

Case

Loader/Backhoe

SPECIFICATIONS

480F



Since Case introduced the first loader/backhoe in 1957, we've been committed to designing and developing the best loader/backhoe in the industry. As a result, today's 480F loader/backhoe is the perfect balance of power, hydraulics, geometry and overall performance whether you need maneuverability in tight quarters or push power for a tough loader job.

The Case 480F is available as a loader/tractor with optional three-point hitch or a productive loader/backhoe. It has the built-in versatility of being able to remove the backhoe and install the three-point hitch. This is one of the finest loader/backhoes on the market and will prove its worth the first time you take it to a job site. When only the best will do, turn to the 480F loader/backhoe from Case.

When it comes to backing up product, you can count on Case. That's because we build quality and performance into everything we make. It's our philosophy, our way of doing business.

And the same holds true for product support at any of the hundreds of Case dealerships across the country. Case has one of the best dealer support services in the industry. You're assured of fast, reliable service with genuine Case replacement parts for less downtime and increased productivity. That's our commitment to you.







ENGINE

Designed specifically for heavy equipment applications, the Case 4-390 diesel engine has been proven to be reliable and efficient through years of the toughest on-the-job experience.

- Integral design of the oil and coolant pumps incorporates components into the engine block. Heat buildup and wear are reduced because of fewer moving parts. Fewer parts to replace means low operating cost and quick maintenance.
- State-of-the-art one-piece cast-iron parent metal bore block eliminates cavitation erosion and coolant leaks in the cylinder bore for increased ring and piston life.
- Integral oil pump and under-piston oil nozzles provide positive cylinder wall lubrication. Deep sump provides oil lubrication when operating on slopes up to 45° in all directions.
- Case backs the performance and durability of this outstanding engine with one of the best warranties in the business.

Model	Case 4-390
Cylinders	4
Bore/Stroke-in	4.02 x 4.72 (102 x 120 mm)
Displacement-in³	240 (3.92 L)
Horsepower (naturally aspirated)*	
Gross	69 (51.4 kW) @ 2200 rpm
SAE Net	63 (46.9 kW) @ 2200 rpm
Maximum torque ft-lb	
Gross	186 (252 Nm) @ 1200 rpm
Net	181 (245 Nm) @ 1200 rpm

*Gross engine horsepower or torque at flywheel per SAE J1349.




OPERATOR ENVIRONMENT

The 480F loader/backhoe has been designed with operator comfort and control in mind, from the excellent visibility to the easy-touch controls.

- Easy-to-operate, durable seat lifts up to 8" (203 mm) and swivels for operator visibility and easy operation.
- The clutch disconnect button, located on the floor below the brake pedals, allows the operator to shift gears with ease for fast tractor response and increased productivity.
- Power shuttle lever is mounted on the steering column for hands-on forward and reverse operation.
- Low lever effort reduces operator fatigue and enhances metering for precision backhoe and loader performance.
- Gauges and warning lights: Converter oil temperature, engine coolant temperature, fuel, tachometer/hourmeter, voltmeter, engine oil pressure, hydraulic system filter, alternator, air cleaner.
- A standard three-lever control pattern for the boom, dipperstick and bucket includes a foot swing.
- The swing and three backhoe functions can also be combined in an optional two-lever wobblestick hand control pattern.



BACKHOE

The performance of the 480F backhoe is one of the best in the industry for maximum productivity with minimum operator fatigue.

- With digging depth capability down to 14' (4.27 m), the Case 480F backhoe fits many diverse applications.

- Case buckets are designed to give you a full range of working positions for productivity in straight wall trenching, spoil retention when loading trucks, and breakout force.
- Optional stabilizer pads include a flat cemetery pad with heavy-duty rubber or a combination flip-over.



- Open-center design of the hydraulics provides precision control and allows the operator to "feel" with the backhoe.

- Boom, dipperstick and bucket use a single cylinder for excellent visibility to the trench.
- An 8'10" (2.70 m) wide stabilizer operating stance and front-end loader rollover bucket capability securely stabilize the machine during backhoe digging operations.
- Over-center backhoe transport position distributes the weight of the hoe toward the front of the tractor for overall stability, increased bucket clearance, and reduction of overall length for moving around restricted job sites.



BACKHOE BUCKET SIZES AND WEIGHTS

	Weight	SAE Heaped Capacity
12' (305 mm) Trenching	205 lb (93 kg)	2.08 ft ³ (.06 m ³)
18' (457 mm) Trenching	238 lb (108 kg)	3.90 ft ³ (.11 m ³)
24' (610 mm) Trenching	270 lb (122 kg)	6.40 ft ³ (.17 m ³)
36' (914 mm) Bellhole	269 lb (122 kg)	2.00 ft ³ (.06 m ³)
12' (305 mm) Heavy-duty trenching	316 lb (143 kg)	2.90 ft ³ (.08 m ³)
16' (406 mm) Heavy-duty trenching	352 lb (160 kg)	3.60 ft ³ (.10 m ³)
18' (457 mm) Heavy-duty trenching	322 lb (146 kg)	4.30 ft ³ (.12 m ³)
24' (610 mm) Heavy-duty trenching	380 lb (172 kg)	6.21 ft ³ (.18 m ³)



HYDRAULICS

Case has spent years perfecting the open-center hydraulic system through generations of machine design. The result is a smooth, fast response to control movement.

- Cast-iron 23.9 gpm (90.5 L/min) gear pump provides positive flow to steering and equipment circuits.
- Optional three-point hitch uses a five-spool valve to control lift, pitch, tilt and two auxiliary functions. The four positions of the lift spool are neutral, raise, power down and float with detent. In the float position only the implement provides the down pressure.
- All boom, dipperstick and bucket cylinders are easily accessible for inspection and maintenance.

Hydraulic pump Front-mounted, positive displacement, gear type
Pump capacities 23.9 gpm @ 2200 rpm @ 2000 psi
 (90.5 L/min @ 2200 rpm @ 13 790 kPa)

Filtration: 10-micron, full flow replaceable cartridge on return line. Condition indicator light for filter.

Main relief pressure 2450 psi (17 513 kPa)

Loader control valve: Two or three-spool sectional valve with single lever control for tilt and lift.

Backhoe control valve: Four-spool sectional valve. Foot or optional hand swing, regeneration and hydraulic cushioned swing stops. Mono-cast, two-spool stabilizer valve with pilot checks.

CYLINDERS

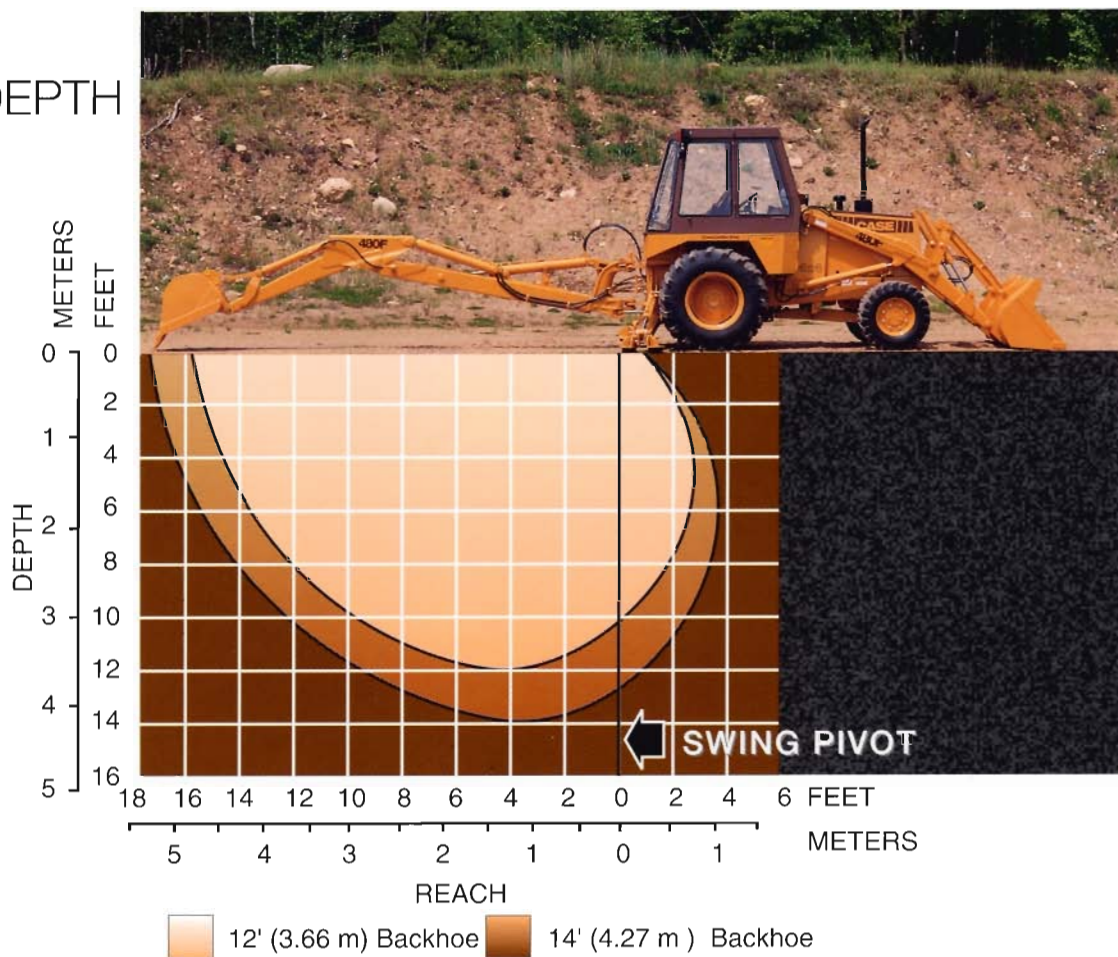
All cylinders are designed and manufactured by Case, one of the largest producers of hydraulic cylinders in North America.

Cylinders	Diameter	Stroke	Rod
Loader			
Lift (2)	3.0" (76 mm)	32" (813 mm)	1.75" (44 mm)
Dump (2)	2.5" (64 mm)	20" (508 mm)	1.50" (38 mm)
Backhoe			
Stabilizers (2)	3.5" (89 mm)	16" (416 mm)	1.75" (44 mm)
Swing (2)	3.5" (89 mm)	11" (279 mm)	1.50" (38 mm)
Boom (1)	4.0" (102 mm)	38" (968 mm)	1.75" (44 mm)
Dipperstick (1) 12'	3.5" (89 mm)	33" (841 mm)	2.0" (51 mm)
14'	3.75" (95 mm)	33" (841 mm)	2.0" (51 mm)
Bucket (1)	3.25" (83 mm)	26" (668 mm)	2.0" (51 mm)
Steering (2)	1.5" (38 mm)	6.4" (165 mm)	
3-Point Hitch			
Lift (1)	3.0" (76 mm)	8.4" (213 mm)	1.5" (38 mm)
Tilt (1)	2.5" (64 mm)	6.3" (160 mm)	1.25" (32 mm)
Pitch (1)	2.5" (64 mm)	7.0" (178 mm)	1.25" (32 mm)



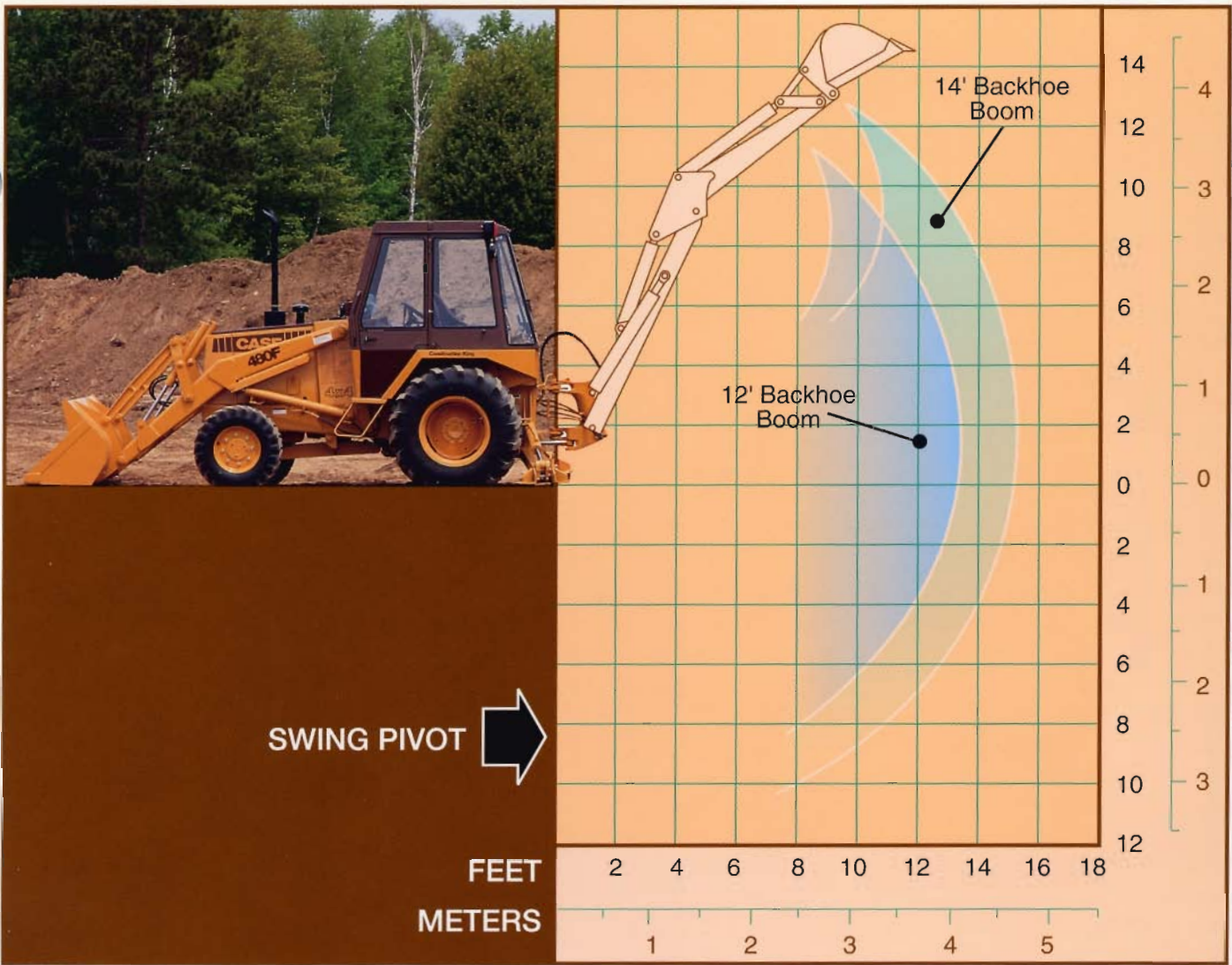


DIG DEPTH



OPERATIONAL DATA

	12' Backhoe	14' Backhoe
Digging depth		
SAE, 24" (610 mm) flat bottom	11'11" (3.63 m)	13'10" (4.22 m)
SAE, maximum	12'1" (3.66 m)	14'1" (4.28 m)
SAE, 8' (2.44 m) flat bottom	10'8" (3.25 m)	12'8" (3.86 m)
Overall reach from:		
Rear axle centerline	18'9" (5.73 m)	20'9" (6.32 m)
Swing pivot	15'9" (4.79 m)	17'8" (5.39 m)
Loading height	8'5" (2.57 m)	10'1" (3.07 m)
Loading reach	7'3" (2.22 m)	8'7" (2.62 m)
Swing arc	180°	180°
Bucket rotation		
#1 position	142°	142°
#2 position	131°	131°
Stabilizer spread		
Operating position	8'10" (2.70 m)	8'10" (2.70 m)
Transport position	7'3" (2.21 m)	7'3" (2.21 m)
Digging force, bucket cylinder,		
SAE, 24" (610 mm)		
Universal bucket w/links	8,116 lbf (36 102 N)	8,116 lbf (36 102 N)
Digging force		
Dipper cylinder, SAE	4,816 lbf (21 423 N)	5,288 lbf (23 520 N)
Leveling angle		
(maximum slope that backhoe will make vertical cut)	10°	10°



LIFT CAPACITIES

1. Lift capacity figures on these charts are 87% of the maximum lift force per SAE Definition J31 and J49 at 2550 psi (17 582 kPa) system relief pressure.
2. Figures stated apply within 45° either side of prime mover.
3. Figures stated are determined by static tests and do not include dynamic factors.
4. Machine is equipped with 24" (610 mm) heavy-duty trenching bucket.
5. Boom is angled at 65° for dipper lift capacities.
6. Loader bucket is on ground.

BOOM LIFT

Height Above & Below Ground Level

+12' (+3.66 m)
 +10' (+3.05 m)
 +8' (+2.44 m)
 +4' (+1.22 m)
 Ground Level
 -2' (-.60 m)
 -4' (-1.22 m)
 -8' (-2.44 m)
 -10' (-3.05 m)

12' Backhoe

1,757 lb (797 kg)
 2,053 lb (931 kg)
 2,123 lb (963 kg)
 2,088 lb (947 kg)
 1,931 lb (876 kg)
 1,844 lb (836 kg)
 1,844 lb (836 kg)

14' Backhoe

1,444 lb (655 kg)
 1,583 lb (718 kg)
 1,601 lb (726 kg)
 1,566 lb (710 kg)
 1,496 lb (679 kg)
 1,462 lb (663 kg)
 1,444 lb (655 kg)
 1,549 lb (703 kg)

DIPPER LIFT

+12' (+3.66 m)
 +10' (+3.05 m)
 + 8' (+2.44 m)
 + 6' (+1.83 m)

3,186 lb (1445 kg)
 3,302 lb (1498 kg)
 3,534 lb (1603 kg)

2,410 lb (1093 kg)
 2,245 lb (1018 kg)
 2,410 lb (1093 kg)
 2,775 lb (1259 kg)



LOADER

More and more, you need a front-end loader designed to give you the best in performance and durability. Nobody offers you more in a loader than Case.

- Single-lever lift and tilt control with positive hold “float” and “return-to-dig” positions move with a minimum of lever effort.
- “Return-to-dig” feature and forward/reverse shuttle shift shortens overall cycle time for maximum productivity in loader applications. Loader speed is also matched to ground speed for fast work cycles.
- Dual in-line dump cylinders and power reverse linkage provide superior breakout force and fast dump time.
- Loader arms and dual dump links support the bucket with four-point mounting to resist twisting forces when corner loading. They also allow materials such as pipe or plywood to be carried across the dump links.
- Lift capacity is rated at 4,572 lb (2074 kg) at full height for the 2WD with 82" (2.08 m) bucket, and 4,834 lb (2193 kg) for the 4WD with the same size bucket.
- Maximum dump height and reach makes unloading into trucks easy. A heavy-duty all-steel front grille minimizes the chance for front-end damage when approaching trucks to dump.
- Float positions on the control valve allow the loader to follow the ground contour in cleanup applications.
- Automatic self-leveling of the bucket throughout the hoist cycle reduces spillback and maintains control of the load.
- Clutch cutout button on the loader control lever disengages the transmission to give maximum engine horsepower to the loader hydraulics for fast cycle times. Releasing the clutch cutout button returns power to the drivetrain.



LOADER BUCKET SIZES AND WEIGHTS

	Width	Weight	SAE Capacities	
			Struck	Heaped
General Purpose short lip	74" (1.88 m)	600 lb (272 kg)	0.66 yd ³ (0.50 m ³)	.78 yd ³ (0.60 m ³)
General Purpose long lip	82" (2.08 m)	760 lb (345 kg)	0.87 yd ³ (0.67 m ³)	1.00 yd ³ (0.78 m ³)
4-in-1 [®]	82" (2.08 m)	1,130 lb (513 kg)	0.81 yd ³ (0.62 m ³)	1.00 yd ³ (0.78 m ³)







SERVICEABILITY

Serviceability is an important consideration when buying a loader/backhoe, and the Case 480F loader/backhoe makes servicing easy.

- Easy-opening removable side panels allow quick access to the engine for service and maintenance on both sides of the unit.
- Grouped service points and groundline servicing minimize downtime while making day-to-day maintenance less time consuming.
- Support strut for maintenance and safety on the loader arm is standard.
- A wide filler opening and dipstick oil check facilitate daily maintenance.
- Outboard planetaries on the 4WD steering axle make servicing convenient.
- Automatic belt tensioner eliminates service belt adjustments for more productivity and less downtime.

STEERING

Hydrostatic power steering utilizes on-demand priority flow up to 3.0 gpm (11.4 L/min) from the hydraulic 23.9 gpm (90.5 L/min) pump.

- 2100 psi (14 469 kPa) operating pressure.
- Two (2) double-acting steering cylinders with a stop-to-stop turning ratio of 2.75 turns.
- Heat-treated steering cylinder rods for durability.

Loader Clearance Circle:

- 2WD w/17.5L rear tires
 - w/o brakes 32'0" (9.75 m)
 - w/brakes 29'9" (9.07 m)
- 4WD w/17.5L rear tires, w/axle disengaged
 - w/o brakes 40'8" (12.39 m)
 - w/brakes 32'9" (9.98 m)

Front Axle Oscillation:

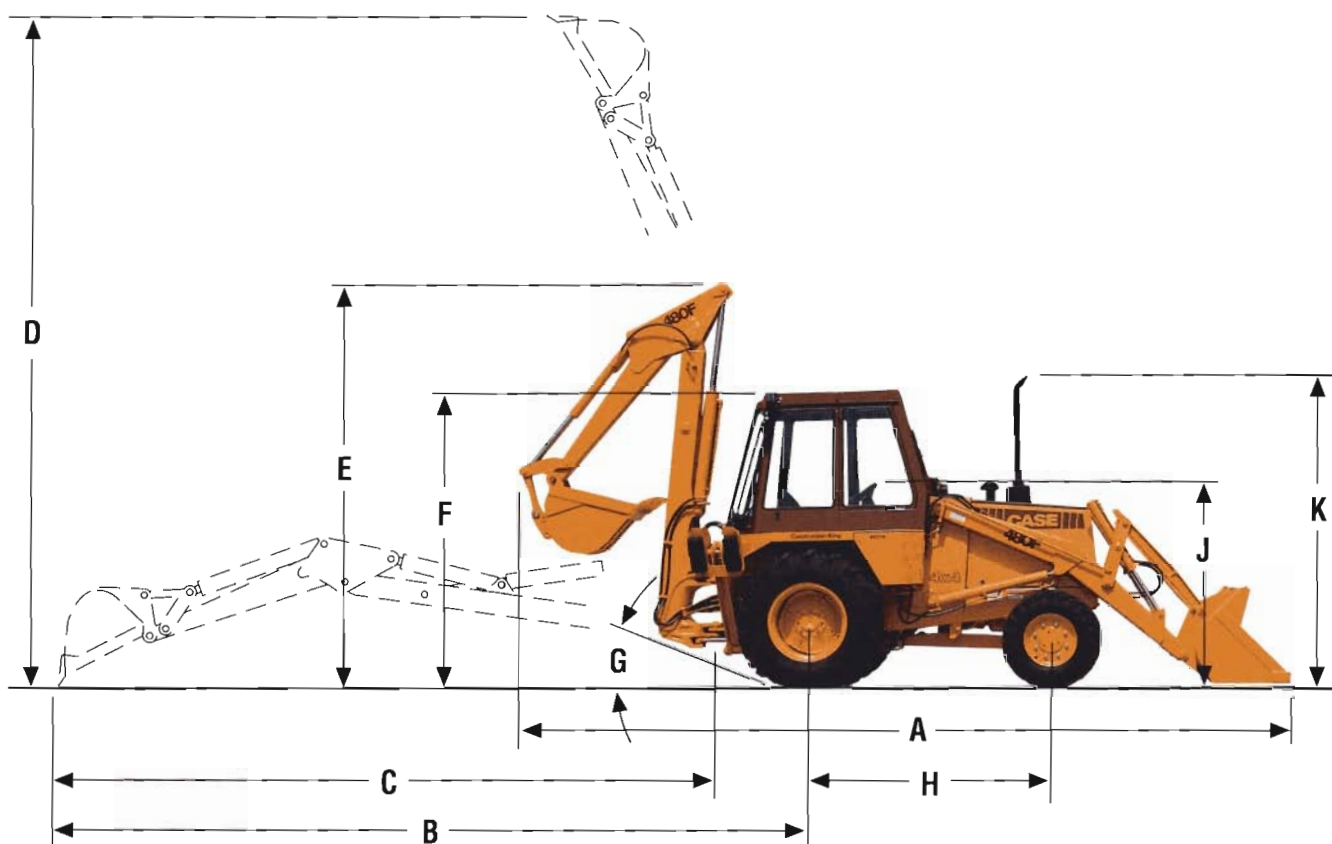
- 2WD 27° total (13.5° each side)
- 4WD 24° total (12° each side)

SERVICE CAPACITIES

Fuel Tank.....	26.5 gal (100.3 L)
Transaxle.....	19.0 qt (17.9 L)
Hydraulic Reservoir	
w/filter.....	10.8 gal (41.0 L)
w/o filter.....	10.5 gal (39.7 L)
Engine Oil	
w/filter.....	11.6 qt (11.0 L)
w/o filter.....	10.6 qt (10.0 L)
Cooling System	
w/o heater.....	18.0 qt (17.0 L)
Power Shuttle.....	8.0 qt (7.6 L)
Planetaries (each - 4WD).....	1.5 qt (1.4 L)
Differential (4WD).....	7.0 qt (6.6 L)



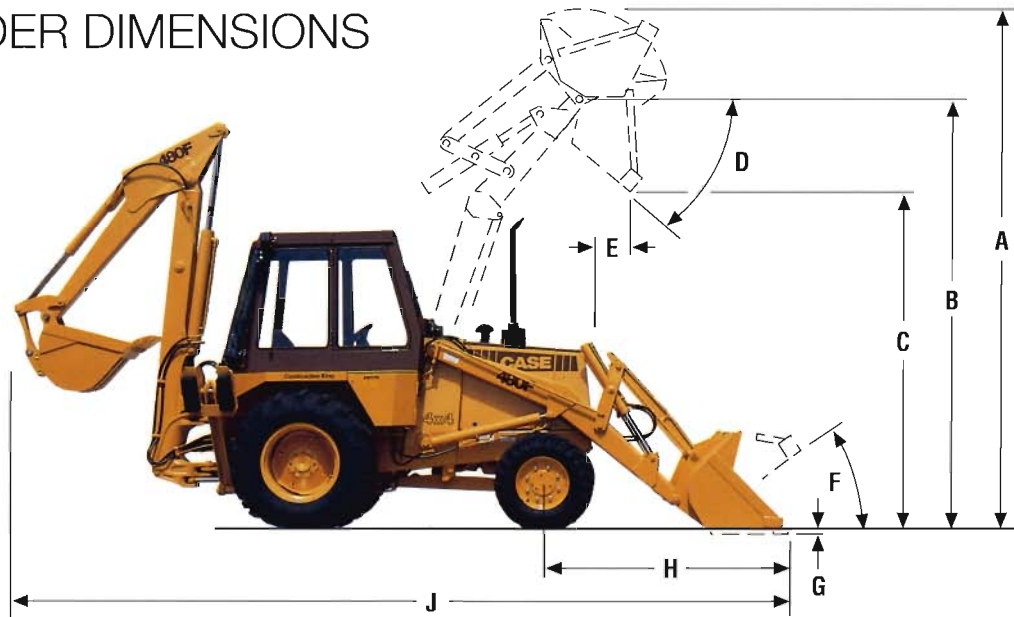
BACKHOE DIMENSIONS



	2WD	4WD
A. Overall length – transport.....	21'4" (6.48 m)	21'4" (6.48 m)
B. Overall reach from rear axle centerline	21'8" (6.60 m)	22'0" (6.71 m)
C. Overall reach from swing pivot.....	18'0" (5.49 m)	18'4" (5.59 m)
D. Overall height, maximum.....	19'2" (5.85 m)	19'6" (5.94 m)
E. Transport height	10'10" (3.29 m)	11'3" (3.42 m)
Overall width — transport.....	81" (2.06 m)	81" (2.06 m)
F. Height to top of canopy	8'5" (2.55 m)	8'6" (2.58 m)
Height to top of cab	8'5" (2.55 m)	8'6" (2.58 m)
G. Angle of departure	21°	21°
H. Wheelbase	80" (2.03 m)	80.4" (2.04 m)
J. Height to top of steering wheel.....	5'9" (1.75 m)	5'10" (1.77 m)
K. Height to top of exhaust stack	8'8" (2.64 m)	8'9" (2.72 m)
Ground clearance at –		
Front axle	12.9" (328 mm)	12.9" (328 mm)
Rear axle	12.8" (325 mm)	12.8" (325 mm)
Front wheel tread	62.2" (1.58 m)	62.2" (1.58 m)
Rear wheel tread.....	62.1" (1.58 m)	62.1" (1.58 m)

Note: Specifications taken with standard equipment, 11L x 16 front tires, 17.5L x 24 rear tires, ROPS, 12' (3.66 m) backhoe with 24" (610 mm) heavy-duty bucket, loader with 82" (2.08 m) general purpose bucket and 175 lb (79 kg) operator.

LOADER DIMENSIONS



	Short Lip		Long Lip		4-in-1®	
	2WD	4WD	2WD	4WD	2WD	4WD
A. Overall operating height	13'4" (4.06 m)	13'6" (4.12 m)	13'4" (4.06 m)	13'6" (4.12 m)	13'4" (4.06 m)	13'6" (4.12 m)
Height to top of ROPS	8'0" (2.44 m)	8'1" (2.47 m)	8'0" (2.44 m)	8'1" (2.47 m)	8'0" (2.44 m)	8'1" (2.47 m)
Height to top of exhaust pipe	8'10" (2.69 m)	8'11" (2.72 m)	8'10" (2.69 m)	8'11" (2.72 m)	8'10" (2.69 m)	8'11" (2.72 m)
Height to top of steering wheel	5'9" (1.75 m)	5'10" (1.77 m)	5'9" (1.75 m)	5'10" (1.77 m)	5'9" (1.75 m)	5'10" (1.77 m)
B. Height to bucket hinge pin	10'10" (3.30 m)	10'11" (3.33 m)	10'10" (3.30 m)	10'11" (3.33 m)	10'10" (3.30 m)	10'11" (3.33 m)
C. Dump clearance @ full height, 45° dump -						
Bucket	8'9" (2.67 m)	8'11" (2.72 m)	8'5" (2.57 m)	8'5" (2.57 m)	8'8" (2.64 m)	8'10" (2.69 m)
D. Dump angle @ full height	45°	45°	45°	45°	52°	52°
E. Dump reach @ full height, 45° dump -						
Bucket	23" (584 mm)	23" (584 mm)	27" (686 mm)	27" (686 mm)	29" (737 mm)	29" (737 mm)
F. Bucket rollback @ groundline	36°	36°	36°	36°	42°	42°
G. Digging depth below grade -						
Bucket flat	4.0" (102 mm)	3" (76 mm)	4" (102 mm)	3" (76 mm)	5" (127 mm)	4" (102 mm)
H. Reach from front axle centerline,						
bucket on ground	69.8" (1.77 m)	69.8" (1.77 m)	75.5" (1.92 m)	75.5" (1.92 m)	73.8" (1.87 m)	73.8" (1.87 m)
J. Overall length	21'11" (6.38 m)	21'11" (6.38 m)	21'3" (6.48 m)	21'3" (6.48 m)	21'4" (6.50 m)	21'4" (6.50 m)
Overall width	81" (2.06 m)	81" (2.06 m)	81" (2.06 m)	81" (2.06 m)	81" (2.06 m)	81" (2.06 m)
Breakout force - combined	8,330 lbf (36 920 N)	8,330 lbf (36 920 N)	7,565 lbf (33 362 N)	7,565 lbf (33 362 N)	7,325 lbf (32 472 N)	7,325 lbf (32 472 N)
Maximum grading angle	112°	112°	112°	112°	110°	110°
Raising time to full height	5.0 sec	5.0 sec	5.0 sec	5.0 sec	5.0 sec	5.0 sec
Bucket dumping time	0.8 sec	0.8 sec	0.8 sec	0.8 sec	0.8 sec	0.8 sec
Lowering time, power down	2.2 sec	2.2 sec	2.2 sec	2.2 sec	2.2 sec	2.2 sec
Lowering time, return-to-dig	2.1 sec	2.1 sec	2.1 sec	2.1 sec	2.1 sec	2.1 sec
Lift capacity to full height	4,572 lb (2074 kg)	4,834 lb (2193 kg)	4,572 lb (2074 kg)	4,834 lb (2193 kg)	3,780 lb (1715 kg)	3,990 lb (1810 kg)

OPERATING WEIGHT

Loader/Backhoe: 2WD, loader/backhoe, 82" (2.08 m) 1 yd³ standard loader bucket, cab, 11 x 16 front tires, 17.5L x 24 rear tires, 12' (3.66 m) backhoe, standard dipperstick, 24" (610 mm) heavy-duty bucket, 175 lb (79 kg) operator and full fuel tank..... 10,932 lb (4959 kg)

Add:

4WD	454 lb (206 kg)
ROPS	-305 lb (-138 kg)
Front counterweight	665 lb (302 kg)

Loader tractor 8,869 lb (4022 kg)

Cab	735 lb (333 kg)
ROPS	305 lb (138 kg)
Rear counterweight	1,496 lb (679 kg)
Dual rear counterweight	2,978 lb (1351 kg)
Three-point hitch w/ 4-spool valve	631 lb (286 kg)

480F LOADER/BACKHOE EQUIPMENT DATA

Standard Equipment

Air cleaner: dry type
 Antifreeze to -34° F
 Backup alarm
 Fenders: rear wheel
 Full instrumentation
 Hand and foot throttles
 Horn
 Hydraulically actuated brakes
 Hydrostatic steering
 Instrument panel cover w/padlock
 Lights:
 2 front, 1 rear flood/tail
 1 rear tail/stop
 Lockable neutral start switch
 Retractable seat belt (2")
 ROPS canopy
 Seat
 Slow-moving vehicle emblem
 Toolbox

Torque converter drive and power shuttle
 4F/4R transmission
 65 amp alternator

BACKHOE
 12' (3.66 m) or 14' (4.27 m) backhoe
 Stabilizer pads
 Foot swing control

LOADER
 Single-lever control w/bucket position indicator
 Self-leveling
 Return-to-dig

HITCH
 Category II
 Three-point modular hitch
 w/4-spool valve

Optional Equipment

	Add-on Weight		Add-on Weight
Auxiliary hydraulics		Hydrostatic power takeoff	126 lb (57.3 kg)
Loader	10 lb (13.6 kg)	Instrument panel cover w/padlock	
Standard backhoe	53 lb (24.0 kg)	Lights	26 lb (11.8 kg)
Buckets		Muffler (spark-arresting)	2 lb (.9 kg)
Loader		Noise suppression package	
74" (1.88 m) short lip (.75 yd ³)	600 lb (272.2 kg)	Basic	
82" (2.08 m) long lip (1.0 yd ³)	760 lb (344.7 kg)	Canopy	
82" (2.08 m) 4-in-1 (includes hydraulics)	1,130 lb (512.6 kg)	Seat (deluxe)	12 lb (5.5 kg)
Backhoe: See backhoe section for listing		Seat belt (3")	2 lb (.9 kg)
Cold start aid (ether)	10 lb (4.5 kg)	Slow-moving vehicle emblem	
Counterweight	400 lb (180 kg)	Special paint	
Floor mat	10 lb (4.5 kg)	Stabilizer pads:	
Heater/defroster	27 lb (12.3 kg)	Flat cemetery w/heavy-duty rubber Combination, flip-over	
		4WD	





ALLIED EQUIPMENT

The 480F loader/backhoe is an ideal carrier for a wide range of attachments. Meet today's market demand with the versatility and productivity of the Case 480F loader/backhoe using these allied supplied attachments.

Contact your Case dealer regarding the use of the right attachment for your application.

Your Case Allied Equipment Manufacturer's Attachment Directory lists a complete selection of allied attachments for loader/backhoe applications.

Augers	Grapples	Hand-held tools:
Blades	Hammers/breakers	Breakers
Booms	Ripper tooth/rippers	Compressors
Buckets	Snowblowers/plows	Cutters
Couplers	Sweepers	Drills
Drill rig	Tree spades	Pumps
Forks	Wheel weights	Saws
		Tampers

The dealer who sells and services your Case equipment is also your source for Case Credit financing. Case Credit offers finance plans, leases, insurance and repair financing.

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Sold and serviced by:

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

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