



Cat[®] 538

GF/LL Forest Machines

Move more timber, make more money with superior performance and unmatched operator comfort.

Superior Performance

- Choose between purpose-built forestry configurations to get the best performance for your job.
- The Cat[®] C7 engine is fuel efficient and can run on biodiesel up to B20.
- Smart mode helps reduce fuel consumption by automatically matching engine and hydraulic power to working conditions.
- Pick and place logs with precision and power with the all-new electrohydraulic control system and on-demand Heavy Lift mode.
- Move heavy logs confidently with more than 10 percent greater swing torque.*
- Get to work faster with a 12 percent increase in travel speed.*
- Auxiliary hydraulic options let you use Cat grapples and a variety of other attachments.
- Work in extreme environments with standard high-ambient capability of 48° C (118° F) and cold start capability of -32° C (-25° F).

*All percentages compared to 2020 model year 538.

Unmatched Operator Comfort

- Get in and out of the cab easier with a wider and taller door and tilt-up console.
- Enjoy the all-new Certified Forestry cab's 25 percent larger space.
- New dual HVAC system keeps operators comfortable in either cold or warm weather.
- A wider heated and cooled air-suspension seat makes year-round work more pleasant.
- All controls are in front of you within easy reach to reduce twisting and turning and keep you focused on the work area.
- Cab risers – 165 mm (6.5") fixed or 1219 mm (48") hydraulic tilt – are available to meet your work needs.
- Special roof lining and window and door sealing reduce noise, making the interior as quiet as today's top work trucks.
- Stow your gear with in-cab storage beneath and behind the seat and in the consoles.
- Use the standard radio's USB ports and Bluetooth[®] technology to connect personal devices and make hands-free calls.

Simple Operation

- Start the engine with a push button; use a Bluetooth key fob, smartphone app, or the unique Operator ID function.
- The engine's passive regeneration system functions automatically with no operator input or interruption to work.
- Navigate easily on the high-resolution touchscreen monitor.
- Quickly program your attachment functions, joystick response, and engine power mode using Operator ID; it will remember you each time you go to work.
- The available Cat PL161 Attachment Locator helps you find tools you need up to a range of 60 m (200') – even if it's hidden beneath overgrowth or debris.
- Not sure how a function works or how to maintain the machine? Always have the operator's manual at your fingertips in the touchscreen monitor.

Versatile Configurations

- General Forestry configuration is available with boom, stick, and hydraulic options so you can equip it for road building, grapple work, or processing.
- Log Loader configuration is ideal for shovel logging, Butt-n-Top loading, power clam applications, and millyard work.
- Rugged, reliable, simple-to-service Cat forestry grapples range in size from 1320 mm (52") to 1524 mm (60").
- Special Tri Link shoes are available for lower ground pressure and extra flotation in soft, wet underfoot conditions.



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Easy Maintenance

- Expect up to 15 percent less maintenance cost than previous model. (Savings calculated over 12,000 machine hours.)
- The diesel particulate filter requires no maintenance.
- Replace fuel filters at 1,000 hours – twice the interval from the previous filters.
- Get improved filtration and longer 3,000 service life with the new hydraulic oil return filter – 50 percent longer service than previous filter designs.
- The high-efficiency cooling fan runs only when needed; program intervals so the fan automatically reverses to keep cores clean without interrupting your work.
- S-O-SSM ports simplify maintenance and allow for quick, easy extraction of fluid samples for analysis.

Enhanced Safety

- The cab meets the following standards:
ROPS/FOPS/OPS/TOPS
ISO 8082-2:2011
ISO 8083:2006 11,600J
ISO 10262:1998 Level II
ISO 8084:2003
SAE J1356 MAR2013
WCB G603 March 1990
OR-OSHA 437-007-775(14)
- Access most routine maintenance points at ground level.
- New right-hand steps provide easy, safe, and quick access to upper service platform; the steps and service platform use anti-skid punch plate to prevent slipping.
- Larger 32 mm (1¼") polycarbonate front window, smaller cab pillars, and a flat engine hood improve visibility by 50 percent.
- Standard rearview camera enhances jobsite visibility; sideview cameras are optional.
- The monitor's slope and grade indicator helps enhance stability and lift.

Standard and Optional Equipment

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

	Standard	Optional		Standard	Optional
BOOMS AND STICKS			CAB		
5.7 m (18'8") Reach boom – General Forestry		✓	ROPS Forestry cab with polycarbonate windows	✓	
5.9 m (19'6") Straight boom – Log Loader		✓	4-point harness seat belt	✓	
2.9 m (9'6") Reach thumb-ready stick		✓	Side entry with 165 mm (6.5") fixed riser		✓
Goose neck stick		✓	Side entry with 1219 mm (48") tilting riser		✓
Under/under stick		✓	Heated and cooled seat with air-adjustable suspension	✓	
Over/under stick		✓	Integrated joysticks	✓	
Power clam		✓	Tilt-up left-side console (side-entry cab only)	✓	
			High-resolution touchscreen monitor	✓	
			Bluetooth integrated radio (including USB, aux port and microphone)	✓	
			12V DC outlets	✓	
			Keyless push-to-start engine control	✓	
			Automatic bi-level air conditioner	✓	
			LED dome and floor lights	✓	
			Windshield wiper and washer	✓	
			Behind seat storage	✓	
			CB radio mounts		✓
			Retractable sunshade	✓	

(continued on next page)

Standard and Optional Equipment *(continued)*

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

	Standard	Optional		Standard	Optional
CAT TECHNOLOGIES			SAFETY AND SECURITY		
Cat Product Link™	✓		Caterpillar One Key security system	✓	
Remote Services capability	✓		Lockable service doors	✓	
ELECTRICAL SYSTEM			Lockable external tool/storage box	✓	
Maintenance-free 1,000 CCA batteries (x4)	✓		Lockable fuel cap and hydraulic tank	✓	
Centralized electrical disconnect switch	✓		Service platforms with anti-skid plate	✓	
LED chassis, boom, and cab lights	✓		Right-hand handrail and handhold	✓	
Premium lighting – General Forestry – six additional LED lights		✓	Signaling/warning horn	✓	
Premium lighting – Log Loader – 10 additional LED lights		✓	Ground-level secondary engine shutoff switch	✓	
ENGINE			Rearview camera	✓	
Electric fuel priming pump	✓		Right-hand sideview camera		✓
Cold start package with block heaters and ether assist		✓	SERVICE AND MAINTENANCE		
Three selectable modes: Power, Smart, Eco	✓		Side-entry service platform	✓	
Automatic engine speed control	✓		Grouped location for engine oil and fuel filters	✓	
Automatic engine idle shutdown	✓		Ground level dipstick for engine oil	✓	
Up to 4600 m (15,092 ft) altitude capability	✓		S-O-S sampling ports	✓	
48° C (118° F) high-ambient cooling capacity	✓		UNDERCARRIAGE AND STRUCTURES		
-32° C (-25° F) cold start capability	✓		High Wide undercarriage	✓	
Hydraulic reverse fan	✓		Grease lubricated track with positive pin retention	✓	
Two-stage fuel filter system	✓		Catwalks	✓	
Double element air filter with integrated pre-cleaner	✓		Tie down points	✓	
Biodiesel capability up to B20	✓		Counterweight fuel tank	✓	
HYDRAULIC SYSTEM			900 mm (36") triple grouser Tri Link shoes		✓
Boom and stick regeneration circuits	✓		800 mm (31") triple grouser shoes		✓
Boom and stick drift reduction valve	✓		700 mm (28") double grouser shoes		✓
Electronic main control valve	✓		600 mm (24") double and single grouser shoes		✓
Automatic hydraulic oil warm up	✓		Heavy-duty track rollers and frames	✓	
Automatic swing parking brake	✓		Heavy-duty travel motor guards	✓	
High performance hydraulic return filter	✓		Heavy-duty bottom guards	✓	
Automatic two speed travel	✓		Track guiding guards	✓	
Bio hydraulic oil capability	✓		High drawbar final drives	✓	
High torque swing drive	✓		Heavy-duty recoil springs	✓	
Swing cushion valve	✓		Heavy-duty hydraulic swivel	✓	
Tool control software	✓		Heavy-duty hydraulic swivel guard	✓	
Medium pressure circuit		✓			

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Technical Specifications

Engine		
Engine Model	C7.1	
Net Power – ISO 9249:2007	128.5 kW	172 hp
Engine Power – ISO 14396:2002	129.4 kW	174 hp
Bore	105 mm	4.1 in
Stroke	135 mm	5.3 in
Displacement	7 L	428 in ³
<ul style="list-style-type: none"> • ISO 9249 is net power available at the flywheel when the engine is equipped with fan, air cleaner, aftertreatment, and alternator with engine speed at 1,800 rpm. 		

Drive		
Maximum Travel Speed	4.9 km/h	3.0 mph
Maximum Drawbar Pull	246 kN	55,303 lbf

Hydraulic System		
Main System – Maximum Flow – Implement	468 L/min (234 L/min × 2 pumps)	124 gal/min (62 gal/min × 2 pumps)
Maximum Pressure – Equipment – Implement	35 000 kPa	5,076 psi
Maximum Pressure – Equipment – Heavy Lift Mode	38 000 kPa	5,511 psi
Maximum Pressure – Travel	35 000 kPa	5,076 psi
Maximum Pressure – Swing	30 000 kPa	4,351 psi

Swing Mechanism		
Swing Speed	11 rpm	
Maximum Swing Torque	98 kN·m	72,281 lbf·ft

Weights		
Operating Weight – General Forestry	29 600 kg	65,268 lb
<ul style="list-style-type: none"> • High Wide undercarriage, processing boom and goose neck stick with integrated drop nose, 700 mm (28") double grouser shoes, no processor head 		
Operating Weight – Log Loader	31 460 kg	69,357 lb
<ul style="list-style-type: none"> • High Wide undercarriage, over/under boom and stick with heel rack, 700 mm (28") double grouser shoes, no grapple 		

Service Refill Capacities		
Fuel Tank Capacity	990 L	262 gal
Cooling System	17.5 L	5 gal
Engine Oil (with filter)	25 L	7 gal
Swing Drive (each)	11.5 L	3 gal
Final Drive (each)	4.5 L	1 gal
Hydraulic System (including tank)	262 L	69 gal
Hydraulic Tank	143 L	38 gal
DEF Tank	41 L	11 gal

Air Conditioning System

The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a (Global Warming Potential = 1430). The system contains 1.00 kg of refrigerant, which as a CO₂ equivalent of 1.430 metric tonnes.

Working Ranges

General Forestry			
Processor			
Reach 5.7 m (18'8") boom, drop nose 3.7 m (12'2") processor stick			
Maximum Reach at Ground Level	8800 mm	28'10"	
Road Builder			
Reach 5.7 m (18'8") boom, thumb-ready 2.9 m (9'6") stick, 1.4 m ³ (1.8 yd ³) HD bucket			
Maximum Reach at Ground Level	9820 mm	32'3"	
Log Loader			
Under/Under			
Log Loader 5.9 m (19'6") straight boom, under/under 3.5 m (11'6") stick			
Maximum Reach at Ground Level	10 790 mm	35'5"	
Over/Under			
Log Loader 5.9 m (19'6") straight boom, over/under 3.8 m (12'6") stick			
Maximum Reach at Ground Level	11 540 mm	37'10"	
Power Clam			
Log Loader 5.9 m (19'6") straight boom, under/under 3.8 m (12'6") stick			
Maximum Reach at Ground Level	9680 mm	31'9"	

Dimensions

	General Forestry	Log Loader	
Boom	Reach 5.7 m (18'8")	SB 5.9 m (19'6")	
Stick	Reach Thumb-Ready 2.9 m (9'6")	Under/Under 3.5 m (11'6")	
Stick	Drop Nose 3.7 m (12'2")	Over/Under 3.8 m (12'6")	
Stick	—	Power Clam 3.8 m (12'6")	
Shipping Height (top of cab)			
Fixed Riser	3670 mm	12'1"	—
Cab Tilted	—	—	3310 mm 10'10"
Handrail Height	3265 mm	10'9"	3265 mm 10'9"
Shipping Length			
Processor – no attachment	9870 mm	32'5"	—
Road Builder – with bucket	9750 mm	32'	—
Under/Under – no grapple	—	—	13 980 mm 45'10"
Over/Under – no grapple	—	—	14 710 mm 48'3"
Power Clam – no grapple	—	—	12 830 mm 42'1"
Tail Swing Radius	3135 mm	10'3"	3135 mm 10'3"
Counterweight Clearance	1300 mm	4'4"	1300 mm 4'4"
Ground Clearance	758 mm	2'6"	758 mm 2'6"
Track Length	4665 mm	15'4"	4665 mm 15'4"
Length to Center of Rollers	3795 mm	12'5"	3795 mm 12'5"
Track Gauge	2790 mm	9'2"	2790 mm 9'2"
Transport Width – 700 mm (28") shoes	3490 mm	11'5"	3490 mm 11'5"

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