

SAMSUNG

SE240LC-3

HYDRAULIC EXCAVATOR TECHNICAL DATA



Operating Weight53,160 lb. 24,110 kg

Flywheel HP168 hp/125 kW @ 2000 rpm

Bucket Capacity0.95 - 1.82 yd³ 0.73-1.39 m³

ENGINE

Model	Cummins C8.3-C
Type	4 cycle diesel, water-cooled, direct injection
Aspiration	Turbocharged
No. of cylinders	6
Piston displacement	505 cu. in. 8.3 liters
Bore and stroke	4.49" x 5.32" 114mm x 135mm
Net flywheel horsepower	
SAE J1349	168 HP @ 2000 rpm
DIN 6270 "B"	125 kW @ 2000 rpm
Maximum torque	547 lb-ft 75.6 kg.m @ 1500 rpm
Electrical system	24 volt 7.2 kW 50 amp alternator Batteries; 2 x 12V, 200 Ah

HYDRAULIC SYSTEM

The all new ACS (Advanced Control System) balances engine power with hydraulic pump output over a wide range of working conditions to provide maximum productivity without sacrificing fuel consumption. Selection of the engine RPM according to the job application, automatically sets the engine power and work mode for optimum machine performance. The ACS self-diagnostic mode analyzes information from vital system functions and identifies the source of failure to facilitate troubleshooting.

Main pumps.....	2-variable displacement axial piston pumps
Maximum oil flow	2 x 61 gpm 2 x 230 l/min
Pilot control pump	Gear type
Maximum oil flow	5.3 gpm 20 l/min
Hydraulic motors	
Travel	2 axial piston motor with parking brake
Swing	1 axial piston motor with swing holding valve
Control valves.....	7 spools includes 1 auxiliary valve
Main relief valve pressure (standard).....	4550 psi 320 kg/cm ²
(power boost).....	4980 psi 350 kg/cm ²
Relief valve settings	
Boom, arm, bucket	5050 psi 355 kg/cm ²
Swing circuit.....	3840 psi 270 kg/cm ²
Travel circuit.....	4980 psi 350 kg/cm ²
Optional spool	2130 psi 150 kg/cm ²
Pilot circuit	500 psi 35 kg/cm ²

HYDRAULIC CYLINDERS

High strength piston rods and tubes are used. Cylinder cushion mechanisms are provided for all cylinders to absorb shock when pistons reach their stroke ends.

Cylinder	Qty	Bore x Rod x Stroke
Boom	2	5.3" x 3.5" x 53.0" 135mm x 90mm x 1345mm
Arm	1	5.5" x 3.9" x 65.6" 140mm x 100mm x 1665mm
Bucket	1	5.1" x 3.5" x 44.1" 130mm x 90mm x 1120mm

HYDRAULIC FILTERS

All hydraulic circuits have high quality filters for protection against oil contamination and longer life of hydraulic components. An 80 mesh suction filter is built into the suction line and 10µ full flow filters are in the return circuit and swing/travel motor drain lines.

CONTROLS

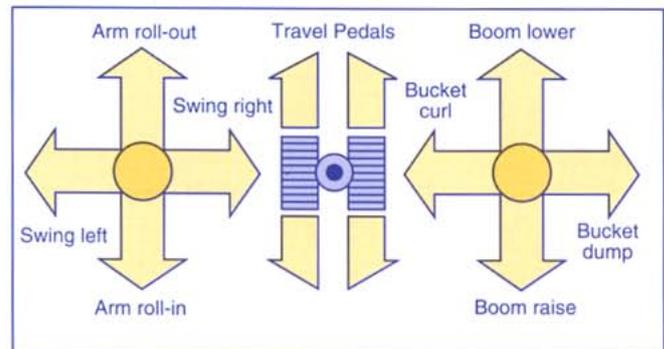
Power assisted pilot controls operated by ergonomically designed, semi-long hand levers. Two joystick hand levers actuate boom, arm, bucket and swing. Two foot pedals control steering and travel functions.

IMPLEMENT LEVERS

Right lever controls boom raise and lower and bucket curl and dump. Left lever controls arm roll-out and roll-in and direction of swing. Diagonal movement of either lever operates two functions simultaneously.

TRAVEL

Two rocker pedals, with detachable hand levers, control steering and travel functions. One pedal and lever controls the left track; the other pedal and lever controls the right track. Pushing both pedals or levers forward or backward more than the other results in a gradual turn. Moving one pedal or lever forward and the other pedal or lever backwards counter-rotates the tracks for spot turns.



SWING DRIVE

High torque axial piston motor with planetary reduction gear. Swing cushion valve built into swing motor absorbs shocks when stopping swing. Swing ring is a single row ball bearing with induction hardened internal gear. Internal gear and pinion immersed in oil.

Swing speed.....0 to 11.9 rpm

TRAVEL DRIVE

Independently driven two speed axial piston hydraulic motors with planetary reduction gear, hidden within width of track shoe. Load sensing automatic speed selection matches proper speed (1st or 2nd) to current load and travel conditions. Spring applied, hydraulically released parking brake engages when machine is stationary. Activation of foot pedals or hand levers releases brakes. Travel alarm sounds with movement of tracks. Maximum Drawbar Pull46,920 lb. 21,280 kg

Travel Speed
Low2.0 mph 3.2 km/h
High3.4 mph 5.5 km/h

Gradeability.....35 degrees (70% continuous)



STRUCTURE

Modular designed upper frame is torque resistant. Boom tower and main rails are made of high-tensile steel plates. Redesigned boom and thicker plates increase boom strength and durability. "X"-shaped carbody made of durable and high-tensile steel. This design more evenly spreads stresses throughout the lower frame than "H"-shaped designs. Upper and lower frames are reinforced for longer life.

Counterweight.....9590 lb. 4350 kg

OPERATOR'S CAB

Futuristic and spacious rounded cab design optimizes operator visibility, comfort and increased ventilation. The all-weather, modular steel cab is mounted on silicone oil rubber viscous dampening mounts, reducing noise and extending cab life.

Curved front window slides upwards in a single motion for storage. Lower front window is removable. Tinted safety glass is standard throughout. Standard equipment also includes 2 speed wiper with washer, integrated air conditioning and heating system, AM/FM stereo cassette radio, deluxe KAB 8-way adjustable cloth seat with seat belt, digital clock, sun roof, sun visor, coat hook and towel bar, cigarette lighter, glove box, horn, 2 rearview mirrors, hydraulic safety lock, lockable door, dome light, illuminated monitor display.

Cab dimensions (lxhwx) 6'2" x 5'7" x 3'2" 1870mm x 1670mm x 975mm

SELF-DIAGNOSTIC MONITOR SYSTEM

This system monitors 7 vital machine functions and should a system failure occur it displays an error code to assist in troubleshooting.

- ER11 Controller and communication
- ER14 Controller power supply voltage
- ER20 Stepping motor
- ER21 Engine speed sensor
- ER22 Pump control valve
- ER25 Engine coolant temperature sensor
- ER28 Engine throttle driving linkage

MACHINE STATUS MONITOR SYSTEM

LED readout displays the status of 14 critical machine systems including: current engine rpm, rpm setting, current working mode selection, travel speed selection, power boost status, auto idle status and electrical voltage reading.

- Gauges.....Engine coolant temperature
-Fuel level
-Hour meter
- Indicator lightsAir cleaner restriction warning
-Air pre-heating pilot
-Automatic oil supply pilot
-Battery charge warning
-Engine coolant level warning
-Engine coolant temperature warning
-Engine oil level warning
-Fuel heater pilot
-Overload warning (optional)

SAFETY

Air horn, electrically operated. Automatic self-diagnostic monitor. Hydraulic safety lock. Light package includes 2 lights mounted on upper frame and 2 on boom. Main relief valves, anti-cavitation valves, overload relief valves and hydraulic brake valves protect hydraulic system. Parking brake, spring applied/hydraulics-released disc type. Swing brake, spring applied/hydraulic-released disc type. Waterproof electrical connectors.

UNDERCARRIAGE

Durable heavy-duty box section carbody is welded with high-tensile strength steel. Track roller frames are reinforced and welded securely to the carbody. Greater dependability and longer life of links, rollers, idlers, sprockets, pins and bushings are achieved through increased hardness and improved material composition.

Rollers, idlers and sprockets are permanently lubricated. Undercarriage includes; hydraulic track adjusters, center mounted track guides, travel motor guards and triple grouser track shoes.

Upper rollers, per side.....	2
Lower rollers, per side.....	9
Track shoes, per side.....	51
Track shoes, standard.....	32" 800mm
optional.....	24" 600mm
optional.....	28" 700mm
Track gauge.....	8'6" 2590mm
Track length.....	15'3" 4650mm
Ground clearance.....	1'7" 480mm
Ground contact area	
24" 600mm shoes.....	7682 in ² 4.96 m ²
28" 700mm shoes.....	8962 in ² 5.78 m ²
32" 800mm shoes.....	10,242 in ² 6.61 m ²

WEIGHTS

Machine equipped with one piece boom, 19'8" (6.0m), standard 9'9" (2.97m) arm, 1.60 cu. yd. bucket and full fuel tank.

Shoe width	Operating Weight	Ground Pressure
24" 600mm	51,880 lb 23,530 kg	6.75 psi 0.47 kg/cm ²
28" 700mm	52,540 lb 23,830 kg	5.86 psi 0.41 kg/cm ²
32" 800mm	53,160 lb 24,110 kg	5.19 psi 0.36 kg/cm ²

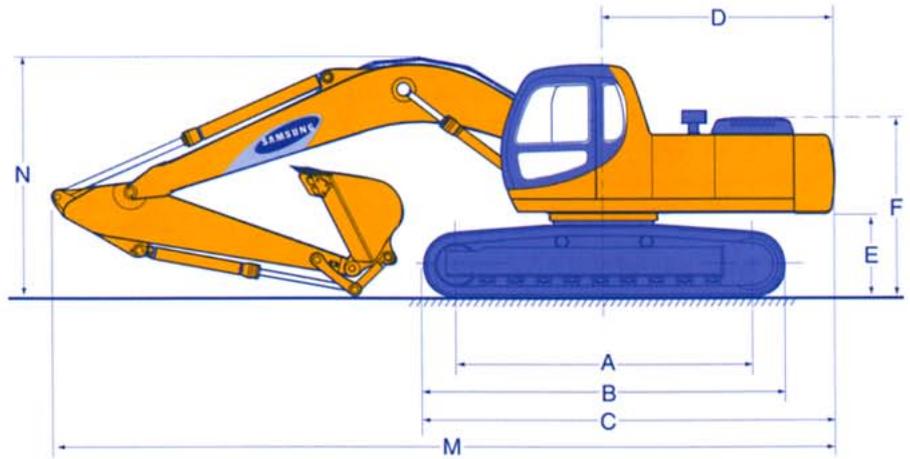
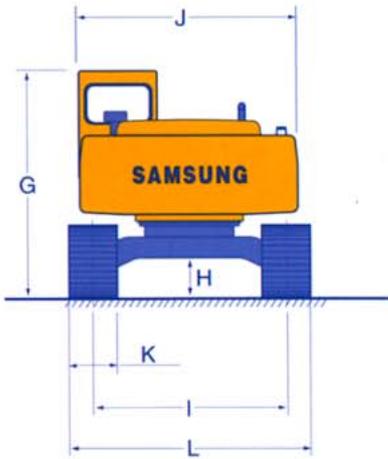
MODE SELECTION SYSTEM

Four working modes allow optimum power and speed through the new selection system. H mode- heavy duty, G mode- standard operation, F mode- fine control, I mode- idle. In H & G modes, a 10% "Power Boost" mode is available offering a 9 second system pressure increase for tough digging or lifting. Nine engine rpm settings within the four modes offer a computer controlled match of engine RPM and hydraulic flow. All new travel system allows operation in 1st speed or switch to 2nd speed for "automatic" speed selection. The micro-computer senses speed and load to select the proper speed for the current conditions.

SERVICE REFILL CAPACITIES

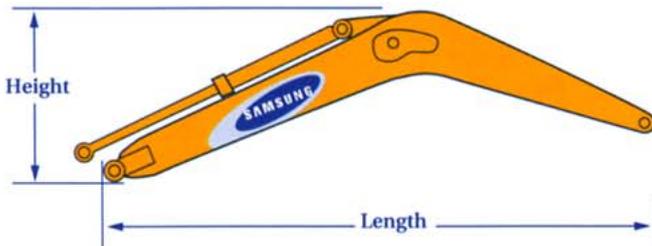
	gallons	liters
Cooling system.....	7.0	26.5
Lubricant		
Engine oil.....	6.7	25.5
Swing drive.....	3.2	12
Track drive (each).....	1.4	5.2
Hydraulic tank.....	50.2	190
Fuel tank.....	92.5	350

SHIPPING DIMENSIONS



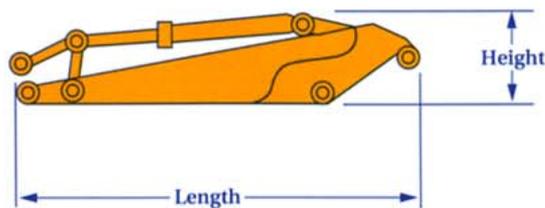
A	Distance between tumbler	12'8"	(3850 mm)
B	Undercarriage length	15'3"	(4650 mm)
C	Length of base machine	17'5"	(5305 mm)
D	Tail swing radius	9'10"	(3000 mm)
E	Counterweight clearance	3'7"	(1080 mm)
F	Height without cab	8'6"	(2600 mm)
G	Overall height of cab	9'10"	(2990 mm)
H	Minimum ground clearance	1'7"	(480 mm)
I	Track gauge	8'6"	(2590 mm)
J	Upper frame width	9'4"	(2840 mm)
K	Track shoe width (std)	32"	(800 mm)
L	Overall width	11'1"	(3390 mm)
M	Overall length	33'2"	(10,120 mm)
N	Overall height of boom	10'0"	(3040 mm)

BOOM



Boom	Standard Duty		Heavy Duty	
Size	19'8"	6.0 m	19'8"	6.0 m
Length	20'4"	6208 mm	20'4"	6208 mm
Height	5'4"	1626 mm	5'4"	1626 mm
Width	2'5"	730 mm	2'5"	730 mm
Weight	4360 lb	1978 kg	4694 lb	2129 kg

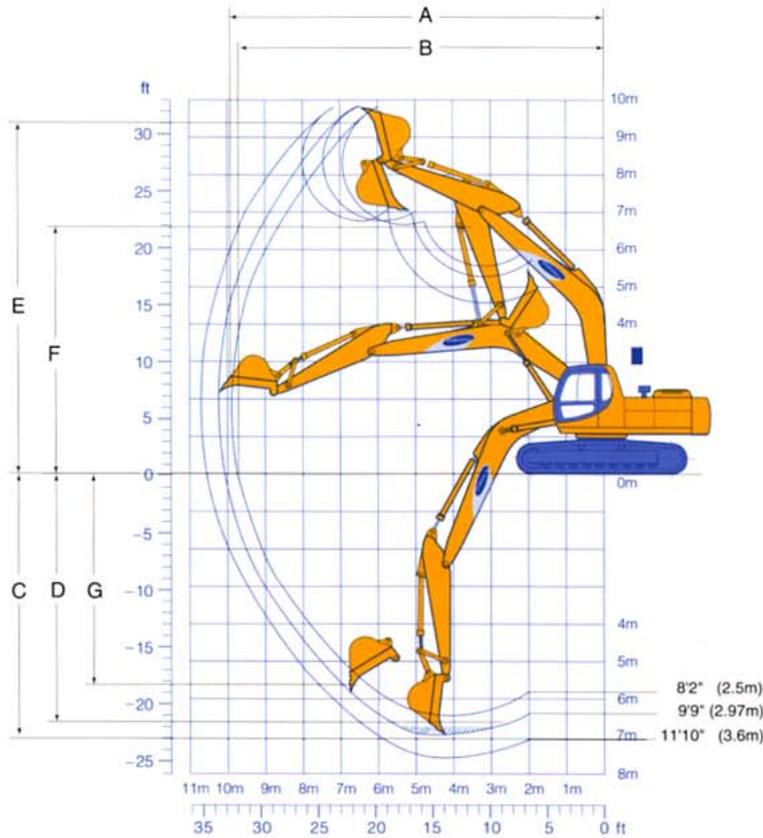
ARM



Arm	Standard Duty					
Size	9'9"	2.97 m	8'2"	2.5 m	11'10"	3.6 m
Length	13'4"	4055 mm	11'9"	3588 mm	15'6"	4723 mm
Height	3'0"	910 mm	3'0"	904 mm	3'0"	903 mm
Width	1'8"	510 mm	1'8"	510 mm	1'8"	510 mm
Weight	2597 lb	1178 kg	2440 lb	1107 kg	2756 lb	1250 kg

Arm	Heavy Duty	
Size	9'9"	2.97 m
Length	13'4"	4055 mm
Height	3'0"	910 mm
Width	1'8"	510 mm
Weight	2738 lb	1242 kg

WORKING RANGES



Boom length	19'8" (6.0 m)					
Arm length	9'9" 2.97 m	8'2" 2.5 m	11'10" 3.6 m			
A Maximum digging reach	33'8" 10,260 mm	32'5" 9880 mm	35'2" 10,730 mm			
B Maximum digging reach at ground level	33'1" 10,080 mm	31'9" 9690 mm	34'8" 10,560 mm			
C Maximum digging depth	22'11" 6980 mm	21'6" 6560 mm	25'2" 7660 mm			
D Maximum digging depth at 8 ft. (2440mm) level	22'3" 6775 mm	20'7" 6280 mm	24'3" 7380 mm			
E Maximum digging height	31'11" 9730 mm	31'7" 9630 mm	31'9" 9670 mm			
F Maximum dumping height	22'4" 6800 mm	21'11" 6670 mm	32'1" 6790 mm			
G Maximum vertical wall digging	20'0" 6100 mm	18'10" 5730 mm	20'7" 6270 mm			
Arm digging force (Standard)	24,691 lb 11,200 kg	28,153 lb 12,770 kg	21,759 lb 9870 kg			
(Power Boost)	27,007 lb 12,250 kg	30,799 lb 13,970 kg	23,800 lb 10,795 kg			
Bucket digging force (Standard)	31,085 lb 14,100 kg	31,085 lb 14,100 kg	31,085 lb 14,100 kg			
(Power Boost)	33,995 lb 15,420 kg	33,995 lb 15,420 kg	33,995 lb 15,420 kg			

BUCKET and ARM COMBINATION

Bucket	Capacity		Width		No. of Teeth	Weight		Arm		
	yd ³	m ³	inches	mm		lb	kg	9'9" (2.97 m)	8'2" (2.5 m)	11'10" (3.6 m)
General Purpose	1.16	0.89	36	915	5	1638	743	A	A	A
	1.38	1.06	42	1065	5	1777	806	A	A	A
	1.60	1.22	48	1065	6	1867	847	B	B	B
	1.75	1.38	42	1220	5	1966	892	B	B	C
Heavy Duty	1.16	0.89	36	915	5	2071	939	A	A	A
	1.20	0.92	30	760	4	2008	911	A	A	A
	1.38	1.06	42	1065	5	2197	997	A	A	B
	1.48	1.13	36	915	4	2128	965	B	A	B

Material weights:

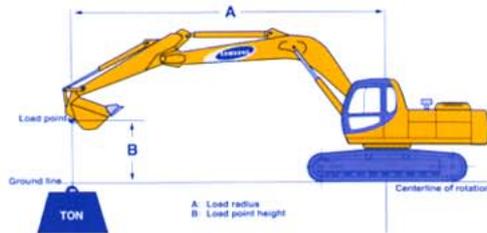
A - up to 3040 lb/yd³ (1803 kg/m³)

B - up to 2520 lb/yd³ (1494 kg/m³)

C - up to 2020 lb/yd³ (1198 kg/m³)

D - Not usable

LIFTING CAPACITIES



BOOM = 19'8" (6.0 m)
 ARM = 9'9" (2.97 m)

BUCKET = SAE 1.60 cu yd (1867 lb)
 SHOE = 32" (800 mm)

LOAD POINT HEIGHT (B)	UNIT	LOAD RADIUS (A)															
		5' 1.5 m		10' 3.0 m		15' 4.6 m		20' 6.1 m		25' 7.6 m		MAXIMUM LOAD RADIUS					
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Radius			
30' 9.1 m	lb. kg																
25' 7.6 m	lb. kg													* 9010 * 4087	* 9010 * 4087	24.86 ft 7.58 m	
20' 6.1 m	lb. kg									* 9470 * 4296	8870 4023			* 8850 * 4014	8600 3901	25.38 ft 7.74 m	
15' 4.6 m	lb. kg							* 10830 * 4912	* 10830 * 4912	* 10110 * 4586	8640 3919			* 9010 * 4087	7170 3252	27.56 ft 8.40 m	
10' 3.0 m	lb. kg			* 13360 * 6060	* 13360 * 6060	* 16530 * 7498	* 16460 * 7466	* 12900 * 5851	12260 5561	* 11250 * 5103	8270 3751			* 9660 * 4382	6420 2912	28.69 ft 8.74 m	
5' 1.5 m	lb. kg			* 10790 * 4894	* 10790 * 4894	* 21350 * 9684	18210 8260	* 15300 * 6940	11580 5253	* 12470 * 5656	7960 3611			9880 4482	* 6110 2771	28.91 ft 8.81 m	
GROUND LINE	lb. kg			* 13900 * 6305	* 13900 * 6305	* 24620 * 11168	17170 7788	* 17300 * 7847	11020 4999	12390 5620	7680 3484			10090 4577	6190 2808	28.25 ft 8.61 m	
-5' -1.5 m	lb. kg	* 15330 * 6954	* 15330 * 6954	* 15010 * 6809	* 15010 * 6809	* 25760 * 11685	16780 7611	17520 7947	10700 4854	12200 5534	7510 3407			11020 4999	6770 3071	26.63 ft 8.12 m	
-10' -3.0 m	lb. kg	* 18310 * 8305	* 18310 * 8305	* 27630 * 12553	* 27630 * 12553	* 25160 * 11413	16810 7625	17460 7920	10650 4831					13160 5969	8100 3674	23.85 ft 7.27 m	
-15' -4.6 m	lb. kg			* 32410 * 14701	* 32410 * 14701	* 22610 * 10256	17180 7793							* 16930 * 7679	11420 5180	19.40 ft 5.91 m	

SEE NOTES BELOW.

BOOM = 19'8" (6.0 m)
 ARM = 8'2" (2.5 m)

BUCKET = SAE 1.60 cu yd (1867 lb)
 SHOE = 32" (800 mm)

LOAD POINT HEIGHT (B)	UNIT	LOAD RADIUS (A)															
		5' 1.5 m		10' 3.0 m		15' 4.6 m		20' 6.1 m		25' 7.6 m		MAXIMUM LOAD RADIUS					
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Radius			
30' 9.1 m	lb. kg																
25' 7.6 m	lb. kg							* 10290 * 4668	* 10290 * 4668					* 8533 * 3871	* 10330 * 4686	20.18 ft 6.15 m	
20' 6.1 m	lb. kg							* 10460 * 4745	* 10460 * 4745					* 10540 * 4781	9540 4327	23.96 ft 7.30 m	
15' 4.6 m	lb. kg					* 14120 * 6405	* 14120 * 6405	* 11970 * 5430	* 11970 * 5430	* 11020 * 4999	8620 3910			* 10950 * 4967	7860 3565	26.25 ft 8.00 m	
10' 3.0 m	lb. kg					* 18220 * 8265	* 18220 * 8265	* 13950 * 6328	12180 5525	* 12050 * 5466	8290 3760			11120 5044	7020 3184	27.44 ft 8.36 m	
5' 1.5 m	lb. kg					* 22830 * 10356	17910 8124	* 16180 * 7339	11540 5235	12720 5770	7990 3624			10710 4858	6690 3035	27.68 ft 8.44 m	
GROUND LINE	lb. kg					* 25410 * 11526	17070 7743	* 17890 * 8115	11050 5012	12460 5652	7760 3520			10990 4985	6820 3094	26.98 ft 8.22 m	
-5' -1.5 m	lb. kg			* 13640 * 6187	* 13640 * 6187	* 25870 * 11735	16860 7648	17620 7992	10810 4903	12340 5597	7650 3470			12130 5502	7510 3407	25.28 ft 7.71 m	
-10' -3.0 m	lb. kg	* 15080 * 6840	* 15080 * 6840	* 30230 * 13712	* 30230 * 13712	* 24690 * 11199	17020 7720	17660 8011	10840 4917					* 14830 * 6727	9180 4164	22.32 ft 6.80 m	
-15' -4.6 m	lb. kg			* 29770 * 13504	* 29770 * 13504	* 21350 * 9684	17520 7947							* 18090 * 8206	13750 6237	17.49 ft 5.33 m	
-20' -6.1 m	lb. kg																

Notes:

1. Ratings are based on SAE J1097
2. Rated loads do not exceed 75% of tipping, machine situated on firm level, uniform supporting surface of 87% of full hydraulic capacity.
3. Ratings marked * are limited by hydraulic capacity.
4. Lift Capacity will vary depending upon the actual weight of bucket or attachment.

SE240_{LC-3} STANDARD and OPTIONAL EQUIPMENT

ENGINE	OPERATOR'S AREA	FRONT ATTACHMENTS
24 volt starting system ●	Adjustable monitor ●	Booms
Air cleaner w/precleaner, dust ejector ●	Air conditioning/heater (integrated) ●	19'8" (6.0 m) ●
Air filter, dual element, dry type ●	AM/FM stereo cassette radio ●	19'8" (6.0 m) Heavy Duty ▲
Alternator, 50 amp ●	Cigarette lighter ●	Arms
Antifreeze ●	Clock, digital ●	9'9" (2.97 m) ●
Automatic engine warm-up ●	Coat hook ●	8'2" (2.5 m) ▲
Automatic deceleration ●	Diagnostic system, automatic	11'10" (3.6 m) ▲
Batteries; 2 x 12V, 200 Ah ●	Controller and communication ●	9'9" (2.97 m) Heavy Duty ▲
Coolant auxiliary tank ●	Controller power supply voltage ●	Attachment quick coupler ▲
Cummins low emission engine ●	Engine coolant temperature	Buckets
Engine fan guard ●	sensor ●	Ditching ▲
Engine re-start prevention system ●	Engine speed sensor ●	General purpose ▲
Hinged side doors ●	Engine throttle driving linkage ●	Heavy duty ▲
Hood, tiltable, includes locks ●	Pump control valve ●	Severe duty, cast lip ▲
Master electrical disconnect switch ●	Stepping motor ●	Severe duty, plate lip ▲
Muffler ●	Front windshield	Side cutters ▲
Oil filter, cartridge type ●	2 Speed wiper w/washer ●	Teeth ▲
HYDRAULIC SYSTEM	Removable lower front window ●	Hydraulic breaker piping kit ▲
7 Spool control valve ●	Roll up front windshield ●	Single ripper tooth ▲
Auxiliary hydraulic valve ●	Horn ●	MISCELLANEOUS
Boom and arm holding valve ●	Hourmeter ●	Automatic greasing system ▲
Hydraulic oil cooler, tiltable ●	Hydraulic safety lock ●	Block Heater ▲
Pilot circuit - gear pump ●	Illuminated monitor display ●	Counterweight ●
Power boost, one-touch ●	Indicator lights	Electric power socket, external ●
Swing and travel motor w/auto	Air cleaner restriction warning ●	F.O.P.S. ▲
disc brake ●	Air pre-heating pilot ●	Grease gun ▲
Variable displacement pump,	Battery charge warning ●	Grease injection points, centralized ●
dual position ●	Engine coolant level warning ●	Lights
UNDERCARRIAGE	Engine coolant temperature	Boom-2 ●
Anti-slip step ●	warning ●	Front frame-2 ●
Hydrostatic drive ●	Engine oil level warning ●	Operator's manual ●
Track adjusters, hydraulic ●	Overload warning ▲	Parts manual ●
Track frames, reinforced ●	Lockable door ●	Tool compartment, lockable ●
Track guide, center mounted ●	Mirrors, 2 rearview ●	Travel alarm ●
Track rollers ●	Mode selection	
Upper-2 ●	4 Working modes ●	
Lower-9 ●	9 Engine rpm settings ●	
Track, sealed and greased ●	2 Travel speeds (automatic) ●	
Travel motor guards ●	Safety glass, tinted ●	
Triple grouser shoes	Storage compartment, insulated ●	
32" (800mm) ●	Suspension seat, 8-way w/seat belt ●	
24" (600mm) ▲	Sound isolation mounted cab ●	
28" (700mm) ▲	Sun roof ●	
36" (900mm) ▲	Sun visor ●	
	Travel pedals w/hand levers ●	

KEY ● Standard Equipment-North American

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*Specifications are subject to change without notice TDE24039807