

CAT

436

BACKHOE LOADER

- **Load-Sensing Hydraulics** — maximum hydraulic force to cutting edges at all engine speeds.
- **Reliable/Durable** — built to withstand severe working conditions.
- **Operating Ease** — convenient, easy-to-reach, low-effort controls.
- **Service and Maintenance Ease** — conveniently located service points, all accessible from the ground.
- **Total Customer Support System** — unmatched in the industry.

Gross Power	61.6 kW/82.6 HP
Flywheel Power	57.4 kW/77 HP
Operating Weight	6831 kg/15,060 lb
Backhoe digging depth up to	6023 mm/19'9"

Model shown may include optional equipment



Durable Boom and Stick:

- Boom is a welded fabrication with large castings at high stress areas.
- Foot casting is attached to swing frame by a large-diameter, "floating" pivot pin for equalized wear, increased pin life.
- Stick is a tapered rectangular design combining a large wrapper sheet for greater durability.

Versatile, Two-position Bucket Linkage:

- Maximum digging force in either pin position for heavy digging requirements.
- 190° of bucket rotation for superior load retention and deep vertical wall digging.

Heavy-duty Main Frame:

- Fully welded, one-piece frame designed to absorb stress and minimize shock loads to the power train.
- Integral backhoe reduces maintenance and service . . . for a true backhoe loader.

Excellent Hose Routing:

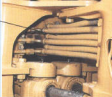
- Reduces leaks.
- Reduces hose damage.
- Prolongs life.
- Easy accessibility.

Overcenter Backhoe Design:

- Transfers weight to the front axle for machine balance and superior roading capabilities.
- Automatic transport lock.
- Excellent ground clearance to the bucket.

Operator's Compartment:

- Designed for operator comfort and efficiency.
- Quiet, roomy, uncluttered, with entry from either side of machine.



Stabilizers

- Optional shoe styles available to match job requirements.

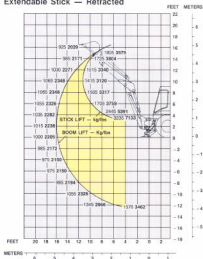


Machine Dimensions (SAE J49 and J732c)

	mm	ft/in
Overall transport length	7094	23'3"
Overall length (loader on ground)	7072	23'2"
Overall transport height	3810	12'6"
Overall width with bucket	2262	7'5"
Height to top of canopy	2779	9'1"
Height to top of cab	2779	9'1"
Height to top of exhaust stack	2802	9'2"
Height to top of steering wheel	2008	6'7"
Height to loader hinge pin (transport)	424	1'6"
Ground clearance (machine main frame)	352	1'4"
Rear axle to front grill	2610	8'7"
Front wheel tread	1800	5'11"
Rear wheel tread	1714	5'7"
Wheel base (2WD)	2100	6'11"
(4WD)	2067	6'9"

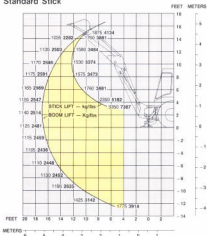
NOTE: Specifications shown with 11.00-16, 12 PR front tires, 16.9-28, 10 PR rear tires, ROPS canopy, 4906 mm/16' backhoe with 610 mm/24" trenching bucket, loader with 2302 mm/80", 1.0 m³/1.375 yd³ General Purpose bucket and standard equipment unless otherwise specified.

436 BACKHOE LIFT CAPACITY: Extendable Stick — Retracted

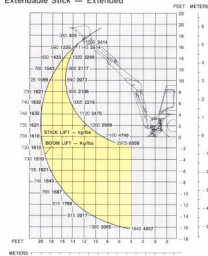


NOTE: Lift capacities as per SAE J31 with loader bucket on ground and booms at 65° from horizontal.

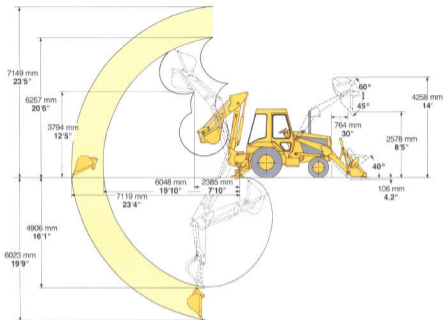
436 BACKHOE LIFT CAPACITY: Standard Stick



436 BACKHOE LIFT CAPACITY: Extendable Stick — Extended



SPECIFICATIONS



Backhoe Dimensions

	Standard stick		Extendable stick			
			Retracted		Extended	
Digging depth — SAE (max)	4906 mm	16'1"	4811 mm	15'11"	6023 mm	19'9"
610 mm/2' flat bottom	4884 mm	16'0"	4789 mm	15'9"	5998 mm	19'8"
Manufacturers maximum digging depth	5447 mm	17'10"	5355 mm	17'7"	6513 mm	21'4"
Overall reach from rear axle centerline at groundline	7138 mm	23'5"	7052 mm	23'2"	8209 mm	26'11"
Overall reach from swing pivot at groundline	6048 mm	19'10"	5962 mm	19'7"	7119 mm	23'4"
Maximum operating height — fully raised	6257 mm	20'6"	6157 mm	20'2"	7149 mm	23'5"
Loading height	3794 mm	12'5"	3661 mm	12'1"	4357 mm	14'4"
Loading reach	2385 mm	7'10"	2417 mm	7'11"	3435 mm	11'3"
Swing arc	180°		180°		180°	
Bucket rotation (Position #1)	169°		162°		162°	
Bucket rotation (Position #2)	169°		162°		162°	
Stabilizer spread — operating position	3300 mm	10'10"	3300 mm	10'10"	3300 mm	10'10"
Stabilizer spread — transport position	2130 mm	7'0"	2130 mm	7'0"	2130 mm	7'0"
Digging force, bucket cylinder, SAE	48.9 kN	10,999 lb	48.1 kN	10,811 lb	48.1 kN	10,811 lb
Digging force, dipper cylinder, SAE	35.9 kN	8,070 lb	37.5 kN	8,420 lb	28.4 kN	5,929 lb
Leveling angle (maximum slope on which backhoe will make vertical cut)	14°		14°		14°	



Tires

Type	Size	Ply Rating
Front		
Standard 2wd	11.00-16	12
Standard 4wd	10.5-20	10
Rear		
Standard 2wd	16.9-28	10
Standard 4wd	16.9-28	10



Hydraulic system

Variable-flow, load-sensing, pressure-compensating design provides efficient use of power and low-effort controls.

Type	Closed center
Pump type	Variable-flow, axial-piston
Pump capacity	135 l/min/36.4 gpm at 2400 RPM
System pressure	18 600 kPa/186 bar/2700 psi



Service Refill Capacities

	Liters	U.S. Gallon
Cooling system	21	5.5
Fuel tank	83	22
Engine oil with filter	7	7.4 qts.
Transmission	10	10.6 qts.
Rear axle	18.5	19.5 qts.
Hydraulic reservoir	38	10
Hydraulic system	84	22
Four-wheel drive front axle	7.5	2



ROPS

ROPS canopy is standard in U.S.A.

ROPS (Rollover Protective Structure) offered by Caterpillar for this machine meets ROPS criteria SAE J394, SAE J1040c and ISO 3471-1986. It also meets FOPS (Falling Object Protective Structure) criteria SAE J231 and ISO 3449-1984. Cab offered by Caterpillar, when tested with doors and windows closed according to ANSI/SAE J1166 JUL87, meets OSHA and MSHA requirements for operator sound exposure limits in effect at the time of manufacture.



Weights

Standard backhoe loader with additional: 1.0 m³/1.375 yd³ General Purpose loader bucket, 610 mm/24" backhoe bucket, 79 kg/175 lb operator, full fuel tank, and standard two-wheel drive tires.

Operating weight 6831 kg/15,060 lb (SAE).

	kg	lb
Cab	+231	+509
Four-wheel drive	+120	+265
Extendable stick (Excludes CTWT)	+242	+534



Engine

Gross power at 2400 RPM 61.6 kW/82.6 HP
 Flywheel power at 2400 RPM 57.4 kW/77 HP

(Kilowatt (kW) is the International System of Units equivalent of horsepower.)

Net power at the flywheel of the vehicle engine is based on SAE J1349 standard conditions of 25°C/77°F and 100.4 Pa/29.51" Hg. Power is based on using 35° API 15.6°C/60°F gravity fuel having an LHV of 42,780 kJ/kg (18,190 Btu/lb) when used at 29.4°C/85°F and with the density of 808.9 g/L/7.001 lb-U.S. gal. Power rating is adjusted for vehicle equipped with fan, air cleaner, alternator, water pump, fuel pump, muffler and lubricating oil pump. No derating is required up to 3000 m/10,000 ft altitude.

These additional ratings also apply at 2400 RPM

	kW	HP
ISO 1585	57.4	77
ISO 3046-1	56.5	75.8
EEC 80/1269	57.4	77
	kW	PS
DIN 6271-1	56.5	76.8
DIN 70020	57.4	78.1

Perkins four-stroke-cycle 4.236 turbocharged diesel Engine with four cylinders, 98.4 mm/3.87" bore, 127 mm/5.0" stroke and 3.86 liter/236 cu. in. displacement.

Dry-type, slip-fit liners — pre-finished for ease of run-in and service replacement.

Cast-iron sump — resists impact damage.

Steel-backed aluminum bearings. Heat-treated crankshaft. Pressure lubrication with full-flow filtered oil. Dry-type air cleaner with primary and secondary elements, and pre-cleaner.

Direct-electric, 12-volt starting system with 52-amp alternator and other starting aid standard.

Steering

Steering unit provides emergency steering capability in case of power failure.

Type	Front wheel
Power steering	Hydrostatic
Cylinder	(1) double-acting, bore 76 mm/3", stroke 220 mm/8.7", rod 48 mm/1.9"
Turning Radius (Wheels Not Braked),	
two-wheel drive	3905 mm/12'10"
four-wheel drive engaged	5104 mm/16'9"

Transmission

Four speeds forward and reverse — full synchro-mesh in all gears. Constant-mesh gears permit on-the-go shifting all gears — up or down. Neutral start provision prevents starting machine in gear.

Transmission Disconnect

Hand-operated power disconnect (no clutch) for on-the-go shifting and full engine RPM for faster cycle times.

Torque Converter

Single stage, 2.21:1 stall ratio.

Forward/Reverse Power Shuttle

Conveniently placed, hand-operated lever provides instant on-the-go direction changes from forward to reverse with power hydraulic clutches.

Travel Speeds

Travel speeds of two-wheel drive backhoe loader at full throttle when equipped with 16.9-28, rear tires.

	1st		2nd		3rd		4th	
	Km/H	MPH	Km/H	MPH	Km/H	MPH	Km/H	MPH
Forward	5.2	3.2	9.8	6.1	18.9	11.7	29.7	18.5
Reverse	5.2	3.2	9.8	6.1	19.0	11.8	29.8	18.5

Axles

Axle Rating two-wheel drive

Front axle rating

SAE J43	7395 kg/16,303 lb
Dynamic	29 580 kg/65,212 lb
Rear axle rating	
SAE J43	5943 kg/13,102 lb
Dynamic	23 772 kg/52,407 lb

Rear Axle

Heavy duty axle with inboard planetary reduction and differential lock.

Front Axle (with standard two-wheel drive, or optional four-wheel drive)

Oscillation 11° each direction from centerline.

Switch on instrument panel engages four-wheel drive on-the-move, in any gear, forward or reverse.

Drive from differential to front wheels via planetary reduction in each wheel. On-the-go shifting up or down in all gears is retained in four-wheel drive.

Brakes

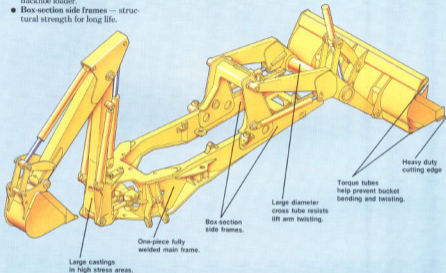
Service — Two fully enclosed, self-energizing oil-disc brakes on final drive input shaft. Foot-operated, pedal interlock for roading or independently for working applications.

Parking/Secondary — Two fully enclosed, self-energizing, oil-disc brakes on final drive input shaft. Operator applies manually.

Structure

Built to withstand the toughest working conditions.

- **Fully welded, one-piece frame** — designed to absorb stress and minimize shock loads to the power train.
- **Integral backhoe** — reduces maintenance and service... for a true backhoe loader.
- **Box-section side frames** — structural strength for long life.
- **Large-diameter axle trunnion and bearings** — greater wear surface, longer life.
- **Boom** — welded fabrication with large castings at high stress areas.
- **Stick** — reinforced with a large wrapper sheet to reduce stress.
- **Plugs and bushings** — large diameter, heat treated for long life.



Total Customer Support

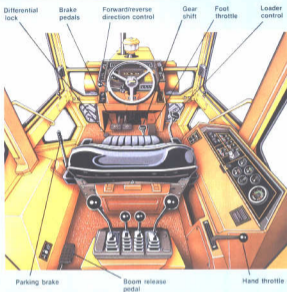
Unmatched in the industry.

- **Parts availability** — Most Cat parts are immediately available off the shelf. Dealer parts availability is backed up by Cat's computer-controlled, emergency search system.
- **Service capability** — Whether in the dealer's fully equipped shop or in the field, you'll get trained servicemen using the latest technology and tooling.
- **Machine management service** — Cat dealers help manage equipment investments with:
 - Effective preventive maintenance programs.
 - Diagnostic programs like Scheduled Oil Sampling and Technical Analysis.
 - Information to make the most cost-effective repair option decisions.
 - Customer meetings, training for operators and mechanics.
- **Exchange components for quick repairs** — Low-cost components assure maximum, cost-effective uptime.
- **Literature support** — Easy-to-use operation and maintenance guides help you get the full value out of your equipment investment.

Operator's Station

Designed for operating ease and comfort.

- **Dual access** — entry from either side to operator's compartment.
- **Convenient controls** — low effort, easy to reach, for day-long productivity.
- **Resiliently mounted cab** — isolates the operator, reduces noise and vibration.
- **Side-mounted gauge panel** — visible while operating either loader or backhoe.
- **Audible/visual warning system** — continuous operator awareness of machine functions.
- **Rear-mounted hand throttle** — easy actuation from backhoe position.
- **Fully adjustable suspension seat** — for added operator comfort.
- **Transmission disconnect switches** — on loader control and gear shift levers to reduce cycle times and simplify speed changes when roading... fast, convenient actuation.
- **Excellent visibility** — outstanding forward and rear view from the operator's seat to the loader and backhoe.



Cat Hydraulics

Automatically match hydraulic flow and pressure requirements to work demands for top backhoe loader productivity and efficiency.

- **Variable-displacement, load-sensing system** — maximum hydraulic force is transferred efficiently to the cutting edges for superior performance at any engine speed.
- **Variable-flow, axial-piston pump** — matches speed and power requirements for efficient fuel usage.
- **Control valves** — pressure compensated for low lever efforts. Stacked design provides servicing ease.
- **Caterpillar XT-3 hose and couplings** — proven reliable for long life performance. Excellent hose routing reduces hose damage.

- **O-ring face seal couplings** — minimize leaks for a virtually dry machine.
- **Hydraulic cylinders** — designed and built for durability.



Fully Synchronized Transmission:

- On-the-go shifting in all gears, two or four wheel drive.
- All-wheel drive engaged on-the-go by the flip of a switch.
- Modular for easy servicing.

Return to Dig with automatic bucket leveling:

- Improved operator efficiency.

Heavy Duty Diesel Engine

- Turbocharged for added performance.
- Provides long service life.
- Prefinished dry liners for simplified rebuild.
- Cast oil sump resists impact change.

Hydraulic Tank:

- Strategically positioned for optimal balance and weight distribution when roading.
- Sealed to prevent contamination.

Variable-Flow, Axial-Piston Pump:

- Automatically matches power to work demands.
- Reduces fuel consumption.
- Provides full hydraulic force at any engine speed.

Divergent Loader Arms:

- Excellent visibility — a clear view to the bucket corners.

Single Tilt Cylinder:

- Better visibility with fewer wear and service points.

General Purpose Loader Bucket:

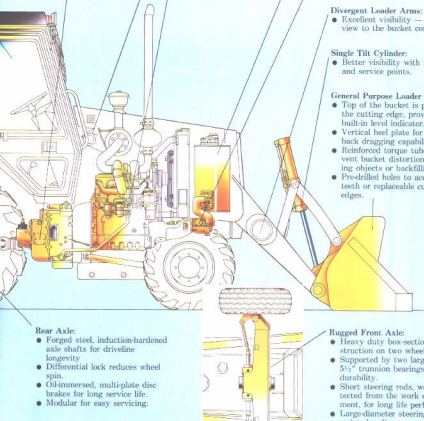
- Top of the bucket is parallel to the cutting edge, providing a built-in level indicator.
- Vertical beel plate for excellent back dragging capabilities.
- Reinforced torque tubes help prevent bucket distortion when lifting objects or backfilling.
- Pre-drilled holes to accept bolt-on teeth or replaceable cutting edges.

Rear Axle:

- Forged steel, induction-hardened axle shafts for driveline longevity.
- Differential lock reduces wheel spin.
- Oil-immersed, multi-plate disc brakes for long service life.
- Modular for easy servicing.

Rugged Front Axle:

- Heavy duty box-section construction on two wheel drive.
- Supported by two large 140 mm/ 5½" trunnion bearings to ensure durability.
- Short steering rods, well protected from the work environment, for long life performance.
- Large-diameter steering cylinder resists bending.



The Competitive Edge

Performance

- **Load-sensing hydraulic system** — full hydraulic force to cutting edges at all engine speeds.
- **Fully synchronized transmission** — on-the-go shifting in all four gears, two- or four-wheel drive.
- **3580 kg/35.1 kN/7,893 lb loader bucket breakout force** — excellent production capabilities.
- **Automatic bucket leveling/Return to Dig** — improved operator efficiency, lower cycle times, increased productivity.
- **Versatile, two-position bucket linkage** — maximum digging force in either pin position for best match to job.
- **Overcenter backhoe design** — excellent stability for fast travel to and from job.

Reliable/Durable

- **Main frame** — fully welded, one-piece frame designed to absorb stress and minimize shock loads to the power train.
- **Integral backhoe** — reduces maintenance and service... for a true backhoe loader.
- **Load-sensing hydraulic system** — proven reliable, on-demand hydraulics.
- **Caterpillar XT-3 hose and O-ring face seal couplings** — provide a virtually dry machine.
- **Sure Seal connectors** — on electrical system, moisture proof and positive locking for a reliable, long life.

Maintenance/Repair

- **Modular components** — remove as single units for simpler, quicker repairs, less downtime.
- **Superior hose routing** — reduces hose damage, easily accessible for service.
- **Service points** — conveniently located, all accessible from the ground.
- **Built-in lift cylinder brace** — suspends loader arms for engine servicing.

Operating Ease

- **Conveniently placed, precise, low-effort controls** — increase operator efficiency.
- **Adjustable suspension seat** — for added operator comfort.
- **Hydrostatic steering** — effortless control, even at low idle.
- **Excellent visibility** — outstanding forward and rear view from the operator's seat to the loader and backhoe.

Total Customer Support

- **Parts availability** — most Cat parts on dealer's shelf when you need them — computer-controlled, emergency search system backup.
- **Service capability** — dealer's shop or fast field service — trained servicemen — latest tooling and technology.
- **Machine management services** — effective preventive maintenance programs, diagnostic programs (Scheduled Oil Sampling, Technical Analysis), cost-effective repair options, customer meetings, operator and mechanic training.
- **Exchange components for quick repairs** — choose remanufactured products or rebuilt components for maximum availability and lower costs.
- **Literature support** — easy-to-use operation, maintenance guides help you get the maximum value out of your equipment investment.
- **Flexible financing** — your dealer can arrange attractive financing on the entire line of Cat equipment. Terms structured to meet your cash flow requirements. See how affordable and easy it is to own Cat equipment.

Custom Machine Products

- In addition to the standard range of optional equipment, special attachments and machine configurations to suit particular customer applications can be made. Contact your Caterpillar dealer for details on matching the Caterpillar product to your special applications.

