

SAMSUNG

SE350LC-2

HYDRAULIC EXCAVATOR TECHNICAL DATA



Operating Weight81,330 lb. 36,890 kg
Flywheel HP247 hp/184 kW @ 1700 rpm
Bucket Capacity1.31 - 2.51 yd³ 1.0-1.92 m³

ENGINE

Model	Cummins M11-C
Type	4 cycle diesel, water-cooled, direct injection
Aspiration	Turbocharged, Aftercooled
No. of cylinders	6
Piston displacement	610 cu. in. 10.0 liters
Bore and stroke	4.92" x 5.35" 125mm x 136mm
Net flywheel horsepower	
SAE J1349	247 HP @ 1700 rpm
DIN 6270 "B"	184 kW @ 1700 rpm
Maximum torque	825 lb-ft 114 kg.m @ 1300 rpm
Air cleaner	Heavy duty, 2-stage dry type with auto dust ejector and restriction indicator
Electrical system	24 volt 7.8 kW 50 amp alternator 780 cold cranking amps @ 0°F (32°C)

The engine can be quickly decelerated to idle speed with a simple push of the auto decel button on the computer keypad. This deceleration system helps to reduce fuel consumption and noise.

HYDRAULIC SYSTEM

Unique "CA-MAX" hydraulic system provides operating smoothness, enhanced controllability and perfect simultaneous operation with precise movement of the implement, swing and travel controls. This system increases machine productivity in pipelaying, trench digging and any jobs performed perpendicularly to the direction of travel.

Main pumps.....	2-variable displacement axial piston pumps
Maximum oil flow	2 x 74 gpm
	2 x 280 l/min
Pilot control pump	Gear type
Maximum oil flow	6.7 gpm 25.5 l/min
Hydraulic motors	
Travel	2 axial piston motor with parking brake
Swing	1 axial piston motor with swing holding brake
Control valves.....	8 spools includes 1 auxiliary valve
Main relief valve pressure.....	4550 psi 320 kg/m ²
Relief valve settings	
Boom, arm, bucket circuits	4980 psi 350 kg/m ²
Swing circuit.....	3700 psi 260 kg/m ²
Travel circuit.....	5041 psi 355 kg/m ²
Pilot control circuit.....	568 psi 40 kg/m 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	6.3" x 4.1" x 60"	160mm x 105mm x 1530mm
Arm	1	6.7" x 4.5" x 69"	170mm x 115mm x 1760mm
Bucket	1	5.9" x 4.1" x 51"	150mm x 105mm x 1305mm

HYDRAULIC FILTERS

All hydraulic circuits have high quality hydraulic filters for protection against oil contamination and longer life of hydraulic components. A 105µ 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

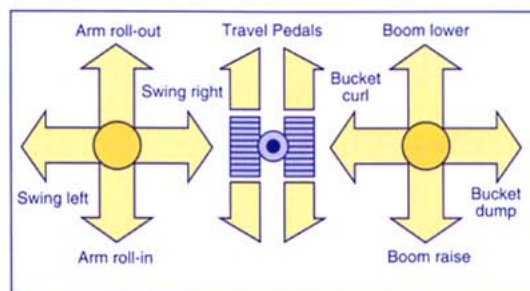
Power assisted pilot controls operated by ergonomically designed, semi-long hand levers. Two joystick hand levers actuate boom, arm, bucket and swing. Two foot pedals control steering and travel functions.

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 function. 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 provides straight travel. Moving one pedal or lever 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 brake is spring applied/hydraulic-released disc type; automatically applied 5 seconds after swing control is released. Swing lock clamps the superstructure for transportation.

Variable boom-swing speed control allows the operator to vary the combined boom-up and speed-swing functions to fit the working conditions.

Swing speed.....0 to 9.6 rpm

TRAVEL DRIVE

Fully hydrostatic. Each track driven by an independent, two-speed, axial piston hydraulic motor with planetary reduction gear. Drive motors are protected within the shoe width. Automatically operated parking brake is spring applied when machine is stationary. Engaging foot pedals or levers automatically releases the brake.

Drawbar Pull	
Low Speed	52,910 lb. 24,000 kg
High Speed	38,580 lb. 17,500 kg
Travel Speed	
Low	2.1 mph 3.3 km/h
High.....	2.9 mph 4.6 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 roller frame than "H"-shaped designs. Upper and lower frames are reinforced for longer life.

Counterweight14,771 lb. 6,700 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 anti-vibration rubber pads that reduce noise and extend cab life.

Curved front window slides upwards in a single motion for storage. Lower front window is removeable. Tinted safety glass is standard throughout. Standard equipment also includes 3 speed wiper with washer, air conditioning, 2 speed heater, AM/FM stereo cassette radio, deluxe Bostrom 8-way adjustable cloth seat with seat belt, digital clock, 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 (lhxwxw) 6'2" x 5'7" x 3'2" 1880mm x 1700mm x 975mm

SELF-DIAGNOSTIC MONITOR SYSTEM

The system monitors six vital machine functions, identifies any problem and simplifies the troubleshooting procedures.

- 1 Main power failure
- 2 Detection engine speed sensor
- 5 Proportional pressure reducing valve
- 6 High-speed operation function
- 7 Low speed operation function
- 0 CPU self diagnosis

SAFETY

Air horn, electrically operated. Automatic self-diagnostic monitor. Hydraulic safety lock. Light package includes 2 lights mounted on upper frame and 4 on boom. Main relief valves, anti-cavitation valves, overload relief valves and hydraulic brake valves protect the hydraulic system. Parking brake, spring applied/hydraulic-released disc type. Swing brake, spring applied/hydraulic-released disc type. Waterproof electrical connectors.

Monitor system, illuminated.

GaugesEngine rpm
Fuel
Hourmeter
Hydraulic oil temperature
Engine coolant temperature
 Indicator lightsAir cleaner restriction
Battery charge
Head lights
Low fuel level
 Warning lampsLow engine oil pressure
High engine coolant temperature
Engine oil filter

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.....8
 Track shoes, per side48
 Track shoes, standard.....32" 800mm
 optional.....24" 600mm
 optional.....28" 700mm
 Track gauge.....8'10" 2690mm
 Track length.....16'3" 4960mm
 Ground clearance1'9" 535mm
 Ground contact area
 24" 600mm shoes.....8090 in² 5.2 m²
 28" 700mm shoes.....9439 in² 6.1 m²
 32" 800mm shoes.....10787 in² 7.0 m²

WEIGHTS

Machine equipped with one piece boom, 21'2" (6.45m), standard 10'2" (3.1m) arm, 2.03 cu yd. bucket and full fuel tank.

Shoe width	Operating Weight	Ground Pressure
24" 600mm	79,490 lb 36,060 kg	9.83 psi 0.69 kg/cm ²
28" 700mm	80,420 lb 36,480 kg	8.52 psi 0.60 kg/cm ²
32" 800mm	81,330 lb 36,890 kg	7.54 psi 0.53 kg/cm ²

MODE SELECTION SYSTEM

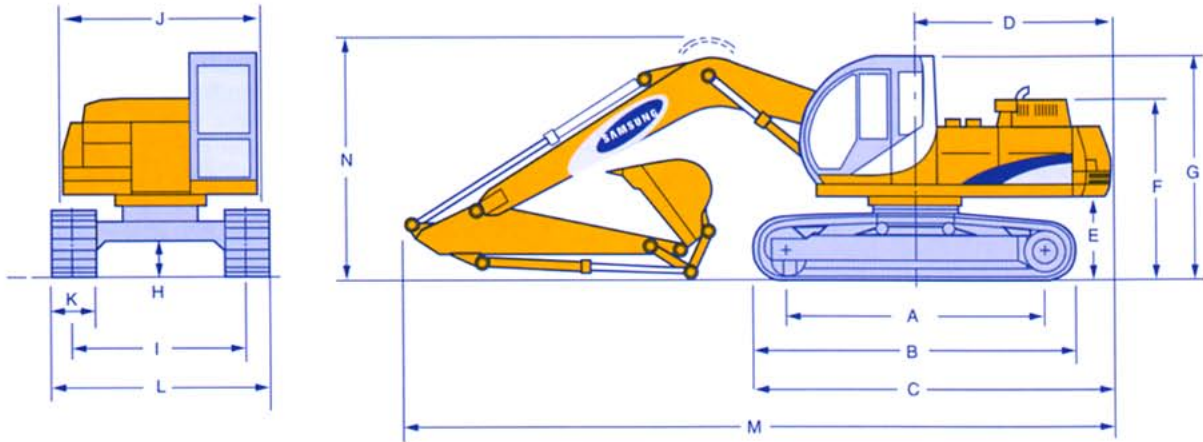
Three operating modes allow the selection of the proper speed and power to fit job conditions: H mode - heavy duty, S mode - standard duty, L mode - light duty.

Engine speed controlled by a micro-computer to improve working efficiency. A throttle control is available for the S and L operating modes. Travel speed switch allows the operator a choice of either low speed or high speed.

SERVICE REFILL CAPACITIES

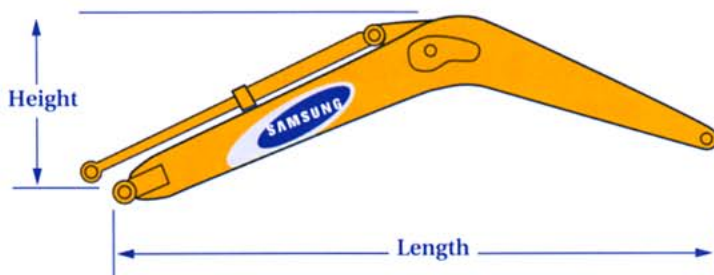
	gallons	liters
Cooling system	11.9	45
Lubricant		
Engine oil	9.0	34
Swing drive	1.6	6
Track drive (each)	1.8	7
Hydraulic tank	68.7	260
Fuel tank	138.7	525

SHIPPING DIMENSIONS



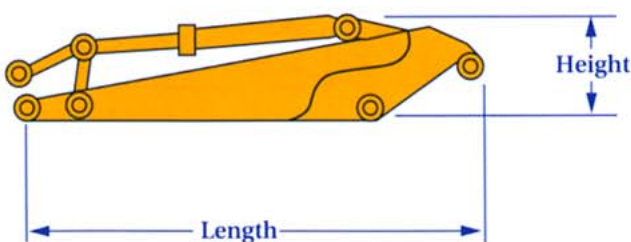
A	Distance between tumblers	13'2"	(4020 mm)
B	Undercarriage length	16'3"	(4960 mm)
C	Length of base machine	18'11"	(5775 mm)
D	Tail swing radius	10'10"	(3290 mm)
E	Counterweight clearance	4'0"	(1230 mm)
F	Height without cab	9'2"	(2800 mm)
G	Overall height of cab	10'6"	(3205 mm)
H	Minimum ground clearance	1'9"	(535 mm)
I	Track gauge	8'10"	(2690 mm)
J	Upper frame width	9'9"	(2960 mm)
K	Track shoe width (std)	32"	(800 mm)
L	Overall width	11'5"	(3490 mm)
M	Overall length	36'0"	(10970 mm)
N	Overall height of boom	11'2"	(3395 mm)

BOOM



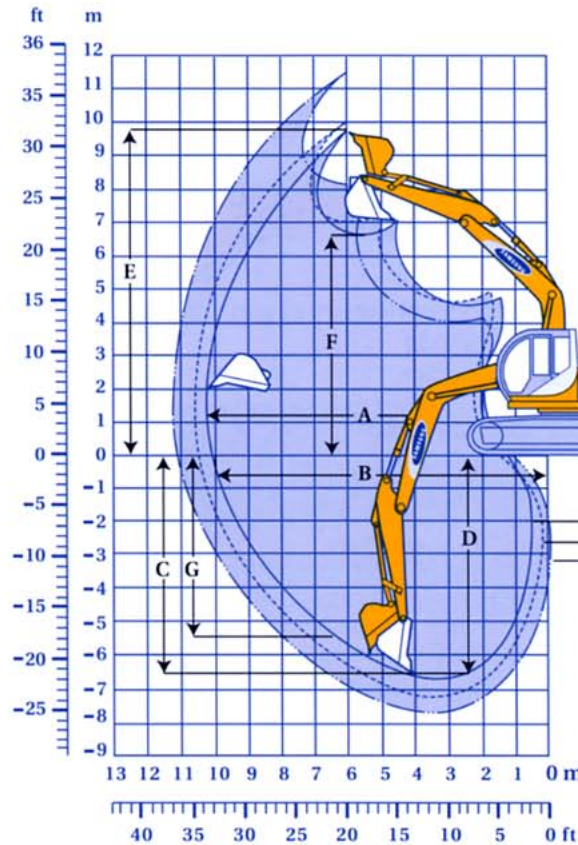
Boom	Standard Duty		Heavy Duty	
Size	21'2"	6.45 m	19'8"	6.0 m
Length	21'11"	6670 mm	20'5"	6220 mm
Height	5'6"	1665 mm	5'7"	1705 mm
Width	2'8"	820 mm	2'8"	820 mm
Weight	6850 lb	3108 kg	6850 lb	3108 kg

ARM



Arm	Standard Duty		Heavy Duty	
Size	10'2"	3.1 m	8'6"	2.6 m
Length	13'11"	4250 mm	12'5"	3785 mm
Height	3'5"	1030 mm	3'7"	1100 mm
Width	1'5"	440 mm	1'5"	440 mm
Weight	4365 lb	1980 kg	4480 lb	2030 kg

WORKING RANGES



Boom length	21'2" (6.45 m)		19'8" (6.0 m)	
Arm length	10'2" 3.1 m	8'6" 2.6 m	8'6" 2.6 m	8'6" 2.6 m
A Maximum digging reach	36'9" 11,200 mm	35'0" 10,680 mm	33'6" 10,220 mm	33'6" 10,220 mm
B Maximum digging reach at ground	36'1" 10,995 mm	34'4" 10,465 mm	32'10" 10,000 mm	32'10" 10,000 mm
C Maximum digging depth	24'11" 7600 mm	23'3" 7100 mm	21'10" 6650 mm	21'10" 6650 mm
D Maximum digging depth at 8 ft. (2440mm) level	24'5" 7440 mm	22'8" 6900 mm	21'2" 6460 mm	21'2" 6460 mm
E Maximum digging height	37'5" 11,400 mm	33'1" 10,080 mm	32'1" 9790 mm	32'1" 9790 mm
F Maximum dumping height	26'10" 8190 mm	22'10" 6970 mm	21'11" 6680 mm	21'11" 6680 mm
G Maximum vertical wall digging	21'6" 6540 mm	19'3" 5865 mm	19'0" 5780 mm	19'0" 5780 mm
Arm digging force	33,510 lb 15,200 kg	39,680 lb 18,000 kg	39,680 lb 18,000 kg	39,680 lb 18,000 kg
Bucket digging force	44,090 lb 20,000 kg	44,090 lb 20,000 kg	44,090 lb 20,000 kg	44,090 lb 20,000 kg

BUCKET and ARM COMBINATION

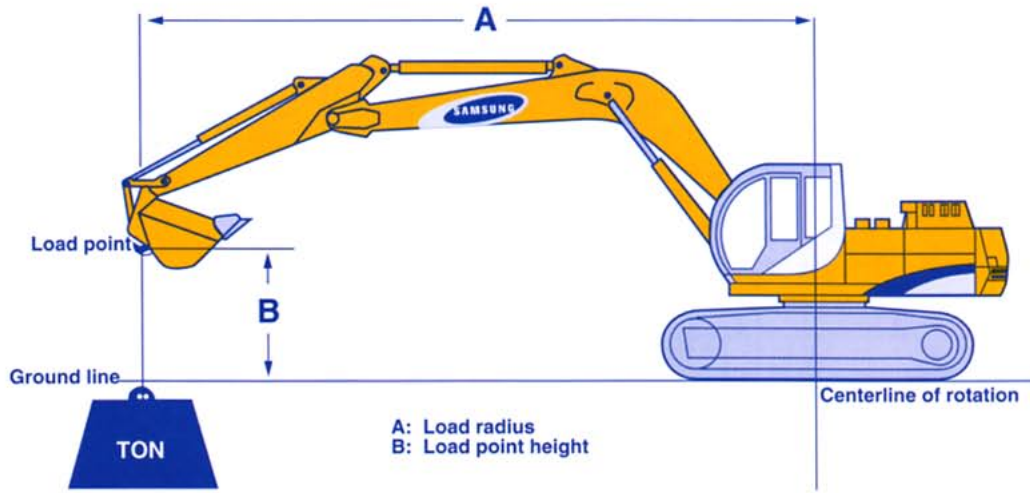
Bucket	Capacity		Width		No. of Teeth	Weight		Arm	
	yd ³	m ³	inches	mm		lb	kg	10'2" (3.1 m)	8'6" (2.6 m)
General Purpose	1.26	0.96	30	750	4	2421	1098	A	A
	1.56	1.19	36	910	4	2549	1156	A	A
	1.85	1.41	42	1065	5	2711	1230	A	A
	2.15	1.64	48	1230	6	2817	1278	A	A
	2.45	1.87	54	1370	7	2983	1353	B	B
Heavy Duty	1.20	0.92	30	750	4	2037	924	A	A
	1.48	1.13	36	910	4	2138	970	A	A
	1.75	1.34	42	1065	5	2294	1041	A	A
	2.03	1.55	48	1230	6	2419	1097	A	A
	2.30	1.76	54	1370	7	2535	1150	B	A

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



SE 350 LC-2 LIFT CAPACITY CHART

BOOM = 21'2" (6.45 m)
ARM = 10'2" (3.1 m)

BUCKET = SAE 2.03 cu yd (2756 lb)
SHOE = 32" (800 mm)

LOAD POINT HEIGHT**	UNIT	LOAD RADIUS														
		5' 1.5 m		10' 3.0 m		15' 4.6 m		20' 6.1 m		25' 7.6 m		30' 9.1 m		MAXIMUM LOAD RADIUS		
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Radius
25' 7.6 m	lb. kg									* 9944 * 4511	* 9944 * 4511			* 9040 * 4101	* 9040 * 4101	25.15 ft 7.67 m
20' 6.1 m	lb. kg									* 15380 * 6976	14140 6414			* 8614 * 3907	* 8614 * 3907	28.14 ft 8.58 m
15' 4.6 m	lb. kg							* 19164 * 8693	* 19164 * 8693	* 16881 * 7657	13789 6255	* 8672 * 3934	* 8672 * 3934	* 8632 * 3915	* 8632 * 3915	30.00 ft 9.14 m
10' 3.0 m	lb. kg					* 32427 * 14709	30140 13672	* 23204 * 10525	19177 8699	* 19003 * 8620	13255 6012	14714 6674	9476 4298	* 9008 * 4086	8882 4029	30.94 ft 9.43 m
5' 1.5 m	lb. kg					* 38906 * 17648	28096 12744	* 26920 * 12211	18145 8231	19711 8941	12724 5772	14475 6566	9255 4198	* 9765 * 4429	8666 3931	31.05 ft 9.46 m
GROUND LINE	lb. kg					* 41718 * 18923	27265 12367	27741 12583	17489 7933	19288 8749	12339 5597	14308 6490	9100 4128	* 11035 * 5005	8935 4053	30.32 ft 9.24 m
-5' -1.5 m	lb. kg			* 31613 * 14340	* 31613 * 14340	* 41855 * 18985	27181 12329	27467 12459	17248 7824	19119 8672	12186 5528			* 13150 * 5965	9804 4447	28.70 ft 8.75 m
-10' -3.0 m	lb. kg	* 36909 * 16742	* 36909 * 16742	* 48237 * 21880	* 48237 * 21880	* 39774 * 18041	27560 12501	27628 12532	17389 7888	19303 8756	12353 5603			* 17000 * 7711	11663 5290	26.01 ft 7.93 m
-15' -4.6 m	lb. kg			* 48741 * 22109	* 48741 * 22109	* 34624 * 15705	28408 12886	* 25074 * 11374	18002 8166					* 21541 * 9771	15812 7172	21.86 ft 6.66 m

- Notes:
1. Ratings are based on SAE J1097
 2. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity.
 3. Ratings marked * are limited by hydraulic capacity.
 4. Lift Capacity will vary depending upon the actual weight of bucket or attachment.



LIFTING CAPACITIES

SE 350 LC-2 LIFT CAPACITY CHART

BOOM = 21'2" (6.45 m)
ARM = 8'6" (2.6 m)

BUCKET = SAE 2.03 cu yd (2756 lb)
SHOE = 32" (800 mm)

LOAD POINT HEIGHT**	UNIT	LOAD RADIUS										
		5' 1.5 m		10' 3.0 m		15' 4.6 m		20' 6.1 m		MAXIMUM LOAD RADIUS		
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Radius
25' 7.6 m	lb. kg									* 15826 * 7179	* 15826 * 7179	23.06 ft 7.03 m
20' 6.1 m	lb. kg							* 17500 * 7938	* 17500 * 7938	* 15119 * 6858	12373 5612	26.30 ft 8.02 m
15' 4.6 m	lb. kg					* 26656 * 12091	* 26656 * 12091	* 20614 * 9351	19864 9010	* 15189 * 6890	10581 4800	28.29 ft 8.62 m
10' 3.0 m	lb. kg							* 24443 * 11087	18722 8492	15129 6863	9702 4401	29.29 ft 8.93 m
5' 1.5 m	lb. kg							* 27775 * 12599	17763 8057	14833 6728	9452 4287	29.39 ft 8.96 m
GROUND LINE	lb. kg					* 41779 * 18951	26849 12179	27456 12454	17229 7815	15384 6978	9787 4439	28.62 ft 8.72 m
-5' -1.5 m	lb. kg			* 31612 * 14339	* 31612 * 14339	* 40933 * 18567	27008 12251	27333 12398	17121 7766	17040 7729	10868 4930	26.90 ft 8.20 m
-10' -3.0 m	lb. kg			* 52640 * 23878	* 52640 * 23878	* 38088 * 17277	27575 12508	27670 12551	17417 7900	20720 9399	13268 6018	24.01 ft 7.32 m
-15' -4.6 m	lb. kg			* 43289 * 19636	* 43289 * 19636	* 31543 * 14308	28679 13009			* 22798 * 10341	19189 8704	19.42 ft 5.92 m

SEE NOTES BELOW.

SE 350 LC-2 LIFT CAPACITY CHART

BOOM = 19'8" (6.0 m)
ARM = 8'6" (2.6 m)

BUCKET = SAE 2.03 cu yd (2756 lb)
SHOE = 32" (800 mm)

LOAD POINT HEIGHT**	UNIT	LOAD RADIUS										
		5' 1.5 m		10' 3.0 m		15' 4.6 m		20' 6.1 m		MAXIMUM LOAD RADIUS		
		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Radius
25' 7.6 m	lb. kg							* 17998 * 8164	* 17998 * 8164	* 16009 * 7262	* 16009 * 7262	21.09 ft 6.43 m
20' 6.1 m	lb. kg							* 18484 * 8384	* 18484 * 8384	* 15099 * 6849	14103 6397	24.60 ft 7.50 m
15' 4.6 m	lb. kg					* 26189 * 11879	* 26189 * 11879	* 21203 * 9618	20179 9153	* 15109 * 6853	11916 5405	26.72 ft 8.14 m
10' 3.0 m	lb. kg					* 34172 * 15500	30215 13706	* 24877 * 11284	19186 8703	* 15807 * 7170	10881 4936	27.77 ft 8.46 m
5' 1.5 m	lb. kg					* 40166 * 18219	28381 12874	* 28247 * 12813	18289 8296	16466 7469	10607 4811	27.88 ft 8.50 m
GROUND LINE	lb. kg					* 42409 * 19237	27708 12568	28049 12723	17757 8055	17168 7787	11038 5007	27.07 ft 8.25 m
-5' -1.5 m	lb. kg			* 40828 * 18520	* 40828 * 18520	* 41739 * 18933	27768 12596	27930 12669	17652 8007	19268 8740	12399 5624	25.23 ft 7.60 m
-10' -3.0 m	lb. kg			* 53630 * 24327	* 53630 * 24327	* 38165 * 17312	28347 12858	* 27837 * 12627	18013 8171	* 23833 * 10811	15543 7050	22.12 ft 6.74 m
-15' -4.6 m	lb. kg			* 41112 * 18648	* 41112 * 18648	* 29057 * 13180	* 29057 * 13180			* 24225 * 10988	* 24225 * 10988	17.02 ft 5.19 m

Notes:

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3. Ratings marked * are limited by hydraulic capacity.
4. Lift Capacity will vary depending upon the actual weight of bucket or attachment.

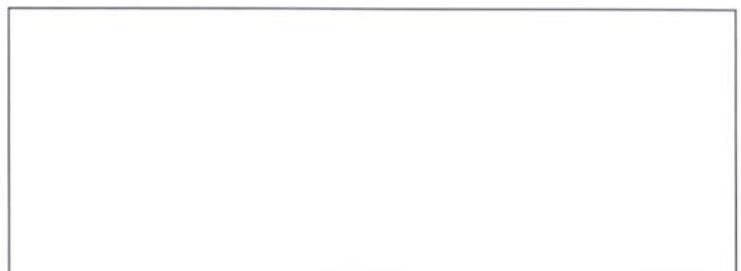
SE350_{LC-2} STANDARD and OPTIONAL EQUIPMENT

ENGINE 24 volt starting system ● 780 cold cranking amps @ 0°F (32°C) ● Air cleaner w/precleaner, dust ejector ● Air filter, dual element, dry type ● Alternator, 50 amp ● Antifreeze ● Auto deceleration button, one touch ● Cold weather starting aid ● Coolant auxiliary tank ● Cummins engine ● Engine air heater, electric ▲ Engine fan guard ● Fuel filling pump, automatic ▲ Fuel warmer ▲ Hinged side doors ● Hood, tiltable, includes locks ● Master electrical disconnect switch ● Muffler ● Oil filter, cartridge type ●	Triple grouser shoes 32" (800mm) ● 24" (600mm) ▲ 28" (700mm) ▲ OPERATOR'S AREA Air conditioning ● AM/FM stereo cassette radio ● Cigarette lighter ● Clock, digital ● Coat hook ● Diagnostic system, automatic Main power failure ● Detection engine speed sensor ● Proportional pressure reducing valve ● High-speed operation function ● Low-speed operation function ● CPU self-diagnosis ● Front windshield 3 Speed wiper w/washer ● Removable lower front window ● Roll up front windshield ● Heater, 2 speed ● Horn ● Hourmeter ● Hydraulic safety lock ● Illuminated monitor display ● Lockable door ● Mirrors, 2 rearview ● Mode selection Boom-swing speed - variable ● 3 Operating modes ● 2 Travel speed ● Monitor System Battery charge warning light ● Engine oil pressure ● Engine coolant temperature gauge ● Fuel level warning light ● Headlights & boom light indicators ● Hydraulic oil temperature gauge ● Master switch indicator light ●	Safety glass, tinted ● Suspension seat, 8-way w/seat belt ● Sound isolation mounted cab ● Sun visor ● Travel pedals w/hand levers ● FRONT ATTACHMENTS Booms 21'2" (6.45m) ● 19'8" (6.0m) ▲ Arms 10'2" (3.1m) ● 8'6" (2.6m) ▲ Attachment quick coupler ▲ Buckets Ditching ▲ General purpose ▲ Heavy duty ▲ Severe duty, plate lip ▲ Side cutters ▲ Teeth ▲ Hydraulic breaker piping kit ▲ Single ripper tooth ▲ MISCELLANEOUS Counterweight ● Electric power socket, external ● Grease gun ▲ Grease injection points, centralized ● Lights Boom-2 ● Front frame-2 ● Operator's manual ● Parts manual ● Taillights, recessed ● Tool compartment ● Tool kit ▲
HYDRAULIC SYSTEM 8 Spool control valve ● Auxiliary hydraulic valve ● Hydraulic oil cooler ● Pilot circuit - gear pump ● Swing and travel motor w/auto disc brake and cushion valve ● Variable displacement pump, dual position ●		
UNDERCARRIAGE Anti-slip step ● Hydrostatic drive ● Track adjusters, hydraulic ● Track frames, reinforced ● Track guide, center mounted ● Track rollers Upper-2 ● Lower-8 ● Travel motor guards ●		

KEY ● Standard Equipment-North American Configuration ▲ Optional Equipment

Volvo Construction Equipment North America, Inc.

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Phone: 847-806-9554 Fax: 847-806-9155



*Specifications are subject to change without notice TDE35029807