

325F L

Hydraulic Excavator
Tunneling

2017



Engine

Engine Model	Cat® C4.4 ACERT™
Power – ISO 14396	122 kW (164 hp)
Power – ISO 9249/SAE J1349	120 kW (161 hp)

Drive

Maximum Travel Speed	5.6 km/h
Maximum Drawbar Pull	203 kN

Weight

Operating Weight	26 300 kg
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オフロード法2014年
基準適合

The 325F L Tunneling is built to take on your excavation tasks in harsh tunnel conditions. Where the real power comes in is through the integrated engine, hydraulic, and work tool systems. You can move tons of material – literally – every hour, on the hour, all day long with a great deal of speed, precision, and efficiency.

Following are the built-in benefits and available options that make 325F L an outstanding performer and an excellent choice for your line of work:



Compact Radius

- Compact radius design helps you work in tight spaces:

With a front swing radius between 3.24 m and 3.45 m (depending on the boom and stick lengths) and a tail swing radius of 1.72 m, the machine can dig, swing, and dump within a working space of 4.06 m. When rotated 90 degrees and working over the side, just 135 mm of counterweight extends beyond the track width.

Engine

- C4.4 ACERT engine meets Japan 2014 (Tier 4 Final) emission standards. Emissions package works behind the scenes without interrupting your job.
- The engine burns up to 22% less fuel than the Japan 2011 (Tier 4 Interim) equivalent engine it replaces.
- Engine speed control automatically lowers rpm when the machine doesn't need it, and different power modes are available. All to help you more actively manage fuel consumption.

Hydraulics

- Major hydraulic components are located close together so shorter tubes and lines can be used, leading to less friction loss, reduced pressure drops, and more power to the ground.
- Main control valve opens slowly when the range of joystick lever movement is small and opens rapidly when movement is high, putting flow where you need it when you need it for smoother operation and greater efficiency.
- Electric boom and stick regeneration keeps oil flow at the head and rod ends of the cylinders instead of going back to the tank, resulting in less pressure loss for higher controllability, more productivity, and lower operating costs.

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Key Features

Built-in benefits and available options



Operator Comfort

- Joystick consoles and armrests are adjustable.
- Fully adjustable air suspension seat maximizes comfort levels during long periods of operation.
- Critical machine information is displayed on the large easy to navigate LCD monitor.
- Standard rearview camera enhances visibility and safety.

Safety

- The cab is safe, comfortable, and as quiet as today's top on-road trucks.
- Handrails, anti-skid plating, and countersunk bolts reduce slipping and tripping.
- Four mirrors and a rearview camera enhance visibility to help make operators more effective and efficient.
- A full-length firewall separates the pump and engine compartments.
- A ground-level fuel cutoff switch shuts down the engine in case of emergency.

Structures

- Mass Excavation boom and sticks provide high digging forces for heavy material like rock due to special boom and stick geometry, bucket linkage, and cylinders built for greater durability.
- Track shoes, links, rollers, idlers, and final drives are built with high-tensile strength steel.
- Grease-lubricated track link prevents dirt and debris from entering.

Maintenance

- Most routine service points are at ground level.
- Filters are consolidated in the pump compartment for added convenience.
- Wide service doors and a two-piece engine hood with gas cylinder assist allow for easy access.
- An electric fuel priming pump speeds up starts and fuel system maintenance.

Cat Connect Technology

- Product Link™/VisionLink® connects owners to their equipment, providing access to machine location, hours, fuel consumption, idle time, events, and diagnostic codes.

325F L Hydraulic Excavator Tunneling Specifications

Engine

Engine Model	Cat C4.4 ACERT
Engine Power (ISO 9249/SAE J1349)	120 kW (161 hp)
Engine Power (ISO 14396)	122 kW (164 hp)
Bore	105 mm
Stroke	127 mm
Displacement	4.4 L

- The 325F L Tunneling meets Japan 2014 (Tier 4 Final) emission standards.
- No engine power derating required below 3000 m altitude.
- Net power advertised is the power available at the flywheel when the engine is equipped with fan, air cleaner, muffler and alternator.
- Rating at 1,800 rpm.

Track

Triple Grouser Tracks	600 mm
Number of Shoes (each side)	49
Number of Track Rollers (each side)	7
Number of Carrier Rollers (each side)	2

Hydraulic System

Main System – Maximum Flow (implement)	429 L/min (214.4 × 2 pumps)
Maximum Pressure	
Equipment – Normal	35 000 kPa
Travel	35 000 kPa
Swing	25 500 kPa
Pilot System Maximum Flow	18 L/min
Pilot System Maximum Pressure	4100 kPa
Boom Cylinder – Bore	125 mm
Boom Cylinder – Stroke	1403 mm
Stick Cylinder – Bore	140 mm
Stick Cylinder – Stroke	1504 mm
Bucket Cylinder – Bore	120 mm
Bucket Cylinder – Stroke	1104 mm

Swing

Swing Speed	10.2 rpm
Swing Torque	62 kN·m

Drive

Gradeability	30°/70%
Maximum Travel Speed	5.6 km/h
Maximum Drawbar Pull	203 kN

Service Refill Capacities

Fuel Tank Capacity	328 L
Cooling System	30 L
Engine Oil	25 L
Swing Drive (each)	8 L
Final Drive (each)	8 L
Hydraulic System (including tank)	280 L
Hydraulic Tank Oil	128 L
DEF Tank	19 L

Sound Performance

Exterior – ISO 6395	99 dB(A)
Interior – ISO 6396	69 dB(A)

- When properly installed and maintained, the cab offered by Caterpillar, when tested with doors and windows closed according to ANSI/SAE J1166 OCT98, meets OSHA and MSHA requirements for operator sound exposure limits in effect at time of manufacture.
- 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 a noisy environment.

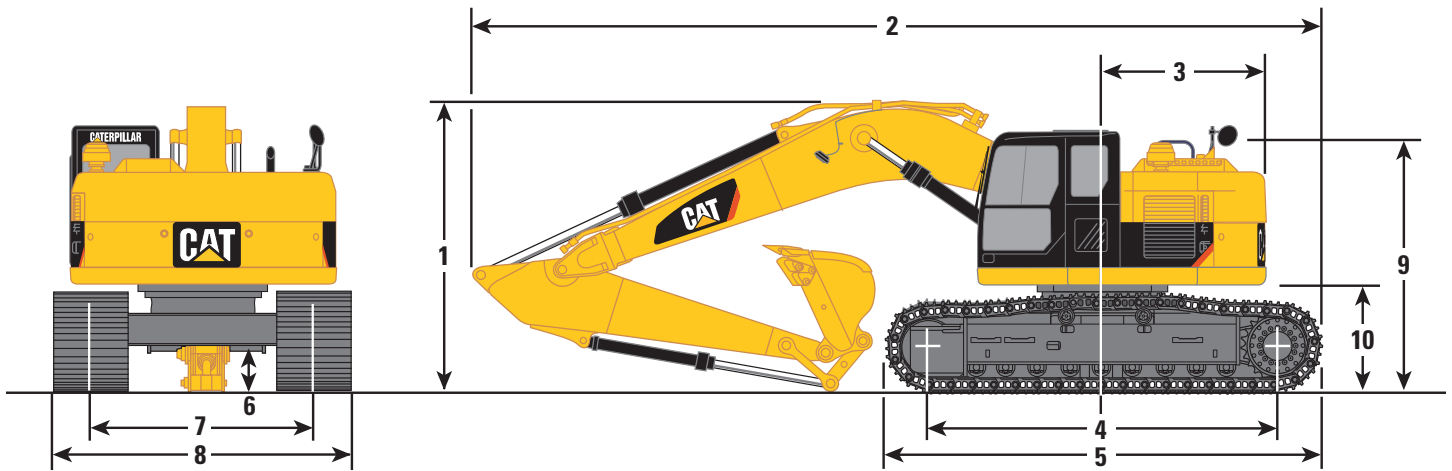
Standards

Brakes	ISO 10265:2008
Cab/FOGS	ISO 10262:1998

325F L Hydraulic Excavator Tunneling Specifications

Dimensions

All dimensions are approximate.

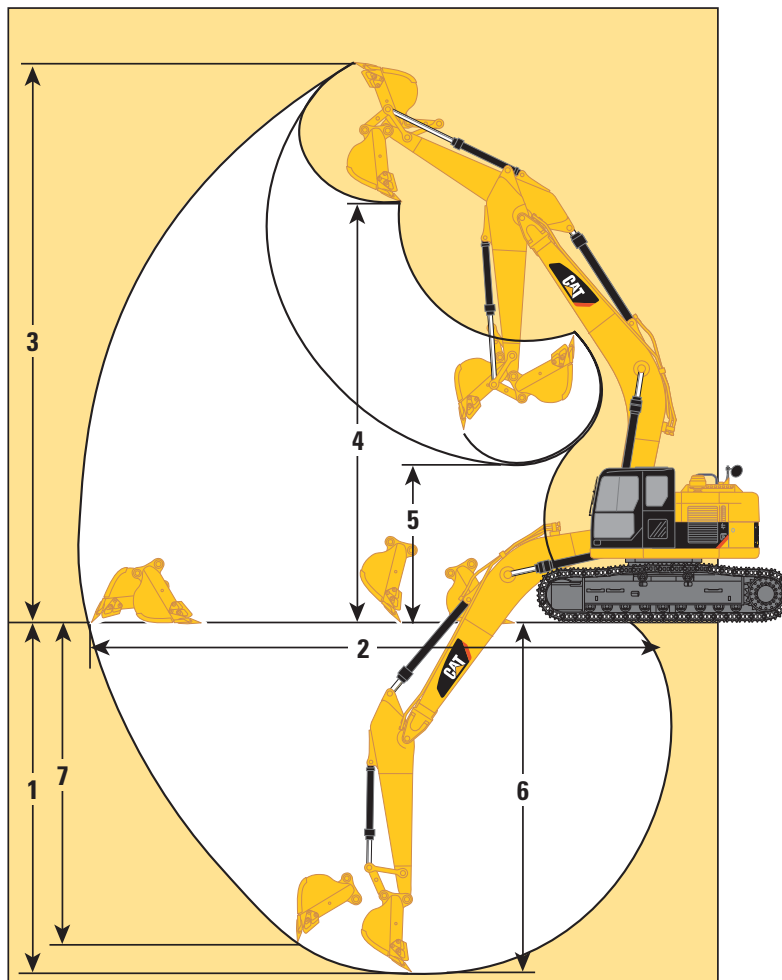


Boom Options	Tunnel Boom 5.2 m	Tunnel Boom 4.25 m
Stick Options	Tunnel Stick 2.4 m	Tunnel Stick 3.2 m
Bucket Capacity	0.8 m ³	0.9 m ³
1 Shipping Height	3330 mm	3630 mm
Height – Top of Cab	3060 mm	3060 mm
Height – Top of Boom	3330 mm	3630 mm
2 Shipping Length	8550 mm	6860 mm
3 Tail Swing Radius	1720 mm	1720 mm
4 Length to Center of Rollers	3650 mm	3650 mm
5 Track Length	4450 mm	4450 mm
6 Ground Clearance	440 mm	440 mm
7 Track Gauge	2380 mm	2380 mm
8 Transport Width		
600 mm Shoes	2990 mm	2990 mm
9 Handrail Height	3180 mm	3180 mm
10 Counterweight Clearance	965 mm	965 mm

325F L Hydraulic Excavator Tunneling Specifications

Working Ranges

All dimensions are approximate.



Boom Options	Tunnel Boom 5.2 m	Tunnel Boom 4.25 m
Stick Options	Tunnel Stick 2.4 m	Tunnel Stick 3.2 m
Bucket Capacity	0.8 m ³	0.9 m ³
1 Maximum Digging Depth	5610 mm	4480 mm
2 Maximum Reach at Ground Line	8770 mm	8600 mm
3 Maximum Loading Height	5930 mm	7150 mm
4 Minimum Loading Height	2480 mm	2090 mm
5 Maximum Depth Cut for 2440 mm Level Bottom	5410 mm	4320 mm
6 Maximum Vertical Wall Digging Depth	4680 mm	3730 mm
7 Maximum Height, to Bucket Teeth at Highest Arc	8900 mm	10 110 mm
Bucket Digging Force (SAE)	166 kN	157 kN
Bucket Digging Force (ISO)	188 kN	175 kN
Stick Digging Force (SAE)	125 kN	85 kN
Stick Digging Force (ISO)	130 kN	88 kN

325F L Hydraulic Excavator Tunneling Specifications

Operating Weights and Ground Pressures

Tunnel Boom	Stick	Bucket	600 mm Triple Grouser Shoes	
			Weight	Ground Pressure
5.2 m	2.4 m	0.8 m ³	26 300 kg	54.8 kPa
4.25 m	3.2 m	0.9 m ³	26 600 kg	55.5 kPa

Major Component Weights

	5.2 m Boom and 2.4 m Stick	4.25 m Boom and 3.2 m Stick
Upper Structure with 6.8 mt Counterweight (including full fuel [310 L] and 75 kg operator)	14 010 kg	13 990 kg
Lower Structure with 600 mm Triple Grouser Shoes	7580 kg	7580 kg
Base Machine with 6.8 mt Counterweight and 600 mm Triple Grouser Shoes without Front Linkage	21 590 kg	21 560 kg
Two Boom Cylinders	388 kg	344 kg
Stick Cylinder	296 kg	466 kg
Bucket Cylinder	214 kg	190 kg
6.8 mt Counterweight	6800 kg	6800 kg

325F L Tunneling Standard Equipment

Standard Equipment

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

ENGINE

- C4.4 ACERT, twin turbo diesel engine
- Meets Japan 2014 (Tier 4 Final) emission standards
- 3000 m altitude capability with no derate
- One touch low idle with automatic engine shutdown
- Electric refueling pump with auto shut off
- Water separator in fuel line including water level sensor and indicator
- Radial seal air filter
- Side-by-side cooling system
- Standard, economy and high power modes
- Primary filter with water separator and water separator indicator switch
- Two-speed travel
- Fuel differential indicator switch in fuel line

HYDRAULIC SYSTEM

- Electric boom regeneration circuit
- Stick regeneration circuit
- Reverse swing dampening valve
- Automatic swing parking brake
- High-performance hydraulic return filter
- Capability of installing additional auxiliary circuits
- Sampling ports for Scheduled Oil Sampling (S·O·SSM)

SAFETY

- Rear vision camera
- Hand rails
- Anti-skid plates on service platform
- Neutral lever (lock out) for all controls
- Engine shut off switch in cab, ground level accessible
- Signaling/warning horn
- Jump start
- Safety hammer for cab evacuation

CAB

- Mirrors
- Pressurized operator station with positive filtration
- Interior:
 - Glass-breaking safety hammer
 - Coat hook
 - Beverage holder
 - Literature holder
 - Interior lighting
 - AM/FM radio mounting (DIN size)
 - Two 12V stereo speakers
 - Storage shelf suitable for lunch or toolbox
 - Sun screen
- Seat:
 - Seat belt, 51 mm
 - Adjustable armrest
 - Height adjustable joystick consoles
 - Neutral lever (lock out) for all controls
 - Travel control pedals with removable hand levers
 - Two speed travel
 - Floor mat, washable
 - Adjustable high-back, heated seat with air suspension
- Monitor:
 - Clock
 - Video ready
 - Color LCD display with warning, filter/fluid change, and working hour information
 - Language display (full graphic and full color display)
 - Machine condition, error code and tool mode setting information
 - Start-up level check for engine oil, engine coolant and hydraulic oil
 - Warning, filter/fluid change and working hour information
 - Fuel consumption meter

ELECTRICAL

- 85 amp alternator
- Circuit breaker
- Standard battery, maintenance free
- Travel alarm

UNDERCARRIAGE/UPPERFRAME

- Grease Lubricated Track resin seal
- Heavy duty track rollers
- Swivel guard
- Heavy duty track motor guards
- Heavy duty bottom guards
- 600 mm triple grouser shoes
- Track guiding guards:
 - Segmented, two pieces

LIGHTS

- Two cab lights, two boom lights, one frame light with 90 second time delay (halogen)

INTEGRATED TECHNOLOGIES

- Product Link
- Rear vision camera

COUNTERWEIGHT

- 6.8 mt

Optional Equipment

Optional equipment may vary. Consult your Cat dealer for details.

HYDRAULIC SYSTEM

- HP hydraulic lines for boom and stick
- Additional hydraulic return filter

ELECTRICAL

- Flash light
- Beacon

FRONT LINKAGE

- 5.2 m Mass boom
 - M2.4CB2 m stick
- 4.25 m Mass boom
 - M3.2B1 m stick with bucket cylinder guard
- Bucket linkage
 - CB2 linkage
 - B1 linkage

GUARDS

- FOGS capability
- Mesh guard

For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at www.cat.com

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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.

AEHQ7890-01
Replaces AEHQ7890
(Japan)

