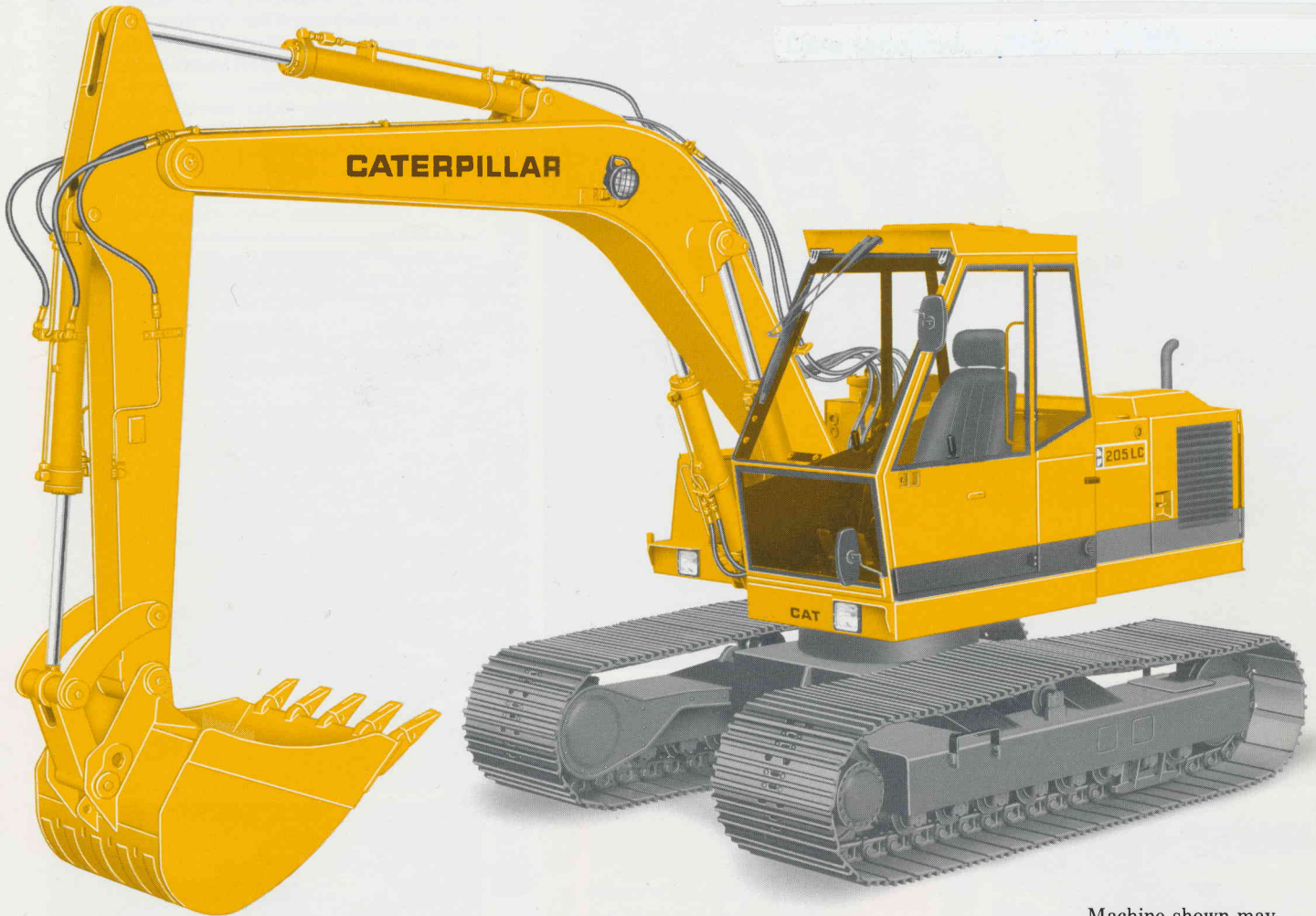




CATERPILLAR

205 Excavator

- Hydraulic Excavator with Track-type Undercarriage
- 71 HP/53 kW Flywheel Power
- 28,957 lb/13 135 kg Operating Weight with Long Undercarriage (LC)



Machine shown may have optional equipment.



engine

Flywheel power at 2150 rpm 71 HP/53 kW

The net power at the flywheel of the vehicle engine based on SAE J1349 standard conditions, 77°F/25°C and 29.61"/100 kPa Hg, using 35 API gravity fuel oil at 60°F/15,6°C, and after deductions for fan, air cleaner, water pump, lubricating oil pump, fuel pump, alternator and muffler. No derating required up to 10,000 ft/3000 m altitude.

(Above ratings also valid under standard conditions of ISO 1585.)

Perkins 4-stroke-cycle 4.236 diesel engine with four cylinders, 3.9"/98,4 mm bore, 5.0"/127 mm stroke and 235 cu in/3,86 liters displacement. Dry air filter with main filter and secondary element.

24 volt direct electric starting system. Two 12-volt, 95 amp-hour batteries.



hydraulic system

Two variable displacement piston pumps power the boom, stick, bucket, swing and travel circuits. Summated control, with both pumps providing identical flow rates to the system or to pre-selected single circuit. Output of each pump @ rated engine rpm and 1668 psi/11 500 kPa 24.5 gpm/93 l/min
Relief valve setting 4351 psi/30 000 kPa

Cylinders:	Bore and Stroke	Lb/kN
Boom (2)	4.0" x 32"/101,7 x 815 mm	2 x 53,775/239
Stick (1)	4.0" x 41"/101,7 x 1040 mm	1 x 53,775/239
Bucket (1)	3.5" x 32"/89,0 x 815 mm	1 x 43,737/183

All cylinders have rod and head-end snubbers to cushion bottoming impact. Check valve in boom circuit can be actuated by operator to prevent load drift.

Separate hydraulic oil cooling circuit with thermostatically controlled, hydraulically driven fan.



drive and steering

Fully hydrostatic; each track is driven by an independent hydraulic motor. Two travel pedals: right pedal gives forward movement . . . the left, reverse. Lever between travel pedals provides gradual pivot left or right if a travel pedal is depressed, or counterrotation left or right if only the lever is used. Brake valves limit downhill travel, protect drive motors against cavitation, and are effective in forward or reverse. Planetary gear final drives.

Maximum drawbar pull 15,368 lb/68,3 kN

Two travel speeds forward and reverse controlled on-the-go by switch on console.

1st stage at rated RPM	1.2 mph/1,9 km/h
2nd stage at rated RPM	2.5 mph/4,0 km/h



brakes

Oil disc brake, 7.1"/180 mm diameter, on each final drive input shaft. Spring applied, hydraulically released. Depressing a travel pedal simultaneously disengages brakes. When pedal is released, brakes automatically apply.



track

Track-type undercarriage with lifetime-lubricated rollers and idlers. Long (LC) design, hydraulic track adjusters and triple grouser shoes are standard.

Number of shoes (each side)	47
Width of standard shoes	19.7"/500 mm
Overall track length	12'6"/3800 mm
Total machine ground contact area (standard shoe)	5,130.5 sq in/3,31 m ²



controls

Two pilot-operated joysticks on seat armrests actuate boom, stick, bucket and swing. A push button in top of each handle activates solenoid valves to control attachment options such as clam or grab rotator and ditch cleaning or ditch grading bucket tilt.

Right lever: Move forward and backward to lower and raise boom. Right and left to control bucket curl and dump, or to open or close attachment clamshell.

Left lever: Move forward and backward to move stick out and in. Left and right to swing left or right.

Oblique movement of either lever operates two functions simultaneously. Clamshell rotation to right is a button on right control lever; to left on left lever.

Swing braking is controlled by pedal to left of travel pedals/steering lever. To lock swing, push pedal beyond normal braking point to engage latch. Push again with foot touching latch to release lock.

Left armrest lifts for operator entry and exit. Raising the armrest prevents actuation of all hydraulic functions except any circuit then in use.



swing mechanism

Hydraulic piston motor drives combined spur/planetary gearing to pinion. Swing gear has external teeth. Ball-type swing bearing. Shoe brake on swing drive housing is controlled through spring-applied hydraulically-released cylinder and locks upper structure in any position. Modulated swing braking reduces pendulum effect of clamshell or other suspended tools or loads. Two mechanical swing lock pin positions (180° opposite each other) can be engaged from cab to lock undercarriage to upper frame for travel or transport.

Swing speed at rated engine speed 11,3 RPM



service refill capacities

(See Operation and Maintenance Guide for recommended change intervals and related data.)

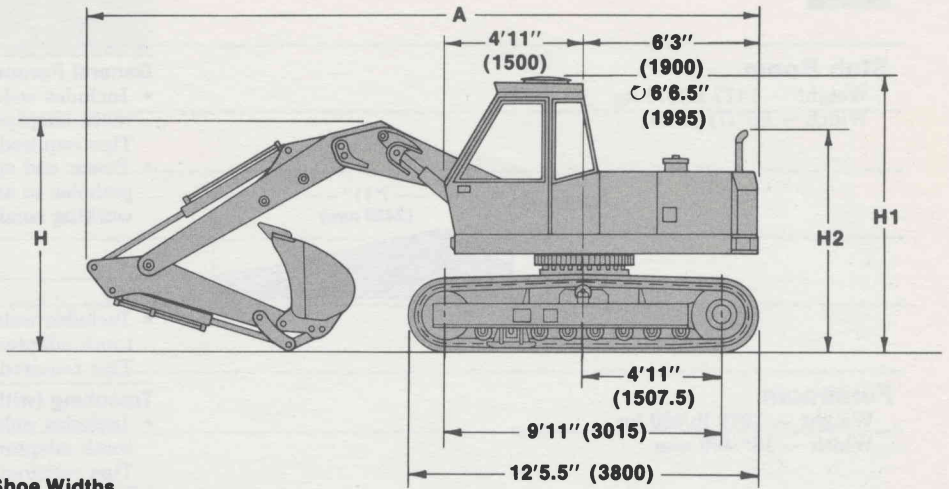
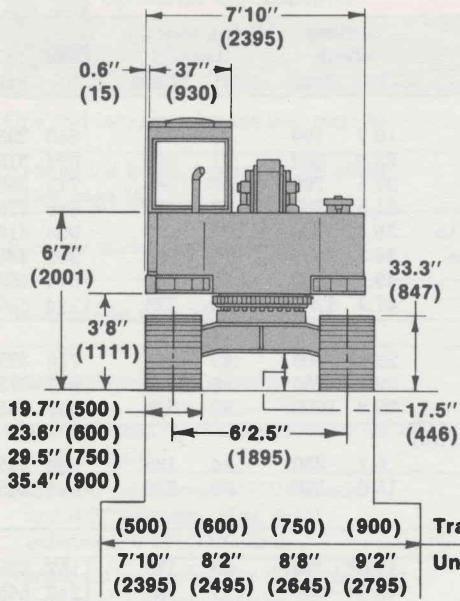
	U.S. Gallons	Liters
Fuel tank	48.8	185
Cooling system	7.9	30
Hydraulic system (includes tank)	63.4	240
Hydraulic tank	47.6	180
Lubrication:		
Engine oil	2.2	8,4
Swing drive	2.5	9,5
Final drives (each)5	2,0



standard equipment NOTE: Standard and optional equipment may vary outside USA. Consult your Caterpillar dealer for specifics.

Sound insulated cab with floor mat, literature pocket, bottle rack, cigarette lighter, ashtray and coat hanger. Interior cab light. Roof hatch. Front window, locks open, infinitely adjustable. Provision for radio installation. Vibration damped seat, fully adjustable. Fuel gauge in cab. Operator's signaling/warning horn. Travel alarm (USA only). Rearview mirrors. Windshield washer (USA only) and wiper. One boom-mounted work light. Swing pinion protection. Cold weather starting aid (to -5°F/-15°C). Storage box on upper structure. Tool kit.

205 with Two-piece Boom
(Numbers in parentheses are millimeters.)



Transport Dimensions

Stick	Two-piece Boom				One-piece Boom	
	Foreboom extended and in lower position		Foreboom extended and in upper position		A	H
in 5'3"	23'10.5"	8'10"	24'8"	8'3"	23'10.5"	8'8"
mm 1600	7280	2700	7520	2510	7280	2640
in 6'10.5"	23'11"	9'2"	24'8.5"	8'8.5"	23'11"	8'10"
mm 2100	7300	2800	7530	2660	7300	2690
in 8'6"	23'11"	9'3"	24'9"	9'1.5"	23'11"	9'0"
mm 2600	7300	2820	7540	2780	7300	2740



weight (approximate)

Shipping — (includes 10% fuel, 2-piece boom, 6'10.5"/2100 mm stick, 35.4"/900 mm general purpose bucket, and 19.7"/500 mm shoes) 28,439 lb/12 900 kg

Operating — (shipping weight plus full fuel tank, and operator) 28,957 lb/13 135 kg

For the following equipment, change the above weights:

- With one-piece boom -198 lb/-90 kg
- With 5'3"/1600 mm stick -99 lb/-45 kg
- With 8'6"/2600 mm stick -143 lb/+65 kg

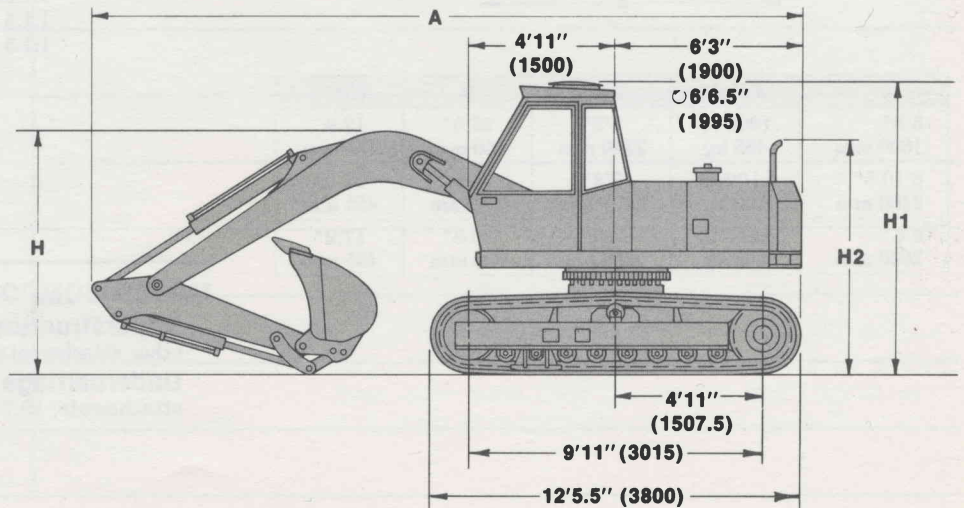
H1 — Maximum height of base machine 9'11"/3033 mm

H2 — Maximum height of base machine without cab 7'9"/2368 mm

Ground Pressure

Shoe Width (Triple Grouser)	Long (LC) Undercarriage	
19.7"/500 mm	5.7 psi	39 kPa
23.6"/600 mm	4.8 psi	33 kPa
29.5"/750 mm	3.9 psi	27 kPa
35.4"/900 mm	3.3 psi	23 kPa

205 with One-piece Boom
(Numbers in parentheses are millimeters.)



Human-engineered for comfort and efficiency

Versatile performance

- Excellent digging range, dump height and lift capacity.
- Variable displacement hydraulic system with power summation.
- Hydrostatic drive. Track counterrotation capability for close maneuvering.
- Independent hydraulic oil cooler helps assure system temperature control in all climates.

Advanced operator's station

- Piloted controls — easy and responsive, smooth and accurate. Short lever travel. Joystick movement provides complete tool response, including simultaneous actuation of more than one function.
- Full instrumentation . . . cab resiliently mounted . . . translucent roof hatch . . . infinitely adjustable front window.
- Seat has excellent adjustment features, including to operator weight, and independent horizontal adjustment relative to joysticks and to pedals.
- Extremely quiet sound levels for both operator and spectator.

Complete range of tools

- One-piece and two-piece booms with short, medium and long sticks. Articulated boom for offset excavation next to walls, footings and abutments.
- Wide range of bucket sizes and types . . . general purpose, rock, ditch cleaning, trenching (with ejector), trapezoidal ditching . . . clamshells and grapples.
- Auxiliary hydraulic circuits.
- Hydraulic hammer arrangement.

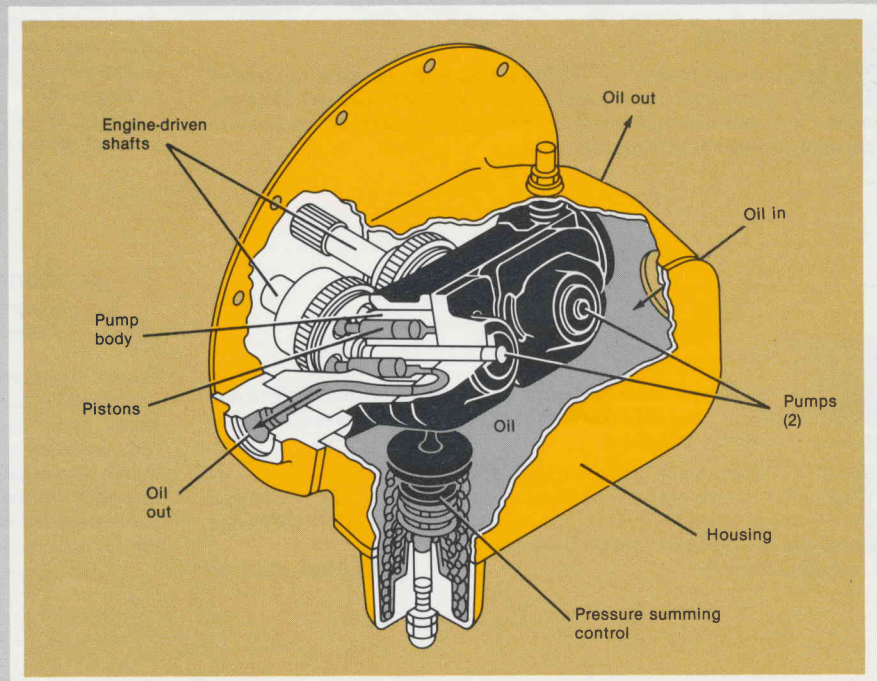
CAT PLUS services

- The most comprehensive customer support system in the industry.
- Outstanding parts availability . . . qualified servicemen and specialized service shops . . . diagnostic tools . . . Custom Track Service — and many more to reduce equipment costs and downtime, extend machine life.



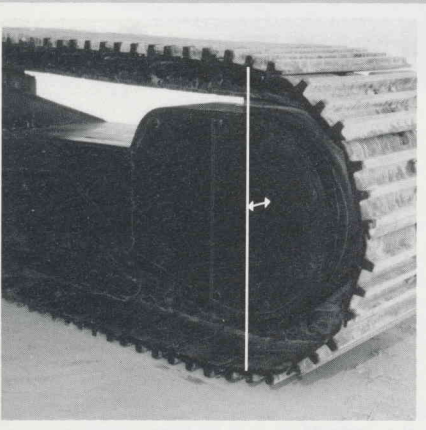
State-of-the-art hydraulic power

Two variable displacement piston pumps are the key to exceptional productivity. These pumps furnish summated power to the boom, stick and bucket. With summated control, both pumps supply identical flow rates to the system or to a single circuit, as required, for fast implement response and high fuel efficiency. One of the pumps also powers the swing function, and both power the travel circuit.

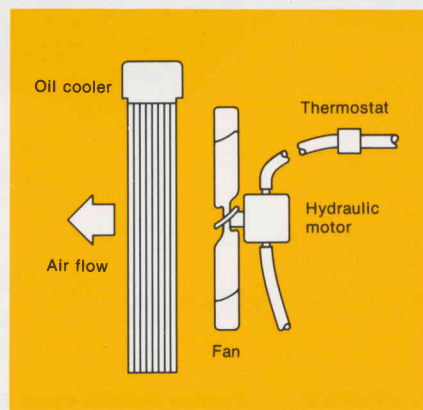




THE CATERPILLAR 205 EXCAVATOR is backed by your Caterpillar dealer with CAT PLUS services — the most comprehensive customer support system in the industry. Your dealer provides an extensive parts inventory, factory-qualified servicemen and many special support programs designed specifically for your needs. By reducing downtime and increasing productivity, these services are an important part of the total value you expect from Caterpillar.



Integrated final drives protect the track motors, disc brakes and hydraulic lines. These components are contained within the envelope of the track shoes, including shoes 19.7"/500 mm wide. Track motor guards are not required.



Hydraulic oil cooler is independent from engine fan and assures cooling capability in high ambient temperatures. The cooler fan is hydraulically driven and thermostatically controlled for efficiency. A light on the instrument panel indicates when the fan is running at maximum speed.



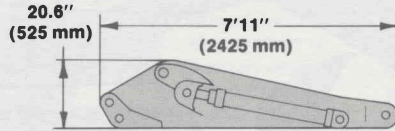
Left armrest lifts for operator entry and exit. Raising the armrest prevents actuation of all hydraulic functions except circuits in use at that time.



Specifications of Major Options (with cylinders but without hydraulic lines)

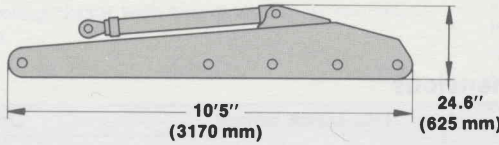
Stub Boom

Weight — 1477 lb/670 kg
Width — 28"/715 mm



Foreboom

Weight — 1279 lb/580 kg
Width — 18"/460 mm

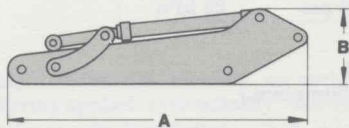


One-piece Boom

Weight — 2557 lb/1160 kg
Width — 28"/715 mm



Sticks



	Weight	A	B	Width
5'3"	1003 lb	7'8"	25.6"	17.9"
1600 mm	455 kg	2340 mm	650 mm	455 mm
6'10.5"	1102 lb	9'4"	23.6"	17.9"
2100 mm	500 kg	2835 mm	600 mm	455 mm
8'6"	1246 lb	11'0"	23.8"	17.9"
2600 mm	565 kg	3355 mm	605 mm	455 mm

Buckets

	Cutting Width		ISO Capacity, Heaped		Weight
	in	mm	yd ³	Liters	lb kg

General Purpose

• Includes weld-on tooth adapters.	19.7	500	.32	245	650 295
Tips required.	23.6	600	.41	310	694 315
• Power and speed pinholes to adapt to working conditions.	27.5	700	.50	380	772 350
	31.5	800	.59	450	816 370
	35.4	900	.68	520	904 410
	39.3	1000	.77	590	959 435
	43.3	1100	.86	660	1014 460
	47.2	1200	.95	725	1124 510

Rock

• Includes weld-on tooth adapters.	23.6	600	.43	330	716 325
Tips required.	29.5	750	.58	440	827 375
	39.3	1000	.82	625	959 435

Trenching (with ejector)

• Includes weld-on tooth adapters.	6.7	280	.24	185	694 315
Tips required.	15.0	380	.29	220	805 365

Clamshell

• Hydraulically rotatable.	11.0*	280*	.18	135	1157 525
	15.0*	380*	.25	190	1246 565
• Available with bolt-on tooth adapters.	23.6	600	.41	310	1378 625
	27.6	700	.47	360	1488 675
• 11"/280 mm and 15"/380 mm width bucket components can be used on same actuator.	31.5	800	.54	410	1598 725
	31.5	800	.59	450	1631 740

*Available with ejectors. Add 55 lb/25 kg to operating weight.

31.5"/800 mm components can be used on same actuator.
• Closure force, 9799 lb/41 kN. (9321 lb/39 kN for 31.5"/800 mm, .59 yd³/450 liter bucket.)

Ditch Cleaning

(without teeth)*	59	1500	.46	335	728 330
					(1091) (495)
	71	1800	.56	430	893 405
					(1213) (550)
	79	2000	.63	480	970 440
					(1290) (585)
	94	2400	.76	580	1113 505
					(1433) (650)

Ditch Grading

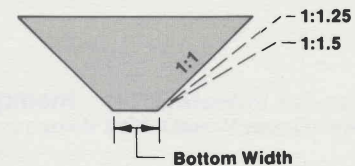
(with strike-off plate)*	79	2000	.30	230	650 340
					(1091) (495)
	94	2400	.37	280	871 395
					(1213) (550)

*Available with optional hydraulic tilting (45° to either side).

()Weights in parentheses are with optional 45° hydraulic tilting.

Trapezoidal Ditching

Slope	Bottom width		Capacity	Weight
1:1	15.7	400	.50	380
1:1	23.6	600	.62	475
1:1.25	15.7	400	.57	435
1:1.25	23.6	600	.70	535
1:1.5	15.7	400	.65	495
1:1.5	23.6	600	.78	595



MAJOR COMPONENT WEIGHTS:

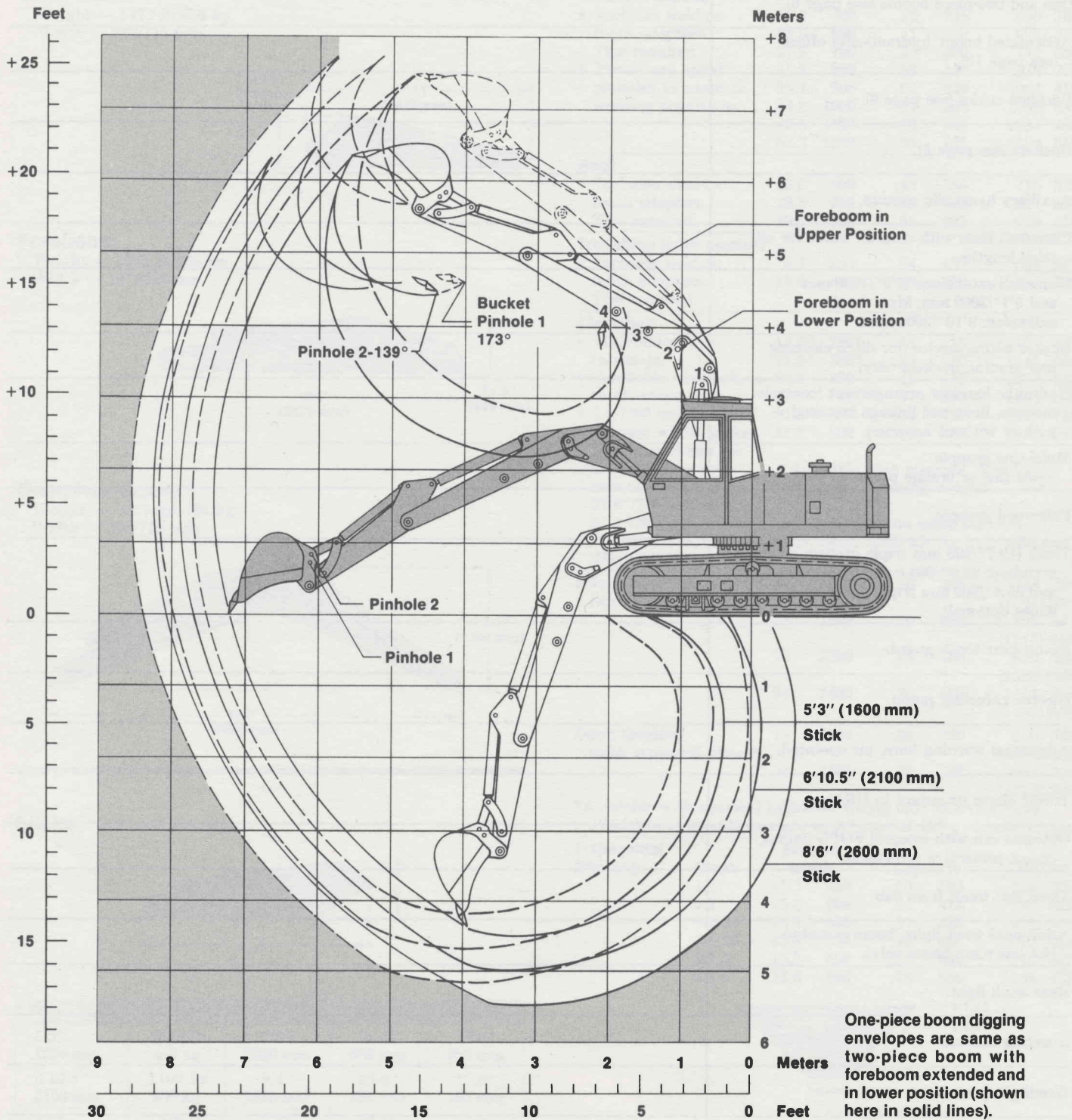
Upperstructure (with swing bearing, but without boom or other attachments) 11,927 lb/5410 kg

Undercarriage Assembly (without swing bearing, no attachments, 19.7"/500 mm track shoes) 11,398 lb/5170 kg



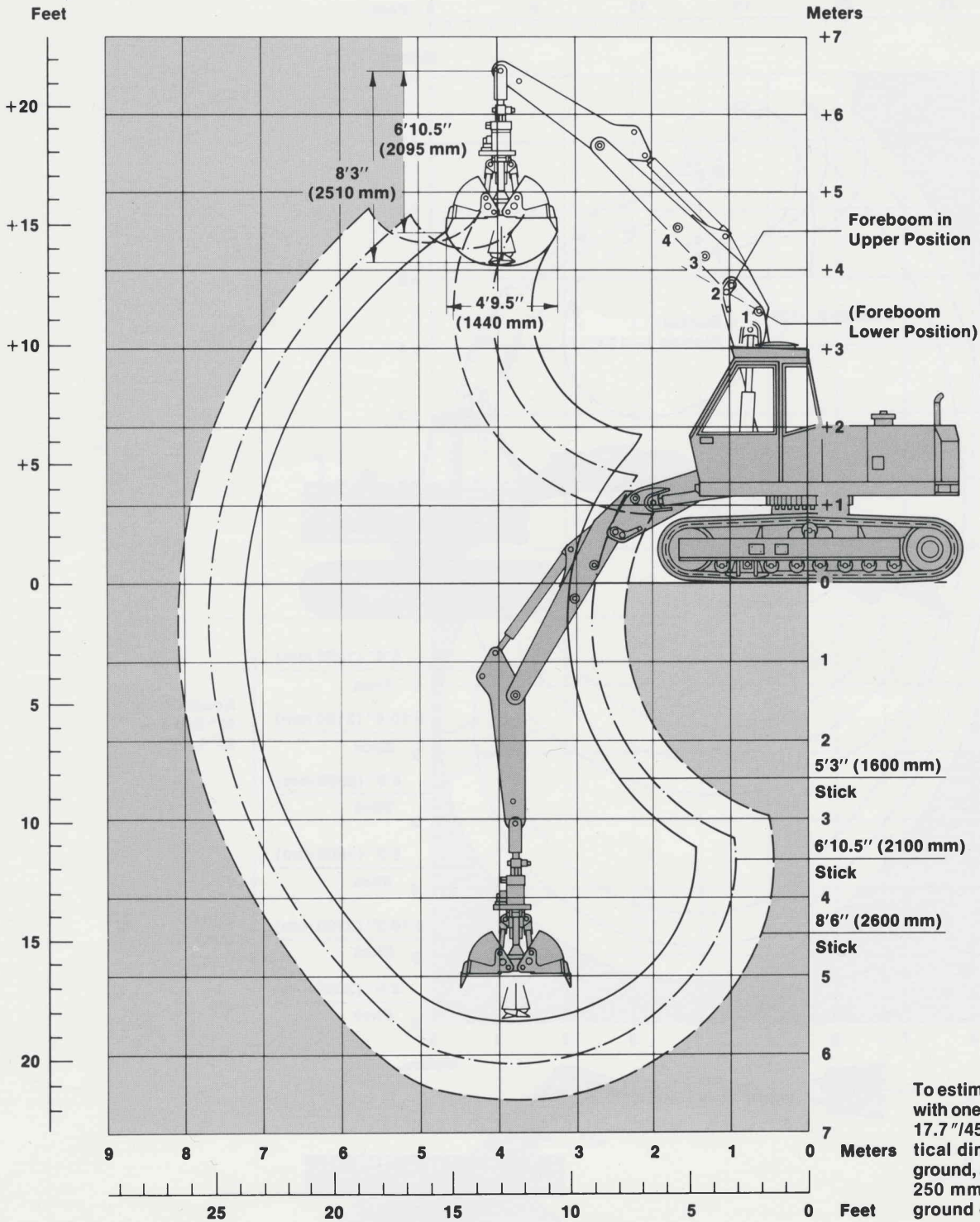
optional equipment

One and two-piece booms (see page 6).	
Articulated boom, hydraulically offset (see page 10).	
Backhoe sticks (see page 6).	
Buckets (see page 6).	
Auxiliary hydraulic circuits.	
Clamshell lines with diverter valve for all stick lengths.	
Clamshell extensions (3'3"/1000 mm and 6'7"/2000 mm. Max. total extension: 9'10"/3000 mm).	
Bucket tilting device (for ditch cleaning and grading buckets only).	
Hydraulic hammer arrangement (controls, mounts, lines and linkage installed — with or without hammer).	
Multi-tine grapple (open tine or orange peel).	
Pulpwood grapple.	
Track (19.7"/500 mm triple grouser shoes standard; 23.6"/600 mm, 29.5"/750 mm and 35.4"/900 mm triple grouser shoes optional).	
Swing gear tooth guard.	
Electric refueling pump.	
Additional warning horn, air operated.	
Travel alarm (standard in USA).	
Optional cab with integral FOPS (falling object protective structure).	
Third exit (rear) from cab.	
Additional work light, boom-mounted (for one-piece boom only).	
Rear work light.	
Rotating beacon.	
Headlight protection.	
Cab heater.	
Radio.	
Windshield washer (standard in USA).	
Mirror, additional left.	



General purpose buckets have two pinholes to adapt bucket to different work conditions. Bucket pinhole #1 provides wide curling arc with less force, and pinhole #2 is for smaller curling arc with more force.

Maximum breakout force (exerted by bucket cylinder with bucket in maximum force pinhole): 15,975 lb/71 kN
 Maximum digging force (exerted by stick cylinder with bucket in maximum force pinhole): 13,500 lb/60 kN



With foreboom in lower position, digging depths are increased 11.6"/295 mm and dumping heights are reduced by:

- 35.6"/905 mm (for 5'3"/1600 mm stick)
- 39.7"/1010 mm (for 6'10.5"/2100 mm stick)
- 47.8"/1215 mm (for 8'6"/2600 mm stick)

With clamshell extensions, digging depth increases and dump height decreases proportionally with the length of the extension.

