

# KOMATSU®

## PC5500 Super Shovel

OPERATING WEIGHT  
525–540 ton 1,157,000–1,190,000 lb

SHOVEL CAPACITY  
28 m<sup>3</sup> 37 yd<sup>3</sup> SAE 2:1 heaped

BACKHOE CAPACITY  
28 m<sup>3</sup> 37 yd<sup>3</sup> SAE 1:1 heaped

**PC**  
**5500**

HYDRAULIC SHOVEL



Photo may include optional equipment.

# WALK AROUND

## ***Reliability and Durability***

Designed for lower operating costs

- Robust structural design developed from field experience and finite element analysis
- Extended life undercarriage wear parts
- Big diameter rollers, idlers and sprockets
- Large surface area and extensive precision hardening to reduce wear
- Hardened track link pin bores

## ***Productivity***

Designed for more tons per hour

- Powerful digging forces
- Ease of bucket filling
- Proven attachment design
- All cylinders mounted under the shovel attachment for additional protection
- Buckets and Wear Packages to suit all material densities and ground conditions



## ***Easy Maintenance***

Simple, common-sense design gives quick, easy access to all major components

- Generous access to all major service points from machinery house floor level
- Enclosed, internally lit machinery house with firewall separating engine from pump area
- Automatic central lubrication
- ECS electronic monitoring system providing real time information about the operating status of the machine
- Ground-level access to hydraulically powered swing down service arm with Wiggins connections

MATCHED FOR  
220 TO 320 US TON  
TRUCKS

SHOVEL AND BACKHOE  
BUCKET CAPACITY  
28 m<sup>3</sup> 37 yd<sup>3</sup>

### ***Large Comfortable Cab***

Full shift comfort

- Komatsu low noise cab on multiple viscous mounts for reduced noise and vibration
- Large volume cab with deep wide front window
- Comprehensive climate control with pressurized filtered air ventilation and air conditioning
- High specification multi-adjustable air suspension seat
- Well elevated operator position giving good all around view



Photo may include optional equipment.

### ***Powerful Diesel Engine***

Two Komatsu SSA12V159 engines

- Rated (each) 940 kW **1260 HP**, at 1800 rpm
- Electronic engine management
- Low engine emission levels meet EPA regulations
- Time saving oil management system-fitted as standard; Centinel Engine Oil Management, Reserve Engine Oil Supply and Eliminator Oil Filter systems

### ***Advanced Hydraulics***

Extended reliability and precise control

- Comprehensive monitored filtration
- Simple open circuit hydraulic system with high efficiency swing out oil coolers

- Quality management ISO 9001 certified
- Environmental Management ISO 14001 certified
- High consistent quality through continuous investment in personnel, design and manufacturing systems and processes

## SPECIFICATIONS



### DIESEL DRIVE

Model	2 x Komatsu SSA12V159
Type	4-cycle, water-cooled, direct injection
Aspiration	Turbocharged and aftercooled
Number of cylinders	12
Rated power	2 x 940 kW <b>1,260 HP</b> @ 1800 rpm (SAE 1995/J1349)
Governor	All-speed, electronic

The integrated engine oil and filter system combining the oil stabilising systems, Reserve and Centinel, with the Eliminator self cleaning oil filter extends, with oil analysis, the oil change interval to 4000 hours.



### ELECTRICAL SYSTEM

System	24 V
Batteries (series/parallel)	2 x 4 x 12 V
Alternator	2 x 100 A
Standard working lights	8 Xenon lights
Safety lights	2 lights
Standard service lights	11 lights



### HYDRAULICS

The power train consists of two main drives. Diesel engines or electric motors can be supplied. Each motor is connected to a gearbox and three (3) identical main pumps which draw hydraulic oil from an unpressurized hydraulic tank. Open circuit hydraulics provide maximum cooling and filtering efficiency.

Main hydraulic pumps	4200 ltr/min <b>1,110 U.S. gal</b>
Relief valve setting	310 bar <b>4,495 psi</b>
Swing flow rate	700 ltr/min <b>185 U.S. gal</b>
High pressure in line filters	200 microns (one per pump located at the valve blocks).

Full flow return line filters 4 x 10 microns and leakage line filter (three) 3 microns all with monitored by pass filters 200 microns (located at head of tank).

The four-circuit system features a load-limiting governor with oil delivery summation to the working circuits and incorporates pressure cut-off control. Hydropilot prioritizes hydraulic flow giving smooth hydraulic response, simple hydraulic system layout, and a reduced number of components. Filtration is at the oil intake to pumps, valve blocks, heat exchangers and the oil tank.



### DRIVES AND BRAKES

Travel control	Two (2) foot pedals
Gradeability	Up to 60%
Travel speed (maximum)	2.2 km/h <b>1.4 mph</b>
Service brake	Hydraulic brake
Parking brake	Wet, multiple-disc



### SWING SYSTEM

Hydraulic motors and drives	Two (2)
Swing brake, service	Hydraulic brake
Swing brake, parking	Wet, multiple-disc
Swing ring teeth	External
Swing speed (maximum)	3.1 rpm



### ELECTRIC DRIVE

Type	2 x Squirrel-cage induction motor
Power output	2 x 900 kW
Voltage	6600 V*
Amperage (approximate)	215 A
Start-up	Soft start each motor in succession
Frequency (standard)	50 Hz @ 1500 rpm
Optional frequency	60 Hz @ 1800 rpm

\*Other voltages available on request



### UNDERCARRIAGE

Undercarriage consists of one center carbody and two track frames, each side attached by 80 high torque bolts.  
Center frame . . . . . H-type  
Track frame . . . . . Steel box-section



### CRAWLER ASSEMBLY

Track adjustment	Automatic hydraulic type
Number of shoes	46 each side
Number of top rollers	3 each side
Number of bottom rollers	7 each side



### COOLING SYSTEM

The high capacity engine radiators are cooled by hydraulically driven fans for superior cooling efficiency and require little maintenance. The hydraulic system includes two large swing-out vertical air-to-oil hydraulic coolers with temperature-regulated hydraulically driven fans.



### AUTOMATIC CENTRALIZED LUBRICATION

Two hydraulically powered Lincoln single line automatic lubrication systems are provided as standard, complete with time and volume variable controls. Activity and malfunction events are linked to the ECS. The central lube grease system is supplied from a refillable 300 litre **80 gal.** container. A second, identical system supplies open gear lubricant to the swing ring teeth through a lube pinion. Replenishment of the containers is through the service arm.



### SERVICE CAPACITIES

Hydraulic oil tank	.3800 ltr	<b>1,000 U.S. gal</b>
Hydraulic system	.6000 ltr	<b>1,585 U.S. gal</b>
Fuel	.10800 ltr	<b>2,853 U.S. gal</b>
Engine coolant	.2x 360 ltr	<b>2 x 95 U.S. gal</b>
Engine oil	.2x 190 ltr	<b>2 x 50 U.S. gal</b>
Centinel engine oil make up tank	.2x 580 ltr	<b>2 x 153 U.S. gal</b>

**CAB**

The large welded steel safety cab incorporating the ISO 3449 FOPS structure is vibration isolated with 18 viscous combination pads and sound insulated to 73 dB(A). It is equipped with automatic climate control and is pressurized. The operator's seat is air suspended, electrically heated and has a lap seat belt. There is a trainer's seat.

Amenities include a wash basin with running water, water reservoir (7 ltr **1.8 gal.**), refrigerator and storage cabinets. Low effort joystick controls are electric over hydraulic with foot controls for front shovel clam, crawler and swing brake. Full instrumentation and ECS are provided. AM/FM radio is fitted. Two (2) windshield wipers/washers are synchronized and have two-speeds with intermittent operation water reservoir (7 ltr **1.8 gal.**). Two (2) heated rear view mirrors are externally fitted. External metal sun blinds. There are left and right hand sliding windows. All windows are tinted parsol green.

**ECS VEHICLE MONITORING SYSTEM**

The ECS electronic health monitoring system, mounted in the operator's console, provides a text display of real time and stored information about the status of the operating machine. Non serious and critical faults are immediately announced, and for major malfunctions the engines are also shut down. The intergrated digital storage provides full event history, which can be downloaded with a laptop computer. The ability to electronically record service events provides precise service information to assist in reducing downtime.

**OPERATING WEIGHTS (APPROXIMATE)**

PC 5500 Backhoe:

Operating weight including 10800 mm **35'5"** boom, 5100 mm **16'9"** stick, 28 m<sup>3</sup> **37 yd<sup>3</sup>** backhoe bucket, operator, lubricant, coolant, full fuel tank and standard equipment.

Shoe Width	Operating Weight	Ground Pressure
1350 mm <b>53"</b>	525 t <b>1,157,000 lb</b>	2.36 kg/cm <sup>2</sup> <b>33.6 psi</b>
1800 mm <b>71"</b>	538 t <b>1,186,000 lb</b>	1.82 kg/cm <sup>2</sup> <b>25.9 psi</b>

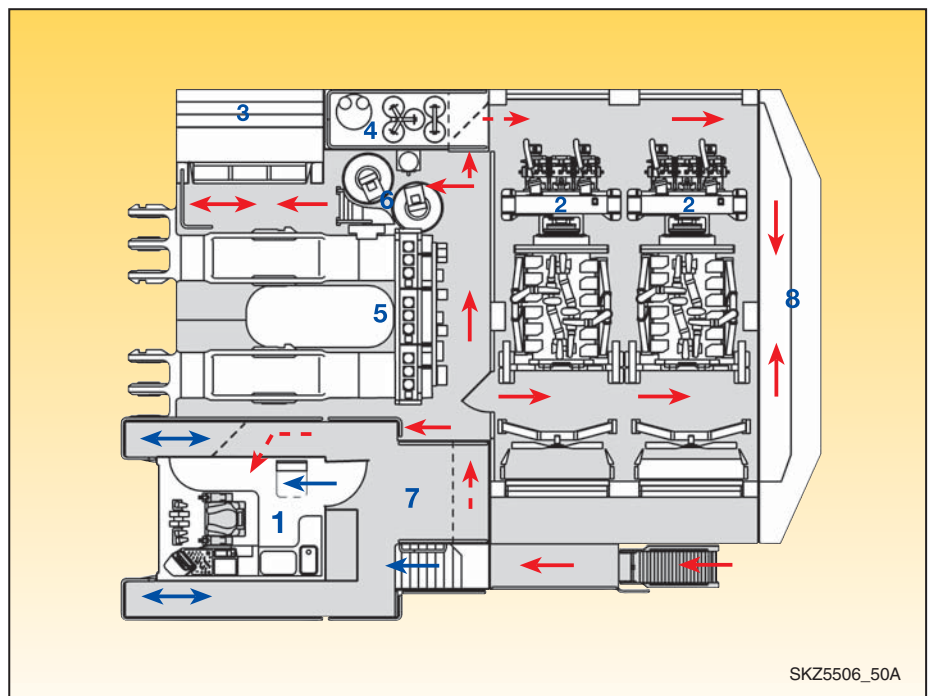
PC 5500 Front Shovel:

Operating weight including 7600 mm **24'11"** boom, 5600 mm **18'4"** stick, 28 m<sup>3</sup> **37 yd<sup>3</sup>** shovel bucket, operator, lubricant, coolant, full fuel tank and standard equipment.

Shoe Width	Operating Weight	Ground Pressure
1350 mm <b>53"</b>	527 t <b>1,162,000 lb</b>	2.37 kg/cm <sup>2</sup> <b>33.7 psi</b>
1800 mm <b>71"</b>	540 t <b>1,190,000 lb</b>	1.82 kg/cm <sup>2</sup> <b>25.9 psi</b>

**Explanation**

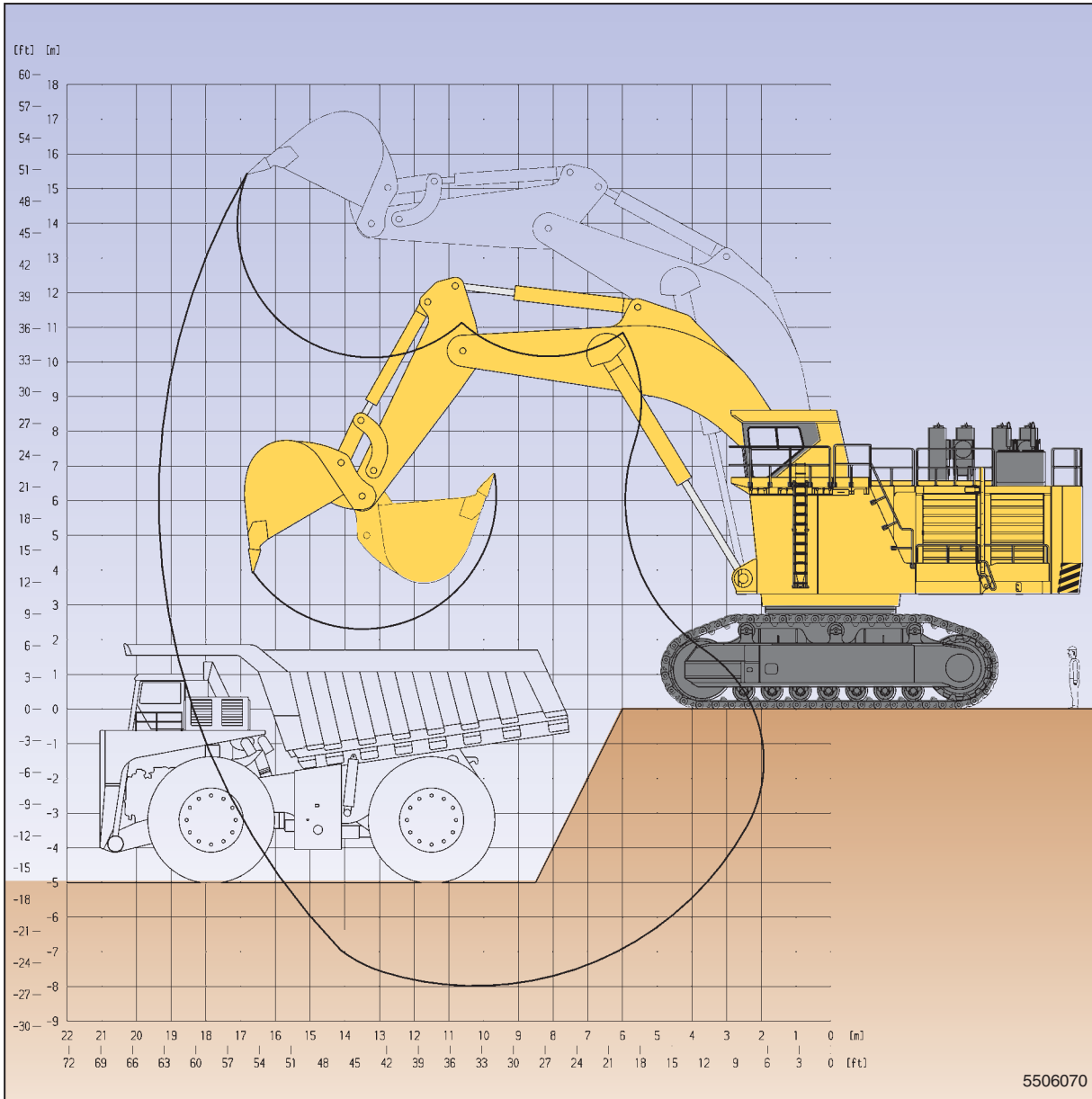
- 1 Cab
- 2 Power Trains
- 3 Hydraulic Cooler
- 4 Hydraulic Reservoir
- 5 Valve Blocks
- 6 Swing Motors
- 7 Fuel Tank
- 8 Counterweight  
Autolube Systems  
(on upper deck)



SKZ5506\_50A

# PRODUCTIVITY FEATURES

## Backhoe



### DIGGING FORCES

Break-out force	1450 kN <b>326,250 lb</b>	Maximum reach at ground level . . . . .18340 mm <b>60'2"</b>
Tear-out force	1290 kN <b>290,250 lb</b>	Maximum digging depth . . . . .8000 mm <b>26'3"</b>

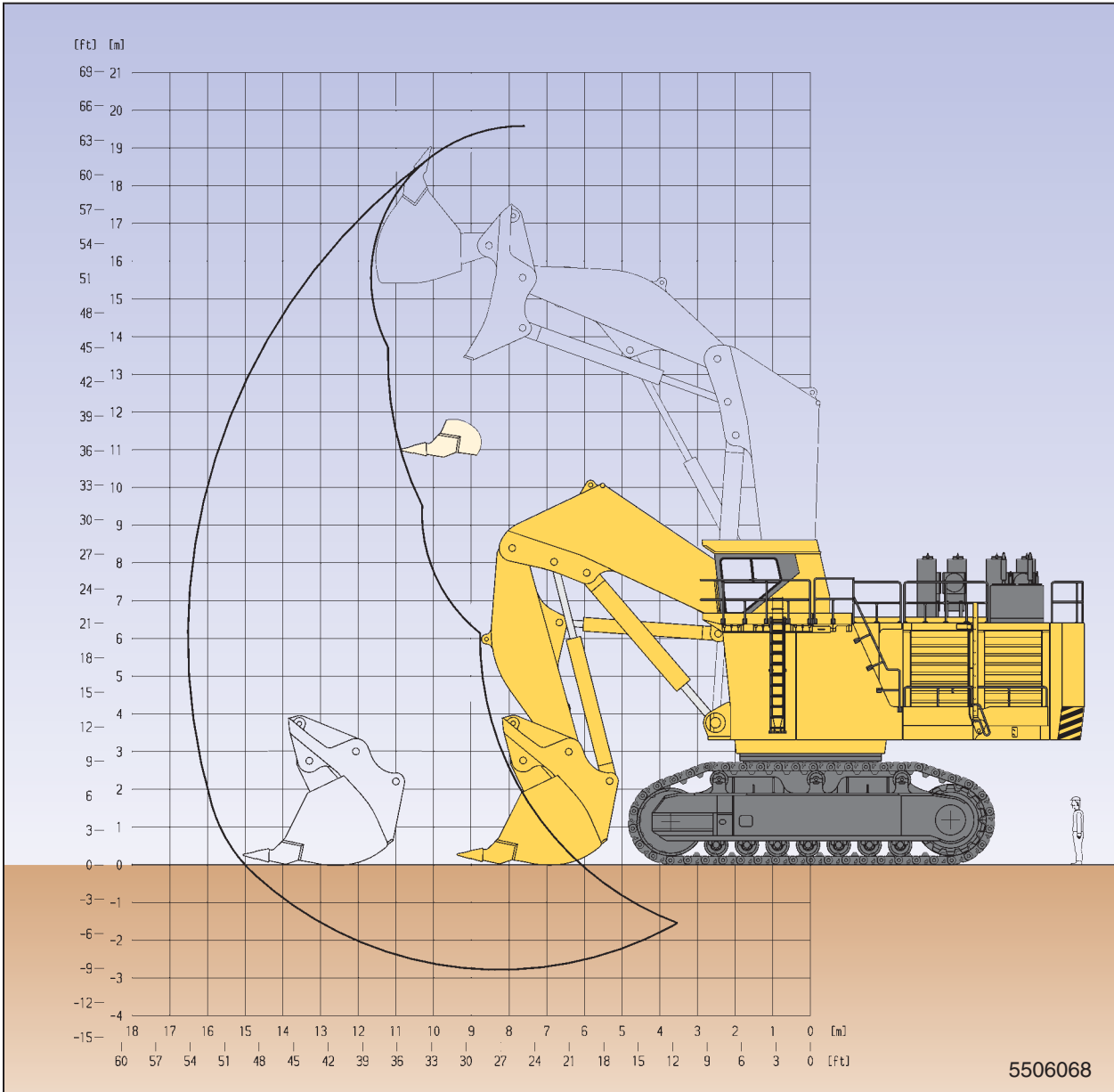


### BACKHOE BUCKET, STICK AND BOOM COMBINATION

Bucket Capacity	Width	Weight	Teeth	Boom Length 10800 mm <b>35'5"</b>
SAE Heaped 1 : 1		including Wear package-2		Stick Length 5100 mm <b>16'9"</b>
28 m <sup>3</sup> <b>37 yd<sup>3</sup></b>	4380 mm <b>14'4"</b>	31.6 t <b>69,600 lb</b>	5	Material weight to 1.8 t/m <sup>3</sup> <b>3,000 lb/yd<sup>3</sup></b>

Alternative buckets/wear packages are available

**Loading Shovel**



**DIGGING FORCES**

Break-out force	1865 kN <b>419,200 lb</b>	Level crowd at ground level . . . . .5600 mm <b>18'5"</b>
Crowd force	1870 kN <b>420,300 lb</b>	Maximum dumping height . . . . .13400 mm <b>44'0"</b>

**SHOVEL BUCKET, STICK AND BOOM COMBINATION**

Bucket Capacity		Width	Weight including Wear package-3	Teeth	Boom Length 7600 mm <b>24'11"</b>
SAE/CECE Heaped 2 : 1	Heaped 1 : 1				Stick Length 5600 mm <b>18'4"</b>
28 m <sup>3</sup> <b>37 yd<sup>3</sup></b>	32 m <sup>3</sup> <b>42 yd<sup>3</sup></b>	4565 mm <b>15'0"</b>	49.5 t <b>109,100 lb</b>	6	Material weight to 1.8 t/m <sup>3</sup> <b>3000 lb/yd<sup>3</sup></b>

Alternative buckets/wear packages are available



## STANDARD EQUIPMENT

Hydraulic Mining Shovel with Diesel Drive will comprise:

### • FRONT SHOVEL ATTACHMENT

7.6 m **24'11"** boom and 5.6 m **18'4"** stick complete with cylinders.  
28 m<sup>3</sup> **37 yd<sup>3</sup>** (SAE 2:1) shovel bucket with mechanical teeth and lip system.

OR

### • BACKHOE ATTACHMENT

10.8 m **35'5"** boom and 5.1 m **16'9"** stick with 28 m<sup>3</sup> **37 yd<sup>3</sup>** (SAE 1:1) bucket with mechanical teeth and lip system.

### • CRAWLER UNDERCARRIAGE

Heavy-duty shovel type undercarriage consisting of a center carbody and two (2) heavy box-type track frames, each having seven (7) bottom rollers, three (3) top rollers, and 1350 mm **53"** cast steel track shoes. Hydraulic track adjustment and parking brake provided.

### • SUPERSTRUCTURE

The main frame mounted over an externally toothed swing circle carries the main drive module, including two (2) Komatsu SSA12V159 diesel engines, oil and fuel reservoirs, counterweight, operator's cab and base.

### • LIGHTING

8 Xenon high performance working lights. Eleven (11) service lights throughout platform. Two (2) safety lights.

### • OPERATOR'S CAB

Fully enclosed steel cab which incorporates the ISO 3449 standard FOPS structure and CARRIER SUTRAK air-conditioning unit. Mounted on viscous pads. GRAMMER full suspension operator's seat with lap-belt. An auxiliary seat. Full selection of controls, switches, and ECS (Electronic Health Monitor). Joy stick and pedal-operated controls are electric over hydraulic.

• Windshield wipers/washers with two speed and intermittent operation (reservoir 7 ltr **1.8 gal**). AM-FM radio. External metal sun blinds. Left and right hand sliding windows. All windows tinted parsol green.

### • LUBRICATION

LINCOLN central lubrication for basic machine, attachment, and bucket. 300 ltr **80 gal** refillable container.

LINCOLN automatic pinion lubrication system for swing circle teeth with 300 ltr **80 gal** refillable container.

Service point (diesel version only as standard) on hydraulic arm carrying WIGGINS fluid receiving connectors for filling of fuel, engine oil and coolant, hydraulic oil, grease, cabwater and the evacuation of coolant, and hydraulic and engine oils.

### • ACCESSORIES

Acoustic travel alarm  
Hydraulically actuated ground access ladder  
Electric air horn



## OPTIONAL EQUIPMENT

- 1800 mm **71"** track shoes
- Extra or alternative, lighting
- Fire suppression system

- Electric drive
- Cable reel (Electric version)

- Low temperature package (including KIM hot start)

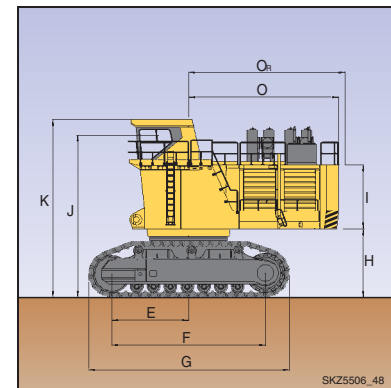
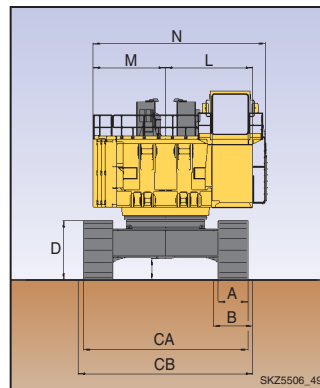


## DIMENSIONS

### BASIC MACHINE WITH COUNTERWEIGHT

A	1350mm	<b>53"</b>	H	3316mm	<b>10'10"</b>
B	1800mm	<b>71"</b>	I	3100mm	<b>10'2"</b>
C <sub>A</sub>	7500mm	<b>24'7"</b>	J	7910mm	<b>25'11"</b>
C <sub>B</sub>	7950mm	<b>26'1"</b>	K	8610mm	<b>28'3"</b>
D	2708mm	<b>8'11"</b>	L	3970mm	<b>13'0"</b>
E	3712mm	<b>12'2"</b>	M	3300mm	<b>10'10"</b>
F	7424mm	<b>24'4"</b>	N	7900mm	<b>25'11"</b>
G	9720mm	<b>31'11"</b>	O	7260mm	<b>23'10"</b>
			O <sub>R</sub>	7550mm	<b>24'9"</b>

Ground Clearance: 995mm **3'3"**



AESS687-00

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DK07(2.5M)C

07/05 (EV-1)

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440 N. Fairway Drive, P.O. Box 8112  
Vernon Hills, IL 60061-8112