



Case

W20C Loader



110 (82 kW) NET FLYWHEEL HORSEPOWER

Case 504 in³ (8259 cm³) diesel engine

FULL POWERSHIFT TRANSMISSION

Four speeds forward, two reverse

SINGLE LEVER SHIFT CONTROL

Modulated transmission clutching for fast, smooth, on the go directional changes

TWIN TURBINE TORQUE CONVERTER

Automatically shifts to meet changing load demands for optimum cycling productivity

FRONT MOUNTED OPERATOR'S COMPARTMENT

Visibility, controllability, serviceability, comfort and noise reduction

IN-LINE LOADER LINKAGE

All linkage mounted in line with the loader lift arms for good visibility to bucket work area

AIR/HYDRAULIC BRAKES

Four-wheel caliper disc

LONG 108" (2.74 m) WHEELBASE PLUS 40° ARTICULATION

Combines operational stability and balance with excellent turning radius

CENTER-PIVOT ARTICULATION

Allows rear and front tires to track at all times

Unit shown is equipped with non-standard items.

JI Case
A Tenneco Company



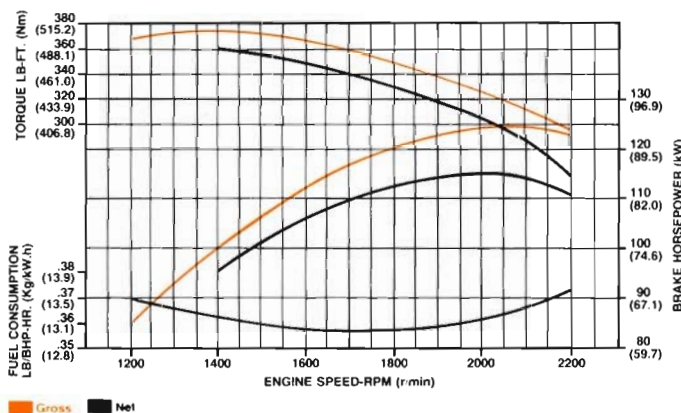
Construction Equipment Division
700 State Street Racine, WI 53404 U.S.A.

W20C SPECIFICATIONS

ENGINE

- Make and model Case A504BD
 Fuel Diesel
 Maximum rated horsepower
 (1) Gross 123 @ 2200 rpm
 (91.7 kW @ 2200 r/min)
 (2) SAE net 110 @ 2200 rpm
 (82 kW @ 2200 r/min)
 Torque, maximum lbs-ft.
 Gross 375 @ 1400 rpm
 (508.4 Nm @ 1400 r/min)
 Net 360 @ 1400 rpm
 (488.1 Nm @ 1400 r/min)
 Cylinders, number (valve-in-head) 6
 Bore and stroke 4.6" x 5"
 (117 mm x 127 mm)
 Displacement 504 in³ (8.26 liters)
 Air cleaner (with service indicator) Two element, dry type
 Oil filter Full-flow type
- (1) Manufacturer's rating of maximum engine horsepower at flywheel per SAE J270.
 (2) SAE net flywheel horsepower of engine as applied to this vehicle when equipped with operating accessories per SAE 270.

POWER CURVE



ELECTRICAL SYSTEM

- Voltage 24 volt
 Standard alternator 40 amp
 Batteries (2) 12-volt
 System protected by circuit breakers.

TRAVEL SPEEDS (with 17.5 x 25 tires)

	1st	2nd	3rd	4th
	mph	km/h	mph	km/h
Forward	3.7	5.95	7.5	12.0
Reverse	4.7	7.56	9.7	15.61

TRANSMISSION

Four speeds forward, two speeds reverse, powershift. Single lever control. Modulated clutching. Transmission shifts automatically from first to second and third to fourth.

TORQUE CONVERTER

Twin turbine integral with transmission 5.19 to 1.0 stall ratio.

AXLES (front and rear)

Front axle fixed. Rear axle oscillates up or down 12°, 24° total oscillation. One wheel can drop 16" (406 mm) with all wheels remaining on the ground for maximum traction. Axle shafts may be removed without disturbing the wheels or planetaries.

DIFFERENTIALS

Torque proportioning differentials, front and rear for maximum traction.

BRAKES

Air over hydraulic, 4-wheel, caliper disc. Air actuated mechanical parking brake with transmission disconnect. Automatically sets if air pressure drops below effective operating level. Red warning light indicates when parking brake is engaged.

STEERING

Center pivot articulated design with hydrostatic power steering. Front and rear wheels always track.

- Steering angle—each direction from center 40°
 Steering pump 23 gpm @ 2200 rpm @ 2000 psi
 (87 lit/min @ 2200 r/min @ 13 790 kPa)
 Steering cylinders 3" dia x 15" stroke
 (76 mm dia x 381 mm stroke)
 Turning circle outside tires 32'7" (9.93 m)

LOADER HYDRAULIC SYSTEM

Cylinders: Double-acting with hardened and chrome-plated rods to increase strength and resist corrosion.

- Lift (2) 5" dia x 30.1" stroke
 (127 mm dia x 764 mm stroke)
 Bucket (2) 4" dia x 28.35" stroke
 (102 mm dia x 720 mm stroke)

Pump: Dual-stage, gear-type, engine-driven. 48 gpm @ 2200 rpm @ 2150 psi (182 lit/min @ 2200 r/min @ 15 168 kPa).

Control valve: Open-center, series parallel circuit.

Hydraulic lines: Steel tubing with brazed fittings and wire-braid, high-pressure hose with swaged fitting.

Reservoir: Closed, positive air pressurized reservoir insures exclusion of contaminants and positive input flow to pump. All hydraulic oil passes through two 10 micron filters, furnishing clean oil to all components of the hydraulic system.

Hydraulic cycle time:

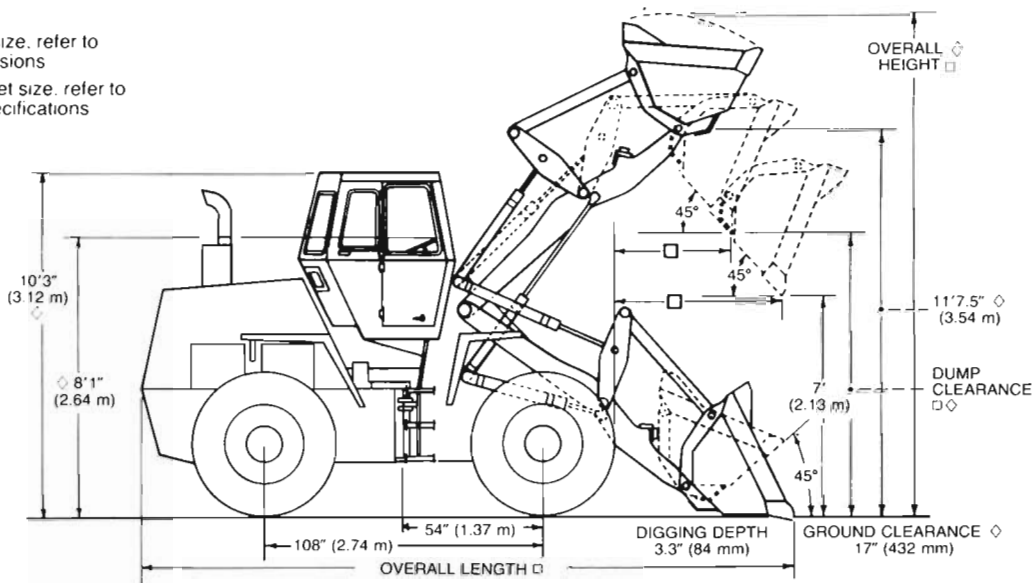
(Rated load in bucket)	Seconds
Raise	6.1
Lower	3.5
Dump	1.7
Total	11.3

SERVICE CAPACITIES

	U.S. Gals	Litres
Fuel tank	.50	189
Hydraulic system	.31	117
Transmission and torque converter	.8	30
Engine crankcase	4.25	16
Differentials and final drives		
Front	3.4	13
Rear	3.4	13
Cooling system	13	49

NOTE: Specifications herein are in accordance with all Society of Automotive Engineer's standards (SAE). The applicable Loader Standard is SAE J732C.

- ◇ Varies with tire size. refer to operating dimensions
- Varies with bucket size. refer to performance specifications



PERFORMANCE SPECIFICATIONS — Loader ratings are governed by SAE J732C and 742B

BUCKET TYPE — Capacity	GENERAL PURPOSE			4-IN-1*	
	1.75 yd ³ (1.34 m ³)	2.0 yd ³ (1.53 m ³)	2.5 yd ³ (1.91 m ³)	1.5 yd ³ (1.2 m ³)	1.75 yd ³ (1.34 m ³)
SAE Rated (nominally heaped)	1.41 yd ³ (1.08 m ³)	1.63 yd ³ (1.25 m ³)	2.07 yd ³ (1.58 m ³)	1.29 yd ³ (1.0 m ³)	1.41 yd ³ (1.08 m ³)
Struck	94.6" (2.40 m)	94.6" (2.40 m)	94.6" (2.40 m)	95.6" (2.47 m)	95.6" (2.47 m)
Cutting edge width	1350 lbs (612 kg)	1400 lbs (635 kg)	1450 lbs (658 kg)	1900 lbs (862 kg)	1950 lbs (885 kg)
Weight	9'2" (2.79 m)	9'0" (2.74 m)	8'8" (2.64 m)	9'0" (2.74 m)	9'0" (2.74 m)
Dump Clearance @ 45° Dump — Full Height	2'11" (.89 m)	3'1" (.94 m)	3'5" (1.04 m)	3'2" (.97 m)	3'2" (.97 m)
Bucket Reach @ Full Height & 45° Dump	4'4" (1.32 m)	4'5" (1.35 m)	4'7" (1.40 m)	4'6" (1.37 m)	4'6" (1.37 m)
Bucket Reach @ 7' (2.13 m) Clearance & 45° Dump	35'4" (10.77 m)	35'6" (10.82 m)	35'9" (10.90 m)	35'10" (10.92 m)	35'10" (10.92 m)
Loader Clearance Circle — Bucket in Carry Position	20'1" (6.12 m)	20'4" (6.20 m)	20'9" (6.32 m)	20'7" (6.27 m)	20'7" (6.27 m)
Overall Length	15'0" (4.52 m)	15'3" (4.65 m)	15'8" (4.78 m)	14'8" (4.47 m)	15'5" (4.69 m)
Overall Height	22,440 (10 179 kg)	20,438 (9271 kg)	17,572 (7971 kg)	21,628 (9810 kg)	21,628 (9810 kg)
SAE Breakout Force, lbs (kg)	17,624 (7994 kg)	17,477 (7927 kg)	17,128 (7769 kg)	15,851 (7190 kg)	15,805 (7169 kg)
SAE Tipping Load, Straight, lbs (kg)**	16,117 (7311 kg)	15,982 (7249 kg)	15,664 (7105 kg)	14,497 (6576 kg)	14,455 (6557 kg)
35° Turn	15,673 (7109 kg)	15,542 (7050 kg)	15,233 (6910 kg)	14,099 (6395 kg)	14,058 (6377 kg)
40° Turn	7,837 (3555 kg)	7,771 (3525 kg)	7,617 (3455 kg)	7,050 (3198 kg)	7,029 (3188 kg)
Operating Load, lbs (kg)**	6,800 (3084 kg)	6,800 (3084 kg)	6,800 (3084 kg)	6,800 (3084 kg)	6,800 (3084 kg)
Rated Load, lbs (kg)**	12,335 (5595 kg)	12,285 (5572 kg)	12,235 (5550 kg)	11,785 (5346 kg)	11,735 (5323 kg)
Hydraulic Lifting Capacity @ Full Height	22,524 (10 217 kg)	22,574 (10 239 kg)	22,624 (10 262 kg)	23,074 (10 466 kg)	23,124 (10 489 kg)
SAE Operating Weight, lbs (kg)**					

** For select items, add to or deduct from the machine operating weight and tipping loads as given in the chart below. All dimensions and specifications based upon unit with 17.5 x 25 L2 12PR tires, with 1218 lbs. (552 kg) CaCl₂ solution in rear tires, counterweight, ROPS cab, fenders, fully serviced and with 175 lb (79 kg) operator.

*** Continuous load exceeding specified rated load can affect service life of machine.

Selected Items	Operating Weight Adjustments		Tipping Load Adjustments					
	lbs	kg	Straight		35° Turn		40° Turn	
			lbs	kg	lbs	kg	lbs	kg
W/ROPS Canopy	-530	-240	-443	-201	-443	-201	-443	-201
17.5 x 25, L2, 12 PR	-1218	-552	-1752	-795	-1594	-723	-1547	-702
17.5 x 25, L2, 12 PR w/75% CaCl ₂	0	0	0	0	0	0	0	0
17.5 x 25, L3, 12 PR	-1114	-505	-1602	-727	-1458	-661	-1415	-642
17.5 x 25, L3, 12 PR w/75% CaCl ₂	+104	+47	+150	+68	+136	+62	+132	+60
20.5 x 25, L2, 12 PR	-752	-341	-1383	-627	-1288	-584	-1259	-571
17.5 x 25, XRAT 1*	-965	-438	-1586	-719	-1447	-656	-1405	-637
17.5 x 25, XRAT 1* w/75% CaCl ₂	+228	+103	+166	+75	+147	+67	+142	+64
20.5 x 25, XRAT 1*	-159	-72	-1059	-480	-979	-444	-951	-431
Without Fenders	-202	-92	-183	-83	-171	-78	-168	-76
Without Counterweight	-1252	-568	-2264	-1027	-2060	-934	-2000	-907

OPERATING DIMENSIONS

Tire Options	17.5 x 25, L2/L3 tires	17.5 x 25 X RAT 1* tires	20.5 x 25, L2 tires	20.5 x 25 X RAT 1* tires
Tread	73" (1.85 m)	73" (1.85 m)	75.5" (1.92 m)	75.5" (1.92 m)
Width over tires	91" (2.31 m)	91" (2.31 m)	97.5" (2.48 m)	97.5" (2.48 m)
Increase in vertical dimensions	None	None	2.1" (53 mm)	2.1" (53 mm)

EQUIPMENT ATTACHMENTS

4-IN-1® BUCKET SPECIFICATIONS

Reach @ 45° dump angle, 7'0"
(2.13 m) clearance, 4'6" (1.37 m)

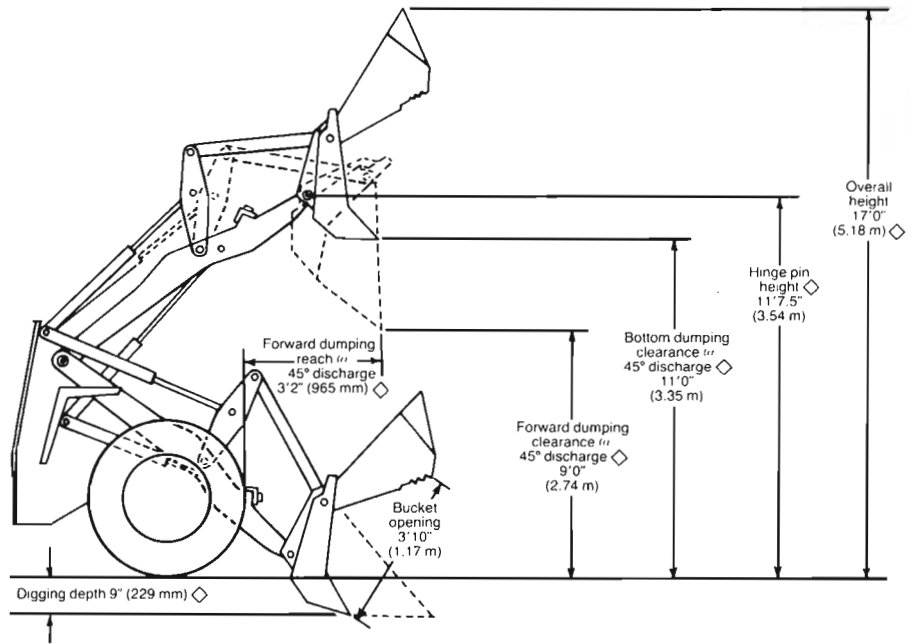
Tilt back @ ground level, 50°

Closure force, clamp to cutting
edge, 12,850 lbs (5829 kg)

Weight, 1950 lb (885 kg)

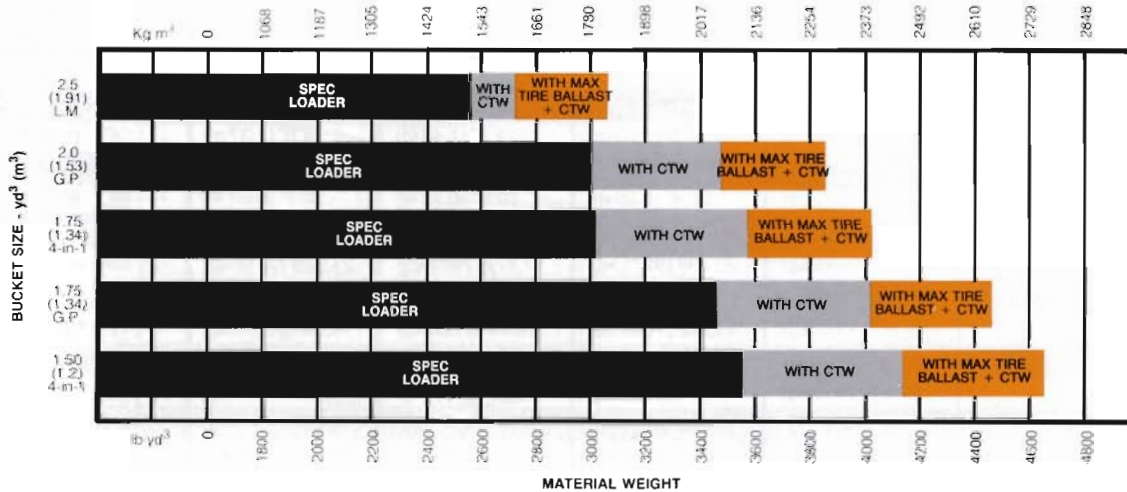
NOTE: 17.5 x 25 L2, 12PR tires used.

◇ Varies with tire size - refer to performance specifications.



W20C BUCKET SELECTION CHART

Spec Loader includes all standard equipment, 17.5x25, L2 tires, ROPS cab, fenders, 175 lb (79 kg) operator, and fully serviced



MATERIAL	lb/yd ³	kg/m ³
Sand, wet	3500	2075
Sand & Gravel, wet	3375	2000
Gravel, wet, 1/2" x 2"	3375	2000
Sand, slightly damp	3240	1920
Gravel, pit run (graveled sand)	3240	1920
Clay & gravel, wet	3085	1830
Slag, broken	2970	1760
Trap rock, broken	2950	1750
Sand & gravel, dry	2916	1730
Earth, soft loose mud	2916	1730
Gravel, dry, 1/2" x 2"	2835	1680
Granite, broken or crushed	2778	1645
Stone, crushed	2700	1600
Sand, dry loose	2700	1600
Gypsum, crushed	2700	1600
Gravel, sand & clay, loose	2700	1600
Earth, wet excavated	2700	1600
Clay & gravel, dry	2700	1600
Clay, wet lumps	2700	1600
Limestone, broken or crushed	2625	1555
Gravel, loose dry	2565	1520
Sandstone, broken	2550	1510
Earth, moist excavated	2430	1440
Earth, loam, dry excavated	2100	1245
Coal, anthracite, broken	1857	1100
Clay, dry excavated	1847	1095
Clay, dry lumps	1822	1080
Coal, bituminous, broken	1413	840
Garbage, wet	1350	801
Ashes	1100	653
Silage	865	513
Snow, wet	400	237
Snow, dry	150	89
	400	237

Bucket recommendations shown above are based on normal materials and average operation conditions. When selecting the proper bucket for a specific application other factors, such as loadability, material characteristics, terrain and other pertinent job conditions must also be considered.

STANDARD EQUIPMENT

ROPS canopy with seat belt. 40 amp alternator with voltage regulator. Batteries. 24 volt start. Front and rear flood lights. Tail light and stop light. Pusher fan. Two-element, dry-type air cleaner. Air horn. Powershift transmission. 4-wheel, air over hydraulic caliper disc brakes. Parking brake with transmission disconnect. Alternator warning light, engine oil pressure warning light, hydraulic filter warning light, engine water temperature gauge, converter oil temperature gauge, clutch pressure warning light, air pressure gauge, fuel gauge, parking brake light, hourmeter and tachometer. Drawbar. Bucket position indicator. Anti-freeze. Torque proportioning front and rear axles. Hydraulic oil cooler.

OPTIONAL EQUIPMENT

ROPS cab with air pressurization and sound suppression, seat belt companies ROPS. Buckets. Power train guard. Engine side panels. Fenders. Heater (36,000 Btu/hr) and defroster. Cold weather starting equipment. Lockup kit. Tire inflation kit. Turn signals. Additional driving lights. Automatic, adjustable bucket height kickout. High dump loader linkage. Automatic return-to-dig mechanism. Spark arresting muffler. Air conditioning, two ton (24,400 Btu/hr). Suspension seat. Back-up alarm. Auxiliary steering. Rotating beacon. Lift and tie down brackets. Suction fan. 65 amp alternator. Voltmeter and engine oil pressure gauges. Normalizing turbo-charger. Counterweight. Pre-cleaner.

NOTE: All specifications are stated in accordance with ICED Definitions or SAE Standards or Recommended Practices, where applicable.

IMPORTANT

J I Case Company reserves the right to change these specifications without notice and without incurring any obligation relating to such changes.

Sold and Serviced by: