

320F L Hydraulic Excavator Specifications

Engine

Engine Model	Cat C4.4 ACERT	
Engine Power – ISO 14396	122 kW	164 hp
Net Power – SAE J1349	120 kW	161 hp
Bore	105 mm	4.13 in
Stroke	127 mm	5.00 in
Displacement	4.4 L	269 in ³

- The 320F meets Tier 4 Final emission standards.
- No engine power derating required below 3000 m (9,800 ft) 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.

Weights

Operating Weight	22 300 kg	49,200 lb
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• Reach Boom, R2.9 m (9'6") stick, GD 1.19 m³ (1.56 yd³) bucket and 790 mm (31") TG shoes.

Track

Number of Shoes Each Side	49 pieces	
Number of Track Rollers Each Side	8 pieces	
Number of Carrier Rollers Each Side	2 pieces	

Swing Mechanism

Swing Speed	11.2 rpm	
Swing Torque	61.8 kN·m	45,581 lbf·ft

Drive

Maximum Travel Speed – High	5.6 km/h	3.5 mph
Maximum Drawbar Pull	205 kN	46,086 lbf

Hydraulic System

Main System – Maximum Flow (Total)	428 L/min	113.1 gal/min
Maximum Pressure – Equipment		
Heavy Lift	38 000 kPa	5,511 psi
Normal	35 000 kPa	5,076 psi
Maximum Pressure – Travel	35 000 kPa	5,076 psi
Maximum Pressure – Swing	25 000 kPa	3,626 psi
Pilot System – Maximum Flow (Total)	24.3 L/min	6.4 gal/min
Pilot System – Maximum Pressure	3920 kPa	569 psi
Boom Cylinder – Bore	120 mm	5 in
Boom Cylinder – Stroke	1260 mm	50 in
Stick Cylinder – Bore	140 mm	6 in
Stick Cylinder – Stroke	1504 mm	59 in
Bucket Cylinder – Bore	120 mm	5 in
Bucket Cylinder – Stroke	1104 mm	43 in

Service Refill Capacities

Fuel Tank Capacity	410 L	108.3 gal
DEF Tank Capacity	21 L	5.5 gal
Cooling System	30 L	7.9 gal
Engine Oil	25 L	6.6 gal
Swing Drive	8 L	2.1 gal
Final Drive	8 L	2.1 gal
Hydraulic System (including tank)	260 L	68.7 gal
Hydraulic Tank	115 L	30.4 gal

Sound Performance

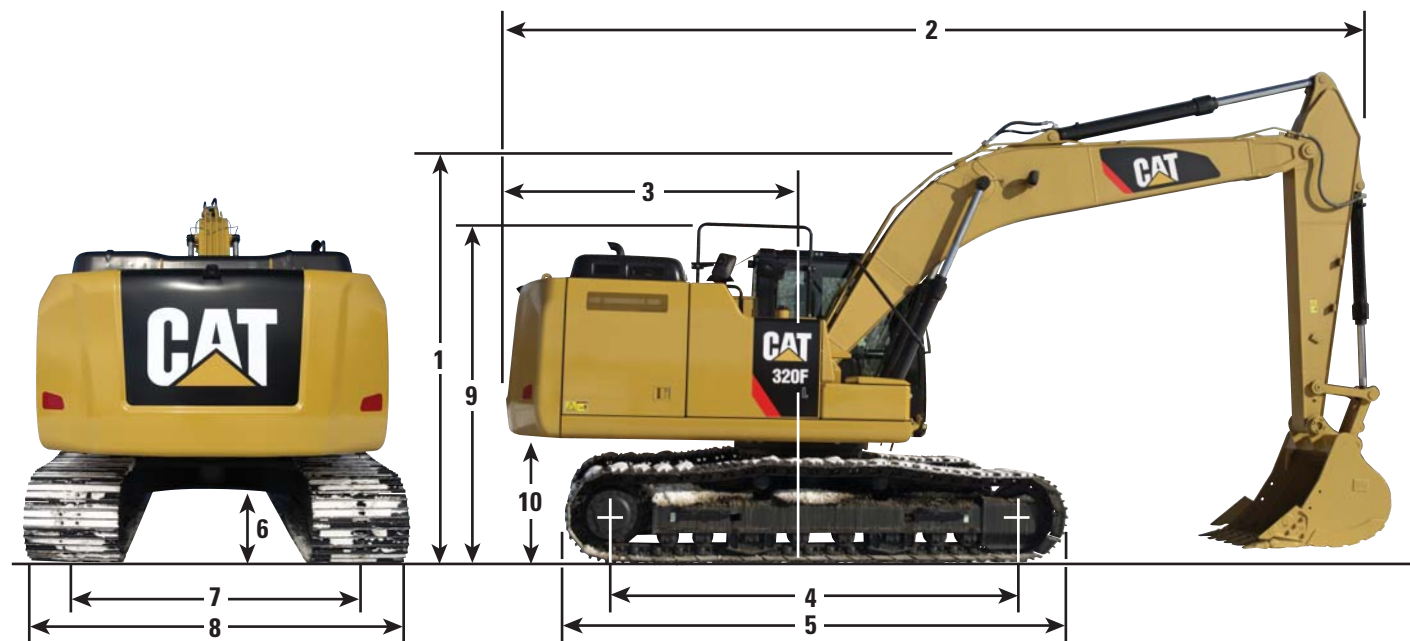
ISO 6395 (external)	97 dB(A)
ISO 6396 (inside cab)	68 dB(A)

- 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.

320F L Hydraulic Excavator Specifications

Dimensions

All dimensions are approximate.



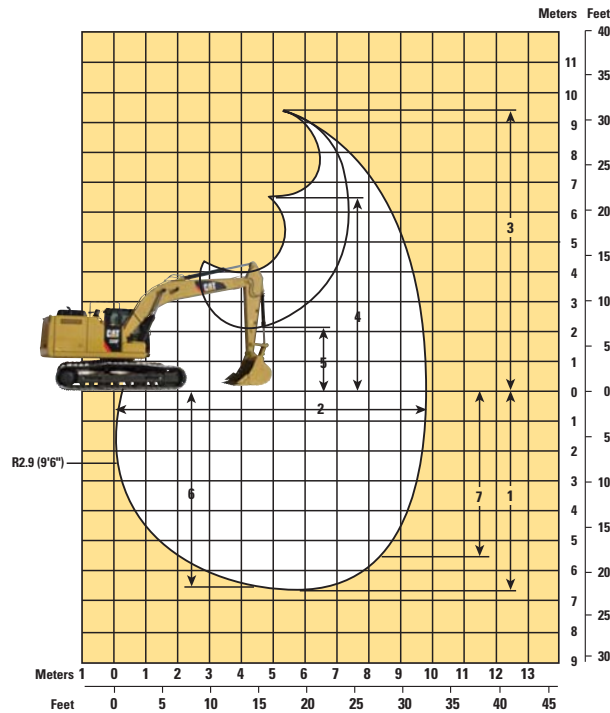
Boom Options		Reach Boom
		5.7 m (18'8")
Stick Options		R2.9 m* (9'6")
1	Shipping Height	3130 mm10'3"
2	Shipping Length	9540 mm31'4"
3	Tail Swing Radius	2830 mm9'3"
4	Length to Center of Rollers – Long Undercarriage	3650 mm12'0"
5	Track Length – Long Undercarriage	4460 mm14'8"
6	Ground Clearance	450 mm1'6"
7	Track Gauge – Long Undercarriage (shipping)	2380 mm7'10"
8	Transport Width – Long Undercarriage	
	600 mm (24") Shoes	2980 mm9'9"
	700 mm (28") Shoes	3080 mm10'1"
	790 mm (31") Shoes	3170 mm10'5"
9	Handrail Height	3010 mm9'11"
10	Counterweight Clearance	1020 mm3'4"

*With 1.19 m³ (1.56 yd³) Bucket and 790 mm (31 in) shoes

320F L Hydraulic Excavator Specifications

Working Ranges

All dimensions are approximate.



Boom Options		Reach Boom – 5.7 m (18'8")	
Stick Options		R2.9 m (9'6")	
Bucket		HD 1.19 m ³	1.56 yd ³
1	Maximum Digging Depth	6720 mm	22'1"
2	Maximum Reach at Ground Line	9860 mm	32'4"
3	Maximum Cutting Height	9370 mm	30'9"
4	Maximum Loading Height	6490 mm	21'4"
5	Minimum Loading Height	2170 mm	7'1"
6	Maximum Depth Cut for 2440 mm (8 ft) Level Bottom	6550 mm	21'6"
7	Maximum Vertical Wall Digging Depth	5060 mm	16'7"
Bucket Digging Force (SAE)		134 kN	30,100 lbf
Bucket Digging Force (ISO)		150 kN	33,810 lbf
Stick Digging Force (SAE)		103 kN	23,220 lbf
Stick Digging Force (ISO)		106 kN	23,920 lbf

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Operating Weights and Ground Pressures

	600 mm (24") Shoes		700 mm (28") Shoes		790 mm (31") Shoes	
	kg (lb)	kPa (psi)	kg (lb)	kPa (psi)	kg (lb)	kPa (psi)
Long Undercarriage						
Reach Boom – 5.7 m (18'8")						
R2.9 m (9'6") Stick, 1.19 m ³ (1.56 yd ³)	21 600 kg	45.0 kPa	22 000 kg	39.3 kPa	22 300 kg	35.2 kPa
HD bucket	(47,600 lb)	(6.5 psi)	(48,500 lb)	(5.7 psi)	(49,200 lb)	(5.1 psi)

Major Component Weights

	kg	lb
Base Machine (with boom cylinder without counterweight, front linkage and track shoe)	7000	15,440
Long Undercarriage	4470	9,860
Counterweight	3700	8,160
Reach Boom (includes lines, pins and stick cylinder)		
5.7 m (18'8")	1740	3,840
Stick (includes lines, pins, bucket cylinder and bucket linkage)		
R2.9 m (9'6")	970	2,140
Track Shoes (long/per two track)		
600 mm (24") Triple Grouser	2690	5,930
700 mm (28") Triple Grouser	3070	6,770
790 mm (31") Triple Grouser	3360	7,410
Buckets		
HD 1.19 m ³ (1.56 yd ³)	1060	2,340
GD 1.3 m ³ (1.7 yd ³)	920	2,030

All weights are rounded up to nearest 10 kg and lb except for buckets. Kg and lb were rounded up separately so some of the kg and lb do not match.
Base machine includes 75 kg (165 lb) operator weight, 90% fuel weight, and undercarriage with center guard.

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Work Tool Offering Guide*

Boom Option	Reach Boom
Stick Option	R2.9 m HD (9'6")
Hydraulic Hammer	H115Es H120Es H130Es
Multi-Processor	MP318 CC Jaw MP318 D Jaw MP318 P Jaw^ MP318 S Jaw MP318 U Jaw^
Pulverizer	P215
Demolition and Sorting Grapple (D-Demolition shells, R-Recycling shells, WH-Waste Handling shells)	G315B-D/R G315B-WH
Scrap and Demolition Shear	S320B^ S325B#
Compactor (vibratory plate)	CVP110
Orange Peel Grapple	
Rippers	
Thumbs	
Pin Grabber Coupler	
Dedicated Quick Coupler	

These work tools are available for the 320F L.
Consult your Cat dealer for proper match.

* Offerings not available in all areas. Matches are dependent on excavator configurations. Consult your Cat dealer to determine what is offered in your area and for proper work tool match.

Match; boom mount

^ Work over the front only with Cat-PG (match; Pin-on, Dedicated Quick Coupler and Cat-PG)

320F L Hydraulic Excavator Specifications

Bucket Specifications and Compatibility

	Linkage	Width		Capacity		Weight		Fill	Reach Boom
		mm	in	m³	yd³	kg	lb	%	R2.9 m (9'6")
Without Quick Coupler									
General Duty (GDC)	B	600	24	0.55	0.72	618	1,363	100	●
	B	750	30	0.75	0.98	710	1,566	100	●
	B	900	36	0.95	1.24	786	1,733	100	●
	B	1050	42	1.16	1.52	847	1,867	100	⊙
	B	1200	48	1.38	1.80	925	2,038	100	⊖
	B	1350	54	1.59	2.08	1002	2,209	100	⊖*
Heavy Duty (HD)	B	600	24	0.46	0.61	649	1,430	100	●
	B	750	30	0.64	0.84	747	1,647	100	●
	B	900	36	0.81	1.06	825	1,818	100	●
	B	1050	42	1.00	1.31	879	1,937	100	●
	B	1200	48	1.19	1.56	970	2,138	100	⊖
	B	1350	54	1.38	1.81	1051	2,316	100	⊖*
Severe Duty (SD)	B	600	24	0.46	0.61	693	1,527	90	●
	B	750	30	0.64	0.84	801	1,765	90	●
	B	900	36	0.81	1.06	887	1,955	90	●
	B	1050	42	1.00	1.31	962	2,121	90	●
	B	1200	48	1.19	1.56	1051	2,316	90	⊙
	Maximum load pin-on (payload + bucket)							kg	2940
							lb	6,480	
With Pin Grabber Coupler									
General Duty (GDC)	B	600	24	0.55	0.72	618	1,363	100	●
	B	750	30	0.75	0.98	710	1,566	100	●
	B	900	36	0.95	1.24	786	1,733	100	⊙
	B	1050	42	1.16	1.52	847	1,867	100	⊖
	B	1200	48	1.38	1.80	925	2,038	100	○
	B	1350	54	1.59	2.08	1002	2,209	100	◇
Heavy Duty (HD)	B	600	24	0.46	0.61	649	1,430	100	●
	B	750	30	0.64	0.84	747	1,647	100	●
	B	900	36	0.81	1.06	825	1,818	100	●
	B	1050	42	1.00	1.31	879	1,937	100	⊖
	B	1200	48	1.19	1.56	970	2,138	100	○
	B	1350	54	1.38	1.81	1051	2,316	100	◇
Severe Duty (SD)	B	600	24	0.46	0.61	693	1,527	90	●
	B	750	30	0.64	0.84	801	1,765	90	●
	B	900	36	0.81	1.06	887	1,955	90	●
	B	1050	42	1.00	1.31	962	2,121	90	⊙
	B	1200	48	1.19	1.56	1051	2,316	90	○
	Maximum load pin-on (payload + bucket)							kg	2530
							lb	5,577	

The above loads are in compliance with hydraulic excavator standard EN474, they do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity with front linkage fully extended at ground line with bucket curled.

Capacity based on ISO 7451.

Bucket weight with General Duty tips.

*For light dirt loading applications only. Consult your dealer to understand your application before using this bucket in combination with this stick.

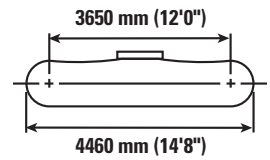
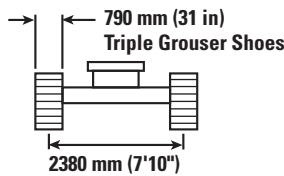
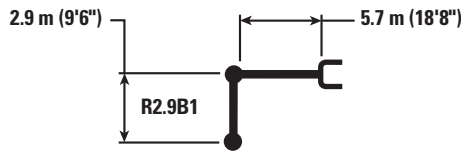
Maximum Material Density:

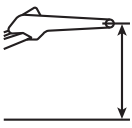













- 2100 kg/m³ (3,500 lb/yd³)
- ⊙ 1800 kg/m³ (3,000 lb/yd³)
- ⊖ 1500 kg/m³ (2,500 lb/yd³)
- ⊖ 1200 kg/m³ (2,000 lb/yd³)
- ◇ 900 kg/m³ (1,500 lb/yd³)

Caterpillar recommends using appropriate work tools to maximize the value customers receive from our products. Use of work tools, including buckets, which are outside of Caterpillar's recommendations or specifications for weight, dimensions, flows, pressures, etc. may result in less-than-optimal performance, including but not limited to reductions in production, stability, reliability, and component durability. Improper use of a work tool resulting in sweeping, prying, twisting and/or catching of heavy loads will reduce the life of the boom and stick.

320F L Hydraulic Excavator Specifications

Reach Boom Lift Capacities – Counterweight: 3.7 mt (8,160 lb) – with Bucket Linkages, without Bucket



	1.5 m/5.0 ft		3.0 m/10.0 ft		4.5 m/15.0 ft		6.0 m/20.0 ft		7.5 m/25.0 ft				m ft
													
7.5 m 25.0 ft	kg lb						*4950 11,000	*4950 11,000			*4300 9,500	*4300 9,500	6.15 20.00
6.0 m 20.0 ft	kg lb						*5400 11,850	5400 11,550			*3950 8,750	3900 8,700	7.29 24.20
4.5 m 15.0 ft	kg lb						*5950 12,900	5200 11,250	*5600 12,200	3700 7,900	*3900 8,550	3300 7,350	7.99 26.70
3.0 m 10.0 ft	kg lb					*8650 18,650	7600 16,350	*6800 14,800	5000 10,700	5600 11,950	3600 7,700	*4000 8,750	8.36 27.50
1.5 m 5.0 ft	kg lb					*10 500 22,650	7050 15,250	7600 16,350	4750 10,200	5450 11,700	3450 7,450	*4200 9,250	8.45 28.30
0 m 0 ft	kg lb												
-1.5 m -5.0 ft	kg lb	*7050 15,750	*7050 15,750	*11 400 25,850	*11 400 25,850	11 600 24,850	6700 14,450	7350 15,750	4500 9,700	5350 11,450	3350 7,200	5050 11,200	7.78 25.80
-3.0 m -10.0 ft	kg lb	*12 100 27,100	*12 100 27,100	*15 450 33,400	13 100 28,100	*10 900 23,550	6800 14,600	7350 15,850	4550 9,750			6000 13,300	6.95 23.30
-4.5 m -15.0 ft	kg lb			*12 350 26,400	*12 350 26,400	*8850 18,900	7000 15,100					*6700 14,750	5.60 18.30



ISO 10567



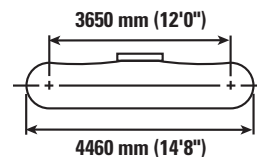
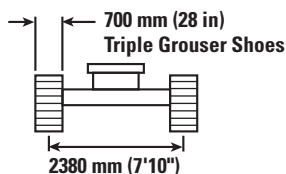
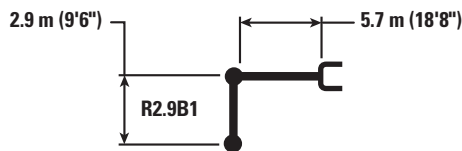
*Indicates that the load is limited by hydraulic lifting capacity rather than tipping load. The above loads are in compliance with hydraulic excavator lift capacity standard ISO 10567:2007. They do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. Weight of all lifting accessories must be deducted from the above lifting capacities. Lifting capacities are based on the machine standing on a firm, uniform supporting surface. The use of a work tool attachment point to handle/lift objects, could affect the machine lift performance.

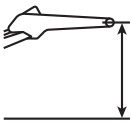













Lift capacity stays with $\pm 5\%$ for all available track shoes.

Always refer to the appropriate Operation and Maintenance Manual for specific product information.

320F L Hydraulic Excavator Specifications

Reach Boom Lift Capacities – Counterweight: 3.7 mt (8,160 lb) – with Bucket Linkages, without Bucket



	1.5 m/5.0 ft		3.0 m/10.0 ft		4.5 m/15.0 ft		6.0 m/20.0 ft		7.5 m/25.0 ft				m ft
													
7.5 m 25.0 ft	kg						*4950	*4950			*4300	*4300	6.15
	lb										*9,500	*9,500	20.00
6.0 m 20.0 ft	kg						*5400	5300			*3950	3850	7.29
	lb						*11,850	11,400			*8,750	8,600	24.20
4.5 m 15.0 ft	kg						*5950	5150	*5600	3650	*3900	3300	7.99
	lb						*12,900	11,100	12,050	7,800	*8,550	7,250	26.70
3.0 m 10.0 ft	kg				*8650	7500	*6800	4900	5500	3550	*4000	3000	8.36
	lb				*18,650	16,150	*14,800	10,600	11,800	7,600	*8,750	6,600	27.50
1.5 m 5.0 ft	kg				*10 500	7000	7500	4700	5400	3400	*4200	2900	8.45
	lb				*22,650	15,050	16,150	10,100	11,550	7,350	*9,250	6,350	28.30
0 m 0 ft	kg			*6600	*6600	*11 500	6700	7300	4500	5300	3350	4600	8.26
	lb			*15,150	*15,150	24,750	14,450	15,700	9,700	11,350	7,150	10,150	27.50
-1.5 m -5.0 ft	kg	*7050	*7050	*11 400	*11 400	11 450	6650	7250	4450	5250	3300	5000	7.78
	lb	*15,750	*15,750	*25,850	*25,850	24,500	14,250	15,550	9,550	11,300	7,150	11,050	25.80
-3.0 m -10.0 ft	kg	*12 100	*12 100	*15 450	12 950	*10 900	6700	7300	4500			5900	6.95
	lb	*27,100	*27,100	*33,400	27,750	*23,550	14,400	15,650	9,650			13,100	23.30
-4.5 m -15.0 ft	kg			*12 350	*12 350	*8850	6900					*6700	5.60
	lb			*26,400	*26,400	*18,900	14,900					*14,750	18.30



ISO 10567



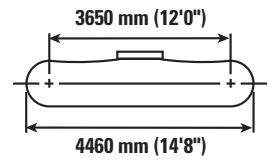
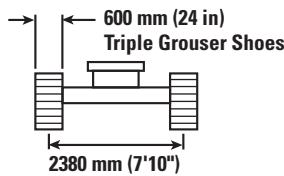
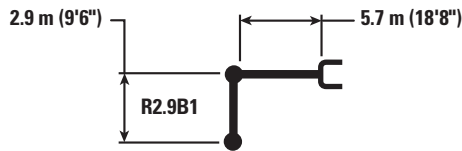
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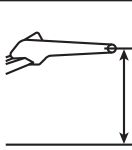














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Always refer to the appropriate Operation and Maintenance Manual for specific product information.

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Reach Boom Lift Capacities – Counterweight: 3.7 mt (8,160 lb) – with Bucket Linkages, without Bucket



		1.5 m/5.0 ft		3.0 m/10.0 ft		4.5 m/15.0 ft		6.0 m/20.0 ft		7.5 m/25.0 ft				
														
7.5 m 25.0 ft	kg lb							*4950	*4950			*4300 *9,500	*4300 *9,500	6.15 20.00
6.0 m 20.0 ft	kg lb							*5400 *11,850	5250 11,250			*3950 *8,750	3800 8,450	7.29 24.20
4.5 m 15.0 ft	kg lb							*5950 *12,900	5100 10,950	5550 11,850	3600 7,650	*3900 *8,550	3200 7,100	7.99 26.70
3.0 m 10.0 ft	kg lb					*8650 *18,650	7400 15,900	*6800 *14,800	4850 10,450	5400 11,650	3500 7,450	*4000 *8,750	2950 6,450	8.36 27.50
1.5 m 5.0 ft	kg lb					*10 500 *22,650	6900 14,800	7400 15,850	4600 9,900	5300 11,350	3350 7,250	*4200 *9,250	2850 6,200	8.45 28.30
0 m 0 ft	kg lb			*6600 *15,150	*6600 *15,150	11 350 24,300	6600 14,200	7200 15,450	4450 9,550	5200 11,150	3300 7,050	4550 9,950	2900 6,300	8.26 27.50
-1.5 m -5.0 ft	kg lb	*7050 *15,750	*7050 *15,750	*11 400 *25,850	*11 400 *25,850	11 250 24,100	6500 14,000	7100 15,300	4350 9,400	5150 11,100	3250 7,000	4900 10,850	3100 6,850	7.78 25.80
-3.0 m -10.0 ft	kg lb	*12 100 *27,100	*12 100 *27,100	*15 450 *33,400	12 750 27,300	*10 900 *23,550	6600 14,150	7150 15,400	4400 9,500			5800 12,900	3650 8,100	6.95 23.30
-4.5 m -15.0 ft	kg lb			*12 350 *26,400	*12 350 *26,400	*8850 *18,900	6800 14,650					*6700 *14,750	5050 11,350	5.60 18.30



ISO 10567



*Indicates that the load is limited by hydraulic lifting capacity rather than tipping load. The above loads are in compliance with hydraulic excavator lift capacity standard ISO 10567:2007. They do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. Weight of all lifting accessories must be deducted from the above lifting capacities. Lifting capacities are based on the machine standing on a firm, uniform supporting surface. The use of a work tool attachment point to handle/lift objects, could affect the machine lift performance.

Lift capacity stays with $\pm 5\%$ for all available track shoes.

Always refer to the appropriate Operation and Maintenance Manual for specific product information.

320F L Standard Equipment

Standard Equipment

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

ENGINE

- Diesel engine, C4.4 ACERT that meets Tier 4 Final emission standards
 - Two selectable power modes capability; STD and ECO
 - Aftertreatment system: CEM (DOC + DPF + SCR) and DEF system (DEF Tank and DEF Lines)
- Variable fan speed control with viscous clutch
- One-touch low idle
- Automatic (programmable) idling shut down function
- Three-stage fuel filtration system with water separator and indicator
- 3000 m (9,800 ft) altitude capability without derate
- 52° C (126° F) high-ambient cooling capability with derate from 48° C (118° F)
- 85 amp alternator
- Radial seal air filter with double filter element
- Electric fuel lifting pump
- Capability of using biodiesel up to B20
- Starting kit for –18° C (0° F)

HYDRAULIC

- Electric boom regeneration circuit
- Stick regeneration circuit
- One-touch lifting mode
- Automatic two-speed travel
- Boom and stick drift reduction valve
- Reverse swing damping valve
- High-performance hydraulic return filter (capsule filter type)
- CRN compliant accumulator
- Fine swing control

CAB

- Sound suppressed ROPS cab (ISO 12117-2 compliant) with viscous mount
- Openable skylight as emergency exit (dual exit hatch)
- Openable laminated front upper windshield with assist device
- Removable tempered lower windshield with in-cab storage bracket
- High back seat with air suspension, seat heater and head rest
- Fully adjustable seat, console and armrest
- Seat belt
- LCD monitor with distortion-free rearview camera picture
- Automatic bi-level air conditioner with pressurized function
- 12V × 2 power supply with sockets (maximum 10 amp)
- Washable floor mat
- Roll-down sun screen
- Interior utilities (interior lighting, coat hook, beverage holder, literature holder, document holding space, and cab rear storage compartment)
- 24V AM/FM radio (includes auxiliary input)
- Third pedal for straight travel

UNDERCARRIAGE & STRUCTURES

- 3.7 mt (8,160 lb) counterweight
- Grease-lubricated track link
- Tie-down points on base frame (ISO 15818 compliant)

ELECTRICAL

- Maintenance-free battery
- Centralized electrical disconnect switch
- Cat Product Link
- Programmable time delay working lights (halogen); storage box mounted (one), cab mounted (two), boom mounted (two)

SERVICE & MAINTENANCE

- Engine oil, fuel, and hydraulic oil filters grouped for ease of maintenance
- Sampling ports for Scheduled Oil Sampling (S-O-SSM)
- Three side-by-side cooling package for easy maintenance

SAFETY & SECURITY

- Rearview camera with three mirrors (ISO 5006 compliant) and one additional cab mirror
- Right-hand rail and hand hold (ISO 2867 compliant)
- Bolt-free service platform with anti-skid plate
- Neutral lever (lock out) for all controls
- Ground-level accessible secondary engine shutoff switch in cab
- Signaling/warning horn
- Safety hammer for cab evacuation
- Travel alarm

Optional Equipment

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

ENGINE

- Cold start, -32° C (-26° F) with jump start receptacle

HYDRAULIC

- Tool control
- Medium-pressure circuit
- Quick coupler circuit for Cat Pin Grabber coupler

CAB

- Joystick with modulation SW (one modulation switch and three on/off switch per 1J/S)
- Control pattern quick-changer, two way

UNDERCARRIAGE & STRUCTURES

- HD 5.7 m (18'8") boom
- 2.9 m (9'6") stick
- Bucket linkage
- 790 mm (31") triple grouser shoes

SAFETY & SECURITY

- Boom lowering control valve
- Stick lowering control valve
- FOGS (bolt-on)
- Guard, vandalism