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SECTION 4A

WHEEL LOADERS

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- All Komatsu components maximize machine's reliability
- Hight output and energy-saving Komatsu diesel engine
- Adjustment-free wet type disc brake
- Excellent maneuverability
- Walk-through type operator's compartment
- Electronic display monitoring system (EDIMOS) minimizes daily maintenance and maximizes machine availability (Applicable model WA200 and over except WA250)
- Finger-tip control with ELECTRAN(Electrically controlled transmission)(Applicable model WA200 and over except WA250)
- Long maintenance interval with oil-lubricated pins and sealed loader linkage pins(Applicable model WA500 and over)

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Item \ Model		WA20-1	WA30-2	WA40-1	WA70-1
OPERATING WEIGHT*1	kg(lb)				
FLYWEEL HORSEPOWER:					
SAE	HP(KW)/rpm	21.7(16.2)/2600	27.2(20.3)/2600	41(31)/2200	55(41)/2200
DIN	PS(KW)/rpm	22.0(16.2)/2600	27.6(20.3)/2600	42(31)/2200	56(41)/2200
BUCKET CAPACITY*1	m^3(cu.yd)				
PERFORMANCE :					
Travel speeds :	km/h(MPH)				
Forward 1st		3.1 (1.9)	3.0 (1.9)	3.4 (2.1)	7.6 (4.7)
2nd		6.4 (4.0)	6.4 (4.0)	7.5 (4.7)	13.3 (8.3)
3rd		15 (9.3)	15 (9.3)	20 (12.4)	32.0 (19.9)
4th					
Reverse 1st		3.1 (1.9)	3.1 (1.9)	3.4 (2.1)	7.8 (4.7)
2nd		6.5 (4.0)	6.5 (4.0)	7.5 (4.7)	13.8 (8.6)
3rd		15 (9.3)	15 (9.3)	20 (12.4)	33.1 (20.6)
4th					
Turning radius*1 (Outside corner of bucket)	mm(ft.in)				
DIMENSIONS*2 :					
Overall length	mm(ft.in)	3200 (10' 6")	3575 (11' 9")	4780 (15' 8")	4775 (15' 8")
Overall width	mm(ft.in)	1350 (4' 5")	1570 (5' 2")	1820 (6')	1980 (6' 6")
Overall height*3	mm(ft.in)	1815 (6' 1")	1890 (6' 2")	1910 (6' 3")	2045 (6' 9")
Wheel base	mm(ft.in)	1500 (4'11")	1650 (5' 5")	1950 (6' 5")	2200 (7' 3")
Treads(front and rear)	mm(ft.in)	1335 (4' 4")	1180 (3'10")	1360 (4' 6")	1470 (4'10")
Articulation angle (each)	degree				
ENGINE :					
Model		KOMATSU 3D78	KOMATSU 3D84	KOMATSU 4D95L	KOMATSU 4D95L
No.of clys.-Bore x Stroke	mm(in)	3 – 78 x 86 (3.07" x 3.39")	3 – 84 x 85 (3.31 x 3.35)	4 – 95 x 115 (3.74 x 4.53)	4 – 95 x 115 (3.74 x 4.53)
Piston displacement	ltr.(cu.in)	1.232 (75.2)	1.41 (86.0)	3.26 (199)	3.26 (119)
CAPACITY :					
Fuel tank	ltr(U.S.Gal)	25 (6.6)	30 (7.9)	40 (10.6)	60 (15.8)

*1: See PERFORMANCE DATA

*2: With standard tires and bucket

*3: Height-without upper compertment(canvas canopy,steel cab etc.)

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Item	Model	WA100-1	WA150-1	WA200-1	WA300-1
OPERATING WEIGHT*1	kg(lb)				
FLYWEEL HORSEPOWER :					
SAE	HP(KW)/rpm	73(54)/2400	94(70)/2400	108(81)/2400	143(107)/2300
DIN	PS(KW)/rpm	74(54)/2400	95(70)/2400	110(81)/2400	145(107)/2300
BUCKET CAPACITY*1	m^3(cu.yd)				
PERFORMANCE :					
Travel speeds :	km/h(MPH)				
Forward 1st		7.2 (4.5)	6.8 (4.2)	7.8 (4.8)	7.0 (4.4)
2nd		13.6 (8.5)	14.2 (8.8)	12.0 (7.5)	11.0 (6.8)
3rd		34.5 (21.4)	34.5 (21.4)	21.2 (13.2)	19.0 (11.8)
4th				37.0 (23.0)	36.0 (22.5)
Reverse 1st		7.5 (4.7)	7.2 (4.5)	7.8 (4.8)	7.0 (4.4)
2nd		14.0 (8.7)	14.5 (9.0)	12.0 (7.5)	11.0 (6.8)
3rd		35.0 (21.7)	35.0 (21.7)	21.8 (13.5)	19.0 (11.8)
4th				37.0 (23.0)	36.0 (22.5)
Turning radius*1 (Outside corner of bucket)	mm(ft.in)				
DIMENSIONS*2 :					
Overall length	mm(ft.in)	5815 (19' 1")	5900 (19' 4")	6715 (22')	7110 (23' 4")
Overall width	mm(ft.in)	2340 (7' 8")	2390 (7'10")	2440 (8')	2685 (8'10")
Overall height*3	mm(ft.in)	3075 (10' 1")	3105 (10' 2")	3190 (10' 6")	3120 (10' 3")
Wheel base	mm(ft.in)	2550 (8' 4")	2650 (8' 8")	2900 (9' 6")	3030 (9'11")
Treads(front and rear)	mm(ft.in)	1780 (5'10")	1820 (6')	1930 (6' 4")	2050 (6' 9")
Articulation angle (each)	degree	40	40	40	40
ENGINE :					
Model		KOMATSU 6D95L	KOMATSU S6D95L	KOMATSU 6D105	KOMATSU S6D105
No.of clys.-Bore × Stroke	mm(in)	6 – 95 × 115 (3.7 × 4.5)	6 – 95 × 115 (3.7 × 4.5)	6 – 105 × 125 (4.1 × 4.9)	6 – 105 × 125 (4.1 × 4.9)
Piston displacement	ltr.(cu.in)	4.89 (298)	4.9 (299)	6.5 (397)	6.5 (397)
CAPACITY:					
Fuel tank	ltr(U.S.Gal)	120 (31.7)	140 (37.0)	170 (44.9)	200 (52.8)

*1: See PERFORMANCE DATA

*2: With standard tires and bucket

*3: Height-without upper compertment(canvas canopy,steel cab etc.)

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Item	Model	WA350-1	WA400-1	WA450-1	WA500-1
OPERATING WEIGHT*1	Kg(lb)				
FLYWEEL HORSEPOWER :					
SAE	HP(kW)/rpm	169(126)/2200	197(147)/2200	237(177)/2200	291(217)/2100
DIN	PS(kW)/rpm	171(126)/2200	200(147)/2200	240(177)/2200	295(217)/2100
BUCKET CAPACITY*1	m^3(cu.yd)				
PERFORMANCE :					
Travel speeds :	km/h(MPH)				
Forward 1st		7.5 (4.7)	6.8 (4.2)	6.7 (4.2)	7.3 (4.5)
2nd		12.8 (8.0)	11.9 (7.4)	11.7 (7.3)	12.6 (7.8)
3rd		20.8 (12.9)	20.2 (12.6)	20.2 (12.6)	21.1 (13.1)
4th		34.6 (21.5)	33.5 (20.8)	34.0 (21.2)	34.2 (21.3)
Reverse 1st		7.9 (4.9)	7.4 (4.6)	7.5 (4.7)	7.8 (4.8)
2nd		13.6 (8.5)	13.3 (8.3)	13.4 (8.3)	13.4 (8.3)
3rd		22.0 (13.7)	22.2 (13.8)	22.5 (14.0)	22.5 (14.0)
4th		36.4 (22.6)	35.8 (22.2)	37.0 (23.0)	36.4 (22.6)
Turning radius*1 (Outside corner of bucket)	mm(ft.in)				
DIMENSIONS*2 :					
Overall length	mm(ft.in)	7740 (25' 5")	7720 (25' 4")	8430 (27' 8")	8805 (28'11")
Overall width	mm(ft.in)	2905 (9' 6")	2925 (9' 7")	3050 (10')	3400 (11' 2")
Overall height*3	mm(ft.in)	3230 (10' 7")	3285 (10' 9")	3385 (11' 1")	3630 (11'11")
Wheel base	mm(ft.in)	3200 (10' 6")	3300 (10'10")	3400 (11' 2")	3550 (11' 8")
Treads(front and rear)	mm(ft.in)	2110 (6'11")	2200 (7' 3")	2200 (7' 3")	2400 (7'10")
Articulation angle (each)	degree	40	40	40	40
ENGINE :					
Model		KOMATSU S6D110	KOMATSU SA6D110	KOMATSU S6D125	KOMATSU S6D140
No. of clys.-Bore × Stroke	mm(in)	6 – 110 × 125 (4.3 × 4.9)	6 – 110 × 125 (4.3 × 4.9)	6 – 125 × 150 (4.9 × 5.9)	6 – 140 × 165 (5.5 × 6.5)
Piston displacement	ltr.(cu.in)	7.13 (435)	7.13 (435)	11.0 (671)	15.2 (928)
CAPACITY :					
Fuel tank	ltr.(U.S.Gal)	240 (63.4)	293 (77.4)	330 (87.2)	435 (114.9)

*1 See PERFORMANCE DATA

*2 With standard tires and bucket

*3 Height-without upper compertment (canvas canopy, steel cab etc.)

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Item	Model	WA600-1	WA800
OPERATING WEIGHT*1	Kg(lb)		
FLYWHEEL HORSEPOWER :			
SAE	HP(KW)/rpm	415(310)/2000	789(588)/2000
DIN	PS(KW)/rpm	421(310)/2000	800(588)/2000
BUCKET CAPACITY*1	m^3(cu.yd)		
PERFORMANCE :			
Travel speeds :	km/h(MPH)		
Forward 1st		7.4 (4.6)	7.0 (4.3)
2nd		12.7 (7.9)	12.3 (7.6)
3rd		21.0 (13.0)	28.0 (17.4)
4th		32.9 (20.4)	
Reverse 1st		8.2 (5.1)	7.1 (4.4)
2nd		13.9 (8.6)	12.4 (7.7)
3rd		23.0 (14.3)	28.3 (17.6)
4th		35.2 (21.9)	
Turning radius*1 (Outside corner of bucket)	mm(ft.in)		
DIMENSIONS*2 :			
Overall length	mm(ft.in)	10210 (33' 6")	12900 (42' 4")
Overall width	mm(ft.in)	3685 (12' 1")	4800 (15' 9")
Overall height*3	mm(ft.in)	4120 (13' 6")	5080 (16' 8")
Wheel base	mm(ft.in)	4050 (13' 3")	5450 (17'11")
Treads(front and rear)	mm(ft.in)	2650 (8' 8")	3350 (11')
Articulation angle (each)	degree	40	40
ENGINE :			
Model		KOMATSU S6D170	KOMATSU SA8V170
No. of clys.-Bore × Stroke	mm(in)	6 – 170 × 170 (6.7 × 6.7)	8 – 170 × 170 (6.7 × 6.7)
Piston displacement	ltr.(cu.in)	23.15 (1,412)	30.87 (1,884)
CAPACITY :			
Fuel tank	ltr.(U.S.Gal)	610 (161.1)	1200 (317.0)

*1: See PERFORMANCE DATA

*2: With standard tires and bucket

*3: Heigth-without upper compertment (canvas canopy, steel cab etc.)

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Item	Model	WA120-1	WA180-1	WA250-1	WA320-1
OPERATING WEIGHT*1	Kg(lb)				
FLYWHEEL HORSEPOWER :					
SAE	HP(KW)/rpm	85(63)/2500	110(82)/2500	130(97)/2500	150(112)/2350
DIN	PS(KW)/rpm	86(63)/2500	112(82)/2500	132(97)/2500	152(112)/2350
BUCKET CAPACITY*1	m^3(cu.yd)				
PERFORMANCE :					
Travel speeds :	km/h(MPH)				
Forward 1st		7.2 (4.5)	7.2 (4.5)	7.4 (4.6)	6.7 (4.2)
2nd		14.4 (9.0)	14.3 (8.9)	11.3 (7.0)	10.2 (6.3)
3rd		36.0 (22.4)	36.1 (22.4)	20.1 (12.5)	18.1 (11.2)
4th				36.0 (22.4)	34.0 (21.1)
Reverse 1st		7.4 (4.6)	7.4 (4.6)	7.7 (4.8)	7.0 (4.3)
2nd		14.7 (9.1)	14.6 (9.1)	11.6 (7.2)	10.5 (6.5)
3rd		36.5 (22.7)	36.6 (22.7)	20.7 (12.9)	18.6 (11.6)
4th				37.0 (23.0)	35.1 (21.8)
Turning radius*1 (Outside corner of bucket)	mm(ft.in)				
DIMENSIONS*2 :					
Overall length	mm(ft.in)	5875 (19' 3")	6055 (19'10")	6920 (22' 8")	7300 (23' 1")
Overall width	mm(ft.in)	2390 (7'10")	2440 (8')	2685 (8'10")	2740 (9')
Overall height*3	mm(ft.in)	3100 (10' 2")	3065 (10' 1")	3180 (10' 5")	3120 (10' 3")
Wheel base	mm(ft.in)	2550 (8' 4")	2650 (8' 8")	2900 (9' 6")	3030 (9'11")
Treads(front and rear)	mm(ft.in)	1820 (6')	1930 (6' 4")	1930 (6' 4")	2050 (6' 9")
Articulation angle (each)	degree	40	40	40	40
ENGINE :					
Model		KOMATSU 6D95L	KOMATSU S6D95L	KOMATSU S6D105	KOMATSU S6D105
No. of clys.-Bore × Stroke	mm(in)	6 – 95 × 115 (3.7 × 4.5)	6 – 95 × 115 (3.7 × 4.5)	6 – 105 × 125 (4.1 × 4.9)	6 – 105 × 125 (4.1 × 4.9)
Piston displacement	ltr.(cu.in)	4.89 (298)	4.89 (298)	6.49 (396)	6.49 (396)
CAPACITY :					
Fuel tank	ltr.(U.S.Gal)	120 (31.7)	140 (37.0)	170 (44.9)	200 (52.8)

*1: See PERFORMANCE DATA

*2: With standard tires and bucket

*3: Heigth-without upper compertment (canvas canopy, steel cab etc.)

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Item	Model	WA380-1	WA420-1	WA470-1
OPERATING WEIGHT*1	Kg(lb)			
FLYWEEL HORSEPOWER :				
SAE	HP(kW)/rpm	180(135)/2200	204(152)/2200	260(194)/2200
DIN	PS(kW)/rpm	180(135)/2200	207(152)/2200	264(194)/2200
BUCKET CAPACITY*1	m^3(cu.yd)			
PERFORMANCE :				
Travel speeds :	km/h(MPH)			
Forward 1st		7.2 (4.5)	6.7 (4.2)	5.8 (3.6)
2nd		12.5 (7.8)	12.0 (7.5)	10.5 (6.5)
3rd		20.5 (12.7)	20.3 (12.6)	17.8 (11.1)
4th		34.3 (21.3)	34.1 (21.2)	30.0 (18.6)
Reverse 1st		7.7 (4.8)	7.6 (4.7)	6.6 (4.1)
2nd		13.3 (8.3)	13.4 (8.3)	11.7 (7.3)
3rd		21.7 (13.5)	22.4 (13.9)	19.8 (12.3)
4th		36.1 (22.4)	37.4 (23.2)	33.1 (20.6)
Turning radius*1 (Outside corner of bucket)	mm(ft.in)			
DIMENSIONS*2 :				
Overall length	mm(ft.in)	7740 (25' 5")	7900 (25'11")	8330 (27' 4")
Overall width	mm(ft.in)	2905 (9' 6")	3050 (10')	3170 (10' 5")
Overall height*3	mm(ft.in)	3230 (10' 7")	3285 (10' 9")	3370 (11' 1")
Wheel base	mm(ft.in)	3200 (10' 6")	3300 (10'10")	3400 (11' 2")
Treads(front and rear)	mm(ft.in)	2160 (7' 1")	2200 (7' 3")	2300 (7' 7")
Articulation angle (each)	degree	40	40	40
ENGINE :				
Model		KOMATSU SA6D110	KOMATSU SA6D110	KOMATSU S6D125
No. of clys.-Bore x Stroke	mm(in)	6 – 110 x 125 (4.3 x 4.9)	6 – 110 x 125 (4.3 x 4.9)	6 – 125 x 150 (4.9 x 5.9)
Piston displacement	ltr.(cu.in)	7.13 (435)	7.13 (435)	11.0 (671)
CAPACITY :				
Fuel tank	ltr.(U.S.Gal)	240 (63.4)	293 (77.4)	314 (83.0)

*1 See PERFORMANCE DATA

*2 With standard tires and bucket

*3 Height-without upper compertment (canvas canopy, steel cab etc.)

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WA20-1

Usage	Loading stickpile of aggregates, gravel, sand
Bucket type	General purpose bucket
SAE bucket capacity rated struck	 0.26 m^3 (0.34 cu.yd) 0.22 m^3 (0.29 cu.yd)
Bucket width	1350 mm (4'5")
Static tipping load straight full turn	 1120 kg (2,470 lb) 900 kg (1,980 lb)
Dumping clearance, max. height and 45° dumping angle	1750 mm (5'9")
Reach at max. height and 45° dumping angle	660 mm (2'2")
Operating height (bucket fully raised)	2800 mm (9'2")
Digging depth (to cutting edge at 10° tilted	125 mm (4.9")
Overall length (bucket on ground)	3200 mm (10'6")
Turning radius (outside corner of bucket)	2920 mm (9'7")
Lifting capacity (SAE carry)	1350 kg (2,980 lb/13.2 kN)
Breakout force (bucket cylinder)	2000 kg (4,410 lb/19.6 kN)
Operating weight	1730 kg (3,810 lb)

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WA30-2

Usage		Loading stockpile of aggregates, gravel, sand	***Loading stockpile of aggregates, gravel, sand	Loading stockpile of aggregates, gravel, sand
Bucket type		General-purpose bucket	General-purpose bucket	Multipurpose bucket
SAE bucket capacity	rated	0.34 m^3 (0.44 cu.yd)	0.42 m^3 (0.55 cu.yd)	0.34 m^3 (0.44 cu.yd)
	struck	0.29 m^3 (0.38 cu.yd)	0.37 m^3 (0.48 cu.yd)	0.29 m^3 (0.38 cu.yd)
Bucket width		1570 mm (5'2")	1570 mm (5'2")	1595 mm (5'3")
**Static tipping load	straight	1450 kg (3,200 lb)	1430 kg (3,150 lb)	—
	full turn	1350 kg (2,980 lb)	1330 kg (2,930 lb)	—
**Dumping clearance, max. height and 45° dump angle		2000 mm (6'7")	1935 mm (6'4")	1950 mm (6'5")
*Reach at max. height and 45° dump angle		700 mm (2'4")	765 mm (2'6")	675 mm (2'3")
*Operating height (bucket fully raised)		3155 mm (10'4")	—	3704 mm (12'2")
*Digging depth (to cutting edge) at 10° tilted		125 mm (4.9")	140 mm (5.5")	185 mm (7.3")
*Overall length (bucket on ground)		3575 mm (11'9")	3855 mm (12'8")***	3800 mm (12'6")
Turning radius (outside corner of bucket)		3630 mm (11'11")	3660 mm (12'1")	—
Lifting capacity (SAE carry)		1680 kg (3,700 lb/16.5 kN)	1590 kg (3,500 lb/15.6 kN)	—
Breakout force (bucket cylinder)		2630 kg (5,800 lb/25.8 kN)	2200 kg (4,850 lb/21.6 kN)	—
**Operating weight		2380 kg (5,250 lb)	2680 kg (5,910 lb)	2820 kg (6,220 lb)

*All dimensions, weights and performance values based on SAE J732C standard.
**Static tipping load and operating weight includes lubricant, coolant, full fuel tank, 33 x 12.5-15-6 PR (L-2) tires and an operator. Machine stability is affected by the tire size and an attachment equipped. For selected items add machine operating weight and static tipping load.
***Including a 290 kg (640 lb) counterweight.

OPERATING WEIGHT

Operating weight includes operator, rated capacity of lubricant and coolant, full fuel tank, 33 x 12.5-15-6PR (L-2) tires, 0.34 m^3 (0.44 cu.yd) bucket and the standard equipment . . . . . 2380 kg (5,250 lb)

DIMENSIONS AND PERFORMANCE DATA

Machine dimensions	33 x 12.5-15-6 PR (L-2)	7.50-16-8 PR
Tread mm (ft.in)	1180 (4'6")	1180 (4'6")
Width over tires mm (ft.in)	1500 (4'11")	1395 (4'7")
Change in vertical dimensions mm (in.)	0 (0)	−20 (0.8)
Change in reach mm (in.)	0 (0)	−20 (0.8)

WEIGHT DATA

Unit: kg (lb)

Tires and options kg (lb)	Change in operating weight	Change in full turn tipping load
33 x 12.5-15-6 PR (L-2)	0 (0)	0 (0)
7.50-16-8 PR (ID)	−80 (176)	−40 (88)

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WA40-1

Spec. items \ Usage		Loading stockpile of aggregates, gravel, sand
Bucket type		Large bucket (option)
SAE bucket capacity	rated	0.60 m^3 (0.78 cu.yd)
	struck	0.50 m^3 (0.65 cu.yd)
Bucket width		1820 mm (6')
**Static tipping load	straight	2420 kg (5,340 lb)
	full run	2160 kg (4,760 lb)
**Dumping clearance, max. height and 45° dump angle		2470 mm (8'1")
*Reach at max. height and 45° dump angle		770 mm (2'6")
*Operating height (bucket fully raised)		3875 mm (12'8")
Max. tilt-back angle at carry position		45 °
Digging depth (to cutting edge) at 10°		185 mm (7'3")
*Overall length (bucket on ground)		4780 mm (15'8")
Turning radius (outside corner of bucket)		4050 mm (13'3")
Lifting capacity (SAE carry)		2230 kg (4,920 lb/21.9 kN)
Breakout force (bucket cylinder)		3650 kg (8,050 lb/35.8 kN)
**Operating weight		3800 kg (8,380 lb)

*All dimensions, weights and performance values are based on SAE J732C standard.
**Static tipping load and operating weight include lubricant, coolant, full fuel tank, 15.5/70-18-8PR tubed tires and an operator. Machine stability is affected by the tire size and an attachment equipped. For selected items add machine operating weight and static tipping load.

OPERATING WEIGHT

Operating weight includes operator, rated capacity of lubricant and coolant, full fuel tank, 15.5/70-18-8PR tubed tires and 0.50 m^3 (0.65 cu.yd) bucket . . . . . 3400 kg (7,500 lb)

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WA70-1

Usage		Stockpile	Light material	Multipurpose
Bucket type		Straight edge	Straight edge	Straight edge
Bucket capacity	SAE rated	0.8 m³ (1.0 cu.yd)	1.0 m³ (1.3 cu.yd)	0.6 m³ (0.8 cu.yd)
	Struck	0.6 m³ (0.8 cu.yd)	0.8 m³ (1.0 cu.yd)	0.5 m³ (0.7 cu.yd)
Bucket width		1980 mm (78")	1980 mm (78")	2005 mm (79")
Static tipping load	Straight	3100 kg (6,830 lb)	3035 kg (6,690 lb)	3140 kg (6,920 lb)
	Full turn	2635 kg (5,810 lb)	2580 kg (5,690 lb)	2670 kg (5,890 lb)
Dumping clearance, max. height and 45° dump angle		2505 mm (8'3")	2425 mm (7'11")	2455 mm (8'1")
Reach at 2130 mm (7') cut edge clearance and 45° dump angle		1130 mm (3'8")	1155 mm (3'9")	1070 mm (3'6")
Reach at max. height and 45° dump angle		830 mm (2'9")	910 mm (3')	800 mm (2'8")
Reach with arm horizontal and bucket level		1755 mm (5'9")	1855 mm (6'1")	2985 mm (9'10")*
Operating height (fully raised)		3975 mm (13'1")	4135 mm (13'7")	4080 mm (13'5")
Overall length	Bucket on ground	4775 mm (15'8")	4875 mm (16')	4835 mm (15'10")
	Bucket at carry	4835 mm (15'10")	4905 mm (16'1")	4895 mm (16'1")
Turning radius (bucket at carry, outside corner of bucket)		4380 mm (14'4")	4415 mm (14'6")	4410 mm (14'6")
Digging depth	0°	40 mm (1.6")	40 mm (1.6")	100 mm (3.9")
	10°	160 mm (6.3")	180 mm (7.1")	215 mm (8.5")
Lifting capacity (SAE carry)		4250 kg (9,370 lb)	4180 kg (9,220 lb)	4310 kg (9,500 lb)
Breakout force (bucket cylinder)		4230 kg (9,330 lb)	3625 kg (7,990 lb)	3920 kg (8,640 lb)
Rated load		1280 kg (2,820 lb)	1280 kg (2,820 lb)	960 kg (2,120 lb)
Operating weight		4485 kg (9,890 lb)	4525 kg (9,980 lb)	4720 kg (10,400 lb)

- All dimensions, weights and performance values based on SAE J-732C and J742b standards.
- Static tipping load and operating weight shown include 17.5/65-20PR (L-2) tires without ballast in rear, lubricants, coolant, full fuel tank and operator. Machine stability and operating weight are affected by counterweight, tire size and other attachments. Add the following weight changes to operating weight and static tipping load.

*Bottom dumping clearance.

Weight changes

Option	Change in operating weight	Change in tipping load	
		Straight	Full turn
Canopy	+45 kg (99 lb)	+50 kg (110 lb)	+40 kg (88 lb)
Steel cab	+270 kg (395 lb)	+250 kg (551 lb)	+215 kg (474 lb)
ROPS canopy	+250 kg (551 lb)	+295 kg (650 lb)	+250 kg (551 lb)
Bucket teeth (bolt-on, unitized)	+25 kg (55 lb)	−30 kg (66 lb)	−25 kg (55 lb)
Bucket teeth (bolt-on, tip type)	+30 kg (66 lb)	−25 kg (55 lb)	−20 kg (44 lb)
Cutting edges	+30 kg (66 lb)	−35 kg (77 lb)	−30 kg (66 lb)

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WA100-1

Bucket type		Loose material	Excavating	
		Bolt-on cutting edge	Bolt-on teeth	Bolt-on cutting edge
Bucket capacity	SAE rated	1.2 m^3 (1.6 cu.yd)	1.0 m^3 (1.3 cu.yd)	1.04 m^3 (1.38 cu.yd)
	Struck	1.0m^3 (1.3 cu.yd)	0.8 m^3 (1.0 cu.yd)	0.86 m^3 (1.12 cu.yd)
Bucket width		2340 mm (7'8")	2340 mm (7'8")	2340 mm (7'8")
Bucket weight		555 kg (1220 lb)	485 kg (1070 lb)	525 kg (1160 lb)
Static tipping load	Straight	5050 kg (11140 lb)	5140 kg (11330 lb)	5090 kg (11220 lb)
	Full turn	4370 kg (9640 lb)	4470 kg (9860 lb)	4430 kg (9770 lb)
Dumping clearance, max. height and 45° dump angle		2620 mm (8'7")	2610 mm (8'7")	2670 mm (8'9")
Reach at 2130 mm (7') cut edge clearance and 45° dump angle		1330 mm (4'4")	1325 mm (4'4")	1405 mm (4'7")
Reach at max. height and 45° dump angle		1010 mm (3'4")	1010 mm (3'4")	1060 mm (3'6")
Reach with arm horizontal and bucket level		1950 mm (6'5")	1955 mm (6'5")	1879 mm (6'2")
Operating height (fully raised)		4350 mm (14'3")	4265 mm (14')	4265 mm (14')
Overall length	Bucket on ground	5815 mm (19'1")	5805 mm (19'1")	5745 mm (18'10")
	Bucket at carry	5790 mm (19')	5805 mm (19'1")	5745 mm (18'10")
Turning radius (bucket at carry, outside corner of bucket)		5050 mm (16'7")	5060 mm (16'7")	5035 mm (16'6")
Digging depth	0°	80 mm (3.1")	90 mm (3.5")	80 mm (3.1")
	10°	235 mm (9.3")	245 mm (9.6")	220 mm (8.7")
Breakout force (bucket cylinder)		6270 kg (13830 lb)	7500 kg (16540 lb)	6855 kg (15120 lb)
Operating weight		6955 kg (15340 lb)	6885 kg (15180 lb)	6930 kg (15280 lb)

- All dimensions, weights and performance values based on SAE J-732C and J742b standards.
- Static tipping load and operating weight shown inlcude 16.9-24-10PR (L-2) tires, lubricants, coolant, full fuel tank, ROPS cab and operator. Machine stability and operating weight are affected by counterweight, tire size and other attachments. Add the following weight changes to operating weight and static tipping load.

Weight changes

Tires and options	Change in operating weight		Change in tipping load			
			Straight		Full turn	
15.5-25-8PR (L-2) tubeless tires	+50 kg	(110 lb)	+35 kg	(77 lb)	+30 kg	(66 lb)
15.5-25-12PR (L-2) tubeless tires	+70 kg	(154 lb)	+50 kg	(110 lb)	+40 kg	(88 lb)
Remove ROPS cab	–430 kg	(948 lb)	–340 kg	(750 lb)	–295 kg	(650 lb)
Install ROPS canopy	–185 kg	(408 lb)	–130 kg	(287 lb)	–115 kg	(254 lb)
Additional counterweight	+280 kg	(617 lb)	+540 kg	(1191 lb)	+460 kg	(1014 lb)

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WA120-1

Bucket type		Loose material	Excavating	
		Bolt-on cutting edge	Bolt-on teeth	Bolt-on cutting edge
Bucket capacity	SAE rated	1.4 m^3 (1.75 cu.yd)	1.2 m^3 (1.5 cu.yd)	1.2 m^3 (1.5 cu.yd)
	Struck	1.2 m^3 (1.58 cu.yd)	1.0 m^3 (1.3 cu.yd)	1.0 m^3 (1.3 cu.yd)
Bucket width		2390 mm (7'10")	2390 mm (7'10")	2390 mm (7'10")
Bucket weight		585kg (1290 lb)	525 kg (1160 lb)	570 kg (1260 lb)
Static tipping load	Straight	5500 kg (12125 lb)	5620 kg (12390 lb)	5560 kg (12260 lb)
	Full turn	4780 kg (10540 lb)	4885 kg (10770 lb)	4835 kg (10660 lb)
Dumping clearance, max. height and 45° dump angle		2635 mm (8'8")	2600 mm (8'6")	2660 mm (8'9")
Reach at 2130 mm (7') cut edge clearance and 45° dump angle		1315 mm (4'4")	1320 mm (4'4")	1300 mm (4'3")
Reach at max. height and 45° dump angle		1005 mm (3'4")	1030 mm (3'5")	980 mm (3'3")
Reach with arm horizontal and bucket level		1955 mm (6'5")	1990 mm (6'6")	1915 mm (6'3")
Operating height (fully raised)		4425 mm (14'6")	4375 mm (14'4")	4375 mm (14'4")
Overall length	Bucket on ground	5875 mm (19'3")	5890 mm (19'4")	5835 mm (19'2")
	Bucket at carry	5845 mm (19'2")	5875 mm (19'3")	5820 mm (19'1")
Turning radius (bucket at carry, outside corner of bucket)		5070 mm (16'8")	5085 mm (16'8")	5065 mm (16'7")
Digging depth	0°	55 mm (2.2")	60 mm (2.4")	55 mm (2.2")
	10°	210 mm (8.3")	220 mm (8.7")	200 mm (7.9")
Breakout force (bucket cylinder)		8830 kg (19470 lb)	10135 kg (22340 lb)	9285 kg (20470 lb)
Operating weight		7785 kg (17165 lb)	7715 kg (17010 lb)	7770 kg (17130 lb)

- All dimensions, weights and performance values based on SAE J-732C and J742b standards.
- Static tipping load and operating weight shown inlcude 14.0-24-12PR (L-2) tires, lubricants, coolant, full fuel tank, ROPS cab and operator. Machine stability and operating weight are affected by counterweight, tire size and other attachments. Add the following weight changes to operating weight and static tipping load.

Weight changes

Tires and options	Change in operating weight	Change in tipping load	
		Straight	Full turn
15.5-25-8PR (L-2) tubeless tires	–90 kg (198 lb)	–60 kg (132 lb)	–50 kg (110 lb)
17.5-25-12PR (L-2) tubeless tires	+80 kg (176 lb)	+55 kg (121 lb)	+50 kg (110 lb)
Remove ROPS cab	–430 kg (948 lb)	–335 kg (739 lb)	–290 kg (639 lb)
Install ROPS canopy	–185 kg (408 lb)	–145 kg (320 lb)	–125 kg (276 lb)
Additional counterweight	+290 kg (640 lb)	+510 kg (1125 lb)	+445 kg (981 lb)
Large Counterweight	+145 kg (320 lb)	+310 kg (683 lb)	+270 kg (595 lb)

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WA150-1

Bucket type		Straight edge	Straight edge	Straight edge
Usage		Stockpile	Excavation	Light material
Bucket capacity	SAE rated	1.4 m³ (1.8 cu.yd)	1.2 m³ (1.6 cu.yd)	1.6 m³ (2.1 cu.yd)
	Struck	1.1 m³ (1.4 cu.yd)	1.0 m³ (1.3 cu.yd)	1.4 m³ (1.8 cu.yd)
Bucket width		2390 mm (7'10")	2390 mm (7'10")	2390 mm (7'10")
Bucket weight		520 kg (1,150 lb)	480 kg (1,060 lb)	550 kg (1,210 lb)
Static tipping load	Straight	5510 kg (12,150 lb)	5650 kg (12,460 lb)	5510 kg (12,150 lb)
	Full turn	4760 kg (10,490 lb)	4800 kg (10,580 lb)	4760 kg (10,490 lb)
Dumping clearance, max. height and 45° dump angle		2725 mm (8'11")	2785 mm (8'2")	2670 mm (8'9")
Reach at 2130 mm (7') cut edge clearance and 45° dump angle		1390 mm (4'7")	1355 mm (4'5")	1415 mm (4'8")
Reach at max. height and 45° dump angle		990 mm (3'3")	930 mm (3'1")	1045 mm (3'5")
Reach with arm horizontal and bucket level		2060 mm (6'9")	1895 mm (6'3")	2055 mm (6'9")
Operating height (fully raised)		4560 mm (15')	4440 mm (14'7")	4645 mm (15'3")
Overall length	Bucket on ground	5900 mm (19'4")	5815 mm (19'1")	5980 mm (19'7")
	Bucket at carry	5890 mm (19'4")	5855 mm (19'3")	5945 mm (19'6")
Turning radius (bucket at carry, outside corner of bucket)		5235 mm (17'2")	5180 mm (17')	5255 mm (17'3")
Digging depth	0°	55 mm (2.2")	55 mm (2.2")	55 mm (2.2")
	10°	215 mm (8.5")	200 mm (7.9")	225 mm (8.9")
Lifting capacity (SAE carry)		6690 kg (14,750 lb)	6850 kg (15,100 lb)	6670 kg (14,700 lb)
Breakout force (bucket cylinder)		8500 kg (18,740 lb)	9400 kg (20,720 lb)	7270 kg (16,030 lb)
Rated load		2250 kg (4,960 lb)	2250 kg (4,960 lb)	2250 kg (4,960 lb)
Operating weight		7560 kg (16,670 lb)	7530 kg (16,600 lb)	7610 kg (16,780 lb)

- All dimensions, weights and performance values based on SAE J-732C and J742b standards.
- Static tipping load and operating weight shown include 14.00-24-12PR (L-2) tires without ballast in rear, lubricants, coolant, full fuel tank and operator. Machine stability and operating weight are affected by counterweight, tire size and other attachments. Use either tire ballast or counterweight, not both. Add the following weight changes to operating weight and static tipping load.

Weight changes

Tires and options	Change in operating weight	Change in tipping load	
		Straight	Full turn
14.0-24-12PR (L-2) tubeless tires	0/*+390 kg (860 lb)	0/*+560 kg (1,235 lb)	0/*+460 kg (1,010 lb)
18.4-24-10PR (L-2) tubeless tires	−20 kg (40 lb)/ *+580 kg (1,280 lb)	−15 kg (33 lb)/ *+800 kg (1,764 lb)	−10 kg (20 lb)/ *+680 kg (1,500 lb)
17.5-25-12PR (L-2) tubeless tires	+20 kg (40 lb)/ *+540 kg (1,190 lb)	+30 kg (66 lb)/ *+760 kg (1,675 lb)	+15 kg (30 lb)/ *640 kg (1,410 lb)
15.5-25-12PR (L-2) tubeless tires	−80 kg (180 lb)/ *+320 kg (710 lb)	−55 kg (120 lb) *+405 kg (893 lb)	−45 kg (100 lb)/ *370 kg (820 lb)
Canopy	+55 kg (121 lb)	+55 kg (121 lb)	+50 kg (110 lb)
ROPS canopy	+205 kg (452 lb)	+200 kg (441 lb)	+170 kg (375 lb)
Steel cab	+265 kg (584 lb)	+215 kg (474 lb)	+180 kg (397 lb)
ROPS cab	+430 kg (948 lb)	+315 kg (694 lb)	+270 kg (595 lb)
Headguard	+130 kg (287 lb)	+130 kg (287 lb)	+110 kg (243 lb)
Front half fenders	+30 kg (66 lb)	0	+8 kg (18 lb)
Bucket teeth (one-piece)	+40 kg (88 lb)	−45 kg (100 lb)	−40 kg (90 lb)
Bucket teeth (two-piece)	+50 kg (110 lb)	−60 kg (132 lb)	−50 kg (110 lb)
Bolt-on cutting edges	+105 kg (230 lb)	−120 kg (265 lb)	−105 kg (230 lb)
Additional counterweight	+280 kg (617 lb)	+520 kg (1,146 lb)	+445 kg (981 lb)

* 75% filled ballast for rear tires only.

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WA180-1

Bucket type		Loose material	Excavating	
		Bolt-on cutting edge	Bolt-on teeth	Bolt-on cutting edge
Bucket capacity	SAE rated	1.7 m³ (2.25 cu.yd)	1.5 m³ (2.0 cu.yd)	1.5 m³ (2.0 cu.yd)
	Struck	1.55 m³ (2.02 cu.yd)	1.27 m³ (1.66 cu.yd)	1.27 m³ (1.66 cu.yd)
Bucket width		2440 mm (8')	2440 mm (8')	2440 mm (8')
Bucket weight		775 kg (1710 lb)	715 kg (1580 lb)	757 kg (1670 lb)
Static tipping load	Straight	6870 kg (15150 lb)	6970 kg (15370 lb)	6950 kg (15320 lb)
	Full turn	5965 kg (13150 lb)	6060 kg (13360 lb)	6040 kg (13320 lb)
Dumping clearance, max. height and 45° dump angle		2665 mm (8'9")	2620 mm (8'7")	2705 mm (8'10")
Reach at 2130 mm (7') cut edge clearance and 45° dump angle		1355 mm (4'5")	1365 mm (4'6")	1335 mm (4'5")
Reach at max. height and 45° dump angle		995 mm (3'3")	1025 mm (3'4")	950 mm (3'1")
Reach with arm horizontal and bucket level		2065 mm (6'9")	2120 mm (7')	2010 mm (6'7")
Operating height (fully raised)		4660 mm (15'4")	4595 mm (15'1")	4595 mm (15'1")
Overall length	Bucket on ground	6055 mm (19'10")	6085 mm (20')	5995 mm (19'8")
	Bucket at carry	6020 mm (19'9")	6060 mm (19'11")	5980 mm (19'7")
Turning radius (bucket at carry, outside corner of bucket)		5290 mm (17'4")	5315 mm (17'5")	5280 mm (17'4")
Digging depth	0°	80 mm (3.2")	90 mm (3.5")	80 mm (3.2")
	10°	250 mm (9.8")	270 mm (10.6")	240 mm (9.5")
Breakout force (bucket cylinder)		9200 kg (20290 lb)	10700 kg (23590 lb)	9900 kg (21830 lb)
Operating weight		9240 kg (20370 lb)	9185 kg (20250 lb)	9230 kg (20350 lb)

- All dimensions, weights and performance values based on SAE J-732C and J742b standards.
- Static tipping load and operating weight shown include 14.0-24-12PR(L-2) tires with 390kg (860 lb) ballast in rear, lubricants, coolant, full fuel tank, ROPS cab and operator. Use either tire ballast or counterweight, not both. Machine stability and operating weight are affected by counterweight, tire size and other attachments. Add the following weight changes to operating weight and static tipping load.

Weight changes

Tires and options	Change in operating weight	Change in tipping load	
		Straight	Full turn
14.0-24-12PR (L-2) tubeless tire without ballast	–390 kg (860 lb)	–530 kg (1170 lb)	–455 kg (1003 lb)
15.5-25-12PR (L-2) tubeless tire with ballast	– 40 kg (88 lb)	– 20 kg (44 lb)	– 15 kg (33 lb)
15.5-25-12PR (L-2) tubeless tire without ballast	–440 kg (970 lb)	–555 kg (1223 lb)	–480 kg (1058 lb)
17.5-25-12PR (L-2) tubeless tire with ballast	+ 180 kg (397 lb)	+ 210 kg (463 lb)	+ 185 kg (408 lb)
17.5-25-12PR (L-2) tubeless tire without ballast	–340 kg (750 lb)	–490 kg (1080 lb)	–420 kg (926 lb)
Remove ROPS cab	–430 kg (948 lb)	–320 kg (706 lb)	–280 kg (617 lb)
Install ROPS canopy	–185 kg (408 lb)	–135 kg (298 lb)	–120 kg (265 lb)
Additional counterweight in place of ballast	–85 kg (187 lb)	0	0

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WA200-1

Bucket type		Straight edge	Straight edge	Straight edge
Usage		Stockpile	Excavation	Light material
Bucket capacity	SAE rated	1.7 m³ (2.2 cu.yd)	1.5 m³ (2.0 cu.yd)	2.3 m³ (3.0 cu.yd)
	Struck	1.5 m³ (2.0 cu.yd)	1.2 m³ (1.6 cu.yd)	2.0 m³ (2.6 cu.yd)
Bucket width		2440 mm (8')	2440 mm (8')	2440 mm (8')
Static tipping load	Straight	7940 kg (17,500 lb)	8010 kg (17,660 lb)	7815 kg (17,230 lb)
	Full turn	6830 kg (15,060 lb)	6890 kg (15,190 lb)	6695 kg (14,760 lb)
Dumping clearance, max. height and 45° dump angle		2800 mm (9'2")	2855 mm (9'4")	2640 mm (8'8")
Reach at 2130 mm (7') cut edge clearance and 45° dump angle		1470 mm (4'10")	1435 mm (4'8")	1545 mm (5'1")
Reach at max. height and 45° dump angle		1025 mm (3'4")	970 mm (3'2")	1180 mm (3'10")
Reach with arm horizontal and bucket level		2120 mm (6'11")	2035 mm (6'8")	2340 mm (7'8")
Operating height (fully raised)		4775 mm (15'8")	4680 mm (15'4")	5000 mm (16'5")
Overall length	Bucket on ground	6715 mm (22')	6635 mm (21'9")	6760 mm (22'2")
	Bucket at carry	6650 mm (21'10")	6595 mm (21'8")	6765 mm (22'2")
Turning radius (bucket at carry, outside corner of bucket)		5620 mm (18'5")	5600 mm (18'4")	5665 mm (18'7")
Digging depth	0°	85 mm (3.3")	85 mm (3.3")	85 mm (3.3")
	10°	250 mm (9.8")	235 mm (9.3")	290 mm (11.4")
Lifting capacity (SAE Carry)		10600 kg (23,370 lb)	10680 kg (23,550 lb)	9670 kg (21,320 lb)
Breakout force (bucket cylinder)		10650 kg (23,480 lb)	11730 kg (25,860 lb)	7620 kg (16,880 lb)
Rated load		2720 kg (6,000 lb)	2700 kg (5,950 lb)	2720 kg (6,000 lb)
Operating weight		9150 kg (20,170 lb)	9105 kg (20,070 lb)	9270 kg (20,440 lb)

- All dimensions, weights and performance values based on SAE J-732C and J742b standards.
- Static tipping load and operating weight shown include 17.5 x 25-12PR (L-2) tires without ballast in rear, lubricants, coolant, full fuel tank and operator. Machine stability and operating weight are affected by counterweight, tire size and other attachments. Use either tire ballast or counterweight, not both. Add the following weight changes to operating weight and static tipping load.

Weight changes

Tires and options	Change in operating weight	Change in tipping load	
		Straight	Full turn
17.5-25-12PR (L-2) tubeless tires	0/*+730 kg (1,610 lb)	0/*+800 kg (1,760 lb)	0/*+925 kg (2,040 lb)
20.0-24-12PR (L-2) tubeless tires	*180 kg (400 lb)/ *+640 kg (1,410 lb)	+80 kg (175 lb)/ *+880 kg (1,940 lb)	+130 kg (290 lb)/ *+800 kg (1,760 lb)
15.5-25-12PR (L-2) tubeless tires	−50 kg (110 lb)/ *+755 kg (1,660 lb)	−35 kg (75 lb)/ *+915 kg (2,020 lb)	−35 kg (80 lb)/ *+1420 kg (3,130 lb)
14.0-24-12PR (L-2) tubeless tires	−50 kg (110 lb)/ *+755 kg (1,660 lb)	−35 kg (75 lb)/ *+915 kg (2,020 lb)	−35 kg (80 lb)/ *+1420 kg (3,130 lb)
17.5-25-12PR (L-2) tubed tires	+20 kg (40 lb)/ *+720 kg (1,590 lb)	+30 kg (65 lb)/ *+850 kg (1,870 lb)	+15 kg (30 lb)/ *+910 kg (2,010 lb)
17.5-25-12PR (L-3) tubed tires	+140 kg (310 lb)/ *+660 kg (1,460 lb)	+110 kg (240 lb) *+910 kg (2,005 lb)	+100 kg (220 lb)/ *+830 kg (1,830 lb)
Canopy	+50 kg (110 lb)	+40 kg (88 lb)	+35 kg (77 lb)
ROPS canopy	+250 kg (551 lb)	+190 kg (419 lb)	+170 kg (375 lb)
Steel cab	+250 kg (551 lb)	+190 kg (419 lb)	+170 kg (375 lb)
ROPS cab	+440 kg (970 lb)	+340 kg (750 lb)	+300 kg (661 lb)
Front half fenders	+60 kg (132 lb)	−25 kg (55 lb)	−22 kg (49 lb)
Bucket teeth (unitized)	+75 kg (170 lb)	−110 kg (240 lb)	−100 kg (220 lb)
Bucket teeth (tip type)	+70 kg (150 lb)	−90 kg (200 lb)	−80 kg (180 lb)
Bolt-on edges	+120 kg (265 lb)	−170 kg (375 lb)	−160 kg (350 lb)
Additional counterweight	+255 kg (562 lb)	+600 kg (1,323 lb)	+530 kg (1,168 lb)

*75% filled ballast for rear tires only.

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WA250-1

Bucket type		Loose material	Excavating	
		Bolt-on cutting edge	Bolt-on teeth	Bolt-on cutting edge
Bucket capacity	SAE rated	2.1 m^3 (2.75 cu.yd)	1.8 m^3 (2.35 cu.yd)	1.9 m^3 (2.5 cu.yd)
	Struck	1.8 m^3 (2.35 cu.yd)	1.6 m^3 (2.1 cu.yd)	1.7 m^3 (2.25 cu.yd)
Bucket width		2685 mm (8'10")	2685 mm (8'10")	2685 mm (8'10")
Bucket weight		937 kg (2070 lb)	853 kg (1880 lb)	907 kg (2000 lb)
Static tipping load	Straight	8500 kg (18740 lb)	8420 kg (18570 lb)	8470 kg (18680 lb)
	Full turn	7480 kg (16490 lb)	7400 kg (16320 lb)	7450 kg (16430 lb)
Dumping clearance, max. height and 45° dump angle		2700 mm ((8'10")	2640 mm (8'8")	2730 mm (8'11")
Reach at 2130 mm (7') cut edge clearance and 45° dump angle		1480 mm (4'10")	1500 mm (4'11")	1475 mm (4'10")
Reach at max. height and 45° dump angle		1100 mm (3'7")	1140 mm (3'9")	1060 mm (3'6")
Reach with arm horizontal and bucket level		2240 mm (7'4")	2330 mm (7'8")	2190 mm (7'2")
Operating height (fully raised)		4800 mm (15'9")	4800 mm (15'9")	4740 mm (15'7")
Overall length	Bucket on ground	6920 mm (22'8")	7010 mm (23')	6867 mm (22'6")
	Bucket at carry	6860 mm (22'6")	6930 mm (22'9")	6825 mm (22'8")
Turning radius (bucket at carry, outside corner of bucket)		5740 mm (18'10")	5750 mm (18'10")	5730 mm (18'10")
Digging depth	0°	124 mm (4.9")	138 mm (5.4")	124 mm (4.9")
	10°	307 mm (1')	336 mm (1'1")	298 mm (1')
Breakout force (bucket cylinder)		12560 kg (27690 lb)	14725 kg (32470 lb)	13285 kg (29290 lb)
Operating weight		11000 kg (24260 lb)	10920 kg (24080 lb)	10970 kg (24190 lb)

- All dimensions, weights and performance values based on SAE J-732C and J742b standards.
- Static tipping load and operating weight shown include 17.5-25-12PR (L-2) tires with 520 kg (1150 lb) ballast in rear, lubricants, coolant, full fuel tank, ROPS cab and operator. Machine stability and operating weight are affected by counterweight, tire size and other attachments. Use either tire ballast or counterweight, not both. Add the following weight changes to operating weight and static tipping load.

Weight changes

Tires and options	Change in operating weight	Change in tipping load	
		Straight	Full turn
17.5-25-12PR (L-2) tubeless tires without ballast	–520 kg (1150 lb)	–740 kg (1630 lb)	–652 kg (1430 lb)
20.5-25-12PR (L-2) tubeless tires with ballast	0	–180 kg (400 lb)	–150 kg (330 lb)
20.5-25-12PR (L-2) tubeless tires without ballast	–270 kg (600 lb)	–560 kg (1230 lb)	–490 kg (1080 lb)
Remove ROPS cab	–500 kg (1100 lb)	–480 kg (1060 lb)	–440 kg (970 lb)
Install ROPS canopy	–265 kg (580 lb)	–240 kg (530 lb)	–220 kg (490 lb)
Additional counterweight in place of ballast	–215 kg (470 lb)	0	0

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WA300-1

Bucket type		Straight edge	Straight edge	Spade nose	Straight edge
Usage		Stockpile	Excavation	Excavation	Light material
Bucket capacity	SAE rated	2.3 m^3 (3.0 cu.yd)	2.0 m^3 (2.6 cu.yd)	2.0 m^3 (2.6 cu.yd)	3.0 m^3 (3.9 cu.yd)
	Struck	2.0 m^3 (2.6 cu.yd)	1.7 m^3 (2.2 cu.yd)	1.7 m^3 (2.2 cu.yd)	2.7 m^3 (3.5 cu.yd)
Bucket width		2685 mm (105.7")	2685 mm (105.7")	2685 mm (105.7")	2685 mm (105.7")
Bucket weight		920 kg (2,030 lb)	920 kg (2,030 lb)	970 kg (2,140 lb)	1110 kg (2,450 lb)
Static tipping load	Straight	8940 kg (19,710 lb)	8940 kg (19,710 lb)	8890 kg (19,600 lb)	8940 kg (2,030 lb)
	Full turn	7915 kg (17,450 lb)	7915 kg (17,450 lb)	7865 kg (17,340 lb)	7555 kg (16,660 lb)
Dumping clearance, max. height and 45° dump angle		2730 mm (8'11")	2800 mm (9'2")	2700 mm (8'10")	2580 mm (8'6")
Reach at 2130 mm (7') cut edge clearance and 45° dump angle		1590 mm (5'3")	1560 mm (5'1")	1610 mm (5'3")	1670 mm (5'6")
Reach at max. height and 45° dump angle		1135 mm (3'9")	1070 mm (3'6")	1170 mm (3'10")	1285 mm (4'3")
*Reach with arm horizontal and bucket level		2330 mm (7'8")	2240 mm (7'4")	2377 mm (7'10")	2550 mm (8'4")
Operating height (fully raised)		4965 mm (16'3")	4870 mm (16')	4970 mm (16'4")	5290 mm (17'4")
Overall length	Bucket on ground	7110 mm (23'4")	7020 mm (23')	7155 mm (23'6")	7325 mm (24')
	Bucket at carry	7020 mm (23')	6955 mm (22'10")	7050 mm (23'2")	7170 mm (23'6")
Turning radius (bucket at carry, outside corner of bucket)		5930 mm (19'5")	5905 mm (19'4")	5890 mm (19'4")	6040 mm (19'10")
*Digging depth	0°	135 mm (5.3")	135 mm (5.3")	135 mm (5.3")	135 mm (5.3")
	10°	325 mm (12.8")	309 mm (12.2")	333 mm (13.1")	360 mm (14.2")
Lifting capacity (SAE carry)		12310 kg (27,140 lb)	12310 kg (27,140 lb)	12170 kg (26,830 lb)	11665 kg (25,720 lb)
Breakout force (bucket cylinder)		13610 kg (30,000 lb)	14980 kg (33,030 lb)	13050 kg (28,770 lb)	10045 kg (22,150 lb)
Rated load		3680 kg (8,110 lb)	3680 kg (8,110 lb)	3680 kg (8,110 lb)	3680 kg (8,110 lb)
Operating weight		11340 kg (25,000 lb)	11340 kg (25,000 lb)	11390 kg (25,110 lb)	11530 kg (25,420 lb)

- All dimensions, weights and performance values based on SAE J-732C and J742b standards.
- Static tipping load and operating weight shown include 17.5 x 25-12PR (L-2) tires without ballast in rear, lubricants, coolant, full fuel tank and operator. Machine stability and operating weight are affected by counterweight, tire size and other attachments. Use either tire ballast or counterweight, not both. Add the following weight changes to operating weight and static tipping load.

Weight changes

Tire and options	Change in operating weight	Change in tipping load	
		Straight	Full turn
17.5 x 25-12PR (L-2) tubeless tires	0/*+350 kg (772 lb)	0/*+635 kg (1,400 lb)	0/*+525 kg (1,157 lb)
17.5 x 25-12PR (L-3) tubeless tires	+110 kg (243 lb)/ *+460 kg (1,014 lb)	+80 kg (176 lb)/ *+715 kg (1,576 lb)	+65 kg (143 lb)/ *+595 kg (1,312 lb)
20.5 x 25-12PR (L-2) tubeless tires	+165 kg (364 lb)/ *+675 kg (1,488 lb)	+120 kg (265 lb)/ *+980 kg (2,160 lb)	+100 kg (220 lb)/ *+810 kg (1,786 lb)
20.5 x 25-12PR (L-3) tubeless tires	+350 kg (772 lb)/ *+860 kg (1,896 lb)	+255 kg (562 lb)/ *+1125 kg (2,480 lb)	+210 kg (463 lb)/ *+935 kg (2,061 lb)
Canopy	+50 kg (110 lb)	+50 kg (110 lb)	+42 kg (93 lb)
ROPS canopy	+250 kg (551 lb)	+225 kg (496 lb)	+190 kg (419 lb)
Steel cab	+310 kg (683 lb)	+270 kg (595 lb)	+225 kg (496 lb)
ROPS cab	+500 kg (1,102 lb)	+435 kg (959 lb)	+360 kg (794 lb)
Front half fenders	+75 kg (165 lb)	+25 kg (55 lb)	+20 kg (44 lb)
Rear half fenders	+13 kg (29 lb)	+16 kg (35 lb)	+14 kg (31 lb)
Bucket teeth (unitized)	+107 kg (236 lb)	−135 kg (298 lb)	−135 kg (298 lb)
Bucket teeth (tip type)	+118 kg (260 lb)	−145 kg (320 lb)	−145 kg (320 lb)
Bolt-on edges	+86 kg (190 lb)	−105 kg (231 lb)	−90 kg (198 lb)
Counterweight (for loggers)	+565 kg (1,246 lb)	+1240 kg (2,734 lb)	+1030 kg (2,271 lb)
Additional counterweight	+300 kg (661 lb)	+690 kg (1,521 lb)	+570 kg (1,257 lb)

*Filled with $CaCl_2$ liquid in rear tires.

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WA320-1

Bucket type		Loose material Bolt-on cutting edge	Excavating Bolt-on teeth	Excavating Bolt-on cutting edge
Bucket capacity	SAE rated	2.5 m³ (3.25 cu.yd)	2.1 m³ (2.75 cu.yd)	2.25 m³ (2.95 cu.yd)
	Struck	2.1 m³ (2.75 cu.yd)	1.8 m³ (1.35 cu.yd)	2.0 m³ (2.6 cu.yd)
Bucket width		2740 mm (9')	2760 mm (9'1")	2740 mm (9')
Bucket weight		1140 kg (2510 lb)	1160 kg (2560 lb)	1185 kg (2610 lb)
Static tipping load	Straight	9860 kg (21740 lb)	10040 kg (22140 lb)	9890 kg (21810 lb)
	Full turn	8280 kg (18260 lb)	8435 kg (18600 lb)	8310 kg (18320 lb)
Dumping clearance, max. height and 45° dump angle		2695 mm (8'10")	2630 mm (8'8")	2730 mm (8'11")
Reach at 2130 mm (7') cut edge clearance and 45° dump angle		1530 mm (5')	1415 mm (4'8")	1510 mm (4'11")
Reach at max. height and 45° dump angle		1125 mm (3'8")	1170 mm (3'10")	1090 mm (3'7")
Reach with arm horizontal and bucket level		2345 mm (7'8")	2420 mm (7'11")	2295 mm (7'6")
Operating height (fully raised)		4985 mm (16'4")	4885 mm (16')	4885 mm (16')
Overall length	Bucket on ground	7300 mm (23'11")	7375 mm (24'2")	7250 mm (23'9")
	Bucket at carry	7240 mm (23'9")	7305 mm (24')	7210 mm (23'8")
Turning radius (bucket at carry, outside corner of bucket)		6045 mm (19'10")	6080 mm (19'11")	6035 mm (19'10")
Digging depth	0°	160 mm (6.3")	175 mm (6.9")	160 mm (6.3")
	10°	355 mm (14")	385 mm (15.2")	345 mm (13.6")
Breakout force (bucket cylinder)		13340 kg (29410 lb)	15470 kg (34110 lb)	13990 kg (30850 lb)
Operating weight		12800 kg (28220 lb)	12720 kg (28050 lb)	12825 kg (28280 lb)

- All dimensions, weights and performance values based on SAE J-732C and J742b standards.
- Static tipping load and operating weight shown include 17.5-25-12PR (L-2) tubeless tires with 520 kg (1150 lb) ballast in rear, lubricants, coolant, full fuel tank, ROPS cab and operator. Machine stability and operating weight are affected by counterweight, tire size and other attachments. Use either tire ballast or counterweight, not both. Add the following weight changes to operating weight and static tipping load.

Weight changes

Tires and options	Change in operating weight	Change in tipping load Straight	Change in tipping load Full turn
17.5-25-12PR (L-2) tubeless tires without ballast	–520 kg (1150 lb)	–790 kg (1740 lb)	–655 kg (1440 lb)
20.5-25-12PR (L-3) tubeless tires with ballast	+340 kg (750 lb)	+235 kg (520 lb)	–195 kg (430 lb)
20.5-25-12PR (L-3) tubeless tires without ballast	–335 kg (740 lb)	–645 kg (1420 lb)	–535 kg (1180 lb)
Remove ROPS cab	–510 kg (1120 lb)	–475 kg (1050 lb)	–395 kg (970 lb)
Install ROPS canopy	–265 kg (580 lb)	–230 kg (510 lb)	–190 kg (420 lb)
Additional counterweight in place of ballast	–215 kg (470 lb)	0	0

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WA350-1

Bucket type			Loose material	Excavating	
			Bolt-on cutting edge	Bolt-on cutting edge	Bolt-on teeth
Bucket capacity		SAE rated	2.9 m³ (3.75 cu.yd)	2.55 m³ (3.3 cu.yd)	2.4 m³ (3.1 cu.yd)
		Struck	2.5 m³ (3.25 cu.yd)	2.12 m³ (2.77 cu.yd)	2.03 m³ (2.66 cu.yd)
Bucket width			2905 mm (9'6")	2905 mm (9'6")	2920 mm (9'7")
Bucket weight			1530 kg (3370 lb)	1590 kg (3510 lb)	1540 kg (3400 lb)
Static tipping load	type A	Straight	12740 kg (28090 lb)	13345 kg (29430 lb)	13265 kg (29250 lb)
		Full turn	11115 kg (24510 lb)	10430 kg (23000 lb)	10295 kg (22700 lb)
	type C	Straight	11470 kg (25,290 lb)	11530 kg (25,420 lb)	11430 kg (25,200 lb)
		Full turn	9490 kg (20,920 lb)	9550 kg (21,050 lb)	9450 kg (20,830 lb)
Dumping clearance, max. height and 45° dump angle			2775 mm (9'1")	2815 mm (9'3")	2670 mm (8'9")
Reach at 2130 mm (7') cut edge clearance and 45° dump angle			1625 mm (5'4")	1605 mm (5'3")	1640 mm (5'5")
Reach at max. height and 45° dump angle			1190 mm (3'11")	1150 mm (3'9")	1260 mm (4'2")
Reach with arm horizontal and bucket level			2455 mm (8'1")	2395 mm (7'10")	2580 mm (8'6")
Operating height (fully raised)			5190 mm (17')	5050 mm (16'7")	5050 mm (16'7")
Overall length		Bucket on ground	7740 mm (25'5")	7680 mm (25'2")	7860 mm (25'9")
		Bucket at carry	7685 mm (25'3")	7645 mm (25'1")	7775 mm (25'6")
Turning radius (bucket at carry, outside corner of bucket)			6365 mm (20'11")	6350 mm (20'10")	6405 mm (21')
Digging depth		0°	115 mm (4.5")	115 mm (4.5")	140 mm (5.5")
		10°	330 mm (13.0")	320 mm (12.6")	375 mm (14.8")
Breakout force (bucket cylinder)			15560 kg (34310 lb)	16100 kg (35500 lb)	17700 kg (39030 lb)
Operating weight	type A		16085 kg (35470 lb)	16145 kg (35600 lb)	16095 kg (35490 lb)
	type C		14090 kg (31,060 lb)	14110 kg (31,110 lb)	14,165 kg (31,230 lb)

- All dimensions, weights and performance values based on SAE J-732C and J742b standards.
- Static tipping load and operating weight shown include 20.5-25-12PR (L-2) tubeless tires with 670 kg (1480 lb) ballast in rear, lubricants, coolant, full fuel tank, steel cab, ROPS canopy and operator. Machine stability and operating weight are affected by counterweight, tire size and other attachments. Use either tire ballast or counterweight, not both. Add the following weight changes to operating weight and static tipping load.

Weight changes

Tires and options	Change in operating weight	Change in tipping load	
		Straight	Full turn
20.5-25-12PR (L-2) tubeless tires without ballast	–670 kg (1480 lb)	–1035 kg (2280 lb)	–910 kg (2010 lb)
23.5-25-16PR (L-3) tubeless tires with ballast	+1580 kg (3480 lb)	+1510 kg (3330 lb)	+1335 kg (2940 lb)
23.5-25-16PR (L-3) tubeless tires without ballast	+530 kg (1170 lb)	–105 kg (230 lb)	–95 kg (210 lb)
Remove ROPS canopy	–475 kg (1050 lb)	–530 kg (1170 lb)	–490 kg (1080 lb)
Remove Steel cab	–285 kg (630 lb)	–260 kg (570 lb)	–250 kg (550 lb)
Additional counterweight in place of ballast	–370 kg (820 lb)	–270 kg (600 lb)	–315 kg (690 lb)

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WA380-1

Bucket type			Loose material	Excavating	
			Bolt on cutting edge	Bolt on cutting edge	Bolt on teeth
Bucket capacity		SAE rated	3.1 m³ (4.0 cu.yd)	2.75 m³ (3.5 cu.yd)	2.6 m³ (3.4 cu.yd)
		Struck	2.6 m³ (3.4 cu.yd)	2.35 m³ (3.07 cu.yd)	2.2 m³ (2.88 cu.yd)
Bucket width			2905 mm (9'6")	2905 mm (9'6")	2920 mm (9'7")
Bucket weight			1530 kg (3370 lb)	1615 kg (3560 lb)	1565 kg (3450 lb)
Static tipping load	type A	Straight	12810 kg (28250 lb)	13470 kg (29700 lb)	13330 kg (29390 lb)
		Full turn	11170 kg (24630 lb)	10525 kg (23210 lb)	10385 kg (22900 lb)
	type C	Straight	12200 kg (26900 lb)	—	—
		Full turn	10665 kg (23510 lb)	—	—
Dumping clearance, max. height and 45° dump angle			2775 mm (9'1")	2815 mm (9'3")	2670 mm (8'9")
Reach at 2130 mm (7') cut edge clearance and 45° dump angle			1625 mm (5'4")	1605 mm (5'3")	1640 mm (5'5")
Reach at max. height and 45° dump angle			1190 mm (3'11")	1150 mm (3'9")	1260 mm (4'2")
Reach with arm horizontal and bucket level			2455 mm (8'1")	2395 mm (7'10")	2580 mm (8'6")
Operating height (fully raised)			5270 mm (17'3")	5145 mm (16'11")	5145 mm (16'11")
Overall length		Bucket on ground	7740 mm (25'5")	7680 mm (25'2")	7860 mm (25'9")
		Bucket at carry	7685 mm (25'3")	7645 mm (25'1")	7775 mm (25'6")
Turning radius (bucket at carry, outside corner of bucket)			6365 mm (20'11")	6350 mm (20'10")	6405 mm (21')
Digging depth		0°	115 mm (4.5")	115 mm (4.5")	140 mm (5.5")
		10°	330 mm (13.0")	320 mm (12.6")	375 mm (14.8")
Breakout force (bucket cylinder)			15560 kg (34310 lb)	16100 kg (35500 lb)	17700 kg (39030 lb)
Operating weight	type A		16310 kg (35960 lb)	16395 kg (36150 lb)	16345 kg (36040 lb)
	type C		15770 kg (34770 lb)	—	—

- All dimensions, weights and performance values based on SAE J-732C and J742b standards.
- Type A: Static tipping load and operating weight shown include 20.5-25-16PR (L-2) tubeless tires with 670 kg (1480 lb) ballast in rear, lubricants, coolant, full fuel tank, steel cab, ROPS canopy and operator. Type C: Static tipping load and operating weight shown include 20.5-25-16PR (L-2) tubeless tire without ballast in rear, lubricants, coolant, full fuel tank, steel cab, ROPS canopy and operator. Machine stability and operating weight are affected by counterweight, tire size and other attachments. Use either tire ballast or counterweight, not both. Add the following weight changes to operating weight and static tipping load.

Weight changes

Tires and options	Change in operating weight	Change in tipping load	
		Straight	Full turn
20.5-25-16PR (L-2) tubeless tires without ballast	–670 kg (1480 lb)	–1035 kg (2280 lb)	–910 kg (2010 lb)
23.5-25-20PR (L-3) tubeless tires with ballast	+1540 kg (3995 lb)	+1480 kg (3265 lb)	+1305 kg (2880 lb)
23.5-25-20PR (L-3) tubeless tires without ballast	–1160 kg (2555 lb)	–140 kg (310 lb)	–120 kg (265 lb)
Remove ROPS canopy	–475 kg (1050 lb)	–530 kg (1170 lb)	–490 kg (1080 lb)
Remove Steel cab	–285 kg (630 lb)	–260 kg (570 lb)	–250 kg (550 lb)
Additional counterweight in place of ballast	–370 kg (820 lb)	–270 kg (600 lb)	–315 kg (690 lb)

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WA400-1

Usage			Stockpile	Excavation	Excavation
Bucket type			Straight edge	Straight edge	Spade nose
Bucket capacity		SAE rated	3.1 m³ (4.1 cu.yd)	2.8 m³ (3.7 cu.yd)	2.8 m³ (3.7 cu.yd)
		Struck	2.6 m³ (3.4 cu.yd)	2.4 m³ (3.1 cu.yd)	2.5 m³ (3.3 cu.yd)
Bucket width			2925 mm (9'7")	2925 mm (9'7")	2925 mm (9'7")
Static tipping load	type A	Straight	12510 kg (27,580 lb)	12610 kg (27,800 lb)	12460 kg (27,470 lb)
		Full turn	10540 kg (23,240 lb)	10630 kg (23,430 lb)	10500 kg (23,150 lb)
	type C	Straight	13300 kg (29,320 lb)	13400 kg (29,540 lb)	11250 kg (24,800 lb)
		Full turn	11160 kg (24,600 lb)	11250 kg (24,800 lb)	11120 kg (24,520 lb)
Dumping clearance, max. height and 45° dump angle			2995 mm (9'10")	3050 mm (10')	2930 mm (9'7")
Reach at 2130 mm (7') cut edge clearance and 45° dump angle			1665 mm (5'6")	1635 mm (5'4")	1700 mm (5'7")
Reach at max. height and 45° dump angle			1075 mm (3'6")	1015 mm (3'4")	1135 mm (3'9")
Reach with arm horizontal and bucket level			2415 mm (7'11")	2335 mm (7'8")	2500 mm (8'2")
Operating height (fully raised)			5435 mm (17'10")	5380 mm (17'8")	5495 mm (18')
Overall length		Bucket on ground	7720 mm (25'4")	7640 mm (25'1")	7805 mm (25'7")
		Bucket at carry	7670 mm (25'2")	7615 mm (25')	7725 mm (25'4")
Turning radius (bucket at carry, outside corner of bucket)			6505 mm (21'4")	6485 mm (21'3")	6470 mm (21'3")
Digging depth		0°	60 mm (2.4")	60 mm (2.4")	60 mm (2.4")
		10°	275 mm (10.8")	260 mm (10.2")	290 mm (11.4")
Lifting capacity (SAE carry)			17020 kg (37,520 lb)	17080 kg (37,650 lb)	16860 kg (37,170 lb)
Breakout force (bucket cylinder)			18450 kg (40,670 lb)	19535 kg (43,070 lb)	16900 kg (37,260 lb)
Rated load			4960 kg (10,930 lb)	4960 kg (10,930 lb)	4960 kg (10,930 lb)
Operating weight	type A		16840 kg (37,130 lb)	16855 kg (37,160 lb)	16935 kg (37,330 lb)
	type C		16480 kg (36,330 lb)	16500 kg (36,380 lb)	16580 kg (36,550 lb)

- All dimensions, weights and performance values based on SAE J-732C and J742b standards.
- Static tipping load and operating weight shown include 23.5-25-12PR (L-3) tubeless tires without ballast in rear, lubricants, coolant, full fuel tank and operator. Machine stability and operating weight are affected by counterweight, tire size and other attachments. Use either tire ballast or counterweight, not both. Add the following weight changes to operating weight and static tipping load.

Weight changes

Tires and options	Change in operating weight	Change in tipping load	
		Straight	Full turn
23.5-25-12PR (L-3) tubeless tires	0/*+1050 kg (2,315 lb)	0/*+1615 kg (3,560 lb)	0/*+1355 kg (2,990 lb)
23.5-25-12PR (L-2) tubeless tires	−305 kg (672 lb)	−240 kg (529 lb)	−200 kg (441 lb)
23.5-25-16PR (L-3) tubeless tires	+70 kg (154 lb)/ *+1050 kg (2,315 lb)	+55 kg (121 lb)/ *+1670 kg (3,682 lb)	+45 kg (99 lb)/ *+1400 kg (3,086 lb)
23.5-25-20PR (L-3) tubeless tires	+135 kg (298 lb)/ *+1050 kg (2,315 lb)	+105 kg (231 lb)/ *+1720 kg (3,792 lb)	+85 kg (187 lb)/ *+1400 kg (3,086 lb)
Canopy	+63 kg (139 lb)	+65 kg (143 lb)	+55 kg (121 lb)
ROPS canopy	+470 kg (1,036 lb)	+480 kg (1,058 lb)	+405 kg (893 lb)
Steel cab	+288 kg (635 lb)	+265 kg (584 lb)	+220 kg (485 lb)
Bucket teeth (tip type)	+162 kg (357 lb)	−185 kg (408 lb)	−185 kg (408 lb)
Bolt-on edges	+227 kg (500 lb)	−245 kg (540 lb)	−245 kg (540 lb)
Additional counterweight	+300 kg (661 lb)	+705 kg (1,554 lb)	+509 kg (1,122 lb)

* Filled with $CaCl_2$ liquid in rear tires.

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WA420-1

Bucket type			Loose material	Excavating	
			Bolt-on cutting edge	Bolt-on teeth	Bolt-on cutting edge
Bucket capacity		SAE rated	3.7 m^3 (4.75 cu.yd)	3.1 m^3 (4.0 cu.yd)	3.3 m^3 (4.25 cu.yd)
		Struck	3.2 m^3 (4.2 cu.yd)	2.6 m^3 (3.4 cu.yd)	2.8 m^3 (3.6 cu.yd)
Bucket width			3050 mm (10')	3050 mm (10')	3050 mm (10')
Bucket weight			1690 kg (3730 lb)	1690 kg (3730 lb)	1730 kg (3820 lb)
Static tipping load	type A	Straight	14760 kg (32540 lb)	14780 kg (32580 lb)	14725 kg (32460 lb)
		Full turn	12860 kg (28350 lb)	12880 kg (28400 lb)	12825 kg (28270 lb)
	type C	Straight	14385 kg (31710 lb)	—	—
		Full turn	12570 kg (37710 lb)	—	—
Dumping clearance, max. height and 45° dump angle			2885 mm (9'6")	2805 mm (9'2")	2930 mm (9'7")
Reach at 2130 mm (7') cut edge clearance and 45° dump angle			1605 mm (5'3")	1620 mm (5'4")	1565 mm (5'2")
Reach at max. height and 45° dump angle			1075 mm (3'6")	1125 mm (3'8")	1025 mm (3'4")
Reach with arm horizontal and bucket level			2465 mm (8'1")	2560 mm (8'5")	2400 mm (7'10")
Operating height (fully raised)			5505 mm (18'1")	5375 mm (17'8")	5375 mm (17'8")
Overall length		Bucket on ground	7900 mm (25'11")	7990 mm (26'3")	7835 mm (25'9")
		Bucket at carry	7855 mm (25'9")	7910 mm (25'11")	7790 mm (25'7")
Turning radius (bucket at carry, outside corner of bucket)			6600 mm (21'8")	6620 mm (21'9")	6575 mm (21'7")
Digging depth		0°	130 mm (5.1")	150 mm (5.9")	130 mm (5.1")
		10°	355 mm (1'2")	390 mm (1'3")	345 mm (1'2")
Breakout force (bucket cylinder)			18090 kg (39880 lb)	20875 kg (46020 lb)	19260 kg (42460 lb)
Operating weight	type A		19290 kg (42530 lb)	19290 kg (42530 lb)	19330 kg (42620 lb)
	type C		18390 kg (40540 lb)	—	—

- All dimensions, weights and performance values based on SAE J-732C and J742b standards.
- Type A: Static tipping load and operating weight shown include 23.5-25-16PR (L-3) tubeless tires with 1050 kg (2315 lb) ballast in rear, lubricants, coolant, full fuel tank, steel cab, ROPS canopy and operator. Type C: Static tipping load operating weight shown include 23.5-25-16PR (L-3) tubeless tires without ballast in rear, lubricants, coolant, full fuel tank, steel cab, ROPS canopy and operator. Machine stability and operating weight are affected by counterweigth, tire size and other attachments. Use either tire ballast or counterweight, not both. Add the following weight changes to operating weight and static tipping load.

Tires and options	Change in operating weight	Change in tipping load	
		Straight	Full turn
23.5-25-16PR (L-3) tubeless tires without ballast	−1050 kg (2315 lb)	−1625 kg (3605 lb)	−1440 kg (3175 lb)
26.5-25-20PR (L-3) tubeless tires with ballast	+1175 kg (2590 lb)	+1170 kg (2580 lb)	+1030 kg (2271 lb)
26.5-25-20PR (L-3) tubeless tires without ballast	−205 kg (452 lb)	−657 kg (1448 lb)	−860 kg (1896 lb)
Remove ROPS canopy	−475 kg (1047 lb)	−520 kg (1146 lb)	−485 kg (1069 lb)
Remove Steel cab	−285 kg (628 lb)	−255 kg (562 lb)	−245 kg (540 lb)
Additional counterweight in place of ballast	−750 kg (1654 lb)	−875 kg (1929 lb)	−840 kg (1852 lb)

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WA450-1

Usage			Stockpile	Excavation	Excavation
Bucket type			Straight edge	Straight edge	Spade nose
Bucket capacity		SAE rated	** 3.5 m³ (4.6 cu.yd)	3.1 m³ (4.1 cu.yd)	3.1 m³ (4.1 cu.yd)
		Struck	3.0 m³ (3.9 cu.yd)	2.6 m³ (3.4 cu.yd)	2.7 m³ (3.5 cu.yd)
Bucket width			3050 mm (10')	3050 mm (10')	3050 mm (10')
Static tipping load	type A	Straight	15290 kg (33,710 lb)	15300 kg (33,730 lb)	15160 kg (33,420 lb)
		Full turn	13715 kg (30,240 lb)	13715 kg (30,240 lb)	13585 kg (29,950 lb)
	type C	Straight	14585 kg (32,150 lb)	14595 kg (32,180 lb)	14455 kg (31,870 lb)
		Full turn	12785 kg (28,190 lb)	12785 kg (28,190 lb)	12655 kg (27,900 lb)
Dumping clearance, max. height and 45° dump angle			3065 mm (10'1")	3125 mm (10'3")	3015 mm (9'11")
Reach at 2130 mm (7') cut edge clearance and 45° dump angle			1840 mm (6')	1780 mm (5'10")	1890 mm (6'2")
Reach at max. height and 45° dump angle			1245 mm (4'1")	1185 mm (3'11")	1295 mm (4'3")
Reach with arm horizontal and bucket level			2585 mm (8'6")	2500 mm (8'2")	2655 mm (8'9")
Operating height (fully raised)			5685 mm (18'8")	5560 mm (18'3")	5670 mm (18'7")
Overall length		Bucket on ground	8430 mm (27'8")	8345 mm (27'5")	8505 mm (27'11")
		Bucket at carry	8320 mm (27'4")	8265 mm (27'1")	8370 mm (27'6")
Turning radius (bucket at carry, outside corner of bucket)			6270 mm (22'1")	6715 mm (22')	6705 mm (22')
Digging depth	0°		55 mm (2.2")	55 mm (2.2")	40 mm (1.6")
	10°		395 mm (15.6")	380 mm (15.0")	400 mm (15.7")
Lifting capacity (SAE carry)			19820 kg (43,700 lb)	19820 kg (43,700 lb)	19820 kg (43,700 lb)
Breakout force (bucket cylinder)			20600 kg (45,410 lb)	22150 kg (48,830 lb)	19450 kg (42,880 lb)
Rated load			5600 kg (12,350 lb)	5600 kg (12,350 lb)	5600 kg (12,350 lb)
Operating weight	type A		19225 kg (42,380 lb)	19290 kg (42,530 lb)	19400 kg (42,770 lb)
	type C		18920 kg (41710 lb)	18985 kg (41,850 lb)	19095 kg (42,000 lb)

- All dimensions, weights and performance values based on SAE J-732C and J742b standards.
- Type A: Static tipping load and operating weight shown include 23.5-25-16PR (L-3) tubeless tires with 1050 kg (2315 lb) ballast in rear, lubricants, coolant, full fuel tank, steel cab, ROPS canopy and operator. Type C: Static tipping load operating weight shown include 23.5-25-16PR (L-3) tubeless tires without ballast in rear, lubricants, coolant, full fuel tank, steel cab, ROPS canopy and operator. Machine stability and operating weight are affected by counterweigth, tire size and other attachments. Use either tire ballast or counterweight, not both. Add the following weight changes to operating weight and static tipping load.

Weight changes

Tires and options	Change in operating weight	Change in tipping load	
		Straight	Full turn
23.5-25-16PR (L-3) tubeless tires	0/*+1050 kg (2,315 lb)	0/*+1680 kg (3,700 lb)	0/*+1485 kg (2,990 lb)
26.5-25-16PR (L-2) tubeless tires	+200 kg (440 lb)/ *+1380 kg (4,330 lb)	+160 kg (350 lb)/ *+2210 kg (4,870 lb)	+140 kg (310 lb)/ *+1950 kg (4,299 lb)
Canopy	+65 kg (143 lb)	+60 kg (132 lb)	+60 kg (132 lb)
ROPS canopy	+470 kg (1,036 lb)	+515 kg (1,135 lb)	+480 kg (1,058 lb)
Steel cab	+310 kg (683 lb)	+265 kg (584 lb)	+260 kg (573 lb)
Bucket teeth (tip type)	+200 kg (441 lb)	−270 kg (595 lb)	−270 kg (595 lb)
Bolt-on edges	+240 kg (529 lb)	−325 kg (716 lb)	−325 kg (716 lb)
Additional counterweight	+325 kg (716 lb)	+830 kg (1,830 lb)	+695 kg (1,532 lb)

* Filled with $CaCl_2$ liquid in rear tires.

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WA470-1

Bucket type			Loose material	Excavating	
			Bolt-on cutting edge	Bolt-on teeth	Bolt-on cutting edge
Bucket capacity		SAE rated	4.2 m³ (5.5 cu.yd)	3.5 m³ (4.6 cu.yd)	3.8 m³ (5.0 cu.yd)
		Struck	3.6 m³ (4.7 cu.yd)	3.0 m³ (3.9 cu.yd)	3.3 m³ (4.3 cu.yd)
Bucket width			3170 mm (10'5")	3170 mm (10'5")	3170 mm (10'5")
Bucket weight			2005 kg (4420 lb)	1935 kg (4270 lb)	1985 kg (4380 lb)
Static tipping load	type A	Straight	16690 kg (36800 lb)	16770 kg (36970 lb)	16715 kg (36850 lb)
		Full turn	14560 kg (32100 lb)	14640 kg (32280 lb)	14585 kg (32150 lb)
	type C	Straight	15560 kg (34300 lb)	—	—
		Full turn	13705 kg (30210 lb)	—	—
Dumping clearance, max. height and 45° dump angle			2960 mm (9'9")	2885 mm (9'6")	3010 mm (9'11")
Reach at 2130 mm (7') cut edge clearance and 45° dump angle			1795 mm (5'11")	1910 mm (6'3")	1810 mm (5'11")
Reach at max. height and 45° dump angle			1240 mm (4'1")	1300 mm (4'3")	1200 mm (3'11")
Reach with arm horizontal and bucket level			2650 mm (8'8")	2735 mm (9')	2575 mm (8'5")
Operating height (fully raised)			5705 mm (18'9")	5600 mm (18'5")	5600 mm (18'5")
Overall length		Bucket on ground	8330 mm (27'4")	8415 mm (27'7")	8255 mm (27'1")
		Bucket at carry	8230 mm (27')	8310 mm (27'3")	8190 mm (26'10")
Turning radius (bucket at carry, outside corner of bucket)			6815 mm (22'4")	6850 mm (22'6")	6800 mm (22'4")
Digging depth		0°	150 mm (5.9")	170 mm (6.7")	150 mm (5.9")
		10°	390 mm (1'4")	420 mm (1'5")	375 mm (1'3")
Breakout force (bucket cylinder)			18350 kg (40450 lb)	21325 kg (47010 lb)	19690 kg (43410 lb)
Operating weight	type A		21805 kg (48070 lb)	21740 kg (47930 lb)	21790 kg (48040 lb)
	type C		20845 kg (45,960 lb)	—	—

- All dimensions, weights and performance values based on SAE J-732C and J742b standards.
- Type A: Static tipping load and operating weight shown include 23.5-25-20PR (L-3) tubeless tires with 1050 kg (2315 lb) ballast in rear, lubricants, coolant, full fuel tank, steel cab, ROPS canopy and operator. Type C: Static tipping load and operating weight shown include 23.5-25-20PR (L-3) tubeless tires without ballast in rear lubricants, coolant, full fuel tank, steel cab, ROPS canopy and operator. Machine stability and operating weight are affected by counterweight, tire size and other attachments. Use either tire ballast or counterweight, not both. Add the following weight changes to operating weight and static tipping load.

Weight changes

Tires and options	Change in operating weight	Change in tipping load	
		Straight	Full-turn
23.5-25-16PR (L-3) tubeless tires without ballast	– 1050 kg (2315 lb)	– 1590 kg (3505 lb)	– 1400 kg (3086 lb)
26.5-25-20PR (L-3) tubeless tires with ballast	+1110 kg (2447 lb)	+1090 kg (2403 lb)	+960 kg (2116 lb)
26.5-25-20PR (L-3) tubeless tires without ballast	–270 kg (595 lb)	–1000 kg (2205 lb)	–880 kg (1940 lb)
Remove ROPS canopy	–760 kg (1676 lb)	–765 kg (1687 lb)	720 kg (1587 lb)
Remove Steel cab	–285 kg (628 lb)	–255 kg (562 lb)	–245 kg (540 lb)
Additional counterweight in place of ballast	– 725 kg (1598 lb)	– 775 kg (1709 lb)	– 760 kg (1675 lb)

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WA500-1

Bucket type			Straight edge	Spade nose
Usage			Excavation	Excavation
Bucket capacity		SAE rated	4.0 m³ (5.2 cu.yd)	4.0 m³ (5.2 cu.yd)
		Struck	3.3 m³ (4.3 cu.yd)	3.3 m³ (4.3 cu.yd)
Bucket width			3400 mm (11'2")	3400 mm (11'2")
Static tipping load	type A	Straight	18020 kg (39,730 lb)	17550 kg (38,690 lb)
		Full turn	15560 kg (34,300 lb)	15040 kg (33,160 lb)
	type C	Straight	18170 kg (40,060 lb)	17805 kg (39,250 lb)
		Full turn	15770 kg (34,770 lb)	14975 kg (33,010 lb)
Dumping clearance, max. height and 45° dump angle			3275 mm (10'9")	3110 mm (10'2")
Reach at 2130 mm (7') cut edge clearance and 45° dump angle			2115 mm (7'1")	2305 mm (7'7")
Reach at max. height and 45° dump angle			1320 mm (4'4")	1465 mm (4'10")
Reach with arm horizontal and bucket level			2730 mm (8'11")	2950 mm (9'8")
Operating height (fully raised)			5945 mm (19'6")	6215 mm (20'5")
Overall length		Bucket on ground	8805 mm (28'11")	9035 mm (29'8")
		Bucket at carry	8745 mm (28'8")	8890 mm (29'2")
Turning radius (bucket at carry, outside corner of bucket)			7175 mm (23'6")	7175 mm (23'6")
Digging depth		0°	115 mm (4.5")	125 mm (4.9")
		10°	340 mm (13.4")	385 mm (15.2")
Lifting capacity (SAE carry)			23500 kg (51,810 lb)	22700 kg (50,040 lb)
Breakout force (bucket cylinder)			27000 kg (59,520 lb)	22700 kg (50,040 lb)
Rated load			7200 kg (15,870 lb)	7200 kg (15,870 lb)
Operating weight	type A		24950 kg (55,000 lb)	25365 kg (55,920 lb)
	type C		25020 kg (55,160 lb)	25400 kg (56,000 lb)

- All dimensions, weights and performance values based on SAE J-732b standards.
- Concerning increases or decreases according to tire size, refer to the table in DIMENSIONS.
- Static tipping load and operating weight shown include 26.5-25-20PR (L-3) tubeless tires without ballast in rear, lubricants, coolant, full fuel tank and operator. Machine stability and operating weight are affected by counterweight, tire size and other attachments. Use either tire ballast or counterweight, not both. Add the following weight changes to operating weight and static tipping load.

Weight changes

Tires and options	Change in operating weight	Change in tipping load	
		Straight	Full turn
26.5-25-20PR (L-3) tubeless tires	0/*+1390 kg (3,064 lb)	0/*+2045 kg (4,511 lb)	0/*+1810 kg (3,990 lb)
ROPS canopy	+570 kg (1,257 lb)	+520 kg (1,146 lb)	+500 kg (1,102 lb)
Steel cab	+310 kg (685 lb)	+260 kg (573 lb)	+255 kg (562 lb)
Front half fenders	+100 kg (220 lb)	+35 kg (77 lb)	+35 kg (77 lb)
Rear half fenders	+175 kg (386 lb)	+175 kg (386 lb)	+160 kg (353 lb)
Bucket teeth (unitized)	+285 kg (628 lb)	–370 kg (816 lb)	–370 kg (816 lb)
Bucket teeth (tip type)	+315 kg (694 lb)	–410 kg (904 lb)	–410 kg (904 lb)

* Filled with $CaCl_2$ liquid.

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WA600-1

Bucket type			Straight edge	Spade nose
Usage			Excavation	Excavation
Bucket capacity		SAE rated	5.4 m³ (7.0 cu.yd)	5.4 m³ (7.0 cu.yd)
		Struck	4.6 m³ (6.0 cu.yd)	4.6 m³ (6.0 cu.yd)
Bucket width			3685 mm (12'1")	3685 mm (12'1")
Static tipping load	type A	Straight	27750 kg (61,180 lb)	27390 kg (60,380 lb)
		Full turn	24335 kg (53,650 lb)	24015 kg (52,940 lb)
	type C	Straight	27770 kg (61,220 lb)	27410 kg (60,430 lb)
		Full turn	24480 kg (53,970 lb)	24160 kg (53,260 lb)
Dumping clearance, max. height and 45° dump angle			3775 mm (12'5")	3585 mm (11'9")
Reach at 2130 mm (7') cut edge clearance and 45° dump angle			3455 mm (11'4")	3590 mm (11'9")
Reach at max. height and 45° dump angle			1640 mm (5'5")	1815 mm (5'11")
Reach with arm horizontal and bucket level			4190 mm (13'9")	4450 mm (14'7")
Operating height (fully raised)			6970 mm (22'10")	7055 mm (23'2")
Overall length		Bucket on ground	10210 mm (33'6")	10480 mm (34'5")
		Bucket at carry	10180 mm (33'5")	10375 mm (34')
Turning radius (bucket at carry, outside corner of bucket)			8105 mm (26'7")	8105 mm (26'7")
Digging depth		0°	35 mm (1.4")	45 mm (1.8")
		10°	285 mm (11.2")	345 mm (1'2")
Lifting capacity (SAE carry)			41500 kg (91,490 lb)	41000 kg (90,390 lb)
Breakout force (bucket cylinder)			45450 kg (100,200 lb)	38440 kg (84,740 lb)
Rated load			9720 kg (21,430 lb)	9720 kg (21,430 lb)
Operating weight	type A		39200 kg (86,420 lb)	39430 kg (86,930 lb)
	type C		39680 kg (87,480 lb)	39900 kg (87,960 lb)

- All dimensions, weights and performance values based or SAE J-732c and J-742b standards.
- Static tipping load and operating weight shown include 35/36-33-24 PR (L-4) tubeless tires without ballast in rear, lubricants, coolant, full fuel tank and operator. Machine stability and operating weight are affected by counterweight, tire size and other attachments. Use either tire ballast or counterweight, not both. Add the following weight changes to operating weight and static tipping load.

Weight changes

Tires and options	Change in operating weight	Change in tipping load	
		Straight	Full turn
35/36-33-24PR (L-4) tubeless tires	0/*+2700 kg (5,952 lb)	0/*+3805 kg (8,389 lb)	0/*+3355 kg (7,396 lb)
35/65-33-24PR (L-5) tubeless tires	+1140 kg (2,513 lb)/ *+3840 kg (8,466 lb)	+805 kg (1,775 lb)/ *+4610 kg (10,163 lb)	+710 kg (1,565 lb)/ *+4065 kg (8,962 lb)
29.5-29-28PR (L-4) tubeless tires	−670 kg (1,477 lb)/ *+1375 kg (3,031 lb)	−470 kg (1,036 lb)/ *+2070 kg (4,564 lb)	−415 kg (915 lb)/ *+2125 kg (4,685 lb)
ROPS canopy	+800 kg (1,764 lb)	+655 kg (1,444 lb)	+630 kg (1,389 lb)
Steel cab	+310 kg (683 lb)	+215 kg (474 lb)	+215 kg (474 lb)
Front fenders	+92 kg (203 lb)	+35 kg (77 lb)	+35 kg (77 lb)
Bucket teeth (bolt-on type)	+328 kg (723 lb)	−420 kg (926 lb)	−420 kg (926 lb)
Bucket teeth (weld-on tip type)	+372 kg (820 lb)	−475 kg (1,047 lb)	−475 kg (1,047 lb)

*Filled with $CaCl_2$ in rear tires.

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WA800-1

Rock bucket type			Straight edge		Spade nose	
Tooth			Without teeth	With weld-on/tip type teeth	Without teeth	With weld-on/tip type teeth
Bucket capacity	SAE rated	m^3 (yd^3)	10.5 (13.7)	10.5 (13.7)	10.5 (13.7)	10.5 (13.7)
	Struck	m^3 (yd^3)	9.1 (11.9)	9.1 (11.9)	9.1 (11.9)	9.1 (11.9)
Bucket width		mm (in.)	4800 (15'9")	4800 (15'9")	4800 (15'9")	4800 (15'9")
Bucket weight		kg (lb)	7330 (16,160)	7993 (17,620)	7775 (17,140)	8438 (18,600)
Static tipping load	Straight	kg (lb)	55500 (122,360)	54650 (120,480)	54800 (120,810)	53950 (118,940)
	Full turn	kg (lb)	48800 (107,580)	47950 (105,710)	48200 (106,260)	47350 (104,390)
Dumping clearance, max. height and 45° dump angle		mm (ft.in)	5230 (17'2")	4905 (16'1")	5005 (16'5")	4680 (15'4")
Reach at 2130 mm (7') cut edge clearance and 45° dump angle		mm (ft.in)	3210 (10'6")	3445 (11'4")	3420 (11'3")	3650 (12')
Reach at max. height and 45° dump angle		mm (ft.in)	1890 (6'2")	2125 (7')	2110 (6'11')	2350 (7'9")
Reach with arm horizontal and bucket level		mm (ft.in)	3995 (13'1")	4395 (14'5")	4310 (14'2")	4710 (15'5")
Operating height (fully raised)		mm (ft.in)	9290 (30'6")	9290 (30'6")	9340 (30'8")	9340 (30'8")
Overall length	Bucket on ground	mm (ft.in)	12900 (42'4")	13300 (43'8")	13215 (43'4")	13615 (44'8")
	Bucket at carry	mm (ft.in)	12845 (42'4")	13155 (43'2")	13010 (42'8")	13325 (43'9")
Turning radius (bucket at carry, outside corner of bucket)		mm (ft.in)	10780 (35'4")	10880 (35'8")	10770 (35'4")	10900 (35'9")
Digging depth	0°	mm (ft.in)	80 (3")	150 (5.9")	80 (3")	150 (5.9")
	10°	mm (ft.in)	395 (1'4")	530 (1'9")	450 (1'6")	580 (1'11")
Lifting capacity (SAE carry)		kg (lb)	65900 (145,280)	65900 (145,280)	65500 (144,400)	65500 (144,400)
Breakout force (bucket cylinder)		kg (lb)	81600 (179,900)	81600 (179,900)	69000 (152,120)	69000 (152,120)
Rated load		kg (lb)	18900 (41,670)	18900 (41,670)	18900 (41,670)	18900 (41,670)
Operating weight		kg (lb)	86800 (191,360)	87460 (192,810)	87250 (192,350)	87910 (193,810)

- All dimensions, weights and performance values based on SAE J-732c and J742b standards.
- Static tipping load and operating weight shown include 45/65-45-38PR (L-5) tubeless tires without ballast in rear, steel cab, ROPS canopy, lubricants, coolant, full fuel tank and operator. Machine stability and operating weight are affected by counterweight, tire size and other attachments. Use either tire ballast or counterweight, not both. Add the following weight changes to operating weight and static tipping load.

Weight changes

Tires and options	Change in operating weight	Change in tipping load	
		Straight	Full turn
45/65-45-38PR (L-5) tubeless tires	0/*+5250 kg (11,570 lb)	0/*7770 kg (17,130 lb)	0/*+6830 kg (15,060 lb)
45/65-45-46PR (L-5) tubeless tires	+536 kg (1,180 lb) *+5786 kg (12,760 lb)	+795 kg (1,750 lb) *+8565 kg (18,880 lb)	+700 kg (1,540 lb)/ *+7530 kg (16,600 lb)
45/65-45-50PR (L-5) tubeless tires	+736 kg (1,620 lb) *+5980 kg (13,200 lb)	+1090 kg (2,400 lb) *+8860 kg (19,530 lb)	+960 kg (2,120 lb)/ *+7790 kg (17,170 lb)
Remove ROPS canopy only	−1295 kg (2,850 lb)	−1065 kg (2,350 lb)	−1030 kg (2,270 lb)
Remove cab only	−260 kg (570 lb)	−197 kg (430 lb)	−194 kg (430 lb)
Remove both ROPS canopy and cab	−1555 kg (3,430 lb)	−1262 kg (2,780 lb)	−1224 kg (2,700 lb)
Bucket teeth	+663 kg (1,460 lb)	−851 kg (1,880 lb)	−851 kg (1,880 lb)

*Filled with $CaCl_2$ in rear tires.

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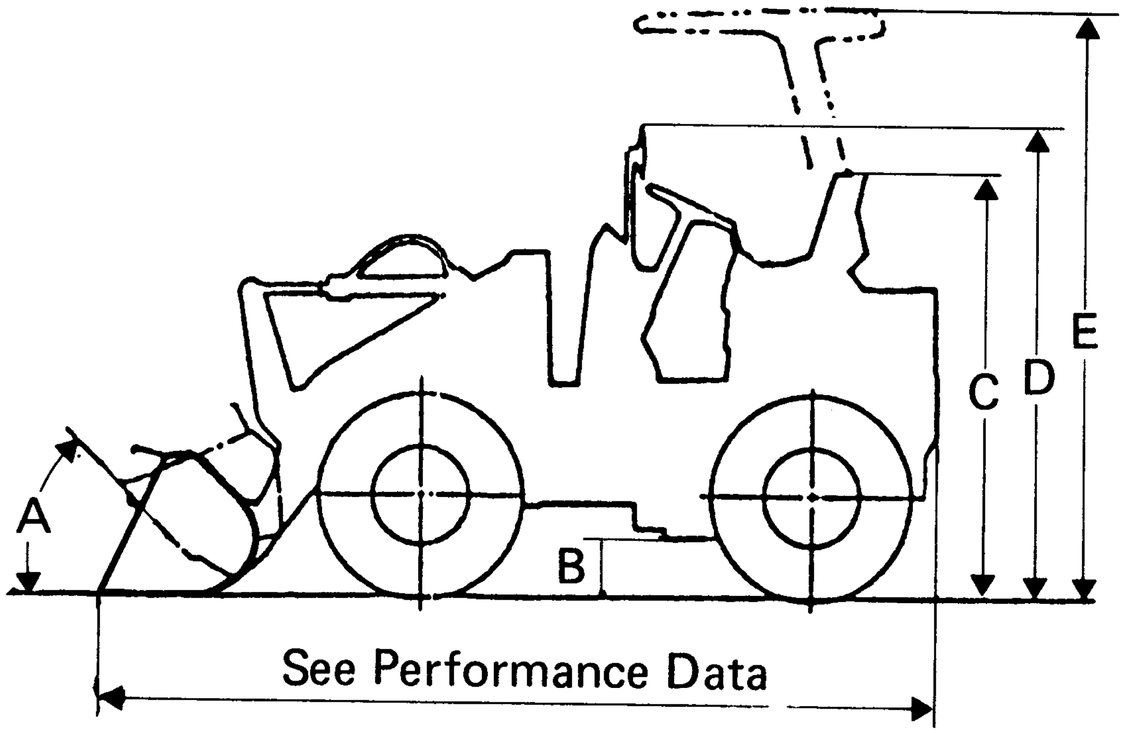

MODELS		WA20-1	WA30-2	WA40-1
BUCKET CAPACITY	m^3(cu·in)	0.26 (0.34)	0.34 (0.44)	0.60 (0.78)
TIRES		10 x 16.5 – 4PR	33 x 12.5 – 15 – 6(L – 2)	15.5/70 – 18 – 8PR
DIMENSIONS:				
A Max.rollback at ground	degree	44	44	45
B Ground clearance	mm(ft·in)	230 (9.1")	230 (9.1")	300 (1')
C Height to top of the operator's seat	mm(ft·in)	1650 (5' 5")	1715 (5' 8")	1910 (6' 3")
D Height to top of the rear view mirror	mm(ft·in)	1815 (6' 1")	1890 (6' 2")	1815 (5'11")
E Overall height;	mm(ft·in)			
when installing the				
– CANVAS CANOPY		2340 (7'8")	2420 (7'11")	2600 (8'6")
– ROPS CANOPY		2615 (8'7")	2715 (8'11")	2895 (9'6")

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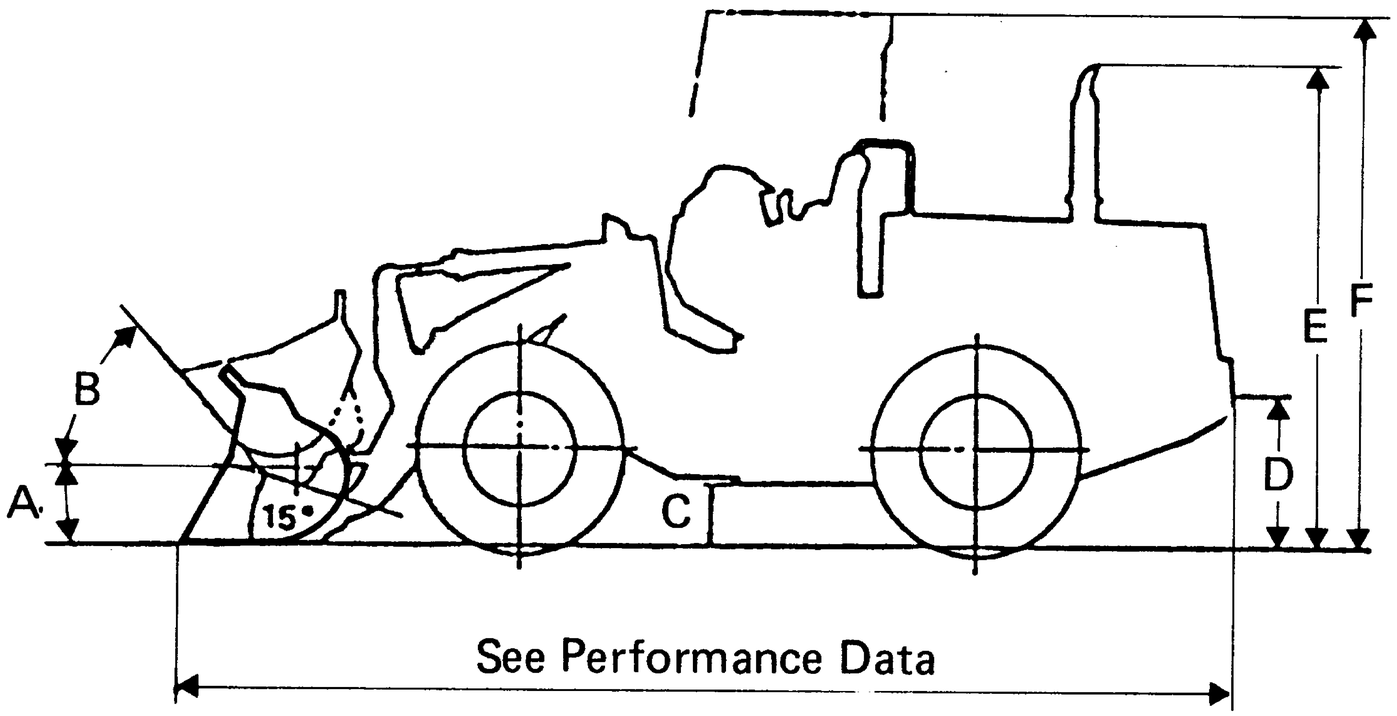

MODELS		WA70-1	WA100-1	WA120-1	WA150-1
BUCKET CAPACITY	m^3(cu·yd)	0.8 (1.0)	1.2 (1.6)	1.4 (1.75)	1.4 (1.8)
TIRES		17.5/65 – 20PR (L – 2)	16.9 – 24 – 10PR (L – 2)	14.0 – 24 – 12PR (L – 2)	14.00 – 24 – 12PR(L – 2)
DIMENSIONS					
A Hinge pin height at carry position	mm(ft·in)	325 (1' 1")	340 (1' 1")	340 (1' 1")	350 (1' 2")
B Max.rollback at carry position	degree	47	48	48	48
C Ground clearance	mm(ft·in)	350 (1' 2")	400 (1' 4")	425 (1' 5")	430 (1' 5")
D Hitch height	mm(ft·in)	755 (2' 6")	750 (2' 6")	800 (2' 8")	810 (2' 8")
E Height to top of the stack	mm(ft·in)	–	3075 (10' 1")	3100 (10' 2")	3105 (10' 2")
F Overall height; when installing the	mm(ft·in)				
– ROPS CANOPY		1550 (5' 1")	3110 (10' 2")	3135(10'3")	3140 (10' 4")
– ROPS CAB		2855(9'4")	3110 (10' 2")	3135(10'3")	3140 (10' 4")
– STEEL CAB		2845 (9' 4")	3100 (10' 2")	3135(10'3")	3130 (10' 3")

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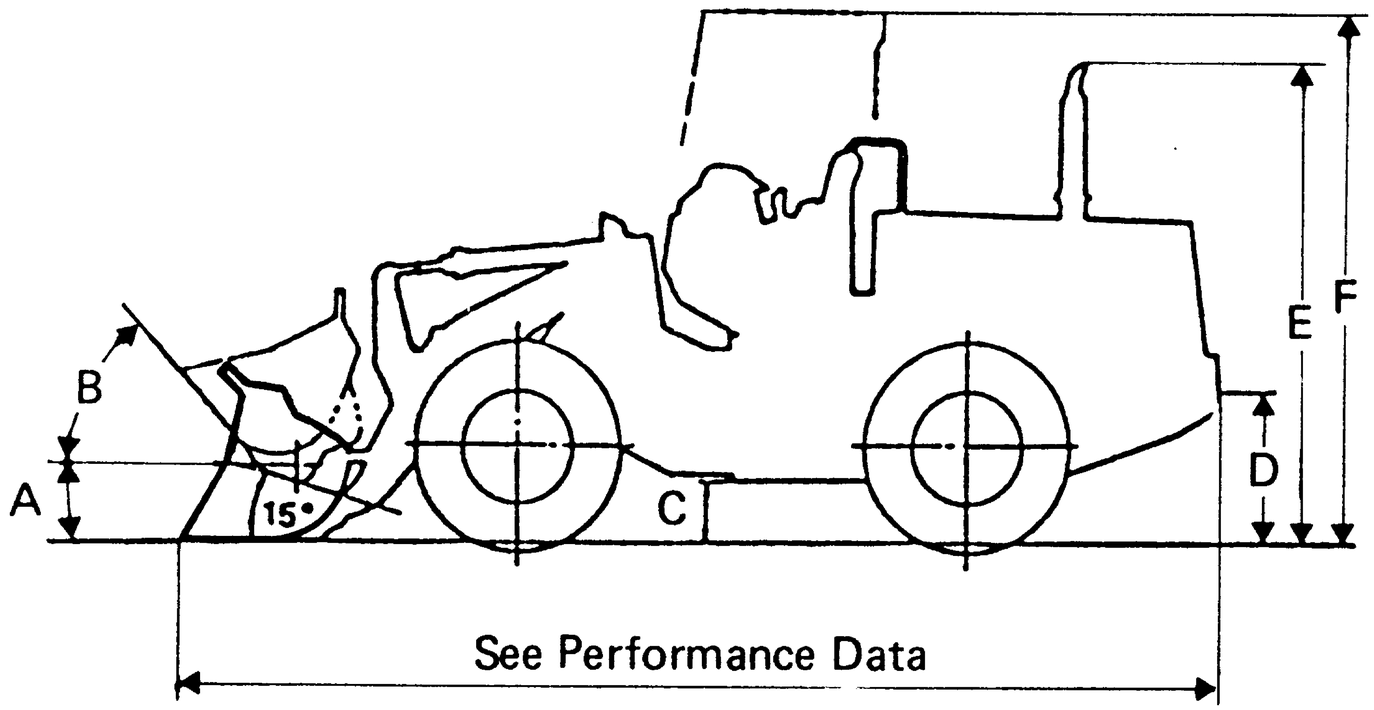

MODELS		WA180-1	WA200-1	WA250-1	WA300-1
BUCKET CAPACITY	m^3(cu·yd)	1.7 (2.25)	1.7 (2.2)	2.1 (2.75)	2.3 (3.0)
TIRES		14.0 – 24 – 12PR (L – 2)	17.5 x 25 – 12PR (L – 2)	17.5 – 25 – 12PR (L – 2)	17.5 x 25 – 12PR (L – 2)
DIMENSIONS					
A Hinge pin height at carry position	mm(ft·in)	360 (1' 2")	355 (1' 2")	390 (1' 3")	400 (1'4")
B Max.rollback at carry position	degree	47	48	48	50
C Ground clearance	mm(ft·in)	420 (1' 5")	395 (1' 4")	385 (1' 3")	330 (1'1")
D Hitch height	mm(ft·in)	800 (2' 7")	1020 (3' 4")	1115 (3' 8")	1040 (3' 5")
E Height to top of the stack	mm(ft·in)	3065 (10' 1")	3190 (10' 6")	3180 (10' 5")	3120 (10' 3")
F Overall height; when installing the	mm(ft·in)				
– ROPS CANOPY		3130(10'3")	3310 (10'10")	3295(10'10")	3315 (10'11")
– ROPS CAB		3130(10'3")	3330 (10'11")	3315(10'11")	3315 (10'11")
– STEEL CAB		3130(10'3")	3280 (10' 9")	3265(10'9")	3270 (10' 9")

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MODELS		WA320-1	WA350-1	WA380-1	WA400-1
BUCKET CAPACITY	m^3(cu·yd)	2.5 (3.25)	2.9 (3.75)	3.1 (4.0)	3.1 (4.1)
TIRES		17.5 – 25 – 12PR (L – 2)	20.5 – 25 – 12PR (L – 2)	20.5 – 25 – 16PR (L – 2)	23.5 – 25 – 12PR (L – 3)
DIMENSIONS					
A Hinge pin height at carry position	mm(ft·in)	410 (1' 4")	490 (1' 7")	490 (1' 7")	465 (1' 6")
B Max.rollback at carry position	degree	44	50	50	47.5
C Ground clearance	mm(ft·in)	330 (1' 1")	400 (1' 4")	400 (1' 4")	470 (1' 7")
D Hitch height	mm(ft·in)	1020 (3' 4")	1045 (3' 5")	1045 (3' 5")	1110 (3' 8")
E Height to top of the stack	mm(ft·in)	3120 (10' 3")	3230 (10' 7")	3230 (10' 7")	3285 (10' 9")
F Overall height; when installing the	mm(ft·in)				
– ROPS CANOPY		3315(10'11")	3465 (11' 4")	3465 (11' 4")	3500 (11' 6")
– ROPS CAB		3315(10'11")	–	–	–
– STEEL CAB		3270(10'9")	3395 (11' 2")	3395(11'2")	3450 (11' 4")

MODELS		WA420-1	WA450-1	WA470-1	WA500-1
BUCKET CAPACITY	m^3(cu·yd)	3.7 (4.75)	3.5 (4.6)	4.2 (5.5)	4.0 (5.2)
TIRES		23.5 – 25 – 16PR (L – 3)	23.5 – 25 – 16PR (L – 3)	23.5 – 25 – 20PR (L – 3)	26.5 – 25 – 20PR (L – 3)
DIMENSIONS					
A Hinge pin height at carry position	mm(ft·in)	475 (1' 7")	515(1'8")	515 (1' 8")	540(1'9")
B Max.rollback at carry position	degree	48	50	51	49
C Ground clearance	mm(ft·in)	450 (1' 6")	470 (1' 7")	455 (1' 6")	435 (1' 5")
D Hitch height	mm(ft·in)	1110 (3' 8")	1135 (3' 9")	1120 (3' 8")	1135 (3' 9")
E Height to top of the stack	mm(ft·in)	3285 (10' 9")	3385 (11' 1")	3370 (11' 1")	3630 (11'11")
F Overall height; when installing the	mm(ft·in)				
– ROPS CANOPY		3500 (11' 6")	3550 (11' 8")	3535 (11' 7")	3895 (12' 9")
– ROPS CAB		–	–	–	–
– STEEL CAB		3450 (11'4")	3480 (11' 5")	3480(11'5")	3780 (12' 5")

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MODELS		WA600-1	WA800-1
BUCKET CAPACITY	m^3(cu·yd)	5.4 (7.0)	10.5 (13.7)
TIRES		35/65 – 33 – 24PR(L – 4)	45/65 – 45 – 38PR(L – 5)
DIMENSIONS			
A Hinge pin height at carry position	mm(ft·in)	640 (2' 1")	800 (2'7")
B Max.rollback at carry position	degree	50	50
C Ground clearance	mm(ft·in)	495 (1' 7")	550 (1'10")
D Hitch height	mm(ft·in)	1295 (4' 3")	1390 (4'7")
E Height to top of the stack	mm(ft·in)	4120 (13' 6")	5080 (16' 8")
F Overall height; when installing the	mm(ft·in)		
– ROPS CANOPY		4255 (14')	5275 (17' 4")
– ROPS CAB		–	–
– STEEL CAB		4170 (13' 8")	5160 (16'11")

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1. OPERATING WEIGHT

The total mass in kilograms (pounds) of the machine as specified and fully serviced, including a full fuel tank and 80kg (175 lb) operator.

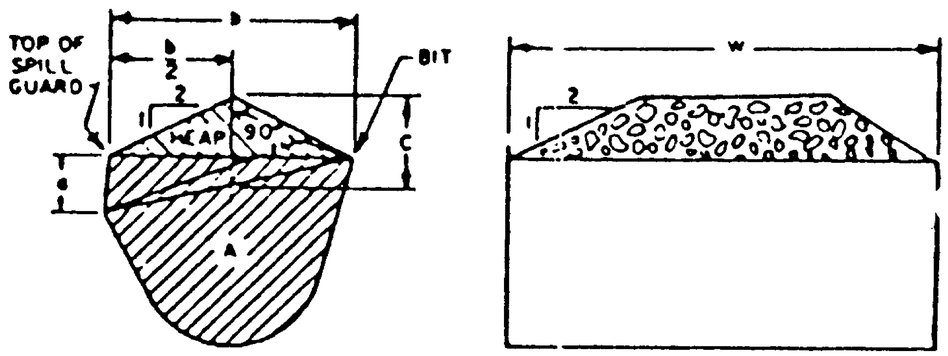
2. BUCKET CAPACITY

The bucket capacity of wheel loaders is calculated as follows:

The struck capacity is defined as the volume of material retained in the bucket after a heaped load is struck by drawing a straight edge across the width of bucket with one end of the straight edge resting on the cutting edge and the other end resting on the uppermost portion of the bucket back sheet or spill guard. The struck capacity can be expressed by the following equation:

$$Vs = AW - \frac{2}{3}a^2b$$

A = cross sectional area at the center of the bucket, mm^2 (in^2.).
W = average inside width of the bucket, mm (in.).
a = heigth of the spill guard at the center of the bucket normal to the strike line, mm (in.).
b = length of opening at the center of the bucket, mm (in.).



Using the 2 : 1 angle of repose of the heaped material, the heaped capacity is expressed as follow:

$$Vr = Vs + \frac{b^2W}{8} - \frac{b^2}{6}(a + c)$$

where c is the length on a normal to the strike line. On one end it is terminated by the assumed crest of the material.
On the other end it is terminated by the intersection with a line form the bit or cutting edge tip to the base of the spill guard.

This method applies primarily to irregular buckets having parallel sides and a cutting edge parallel to the edge of the spill guard or back sheet. Moderately clipped spill guard corners will introduce no appreciable errors.

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3. RATED LOAD

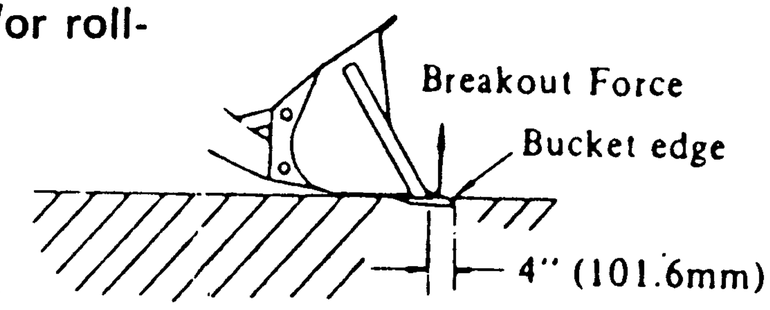
The rated load (operating load) will not excced 50% of the TIPPING LOAD for wheel loaders or 35% of the TIPPING LOAD for craler loaders, and will be considered as operating under the following conditions:

1. Lifting ability of the machine in all bucket positions to be no less than the specified operating load.
2. Bucket attachment of specified size and type.
3. Maximum travel speed of 6km/h (3.7mph).
4. Operating surface.
   (a) Shall be hard, moderately smooth and level for wheel loaders.
   (b) General operating conditions of crawler loaders are such that they normally are not operating on hard, moderately smooth level surface. For this reason, the rating on crawler loaders is set at the lower figure of 35%.

4. BREAKOUT FORCE

Breakout force in kilograms (and kilonewtons or pounds) is the maximum sustained vertical upward force exerted 100mm (4 in) behind the tip of the bucket cutting edge and is achieved through the ability to lift and/or roll-back the bucket about the specified pivot point under the following conditions:

(a) Machine with transmission in neutral.
(b) All brakes released.
(c) Unit at standard operating weight, rear of machine not tied down.



Breakout Force

(d) Bottom of cutting edge parallel to and not more than 25mm (1 in) above or below the ground line.
(e) When bucket circuit is used, the pivot point must be specified as the bucket hinge pin, and the unit blocked under the bucket hinge pin pivot point in order to minimize linkage movement.
(f) When the lift circuit is used, the pivot point must be specified as the lift arm hinge pin. Wheel loaders shall have front axle blocked to ellminate change in position of pivot pins due to trie defiection.
(g) If both circuits are used simultaneously, the dominating pivot point listed in (e) or (f) must be specified.
(h) If the circuit used causes the rear of the machine to leave the ground then the vertical force value required to raise the rear of the machine is the breakout force.
(i) For irregular shaped buckets, the tip of the bucket cutting edge, referred to above shall mean the farthest forward point of the cutting edge.

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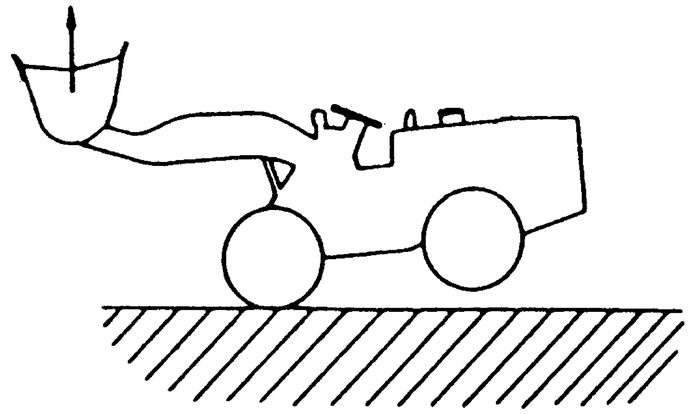
5. STATIC TIPPING LOAD

The minimum mass in kilograms (pounds) at the center of gravity of the SAE rated load in the bucket which will rotate the machine to a point where, on the crawler units, the front track rollers are clear of the track and, on wheel loaders, the rear wheels are clear of the ground under the follwing conditions:

(a) Maximum bucket rollback.

(b) Center of gravity of load at the maximum foward position in the raising cycle.

(c) Machine at operating weight and equipment as specified.
Articulated steer loader shall be in full turn position (specify angle).



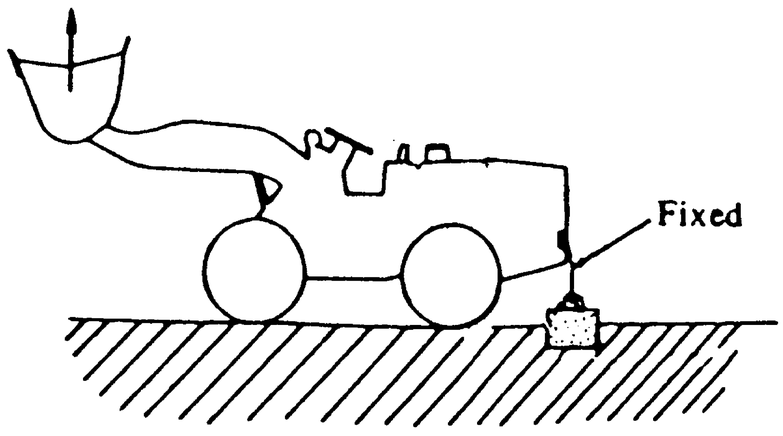
Tipping Load

6. LIFTING CAPACITY

The maximum mass in kilograms (pounds) at the center of gravity of SAE rated load in the bucket that can be lifted at a specified height with the bucket positioned to ratain maximum load under the following conditions:

(a) Machine with rear end tied down.

(b) Machine at operating weight and equipment as specified.



Lifting Capacity

7. HYDRAURIC CYCLE TIMES

- Raising Time— The time in seconds required to raise the bucket, rolled back, from the ground level position to full height with the specified SAE operating load.
- Lowing time— The time in seconds required to lower the empty bucket from the full height to a level position on the ground.
- Dump Time— The time in seconds required to move the bucket from the load carrying position at maximum height to the full dump position while dumping the specified SAE operating load.

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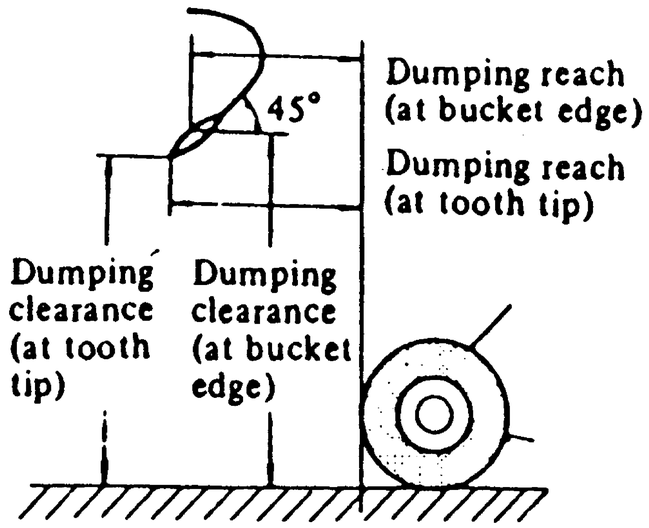
8. DUMPING CLEARANCE AND REACH

- Dumping clearance— The vertical distance in millimeters (inches) from the ground to the lowest point of the cutting edge with the bucket hinge pin at maximum height and the bucket at a 45 deg dump angle. If the dump angle is less than 45 deg, specify the angle.
- Dumping reach— The horizontal distance in millimeters (inches) from the foremost point on the machine (including tires, tracks, or loader frames) to the rear most point of the bucket cutting edge with bucket hinge pin at maximum height and bucket at a 45 deg dump angle. If the dump angle is less than 45 deg, specify the angle.

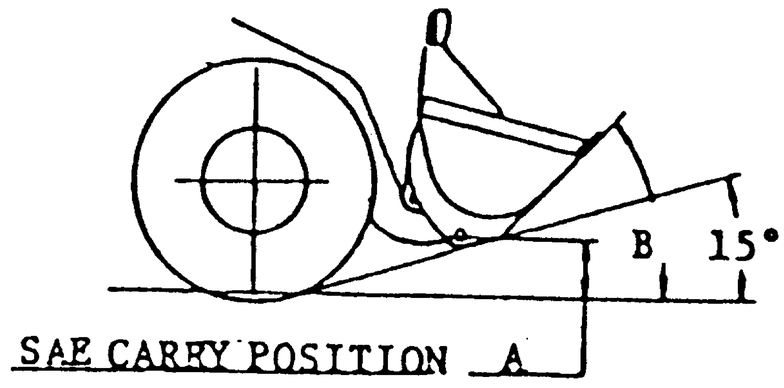


Chassis foremost end

Wheel loader	Hauler	Guide line
Bucket capacity (Q1)	Max. loading capacity (Q2)	Q2÷Q1 = 3 ~ 4 (vest matching)
Dumping clearance (H1)	Loading height (H2)	H1 ≧ H2 + 150
Dumping reach (L1)	Body width (L2)	L1 ≧ L2 / 2 – 300
Bucket width (B1)	Body length (B2)	B1 ≧ B1 + 300

9. CARRY POSITION

The vertical distance from the ground in millimeters (inches) to the centerline of the bucket hinge pin, with the angle of approach at 15 deg.



A: Carry height
B: Max. tilt-back angle (At carry position)

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Attachments Availability

• Optional equipment
• Standard equipment
Unit: m^3(cu.yd)

	WA20	WA30	WA40	WA70	WA100	WA120	WA150	WA180
GENERAL PURPOSE BUCKET (STOCKPILE)	• 0.26(0.34)	• 0.34(0.45)	• 0.5(0.7)	• 0.8(1.0)	• 1.2(1.6)	○ 1.4(1.75)	○ 1.4(1.8)	○ 1.7(2.25)
GENERAL PURPOSE BUCKET (EXCAVATING)					○ 1.0(1.3)	○ 1.2(1.5)	○ 1.2(1.6)	○ 1.5(2.0)
LIGHT MATERIAL BUCKET	○ 0.35(0.48)	○ 0.42(0.55)	○ 0.6(0.8)	○ 1.0(1.3)	○ 1.4(1.8)	○ 1.7(2.25)	○ 1.6(2.1) 1.9(2.5)	○ 2.2(2.9)
SPADE NOSE ROCK BUCKET (NO TEETH)								
SPADE NOSE ROCK BUCKET (WITH TEETH)								
SIDE DUMP BUCKET (BOTH SIDE)					○ 0.8(1.0)		○ 1.0(1.3)	
MULTI-PURPOSE BUCKET	○ 0.26(0.34)		○ 0.5(0.7)	○ 0.6(0.8)	○ 1.0(1.3)	○ 1.2(1.5)	○ 1.2(1.6)	○ 1.5(2.0)
GENERAL PURPOSE BUCKET FOR HI-LIFT BOOM					○ 1.0(1.3)		○ 1.2(1.6)	
GENERAL PURPOSE BUCKET FOR QUICK COUPLER	○ 0.26(0.34)	○ 0.34(0.45)	○ 0.5(0.7)	○ 0.6(0.8)	○ 1.2(1.6)		○ 1.4(1.8)	
BUCKET TEETH(BOLT-ON)	○			○	○	○	○	○
BUCKET TEETH, TIP TYPE (WELD-ON)								
BUCKET TEETH, TIP TYPE (BOLT-ON)				○	○	○	○	○
CUTTING EDGE(BOLT-ON)	○	○	○	○	○	○	○	○
LOG CLAMP								
LOG-LUMBER FORK								
LOG LUMBER GRAPPLE								
LUMBER GRAPPLE		○		○	○		○	○
DUMPING FORK	○	○	○	○	○		○	
LUMBER FORK	○	○	○	○	○		○	
LOG CLAMP FOR QUICK COUPLER								
LUMBER GRAPPLE FOR QUICK COUPLER		○	○				○	
LUMBER FORK FOR QUICK COUPLER	○	○	○	○	○			
DUMPING FORK FOR QUICK COUPLER	○	○		○				
ROLLING GUSSET								
HI-LIFT BOOM	○	○			○		○	
SUPER HI-LIFT BOOM	○				○			
BACKHOE		○		○	○	○	○	○
COUNTERWEIGHT (ADDITIONAL)	○	○	○			○	○	○
COUNTERWEIGHT(LOGGING)		○	○		○		○	○
COUNTERWEIGHT(HI-LIFT)		○	○	○	○		○	

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Attachments Availability

∘ Optional equipment
• Standard equipment
Unit: m^3(cu.yd)

	WA200	WA250	WA300	WA320	WA350	WA380	WA400	WA420
GENERAL PURPOSE BUCKET (STOCKPILE)	• 1.7(2.2)	∘	• 2.3(3.0)	∘ 2.5(3.25)	• 2.7(3.5)	∘ 3.1(4.0)	• 3.1(4.1)	∘ 3.7(4.75)
GENERAL PURPOSE BUCKET (EXCAVATING)	∘ 1.5(2.0)	2.1(2.75) ∘	∘ 2.0(2.6)	∘ 2.25(2.95)	∘ 2.4(3.1)	∘ 2.75(3.5)	∘ 2.8(3.7)	∘ 3.3(4.25)
LIGHT MATERIAL BUCKET	∘ 2.3(3.0)	1.9(2.5) ∘	∘ 3.0(3.9)	∘ 3.1(4.0)	∘ 3.5(4.6)	∘ 4.0(5.25)	∘ 4.0(5.2)	∘ 4.6(6.0)
SPADE NOSE ROCK BUCKET (NO TEETH)		2.7(3.5)	∘ 2.0(2.6)		∘ 2.4(3.1)	∘ 2.6(3.4)	∘ 2.8(3.7)	∘ 3.1(4.0)
SPADE NOSE ROCK BUCKET (WITH TEETH)			∘ 2.0(2.6)		∘ 2.4(3.1)	∘ 2.6(3.4)	∘ 2.8(3.7)	∘ 3.1(4.0)
SIDE DUMP BUCKET (BOTH SIDE)								
MULTI-PURPOSE BUCKET	∘ 1.5(2.0)		∘ 2.0(2.6)		∘ 2.4(3.1)			
GENERAL PURPOSE BUCKET FOR HI-LIFT BOOM	∘ 1.5(2.0)		∘ 1.9(2.5)					
GENERAL PURPOSE BUCKET FOR QUICK COUPLER	∘ 1.5(2.0)		∘ 2.3(3.0)		∘ 2.7(3.5)			
BUCKET TEETH(BOLT-ON)	∘		∘	∘	∘	∘	∘	∘
BUCKET TEETH, TIP TYPE (WELD-ON)		∘						
BUCKET TEETH, TIP TYPE (BOLT-ON)	∘	∘	∘	∘	∘	∘	∘	∘
CUTTING EDGE(BOLT-ON)	∘		∘	∘	∘	∘	∘	∘
LOG CLAMP	∘	∘	∘		∘		∘	
LOG-LUMBER FORK		∘					∘	
LOG LUMBER GRAPPLE							∘	
LUMBER GRAPPLE	∘		∘		∘		∘	
DUMPING FORK	∘		∘		∘			
LUMBER FORK	∘		∘		∘			
LOG CLAMP FOR QUICK COUPLER	∘		∘					
LUMBER GRAPPLE FOR QUICK COUPLER								
LUMBER FORK FOR QUICK COUPLER								
DUMPING FORK FOR QUICK COUPLER					∘			
ROLLING GUSSET								
HI-LIFT BOOM	∘		∘				∘	
SUPER HI-LIFT BOOM								
BACKHOE								
COUNTERWEIGHT (ADDITIONAL)	∘		∘	∘	∘	∘	∘	∘
COUNTERWEIGHT(LOGGING)	∘	∘	∘	∘	∘	∘	∘	
COUNTERWEIGHT(HI-LIFT)	∘	∘	∘					

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Attachments Availability

• Optional equipment
• Standard equipment
Unit: m^3(cu.yd)

	WA450	WA470	WA500	WA600	WA800
GENERAL PURPOSE BUCKET (STOCKPILE)	• 3.5(4.6)	○ 4.2(5.5)	○ 4.4(5.6)	○ 5.4(7.1)	
GENERAL PURPOSE BUCKET (EXCAVATING)	○ 3.1(4.1)	○ 3.8(5.0)	○ 4.0(5.2)	○ 5.4(7.0)	○ 10.5(13.7)
LIGHT MATERIAL BUCKET	○ 4.5(5.9)	○ 5.2(6.75)			○
SPADE NOSE ROCK BUCKET (NO TEETH)	○ 3.1(4.1)	○ 3.5(4.6)	○ 4.0(5.2)	○ 5.4(7.0)	○
SPADE NOSE ROCK BUCKET (WITH TEETH)	○ 3.1(4.1)	○ 3.5(4.6)	○ 4.0(5.2)	○ 5.4(7.0)	○ 10.5(13.7)
SIDE DUMP BUCKET (BOTH SIDE)					
MULTI-PURPOSE BUCKET					
GENERAL PURPOSE BUCKET FOR HI-LIFT BOOM					○
GENERAL PURPOSE BUCKET FOR QUICK COUPLER					
BUCKET TEETH(BOLT-ON)	○	○	○	○	
BUCKET TEETH, TIP TYPE (WELD-ON)			○	○	
BUCKET TEETH, TIP TYPE (BOLT-ON)	○	○			○
CUTTING EDGE(BOLT-ON)	○	○	○	○	
LOG CLAMP	○		○		
LOG-LUMBER FORK	○		○		
LOG LUMBER GRAPPLE	○		○		
LUMBER GRAPPLE					
DUMPING FORK					
LUMBER FORK					
LOG CLAMP FOR QUICK COUPLER					
LUMBER GRAPPLE FOR QUICK COUPLER					
LUMBER FORK FOR QUICK COUPLER					
DUMPING FORK FOR QUICK COUPLER					
ROLLING GUSSET	○		○		
HI-LIFT BOOM					
SUPER HI-LIFT BOOM					
BACKHOE					
COUNTERWEIGHT (ADDITIONAL)	○		○	○	
COUNTERWEIGHT(LOGGING)	○		○		
COUNTERWEIGHT(HI-LIFT)					

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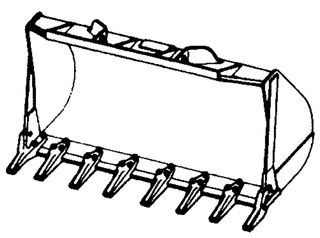
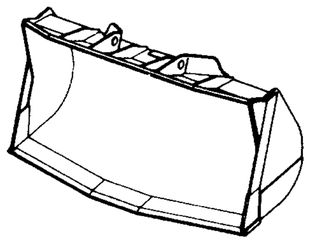
1) General Purpose:



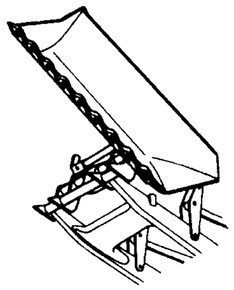
This bucket is most appropriate for excavating and loading of soil, sand and a variety of other commonly handled materials. Unique design features let this bucket accommodate large volume loads with a minimum of spillage. This means a larger work volume. Moreover, the high strength, wear-resistant material used in its manufacture guarantee a long working life.

2) Spade-nose Rock Bucket:



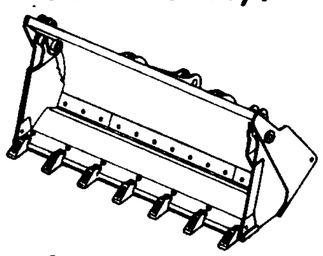
This bucket was designed for use in rock working and so makes use of special, high strength wear-resistant materials. Thanks to the uniquely designed, pointed cutting edge, its digging characteristic is outstanding. This unit is especially adapted to excavating and loading blasted rock.

3) Side Dump Bucket:



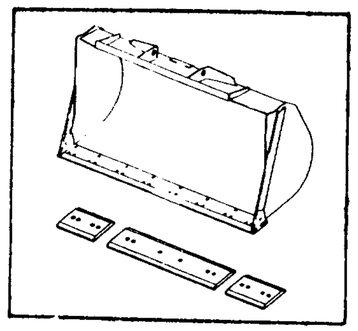
This bucket is capable of dumping its load to the front, to one side, or to both sides. These features that make it the choice for jobs like tunneling work, road construction or snow clearance, where narrow operating areas restrict maneuverability.

4) Multi-purpose Bucket:



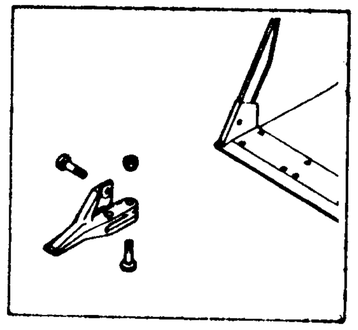
This is a versatile bucket that performs scraping, dozing, scooping and various other tasks in addition to excavating and loading jobs. It is especially suited to leveling work and materials transport.

1) Bolt-on type Cutting Edge:



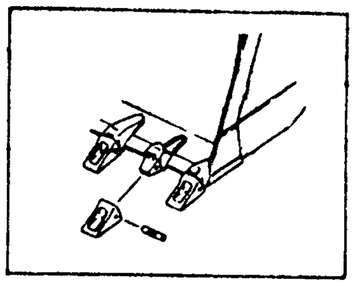
This edge is made for use in loading loose sand and soil, or for loading stockpiled materials. It is bolted to the leading edge of general purpose buckets and may be detatched and reversed.The cutting edges are manufactured from especially heat treated, high tension steel, and since they are reversible, both edges can be used. This effectively doubles their working life.

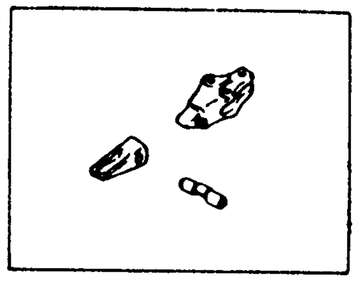
2) Bolt-on type Bucket Teeth:



These teeth are suitable for loading or excavation of piles of earth or sand, blasted rock, and jobs in the field that involve digging into the side of slopes. The specially heat treated, tensile strength steel alloy used in their production assures that they will wear well and have a long service life.

3) Tip-type Bucket Teeth:





These teeth are actually tips which are attached to an adaptor that is welded and bolted to the bucket edge. This means that an interchangeable part, the toothtip, absorbs most of the wear and protects the actual bucket edge. They give excellent performance when used to handle blasted rock, piles of earth and similarly heavy duty tasks.

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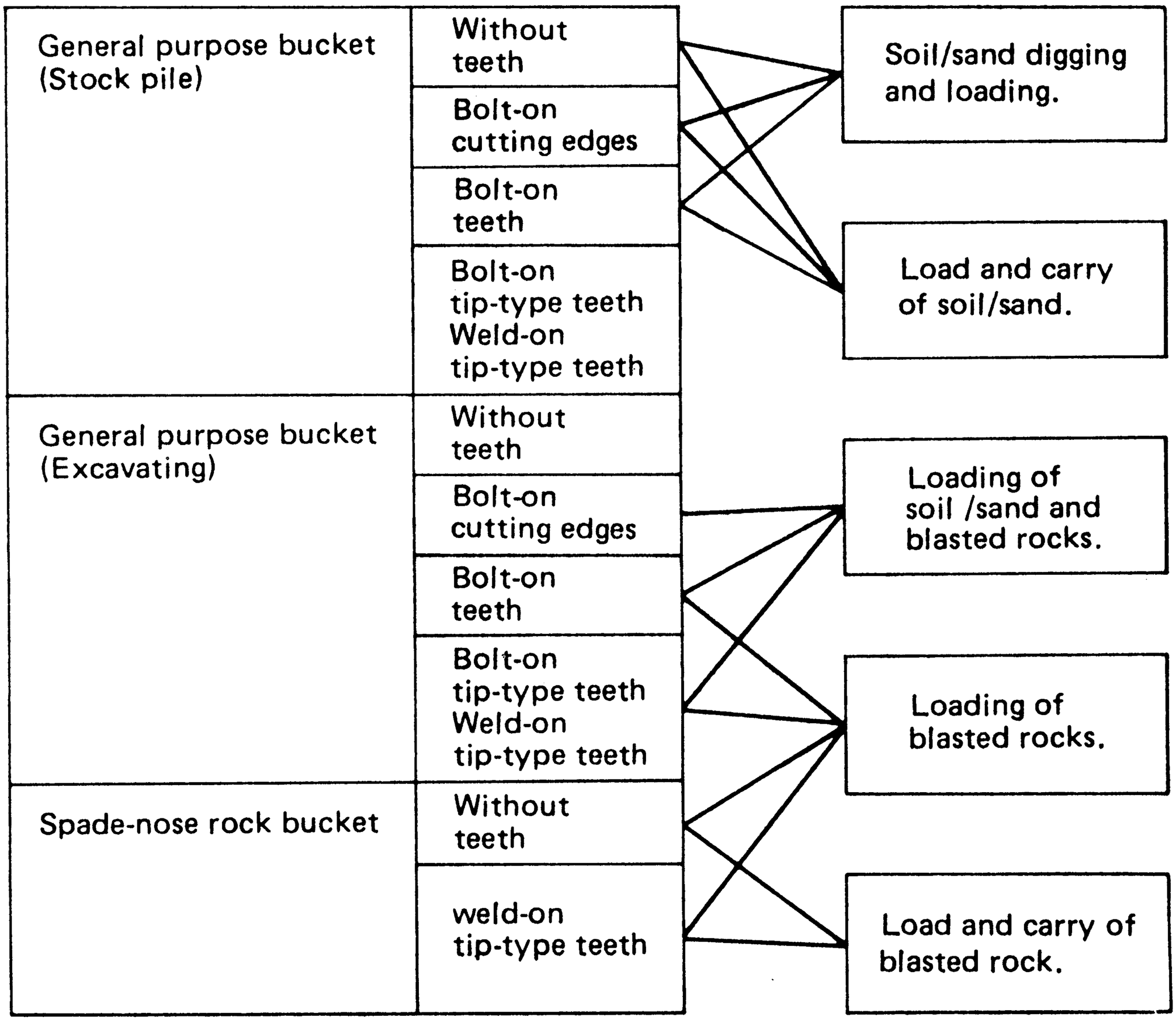
BUCKET AND TEETH SELECTION

Proper selection should be made according to the jobsite and operating conditions.



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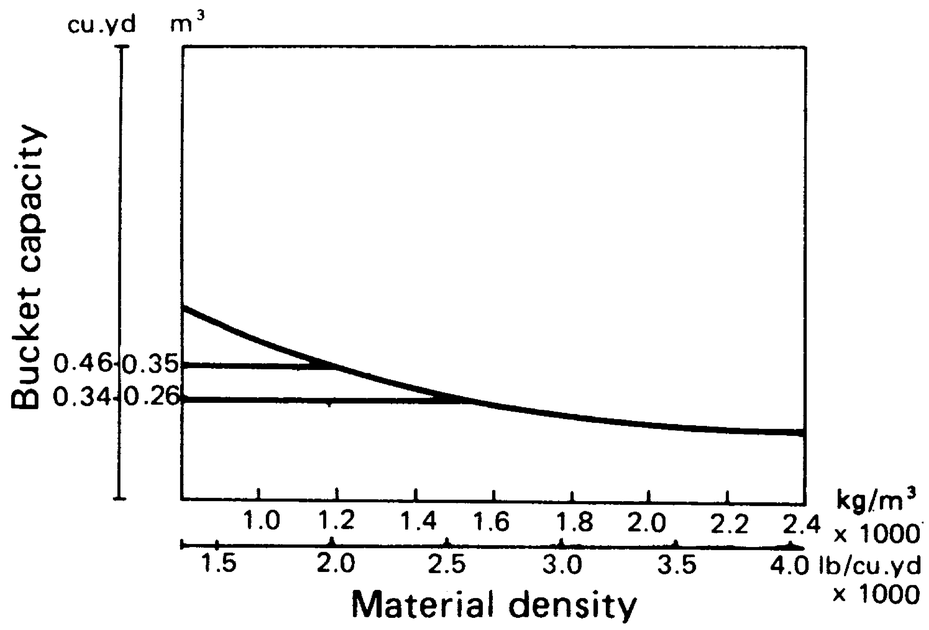
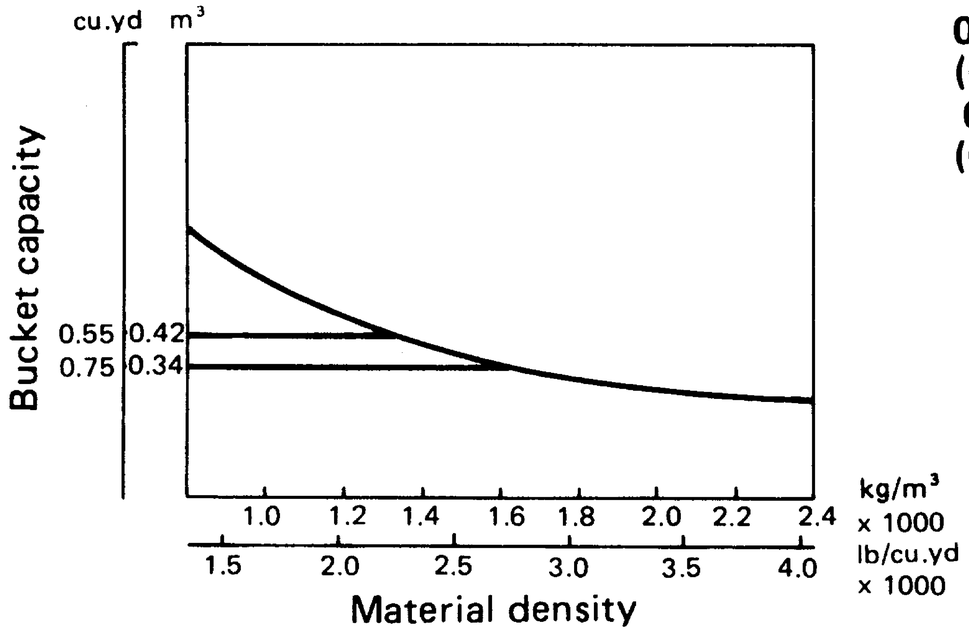
WA20-1



0.26 m³ (0.34 cu.yd) — **General purpose bucket without teeth** (Stockpile)

0.35 m³ (0.46 cu.yd) — **Loose material bucket without teeth**

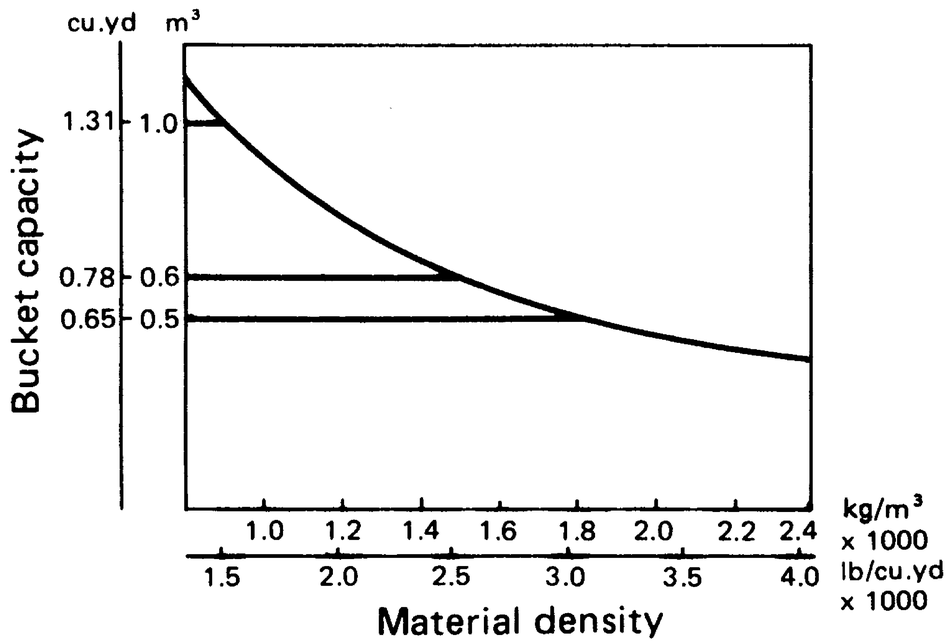
WA30-2



0.34 m³ (0.75 cu.yd) — **General purpose bucket without teeth.** (Stockpile)

0.42 m³ (0.55 cu.yd) — **Loose material bucket without teeth**

WA40-1



0.50 m³ (0.65 cu.yd) — **General purpose bucket** (Stockpile)

0.60 m³ (0.78 cu.yd) — **Loose material bucket**

1.00 m³ (1.31 cu.yd) — **Large bucket**

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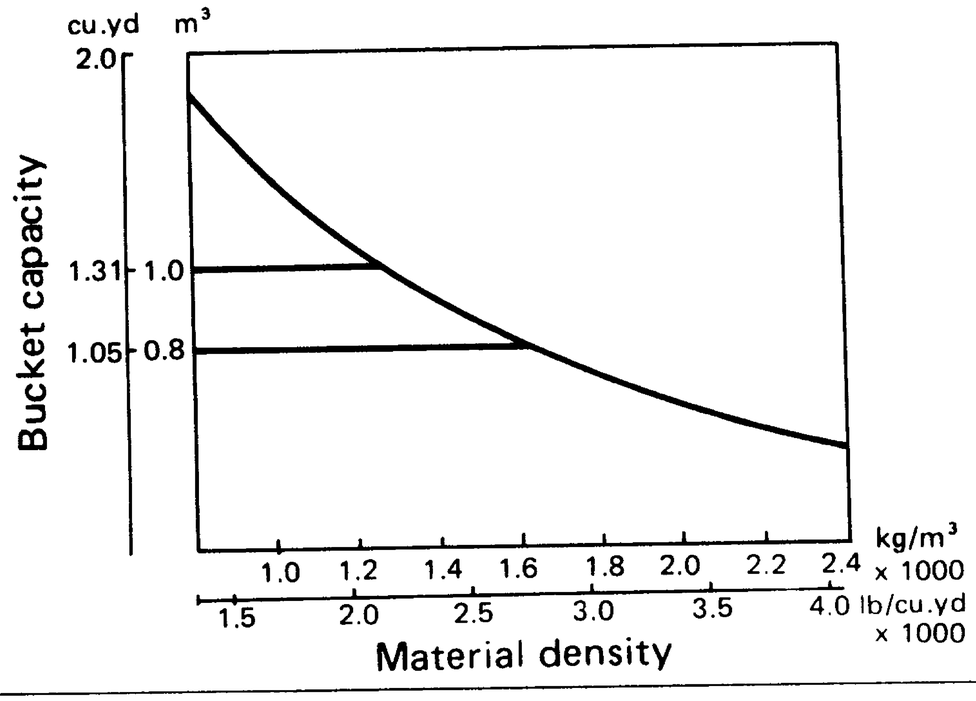
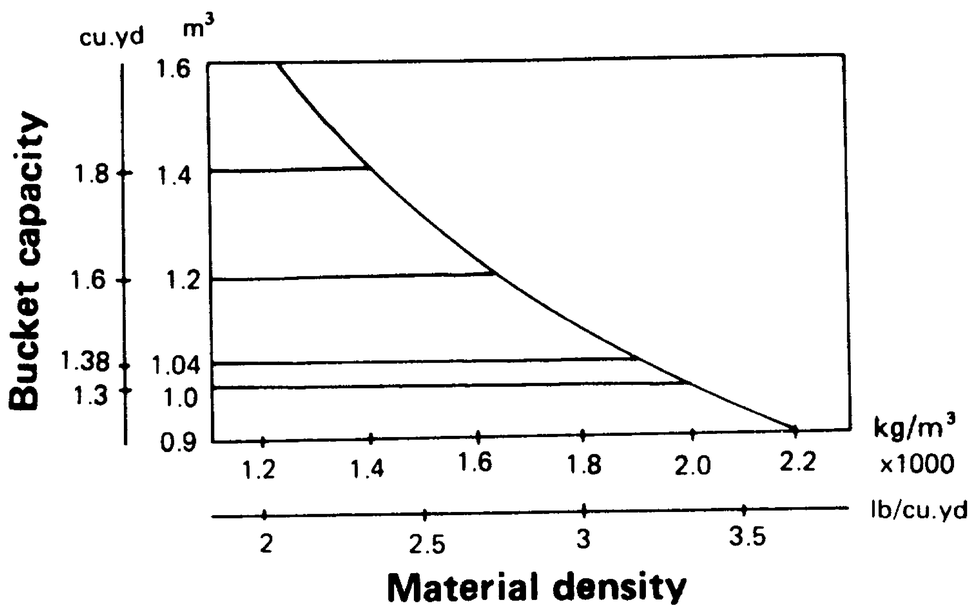
WA70-1



0.8 m³ (1.05 cu.yd) **General purpose bucket without teeth** (Stockpile)

1.0 m³ (1.31 cu.yd) **Loose material bucket**

WA100-1



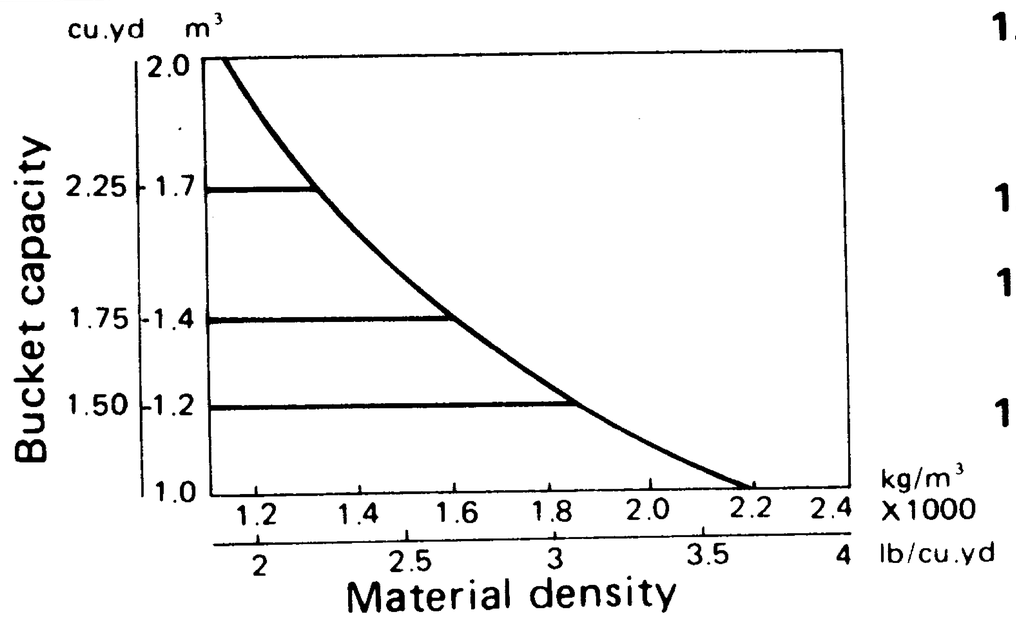
1.2 m³ (1.6 cu.yd) **Loose material bucket with bolt-on cutting edge** (Loading and excavating soil, sand and a variety of other commonly handled materials.)

1.04 m³ (1.38 cu.yd) **Excavating bucket with bolt-on cutting edge.**

1.0 m³ (1.3 cu.yd) **Excavating bucket with bolt-on teeth** (Loading and excavating crushed rock and blasted rock.)

1.4 m³ (1.8 cu.yd) **Light material bucket with bolt-on cutting edge** (A lighter-weight, large capacity bucket.)

WA120-1



1.4m³ (1.75 cu.yd) **Loose material bucket with bolt-on cutting edge** (Loading and excavating soil, sand and a variety of other commonly handled materials.)

1.2m³ (1.5 cu.yd) **Excavating bucket with bolt-on cutting edge.**

1.2m³ (1.5 cu.yd) **Excavating bucket with bolt-on teeth** (Loading and excavating crushed rock and blasted rock.)

1.7m³ (2.25 cu.yd) **Light material bucket with bolt-on cutting edge** (A lighter-weight, large capacity bucket.)

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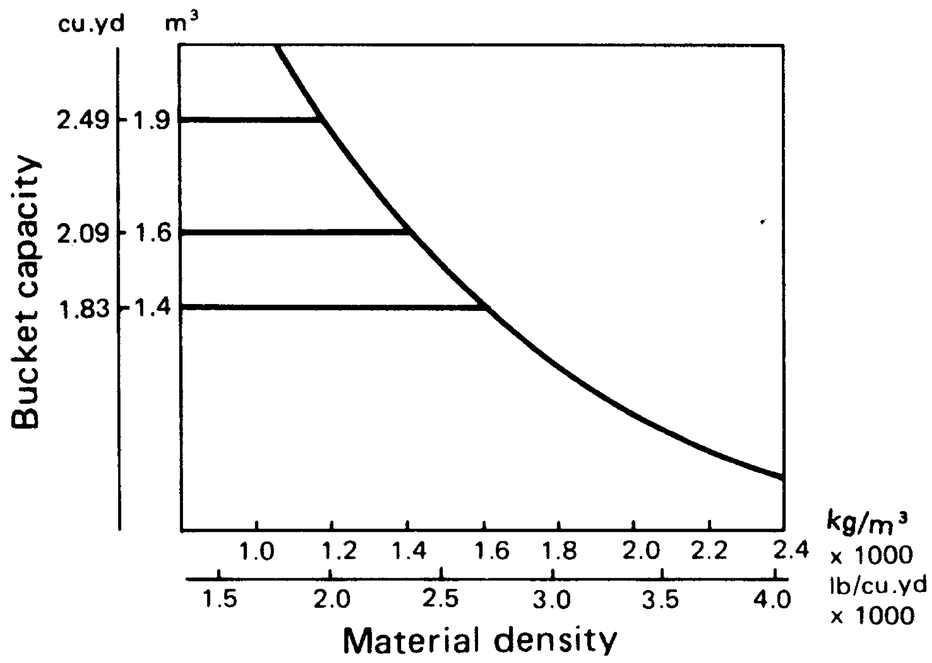
WA150-1

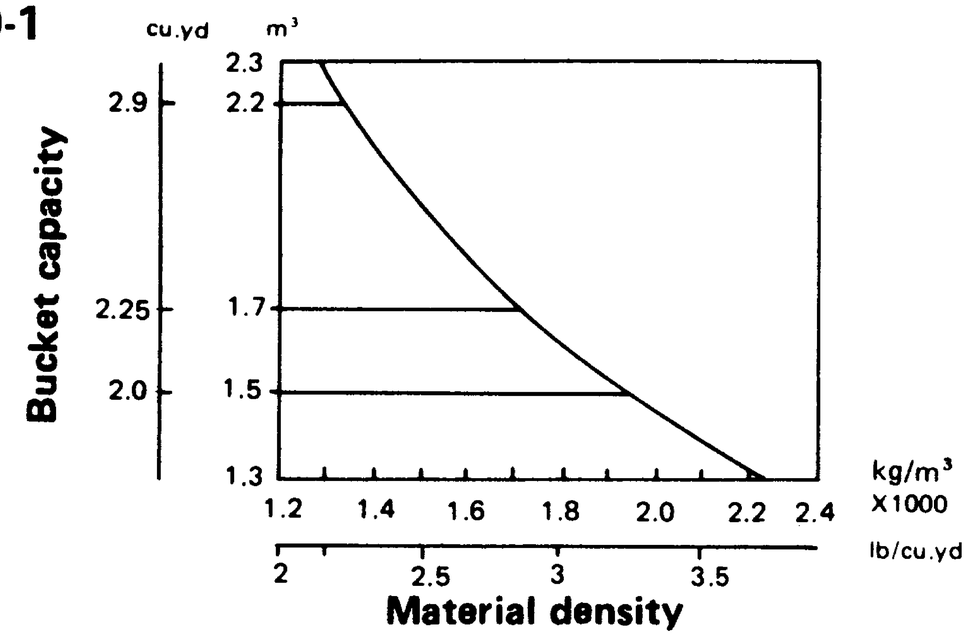


1.4 m³ (1.83 cu.yd) **General purpose bucket without teeth** (Stockpile)

1.6 m³ (2.09 cu.yd) **Loose material bucket without teeth**

1.9 m³ (2.49 cu.yd) **Loose material bucket without teeth**

WA180-1



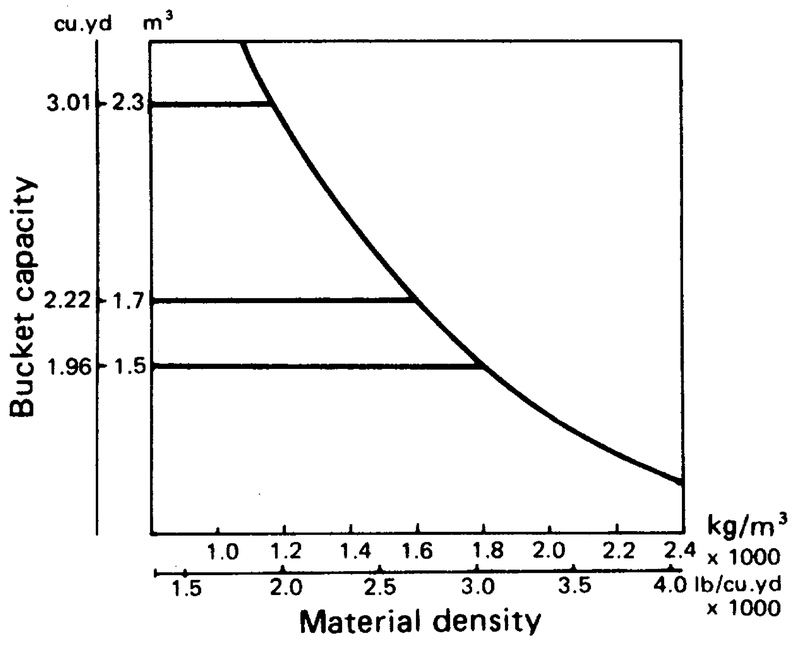
1.7 m³ (2.25 cu.yd) **Loose material bucket with bolt-on cutting edge** (Loading and excavating of soil, sand and variety of other commonly handled materials.)

1.5 m³ (2.0 cu.yd) **Excavating bucket with bolt-on cutting edge.**

1.5 m³ (2.0 cu.yd) **Excavating bucket with bolt-on teeth** (Loading and excavating of crushed rock and blasted rock.)

2.2 m³ (2.9 cu.yd) **Light material bucket with bolt-on cutting edge** (A lighter-weight, large capacity bucket.)

WA200-1



1.5 m³ (1.96 cu.yd) **General purpose bucket without teeth** (Excavating)

1.7 m³ (2.22 cu.yd) **General purpose bucket without teeth** (Stockpile)

2.3 m³ (3.01 cu.yd) **Loose material bucket without teeth**

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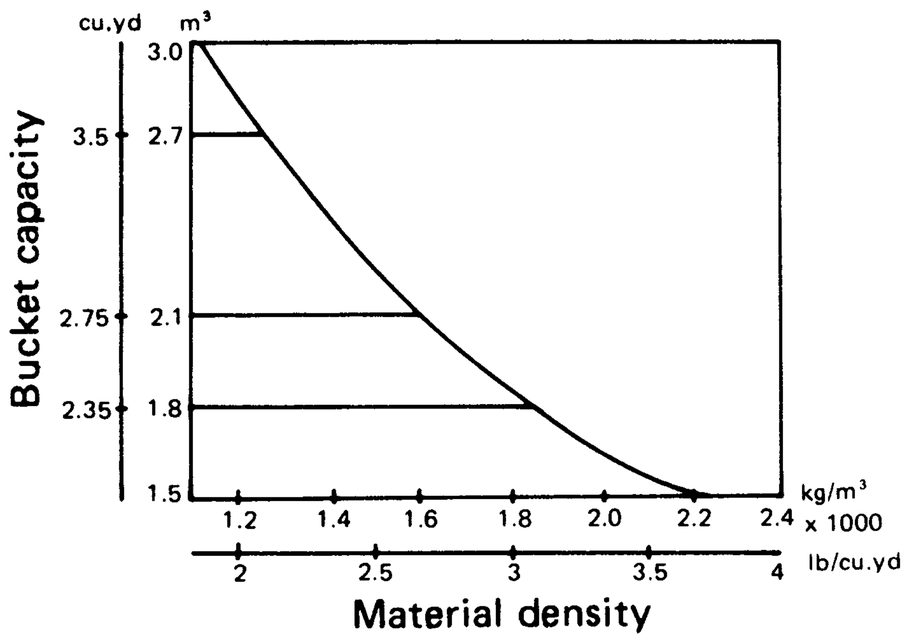
WA250-1



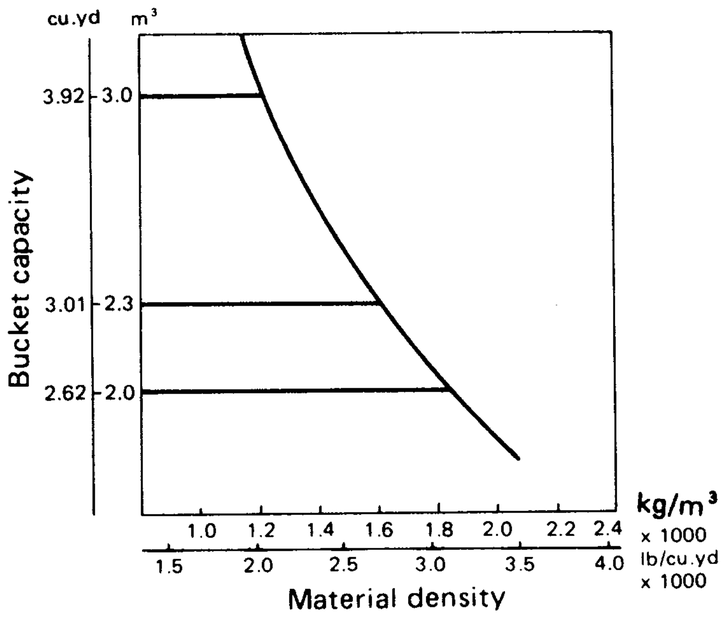
2.1 m³ (2.75 cu.yd) **Loose material bucket with bolt-on cutting edge** (Loading and excavating soil, sand and a variety of other commonly handled materials.)

1.9 m³ (2.5 cu.yd) **Excavating bucket with bolt-on cutting edge.**

1.8 m³ (2.35 cu.yd) **Excavating bucket with bolt-on teeth** (Loading and excavating crushed rock and blasted rock.)

2.7 m³ (3.5 cu.yd) **Light material bucket with bolt-on cutting edge** (A lighter-weight, large capacity bucket.)

WA300-1



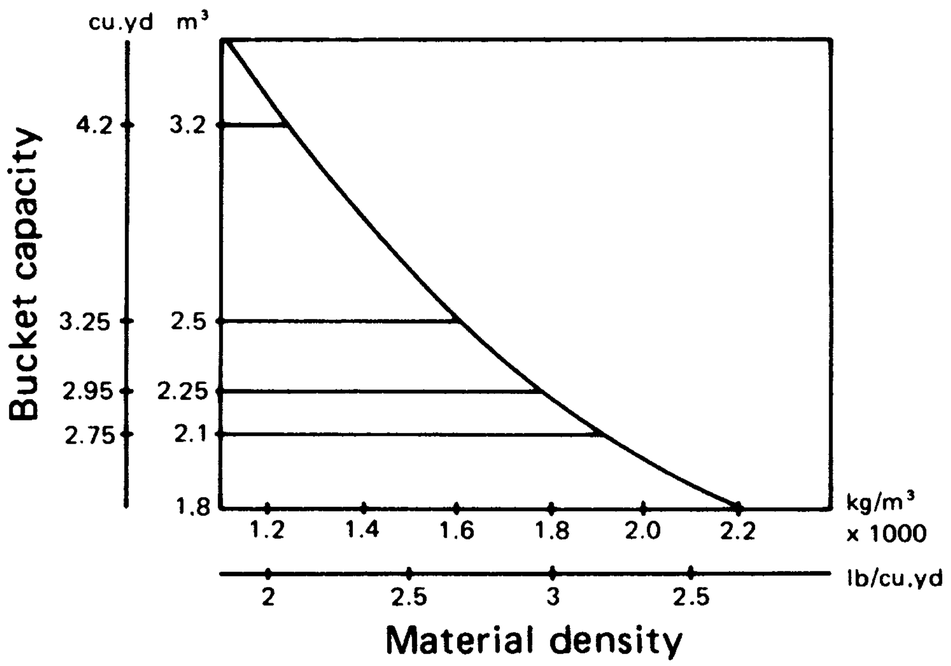
2.3 m³ (3.01 cu.yd) General purpose bucket without teeth (Stockpile)

2.0 m³ (2.62 cu.yd) General purpose bucket without teeth (Excavating)

3.0 m³ (3.92 cu.yd) Loose material bucket

2.0 m³ (2.62 cu.yd) Spade nose bucket V-shape, without teeth

WA320-1



2.5 m³ (3.25 cu.yd) **Loose material bucket with bolt-on cutting edge:** (Loading and excavating of soil, sand and a variety of other commonly handled materials.)

2.25 m³ (2.95 cu.yd) **Excavating bucket with bolt-on cutting edge:**

2.1 m³ (2.75 cu.yd) **Excavating bucket with bolt-on teeth** (Loading and excavating crushed rock and blasted rock.)

3.2 m³ (4.2 cu.yd) **Light material bucket with bolt-on cutting edge:** (A lighter-weight, large capacity bucket.)

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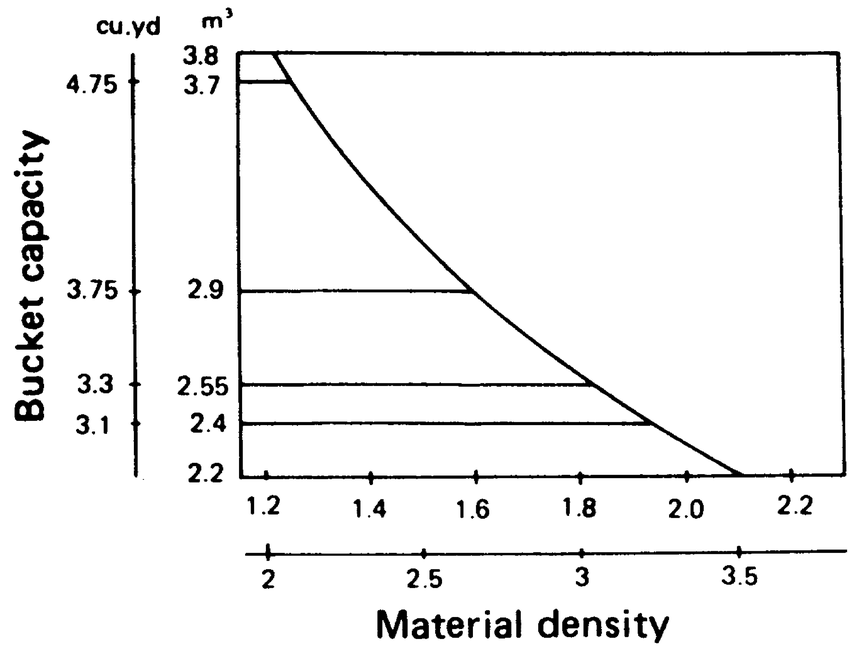
WA350-1



2.9 m³ (3.75 cu.yd) **Loose material bucket with bolt-on cutting edge:** (Loading and excavating of soil, sand and a variety of other commonly handled materials.)

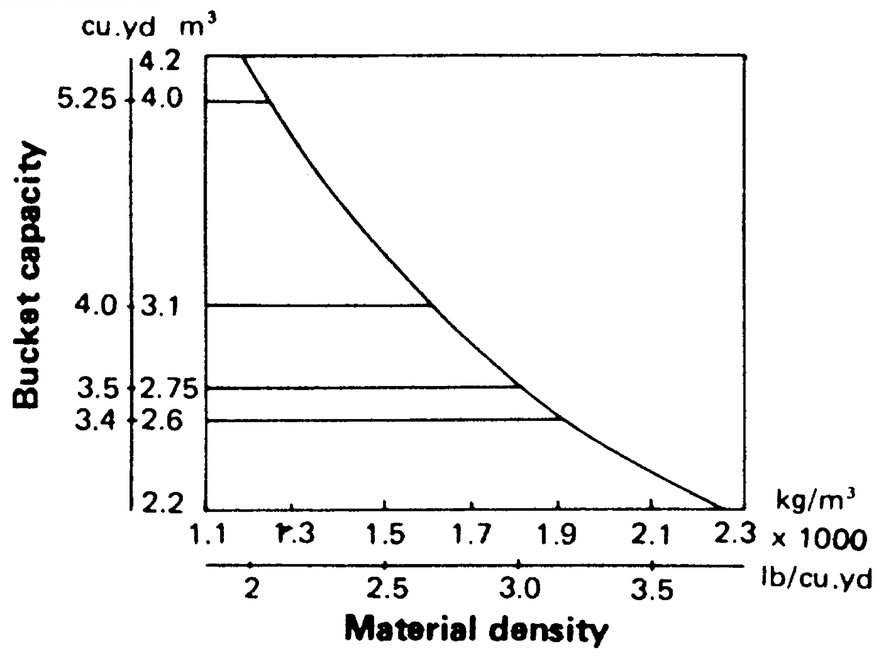
2.55m³ (3.3 cu.yd) **Excavating bucket with bolt-on cutting edge:**

2.4m³ (3.1 cu.yd) **Excavating bucket with bolt-on teeth** (Loading and excavating crushed rock and blasted rock.)

3.7 m³ (4.75 cu.yd) **Light material bucket with bolt-on cutting edge:** (A lighter-weight, large capacity bucket.)

2.4 m³ (3.1 cu.yd) **Rock bucket with teeth:** (Spade nose)
Rock bucket without teeth: (Spade nose) (Loading and excavating blasted rock.)

WA380-1



3.1 m³ (4.0 cu.yd) **Loose material bucket with bolt-on cutting edge:** (Loading and excavating of soil, sand and variety of other commonly handled materials.)

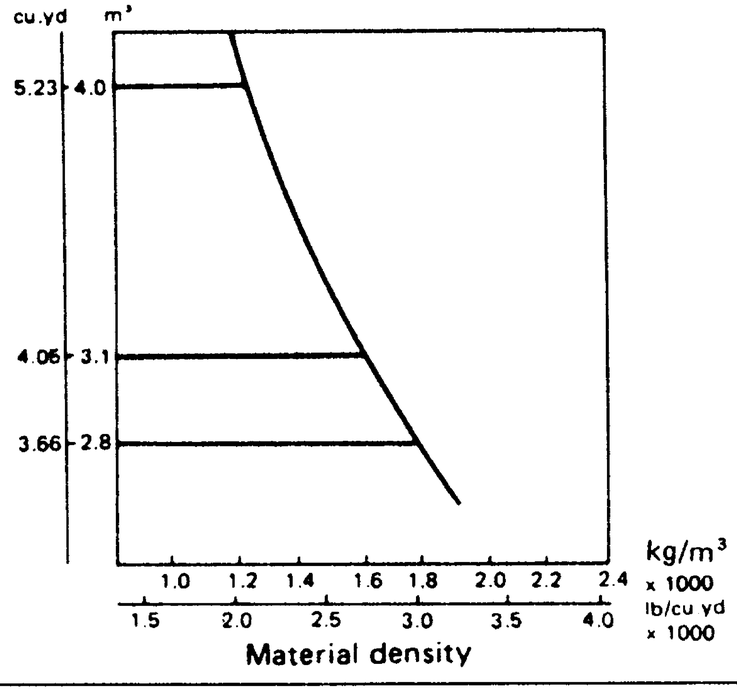
2.75m³ (3.5 cu.yd) **Excavating bucket with bolt-on cutting edge:**

2.6m³ (3.4 cu.yd) **Excavating bucket with bolt-on teeth** (Loading and excavating of crushed rock and blasted rock.)

4.0m³ (5.25 cu.yd) **Light material bucket with bolt-on cutting edge:** (A lighter-weight, large capacity bucket.)

2.6m³ (3.4 cu.yd) **Rock bucket with teeth:** (Spade nose). (Loading and excavating of blasted rock.)

WA400-1



3.1 m³ (4.05 cu.yd) **General purpose bucket without teeth** (Stockpile)

2.8 m³ (3.66 cu.yd) **General purpose bucket without teeth** (Excavating)

4.0 m³ (5.23 cu.yd) **Loose material bucket without teeth**

2.8 m³ (3.66 cu.yd) **Spade nose bucket V-shape, without teeth**

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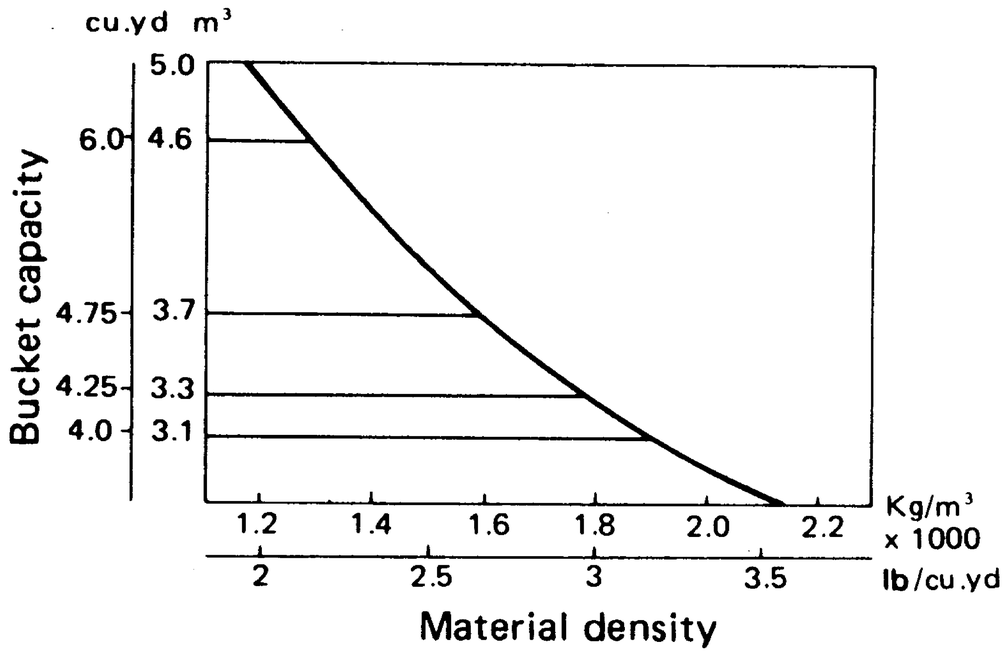
WA420-1



3.7m³ (4.75 cu.yd) **Loose material bucket with bolt-on cutting edge:** (Loading and excavating of soil, sand and a variety of other commonly handled materials.)

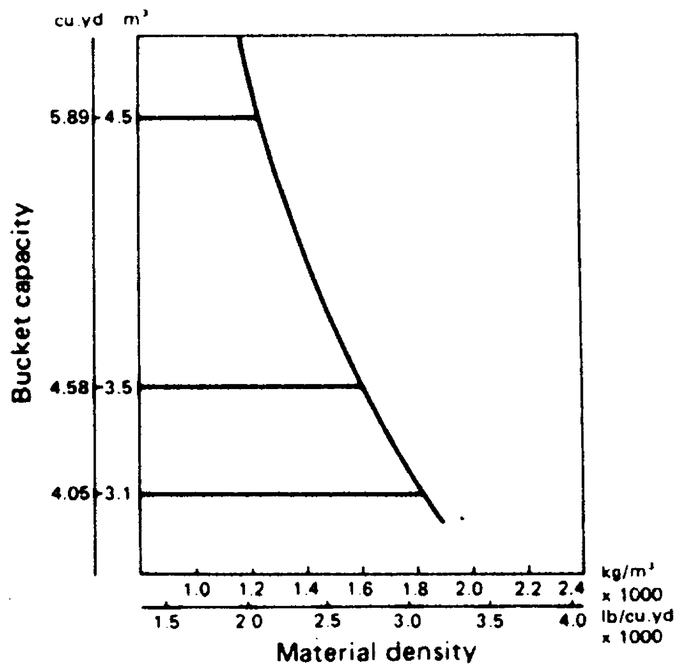
3.3m³ (4.25 cu.yd) **Excavating bucket with bolt-on cutting edge:**

3.1m³ (4.0 cu.yd) **Excavating bucket with bolt-on teeth** (Loading and excavating crushed rock and blasted rock.)

4.6m³ (6.0 cu.yd) **Light material bucket with bolt-on cutting edge:** (A lighter-weight, large capacity bucket.)

3.1m³ (4.0 cu.yd) **Rock bucket** (Spade noese) (Loading and excavating blasted rock.)

WA450-1



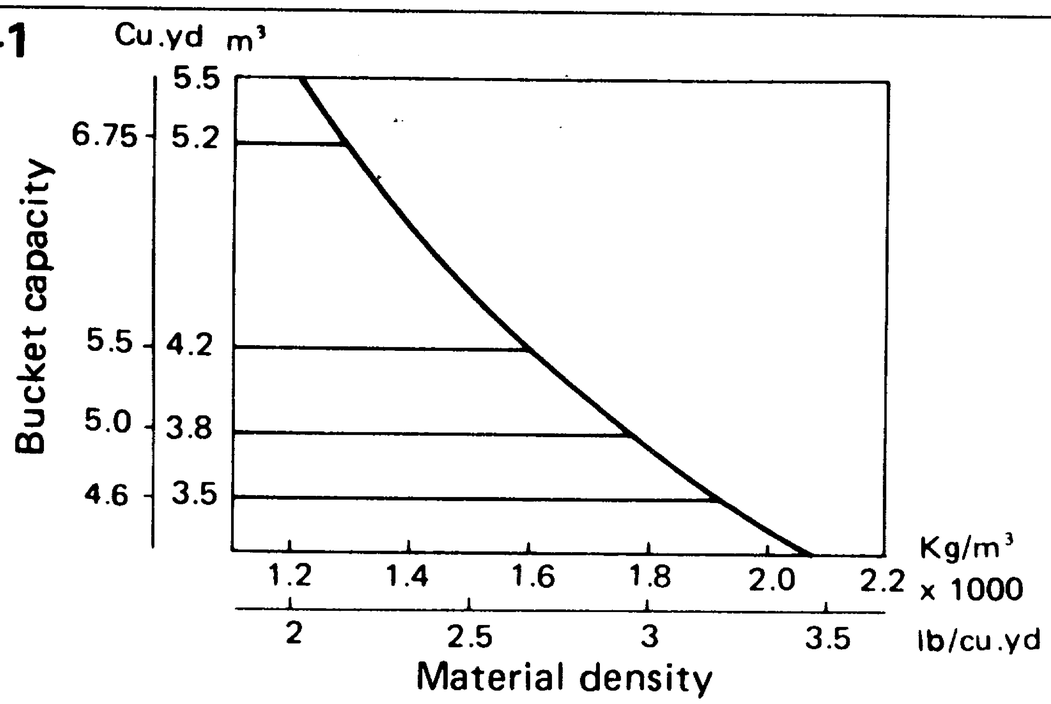
3.5 m³ (4.58 cu.yd) **General purpose bucket without teeth** (Stockpile)

3.1 m³ (4.05 cu.yd) **General purpose bucket without teeth** (Excavating)

4.5 m³ (5.89 cu.yd) **Loose material bucket without teeth**

3.1 m³ (4.05 cu.yd) **Spade nose bucket V-shape, without teeth**

WA470-1



4.2m³ (5.5 cu.yd) **Loose material bucket with bolt-on cutting edge:** (Loading and excavating of soil, sand and a variety of other commonly handled materials.)

3.8m³ (5.0 cu.yd) **Excavating bucket with bolt-on cutting edge:**

3.5m³ (4.6 cu.yd) **Excavating bucket with bolt-on teeth** (Loading and excavating crushed rock and blasted rock.)

5.2m³ (6.75 cu.yd) **Light material bucket with bolt-on cutting edge:** (A lighter-weight, large capacity bucket.)

3.5m³ (4.6 cu.yd) **Rock bucket** (Spade nose) (Loading and excavating blasted rock.)

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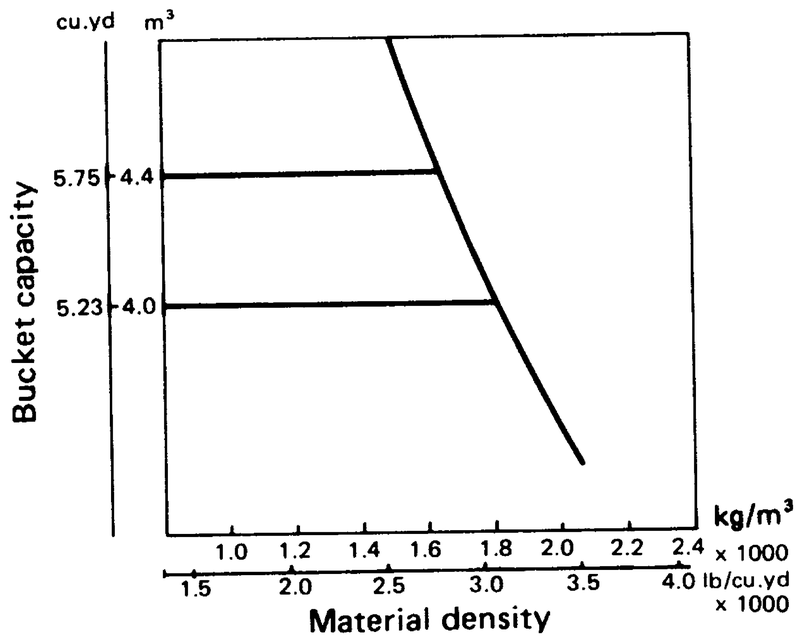
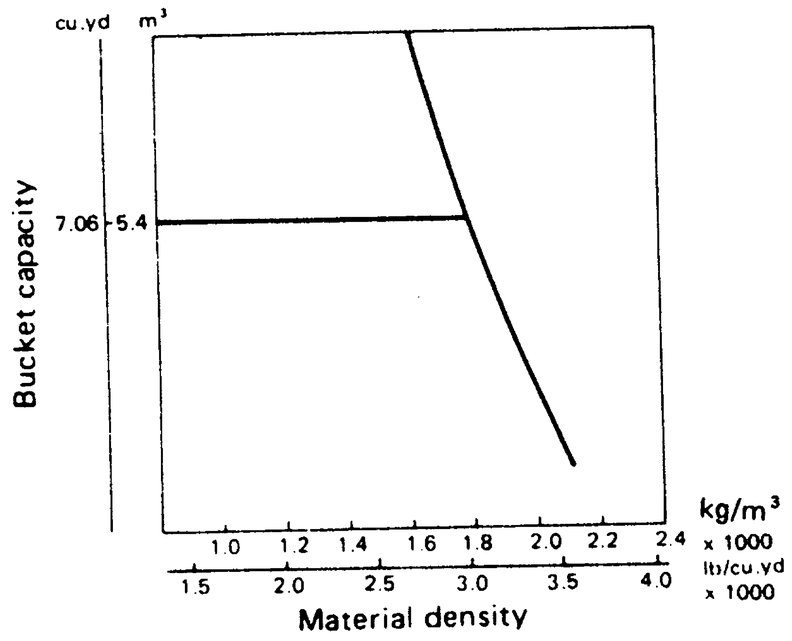
WA500-1



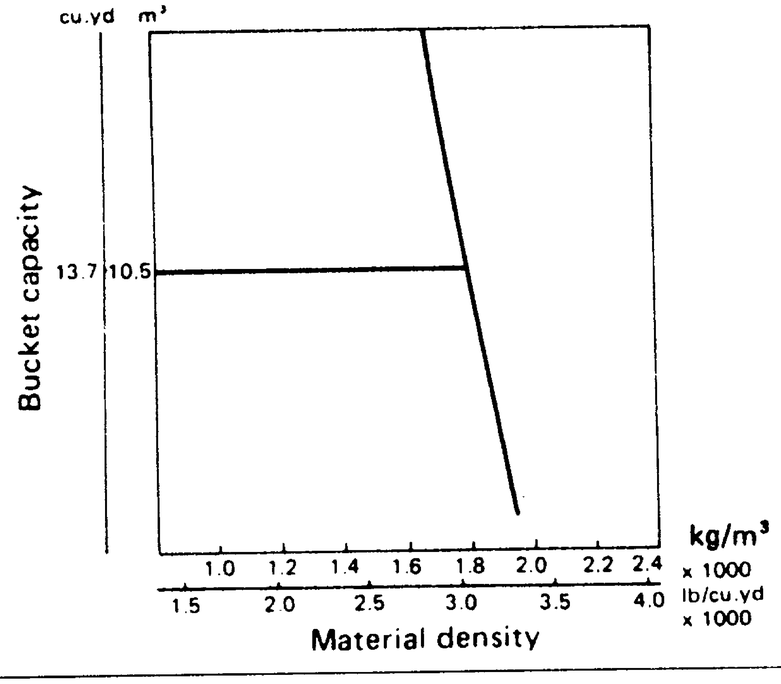
4.0 m³ (5.23 cu.yd) General purpose bucket without teeth (Excavating)
4.4 m³ (5.75 cu.yd) Loose material bucket without teeth
4.0 m³ (5.23 cu.yd) Spade nose bucket V-shape, without teeth

WA600-1



5.4 m³ (7.06 cu.yd) Rock bucket without teeth (Straight edge type)
5.4 m³ (7.06 cu.yd) Rock bucket without teeth (Spade nose type)

WA800-1



10.5 m³ (13.7 cu.yd) **Rock bucket without teeth** (Straight edge type)
10.5 m³ (13.7 cu.yd) **Rock bucket without teeth** (Spade nose type)

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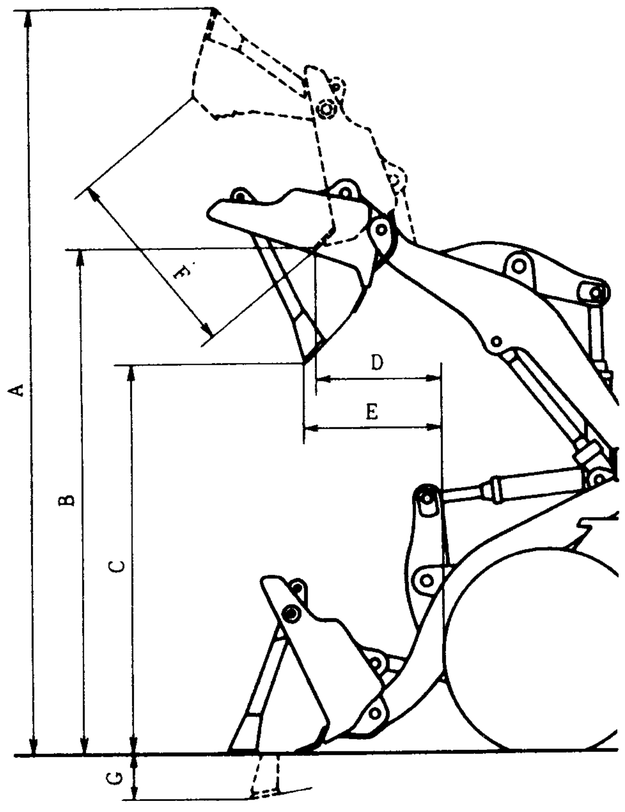
Multi-Purpose Bucket Specifications



Model		WA20	WA40	WA70	WA100	WA150	WA200	WA300	WA350
Bucket capacity, heaped	m^3 (cu.yd)	0.26 (0.34)	0.5 (0.7)	0.6 (0.8)	1.0 (1.3)	1.2 (1.6)	1.5 (2.0)	2.0 (2.6)	2.4 (3.1)
Overall length	mm (ft.in)	3350 (11′)	4855 (15′11″)	4835 (15′10″)	5870 (19′6″)	5955 (19′6″)	6765 (22′2″)	7125 (23′6″)	7600 (24′11″)
Bucket width	mm (ft.in)	1350 (4′5″)	1820 (6′)	2005 (6′7″)	2400 (7′10″)	2400 (7′10″)	2485 (8′2″)	2720 (8′11″)	2775 (9′1″)
Operating weight	kg (lb)	2140 (4720)	3760 (8290)	4720 (10410)	6890 (15190)	7880 (17370)	9510 (20970)	11880 (26190)	14700 (32410)
Rated load	kg (lb)	400 (880)	800 (1760)	960 (2120)	1600 (3530)	2000 (4410)	2400 (5290)	3200 (7055)	3800 (8380)
A. Overall height	mm (ft.in)	3320 (10′11″)	3630 (11′11″)	4080 (13′5″)	4725 (15′6″)	4830 (15′10″)	5125 (16′10″)	5330 (17′6″)	5725 (18′9″)
B. * Bottom dumping clearance	mm (ft.in)	2150 (7′1″)	2995 (9′10″)	2985 (9′10″)	3270 (10′9″)	3375 (11′1″)	3520 (11′7″)	3550 (11′8″)	3725 (12′3″)
C. * Dumping clearance	mm (ft.in)	1670 (5′6″)	2785 (9′2″)	2455 (8′1″)	2580 (8′6″)	2685 (8′10″)	2760 (9′1″)	2705 (8′10″)	2790 (9′2″)
D. * Bottom dumping reach	mm (ft.in)	625 (2′1″)	660 (2′2″)	740 (2′5″)	855 (2′10″)	805 (2′8″)	840 (2′9″)	980 (3′3″)	990 (3′3″)
E. * Dumping reach	mm (ft.in)	705 (2′4″)	460 (1′6″)	800 (2′7″)	935 (3′1″)	885 (2′11″)	1035 (3′5″)	1065 (3′6″)	1140 (3′9″)
F. Bucket opening	mm (ft.in)	720 (2′4″)	750 (2′6″)	810 (2′8″)	1090 (3′7″)	1090 (3′7″)	1235 (4′1″)	1415 (4′8″)	1540 (5′1″)
G. Digging depth	mm (in)	200 (7.9″)	140 (5.5″)	215 (8.5″)	310 (12.2″)	310 (12.2″)	275 (10.8″)	380 (15″)	340 (13.3″)
Tire size		10-16.5	15.5/70-18	17.5/65-20	16.9-24	14.00-24	17.5-25	17.5-25	20.5-25

* At 45° discharge angle

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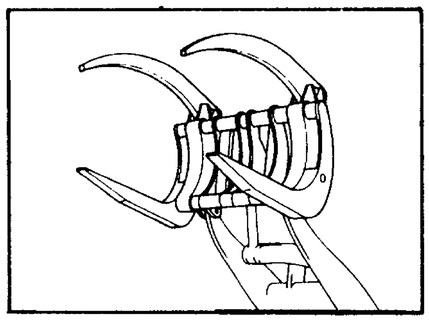
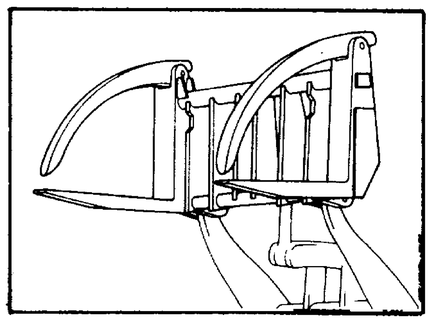
- **LOG CLAMP**



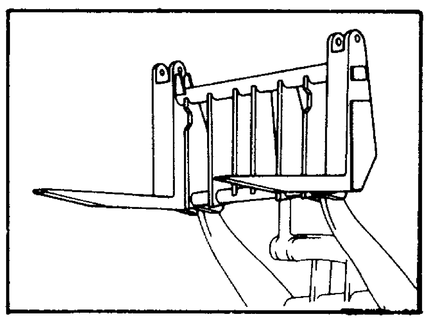
Usable in truck-loading logs or poles and decking logs, as well as handling logs of all sizes.
Sturdily-built to handle large and long logs.

- **LOG–LUMBER GRAPPLE**



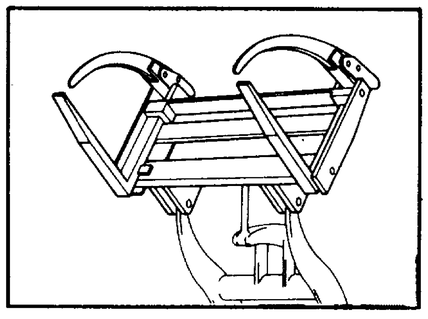
The log-lumber grapple is an all-round tool for log and lumber handling capable of dealing with lumber, long logs and large diameter or short logs of small diameter as well as lumber. However, forks of log-lumber grapple are fixed for strength so it is not suitable for use in fork-lift operations.

- **LOG–LUMBER FORK**



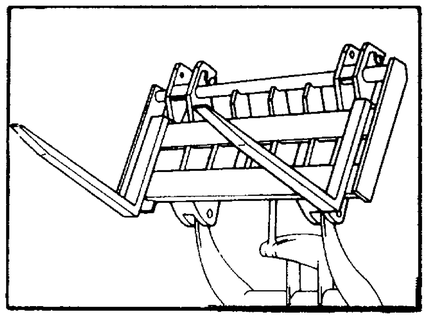
Log-lumber fork has the same features as log-lumber grapple.
This attachment has no top clamps.

- **LUMBER GRAPPLE**



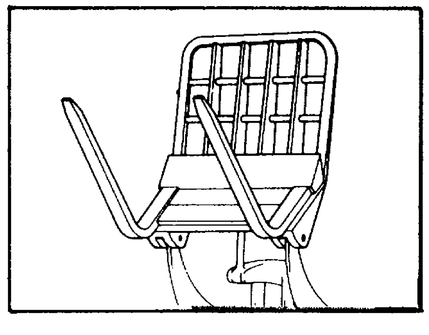
The "L" type forks of the lumber fork permit handling of lumber and logs of smaller diameter and shorter length. Clearance between left and right forks is adjust-able according to the materials being handled.

- **LUMBER FORK**



Lumber fork has the same featurea as lumber grapple.
This attachment has no top clamps.

- **DUMPING FORK**



Useful for truck-loading pulpwood from stacks, and for gathering and loading pulpwood into stacks or onto trucks. Also usable in handling logs of smaller diameter and shorter length. A lighter, handy version of log and lumber handling attachments. It has no top clamp. It can load logs when tilted back to prevent them rolling over the fork.

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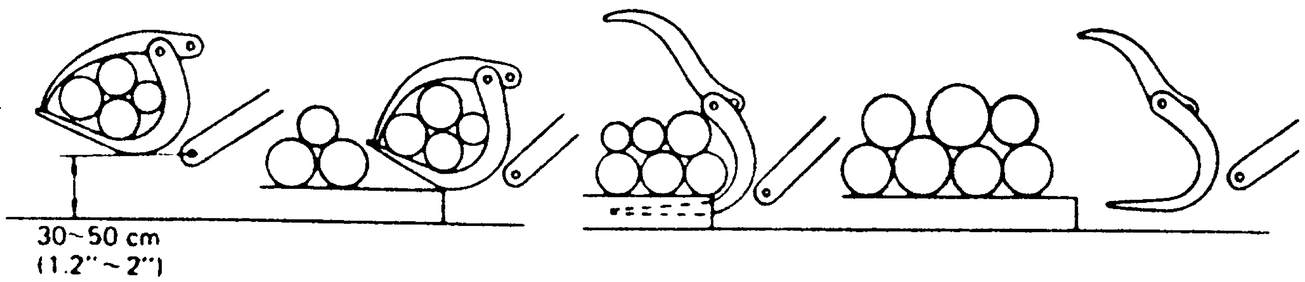
A. Scooping

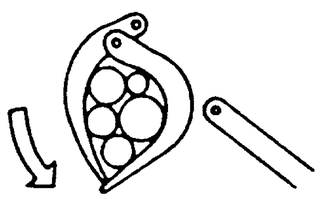
1. Forward the machine to insert forks under piled logs while watching fork tips.
2. Once logs are scooped by forks and tilted back fully, then close the arms.
3. Lift fork 30 – 50 cm above the ground to carry.

Note: Use both forks evenly to scoop and grapple the center of logs.



B. Loading works

1. Raise booms and forward the machine gradually to the destination while keeping the fork in a full-
2. backward tilt.
3. Open clamp arms and unload logs while slowly lowering forks.
   After unloading logs, shift the fork control lever to the "tilt" position and the fork will return automatically to its preset position. After closing the arms and reversing the machine, lower the booms.



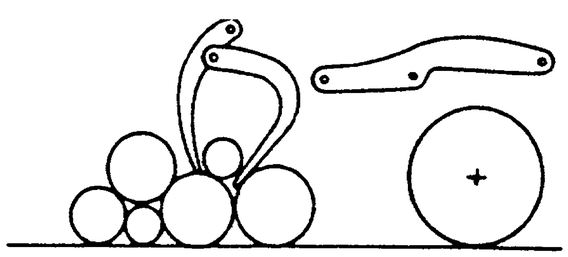
Note: When dumping a full load of logs, lower enging revolutions to achieve gradual dumping.
Avoid sudden braking or steering with a full load of logs.
When loading onto trucks, be careful forks and logs do not hit the sticks mounted on the truck's body sides.

C. Log selection work (for loaders with log clamps)

a) Pick-up selection

1. Open the arms, lower the fork and grab selected logs with fork tips.
2. Pick up logs by tilting back the fork or raising the booms.

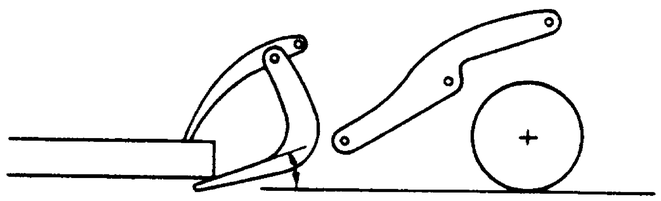
Note: When picking up a log with fork tips, adjust the tips so they grap the log tightly. More than half of the logs' diameter should be grabbed to prevent slippage. Release the arm control lever after arm cylinder is relieved. Logs larger than 40 cm in dia. should be lifted one at a time. Use both forks evenly when grabbing the center of the log.



b) Pull-out selection

1. Open the arms and dump them at 10° – 15°, and grab the end of the selected log lengthwise using the fork tips.
2. Reversing the machine to pull out selected log without steering.

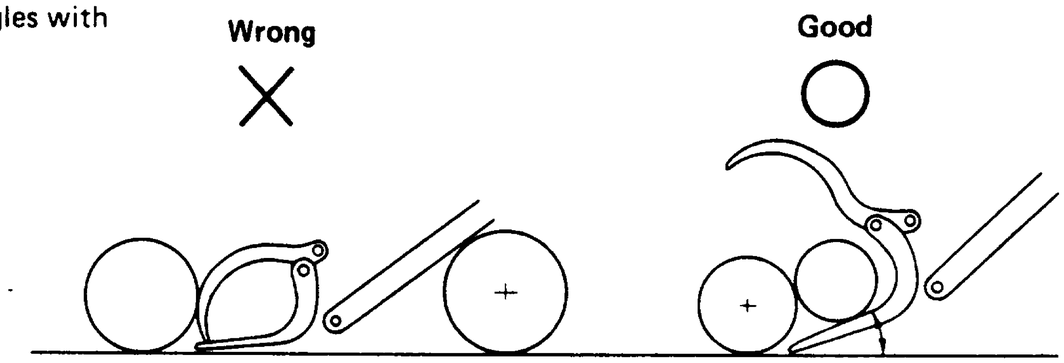
Note: Do not lift chosen log higher than required.
Hold the log securely and close arm, then carry it.



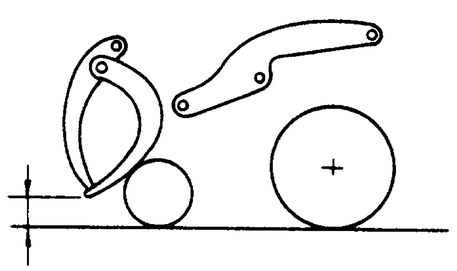
D. Other operations

1. To push logs, open the clamp arms and push them with the inside of the fork, forming right angles with the logs.

Note: The dumping angle should be within 20°.
Avoid pushing logs with the front of the closed clamp arms.



2. To retract logs, lower fork and raise fork tips 50 – 100 cm above the ground, then reverse the machine and retract the logs.



Note: Do not uproot tree roots with forks.
Dangerous operations, such as throwing grabbed logs for placement in the depth of loading site, should be conducted in open areas and only after the worksite has been properly cleared. Do not conduct these operations where damage to the machine or other equipment is possible.

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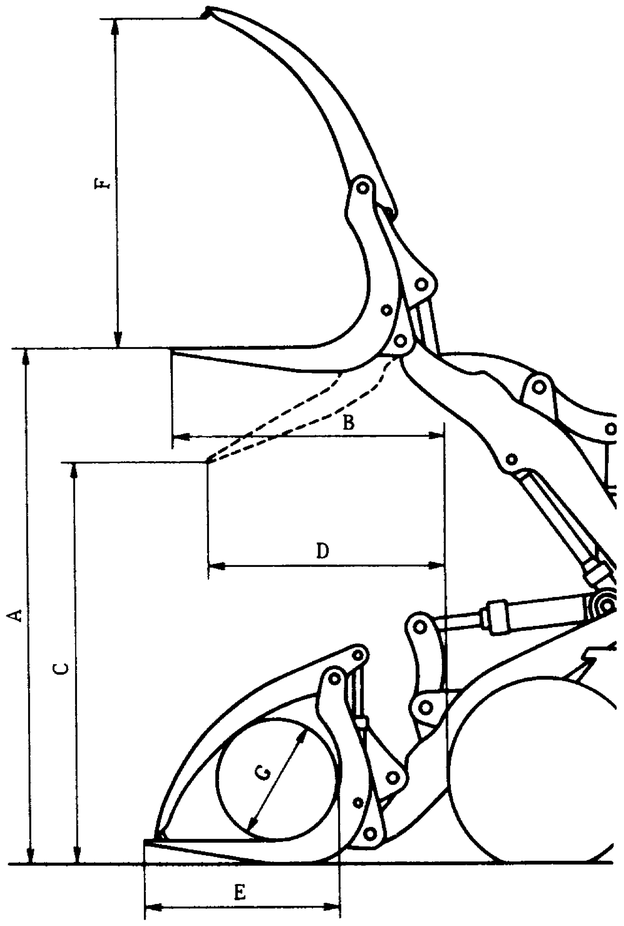
Log Clamp Specifications



Model		WA200	WA300	WA350	WA400	WA450	WA500
Operating weight	kg (lb)	9530 (21010)	12490 (27540)	15060 (33200)	18415 (40600)	21710 (47860)	31070 (68500)
Overall length	mm (ft.in)	7195 (23'7")	7555 (24'9")	8065 (26'6")	8350 (27'5")	8815 (28'11")	9710 (31'10")
Overall width	mm (ft.in)	2375 (7'10")	2585 (8'6")	2655 (8'9")	2820 (9'3")	2835 (9'4")	3195 (10'6")
Rated load	kg (ft.in)	3800 (8380)	5200 (11460)	6100 (13450)	7000 (15340)	8600 (18960)	12000 (26460)
A. Max. tine height with tine level	mm (ft.in)	3575 (11'9")	3720 (12'3")	3800 (12'6")	3925 (12'11")	4085 (13'5")	4320 (14'2")
B. Reach, max. tine height with tine level	mm (ft.in)	900 (6'3")	1940 (6'4")	2140 (7')	2060 (6'9")	2260 (7'5")	2645 (8'8")
C. * Dumping clearance	mm (ft.in)	2850 (9'4")	2945 (9'8")	2955 (9'8")	3055 (10')	3165 (10'5")	3245 (10'8")
D. * Dumping reach	mm (ft.in)	1690 (5'7")	1720 (5'8")	1895 (6'3")	1775 (5'10")	1990 (6'6")	2305 (7'7")
Overall tine width	mm (ft.in)	2050 (6'9")	2200 (7'3")	2300 (7'7")	2525 (8'3")	2645 (8'8")	2745 (9')
E. Tine length	mm (ft.in)	1220 (4')	1320 (4'4")	1420 (4'8")	1420 (4'8")	1525 (5')	1830 (6')
F. Max. clamp opening height	mm (ft.in)	1920 (6'4")	2280 (7'6")	2415 (7'11")	2525 (8'3")	2765 (9'1")	3035 (10')
G. Top clamp min. closure dia.	mm (ft.in)	750 (2'6")	850 (2'10")	900 (2'11")	900 (2'11")	1000 (3'3")	1150 (3'9")
Tire size		17.5-25-12 (L2)	20.5-25-12 (L2)	20.5-25-16 (L2)	23.5-25-12 (L3)	23.5-25-20 (L3)	29.5-25-22 (L3)

* At 30° discharge angle

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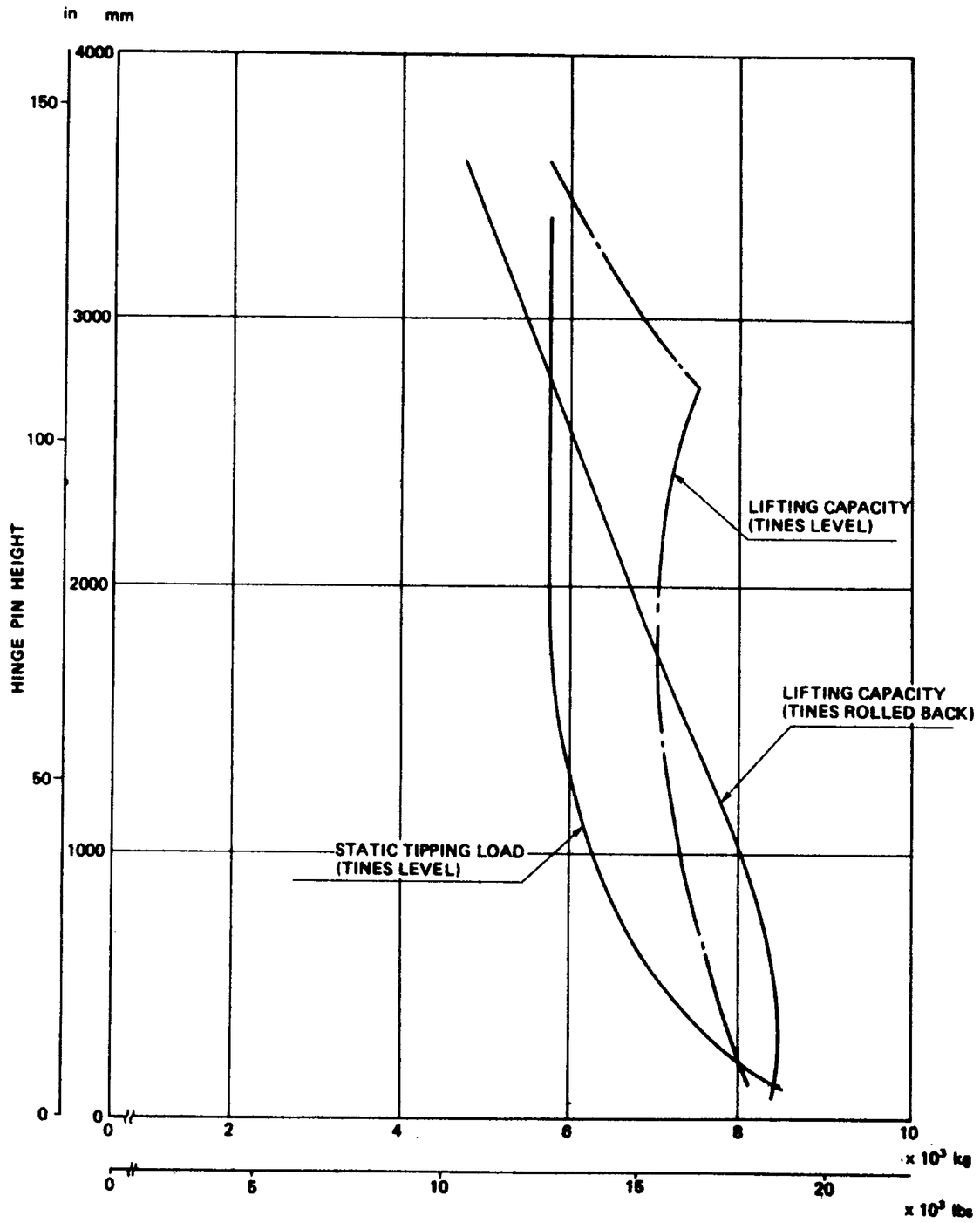
WA200-1

Curves based on machine equipped with 17.5-26-12PR(L2)TL and counterweight for logger

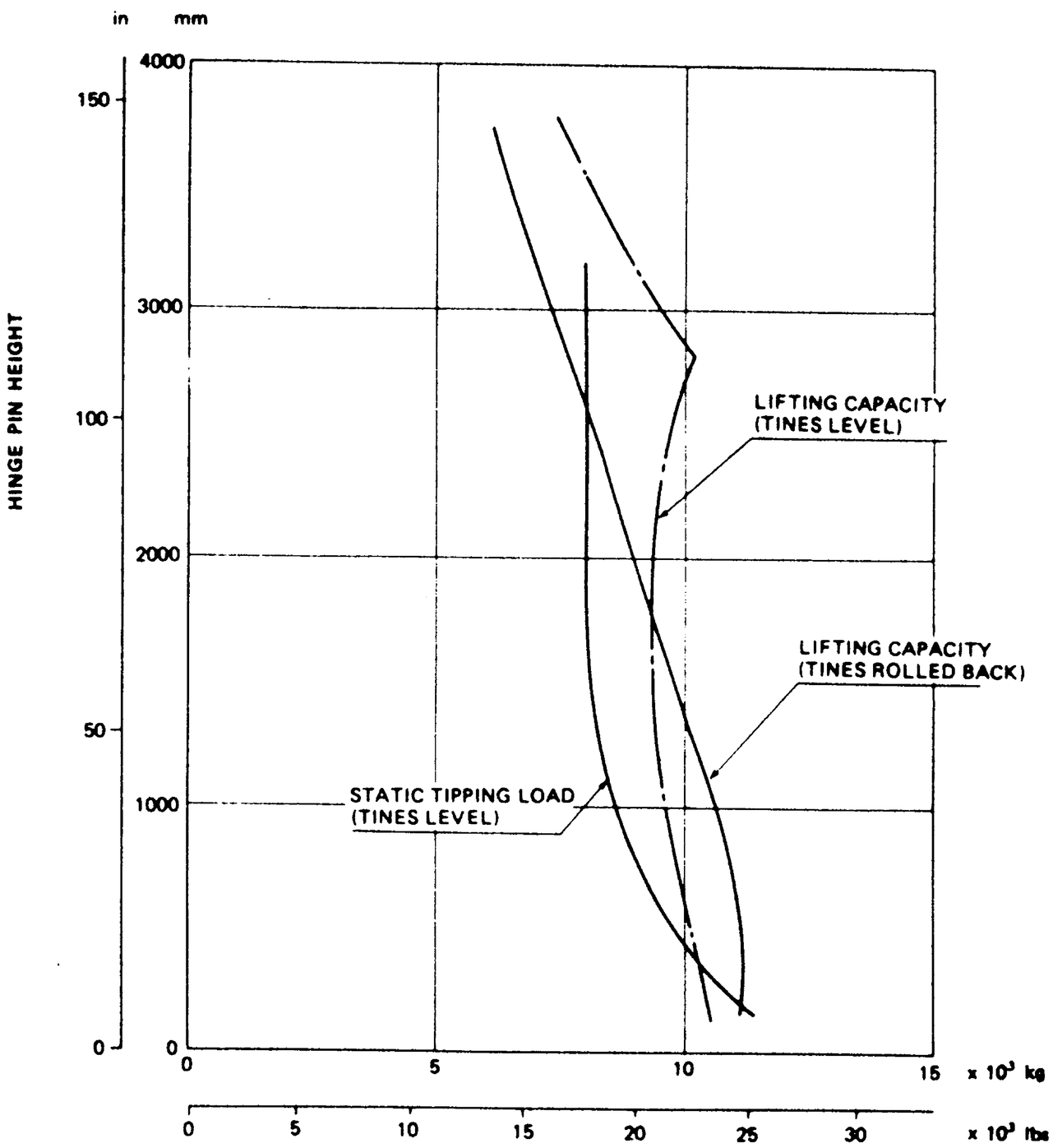


STATIC TIPPING LOAD (STRAIGHT) AND LIFTING CAPACITY

Load centroid = Length of tines/2

WA300-1

Curves based on machine equipped with 20.5-25-12PR(L2)TL and counterweight for logger



STATIC TIPPING LOAD (STRAIGHT) AND LIFTING CAPACITY

Load centroid = Lenght of tine/2

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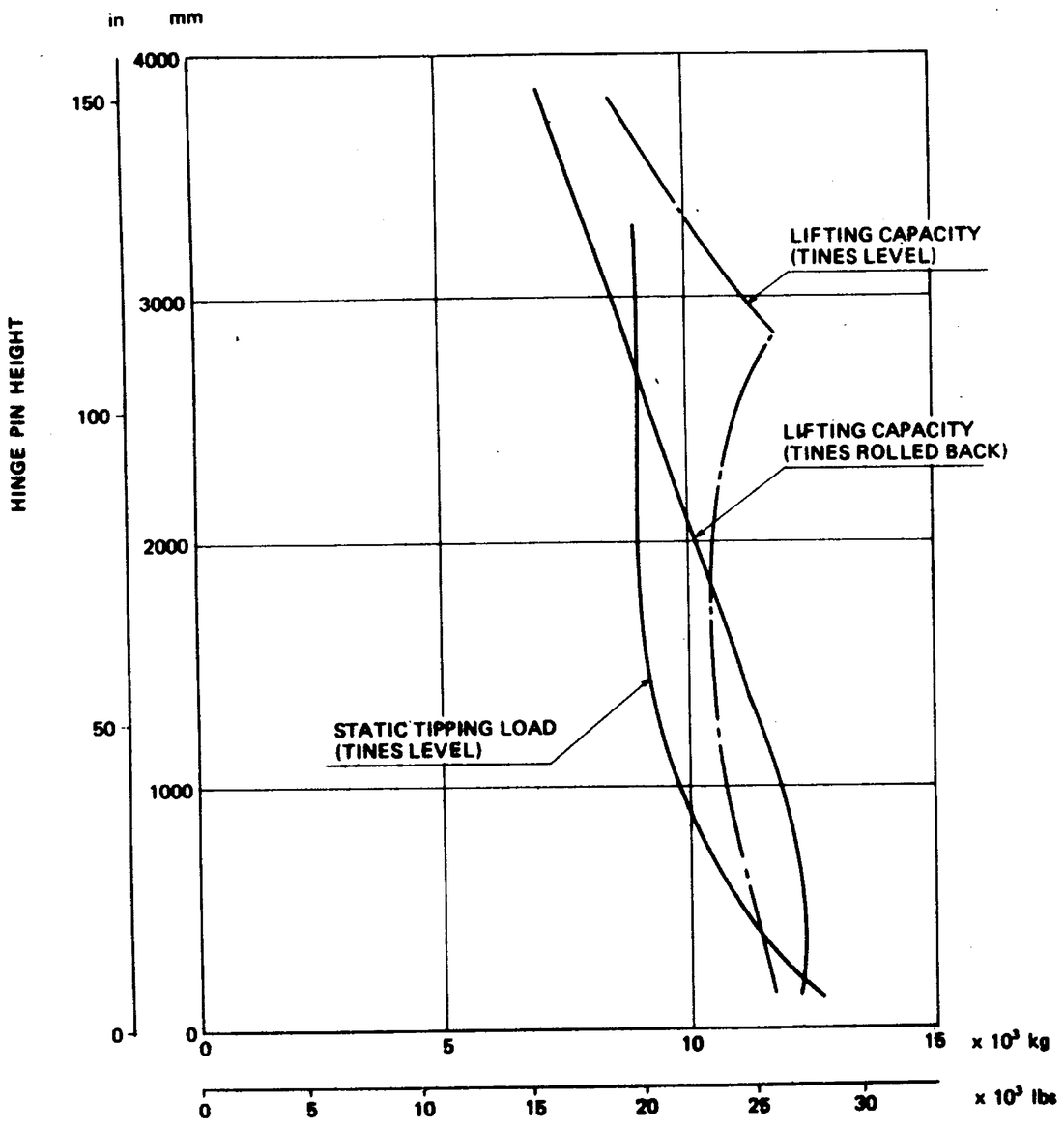
Logger Performance (Log Clamp)

WA350-1

Curves based on machine equipped with 20.5-26-16PR(L2)TL and counterweight for logger

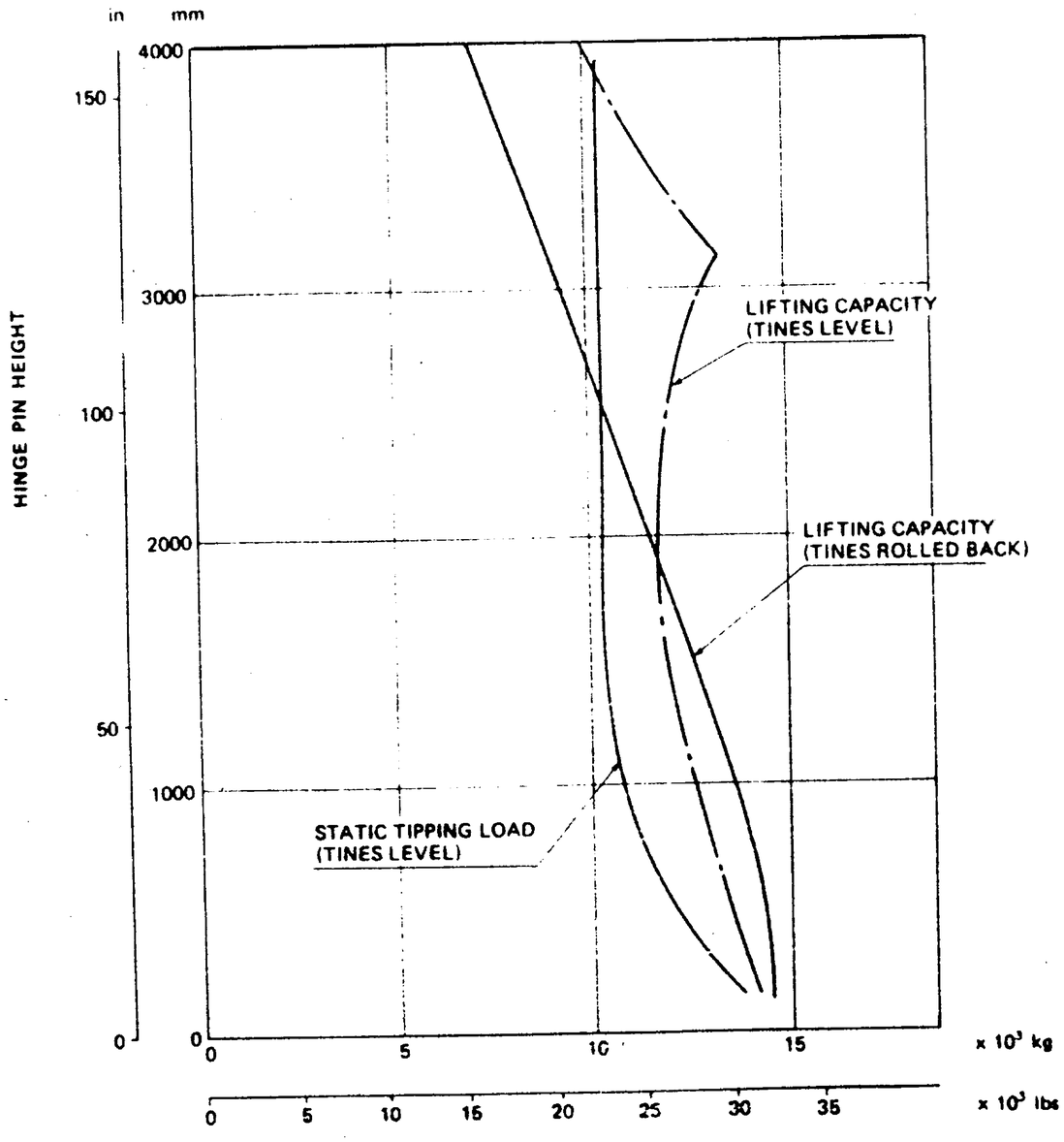


STATIC TIPPING LOAD (STRAIGHT) AND LIFTING CAPACITY

Load centroid = Length of tine/2

WA400-1

Curves based on machine equipped with 23.5-25-12PR(L3)TL and counterweight for logger



STATIC TIPPING LOAD (STRAIGHT) AND LIFTING CAPACITY

Load centroid = Length of tines/2

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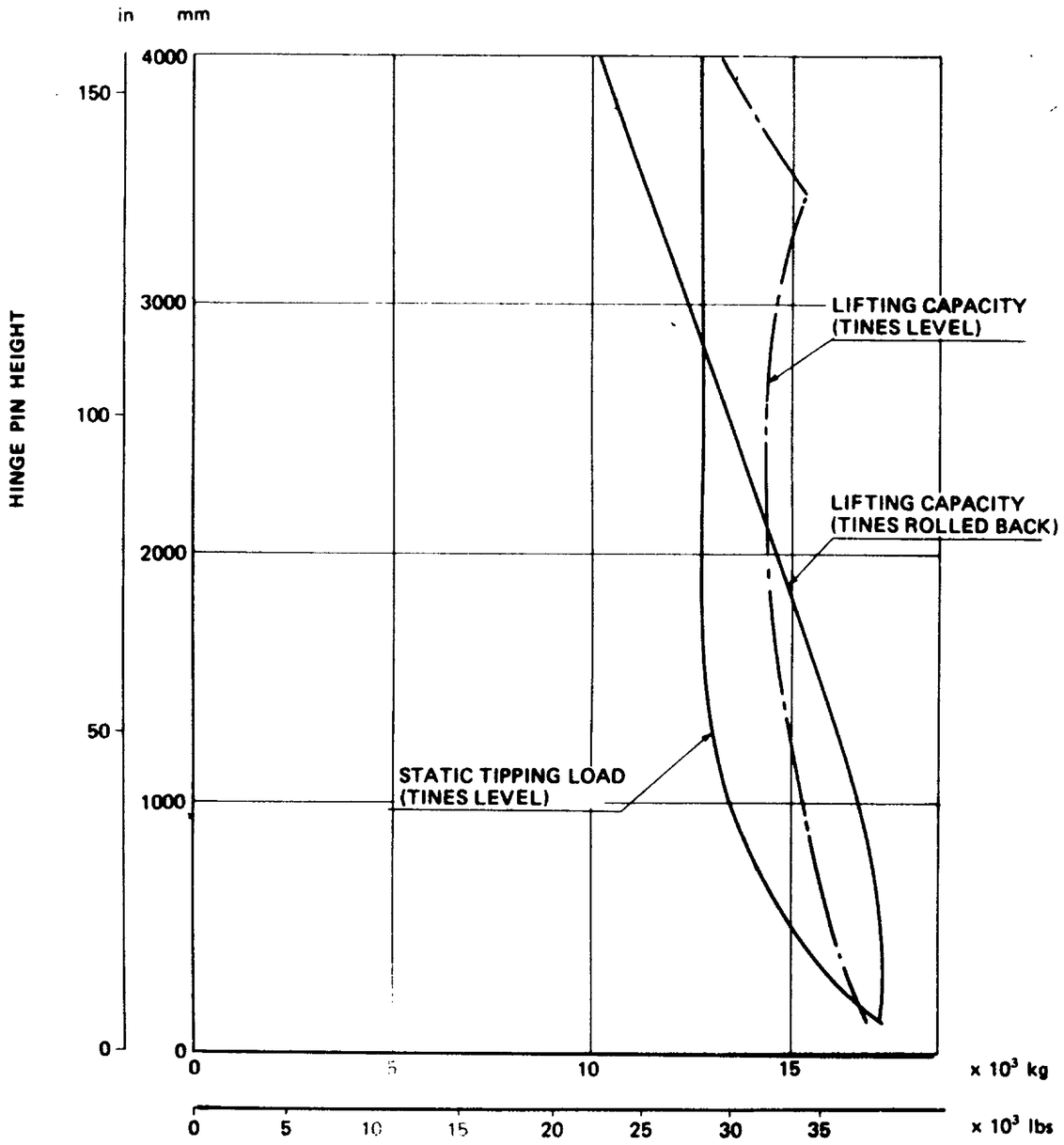
WA450-1

Cuvers based on machine equipped with 23.5-25-20PR(L3)TL with 75% $CaCl_2$ and counterweight for logger

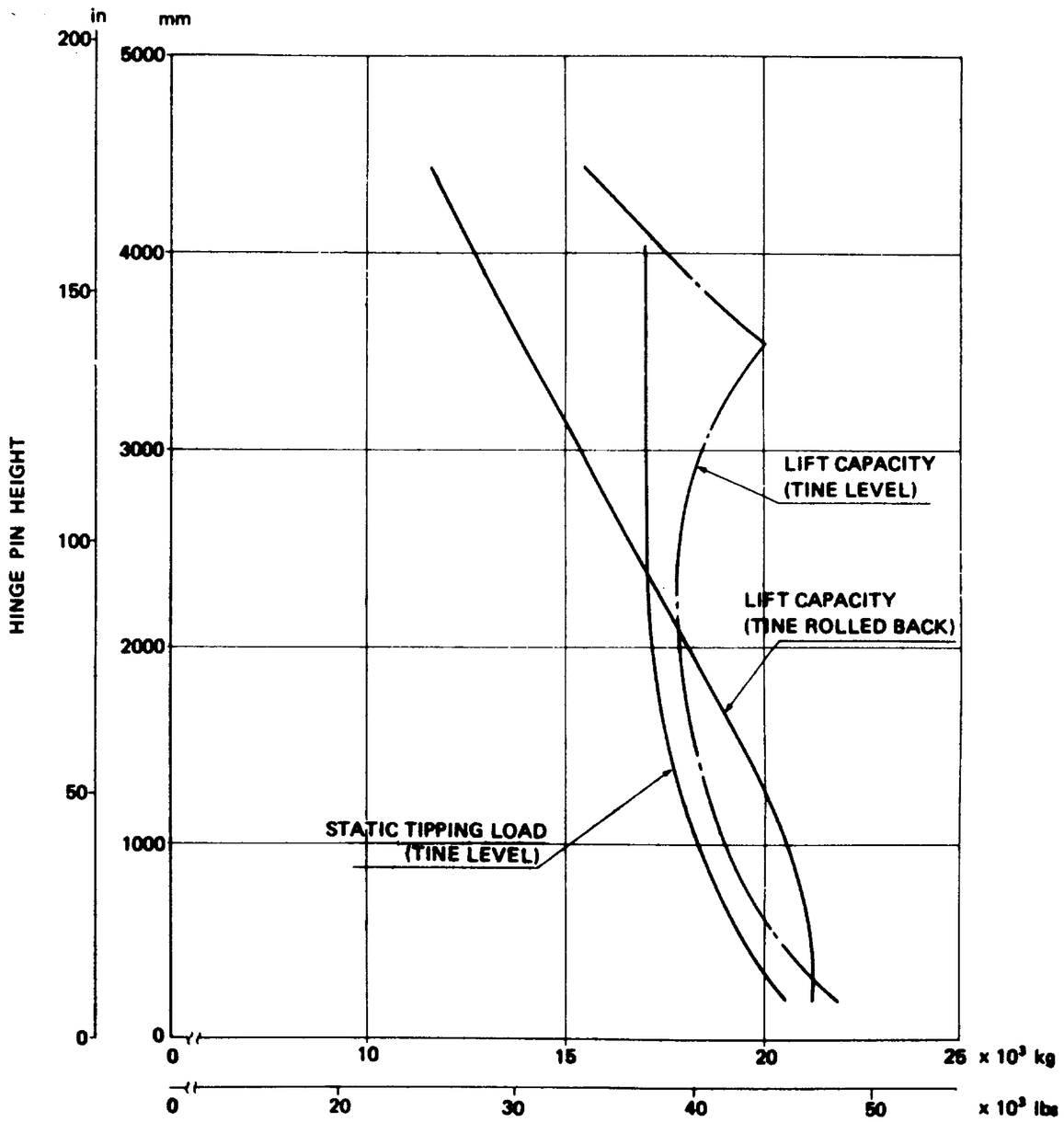


STATIC TIPPING LOAD (STRAIGHT) AND LIFTING CAPACITY

Load centroid = Lenght of tine/2

WA500-1

Curves based on machine equipped with 29.5-25-22PR(L3) with 75% $CaCl_2$ and counterweight for logger



STATIC TIPPING LOAD (STRAIGHT) AND LIFTING CAPACITY

Load centroid = Length of tines/2

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Tires Availability

WA20-1	WA30-2	WA40-1	WA70-1	WA100-1	WA120-1
● 4 × 10 – 16.5 – 4PR L2 W/T	● 4 × 33 × 12.5 – 15 – 6PR L2 W/T	● 4 × 15.5/70 – 18 – 8PR L2 W/T	● 17.5 – 20 – 10PR L2 T/L	● 16.9 – 24 – 10PR L2 T/L	● 4 × 14.0 – 24 – 12PR L2 T/L
	7.50 – 16 – 8PR		17.5/65 – 20 – 10PR L2 W/T	13.0 – 24 – 8PR L2 T/L W/T	15.5 – 25 – 12PR L2 T/L
				13.0 – 24 – 8PR L3 T/L	17.5 – 25 – 12PR L2 T/L
				15.5 – 25 – 8PR L2 T/L W/T	17.5 – 25 – 12PR L3 T/L
				15.5 – 25 – 8PR L3 T/L W/T	18.4 – 24 – 10PR L2 T/L
				16.90 – 24 – 10PR L2 W/T	
				16.90 – 24 – 10PR L3 T/L W/T	

WA150-1	WA180-1	WA200-1	WA250-1	WA300-1	WA320-1
● 14.00 – 24 – 12PR L2 T/L	● 4 × 14.0 – 24 – 12PR L2 T/L	● 4 × 17.5 – 25 – 12PR L2 T/L	● 4 × 17.5 – 25 – 12PR L2 T/L	● 4 × 17.5 – 25 – 12PR L2 T/L	● 4 × 17.5 – 25 – 12PR L2 T/L
14.00 – 24 – 12PR L2 W/T	15.5 – 25 – 12PR L2 T/L	15.5 – 25 – 12PR L2 T/L	17.5 – 25 – 12PR L3 T/L	17.5 – 25 – 12PR L2 W/T	17.5 – 25 – 12PR L2 W/T
14.00 – 24 – 12PR L3 T/L W/T	17.5 – 25 – 12PR L2 T/L	17.5 – 25 – 12PR L2 W/T	20.5 – 25 – 12PR L3 T/L	17.5 – 25 – 12PR L3 T/L W/T	17.5 – 25 – 12PR L3 T/L W/T
15.5 – 25 – 12PR L2 T/L W/T	17.5 – 25 – 12PR L3 T/L	17.5 – 25 – 12PR L3 T/L W/T		20.5 – 25 – 12PR L2 T/L W/T	20.5 – 25 – 12PR L2 T/L
17.5 – 25 – 12PR L2 T/L W/T	20.0 – 24 – 12PR L2 T/L	20.0 – 24 – 12PR L2 T/L		20.5 – 25 – 12PR L3 T/L W/T	20.5 – 25 – 12PR L3 T/L
17.5 – 25 – 12PR L3 T/L W/T		20.5 – 25 – 12PR L3 T/L		20.5 – 25 – 12PR L3 SB SSB	20.5 – 25 – 12PR L3 SB
18.4 – 24 – 10PR L2 T/L W/T					

●: Standard tire T/L: Tubeless tire W/T: Tubed tire SB: Steel breaker tire SSB: Side steel breaker tire

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WA350-1	WA380-1	WA400-1	WA420-1	WA450-1	WA470-1
● 4 × 20.5 – 25 – 12PR L2 T/L	● 4 × 20.5 – 25 – 16PR L2 T/L	● 4 × 23.5 – 25 – 12PR L3 T/L	● 4 × 23.5 – 25 – 16PR L3 T/L	● 4 × 23.5 – 25 – 16PR L3 T/L	● 4 × 23.5 – 25 – 20PR L3 T/L
20.5 – 25 – 12PR L2 W/T	20.5 – 25 – 16PR L3 T/L	23.50 – 25 – 16PR L2 W/T	23.50 – 25 – 16PR L2 T/L	23.50 – 25 – 24PR L3 T/L	23.5 – 25 – 20PR L2 T/L
20.5 – 25 – 16PR L2 W/T	23.5 – 25 – 12PR L2 T/L	23.50 – 25 – 20PR L3 T/L W/T SB SSB	23.50 – 25 – 20PR L2 T/L	23.50 – 25 – 20PR L3 W/T	26.50 – 25 – 16PR L3 T/L
23.5 – 25 – 12PR L3 W/T SB SSB	23.5 – 25 – 12PR L3 T/L	23.50 – 25 – 16PR L3 W/T	23.50 – 25 – 20PR L3 T/L SB SSB	26.50 – 25 – 16PR L3 T/L W/T	26.50 – 25 – 20PR L3 T/L
20.5 – 25 – 12PR L3 SB SSB	23.5 – 25 – 16PR L2 T/L	23.50 – 25 – 20PR L2 W/T	26.50 – 25 – 16PR L3 T/L	23.50 – 25 – 16PR L5 T/L	26.50 – 25 – 20PR L4 T/L
	23.5 – 25 – 16PR L3 T/L	26.50 – 25 – 16PR L2 T/L	26.50 – 25 – 20PR L3 T/L	23.50 – 25 – 20PR L5 W/T	26.50 – 25 – 20PR L5 T/L
	23.5 – 25 – 20PR L2 T/L	23.50 – 25 – 16PR L5 T/L	26.50 – 25 – 16PR L2 T/L		23.50 – 25 – 16PR L5 T/L
	23.5 – 25 – 20PR L3 T/L		23.50 – 25 – 16PR L5 T/L		23.50 – 25 – 20PR L5 W/T

WA500-1	WA600-1	WA800-1			
● 4 × 26.5 – 25 – 20PR L3 T/L	● 4 × 35/65 – 33 – 24PR L4 T/L	● 4 × 45/65 – 45 – 38PR L5 T/L			
26.50 – 25 – 20PR L4 T/L	29.50 – 29 – 28PR L4 T/L	45/65 – 45 – 46PR L5 T/L			
29.50 – 25 – 22PR L3 T/L W/T	35/65 – 33 – 24PR L5 T/L	45/65 – 45 – 50PR L5 T/L			
26.50 – 25 – 20PR L3 T/L W/T SB SSB	35/65 – 33 – 30PR L5 T/L				
29.50 – 25 – 22PR L3 W/T SB SSB					
29.50 – 25 – 22PR L3 T/L SB					

●: Standard tire T/L: Tubeless tire W/T: Tubed tire SB: Steel breaker tire SSB: Side steel breaker tire

Standard Production — Loading (cu. m/h)

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Cycle Time (min.)	Cycles Per Hr	Bucket Size** (cu.m)																			
		1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0
35	171	White area indicates average production																				
40	150	150	225	330	375	450																
45	133	135	200	288	332	400	466	530	600	665												
50	120	120	180	240	300	360	420	480	540	600	660	720	780	840	900	960	1003	1080	1140	1200	1200	1320
55	109	109	164	218	272	328	382	436	480	545	600	655	705	785	820	870	925	980	1008	1080	1145	1200
60	100	100	180	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
65	92	92	138	184	230	278	322	368	416	460	505	555	600	645	690	735	780	830	875	920	965	1010
70	88						300	342	386	430	474	515	660	800	845	890	730	775	815	880	905	945
75	80										440	480	520	560	600	640	680	720	780	800	840	880

* Actual production = (Standard production) x (Bucket factor) x Job efficiency)

** Bucket sizeÜ Heaped bucket capacity

Bucket factor (K)

Loading conditions	K
Easy loading	1.0 ~ 1.1
Average loading	0.85 ~ 0.95
Rather difficult loading	0.8 ~ 0.85
Difficult loading	0.75 ~ 0.8

Job efficiency (E)

Operating conditions	E
Good	0.83
Average	0.75
Rather poor	0.67
Poor	0.58

Standard Production — Loading (cu. yd/h)

Cycle Time (min.)	Cycles per Hr	Bucket Size (cu.yd)																									
		1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0
		White area indicates average																										
35	171																											
40	150	150	225	330	375	450	525																					
45	133	135	200	268	332	400	466	530	600	665	730	800	885															
50	120	120	180	240	300	360	420	480	540	600	660	720	780	840	900	960	1003	1080	1140	1200	1200	1320	1880	1440	1500	1560	1820	1680
55	109	109	164	218	272	328	382	436	490	545	600	655	705	765	820	870	925	980	1008	1080	1345	1200	1266	1310	1365	1420	1475	1525
60	100	100	160	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400
65	92	92	138	184	230	276	322	368	416	460	505	555	600	645	690	735	780	830	875	920	965	1010	1060	1105	1150	1195	1240	1290
70	86							342	386	430	474	515	660	900	845	890	730	775	815	880	905	945	990	1030	1075	1120	1165	1200
75	80													960	600	640	690	720	760	800	840	880	920	960	1000	1040	1080	1120

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* Actual production = (Standard production) x (Bucket factor) x (Job efficiency)

** Bucket size: Heaped bucket capacity

Bucket factor (K)

Loading conditions	K
Easy loading	1.0 ~ 1.1
Average loading	0.85 ~ 0.95
Rather difficult loading	0.8 ~ 0.85
Difficult loading	0.75 ~ 0.8

Job efficiency (E)

Operating conditions	E
Good	0.83
Average	0.75
Rather poor	0.67
Poor	0.58

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Standard Production — Load and Carry

HAULING DISTANCE		CYCLE TIME	BUCKET SIZE** (m^3) OR (cu.yd)												
m	ft	MIN.	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5
20	66	0.80	75	113	150	188	225	263	300	338	375	413	450	488	525	563
40	131	0.92	65	98	130	163	196	228	261	293	326	359	391	424	457	489
60	197	1.04	58	87	115	144	173	202	231	260	288	317	346	375	404	433
80	262	1.16	52	78	103	129	155	181	207	233	259	284	310	336	362	388
100	328	1.28	47	70	94	117	141	164	188	211	234	258	281	305	328	352
120	394	1.40	39	64	86	107	129	150	171	193	214	236	257	279	300	321
140	459	1.52	39	59	79	99	118	138	158	178	197	217	237	257	276	296
160	525	1.64	37	55	73	91	110	128	146	165	183	201	220	238	256	274
180	591	1.76	34	51	68	85	102	119	136	153	170	188	205	222	239	256
200	656	1.88	32	48	64	80	96	112	128	144	160	176	191	207	223	239

HAULING DISTANCE														
m	ft	MIN.	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0
20	66	0.80	600	638	675	713	750	788	825	863	900	938	975	1013	1050
40	131	0.92	522	554	587	620	652	685	717	750	783	815	848	880	913
60	197	1.04	462	490	519	548	577	606	635	663	692	721	750	779	808
80	262	1.16	414	440	466	491	517	543	569	595	621	647	672	698	724
100	328	1.28	375	398	422	445	469	492	516	539	563	586	609	633	656
120	394	1.40	343	364	386	407	429	450	471	493	514	536	557	579	600
140	459	1.52	316	336	355	375	395	414	434	454	474	493	513	533	553
160	525	1.64	293	311	329	348	366	384	402	421	439	457	476	494	512
180	591	1.76	273	290	307	324	341	358	375	392	409	426	443	460	477
200	656	1.88	255	271	287	303	319	335	351	367	383	399	415	431	447

* Actual production = (Standard production) x (Bucket factor) x (Job efficiency)

** Bucket size: Heaped bucket capacity

Estimating conditions

1. Cycle time = (Travel time) + (Fixed time)
2. Gear: F2, F3
3. Fixed time: 0.60 min.
   Fixed time is loading, turning and dumping time.

Job efficiency (E)

Operating Conditions	E
Good	0.83
Average	0.80
Rather poor	0.75
Poor	0.70

Bucket factor

In a load and carry operation, fully heaped bucket cause soil spillage from bucket during hauling, so partially heaped bucket is recommendable.
Use the bucket factor of 0.7 ~ 0.9.