

# 966H

## Heavy Wheel Loader

Joint Services  
Family of Loaders



### Cat® C11 ATAAC Engine with ACERT™ Technology

Gross Power (SAE J1995)	211 kW	283 hp
Net Power (ISO 9249)	195 kW	262 hp
<i>EPA Tier 3, EU Stage III Compliant</i>		

### Weight

Operating Weight		
Type I	24 318 kg	53,500 lb
Type II	23 864 kg	52,500 lb

### Buckets

Bucket Capacity		
Type I (Rock Bucket)	3.50 m <sup>3</sup>	4.50 yd <sup>3</sup>
Type II (General Purpose)	3.85 m <sup>3</sup>	5.00 yd <sup>3</sup>

## MISSION CAPABLE

*The Cat® 966H – Tested, Proven, and Reliable – Mission Capable*

**The Cat 966H Wheel Loader** is a highly productive machine. The Type I machine is equipped with a 4.5 cubic yard rock bucket. The Type II machine is equipped with a 5.0 cubic yard general purpose bucket. Heavy Loaders provide unsurpassed operational readiness for the construction of airfields, roads, landing zones, defensive berms, and anti-tank ditches. The Cat 966H also demonstrates its versatility by lifting barriers for installation, stockpiling material such as gravel, and performing various demolition functions.

The articulation point is located near the midpoint of the machine, increasing balance and durability, and allowing for superior maneuverability in tight operating conditions. Both the implement and steering controls are responsive to operator input, allowing exceptional control of the machine and its attachments. The 966H is also a self-transportable unit with a maximum travel speed of 23.2 MPH.



## ATTACHMENTS

*Each of these attachments increases the capability and versatility of the machine, while adding tremendous efficiency benefits to the soldier.*



### Hydraulic Quick Coupler

Equipped with a hydraulic quick coupler, the operator can interchange various attachments while remaining in the operator's seat.



### Rock Bucket

Bucket teeth and spade design allow for maximum penetration while loading material. It is suitable for load and carry applications, as well as truck loading. Used with the Type I Loader.



### General Purpose Bucket

Equipped with bolt-on teeth segments and performs well in moderate applications such as handling gravel. Used with the Type II Loader.



### Pallet Forks

The pallet forks allow the machine to load, unload and transport various palletized loads.



### Hydraulic Broom

The hydraulic broom can assist with dust control missions, as well as removing small debris following demolition.

### EPA Tier III, EU Stage III Compliant C11 Engine.

The Cat C11 with ACERT technology is an 11.1 L displacement, 6-cylinder, electronically governed engine. Electronic fuel injection is provided through the well-proven Cat mechanically actuated, electronically controlled unit injection (MEUI) system. A wastegate turbocharger, equipped with a titanium wheel for improved durability, combined with air-to-air aftercooling (ATAAC) provides consistent high horsepower with increased altitude capability.



**Electrohydraulic Implement Controls.** Electrohydraulic implement controls on the 966H provide the operator with in-cab programmable kickouts to prevent material spillage – improving productivity. The implement control console features a Forward/Neutral/Reverse switch allowing fast and easy directional changes to reduce cycle times.

**Ride Control.** The Ride Control System improves ride, performance and load retention when traveling over rough terrain. Operators gain confidence moving at higher speeds in load and carry operations, decreasing cycle times and increasing productivity.

**Planetary Powershift Transmission.** The electronic planetary powershift transmission with automatic shift capability is designed and built by Caterpillar. The very responsive, speed and directional changes provide excellent cycle times and productivity.

**Load Sensing Hydraulics.** The 966H features a load sensing hydraulic system that automatically adjusts to operating conditions to provide only the hydraulic flow required by the implement thus improving fuel efficiency.

## OPERATOR SAFETY/COMFORT

*The Cat® 966H – Tested, Proven, and Reliable – Mission Capable*



**Crew Protection Kit.** The armored crew protection kit (CPK) on the 966H was developed with the Soldier's protection and survivability in mind. The armored cab provides the operator with 360° protection, including the roof and the floor, from small arms and fragmentation threats. An emergency egress hatch is provided thru the rear window, and is accessible from both the inside by the operator and from the outside by rescue personnel. The transparent armor provides excellent operator visibility of the machine and surrounding work area. These features of the CPK allow the soldier to complete military tasks safely and effectively.



**Operator Comfort.** Caterpillar understands that wheel loaders work in some of the harshest environments. By controlling normal machine vibrations, operator efficiency and productivity are improved.

From the ground up, the Cat 966H is designed with many features that reduce vibration.

**Examples of reduction in whole body vibration:**

- The oscillating rear axle follows the contour of the ground while allowing the cab to stay steady.
- The cab is attached to the frame with iso-mounts designed to reduce shock loads from the ground.
- The articulation joint is equipped with two neutralizer valves that prevent frame-to-frame contact.
- Cylinder dampening slows the bucket as it reaches the limits of travel, preventing machine jarring.
- Electronically controlled, automatic kickouts prevent the jerking and bouncing associated with abrupt cylinder stops.
- Air suspension seat-mounted implement controls reduce vertical vibrations that come up through the floor.



**Entry and Exit.** A ladder with self-cleaning steps keeps debris build-up to a minimum. The ladder is at a 5° forward incline for easy entry and exit.

Platforms are wide allowing ease of movement to the front or rear of the machine. The left side cab door opens a full 180° and latches in place to allow safe navigation to the rear of the machine.

The right side door opens 10° or completely for secondary exit simply by pulling a pin. A full-length ladder on the right side facilitates safe exit.

## SERVICEABILITY

*The Cat® 966H – Tested, Proven, and Reliable – Mission Capable*



**Maintenance.** Proper maintenance of your wheel loader can help control expenses and lower your owning and operating costs. The 966H provides unmatched serviceability by offering:

- Hydraulic service center
- Electric service center
- Well-protected, easily visible sight gauges
- Ground level maintenance points
- Easy access to engine compartment
- Ecology drains for simple and clean fluid drainage
- Brake wear indicators for ease of inspection
- Maintenance-free batteries
- Airborne debris-resistant, swing-out grill provides more efficient airflow
- Compartment test ports

**Electric Service Center.** Batteries, relay panel and a tool box are conveniently located below the left-side access platform. The engine shutdown switch is housed within the relay panel.

A compartment integrated into the access platform contains the hood tilt actuation switch, master switch and NATO-start receptacle.

**Ground Level Grease Points.** Grease fittings are grouped on the right side of the machine in two convenient locations – in a service compartment just below the right-side service platform, and a bank located just off the non-engine end frame. These locations facilitate easy lubrication of vital components located throughout the machine.

**Monitoring Systems.** The 966H Wheel Loader maximizes on-board diagnostics capability using electronic control modules (ECMs) to monitor engine and machine (transmission, hydraulics and brakes) systems. Cat Electronic Technician (ET) software accesses information from the ECMs allowing technicians to view status parameters, logged codes, active codes, perform functional tests, and record and view data logs of equipment operation. The instrument



panel conveniently displays fault or event codes, while the Messenger system provides text related to the fault code. This diagnostic capability allows Army Units to maintain wheel loader readiness while minimizing the maintenance burden.



### **Remanufactured**

**Parts.** Cat engines and major components are designed to be remanufactured and provide multiple life cycles. Components are actually remanufactured in the factory to original specifications with necessary product updates.



**Service Life Extension Program (SLEP).** The Service Life Extension Program (SLEP) is based on a highly successful program currently in place with the DoD for the modernization of the U.S. military's construction and material handling equipment. As a result, thousands of Cat machines are now realizing a second life. The SLEP process is performed at strategically selected dealers throughout the Caterpillar worldwide dealer network.

The SLEP efforts have proven to be a great value for the DoD, allowing the machines to meet mission requirements and realize an additional machine life cycle. The fact that this work can be done at the dealer sites saves the Government millions in shipping costs.



**Worldwide Locations.** The Caterpillar global network of authorized dealers supports the U.S. Military in every corner of the globe. With heavy construction equipment dealers located in over 200 countries, Caterpillar's support organization provides global coverage.



**Service Capabilities.** Cat field service technicians have the experience and tools necessary to service your loader on-site. Field service trucks are fully loaded with state-of-the-art tools and diagnostic equipment as well as specifications and schematics for every Cat machine. Technical experts at the dealership and at Caterpillar are available to provide assistance to field service technicians when needed. When on-site repair isn't enough, Cat dealerships are fully-equipped to service your loader quickly.

**Dealer Support.** The Caterpillar global network of authorized dealers is the best in the world at providing support to keep your equipment up and running. With 99.7% of parts shipped within 24 hrs, Cat dealers are partners in support to the Joint Services Family of Loaders.

## OPERATING SPECIFICATIONS

			
<b>Bucket</b>		<b>General Purpose Buckets Teeth &amp; Segments</b>	<b>Rock Buckets Teeth &amp; Segments</b>
Rated Bucket Capacity (§)	m <sup>3</sup> yd <sup>3</sup>	3.85 5.00	3.50 4.50
Width (§)	mm ft/in	3145 10'4"	3258 10'8"
Dump Clearance at Full Lift and 45° Discharge (§)	mm ft/in	2968 9'9"	2691 8'10"
Digging Depth (§)	mm in	108 4"	121 5"
Overall Length	mm ft/in	9038 29'8"	9256 30'4"
Overall Height with Bucket at Full Raise	mm ft/in	5814 19'1"	5940 19'6"
Loader Clearance Circle with Bucket in Carry Position (§)	mm ft/in	14 756 48'5"	15 076 49'5"
Static Tipping Load Straight *	kg lb	17 290 38,038	17 242 37,932
Static Tipping Load Full 37° Turn	kg lb	15 375 33,825	15 241 33,530
Breakout Force ** (§)	kN lb	193 43,388	154 34,621
Operating Weight * (§)			
w/A-Kit (armor)	kg lb	24 775 54,575	24 775 55,575
w/CPK	kg lb	26 375 58,375	26 375 59,375

(§) Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers, including SAE Standard J732C governing loader ratings.

\* Static tipping loads and operating weights shown are based on standard machine configurations with 26.5R25 L-4 Firestone tires, roading fenders, powertrain guard, full fuel tank, coolants, lubricants, air conditioner and operator.

\*\* Measured 102 mm (4.0") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732C.



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## Engine

Model	Cat® C11 (ATAAC)	
Gross Power – SAE J1995	211 kW	283 hp
Net Power – ISO 9249	195 kW	262 hp
Net Power – SAE J1349	193 kW	259 hp
Net Power – 80/1269/EEC	195 kW	262 hp
Peak Torque (Net) @ 1,400 rpm	1215 N·m	896 ft-lb
Bore	130 mm	5.12 in
Stroke	140 mm	5.51 in
Displacement	11.1 L	677 in <sup>3</sup>

- Cat engine with ACERT™ Technology – EPA Tier 3, EU Stage III Compliant.
- These ratings apply at 1,800 rpm when tested under the specified standard conditions.
- Rating for net power advertised based on power available when the engine is equipped with alternator, air cleaner, muffler and on-demand hydraulic fan drive at maximum fan speed.

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## Transmission

Forward 1	6.7 km/h	4.2 mph
Forward 2	12.6 km/h	7.8 mph
Forward 3	22.1 km/h	13.7 mph
Forward 4	37.4 km/h	23.2 mph
Reverse 1	7.4 km/h	4.6 mph
Reverse 2	13.9 km/h	8.6 mph
Reverse 3	24.3 km/h	15.1 mph
Reverse 4	37.4 km/h	23.2 mph

Maximum travel speeds (26.5-25 tires).

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## Cab

ROPS/FOPS Meets SAE and ISO standards.

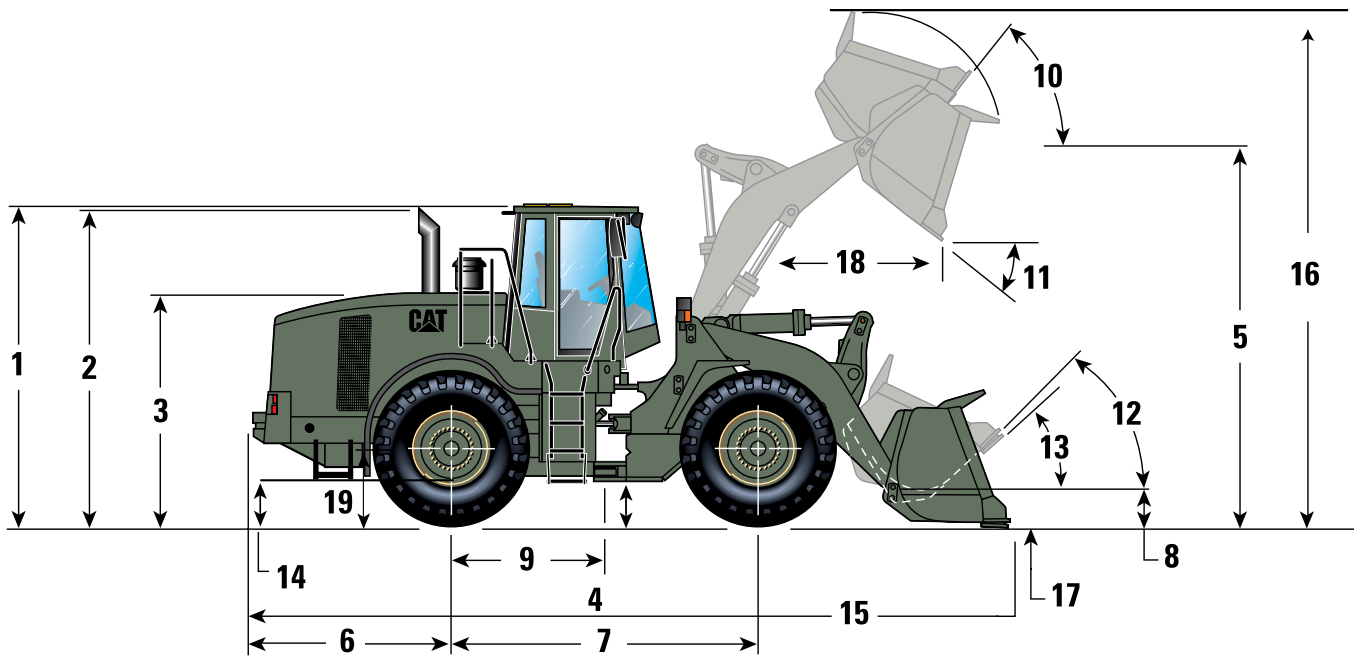
- Cat cab with integrated Rollover Protective Structure (ROPS) are standard in North America and Europe.
- ROPS meets SAE J1040 APR88 and ISO 3471:1994 criteria.
- Falling Objects Protective Structure (FOPS) meets SAE J231 JAN81 and ISO 3449:1992 Level II criteria.
- The operator sound pressure level measured according to the procedures specified in ISO 6394:1998 is 75 dB(A) for the cab offered by Cat, when properly installed and maintained and tested with the doors and windows closed.
- Hearing protection may be needed when operating with an open operator station and cab (when not properly maintained or doors/windows open) for extended periods or in noisy environments.
- The sound pressure level is 111 dB(A) measured according to the static test procedure and conditions specified in ISO 6395:1998 for a standard machine configuration.

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## Service Refill Capacities

Fuel Tank – Standard	404 L	106.7 gal
Cooling System	42.3 L	11.2 gal
Crankcase	35 L	9.25 gal
Transmission	50 L	13.2 gal
Differentials and Final Drives – Front	64 L	16.9 gal
Differentials and Final Drives – Rear	64 L	16.9 gal
Hydraulic Tank	110 L	29 gal

# DIMENSIONS



	TYPE I w/ ROCK BUCKET	TYPE II w/ GP BUCKET
1 Height to top of ROPS	3580 mm (11'9")	3560 mm (11'8")
2 Height to top of exhaust pipe	3530 mm (11'7")	3510 mm (11'6")
3 Height to top of hood	2670 mm (8'5")	2540 mm (8'4")
4 Ground clearance	470 mm (1'7")	445 mm (1'6")
5 B-Pin height at maximum lift	4220 mm (13'10")	4190 mm (13'9")
6 Center line of rear axle to edge of counterweight	2540 mm (8'4")	2540 mm (8'4")
7 Wheelbase	3450 mm (11'4")	3450 mm (11'4")
8 B-Pin height @ carry	483 mm (19")	457 mm (18")
9 Center line of rear axle to hitch	1730 mm (5'8")	1730 mm (5'8")
10 Rack back @ maximum lift	55°	55°
11 Dump angle @ maximum lift	50°	50°
12 Rack back @ carry	47°	47°
13 Rack back @ ground	42°	42°
14 Axle housing clearance	432 mm (17")	406 mm (16")
15 Overall length	9450 mm (31'0")	9450 mm (31'0")
16 Overall height - bucket raised	5720 mm (18'9")	5690 mm (18'8")
17 Digging Depth	127 mm (5")	127 mm (5")
18 Reach at maximum lift and 45° dump	1470 mm (5'10")	1520 mm (6'0")
19 Height to center of axle	787 mm (2'8")	762 mm (2'7")

*All dimensions are approximate.*

*Standard equipment may vary. Consult Caterpillar Defense & Federal Products for details.*

### Electrical

Alarm, back-up  
 Alternator, 80-amp brushless  
 Batteries, maintenance-free (2) 1,400 CCA  
 Lighting system, halogen (6 total)  
 Main disconnect switch  
 Starter, electric, heavy-duty  
 Starting and charging system (24-volt)

### Operator Environment

Air conditioner, heater and defroster  
 Bucket/work tool function lockout  
 Cab, pressurized and sound-suppressed ROPS/FOPS  
 Cigar lighter  
 Coat hook (2) with straps  
 Computerized monitoring system  
 Instrumentation, gauges:  
 Digital gear range indicator  
 Engine coolant temperature  
 Fuel level  
 Hydraulic oil temperature  
 Speedometer/tachometer  
 Transmission oil temperature  
 Instrumentation, warning indicators:  
 Axle oil temperature  
 Electrical, alternator output  
 Engine air filter restriction  
 Engine inlet manifold temperature  
 Engine oil pressure  
 Fuel level  
 Fuel pressure, hi/low  
 Hydraulic filter bypass  
 Hydraulic oil level  
 Parking brake  
 Primary steering oil pressure  
 Service brake oil pressure  
 Transmission filter bypass  
 Controls, electrohydraulic, lift tilt, and auxiliary function  
 Horn, electric (steering wheel/console)  
 Light, dome (cab)  
 Beverage holders and personal tray  
 Mirror, rearview (internally mounted)  
 Vinyl seat with air suspension  
 Seat belt, retractable, 76 mm (3") wide  
 Steering column, adjustable angle  
 Wet-Arm wipers and washers, front and rear  
 Intermittent front wipers  
 Ride Control  
 Supplemental steering

### Tires, Rims, and Wheels

Type I: 26.5-25, 20 PR, L-4  
 Type II: 26.5-25, 20 PR, L-3

### Powertrain

Brakes, full hydraulic enclosed wet-disc with Integrated Braking System (IBS) and brake wear indicator  
 Engine, Cat C11 with ACERT™ technology and ATAAC  
 Fan, radiator, electronically controlled, hydraulically driven, temperature sensing, on demand  
 Filters, fuel, primary/secondary  
 Filters, engine air, primary/secondary  
 Fuel priming pump (electric)  
 Limited Slip Differential (Front)  
 Muffler, sound suppressed  
 Radiator, unit core  
 Starting aid, ether  
 Switch, transmission neutralizer lockout  
 Torque converter, free wheel stator  
 Transmission, automatic, planetary powershift (4F/4R)

### Other

Automatic bucket positioner  
 Couplings, Cat O-ring face seal  
 Doors, service access (locking)  
 Ecology drains, engine, transmission and hydraulics  
 Engine coolant  
 Fenders, steel (front and rear)  
 Guard, airborne debris  
 Hood, non-metallic, power tilting  
 Hoses, Cat XT™  
 Hydraulic oil  
 Hydraulic oil cooler  
 Kickout, lift and tilt, automatic (in-cab adjustable)  
 Linkage, Z-bar, cast crosstube/tilt lever  
 Remote diagnostic pressure taps  
 Quick Coupler, Hydraulic  
 Pallet Forks  
 Service center, electrical and hydraulic  
 Sight gauges  
 Steering, load sensing  
 Sweeper, Hydraulic  
 Transmission oil level  
 Turn Signals/Emergency Flashers  
 Vandalism protection caplocks  
 4.5 yd<sup>3</sup> Rock Bucket, Type I  
 5.0 yd<sup>3</sup> General Purpose Bucket, Type II

## MILITARY MODIFICATIONS

- C17 and C5 RO/RO Air Transportable
- Armored Cab Available
- Removable Cab for Transport
- NATO Start Receptacle
- MIL-STD-209 Lift and Tie Down Provisions
- Fresh Water Fordable to 20" Depth
- Blackout Lighting System
- Rifle Bracket
- Storage – Provisions for MOPP Gear
- Tool Box
- Cold Start Aid for -25° F (Ether)
- Arctic Kit for Cold Start (-40° F)
- Military Towing Lugs
- Vandalism Protection
- Shipping Data Plate
- Keyless Engine Start Switch
- Military Oil Sampling Valves
- Fire Extinguisher
- Brush Guards for Lights
- Military Data Plates
- CARC Paint

*All dimensions are approximate. Dimensions may vary with configuration. Specific military service configurations are available upon request.*

For more information visit: [www.catdfp.com](http://www.catdfp.com)

