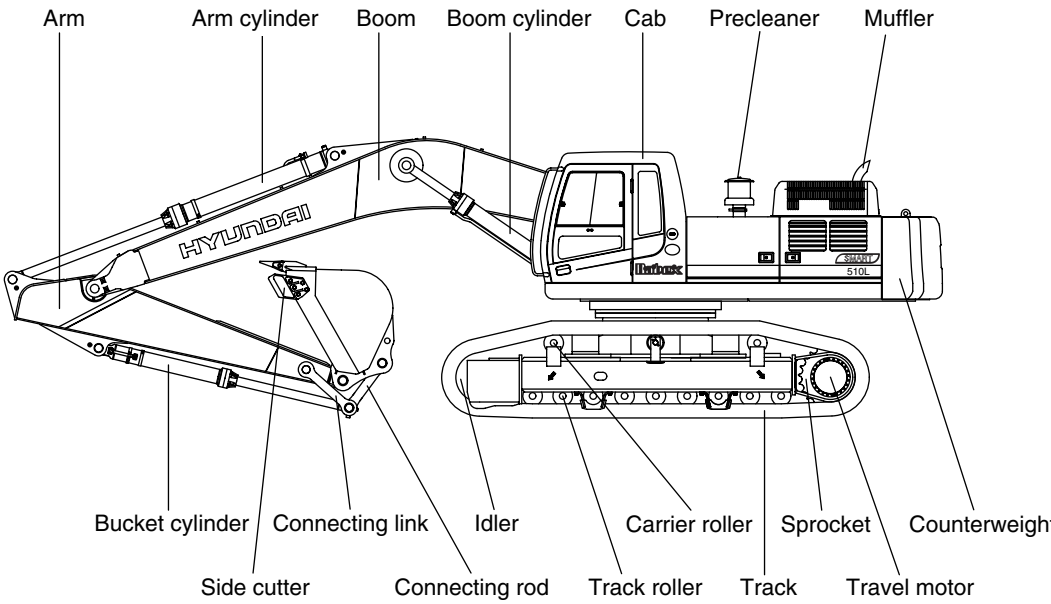
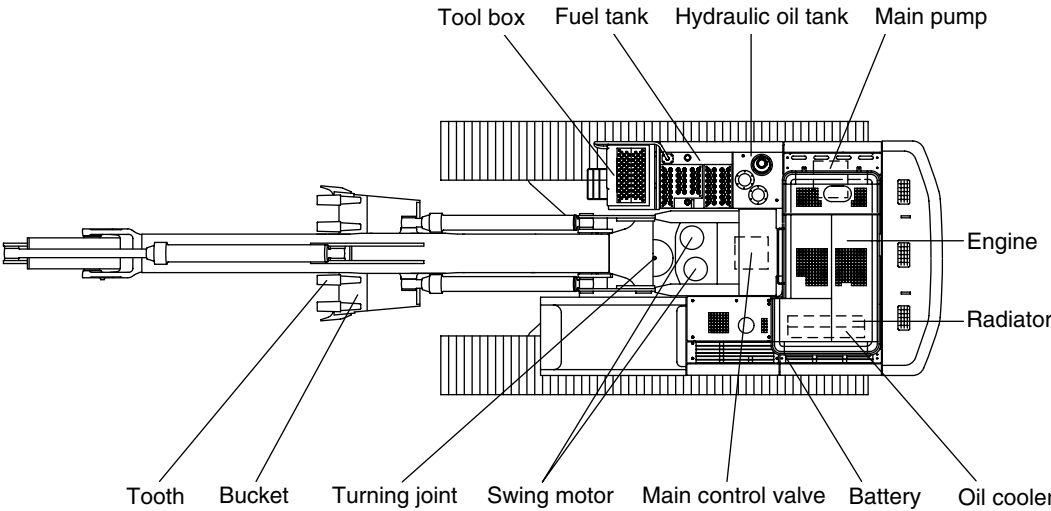
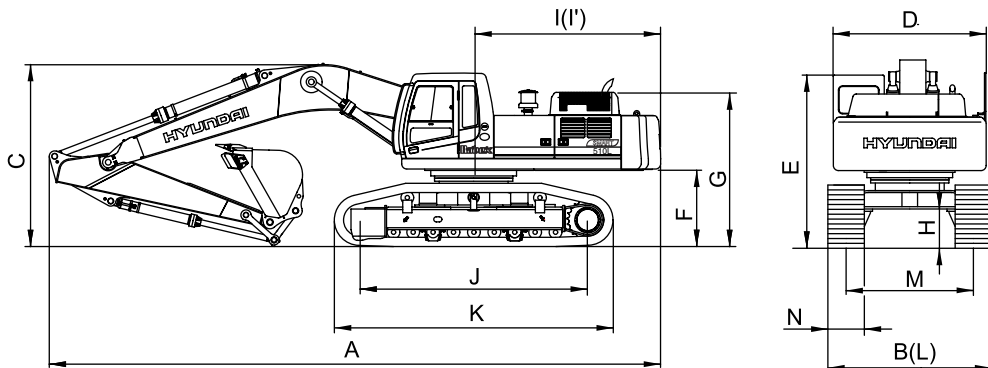


1. MAJOR COMPONENT



2. SPECIFICATIONS

· 6.55m(21' 6") BOOM and 2.70m(8' 10") ARM

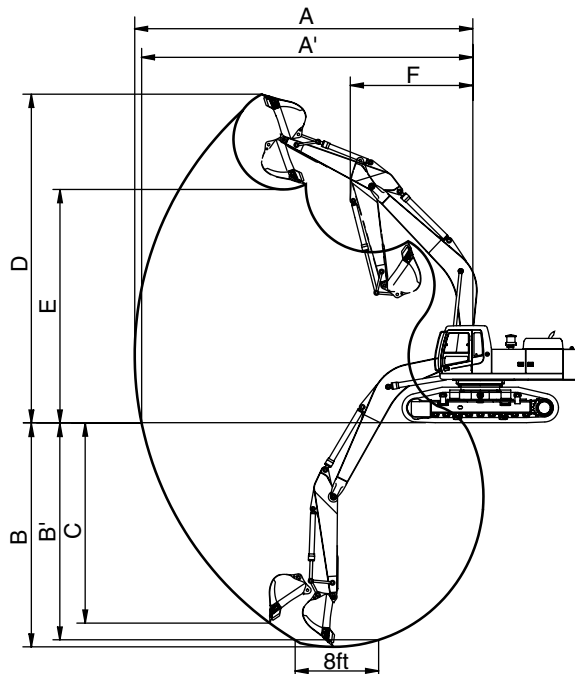


51072SP02

Description		Unit	Specification
Operating weight		kg(lb)	50000(110230)
Bucket capacity(SAE heaped), standard		m ³ (yd ³)	3.03(3.96)
Overall length	A	mm(ft-in)	11750(38' 7")
Overall width, with 600mm shoe	B		3480(11' 5")
Overall height	C		3950(13' 0")
Superstructure width	D		2980(9' 9")
Overall height of cab	E		3180(10' 5")
Ground clearance of counterweight	F		1295(4' 3")
Engine cover height	G		3015(9'11")
Minimum ground clearance	H		555(1'10")
Rear-end distance	I		3665(12' 0")
Rear-end swing radius	I'		3720(12' 2")
Distance between tumblers	J		4470(14' 8")
Undercarriage length	K		5460(17'11")
Undercarriage width	L		3480(11' 5")
Track gauge	M		2880(9' 5")
Track shoe width, standard	N		600(24")
Travel speed(Low/high)		km/hr(mph)	3.3/5.2(2.0/3.2)
Swing speed		rpm	9.0
Gradeability		Degree(%)	35(70)
Ground pressure(600mm shoe)		kgf/cm ² (psi)	0.87(12.37)

3. WORKING RANGE

· 6.55m(21' 6") BOOM (standard)



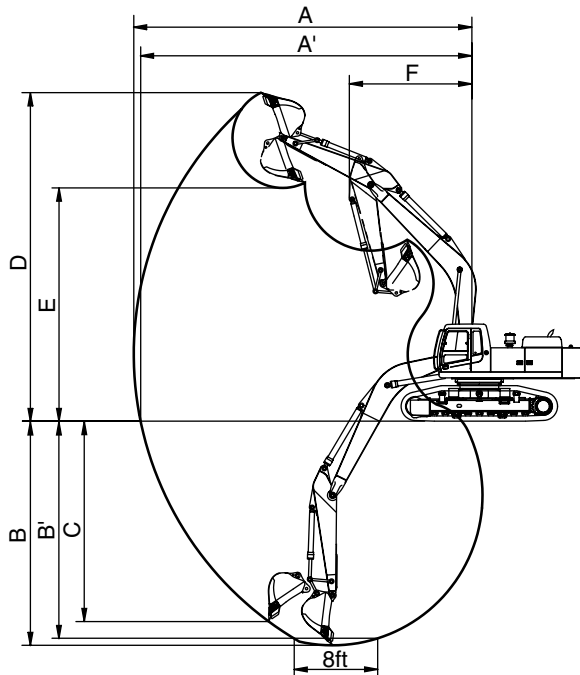
500072SP04

Description		2.40m(7' 10") Arm	※ 2.70m(8' 10") Arm
Max digging reach	A	10590mm (34' 9")	10920mm (35'10")
Max digging reach on ground	A'	10320mm (33'10")	10650mm (34'11")
Max digging depth	B	6130mm (20' 1")	6600mm (21' 8")
Max digging depth (8ft level)	B'	6150mm (20' 2")	6440mm (21' 2")
Max vertical wall digging depth	C	4590mm (15' 1")	5200mm (17' 1")
Max digging height	D	10060mm (33' 0")	10370mm (34' 0")
Max dumping height	E	6720mm (22' 1")	6990mm (22'11")
Min swing radius	F	4650mm (15' 3")	4530mm (14'10")
Bucket digging force	SAE	247.1[269.6] kN	248.1[270.7] kN
		25200[27490] kgf	25300[27600] kgf
		55560[60610] lbf	55780[60850] lbf
	ISO	286.4[312.4] kN	288.3[314.5] kN
		29200[31850] kgf	29400[32070] kgf
		64370[70220] lbf	64820[70710] lbf
Arm crowd force	SAE	278.5[303.8] kN	237.3[258.9] kN
		28400[30980] kgf	24200[26400] kgf
		62610[68300] lbf	53350[58200] lbf
	ISO	291.3[317.7] kN	248.1[270.7] kN
		29700[32400] kgf	25300[27600] kgf
		65480[71430] lbf	55780[60850] lbf

[] : Power boost

※ Standard

• **7.06m(23' 2") BOOM (option)**

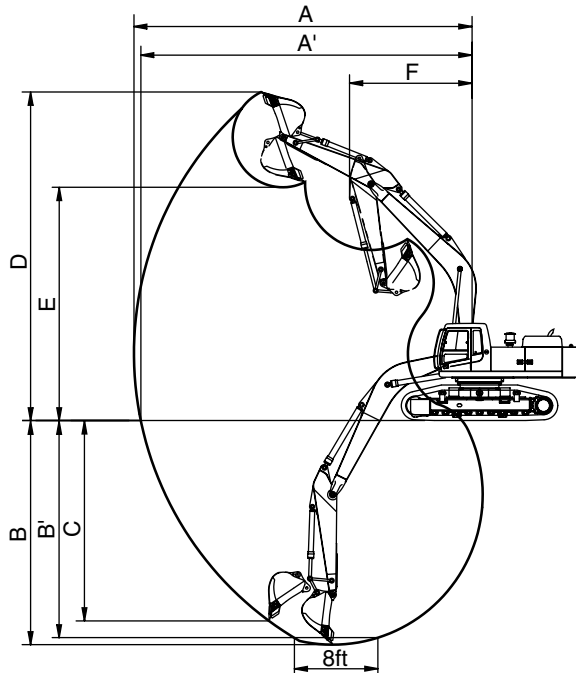


500072SP04

Description		2.40m(7'10") Arm	2.90m(9' 6") Arm	3.38m(11' 1") Arm	4.00m(13' 1") Arm	4.50m(14' 9") Arm
Max digging reach	A	11140mm (36' 7")	11530mm (37'10")	12080mm (39' 8")	12640mm (41' 6")	13130mm (43' 1")
Max digging reach on ground	A'	10890mm (35' 9")	11290mm (37' 0")	11840mm (38'10")	12420mm (40' 9")	12910mm (42' 4")
Max digging depth	B	6610mm (21' 8")	7110mm (23' 4")	7590mm (24'11")	8210mm (26'11")	8710mm (28' 7")
Max digging depth (8ft level)	B'	6430mm (21' 1")	6940mm (22' 9")	7440mm (24' 5")	8080mm (26' 6")	8590mm (28' 2")
Max vertical wall digging depth	C	4880mm (16' 0")	4780mm (15' 8")	5470mm (17'11")	5980mm (19' 7")	6480mm (21' 3")
Max digging height	D	10640mm (34'11")	10610mm (34'10")	11080mm (36' 4")	11290mm (37' 0")	11550mm (37'11")
Max dumping height	E	7290mm (23'11")	7350mm (24' 1")	7760mm (25' 6")	7980mm (26' 2")	8230mm (27' 0")
Min swing radius	F	5110mm (16' 9")	4910mm (16' 1")	4830mm (15'10")	4910mm (16' 1")	4960mm (16' 3")
Bucket digging force	SAE	247.1[269.6] kN	251.1[273.9] kN	253.0[276.0] kN	253.0[276.0] kN	253.0[276.0] kN
		25200[27490] kgf	25600[27930] kgf	25800[28150] kgf	25800[28150] kgf	25800[28150] kgf
		55560[60610] lbf	56440[61570] lbf	56880[62050] 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	292.2[318.8] kN
		29200[31850] kgf	29600[32290] kgf	29800[32510] kgf	29800[32510] kgf	29800[32510] kgf
		64370[70220] lbf	65260[71190] lbf	65700[71670] 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	159.9[174.4] kN
		28400[30980] kgf	23000[25090] kgf	19600[21380] kgf	17500[19090] kgf	16300[17780] kgf
		62610[68300] lbf	50710[55320] lbf	43210[47140] lbf	38580[42090] lbf	35940[39210] lbf
	ISO	291.3[317.7] kN	235.4[256.8] kN	200.1[218.2] kN	177.5[193.6] kN	164.8[179.7] kN
		29700[32400] kgf	24000[26180] kgf	20400[22250] kgf	18100[19750] kgf	16800[18330] kgf
		65480[71430] lbf	52910[57720] lbf	44970[49060] lbf	39900[43530] lbf	37040[40410] lbf

[] : Power boost

· **9.00m(29' 6") BOOM** (option)



500072SP04

Description		5.85m(19' 2") Arm
Max digging reach	A	16280mm (53' 5")
Max digging reach on ground	A'	16100mm (52'10")
Max digging depth	B	11380mm (37' 4")
Max digging depth (8ft level)	B'	11280mm (37' 0")
Max vertical wall digging depth	C	10070mm (33' 0")
Max digging height	D	13930mm (45' 8")
Max dumping height	E	10530mm (34' 7")
Min swing radius	F	5940mm (19' 6")
Bucket digging force	SAE	251.1[273.9] kN
		25600[27930] kgf
		56440[61570] lbf
	ISO	296.2[323.1] kN
		30200[32950] kgf
		66580[72630] lbf
Arm crowd force	SAE	126.5[138.0] kN
		12900[14070] kgf
		28440[31030] lbf
	ISO	130.4[142.3] kN
		13300[14510] kgf
		29320[31990] lbf

[] : Power boost

4. WEIGHT

Item	R510L	
	kg	lb
Upperstructure assembly	25470	56150
Main frame weld assembly	3940	8680
Engine assembly	940	2070
Main pump assembly	180	400
Main control valve assembly	420	930
Swing motor assembly	250	550
Hydraulic oil tank assembly	450	990
Fuel tank assembly	300	660
Counterweight	10700	23590
Cab assembly	310	680
Lower chassis assembly	13970	30800
Lower frame weld assembly	6100	13450
Swing bearing	600	1320
Travel motor assembly	425	940
Turning joint	50	110
Track recoil spring and idler	300	660
Idler	250	550
Carrier roller	40	90
Track roller	80	180
Track-chain assembly(600mm standard triple grouser shoe)	2790	6160
Front attachment assembly(6.55m boom, 2.70m arm, 3.03m³ SAE heaped bucket)	10560	23280
6.55m boom assembly	3410	7520
2.70m arm assembly	1790	3950
3.03m³ SAE heaped bucket	2490	5490
Boom cylinder assembly	910	2010
Arm cylinder assembly	540	1190
Bucket cylinder assembly	300	660
Bucket control rod assembly	130	290

5. LIFTING CAPACITIES

1) 6.55m(21' 6") boom, 2.70m(8' 10") arm equipped with 3.03m³(SAE heaped) bucket, 600mm (24") triple grouser shoe and 10,700kg(23,590lb) counterweight.

•  : Rating over-front

•  : Rating over-side or 360 degree

Load point height		Load radius								At max. reach		
		3.0m(10.0ft)		4.5m(15.0ft)		6.0m(20.0ft)		7.5m(25.0ft)		Capacity		Reach
												m(ft)
7.5m (25.0ft)	kg lb									*9320 *20550	8380 18470	8.30 (27.2)
6.0m (20.0ft)	kg lb					*12260 *27030	*12260 *27030	*10760 *23720	9780 21560	*9130 *20130	6760 14900	9.15 (30.0)
4.5m (15.0ft)	kg lb			*18300 *40340	*18300 *40340	*13740 *30290	*13740 *30290	*11380 *25090	9440 20810	*9090 *20040	5900 13010	9.65 (31.7)
3.0m (10.0ft)	kg lb					*15360 *33860	12940 28530	*12150 *26790	9000 19840	*9120 *20110	5490 12100	9.86 (32.3)
1.5m (5.0ft)	kg lb					*16470 *36310	12210 26920	*12730 *28060	8590 18940	*9160 *20190	5420 11950	9.80 (32.2)
Ground Line	kg lb			*22630 *49890	18650 41120	*16670 *36750	11800 26010	*12800 *28220	8330 18360	*9130 *20130	5700 12570	9.47 (31.1)
-1.5m (-5.0ft)	kg lb	*25090 *55310	*25090 *55310	*20780 *45810	18720 41270	*15800 *34830	11690 25770	*12060 *26590	8250 18190	*8870 *19550	6450 14220	8.84 (29.0)
-3.0m (-10.0ft)	kg lb	*21470 *47330	*21470 *47330	*17630 *38870	*17630 *38870	*13610 *30000	11850 26120			*8020 *17680	*8020 *17680	7.80 (25.6)
-4.5m (-15.0ft)	kg lb			*12370 *27270	*12370 *27270							

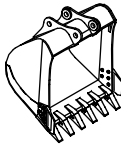
- Note
1. Lifting capacity are based on SAE J1097 and ISO 10567.
 2. Lifting capacity of the ROBEX series does not exceed 75% of tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.
 3. The load point is a hook located on the back of the bucket.
 4. *indicates load limited by hydraulic capacity.

2) 6.55m(21' 6") boom, 2.70m(8' 10") arm equipped with 2.79m³(SAE heaped) bucket, 600mm (24") triple grouser shoe and 10,700kg(23,590lb) counterweight.

Load point height		Load radius								At max. reach		
		3.0m(10.0ft)		4.5m(15.0ft)		6.0m(20.0ft)		7.5m(25.0ft)		Capacity		Reach
												m(ft)
7.5m (25.0ft)	kg lb									*9400 *20720	8450 18630	8.30 (27.2)
6.0m (20.0ft)	kg lb					*12330 *27180	*12330 *27180	*10840 *23900	9840 21690	*9210 *20300	6830 15060	9.15 (30.0)
4.5m (15.0ft)	kg lb			*18380 *40520	*18380 *40520	*13820 *30470	*13820 *30470	*11460 *25260	9500 20940	*9170 *20220	5980 13180	9.65 (31.7)
3.0m (10.0ft)	kg lb					*15440 *34040	13010 28680	*12230 *26960	9060 19970	*9200 *20280	5560 12260	9.86 (32.3)
1.5m (5.0ft)	kg lb					*16560 *36510	12280 27070	*12810 *28240	8660 19090	*9240 *20370	5490 12100	9.80 (32.2)
Ground Line	kg lb			*22720 *50090	18730 41290	*16750 *36930	11870 26170	*12880 *28400	8400 18520	*9210 *20300	5770 12720	9.47 (31.1)
-1.5m (-5.0ft)	kg lb	*25210 *55580	*25210 *55580	*20870 *46010	18800 41450	*15880 *35010	11760 25930	*12140 *26760	8320 18340	*8960 *19750	6520 14370	8.84 (29.0)
-3.0m (-10.0ft)	kg lb	*21580 *47580	*21580 *47580	*17720 *39070	*17720 *39070	*13690 *30180	11930 26300			*8100 *17860	*8100 *17860	7.80 (25.6)
-4.5m (-15.0ft)	kg lb			*12460 *27470	*12460 *27470							

6. BUCKET SELECTION GUIDE

1) GENERAL BUCKET

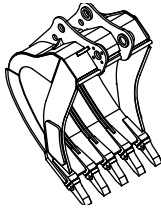
	
2.79m³ SAE heaped bucket	※ 3.03m³ SAE heaped bucket

Capacity		Width		Weight	Recommendation				
					7.06m (23' 2") boom				
SAE heaped	CECE heaped	Without side cutter	With side cutter		2.4m arm (7' 10")	2.9m arm (9' 6")	3.38m arm (11' 1")	4.0m arm (13' 1")	4.5m arm (14' 9")
									6.55m(21'5") boom
									※ 2.4m arm (7' 10")
2.79m³ (3.65yd³)	2.47m³ (3.23yd³)	1830mm (69.3")	1865mm (75.2")	1960kg (4320lb)					
※ 3.03m³ (3.96yd³)	2.67m³ (3.49yd³)	1890mm (74.4")	2040mm (80.3")	2485kg (5480lb)					

※ : Standard bucket

-  Applicable for materials with density of 2000kgf/m³ (3370lbf/yd³) or less
-  Applicable for materials with density of 1600kgf/m³ (2700lbf/yd³) or less
-  Applicable for materials with density of 1100kgf/m³ (1850lbf/yd³) or less

2) ROCK BUCKET



⊙ 2.2m³ SAE
 ⊙ 2.43m³ SAE
 heaped bucket

Capacity		Width		Weight	Recommendation					
					7.06m (23' 2") boom					6.55m boom
SAE heaped	CECE heaped	Without side cutter	With side cutter		2.4m arm (7' 10")	2.9m arm (9' 6")	3.38m arm (11' 1")	4.0m arm (13' 1")	4.5m arm (14' 9")	※ 2.4m arm (7' 10")
⊙ 2.20m³ (2.88yd³)	1.80m³ (2.35yd³)	1835mm (72.2")	-	2295kg (5060lb)						
⊙ 2.43m³ (3.18yd³)	2.10m³ (2.75yd³)	1885mm (74.2")	-	2335kg (5150lb)						

⊙ : Rock bucket

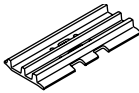
- Applicable for materials with density of 2000kgf/m³ (3370lb/yd³) or less
- Applicable for materials with density of 1600kgf/m³ (2700lb/yd³) or less
- Applicable for materials with density of 1100kgf/m³ (1850lb/yd³) or less

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			
						
R510L	Shoe width	mm(in)	※600(24)	700(28)	750(30)	800(32)
	Operating weight	kg(lb)	50000(110230)	50540(111420)	50810(112020)	51020(112610)
	Ground pressure	kgf/cm ² (psi)	0.87(12.37)	0.75(10.67)	0.71(10.10)	0.67(9.53)
	Overall width	mm(ft-in)	3480(11' 5")	3580(11' 9")	3640(11' 11")	3680(12' 1")

※ : Standard

3) NUMBER OF ROLLERS AND SHOES ON EACH SIDE

Item	Quantity
Carrier rollers	2EA
Track rollers	9EA
Track shoes	53EA

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
600mm triple grouser	Standard	A
600mm double grouser	Option	A
700mm triple grouser, double grouser	Option	B
750mm triple grouser	Option	B
800mm triple grouser	Option	C

※ **Table 2**

Category	Applications	Precautions
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
C	Extremely soft ground (Swampy ground)	• 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 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 × 147.1mm(4.92" × 5.79")
Piston displacement	10800cc(505cu in)
Compression ratio	16.3 : 1
Rated gross horse power(SAE J1995)	358ps at 1900rpm(353Hp / 263kW at 1900rpm)
Maximum torque	182.5kgf · m(1320lb · ft) at 1300rpm
Engine oil quantity	37.85 l (10U.S. gal)
Dry weight	942kg(2077lb)
High idling speed	1950 ± 50rpm
Low idling speed	800 ± 50rpm
Rated fuel consumption	144g/Hp · hr at 1900rpm
Starting motor	Delco remy 42MT (24V-7.2kW)
Alternator	Delco Remy 24V-70A
Battery	2 × 12V × 200Ah

2) MAIN PUMP

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

[]: Power boost

3) GEAR PUMP

Item	Specification
Type	Fixed displacement gear pump single stage
Capacity	15cc/rev
Maximum pressure	35kgf/cm ² (498psi)
Rated oil flow	28.5 l /min(7.5U.S. gpm/6.3U.K. gpm)

4) MAIN CONTROL VALVE

Item	Specification
Type	9 spools
Operating method	Hydraulic pilot system
Main relief valve pressure	330kgf/cm ² (4690psi) [360kgf/cm ² (5120psi)]
Overload relief valve pressure	380kgf/cm ² (5400psi)

[]: Power boost

5) SWING MOTOR

Item	Specification
Type	Fixed displacement axial piston motor
Capacity	148.5cc/rev
Relief pressure	285kgf/cm ² (4050psi)
Braking system	Automatic, spring applied hydraulic released
Braking torque	63kgf · m(456lbf · ft)
Brake release pressure	23~50kgf/cm ² (327~711psi)
Reduction gear type	2 - stage planetary
Swing speed	9.0rpm

6) TRAVEL MOTOR

Item	Specification
Type	Variable displacement axial piston motor
Relief pressure	345kgf/cm ² (4910psi)
Capacity(max / min)	160/100cc/rev
Reduction gear type	3-stage planetary
Braking system	Automatic, spring applied hydraulic released
Brake release pressure	17~50kgf/cm ² (242~711psi)
Braking torque	103kgf · m(745lbf · ft)

7) REMOTE CONTROL VALVE

Item		Specification
Type		Pressure reducing type
Operating pressure	Minimum	6.5kgf/cm ² (92psi)
	Maximum	26kgf/cm ² (370psi)
Single operation stroke	Lever	61mm(2.4in)
	Pedal	123mm(4.84in)

8) CYLINDER

Item		Specification
Boom cylinder	Bore dia × Rod dia × Stroke	ø 170 × ø 115 × 1570mm
	Cushion	Extend only
Arm cylinder	Bore dia × Rod dia × Stroke	ø 190 × ø 130 × 1820mm
	Cushion	Extend and retract
Bucket cylinder	Bore dia × Rod dia × Stroke	ø 170 × ø 115 × 1370mm
	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.**

9) SHOE

Item		Width	Ground pressure	Link quantity	Overall width
R510L	Standard	600mm(24")	0.87kgf/cm ² (12.37psi)	53	3480mm(11' 5")
	Option	700mm(28")	0.75kgf/cm ² (10.67psi)	53	3580mm(11' 9")
		750mm(30")	0.71kgf/cm ² (10.10psi)	53	3640mm(11' 11")
		800mm(32")	0.67kgf/cm ² (9.53psi)	53	3680mm(12' 1")

10) BUCKET

Item		Capacity		Tooth quantity	Width	
		SAE heaped	CECE heaped		Without side cutter	With side cutter
R510L	Standard	3.03m ³ (3.96yd ³)	2.67m ³ (3.49yd ³)	6	1890mm (74.4")	2040mm (80.3")
	Option	2.79m ³ (3.65yd ³)	2.47m ³ (3.23yd ³)	5	1830mm (69.3")	1865mm (75.2")
		⊙2.20m ³ (2.88yd ³)	1.80m ³ (2.35yd ³)	5	1835mm (72.2")	-
		⊙2.43m ³ (3.18yd ³)	2.10m ³ (2.75yd ³)	5	1885mm (74.2")	-

⊙ : Rock bucket(Esco type)

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)						
			-20 (-4)	-10 (14)	0 (32)	10 (50)	20 (68)	30 (86)	40 (104)
Engine oil pan	Engine oil	38(10)							
						SAE 30			
			SAE 10W						
			SAE 10W-30						
				SAE 15W-40					
Swing drive	Gear oil	5.0×2 (1.3×2)							
Final drive		5.0×2 (1.3×2)				SAE 85W-140			
Hydraulic tank	Hydraulic oil	Tank; 250(66) System; 380(100)	ISO VG 32						
				ISO VG 46					
					ISO VG 68				
Fuel tank	Diesel fuel	610(161)	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 : 50	50(13.2)							
				Ethylene glycol base permanent type					

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

