



W20 LOADER



103 FLYWHEEL HORSEPOWER

Case diesel engine

FULL POWERSHIFT TRANSMISSION

Four speeds forward, two reverse

SINGLE LEVER SHIFT CONTROL

Modulated transmission clutching for fast, smooth directional changes

HYDRAULIC LIFT CAPACITY

20,100 lbs (9136 kg)

IN-LINE-PLANE LOADER LINKAGE

Excellent view of bucket work area

LONG WHEEL BASE

Good operational stability

CENTER-PIVOT STEER

Allows rear and front tires to track at all times

Unit shown is equipped with non-standard items.

Manufactured by J I Case Company, Racine Wisconsin USA

J I Case
A Tenneco Company



LOADER SPECIFICATIONS

ENGINE

Make and model	Case A401BD
Fuel	diesel
Maximum rated horsepower	
(1) Gross	114 @ 2200 rpm
(2) SAE net	103 @ 2200 rpm
Torque, maximum	
At 500' (152 m) altitude,	
85° F (29° C)	302 lbs/ft @ 1600 rpm (41,74 kg/m @ 1600 tr/mn)
Cylinders, number (valve-in-head) ..	6
Bore and stroke	4 1/8" x 5" (105 mm x 127 mm)
Displacement	401 cu/in (6,55 lit)
Starting	24 volt electric
Air cleaner (with service indicator)	two element, dry type
Oil filter	full-flow type

- (1) Manufacturer's rating of maximum engine horsepower at flywheel when equipped with oil and water pumps. Fuel set at maximum quantity for this application. Corrected to sea level 29.92" (760 mm) Hg and 60° F (15° C) dry air.
- (2) SAE net flywheel horsepower of engine as applied to this vehicle when equipped with operating accessories including oil and water pumps, alternator, air cleaner, fan and muffler. Corrected to 500' (152 m) altitude with .38" (9.5 mm) Hg vapor pressure, 29.38" (746 mm) Hg observed barometer and 85° F (29° C) per SAE J816 specifications.

RAVEL SPEEDS

	1st	2nd	3rd	4th
	mph (km/h)	mph (km/h)	mph (km/h)	mph (km/h)
Forward	4.0 (6,4)	8.6 (13,8)	14.2 (22,8)	29.0 (46,7)
Reverse	5.2 (8,4)	11.3 (18,2)		

TRANSMISSION

Four speeds forward, two speeds reverse, powershift. Single lever control. Modulated clutching. First low to first high and second low to second high is done automatically.

TORQUE CONVERTER

Twin turbine integral with transmission. 4.8 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. Axles may be removed without disturbing the wheels or planetaries.

DIFFERENTIALS

Torque proportioning differentials, front and rear for maximum traction.

BRAKES

Air over hydraulic, internal-expanding, 4-wheel. Air actuated mechanical parking brake. Automatically sets if air pressure drops below safe operating level.

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 tr/mn @ 141 kg/cm ²)
Steering cylinders	3" dia. x 15" stroke, 1 1/2" rod (76 mm dia. x 381 mm stroke, 38 mm rod)

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, 3" rod (127 mm dia. x 764 mm stroke, 76 mm rod)
Bucket (2)	4" dia. x 28.35" stroke, 2" rod (102 mm dia. x 720 mm stroke, 51 mm rod)

Pump: Dual-stage, gear-type, converter-driven. 48 gpm @ 2200 rpm @ 2150 psi (182 lit/min @ 2200 tr/mn @ 151 kg/cm²).

Control valve: Open-center, series parallel circuit.

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

Reservoir: Positive pressurized, inlet filtered hydraulic oil system sealed for dirt exclusion. Full time micron filter furnishes only 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

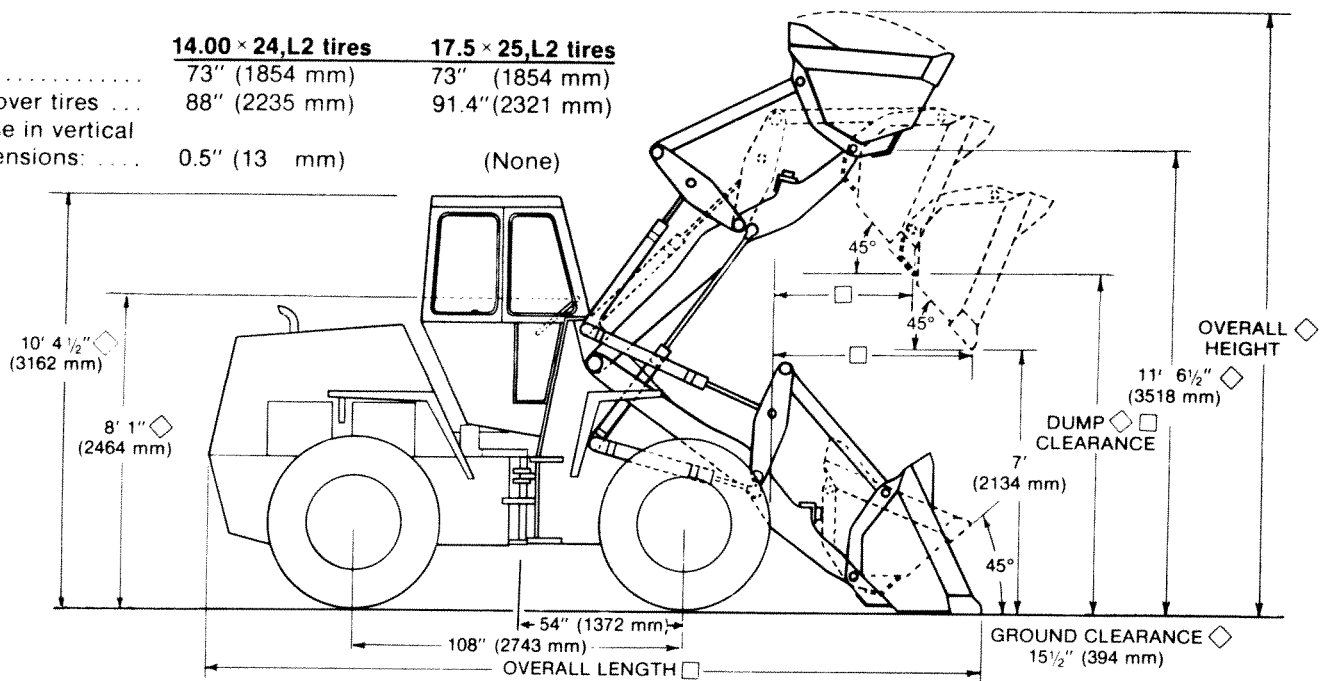
	U.S. gallons	(liters)
Fuel tank	50.0	(189)
Hydraulic system	29.0	(110)
Transmission and torque converter	9.0	(34)
Engine crankcase	3.0	(11)
Differentials and final drives		
Front	3.0	(11)
Rear	3.0	(11)
Cooling system	13.0	(49)

NOTE: Specifications herein are in accordance with all Society of Automotive Engineers' standards (SAE). The applicable Loader Standard is SAE J732C and is denoted by §.

OPERATING DIMENSIONS

◇ Varies with tire size
 □ Varies with bucket size, refer to performance specifications.

	14.00 × 24, L2 tires	17.5 × 25, L2 tires
Tread	73" (1854 mm)	73" (1854 mm)
Width over tires	88" (2235 mm)	91.4" (2321 mm)
Increase in vertical dimensions:	0.5" (13 mm)	(None)



PERFORMANCE SPECIFICATIONS §

◇ BUCKET TYPE -Capacity SAE Rated (Nominally heaped) §	GENERAL PURPOSE	LIGHT MATERIAL	4-IN-1
	2 Cu/Yds (1,53 m ³)	2 1/2 Cu/Yds (1,91 m ³)	1 3/4 Cu/Yds (1,34 m ³)
Dump Clearance @ 45° Dump — Full Height § ◇	8'10 1/2" (2705 mm)	8'8" (2642 mm)	9'0 1/2" (2757 mm)
Bucket Reach @ Full Height & Dump §	3'2" (965 mm)	3'3 1/2" (1003 mm)	3'2 1/2" (978 mm)
Bucket Reach @ 7' Clearance Dump §	4'7" (1397 mm)	4'9 1/2" (1460 mm)	4'8 1/2" (1453 mm)
Loader Clearance Circle - Bucket in Carry Position §	36'4" (11074 mm)	36'6" (11125 mm)	36'10" (11227 mm)
Overall Length §	20'3" (6172 mm)	20'7 1/4" (6280 mm)	20'5" (6223 mm)
Overall Height § ◇	15'1 1/2" (4610 mm)	15'3 1/2" (4661 mm)	15'5 1/2" (4711 mm)
Tipping Load, Straight lbs** §	15,250 (6917 kg)	15,200 (6895 kg)	14,900 (6758 kg)
35° Turn	13,900 (6305 kg)	13,800 (6260 kg)	13,500 (6124 kg)
40° Turn	13,550 (6147 kg)	13,500 (6124 kg)	13,200 (5988 kg)
Operating Weight**	21,107 (9574 kg)	21,157 (9596 kg)	21,557 (9778 kg)

**For select items, add to or deduct from the machine operating and tipping loads as given in the chart below. All dimensions and specifications based upon unit with 17.5 × 25, L2 tires, enclosed ROPS cab, no ballast.

Selected Items

Operating Weight Adjustments

Tipping Load Adjustments

	Operating Weight Adjustments		Tipping Load Adjustments					
	lbs	(kg)	Straight		35° Turn		40° Turn	
ROPS enclosed cab	+575	(261)	+410	(186)	+410	(186)	+410	(186)
17.5 × 25 L2 W/75% Ca Cl ₂	+1194	(542)	+1700	(771)	+1600	(726)	+1500	(680)
14.00 × 24 G2	-1380	(626)	-990	(449)	-1080	(490)	-1100	(499)
14.00 × 24 G2 w/75% Ca Cl ₂	-284	(129)	-406	(184)	-440	(200)	-450	(204)
17.5 × 25 L3 Super Steelguard	+180	(82)	+130	(59)	+120	(54)	+110	(50)

EQUIPMENT ATTACHMENTS

BUCKETS

TYPE	Material Weight		Capacity cu/yd (m ³)		Cutting Edge Width-inches (mm)
	lbs (kg)	per cu/yd (m ³)	SAE Rated	Struck	
General Purpose	3000	(1361 kg)	2.0 (1,53 m ³)	1.63 (1,25 m ³)	94.5" (2401 mm)
Light Material	2600	(1179 kg)	2.5 (1,91 m ³)	2.07 (1,58 m ³)	94.5" (2401 mm)
4-in-1	3000	(1361 kg)	1.75 (1,34 m ³)	1.41 (1,08 m ³)	96.0" (2438 mm)

4-in-1 SPECIFICATIONS: §

A —Forward dumping clearance @ 45° discharge ◇.....	9' 1/2"	(2756 mm)
B —Bottom dumping clearance @ 45° discharge ◇.....	10' 11 1/2"	(3340 mm)
C —Overall height ◇.....	17' 1 1/2"	(5220 mm)
D —Bottom dumping reach @ 45° discharge	15 1/2"	(394 mm)
E —Digging depth	14"	(356 mm)
F —Bucket opening	3' 10"	(1168 mm)
Tilt back @ ground level	45°	
Closure force, clamp to cutting edge	12,850 lb	(5829 kg)
Weight	1900 lb	(862 kg)

§ SAE code adhered to.

◇ Varies with tire size—17.5 × 25
12 PR tires used - Refer to
performance specifications.

STANDARD EQUIPMENT

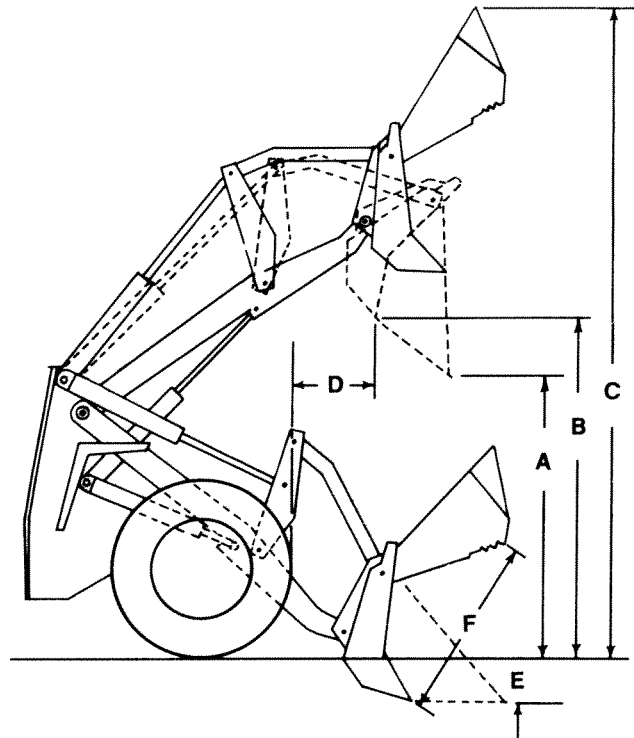
Alternator. Voltage regulator. Batteries. 24 volt start. Front and rear flood lights. Taillight and stop light. Pusher fan. Two-element, dry-type air cleaner. Air horn. Powershift transmission. Air over hydraulic brakes. Parking brake. Voltmeter, engine oil pressure gauge, engine water temperature gauge, fuel level gauge, converter oil temperature gauge, clutch pressure gauge, air pressure gauge, tachometer. Drawbar.

OPTIONAL EQUIPMENT

Automatic, adjustable bucket height kickout. Automatic return-to-dig mechanism. Cab. ROPS cab, ROPS canopy, seat belt accompanies ROPS. Buckets. Log forks. Pallet forks. Power train guard. Engine side panels. Fenders. Heater and defroster. Cold weather starting equipment. Lockup kit. Tire inflation kit. Turn signals. Additional driving lights. Spark arresting muffler.

TIRES (front and rear)

17.5 × 25, 12 PR, traction type, L2
17.5 × 25, 12 PR, rock type, L3
17.5 × 25, 12 PR, super steelguard, L3



Sold and serviced by: