190 × ∅130 × 1820 mm
	Cushion	Extend and retract
Bucket cylinder	Bore dia × Rod dia × Stroke	∅160 × ∅110 × 1370 mm (R480LC-9S) ∅160 × ∅115 × 1370 mm (R520LC-9S)
	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
R480LC-9S	Standard	★600 mm (24")	0.83 kgf/cm ² (11.80 psi)	53	3340 mm (10' 11")
	Option	★700 mm (28")	0.72 kgf/cm ² (10.24 psi)	53	3440 mm (11' 3")
		★750 mm (30")	0.68 kgf/cm ² (9.67 psi)	53	3490 mm (11' 5")
		★800 mm (32")	0.64 kgf/cm ² (9.10 psi)	53	3540 mm (11' 7")
		★900 mm (36")	0.57 kgf/cm ² (8.11 psi)	53	3640 mm (11' 11")
R520LC-9S	Standard	★600 mm (24")	0.88 kgf/cm ² (12.51 psi)	53	3540 mm (11' 7")
	Option	★700 mm (28")	0.76 kgf/cm ² (10.81 psi)	53	3640 mm (11' 11")
		★750 mm (30")	0.72 kgf/cm ² (10.24 psi)	53	3690 mm (12' 1")
		★800 mm (32")	0.67 kgf/cm ² (9.53 psi)	53	3740 mm (12' 3")
		※600 mm (24")	0.88 kgf/cm ² (12.51 psi)	53	3540 mm (11' 7")
		※700 mm (28")	0.76 kgf/cm ² (10.81 psi)	53	3640 mm (11' 11")

★ : Triple grouser

※ : Double grouser

9) BUCKET

Item		Capacity m ³ (yd ³)				Tooth quantity EA	Width mm (in)	
		SAE heaped		CECE heaped				
R480LC-9S	Standard	2.15	(2.81)	1.88	(2.46)	5	1575	(62")
	Option	1.38	(1.80)	1.24	(1.62)	4	1135	(45")
		3.00	(3.92)	2.70	(3.53)	6	1905	(75")
		◆ 2.20	(2.88)	1.93	(2.52)	5	1605	(63")
		◆ 2.43	(3.18)	2.11	(2.76)	5	1750	(69")
		◆ 2.79	(3.65)	2.47	(3.23)	5	1785	(70")
		◆ 3.00	(3.92)	2.67	(3.49)	6	1905	(75")
		◆ 3.20	(4.19)	2.82	(3.69)	6	1995	(79")
		⊙ 2.20	(2.88)	1.93	(2.52)	5	1605	(63")
		⊙ 2.43	(3.18)	2.11	(2.76)	5	1750	(69")
		⊙ 2.79	(3.65)	2.47	(3.23)	5	1785	(70")
		⊙ 3.20	(4.19)	2.82	(3.69)	6	1995	(79")
R520LC-9S	Standard	2.15	(2.81)	1.88	(2.46)	5	1575	(62")
	Option	1.38	(1.8)	1.24	(1.62)	4	1135	(45")
		2.79	(3.65)	2.47	(3.23)	5	1785	(70")
		◆ 2.79	(3.65)	2.47	(3.23)	5	1785	(70")
		◆ 3.20	(4.19)	2.82	(3.69)	6	1995	(79")
		⊙ 2.20	(2.88)	1.93	(2.52)	5	1605	(63")
		⊙ 2.43	(3.18)	2.11	(2.76)	5	1750	(69")
		⊙ 2.79	(3.65)	2.47	(3.23)	5	1785	(70")
		⊙ 3.00	(3.92)	2.67	(3.49)	6	1905	(75")
		⊙ 3.20	(4.19)	2.82	(3.69)	6	1995	(79")
		◆ 2.70	(3.53)	2.39	(3.13)	5	1755	(69")
		◆ 3.00	(3.92)	2.76	(3.61)	6	1950	(77")

◆ : Heavy duty bucket

⊙ : Rock-heavy duty bucket

◆ : Rock-heavy duty bucket (Spade nose)

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 ℓ (U.S. gal)	Ambient temperature °C (°F)						
			-50 (-58)	-30 (-22)	-20 (-4)	-10 (14)	0 (32)	10 (50)	20 (68)
Engine oil pan	Engine oil	38 (10.0)	★SAE 5W-40						
			SAE 30						
			SAE 10W						
			SAE 10W-30						
			SAE 15W-40						
Swing drive	Gear oil	5.0×2 (1.3×2)	★SAE 75W-90						
Final drive		10×2 (2.6×2)	SAE 80W-90						
Hydraulic tank	Hydraulic oil	Tank: 262 (69.2) System: 480 (127)	★ISO VG 15						
			ISO VG 32						
			ISO VG 46						
			ISO VG 68						
Fuel tank	Diesel fuel	621 (164)	★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	50 (13.2)	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 Material

★ : Cold region

Russia, CIS, Mongolia