

305 CR

Mini Hydraulic
Excavator



Engine Power

Gross	32 kW	43 hp
Net	31.3 kW	42 hp

Maximum Operating Weight

With cab	4990 kg	11,000 lb
With canopy	4940 kg	10,890 lb

305 CR Mini Hydraulic Excavator

Designed and built by Caterpillar® to deliver exceptional performance, versatility and productivity. Easy to operate in confined jobsites and backed by the Caterpillar commitment to serviceability and customer support.

Performance and Versatility

The Caterpillar 305 CR Mini Hydraulic Excavator has been designed to deliver exceptional performance providing optimum versatility and productivity.

The compact radius of the upper structure* stays within the width of the undercarriage, so the operator can concentrate on the work being performed without having to worry about the back of the machine.

High bucket and stick forces combined with fast, smooth hydraulics ensure optimum performance and versatility.

Standard and long sticks are available for a variety of applications. Optional auxiliary lines provide full machine utilization. **pg. 4**

Comfort and Ease of Operation

A spacious cab with sliding door provides easy entry and exit in confined job sites.

The compact radius design and ergonomic low effort pilot hydraulics provide ease of operation, especially in space restrictive environments.

An optional control pattern changer allows the operator to easily change between backhoe and excavator digging patterns, further increasing the 305 CR's versatility. **pg. 5**

Serviceability

Simple, convenient daily maintenance is provided with the tilt-up, wide engine enclosure, allowing access to all major components and service points.

Low maintenance bushings used on the front linkage and blade pin joints for 500 hour greasing intervals, reducing time for routine maintenance. All grease fittings can be easily reached.

S•O•SSM oil sampling valves provide easy sampling of hydraulic oil. **pg. 4**

Built for tough work

The 305 CR Mini Hydraulic Excavator is built to the same high standard as larger Caterpillar excavators. A stylish and innovative design means that the upper structure swings within the undercarriage width offering the optimum performance in the tightest applications.*

* Without additional counterweight



Work Tools

Caterpillar buckets and hydromechanical tools matched to the 305 CR Mini Hydraulic Excavator.

Customer Support

Caterpillar dealers offer unmatched customer support with excellent equipment services and fast parts availability, resulting in maximum uptime and minimum repair costs. Equipment maintenance and management services help optimize performance, reliability and profit. **pg. 5**

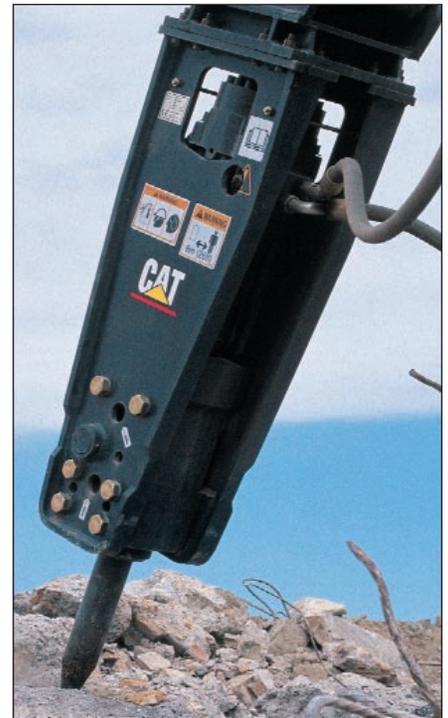
Work Tools

The 305 CR Mini Hydraulic Excavator utilizes work tools which have been designed to extend the versatility of the machine. Built for performance and durability, the full range of Mini Hydraulic Excavator work tools deliver high productivity, long life and excellent value.

- Augers
- Crushers
- Digging Buckets
- Ditch Cleaning Buckets
- Hydraulic Hammers
- Hydraulic Thumb
- Shears
- Vibratory Plate Compactor

Mechanical Quick Coupler

This feature allows the operator to make fast and easy work tool changes. The Caterpillar Quick Coupler maximizes work tool performance while allowing the operator to change work tools efficiently.



Performance and Versatility

The Caterpillar 305 CR has been designed to deliver exceptional performance providing optimum versatility and productivity.

The **Compact Radius** of the 305 CR's upper structure lies within the width of the undercarriage allowing unrestricted operation when working next to obstacles.

- High performance in a compact package is provided by high digging forces and fast cycle times
- Efficient variable flow hydraulic system with stick regeneration and boom confluence valve enables high output excavation and loading capability
- High lifting capacity is enhanced by a boom drift reduction valve for lifting and holding tasks



Versatility means the 305 CR is capable of completing a variety of tasks.

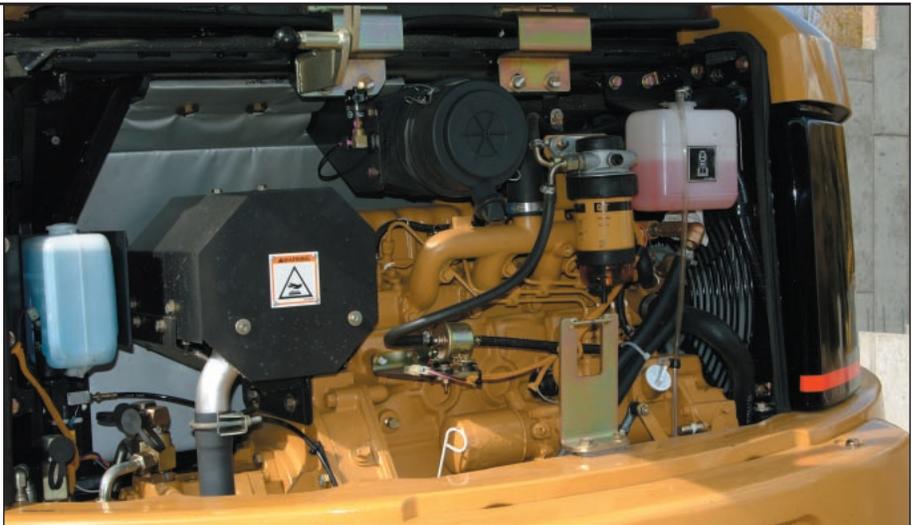
- Auxiliary lines enable the operation of a variety of work tools including hydraulic hammers, augers, shears and crushers
- Strong track drive and full width dozer blade enable effective site clearing, which is further enhanced by the dozer blade float function

Serviceability

Spacious engine enclosure and wide tilt-up engine enclosure allows easy access for maintenance and service.

The large opening tilt-up engine cover provides easy, ground level access to all maintenance checkpoints. Removable panels on the rear side of the engine further improve component accessibility.

- Electric fuel pump provides automatic fuel priming
- Large Caterpillar fuel filter and water separator protect the engine and ensure efficient operation
- Single key locking of all covers for security and convenience
- Low maintenance bushings extend greasing intervals to 500 hours on dozer and all front linkage joints (except bucket)



- All grease points are protected from damage and are accessible from ground level
- S•O•S oil sampling valves provide easy sampling of hydraulic oil for preventative maintenance

Comfort and Ease of Operation

Large, comfortable operator station and responsive pilot hydraulics ensure ease of operation.

The **Operator Station** is spacious with the dimensions of a larger excavator cab and is easy to enter and exit via the sliding door.

- Tinted glass reduces glare and heat build-up
- Gas strut assisted front window for easy opening
- Front window wiper and washer for a clear view
- Cab is radio ready
- The flat floor allows easy sweep out
- Optional front window guards

Excellent Visibility to the work tool and machine surroundings is provided by the offset boom and compact upper structure.

- The dozer blade is visible from all swing angles for maximum convenience
- A polycarbonate skylight provides additional visibility at high boom positions

Full Controllability is provided by the low effort, ergonomically designed pilot hydraulic levers.

- Both independent and with-seat adjustment of pilot levers for the ideal operating position
- Dial type accelerator plus one-touch low idle switch in the pilot lever gives instant engine speed control
- All controls are pilot hydraulic operated, including: front linkage, travel, dozer and auxiliary
- Optional control pattern changer for quick selection of excavator or backhoe controls

A **High Level of Comfort** provides maximum productivity

- Fully adjustable reclining suspension seat
- Low operator and spectator sound levels
- The cab includes heater and optional air conditioner for maximum comfort in a range of climatic conditions



Customer Support

Complete services provided by the world's largest dealer network.

Unmatched dealer support with excellent equipment management services and fast parts availability — most within 24 hours — provide maximum uptime and minimum repair costs.

Equipment maintenance services to help optimize machine performance and reliability. Services include:

- Customer Support Agreements
- Maintenance contracts
- Scheduled technical inspections



Equipment management services to help optimize profits. Services include:

- Machine and work tool selection
- Rental and leasing
- Purchasing and financing
- Extended warranties

Note: For a complete explanation of these services please contact your local Caterpillar dealer.

Engine

Mitsubishi K4N naturally aspirated, watercooled, 4-stroke, 4 cylinder diesel engine.

Ratings at 2400 rpm	kW	hp
Gross Power		
SAE J1995	32.0	43.0
Net Power		
ISO 9249	31.3	42.0
SAE J1349	31.3	42.0

Dimensions

Bore	90 mm	3.54 in
Stroke	90 mm	3.54 in
Displacement	2290 cm ³	140 in ³

- Meets U.S. EPA Tier 2 and EU Stage I off-highway emission regulations
- Glow plugs in each cylinder for easier cold-weather starting
- Gradeability (continuous) 25°

Hydraulic System

Open-center system with two cross-sensing, variable displacement pumps and single gear pump for maximum output and efficiency.

Pump (maximum flow)		
Piston	2 × 52.1 l/min	13.8 gpm
Gear	1 × 42.1 l/min	11.2 gpm
Pilot	1 × 13.5 l/min	3.5 gpm

Operating pressures		
Linkage	245 bar	3550 psi
Travel	245 bar	3550 psi
Swing	245 bar	3550 psi

Auxiliary circuit (maximum)		
Flow	94.2 l/min	25 gpm
Pressure	245 bar	3550 psi

Digging forces (at cutting edge)		
Bucket	42.0 kN	9440 lb-ft
Standard stick	27.6 kN	6205 lb-ft
Long stick	23.3 kN	5240 lb-ft

- Stick regeneration circuit enables high stick-in speeds
- Boom confluence valve combines pump flows for faster lift speed
- Boom drift reduction valve minimizes boom movement for lifting duties

Electrical System

System voltage	12V
Alternator output	50 amp
Starter motor	2.0 kW
Battery	650 CCA, 55 amp/h

- Maintenance free battery
- Sealed electrical connectors
- Abrasion and flame resistant braiding on harnesses
- Circuit breaker for overload protection

Undercarriage

- X-shaped, fabricated carbody for strength and durability
- Sloping track roller frames and dirt relief holes reduce build-up of debris
- Track tension adjustment by grease filled cylinder
- Five bottom rollers and one top roller per side
- Ground clearance 335 mm (13 in)

Travel System

Travel speed		
High	4.6 km/h	3.0 mph
Low	2.7 km/h	1.7 mph

Traction force		
	44.6 kN	10,020 lb-ft

- Compact drive modules within track width for protection
- Straight-line travel possible when tracking and operating the front linkage together
- Counter balance valves built-in prevent over speed conditions when traveling down slopes

Swing System

Independent swing circuit maintains swing speed and force while operating the front linkage.

Machine swing speed	9.6 rpm
Boom swing angles	
Left (min. stop position)	55°
Left (max. stop position)	80°
Right	50°

- Self lubricating swing speed reduction gear
- Grease bath lubricated pinion
- Automatic, spring applied parking brake prevents swing drift on a slope and during machine transportation

Cab and Canopy

- Both cab and canopy structures meet FOPS, ISO 10262 (Level 1) and TOPS, ISO 12117
- Cab glass tinted with front window and washer standard
- All major controls are pilot hydraulic operated
- All hydraulic controls are isolated including the travel function by lift up console

Weights

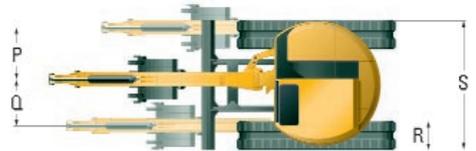
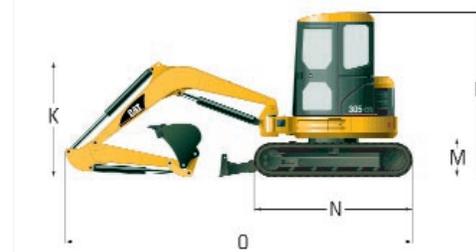
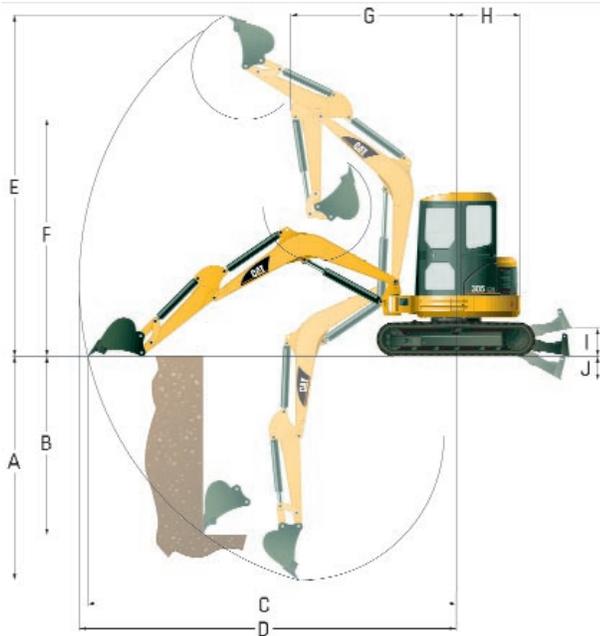
With rubber track, bucket, operator and additional counterweight, 190 kg (418 lb). Weights vary depending on machine configuration.

Cab	4990 kg	11,000 lb
Canopy	4940 kg	10,890 lb

Service Refill Capacities

	Liters	Gallons
Cooling system	7.0	1.84
Engine oil	8.3	2.2
Fuel tank	68	18
Hydraulic tank	57	15
Hydraulic system	85	22.4

Dimensions and Working Range



		A	B	C	D	E	F	G	H*	I	J	K	L	M
Standard Stick	(mm)	3530	2750	5750	5890	5370	3730	2550	1090	460	360	1750	2595	625
	(ft/in)	11'7"	9'0"	18'10"	19'4"	17'7"	12'3"	8'4"	3'7"	1'6"	1'2"	5'9"	8'6"	2'1"
Long Stick	(mm)	3930	3370	6140	6270	5600	3960	2535	1090	460	360	2110	2595	625
	(ft/in)	12'11"	11'1"	20'2"	20'7"	18'4"	13'0"	8'4"	3'7"	1'6"	1'2"	6'11"	8'6"	2'1"
		N	O	P	Q	R	S							
Standard Stick	(mm)	2450	5365	910	650	400	1980							
	(ft/in)	8'0"	17'7"	3'0"	2'2"	1'4"	6'6"							
Long Stick	(mm)	2450	5490	910	650	400	1980							
	(ft/in)	8'0"	18'0"	3'0"	2'2"	1'4"	6'6"							

*Removal of the additional counterweight decreases this dimension by 100 mm (4 in).

Standard Equipment

Standard equipment may vary.
Consult your Caterpillar dealer for specifics.

Additional counterweight, 190 kg (418 lb)	Gauges/indicators for fuel, engine oil pressure and coolant temperature, air cleaner, alternator and glow plugs
Automatic swing parking brake	Hour meter
Boom cylinder guard	Low maintenance linkage joints
Boom drift reduction valve	Maintenance free battery
Cab/canopy mounted lights	One-touch low idle
Canopy to TOPS and FOPS standards	Rubber tracks
Vinyl suspension seat	Seatbelt, 50 mm (2 in) wide
Control pattern changer	Standard stick
Dial type accelerator	Two speed travel
Double element air filter	Travel alarm
Dozer blade with float function	Travel foot pedals
Floormat	

Optional Equipment

Optional equipment may vary.
Consult your Caterpillar dealer for specifics.

Air conditioner	Front screen guard for cab and canopy
Auxiliary hydraulic lines for front linkage	Long stick
Boom mounted lights	Mechanical quick coupler
Cab, fully glazed to TOPS and FOPS standards with heater, interior light, front window washer/wiper, radio-ready kit and fabric suspension seat	Seatbelt, 75 mm (3 in) wide
	Steel tracks
	Work tools

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Replaces AEHQ5472

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Materials and specifications are subject to change without notice.
Featured machines in photos may include additional equipment.
See your Caterpillar dealer for available options.

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