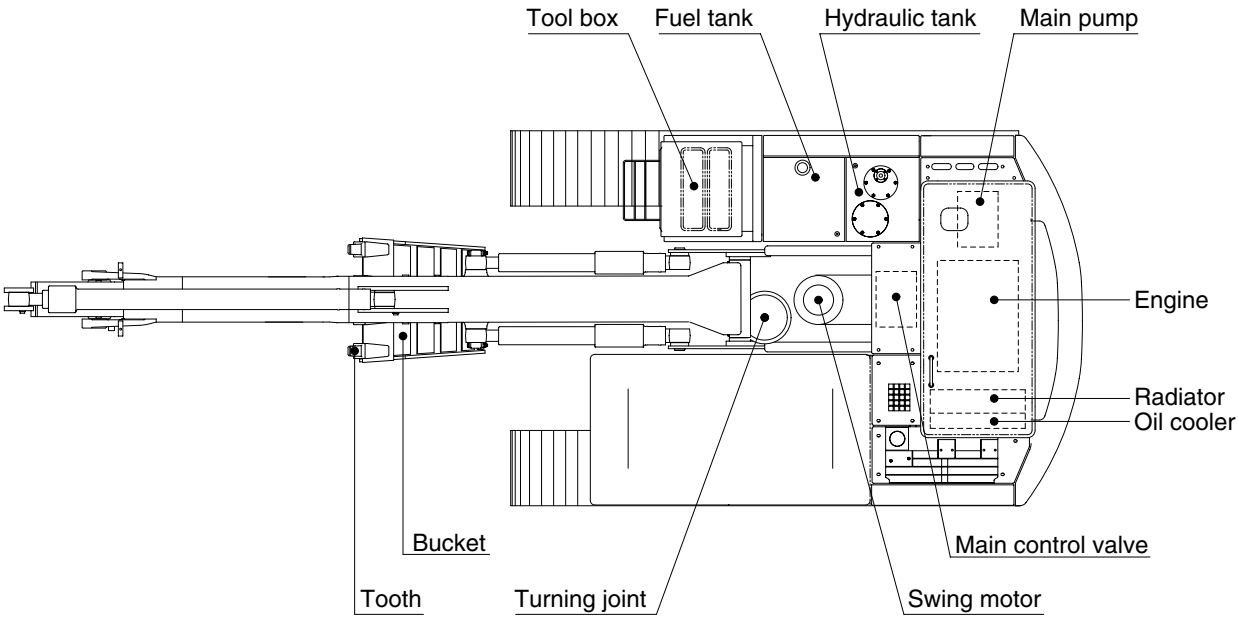
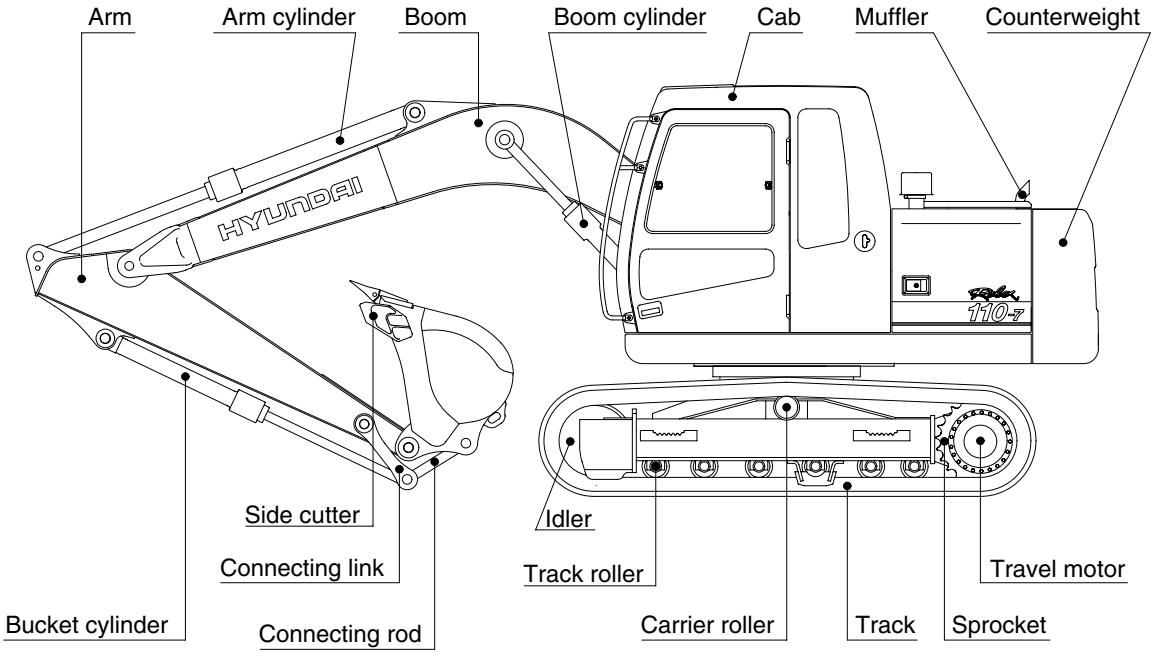
GROUP 2 SPECIFICATIONS

1. MAJOR COMPONENT



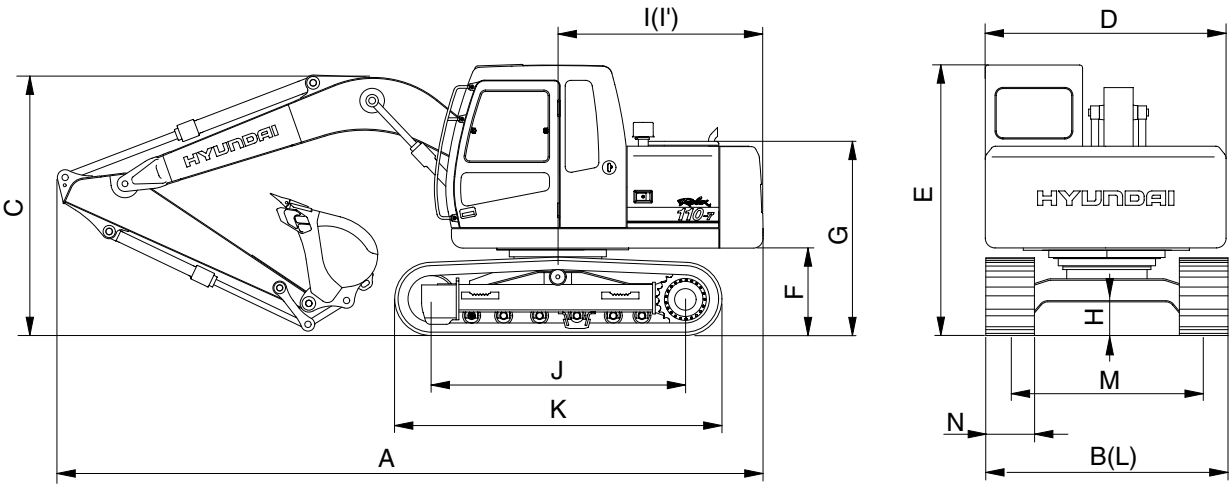


11072SP01

2. SPECIFICATIONS

1) R110-7

(1) 4.3m(14' 1") MONO BOOM, 2.26m(7' 5") ARM

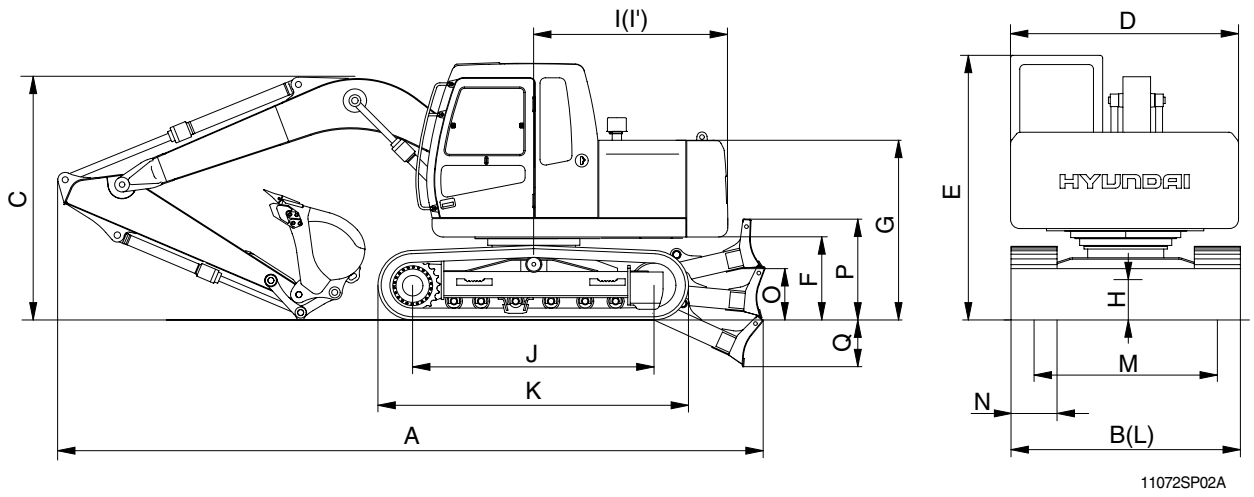


11072SP02

Description		Unit	Specification
Operating weight		kg(lb)	11200(24690)
Bucket capacity(SAE heaped), standard		$m^3(yd^3)$	0.45(0.59)
Overall length	A	mm(ft-in)	7270(23' 10")
Overall width, with 500mm shoe	B		2490(8' 2")
Overall height	C		2720(8' 11")
Superstructure width	D		2475(8' 1")
Overall height of cab	E		2800(9' 2")
Ground clearance of counterweight	F		900(2' 11")
Engine cover height	G		1990(6' 6")
Minimum ground clearance	H		440(1' 5")
Rear-end distance	I		2110(6' 11")
Rear-end swing radius	I'		2130(7' 0")
Distance between tumblers	J		2610(8' 7")
Undercarriage length	K		3340(10' 11")
Undercarriage width	L		2490(8' 2")
Track gauge	M		1990(6' 6")
Track shoe width, standard	N		500(20")
Travel speed(Low/high)		km/hr(mph)	3.4/5.5(2.1/3.4)
Swing speed		rpm	13.0
Gradeability		Degree(%)	35(70)
Ground pressure(500mm shoe)		$kgf/cm^2(psi)$	0.39(5.55)

2) R110D-7

(1) 4.3m(14' 1") MONO BOOM, 2.26m(7' 5") ARM AND REAR DOZER BLADE



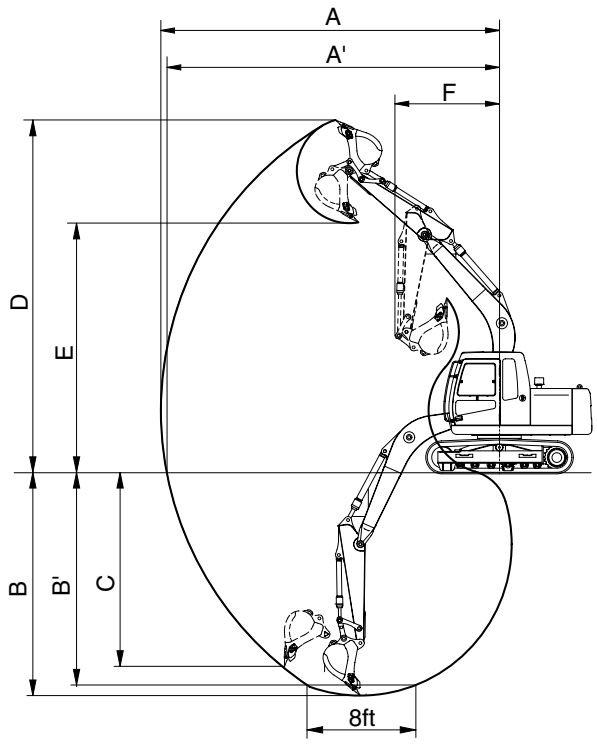
11072SP02A

Description		Unit	Specification
Operating weight		kg(lb)	11900(26230)
Bucket capacity(SAE heaped), standard		$m^3(yd^3)$	0.45(0.59)
Overall length	A	mm(ft-in)	7650(25' 1")
Overall width, with 500mm shoe	B		2500(8' 2")
Overall height	C		2720(8' 11")
Superstructure width	D		2475(8' 1")
Overall height of cab	E		2800(9' 2")
Ground clearance of counterweight	F		900(2' 11")
Engine cover height	G		1990(6' 6")
Minimum ground clearance	H		440(1' 5")
Rear-end distance	I		2110(6' 11")
Rear-end swing radius	I'		2130(7' 0")
Distance between tumblers	J		2610(8' 7")
Undercarriage length	K		3340(10' 11")
Undercarriage width	L		2500(8' 2")
Track gauge	M		1990(6' 6")
Track shoe width, standard	N		500(20")
Height of blade	O		550(1' 10")
Ground clearance of blade up	P		500(1' 8")
Depth of blade down	Q		520(1' 8")
Travel speed(Low/high)		km/hr(mph)	3.4/5.5(2.1/3.4)
Swing speed		rpm	13.0
Gradeability		Degree(%)	35(70)
Ground pressure(500mm shoe)		$kgf/cm^2(psi)$	0.42(5.97)

3. WORKING RANGE

1) R110-7

(1) 4.3m(14' 1") MONO BOOM



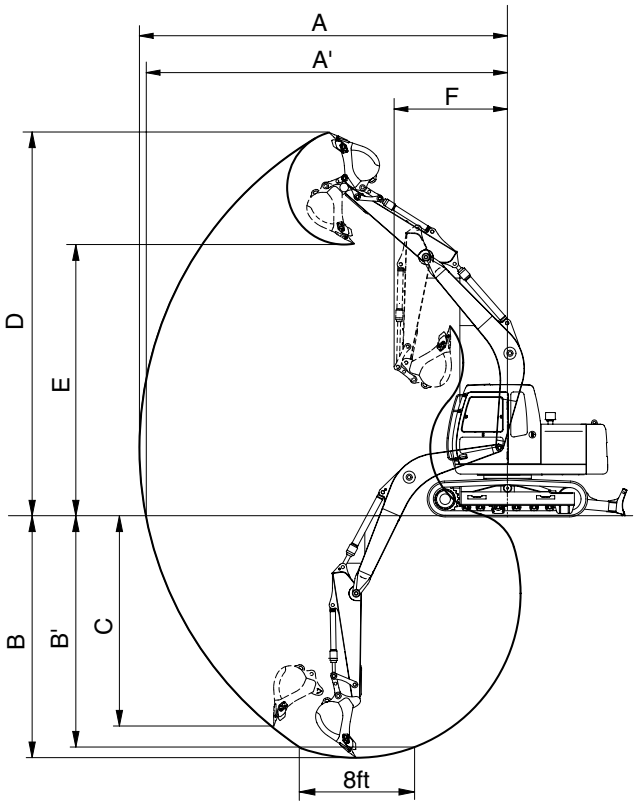
11072SP03

Description		1.96m(6' 5") Arm	2.26m(7' 5") Arm	2.81m(9' 3") Arm
Max digging reach	A	7460mm (24' 6")	7740mm (25' 5")	8270mm (27' 2")
Max digging reach on ground	A'	7320mm (24' 0")	7610mm (25' 0")	8140mm (26' 8")
Max digging depth	B	4770mm (15' 8")	5090mm (16' 8")	5620mm (18' 5")
Max digging depth (8ft level)	B'	4510mm (14'10")	4870mm (16' 0")	5410mm (17' 9")
Max vertical wall digging depth	C	4070mm (13' 4")	4430mm (14' 6")	4940mm (16' 2")
Max digging height	D	7900mm (25'11")	8070mm (26' 6")	8460mm (27' 9")
Max dumping height	E	5540mm (18' 2")	5710mm (18' 9")	6100mm (20' 0")
Min swing radius	F	2340mm (7' 8")	2380mm (7'10")	2510mm (8' 3")
Bucket digging force	SAE	78.5 [85.6] kN	78.5 [85.6] kN	78.5 [85.6] kN
		8000 [8730] kgf	8000 [8730] kgf	8000 [8730] kgf
		17640 [19240] lbf	17640 [19240] lbf	17640 [19240] lbf
	ISO	90.2 [98.4] kN	90.2 [98.4] kN	90.2 [98.4] kN
		9200 [10040] kgf	9200 [10040] kgf	9200 [10040] kgf
		20280 [22120] lbf	20280 [22120] lbf	20280 [22120] lbf
Arm digging force	SAE	60.2 [65.7] kN	55.7 [60.8] kN	48.1 [52.4] kN
		6140 [6700] kgf	5680 [6200] kgf	4900 [5350] kgf
		13540 [14770] lbf	12520 [13660] lbf	10800 [11780] lbf
	ISO	62.9 [68.6] kN	58.1 [63.3] kN	49.7 [54.2] kN
		6410 [6990] kgf	5920 [6460] kgf	5070 [5530] kgf
		14130 [15410] lbf	13050 [14240] lbf	11180 [12200] lbf

[ ] : Power boost

2) R110D-7

(1) 4.3m(14' 1") MONO BOOM



11072SP04

Description		1.96m(6' 5") Arm	2.26m(7' 5") Arm	2.81m(9' 3") Arm
Max digging reach	A	7460mm (24' 6")	7740mm (25' 5")	8270mm (27' 2")
Max digging reach on ground	A'	7320mm (24' 0")	7610mm (25' 0")	8140mm (26' 8")
Max digging depth	B	4770mm (15' 8")	5090mm (16' 8")	5620mm (18' 5")
Max digging depth (8ft level)	B'	4510mm (14'10")	4870mm (16' 0")	5410mm (17' 9")
Max vertical wall digging depth	C	4070mm (13' 4")	4430mm (14' 6")	4940mm (16' 2")
Max digging height	D	7900mm (25'11")	8070mm (26' 6")	8460mm (27' 9")
Max dumping height	E	5540mm (18' 2")	5710mm (18' 9")	6100mm (20' 0")
Min swing radius	F	2340mm (7' 8")	2380mm (7'10")	2510mm (8' 3")
Bucket digging force	SAE	78.5 [85.6] kN	78.5 [85.6] kN	78.5 [85.6] kN
		8000 [8730] kgf	8000 [8730] kgf	8000 [8730] kgf
		17640 [19240] lbf	17640 [9240] lbf	17640 [19240] lbf
	ISO	90.2 [98.4] kN	90.2 [98.4] kN	90.2 [98.4] kN
		9200 [10040] kgf	9200 [10040] kgf	9200 [10040] kgf
		20280 [22120] lbf	20280 [22120] lbf	20280 [22120] lbf
Arm digging force	SAE	60.2 [65.7] kN	55.7 [60.8] kN	48.1 [52.4] kN
		6140 [6700] kgf	5680 [6200] kgf	4900 [5350] kgf
		13540 [14770] lbf	12520 [13660] lbf	10800 [11780] lbf
	ISO	62.9 [68.6] kN	58.1 [63.3] kN	49.7 [54.2] kN
		6410 [6990] kgf	5920 [6460] kgf	5070 [5530] kgf
		14130 [15410] lbf	13050 [14240] lbf	11180 [12200] lbf

[ ] : Power boost

4. WEIGHT

Item	kg	lb
Upperstructure assembly	3300	7280
Main frame weld assembly	1030	2270
Engine assembly	390	860
Main pump assembly	90	200
Main control valve assembly	130	260
Swing motor assembly	80	180
Hydraulic oil tank assembly	180	400
Fuel tank assembly	130	290
Counterweight	1450	3200
Cab assembly	310	680
Lower chassis assembly	3990	8800
Track frame weld assembly	1260	2780
Swing bearing	160	250
Travel motor assembly	330	730
Turning joint	60	130
Track recoil spring	210	460
Idler	390	860
Carrier roller	30	66
Track roller	300	660
Track-chain assembly(500㎜ standard triple grouser shoe)	1350	2980
Front attachment assembly(4.3m boom, 2.26m arm, 0.45m^3 SAE heaped bucket)	1640	3620
4.3m boom assembly	740	1630
2.26m arm assembly	340	750
0.45m^3 SAE heaped bucket	440	970
Boom cylinder assembly	230	510
Arm cylinder assembly	140	310
Dozer blade cylinder	47	100
Bucket cylinder assembly	90	200
Bucket control link assembly	80	180
Dozer blade assembly	700	1540

5. LIFTING CAPACITIES

1) ROBEX 110-7

(1) 4.3m(14' 1") boom, 2.26m(7' 5") arm equipped with 0.45m³(SAE heaped) bucket and 500mm(20") triple grouser shoe.

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

Load point height		Load radius								At max. reach		
		1.5m(5ft)		3.0m(10ft)		4.5m(15ft)		6.0m(20ft)		Capacity		Reach
												m(ft)
6.0m (20ft)	kg lb					*1750 ***3860**	*1750 ***3860**			*1750 ***3860**	*1560 ***3440**	5.99 **(19.7)**
4.5m (15ft)	kg lb					*1790 ***3950**	*1790 ***3950**	*1530 ***3370**	1490 **3280**	1520 **3350**	1130 **2490**	6.92 **(22.7)**
3.0m (10ft)	kg lb			*2820 ***6220**	*2820 ***6220**	*2270 ***5000**	*2270 ***5000**	1940 **4280**	1450 **3200**	1300 **2870**	940 **2070**	7.38 **(24.2)**
1.5m (5ft)	kg lb			*4700 ***10360**	4370 **9630**	*2970 ***6550**	2250 **4960**	1840 **4060**	1360 **3000**	1240 **2730**	880 **1940**	7.46 **(24.5)**
Ground Line	kg lb			5660 **12480**	3950 **8710**	2830 **6240**	2060 **4540**	1760 **3880**	1280 **2820**	1300 **2870**	930 **2050**	7.18 **(23.6)**
-1.5m (-5ft)	kg lb	*5580 ***12300**	*5580 ***12300**	5550 **12240**	3850 **8490**	2740 **6040**	1980 **4370**	1720 **3790**	1240 **2730**	1560 **3440**	1130 **2490**	6.49 **(21.3)**
-3.0m (-10ft)	kg lb	*8530 ***18810**	*8530 ***18810**	*5440 ***11990**	3930 **8660**	2770 **6110**	2010 **4430**			*2270 ***5000**	1730 **3810**	5.17 **(17.0)**

(2) 4.3m(14' 1") boom, 1.96m(6' 5") arm equipped with 0.45m³(SAE heaped) bucket and 500mm(20") triple grouser shoe.

Load point height		Load radius								At max. reach		
		1.5m(5ft)		3.0m(10ft)		4.5m(15ft)		6.0m(20ft)		Capacity		Reach
												m(ft)
6.0m (20ft)	kg lb					*1770 ***3900**	*1770 ***3900**			*1820 ***4010**	1710 **3770**	5.62 **(18.4)**
4.5m (15ft)	kg lb					*1950 ***4300**	*1950 ***4300**			1610 **3550**	1180 **2600**	6.62 **(21.7)**
3.0m (10ft)	kg lb			*3160 ***6970**	*3160 ***6970**	*2410 ***5310**	2390 **5270**	1870 **4120**	1380 **3040**	1350 **2980**	970 **2140**	7.10 **(23.3)**
1.5m (5ft)	kg lb			*4940 ***10890**	4150 **9150**	2930 **6460**	2150 **4740**	1780 **3920**	1290 **2840**	1280 **2820**	910 **2010**	7.18 **(23.6)**
Ground Line	kg lb			5490 **12100**	3800 **8380**	2740 **6040**	1980 **4370**	1700 **3750**	1220 **2690**	1360 **3000**	960 **2120**	6.89 **(22.6)**
-1.5m (-5ft)	kg lb	*6090 ***13430**	*6090 ***13430**	5440 **11990**	3750 **8270**	2670 **5890**	1910 **4210**			1670 **3680**	1200 **2650**	6.15 **(20.2)**
-3.0m (-10ft)	kg lb	*9180 ***20240**	*9180 ***20240**	*5080 ***11200**	3880 **8550**	2750 **6060**	1980 **4370**					

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.

(3) 4.3m(14' 1") boom, 2.81m(9' 3") arm equipped with 0.45m³(SAE heaped) bucket and 500mm(20") triple grouser shoe.

Load point height		Load radius								At max. reach		
		1.5m(5ft)		3.0m(10ft)		4.5m(15ft)		6.0m(20ft)		Capacity		Reach
												m(ft)
6.0m (20ft)	kg									*1570	1290	6.66
	lb									*3460	2840	(21.9)
4.5m (15ft)	kg							*1640	1570	1330	980	7.50
	lb							*3620	3460	2930	2160	(24.6)
3.0m (10ft)	kg					*1920	*1920	*1830	1500	1160	830	7.92
	lb					*4230	*4230	*4030	3310	2560	1830	(26.0)
1.5m (5ft)	kg			*4050	*4050	*2690	2340	1890	1410	1100	780	7.99
	lb			*8930	*8930	*5930	5160	4170	3110	2430	1720	(26.2)
Ground Line	kg	*3230	*3230	*5580	4110	2900	2130	1790	1310	1150	820	7.74
	lb	*7120	*7120	*12300	9060	6390	4700	3950	2890	2540	1810	(25.4)
-1.5m (-5ft)	kg	*4960	*4960	5620	3920	2770	2010	1730	1250	1330	960	7.11
	lb	*10930	*10930	12390	8640	6110	4430	3810	2760	2930	2120	(23.3)
-3.0m (-10ft)	kg	*7230	*7230	5630	3930	2760	2000			1830	1350	5.96
	lb	*15940	*15940	12410	8660	6080	4410			4030	2980	(19.6)
-4.5m (-15ft)	kg			*4480	4100							
	lb			*9880	9040							

2) ROBEX 110D-7

(1) 4.3m(14' 1") boom, 2.26m(7' 5") arm equipped with 0.45m³(SAE heaped) bucket and 500mm(20") triple grouser shoe, and rear dozer blade down.

Load point height		Load radius								At max. reach		
		1.5m(5ft)		3.0m(10ft)		4.5m(15ft)		6.0m(20ft)		Capacity		Reach
												m(ft)
6.0m (20ft)	kg					*1750	*1750			*1750	*1750	5.99
	lb					*3860	*3860			*3860	*3860	(19.7)
4.5m (15ft)	kg					*1790	*1790	*1530	*1530	1650	1340	6.92
	lb					*3950	*3950	*3370	*3370	3640	2950	(22.7)
3.0m (10ft)	kg			*2820	*2820	*2270	*2270	*2060	1710	1420	1140	7.38
	lb			*6220	*6220	*5000	*5000	*4540	3770	3130	2510	(24.2)
1.5m (5ft)	kg			*4700	*4700	*2970	2650	2000	1620	1360	1080	7.46
	lb			*10360	*10360	*6550	5840	4410	3570	3000	2380	(24.5)
Ground Line	kg			*5860	4750	3060	2460	1910	1540	1430	1140	7.18
	lb			*12920	10470	6750	5420	4210	3400	3150	2510	(23.6)
-1.5m (-5ft)	kg	*5580	*5580	5980	4640	2970	2370	1880	1500	1700	1360	6.49
	lb	*12300	*12300	13180	10230	6550	5220	4140	3310	3750	3000	(21.3)
-3.0m (-10ft)	kg	*8530	*8530	*5440	4720	3000	2400			*2270	2050	5.17
	lb	*18810	*18810	*11990	10410	6610	5290			*5000	4520	(17.0)

(2) 4.3m(14' 1") boom, 1.96m(6' 5") arm equipped with 0.45m³(SAE heaped) bucket and 500mm(20") triple grouser shoe, and rear dozer blade down.

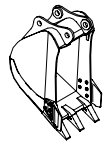
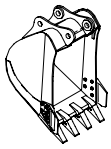
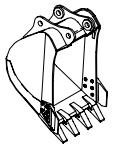
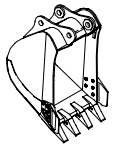
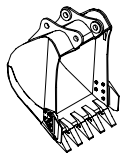
Load point height		Load radius								At max. reach		
		1.5m(5ft)		3.0m(10ft)		4.5m(15ft)		6.0m(20ft)		Capacity		Reach
												m(ft)
6.0m (20ft)	kg					*1770	*1770			*1820	*1820	5.62
	lb					*3900	*3900			*4010	*4010	(18.4)
4.5m (15ft)	kg					*1950	*1950			1750	1420	6.62
	lb					*4300	*4300			3860	3130	(21.7)
3.0m (10ft)	kg			*3160	*3160	*2410	*2410	2020	1640	1480	1180	7.10
	lb			*6970	*6970	*5310	*5310	4450	3620	3260	2600	(23.3)
1.5m (5ft)	kg			*4940	*4940	*3060	2550	1940	1560	1410	1120	7.18
	lb			*10890	*10890	*6750	5620	4280	3440	3110	2470	(23.6)
Ground Line	kg			*5870	4580	2970	2370	1860	1480	1490	1180	6.89
	lb			*12940	10100	6550	5220	4100	3260	3280	2600	(22.6)
-1.5m (-5ft)	kg	*6090	*6090	*5860	4540	2900	2310			1820	1460	6.15
	lb	*13430	*13430	*12920	10010	6390	5090			4010	3220	(20.2)
-3.0m (-10ft)	kg	*9180	*9180	*5080	4670	2980	2380					
	lb	*20240	*20240	*11200	10300	6570	5250					

(3) 4.3m(14' 1") boom, 2.81m(9' 3") arm equipped with 0.45m³(SAE heaped) bucket and 500mm(20") triple grouser shoe, and rear dozer blade down.

Load point height		Load radius								At max. reach		
		1.5m(5ft)		3.0m(10ft)		4.5m(15ft)		6.0m(20ft)		Capacity		Reach
												m(ft)
6.0m (20ft)	kg									*1570	*1520	6.66
	lb									*3460	*3350	(21.9)
4.5m (15ft)	kg							*1640	*1640	1450	1170	7.50
	lb							*3620	*3620	3200	2580	(24.6)
3.0m (10ft)	kg					*1920	*1920	*1830	1770	1270	1020	7.92
	lb					*4230	*4230	*4030	3900	2800	2250	(26.0)
1.5m (5ft)	kg			*4050	*4050	*2690	*2690	2050	1670	1210	960	7.99
	lb			*8930	*8930	*5930	*5930	4520	3680	2670	2120	(26.2)
Ground Line	kg	*3230	*3230	*5580	4910	3130	2530	1950	1570	1290	1000	7.74
	lb	*7120	*7120	*12300	10820	6900	5580	4300	3460	2780	2200	(25.4)
-1.5m (-5ft)	kg	*4960	*4960	6060	4710	3000	2410	1890	1510	1460	1170	7.11
	lb	*10930	*10930	13360	10380	6610	5310	4170	3330	3220	2580	(23.3)
-3.0m (-10ft)	kg	*7230	*7230	*5830	4720	2980	2390			1990	1610	5.96
	lb	*15940	*15940	*12850	10410	6570	5270			4390	3550	(19.6)
-4.5m (-15ft)	kg			*4480	*4480							
	lb			*9880	*9880							

6. BUCKET SELECTION GUIDE

1) GENERAL BUCKET

				
0.30m³ SAE heaped bucket	0.40m³ SAE heaped bucket	※0.45m³ SAE heaped bucket	0.50m³ SAE heaped bucket	0.59m³ SAE heaped bucket

Capacity		Width		Weight	Recommendation		
					4.3m (14' 1") Mono boom		
SAE heaped	CECE heaped	Without side cutter	With side cutter		1.96m arm (6' 5")	2.26m arm (7' 5")	2.81m arm (9' 3")
0.30m³ (0.39yd³)	0.27m³ (0.35yd³)	610mm (24.0")	720mm (28.3")	360kg (790lb)			
0.40m³ (0.52yd³)	0.44m³ (0.58yd³)	760mm (29.9")	870mm (34.3")	410kg (900lb)			
※0.45m³ (0.59yd³)	0.40m³ (0.52yd³)	830mm (32.7")	940mm (37.0")	430kg (950lb)			
0.50m³ (0.65yd³)	0.45m³ (0.59yd³)	900mm (35.4")	1010mm (39.8")	450kg (990lb)			
0.59m³ (0.77yd³)	0.52m³ (0.68yd³)	1020mm (40.2")	1130mm (44.5")	490kg (1080lb)			

※ : Standard 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

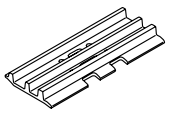
Applicable for materials with density of 1100kg/m³ (1850lb/yd³) or less

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		
					
R110-7	Shoe width	mm(in)	500(20)	600(24)	700(28)
	Operating weight	kg(lb)	11200(24690)	11500(25350)	11800(26010)
	Ground pressure	kgf/cm^2(psi)	0.39(5.55)	0.34(4.84)	0.30(4.27)
	Overall width	mm(ft-in)	2490(8' 2")	2590(8' 6")	2690(8'10")
R110D-7	Shoe width	mm(ft-in)	500(20)	600(24)	700(28)
	Overall width	mm(ft-in)	11900(26230)	12200(26900)	12500(27560)
	Overall width	mm(ft-in)	0.42(5.97)	0.36(5.12)	0.31(4.41)
	Overall width	mm(ft-in)	2500(8' 2")	2590(8' 6")	2690(8'10")

3) NUMBER OF ROLLERS AND SHOES ON EACH SIDE

Item	Quantity
Carrier rollers	1EA
Track rollers	6EA
Track shoes	41EA

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) 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
500mm triple grouser	Standard	A
600mm triple grouser	Option	A
700mm triple grouser	Option	B

※ **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

8. SPECIFICATIONS FOR MAJOR COMPONENTS

1) ENGINE

Item	Specification
Model	Mitsubishi S4K-T
Type	4-cycle turbocharged diesel engine, low emission
Cooling method	Water cooling
Number of cylinders and arrangement	4 cylinders, in-line
Firing order	1-3-4-2
Combustion chamber type	Direct injection type
Cylinder bore × stroke	102 × 130mm(4.02" × 5.12")
Piston displacement	4249cc(259cu in)
Compression ratio	17:1
Rated gross horse power(SAE J1995)	94Hp at 1950rpm(70kW at 1950rpm)
Maximum torque at 1400rpm	37.9kgf · m(274lbf · ft)
Engine oil quantity	17.5 ℓ (4.6U.S. gal)
Dry weight	380kg(838lb)
High idling speed	2165+50rpm
Low idling speed	1050±50rpm
Rated fuel consumption	177.4g/Hp · hr at 1950rpm
Starting motor	Mitsubishi 24V-5.0kW
Alternator	Mitsubishi 24V-50A
Battery	2 × 12V × 80Ah

2) MAIN PUMP

Item	Specification
Type	Variable displacement tandem axis piston pumps
Capacity	2 × 57.5cc/rev
Maximum pressure	330kgf/cm^2 (4694psi) [360kgf/cm^2 (5120psi)]
Rated oil flow	2 × 112 ℓ /min (2 × 29.6U.S.gpm)
Rated speed	1950rpm

[ ]: Pooer boost

3) GEAR PUMP

Item	Specification
Type	Fixed displacement gear pump single stage
Capacity	15cc/rev
Maximum pressure	35kgf/cm^2(500psi)
Rated oil flow	29.3 ℓ /min(7.7U.S.gpm/6.4U.K.gpm)

4) MAIN CONTROL VALVE

Item	Specification
Type	11 spools mono-block
Operating method	Hydraulic pilot system
Main relief valve pressure	330kgf/cm^2(4695psi) [360kgf/cm^2(5120psi)]
Overload relief valve pressure	380kgf/cm^2(5550psi)

[ ]: Pooer boost

5) SWING MOTOR

Item	Specification
Type	Axial piston motor
Capacity	64.3cc/rev
Relief pressure	240kgf/cm^2(3414psi)
Braking system	Automatic, spring applied hydraulic released
Braking torque	25kgf · m^2(181lbf · ft)
Brake release pressure	33~50kgf/cm^{22}(469~711psi)
Reduction gear type	2 - stage planetary
Swing speed	13.0rpm

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	Less then 9kgf/cm^{22}(128psi)
Braking torque	24.36kgf · m^2(176lbf · ft)

7) REMOTE CONTROL VALVE

Item		Specification
Type		Pressure reducing type
Operating pressure	Minimum	6.5kgf/cm²(92psi)
	Maximum	26kgf/cm²(370psi)
Single operation stroke	Lever	61mm(2.4in)
	Pedal	123mm(4.84in)

8) CYLINDER

Item		Specification
Boom cylinder	Bore dia × Rod dia × Stroke	ø 95 × ø 70 × 1015mm
	Cushion	Extend only
Arm cylinder	Bore dia × Rod dia × Stroke	ø 110 × ø 75 × 1070mm
	Cushion	Extend and retract
Bucket cylinder	Bore dia × Rod dia × Stroke	ø 95 × ø 65 × 855mm
	Cushion	Extend only
Dozer cylinder	Bore dia × Rod dia × Stroke	ø 100 × ø 70 × 240mm
	Cushion	-

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

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

9) SHOE

Item		Width	Ground pressure	Link quantity	Overall width
R110-7 R110D-7	Standard	500mm(20")	0.39kgf/cm²(5.55psi)	41	2490mm(8' 2")
	Option	600mm(24")	0.34kgf/cm²(4.84psi)	41	2590mm(8' 6")
	Option	700mm(28")	0.30kgf/cm²(4.27psi)	41	2690mm(8' 10")

10) BUCKET

Item		Capacity		Tooth quantity	Width	
		SAE heaped	CECE heaped		Without side cutter	With side cutter
R110-7 R110D-7	STD	0.45m³(0.59yd³)	0.40m³(0.52yd³)	4	830mm(32.7")	940mm(37.0")
	OPT	0.30m³(0.39yd³)	0.27m³(0.35yd³)	3	610mm(24.0")	720mm(28.3")
		0.40m³(0.52yd³)	0.44m³(0.58yd³)	4	760mm(29.9")	870mm(34.3")
		0.50m³(0.65yd³)	0.45m³(0.59yd³)	4	900mm(35.4")	1010mm(39.8")
		0.59m³(0.77yd³)	0.52m³(0.68yd³)	5	1020mm(40.2")	1130mm(44.5")

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 ℃(°F) -20 (-4) / -10 (14) / 0 (32) / 10 (50) / 20 (68) / 30 (86) / 40 (104)
Engine oil pan	Engine oil	17.5(4.6)	SAE 30 SAE 10W SAE 10W-30 SAE 15W-40
Swing drive	Gear oil	2.5(0.7)	SAE 85W-140
Final drive		2.5×2 (0.7×2)	
Swing drive	Grease	0.35(0.09)	NLGI NO.1 NLGI NO.2
Hydraulic tank	Hydraulic oil	Tank:100(26.4)	ISO VG 32 ISO VG 46 ISO VG 68
Fuel tank	Diesel fuel	250(66.0)	ASTM D975 NO.1 ASTM D975 NO.2
Fitting (Grease nipple)	Grease	As required	NLGI NO.1 NLGI NO.2
Radiator (Reservoir tank)	Mixture of antifreeze and water 50 : 50	24(6.3)	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