# **VOLVO EXCAVATOR**

# EC140



- Engine power, gross: 79.4 kW 107 hp
- Operating weight:
  LC: 13.2 ~ 13.7 t
  29020 ~ 30190 lb

LCM: 14.5 ~ 15.3 t 31880 ~ 33690 lb

- Buckets (SAE):
  600 ~ 950 |
  0.78 ~ 1.24 yd³
- Low-emission, turbocharged Cummins diesel engine with direct injection

- Integrated mode selection system and electronically controlled system (ACS)
- 2 variable displacement axial piston pumps. Independent and simultaneous movements of the digging equipment are controlled by the "Automatic sensing work mode."
- Cab
  - Ergonomic environment
  - Low sound level
  - Filtered air
  - Hydraulic dampening mounts
- Strong attachment, produced by robotic welding

- High lifting, breakout and tearout forces for tough digging conditions
- Undercarriage
  - LC: Long undercarriage for good stability
  - LCM: Uses 20 ton class undercarriage components and offers higher ground clearance
- Hammer/shear and Volvo quick coupler piping as standard equipment
- Prepared for a number of optional items





# **ENGINE**

The engine is a low-emission, turbocharged, 4-stroke diesel engine with water cooling, direct injection and aftercooler, especially developed for excavator use.

The machine can work at any job site, contributing to good fuel economy, low sound level, less wear and a longer life.

Air filter: 3-stage, includes pre-cleaner

**Automatic idling system:** Reduces the engine speed to an idling speed when levers and pedals are not activated.

Maker ······ C	CUMMINS	
Model B	33.9-C	
Power output at 3	5 r/s	2100 rpm
Net (ISO 9249/DIN 6271) ··· 7	'3.5 kW	99 hp
Gross (SAE J1349) 7	'9.4 kW	107 hp
Max. torque ····· 4	31 N·m at 16	00 rpm
3	18 lb-ft at 160	00 rpm
No. of cylinders 4	+	
Displacement 3	3.9 I	239 cu.in
Bore 1	02 mm	4.02"
Stroke $\cdots 1$	20 mm	4.72"



# **ELECTRICAL SYSTEM**

Well-protected electrical system with high capacity. Double lock harness plugs are waterproof to ensure secure connections and prevent corrosion.

The relays and solenoid valves are shielded to prevent accidental damage or terminal contact.

The master switch, for disconnecting the battery, is standard.

**ACS system**, providing integrated mode selection functions and self-diagnostic mode, is standard.

Voltage ·····	24 V
Batteries	2 x 12 V
Battery capacity	150 Ah
Alternator	24 V / 50 A



# **SERVICE REFILL CAPACITIES**

Fuel tank 260 I	69 gal
Hydraulic system, total 235 I	62 gal
Hydraulic tank 130 I	34 gal
Engine oil 17.5 I	5 gal
Engine coolant 23.6 I	6 gal
Swing reduction unit 3.8 I	1.0 gal
Travel reduction units	
LC 2 x 3.5 l	2 x 0.9 gal
LCM 2 x 5.8 l	2 x 1.5 gal



# **SWING SYSTEM**

The superstructure is swung by the means of an axial piston motor and a planetary reduction unit. Automatic swing holding brake and anti-rebound valve are standard.

Max. swing speed ······ 10.9 rpm



# **UNDERCARRIAGE**

The undercarriage has an X-shaped frame. The greased and sealed track chain is standard.

171 mm	6.7"
190 mm	7.5"
20"/24"(Std.)	
600 (Std.)/70 24"(Std.)/28"	
2 x 7	
2 x 6	
2 x 1	
2 x 2	
	<b>20"/24"</b> (Std.)/70



# **DRIVE**

Each track is powered by an automatic two speed travel motor.

The track brakes are multi-disc, spring-applied and hydraulic-released.

The travel motors, brake and planetary gears are well-protected in the track frame.

LC	
Max. tractive effort	109.8 kN
	24700 lb
Max. travel speed(1st/2nd)	3.2/5.5 km/h
	2.0/3.4 mph
Gradeability	35° <b>70</b> %
•	
LCM	
Max. tractive effort	140.2 kN
	31530 lb
Max. travel speed(1st/2nd)	2.5/4.3 km/h
	1.6/2.7 mph

Gradeability ...... 35° **70** %

# **HYDRAULIC SYSTEM**

The hydraulic system, named "Automatic Sensing Work Mode", is designed for high productivity, high digging capacity, high maneuvering precision and good fuel economy.

The summation system, boom priority, arm priority, swing priority, and regeneration system of the boom and arm flows are provided for the best operation.

The following important functions are included in the system.

Summation system: Providing full use of the pump oil flow.

**Boom priority:** Providing priority to the boom operation for fast raising during loading or deep excavation.

**Arm priority:** Providing priority to the arm operation for faster cycle times during leveling and for increased bucket filling factors while digging.

**Swing priority:** Providing priority to the swing operation for faster swing during simultaneous operations.

**Regeneration system:** Enhancing the cylinder life cycle, preventing cavitation and providing priority to other movements during simultaneous operations.

Power boost: All digging and lifting forces are increased.

Holding valves: Boom and arm holding valves are standard.

Power Max: All function speeds are increased.

**Pumps** 

Main pumps:

Type ...... 2 x variable displacement axial

piston pumps

Maximum flow ...... 2 x 120 l/min 2 x 32 gpm

Pilot pump:

Type ...... Gear pump

Maximum flow ...... 21 l/min 5.5 gpm

Hydraulic motors

Travel ...... 2 x variable displacement axial

piston motors

Swing ..... Fixed displacement piston motor

with mechanical brake

Relief valve setting

Attachment ...... 31.4/34.3 MPa 4550/4980 psi

Hydraulic cylinders

Boom ..... 2

bore x stroke ...... Ø 105 mm x 985 mm

Ø4.1" x 38.8"

Arm ...... 1

bore x stroke  $\cdots \sim \emptyset$  120 mm x 1045 mm

Ø 4.7" x 41.1"

Bucket ..... 1

bore x stroke ...... Ø 100 mm x 865 mm

Ø3.9" x 34.1"



# **CAB**

Easily accessible cab with a wide door and lined with soundabsorbing material.

The cab, which is supported by hydraulic dampening mounts to reduce shock and vibration, has all-around visibility. The front windshield can slide up into the ceiling, and the lower front glass can be removed.

### Integrated air-conditioning and heating system:

The pressurized and filtered cab air is supplied by a 4-speed fan. The air is distributed via 8 vents.

**Ergonomic operator's seat:** The adjustable seat and control consoles move independently to accommodate the operator well. The seat has eight different adjustments and a seat belt to meet any operator's requirement.

**Sound level (Preliminary):** According to the Directive 86/662/EEC.

Exterior noise (ISO 6395)

mean value of LwA (sound power level) 100 dB(A)

Operator's position (ISO 6396)

with the door closed

mean value of LPA (sound pressure level) 74 dB(A)



# **GROUND PRESSURE**

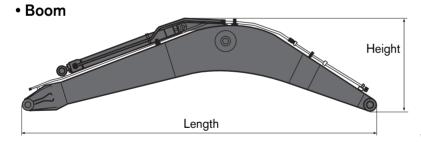
• LC undercarriage with Std. 4.6 m, 15' 1" boom, Std. 2.5 m, 8' 2" arm, 394 kg, 870 lb bucket and 1750 kg, 3,860 lb counterweight.

Description	Shoe width	Operating weight	Ground pressure	Overall width
	500 mm, <b>20"</b>	13160 kg, <b>29,020 lb</b>	39.2 kPa, <b>5.7 psi</b>	2490 mm, <b>8' 2"</b>
Triple	Std. 600 mm, <b>24"</b>	13370 kg, <b>29,480 lb</b>	33.3 kPa, <b>4.8 psi</b>	2590 mm, <b>8' 6"</b>
grouser	700 mm, <b>28"</b>	13580 kg, <b>29,940 lb</b>	29.4 kPa, <b>4.3 psi</b>	2690 mm, <b>8' 10"</b>
	750 mm, <b>30"</b>	13690 kg, <b>30,190 lb</b>	27.5 kPa, <b>4.0 psi</b>	2740 mm, <b>9'0"</b>

• LCM undercarriage with Std. 4.6 m, 15' 1" boom, Std. 3.0 m, 9' 10" arm, 394 kg, 870 lb bucket and 1750 kg, 3,860 lb counterweight.

Description	Shoe width	Operating weight	Ground pressure	Overall width
	Std. 600 mm, <b>24"</b>	14460 kg, <b>31,880 lb</b>	35.9 kPa, <b>5.2 psi</b>	2590 mm, <b>8' 6"</b>
Triple	700 mm, <b>28"</b>	14670 kg, <b>32,350 lb</b>	30.9 kPa, <b>4.5 psi</b>	2690 mm, <b>8' 10"</b>
grouser	800 mm, <b>32"</b>	15060 kg, <b>33,210 lb</b>	27.9 kPa, <b>4.0 psi</b>	2790 mm, <b>9' 2"</b>
	900 mm, <b>36"</b>	15280 kg, <b>33,690 lb</b>	24.9 kPa, <b>3.6 psi</b>	2890 mm, <b>9'6"</b>

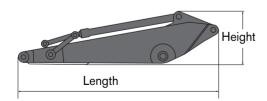
# **DIMENSIONS**



Description	Std. 4.6 m, <b>15' 1"</b>
Length	4770 mm, <b>15'8"</b>
Height	1295 mm, <b>4'3"</b>
Width	545 mm, 1'9"
Weight *	970 kg, <b>2,140 lb</b>

<sup>\*</sup> Includes cylinder, piping and pin

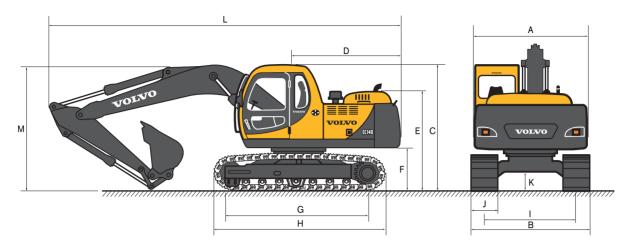
• Arm



Description	2.1 m, <b>6'11</b> "	Std.(LC) 2.5 m, 8' 2"	Std.(LCM) 3.0 m, <b>9' 10"</b>
Length	2800 mm, <b>9' 2"</b>	3190 mm, <b>10' 6"</b>	3690 mm, <b>12'1"</b>
Height	760 mm, <b>2'6"</b>	760 mm, <b>2'6"</b>	760 mm, 2'6"
Width	300 mm, 1'0"	300 mm, 1'0"	335 mm, 1'1"
Weight *	525 kg, <b>1,160 lb</b>	575 kg, <b>1,270 lb</b>	685 kg, <b>1,510 lb</b>

<sup>\*</sup> Includes cylinder, linkage and pins

# **DIMENSIONS**



Boom	unit		LC:	Std. 4.	6 m, 1	5' 1"			LCN	l: Std. 4	4.6 m,	15' 1"	
Arm	dill	2.1 m,	6' 11"	Std. 2.5	m, <b>8' 2''</b>	3.0 m,	9' 10"	2.1 m	, 6' 11"	2.5 m,	8' 2"	Std. 3.0	m, <b>9' 10''</b>
A. Overall width of upper structure	mm, ft-in	2450,	8' 0"	2450,	8' 0''	2450,	8' 0''	2450,	8' 0"	2450,	8' 0''	2450,	8' 0"
B. Overall width	mm, ft-in	2590,	8' 6"	2590,	8' 6"	2590,	8' 6"	2590,	8' 6"	2590,	8' 6"	2590,	8' 6"
C. Overall height of cab	mm, ft-in	2770,	9' 1"	2770,	9' 1"	2770,	9' 1"	2920,	9' 7"	2920,	9' 7"	2920,	9' 7"
D. Tail swing radius	mm, ft-in	2200,	7' 3"	2200,	7' 3"	2200,	7' 3"	2200,	7' 3"	2200,	7' 3"	2200,	7' 3"
E. Overall height of engine hood	mm, ft-in	2180,	7' 2"	2180,	7' 2"	2180,	7' 2"	2330,	7' 8"	2330,	7' 8"	2330,	7' 8"
F. Counterweight clearance*	mm, ft-in	900,	2' 11"	900,	2' 11"	900,	2' 11"	1090,	3' 7"	1090,	3' 7"	1090,	3' 7"
G. Tumbler length	mm, ft-in	3000,	9' 10"	3000,	9' 10"	3000,	9' 10"	3000,	9' 10"	3000,	9' 10"	3000,	9' 10"
H. Track length	mm, ft-in	3740,	12' 3"	3740,	12' 3"	3740,	12' 3"	3790,	12' 5"	3790,	12' 5"	3790,	12' 5"
I. Track gauge	mm, ft-in	1990,	6' 6"	1990,	6' 6"	1990,	6' 6"	1990,	6' 6"	1990,	6' 6"	1990,	6' 6"
J. Shoe width-Std.	mm, <b>in</b>	600,	24"	600,	24"	600,	24"	600,	24"	600,	24"	600,	24"
K. Min. ground clearance*	mm, ft-in	430,	1' 5"	430,	1' 5"	430,	1' 5"	570,	1' 10"	570,	1' 10"	570,	1' 10"
L. Overall length	mm, <b>ft-in</b>	7750,	25' 5"	7750,	25' 5"	7640,	25' 1"	7730,	25' 4"	7750,	25' 5"	7730,	25' 4"
M. Overall height of boom	mm, ft-in	2610,	8' 7"	2780,	9' 1"	3190,	10' 6"	2670,	8' 9"	2790,	9' 2"	3060,	10' 0"

<sup>\*</sup> Without shoe grouser

# **BUCKET & ARM COMBINATION**

Note: Bucket size based on SAE-J296, heaped material with a 1:1 angle of repose.

# • LC: Max. permitted sizes for pin on buckets:

Counterweight: 1750 kg, 3,860 lb

Description	unit	2.1m, <b>6' 11</b> " Arm	Std. 2.5 m, <b>8' 2"</b> Arm	3.0m, <b>9' 10"</b> Arm
GP bucket 1.5 t/m³, <b>2,530 lb/yd</b> ³	l, yd³	900, <b>1.18</b>	825, <b>1.08</b>	725, <b>0.95</b>
GP bucket 1.8 t/m³, <b>3,030 lb/yd</b> ³	l, <b>yd</b> ³	775, <b>1.01</b>	725, <b>0.95</b>	625, <b>0.82</b>

# • LCM: Max. permitted sizes for pin on buckets:

Counterweight: 1750 kg, 3,860 lb

Description	unit	2.1m, <b>6' 11"</b> Arm	2.5 m, <b>8' 2"</b> Arm	Std. 3.0m, <b>9' 10"</b> Arm
GP bucket 1.5 t/m³, <b>2,530 lb/yd</b> ³	l, yd³	950, <b>1.24</b>	875, <b>1.14</b>	750, <b>0.98</b>
GP bucket 1.8 t/m³, <b>3,030 lb/yd</b> ³	l, <b>yd</b> ³	825, <b>1.08</b>	750, <b>0.98</b>	675, <b>0.88</b>

# • LC: Max. permitted sizes for hook on buckets:

Counterweight: 1750 kg, 3,860 lb

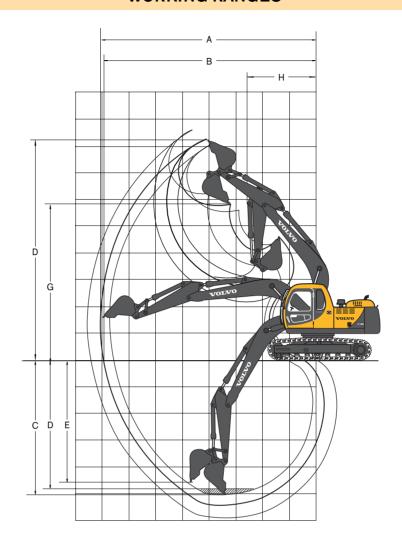
Description	unit	2.1m, <b>6' 11"</b> Arm	Std. 2.5 m, <b>8' 2"</b> Arm	3.0m, <b>9' 10"</b> Arm
GP bucket 1.5 t/m³, <b>2,530 lb/yd</b> ³	l, yd³	850, <b>1.11</b>	775, <b>1.01</b>	675, <b>0.88</b>
GP bucket 1.8 t/m³, <b>3,030 lb/yd</b> ³	l, <b>yd</b> ³	750, <b>0.98</b>	675, <b>0.88</b>	600, <b>0.78</b>

# • LCM: Max. permitted sizes for hook on buckets:

Counterweight: 1750 kg, 3,860 lb

Description	unit	2.1m, <b>6' 11"</b> Arm	2.5 m, <b>8' 2"</b> Arm	Std. 3.0m, <b>9' 10"</b> Arm
GP bucket 1.5 t/m³, <b>2,530 lb/yd</b> ³	l, <b>yd</b> ³	900, <b>1.18</b>	825, <b>1.08</b>	725, <b>0.95</b>
GP bucket 1.8 t/m³, <b>3,030 lb/yd</b> ³	l, <b>yd</b> ³	800, <b>1.05</b>	725, <b>0.95</b>	625, <b>0.82</b>

# **WORKING RANGES**



• Std. 4.6 m, 15' 1" boom with pin on bucket

Arm	unit		LC		LCM						
Ami	unit	2.1 m, <b>6' 11"</b>	Std. 2.5 m, <b>8' 2''</b>	3.0 m, <b>9' 10"</b>	2.1 m, <b>6' 11"</b>	2.5 m, <b>8' 2"</b>	Std. 3.0 m, <b>9' 10"</b>				
A. Max. digging reach	mm, ft-in	7960, <b>26' 1"</b>	8330, <b>27' 4"</b>	8820, <b>28' 11"</b>	7960, <b>26' 1"</b>	8330, <b>27' 4"</b>	8820 <b>28' 11</b> "				
B. Max. digging reach on ground	mm, ft-in	7810, <b>25' 7"</b>	8190, <b>26' 10"</b>	8690, <b>28' 6"</b>	7780, <b>25' 6"</b>	8160, <b>26' 9"</b>	8660, <b>28' 5"</b>				
C. Max. digging depth	mm, ft-in	5130, <b>16' 10"</b>	5530, <b>18' 2"</b>	6030, <b>19' 9"</b>	4980, <b>16' 4"</b>	5380, <b>17' 8"</b>	5880, <b>19' 3"</b>				
D. Max. digging depth (8' level)	mm, ft-in	4870, <b>16' 0"</b>	5310, <b>17' 5"</b>	5850, <b>19' 2"</b>	4710, <b>15' 5"</b>	5160, <b>16' 11"</b>	5690, <b>18' 8"</b>				
E. Max. vertical wall digging depth	mm, ft-in	4580, <b>15' 0"</b>	5060, <b>16' 7"</b>	5500, <b>18' 1"</b>	4430, <b>14' 6"</b>	4900, 16' 1"	5330, 17' 6"				
F. Max. cutting height	mm, ft-in	8180, <b>26' 10"</b>	8420, <b>27' 7"</b>	8770, <b>28' 9"</b>	8340, <b>27' 4"</b>	8570, <b>28' 1"</b>	8930, <b>29' 4"</b>				
G. Max. dumping height	mm, ft-in	5740, <b>18' 10"</b>	5980, <b>19' 7"</b>	6320, <b>20' 9"</b>	5900, <b>19' 4"</b>	6130, <b>20' 1"</b>	6470, <b>21' 3"</b>				
H. Min. front swing radius	mm, ft-in	2610, <b>8' 7"</b>	2670, <b>8' 9"</b>	2830, <b>9' 3"</b>	2610, <b>8' 7"</b>	2670, <b>8' 9"</b>	2830, <b>9' 3"</b>				

Digging forces with pin o	unit	2.1 m, <b>6' 11</b> "	Std. 2.5 m, 8' 2"	3.0 m, <b>9' 10</b> "	2.1 m, <b>6' 11</b> "	2.5 m, <b>8' 2</b> "	Std. 3.0 m, <b>9' 10''</b>	
Bucket tip radius	mm, <b>in</b>	1250, <b>49</b> "	1250, <b>49</b> "	1250, <b>49</b> "	1250, <b>49"</b>	1250, <b>49</b> "	1250, <b>49</b> "	
Breakout force-bucket (Normal / Power boost)	SAE	kN <b>lb</b>	78.7 / 86.1 17,710 / 19,360	78.7 / 86.1 <b>17,710 / 19,360</b>	78.7 / 86.1 1 <b>7,710 / 19,360</b>	78.7 / 86.1 <b>17,710 / 19,360</b>	78.7 / 86.1 17,710 / 19,360	78.7 / 86.1 <b>17,710 / 19,360</b>
Tearout force-arm (Normal / Power boost)	SAE	kN <b>lb</b>	67.1 / 73.3 <b>15,080 / 16,490</b>	59.8 / 65.4 <b>13,450 / 14,710</b>	53.2 / 58.2 11,970 / 13,100	67.1 / 73.3 <b>15,080 / 16,490</b>	59.8 / 65.4 <b>13,450 / 14,710</b>	53.2 / 58.2 11,970 / 13,100
Rotation angle, bucket		0	179°	179°	179°	179°	179°	179°

# LIFTING CAPACITY (At the arm end without bucket)

Note: For lift capacity including bucket, simply subtract actual weight of the pin on bucket or the bucket with quick coupler from the following values.

# EC140LC (Std. shoe 600 mm, 24", Counterweight 1750 kg, 3,860 lb)

Across under-	Lifting hook	3 m, 10'					4.5 m, <b>15</b> '				6 m,	, 20'	_	Max.reach					
Along under-	related to ground level	C		E	<u>.</u>	Ç	<b>-</b>	<b>[</b>	<u>.</u>	Ç		[	<u>.</u>	C		[	<u>.</u>	Max.	
carriage	m/ft	t	lb	t	lb	t	lb	t	lb	t	lb	t	lb	t	lb	t	lb	m/ft	
	6 <b>20</b> '					*3.3	*7,510	*3.3	*7,510					3.1	7,140	*3.5	*7,770	4.9 / 15.7	
Da	4.5 <b>15</b> '					*3.5	*7,640	*3.5	*7,640					2.3	5,030	3.5	7,820	6.0 <b>/ 19.5</b>	
Boom 4.6 m	3 10'	*6.2	*13,300	*6.2	*13,300	3.4	7,300	*4.4	*9,420	2.2	4,730	3.4	7,390	1.9	4,250	3.0	6,630	6.5 / <b>21.4</b>	
15' 1" +	1.5 <b>5</b> '					3.2	6,860	5.2	11,130	2.1	4,560	3.3	7,200	1.8	3,960	2.8	6,240	6.7 <b>/ 22.0</b>	
Arm 2.1 m	0 <b>0</b> '	*5.2	11,860	*5.2	*12,170	3.0	6,570	5.0	10,810	2.1	4,430	3.3	7,060	1.8	4,040	2.9	6,400	6.5 / <b>21.4</b>	
6' 11"	-1.5 <b>-5</b> '	5.5	11,900	*9.5	*20,580	3.0	6,500	5.0	10,720					2.1	4,560	3.3	7,280	6.0 / 19.6	
	-3 -10'	5.7	12,170	*8.3	*17,840	3.1	6,660	5.1	10,910					2.8	6,160	4.5	9,990	4.9 / <b>15.9</b>	
	-4.5 <b>-15</b> '																		
	6 <b>20</b> '					*2.9	*6,370	*2.9	*6,370					2.7	6,110	*3.2	*7,080	5.4 / <b>17.4</b>	
	4.5 <b>15</b> '					*3.1	*6,760	*3.1	*6,760	2.3	4,870	*3.2	*7,120	2.0	4,520	*3.1	*6,840	6.4 <b>/ 20.9</b>	
Boom	3 <b>10</b> '	*5.3	*11,390	*5.3	*11,390	3.4	7,370	*4.0	*8,600	2.2	4,740	3.4	7,410	1.8	3,870	2.7	6,070	6.9 <b>/ 22.7</b>	
4.6 m 15' 1"	1.5 <b>5</b> '	5.8	12,410	*6.3	*15,590	3.2	6,880	*5.1	*11,020	2.1	4,550	3.3	7,190	1.6	3,630	2.6	5,730	7.1 / 23.2	
+ Arm	0 <b>0</b> '	5.5	11,800	*5.8	*13,460	3.0	6,540	5.0	10,780	2.0	4,380	3.3	7,020	1.7	3,670	2.7	5,850	6.9 / <b>22.7</b>	
2.5 m <b>8' 2"</b>	-1.5 <b>-5</b> '	5.5	11,740	*9.3	*20,920	3.0	6,410	5.0	10,630	2.0	4,330	3.2	6,960	1.8	4,080	3.0	6,530	6.4 <b>/ 20.9</b>	
	-3 <b>-10</b> '	5.6	11,950	*8.7	*18,860	3.0	6,500	5.0	10,730					2.4	5,260	3.8	8,490	5.4 <b>/ 17.6</b>	
	-4.5 <b>-15</b> '																		
	6 <b>20</b> '													2.3	5,060	*2.7	*6,050	6.0 / <b>19.5</b>	
	4.5 <b>15</b> '									2.3	4,880	*2.8	*6,130	1.8	3,910	*2.6	*5,650	6.9 / 22.6	
Boom	3 10'					*3.4	7,420	*3.4	*7,450	2.2	4,710	*3.1	*6,870	1.5	3,390	2.4	5,380	7.4 <b>/ 24.3</b>	
4.6 m 15' 1"	1.5 <b>5</b> '	5.9	12,600	*7.3	*15,680	3.2	6,870	*4.6	*10,000	2.1	4,480	3.3	7,130	1.4	3,180	2.3	5,100	7.6 <b>/ 24.8</b>	
+ Arm	0 <b>0</b> '	5.4	11,680	*6.2	*14,520	3.0	6,430	5.0	10,690	2.0	4,270	3.2	6,910	1.5	3,200	2.3	5,170	7.4 <b>/ 24.3</b>	
3.0 m <b>9' 10"</b>	-1.5 <b>-5</b> '	5.3	11,450	*8.4	*19,280	2.9	6,230	4.9	10,450	1.9	4,160	3.2	6,790	1.6	3,500	2.6	5,680	6.9 / 22.7	
	-3 <b>-10</b> '	5.4	11,570	*9.1	*19,650	2.9	6,250	4.9	10,470					1.9	4,330	3.2	7,030	6.0 / <b>19.7</b>	
	-4.5 <b>-15</b> '	5.6	12,050	*7.2	*15,350									3.1	7,020	*4.5	*10,010	4.5 / <b>14.3</b>	

Notes: 1. Machine in "Fine Mode - F" (Power Boost), for lift capacities.

- 2. The above loads are in compliance with SAE and ISO Hydraulic Excavator Lift Capacity Standards.
- 3. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping load.
- 4. Rated loads marked with an asterisk (\*) are limited by hydraulic capacity rather than tipping load
- 5. Contains metric and U.S. measurement charts.

# LIFTING CAPACITY (At the arm end without bucket)

Note: For lift capacity including bucket, simply subtract actual weight of the pin on bucket or the bucket with quick coupler from the following values.

# EC140LCM (Std. shoe 600 mm, 24", Counterweight 1750 kg, 3,860 lb)

Across under-carriage	Lifting hook related		3 m,	10'	x	4.5 m, <b>15</b> '					6 m,	20'		Max.reach					
Along under-	to ground level	Ċ		Ē	<u>.</u>	Ċ			<u>.</u>	Ċ		Ē	j	Ċ	-	[	<u>.</u>	Max.	
☐ carriage	m/ft	t	lb	t	lb	t	lb	t	lb	t	lb	t	lb	t	lb	t	lb	m/ft	
	6 <b>20</b> '					*3.3	*7,390	*3.3	*7,390					3.1	7,180	*3.5	*7,760	5.0 <b>/ 16.2</b>	
	4.5 <b>15</b> '					*3.6	*7,760	*3.6	*7,760					2.3	5,220	3.6	*7,930	6.1 / <b>19.7</b>	
Boom 4.6 m	3 <b>10</b> '	6.5	*14,020	*6.6	*14,020	3.5	7,680	*4.5	*9,650	2.3	5,010	3.6	7,790	2.0	4,470	3.1	6,940	6.6 / <b>21.5</b>	
15' 1"	1.5 <b>5</b> '					3.3	7,250	5.4	11,710	2.2	4,850	3.5	7,600	1.9	4,220	3.0	6,600	6.7 <b>/ 22.0</b>	
+ Arm	0 <b>0</b> '	*5.6	12,610	*5.6	*13,020	3.2	6,980	5.2	11,410	2.2	4,730	3.4	7,470	1.9	4,340	3.1	6,830	6.5 / <b>21.3</b>	
2.1 m <b>6' 11"</b>	-1.5 <b>-5</b> '	5.8	12,670	*9.4	*20,420	3.2	6,930	5.2	11,350					2.2	4,960	3.5	7,870	5.9 / <b>19.3</b>	
	-3 <b>-10</b> '	6.0	12,970	*8.1	*17,380	3.3	7,130	5.3	*11,340					3.0	6,890	4.9	*10,870	4.7 / 15.4	
	-4.5 <b>-15</b> '																		
	6 <b>20</b> '					*2.8	*6,320	*2.8	*6,320					2.7	6,210	*3.2	*7,090	5.5 <b>/ 17.9</b>	
	4.5 <b>15</b> '					*3.2	*6,890	*3.2	*6,890	2.4	5,160	*3.2	*7,130	2.1	4,710	*3.1	*6,820	6.5 / <b>21.1</b>	
Boom 4.6 m	3 10'	*5.7	*12,080	*5.7	*12,080	3.6	7,750	*4.1	*8,840	2.3	5,020	*3.6	*7,770	1.8	4,090	2.8	6,360	6.9 / <b>22.8</b>	
15' 1"	1.5 <b>5</b> '	*5.8	13,060	*5.8	*14,220	3.3	7,270	*5.2	*11,260	2.2	4,830	3.5	7,590	1.7	3,870	2.7	6,070	7.1 / 23.2	
+ Arm	0 <b>0</b> '	5.8	12,540	*6.0	*13,970	3.2	6,940	5.2	11,370	2.1	4,670	3.4	7,420	1.8	3,950	2.8	6,240	6.9 <b>/ 22.6</b>	
2.5 m <b>8' 2"</b>	-1.5 <b>-5</b> '	5.7	12,500	*9.6	*20,810	3.1	6,840	5.2	11,250	2.1	4,630	3.4	7,380	2.0	4,440	3.1	7,050	6.3 / <b>20.7</b>	
	-3 <b>-10</b> '	5.9	12,740	*8.6	*18,500	3.2	6,950	5.2	11,390					2.6	5,830	4.1	9,360	5.3 / <b>17.</b> 1	
	-4.5 <b>-15</b> '																		
	6 <b>20</b> '													2.3	5,190	*2.7	*5,980	6.1 <b>/ 19.9</b>	
	4.5 <b>15</b> '									2.4	5,170	*2.8	*6,170	1.8	4,090	*2.6	*5,630	7.0 <b>/ 22.9</b>	
Boom 4.6 m	3 10'	*4.5	*9,610	*4.5	*9,610	*3.6	*7,690	*3.6	*7,690	2.3	4,990	*3.2	*6,970	1.6	3,590	2.5	*5,640	7.4 / <b>24.4</b>	
15' 1"	1.5 <b>5</b> '	6.1	13,220	*7.6	*16,280	3.3	7,240	*4.7	*10,250	2.2	4,750	3.5	7,520	1.5	3,400	2.4	5,400	7.6 / <b>24.8</b>	
+ Arm	0 <b>0</b> '	5.7	12,390	*6.3	*14,680	3.1	6,830	5.2	11,270	2.1	4,550	3.3	7,300	1.5	3,460	2.5	5,530	7.4 / <b>24.2</b>	
3.0 m <b>9' 10"</b>	-1.5 <b>-5</b> '	5.6	12,200	*8.8	*20,120	3.0	6,650	5.1	11,060	2.0	4,460	3.3	7,200	1.7	3,820	2.7	6,120	6.9 <b>/ 22.5</b>	
	-3 <b>-10</b> '	5.7	12,360	*9.0	*19,390	3.1	6,690	5.1	11,110					2.1	4,780	3.4	7,690	5.9 <b>/ 19.3</b>	
	-4.5 <b>-15</b> '	5.9	12,890	*6.9	*14,570									3.5	8,390	*4.6	*10,450	4.2 / 13.3	

Notes: 1. Machine in "Fine Mode - F" (Power Boost), for lift capacities.

- 2. The above loads are in compliance with SAE and ISO Hydraulic Excavator Lift Capacity Standards.
- 3. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping load.
- 4. Rated loads marked with an asterisk (\*) are limited by hydraulic capacity rather than tipping load
- 5. Contains metric and U.S. measurement charts.

# STANDARD EQUIPMENT

### **Engine**

Low-emission engine with air heater, complying with EPA (Environment Protection Association, USA) emission standards

2-stage air filter with indicator Pre-cleaner Electric engine shut-off

Fuel filter and water separator Alternator, 50 AMP

# **Electronic control system**

Advanced control system (ACS) Integrated mode selection system Self-diagnostic system Machine status indication Engine speed sensing power control Automatic idling system One-touch power boost

Automatic engine warm-up Safety stop/start function Adjustable monitor Master disconnect switch

Engine restart prevention circuit Travel Alarm

Powerful halogen lights:

- Frame mounted 2
- Boom mounted 2

Batteries, 2 x 12V/150Ah

Start motor, 24V/3.7kW

Pump flow control for hammer & shear

# **Hydraulic system**

Automatic sensing work mode

- Summation system
- Boom priority
- Arm priority
- Swing priority

Boom and arm flow regeneration Swing anti-rebound valve Boom and arm holding valves Pilot-operated, wrist control

joysticks, with 3 switches ea. Multi-stage filtering system

Cylinder cushions

Cylinder contamination seals Auxiliary hydraulic valve

Straight travel circuit

Volvo quick coupler piping Hammer/shear piping, with 1 pump flow

Automatic two-speed travel motors

Hydraulic oil, ISO VG 46

### Superstructure

Access way with handrail Full height counterweight

- 1750 kg. 3.860 lbs

Tool storage area

Punched metal anti-slip plates

### Cab and interior

Air-conditioner

Heater

Hydraulic dampening cab mounts Adjustable operator seat and control consoles

Flexible antenna

Hydraulic safety lock lever Cab, all-weather sound

suppressed, includes:

- Ashtrav
- Fabric seat with heater
- Cigar lighter
- Clear tinted roof hatch
- Door locks
- Floor mat
- Horn

### - Large storage area

- Pull-up type front window
- Removable lower windshield
- Seat belt
- Safety glass
- Sliding rear window
- Sun shield, front
- Windshield wiper with intermittent feature

Master ignition key Stereo cassette radio (AM/FM) Vandal guard preparation

# Undercarriage

Hydraulic track adjusters Greased and sealed track chain Track guides

### **Track shoes**

LC: Std. track shoes 600 mm, 24" with triple grousers LCM: Std. track shoes 600 mm, 24" with triple grousers

# **Attachment**

Std. boom: 4.6 m, 15' 1" Std. arm (LC): 2.5 m, 8' 2" Std. arm (LCM): 3.0 m. 9' 10"

# **OPTIONAL EQUIPMENT**

### **Engine**

Alternator, 70 AMP Block and oil pan heater, 120V Fuel warmer Tropical kit Fuel filler pump: 50 lpm (13.2 gpm), with automatic shut-off

### **Electronic control system**

Extra work lights-(4):

- Cab mounted-3. (front 2. rear 1)
- Counterweight mounted-1, Rotating warning beacon

# **Hydraulic system**

Hydraulic piping

- Hammer & shear: 2 pump flow Extra piping for slope & rotator
- Slope & rotator
- Grapple
- Oil leak line

Volvo hydraulic quick coupler-S6 size

Hydraulic oil, ISO VG 32 Hydraulic oil, ISO VG 68

# **Superstructure**

Undercover (heavy duty), 4.5 mm, (.18")

## Cab and interior

Fabric seat

Fabric seat, with heater and air suspension

Control joystick, with 5 switches ea. Falling object guard (FOG)

Cab mounted falling object

protective structures (FOPS)

Rain shield, front

Safety screen for front window Vandalism kit

# Undercarriage

Undercover (heavy duty), 10 mm, (.39")Skid rails

## **Track shoes**

LC: 500 / 700 / 750 mm 20" / 28" / 30"

track shoes with triple grousers LCM: 700 / 800 / 900 mm 28" / 32" / 36"

track shoes with triple grousers

## **Attachment**

Arms: 2.1 m / 2.5 / 3.0 m 6' 11"/ 8' 2"/ 9' 10"

# **Service**

Tool kit

Under our policy of continuous improvement, we reserve the right to change specifications and design without prior notice. The illustrations do not necessarily show the standard version of the machine.



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<sup>\*</sup>Specifications may vary by the region without notice.

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