



Cat[®] M323F

Railroad Wheeled Excavator

The Cat[®] M323F is a versatile, high capacity railroad wheeled excavator that gives you the freedom to move from road to rail with ease – without compromising performance. Maintaining the tradition of outstanding performance and stability, the M323F railroad excavator allows you to expand your work to new terrains. Purpose-built for rail, the M323F is the perfect solution for your rail, earthmoving, and lifting needs.

Specially Made for Rail Applications

- The hydrostatic drive on rail axles provides great driving and braking performance.
- Highly mobile, the M323F can travel up to 20 km/h (12 mph) on road and rails.
- Removable heavy counterweight design allows the machine to meet both railway and road regulations while increasing lifting capabilities and excavation performance.
- Rail-specific Smart System allows setting limits to the machine movements, and provides real-time implement kinematic/machine rotation position. Movements slow down smoothly when approaching the preset limits. Moves beyond these limits are blocked.
- Short radius design complies with railway-specific environments without compromising the excavators' performance and stability.
- The combination of a variable adjustable boom and stick provides the right balance of reach and digging force in rail applications and operations.
- Retractable hydraulic step improves ground clearance on rail tracks.
- Independent hydrostatic transmissions for railways and roads provide optimal performance in both settings.
- Double cab provides comfort while meeting regulation.

High Performance with Lower Fuel Consumption

- The C4.4 ACERT[™] engine meets EU Stage IV emission standards and can operate on either ultra-low-sulfur diesel or up to B20 biodiesel.
- The engine quickly responds to changing loads while delivering the same amount of power regardless of operating conditions.
- Maximize efficiency with load-sensing hydraulics which provide fast cycle times.
- The advanced hydraulic system reduces the load on the engine resulting in lower fuel consumption.
- Eco Mode and auto engine speed control help reduce fuel consumption while delivering consistent power.
- The rated capacity indicator (RCI) and rated capacity limiter (RCL) systems ensure machine stability in any track condition.
- Powerful and efficient engine delivers superior durability.
- Engine idle shutdown, auto engine speed control, and on-demand cooling system reduce fuel consumption.
- The dedicated swing pump helps reduce fuel consumption and allows faster and smoother combined movements.

Versatile Solution for Rail Applications

- Standard auxiliary hydraulics, including high pressure and quick coupler lines and circuits, allow easy attachment changes without the need to add other lines to your machine.
- Preset up to ten hydraulic pump flow and pressure settings.
- A large variety of attachments are available, including heavy railway-specific tools.



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Safety

- ROPS operator and secondary cabs are tested according to ISO 12117-2:2008 and meet 2006/42/EC standards.
- The Cat M323F meets all applicable safety standards including EN 15746.
- E-fence technology limits movement when working under live wires or next to a track that is open to traffic.
- Second cab features emergency stop button, backup electric horn, and main machine power switch.
- Rail and road adapted smart devices like a seatbelt warning indicator, automatic swing lock, and safety lever help enforce safety on the job site.
- Long handrails and access steps with anti-skid plates provide easy entry to the cab.
- Large glass areas, wide-angle mirrors, a large skylight, rear and side view cameras, and powerful LED working lights provide great visibility from all angles.
- Standard integrated pin code adds anti-theft security.

Maintenance

- Reach routine maintenance items like fuel and engine oil filters and fluid taps at ground level.
- An upper carriage auto lubrication system and minimal undercarriage greasing points reduce maintenance time.
- The electric lift pump removes the need to prime the fuel system and fuel/water separator.
- The axial fan and all coolers are gathered in the same compartment. Radiators are easy to clean and can be unlocked and tilted without any tool.

Technology

- Increase production and minimize operating costs with Cat® Connect technology solutions.
- Link technologies wirelessly connect you to your job site providing machine location, hours, fuel usage, idle time and event codes.
- The easy-to-read, high-resolution LCD monitor will keep you aware of important machine information.
- Cat Stage IV technologies are invisible to the operator and do not require any work interruption or operator intervention.

Unmatched Comfort

- A high resolution, LCD monitor provides quick access to favorite functions.
- Adjust hydraulic sensitivity from the joysticks on both roads and railways.
- Adjustable seats, armrests, steering column, joystick controls, buttons, and thumb wheels provide a unique operator experience.
- Ergonomically designed cab features minimal and conveniently located controls.

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Standard and Optional Equipment

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

	Standard	Optional		Standard	Optional
BOOM AND STICK			SAFETY AND SECURITY		
5.2 m (17'1") VA boom, 2.1 m (6'11") stick	✓		Emergency stop button	✓	
UNDERCARRIAGE AND STRUCTURES			Backup electro-hydraulic pump for rail emergencies	✓	
Rail wheels – insulated according to local regulations	✓		Safety decals for rail certification	✓	
Road and rail all-wheel drive	✓		Pneumatic system for rail trailer or rail car brakes		✓
6.4 t (14,110 lb) counterweight	✓		Rear and right-side cameras	✓	
7.4 t (16,314 lb) counterweight		✓	ROPS operator and secondary cab	✓	
Two speed hydrostatic transmission on road or rail	✓		Stick lowering control valve (SLCV) and boom lowering control valve (BLCV) including overload warning device	✓	
Independent rail hydrostatic transmission	✓		Pin code engine start prevention	✓	
Automatic rail axle lock	✓		CAB		
Automatic lock mode for oscillating front road axle and service brake	✓		Bolt-on falling object guard system (FOGS) capability	✓	
Heavy-duty axles with advanced disc brake system and travel motor with adjustable braking force	✓		FM radio with speakers	✓	
Travel restraint bracket for clamshell/grapple		✓	LCD screens for hydrostatic deceleration power and rail trailer brake pressure	✓	
Towing bar	✓		Secondary cab	✓	
HYDRAULIC SYSTEM			ENGINE		
Adjustable hydraulic sensitivity	✓		Cat C4.4 ACERT Stage IV Engine	✓	
One medium pressure circuit	✓		Altitude 3000 m (9,842 ft) capability without derate	✓	
Two medium pressure circuits		✓	Electric fuel priming pump	✓	
Dedicated swing pump	✓		Automatic starting aid	✓	
Load sensing hydraulic system	✓		ELECTRICAL SYSTEM		
Programmable flow and pressure for up to 10 attachments	✓		100 A alternator	✓	
Auxiliary circuit pedal		✓	12 V – 10 A power supply in primary and secondary cab	✓	
Biodegradable hydraulic oil		✓	Two front and two rear roading lights	✓	
Bio oil micro-filtration unit		✓	Right side, VA boom, and stick flood lights		✓
SERVICE AND MAINTENANCE			Adjustable travel alarm		✓
Ground-level fuel and engine oil filters and fluid taps	✓		Refueling pump	✓	
Centralized lubrication for undercarriage		✓	International Union of Railways (UIC) certified rail lights		✓
Auto-lubricating system		✓	Electric and pneumatic signal/warning horn	✓	
			24 V – 10 A power supply at stick end		✓

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Engine

Engine Model	Cat C4.4 ACERT	
Ratings	2,000 rpm	
Rated Net Power (ISO 9249/SAE J1349)	112 kW/ 152 PS	150 hp
Maximum Net Power (ISO 9249/SAE J1349)	112 kW/ 152 PS	150 hp
Maximum Gross Power (ISO 14396)	117 kW/ 159 PS	157 hp
Bore	105 mm	4 in
Stroke	127 mm	5 in
Displacement	4.4 L	269 in ³
Maximum Torque at 1,400 rpm	710 N·m	524 lb-ft
Number of Cylinders – In Line	4	
<ul style="list-style-type: none"> • Meets Stage IV emission standards. • Rated speed 2,000 rpm. • Net power advertised is the power available at the flywheel when engine is equipped with air cleaner, CEM exhaust gas aftertreatment, alternator, and cooling fan running at intermediate speed. • No deratings required up to 3000 m (9,842 ft) altitude. Automatic derating occurs after 3000 m (9,842 ft). 		

Drive

Maximum Travel Speed – Road Mode	20 km/h	12.4 mph
Maximum Travel Speed – Rail Mode	20 km/h	12.4 mph
Drawbar Pull – Road Mode	104 kN	23,380 lbf
Drawbar Pull – Rail Mode	45 kN	10,116 lbf

Swing Mechanism

Maximum Swing Speed	9 rpm	
Maximum Swing Torque	42 kN·m	30,978 lbf-ft

Undercarriage

Road Ground Clearance	370 mm	1'3"
Rail Ground Clearance	184 mm	0'7"

Service Refill Capacities

Fuel Tank Capacity	240 L	63.4 gal
DEF Tank	19 L	5.0 gal

Weights

Operating Weights*	22 900 kg – 23 900 kg	50,486 lb – 52,690 lb
Counterweights		
Standard	6400 kg	14,110 lb
Optional	7400 kg	16,314 lb

*Operating weight includes short stick, 6400 kg (14,110 lb) counterweight, full fuel tank, operator, no quick coupler, no bucket and dual pneumatic tires. Weight varies based on configuration.

Hydraulic System

Tank Capacity	122 L	32 gal
System	240 L	63 gal
Maximum Pressure – Implement Circuit		
Normal	35 000 kPa	5,076 psi
Heavy Lift	37 500 kPa	5,439 psi
Travel Circuit	35 000 kPa	5,076 psi
Maximum Pressure – Auxiliary Circuit		
High Pressure	35 000 kPa	5,076 psi
Medium Pressure	18 500 kPa	2,683 psi
Swing Mechanism	37 000 kPa	5,366 psi
Maximum Flow		
Implement/Travel Circuit	240 L/min	63 gal/min
Auxiliary Circuit		
High Pressure	240 L/min	63 gal/min
Medium Pressure	50 L/min	13 gal/min
Swing Mechanism	80 L/min	21 gal/min

Working Ranges

Boom Type	VA Boom	
Stick Length	2100 mm	6'11"
Digging Height	10 070 mm	33'0"
Dump Height	6920 mm	22'8"
Digging Depth	5610 mm	18'5"
Vertical Wall Digging Depth	4380 mm	14'4"
Reach at Ground Level	9090 mm	29'10"
Bucket Digging Force (ISO 6015:2006)	114 kN	25,628 lbf
Stick Digging Force (ISO 6015:2006)	84 kN	18,884 lbf

• Range values are calculated with GD Bucket 1100 mm (3 ft 7 in), 0.80 m³ (1.05 yd³) with tips K080 and CW-20-H.4.N quick coupler with a tip radius of 1574 mm (5 ft 2 in). Breakout force values are calculated with heavy lift on (no quick coupler) and a cutting edge tip radius of 1237 mm (4 ft 1 in).

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