Caterpillar Performance Handbook

Edition 36

CATERPILLAR®

PAVING PRODUCTS (Continued)

Vibratory and Pneumatic Tire Compactors

Single Drum Smooth

Drum width 1270 to 2130 mm (4'2" to 7'0")

CS-323C

CS-423E

CS-433E

CS-533E

CS-563E

CS-573E

CS-583E

CS-663E

CS-683E

Single Drum, Padded

Drum width 1270 to 2130 mm (4'2" to 7'0")

CP-323C

CP-433E

CP-533E

CP-563E

CP-573E

CP-583E

CP-663E

Double Drum and Combi

Drum width 1000 to 2130 mm (3'3.4" to 7'0")

CB-214E

CB-224E

CB-225E

CB-334E

CB-335E

CB-434D

CB-534D

CB-534D XW

CB-634D

Pneumatic Tire Asphalt Compactors

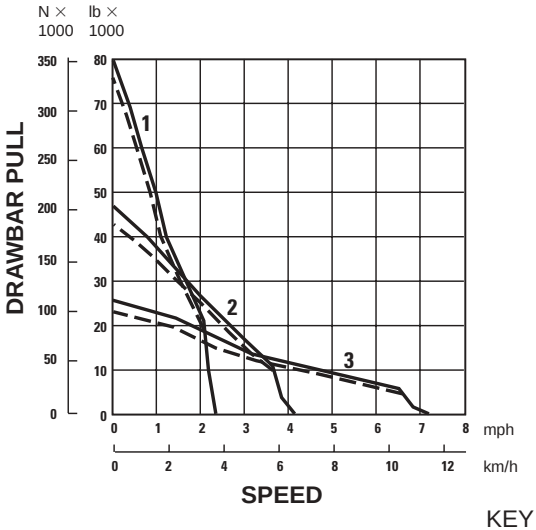
Wheel loads 1134 to 5000 kg (2500 to 11,020 lb)

PS-150C

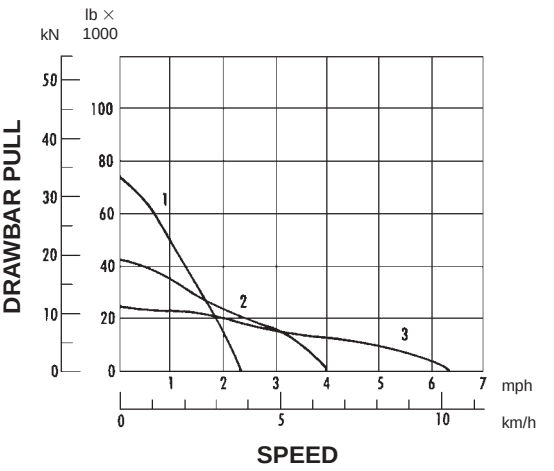
PS-360B

PF-300B PS-300B

D6R Series III



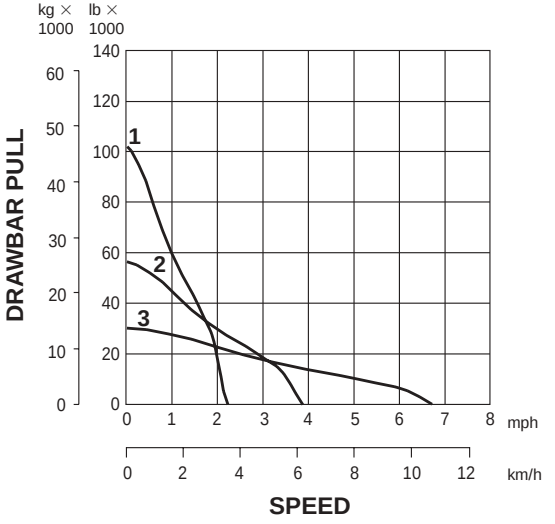
D7G



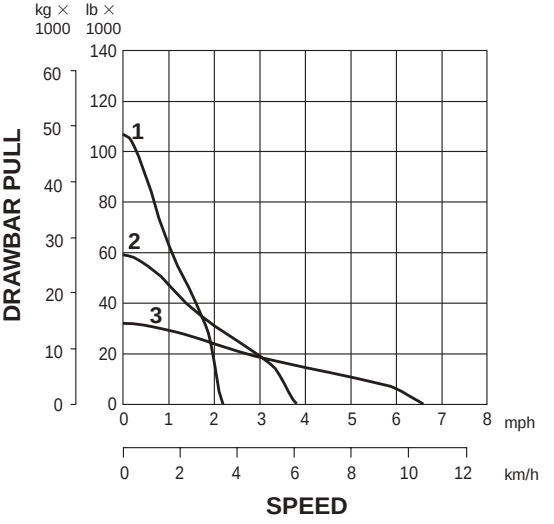
KEY

– – – STD
———— XL/XW/LGP

D7R Series II Standard/XR/LGP Steering Clutches & Brakes (FTC)



D7R Series II Standard/XR/LGP Differential Steer



KEY

1 — 1st Gear
2 — 2nd Gear
3 — 3rd Gear

NOTE: Usable pull will depend upon weight and traction of equipped tractor.

BLADE SELECTION

Properly matching tractor and dozer is a basic requirement for maximizing production. First consider the kind of work the tractor will be doing most of its life. Then evaluate:

- Material to be moved.
- Tractor limitations.

Materials to be moved

Most materials are dozeable. However, dozer performance will vary with material characteristics such as:

Particle Size & Shape — The larger the individual particle size, the harder it is for a cutting edge to penetrate. Particles with sharp edges resist the natural rolling action of a dozer blade. These particles require more horsepower to move than a similar volume of material with rounded edges.

Voids — Few voids or the absence of voids means the individual particles have most or all of their surface area in contact with other particles. This forms a bond which must be broken. A well graded material, which lacks voids, is generally heavy, and will be hard to remove from the bank state.

Water Content — In most materials the lack of moisture increases the bond between particles and makes the material difficult to remove from the bank state. A high moisture content makes dozing difficult because the material is heavy and requires more force to move. Optimum moisture reduces dust and offers the best condition for dozing ease and operator comfort.

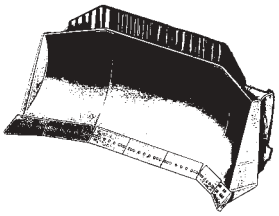
The effect of freezing depends on the moisture content. When frozen, the material's bond strengthens as moisture content increases and temperature decreases. However, freezing a completely dry material does not change its characteristics.

An indication of a blade's ability to penetrate and obtain a blade load is kW per meter (or horsepower per foot) of cutting edge. The higher the kW/meter (HP/foot), the more aggressive the blade. Kilowatt per Lm^3 (horsepower per loose cubic yard) indicates a blade's ability to push material. The higher the kW/Lm^3 (HP/LCY), the greater the blade's potential capability for carrying material at a greater speed.

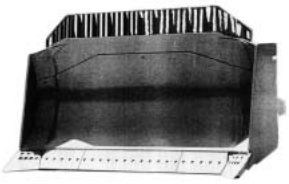
Tractor Limitations

The weight and horsepower of the machine determines its ability to push. No tractor can exert more pounds push than the machine itself weighs and its power train can develop. Various terrain and underfoot conditions on the job limit the tractor's ability to use its weight and horsepower. The "approximate coefficient of traction factors" chart in the Tables Section presents these traction factors for common materials. To use the chart, take the total tractor weight (with attachments) times the factor to arrive at the maximum usable push the dozer can exert.

Production Dozing Tools



"U" — Universal blade — the large wings on this blade include one end bit and at least one section of cutting edge which make it efficient for moving big loads over long distances as in land reclamation, stockpile work, charging hoppers and trapping for loaders. As this blade has a lower kW/meter (HP/foot) of cutting edge than an "S" or "SU", penetration should not be a prime objective. With a lower kW/Lm^3 (HP/LCY) than an "S" or "SU", this blade is best for lighter or relatively easily dozed material. If equipped with tilt cylinders the U blade can be used to pry out, level, cut ditches and steer the tractor.



"SU" — The Semi-U blade combines the desirable characteristics of S and U-blades into one package. It has increased capacity by the addition of short wings which include only the dozer end bits. The wings provide improved load retention capabilities while maintaining the blade's ability to penetrate and load quickly in tightly packed materials and to handle a wide variety of materials in production oriented applications. Tilt cylinder(s) increase both the productivity and versatility of this dozer. Equipped with a push plate, it is effectively used for push loading scrapers.

BULLDOZER PRODUCTION OFF-THE-JOB

You can estimate bulldozer production using the production curves that follow and the correction factors that are applicable. Use this formula:

$$\text{Production } (Lm^3/hr) \text{ (LCY/hr)} = \text{Maximum production} \times \text{Correction factors}$$

The bulldozer production curves give maximum uncorrected production for universal, semi-universal, and straight blades and are based on the following conditions:

1. 100% efficiency (60 minute hour — level cycle).
2. Power shift machines with 0.05 min. fixed times.
3. Machine cuts for 15 m (50 feet), then drifts blade load to dump over a high wall. (Dump time — 0 sec.)
4. Soil density of 1370 kg/Lm^3 (2300 lb/LCY).
5. Coefficient of traction:*
   a. Track machines — 0.5 or better
   b. Wheel machines — 0.4 or better
6. Hydraulic controlled blades used.
7. Dig 1F**
   Carry 2F**
   Return 2R**

To obtain estimated production in bank cubic meters or bank cubic yards, appropriate load factor from the Tables section should be applied to the corrected production as calculated above.

$$\text{Production } Bm^3/hr \text{ (BCY/h)} = Lm^3/hr \times LF \text{ (LCY/h)} \times LF$$

*Coefficient of traction assumed to be at least 0.4. While poor traction affects both track and wheel vehicles, causing them to take smaller blade loads, wheeled units are affected more severely and production falls much more rapidly. While no fixed rules can predict this production loss, a rough rule of thumb is that wheel dozer production falls off 4% for each one-hundredth decrease in coefficient of traction below 0.40. If, for example, coefficient of traction is 0.30, the difference is ten-hundredths (0.10), and production is 60% (10 × 4% = 40% decrease).

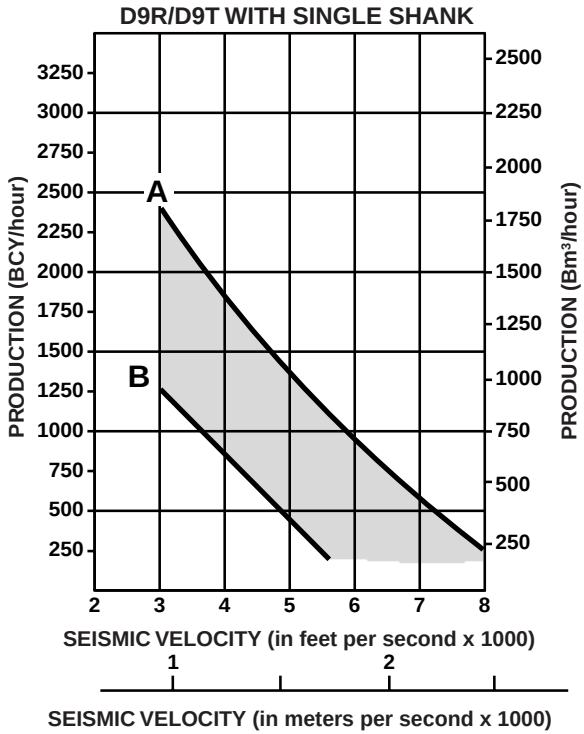
**This gear sequence is based on level to downhill terrain, light to medium density material, and no blade extensions such as spill plates, rock guards, etc. Exceeding these conditions may require carry in 1F, but productivity should equal or exceed "standard conditions" due to the larger loads that can be carried in 1F.

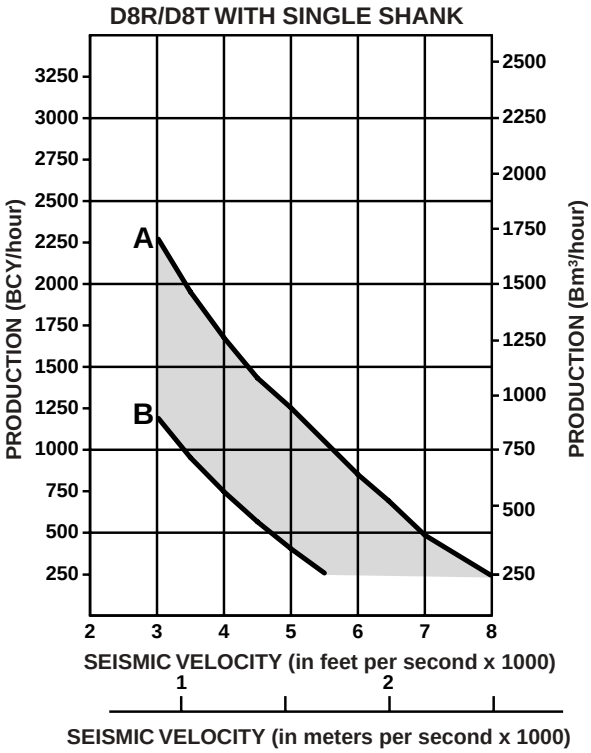
TRACTOR/RIPPER	D6R Series III		D6R XL Series III		D7R Series II	
Ripper Type	**Parallelogram**		**Parallelogram**		**Adj. Parallelogram**	
Dimensions:						
Ripper Shank						
G Maximum digging depth	500 mm	**1'7.7"**	500 mm	**1'7.7"**	748 mm	**2'5.4"**
L Maximum reach at ground line	729 mm	**2'4.7"**	729 mm	**2'4.7"**	1.07 m	**3'6.1"**
M Maximum ground clearance under tip (shank pinned in bottom hole)	520 mm	**1'8.5"**	520 mm	**1'8.5"**	638 mm	**2'1.1"**
N Maximum ramp angle, ripper up (shank pinned in bottom hole)	**26°**		**26°**		**26.6°**	
Shank section	74 × 175 mm **(2.9" × 6.9")**		74 × 175 mm **(2.9" × 6.9")**		72 × 228 mm **(2.8" × 6.9")**	
Ripper Beam						
O Overall width	2.20 m	**7'3"**	2.20 m	**7'3"**	2.21 m	**7'3"**
P Height	216 mm	**8.5"**	216 mm	**8.5"**	279 mm	**11"**
Q Length	254 mm	**10"**	254 mm	**10"**	343 mm	**13.5"**
Number of Pockets	**3**		**3**		**3**	
T Pocket Spacing	1000 mm	**3'3.4"**	1000 mm	**3'3.4"**	991 mm	**3'3"**
U Shank Gauge	2 m	**6'7"**	2 m	**6'7"**	1.98 m	**6'6"**
V Track clearance with standard shoe	120 mm	**4.7"**	120 mm	**4.7"**	95 mm	**3.7"**
Installed weights:						
Ripper with standard shank	1456 kg	**3203 lb**	1456 kg	**3203 lb**	3277 kg	**7225 lb**
Each additional shank	70 kg	**154 lb**	70 kg	**154 lb**	138 kg	**305 lb**
Ripper Forces:*						
Penetration Force	6558 kg	**14,428 lb**	7485 kg	**16,505 lb**	8664 kg	**19,104 lb**
Pryout Force	9155 kg	**20,140 lb**	9155 kg	**20,140 lb**	18 007 kg	**39,705 lb**

*Tractor equipped with ripper, OROPS, SU dozer and heavy duty track. Values may vary slightly with various configurations.
NOTE: Letters correspond to ripper dimension drawings.

CONSIDERATIONS FOR USING PRODUCTION ESTIMATED GRAPHS:

- Machine rips full-time — no dozing.
- Power shift tractors with single shank rippers.
- 100% efficiency (60 min hour).
- Charts are for all classes of material.
- In igneous rock with seismic velocity of 8000 fps (2450 mps) or higher for the D11R, and 6000 fps (1830 mps) or higher for the D10T, D9R/D9T and D8R/D8T, the production figures shown should be reduced by 25%.
- Upper limit of charts reflect ripping under ideal conditions only. If conditions such as thick lamination, vertical lamination or any factor which would adversely affect production are present, the lower limit should be used.





KEY
A — IDEAL
B — ADVERSE

WINCH MODEL		PA40VS	H70VS	PA110BVS	
TRACTOR MODEL		**D3G, D4G, D5G**	**D6R Series III**	**D7R Series II**	**D7R Series II**
British Units of Measure					
Transmission		Hydrostatic	Powershift D/S	Powershift D/S	Powershift C/B
Winch Drive		Hydrostatic	Hydraulic	Hydraulic	Hydraulic
Bare Drum	Maximum line pull(1) .lb	40,000	90,000	110,000	101,200
	Rated line speed(2) .fpm	—	54	33	30
	Maximum line speed(3) .fpm	132	87	100	68
Full Drum	Maximum line pull(1) .lb	25,000	56,600	73,600	65,400
	Rated line speed(2) .fpm	—	85	52	47
	Maximum line speed(3) .fpm	207	139	154	103
Metric Units of Measure					
Bare Drum	Maximum line pull(1) .kg	18 140	40 800	49 900	45 900
	Rated line speed(2) .mpm	—	16	10	9
	Maximum line speed(3) .mpm	40	26	30	21
Full Drum	Maximum line pull(1) .kg	11 340	25 650	33 400	29 650
	Rated line speed(2) .mpm	—	26	16	14
	Maximum line speed(3) .mpm	63	42	47	31

(1)"Maximum line pull" is lesser of winch catalog rating or predicted line pull at maximum tractor hydraulic system pressure.
(2)"Rated line speed" is actual line speed at maximum line pull.
(3)"Maximum line speed" is no-load speed at maximum tractor hydraulic system flow.
(4)Hydraulic winch line pull ratings are based on gear train mechanical efficiency of 91%.

WINCH MODEL		PV140VS			
TRACTOR MODEL		**D8R**	**D8T**	**D9R**	**D9T**
British Units of Measure					
Transmission		Powershift	Powershift	Powershift	Powershift
Winch Drive		Hydraulic	Hydraulic	Hydraulic	Hydraulic
Bare Drum	Maximum line pull(1) .lb	140,000	140,000	140,000	140,000
	Rated line speed(2) .fpm	23	23	24	23
	Maximum line speed(3) .fpm	47	46	49	46
Full Drum	Maximum line pull(1) .lb	90,300	90,300	96,200	98,000
	Rated line speed(2) .fpm	37	36	38	36
	Maximum line speed(3) .fpm	73	71	76	71
Metric Units of Measure					
Bare Drum	Maximum line pull(1) .kg	63 500	63 500	63 500	63 500
	Rated line speed(2) .mpm	7	7	7	7
	Maximum line speed(3) .mpm	14	14	15	14
Full Drum	Maximum line pull(1) .kg	40 950	40 950	43 600	44 450
	Rated line speed(2) .mpm	11	11	12	11
	Maximum line speed(3) .mpm	22	22	23	22

(1)"Maximum line pull" is lesser of winch catalog rating or predicted line pull at maximum tractor hydraulic system pressure.
(2)"Rated line speed" is actual line speed at maximum line pull.
(3)"Maximum line speed" is no-load speed at maximum tractor hydraulic system flow.
(4)Hydraulic winch line pull ratings are based on gear train mechanical efficiency of 91%.



MODEL	120H		135H		12H	
Net Flywheel Power	93 kW	**125 hp**	101 kW	**135 hp**	108 kW	**145 hp**
Variable Horsepower: Gears 4-8	104 kW	**140 hp**	116 kW	**155 hp**	123 kW	**165 hp**
Variable Horsepower Plus: Gears 7-8		**—**		**—**	138 kW	**185 hp**
Operating Weight*	12 650 kg	**27,880 lb**	13 080 kg	**28,840 lb**	14 200 kg	**31,320 lb**
Engine Model	**3126B**		**3126B**		**C-9**	
Rated Engine RPM	**2000**		**2000**		**2000**	
No. of Cylinders	**6**		**6**		**6**	
Displacement	7.2 L	**439 in³**	7.2 L	**439 in³**	8.8 L	**537 in³**
Max. Torque Rise	**50%**		**50%**		**50%**	
No. of Speeds Forward/Reverse	**8/6**		**8/6**		**8/6**	
Top Speed: Forward	42.6 km/h	**26.5 mph**	41.9 km/h	**26.1 mph**	44 km/h	**27.4 mph**
Reverse	33.7 km/h	**20.9 mph**	33.1 km/h	**20.6 mph**	34.7 km/h	**21.6 mph**
Std. Tires — Front & Rear	**13.00-24 (10 PR) (G-2)**		**13.00-24 (10 PR) (G-2)**		**13.00-24 (10 PR) (G-2)**	
Front Axle/Steering:						
Oscillation Angle	**32°**		**32°**		**32°**	
Wheel Lean Angle	**18°**		**18°**		**18°**	
Steering Angle	**50°**		**50°**		**50°**	
Articulation Angle	**20°**		**20°**		**20°**	
Minimum Turning Radius**	7.3 m	**24'0"**	7.3 m	**24'0"**	7.4 m	**24'3"**
Front Frame Section Modulus:						
Min.	1619 cm³	**99 in³**	1619 cm³	**99 in³**	2083 cm³	**127 in³**
Max.	3681 cm³	**225 in³**	3681 cm³	**225 in³**	4785 cm³	**291 in³**
No. Circle Support Shoes	**4**		**4**		**6**	
Hydraulics: Pump Type	**Axial Piston**		**Axial Piston**		**Axial Piston**	
Max. Pump Flow	148 L/min	**39 gpm**	148 L/min	**39 gpm**	196 L/min	**51.9 gpm**
System Capacity	53 L	**14 U.S. gal**	53 L	**14 U.S. gal**	80 L	**20.8 U.S. gal**
Implement Pressure: Max.	24 150 kPa	**3500 psi**	24 150 kPa	**3500 psi**	24 150 kPa	**3500 psi**
Min.	3100 kPa	**450 psi**	3100 kPa	**450 psi**	3100 kPa	**450 psi**
Interior Sound Level/SAE J919	**75 dBA**		**75 dBA**		**75 dBA**	
Electrical:						
System Size	**24V**		**24V**		**24V**	
Std. Battery CCA @ 0° F	**750**		**750**		**750**	
Std. Alternator	**50 amp**		**50 amp**		**35 amp**	
GENERAL DIMENSIONS:						
Height (to top of ROPS)	3.11 m	**10'2"**	3.11 m	**10'2"**	3.11 m	**10'2"**
Height (stripped top)***	2.91 m	**9'7"**	2.91 m	**9'7"**	3.04 m	**10'0"**
Overall Length	8.31 m	**27'3"**	8.31 m	**27'3"**	8.57 m	**28'1"**
With Pushplate	8.55 m	**28'0"**	8.55 m	**28'0"**	10.01 m	**32'10"▼**
Wheelbase	5.92 m	**19'5"**	5.92 m	**19'5"**	6.09 m	**20'0"**
Blade Base	2.60 m	**8'6"**	2.60 m	**8'6"**	2.57 m	**8'5"**
Overall Width (at top of front tires)	2.44 m	**8'0"**	2.44 m	**8'0"**	2.44 m	**8'0"**
Standard Blade: Length	3.66 m	**12'0"**	3.66 m	**12'0"**	3.66 m	**12'0"**
Height	610 mm	**2'0"**	610 mm	**2'0"**	610 mm	**2'0"**
Thickness	22 mm	**0.87"**	22 mm	**0.87"**	22 mm	**0.87"**
Lift Above Ground	457 mm	**18"**	457 mm	**18"**	480 mm	**18.9"**
Max. Shoulder Reach:◄						
Frame Straight	1.91 m	**6'3"**	1.91 m	**6'3"**	1.97 m	**6'6"**
Articulated Position	2.85 m	**9'4"**	2.85 m	**9'4"**	2.91 m	**9'7"**
Fuel Tank Capacity	340 L	**90 U.S. gal**	340 L	**90 U.S. gal**	378 L	**100 U.S. gal**

*__Operating Weight__ — based on standard machine configuration with full fuel tank, coolant, lubricants and operator.
**__Minimum Turning Radius__ — combining the use of articulated frame steering, front wheel steer and unlocked differential.
***__Height__ (stripped top) — without ROPS, exhaust, seat back or other easily removed encumbrances.
◄ Applicable for the standard blade with hydraulic sideshift and tip control. Maximum shoulder reach is obtainable to the right.
▼ Includes optional rear ripper.

SKID STEER LOADERS
Multi Terrain Loaders

CONTENTS

SKID STEER LOADERS

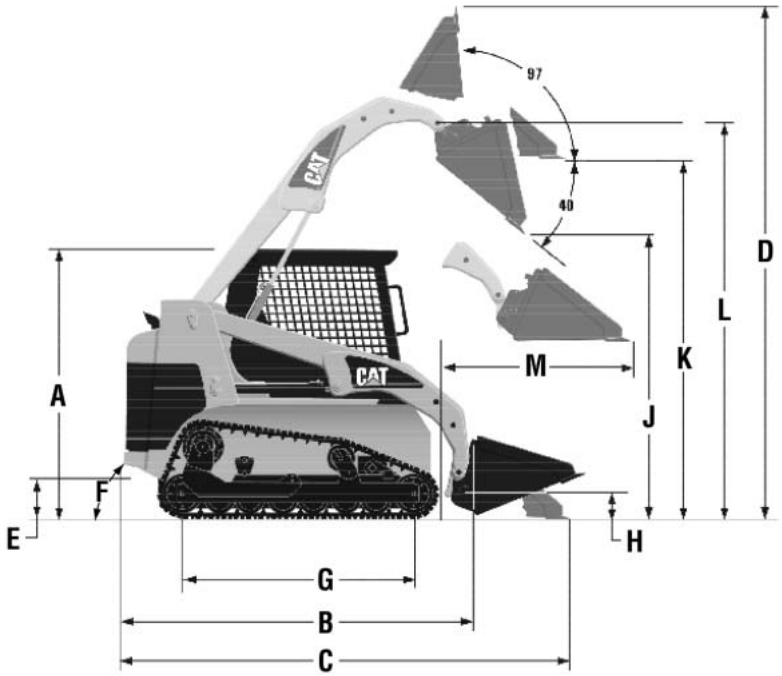
MULTI TERRAIN LOADERS

Features:

- **Caterpillar engines** provide high horsepower and torque. Closed circuit breather, glow-plug starting aid, ecology drain and SOS oil sampling ports standard.
- **Ergonomically designed cab** provides maximum operator comfort & visibility.
- **Low-effort,** pilot hydraulic joystick controls, armrest & retractable seat belt for easy operation.
- **Deep skid resistant steps** and two tilt cylinders makes egress/ingress easy.
- **Hand and foot throttle** for continuous or variable engine speed.
- **Exclusive anti-stall feature** provides maximum rimpull and hydraulic power while lugging the engine.
- **High hydraulic horsepower** gets work done quickly.
- **Direct drive hystat pumps** eliminate universal joints and belts.
- **Tilt-up cooling package** provides access to engine compartment.
- **Long life coolant** and extended hour service intervals for low operating costs.
- **Single engine belt** drives alternator and water pump.
- **Deutsch connectors** are color coded, numbered and protected with nylon braiding.
- **Electro-depositioned** or “E” coat corrosion protection for long life.
- **High flow XPS hydraulics** standard on 248B and 268B.
- **High flow hydraulics** optional on 226B and 242B.

Bucket Type		**Dirt**					
Bucket Width **Tire Size**		**1520 mm (60")** **12 x 16.5**		**1680 mm (66")** **12 x 16.5**		**1830 mm (72")** **12 x 16.5**	
Ground Engaging Type		**Holes Only**	**Bolt-on Edge**	**Holes Only**	**Bolt-on Edge**	**Holes Only**	**Bolt-on Edge**
Rated bucket capacity	m^3	0.34	0.35	0.37	0.38	0.41	0.42
	yd^3	**0.44**	**0.46**	**0.48**	**0.49**	**0.54**	**0.55**
Struck capacity	m^3	0.25	0.25	0.27	0.27	0.29	0.31
	yd^3	**0.33**	**0.33**	**0.35**	**0.35**	**0.38**	**0.41**
Width	mm	1576	1586	1730	1740	1883	1893
	in	**62**	**62**	**68**	**69**	**74**	**75**
Dump clearance at maximum lift/dump	mm	2281	2249	2281	2249	2281	2249
	in	**90**	**89**	**90**	**89**	**90**	**89**
Reach at maximum lift/dump	mm	724	732	724	732	724	732
	in	**29**	**29**	**29**	**29**	**29**	**29**
Floor angle at maximum lift/dump	**degrees**	**49.5°**	**49.5°**	**49.5°**	**49.5°**	**49.5°**	**49.5°**
Floor angle at maximum lift/rack back	**degrees**	**86.9°**	**86.9°**	**86.9°**	**86.9°**	**86.9°**	**86.9°**
Clearance at maximum lift/level bucket	mm	2851	2835	2851	2835	2851	2835
	in	**112**	**112**	**112**	**112**	**112**	**112**
Hinge pin height at maximum lift	mm	3046	3046	3046	3046	3046	3046
	in	**120**	**120**	**120**	**120**	**120**	**120**
Maximum overall height	mm	3874	3901	3874	3901	3874	3901
	in	**153**	**154**	**153**	**154**	**153**	**154**
Reach at level lift arm/bucket	mm	1302	1330	1302	1330	1302	1330
	in	**51**	**52**	**51**	**52**	**51**	**52**
Maximum floor angle at minimum lift	**degrees**	**25.4°**	**25.4°**	**25.4°**	**25.4°**	**25.4°**	**25.4°**
Dig depth with level bucket	mm	4	20	4	20	4	20
	in	**0.2**	**0.8**	**0.2**	**0.8**	**0.2**	**0.8**
Overall length with bucket on ground	mm	3437	3465	3437	3465	3437	3465
	in	**135**	**136**	**135**	**136**	**135**	**136**
Front clearance circle radius (w/bucket)	mm	2137	2169	2154	2185	2198	2229
	in	**84**	**85**	**85**	**86**	**87**	**88**
Tipping load	kg	1858	1799	1835	1771	1822	1755
	lb	**4097**	**3967**	**4046**	**3905**	**4018**	**3870**
Breakout force — lift	kg	1763	1714	1742	1691	1731	1677
	lb	**3887**	**3778**	**3841**	**3728**	**3817**	**3697**
Breakout force — tilt	kg	1851	1738	1841	1726	1834	1715
	lb	**4082**	**3833**	**4059**	**3805**	**4045**	**3782**
Operating weight	kg	3060	3090	3085	3118	3098	3134
	lb	**6747**	**6813**	**6802**	**6875**	**6831**	**6910**

MODEL	277B		287B	
Flywheel Power: Net	57 kW	**76 hp**	57 kW	**76 hp**
Gross	60 kW	**80 hp**	60 kW	**80 hp**
Engine Model		**3044C DIT**		**3044C DIT**
Rated Engine RPM		**2600**		**2600**
Bore	94 mm	**3.7"**	94 mm	**3.7"**
Stroke	120 mm	**4.7"**	120 mm	**4.7"**
Displacement	3.3 L	**201 in³**	3.3 L	**201 in³**
No. Cylinders		**4**		**4**
Speeds Forward Infinite	0-9.7 kph	**0-6.0 mph**	0-11.0 kph	**0-7.0 mph**
Speeds Reverse Infinite	0-9.7 kph	**0-6.0 mph**	0-11.0 kph	**0-7.0 mph**
Hydraulic Cycle Time, Empty Bucket:		**Seconds**		**Seconds**
Raise		**2.7**		**4.8**
Dump		**2.2**		**2.2**
Lower (Empty, Float Down)		**2.8**		**3.6**
Total		**7.7**		**10.6**
Tread Width (per side)	457 mm	**18"**	457 mm	**18"**
Width Over Tracks	1898 mm	**6'3"**	1982 mm	**6'6"**
Ground Clearance	353 mm	**14"**	283 mm	**11"**
Fuel Tank Capacity	82 L	**21.7 U.S. gal**	110 L	**29 U.S. gal**
Hydraulic Tank Capacity	35 L	**9.2 U.S. gal**	35 L	**9.2 U.S. gal**
Hydraulic System Capacity (includes tank)	52 L	**13.7 U.S. gal**	51 L	**13.5 U.S. gal**
Hydraulic Pump Capacity	82 L/min	**22 gpm**	82 L/min	**22 gpm**



MODEL	247B		257B		267B/277B		287B	
Rated operating capacity*	885 kg	**1950 lb**	1047 kg	**2310 lb**	**267B** 1316 kg **277B** 1338 kg	**2900 lb** **2950 lb**	1632 kg	**3600 lb**
A Height to top of ROPS	1990 mm	**6'6"**	2022 mm	**6'7"**	2074 mm	**6'8"**	2123 mm	**6'11"**
B Length to coupler	2518 mm	**8'3"**	2701 mm	**8'10"**	2923 mm	**9'7"**	2901 mm	**9'6"**
C Length with bucket on ground	3285 mm	**10'8"**	3490 mm	**11'5"**	3684 mm	**12'1"**	3697 mm	**12'1"**
D Maximum overall height	3770 mm	**12'4"**	3963 mm	**13'0"**	4025 mm	**13'2"**	4182 mm	**13'9"**
E Ground clearance	267 mm	**10.5"**	257 mm	**10"**	353 mm	**14"**	283 mm	**11"**
F Departure angle	**41.5°**		**37.3°**		**62.4°**		**47°**	
G Wheelbase	1499 mm	**4'11"**	1499 mm	**4'11"**	2045 mm	**6'9"**	1842 mm	**6'0"**
H Hinge pin height at carry position	234 mm	**8"**	284 mm	**11"**	251 mm	**10"**	218 mm	**8.5"**
Bucket overall width w/edge	1730 mm	**6'6"**	1730 mm	**6'6"**	2035 mm	**6'8"**	2045 mm	**6'8"**
J Clearance at maximum lift/dump	2113 mm	**7'0"**	2278 mm	**7'5"**	2349 mm	**7'8"**	2386 mm	**7'10"**
Floor angle at maximum lift/dump	**40.8°**		**40.5°**		**41°**		**50°**	
Floor angle at maximum lift/rack	**95.7°**		**86.9°**		**97°**		**87°**	
K Clearance at maximum lift/level	2667 mm	**8'8"**	2889 mm	**9'5"**	2896 mm	**9'5"**	3039 mm	**10'0"**
L Hinge pin height at maximum lift	2862 mm	**9'4"**	3081 mm	**10'1"**	3091 mm	**10'2"**	3250 mm	**10'8"**
M Reach at level lift arm/bucket	1395 mm	**4'7"**	1387 mm	**4'6"**	1455 mm	**4'9"**	1406 mm	**4'7"**
Bumper overhang from axle	576 mm	**1'10"**	672 mm	**2'2"**	391 mm	**1'3"**	391 mm	**1'3"**
Maximum floor angle at carry position	**26.4°**		**26.8°**		**28.9°**		**27.4°**	

*SAE J818 MAY87, ISO 5998:1986.
NOTE: 247B/257B machine dimensions shown with standard machine equipped with 1676 mm **(66")** general purpose bucket.
267B/277B/287B machine dimensions shown with standard machine equipped with 1981 mm **(78")** general purpose bucket.

Features:

- **Two sizes available:** the 1676 mm (66") drum width CV16 and the 1854 mm (73") drum width CV18. Both units efficiently utilize the standard flow auxiliary hydraulic horsepower capabilities of Cat Skid Steer Loaders.
- **Direct drive system** uses a variable speed bi-directional gear motor that drives an eccentric weighted shaft, resulting in drum vibration.
- **Durable high strength steel drums** are roll formed and butt welded for long life.
- **A spring-loaded scraper bar** is standard to prevent material buildup on the drum.
- **Oscillating tilt** is capable from a pivoting interface that allows + 15 degrees of oscillation to follow ground contour.
- **Cat XT hose and O-ring face seals** are used throughout for superior leak-free performance.

Market Opportunities

- **Building/General Construction** — Vibratory compactors can be used on construction sites to level and compact soil around building foundations after backfilling.
- **Governmental/Municipalities (Street and Road Maintenance)** — Vibratory compactors are useful work tools for compacting soil and crushed rock prior to paving or pouring concrete. They are also useful for compacting small areas of asphalt (pothole repair).
- **Landscaping/Landscape Maintenance** — Vibratory compactors are used by landscaping contractors after installing irrigation and water sprinkler systems. Golf course maintenance departments will often use this product to compact greens and fairways.
- **Paving** — Vibratory compactors are used by paving contractors for smaller paving jobs (compacting soil and crushed stone), compacting hot patch (pot hole repair) or compacting material in tight areas where a dedicated roller can't maneuver.
- **Specialty Trades/Utilities** — Vibratory compactors are ideal for compacting back-filled soil after trenching and backhoe work.

Vibratory compactors are productive work tools for specialized applications. They are often used in conjunction with a bucket, cold planer and trencher.

Machine Compatibility

The following are the recommended and approved Caterpillar machine/Vibratory Compactor combinations for maximum system performance.

Vibratory Compactor Model	Machine Model(s)*
CV16	216B*, 226B, 232B, 236B, 242B, 246B, 248B, 252B, 262B, 247B, 257B
CV18	232B, 236B, 242B, 246B, 248B, 252B, 262B, 247B, 257B, 267B, 277B

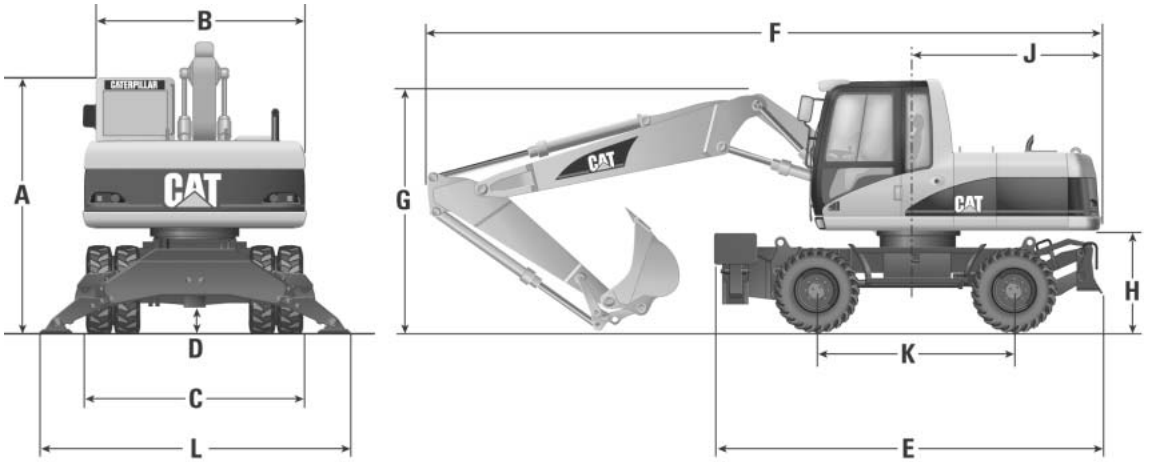
*Lift restriction! Do not raise lift arm — work tool hinge higher than 1 m **(3 ft)** above the ground. Tipping can result.

Notes —




MODEL	320C		320C		320C U		320C L	
Sourcing	**Japan, Brazil**		**Belgium**		**Japan**		**Japan, Brazil**	
Flywheel Power	103 kW	**138 hp**	103 kW	**138 hp**	103 kW	**138 hp**	103 kW	**138 hp**
Operating Weight*	19 700 kg	**43,430 lb**	21 310 kg	**47,000 lb**	22 300 kg	**49,160 lb**	21 000 kg	**46,300 lb**
Bucket Capacity Range (heaped)	0.45-1.5 m^3	**0.59-1.96 yd^3**	0.41-1.7 m^3	**0.54-2.2 yd^3**	0.8-1.5 m^3	**1.05-1.96 yd^3**	0.45-1.5 m^3	**0.59-1.96 yd^3**
Engine Model	**3066 ATAAC**		**3066 ATAAC**		**3066 ATAAC**		**3066 ATAAC**	
Rated Engine RPM	**1800**		**1800**		**1800**		**1800**	
No. of Cylinders	**6**		**6**		**6**		**6**	
Bore	102 mm	**4"**	102 mm	**4"**	102 mm	**4"**	102 mm	**4"**
Stroke	130 mm	**5"**	130 mm	**5"**	130 mm	**5.1"**	130 mm	**5"**
Displacement	6.4 L	**391 in^3**	6.4 L	**391 in^3**	6.4 L	**391 in^3**	6.4 L	**391 in^3**
Max. Implement Hydraulic Pump Output at Rated RPM	2 × 205 L/min	**2 × 54 gpm**	2 × 205 L/min	**2 × 54 gpm**	2 × 205 L/min	**2 × 54.2 gpm**	2 × 205 L/min	**2 × 54 gpm**
Relief Valve Settings:								
Implement Circuits	34 300 kPa	**4970 psi**	34 300 kPa	**4970 psi**	34 300 kPa	**4970 psi**	34 300 kPa	**4970 psi**
Travel Circuits	34 300 kPa	**4970 psi**	34 300 kPa	**4970 psi**	34 300 kPa	**4970 psi**	34 300 kPa	**4970 psi**
Swing Circuits	25 000 kPa	**3630 psi**	26 000 kPa	**3770 psi**	25 000 kPa	**3630 psi**	25 000 kPa	**3630 psi**
Pilot Circuits	4140 kPa	**600 psi**	4120 kPa	**600 psi**	4120 kPa	**600 psi**	4140 kPa	**600 psi**
Maximum Drawbar Pull	196 kN	**44,040 lb**	196 kN	**44,040 lb**	196 kN	**44,040 lb**	196 kN	**44,040 lb**
Maximum Travel Speed at Rated RPM	**Two Speed Travel** Lo: 3.5 km/h Hi: 5.5 km/h	**2.2 mph 3.4 mph**	**Two Speed Travel** Lo: 3.5 km/h Hi: 5.5 km/h	**2.2 mph 3.4 mph**	**Two Speed Travel** Lo: 3.5 km/h Hi: 5.5 km/h	**2.2 mph 3.4 mph**	**Two Speed Travel** Lo: 3.5 km/h Hi: 5.5 km/h	**2.2 mph 3.4 mph**
Width of Standard Track Shoe	600 mm	**2'0"**	600 mm	**2'0"**	600 mm	**2'0"**	800 mm	**2'7"**
Overall Track Length	4075 mm	**13'4"**	4075 mm	**13'4.4"**	4075 mm	**13'4"**	4455 mm	**14'7"**
Ground Contact Area with Std. Shoe	4.26 m^2	**6600 in^2**	4.26 m^2	**6600 in^2**	4.26 m^2	**6600 in^2**	6.29 m^2	**9750 in^2**
Track Gauge	2200 mm	**7'3"**	2200 mm	**7'2.6"**	2200 mm	**7'3"**	2380 mm	**7'10"**
Fuel Tank Refill Capacity	400 L	**106 U.S. gal**	320 L	**84.5 U.S. gal**	284 L	**75 U.S. gal**	400 L	**106 U.S. gal**
Hydraulic System (includes tank)	200 L	**52.8 U.S. gal**	200 L	**52.8 U.S. gal**	240 L	**63.4 U.S. gal**	200 L	**52.8 U.S. gal**

*Operating weight includes coolant, lubricants, full fuel tank, standard shoes, bucket and operator 75 kg **(165 lb)**.
NOTE: Certain models may not be available in all Sales areas.
Specifications may also vary by Sales area.
Contact your Caterpillar Dealer for details.



	M313C		M315C		M316C		M318C		M322C	
	mm	ft	mm	ft	mm	ft	mm	ft	mm	ft
A	3120	**10'3"**	3150	**10'4"**	3170	**10'5"**	3170	**10'5"**	3200	**10'6"**
B	2540	**8'4"**	2540	**8'4"**	2540	**8'4"**	2540	**8'4"**	2670	**8'9"**
C*	2550	**8'4"**	2550	**8'4"**	2550	**8'4"**	2550	**8'4"**	2750	**9'0"**
Dozer width	2550	**8'4"**	2550	**8'4"**	2550	**8'4"**	2540	**8'4"**	2750	**9'0"**
D	370	**1'3"**	370	**1'3"**	370	**1'3"**	375	**1'3"**	360	**1'2"**
E[1]	4875	**17'0"**	4925	**16'2"**	5025	**16'6"**	5025	**16'6"**	5250	**17'3"**
E[2]	4935	**16'2"**	4960	**16'3"**	5060	**17'7"**	5060	**17'7"**	5210	**17'1"**
E[3]	4160	**14'8"**	3610	**12'10"**	4330	**14'2"**	4330	**14'2"**	4503	**14'9"**
F	8080	**27'6"**	8320	**27'4"**	8400	**28'7"**	8960	**29'5"**	9640	**31'8"**
G	2990	**10'10"**	3150	**10'4"**	3170	**10'5"**	3210	**11'6"**	3250	**10'8"**
H	1232	**4'1"**	1262	**4'2"**	1280	**4'2"**	1275	**4'2"**	1307	**4'3"**
J	2049	**7'9"**	2197	**7'2"**	2290	**8'6"**	2500	**8'2"**	2750	**9'0"**
K	2500	**8'2"**	2500	**8'2"**	2600	**8'6"**	2600	**8'6"**	2750	**9'0"**
L	3665	**12'0"**	3665	**12'0"**	3675	**12'1"**	3676	**12'1"**	3960	**14'0"**

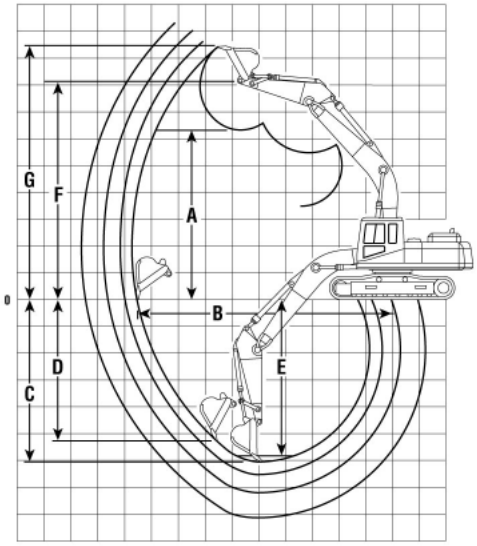
E[1] 2 Sets Outriggers.
E[2] Outriggers/Dozer.
E[3] Dozer only.

*10 × 20 Dual Tires.
NOTE: Shipping dimensions above are for standard machine equipped with one-piece boom and medium stick.

	325C/325C L		330C/330C L		345B Series II	
Source	**Japan/U.S.**		**Japan/U.S.**		**Japan/U.S.**	
Buckets: (see data in bucket section)	**kg**	**lb**	**kg**	**lb**	**kg**	**lb**
Booms:**						
One-piece Reach	2840	**6260**	3880	**8550**	—	
One-piece Reach	—		4070	**8970**	3351	**7390**
Sticks:* (for Reach Boom)						
Short	—		1890	**4170**	—	
•	890	**1960**	1720	**3790**	1746	**3850**
•	820	**1810**	1820	**4010**	1751	**3860**
•	890	**1960**	1950	**4300**	1771	**3900**
•	930	**2050**	2090	**4610**	—	
•	—		2040	**4500**	—	
Booms:**						
One-piece Mass	2770	**6110**	3950	**8710**	3870	**8530**
Sticks:* (for Mass Boom & VA Boom)						
Short	—		1890	**4170**	1800	**3970**
•	970	**2140**	1960	**4320**	1826	**4030**
Extra Long	930	**2050**	—		—	
Upperstructure (complete w/o ctwt)	6279	**13,840**	8480	**18,700**	11 671	**25,730**
Undercarriage — Standard	(600) 9372	**20,660**	(600) 11 850	**26,120**	(600) 13 980	**30,820**
	—		—		(750) 15 202	**33,510**
	—		—		(900) 15 740	**34,700**
( ) Shoe width — Long (FIX)	—		—		(600) 15 010	**33,090**
	—		(750) 13 290	**29,300**	(750) 15 911	**35,080**
	(800) 11 087	**24,440**	—		(900) 16 870	**37,190**
— Long (VG)	—		—		(600) 16 680	**36,770**
	—		—		(750) 17 780	**39,200**
	—		—		(900) 18 640	**41,095**
— Narrow	—		(600) 11 560	**25,490**	—	
— Long Narrow	(600) 9215	**20,320**	(750) 12 100	**26,680**	—	
Counterweight — Standard	5611	**12,370**	6020	**13,300**	8500 †	**18,740**

*Stick weights include stick and stick lines.
**Boom weights include boom, boom lines, boom cylinders and rod end pins, stick cylinder and head end pin.
†8000 kg **(17,600 lb)** without counterweight attachment for U.S. sourced machine.

Range Dimensions
- 320C
- 320C L
- 320C LN
- 320C S
- Belgium Sourced



One-Piece and VA Booms Digging Envelope

- Standard shoes and undercarriage

KEY:

A Maximum loading height of bucket with teeth

B Maximum reach at ground level

C Maximum digging depth

D Maximum vertical wall

E Maximum depth of cut for 2.44 m **(8'0")** level bottom (straight clean up)

F Maximum bucket hinge pin height

G Maximum height, to bucket teeth at highest arc

320C, 320C L, 320C LN with Reach Boom

Stick	1.9 m	6'3"	2.5 m	8'2"	2.92 m	9'7"
	m	ft	m	ft	m	ft
A	5.90	**19'4"**	6.49	**21'4"**	6.67	**21'11"**
B	8.85	**29'0"**	9.30	**30'6"**	9.71	**31'10"**
C	5.69	**18'8"**	6.11	**20'1"**	6.55	**21'6"**
D	3.68	**12'1"**	5.01	**16'5"**	5.44	**17'10"**
E	5.43	**17'10"**	5.90	**19'4"**	6.37	**20'11"**
F	—	**—**	—	**—**	**—**	**—**
G	8.81	**28'11"**	9.24	**30'4"**	9.44	**31'0"**

320C, 320C L, 320C LN with Mass Boom

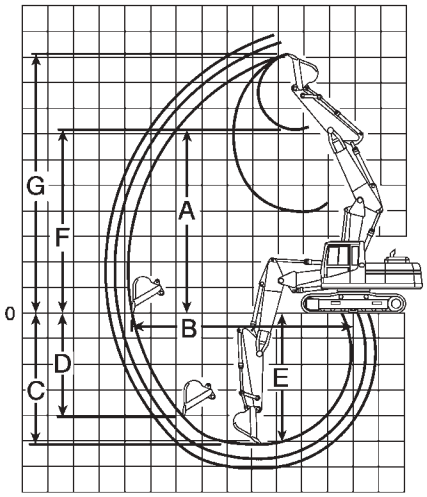
Stick	1.9 m	6'3"	2.4 m	7'10"	2.9 m	9'6"
	m	ft	m	ft	m	ft
A	5.63	**18'6"**	5.86	**19'3"**	6.25	**20'6"**
B	8.39	**27'6"**	8.85	**29'0"**	9.19	**30'2"**
C	5.25	**17'3"**	5.75	**18'10"**	6.14	**20'3"**
D	3.52	**11'7"**	3.97	**13'0"**	4.98	**16'4"**
E	5.01	**16'5"**	5.55	**29'0"**	5.96	**19'7"**
F	—	**—**	—	**—**	—	**—**
G	8.58	**28'2"**	8.80	**28'10"**	9.01	**29'7"**

320C, 320C L, 320C LN with VA Boom

Stick	1.9 m	6'3"	2.4 m	7'10"	2.9 m	9'6"
	m	ft	m	ft	m	ft
A	7.10	**23'4"**	7.50	**24'7"**	8.11	**26'7"**
B	8.74	**28'8"**	9.22	**30'3"**	9.57	**31'5"**
C	5.20	**17'1"**	5.69	**18'8"**	6.03	**19'9"**
D	3.55	**11'8"**	4.00	**13'1"**	4.68	**15'4"**
E	5.07	**16'8"**	5.57	**18'3"**	5.93	**19'5"**
F	—	**—**	—	**—**	—	**—**
G	10.26	**38'8"**	10.66	**35'0"**	10.93	**35'10"**

320C S with Reach Boom

Stick	1.9 m	6'3"	2.5 m	8'2"	2.9 m	9'6"
	m	ft	m	ft	m	ft
A	5.97	**19'7"**	6.57	**21'7"**	6.74	**22'1"**
B	8.84	**29'0"**	9.28	**30'5"**	9.70	**31'10"**
C	5.61	**18'5"**	6.03	**19'9"**	6.48	**21'3"**
D	3.60	**11'10"**	4.94	**16'2"**	5.38	**17'8"**
E	5.35	**17'7"**	5.83	**19'2"**	6.29	**20'8"**
F	—	**—**	—	**—**	—	**—**
G	8.88	**29'2"**	9.31	**30'7"**	9.51	**31'2"**



Variable Adjustable Boom Digging Envelope

KEY:

- **A** Maximum loading height of bucket with teeth
- **B** Maximum reach at ground level
- **C** Maximum digging depth
- **D** Maximum vertical wall
- **E** Maximum depth of cut for 2.44 m **(8'0")** level bottom (straight clean up)
- **F** Maximum bucket hinge pin height
- **G** Maximum height, to bucket teeth at highest arc

318B L, 318B LN

Stick	1.8 m	5'11"	2.25 m	7'5"	2.7 m	8'10"	3.2 m	10'6"
	m	ft	m	ft	m	ft	m	ft
A	6.61	**21'8"**	6.99	**22'11"**	7.40	**24'3"**	7.78	**25'6"**
B	8.24	**27'0"**	8.68	**28'6"**	9.14	**30'0"**	9.60	**31'6"**
C	5.02	**16'6"**	5.48	**18'0"**	5.93	**19'5"**	6.33	**20'9"**
D	3.66	**11'10"**	4.36	**14'4"**	4.90	**16'1"**	4.26	**14'0"**
E	4.90	**16'1"**	5.36	**17'7"**	5.82	**19'1"**	6.24	**20'6"**
F	3.47	**11'5"**	3.92	**12'10"**	4.38	**14'5"**	—	**—**
G	9.68	**31'9"**	10.08	**33'1"**	10.49	**34'5"**	10.85	**35'7"**

313C SR ● Reach Boom ● Blade Raised

Stick	Bucket		3 m 10'0" Front	3 m 10'0" Side	4.5 m 15'0" Front	4.5 m 15'0" Side	6 m 20'0" Front	6 m 20'0" Side	At Max. Reach Front	At Max. Reach Side
2130 mm	895 mm	kg	5450*	4150	3400	2250	2150	1400	1750	1150
7'0"	**2'11"**	**lb**	**9950***	**8850**	**7250**	**4750**	**4550**	**3000**	**3800**	**2500**

313C SR ● Reach Boom ● Blade Lowered

Stick	Bucket		3 m 10'0" Front	3 m 10'0" Side	4.5 m 15'0" Front	4.5 m 15'0" Side	6 m 20'0" Front	6 m 20'0" Side	At Max. Reach Front	At Max. Reach Side
2130 mm	895 mm	kg	5450*	4750	4950*	2500	3550*	1600	2200*	1300
7'0"	**2'11"**	**lb**	**9950***	**9950***	**10,700***	**5400**	**7650***	**3400**	**4800***	**2800**

313C CR ● Reach Boom

Stick	Bucket		3 m 10'0" Front	3 m 10'0" Side	4.5 m 15'0" Front	4.5 m 15'0" Side	6 m 20'0" Front	6 m 20'0" Side	7.5 m 25'0" Front	7.5 m 25'0" Side	At Max. Reach Front	At Max. Reach Side
2500 mm	895 mm	kg	4400*	4300	3600	2250	2300	1450	1600	1000	1500	950
8'2"	**2'11"**	**lb**	**9900***	**9200**	**7700**	**4850**	**4850**	**3100**	**3450**	**2150**	**3300**	**2000**
3000 mm	700 mm	kg	5000*	4300	3600	2300	2300	1450	1600	1000	1350	850
9'10"	**2'4"**	**lb**	**11,000***	**9150**	**7750**	**4950**	**4900**	**3100**	**3400**	**2100**	**3000**	**1800**

314C CR ● Reach Boom

Stick	Bucket		3 m 10'0" Front	3 m 10'0" Side	4.5 m 15'0" Front	4.5 m 15'0" Side	6 m 20'0" Front	6 m 20'0" Side	7.5 m 25'0" Front	7.5 m 25'0" Side	At Max. Reach Front	At Max. Reach Side
2500 mm	910 mm	kg	6600*	5150	4250	2750	2700	1800	—	—	1550*	1200
8'2"	**3'0"**	**lb**	**15,300***	**11,000**	**9050**	**5900**	**5750**	**3800**			**3350***	**2600**
3000 mm	760 mm	kg	7550*	5200	4250	3000	2700	1800	1900	1200	1400*	1050
9'10"	**2'6"**	**lb**	**17,550***	**11,100**	**9650**	**6450**	**5800**	**3800**	**4150**	**2650**	**3100***	**2300**

314C LCR ● Reach Boom

Stick	Bucket		3 m 10'0" Front	3 m 10'0" Side	4.5 m 15'0" Front	4.5 m 15'0" Side	6 m 20'0" Front	6 m 20'0" Side	7.5 m 25'0" Front	7.5 m 25'0" Side	At Max. Reach Front	At Max. Reach Side
2500 mm	910 mm	kg	6600*	5200	4900	2800	3100	1800	—	—	1500*	1200
8'2"	**3'0"**	**lb**	**15,300***	**11,100**	**10,550**	**6000**	**6650**	**3850**			**3300***	**2600**
3000 mm	760 mm	kg	7550*	5200	4950	2800	3100	1800	2150	1200	1400*	1050
9'10"	**2'6"**	**lb**	**17,450***	**11,200**	**10,550**	**6000**	**6650**	**3800**	**4700**	**2650**	**3050***	**2300**

315C ● Reach Boom

Stick	Bucket		3 m 10'0" Front	3 m 10'0" Side	4.5 m 15'0" Front	4.5 m 15'0" Side	6 m 20'0" Front	6 m 20'0" Side	7.5 m 25'0" Front	7.5 m 25'0" Side	At Max. Reach Front	At Max. Reach Side
1850 mm	1220 mm	kg			5500	3500	3500	2300	—	—	2500	1600
6'1"	**4'0"**	**lb**	**11,050***	**11,050***	**11,750**	**7550**	**7500**	**4900**			**5450**	**3500**
2250 mm	1070 mm	kg	5450*	5450*	5600	3650	3550	2350	—	—	2550*	1500
7'5"	**3'6"**	**lb**	**12,550***	**12,550***	**12,000**	**7800**	**7600**	**5000**			**4900***	**3300**
2600 mm	1070 mm	kg	5950*	5950*	5650	3650	3600	2400	2500	1650	1950*	1400
8'6"	**3'6"**	**lb**	**13,700***	**13,700***	**12,100**	**7850**	**7700**	**5100**	**5500**	**3600**	**4300***	**3100**
3100 mm	770 mm	kg	6950*	6800	5650	3650	3550	2350	2500	1600	1750	1250
10'2"	**2'6"**	**lb**	**15,900***	**14,650**	**12,100**	**7850**	**7650**	**5000**	**5300**	**3400**	**3800***	**2750**

*Load limited by hydraulic capacity rather than tipping.

M322C ● Rear Dozer Up

Stick		3 m 10'0" Front	3 m 10'0" Side	4.5 m 15'0" Front	4.5 m 15'0" Side	6 m 20'0" Front	6 m 20'0" Side	7.5 m 25'0" Front	7.5 m 25'0" Side	9 m 30'0" Front	9 m 30'0" Side	At Max. Reach Front	At Max. Reach Side
2200 mm	kg	—	—	7400	4600	4800	3100	3500	2300	—	—	2600*	1900
7'3"	**lb**			**16,300**	**10,100**	**10,550**	**6800**	**7700**	**5050**			**5700***	**4150**
2500 mm	kg	—	—	7400	4600	4800	3100	3500	2200	—	—	2400*	1800
8'2"	**lb**			**16,300**	**10,100**	**10,550**	**6800**	**7700**	**4850**			**5250***	**3950**
2900 mm	kg	—	—	7300	4600	4800	3100	3400	2200	—	—	2000*	1600
9'6"	**lb**			**16,050**	**10,100**	**10,550**	**6800**	**7450**	**4850**			**4400***	**3500**

M322C ● Rear Dozer Down

Stick		3 m 10'0" Rear	3 m 10'0" Side	4.5 m 15'0" Rear	4.5 m 15'0" Side	6 m 20'0" Rear	6 m 20'0" Side	7.5 m 25'0" Rear	7.5 m 25'0" Side	9 m 30'0" Rear	9 m 30'0" Side	At Max. Reach Rear	At Max. Reach Side
2200 mm	kg	—	—	10 900*	5300	7900*	3600	6100*	2600	—	—	2600*	2100
7'3"	**lb**			**24,000***	**11,650**	**17,400***	**7900**	**13,450***	**5700**			**5700***	**4600**
2500 mm	kg	—	—	10 900*	5300	7900*	3500	6100	2600	—	—	2400*	2000
8'2"	**lb**			**24,000***	**11,650**	**17,400***	**7700**	**13,450**	**5700**			**5250***	**4400**
2900 mm	kg	—	—	10 800*	5300	7800*	3500	6000*	2500	—	—	2000*	1900
9'6"	**lb**			**23,800***	**11,650**	**17,000***	**7700**	**13,200***	**5500**			**4400***	**4150**

M322C ● Rear Stabilizer Down

Stick		3 m 10'0" Rear	3 m 10'0" Side	4.5 m 15'0" Rear	4.5 m 15'0" Side	6 m 20'0" Rear	6 m 20'0" Side	7.5 m 25'0" Rear	7.5 m 25'0" Side	9 m 30'0" Rear	9 m 30'0" Side	At Max. Reach Rear	At Max. Reach Side
2200 mm	kg	—	—	10 900*	6700	7700	4400	5400	3200	—	—	2600*	2600
7'3"	**lb**			**24,000***	**14,750**	**16,950**	**9700**	**11,900**	**7050**			**5700***	**5700**
2500 mm	kg	—	—	10 900*	6700	7600	4400	5400	3200	—	—	2400*	2400*
8'2"	**lb**			**24,000***	**14,750**	**16,750**	**9700**	**11,900**	**7050**			**5250***	**5250***
2900 mm	kg	—	—	10 800*	6700	7600	4400	5300	3200	—	—	2000*	2000*
9'6"	**lb**			**23,800***	**14,750**	**16,750**	**9700**	**11,650**	**7050**			**4400***	**4400***

M322C ● 4-Point Stabilizers Down

Stick		3 m 10'0" Front	3 m 10'0" Side	4.5 m 15'0" Front	4.5 m 15'0" Side	6 m 20'0" Front	6 m 20'0" Side	7.5 m 25'0" Front	7.5 m 25'0" Side	9 m 30'0" Front	9 m 30'0" Side	At Max. Reach Front	At Max. Reach Side
2200 mm	kg	—	—	10 900*	10 700	7900*	6800	6100*	4900	—	—	2600*	2600*
7'3"	**lb**			**24,000***	**23,550**	**17,400***	**14,950**	**13,450***	**10,800**			**5700***	**5700***
2500 mm	kg	—	—	10 900*	10 700	7900*	6800	6100*	4800	—	—	2400*	2400*
8'2"	**lb**			**24,000***	**23,550**	**17,400***	**14,950**	**13,450***	**10,550**			**5250***	**5250***
2900 mm	kg	—	—	10 800*	10 700	7800*	6700	6000*	4800	—	—	2000*	2000*
9'6"	**lb**			**23,800***	**23,550**	**17,150***	**14,750**	**13,200***	**10,550**			**4400***	**4400***

M322C ● Dozer and Stabilizer Down

Stick		3 m 10'0" Front	3 m 10'0" Side	4.5 m 15'0" Front	4.5 m 15'0" Side	6 m 20'0" Front	6 m 20'0" Side	7.5 m 25'0" Front	7.5 m 25'0" Side	9 m 30'0" Front	9 m 30'0" Side	At Max. Reach Front	At Max. Reach Side
2200 mm	kg	—	—	10 900*	8500	7900*	5500	6100*	4000	—	—	2600*	2600*
7'3"	**lb**			**24,000***	**18,700**	**17,400***	**12,100**	**13,450***	**8800**			**5700***	**5700***
2500 mm	kg	—	—	10 900*	8500	7900*	5500	6100*	4000	—	—	2400*	2400*
8'2"	**lb**			**24,000***	**18,700**	**17,400***	**12,100**	**13,450***	**8800**			**5250***	**5250***
2900 mm	kg	—	—	10 800*	8500	7800*	5500	6000*	4000	—	—	2000*	2000*
9'6"	**lb**			**23,800***	**18,700**	**17,150***	**12,100**	**13,200***	**8800**			**4400***	**4400***

*Load limited by hydraulic capacity rather than tipping.

Japan Sourced

345C ● Mass Boom ● 600 mm (24") Track Shoes

Bucket Type	Front Length	mm	ft	Heavy Lift		3 m 10'0" Front	3 m 10'0" Side	4.5 m 15'0" Front	4.5 m 15'0" Side	6 m 20'0" Front	6 m 20'0" Side	7.5 m 25'0" Front	7.5 m 25'0" Side
UB1550X	Stick	3000	**9'10"**	on	**kg**	—	—	22 350*	14 900	15 700	9450	10 850	6600
	Bucket	1550	**5'1"**		**lb**			**48,350***	**31,950**	**33,700**	**20,350**	**23,250**	**14,150**
	Stick	3000	**9'10"**	off	**kg**	—	—	21 500*	14 900	15 300*	9450	10 850	6600
	Bucket	1550	**5'1"**		**lb**			**46,500***	**31,950**	**33,050***	**20,350**	**23,250**	**14,150**
UB1729X	Stick	2500	**8'2"**	on	**kg**	—	—	22 300*	14 900	15 750	9500	10 900	6700
	Bucket	1729	**5'8"**		**lb**			**48,400***	**31,950**	**33,750**	**20,450**	**23,400**	**14,300**
	Stick	2500	**8'2"**	off	**kg**	—	—	21 450*	14 900	15 550*	9500	10 900	6700
	Bucket	1729	**5'8"**		**lb**			**46,550***	**31,950**	**33,650***	**20,450**	**23,400**	**14,300**

Bucket Type	Front Length	mm	ft	Heavy Lift		9 m 30'0" Front	9 m 30'0" Side	10.5 m 35'0" Front	10.5 m 35'0" Side	At Max. Reach Front	At Max. Reach Side
UB1550X	Stick	3000	**9'10"**	on	**kg**	7950	4750	6550	4050	5900*	3600
	Bucket	1550	**5'1"**		**lb**	**17,000**	**10,150**	—	—	**12,950***	**7950**
	Stick	3000	**9'10"**	off	**kg**	7950	4750	6550	4050	5650*	3600
	Bucket	1550	**5'1"**		**lb**	**17,000**	**10,150**	—	—	**12,450***	**7950**
UB1729X	Stick	2500	**8'2"**	on	**kg**	8050	4850	6550	4050	6900	4100
	Bucket	1729	**5'8"**		**lb**	—	—	—	—	**15,150**	**9050**
	Stick	2500	**8'2"**	off	**kg**	8050	4850	6550	4050	6900	4100
	Bucket	1729	**5'8"**		**lb**	—	—	—	—	**15,150**	**9050**

345C L – FIX ● Long Reach Boom ● 900 mm (36") Track Shoes

Bucket Type	Front Length	mm	ft	Heavy Lift		3 m 10'0" Front	3 m 10'0" Side	4.5 m 15'0" Front	4.5 m 15'0" Side	6 m 20'0" Front	6 m 20'0" Side	7.5 m 25'0" Front	7.5 m 25'0" Side
TB1325XN	Stick	4300	**14'1"**	on	**kg**	6650*	6650*	17 750*	15 950	15 800*	10 300	12 100*	7350
	Bucket	1325	**4'4"**		**lb**	**15,050***	**15,050***	**41,000***	**34,300**	**34,150***	**22,200**	**26,100***	**15,750**
	Stick	4300	**14'1"**	off	**kg**	6400*	6400*	17 150*	15 950	15 200*	10 300	11 600*	7350
	Bucket	1325	**4'4"**		**lb**	**14,500***	**14,500***	**39,750***	**34,300**	**32,850***	**22,200**	**25,050***	**15,750**
TB1325XN	Stick	3900	**12'10"**	on	**kg**	—	—	16 700*	15 800	16 050*	10 200	12 300*	7300
	Bucket	1325	**4'4"**		**lb**			**38,600***	**33,950**	**34,700***	**21,950**	**26,550***	**15,650**
	Stick	3900	**12'10"**	off	**kg**	—	—	16 150*	15 800	15 450*	10 200	11 800*	7300
	Bucket	1325	**4'4"**		**lb**			**37,400***	**33,950**	**33,350***	**21,950**	**25,500***	**15,650**

Bucket Type	Front Length	mm	ft	Heavy Lift		9 m 30'0" Front	9 m 30'0" Side	10.5 m 35'0" Front	10.5 m 35'0" Side	At Max. Reach Front	At Max. Reach Side
TB1325XN	Stick	4300	**14'1"**	on	**kg**	9800*	5450	7600	4150	5100*	3100
	Bucket	1325	**4'4"**		**lb**	**21,000**	**11,700**	**16,300**	**8850**	**11,250***	**6800**
	Stick	4300	**14'1"**	off	**kg**	9350*	5450	7600	4150	4900*	3100
	Bucket	1325	**4'4"**		**lb**	**20,250***	**11,700**	**16,300**	**8850**	**10,800***	**6800**
TB1325XN	Stick	3900	**12'10"**	on	**kg**	9750	5450	7600	4150	5750*	3300
	Bucket	1325	**4'4"**		**lb**	**20,950**	**11,650**	**16,250**	**8850**	**12,700***	**7250**
	Stick	3900	**12'10"**	off	**kg**	9500*	5450	7600	4150	5550*	3300
	Bucket	1325	**4'4"**		**lb**	**20,550***	**11,650**	**16,250**	**8850**	**12,200***	**7250**

*Load limited by hydraulic capacity rather than tipping.

Model	Source	Bucket Tip Radius		Bucket Curling Forces		Stick Crowd Forces							
						Short		Medium		Long		Extra Long	
		mm	ft	kN	lb	kN	lb	kN	lb	kN	lb	kN	lb
301.5	U.K.	500	**1'8"**	12.6	**2830**	—	**—**	8.9	**2000**	8	**1790**	—	**—**
301.5 CR	Japan	500	**1'8"**	14.4	**3240**	—	**—**	10.1	**2270**	8.8	**1980**	—	**—**
301.6	U.K.	500	**1'8"**	12.6	**2830**	—	**—**	—	**—**	8	**1790**	—	**—**
301.8	U.K.	500	**1'8"**	12.6	**2830**	—	**—**	8.9	**2000**	8	**1790**	—	**—**
302.5	U.K.	650	**2'2"**	22	**4940**	—	**—**	14	**3140**	12.1	**2720**	—	**—**
303 SR	Japan	695	**2'3"**	29.5	**6630**	—	**—**	16.2	**3640**	13.3	**2990**	—	**—**
303 CR	Japan	765	**2'6"**	26.2	**5890**	—	**—**	17	**3820**	15.5	**3480**	—	**—**
304 CR	Japan	833	**2'9"**	36.6	**8220**	—	**—**	23.9	**5370**	20.9	**4700**	—	**—**
305 SR	Japan	890	**2'11"**	40.1	**9010**	—	**—**	24.1	**5420**	21.7	**4880**	—	**—**
305 CR	Japan	833	**2'9"**	42	**9440**	—	**—**	27.6	**6200**	23.3	**5240**	—	**—**
307C	Japan	1070	**3'6"**	44	**9830**	—	**—**	35	**7850**	31	**6900**	—	**—**
307C SB	Japan	1070	**3'6"**	44	**9830**	—	**—**	35	**7850**	31	**6900**	—	**—**
308C SR	Japan	1070	**3'6"**	47.8	**10,740**	—	**—**	37.6	**8450**	—	**—**	—	**—**
308C CR	Japan	1070	**3'6"**	44	**9820**	—	**—**	35	**7850**	31	**6980**	—	**—**
311C U	Japan	1220	**4'0"**	80	**18,000**	—	**—**	58	**13,000**	50	**11,000**	—	**—**
312C, 312C L	Japan	1220	**4'0"**	84	**18,880**	70	**15,730**	63	**14,160**	57	**12,810**	—	**—**
312C, 312C L	France	1220	**4'0"**	84	**18,880**	71	**15,970**	63	**14,160**	57	**12,810**	—	**—**
313C SR	Japan	1220	**4'0"**	88	**19,780**	—	**—**	63	**14,160**	—	**—**	—	**—**
313C CR	Japan	1220	**4'0"**	94	**21,120**	—	**—**	64	**14,380**	57	**12,810**	—	**—**
314C CR, 314C LCR	Japan	1220	**4'0"**	80	**18,800**	—	**—**	63	**14,100**	56	**12,600**	—	**—**

*Information unavailable at time of printing.

Belgium Sourced
385C/385C L per SAE

Boom		**Reach Boom 10 m (32'10")**		
Stick		**R4.4HB**		**R5.5HB**
Bucket Radius @ Cutting Edge	**mm** **ft**	1959 **6'5"**		1959 **6'5"**
Bucket Digging Force ISO	**kN** **lb**	335 **75,380**		316 **71,100**
Stick Digging Force ISO	**kN** **lb**	293 **65,930**		256 **57,600**
Boom		**General Purpose Boom 8.4 m (27'2")**		
Stick		**G3.4JB**	**G4.4HB**	**G5.5HB**
Bucket Radius @ Cutting Edge	**mm** **ft**	2175 **7'2"**	1959 **6'5"**	1959 **6'5"**
Bucket Digging Force ISO	**kN** **lb**	384 **86,400**	334 **75,150**	315 **70,880**
Stick Digging Force ISO	**kN** **lb**	342 **76,950**	293 **65,930**	257 **57,830**
Boom		**Mass Boom 7.25 m (23'9")**		
Stick		**M2.92JB**		**M3.4JB**
Bucket Radius @ Cutting Edge	**mm** **ft**	2233 **7'4"**		2233 **7'4"**
Bucket Digging Force ISO	**kN** **lb**	394 **88,650**		385 **86,630**
Stick Digging Force ISO	**kN** **lb**	362 **81,450**		344 **77,400**

Model	Bucket Type	Available in:	Bucket Family	Bite Width Using Long Tips mm	in	Heaped Capacity m^3	yd^3	Tip Radius mm	in	G.E.T. Size	Tips	Bucket Weight w/o tips kg	lb
330C (cont'd)	Excavation for Demolition	SCM/APD	D	1463	**57**	1.40	**1.8**	1703	**67**	J460	5	1317	**2904**
		SCM/APD	D	1533	**60**	1.50	**2.00**	1703	**67**	J460	5	1384	**3051**
	Mass Excavation	SCM/APD	D	1522	**59**	1.60	**2.10**	1660	**65**	J400	6	1182	**2606**
		SCM/APD	D	1522	**59**	1.60	**2.10**	1660	**65**	J400	6	1182	**2606**
		SCM/APD	D	1702	**67**	1.90	**2.50**	1660	**65**	J400	6	1262	**2782**
		SCM/APD	E	1744	**68**	2.10	**2.70**	1845	**73**	J460	6	1608	**3545**
	Rock	EAME	D	1000	**39**	1.00	**1.31**	1660	**65**	J460	3	1160	**2557**
		EAME	E	1500	**59**	1.90	**2.49**	1780	**70**	J550	4	1690	**3726**
		EAME	D	1650	**65**	2.03	**2.66**	1660	**65**	J460	5	1632	**3598**
		EAME	E	1800	**71**	2.30	**3.01**	1870	**74**	J550	4	2315	**5104**
345C	General Purpose	NACD	F	762	**30**	0.95	**1.25**	2030	**80**	J460	3	1342	**2960**
		NACD	F	914	**36**	1.33	**1.75**	2030	**80**	J460	3	1498	**3300**
		NACD	F	1067	**42**	1.62	**2.12**	2030	**80**	J460	4	1616	**3560**
		NACD	F	1219	**48**	1.81	**2.38**	2030	**80**	J400	5	1762	**3880**
		NACD	F	1219	**48**	1.91	**2.50**	2030	**80**	J460	5	1886	**4150**
		NACD	F	1372	**54**	2.29	**3.00**	2030	**80**	J460	5	2032	**4480**
		NACD	F	1575	**62**	2.67	**3.50**	2030	**80**	J460	6	2179	**4800**
		NACD	F	1727	**68**	3.05	**4.00**	2030	**80**	J460	7	2306	**5080**
	Heavy Duty	NACD	F	914	**36**	1.05	**1.38**	1870	**74**	J460	3	1532	**3370**
		NACD	F	1067	**42**	1.33	**1.75**	1870	**74**	J460	4	1652	**3640**
		NACD	F	1219	**48**	1.62	**2.12**	1870	**74**	J460	5	1792	**3950**
		NACD	F	1372	**54**	1.91	**2.50**	1870	**74**	J460	5	1917	**4220**
		NACD	F	1524	**60**	2.10	**2.75**	1870	**74**	J460	6	2064	**4550**
		NACD	F	1676	**66**	2.29	**3.00**	1870	**74**	J460	6	2211	**4870**
		NACD	F	1829	**72**	2.67	**3.50**	1870	**74**	J460	7	2335	**5140**
	Heavy Duty Rock	NACD	F	762	**30**	0.76	**1.00**	1870	**74**	J460	3	1471	**3240**
		NACD	F	914	**36**	1.05	**1.38**	1870	**74**	J460	4	1636	**3600**
		NACD	F	1067	**42**	1.33	**1.75**	1870	**74**	J460	4	1769	**3900**
		NACD	F	1219	**48**	1.62	**2.12**	1870	**74**	J460	5	1920	**4230**
		NACD	F	1372	**54**	1.91	**2.50**	1870	**74**	J460	5	2057	**4530**
		NACD	F	1524	**60**	2.10	**2.75**	1870	**74**	J460	6	2224	**4900**
		EAME	T	1570	**62**	2.20	**2.88**	1870	**74**	J550	4	2375	**5230**
		NACD	F	1676	**66**	2.29	**3.00**	1870	**74**	J460	6	2512	**5538**
	Heavy Duty Power	NACD	F	914	**36**	1.12	**1.45**	1725	**67**	J550	3	1758	**3870**
		NACD	F	1219	**48**	1.59	**2.08**	1725	**67**	J550	4	1907	**4200**
		NACD	F	1372	**54**	1.85	**2.43**	1725	**67**	J550	4	2071	**4560**

EAME — Europe, Africa and Middle East
NACD — North American Commercial Division
SCM — Shin Caterpillar Mitsubishi
APD — Asia Pacific Division

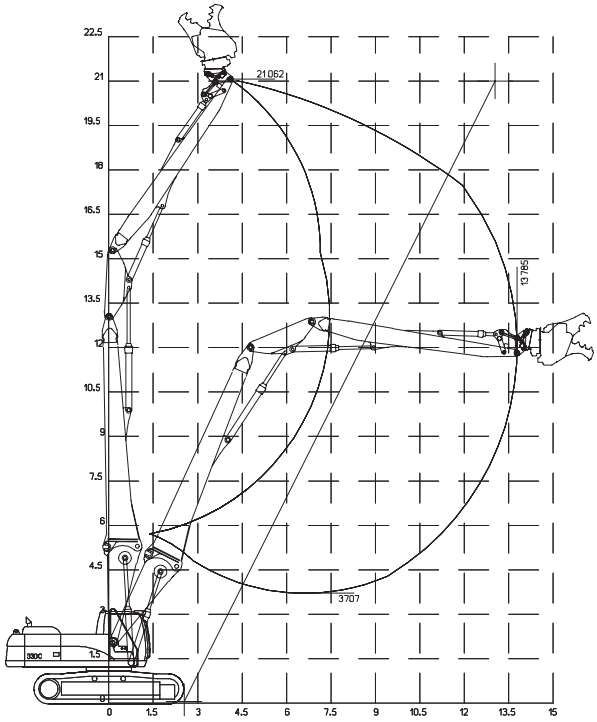
Long Reach Excavation Lift Capacities at Ground Level

Lift Capacities at Ground Level		3 m		4.5 m		6 m		7.5 m		9 m		Maximum Reach Radius
		Front Load	Side Load	Front Load	Side Load	Front Load	Side Load	Front Load	Side Load	Front Load	Side Load	
325C L HDHW LRE	**kg**	—	—	4290*	4290*	9080*	7340	6820*	5320	5410*	4040	15.45 m
330C L HDHW LRE	**kg**	2040*	2040*	4510*	4510*	9590*	8600	7420*	6320	5870*	4870	17.61 m
345C L LRE Long	**kg**	3180*	3180*	5920*	5920*	11 590*	11 590*	10 670*	10 640	8510*	8190	19.25 m
365C L LRE	**kg**	—	—	—	—	8170*	8170*	14 470*	13 010	11 430*	9910	16.47 m
385C L LRE Short	**kg**	—	—	—	—	—	—	21 350	13 210	16 970	14 740	17.24 m
385C L LRE Long	**kg**	4630*	4630*	8160*	8160*	15 130*	15 130*	18 750*	18 130	14 890*	14 050	20.93 m

Lift Capacities at Ground Level		10.5 m		12 m		13.5 m		15 m		16.5 m		Maximum Reach Radius
		Front Load	Side Load	Front Load	Side Load	Front Load	Side Load	Front Load	Side Load	Front Load	Side Load	
325C L HDHW LRE	**kg**	4330	3150	3470	2490	2820	1970	—	—	—	—	15.45 m
330C L HDHW LRE	**kg**	4830*	3840	4080*	3080	3510*	2480	3060*	2000	2640	1600	17.61 m
345C L LRE Long	**kg**	7020*	6490	5930*	5240	5090*	4280	4350	3510	3630	2880	19.25 m
365C L LRE	**kg**	9340*	7760	7830*	6160	6660*	4930	5650*	3950	—	—	16.47 m
385C L LRE Short	**kg**	13 960	11 690	11 790	9450	10 140	7720	8120	6350	—	—	17.24 m
385C L LRE Long	**kg**	12 230*	11 210	10 290*	9100	8830*	7460	7670*	6150	6730*	5070	20.93 m

Lift Capacities at Ground Level		18 m		19.5 m		Max. Reach		Maximum Reach Radius
		Front Load	Side Load	Front Load	Side Load	Front Load	Side Load	
325C L HDHW LRE	**kg**	—	—	—	—	1720*	1520	15.45 m
330C L HDHW LRE	**kg**	—	—	—	—	1890*	1420	17.61 m
345C L LRE Long	**kg**	2390*	2360	—	—	1440*	1440*	19.25 m
365C L LRE	**kg**	—	—	—	—	4000*	3340	16.47 m
385C L LRE Short	**kg**	—	—	—	—	3980	3980	17.24 m
385C L LRE Long	**kg**	5940*	4170	4370*	3420	2870*	2870*	20.93 m

*Load limited by hydraulic capacity rather than tipping.

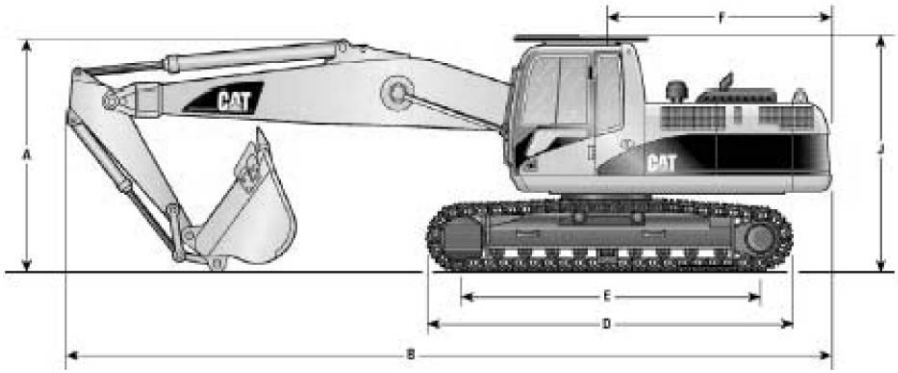


330C with UHD Front Parts — Reaches	330C L UHD	330C LN UHD	330C L HVG UHD	330C L HDHW UHD	330C UHD with 345C L chassis
Maximum Allowable Angle from Vertical	25°	25°	25°	25°	25°
Maximum Horizontal Reach	13 800 mm	13 800 mm	13 800 mm	13 800 mm	13 800 mm
Maximum Vertical Pin Height	21 100 mm	21 100 mm	21 100 mm	21 300 mm	21 300 mm
Maximum Tool Weight Over the Front*	3000 kg	3000 kg	3000 kg	3000 kg	3000 kg
Maximum Tool Weight Over the Side*	1900 kg	—	3000 kg	2400 kg	2700 kg

*Tool weight includes mounting bracket and quick coupler.

Demolition Arrangements — Belgium Sourced

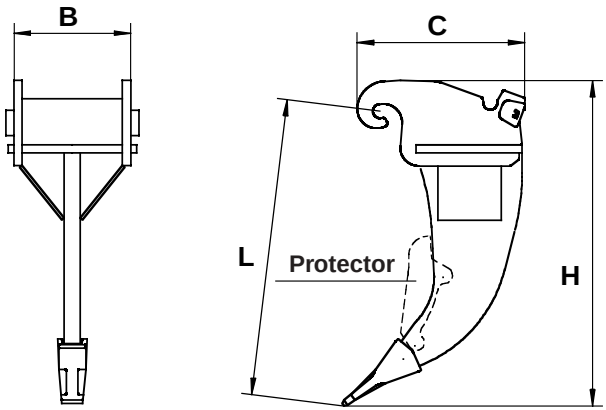
- Straight Boom
- Shipping Dimensions



Model	320C L/LN		320C S		322C L/LN		325C L/LN	
	stick	mm	stick	mm	stick	mm	stick	mm
A Shipping Height*	R1.9C	3011	R1.9C	3087	R2.0D	3049	R2.0D	3100
	R2.5B	3011	R2.5B	3087	R2.5S	3049	R2.65C	3100
	R2.9B	3011	R2.9B	3087	R2.95S	3049	R3.2C	3163
	R3.9B	4057	R3.9B	4000	R3.9B	3871		
B Shipping Length*	R1.9C	10 042	R1.9C	10 087	R2.0D	10 379	R2.0D	10 838
	R2.5B	9710	R2.5B	9719	R2.5S	10 153	R2.65C	10 645
	R2.9B	9692	R2.9B	9706	R2.95S	10 140	R3.2C	10 611
	R3.9B	9371	R3.9B	9410	R3.9B	9911		
C Shipping Width		2800						
L		2980				3190		3390
LN		2490				2990		2990
S				2500				

Model	330C L/LN		345C		365C	
	stick	mm	stick	mm	stick	mm
A Shipping Height*	R2.15E	3213	R2.9T	3514	R2.8V	3896
	R2.8D	3213	R3.4T	3514	R3.6V	4055
	R3.2D	3213	R4.0T	3691	R4.7V	5122
	R3.9D	3739	R4.8T	5401		
	R4.8C	4963				
B Shipping Length*	R2.15E	11 885	R2.9T	12 104	R2.8V	13 785
	R2.8D	11 513	R3.4T	12 013	R3.6V	13 612
	R3.2D	11 513	R4.0T	11 954	R4.7V	13 404
	R3.9D	11 373	R4.8T	11 600		
	R4.8C	11 023				
C Shipping Width						
L		3340		2990		3400
LN		2990				

*With stick cylinder fully extended. For some configurations, retracting the stick cylinder will result in a lower shipping height but increased shipping length.



Specifications

		TR-20-N		TR-30-N		TR-40-N		TR-45-N		TR-55-N		TR-70-N
Hinge Plate		CA-20	CA-20S	CA-30	CA-30S	CA-40	CA-40S	CA-45	CA-45S	CA-55	CA-55S	CA-70
Weight*	kg	300	270	400	370	460	420	820	770	1200	1140	1760
	lb	**661**	**595**	**882**	**816**	**1014**	**926**	**1808**	**1698**	**2646**	**2513**	**3880**
Dimensions*												
B	mm	630	500	630	500	630	500	800	660	965	695	1000
	in	**24.8**	**19.7**	**24.8**	**19.7**	**24.8**	**19.7**	**31.5**	**26.0**	**38.0**	**27.4**	**39.4**
L	mm	940		1105		1270		1435		1600		1700
	in	**37.0**		**43.5**		**50.0**		**56.5**		**63.0**		**66.9**
C	mm	725		725		725		900		1050		1325
	in	**28.5**		**28.5**		**28.5**		**35.4**		**41.3**		**52.2**
H	mm	1150		1250		1400		1650		1800		1980
	in	**45.3**		**49.2**		**55.1**		**65.0**		**70.9**		**78.0**
Wear parts												
Tip size (family)		R300		R350		R450		R500		R500		R550
Shank-protector**		N/A		N/A		X		X		X		X
Excavator-class	metric ton	7.5-15		15-25		20-30		25-40		35-65		65-90
	ton	**8.3-16.5**		**16.5-27.6**		**22.0-33.1**		**27.6-44.1**		**38.6-71.7**		**71.7-99.2**

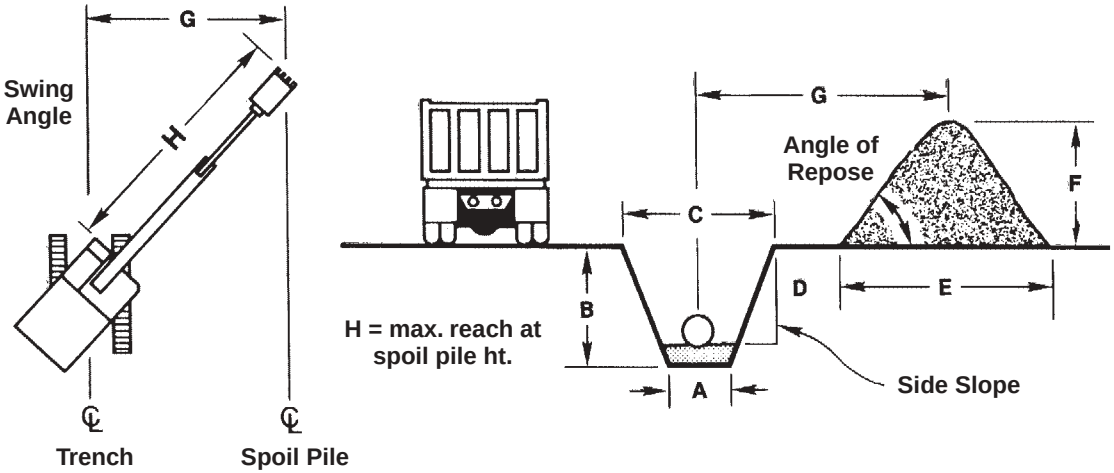
*Weight and dimensions include standard Quick-Coupler hinge plates and exclude shank-protector.
**Shank-protector is optional.

Caterpillar Ripper Tine for CW Hydraulic Quick Couplers

Source: Caterpillar Work Tools and Product Solutions — May not be available in all areas

	TR-30	TR-40	TR-45	TR-55	TR-70
318C					
320C					
322C					
325C					
330C					
345C					
365C					
385C					

CYCLE TIME ESTIMATING CHART													
	MACHINE SIZE CLASS												
CYCLE TIME	**307C**	**311C**	**M313C 312C**	**M315C M316C 315C L**	**M318C 318C L**	**M322C 320C**	**322C**	**325C**	**330C**	**345C**	**365C**	**385C**	**CYCLE TIME**
10 SEC.													**0.17** min.
15													**0.25** min.
20 SEC.													**0.33** min.
25													**0.42** min.
30 SEC.													**0.50** min.
35													**0.58** min.
40 SEC.													**0.67** min.
45													**0.75** min.
50 SEC.													**0.83** min.
55													**0.92** min.
60 SEC.													**1.0** min.



Excavation Volumes Per Meter or Foot of Trench Length

Metric version

Bank m^3/meter = (Trench end area m^2) × (one m)
Trench volume (Bm^3/m) = ½ (A + C) × B
Spoil pile volume (Lm^3/m) = (Bm^3/m) × (1.00 + % Swell)

English version

$$\text{Bank } yd^3/\text{foot} = \frac{(\text{Trench end area } ft^2) \times (\text{one ft})}{27}$$

$$\text{Trench volume (BCY/ft)} = \frac{\frac{1}{2}(A + C) \times B}{27}$$

Spoil pile volume (LCY/ft) = (BCY/ft) × (1.00 + % Swell)

The following table provides a general guide to trench bottom width for various outside diameters of pipe.

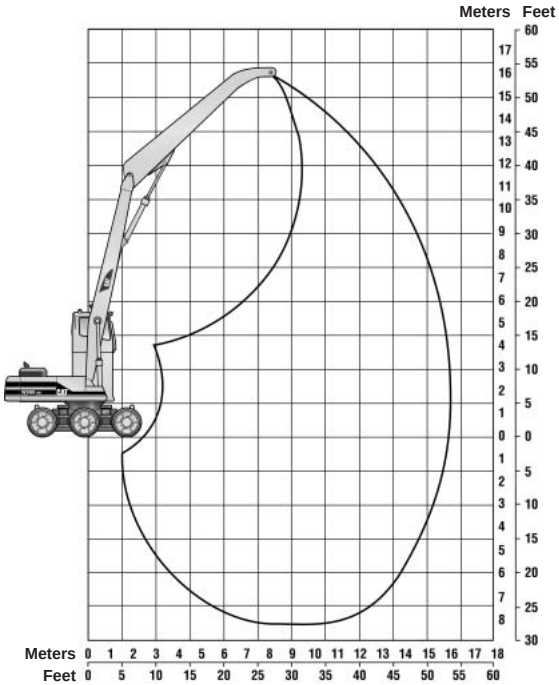
Pipe Diameter		Trench Width		Pipe Diameter		Trench Width	
mm	ft/in	m	ft/in	mm	ft/in	m	ft/in
102	**4"**	0.49	**1'7"**	1524	**5'0"**	2.59	**8'6"**
152	**6"**	0.55	**1'10"**	1676	**5'6"**	2.80	**9'2"**
203	**8"**	0.61	**2'0"**	1829	**6'0"**	3.05	**10'0"**
254	**10"**	0.70	**2'4"**	1981	**6'6"**	3.26	**10'8"**
305	**12"**	0.76	**2'6"**	2134	**7'0"**	3.47	**11'5"**
381	**15"**	0.91	**3'0"**	2286	**7'6"**	3.69	**12'1"**
457	**18"**	1.03	**3'5"**	2438	**8'0"**	3.93	**12'11"**
533	**1'9"**	1.16	**3'10"**	2591	**8'6"**	4.15	**13'7"**
610	**2'0"**	1.25	**4'1"**	2743	**9'0"**	4.36	**14'4"**
686	**2'3"**	1.37	**4'6"**	2896	**9'6"**	4.54	**14'11"**
838	**2'9"**	1.58	**5'2"**	3048	**10'0"**	4.75	**15'7"**
914	**3'0"**	1.70	**5'7"**	3200	**10'6"**	4.99	**16'5"**
1067	**3'6"**	1.92	**6'4"**	3353	**11'0"**	5.21	**17'1"**
1219	**4'0"**	2.13	**7'0"**	3505	**11'6"**	5.43	**17'10"**
1372	**4'6"**	2.38	**7'10"**	3658	**16'2"**	5.64	**18'6"**

NOTE: Trench widths based on 1.25 Bc + 1.0 where Bc is the outside diameter of the pipe in feet.
Table courtesy of American Concrete Pipe Association

Range Dimensions
- W345B Series II MH
- 16.5 m (54'0") Two-piece Front (U.S. Sourced)

Model	**W345B Series II MH**	
	m	**ft**
Maximum Horizontal Reach	16.5	**54'0"**
Maximum Height @ 9.75 m **(32'0")**	16.7	**54'8"**

W345B Series II MH Range Diagram



320C MH

		1.5 m/**5.0 ft**		3.0 m/**10.0 ft**		4.5 m/**15.0 ft**		6.0 m/**20.0 ft**		7.5 m/**25.0 ft**		9.0 m/**30.0 ft**		10.5 m/**35.0 ft**		12.0 m/**40.0 ft**				
																				m ft
10.5 m	kg									*6000	5500							*3900	*3900	8.96
35.0 ft	**lb**									***13,250**	**11,700**							***8650**	***8650**	**28.84**
9.0 m	kg									*5800	5550	*5350	4100					*3500	3250	10.20
30.0 ft	**lb**									***12,700**	**11,900**	***11,750**	**8800**					***7750**	**7300**	**33.14**
7.5 m	kg									*5800	5550	*5300	4150	4400	3150			*3300	2850	11.11
25.0 ft	**lb**									***12,650**	**11,900**	***11,600**	**8850**	**9400**	**6750**			***7250**	**6300**	**36.23**
6.0 m	kg							*6700	*6700	*6000	5450	*5400	4050	4400	3150			*3200	2600	11.75
20.0 ft	**lb**							***14,550**	***14,550**	***13,000**	**11,700**	***11,750**	**8750**	**9400**	**6750**			***7000**	**5700**	**38.43**
4.5 m	kg							*7300	*7300	*6300	5250	5500	3950	4350	3100	3500	2500	*3150	2400	12.17
15.0 ft	**lb**							***15,850**	***15,850**	***13,700**	**11,350**	**11,850**	**8500**	**9300**	**6650**	**7700**	**5450**	***6900**	**5300**	**39.88**
3.0 m	kg					*10 250	*10 250	*8050	7050	*6700	5050	5400	3850	4250	3050	3450	2450	*3150	2300	12.40
10.0 ft	**lb**					***22,200**	***22,200**	***17,450**	**15,150**	***14,500**	**10,850**	**11,550**	**8250**	**9150**	**6500**	**7450**	**5250**	***6900**	**5100**	**40.66**
1.5 m	kg					*11 700	10 100	*8750	6650	6850	4800	5250	3700	4200	2950	3450	2400	*3200	2300	12.44
5.0 ft	**lb**					***25,300**	**21,750**	***18,900**	**14,250**	**14,700**	**10,350**	**11,250**	**7950**	**8950**	**6350**	**7350**	**5150**	***7050**	**5000**	**40.81**
Ground	kg					*12 250	9400	*9000	6250	6600	4600	5100	3600	4100	2900	3400	2400	*3200	2300	12.30
Line	**lb**					***26,550**	**20,250**	***19,500**	**13,500**	**14,200**	**9900**	**10,950**	**7700**	**8800**	**6200**	**7300**	**5100**	***7000**	**5050**	**40.34**
-1.5 m	kg	*1850	*1850	*3750	*3750	*9600	9050	*8750	6000	6450	4450	5000	3500	4050	2850			*2800	2400	11.96
-5.0 ft	**lb**	***4100**	***4100**	***8550**	***8550**	***22,300**	**19,400**	***18,900**	**12,950**	**13,850**	**9600**	**10,750**	**7500**	**8700**	**6100**			***6100**	**5250**	**39.22**
-3.0 m	kg			*4900	*4900	*9400	8900	*7800	5900	*6150	4350	*4800	3450	*3500	2800			*2900	2650	11.03
-10.0 ft	**lb**			***11,000**	***11,000**	***21,600**	**19,100**	***16,850**	**12,700**	***13,200**	**9400**	***10,250**	**7400**	***7250**	**6050**			***6400**	**5850**	**36.05**
-4.5 m	kg							*6200	5900	*4850	4350							*3700	3550	8.84
-15.0 ft	**lb**							***13,250**	**12,700**	***10,300**	**9400**							***8400**	**8000**	**28.37**

*Indicates that the load is limited by hydraulic capacity rather than tipping capacity. Lift capacity ratings are based on standard SAE J/ISO 10567. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity.

Load Point Height

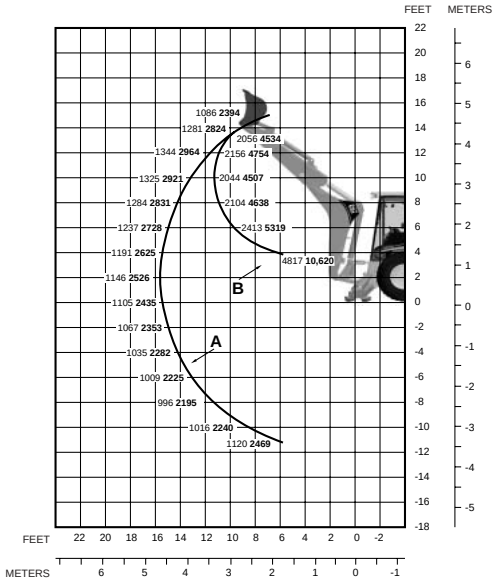
Load Radius Over Front

Load Radius Over Side

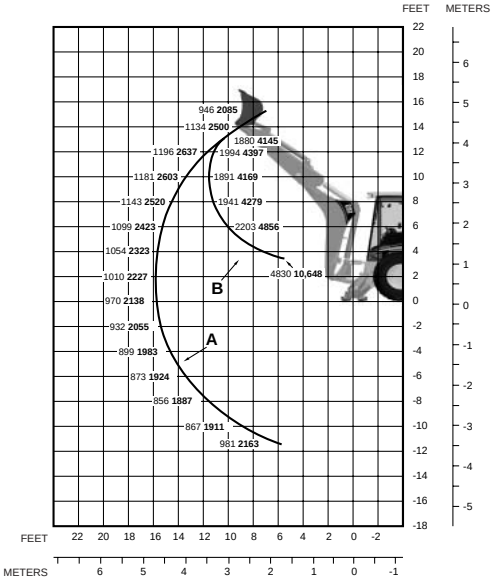
Load at Maximum Reach

KEY

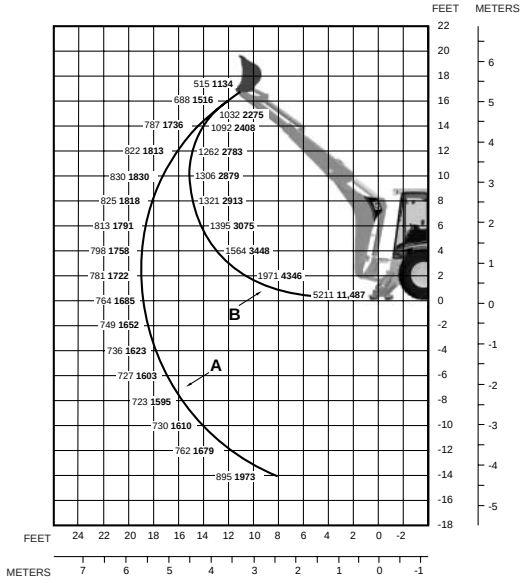
A — Boom lift kg **lb**
B — Stick lift kg **lb**



Standard Stick

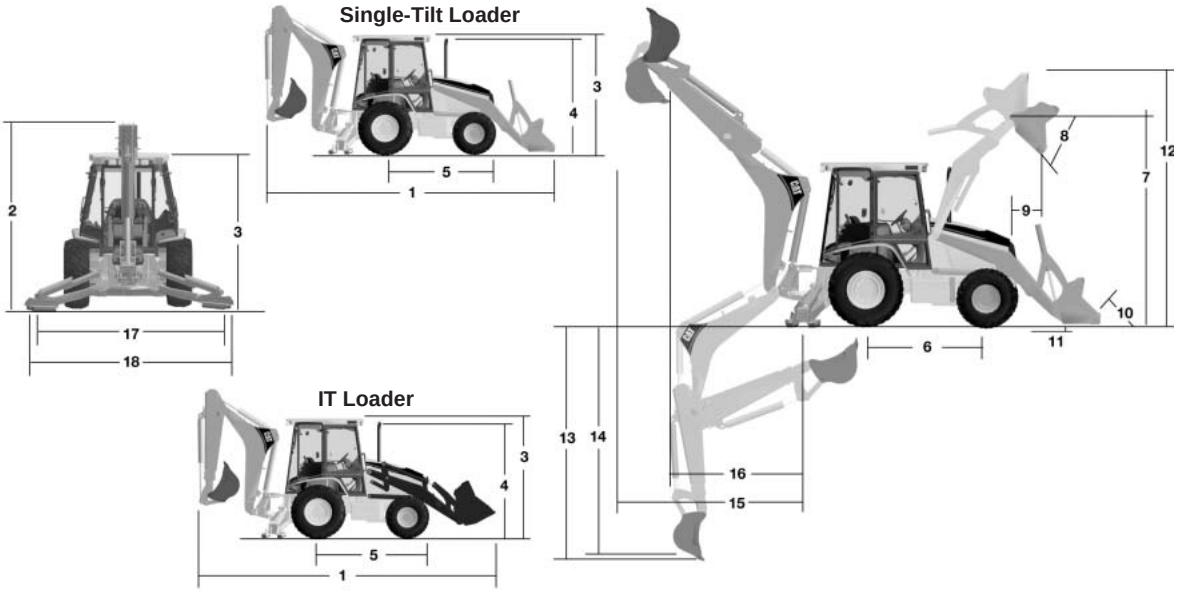


Extendible Stick — Retracted



Extendible Stick — Extended

Lift capacities are over-end values. Machine equipped with 2WD, OROPS, 0.76 m^3 **(1 yd^3)** general-purpose loader bucket, 610 mm **(24 in)** standard duty backhoe bucket and 355 kg **(780 lb)** counterweight. Extendible stick includes 567 kg **(1250 lb)** counterweight.

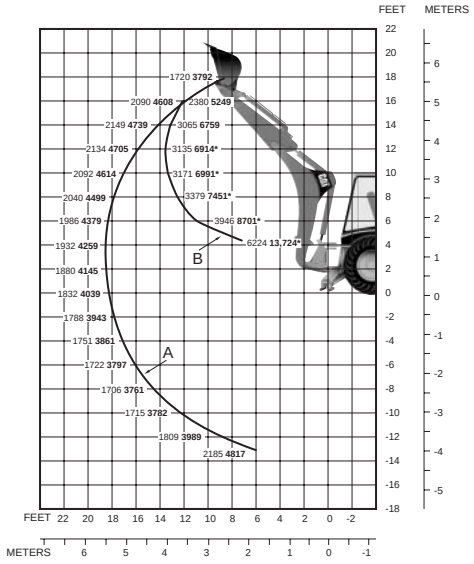


MACHINE DIMENSIONS	Single-Tilt Loader					
	General Purpose 1 m³ (1.31 yd³)		General Purpose 1.07 m³ (1.4 yd³)		General Purpose 1.15 m³ (1.5 yd³)	
1) Overall transport length	7289 mm	**23'11"**	7354 mm	**24'2"**	7354 mm	**24'2"**
Overall length	7279 mm	**23'11"**	7344 mm	**24'1"**	7344 mm	**24'1"**
2) Overall transport height	3770 mm	**12'4"**	3770 mm	**12'4"**	3770 mm	**12'4"**
Overall width	2406 mm	**7'11"**	2352 mm	**7'9"**	2406 mm	**7'11"**
3) Height to top of cab/canopy	2770 mm	**9'1"**	2770 mm	**9'1"**	2770 mm	**9'1"**
4) Height to top of exhaust stack	2670 mm	**8'9"**	2670 mm	**8'9"**	2670 mm	**8'9"**
Ground clearance (minimum)	297 mm	**12"**	297 mm	**12"**	297 mm	**12"**
5) Rear axle centerline to front grill	2660 mm	**8'9"**	2660 mm	**8'9"**	2660 mm	**8'9"**
Front wheel tread gauge	1871 mm	**6'2"**	1871 mm	**6'2"**	1871 mm	**6'2"**
Rear wheel tread gauge	1714 mm	**5'8"**	1714 mm	**5'8"**	1714 mm	**5'8"**
6) Wheelbase (2WD/AWD)	2100 mm	**6'11"**	2100 mm	**6'11"**	2100 mm	**6'11"**

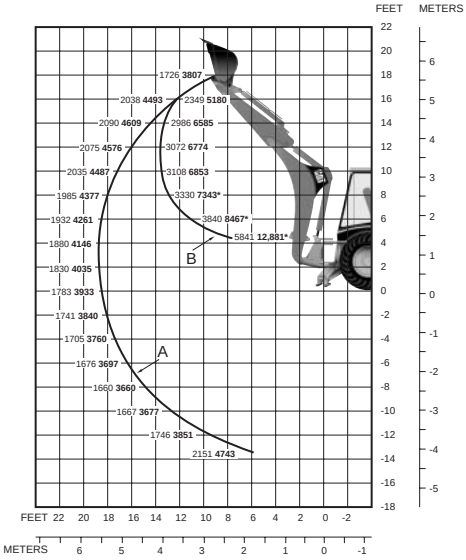
MACHINE DIMENSIONS	Single-Tilt Loader			
	Multi Purpose 0.96 m³ (1.25 yd³)		Multi Purpose 1.03 m³ (1.35 yd³)	
1) Overall transport length	7274 mm	**23'10"**	7274 mm	**23'10"**
Overall length	7264 mm	**23'10"**	7264 mm	**23'10"**
2) Overall transport height	3770 mm	**12'4"**	3770 mm	**12'4"**
Overall width	2352 mm	**7'9"**	2406 mm	**7'11"**
3) Height to top of cab/canopy	2770 mm	**9'1"**	2770 mm	**9'1"**
4) Height to top of exhaust stack	2670 mm	**8'9"**	2670 mm	**8'9"**
Ground clearance (minimum)	297 mm	**12"**	297 mm	**12"**
5) Rear axle centerline to front grill	2660 mm	**8'9"**	2660 mm	**8'9"**
Front wheel tread gauge	1871 mm	**6'2"**	1871 mm	**6'2"**
Rear wheel tread gauge	1714 mm	**5'8"**	1714 mm	**5'8"**
6) Wheelbase (2WD/AWD)	2100 mm	**6'11"**	2100 mm	**6'11"**

KEY

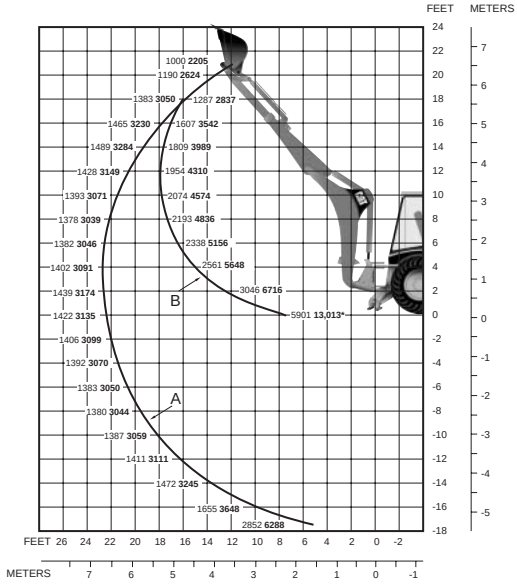
A — Boom lift kg **lb**
B — Stick lift kg **lb**



Standard Stick



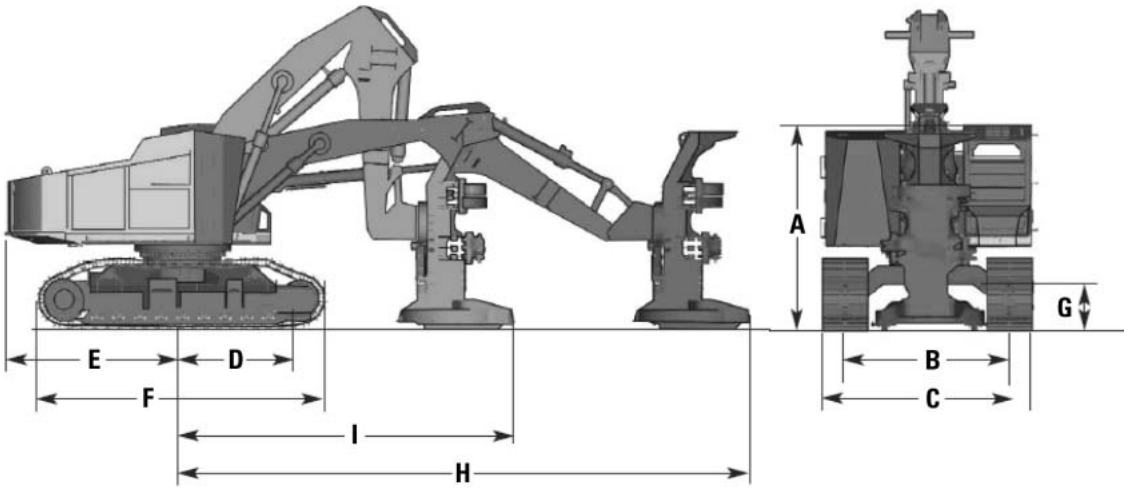
Extendible Stick — Retracted



Extendible Stick — Extended

Lift capacities are over-end values per SAE J31; machine equipped with 2WD, OROPS, 1.15 m³ **(1.5 yd³)** general-purpose loader bucket, 610 mm **(24 in)** heavy duty backhoe bucket and 454 kg **(1000 lb)** counterweight. Extendible stick lift capacities include 682 kg **(1500 lb)** counterweight.

*Indicates lift capacity is stability limited.



MODEL		TK 741		TK 751		TK 752	
A	Height to Top of Cab	3480 mm	**137"**	2895 mm	**139"**	3886 mm	**153"**
B	Gauge	2591 mm	**102"**	2591-2870 mm	**102-113"**	2591-2870 mm	**102-113"**
C	Overall Width	3200 mm	**126"**	3302-3581 mm	**130-141"**	3302-3581 mm	**130-141"**
D	Swing Center to Idler Center	1854 mm	**73"**	1930 mm	**76"**	1930 mm	**76"**
E	Swing Center to Rear of Counterweight	2743 mm	**108"**	2743 mm	**108"**	2743 mm	**108"**
F	Track Length	4801 mm	**189"**	4877 mm	**192"**	4877 mm	**192"**
G	Ground Clearance	838 mm	**33"**	889 mm	**35"**	889 mm	**35"**
H	Maximum Reach	8788 mm	**346"**	8788 mm	**346"**	8788 mm	**346"**
I	Minimum Radius with Head on Ground	4826 mm	**190"**	4826 mm	**190"**	4826 mm	**190"**

MODEL	517 (7-roller track frame)		517 (8-roller track frame)		527 (7-roller track frame)		527 (8-roller track frame)	
Number of Shoes (each side)	**42**		**44**		**41**		**—**	
Width of Shoes	560 mm	**22"**	**—**		560 mm	**22"**	**—**	
	610 mm	**24"**	**—**		610 mm	**24"**	**—**	
	660 mm	**26"**	660 mm	**26"**	660 mm	**26"**	660 mm	**26"**
	760 mm	**30"**	760 mm	**30"**	760 mm	**30"**	760 mm	**30"**
Length of Track on Ground	2710 mm	**106.7"**	2910 mm	**114.6"**	2846 mm	**112"**	3061 mm	**121"**
Track Gauge	2000 mm	**78.7"**	2000 mm	**78.7"**	2160 mm	**85"**	2160 mm	**85"**
Ground Contact Area with:								
560 mm **(22")** Shoes	3.03 m^2	**4695 in^2**	**—**		3.19 m^2	**4945 in^2**	3.43 m^2	**5317 in^2**
610 mm **(24")** Shoes	3.30 m^2	**5122 in^2**	**—**		3.47 m^2	**5379 in^2**	3.73 m^2	**5782 in^2**
660 mm **(26")** Tri-link	3.58 m^2	**5548 in^2**	3.84 m^2	**5959 in^2**	3.76 m^2	**5828 in^2**	4.04 m^2	**6262 in^2**
760 mm **(30")** Tri-link	4.13 m^2	**6402 in^2**	4.44 m^2	**6876 in^2**	4.33 m^2	**6712 in^2**	4.65 m^2	**7208 in^2**
Ground Pressure (Grapple):								
560 mm **(22")** Shoes	0.55 kg/cm^2	***** **7.83 psi**	**—**		0.60 kg/cm^2	**8.53 psi**	**—**	
610 mm **(24")** Shoes	0.50 kg/cm^2	***** **7.22 psi**	**—**		0.55 kg/cm^2	**7.82 psi**	**—**	
660 mm **(26")** Tri-link	0.50 kg/cm^2	***** **7.16 psi**	0.48 kg/cm^2	**6.79 psi**	0.51 kg/cm^2	**7.25 psi**	**—**	
760 mm **(30")** Tri-link	0.44 kg/cm^2	***** **6.29 psi**	0.42 kg/cm^2	**5.96 psi**	0.44 kg/cm^2	**6.26 psi**	**—**	
Ground Pressure (Cable):								
560 mm **(22")** Shoes	0.52 kg/cm^2	****** **7.35 psi**	**—**		0.56 kg/cm^2	**7.97 psi**	**—**	
610 mm **(24")** Shoes	0.47 kg/cm^2	****** **6.64 psi**	**—**		0.52 kg/cm^2	**7.40 psi**	**—**	
660 mm **(26")** Tri-link	0.47 kg/cm^2	****** **6.75 psi**	0.45 kg/cm^2	**6.41 psi**	0.48 kg/cm^2	**6.83 psi**	**—**	
760 mm **(30")** Tri-link	0.42 kg/cm^2	****** **5.94 psi**	0.40 kg/cm^2	**5.64 psi**	0.41 kg/cm^2	**5.83 psi**	**—**	

*Machine configured with enclosed cab, PAT blade, swing boom and 0.74 m^2 **(8 ft^2)** sorting grapple.
**Machine configured with enclosed cab, PAT blade and winch.

MODEL	325C FM General Forestry (HDLC)		325C FM General Forestry (HW)		325C FM Log Loader (U/U)		325C FM Log Loader (O/U)	
Flywheel Power	140 kW	**188 hp**	140 kW	**188 hp**	140 kW	**188 hp**	140 kW	**188 hp**
Operating Weight* without Bucket or Grapple	31 449 kg	**69,333 lb**	32 495 kg	**71,639 lb**	37 096 kg	**81,783 lb**	37 671 kg	**83,050 lb**
Operating Weight** without Bucket or Grapple	31 942 kg	**70,432 lb**	33 078 kg	**72,937 lb**	37 644 kg	**83,005 lb**	38 219 kg	**84,273 lb**
Swing Mechanism:								
Torque	82.2 kN·m	**60,628 lb-ft**	82.2 kN·m	**60,628 lb-ft**	82.2 kN·m	**60,628 lb-ft**	82.2 kN·m	**60,628 lb-ft**
Speed	**10.2 RPM**		**10.2 RPM**		**10.2 RPM**		**10.2 RPM**	
Engine Model	**Cat 3126B ATAAC**		**Cat 3126B ATAAC**		**Cat 3126B ATAAC**		**Cat 3126B ATAAC**	
Rated Engine RPM	**1800**		**1800**		**1800**		**1800**	
No. of cylinders	**6**		**6**		**6**		**6**	
Bore	110 mm	**4.3"**	110 mm	**4.3"**	110 mm	**4.3"**	110 mm	**4.3"**
Stroke	127 mm	**5"**	127 mm	**5"**	127 mm	**5"**	127 mm	**5"**
Displacement	7.2 L	**439.4 in³**	7.2 L	**439.4 in³**	7.2 L	**439.4 in³**	7.2 L	**439.4 in³**
Hydraulic System:								
Main Implement System — Maximum Flow (2X)	235 L/min	**62 gal/min**	235 L/min	**62 gal/min**	235 L/min	**62 gal/min**	235 L/min	**62 gal/min**
Relief Valve Settings:								
Implement Circuits	34 300 kPa	**4975 psi**	34 300 kPa	**4975 psi**	34 300 kPa	**4975 psi**	34 300 kPa	**4975 psi**
Travel Circuits	34 300 kPa	**4975 psi**	34 300 kPa	**4975 psi**	34 300 kPa	**4975 psi**	34 300 kPa	**4975 psi**
Swing Circuits	27 500 kPa	**3988 psi**	27 500 kPa	**3988 psi**	27 500 kPa	**3988 psi**	27 500 kPa	**3988 psi**
Pilot Circuits	4120 kPa	**598 psi**	4120 kPa	**598 psi**	4120 kPa	**598 psi**	4120 kPa	**598 psi**
Drive:								
Maximum Drawbar Pull	244 kN	**54,853 lb**	244 kN	**54,853 lb**	244 kN	**54,853 lb**	244 kN	**54,853 lb**
Maximum Travel Speed	5.3 km/h	**3.3 mph**	5.3 km/h	**3.3 mph**	5.3 km/h	**3.3 mph**	5.3 km/h	**3.3 mph**
Track:								
Standard (double grouser)	700 mm	**27.5"**	700 mm	**27.5"**	700 mm	**27.5"**	700 mm	**27.5"**
Optional (double grouser)	**none**		**none**		**none**		**none**	
Optional (triple grouser)	**none**		700 mm	**27.5"**	700 mm	**27.5"**	700 mm	**27.5"**
Optional (HD triple grouser)	800 mm	**31.5"**	**none**		**none**		**none**	
Overall Track Length	4700 mm	**15'5"**	4770 mm	**15'7"**	4770 mm	**15'7"**	4770 mm	**15'7"**
Ground Contact Area with Standard Shoe	5.63 m²	**8720 in²**	5.72 m²	**8863 in²**	5.72 m²	**8863 in²**	5.72 m²	**8863 in²**
Ground Clearance	510 mm	**20.1"**	722 mm	**28.5"**	722 mm	**28.5"**	722 mm	**28.5"**
Track Gauge	2590 mm	**8'6"**	2921 mm	**9'7"**	2921 mm	**9'7"**	2921 mm	**9'7"**
Capacity:								
Fuel Tank	500 L	**132 U.S. gal**	500 L	**132 U.S. gal**	500 L	**132 U.S. gal**	500 L	**132 U.S. gal**
Fuel Tank — Optional Auxiliary Right Front	410 L	**108 U.S. gal**	410 L	**108 U.S. gal**	410 L	**108 U.S. gal**	410 L	**108 U.S. gal**
Cooling System	30 L	**7.9 U.S. gal**	30 L	**7.9 U.S. gal**	30 L	**7.9 U.S. gal**	30 L	**7.9 U.S. gal**
Hydraulic System — Tank	145 L	**38 U.S. gal**	145 L	**38 U.S. gal**	145 L	**38 U.S. gal**	145 L	**38 U.S. gal**
Hydraulic System — Total	310 L	**82 U.S. gal**	310 L	**82 U.S. gal**	310 L	**82 U.S. gal**	310 L	**82 U.S. gal**
Swing Drive	10 L	**2.6 U.S. gal**	10 L	**2.6 U.S. gal**	10 L	**2.6 U.S. gal**	10 L	**2.6 U.S. gal**

*Original FM Cab/Riser with external guarding.
**New FM Cab/Riser with integrated guarding (Available in July 2004).

325C FM HW

6.15 m **(20'0")** Reach Boom, 3.2 m **(10'5")** Stick, Standard Counterweight, 700 mm **(28")** Double Grouser Track Shoes

Load Point Height		1.5 m/5.0 ft		3.0 m/10.0 ft		4.5 m/15.0 ft		6.0 m/20.0 ft		7.5 m/25.0 ft		9.0 m/30.0 ft		Load at Maximum Reach		
		Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	m ft
7.5 m	kg													5800*	5800*	7.47
25.0 ft	**lb**													**12,800***	**12,800***	**24.20**
6.0 m	kg									8100*	8100*			5500*	5500*	8.35
20.0 ft	**lb**									**17,700***	**17,700***			**12,200***	**12,200***	**27.25**
4.5 m	kg							9700*	9700*	8600*	8600*			5500*	5500*	8.90
15.0 ft	**lb**							**20,900***	**20,900***	**18,800***	**18,800***			**12,100***	**12,100***	**29.12**
3.0 m	kg					15 000*	15 000*	11 200*	11 200*	9400*	9200	7000*	7000*	5700*	5700*	9.16
10.0 ft	**lb**					**32,200***	**32,200***	**24,200***	**24,200***	**20,400***	**19,700**	**12,700***	**12,700***	**12,500***	**12,500***	**30.04**
1.5 m	kg					17 500*	17 500*	12 600*	12 200	10 200*	8900	7700*	6900	6100*	6100*	9.17
5.0 ft	**lb**					**37,700***	**37,700***	**27,300***	**26,200**	**22,100***	**19,200**	**14,000***	**14,000***	**13,300***	**13,300***	**30.10**
†0.0 m	kg			6600*	6600*	18 500*	18 100	13 500*	11 900	10 700*	8700			6700*	6700*	8.93
†0.0 ft	**lb**			**15,200***	**15,200***	**40,100***	**38,800**	**29,200***	**25,500**	**23,100***	**18,700**			**14,800***	**14,800***	**29.30**
–1.5 m	kg	8200*	8200*	12 400*	12 400*	18 300*	18 000	13 600*	11 700	10 700*	8600			7800*	7400	8.41
–5.0 ft	**lb**	**18,200***	**18,200***	**28,000***	**28,000***	**39,600***	**38,600**	**29,400***	**25,200**	**23,000***	**18,600**			**17,300***	**16,400**	**27.57**
–3.0 m	kg	14 000*	14 000*	19 800*	19 800*	16 900*	16 900*	12 800*	11 800	9600*	8700			9500*	8600	7.56
–10.0 ft	**lb**	**31,300***	**31,300***	**44,800***	**44,800***	**36,600***	**36,600***	**27,500***	**25,300**					**20,800***	**19,100**	**24.71**
–4.5 m	kg			18 900*	18 900*	14 000*	14 000*	10 100*	10 100*					9400*	9400*	6.24
–15.0 ft	**lb**			**40,500***	**40,500***	**29,800***	**29,800***	**21,200***	**21,200***					**20,700***	**20,700***	**20.22**

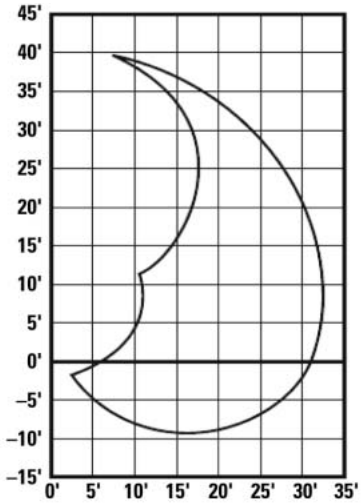
325C FM HW

6.15 m **(20'0")** Reach Boom, 3.2 m **(10'5")** Stick, Heavy Counterweight, 700 mm **(28")** Double Grouser Track Shoes

Load Point Height		1.5 m/5.0 ft		3.0 m/10.0 ft		4.5 m/15.0 ft		6.0 m/20.0 ft		7.5 m/25.0 ft		9.0 m/30.0 ft		Load at Maximum Reach		
		Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	m ft
7.5 m	kg													5800*	5800*	7.47
25.0 ft	**lb**													**12,800***	**12,800***	**24.20**
6.0 m	kg									8100*	8100*			5500*	5500*	8.35
20.0 ft	**lb**									**17,700***	**17,700***			**12,200***	**12,200***	**27.25**
4.5 m	kg							9700*	9700*	8600*	8600*			5500*	5500*	8.90
15.0 ft	**lb**							**20,900***	**20,900***	**18,800***	**18,800***			**12,100***	**12,100***	**29.12**
3.0 m	kg					15 000*	15 000*	11 200*	11 200*	9400*	9400*	7000*	7000*	5700*	5700*	9.16
10.0 ft	**lb**					**32,200***	**32,200***	**24,200***	**24,200***	**20,400***	**20,400***	**12,700***	**12,700***	**12,500***	**12,500***	**30.04**
1.5 m	kg					17 500*	17 500*	12 600*	12 600*	10 200*	10 200*	7700*	7700*	6100*	6100*	9.17
5.0 ft	**lb**					**37,700***	**37,700***	**27,300***	**27,300***	**22,100***	**22,100***	**14,000***	**14,000***	**13,300***	**13,300***	**30.10**
†0.0 m	kg			6600*	6600*	18 500*	18 500*	13 500*	13 500*	10 700*	10 200			6700*	6700*	8.93
†0.0 ft	**lb**			**15,200***	**15,200***	**40,100***	**40,100***	**29,200***	**29,200***	**23,100***	**22,000**			**14,800***	**14,800***	**29.30**
–1.5 m	kg	8200*	8200*	12 400*	12 400*	18 300*	18 300*	13 600*	13 600*	10 700*	10 100			7800*	7800*	8.41
–5.0 ft	**lb**	**18,200***	**18,200***	**28,000***	**28,000***	**39,600***	**39,600***	**29,400***	**29,400***	**23,000***	**21,800**			**17,300***	**17,300***	**27.57**
–3.0 m	kg	14 000*	14 000*	19 800*	19 800*	16 900*	16 900*	12 800*	12 800*	9600*	9600*			9500*	9500*	7.56
–10.0 ft	**lb**	**31,300***	**31,300***	**44,800***	**44,800***	**36,600***	**36,600***	**27,500***	**27,500***					**20,800***	**20,800***	**24.71**
–4.5 m	kg			18 900*	18 900*	14 000*	14 000*	10 100*	10 100*					9400*	9400*	6.24
–15.0 ft	**lb**			**40,500***	**40,500***	**29,800***	**29,800***	**21,200***	**21,200***					**20,700***	**20,700***	**20.22**

*Indicates that the load is limited by hydraulic capacity rather than tipping capacity. Lift capacity ratings are based on ISO 10567. Rated loads are at 100% of hydraulic lifting capacity or 100% of tipping capacity over front and side.
†Ground line.
Lift Point is at the stick end pin.

TK 570 Knuckleboom Loader
9.9 m (32'6") Boom



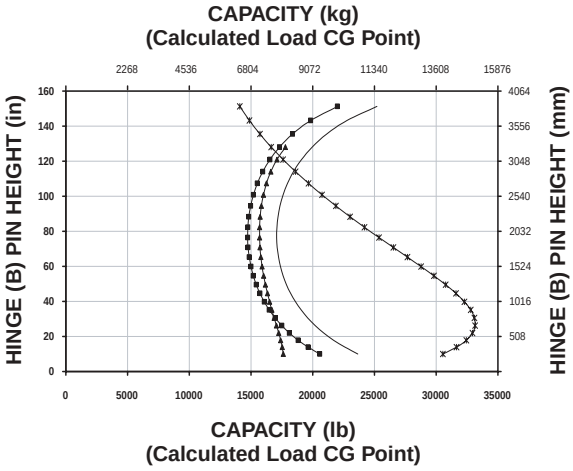
NOTES:

Do not attempt to lift or hold any load that is greater than the rated values over the end or side at their specified lift point and height. The weight of the grapple and all lifting accessories must be deducted from lift capacities shown.

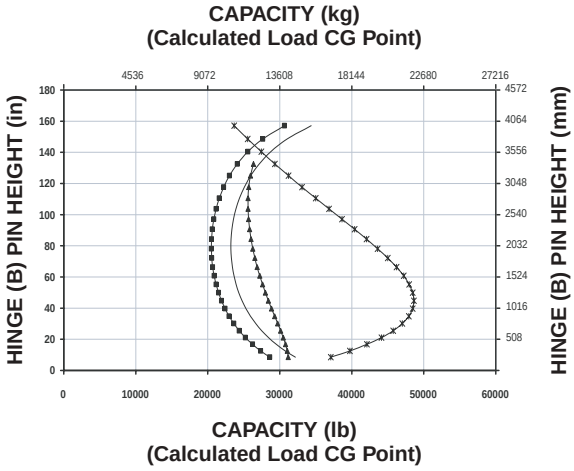
1. The over end capacities and over side capacities do not exceed 87% of hydraulic limited capacity or 75% of stability limited capacity.
   – Stability limited capacities are indicated with an asterisk (*).
2. The lift point is located at the boom pivot pin.
3. Lift capacities are based on the machine standing on firm, uniform supporting surface. User must make allowances for job site conditions.
4. Operator should be fully acquainted with the Operator's Manual and all safety instructions furnished by Blount, Inc. prior to operating the machine.
5. Lift capacities are in compliance with SAE J2417, "Lift Capacity Calculation Method — Knuckleboom Log Loaders and Certain Forestry Equipment."

	3 m/10'0"		4.6 m/15'0"		6.1 m/20'0"		7.6 m/25'0"		9.1 m/30'0"		Maximum Reach		
	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	
10.6 m **(35'0")**			*5286.7* 4599.5 4599.5	***11,655*** **10,140** **10,140**									100% Hydraulics Over End Over Side
9.1 m **(30'0")**					*4972.9* 4326.4 4326.4	***10,963*** **9,538** **9,538**							100% Hydraulics Over End Over Side
7.6 m **(25'0")**					*5758.4* 5010.0 5010.0	***12,695*** **11,045** **11,045**	*4410.8* 3937.4 3937.4	***9,724*** **8,460** **8,460**					100% Hydraulics Over End Over Side
6.1 m **(20'0")**					*6363.5* 5536.2 5536.2	***14,029*** **12,205** **12,205**	*5428.7* 4722.9 4722.9	***11,968*** **10,412** **10,412**	*2767.9* 2408.2 2408.2	***6,102*** **5,309** **5,309**			100% Hydraulics Over End Over Side
4.6 m **(15'0")**			*7299.3* 6350.4 6350.4	***16,092*** **14,000** **14,000**	*6877.5* 5983.4 5983.4	***15,162*** **13,191** **13,191**	*6073.2* 5283.5 5283.5	***13,389*** **11,648** **11,648**	*3974.0* 3457.3 3457.3	***8,761*** **7,622** **7,622**	*2324.2* 2022.1 2022.1	***5,124*** **4,458** **4,458**	100% Hydraulics Over End Over Side
3.0 m **(10'0")**			*9814.5* 8538.6 8538.6	***21,637*** **18,824** **18,824**	*8452.4* 7353.8 7353.8	***18,634*** **16,212** **16,212**	*6934.2* 6032.9 6032.9	***15,287*** **13,300** **13,300**	*4668.4* 4061.5 4061.5	***10,292*** **8,954** **8,954**	*2366.0* 2058.4 2058.4	***5,216*** **4,538** **4,538**	100% Hydraulics Over End Over Side
1.5 m **(5'0")**	*18 436.1* 16 039.3 16 039.3	***40,644*** **35,360** **35,360**	*12 083.4* 10 512.6 10 512.6	***26,639*** **23,176** **23,176**	*9112.8* 7928.0 7928.0	***20,090*** **17,478** **17,478**	*7295.7* 6347.2 6347.2	***16,084*** **13,993** **13,993**	*4947.4* 4304.2 4304.2	***10,907*** **9,489** **9,489**	*2480.3* 2157.8 2157.8	***5,468*** **4,757** **4,757**	100% Hydraulics Over End Over Side
0 m **(0'0")**	*10 192.8* 8867.9 8867.9	***22,471*** **19,550** **19,550**	*12 622.8* 10 981.6 10 981.6	***27,828*** **24,210** **24,210**	*9241.6* 8040.1 8040.1	***20,374*** **17,725** **17,725**	*7086.8* 6173.5 6173.5	***15,644*** **13,610** **13,610**	*4361.8* 3794.8 3794.8	***9,616*** **8,366** **8,366**			100% Hydraulics Over End Over Side
–1.5 m **(–5'0")**	*9419.5* 8194.7 8194.7	***20,766*** **18,066** **18,066**	*11 628.5* 10 116.6 10 116.6	***25,636*** **22,303** **22,303**	*8447.8* 7349.7 7349.7	***18,624*** **16,203** **16,203**	*6120.4* 5324.8 5324.8	***13,493*** **11,739** **11,739**					100% Hydraulics Over End Over Side

938G Series II with Pin-On Caterpillar Log and Lumber Fork



962G Series II with Pin-On Caterpillar Logging Fork



KEY

- Tipping Capacity with Machine Straight Fork Level
- Tipping Capacity with Machine Articulated Fork Level
- Hydraulic Lift Capacity with Fork Level
- Hydraulic Tilt Capacity with Fork Level

Curves based on machine with full fuel tank, operator, ROPS cab, 20.5-25, 16 PR (L-2) tires, and 562 kg (1240 lb) counterweight, with 810 kg (1785 lb) rear tire ballast, log and lumber fork with 1225 mm (4'0") tines, 1660 kg (3660 lb) total weight. Total operating weight, 14 332 kg (31,595 lb).

Curves and operating weight on chart are based on machine equipped with 23.5-25 XHA tires, 1747 kg (3852 lb) counterweight, full fuel tank, operator, 2159 kg (4760 lb) 157-3467 logging fork. Total operating weight, 18 840 kg (41,540 lb). Forks of other dimensions or weight may affect machine capacity. Consult your Caterpillar dealer for additional information.

NOTE: Static tipping load and operating weight are based on machine configuration with standard tires, full fuel tank, coolant, lubricants, and operator.

Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader ratings.

The rated operating load for a machine with fork is: SAE J1197; 50% of full turn static tipping load, or hydraulic/structural limit. CEN 474-3: 60% of full turn tipping load on rough terrain: 80% of full turn tipping load on firm and level ground, or hydraulic structural limit.

Features — Couplers

Horizontal Pin Lock Couplers

- Quick Couplers provide unmatched versatility to any loader. Hydraulic couplers allow the operator to change tools in seconds without leaving the cab. Any work tool backed by coupler hooks can be picked up; allowing the loader to fit whatever application is at hand.

Dedicated Wedge Lock Couplers

- The Caterpillar Dedicated Wedge Lock Coupler system quickly and positively engages a wide variety of work tools. Exchanging work tools is fast and easy, improving overall production and increasing machine versatility. Machine operators can change tools as the job demands in seconds.
- The Dedicated Coupler offers the flexibility of rapid work tool mounting without the loss of breakout force found in other coupler systems. The coupler duplicates the original machine linkage geometry and performance, for maximum breakout force with any bucket. Equipped with an integrated 50 mm (2") lifting-eye, the coupler can handle material without a bucket attached, maximizing available lifting power.

Pin Grabber Couplers

- The Caterpillar Hydraulic Pin Grabber Plus Coupler allows buckets and other standard work tools to be used without any modification. Exchanging work tools in seconds improves overall production and increases machine versatility. The Coupler is pinned on in place of the bucket with standard pins, and can be easily removed should the need arise to mount a tool directly to the stick.
- The Pin Grabber Plus Coupler offers new possibilities. Buckets can be turned around and used in front shovel mode for final trench clean up. An integral lift eye on the coupler body allows lifting without the weight of the bucket, increasing both machine capacity and visibility from the cab.

See www.forestpro.com for additional Coupler information.

Features — Buckets and Thumbs

Cat Bucket Thumbs for Hydraulic Excavators

- Multiply the performance of a Cat Excavator by adding a Cat Bucket Thumb. This highly versatile work tool acts in conjunction with the bucket to allow the excavator to grab irregularly shaped items and load loose materials and debris.

Mini Bucket Thumbs

- Caterpillar Bucket Thumbs are matched to Hydraulic Excavator Buckets for increased on-the-job performance. A thumb works with the bucket to grab, pick and sort debris, brush, trash and rock, opening up new production opportunities for your Cat Mini Excavator. Thumbs are an ideal complement to excavators working in demolition, land clearing, landscaping, material handling and construction jobs.

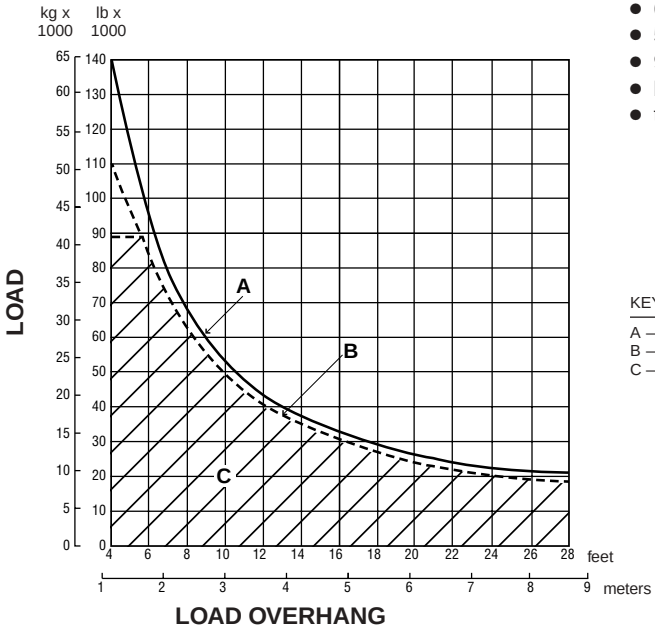
Clamshell Buckets

- Clamshell Buckets from Cat are the premier tools for cleanup, demolition, ground clearing and forestry work. Built of heavy T1 steel, these buckets are tough and durable for long service life in the most difficult applications. Clamshell buckets feature continuous 360° rotation, powered by a high-torque hydraulic motor.

See www.forestpro.com for additional Bucket and Thumb information.

583T

LIFTING CAPACITY*
6.1 m, 7.3 m, 8.5 m (20'0", 24'0", 28'0") BOOMS



*Specified Equipment:

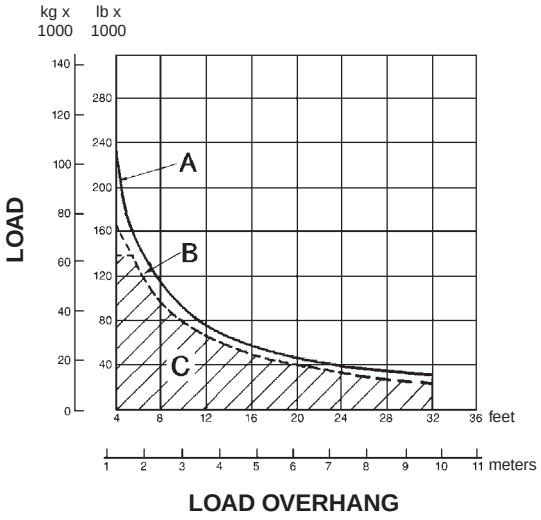
- 19 mm **(3/4")** diameter wire rope.
- 26 672 kg **(58,800 lb)** minimum breaking strength.
- 6 part load line.
- 5 part boom line.
- 9036 kg **(19,920 lb)** counterweight extended.
- boom 7.3 m **(24 ft)** standard.
- total operating weight 45 359 kg **(100,000 lb)**.

KEY

A — Max lift capacity per ISO 8813
B — Rated load per ANSI/ASME B30.14
C — Working range per ANSI/ASME B30.14

589

LIFTING CAPACITY*
8.53 m and 9.75 m (28'0" and 32'0") BOOMS



*Specified Equipment:

- Load: 22 mm **(7/8")** dia. wire rope 31 389 kg **(69,200 lb)** minimum breaking strength.
- Boom: 22 mm **(7/8")** dia. wire rope 31 389 kg **(69,200 lb)** minimum breaking strength.
- 8 part load line.
- 8 part boom line.
- 14 633 kg **(32,260 lb)** of counterweights extended.
- 8.53 m **(28'0")** Boom.

KEY

A — Max lift capacity per ISO 8813
B — Rated load per ANSI/ASME B30.14
C — Working range per ANSI/ASME B30.14

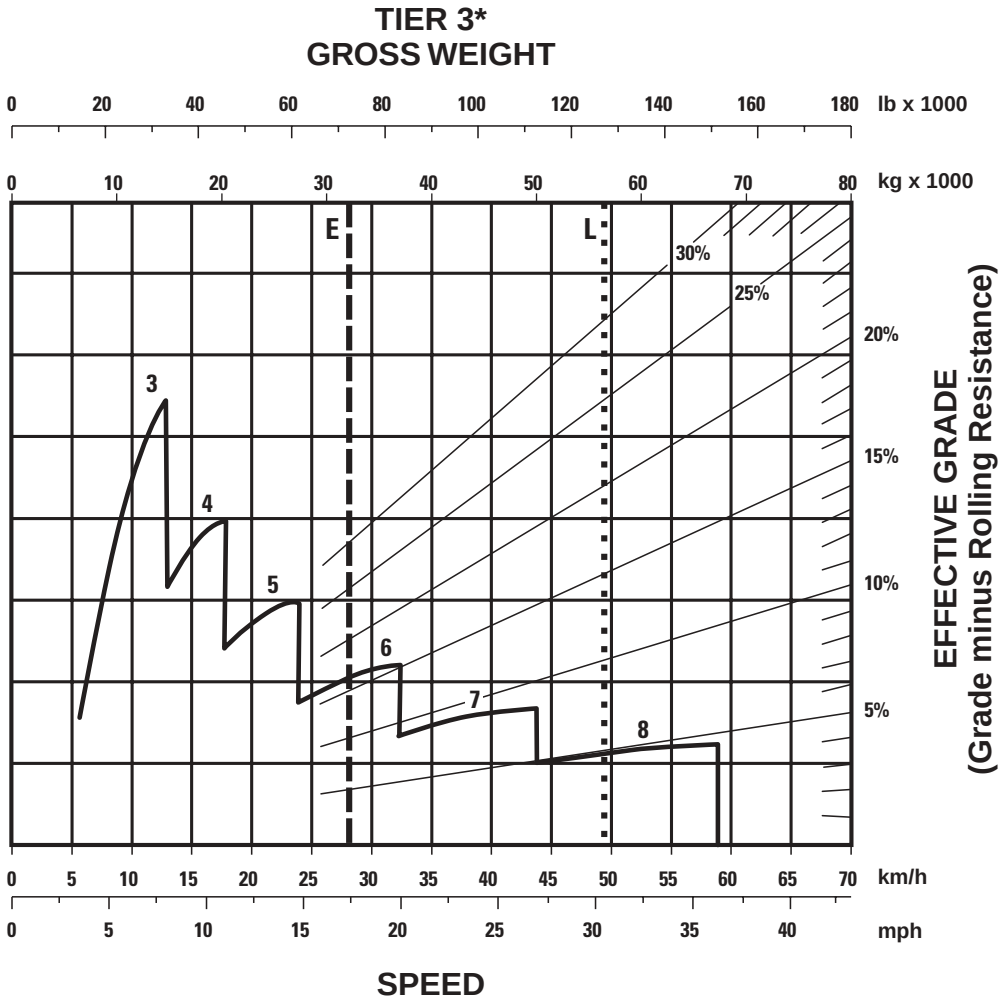
NOTE: ISO stands for the International Standards Organization. ANSI stands for American National Standard Institute.

MODEL TIRE SIZE	PLY RATING/ STAR RATING*	TYPE
613C Series II		
23.5R25◀	★	L-3
23.5-25	20	E-3
615C Series II		
29.5R25◀	★	L-3
29.5-25	28	E-3
26.5R25	★	L-3
26.5R25	★★	E-3
621G **623G** **627G**		
33.25R29◀	★★	E-3
33.25-29	32	E-3
29.5R29	★★	E-2
29.5-29	34	E-2

MODEL TIRE SIZE	PLY RATING/ STAR RATING*	TYPE
631G **637G**		
37.25R35◀	★★	E-3
37.25-35	42	E-3
657G		
40.5/75R39◀	★★	E-3

*Manufacturer uses star (★) rating system instead of ply rating.
◀No charge tire.

8



*at sea level

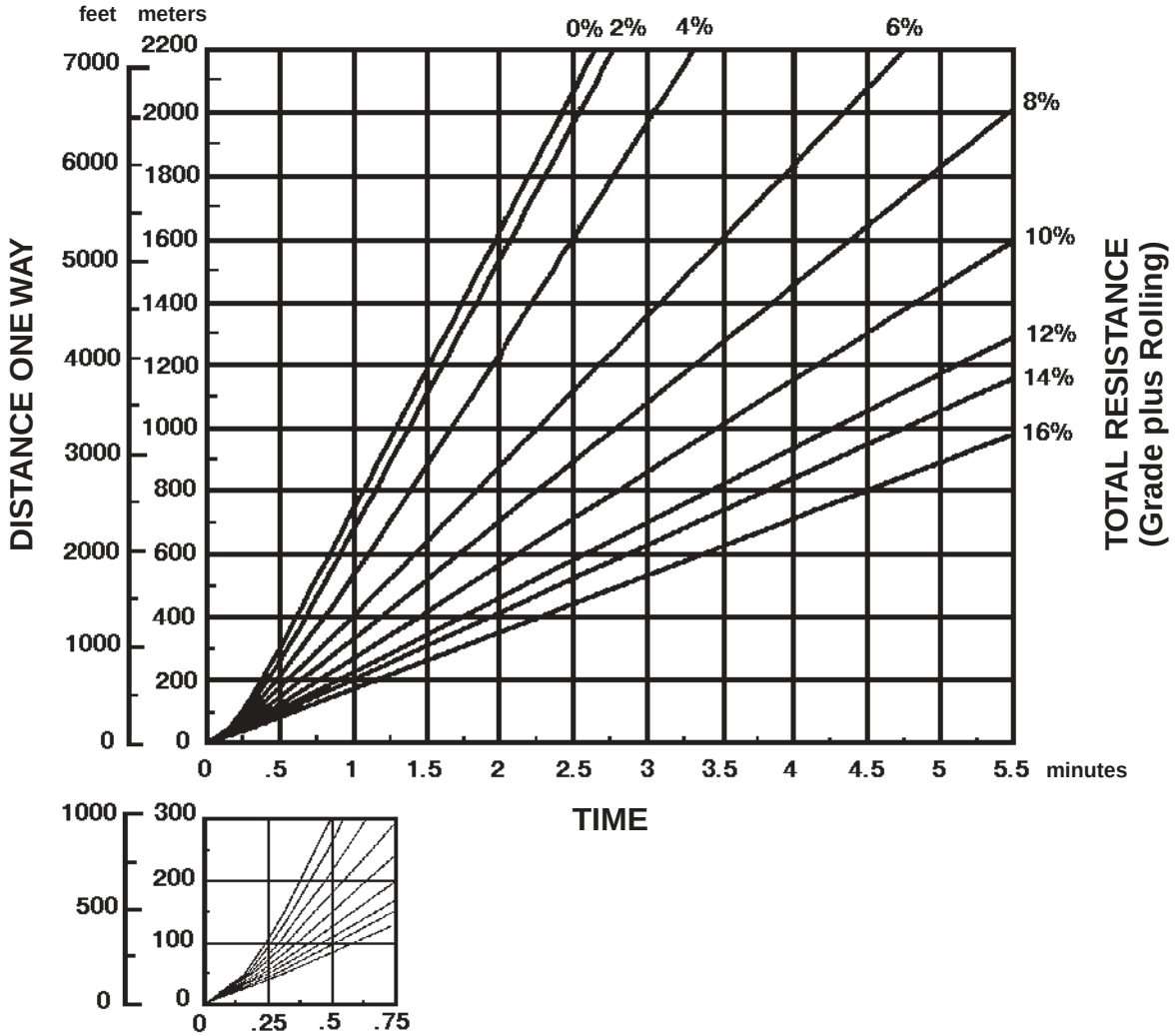
KEY

3 — 3rd Gear Direct Drive
4 — 4th Gear Direct Drive
5 — 5th Gear Direct Drive
6 — 6th Gear Direct Drive
7 — 7th Gear Direct Drive
8 — 8th Gear Direct Drive

KEY

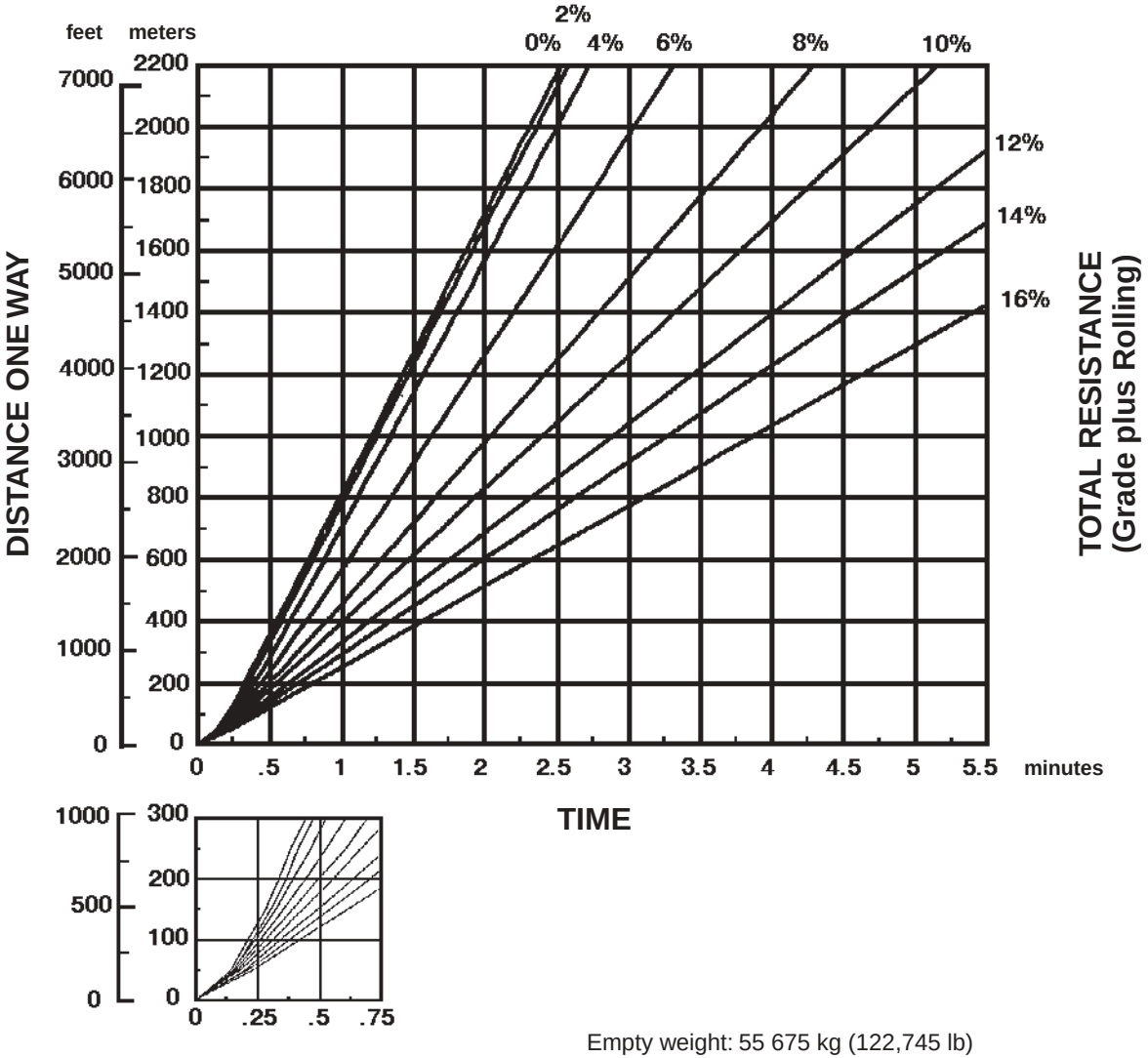
E — Empty 32 865 kg (72,455 lb)
L — Loaded 57 420 kg (126,589 lb)

LOADED



Empty weight: 41 635 kg (91,790 lb)
Payload: 21 775 kg (48,000 lb)

EMPTY



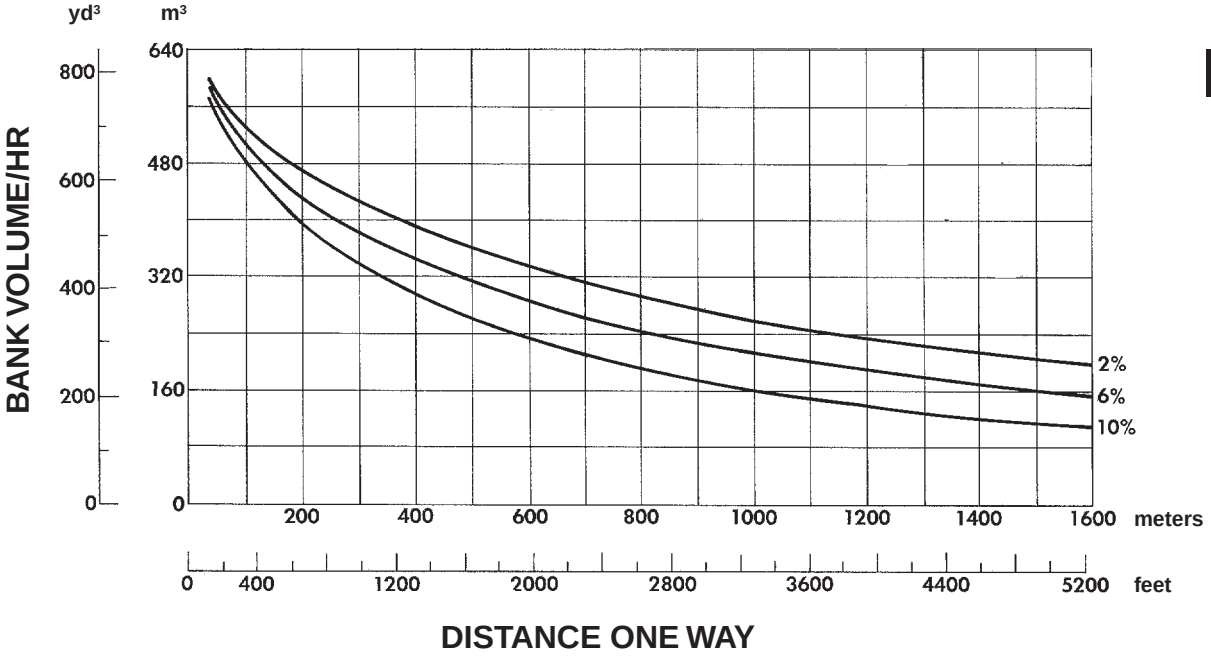
Empty weight: 55 675 kg (122,745 lb)

DISTANCE vs. PRODUCTION

CONDITIONS: Flat haul. Percentages shown are rolling resistance only.
100% efficiency (60 min hour).

- Material: 1780 kg/m³ (3000 lb/yd³).
- Payload: 37 285 kg, 20.9 Bm³ (82,200 lb, 27.4 BCY).
- Empty weight: 52 662 kg (116,100 lb).
- Fixed time: 1.6 min. (includes loading both units and transfer time).

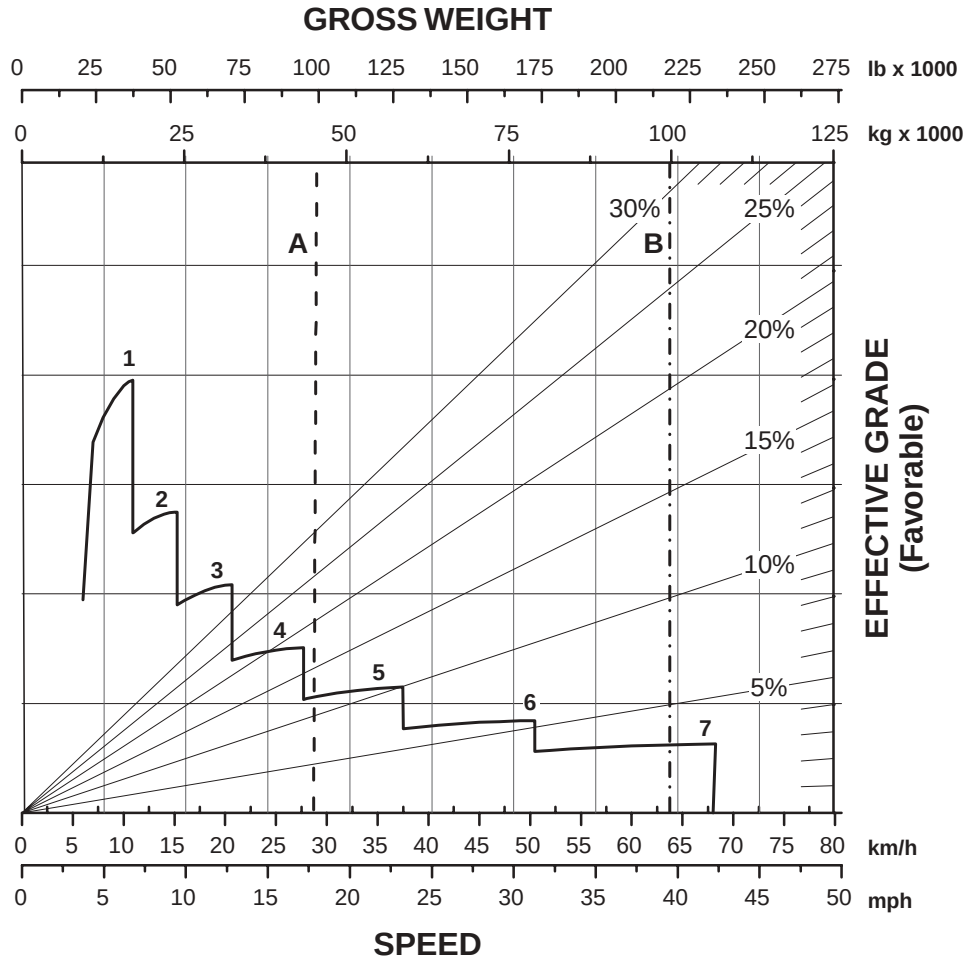
NOTE: Production estimates apply to one unit. Double these figures for a push-pull pair.



MODEL TIRE SIZE	PLY RATING/ STAR RATING*	TYPE
769D		
18.00-33	32	E-4
18.00R33	★★	E-3
18.00R33◀	★★	E-4
21/90R33	★★	E-4
771D		
18.00R33◀	★★	E-4
21/90R33	★★	E-4
773E		
24.00-35	36	E-4
24.00-35	42	E-4
24.00R35	★★	E-3
24.00R35◀	★★	E-4
775E		
24.00R35◀	★★	E-4
24.00R35	★★	E-3
24.00-35	42	E-4
777D		
27.00R49	★★	E-3
27.00R49◀	★★	E-4
785C		
33.00R51	★★	E-3
33.00R51	★★	E-4

MODEL TIRE SIZE	PLY RATING/ STAR RATING*	TYPE
789C		
37.00R57	★★	E-4
797B		
59/80R63	★★	E-4
776D		
27.00R49	★★	E-3
27.00R49◀	★★	E-4
784C		
36.00R51	★★	E-3

*Manufacturer uses star (★) rating system instead of ply rating.
◀No charge tire.



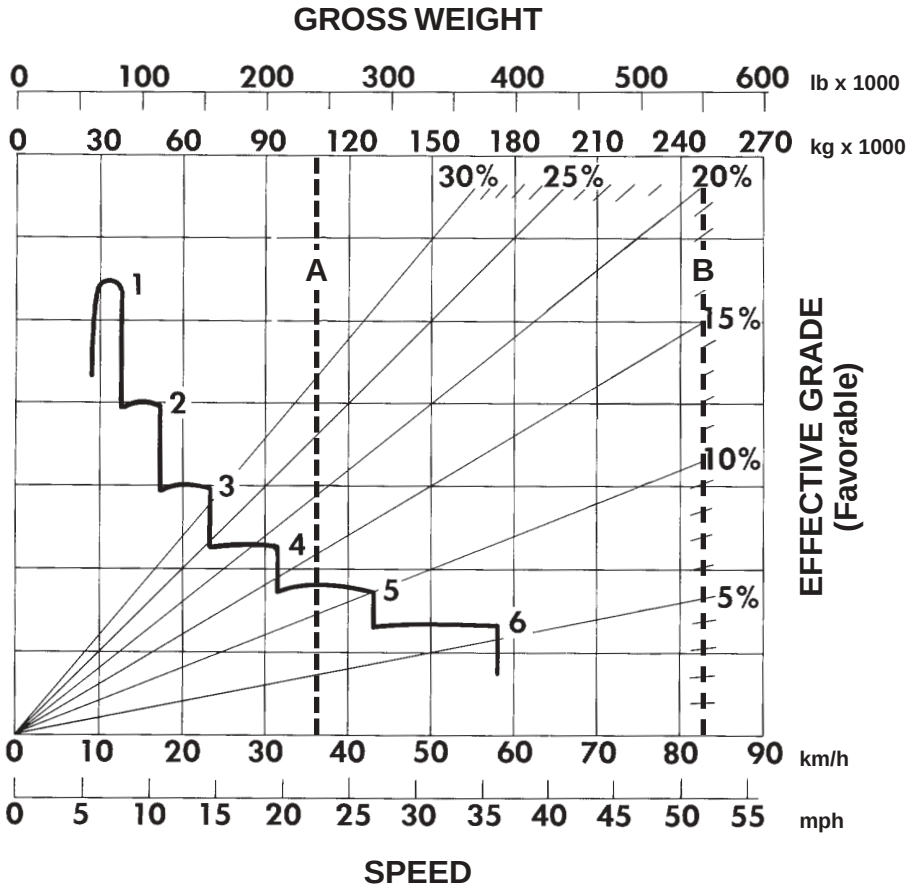
KEY

1 — 1st Gear
2 — 2nd Gear
3 — 3rd Gear
4 — 4th Gear
5 — 5th Gear
6 — 6th Gear
7 — 7th Gear

KEY

A — Empty 40 188 kg (88,600 lb)
B — Max GMW 99 300 kg (219,000 lb)

9



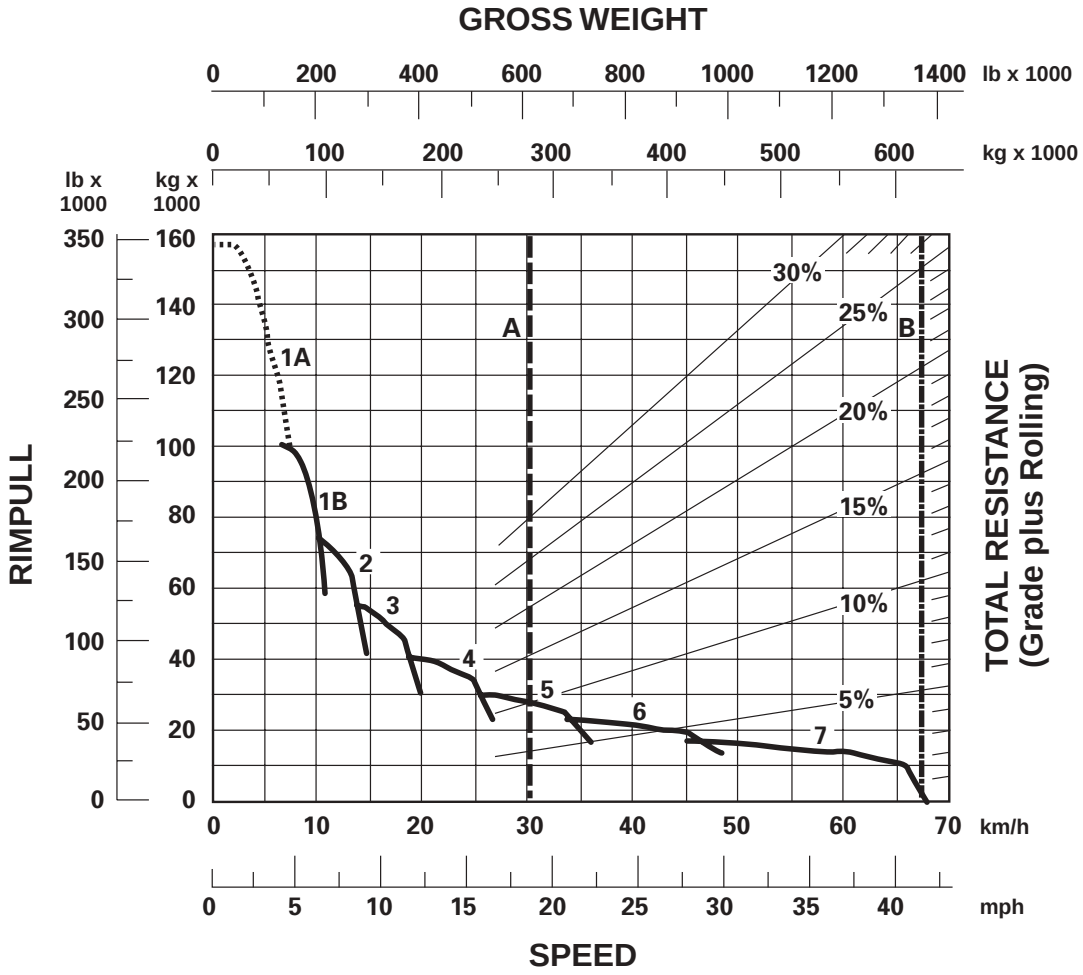
KEY

1 — 1st Gear
2 — 2nd Gear
3 — 3rd Gear
4 — 4th Gear
5 — 5th Gear
6 — 6th Gear

KEY

A* — Est. Field Empty Weight 105 127 kg (231,767 lb)**
B* — Max GMW 249 433 kg (550,000 lb)

*These two reference lines (A and B) apply only to 785C. Brake performance for 784C will vary depending on trailer brake capability.
**Truck equipped with sideboards and liners.



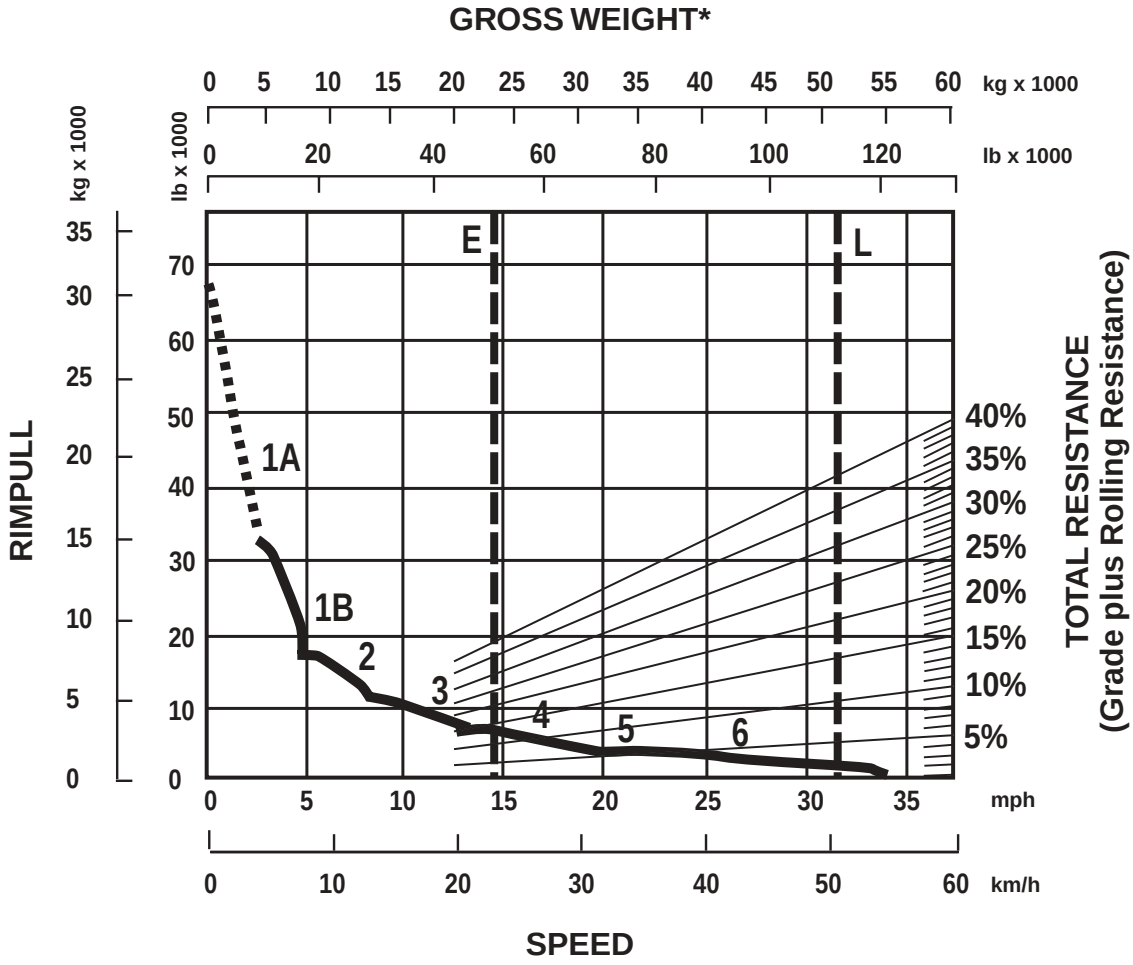
KEY

1A — 1st Gear (Torque Converter)
1B — 1st Gear
2 — 2nd Gear
3 — 3rd Gear
4 — 4th Gear
5 — 5th Gear
6 — 6th Gear
7 — 7th Gear

KEY

A — Est. Field Empty Weight 274 494 kg (605,159 lb)
B — Max GMW 623 690 kg (1,375,000 lb)

*At Sea Level.



KEY

1A — 1st Gear (Converter Drive)
1B — 1st Gear (Direct Drive)
2 — 2nd Gear
3 — 3rd Gear
4 — 4th Gear
5 — 5th Gear
6 — 6th Gear

KEY

E — Empty 22 850 kg (50,376 lb)
L — Loaded 50 970 kg (112,370 lb)

*At sea level.

WHEEL DOZERS
SOIL COMPACTORS

CONTENTS

WHEEL DOZERS

Features:

- **Reliable Cat power train:** four-stroke-cycle diesel with adjustment-free fuel system ... full power shift with single lever on-the-go shifting.
- **Articulated frame steering** with hinge point midway between front and rear axles ... short turning radius, long wheelbase ... rear and front wheels track at all times.
- **Machine balance** ... equal weight distribution on axles when blading.
- **All dozer functions,** including tip and tilt, hydraulically controlled from operator's seat.

COMPACTION FUNDAMENTALS

The following discussion applies to soil compaction only. For information on refuse compaction, see Waste Disposal section of this book.

Definition

Compaction is the process of physically densifying or packing the soil … resulting in increased weight per unit volume. It is generally accepted that the strength of a soil can be increased by densification. Three important factors affect compaction.

— Material gradation
— Moisture content
— Compactive effort

Material Gradation — refers to the distribution (% by weight) of the different particle sizes within a given soil sample. A sample is *well-graded* if it contains a good, even distribution of particle sizes. A sample composed of predominantly one size particle, is said to be *poorly-graded*. In terms of compaction, a well-graded soil will compact more easily than one that is poorly-graded. In well-graded material the smaller particles tend to fill the empty spaces between the larger particles, leaving fewer voids after compaction.

MATERIAL GRADATION

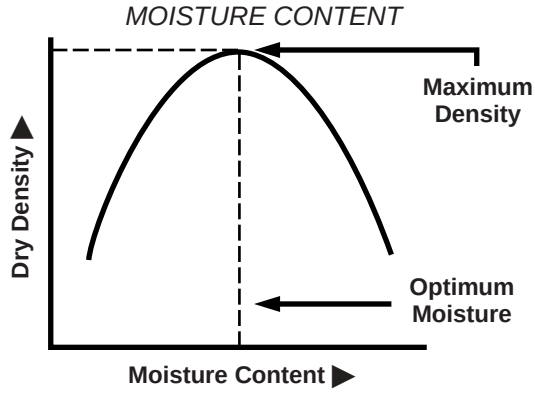
Poorly-graded Well-graded

Moisture Content — or the amount of water present in a soil, is very important to compaction. Water lubricates soil particles thus helping them slide into the most dense position. Water also creates clay particle bonding, giving cohesive materials their sticky qualities.

OPTIMUM MOISTURE

Heavy clay	17.5%
Silty clay	15.0%
Sandy clay	13.0%
Sand	10.0%
Gravel, sand, clay mix (pit run)	7.0%

Experience has shown that it is very difficult, if not impossible, to achieve proper compaction in materials that are too dry or too wet. Soil experts have determined that in practically every soil there is an amount of water, called optimum moisture content, at which it is possible to obtain maximum density with a given amount of compactive effort. The curve below shows this relationship between dry density and moisture content. It is called a compaction curve, moisture-density curve or Proctor curve.



Compactive Effort — refers to the method employed by a compactor to impart energy into the soil to achieve compaction. Compactors are designed to use one or a combination of the following types of compactive effort.

— Static weight (or pressure)
— Kneading action (or manipulation)
— Impact (or sharp blow)
— Vibration (or shaking)



MODEL	972H		980H		988G	
Flywheel Power: Net	214 kW	**287 hp**	237 kW	**318 hp**	354 kW	**475 hp**
Max.	214 kW	**287 hp**	237 kW	**318 hp**	388 kW	**520 hp**
Rated Payload*	—		—		11.4 t	**12.5 T**
Gross Rated Bucket Payload*	—		—		16 300 kg	**36,000 lb**
Engine Model	**C13 ATAAC**		**C15 ATAAC**		**3456 DITA ATAAC**	
Rated Engine RPM	**1800**		**1800**		**1900**	
Bore	130 mm	**5.1"**	137 mm	**5.4"**	140 mm	**5.5"**
Stroke	157 mm	**6.2"**	171 mm	**6.75"**	171 mm	**6.75"**
No. Cylinders	**6**		**6**		**6**	
Displacement	12.5 L	**763 in³**	15.2 L	**928 in³**	15.8 L	**964 in³**
Speeds Forward	km/h	**mph**	km/h	**mph**	km/h	**mph**
1st	7.2	**4.5**	6.6	**4.1**	6.8	**4.2**
2nd	12.6	**7.8**	11.8	**7.4**	11.9	**7.4**
3rd	21.4	**13.3**	20.7	**12.9**	20.7	**12.8**
4th	36.9	**22.9**	36.3	**22.5**	35.4	**22.0**
Speeds Reverse						
1st	8.2	**5.1**	7.6	**4.7**	7.7	**4.8**
2nd	14.2	**8.8**	13.5	**8.4**	13.5	**8.4**
3rd	24.3	**15.1**	23.7	**14.7**	23.5	**14.6**
4th	38.8	**24.0**	41.5	**25.8**		—
Hydraulic Cycle Time, Rated Load in Bucket:	**Seconds**		**Seconds**		**Seconds**	
Raise	**5.9**		**6.0**		**9.4**	
Dump	**2.1**		**2.0**		**2.4**	
Lower (Empty, Float Down)	**2.4**		**3.4**		**3.8**	
Total	**10.4**		**11.4**		**15.6**	
Tread Width	2.23 m	**7'4"**	2.44 m	**8'0"**	2.59 m	**8'6"**
Width Over Tires	2.96 m	**9'9"**	3.25 m	**10'8"**	3.54 m	**11'7"**
Ground Clearance	565 mm	**22"**	442 mm	**17.4"**	549 mm	**22"**
Fuel Tank Capacity	410 L	**108 U.S. gal**	479 L	**127 U.S. gal**	725 L	**191 U.S. gal**
Hydraulic Tank Capacity	110 L	**29 U.S. gal**	125 L	**33 U.S. gal**	267 L	**70 U.S. gal**
Hydraulic System Capacity (includes tank)	200 L	**52 U.S. gal**	250 L	**66 U.S. gal**	470 L	**124 U.S. gal**

*Changes in bucket weight, including field installed wear iron, can impact rated payload. Consult your Caterpillar dealer for assistance in selecting and configuring the proper bucket for the application. Caterpillar's Large Wheel Loader Payload Policy is a guideline intended to maximize wheel loader structural and component life. Caterpillar's Payload Policy is that the "Gross Bucket plus Payload Capacity" is the MAXIMUM weight that should be carried on the end of the Lift Arm/Boom.

Bucket Type		General Purpose						Waste/Ag	Woodchip
Ground Engaging Type		Bolt-on Cutting Edges		Bolt-on Teeth & Segments		Bolt-on Teeth		Bolt-on Cutting Edge	Bolt-on Cutting Edge
Rated bucket capacity	m^3	1.8	2.1	1.8	2.1	1.7	2.0	2.8	5.0
	yd^3	**2.3**	**2.7**	**2.3**	**2.7**	**2.2**	**2.6**	**3.6**	**6.5**
Struck capacity	m^3	1.5	1.7	1.5	1.7	1.4	1.6	2.3	4.1
	yd^3	**2.0**	**2.2**	**2.0**	**2.2**	**1.8**	**2.1**	**3.0**	**5.4**
Bucket width	mm	2550	2550	2585	2585	2585	2585	2550	3392
	ft/in	**8'4"**	**8'4"**	**8'6"**	**8'6"**	**8'6"**	**8'6"**	**8'4"**	**11'2"**
Dump clearance at full lift and 45° discharge (§)	mm	3426	3358	3322	3253	3322	3253	3221	3093
	ft/in	**11'3"**	**11'1"**	**10'11"**	**10'9"**	**10'11"**	**10'9"**	**10'7"**	**10'2"**
Reach at full tilt and 45° discharge (§)	mm	886	954	989	1057	989	1057	1093	1049
	ft/in	**2'11"**	**3'2"**	**3'3"**	**3'6"**	**3'3"**	**3'6"**	**3'7"**	**3'5"**
Reach at 45° discharge and 2130 mm **(7'0")** clearance (§)	mm	1876	1914	1933	1968	1933	1968	1987	1875
	ft/in	**6'2"**	**6'3"**	**6'4"**	**6'5"**	**6'4"**	**6'5"**	**6'6"**	**6'2"**
Reach with lift arms horizontal and bucket level	mm	2546	2643	2692	2789	2692	2789	2836	2920
	ft/in	**8'4"**	**8'8"**	**8'10"**	**9'2"**	**8'10"**	**9'2"**	**9'4"**	**9'7"**
Digging depth (§)	mm	74	82	74	82	49	57	99	99
	in	**2.9**	**3.2**	**2.9**	**3.2**	**1.9**	**2.2**	**3.9**	**3.9**
Overall length	mm	7518	7620	7664	7766	7649	7749	7965	7909
	ft/in	**24'8"**	**25'0"**	**25'2"**	**25'6"**	**25'1"**	**25'5"**	**26'2"**	**25'11"**
Overall height with bucket at full raise (§)	mm	5595	5707	5595	5707	5595	5707	5830	6076
	ft/in	**18'4"**	**18'9"**	**18'4"**	**18'9"**	**18'4"**	**18'9"**	**19'2"**	**19'11"**
Loader clearance radius with bucket in carry position (§)	mm	5801	5831	5862	5892	5862	5892	5892	6285
	ft/in	**19'0"**	**19'2"**	**19'3"**	**19'4"**	**19'3"**	**19'4"**	**19'4"**	**20'7"**
Static tipping load straight (§)	kg	7107	7048	6946	6884	7103	6988	6827	6494
	lb	**15,668**	**15,538**	**15,313**	**15,177**	**15,660**	**15,406**	**15,051**	**14,317**
Static tipping load with 40° turn (§)	kg	6188	6131	6026	5968	6176	6071	5923	5591
	lb	**13,642**	**13,517**	**13,285**	**13,157**	**13,616**	**13,384**	**13,058**	**12,326**
Breakout force (§)	kg	11 445	10 396	11 332	10 282	12 268	11 064	8747	8050
	lb	**25,232**	**22,919**	**24,982**	**22,668**	**27,046**	**24,392**	**19,283**	**17,747**
Operating weight	kg	11 300	11 328	11 435	11 463	11 349	11 377	11 446	11 781
	lb	**24,913**	**24,975**	**25,210**	**25,272**	**25,021**	**25,083**	**25,235**	**25,973**

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader rating, denoted in the text by (§).

	Change in Operating Weight		Change in Articulated Static Tipping Load	
	kg	**lb**	**kg**	**lb**
Without Air conditioner	– 32	**– 70**	– 27	**– 60**
Canopy, ROPS (less cab)	– 199	**– 439**	– 166	**– 366**
Counterweight, 175 kg **(385 lb)** (removal)	– 175	**– 386**	– 273	**– 602**
Without Guard, crankcase	– 15	**– 33**	– 19	**– 42**
Without Guard, driveshaft	– 17	**– 37**	– 5	**– 12**
Without Guard, power train	– 52	**– 114**	– 47	**– 104**
Without Ride Control System	– 40	**– 88**	– 27	**– 60**
Without Secondary steering	– 37	**– 81**	– 31	**– 69**
Tires, 1-piece rims				
17.5-25, 12PR (L-2)	– 652	**– 1437**	– 371	**– 818**
17.5-25, 12PR (L-3)	– 580	**– 1279**	– 330	**– 728**
17.5-25, Radial (L-2)	– 612	**– 1349**	– 348	**– 768**
17.5-25, Radial (L-3)	– 512	**– 1129**	– 292	**– 644**
Tires, 3-piece rims				
17.5-25, 12PR (L-2)	– 528	**– 1164**	– 301	**– 664**
17.5-25, 12PR (L-3)	– 456	**– 1005**	– 260	**– 574**
17.5-25, Radial (L-2)	– 488	**– 1076**	– 278	**– 613**
17.5-25, Radial (L-3)	– 388	**– 855**	– 221	**– 488**
550/65 R25, Radial (L-2)	– 196	**– 432**	– 112	**– 247**
550/65 R25, Radial (L-3)	– 136	**– 300**	– 78	**– 172**
20.5-25, 12PR (L-2)	– 240	**– 529**	– 137	**– 303**
20.5-25, 12PR (L-3)	– 36	**– 79**	– 21	**– 47**
20.5 R25, Radial (L-2)	– 172	**– 379**	– 98	**– 217**
20.5 R25, Radial (L-3)	0	**0**	0	**0**

Bucket Type		**High Density General Purpose**						**Ejector**	**Woodchip**
Ground Engaging Type		**Bolt-on Cutting Edges**		**Bolt-on Teeth & Segments**		**Bolt-on Teeth**		**Bolt-on Cutting Edge**	**Bolt-on Cutting Edge**
Rated bucket capacity	m^3	2.1	2.3	2.1	2.3	2.0	2.1	3.1	5.0
	yd^3	**2.7**	**3.0**	**2.7**	**3.0**	**2.6**	**2.7**	**4.0**	**6.5**
Struck capacity	m^3	1.7	1.9	1.7	1.9	1.6	1.8	2.6	4.1
	yd^3	**2.2**	**2.5**	**2.2**	**2.5**	**2.1**	**2.4**	**3.4**	**5.3**
Bucket width	mm	2550	2550	2585	2585	2585	2585	2550	3392
	ft/in	**8'4"**	**8'4"**	**8'6"**	**8'6"**	**8'6"**	**8'6"**	**8'4"**	**11'2"**
Dump clearance at full lift and 45° discharge (§)	mm	3436	3402	3332	3298	3332	3298	3238	3171
	ft/in	**11'3"**	**11'2"**	**10'11"**	**10'10"**	**10'11"**	**10'10"**	**10'7"**	**10'5"**
Reach at full tilt and 45° discharge (§)	mm	1073	1114	1176	1217	1176	1217	980	1188
	ft/in	**3'6"**	**3'8"**	**3'10"**	**4'0"**	**3'10"**	**4'0"**	**3'3"**	**3'11"**
Reach at 45° discharge and 2130 mm **(7'0")** clearance (§)	mm	2135	2161	2191	2215	2191	2215	1948	2121
	ft/in	**7'0"**	**7'1"**	**7'2"**	**7'3"**	**7'2"**	**7'3"**	**6'5"**	**7'0"**
Reach with lift arms horizontal and bucket level	mm	2919	2972	3065	3118	3065	3118	3017	3212
	ft/in	**9'7"**	**9'9"**	**10'1"**	**10'3"**	**10'1"**	**10'3"**	**9'11"**	**10'6"**
Digging depth (§)	mm	157	162	170	175	170	175	249	149
	in	**6.2**	**6.4**	**6.7**	**6.9**	**6.7**	**6.9**	**9.8**	**5.9**
Overall length	mm	7877	7933	8023	8079	8007	8063	8033	8165
	ft/in	**25'10"**	**26'0"**	**26'4"**	**26'6"**	**26'3"**	**26'5"**	**26'4"**	**26'9"**
Overall height with bucket at full raise (§)	mm	5835	5843	5835	5843	5835	5843	6238	6252
	ft/in	**19'2"**	**19'2"**	**19'2"**	**19'2"**	**19'2"**	**19'2"**	**20'6"**	**20'6"**
Loader clearance radius with bucket in carry position (§)	mm	12 089	12 122	12 211	12 244	12 211	12 244	12 202	12 974
	ft/in	**39'8"**	**39'9"**	**40'1"**	**40'2"**	**40'1"**	**40'2"**	**40'0"**	**42'7"**
Static tipping load straight (§)	kg	7696	7612	7535	7450	7637	7553	7219	7121
	lb	**16,967**	**16,782**	**16,612**	**16,425**	**16,837**	**16,652**	**15,915**	**15,699**
Static tipping load with 40° turn (§)	kg	6662	6582	6501	6420	6603	6523	6200	6101
	lb	**14,687**	**14,511**	**14,332**	**14,154**	**14,557**	**14,381**	**13,669**	**13,450**
Breakout force (§) — SAME	kg	14 751	14 103	14 617	13 969	15 583	14 865	13 427	11 464
	lb	**32,521**	**31,092**	**32,225**	**30,797**	**34,355**	**32,772**	**29,602**	**25,274**
Operating weight	kg	13 172	13 227	13 307	13 362	13 222	13 277	13 586	13 616
	lb	**29,039**	**29,161**	**29,337**	**29,458**	**29,150**	**29,271**	**29,952**	**30,018**

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader rating, denoted in the text by (§).

	Change in Operating Weight		**Change in Articulated Static Tipping Load**	
	kg	**lb**	**kg**	**lb**
Without air conditioner	– 37	**– 82**	– 59	**– 130**
Canopy, ROPS (less cab)	– 218	**– 481**	– 149	**– 328**
Counterweight, 175 kg **(385 lb)** (removal)	– 470	**– 1036**	– 658	**– 1451**
Without Guard, crankcase	– 16	**– 35**	– 20	**– 44**
Without Guard, driveshaft	– 17	**– 37**	– 12	**– 26**
Without Guard, power train	– 58	**– 128**	– 49	**– 108**
Without Ride Control System	– 45	**– 99**	– 24	**– 53**
Without Secondary steering	– 17	**– 37**	– 20	**– 44**
Tires, 1-piece rims				
17.5-25, 12PR (L-2)	– 868	**– 1914**	– 486	**– 1071**
17.5-25, 12PR (L-3)	– 796	**– 1755**	– 446	**– 983**
17.5-25, Radial (L-2)	– 828	**– 1825**	– 464	**– 1023**
17.5-25, Radial (L-3)	– 728	**– 1605**	– 408	**– 899**
Tires, 3-piece rims				
17.5-25, 12PR (L-2)	– 744	**– 1640**	– 417	**– 919**
17.5-25, 12PR (L-3)	– 672	**– 1482**	– 376	**– 829**
17.5-25, Radial (L-2)	– 704	**– 1552**	– 394	**– 869**
17.5-25, Radial (L-3)	– 604	**– 1332**	– 338	**– 745**
20.5-25, 12PR (L-2)	– 456	**– 1005**	– 255	**– 562**
20.5-25, 12PR (L-3)	– 252	**– 556**	– 141	**– 311**
20.5 R25, Radial (L-2)	– 388	**– 855**	– 217	**– 478**
20.5 R25, Radial (L-3)	– 216	**– 476**	– 121	**– 267**
600/65R25, Radial (L-3) Michelin	– 212	**– 476**	– 119	**– 262**
600/65R25, Radial (L-3) Goodyear	0	**0**	0	**0**

Bucket Type		General Purpose									High Lift Arrangement****
Ground Engaging Type		Bolt-on Edges	Teeth & Segments*	Teeth*	Bolt-on Edges	Teeth & Segments*	Teeth*	Bolt-on Edges	Teeth & Segments*	Teeth*	
Rated bucket capacity (§)	m^3	4.0	4.0	3.8	3.8	3.8	3.65	3.65	3.65	3.5	—
	yd^3	**5.25**	**5.25**	**5.0**	**5.0**	**5.0**	**4.75**	**4.75**	**4.75**	**4.5**	**—**
Struck capacity (§)	m^3	3.43	3.43	3.28	3.27	3.27	3.12	3.1	3.1	2.96	—
	yd^3	**4.46**	**4.46**	**4.27**	**4.25**	**4.25**	**4.06**	**4.04**	**4.04**	**3.85**	**—**
Bucket width (§)	mm	3059	3145	3145	3059	3145	3145	3059	3145	3145	—
	ft/in	**10'0"**	**10'4"**	**10'4"**	**10'0"**	**10'4"**	**10'4"**	**10'0"**	**10'4"**	**10'4"**	**—**
Dump clearance at full lift and 45° discharge (§)	mm	3086	2934	2934	3119	2968	2968	3154	3005	3005	+780
	ft/in	**10'1"**	**9'8"**	**9'8"**	**10'3"**	**9'9"**	**9'9"**	**10'4"**	**9'10"**	**9'10"**	**+2'7"**
Reach at full lift and 45° discharge (§)	mm	1294	1434	1434	1270	1411	1411	1247	1389	1389	–16
	ft/in	**4'3"**	**4'8"**	**4'8"**	**4'2"**	**4'8"**	**4'8"**	**4'1"**	**4'7"**	**4'7"**	**–0'1"**
Reach with lift arms horizontal and bucket level	mm	2707	2912	2912	2665	2870	2870	2622	2827	2827	+404
	ft/in	**8'11"**	**9'7"**	**9'7"**	**8'9"**	**9'5"**	**9'5"**	**8'7"**	**9'3"**	**9'3"**	**+1'4"**
Digging depth (§)	mm	108	108	78	108	108	78	108	105	78	+0
	in	**4.3**	**4.3**	**3.1**	**4.3**	**4.3**	**3.1**	**4.3**	**4.3**	**4.32**	**+0**
Overall length (§)	mm	8855	9080	9080	8813	9038	9038	8770	8995	8995	+328
	ft/in	**29'1"**	**29'9"**	**49'9"**	**28'11"**	**29'8"**	**29'8"**	**28'9"**	**24'6"**	**29'6"**	**+1'1"**
Overall height with bucket at full raise (§)	mm	5853	5853	5853	5814	5814	5814	5775	5775	5775	+549
	ft/in	**19'2"**	**19'2"**	**19'2"**	**19'1"**	**19'1"**	**19'1"**	**18'11"**	**18'11"**	**18'11"**	**+1'10"**
Loader clearance circle with bucket in carry position (§)	m	14.57	14.78	14.78	14.55	14.76	14.76	14.57	14.73	14.73	+124
	ft/in	**47'10"**	**48'6"**	**48'6"**	**47'9"**	**48'5"**	**48'5"**	**47'8"**	**47'8"**	**47'8"**	**+0'5"**
Static tipping load, straight** (§)	kg	17 382	17 196	17 655	17 425	17 290	17 649	17 585	17 401	17 763	+177
	lb	**38,327**	**37,917**	**38,929**	**38,532**	**38,124**	**38,916**	**38,775**	**38,369**	**39,167**	**+390**
Static tipping load, full 40° turn** (§)	kg	15 472	15 286	15 626	15 560	15 375	15 717	15 665	15 480	15 824	–3
	lb	**34,116**	**33,706**	**34,455**	**34,310**	**33,902**	**34,656**	**34,541**	**34,133**	**34,892**	**–7**
Breakout force*** (§)	kN	188	186.4	200.2	194.5	192.9	207.6	201.8	200.2	215.9	–12.7
	lb	**42,299**	**41,930**	**45,038**	**43,765**	**43,394**	**46,702**	**45,408**	**45,035**	**48,568**	**–2858**
Operating weight** (§)	kg	23 622	23 762	23 610	23 588	23 728	23 576	23 532	23 672	23 520	+1746
	lb	**52,087**	**52,395**	**52,060**	**52,012**	**52,320**	**51,985**	**51,888**	**52,197**	**51,862**	**+3850**

*Dimensions are measured to the tip of the bucket teeth to provide accurate clearance data. SAE Standards specifies the cutting edge.

**Static tipping load and operating weight shown are based on standard machine configuration with 26.5-R25, XHA (L-4) tires, power train guard, roading fenders, full fuel tank, coolant, lubricants, air conditioning, ride control and operator.

***Measured 102 mm **(4")** behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 JUN92.

****All buckets shown can be used on the high lift arrangement. High lift column shows changes in specifications from standard lift to high lift. Add or subtract as indicated to or from specifications given for appropriate bucket to calculate high lift specifications.

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader rating, denoted in the text by (§).

	Width over tires		Change in vertical dimensions		Change in operating weight		Change in static tipping load	
	mm	in	mm	in	kg	lb	kg	lb
26.5R25 GP2B GY L2 radial	3012	**119**	–20	**–0.8**	– 82	**– 181**	– 67	**– 148**
26.5R25 VMT BS L3 radial	3015	**119**	–30	**–1.2**	+ 48	**+ 106**	– 45	**– 99**
26.5R25 RT3B GY L3 radial	3017	**119**	–20	**–0.8**	– 24	**– 53**	– 24	**– 53**
26.5R25 XHA MX L3 radial	3017	**119**	–20	**–0.8**	– 34	**– 75**	– 31	**– 68**
26.5R25 VSDL BS L5 radial	2956	**116**	0	**0.0**	+1214	**+2677**	+906	**+1998**
750/65R25 MX L3 radial low profile	3076	**121**	–20	**–0.8**	– 262	**– 578**	– 52	**– 115**
26.5-25 20 PR SRG FS L3 bias	2992	**118**	–44	**–1.7**	– 358	**– 789**	–492	**–1085**
26.5-25 20 PR SHRL GY L3 bias	2974	**117**	–20	**–0.8**	+ 7	**+ 15**	–158	**– 348**
26.5-25 SRG DT FS LDL4 bias	3002	**118**	0	**0.0**	0	**0**	0	**0**

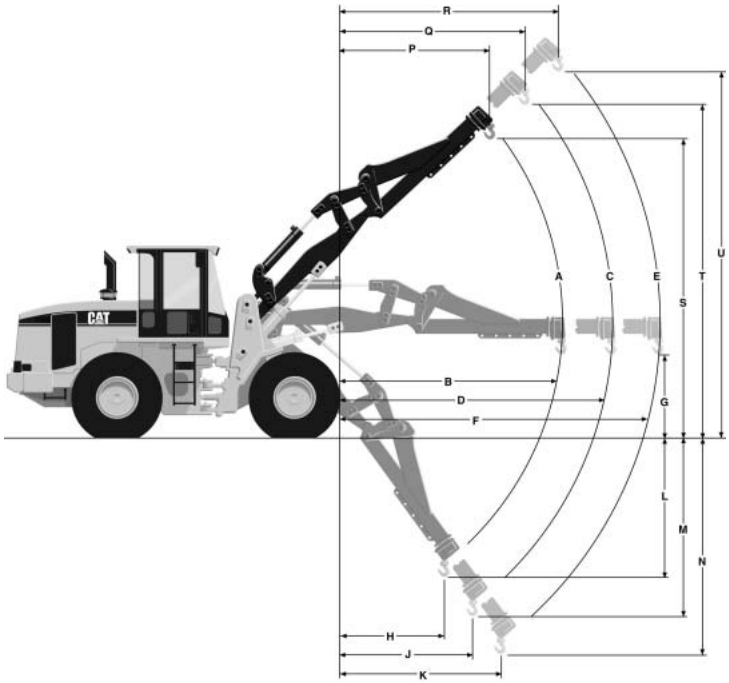
NOTE: Tread width for 26.5-25 is 2230 mm **(7'4")**.

		Spade Edge Rock Buckets With Teeth and Segment			Spade Edge Rock Buckets With MAA		High Lift	50/80-57 Tires
Rated bucket capacity (§)	m^3 **yd^3**	15.0 **19.5**	17.0 **22.5**	19.0 **24.5**	17.0 **22.5**	19.0 **24.5**	Same **Same**	Same **Same**
Struck capacity (§)	m^3 **yd^3**	12.8 **15.5**	14.0 **18.0**	15.0 **20.0**	14.0 **18.0**	15.0 **20.0**	Same **Same**	Same **Same**
Bucket width (§)	mm **ft/in**	5650 **18'6"**	5650 **18'6"**	5650 **18'6"**	5740 **18'10"**	5740 **18'10"**	Same **Same**	Same **Same**
Dump clearance at full lift and 45° discharge (§)	mm **ft/in**	5799 **19'0"**	5698 **18'8"**	5592 **18'4"**	5607 **18'5"**	5502 **18'1"**	+339 **+1'1"**	–180 **–7"**
Reach at full lift and 45° discharge (§)	mm **ft/in**	2055 **6'9"**	2157 **7'1"**	2263 **7'5"**	2246 **7'4"**	2351 **7'9"**	+562 **+1'10"**	+180 **+7"**
Reach with lift arms horizontal and bucket level	mm **ft/in**	4912 **16'1"**	5056 **16'7"**	5206 **17'1"**	5183 **17'0"**	5333 **17'6"**	+640 **+2'2"**	+180 **+7"**
Digging depth (§)	mm **in**	68 **3.0**	68 **3.0**	68 **3.0**	68 **3.0**	68 **3.0**	+14 **+0.5**	+180 **+7"**
Overall length (§)	mm **ft/in**	16 621 **54'6"**	16 659 **54'8"**	16 809 **55'2"**	16 892 **55'5"**	17 042 **55'11"**	+780 **+2'3"**	+120 **+5"**
Overall height with bucket at full raise (§)	mm **ft/in**	10 786 **35'5"**	10 916 **35'10"**	10 996 **36'1"**	11 036 **36'2"**	11 174 **36'8"**	+340 **+1'1"**	–180 **–7"**
Loader clearance circle with bucket in carry position (§)	m **ft/in**	25.14 **82'6"**	25.36 **83'2"**	25.44 **83'6"**	25.56 **83'10"**	25.78 **84'8"**	+299 **+1'0"**	+64 **+3"**
Static tipping load, straight** (§)	kg **lb**	126 758 **279,453**	125 829 **277,405**	124 764 **275,057**	125 278 **276,190**	124 495 **274,464**	†0.82 **†0.82**	†1.02 **†1.02**
Static tipping load, full 40° turn** (§)	kg **lb**	107 095 **236,104**	106 166 **234,056**	105 101 **231,708**	105 615 **232,841**	104 832 **231,115**	†0.80 **†0.80**	†1.02 **†1.02**
Breakout force*** (§)	kN **lb**	1057 **237,825**	950 **213,750**	886 **199,350**	961 **216,225**	923 **207,675**	†0.96 **†0.96**	†1.00 **†1.00**
Operating weight** (§)	kg **lb**	189 343 **417,429**	190 229 **419,383**	191 244 **421,620**	190 754 **420,580**	191 500 **422,185**	+2553 **+5630**	–4681 **–10,320**

*Dimensions are measured to the tip of the bucket teeth to provide accurate clearance data. SAE Standards specifies the cutting edge.
**Static tipping load and operating weight shown are based on standard machine configuration with 53.5/85-57 tires, full fuel tank, coolant and lubricants.
***Measured 102 mm **(4")** behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732 JUN92.
†Factor multiplied by standard arrangement data to get high lift arrangement value.

NOTE: Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers (SAE). SAE Standards J732 JUN92 and J742 FEB85 govern loader ratings, denoted in the text by (§).

For IT14G and 924G machines equipped with 15.5-25 L-2 tires subtract 39 mm **(1.5")** from lift height — add 39 mm **(1.5")** for below ground measurements — add 42 mm **(1.7")** for all reach measurements.



MODEL	IT14G		924G* Standard		924G* High Lift	
A Operating load (retracted) @ full articulation	1370 kg	**3021 lb**	1965 kg	**4332 lb**	1718 kg	**3786 lb**
B Reach horizontal (retracted)	3179 mm	**10'5"**	3221 mm	**10'7"**	3612 mm	**11'11"**
C Operating load (mid-position) @ full articulation	1076 kg	**2373 lb**	1558 kg	**3434 lb**	1387 kg	**3057 lb**
D Reach horizontal (mid-position)	4178 mm	**13'8"**	4220 mm	**13'10"**	4610 mm	**15'1"**
E Operating load (extended) @ full articulation	888 kg	**1958 lb**	1278 kg	**2816 lb**	1164 kg	**2566 lb**
F Reach horizontal (extended)	5178 mm	**17'0"**	5220 mm	**17'1"**	5611 mm	**18'4"**
G Clearance horizontal	1585 mm	**5'2"**	1602 mm	**5'3"**	1603 mm	**5'3"**
H Reach full down (retracted)	1514 mm	**4'11"**	858 mm	**2'9"**	1631 mm	**5'4"**
J Reach full down (mid-position)	2116 mm	**6'11"**	1166 mm	**3'9"**	2058 mm	**6'9"**
K Reach full down (extended)	2719 mm	**8'11"**	1475 mm	**4'10"**	2485 mm	**8'1"**
L Clearance full down (retracted)	1874 mm	**6'2"**	2138 mm	**7'0"**	2063 mm	**6'9"**
M Clearance full down (mid-position)	2670 mm	**8'9"**	3088 mm	**10'1"**	2967 mm	**9'8"**
N Clearance full down (extended)	3468 mm	**11'5"**	4039 mm	**13'3"**	3871 mm	**12'8"**
P Reach at maximum height (retracted)	1402 mm	**4'7"**	2355 mm	**7'9"**	2077 mm	**6'10"**
Q Reach at maximum height (mid-position)	1962 mm	**6'5"**	1881 mm	**6'3"**	1670 mm	**5'6"**
R Reach at maximum height (extended)	2522 mm	**8'2"**	1407 mm	**4'8"**	1264 mm	**4'2"**
S Clearance at maximum height (retracted)	5185 mm	**17'0"**	7197 mm	**23'8"**	7853 mm	**25'10"**
T Clearance at maximum height (mid-position)	6012 mm	**19'9"**	6317 mm	**20'8"**	6940 mm	**22'9"**
U Clearance at maximum height (extended)	6840 mm	**22'5"**	5438 mm	**17'10"**	6027 mm	**19'9"**
Tires	**17.5R25**		**20.5R25 (L-3)**		**20.5R25 (L-3)**	

*VersaLink/Hook On.

Fork Rating

Table indicates rated pallet fork load at standard machine configuration, 600 mm (24") load center, 1200 mm (3'11") fork on IT14G-930G and 1220 mm (4'0") fork on IT38G Series II-IT62H, see operator manual to determine rated load for vehicle configuration being used.

Model	kg	lb	Model	kg	lb
IT14G	1870	**4123**	**930G Standard**	3208	**7072**
924G Standard	2462	**5416**	**930G High Lift**	2761	**6087**
924G High Lift	2098	**4616**	**IT38G II**	3109	**6855**
			IT62H	3877	**8548**

Bucket Rating

Bucket capacity, SAE J742 FEB85 (nominally heaped)

Table indicates rated load at vehicle configuration noted by the asterisks. See operator manual to determine rated load for vehicle configuration being used.

1.4 m^3 (1.75 yd^3) with Bolt-on Cutting Edge		
IT14G*	2273 kg	**5000 lb**
1.8 m^3 (2.35 yd^3) with Bolt-on Cutting Edge		
924G Standard**	3253 kg	**7156 lb**
924G High Lift	2629 kg	**5795 lb**
2.0 m^3 (2.6 yd^3) with Bolt-on Cutting Edge		
924G Standard**	3204 kg	**7063 lb**
924G High Lift**	2591 kg	**5712 lb**
2.1 m^3 (2.75 yd^3) with Bolt-on Cutting Edge		
930G Standard**	4172 kg	**9198 lb**
930G High Lift**	4397 kg	**9694 lb**
2.3 m^3 (3.0 yd^3) with Bolt-on Cutting Edge		
IT38G Series II†	3815 kg	**8410 lb**
930G Standard**	4128 kg	**9101 lb**
930G High Lift**	4370 kg	**9634 lb**
2.5 m^3 (3.25 yd^3) with Bolt-on Cutting Edge		
IT38G Series II†	3810 kg	**8400 lb**
930G Standard**	3911 kg	**8622 lb**
930G High Lift**	4219 kg	**9301 lb**
3.1 m^3 (4.0 yd^3) with Bolt-on Cutting Edge		
IT62H††	5644 kg	**12,440 lb**
3.3 m^3 (4.25 yd^3) with Bolt-on Cutting Edge		
IT62H††	5613 kg	**12,370 lb**

*Specifications shown are for high-speed version IT14G and include lubricants, full fuel tank, ROPS cab, 80 kg **(176 lb)** operator, standard 250 kg **(550 lb)** counterweight and 17.5-R25 (L-2 equivalent) tires.

Specifications shown include lubricants, full fuel tank, ROPS cab, 80 kg **(176 lb) operator and 17.5 x 25, 12 PR (L-2) tires.

†Std. machine with sound suppressed cab, ROPS, 20.5-R25, XTLA (L-2) tires, full fuel tank, coolant, lubricants and operator.

††Std. machine with 23.5-R25, XHA (L-3) tires, air conditioning, crank case and power train guards, full fuel tank, coolant, lubricants and operator.

The charts explain each machine's maximum payload. The maximum material density would be determined by dividing the payload by the bucket capacity. If the actual material density exceeds the recommended material density, the process should be repeated to select the properly sized bucket.

A similar procedure would be used with the forks and material handling arm to determine maximum recommended lifting capacity and/or required IT model size.

Pallet Fork

The pallet fork will fulfill many material handling needs. A modified Class 3 fork carriage provides visi-bility to the tines for precision pallet work. This car-riage with non-standard spacing accepts many Class 3 lift truck attachments.

Pallet fork rated operating loads are based on the following:

SAE J1197 FEB91: 50% of the full turn static tipping load or the hydraulic/structural limitations.

CEN 474-3 (European standard): 60% of the full static tipping load on rough terrain or the hydraulic/structural limitations. 80% of the full turn static tipping load on firm, level ground or the structural/hydraulic limitation. Other local, regional or international guidelines may also apply.

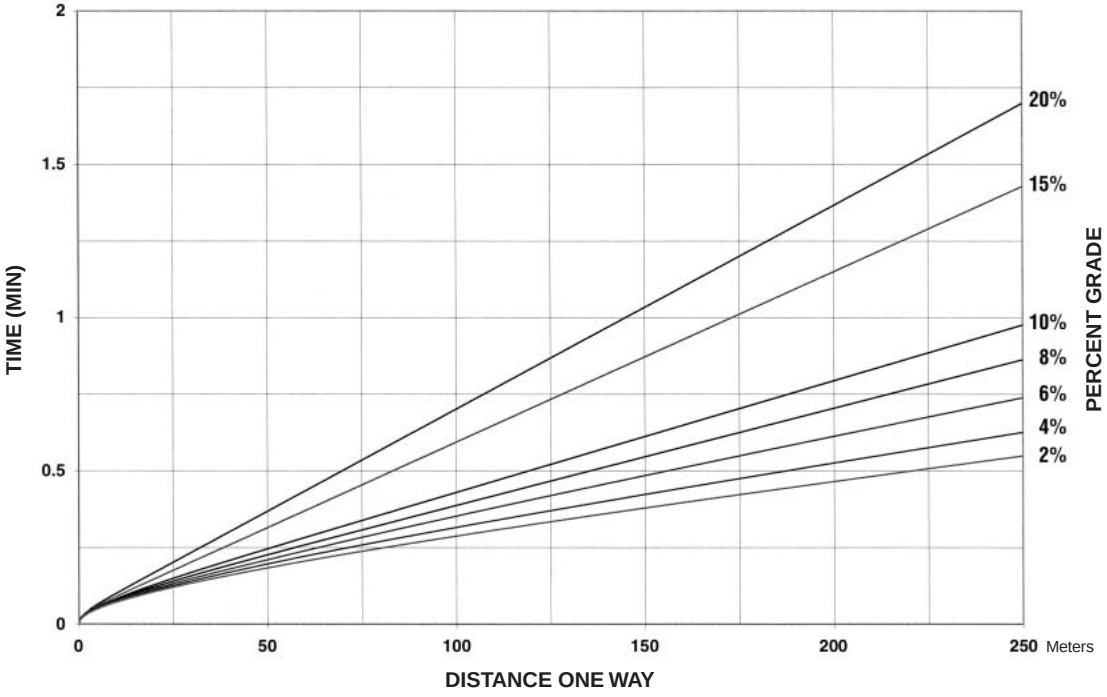
If operation is on rough ground these criteria may need modification. In this instance, the size and rating of existing equipment should be considered.

Sizing for pallet work generally consists of answering the following questions.

1. What are the average loaded pallet dimensions?
2. Lift Capacity — what capacity is required to lift and move the average pallet load? The maximum pallet load?
3. Lift Height — can the machine reach the top level of the standard pallet stack? What are the maximum reach, lift and height requirements?
4. Maneuverability — can the machine work around the current aisle configuration? In the stacking aisles? Main aisles? Intersecting aisles? Are 90° turns required in any aisle for material placement?
5. Length — what tine length is required to fit the commonly used pallets? (1219 mm [4'0"] tines are standard length for most palletized material.)
6. Any machine height restrictions?
7. Any special fork configurations required?

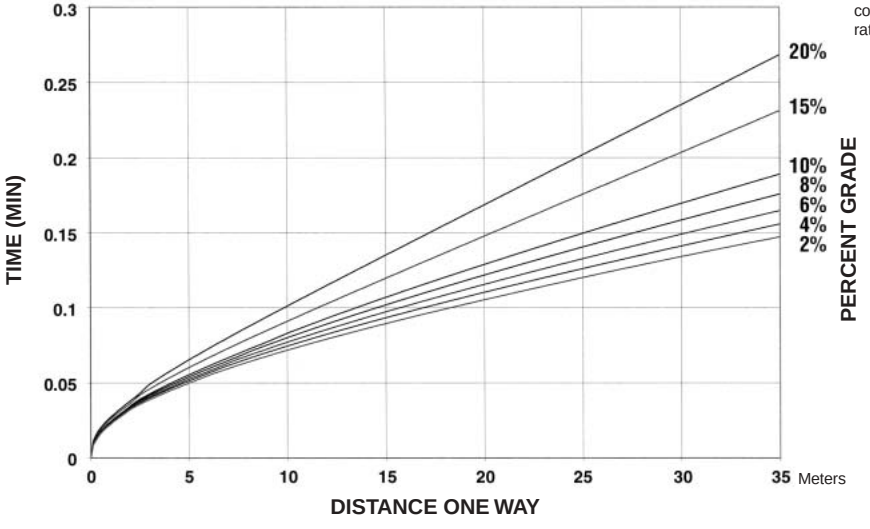
Lift capacity, lift height, aisle configuration and tine length are the most important considerations in recommending a pallet handling machine.

950H TRAVEL TIME — EMPTY

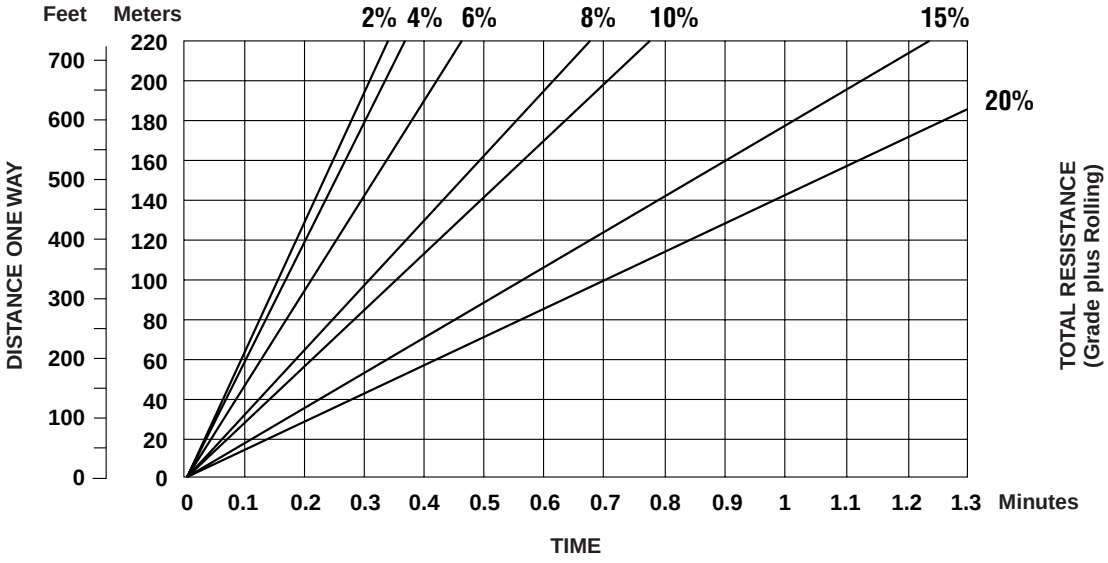


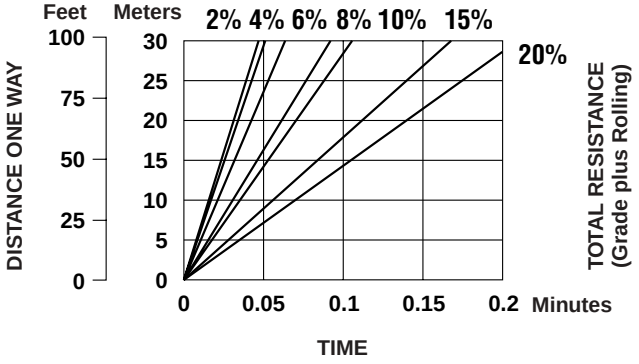
Travel times assume maximum governor pedal depression and automatic shifting for any VSC setting.

In load and carry applications it is important to consult the tire manufacturer on Ton-MPH ratings and pressure recommendations.



988G TRAVEL TIME — LOADED



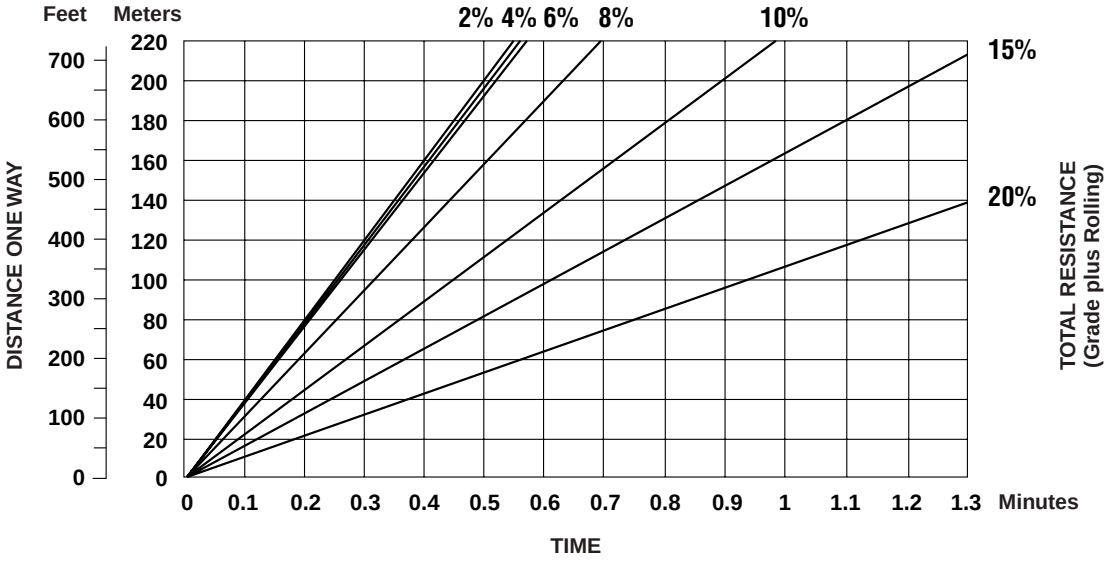


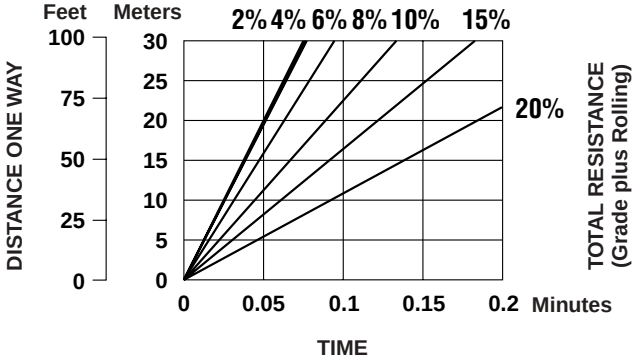
NOTE: Curves assume use of highest operating speed attainable: 4th gear for 2%-6% TR, 3rd gear for 8%-10% TR, 2nd gear for 15% and 20% TR.

In load-and-carry applications it is important to consult the tire manufacturer on Ton-MPH ratings and pressure recommendations.

Lock-Up Clutch torque converter is available as an attachment. Contact your Caterpillar Dealer for additional information.

994D TRAVEL TIME — EMPTY





NOTE: Curves assume use of highest operating speed attainable: 3rd gear for 2%-10% TR, 2nd gear for 15% TR, 1st gear for 20% TR.

In load-and-carry applications it is important to consult the tire manufacturer on Ton-MPH ratings and pressure recommendations.

BUCKET	General Purpose Bare		General Purpose Bolt-on Cutting Edge		General Purpose Flush Weld-on Adapters & Long Tips		General Purpose Bolt-on Adapters, Long Tips & Segments	
Capacity, Rated (Nominal Heaped)	2.3 m^3	**3.0 yd^3**	2.45 m^3	**3.2 yd^3**	2.45 m^3	**3.2 yd^3**	2.3 m^3	**3.0 yd^3**
Struck	2.0 m^3	**2.6 yd^3**	2.14 m^3	**2.8 yd^3**	2.14 m^3	**2.8 yd^3**	2.0 m^3	**2.6 yd^3**
Cutting Edge, Type	**Straight**		**Straight**		**—**		**Straight**	
Bucket Width*	2498 mm	**98.3"**	2550 mm	**100.3"**	2539 mm	**99.9"**	2583 mm	**101.7"**
Teeth	**None**		**None**		**8, weld-on plus replaceable tips**		**8, weld-on plus replaceable tips**	
Dump Clearance @ Full Lift and 45° Discharge	3148 mm	**124"**	2936 mm	**116"**	3060 mm	**120"**	2948 mm	**116"**
Reach at 45° Discharge Angle 2133 mm **(7'0")** Clearance	1786 mm	**70.3"**	1966 mm	**77.4"**	1840 mm	**72.4"**	2010 mm	**79"**
Reach @ Full Lift and 45° Discharge	1161 mm	**45"**	1341 mm	**52"**	1215 mm	**48"**	1385 mm	**55"**
Digging Depth	87.2 mm	**3"**	142 mm	**6"**	122.2 mm	**5"**	87.2 mm	**3"**
Ground Clearance from Face of Shoes	396.5 mm	**15.6"**	396.5 mm	**15.6"**	396.5 mm	**15.6"**	396.5 mm	**15.6"**
Overall Machine Width without Bucket (with Standard Track) 500 mm **(20")**	2400 mm	**94.5"**	2400 mm	**94.5"**	2400 mm	**94.5"**	2400 mm	**94.5"**
Overall Machine Width without Bucket (with Narrow Track) 450 mm **(18")**	2200 mm	**86.6"**	2200 mm	**86.6"**	2200 mm	**86.6"**	2200 mm	**86.6"**
Overall Length	6350 mm	**250"**	6625 mm	**261"**	6448 mm	**254"**	6657 mm	**262"**
Overall Height	5319 mm	**209"**	5319 mm	**209"**	5319 mm	**209"**	5319 mm	**209"**
Static Tipping Load	14 080 kg	**30,976 lb**	13 596 kg	**29,911 lb**	13 774 kg	**30,303 lb**	13 982 kg	**30,760 lb**
Breakout Force**	191.7 kN	**43,133 lb**	172.6 kN	**38,835 lb**	173.4 kN	**39,015 lb**	186.7 kN	**42,008 lb**
Operating Weight***	19 253 kg	**42,327 lb**	19 589 kg	**42,096 lb**	19 473 kg	**42,841 lb**	19 354 kg	**42,579 lb**

*With bolt-on cutting edge add 17 mm **(0.67")**, with bolt-on teeth add 52 mm **(2")**, for flush weld-on teeth add 75 mm **(3")**.
Breakout force is measured 100 mm **(3.94") behind tip of cutting edge with bucket hinge pin as pivot point.
***Operating weight includes coolant, lubricants, full fuel tank, ROPS cab, bucket, and 75 kg **(165 lb)** operator.

Machine stability can be affected by the addition of other attachments. Add or subtract the following to/from machine operating weight and static tipping load:

	Change in Operating Weight		Change in Static Tipping Load for General Purpose Bucket	
	kg	**lb**	**kg**	**lb**
ROPS canopy only (cab removed)	–350	**– 772**	– 418	**– 922**
Ripper (includes ripper, rear lines, and third valves)	+215	**+ 474**	+ 339	**+ 747**
Rear bumper (removal)	–582	**–1283**	–1291	**–2846**

13

TRAVEL TIME CHARTS

Conditions:

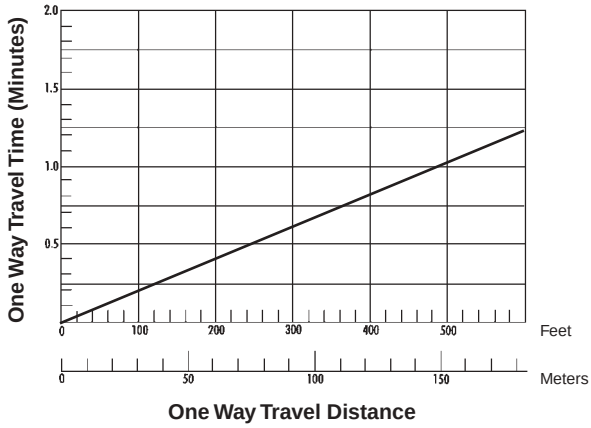
- No grades.
- Speeds loaded and empty essentially the same.
- Bucket position constant during travel.
- Travel encountered in maneuver time portion of cycle not included.
- Acceleration time accounted for in maneuver time.

Travel Time (in minutes) =

$$\textit{Metric} \quad - \frac{\text{number of meters traveled}}{\text{speed (in km/h)} \times 16.67}$$

$$\textit{English} \quad - \frac{\text{number of feet traveled}}{\text{speed (in mph)} \times 88}$$

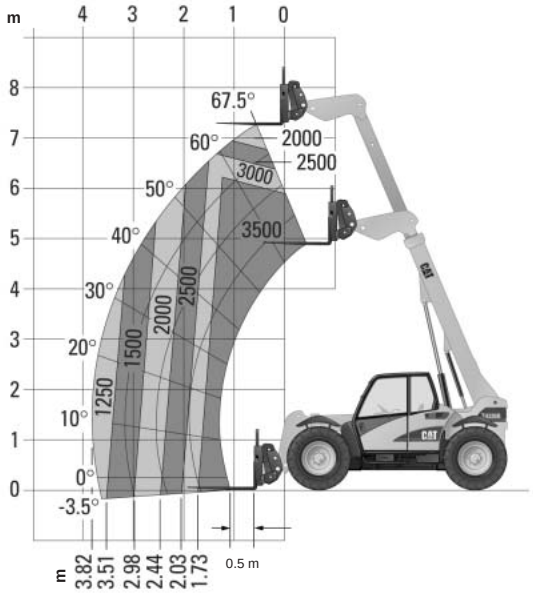
939C



Hydrostatic top speed both forward and reverse 10 km/h **(6.2 mph)**.

TH330B

Non-U.S. Version

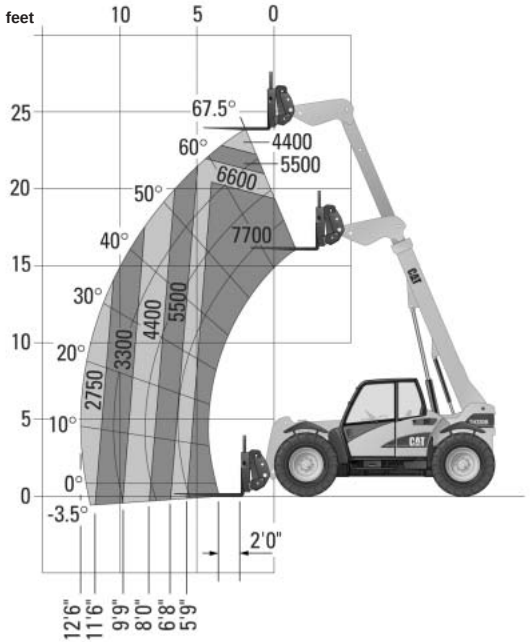


Numbers in chart measured in kilograms.

Maximum lift capacity	3500 kg	**7700 lb**
Maximum lift height	7.2 m	**24'0"**
Load at maximum height	2000 kg	**4400 lb**
Maximum forward reach	3.8 m	**12'6"**
Load at maximum reach	1250 kg	**2750 lb**

TH330B

North American Version



Numbers in chart measured in pounds.

Maximum lift capacity	3200 kg	**7000 lb**
Maximum lift height	7.2 m	**24'0"**
Load at maximum height	2000 kg	**4400 lb**
Maximum forward reach	3.8 m	**12'6"**
Load at maximum reach	1250 kg	**2750 lb**

Tire Selection

Non-U.S. Models		
Model	**Tire Size**	**Tire Type**
TH210	Goodyear 10.5/20*	
	Goodyear 12.5/20	
	Michelin 10.5/80 R20	
	Michelin 12.5/80 R20	
TH215	Goodyear 12.5/20 — Rear Hydrofill*	
	Michelin 335/80 R20 — Rear Hydrofill	
	Michelin 375/75 R20 — Rear Hydrofill	
TH220B	Goodyear SGL 15.5-25 SGL-2A*	Construction
	Michelin XM27 (17.5LR24)	Agricultural
	Mitas 15.5/80-24 16PR	Construction
TH330B	Goodyear SGL 15.5/25 SGL	Construction
	Michelin 15.5 25 XHA	Construction
	Mitas 15.5/80-24 16PR	Construction
	Michelin 440/70 R24 XM37 19.5LR24	Agricultural
	Michelin 500/70 R24XM37 19.5LR24	Agricultural
TH340B	Goodyear 15.5-25 SGL	Construction
	Michelin 17.5LR 24 XM27	Agricultural
	Michelin 15.5 R25 XHA	Construction
	Mitas 15.5/80-24 16PR	Construction

*Standard tire.

Non-U.S. Models		
Model	**Tire Size**	**Tire Type**
TH350B	Goodyear 15.5-25 SGL	Construction
	Michelin 15.5 R25 XHA	Construction
	Mitas 15.5/80-24 16PR	Construction
TH360B	Goodyear 15.5-25 SGL	Construction
	Michelin 15.5 R25 XHA	Construction
	Mitas 15.5/80-24 16PR	Construction
TH460B	Mitas 14.00-24 16PR*	Construction
	Goodyear 14.00-24 SGG 2A TL	Construction
TH560B	Mitas 14.00-24 16PR*	Construction
	Goodyear SGG-2A 16PR	Construction
TH580B	Mitas 14.00-24 16PR*	Construction
	Goodyear 14.00-24 SGG-2A 16PR	Construction

*Standard tire.

RM-250C:

The RM-250C is a medium duty reclaimer/mixer that can perform either full depth reclamation or soil stabilization. It uses a cutting mandrel to pulverize and mix asphaltic pavement and base materials. The machine is utilized to mechanically stabilize deteriorated asphalt structures and complete reclamation with the addition of asphaltic emulsions or other binding agents. The RM-250C can be equipped with attachments that accurately inject liquid additives directly into the mixing hood. Optional rotors can be installed to convert the RM-250C into a soil stabilizer. The internally mounted breaker bar aids in material sizing.

RM-350B:

The RM-350B is a heavy-duty reclaimer/mixer, that can perform either full depth reclamation, or soil stabilization. Rotor options allow the RM-350B to perform the pulverization of asphalt pavement, or the mixing of stabilizing agents with soils to produce a strong base material.

The RM-350B features microprocessor control of major machine systems, including propel speed, rotor depth, and steering modes.

RM-250C Features:

- **Maximum Production** … rotor driven by Cat turbocharged Diesel Engine through mechanical drive system.
- **Highly Efficient** … load-sensing propel system helps prevent overloading while allowing continuous work near rated horsepower.
- **Extremely Versatile** … interchangeable rotors provide both reclamation and stabilization capabilities.
- **Consistent Blending** … automatic depth control, mid-mounted mixing chamber and multi-speed rotor drive combine for optimum blending and increased production.

RM-350B Features:

- **Maximum Production** … mechanical rotor drive, with deep cutting and mixing capability, via Cat turbocharged Diesel Engine and Cat three-speed transmission.
- **Efficient Operation** … Cat Electronic Control Module provides microprocessor control of major machine systems.
- **Highly Maneuverable** … four steering modes with automatic rear wheel alignment simplify work in congested areas.
- **Versatility** … choice of three rotors for full depth reclamation or soil stabilization.
- **Reliability** … field proven Cat components maximize machine availability.

Features:

- **Attaches easily to most pavers.**
- **Allows for continuous paving operations.**
- **High capacity conveyor** with 1905 mm (75") discharge height provides full power hopper loading.
- **Foot shaft combining augers** provide a wide throat for pick up off-center and extra wide windrows.
- **Wide throat** allows machine to pickup windrows from bottom dump trailers, end dump trailers or trucks.
- **Height adjustable scraper** mounted behind combining augers maintains a clean path for paver.
- **Three point suspension** allows machine to closely follow road contours.

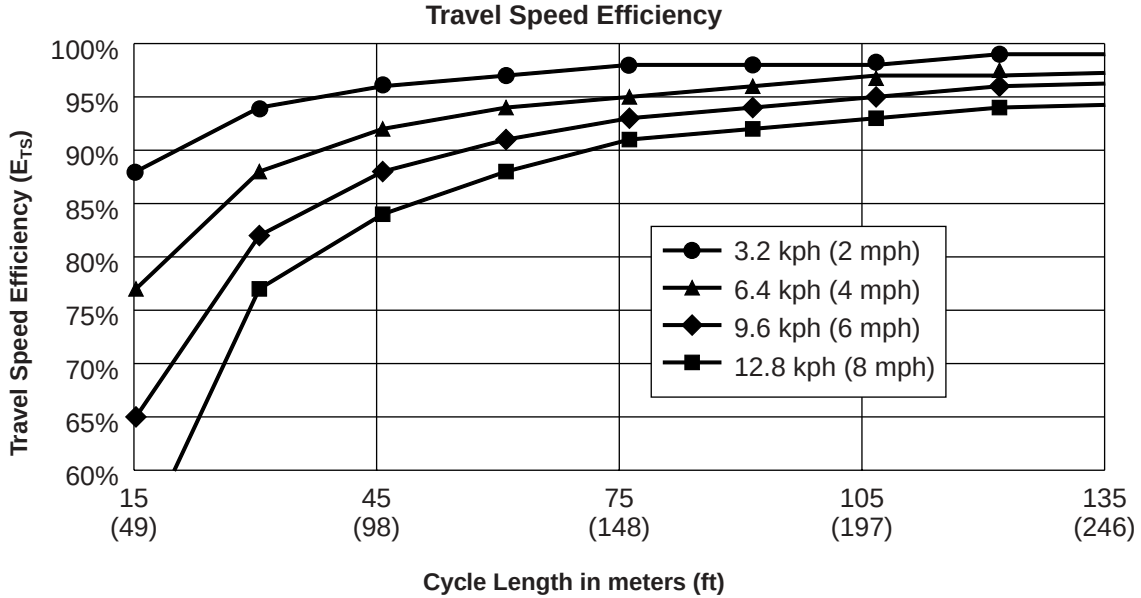
MODEL	BG-650	
Flywheel Power	80 kW	**107 hp**
Engine RPM	**2200**	
Operating Weight	7984 kg	**17,600 lb**
Engine	**3054 DIT**	
Displacement	4 L	**243 in^3**
General Dimensions:		
Operating height	2946 mm	**9'8"**
Shipping height	2946 mm	**9'8"**
Length	4267 mm	**14'0"**
Conveyor:		
Maximum theoretical capacity	1829 (t)/hr	**1800 TPH**
Discharge height	1905 mm	**6'2"**
Width (Throat)	2997 mm	**9'10"**
Width (Slat)	1473 mm	**4'10"**
Lift	203 mm	**8"**
Tires:		
Front (2)	**7 × 22 Solid Rubber**	
Rear (2)	**8.25 × 15**	
Service Refill Capacities:		
Fuel	151.4 L	**40 U.S. gal**

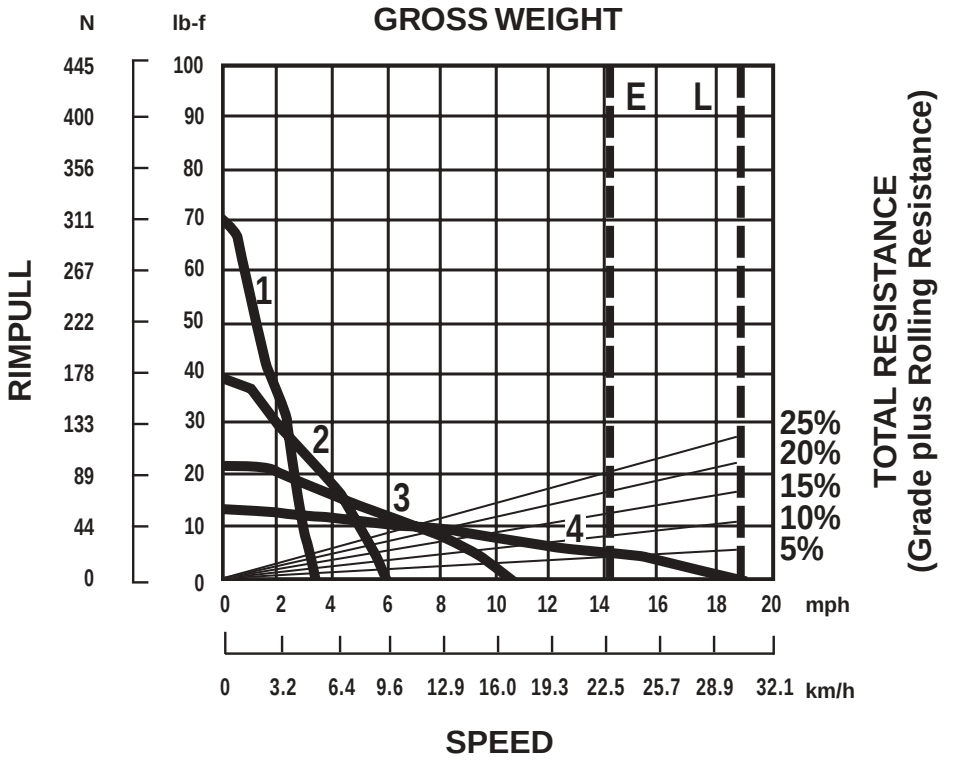
The tables in this section give production estimates for the following assumed conditions:

Nominal machine travel speed: 6.4 kph (4.0 mph)
Overlap of rolling width: 15.2 cm (6.0 inches)

Table values give **representative** production rates for three common construction conditions: trenches, roads, and wide areas (> 15 m, or 50 ft).

Model	Drum Width		Lift Thickness		Passes Required	Production Estimates			
	cm	in	cm	in			3.7 m (12 ft) Trench	9.15 m (30 ft) Road Base	Wide Areas
CS-323C	127	**50**	10.2	**4**	6	m³/hr	80	111	122
						yds³/hr	**104**	**145**	**159**
CS-423E, CS-433E	167.6	**66**	10.2	**4**	4	m³/hr	159	249	249
						yds³/hr	**209**	**326**	**326**
CS-533E, CS-563E	213.4	**84**	15.2	**6**	6	m³/hr	239	299	324
						yds³/hr	**313**	**391**	**424**
CS-573E	213.4	**84**	15.2	**6**	5	m³/hr	—	373	405
						yds³/hr	**—**	**489**	**530**
CS-583E	213.4	**84**	15.2	**6**	4	m³/hr	—	448	486
						yds³/hr	**—**	**587**	**636**
CS-663E	213.4	**84**	15.2	**12**	6	m³/hr	—	598	648
						yds³/hr	**—**	**782**	**848**
CS-683E	213.4	**84**	15.2	**12**	4	m³/hr	—	896	972
						yds³/hr	**—**	**1174**	**1272**
CP-323C	127	**50**	15.2	**6**	6	m³/hr	120	133	183
						yds³/hr	**156**	**174**	**239**
CP-433E	167.6	**66**	15.2	**6**	6	m³/hr	159	199	249
						yds³/hr	**209**	**261**	**326**
CP-533E, CP-563E	213.4	**84**	30.5	**12**	6	m³/hr	478	478	647
						yds³/hr	**626**	**626**	**847**
CP-663E	213.4	**84**	30.5	**12**	6	m³/hr	—	598	648
						yds³/hr	**—**	**782**	**848**





KEY

1 — 1st Gear
2 — 2nd Gear
3 — 3rd Gear
4 — 4th Gear

KEY

E — Empty 38 500 kg (84,878 lb)
L — Loaded 51 000 kg (112,436 lb)

H115 s-H180 s Hammer Features:

- **Shock Mount** isolates forces to protect the carrier.
- **Integrally Mounted Accumulator** dampens pressure peaks inside the hammer to protect the carrier hydraulic system, assist the piston in the power stroke, and allows checking/replacing nitrogen without removing the hammer.
- **Pressure Control Valve** allows hammer to strike with maximum fixed energy per blow.
- **Main Valve** directs the firing cycle and blocks the return port to protect the carrier hydraulics from pressure peaks.
- **Check Valve** maintains oil pressure in the accumulator when hammer is repositioned. This helps improve breaking efficiency (reduced waiting time).
- **Tie Rods** are heat torqued for easier tightening without torsion stresses.
- **Long Heavy Piston** minimizes recoil forces to protect hammer components and carrier structures.
- **Slip Fit Thrust Ring** dissipates shock loads in abusive applications and is rotatable for longer life.
- **Plastic Wear Plates** on all four sides guide the power cell within the housing.
- **Blank Fire Protection** aided by auto-shutoff stops operation when no material is present to be broken. It increases hammer reliability and durability by eliminating high stress resulting from blank firing. (Available on H140D s and H160D s.)
- **Slip Fit Upper Tool Bushing** is rotatable for longer life and is replaceable. Guides the tool to optimize in-line piston/tool contact.
- **Slip Fit Sealed Lower Tool Bushing** provides positive tool alignment, is field replaceable and rotatable. It has grease retention grooves for extended lubrication and wear indication.
- **Sound Suppression** consists of housing dampening material, plugs and covers.
- **Autolube** available for all hammers.

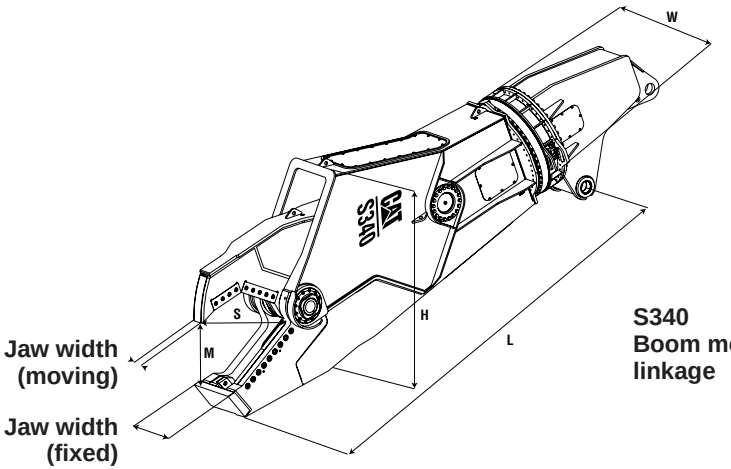
Hammer Applications:

- **Sewer and Water** — The hammer can be used on pockets of rock that slow down production. Also good for breaking up old concrete pipes, manholes, etc.
- **Road Construction** — An essential tool during improvements and upgrading. The hammer works well on removing existing curbs, traffic islands, ramps, or sections of concrete. With correct tool, it can cut asphalt.
- **Bridge Renewal** — Hammers are used to remove old bridge surfaces, railing supports, abutments, retaining walls, etc.
- **Demolition** — The hammer-equipped excavator is often a key helper in industrial demolition. It can break up fallen wall and floor sections as well as foundations, or other brick and concrete structures.
- **Mining and Aggregate** — Hammers can break oversized material to avoid secondary blasting, and size riprap. Hammers can be installed near crushers to prepare material for crushing.
- **Trenching/Primary Excavation** — In soft or layered materials, the hydraulic hammer with a moil or chisel point is an effective tool in excavation.
- **Direct Quarrying** — In many types of limestone, direct quarrying with hydraulic hammers can prove cost effective, especially where blasting is prohibited or restricted.

A hammer need not be full time attachment for these applications. It can be replaced by a bucket in a short time, allowing the machine to be used for digging, loading, lifting, or other tasks.

Consult your Caterpillar dealer for advice on correct sizing, installation and tool selection.

NOTE: Internal components of hammers are machined to close tolerances and require clean oil with full lubricating properties. When operating in high ambient temperatures or extreme temperature applications (e.g. foundries), higher viscosities are recommended to extend hammer life and improve performance. Hammers tend to shear multigrade mineral oil so that oil viscosity decreases. Contamination, water in oil, and decreased viscosity lead to earlier oil deterioration and the need for more frequent oil changes than normally recommended for the excavator. Extra care should be taken to avoid the entry of dust or dirt when installing or removing a hammer in the field.



Specifications (All dimensions and weights are approximate.)

Model	S340		S365		S390	
Weight* total	4250 kg	**9370 lb**	6500 kg	**14,330 lb**	9700 kg	**21,390 lb**
Dimensions:						
L Length	3900 mm	**12'10"**	4617 mm	**15'2"**	5348 mm	**17'7"**
H Height	1506 mm	**59"**	1810 mm	**71"**	2117 mm	**83"**
W Width	1010 mm	**40"**	1180 mm	**46"**	1400 mm	**55"**
Jaw width (fixed)	440 mm	**17"**	510 mm	**20"**	620 mm	**24"**
Jaw width (moving)	120 mm	**4.7"**	150 mm	**5.9"**	180 mm	**7.1"**
M Jaw opening	580 mm	**23"**	740 mm	**29"**	860 mm	**34"**
S Jaw depth	680 mm	**27"**	830 mm	**33"**	1020 mm	**40"**
Shear forces:						
Tip	1550 kN	**348,750 lb**	1950 kN	**438,750 lb**	2500 kN	**562,500 lb**
Primary blade center	3800 kN	**855,000 lb**	4800 kN	**1,080,000 lb**	6050 kN	**1,361,250 lb**
At throat	7300 kN	**1,642,500 lb**	9850 kN	**2,216,250 lb**	12 600 kN	**2,835,000 lb**
Hydraulic for cutting:						
Maximum operating pressure	35 000 kPa	**5075 psi**	35 000 kPa	**5075 psi**	35 000 kPa	**5075 psi**
Recommended flow	300 L/min	**79.3 gpm**	400 L/min	**105.7 gpm**	800 L/min	**211 gpm**
Return flow (during opening)	510 L/min	**134.7 gpm**	680 L/min	**180 gpm**	1520 L/min	**402 gpm**
Time open	**4.5 sec**		**5.5 sec**		**4 sec**	
Time close	**3.5 sec**		**4 sec**		**3 sec**	
Connector — size	**1 11/16 ORFS**		**1¼ SAE**		**1½ SAE**	
Hydraulic for rotating:						
Maximum operating pressure	14 000 kPa	**2030 psi**	14 000 kPa	**2030 psi**	14 000 kPa	**2030 psi**
Recommended flow	40 L/min	**10.6 gpm**	80 L/min	**21.1 gpm**	80 L/min	**21.1 gpm**
Connector — size	**1 3/16 ORFS**		**1 3/16 ORFS**		**1 3/16 ORFS**	
Excavator size; Stick mounted:						
Minimum	30 000 kg	**66,150 lb**	40 000 kg	**88,200 lb**	65 000 kg	**143,325 lb**
Maximum	45 000 kg	**99,225 lb**	65 000 kg	**143,325 lb**	90 000 kg	**198,450 lb**
Excavator size; Boom mounted:						
Minimum	20 000 kg	**44,100 lb**	30 000 kg	**66,150 lb**	40 000 kg	**88,200 lb**
Maximum	35 000 kg	**77,175 lb**	45 000 kg	**99,225 lb**	65 000 kg	**143,325 lb**

*Weight includes mounting bracket (stick).

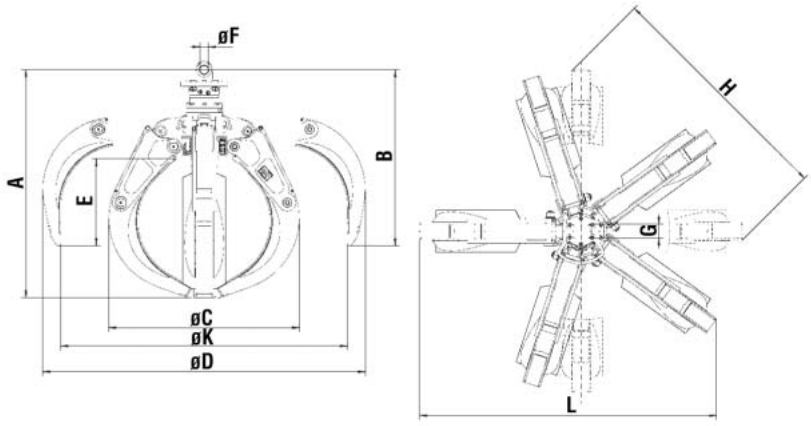
Features:

- Maintenance free rotator. 360 degrees rotation.
- One fully protected cylinder.
- Standard drill pattern for bolt-on mounting brackets.
- Hydraulic connections positioned at the sides for optimal hydraulic lines protection.
- Standard bolt-on cutting edges.
- High quality bushings with lubrication grooves, hardened pins and dust seals.
- Large inspection covers.
- Two shell types available: Demolition and Recycling.

Specifications (All dimensions and weights are approximate.)

Model	**G310B-R**		**G310B-D**		**G315B-R**	
Recommended carrier weight	10-16 mt	**11-17.6 st**	10-16 mt	**11-17.6 st**	15-22 mt	**16.5-24.3 st**
Capacity	400 L	**0.52 yd³**	375 L	**0.49 yd³**	600 L	**0.78 yd³**
Operating weight*	980 kg	**2160 lb**	990 kg	**2185 lb**	1320 kg	**2910 lb**
Closing force	37 kN	**8318 lb**	37 kN	**8318 lb**	54 kN	**12,140 lb**
Maximum pressure open/close	350 bar	**5076 psi**	350 bar	**5076 psi**	350 bar	**5076 psi**
Optimal flow open/close	60 L/min	**15.9 gpm**	60 L/min	**15.9 gpm**	90 L/min	**23.8 gpm**
Maximum pressure rotation	320 bar	**4641 psi**	320 bar	**4641 psi**	320 bar	**4641 psi**
Optimal flow rotation	25 L/min	**6.6 gpm**	25 L/min	**6.6 gpm**	25 L/min	**6.6 gpm**
Model	**G315B-D**		**G320B-R**		**G320B-D**	
Recommended carrier weight	15-22 mt	**16.5-24.3 st**	20-29 mt	**22-32 st**	20-29 mt	**22-32 st**
Capacity	550 L	**0.72 yd³**	800 L	**1.05 yd³**	750 L	**1.11 yd³**
Operating weight*	1330 kg	**2930 lb**	1860 kg	**4100 lb**	1870 kg	**4125 lb**
Closing force	54 kN	**12,140 lb**	68 kN	**15,287 lb**	68 kN	**15,287 lb**
Maximum pressure open/close	350 bar	**5076 psi**	350 bar	**5076 psi**	350 bar	**5076 psi**
Optimal flow open/close	90 L/min	**23.8 gpm**	120 L/min	**31.7 gpm**	120 L/min	**31.7 gpm**
Maximum pressure rotation	320 bar	**4641 psi**	320 bar	**4641 psi**	320 bar	**4641 psi**
Optimal flow rotation	25 L/min	**6.6 gpm**	25 L/min	**6.6 gpm**	25 L/min	**6.6 gpm**

*Including bolt-on mounting bracket.



Specifications (All dimensions and weights are approximate.)

Model	GSH15		GSH15		GSH15		GSH15	
Type	400		500		600		800	
Recommended carrier weight								
Excavator	15-21 mt	**16.5-23.1 st**	15-21 mt	**16.5-23.1 st**	15-21 mt	**16.5-23.1 st**	15-21 mt	**16.5-23.1 st**
Material Handler	18-25 mt	**19.8-27.6 st**	18-25 mt	**19.8-27.6 st**	18-25 mt	**19.8-27.6 st**	18-25 mt	**19.8-27.6 st**
Capacity	400 L	**105.7 gal**	500 L	**132.1 gal**	600 L	**158.5 gal**	800 L	**211.3 gal**
5 Tines								
Operating weight*								
open	1390 kg	**3064 lb**	1410 kg	**3109 lb**	1430 kg	**3153 lb**	1530 kg	**3373 lb**
semi-closed	1450 kg	**3197 lb**	1490 kg	**3285 lb**	1520 kg	**3351 lb**	1610 kg	**3549 lb**
closed	1530 kg	**3373 lb**	1560 kg	**3439 lb**	1610 kg	**3549 lb**	1720 kg	**3792 lb**
4 Tines								
Operating weight								
open	1180 kg	**2601 lb**	1200 kg	**2646 lb**	1215 kg	**2679 lb**	1300 kg	**2866 lb**
semi-closed	1230 kg	**2712 lb**	1270 kg	**2800 lb**	1290 kg	**2844 lb**	1370 kg	**3020 lb**
closed	1300 kg	**2866 lb**	1325 kg	**2921 lb**	1370 kg	**3020 lb**	1460 kg	**3219 lb**
Maximum lifting capacity	4 mt	**4.4 st**	4 mt	**4.4 st**	4 mt	**4.4 st**	4 mt	**4.4 st**
Maximum closing force	33 kN	**7419 lb**	27 kN	**6070 lb**	26 kN	**5845 lb**	23 kN	**5171 lb**
Dimension								
A	1650 mm	**65.0"**	1670 mm	**65.7"**	1740 mm	**68.5"**	1870 mm	**73.6"**
B	1335 mm	**52.6"**	1355 mm	**53.3"**	1380 mm	**54.3"**	1445 mm	**56.9"**
C	1542 mm	**60.7"**	1542 mm	**60.7"**	1542 mm	**60.7"**	1558 mm	**61.3"**
D	2259 mm	**88.9"**	2323 mm	**91.5"**	2415 mm	**95.1"**	2640 mm	**103.9"**
E	604 mm	**23.8"**	604 mm	**23.8"**	650 mm	**25.6"**	715 mm	**28.1"**
F	70 mm	**2.8"**	70 mm	**2.8"**	70 mm	**2.8"**	70 mm	**2.8"**
G	114 mm	**4.5"**	114 mm	**4.5"**	114 mm	**4.5"**	114 mm	**4.5"**
H	1700 mm	**66.9"**	1745 mm	**68.7"**	1810 mm	**71.3"**	1970 mm	**77.6"**
K	1965 mm	**77.4"**	2033 mm	**80.0"**	2121 mm	**83.5"**	2345 mm	**92.3"**
L	2090 mm	**82.3"**	2140 mm	**84.3"**	2230 mm	**87.8"**	2430 mm	**95.7"**
Hydraulic open/close								
Maximum pressure	350 bar	**5076 psi**	350 bar	**5076 psi**	350 bar	**5076 psi**	350 bar	**5076 psi**
Optimum flow	75-100 L/min	**19.8-26.4 gpm**	75-100 L/min	**19.8-26.4 gpm**	75-100 L/min	**19.8-26.4 gpm**	75-100 L/min	**19.8-26.4 gpm**
Hydraulic rotation								
Maximum pressure	320 bar	**4641 psi**	320 bar	**4641 psi**	320 bar	**4641 psi**	320 bar	**4641 psi**
Optimum flow	20-40 L/min	**5.3-10.6 gpm**	20-40 L/min	**5.3-10.6 gpm**	20-40 L/min	**5.3-10.6 gpm**	20-40 L/min	**5.3-10.6 gpm**

*Operating weight includes hydraulic rotator and excludes machine link.

ENGINES

CONTENTS

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E Mail:
Cat_Power@ Cat. com

Web Site/Dealer Locator
www. Cat-engines.com

For more information contact your local Caterpillar Dealer, or visit the Caterpillar engine and generator set website on www.cat-engines.com.

	TYPE	NO. OF MODELS	RANGE
INDUSTRIAL 	**Diesel**	30	15 to 4920 kW 20 to 6600 hp EPA Certified
	Gaseous Fueled	12	71 to 3509 kW 95 to 4705 hp EPA Certified
GENERATOR SETS 	**Diesel High Speed**	15	50 Hz-kV•A w/fan Prime-205 to 2275 Standby-225 to 2500 60 Hz-ekW w/fan Prime-210 to 1825 Standby-230 to 2250 +17 Models CM Product Medium Speed
	Diesel Medium Speed		50 Hz-kV•A w/o fan 1360 to 17 460 60 Hz-kW w/o fan 980 to 13 970
	Gaseous Fueled	15	50 Hz-kV•A w/o fan Continuous-106 to 7400 60 Hz-kW w/o fan Continuous-100 to 5900
OLYMPIAN GENERATOR SETS*	**Diesel**		50 Hz-kV•A Prime-6 to 200 Standby-8 to 220 60 Hz-kW Prime-6 to 180 Standby-8 to 200
	Gaseous Fueled		50 Hz-kV•A Prime-6 to 90 Standby-12 to 100 60 Hz-kW Prime-6 to 90 Standby-12 to 100
MARINE 	**Propulsion**	17	63 to 7200 kW 85 to 9655 hp
	Generator Sets	12	50 Hz kV•A 63 to 6500 Prime 60 Hz-kW 65 to 4840 Prime
TRUCK 	**Diesel**	5	142 to 410 kW 190 to 550 hp EPA certified and compliant

*Olympian Generator Sets are manufactured exclusively for Caterpillar dealers.

Cat Generator Sets

Diesel and Power Module Ratings

60 Hz				
		1800 rpm		
Gen Set Model		Standby ekW	Prime ekW	Continuous ekW
3306	**TA**	230	210	—
3306	**ATAAC**	250	225	—
3406	**TA**	300	275	—
3406	**TA**	350	320	—
3406	**TA**	400	365	—
3456	**ATAAC**	300	275	—
3456	**ATAAC**	350	320	—
3456	**ATAAC**	400	365	—
3456	**ATAAC**	450	410	—
3456	**ATAAC**	500	455	—
3412	**TTA**	550	500	—
3412	**TTA**	600	545	—
3412	**TTA**	650	591	—
3412	**TTA**	700	635	—
3412	**STA**	750	680	—
3412	**STA**	800	725	—
3508	**TA**	900	820	660
3508B	**TA**	1000	910	832
3512	**TA**	1100	1000	890
3512	**TA**	1250	1135	1010
3512B	**TA**	1250	1135	1030
3512B	**TA**	1400	1275	1230
3512B	**TA**	1500	1360	—
3516	**TA**	1750	1600	1450
3516B	**TA**	1750	1600	1450
3516B	**TA**	2000	1825	1640
3516B	**TA**	2250	—	—
		1200 rpm		
3508	**TA**	—	425	400
3508B	**TA**	—	600	520
3512	**TA**	—	1000	870
3512B	**TA**	—	1015	890
3516	**TA**	—	1250	1100
3516B	**TA**	—	1285	1145
3516B	**HD**	—	1450	1325
		900 rpm		
6CM20	**TA**	—	—	980
8CM20	**TA**	—	—	1300
9CM20	**TA**	—	—	1470
3606	**TA**	2000	1820	1650
3608	**TA**	2660	2420	2200
3612	**TA**	4000	3640	3300
3616	**TA**	5320	4840	4400

60 Hz				
		720 rpm		
Gen Set Model		Standby ekW	Prime ekW	Continuous ekW
3606	**TA**	1680	1525	1375
6CM25	**TA**	—	—	1730
3608	**TA**	2220	2020	1830
8CM25	**TA**	—	—	2230
9CM25	**TA**	—	—	2500
3612	**TA**	3360	3050	2750
3616	**TA**	4440	4040	3660
12CM32	**TA**	—	—	5590
16CM32	**TA**	—	—	7450
		600 rpm		
6CM32		—	—	2765
8CM32		—	—	3725
9CM32		—	—	4190
		514 rpm		
6CM43	**TA**	—	—	5420
7CM43	**TA**	—	—	6110
8CM43	**TA**	—	—	6980
9CM43	**TA**	—	—	7860
12CM43	**TA**	—	—	10 475
16CM43*	**TA**	—	—	13 970

*Contact for availability.
T — Turbocharged
TA — Turbocharged-Aftercooled
TTA — Twin Turbocharged-Aftercooled
STA — Series-Turbo Aftercooled
ATAAC — Air-To-Air Aftercooled
HD — High Displacement
ekW — Generator output at 0.8 pf

Rating Definitions:

Standby — Output available with varying load for the duration of the interruption of the normal source power. Standby power in accordance with ISO 8528. Fuel stop power in accordance with ISO 3046/1, AS2789, DIN6271, and BS5514.

Prime — Output available with varying load for an unlimited time. Prime power in accordance with ISO 8528. 10% overload power in accordance with ISO 3046/1, AS2789, DIN6271, and BS5514 available on request.

Continuous — Output available without varying load for an unlimited time. Continuous power in accordance with ISO 8528, ISO 3046/1, AS2789, DIN6271, and BS5514.

Ratings are based on SAE J1995 standard conditions. These ratings also apply at ISO 3046/1, DIN6271, and BS5514 standard conditions.

Fuel Rates are based on fuel oil of 35° API (16° C or **60° F**) gravity having an LHV of 42 780 kJ/kg **(18,390 Btu/lb)** when used at 29° C **(85° F)** and weighing 838.9 g/liter **(7.001 lb/U.S. gal)**.

Cat Oil and Gas Engines

Electric Drive Engine Ratings for SCR and DC Powered Rigs

		60 Hz								50 Hz					
		720 rpm		900 rpm		1200 rpm		1800 rpm		750 rpm		1000 rpm		1500 rpm	
Model	**No. Cyl.**	**bkW**	**bhp**	**bkW**	**bhp**	**bkW**	**bhp**	**bkW**	**bhp**	**bkW**	**bhp**	**bkW**	**bhp**	**bkW**	**bhp**
C16	I-6	—	**—**	—	**—**	—	**—**	410	**550**[1]	—	**—**	—	**—**	—	**—**
3412E	V-12	—	**—**	—	**—**	—	**—**	577	**760**[1]	—	**—**	—	**—**	—	**—**
3412E	V-12	—	**—**	—	**—**	354	**475**[1]	—	**—**	—	**—**	—	**—**	—	**—**
3508	V-8	—	**—**	—	**—**	641	**860**[1]	—	**—**	—	**—**	—	**—**	—	**—**
3508B	V-8	—	**—**	—	**—**	682	**915**[1]	—	**—**	—	**—**	—	**—**	880	**1180**
3512	V-12	—	**—**	—	**—**	709	**950**[1]	—	**—**	—	**—**	—	**—**	1090	**1462**
3512	V-12	—	**—**	—	**—**	1070	**1435**[1]	—	**—**	—	**—**	—	**—**	—	**—**
3512B	V-12	—	**—**	—	**—**	1101	**1476**[3]	—	**—**	—	**—**	—	**—**	1310	**1757**
3516	V-16	—	**—**	—	**—**	1345	**1804**[1]	—	**—**	—	**—**	—	**—**	—	**—**
3516B	V-16	—	**—**	—	**—**	1384	**1855**[3]	—	**—**	—	**—**	—	**—**	—	**—**
3516B HD	V-16	—	**—**	—	**—**	1604	**2150**[3]	—	**—**	—	**—**	—	**—**	—	**—**
3606	I-6	1565	**2100**[2]	1880	**2520**[2]	—	**—**	—	**—**	1645	**2210**[2]	2010	**2700**[2]	—	**—**
3608	I-8	2085	**2800**[2]	2533	**3395**[2]	—	**—**	—	**—**	2155	**2890**[2]	2700	**3630**[2]	—	**—**
3612	V-12	3130	**4200**[2]	3802	**5096**[2]	—	**—**	—	**—**	3285	**4410**[2]	4025	**5400**[2]	—	**—**
3616	V-16	4180	**5600**[2]	4604	**6172**[2]	—	**—**	—	**—**	4315	**5790**[2]	5415	**7260**[2]	—	**—**
12CM32	V-12	5760	**7724**	—	**—**	—	**—**	—	**—**	5760	**7724**[2]	—	**—**	—	**—**
16CM32	V-16	7680	**10,300**	—	**—**	—	**—**	—	**—**	7680	**10,300**[2]	—	**—**	—	**—**

[1] EPA certified.
[2] IMO certified.
[3] EPA and IMO certified.

bhp — Brake horsepower
bkW — Metric equivalent of brake horsepower

Requires Separate Circuit Aftercooling (SCAC), without fan power, when emissions compliant.

Track-Type Tractors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Gauge m (ft) and Width m (ft)	Length m (ft) and Height m (ft)	Trans-mission	Rated Drawbar Pull — kg (lb) and Forward Speed — km/h (mph) 1st	2nd	3rd	4th	5th	6th
D6H (CB)	4RC (E. Peoria) 2KD (Sagami) 4LG (Grenoble)	92-96	123/165	17 997 **(39,676)**	1.88 **(6'2")** 3.36 **(11'0")**	4.07 **(13'4")** 3.12 **(10'3")**	PS	3.8 **(2.3)**	6.6 **(4.1)**	11.4 **(7.1)**			
D6H XL (DS)	9KJ (E. Peoria) 8SK (Sagami) 9LK (Grenoble)	92-96	130/175	19 080 **(42,063)**	1.88 **(6'2")** 3.36 **(11'0")**	4.07 **(13'4")** 3.12 **(10'3")**	PS	3.8 **(2.3)**	6.6 **(4.1)**	11.4 **(7.1)**			
D6H XL (CB)	8ZJ (E. Peoria) 9RK (Sagami) 8KK (Grenoble)	92-96	130/175	18 966 **(41,811)**	1.88 **(6'2")** 3.36 **(11'0")**	4.07 **(13'4")** 3.12 **(10'3")**	PS	3.8 **(2.3)**	6.6 **(4.1)**	11.4 **(7.1)**			
D6H XR (DS)	6CK (E. Peoria) 2TL (Sagami) 1YL (Grenoble)	92-96	130/175	18 799 **(41,444)**	1.88 **(6'2")** 3.36 **(11'0")**	4.22 **(13'10")** 3.12 **(10'3")**	PS	3.8 **(2.3)**	6.6 **(4.1)**	11.4 **(7.1)**			
D6H XR (CB)	5KK (E. Peoria) 7ZK (Sagami) 2BL (Grenoble)	92-96	130/175	18 799 **(41,444)**	1.88 **(6'2")** 3.36 **(11'0")**	4.22 **(13'10")** 3.12 **(10'3")**	PS	3.8 **(2.3)**	6.6 **(4.1)**	11.4 **(7.1)**			
D6H LGP (DS)	3YG (E. Peoria) 4GG (Sagami) 5HF (Grenoble)	92-96	134/180	20 486 **(45,163)**	2.24 **(7'3")** 4.0 **(13'1")**	4.49 **(14'9")** 3.17 **(10'5")**	PS	3.8 **(2.3)**	6.6 **(4.1)**	11.4 **(7.1)**			
D6H LGP (CB)	6FC (E. Peoria) 1KD (Sagami) 2TG (Grenoble)	92-96	134/180	20 486 **(45,163)**	2.24 **(7'3")** 4.0 **(13'1")**	4.49 **(14'9")** 3.17 **(10'5")**	PS	3.8 **(2.3)**	6.6 **(4.1)**	11.4 **(7.1)**			
D6H (JPN)	3ED*	86-92	165/—	16 954 **(37,377)**	1.88 **(6'2")** 2.64 **(8'8")**	4.069 **(13'4")** 3.114 **(10'3")**	DD	12 500 **(27,560)** 2.7 **(1.7)**	9520 **(20,990)** 3.5 **(2.2)**	7140 **(15,740)** 4.6 **(2.9)**	5440 **(11,990)** 5.8 **(3.6)**	4010 **(8840)** 7.6 **(4.7)**	2820 **(6220)** 10.0 **(6.2)**
D6H (JPN)	4YF*	88-90	165/—	17 055 **(37,599)**	1.88 **(6'2")** 2.64 **(8'8")**	4.069 **(13'4")** 3.114 **(10'3")**	PS/DS	3.8 **(2.4)**	6.5 **(4.0)**	11.3 **(7.0)**			

*D6H models prior to Series II. Product identification number prefix still in use for current product.
NOTE: Power Shift models show speeds only, not drawbar pull.
NOTE: Track-Type Tractor weights do not include blades until 1967.

Track-Type Tractors (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power FW/ Drawbar	Approx. Machine Weight kg (lb)	Gauge m (ft) and Width m (ft)	Length m (ft) and Height m (ft)	Trans-mission	Rated Drawbar Pull — kg (lb) and Forward Speed — km/h (mph) 1st	2nd	3rd	4th	5th	6th	Remarks
D11N	74Z	86-93	770	95 900 **(211,000)**	2.90 **(9'6")**	6.16 **(20'3")**	PS							
	4HK	93-96		97 450 **(214,850)**	3.65 **(12'0")**	4.65 **(15'3")**		3.9 **(2.4)**	6.8 **(4.4)**	11.6 **(7.2)**				
D11R	8ZR	96-97	770	98 413 **(216,963)**	2.90 **(9'6")**	6.16 **(20'3")**	PS	3.9 **(2.4)**	6.8 **(4.4)**	11.6 **(7.2)**				Electronic Finger Tip Control Steering
					3.65 **(12'0")**	4.65 **(15'3")**								
D11R	7PZ	1997	634/850	104 590 **(230,100)**	2.90 **(9'6")**	10.83 **(35'6")**	PS							
					4.37 **(14'4")**	4.66 **(15'3")**		3.9 **(2.4)**	6.8 **(4.2)**	11.8 **(7.3)**				
D11R CD	AAF	1997	634/850	104 590 **(230,100)**	2.90 **(9'6")**	10.50 **(34'5")**	PS							
					4.37 **(14'4")**	4.66 **(15'3")**		3.9 **(2.4)**	6.8 **(4.2)**	11.8 **(7.3)**				

NOTE: Power Shift models show speeds only, not drawbar pull.
NOTE: Track-Type Tractor weights do not include blades until 1967.

Hydraulic Excavators (cont'd)

Model	Product Ident. No. Prefix COSA (US)	Years Built	Flywheel Horsepower	Approx. Operating Weight kg (lb)	Track Gauge m (ft)	Height* m (ft)	Length* m (ft)	Width m (ft)	Max. Reach** m (ft)	Lift Capacity*** kg (lb)
EL240	4JF(OSJ) 4MF(JPN)	87-89 87-89	148	23 600 **(52,000)**	2.58 **(8'6")**	3.02 **(9'11")**	9.73 **(31'11")**	3.38 **(11'1")**	10.6 **(34'9")**	11 300 **(24,300)**
EL240B	5WG(OSJ) 6MG(JPN)	89-92	148	23 600 **(52,000)**	2.58 **(8'6")**	3.02 **(9'11")**	9.73 **(31'11")**	3.38 **(11'1")**	10.6 **(34'9")**	10 320 **(22,750)**
EL240C	9PK(OSJ) 9NK(JPN)	92-93	148	23 600 **(52,000)**	2.58 **(8'6")**	3.02 **(9'11")**	9.73 **(31'11")**	3.38 **(11'1")**	10.6 **(34'9")**	10 320 **(22,750)**
E300	2CF(OSJ) 1KG(JPN)	87-89 87-89	187	30 500 **(67,300)**	2.6 **(8'6")**	3.22 **(10'7")**	10.94 **(35'11")**	3.4 **(11'2")**	11.84 **(38'9")**	12 550 **(27,650)**
E300B	1WJ(OSJ) 2HJ(JPN)	90-91 90-91	206	30 200 **(66,580)**	2.6 **(8'6")**	3.22 **(10'7")**	10.94 **(35'11")**	3.4 **(11'2")**	11.84 **(38'9")**	12 450 **(26,850)**
EL300	4NF(OSJ) 4SF(JPN)	87-89 87-89	187	31 600 **(69,700)**	2.6 **(8'6")**	3.22 **(10'7")**	10.94 **(35'11")**	3.4 **(11'2")**	11.84 **(38'9")**	12 550 **(27,650)**
EL300B	3FJ(OSJ) 1GK(JPN)	90-91 90-91	206	31 200 **(68,780)**	2.6 **(8'6")**	3.22 **(10'7")**	10.94 **(35'11")**	3.4 **(11'2")**	11.84 **(38'9")**	12 450 **(26,850)**
E450	3HG(OSJ) 3JG(JPN)	87-93 87-93	276	46 000 **(101,430)**	2.89 **(9'6")**	3.49 **(11'5")**	11.96 **(39'3")**	3.15 **(10'4")**	13.08 **(42'11")**	10 900 **(23,500)**
E650	3KG(OSJ) 3LG(JPN)	87-92 87-92	375	62 600 **(138,000)**	3.25 **(10'8")**	4.84 **(15'11")**	14.0 **(45'11")**	3.49 **(11'5")**	13.33 **(43'9")**	15 850 **(34,000)**
307	2WM	94-98	54	7600 **(16,760)**	1.75 **(5'9")**	2.61 **(8'7")**	6.3 **(20'8")**	2.4 **(7'11")**	6.38 **(20'11")**	2450 **(5400)**
	2PM(OSJ)	94-98	54	6740 **(14,860)**	1.75 **(5'9")**	2.63 **(8'8")**	6.08 **(19'11")**	2.28 **(7'6")**	6.72 **(22'1")**	1350 **(3000)**
	9ZL(JPN)	94-97	54	6650 **(14,660)**	1.75 **(5'9")**	2.63 **(8'8")**	6.08 **(19'11")**	2.28 **(7'6")**	6.72 **(22'1")**	1350 **(3000)**
307B	5CW(OSJ)	98-00	54	6960 **(15,340)**	1.75 **(5'9")**	2.63 **(8'8")**	6.08 **(19'11")**	2.28 **(7'6")**	6.72 **(22'1")**	1350 **(3000)**
	4RW(JPN)	97-00	54	6500 **(14,330)**	1.75 **(5'9")**	2.64 **(8'8")**	6.08 **(19'11")**	2.28 **(7'6")**	6.72 **(22'1")**	1350 **(3000)**
307B SB	AFB	99-	40/54	7500 **(16,530)**	1.75 **(5'9")**	2.9 **(9'6")**	6.75 **(22'2")**	2.28 **(7'6")**	7.01 **(23'0")**	1410 **(3100)**
	6KZ(OSJ) 7DZ(JPN)	98-01	40/54	8040 **(17,730)**	1.75 **(5'9")**	2.64 **(8'8")**	6.73 **(22'1")**	2.28 **(7'6")**	7.42 **(24'4")**	1500 **(3300)**
307C	(BCM)	00-	54	7210 **(15,900)**	1.75 **(5'9")**	2.78 **(9'1")**	6.07 **(19'11")**	2.29 **(7'6")**	6.85 **(22'6")**	947 **(2100)**
	BAJ	00-	54	6450 **(14,220)**	1.75 **(5'9")**	2.63 **(8'8")**	6.07 **(19'11")**	2.29 **(7'6")**	6.34 **(20'10")**	1052 **(2300)**
307C SB	(BNE)	00-	54	8390 **(18,500)**	1.75 **(5'9")**	2.63 **(8'8")**	6.79 **(22'3")**	2.29 **(7'6")**	7.55 **(24'9")**	822 **(1800)**
308B CR	3YS(JPN)	99-02	54	7650 **(16,870)**	1.85 **(6'1")**	2.61 **(8'7")**	5.77 **(18'11")**	2.3 **(7'7")**	6.9 **(22'8")**	1600 **(3500)**
308C CR	(KCX)	02-	54	8040 **(17,730)**	1.87 **(6'2")**	2.61 **(8'7")**	5.83 **(19'2")**	2.47 **(8'1")**	6.9 **(22'8")**	947 **(2100)**
	CPE	01-	54	7390 **(16,290)**	1.87 **(6'2")**	2.61 **(8'7")**	5.83 **(19'2")**	2.32 **(7'7")**	6.39 **(21'0")**	1135 **(2500)**

*When shipped with medium stick and bucket curled under.
**Maximum reach at ground level, one-piece boom, longest stick.
***Lift capacity at 4.6 m **(15'0")** over front, one-piece boom, longest stick.

Wheel Tractor-Scrapers (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power Max/ Rated	Capacity Struck/ Heaped m^3 (yd^3)	Approx. Shipping Weight kg (lb)	Dimensions m (ft)				Tire Size (Standard) & ply rating Tractor & Scraper	Approx. % Weight on Drivers Loaded/ Empty	Turning Circle m (ft)
						Length	Width	Height	Width of Tread			
DW15 & No. 10 Scraper	45C 19C	54-55	/150	5.3/6.9 **(7/9)**	15 960 **(35,180)**	11.10 **(36'5")**	2.87 **(9'5")**	2.36 **(7'9")**	1.80 **(5'11")** Scraper —	12.0 × 20-14 21.0 × 25-20 16.0 × 21-20	42/46	10.36 **(34'0")**
DW15 & No. 15 Scraper	45C 4W	54-55	/150	7.7/9.2 **(10/12)**	9400 **(20,720)**	11.84 **(38'10")**	3.18 **(10'5")**	2.69 **(8'10")**	1.93 **(6'4")**	12.0 × 20-14 21.0 × 25-20	40/42	11.23 **(37'0")**
DW15 Tractor	45C	54-55	/150	—	9510 **(20,960)**	5.08 **(16'8")**	2.39 **(7'10")**	2.69 **(8'10")**	1.98 **(6'6")**	12.0 × 20-14 21.0 × 25-20	—	—
DW15C & No. 15 Scraper	59C or 70C	55-57	186/*	7.7/9.5 **(10/12.5)**	19 220 **(42,370)**	11.84 **(38'10")**	3.18 **(10'5")**	2.69 **(8'10")**	1.98 **(6'6")**	12.0 × 12-14 21.0 × 25-20	40/42	10.36 **(34'0")**
DW15E & No. 428 Scraper	75D or 76D	57-59	200/172	10/14 **(13/18)**	20 280 **(44,711)**	12.22 **(40'1")**	3.30 **(10'10")**	3.05 **(10'0")**	1.98 **(6'6")**	12.0 × 20-14 26.5 × 25-20	37/41	—
DW15F & No. 428 Scraper	75D or 76D	58-59	200/172	10/14 **(13/18)**	20 280 **(44,711)**	12.22 **(40'1")**	3.30 **(10'10")**	3.05 **(10'0")**	1.98 **(6'6")**	12.0 × 20-14 26.5 × 25-20	37/41	—
DW20 & No. 20 Scraper	21C 11C	51-55	225/*	14/7.6 **(18/23)**	12 750 **(28,100)**	13.23 **(43'5")**	3.53 **(11'7")**	3.10 **(10'2")**	2.29 **(7'6")**	24.0 × 29-4	37/41	11.23 **(37'0")**
DW20 Tractor (For W20 Wagon)	6W	51-55	225/*	—	11 620 **(25,610)**	5.39 **(17'8")**	2.79 **(9'2")**	2.41 **(7'11")**	2.18 **(7'2")**	14.0 × 24-16 24.0 × 29-24	—	—
DW20E & No. 456 Scraper	57C 67C	55-57	300/*	14/19 **(18/25)**	26 040 **(57,400)**	13.36 **(43'10")**	3.58 **(11'9")**	3.45 **(11'4")**	2.24 **(7'4")**	14.0 × 24-16 29.5 × 29-22	34/42	11.58 **(38'0")**
DW20F & No. 456 Scraper	87E 88E	58-60	320/*	14/19 **(18/25)**	26 870 **(59,240)**	13.36 **(43'10")**	3.58 **(11'9")**	3.45 **(11'4")**	2.24 **(7'4")**	14.0 × 24-16 29.5 × 29-22	38/42	11.58 **(38'0")**
DW20G & No. 456 Scraper	87E 88E	58-60	345/*	15/21 **(19.5/27)**	27 200 **(59,960)**	13.36 **(43'10")**	3.58 **(11'9")**	3.45 **(11'4")**	2.24 **(7'4")**	14.0 × 24-16 29.5 × 29-28	38/42	11.58 **(38'0")**
DW20G & No. 482 Scraper	87E 88E	58-60	345/*	18.5/26 **(24/34)**	31 070 **(68,500)**	14.05 **(46'1")**	3.91 **(12'10")**	3.81 **(12'6")**	2.39 **(7'10")**	14.0 × 24-16 29.5 × 29-28	37/40	11.58 **(38'0")**
DW21 & No. 21 Scraper	8W 8	51-55	225/*	11.5/15 **(15/20)**	24 790 **(54,650)**	12.37 **(40'7")**	3.53 **(11'7")**	3.28 **(10'9")**	2.13 **(7'0")**	24.0 × 29-24	—	10.67 **(35'0")**
DW21C & No. 470 Scraper	58C 69C	55-58	300/*	14/19 **(18/25)**	26 610 **(58,670)**	12.67 **(41'7")**	3.58 **(11'9")**	3.35 **(11'0")**	2.24 **(7'4")**	29.5 × 29-22	52/67	11.00 **(36'0")**
DW21D & No. 470 Scraper	85E 86E	58-58	320/*	14/19 **(18/25)**	26 310 **(58,010)**	12.78 **(41'11")**	3.58 **(11'9")**	3.35 **(11'0")**	2.24 **(7'4")**	29.5 × 29-22	52/67	11.00 **(36'0")**
DW21G & No. 470 Scraper	85E 86E	58-60	345/*	14.9/20.6 **(19.5/27)**	27 210 **(59,980)**	12.78 **(41'11")**	3.58 **(11'9")**	3.48 **(11'5")**	2.24 **(7'4")**	29.5 × 29-28	52/67	11.00 **(36'0")**
611	6SZ	99-03	265	11 **(15)**	23 900 **(52,640)**	12.02 **(39'5")**	3.27 **(10'9")**	3.24 **(10'8")**	2.06 **(6'9")**	29.5R25	66/51	10.2 **(33'5")**
613A	71M	69-76	/150	8.4 **(11)**	13 334 **(29,395)**	9.67 **(31'9")**	2.44 **(8'0")**	2.85 **(9'4.5")**	1.89 **(6'2.5")**	18.0 × 25-12	49/63	9.04 **(29'8")**
613B	38W	76-84	/150	8.4 **(11)**	14 155 **(31,210)**	9.78 **(32'1")**	2.44 **(8'0")**	2.85 **(9'4.5")**	1.89 **(6'2.5")**	18.0 × 25-12	49/64	8.94 **(29'4")**
613C		84-93	175	8.4 **(11)**	14 670 **(32,340)**	10.0 **(32'9")**	2.44 **(8'0")**	3.06 **(10'0")**	1.89 **(6'2.5")**	18.00-25, 16 PR (E-2)	49/63	8.9 **(29'4")**
615	46Z	81-87	/250	12.23 **(16)**	23 400 **(51,590)**	11.6 **(38'1")**	3.048 **(10'0")**	3.590 **(11'8")**	2.21 **(7'3")**	26.5-25, 26 PR (E-2)	53/65	9.63 **(31'7")**
615C		87-93	265	12.23 **(16)**	23 860 **(52,600)**	11.6 **(38'1")**	3.048 **(10'0")**	3.59 **(11'9")**	2.21 **(7'3")**	26.5-25, 26 PR (E-2)	53/79	9.63 **(31'7")**

*Maximum HP only available.

Wheel Loaders (cont'd)

Model	Product Ident. No. Prefix	Years Built	Flywheel Horse-power	Approx. Shipping Wt. kg (lb)	Rated Capacity m^3 (yd^3)	Breakout Force kg (lb)	Width Over Tires m (ft)	Ground Clearance mm (in)	Max. Reach at max. height mm (ft)	Dump Clearance at max. height m (ft)	Maximum Speeds km/h (mph) Fwd.	Rev.	Remarks
938F		94-97	140	13 030 **(28,730)**	2.5 **(3.25)**	12 330 **(27,180)**	2.61 **(8'7")**	400 **(16")**	1004 **(3'4")**	2.85 **(9'4")**	37.9 **(23.6)**	22.0 **(13.7)**	3116 Engine Wet Disc Brakes Z Bar Linkage
938G	4YS	97-02	160	12 962 **(28,578)**	2.8 **(3.65)**	11 227 **(24,770)**	2.60 **(8'6")**	400 **(16")**	1055 **(3'6")**	2.72 **(8'11")**	39.4 **(24.5)**	23.4 **(14.5)**	
944	87J	59-68	100	10 100 **(22,000)**	1.53 **(2.0)**	9800 **(21,700)**	2.40 **(7'10")**	450 **(18")**	905 **(3'0")**	2.96 **(9'9")**	38.5 **(23.9)**	46.6 **(28.9)**	
950	81J	68-81	130	12 930 **(28,500)**	1.53 **(2.07)**	10 320 **(22,760)**	2.41 **(7'11")**	381 **(15")**	740 **(2'5")**	2.82 **(9'3")**	35.9 **(22.3)**	42.5 **(26.4)**	Articulated Steering, 4 Wheel Drive
950B	22Z	81-87	155	14 650 **(32,300)**	2.9 **(3.75)**	15 680 **(35,895)**	2.67 **(5'9")**	427 **(16.8")**	1125 **(3'8")**	2.95 **(9'8")**	36.4 **(22.6)**	39.4 **(24.5)**	Z Bar Linkage
950E	22Z	87-91	160	15 856 **(34,883)**	3.1 **(4.0)**	13 586 **(29,925)**	2.76 **(9'0")**	400 **(15.7")**	1160 **(3'10")**	2.85 **(9'4")**	36.2 **(22.4)**	39.9 **(24.7)**	23.5-25 Std. Tires
950F	7ZF	90-92	170	16 086 **(35,463)**	3.1 **(4.0)**	14 954 **(32,974)**	2.76 **(9'0")**	474 **(18.7")**	1160 **(3'10")**	2.85 **(9'4")**	39.3 **(24.4)**	43.0 **(26.7)**	3116 Engine Wet Disc Brakes
950F Series II	5SK	93-98	170	16 880 **(37,220)**	3.1 **(4.0)**	14 960 **(32,980)**	2.76 **(9'0")**	460 **(18.1")**	1180 **(3'10")**	2.83 **(9'3")**	38.7 **(24.0)**	42.7 **(26.5)**	Integral ROPS Electronic Shift
950G	3JW 4BS	98-02	183	16 904 **(37,266)**	3.5 **(4.5)**	14 888 **(32,810)**	2.89 **(9'6")**	400 **(16")**	1270 **(4'2")**	2.89 **(9'6")**	37.0 **(23.0)**	40.7 **(25.3)**	
960F	9ZJ	94-98	200	18 070 **(39,840)**	3.5 **(4.5)**	14 500 **(31,970)**	2.77 **(9'1")**	454 **(17.9")**	1030 **(3'5")**	2.92 **(9'6")**	39.4 **(24.5)**	43.2 **(26.8)**	Material Handler
962G	4PW 5AS	98-02	200	17 941 **(39,553)**	3.8 **(5.0)**	14 480 **(31,950)**	2.90 **(9'8")**	400 **(16")**	1250 **(4'2")**	2.77 **(9'2")**	37.0 **(23.0)**	40.7 **(25.3)**	
966A	33A	60-63	140	13 060 **(28,800)**	2.10 **(2.75)**	13 470 **(29,700)**	2.70 **(8'10")**	450 **(18")**	900 **(3'0")**	2.95 **(9'8")**	43.0 **(26.7)**	51.5 **(32.3)**	
966B	75A	63-68	150	14 300 **(31,500)**	2.29 **(3.0)**	14 000 **(31,000)**	2.70 **(8'10")**	400 **(16")**	900 **(3'0")**	2.95 **(9'8")**	38.5 **(23.9)**	46.3 **(28.8)**	
966C	76J	68-81	170	16 730 **(36,890)**	3.1 **(4.0)**	11 600 **(25,578)**	2.77 **(9'1")**	400 **(15.7")**	1420 **(4'8")**	2.95 **(9'8")**	38.0 **(23.6)**	45.1 **(28.0)**	3306 Engine
966D	99Y	80-87	200	19 730 **(43,500)**	3.3 **(4.25)**	20 972 **(48,150)**	2.86 **(9'4.8")**	451 **(17.8")**	1230 **(4'0")**	3.14 **(10'3.5")**	34.3 **(21.3)**	38.1 **(23.7)**	3306 Engine Z Bar Linkage
966E	99Y	87-90	216	20 324 **(44,767)**	3.8 **(5.0)**	18 939 **(41,715)**	2.94 **(9'8")**	476 **(18.7")**	1290 **(4'3")**	2.97 **(9'9")**	38.2 **(23.7)**	43.6 **(27.0)**	26.5-25 Std. Tires
966F	4YG	90-93	220	20 466 **(45,119)**	3.8 **(5.0)**	20 493 **(45,187)**	2.94 **(9'8")**	476 **(18.7")**	1280 **(4'2")**	2.98 **(9'9")**	37.6 **(23.4)**	42.6 **(26.4)**	Wet Disc Brakes
966F Series II	1SL	93-98	220	21 290 **(46,950)**	3.8 **(5.0)**	20 490 **(45,180)**	2.94 **(9'8")**	476 **(18.7")**	1277 **(4'2")**	2.98 **(9'9")**	38.8 **(24.1)**	43.9 **(27.3)**	Integral ROPS Electronic Shift
966G	3SW 3ZS	98-02	235	22 068 **(48,651)**	4.0 **(5.25)**	19 986 **(44,120)**	2.97 **(9'9")**	565 **(22")**	1295 **(4'3")**	3.1 **(10'2")**	37.1 **(23.1)**	42.2 **(26.2)**	
970F	7SK	93-98	250	23 690 **(52,240)**	4.7 **(6.0)**	16 510 **(36,400)**	2.94 **(9'8")**	482 **(19")**	1357 **(4'5")**	3.22 **(10'6")**	37.3 **(23.2)**	42.7 **(26.5)**	Material Handler New Model

PAVING PRODUCTS — DOUBLE DRUM, COMBI AND PNEUMATIC TIRE COMPACTORS

Model	Product Ident. No. Prefix	Years Built	Flywheel kW (hp)	Approx. Op. Weight kg (lb)	Drive	Drum Width mm (in)	Centrifugal Force kg (lb)	Maximum Op. Speed km/h (mph)
CB-214	6FD	85-88	24 **(33)**	2300 **(5070)**	Drum (2)	1000 **(39.4")**	2041 **(4500)**	10.6 **(6.6)**
CB-214B	6LF	88-93	24 **(33)**	2300 **(5072)**	Drum (2)	990 **(39")**	2018 **(4450)**	10.4 **(6.5)**
CB-214C	6LF	93-00	25 **(33)**	2320 **(5115)**	Drum (2)	1000 **(39.4")**	2592 **(5715)**	10.5 **(6.5)**
CB-214D	1TZ	99-03	23.5 **(31.5)**	2430 **(5355)**	Hydraulic	1000 **(39.4")**	2590 **(5710)**	10 **(6.2)**
CB-224	6GD	85-88	24 **(33)**	2450 **(5400)**	Drum (2)	1200 **(47.2")**	2450 **(5400)**	10.6 **(6.6)**
CB-224B	6LF	88-93	24 **(33)**	2450 **(5402)**	Drum (2)	1199 **(47.2")**	2449 **(5400)**	10.4 **(6.5)**
CB-224C	6LF	93-00	25 **(33)**	2420 **(5335)**	Drum (2)	1200 **(47.2")**	2920 **(6570)**	10.5 **(6.5)**
CB-224D	8RZ	99-03	23.5 **(31.5)**	2610 **(5750)**	Hydraulic	1200 **(47.2")**	3039 **(6700)**	10 **(6.2)**
CB-225D	9FZ	99-03	23.5 **(31.5)**	2390 **(5270)**	Hydraulic	1200 **(47.2")**	3039 **(6700)**	10 **(6.2)**
CB-314	6HD	85-89	41 **(55)**	3357 **(7400)**	Drum	1120 **(44")**	2770 **(6100)**	8 **(5)**
CB-334D	3JZ 4CZ DCZ	98-03 98-02 02-04	32 **(43)**	3850 **(8490)**	Hydraulic	1300 **(51")**	3263 **(7250)**	11 **(7)**
CB-335D	5PZ BBW D4E	98-03 00-03 02-03	32 **(43)**	3620 **(7980)**	Hydraulic	1300 **(51")**	3263 **(7250)**	11 **(7)**
CB-414	6KD	85-89	52 **(70)**	5780 **(12,750)**	Drum	1397 **(55")**	6350 **(14,000)**	13.7 **(8.5)**
CB-424	6LD	85-89	54 **(73.5)**	6220 **(13,710)**	Drum (2)	1397 **(55")**	4485 **(9885)**	11.0 **(6.8)**
CB-434	3TF	89-94	60 **(80)**	6610 **(14,540)**	Drum (2)	1422 **(56")**	7620 **(16,800)**	11.6 **(7.2)**
CB-434B	6AL	94-95	60 **(80)**	6577 **(14,500)**	Drums	1422 **(56")**	7620 **(16,800)**	0-11.6 **(0-7.2)**
CB-434C	4DN	95-03	52 **(70)**	6485 **(14,300)**	Hydraulic	1422 **(56")**	7620 **(16,800)**	11.6 **(7.2)**
CB-514	6YD	85-88	68 **(91)**	9730 **(21,450)**	Drum (2)	1730 **(68")**	9073 **(20,000)**	11 **(7)**

MOTOR GRADERS

Model	Low		Medium		High	
	liter	U.S. gal	liter	U.S. gal	liter	U.S. gal
120H*	9.0-13.0	**2.5-3.5**	13.0-17.0	**3.5-4.5**	15.0-19.0	**4.0-5.0**
135H*	9.0-13.0	**2.5-3.5**	13.0-17.0	**3.5-4.5**	17.0-21.0	**4.5-5.5**
12H	9.0-13.0	**2.5-3.5**	13.0-19.0	**3.5-5.0**	19.0-23.0	**5.0-6.0**
140H*	9.0-15.0	**2.5-4.0**	15.0-19.0	**4.0-5.0**	19.0-25.0	**5.0-6.5**
143H**	9.0-15.0	**2.5-4.0**	15.0-21.0	**4.0-5.5**	21.0-26.0	**5.5-7.0**
160H*	13.0-19.0	**3.5-5.0**	17.0-25.0	**4.5-6.5**	25.0-30.0	**6.5-8.0**
163H**	13.0-19.0	**3.5-5.0**	19.0-25.0	**5.0-6.5**	25.0-30.0	**6.5-8.0**
14H	13.0-21.0	**3.5-5.5**	21.0-26.0	**5.5-7.0**	26.0-32.0	**7.0-8.5**
16H	17.0-25.0	**4.5-6.5**	25.0-32.0	**6.5-8.5**	32.0-40.0	**8.5-10.5**
24H	32.0-45.0	**8.5-12.0**	45.0-61.0	**12.0-16.0**	61.0-74.0	**16.0-19.5**

*Multiply consumption by 1.10 when equipped with Variable Horsepower or Engine Power Management.
**Multiply consumption by 1.15 when operating in All Wheel Drive.

Typical Application Description
(relative to work application)

Low — Light road maintenance. Finish grading. Plant & road mix work. Large amounts of traveling. Light snow plowing.

Medium — Haul road maintenance. Average road maintenance, road mix work, scarifying. Road construction, ditching, loose fill spreading. Land forming, land leveling & elevating grader use. Medium to heavy snow removal.

High — Heavy maintenance of hard packed roads with embedded rock. Heavy fill spreading, base material spreading & ditching. Ripping/scarifying of asphalt or concrete. Continuous high load factor. High impact. Heavy snow plowing.

Load Factor Guide
(average engine load factor based on application description for each range)

Low 35%-50%
Medium 50%-65%
High 65%-80%

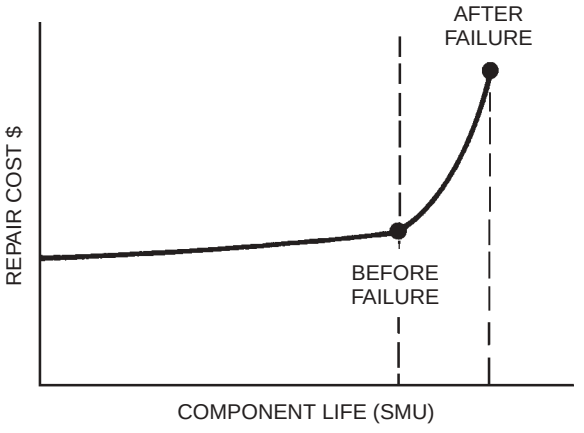
COMPACTION EQUIPMENT

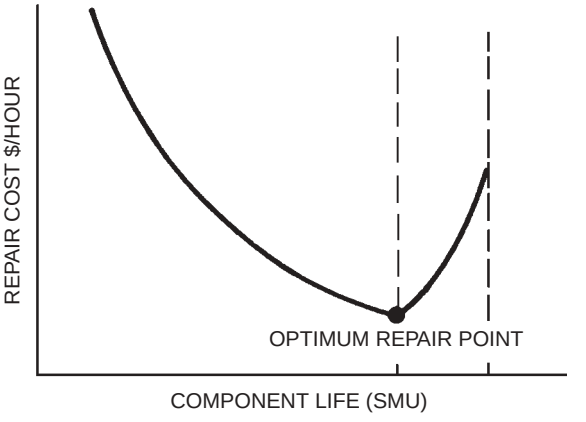
Model	Low		Medium		High	
	liter	U.S. gal	liter	U.S. gal	liter	U.S. gal
CP-323C	8.0-13.0	**2.0-3.5**	11.0-15.0	**3.0-4.0**	11.0-19.0	**3.0-5.0**
CS-323C	8.0-13.0	**2.0-3.5**	11.0-15.0	**3.0-4.0**	11.0-19.0	**3.0-5.0**
CS-423E	11.0-13.0	**3.0-3.5**	11.0-17.0	**3.0-4.5**	13.0-19.0	**3.5-5.0**
CS-431C	8.0-11.0	**2.0-3.0**	11.0-13.0	**3.0-3.5**	11.0-15.0	**3.0-4.0**
CP-433E	11.0-13.0	**3.0-3.5**	11.0-17.0	**3.0-4.5**	13.0-19.0	**3.5-5.0**
CS-433E	11.0-13.0	**3.0-3.5**	11.0-17.0	**3.0-4.5**	13.0-19.0	**3.5-5.0**
CS-531D	11.0-13.0	**3.0-3.4**	12.0-14.0	**3.2-3.7**	13.0-16.0	**3.4-4.2**
CP-533E	10.0-12.0	**2.64-3.17**	11.0-13.0	**2.9-3.4**	12.0-15.0	**3.2-4.0**
CS-533E	10.0-12.0	**2.64-3.17**	11.0-13.0	**2.9-3.4**	12.0-15.0	**3.2-4.0**
CP-563E	12.0-14.0	**3.2-3.7**	14.0-17.0	**3.7-4.5**	17.0-20.0	**4.5-5.3**
CS-563E	12.0-14.0	**3.2-3.7**	14.0-17.0	**3.7-4.5**	17.0-20.0	**4.5-5.3**
CP-573E	12.0-15.0	**3.2-4.0**	14.0-18.0	**3.7-4.8**	17.0-21.0	**4.5-5.6**
CS-573E	12.0-15.0	**3.2-4.0**	14.0-18.0	**3.7-4.8**	17.0-21.0	**4.5-5.6**
CS-583E	15.0-17.0	**4.0-4.5**	17.0-19.0	**4.5-5.0**	19.0-23.0	**5.0-6.0**
CP-663E	15.0-17.0	**4.0-4.5**	17.0-19.0	**4.5-5.0**	21.0-22.5	**5.5-6.0**
CS-663E	15.0-17.0	**4.0-4.5**	17.0-19.0	**4.5-5.0**	21.0-22.5	**5.5-6.0**
CS-683E	17.0-19.0	**4.5-5.0**	19.0-21.0	**5.0-5.5**	22.5-24.5	**6.0-6.5**
CB-214D	2.0-3.0	**0.5-1.0**	2.5-3.5	**0.5-1.0**	3.0-4.0	**1.0-1.5**
CB-224D	2.0-4.0	**0.5-1.0**	3.0-4.0	**0.5-1.0**	3.5-4.5	**1.0-1.5**
CB-225D	2.0-3.0	**0.5-1.0**	2.5-3.5	**0.5-1.0**	3.0-4.0	**1.0-1.5**
CB-334E	3.8-5.7	**1.0-1.5**	5.7-7.0	**1.5-1.8**	7.0-10.0	**1.8-2.6**
CB-335E	3.5-5.5	**0.9-1.4**	5.5-6.5	**1.4-1.7**	6.5-9.0	**1.7-2.4**
CB-434C	11.0-13.0	**3.0-3.5**	13.0-17.0	**3.5-4.5**	17.0-19.0	**4.5-5.0**
CB-534D	5.7-7.6	**1.5-2.0**	7.6-11.4	**2.0-3.0**	11.4-15.2	**3.0-4.0**
CB-634C	13.0	**3.5-4.0**	15.0-19.0	**4.0-5.0**	19.0-21.0	**5.0-5.5**
PS-150C	8.0-11.0	**2.0-3.0**	11.0-13.0	**3.0-3.5**	13.0-15.0	**3.5-4.0**
PS-200B	11.0	**3.0**	11.0-13.0	**3.0-3.5**	13.0-15.0	**3.5-4.0**
PF-300C	13.0	**3.5**	15.0-17.0	**4.0-4.5**	17.0-23.0	**4.5-6.0**
PS-300C	13.0	**3.5**	15.0-17.0	**4.0-4.5**	17.0-23.0	**4.5-6.0**
PS-360C	17.4-9.8	**1.9-2.6**	9.8-12.4	**2.6-3.3**	12.4-14.5	**3.3-4.6**

Typical Application Description
(relative to work application)
Low Asphalt mix, 51-100 mm **(2-4 inch)** lifts.
Medium Granular soil, 100-305 mm **(4-12 inch)** lifts.
High Heavy cohesive soil, 305 mm **(12 inch)** lifts or more.

Load Factor Guide
(average engine load factor based on application description for each range)
Low Vibration 30%-50%
Medium Vibration 50%-80%
High Vibration 80%-100%

As stated, repair costs are affected by application, operating conditions, ownership period, maintenance, and age of the equipment. The most significant effects on cost will be those factors affecting major component life. A second significant factor is whether the repair is performed before or after catastrophic failure. Repair before a major component fails can be one-third of an after failure repair with only a moderate sacrifice in life (see graphs). Oil analysis and other diagnostic tools, maintenance inspections and indicators, and operator notes are vital to determine the optimum repair point and thereby achieving lower hourly repair costs. Maintenance practices are significant because they affect component longevity and the percentage of scheduled, before failure repairs.





Tire and Rim Assoc. Code	Tread Type	FIRESTONE	CONTINENTAL GENERAL	GOODYEAR	BRIDGESTONE	MICHELIN
Compactor						
C-1	Smooth Compactor	Plain Roller		Smooth Compactor	Road Roller	X LISSE X LC
C-2	Grooved Compactor			All Weather Compactor	Alligator 2	
Earthmover						
E-1	Rib	Rib Excavator	Rock Rib LCM	Hard Rock RIB		XRIB
E-2	Traction	Super Ground Grip	All Duty DTL TL100	Earthmover Sure Grip Sure Grip Lug	Fast Grip, G-Lug VKT, VFT, VGT, VHB, VSB, VHS	XV, XL, XMP, XH, XS, XR
E-3	Rock	Rock Grip Excavator Super Rock Grip E67	ND LCM CM 100 SL 100 XG-3 LCM EA3	Hard Rock Lug Hard Rock Lug-8 Super Hard Rock Lug Super Hard Rock Lug-8 HRL-3B GP-2B RL-2+ RL-3J RL-3 RL-2F RL-3+ RT-3A	R-Lug, W-Lug E-Lug, VE Block V-LUG 2, VMT, VEL, VRL, VLT	XK, XR XMS XH XADN XAD65-1 XZH XADT XTS
E-4	Rock Deep Tread	Super Rock Grip Deep Tread Rock Master Deep Tread Power Lug Deep Tread	ND Super LCM Super LCM CM 150 XG-4 DTH4	HRL-4B RL-4 RL-4J RL-4H/4H II RL-4J II RL-4A RL-4B GP-4B GP-4D	R-Lug S, E-Lug S E-Lug S2 VELS, VRLS VMTS, VALS VZTS, VMTP VLTS	XDT, XDR XKDI XRS XADT
E-5	Rock Extra Deep Tread	Super Deep Tread				
E-7	Flotation	All Non-Skid EM Sand Champion Sand & Highway	Super Sand Flotation	SRB-7A	Alligator, VSJ Sand Clipper 2 S-Lug	XS XRIB
Grader						
G-1	Rib	Rib Road Builder		RBG-IA	Rib Grader	
G-2	Traction	Super Ground Grip Road Builder	Loader Grader Loader Grader II TG2 TGL2	SGG-2A AS-3A SG-2B	Fast Grip, G-Lug VKT, VSW, VUT	XTL, XMPS, X SNOPLUS, XGLA2, XR
G-3	Rock	Rock Grip Road Builder	ND LCM Grader	RKG-3A	R-Lug	XH, XHAD XRDN, XLD L3
G-4	Rock Deep Tread	Super Rock Grip Deep Tread Road Builder		SGG-4B	R-Lug 5	XRD1, XLDD1 XLD SUPER L3
G-5	Rock Extra Deep Tread					XLDD2

T-km/h (Ton-MPH) RATINGS
AT 38° C (100° F) AMBIENT TEMPERATURE

For Haul Lengths of 32 km (20 Miles) or Less One Way
Maximum Speed Not to Exceed 48 km (30 Miles) per Hour

BRIDGESTONE RADIAL PLY

Industry Code		E-2			E-2/E-3			E-3			E-4			E-4		
Tread Design		VKT			VMT/VLT			VRL			VALS			VLTS		
Custom Code		E2A	E1A	E3A	E2A	E1A	E3A	E2A	E1A	E3A	E2A	E1A	E3A	E2A	E1A	E3A
17.5R25	T-km/h	95			90	144										
	Ton-MPH	**65**			**62**	**99**										
20.5R25	T-km/h	160	206		149	194					114			126		
	Ton-MPH	**110**	**141**		**102**	**133**					**78**			**86**		
23.5R25	T-km/h	205	263		190	248					146			161		
	Ton-MPH	**140**	**180**		**130**	**170**					**100**			**110**		
26.5R25	T-km/h	257	312		220	293					165			186		
	Ton-MPH	**176**	**214**		**151**	**201**					**113**			**127**		
29.5R25	T-km/h	310	376		266	354	399							225		
	Ton-MPH	**212**	**258**		**182**	**242**	**273**							**154**		
29.5R29	T-km/h	330	401								212	257				
	Ton-MPH	**226**	**275**								**145**	**174**				
33.25R29	T-km/h	407	494					319	435							
	Ton-MPH	**279**	**338**					**218**	**298**							
29.5R35	T-km/h							279	380							
	Ton-MPH							**191**	**260**							
33.25R35	T-km/h	441						346	472							
	Ton-MPH	**302**						**237**	**323**							
37.25R35	T-km/h	530	644	720				413	563							
	Ton-MPH	**363**	**441**	**493**				**283**	**386**							
37.5R39	T-km/h		696													
	Ton-MPH		**477**													
40.5/75R39	T-km/h							495	675	765						
	Ton-MPH							**339**	**462**	**524**						
25/65R25	T-km/h	162														
	Ton-MPH	**111**														
30/65R25	T-km/h				225											
	Ton-MPH				**154**											

NOTE: For cycle lengths of 5 km **(3 miles)** or less (round trip), multiply the T-km/h **(Ton-MPH)** value in this table by 1.12.
Additional tread compounds are available to meet specific T-km/h **(Ton-MPH)**.

WHEEL LOADERS — Radial Ply

Model	Tire Size	Strength Index	Pressure							
			Michelin				Dunlop			
			Front		Rear		Front		Rear	
			kPa	psi	kPa	psi	kPa	psi	kPa	psi
902	335/80R18 XM27	★	304	**44**	221	**32**	—	**—**	—	**—**
	335/80R18 SPT9	★	—	**—**	—	**—**	276	**40**	172	**25**
906	365/80R20 SPT9	★	—	**—**	—	**—**	276	**40**	172	**25**
	375/75R20 XM27	★	276	**40**	193	**28**	—	**—**	—	**—**
	405/70R20 SPT9	★	—	**—**	—	**—**	241	**35**	172	**25**
908	425/75R20 XM27	★	276	**40**	193	**28**	—	**—**	—	**—**
	405/70R20 SPT9	★	—	**—**	—	**—**	276	**40**	207	**30**

Model	Tire Size	Strength Index	Pressure											
			Michelin				Goodyear				Bridgestone			
			Front		Rear		Front		Rear		Front		Rear	
			kPa	psi	kPa	psi	kPa	psi	kPa	psi	kPa	psi	kPa	psi
914G	15.5R25	★	310	**45**	172	**25**	—	**—**	—	**—**	414	**60**	276	**40**
	17.5R25	★	276	**40**	172	**25**	414	**60**	310	**45**	414	**60**	276	**40**
924G	17.5R25	★	276	**40**	172	**25**	414	**60**	310	**45**	414	**60**	276	**40**
	555/70R25	★	276	**40**	172	**25**	—	**—**	—	**—**	—	**—**	—	**—**
	20.5R25	★	241	**35**	172	**25**	414	**60**	310	**45**	414	**60**	276	**40**
928G	17.5R25	★	379	**55**	172	**25**	414	**60**	310	**45**	414	**60**	276	**40**
	555/70R25	★	310	**45**	172	**25**	—	**—**	—	**—**	—	**—**	—	**—**
	20.5R25	★	310	**45**	172	**25**	414	**60**	310	**45**	414	**60**	276	**40**
938G	20.5R25	★	310	**45**	172	**25**	276	**40**	241	**35**	276	**40**	207	**30**
	550/65R25	★	310	**45**	172	**25**	276	**40**	241	**35**	276	**40**	207	**30**
950G	23.5R25	★	241	**35**	172	**25**	310	**45**	207	**30**	310	**45**	207	**30**
	650/65R25	★	241	**35**	172	**25**	310	**45**	207	**30**	310	**45**	207	**30**
962G	23.5R25	★	276	**40**	172	**25**	345	**50**	207	**30**	345	**50**	207	**30**
	650/65R25	★	276	**40**	172	**25**	345	**50**	207	**30**	345	**50**	207	**30**
966G	26.5R25	★	310	**45**	172	**25**	345	**50**	207	**30**	345	**50**	276	**40**
	755/65R25	★	310	**45**	172	**25**	345	**50**	207	**30**	345	**50**	276	**40**
972G	26.5R25	★	345	**50**	172	**25**	414	**50**	276	**40**	345	**50**	276	**40**
	755/65R25	★	345	**50**	172	**25**	414	**50**	276	**40**	345	**50**	276	**40**
980G	26.5R25	★	—	**—**	—	**—**	448	**65**	310	**45**	414	**60**	276	**40**
	29.5R25	★	379	**55**	207	**30**	345	**50**	207	**30**	345	**50**	276	**40**
988G	35/65R33	★	586	**85**	276	**40**	483	**70**	345	**50**	540	**80**	345	**50**
	875/65R33	★★	—	**—**	—	**—**	655	**95**	448	**65**	—	**—**	—	**—**
990	45/65R39	★	483	**70**	276	**40**	—	**—**	—	**—**	580	**85**	414	**60**
Series II	40.5/75R39	★	—	**—**	—	**—**	483	**70**	345	**50**	—	**—**	—	**—**
992G	45/65R45	★	552	**80**	276	**40**	586	**85**	448	**65**	580	**85**	414	**60**
	45/65R45	★★	—	**—**	—	**—**	—	**—**	—	**—**	685	**95**	414	**60**
994D	55/80R57	★	**Contact Michelin**				—	**—**	—	**—**	—	**—**	—	**—**

Each push tractor is capable of handling five plus scrapers. Therefore the two pushers can adequately serve the eleven scrapers.

9. Estimate Production:

Cycles/hour = 60 min ÷ Total cycle time
= 60 min/hr ÷ 6.95 min/cycle
= 8.6 cycles/hr

Estimated load = Heaped capacity × L.F.
= 31 LCY × 0.80
= 24.8 BCY

Hourly unit production = Est. load × cycles/hr
= 24.8 BCY × 8.6 cycles/hr
= 213 BCY/hr

Adjusted production = Efficiency factor × hourly production
= 0.83 (50 min hour) × 213 BCY
= 177 BCY/hr

Hourly fleet production = Unit production × No. of units
= 177 BCY/hr × 11
= 1947 BCY/hr

10. Estimate Compaction:

Compaction requirement = S.F. × hourly fleet production
= 0.85 × 1947 BCY/hr
= 1655 CCY/hr

Compaction capability (given the following):

Compacting width, 7.4 ft	(W)
Average compacting speed, 6 mph	(S)
Compacted lift thickness, 7 in	(L)
No. of passes required, 3	(P)

825G production =

$$\text{CCY/hr} = \frac{W \times S \times L \times 16.3}{P} \quad \text{(conversion constant)}$$

$$= \frac{7.4 \times 6 \times 7 \times 16.3}{3}$$

= 1688 CCY/hr

Given the compaction requirement of 1655 CCY/hr, the 825G is an adequate compactor match-up for the rest of the fleet. However, any change to job lay-out that would increase fleet production would upset this balance.

11. Estimate Total Hourly Cost:

631G	@ $65.00/hr × 11 units	$715.00
D9T	@ 75.00/hr × 2 units	150.00
12H	@ 15.00/hr × 2 units	30.00
825G	@ 40.00/hr × 1 unit	40.00
Operators	@ 20.00/hr × 16 men	320.00
Total Hourly Owning and Operating Cost		$1,255.00

12. Calculate Performance:

$$\text{Cost per BCY} = \frac{\text{Total cost/hr}}{\text{Production/hr}}$$

$$= \frac{\$1{,}255.00}{1947 \text{ BCY/hr}}$$

= 64¢ BCY

NOTE: Ton-MPH calculations should be made to judge the ability of the tractor-scraper tires to operate safely under these conditions.

13. Other Considerations:

If other equipment such as rippers, water wagons, discs or other miscellaneous machines are needed for the particular operation, then these machines must also be included in the cost per BCY.

● ● ●

Example problem (Metric)

A contractor is planning to put the following spread on a dam job. What is the estimated production and cost/BCM?

Equipment:

11 — 631G Wheel Tractor-Scrapers
2 — D9T Tractors with C-dozers
2 — 12H Motor Graders
1 — 825G Tamping Foot Compactor

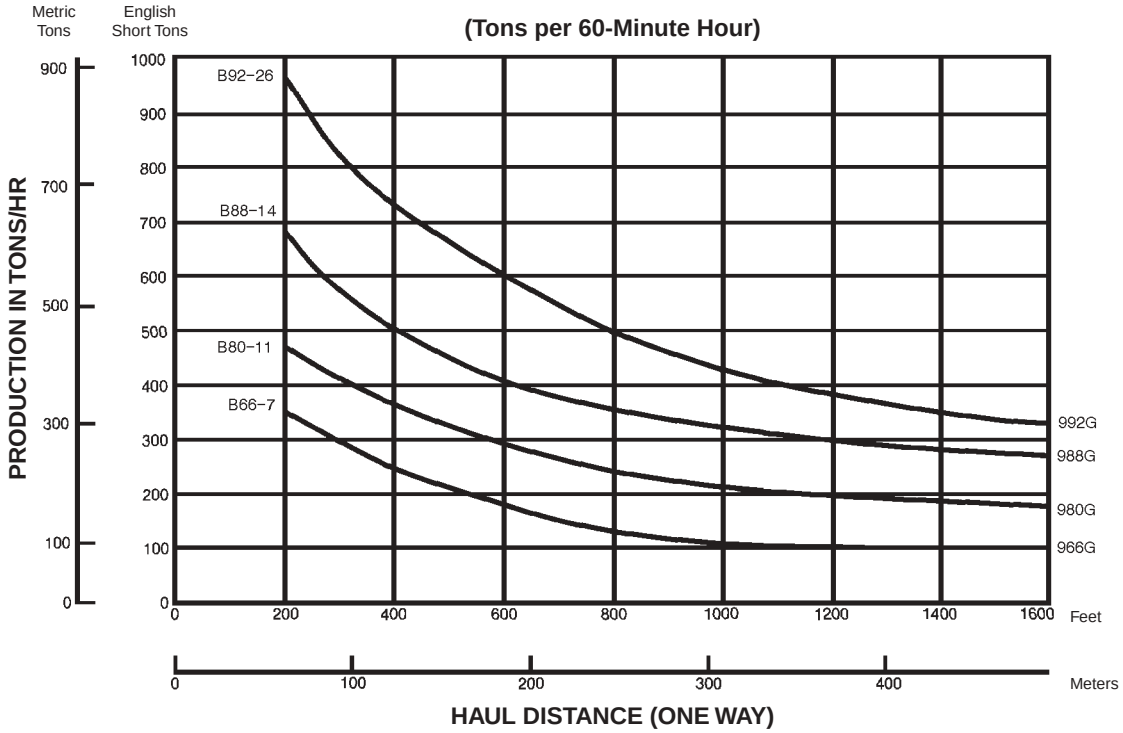
Material:

Description — Sandy clay; damp, natural bed
Bank Density — 1770 kg/BCM
Load Factor — 0.80
Shrinkage Factor — 0.85
Traction Factor — 0.50
Altitude — 2300 meters

Wheel Loaders Estimated Production with Coal Bucket

Factors:

- **Mixed Bituminous Coal**
- **Storage and Reclamation**
- **0% Grade**
- **0.80 Coefficient of Traction**



Loader	Coal Bucket Model	Bucket Capacities Metric tons	U.S. tons	m^3	yd^3
992G	B92-25	17.0	**18.8**	19.3	**25.25**
988G	B88-14	9.4	**10.4**	10.3	**13.50**
980G	B80-11	7.3	**8.1**	8.2	**10.75**
966G	B66-7	4.8	**5.3**	5.5	**7.25**

NOTE: Bucket capacities include bottom cutting edge in tons figured using weight of coal at 890 kg/m^3 **(1500 lb/yd^3)**.

Notes —

Solution

a. The Track-Type Tractor will achieve 475 to 595 kg/m³ (800 to 1000 lb/yd³) in-place density. The Cat steel wheeled landfill compactor will achieve 595 to 830 kg/m³ (1000 to 1400 lb/yd³) in-place density.

b. There are 3 249 125 m³ (4,250,000 yd³) available. 500 metric tons (550 tons) per day is how many m³ (yd³)? Assume a minimum density of 475 kg/m³ (800 lb/yd³).

$$500 \text{ metric tons/day} \times \frac{1000 \text{ kg/metric ton}}{475 \text{ kg/m}^3} = 1052 \text{ m}^3\text{/day}$$

$$550 \text{ tons/day} \times \frac{2000 \text{ lb/ton}}{800 \text{ lb/yd}^3} = 1375 \text{ yd}^3\text{/day}$$

$5.5 \text{ days/week} \times 52 \text{ weeks/year} = 286 \text{ days/year}$

Yearly volume: $1052 \times 286 = 300\,872 \text{ m}^3$
$1375 \times 286 = 393{,}250 \text{ yd}^3$

Landfill life at this density:

$$\frac{3\,250\,000 \text{ m}^3}{300\,872 \text{ m}^3\text{/year}} = \frac{4{,}250{,}000 \text{ yd}^3}{393{,}250 \text{ yd}^3\text{/year}} = 10.8 \text{ years}$$

Similar calculations are performed to generate the following tables.

500 METRIC TONS/DAY (550 TONS/DAY)

Density kg/m³	Density lb/yd³	Landfill Life (years)
475	**800**	10.8
595	**1000**	13.5
715	**1200**	16.2
835	**1400**	18.9
950	**1600**	21.6

680 METRIC TONS/DAY (750 TONS/DAY)

Density kg/m³	Density lb/yd³	Landfill Life (years)
475	**800**	7.9
595	**1000**	9.9
715	**1200**	11.9
835	**1400**	13.9
950	**1600**	15.9

From the tables we determine that a track-type tractor, at 500 metric tons per day (550 tons/day), will provide 13.5 landfill life years at 595 kg/m³ (1000 lb/yd³). Compaction will extend that life 5.4 years to 18.9 years at 835 kg/m³ (1400 lb/yd³).

Proper compaction techniques are necessary to achieve the higher refuse densities and increase landfill life.

c. Advantages: Provides highest compaction densities extending landfill life.
Limitations: Specialty unit designed to spread and compact — does not excavate virgin material economically, but can handle stockpile cover material.

d. Advantages: most versatile unit, well suited to site preparation, finishing and access road construction and maintenance; all weather machines with excellent tractive ability.
Limitation: compaction — cannot achieve the in-place refuse densities of the specialized landfill compactors.

e. Minimum of two. Additional equipment would depend on supplemental tasks.

f. Track-type tractor — for earthmoving and refuse spreading work; steel wheeled compactor-quantity of refuse and land cost would justify.

g. D8 — keeping existing unit; D9 — when new tractor is necessary; 826H — with large amount of demolition debris and brush and projected increase in tonnage would justify 826H over 816F.

NOTE: Ballasting the wheels on Caterpillar Landfill Compactors to increase machine weight and achieve higher compaction densities is not recommended. Landfills are high rimpull applications. Ballasting the wheels will significantly increase machine weight but decrease overall performance when traveling on the fill. Also, wheels are not necessarily air tight or leak proof.

MODEL	816F		826H		836H	
Type	**Landfill Spreading**		**Landfill Spreading**		**147-4425 Straight**	
Capacity**						
Earth	2.9 m^3	**3.79 yd^3**	3.68 m^3	**4.81 yd^3**	5 m^3	**6.66 yd^3**
Refuse	10.48 m^3	**13.70 yd^3**	12.74 m^3	**16.66 yd^3**	19.8 m^3	**25.9 yd^3**
Weight, Dozer*	2107 kg	**4645 lb**	2739 kg	**6038 lb**	3400 kg	**7650 lb**
General Dimensions: (Tractor & Dozer)						
Length	7.79 m	**25'7"**	8.38 m	**27'6"**	10.18 m	**33'4"**
Width	3.65 m	**12'0"**	4.5 m	**14'9"**	5.19 m	**17'0"**
Blade Dimensions:						
Width, End Bits	3.65 m	**12'0"**	4.5 m	**14'9"**	5.19 m	**17'0"**
Height, Trash Rack	1915 mm	**6'3"**	1935 mm	**6'4"**	2220 mm	**7'3"**

*Total Bulldozer Arrangement.
**Blade capacities determined by SAE recommended practice J1265.

U-BLADE	816F		826H		836H	
Model:	**7Q-8239**		**263-6869**		**260-2015**	
Blade:						
Capacity (Refuse)	12 m^3	**16 yd^3**	17 m^3	**22 yd^3**	25 m^3	**33 yd^3**
Length (Cutting Width)	3658 mm	**12'0"**	4369 mm	**14'4"**	5182 mm	**17'0"**
Height	1702 mm	**5'7"**	2007 mm	**6'7"**	2210 mm	**7'3"**
Weight, Installed (without Hydraulics)	1633 kg	**3600 lb**	2994 kg	**6600 lb**	4309 kg	**9500 lb**

SEMI-U BLADE	816F		826H	836H
Model:	**213-4473**		**N/A**	**N/A**
Blade:				
Capacity (Refuse)	9 m^3	**12 yd^3**		
Length (Cutting Width)	3785 mm	**12'5"**		
Height	1626 mm	**5'4"**		
Weight, Installed (without Hydraulics)	2068 kg	**4560 lb**		

W-BLADE	816F		826H	
Model:	**156-8316**		**135-7326**	
Replaces “S” Blade				
Blade:				
Capacity (Refuse)	12 m^3	**16 yd^3**	17 m^3	**22 yd^3**
(Dirt)	7.11 m^3	**9 yd^3**	—	**—**
Length (Cutting Width)	3658 mm	**12'0"**	4420 mm	**14'6"**
Moldboard Height	1854 mm	**6'1"**	2057 mm	**6'9"**
Weight, Installed (without Hydraulics)	2068 kg	**4560 lb**	2994 kg	**6600 lb**

TILT STRAIGHT BLADE	816F		826H	
Model:	**136-7893**		**136-7892**	
Blade:				
Capacity (Refuse)	11 m^3	**14 yd^3**	13 m^3	**17 yd^3**
Length (Cutting Width)	3658 mm	**12'0"**	4369 mm	**14'4"**
Weight, Installed	2323 kg	**4900 lb**	3529 kg	**7780 lb**

Laser Grade Control System Savings (Metric)

Laser Grade Production per Day: 2787 m^2 (double production)

Days to Fine Grade: 1.3

Laser Grading Tolerance (12.7 mm improvement): ± 6.4 mm

Grade Stake Savings (3 vs. 85 stakes): $492

Material Savings (60% Material Overage Saved): $728

Concrete Savings (12.7 mm saved due to tighter tolerance): $4630

Grade Checker Savings (not needed): $200

Labor Savings (1 vs. 3.25) $550

Dozer Costs Savings (1.3 vs. 2.7 days): $715

Loader Costs Savings (1.3 vs. 2.7 days): $470

Savings Resulting from Laser Grade Control System: $7768

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Laser Grade Control System Savings (English)

Laser Grade Production per Day: 30,000 ft^2 (double production)

Days to Fine Grade: 1.3

Laser Grading Tolerance (0.5 in improvement): ± 0.25 in

Grade Stake Savings (3 vs. 85 stakes): $492

Material Savings (60% Material Overage Saved): $728

Concrete Savings (0.5 in saved due to tighter tolerance): $4630

Grade Checker Savings (not needed): $200

Labor Savings (1 vs. 3.25) $550

Dozer Costs Savings (1.3 vs. 2.7 days): $715

Loader Costs Savings (1.3 vs. 2.7 days): $470

Savings Resulting from Laser Grade Control System: $7768