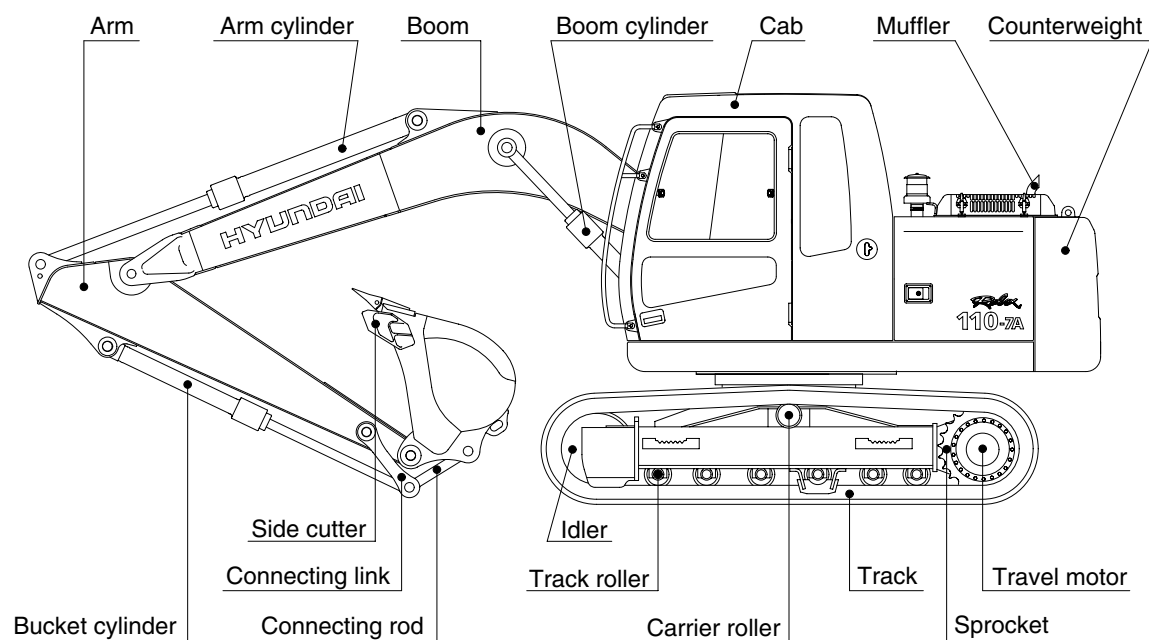
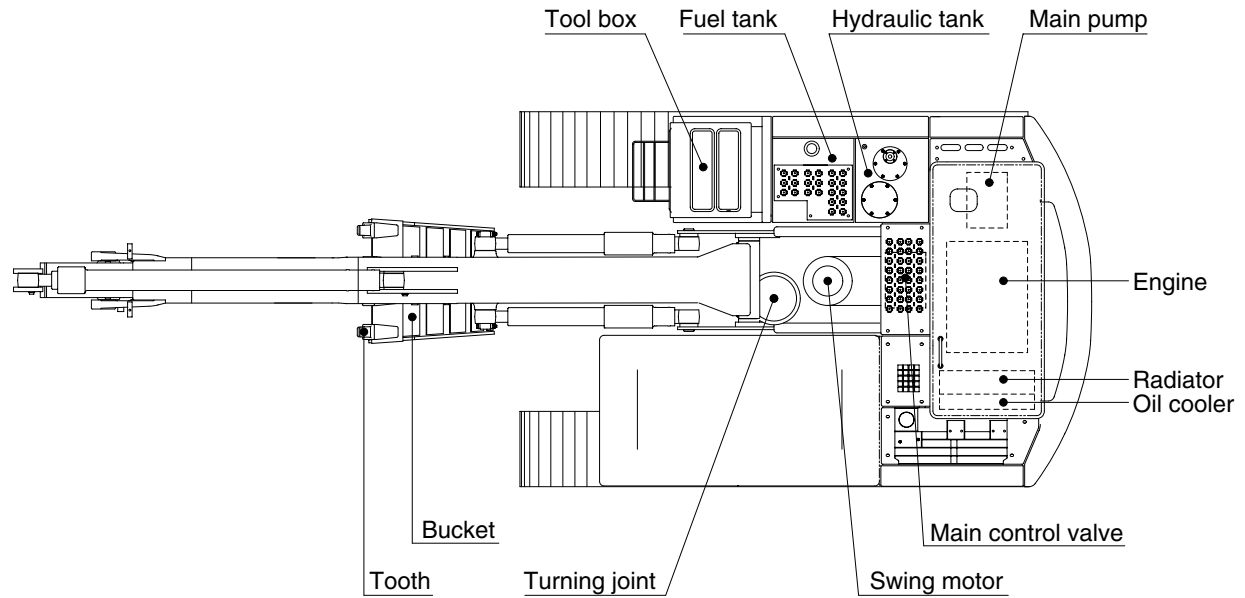


SPECIFICATIONS

1. MAJOR COMPONENT

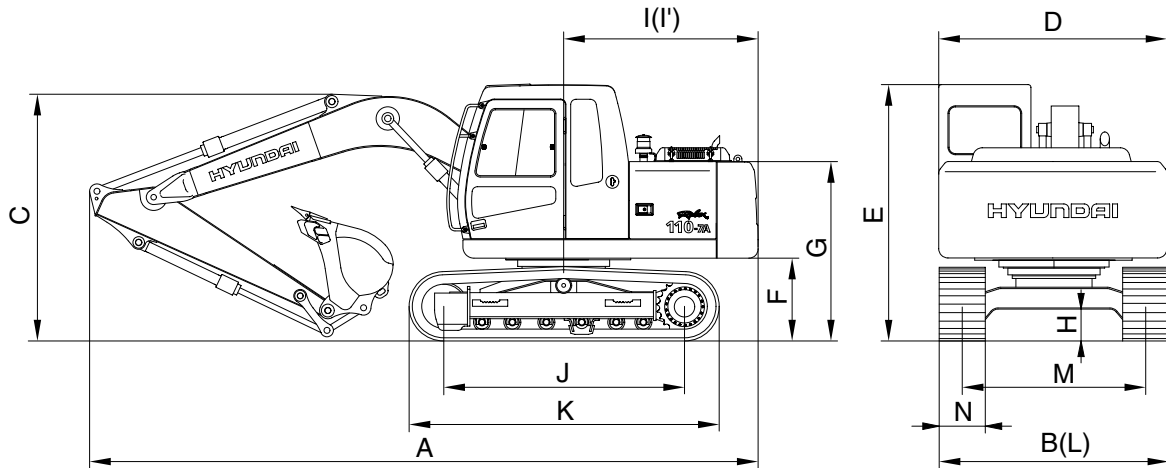


1107A2SP01

2. SPECIFICATIONS

1) R110-7A

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

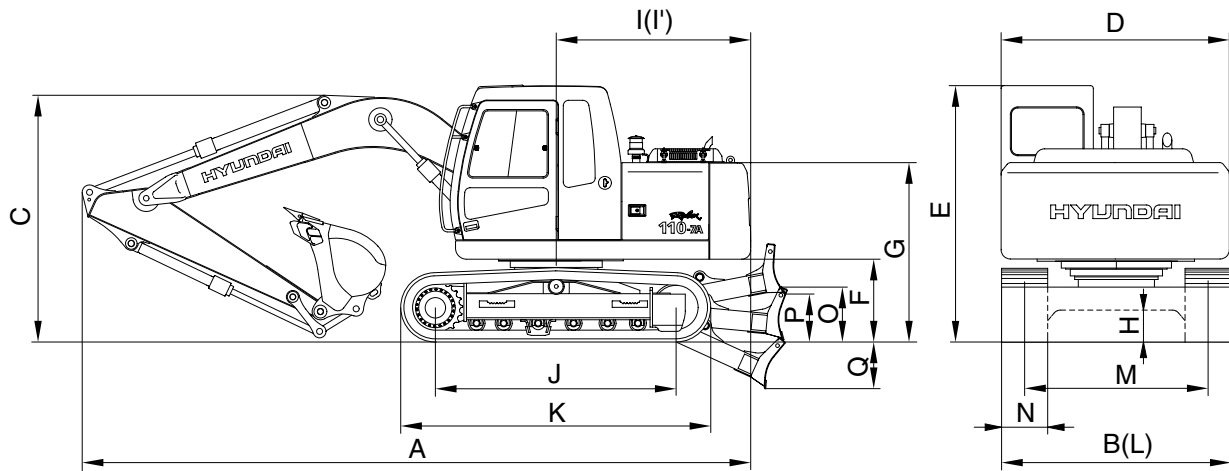


1107A2SP02

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)	3.4/5.2(2.1/3.2)
Swing speed		rpm	12.0
Gradeability		Degree(%)	35(70)
Ground pressure(500mm shoe)		kgf/cm ² (psi)	0.39(5.55)

2) R110D-7A

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



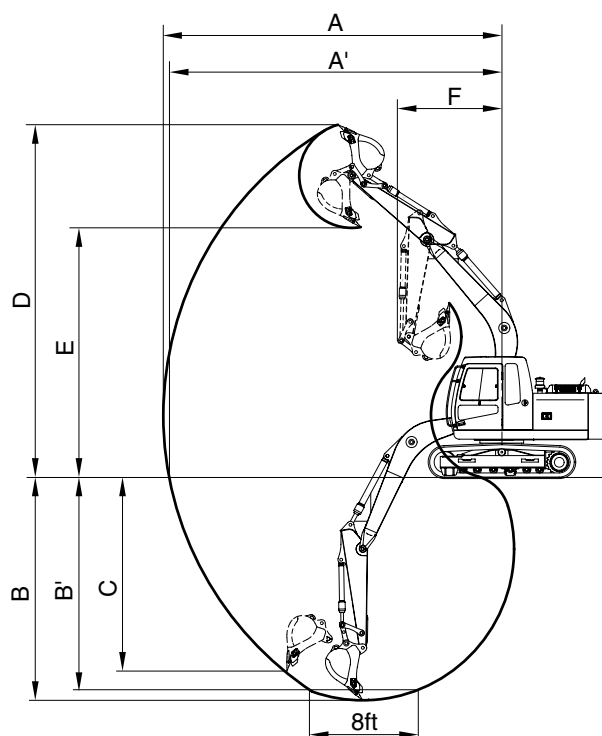
1107A2SP02A

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		2490(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)	3.4/5.2(2.1/3.2)
Swing speed		rpm	12.0
Gradeability		Degree(%)	35(70)
Ground pressure(500mm shoe)		kgf/cm ² (psi)	0.42(5.97)

3. WORKING RANGE

1) R110-7A

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



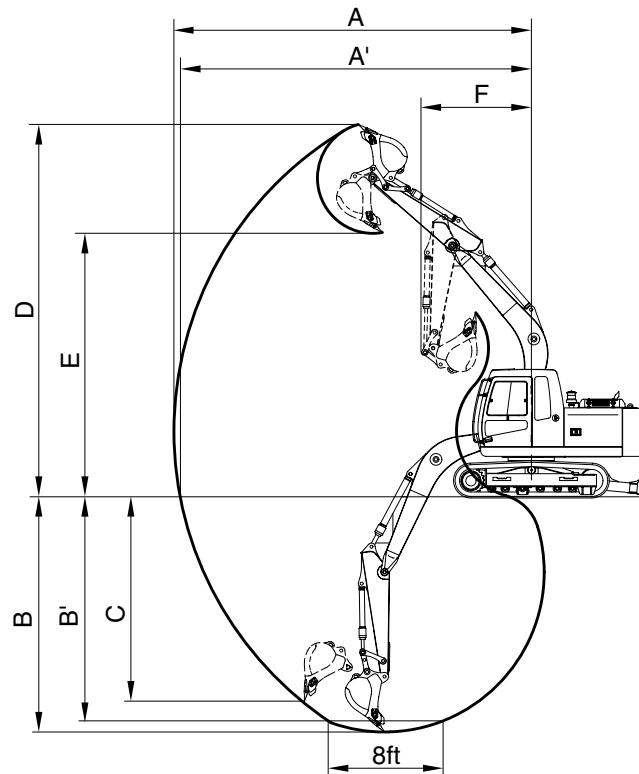
1107A2SP03

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

※ : STD [] : Power boost

2) R110D-7A

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



1107A2SP04

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

※ : STD [] : Power boost

4. WEIGHT

1) R110-7A

Item	kg	lb
Upperstructure assembly	3300	7280
Main frame weld assembly	1030	2270
Engine assembly	420	930
Main pump assembly	90	200
Main control valve assembly	130	290
Swing motor assembly	130	290
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(500mm standard triple grouser shoe)	1350	2980
Front attachment assembly(4.3m boom, 2.26m arm, 0.45m³ SAE heaped bucket)	1640	3620
4.3m boom assembly	740	1630
2.26m arm assembly	340	750
0.45m³ SAE heaped bucket	440	970
Boom cylinder assembly	230	510
Arm cylinder assembly	140	310
Bucket cylinder assembly	90	200
Bucket control link assembly	80	180

5. LIFTING CAPACITIES

1) ROBEX 110-7A

(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 1450kg counterweight.

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 and 1450kg counterweight.

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 and 1450kg counterweight.

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

(4) 4.3m(14' 1") boom, 2.26m(7' 5") arm equipped with 0.45m³(SAE heaped) bucket and 500mm(20") triple grouser shoe, 1450kg counterweight and rear dozer blade down.

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

(5) 4.3m(14' 1") boom, 1.96m(6' 5") arm equipped with 0.45m³(SAE heaped) bucket and 500mm(20") triple grouser shoe, 1450kg counterweight and rear dozer blade down.

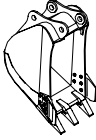
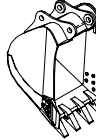
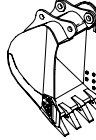
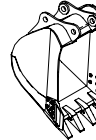
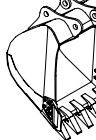
Load point height		Load radius								At max. reach		
		1.5m(5ft)		3.0m(10ft)		4.5m(15ft)		6.0m(20ft)		Capacity		Reach
												m(ft)
6.0m (20ft)	kg lb					*1770 *3900	*1770 *3900			*1820 *4010	*1820 *4010	5.62 (18.4)
4.5m (15ft)	kg lb					*1950 *4300	*1950 *4300			1750 3860	1420 3130	6.62 (21.7)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

(6) 4.3m(14' 1") boom, 2.81m(9' 3") arm equipped with 0.45m³(SAE heaped) bucket and 500mm(20") triple grouser shoe, 1450kg counterweight 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 lb									*1570 *3460	*1520 *3350	6.66 (21.9)
4.5m (15ft)	kg lb							*1640 *3620	*1640 *3620	1450 3200	1170 2580	7.50 (24.6)
3.0m (10ft)	kg lb					*1920 *4230	*1920 *4230	*1830 *4030	1770 3900	1270 2800	1020 2250	7.92 (26.0)
1.5m (5ft)	kg lb			*4050 *8930	*4050 *8930	*2690 *5930	*2690 *5930	2050 4520	1670 3680	1210 2670	960 2120	7.99 (26.2)
Ground Line	kg lb	*3230 *7120	*3230 *7120	*5580 *12300	4910 10820	3130 6900	2530 5580	1950 4300	1570 3460	1290 2780	1000 2200	7.74 (25.4)
-1.5m (-5ft)	kg lb	*4960 *10930	*4960 *10930	6060 13360	4710 10380	3000 6610	2410 5310	1890 4170	1510 3330	1460 3220	1170 2580	7.11 (23.3)
-3.0m (-10ft)	kg lb	*7230 *15940	*7230 *15940	*5830 *12850	4720 10410	2980 6570	2390 5270			1990 4390	1610 3550	5.96 (19.6)
-4.5m (-15ft)	kg lb			*4480 *9880	*4480 *9880							

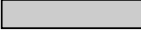
6. BUCKET SELECTION GUIDE

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)	0.36m³ (0.47yd³)	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

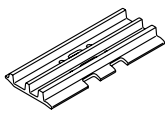
-  Applicable for materials with density of 2000kg/m³ (3370lb/yd³) or less
-  Applicable for materials with density of 1600kg/m³ (2700lb/yd³) or less
-  Applicable for materials with density of 1100kg/m³ (1850lb/yd³) or less

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		
					
R110-7A	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-7A	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 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
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
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	Mitsubishi D04FD-TAA
Type	4-cycle turbocharged charge air cooled diesel engine
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	16.5:1
Rated gross horse power(SAE J1995)	97Hp at 1800rpm(72kW at 1800rpm)
Maximum torque at 1400rpm	42.8kgf · m(310lbf · ft)
Engine oil quantity	18.5 l (4.9U.S. gal)
Dry weight	420kg(926lb)
High idling speed	1900 ± 50rpm
Low idling speed	900 ± 100rpm
Rated fuel consumption	163.7g/Hp · hr at 1800rpm
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 × 59.5cc/rev
Maximum pressure	330kgf/cm ² (4694psi) [360kgf/cm ² (5120psi)]
Rated oil flow	2 × 107 l /min (2 × 28.3U.S.gpm)
Rated speed	1800rpm

[]: Pooper 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	27.0 l /min(7.1U.S.gpm/5.9U.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 ² (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 ² (128psi)
Braking torque	24.36kgf · m ² (176lbf · 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 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
R110-7A	Standard	500mm(20")	0.39kgf/cm ² (5.55psi)	41	2490mm(8' 2")
	Option	600mm(24")	0.34kgf/cm ² (4.84psi)	41	2590mm(8' 6")
	Option	700mm(28")	0.30kgf/cm ² (4.27psi)	41	2690mm(8' 10")

10) BUCKET

Item		Capacity		Tooth quantity	Width	
		SAE heaped	CECE heaped		Without side cutter	With side cutter
R110-7A	STD	0.45m ³ (0.59yd ³)	0.40m ³ (0.52yd ³)	4	830mm(32.7")	940mm(37.0")
	OPT	0.30m ³ (0.39yd ³)	0.27m ³ (0.35yd ³)	3	610mm(24.0")	720mm(28.3")
		0.40m ³ (0.52yd ³)	0.36m ³ (0.47yd ³)	4	760mm(29.9")	870mm(34.3")
		0.50m ³ (0.65yd ³)	0.45m ³ (0.59yd ³)	4	900mm(35.4")	1010mm(39.8")
		0.59m ³ (0.77yd ³)	0.52m ³ (0.68yd ³)	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 °C(°F)						
			-20 (-4)	-10 (14)	0 (32)	10 (50)	20 (68)	30 (86)	40 (104)
Engine oil pan	Engine oil	18.5(4.9)					SAE 30		
						SAE 10W			
						SAE 10W-30			
						SAE 15W-40			
Swing drive	Gear oil	2.5(0.7)							
Final drive		2.5×2 (0.7×2)				SAE 85W-140			
Swing drive	Grease	0.32(0.1)	NLGI NO.1						
				NLGI NO.2					
Hydraulic tank	Hydraulic oil	Tank:100(26.4) System: 210(55.5)	ISO VG 32						
				ISO VG 46					
				ISO VG 68					
Fuel tank	Diesel fuel	256(67.6)	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	22(5.8)				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