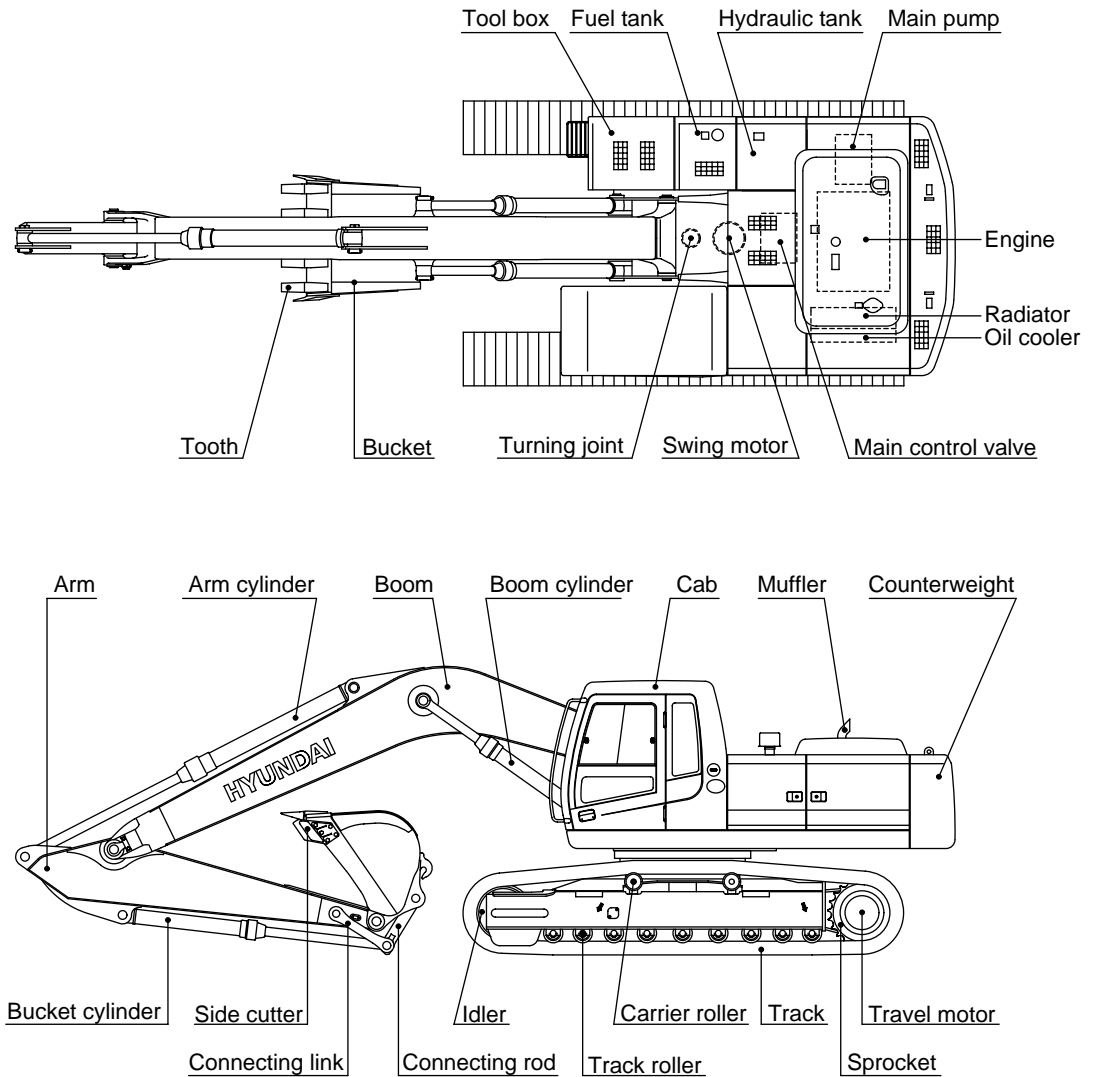


SPECIFICATIONS

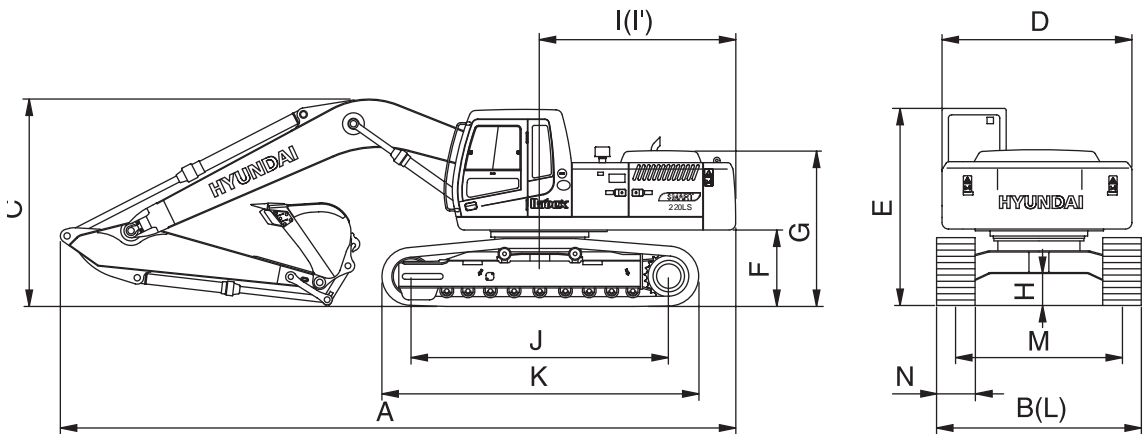
1. MAJOR COMPONENT



RD21072SP01

2. SPECIFICATIONS

1) R220LS

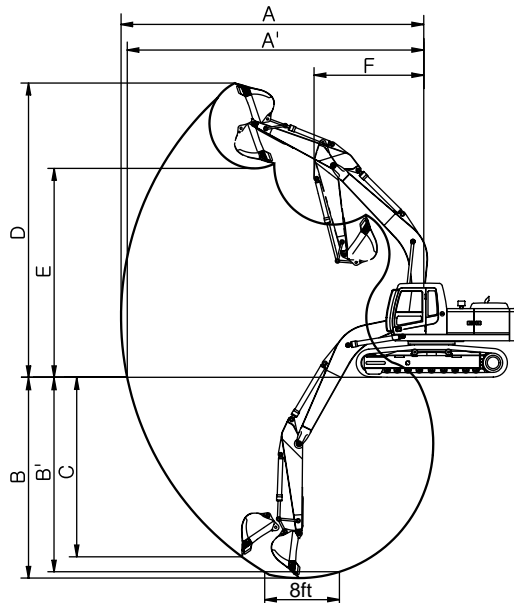


RD22072SP02

Description		Unit	Specification
Operating weight		kg(lb)	22400(49777)
Bucket capacity(SAE heaped), standard		m ³ (yd ³)	1.05(1.37)
Overall length	A	mm(ft-in)	9570(31' 5")
Overall width, with 600mm shoe	B		2990(9' 10")
Overall height	C		3110(10' 2")
Superstructure width	D		2700(8' 10")
Overall height of cab	E		2920(9' 7")
Ground clearance of counterweight	F		1060(3' 6")
Engine cover height	G		2320(7' 7")
Minimum ground clearance	H		480(1' 7")
Rear-end distance	I		2770(9' 1")
Rear-end swing radius	I'		2830(9' 3")
Distance between tumblers	J		3650(12' 0")
Undercarriage length	K		4440(14' 7")
Undercarriage width	L		2990(9' 10")
Track gauge	M		2390(7' 10")
Track shoe width, standard	N		600(24")
Travel speed(Low/high)		km/hr(mph)	3.4/5.3(2.1/3.3)
Swing speed		rpm	11.0
Gradeability		Degree(%)	35(70)
Ground pressure(600mm shoe)		kgf/cm ² (psi)	0.46(6.54)

3. WORKING RANGE

1) 5.68m(18' 8") BOOM



21072SP03

Description		2.0m(6' 7") Arm	*2.40m(7' 10") Arm	2.92m(9' 7") Arm	3.90m(12' 10") Arm
Max digging reach	A	9140mm (30' 0")	9500mm (31' 2")	9940mm (32' 7")	10910mm (35' 10")
Max digging reach on ground	A'	8960mm (29' 5")	9330mm (30' 7")	9780mm (32' 1")	10770mm (35' 4")
Max digging depth	B	5820mm (19' 1")	6220mm (20' 5")	6740mm (22' 1")	7720mm (25' 4")
Max digging depth(8ft level)	B'	5580mm (18' 4")	6010mm (19' 9")	6550mm (21' 6")	7580mm (24' 10")
Max vertical wall digging depth	C	5280mm (17' 4")	5720mm (18' 9")	6120mm (20' 1")	7240mm (23' 9")
Max digging height	D	9140mm (30' 0")	9340mm (30' 8")	9470mm (31' 1")	10110mm (33' 2")
Max dumping height	E	6330mm (20' 9")	6520mm (21' 5")	6670mm (21' 11")	7290mm (23' 11")
Min swing radius	F	3750mm (12' 4")	3740mm (12' 3")	3640mm (11' 11")	3650mm (11' 12")
Bucket digging force	SAE	133 [146] kN	133 [146] kN	133 [146] kN	133 [146] kN
		13600 [14840] kgf	13600 [14840] kgf	13600 [14840] kgf	13600 [14840] kgf
		29980 [32710] lbf	29980 [32710] lbf	29980 [32710] lbf	29980 [32710] lbf
	ISO	152 [166] kN	152 [166] kN	152 [166] kN	152 [166] kN
		15500 [16910] kgf	15500 [16910] kgf	15500 [16910] kgf	15500 [16910] kgf
		34170 [37280] lbf	34170 [37280] lbf	34170 [37280] lbf	34170 [37280] lbf
Arm digging force	SAE	135 [148] kN	113 [123] kN	97 [106] kN	79 [87] kN
		13800 [15050] kgf	11500 [12550] kgf	9900 [10800] kgf	8100 [8840] kgf
		30420 [33190] lbf	25350 [27650] lbf	21830 [23810] lbf	17860 [19480] lbf
	ISO	142 [155] kN	118 [128] kN	101 [110] kN	85 [93] kN
		14500 [15820] kgf	12000 [13090] kgf	10300 [11240] kgf	8700 [9490] kgf
		31970 [34880] lbf	26460 [28870] lbf	22710 [24770] lbf	19170 [20910] lbf

[] : Power boost

* : Standard

4. WEIGHT











Item	R220LS	
	kg	lb
Upperstructure assembly	8950	19730
Main frame weld assembly	1720	3790
Engine assembly	530	1170
Main pump assembly	120	265
Main control valve assembly	200	440
Swing motor assembly	190	420
Hydraulic oil tank assembly	240	530
Fuel tank assembly	195	430
Counterweight	3800	8380
Cab assembly	310	680
Lower chassis assembly	8700	19180
Track frame weld assembly	2720	6000
Swing bearing	260	570
Travel motor assembly	305	670
Turning joint	55	120
Track recoil spring	140	310
Idler	170	370
Carrier roller	20	45
Track roller	50	110
Track-chain assembly(600mm standard triple grouser shoe)	1400	3090
Front attachment assembly(5.68m boom, 2.4m arm, 1.05m ³ SAE heaped bucket)	4025	8870
5.68m boom assembly	1530	3370
2.4m arm assembly	670	1480
1.05m ³ SAE heaped bucket	810	1790
Boom cylinder assembly	180	400
Arm cylinder assembly	290	640
Bucket cylinder assembly	175	390
Bucket control link assembly	170	370

5. LIFTING CAPACITIES

1) R220LS











(1) 5.68m(18' 8") boom, 2.00m(6' 7") arm equipped with 1.05m³(SAE heaped) bucket, 600mm(24") triple grouser shoe and 3800kg counterweight.

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













Lift-point height (m/ft)		Lift-point radius								At max. reach		
		3.0m (9.8ft)		4.5m (14.8ft)		6.0m (19.7ft)		7.5m (24.6ft)		Capacity		Reach
												m(ft)
7.5m	kg									*4400	*4400	5.16
24.6ft	lb									*9700	*9700	(16.9)
6.0m	kg					*4290	*4290			*4290	3920	6.47
19.7ft	lb					*9460	*9460			*9460	8640	(21.2)
4.5m	kg			*5590	*5590	*4660	4350			*4350	3090	7.24
14.8ft	lb			*12320	*12320	*10270	9590			*9590	6810	(23.8)
3.0m	kg			*7130	6400	*5330	4080	*4540	2800	*4500	2700	7.65
9.8ft	lb			*15720	14110	*11750	8990	*10010	6170	*9920	5950	(25.1)
1.5m	kg			*8440	5890	*5990	3830	4580	2690	4360	2550	7.73
4.9ft	lb			*18610	12990	*13210	8440	10100	5930	9610	5620	(25.4)
0.0m	kg			*8960	5680	6370	3670	4500	2620	4480	2600	7.52
0.0ft	lb			*19750	12520	14040	8090	9920	5780	9880	5730	(24.7)
-1.5m	kg	*12100	11550	*8780	5670	6340	3640			5020	2920	6.98
-4.9ft	lb	*26680	25460	*19360	12500	13980	8020			11070	6440	(22.9)
-3.0m	kg	*11000	*11000	*7890	5810	*5660	3760			*5630	3740	6.02
-9.8ft	lb	*24250	*24250	*17390	12810	*12480	8290			*12410	8250	(19.8)
-4.5m	kg									*5750	*5750	4.36
-14.8ft	lb									*12680	*12680	(14.3)

- Notes:**
- Lifting capacity are based on ISO 10567.
 - 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.
 - The Lift-point is a hook (standard equipment) located on the back of the bucket.
 - (*) indicates load limited by hydraulic capacity.

(2) 5.68m(18' 8") boom, 2.00m(6' 7") arm equipped with 1.05m³(SAE heaped) bucket, 600mm (24") triple grouser shoe and 3800kg counterweight.













Lift-point height (m/ft)		Lift-point radius								At max. reach		
		3.0m (9.8ft)		4.5m (14.8ft)		6.0m (19.7ft)		7.5m (24.6ft)		Capacity		Reach
												m(ft)
7.5m	kg									*5530	*5530	5.01
24.6ft	lb									*12190	*12190	(16.4)
6.0m	kg					*5230	4920			*5270	4450	6.36
19.7ft	lb					*11530	10850			*11620	9810	(20.9)
4.5m	kg			*6650	*6650	*5550	4790			*5260	3630	7.14
14.8ft	lb			*14660	*14660	*12240	10560			*11600	8000	(23.4)
3.0m	kg					*6200	4570	5170	3280	5120	3250	7.55
9.8ft	lb					*13670	10080	11400	7230	11290	7170	(24.8)
1.5m	kg					*6820	4370	5090	3200	4950	3120	7.64
4.9ft	lb					*15040	9630	11220	7050	10910	6880	(25.1)
0.0m	kg			*9760	6360	6960	4260			5120	3210	7.42
0.0ft	lb			*21520	14020	15340	9390			11290	7080	(24.4)
-1.5m	kg			*9380	6390	6950	4250			5730	3570	6.88
-4.9ft	lb			*20680	14090	15320	9370			12630	7870	(22.6)
-3.0m	kg	*10960	*10960	*8220	6530					*5980	4500	5.90
-9.8ft	lb	*24160	*24160	*18120	14400					*13180	9920	(19.3)
-4.5m	kg											
-14.8ft	lb											

(3) 5.68m(18' 8") boom, 2.92m(9' 7") arm equipped with 1.05m³(SAE heaped) bucket, 600mm (24") triple grouser shoe and 3800kg counterweight.

Lift-point height (m/ft)		Lift-point radius										At max. reach		
		1.5m (4.9ft)		3.0m (9.8ft)		4.5m (14.8ft)		6.0m (19.7ft)		7.5m (24.6ft)		Capacity		Reach
														m(ft)
7.5m	kg											*2690	*2690	6.44
24.6ft	lb											*5930	*5930	(21.1)
6.0m	kg							*3400	*3400	*2630	*2630	*2540	*2540	7.53
19.7ft	lb							*7500	*7500	*5800	*5800	*5600	*5600	(24.7)
4.5m	kg							*3870	*3870	*3630	2950	*2540	2450	8.20
14.8ft	lb							*8530	*8530	*8000	6500	*5600	5400	(26.9)
3.0m	kg			*9610	*9610	*5970	*5970	*4630	4170	*3980	2810	*2670	2170	8.56
9.8ft	lb			*21190	*21190	*13160	*13160	*10210	9190	*8770	6190	*5890	4780	(28.1)
1.5m	kg			*5920	*5920	*7570	6090	*5440	3870	*4400	2660	*2940	2050	8.64
4.9ft	lb			*13050	*13050	*16690	13430	*11990	8530	*9700	5860	*6480	4520	(28.3)
0.0m	kg			*6910	*6910	*8590	5710	*6070	3650	4430	2540	*3400	2070	8.45
0.0ft	lb			*15230	*15230	*18940	12590	*13380	8050	9770	5600	*7500	4560	(27.7)
-1.5m	kg	*6250	*6250	*10050	*10050	*8880	5580	6240	3550	4370	2490	3980	2260	7.97
-4.9ft	lb	*13780	*13780	*22160	*22160	*19580	12300	13760	7830	9630	5490	8770	4980	(26.1)
-3.0m	kg	*9780	*9780	*12630	11450	*8490	5620	*6120	3560			4760	2730	7.15
-9.8ft	lb	*21560	*21560	*27840	25240	*18720	12390	*13490	7850			10490	6020	(23.4)
-4.5m	kg			*10420	*10420	*7180	5820					*5160	3900	5.83
-14.8ft	lb			*22970	*22970	*15830	12830					*11380	8600	(19.1)

- Notes:**
1. Lifting capacity are based on 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 Lift-point is a hook (standard equipment) located on the back of the bucket.
 4. (*) indicates load limited by hydraulic capacity.

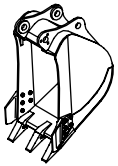
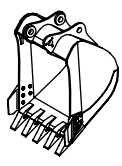
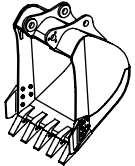
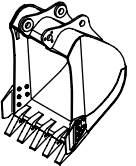
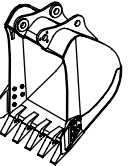
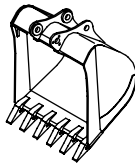
(4) 5.68m(18' 8") boom, 2.92m(9' 7") arm equipped with 1.05m³(SAE heaped) bucket, 600mm(24") triple grouser shoe and 3800kg counterweight.

Lift-point height (m/ft)		Lift-point radius										At max. reach		
		1.5m (4.9ft)		3.0m (9.8ft)		4.5m (14.8ft)		6.0m (19.7ft)		7.5m (24.6ft)		Capacity		Reach
														m(ft)
7.5m	kg							*4410	*4410			*3860	*3860	6.23
24.6ft	lb							*9720	*9720			*8510	*8510	(20.4)
6.0m	kg							*4330	*4330			*3580	3560	7.35
19.7ft	lb							*9550	*9550			*7890	7850	(24.1)
4.5m	kg							*4800	*4800	*4490	3410	*3510	3020	8.04
14.8ft	lb							*10580	*10580	*9900	7520	*7740	6660	(26.4)
3.0m	kg					*7130	*7130	*5550	4650	*4810	3300	*3590	2740	8.40
9.8ft	lb					*15720	*15720	*12240	10250	*10600	7280	*7910	6040	(27.6)
1.5m	kg					*8680	6630	*6330	4400	5070	3180	*3810	2640	8.48
4.9ft	lb					*19140	14620	*13960	9700	11180	7010	*8400	5820	(27.8)
0.0m	kg			*5230	*5230	*9530	6350	*6890	4230	4980	3090	*4240	2690	8.29
0.0ft	lb			*11530	*11530	*21010	14000	*15190	9330	10980	6810	*9350	5930	(27.2)
-1.5m	kg	*5820	*5820	*9580	*9580	*9620	6270	6850	4150	4950	3070	4690	2920	7.80
-4.9ft	lb	*12830	*12830	*21120	*21120	*21210	13820	15100	9150	10910	6770	10340	6440	(25.6)
-3.0m	kg	*10380	*10380	*12860	12410	*9000	6340	*6640	4190			*5400	3450	6.96
-9.8ft	lb	*22880	*22880	*28350	27360	*19840	13980	*14640	9240			*11900	7610	(22.8)
-4.5m	kg			*10250	*10250	*7300	6550					*5490	4830	5.59
-14.8ft	lb			*22600	*22600	*16090	14440					*12100	10650	(18.3)

- Notes:**
1. Lifting capacity are based on 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 Lift-point is bucket pivot mounting pin on the arm(without bucket mass).
 4. (*) indicates load limited by hydraulic capacity.


6. BUCKET SELECTION GUIDE


1) GENERAL BUCKET

					
0.51m³ SAE heaped bucket	0.80m³ SAE heaped bucket	0.92m³ SAE heaped bucket	※ 1.05m³ SAE heaped bucket	1.20m³ SAE heaped bucket	1.34m³ SAE heaped bucket

Capacity		Width		Weight	Recommendation			
					5.68m (18' 8") boom			
SAE heaped	CECE heaped	Without side cutter	With side cutter		2.0m arm (6' 7")	2.4m arm (7' 10")	2.92m arm (9' 7")	3.90m arm (12' 10")
0.51m³ (0.67yd³)	0.45m³ (0.59yd³)	700mm (27.6")	820mm (32.3")	570kg (1260lb)				
0.80m³ (1.05yd³)	0.70m³ (0.92yd³)	1000mm (39.4")	1120mm (44.1")	700kg (1540lb)				
0.92m³ (1.20yd³)	0.80m³ (1.05yd³)	1150mm (45.3")	1270mm (50.0")	770kg (1700lb)				
※ 1.05m³ (1.37yd³)	0.90m³ (1.18yd³)	1250mm (49.2")	1370mm (53.9")	810kg (1790lb)				
1.20m³ (1.57yd³)	1.00m³ (1.31yd³)	1400mm (55.1")	1520mm (59.8")	850kg (1870lb)				
1.34m³ (1.75yd³)	1.15m³ (1.50yd³)	1550mm (61.0")	1670mm (65.7")	920kg (2030lb)				



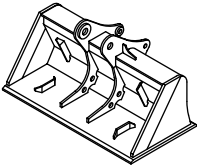
※ : Standard bucket

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

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

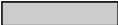
 Applicable for materials with density of 1100kgf/m³ (1850lbf/yd³) or less


2) HEAVY DUTY, ROCK-HEAVY DUTY AND SLOPE FINISHING BUCKET


		
◆0.74, 0.90, 1.05m ³ SAE heaped bucket	◎0.87, 1.20m ³ SAE heaped bucket	■0.75m ³ SAE heaped bucket

Capacity		Width		Weight	Recommendation			
					5.68m (18' 8") boom			
SAE heaped	CECE heaped	Without side cutter	With side cutter		2.0m arm (6' 7")	2.4m arm (7' 10")	2.92m arm (9' 7")	3.90m arm (12' 10")
◆0.74m ³ (0.97yd ³)	0.65m ³ (0.85yd ³)	985mm (38.8")	-	770kg (1700lb)				
◆0.90m ³ (1.18yd ³)	0.80m ³ (1.05yd ³)	1070mm (42.0")	-	810kg (1790lb)				
◆1.05m ³ (1.37yd ³)	0.92m ³ (1.20yd ³)	1290mm (50.8")	-	890kg (1960lb)				
◎0.87m ³ (1.14yd ³)	0.75m ³ (0.98yd ³)	1140mm (44.9")	-	900kg (1980lb)				
◎1.20m ³ (1.57yd ³)	1.00m ³ (1.31yd ³)	1410mm (55.5")	-	1030kg (2270lb)				
■0.75m ³ (0.98yd ³)	0.65m ³ (0.85yd ³)	1790mm (70.5")	-	880kg (1940lb)				

◆ : Heavy duty bucket ◎ : Rock-Heavy duty bucket ■ : Slope finishing bucket

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

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

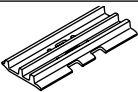
 Applicable for materials with density of 1100kg/m³ (1850lb/yd³) or less

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			
						
R220LS	Shoe width	mm(in)	600(24)	700(28)	800(32)	900(36)
	Operating weight	kg(lb)	22400(49777)	22680(50400)	22970(51044)	23260(51690)
	Ground pressure	kgf/cm ² (psi)	0.46(6.54)	0.40(5.69)	0.35(4.98)	0.32(4.55)
	Overall width	mm(ft-in)	2990(9' 10")	3090(10' 2")	3190(10' 6")	3290(10' 10")

3) NUMBER OF ROLLERS AND SHOES ON EACH SIDE

Item	Quantity
Carrier rollers	2EA
Track rollers	9EA
Track shoes	49EA

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
700mm triple grouser	Option	B
800mm triple grouser	Option	C
900mm triple grouser	Option	C
800mm triple grouser(Long reach)	Standard	C

※ **Table 2**

Category	Applications	Precautions
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 6BTA5.9
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 × 120mm(4.02" × 4.72")
Piston displacement	5880cc(359cu in)
Compression ratio	17.4 : 1
Rated gross horse power (SAE J1995)	148Hp at 2000rpm(110kW at 2000rpm)
Maximum torque at 1300rpm	62.9kgf · m(456lbf · ft)
Engine oil quantity	15 l (4.0U.S. gal)
Dry weight	432kg(952lb)
High idling speed	2200+ 50rpm
Low idling speed	1000 ± 100rpm
Rated fuel consumption	166.3g/Hp · hr at 2000rpm
Starting motor	24V-4.5kW
Alternator	Lucas TVS(24V-4.5A)
Battery	2 × 12V × 100Ah

2) MAIN PUMP

Item	Specification
Type	Variable displacement tandem axis piston pumps
Capacity	2 × 113cc/rev
Maximum pressure	330kgf/cm ² (4694psi)
Rated oil flow	2 × 210 l /min (55.5U.S. gpm/ 46.2U.K. gpm)

3) GEAR PUMP

Item	Specification
Type	Fixed displacement gear pump single stage
Capacity	10cc/rev
Maximum pressure	35kgf/cm ² (500psi)
Rated oil flow	19.5 l /min(5.2U.S. gpm/4.2U.K. gpm)

4) MAIN CONTROL VALVE

Item	Specification
Type	9 spools mono-block
Operating method	Hydraulic pilot system
Main relief valve pressure	330kgf/cm ² (4695psi)
Overload relief valve pressure	390kgf/cm ² (5550psi)

5) SWING MOTOR

Item	Specification
Type	Two fixed displacement axial piston motor
Capacity	151cc/rev
Relief pressure	240kgf/cm ² (3414psi)
Braking system	Automatic, spring applied hydraulic released
Braking torque	59kgf · m(427lbf · ft)
Brake release pressure	33~50kgf/cm ² (470~711psi)
Reduction gear type	2 - stage planetary
Swing speed	11rpm

6) TRAVEL MOTOR

Item	Specification
Type	Variable displacement axial piston motor
Relief pressure	330kgf/cm ² (4695psi)
Reduction gear type	2-stage planetary
Braking system	Automatic, spring applied hydraulic released
Brake release pressure	11kgf/cm ² (156psi)
Braking torque	49.3kgf · m(357lbf · 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 120 × ø 85 × 1290mm
	Cushion	Extend only
Arm cylinder	Bore dia × Rod dia × Stroke	ø 140 × ø 100 × 1510mm
	Cushion	Extend and retract
Bucket cylinder	Bore dia × Rod dia × Stroke	ø 125 × ø 85 × 1055mm
	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
R220LS	Standard	600mm(24")	0.46kgf/cm ² (6.54psi)	49	2990mm(9' 10")
	Option	700mm(28")	0.40kgf/cm ² (5.69psi)	49	3090mm(10' 2")
		800mm(32")	0.35kgf/cm ² (4.98psi)	49	3190mm(10' 6")
		900mm(36")	0.32kgf/cm ² (4.55psi)	49	3290mm(10' 10")

10) BUCKET

Item		Capacity		Tooth quantity	Width	
		SAE heaped	CECE heaped		Without side cutter	With side cutter
R220LS	STD	0.92m ³ (1.20yd ³)	0.80m ³ (1.05yd ³)	5	1150mm(45.3")	1270mm(50.0")
	OPT	0.51m ³ (0.67yd ³)	0.45m ³ (0.59yd ³)	3	700mm(27.6")	820mm(32.3")
		0.80m ³ (1.05yd ³)	0.70m ³ (0.92yd ³)	5	1000mm(39.4")	1120mm(44.1")
		1.05m ³ (1.37yd ³)	0.90m ³ (7.18yd ³)	5	1250mm(49.2")	1370mm(53.9")
		1.20m ³ (1.57yd ³)	1.00m ³ (1.31yd ³)	6	1400mm(55.1")	1520mm(59.8")
		1.34m ³ (1.75yd ³)	1.15m ³ (1.50yd ³)	6	1550mm(61.0")	1670mm(65.7")
		◆0.74m ³ (0.97yd ³)	0.65m ³ (0.85yd ³)	5	985mm(38.8")	-
		◆0.90m ³ (1.18yd ³)	0.80m ³ (1.05yd ³)	5	1070mm(42.0")	-
		◆1.05m ³ (1.37yd ³)	0.92m ³ (1.20yd ³)	5	1290mm(50.8")	-
		⊙0.87m ³ (1.14yd ³)	0.75m ³ (0.98yd ³)	5	1140mm(44.9")	-
		⊙1.20m ³ (1.57yd ³)	1.00m ³ (1.31yd ³)	5	1410mm(55.5")	-
		■0.75m ³ (0.98yd ³)	0.65m ³ (0.85yd ³)	-	1790mm(70.5")	-

◆ : Heavy duty bucket

⊙ : Rock-Heavy duty bucket

■ : Slope finishing bucket

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	15.0(4.0)					SAE 30				
			SAE 10W								
			SAE 10W-30								
				SAE 15W-40							
Swing drive	Gear oil	5.0(1.3)		SAE 85W-140							
Final drive		5.8×2 (1.5×2)									
Hydraulic tank	Hydraulic oil	Tank; 180(48)	ISO VG 32								
		System; 290(77)		ISO VG 46							
					ISO VG 68						
Fuel tank	Diesel fuel	340(90)	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	35(9.2)		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