



Cat[®] 312F GC

Hydraulic Excavator

The Cat[®] 312F GC Excavator is a powerful and reliable, low-cost-per-hour solution for your light- to medium-duty applications. Featuring a fuel-efficient Cat C3.4B engine, simplified hydraulic system, and robust frames and components, the 312F GC provides you savings and peace of mind.

High Performance with Lower Fuel Consumption

- Automatically reduce your engine speed and minimize fuel consumption during no-load or light-load conditions with automatic engine speed control (AEC).
- Standard one-touch low idle saves fuel by instantly reducing engine speed to 1,100 rpm at the push of a button. Return the engine speed to the throttle position by hitting the button again or simply moving the joysticks.
- The Cat C3.4B engine meets Japan 2014 (Tier 4 Final) emission standards and is equipped with turbo protection and a maintenance-free emissions package that enhances service life.
- The engine does not require diesel exhaust fluid (DEF).
- Work at altitudes up to 2300 m (7,545 ft) above sea level without de-rating.
- Don't let the cold stop your work. The machine features standard cold start capability of -18° C (0° F). An optional cold start package of -25° C (-13° F) is also available.
- Save fuel with the push of a button when you switch between high power mode and economy mode.
- Calculate your exact work demands to deliver the stick and bucket force needed to get work done with a load-sensing pump and main control valve.
- Reduce emissions, save fuel, and extend your service intervals with engine idle shutdown.
- Product Link™ collects data automatically and accurately from your assets – any type and any brand. Information such as location, hours, fuel usage, productivity, idle time, maintenance alerts, diagnostic codes, and machine health can be viewed online through web and mobile applications.

Reduced Maintenance Costs

- Spend more time working and less time greasing. Front linkage greasing intervals are 500 hours.
- Reduce friction and pressure drops with a simplified hydraulic layout. The Flow Summation System uses shorter tubes and lines and includes a pilot manifold in the valve block eliminating the need for a pilot pump and filter.
- Reduce your filter maintenance time. The low-pressure fuel system and manual priming pump reduce the need for multiple filters and the engine's diesel particulate filter is compact and maintenance free.
- Two levels of fuel filtration protect the engine from dirty diesel fuel.
- Check and service your machine faster with many ground level routine service and maintenance points. Grouped filters and wide service doors allow easy access to the radiator, pump, air cleaner and engine compartments.
- Easily clean the redesigned cooling package. Wider clearance is provided between the radiator, oil cooler, and air conditioning condenser making it easy to blow off debris with an air nozzle.



オフロード法2014年
基準適合



国土交通省指定
低騒音型建設機械

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Reliability and Durability You Can Count On

- Count on your machine to withstand wear throughout the years. Boom and sticks are built with internal baffle plates and are robot welded. High-stress areas are manufactured with large box-section structures made of thick multi-plate fabrications, castings, and forgings.
- The upper frame uses specially designed mountings to support the heavy-duty cab and the lower frame is reinforced to enhance component durability.
- Robust bottom guards protect machine components that may be damaged while swinging and hydraulic snubbers in the boom.
- Stick cylinders reduce end-of-stroke impact prolonging the machine's life.
- Stay balanced in a variety of applications with the standard 2.1 mt (4,630 lb) counterweight.
- The front linkage pins' inner bearing surfaces are welded with a self-lubricating bearing to extend service intervals and increase your machine's uptime.
- Increase durability and experience smooth load transitions with long welded track frames.
- Elongated bolts secure the large swing bearing to help handle the most swing-intensive work.
- You are supported. The Cat Dealer Network is there to provide assistance when you need it.

Unmatched Comfort

- Work comfortably and safely in a spacious and quiet cab that provides excellent visibility from the operator's seat to keep you aware of your surroundings. An updated, adjustable seat increases comfort and reduces operator fatigue.
- Control the excavator comfortably with easy to access controls and switches.
- Navigate quickly on the standard LCD monitor which is programmable in 42 languages.
- Stow your gear with plenty of in-cab storage beneath and behind the seat, and overhead. A cup holder, document holder, and coat hook are also provided.
- The heating ventilation air cooling (HVAC) system reduces noise levels and automatic climate control helps maintain a consistent cab temperature.
- Adjust the joystick consoles and armrests to a position comfortable for you.

Safety

- Rollover Protection Structure (ROPS) equipped cab provides a safe work environment.
- The hydraulic activation lever locks out all hydraulic functions.
- Enter and exit the cab and walk on the upper structure safely with handrails, anti-skid plating and countersunk bolts which are meant to reduce slipping and tripping.
- Fan guards reduce the risk of coming into contact with the engine cooling fan.
- Shut the engine down quickly and easily in the case of emergency with the ground-level engine shutoff switch.
- Stay safe in the case of emergency. The rear window features a secondary exit system.
- Enhance visibility with the standard rearview camera and mirrors.
- Protect yourself from overhead impacts with the optional Falling Objects Guarding System (FOGS).

Versatile Solution for Light- to Medium-Duty Applications

- Transition quickly between attachments with optional auxiliary hydraulics.
- Expand your work capabilities with a variety of attachments including thumbs, buckets, hammers, and couplers.
- Cat dealers can install hydraulic kits to properly operate attachments, maximizing machine uptime and profits.

Standard and Optional Equipment

Standard and optional equipment may vary. Consult your Cat dealer for details.

	Standard	Optional		Standard	Optional
BOOM AND STICKS			HYDRAULIC SYSTEM		
4.65 m (15'3") reach boom	✓		Boom and stick regeneration control	✓	
R2.5 m (8'2") stick with auxiliary mount		✓	Reverse swing dampening valve	✓	
R2.5 m (8'2") stick with auxiliary mount, shovel crane		✓	Automatic swing brake	✓	
CAB			High-performance hydraulic return filter	✓	
ROPS, standard sound suppression	✓		Auxiliary hydraulics		✓
Mechanically adjustable seat, armrest, and console	✓		Quick coupler line		✓
109 mm (4.3 in) color LCD monitor	✓		Stick lowering control valve		✓
Automatic climate control	✓		Boom and stick drift reduction valve		✓
12V AM/FM radio	✓		Four-way control pattern changer	✓	
Travel control pedals with removable hand levers	✓		High-pressure lines		✓
CAT CONNECT TECHNOLOGY			SERVICE AND MAINTENANCE		
Cat Product Link	✓		S-O-S SM sampling port for coolant	✓	
ELECTRICAL SYSTEM			Grease gun with holder	✓	
12V, 10A power supply	✓		SAFETY AND SECURITY		
Left-side boom light	✓		One key security system	✓	
Cab light with time delay	✓		Cap locks on fuel tanks	✓	
ENGINE			Lockable external tool/storage box	✓	
C3.4B U.S. EPA Tier 4 Final, Japan 2014 diesel engine	✓		Signaling/warning horn	✓	
2300 m (7,500 ft) altitude capability	✓		Secondary engine shutoff switch	✓	
Manual priming pump	✓		Rear window emergency exit	✓	
Automatic engine speed control	✓		Bolt-on FOGS		✓
Side-by-side cooling system	✓		Rearview camera	✓	
-18° C (0° F) cold start capability	✓		Mirrors rearview (frame – right, cab – left)	✓	
-25° C (-13° F) cold start capability		✓	Machine security system	✓	
Two speed travel	✓		Rain protector		✓
Engine idle shutdown function	✓		Windshield net		✓
			UNDERCARRIAGE AND STRUCTURES		
			2.1 mt (4,630 lb) counterweight	✓	
			Towing eye on base frame	✓	
			Grease Lubricated Track with resin seal	✓	
			500 mm (20 in) triple grouser shoes		✓
			600 mm (24 in) triple grouser shoes		✓
			700 mm (28 in) triple grouser shoes		✓
			Standard bottom guard	✓	

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Technical Specifications

Engine		
Engine Model	Cat C3.4B	
Gross Power – SAE J1995	55 kW	74 hp
Engine Power – ISO 14396	54 kW	72 hp
Net Power – SAE J1349/ISO 9249	52 kW	70 hp
Engine RPM		
Operation	1,700 rpm	
Travel	1,800 rpm	
Bore	99 mm	3.90 in
Stroke	110 mm	4.33 in
Displacement	3.4 L	207 in ³

Hydraulic System		
Main System – Maximum Flow (total)	240 L/min	63.4 gal/min
Maximum Pressure – Equipment	30 500 kPa	4,424 psi
Maximum Pressure – Travel	30 500 kPa	4,424 psi
Maximum Pressure – Swing	23 000 kPa	3,336 psi
Pilot System – Maximum Pressure	4120 kPa	598 psi

Machine Weight		
Operating Weight	12 500 kg	27,700 lb
• Standard undercarriage, reach boom, R2.5 m (8'2") stick, GD 0.53 m ³ (0.69 yd ³) bucket and 500 mm (20") shoes.		

Service Refill Capacities		
Fuel Tank Capacity	250 L	66.0 gal
Cooling System	17.9 L	4.7 gal
Engine Oil	8 L	2.1 gal
Swing Drive	3 L	0.8 gal
Final Drive	3 L	0.8 gal
Hydraulic System	164 L	43.3 gal
Hydraulic Tank	90.6 L	23.9 gal

Dimensions		
Boom	Reach Boom – 4.65 m (15'3")	
Stick	R2.5 m (8'2")	
Bucket	GD 0.53 m³ (0.69 yd³)	
Shipping Height	2870 mm	9'5"
Shipping Length	7610 mm	25'0"
Tail Swing Radius	2170 mm	7'0"
Length to Center of Rollers	3040 mm	10'0"
Track Length	3750 mm	12'4"
Ground Clearance	440 mm	1'5"
Track Gauge	1990 mm	6'6"
Transport Width – 500 mm (20") Shoes	2490 mm	8'2"
Transport Width – 600 mm (24") Shoes	2590 mm	8'6"
Cab Height	2760 mm	9'1"
Counterweight Clearance	880 mm	2'11"

Working Ranges		
Boom	Reach Boom – 4.65 m (15'3")	
Stick	R2.5 m (8'2")	
Bucket	GD 0.53 m³ (0.69 yd³)	
Maximum Digging Depth	5530 mm	18'2"
Maximum Reach at Ground Line	8170 mm	26'10"
Maximum Loading Height	6100 mm	20'0"
Minimum Loading Height	2020 mm	6'8"
Maximum Depth Cut for 2240 mm (8'0") Level Bottom	5330 mm	17'6"
Maximum Vertical Wall Digging Depth	5000 mm	16'5"
Bucket Digging Force (SAE)	86 kN	19,300 lbf
Stick Digging Force (SAE)	64 kN	14,400 lbf
Bucket Digging Force (ISO)	95 kN	21,400 lbf
Stick Digging Force (ISO)	65 kN	14,600 lbf

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Based on the Labor, Safety and Health Laws in Japan, employer of small construction equipment are required to provide specific training for all operators on machines with ship weight less than 3 metric ton. For machines greater than 3 metric ton, operator needs to obtain operator license certification from a Government approved registered training school.

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