

# KOMATSU®

## PC4000

**OPERATING WEIGHT**  
385-397 ton 850,000-875,000 lb

**SHOVEL CAPACITY**  
22 m<sup>3</sup> 29 yd<sup>3</sup> SAE 2:1 heaped

**BACKHOE CAPACITY**  
22 m<sup>3</sup> 29 yd<sup>3</sup> SAE 1:1 heaped

**PC**  
**4000**

SUPER SHOVEL



# WALK-AROUND

## ***Quality***

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

## ***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. 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.



**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 pressurised filtered air ventilation and air conditioning.
- High specification multi-adjustable air suspension seat.
- Well elevated operator position giving good all round view.

**MATCHED FOR**  
150 to 240 U.S. ton  
**TRUCKS**

**SHOVEL AND BACKHOE**  
**BUCKET CAPACITY**

22 m<sup>3</sup> 29 yd<sup>3</sup>

**Advanced Hydraulics**

Extended reliability and precise control

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

**Powerful Diesel Engine**

Single Komatsu SDA16V160 engine

- Rated 1400 kW 1875 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.

**Easy Maintenance**

Simple, common-sense design gives quick safe 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.
- VHMS 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.

# SPECIFICATIONS



## DIESEL DRIVE

Model ..... Komatsu SDA16V160  
 Type ..... 4-cycle, water-cooled, direct injection  
 Aspiration ..... Turbocharged and aftercooled  
 Number of cylinders ..... 16  
 Rated power ..... 1400 kW 1875 HP @ 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. (not available in Australia)



## ELECTRICS

System ..... 24 V  
 Batteries (series/parallel) ..... 2x 3 x 12 V  
 Alternator ..... 260 A  
 Standard working lights ..... 8 Xenon lights  
 Standard service lights ..... 11 lights



## HYDRAULICS

The power train consists of one main drive. Diesel engine or electric motor can be supplied. One gearbox drives four identical main pumps which draw hydraulic oil from an unpressurized hydraulic tank. Open circuit hydraulics provide maximum cooling and filtering efficiency.

Rated flow (total output) ..... 4140 ltr/min 1096 U.S. gal  
 Relief valve setting ..... 310 bar 4,495 psi  
 Swing flow rate ..... 1590 ltr/min 420 U.S. gal  
 High pressure in line filters ..... 200 microns  
 one per pump located at the valve blocks  
 Full flow return line filters (8 double elements) ..... 10 microns  
 at head of hydraulic tank  
 Case drain/by-pass return line filters ..... 3 microns

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. The hydraulic system includes four large swing-out vertical air-to-oil hydraulic coolers with temperature-regulated hydraulically driven fans.



## DRIVES AND BRAKES

Travel control ..... 2 foot pedals  
 Gradeability ..... Up to 50%  
 Travel speed (maximum) ..... 2.1 km/h 1.3 mph  
 Service brake ..... Hydraulic brake  
 Parking brake ..... Wet, multiple-disc



## SWING SYSTEM

Hydraulic motors and drives ..... 2  
 Swing brake, service ..... Hydraulic brake  
 Swing brake, parking ..... Wet, multiple-disc  
 Swing ring teeth ..... External  
 Swing speed (maximum) ..... 4.0 rpm



## ELECTRIC DRIVE

Type ..... Squirrel-cage induction motor  
 Power output ..... 1350 kW  
 Voltage ..... 6600 V\*  
 Amperage (approximate) ..... 145 A  
 Start-up ..... Soft start  
 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 62 high torque bolts.  
 Center frame ..... H-type  
 Track frame ..... Steel box-section



## CRAWLER ASSEMBLY

Track adjustment ..... Automatic hydraulic type  
 Number of shoes ..... 49 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 CENTRALISED 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 VHMS. The central lube grease system is supplied from a refillable 200 litre 53 gal. barrel. A second, identical system supplies open gear lubricant to the swing ring teeth through a lube pinion. Replenishment of the barrels is through the service arm.



## SERVICE CAPACITIES

Hydraulic oil tank	3900 ltr	1,030 U.S. gal
Hydraulic system	5900 ltr	1,559 U.S. gal
Fuel	6400 ltr	1,691 U.S. gal
Engine coolant	475 ltr	125 U.S. gal
Engine oil	290 ltr	77 U.S. gal
Centinel engine oil make up tank	460 ltr	122 U.S. gal

**CAB**

The large welded steel safety cab is mounted with 18 viscous damping pads and sound insulated. It is equipped with automatic climate control and is pressurised. The operator's seat is fully adjustable, air suspended, electrically heated and has a lap seat belt. There is a trainer's seat. Low effort joy stick controls are electric over hydraulic and foot controls are for front shovel clam, crawler and swing brake. Full instrumentation and VHMS are provided. Space in the console is provided for an additional monitor. AM/FM radio is fitted. The windshield wash wiper has two speed and intermittent operation. (Water reservoir 7 litres 1.8 gal.) Amenities include a wash basin with running water, water reservoir, (50 litres 13 gal.), refrigerator and storage cabinets. Powered mirrors are adjusted from inside the cab. There are left and right hand sliding windows. All windows are tinted parsol green. External metal louvres are provided on the cab side windows.

- Cab engineering standards are;
- ISO 3449 Falling Objects Protection Structure
  - ISO 6396 Noise in operator's cab is 73dB(A)
  - ISO 2631-1/5349-1 Vibration and Shock
  - Air conditioner . . . . .10kW 34120 Btu
  - Heater/Demister (Diesel version) . . . . .10kW 34120 Btu

**VEHICLE HEALTH MONITORING SYSTEM**

VHMS is designed for Komatsu mining equipment to provide real time and stored information about the status of the operating machine. A touch sensitive flat screen color monitor gives a continuous display or can be activated to provide operator or service data. Non serious and critical faults are automatically announced, while for major malfunctions the engine is also shut down. The integrated digital storage provides a full event history, which can be down loaded by laptop computer or by wireless link. The ability to provide real time service information as messages, snap-shot or trend data automatically to mine control programmes can improve mechanical utilisation and reduce costs. (Electric drive version fitted with ECS Health Monitor)

**OPERATING WEIGHTS**

**PC 4000 Backhoe:**

Operating weight including 9750 mm 32'0" boom, 4500 mm 14'9" stick, 22 m³ 29 yd³ backhoe bucket, operator, lubricant, coolant, full fuel tank and standard equipment.

Shoe Width	Operating Weight	Ground Pressure
1200 mm 47"	392 t 865,000 lb	2.19 kg/cm² 31.2 psi
1500 mm 59"	397 t 875,000 lb	1.78 kg/cm² 25.3 psi

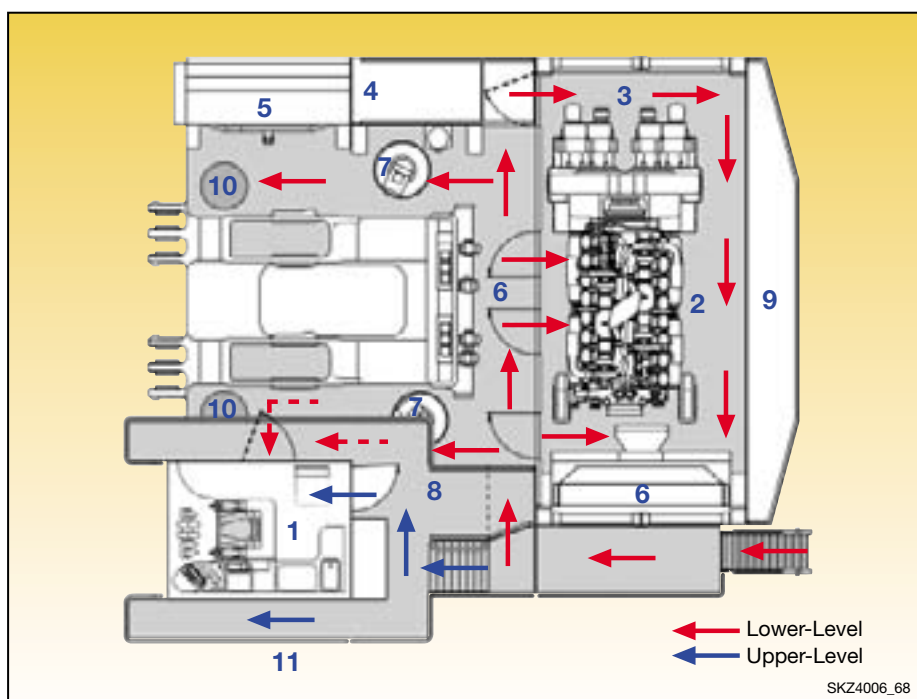
**PC 4000 Front Shovel:**

Operating weight including 7150 mm 23'6" boom, 4900 mm 16'1" stick, 22 m³ 29 yd³ shovel bucket, operator, lubricant, coolant, full fuel tank and standard equipment.

Shoe Width	Operating Weight	Ground Pressure
1200 mm 47"	385 t 850,000 lb	2.15 kg/cm² 30.6 psi
1500 mm 59"	390 t 860,000 lb	1.75 kg/cm² 24.8 psi

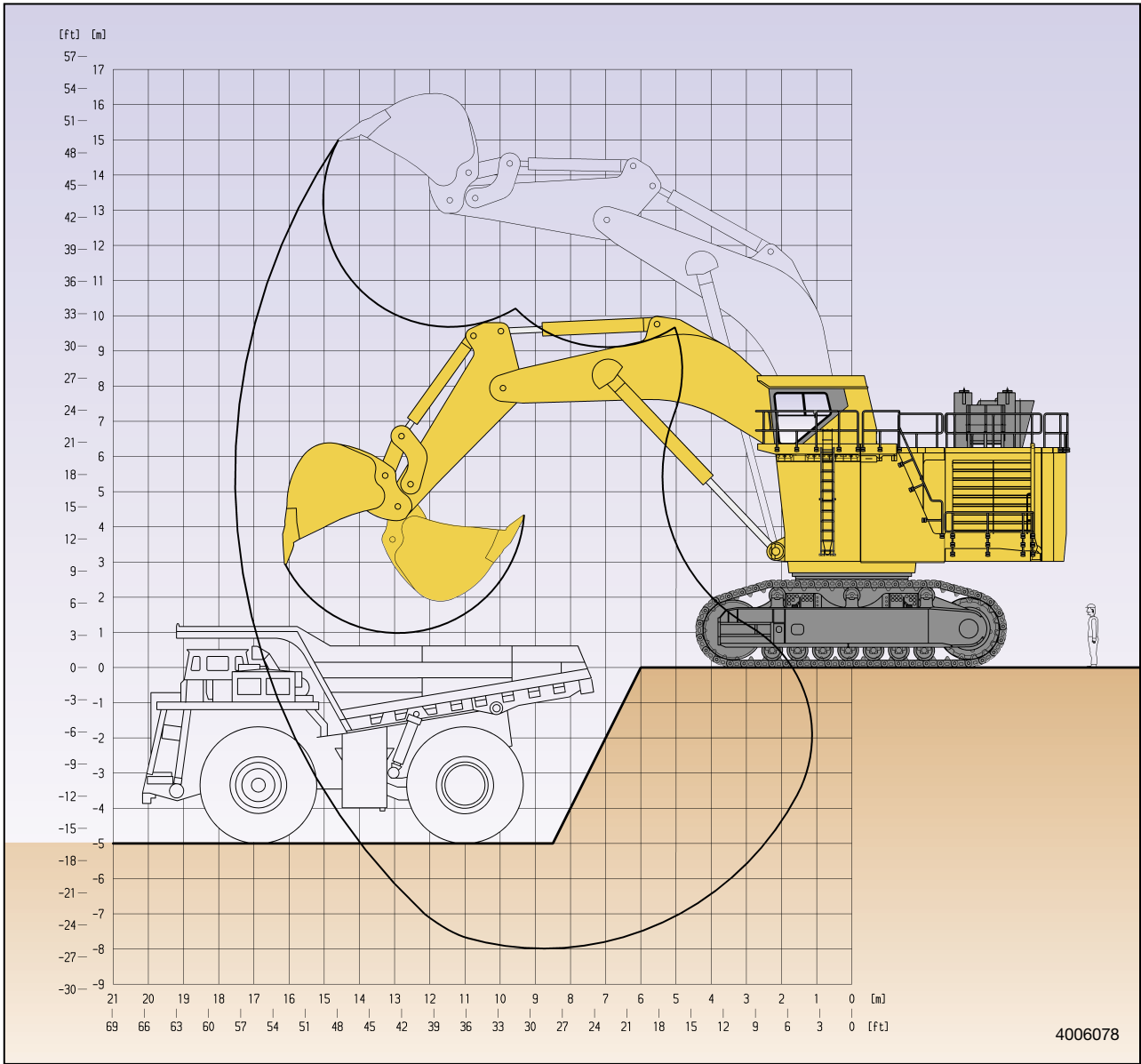
**Explanation**

- 1 Operator's Cab
- 2 Power Train
- 3 Hydraulic Pumps
- 4 Hydraulic Tank
- 5 Hydraulic Coolers
- 6 Valve Blocks
- 7 Swing Motor
- 8 Fuel Tank
- 9 Counterweight
- 10 Autolube System
- 11 Secondary Egress



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# PRODUCTIVITY-FEATURES



4006078



## DIGGING FORCES

Break-out force	1155 kN	260,000 lb
Tear-out force	1050 kN	236,000 lb

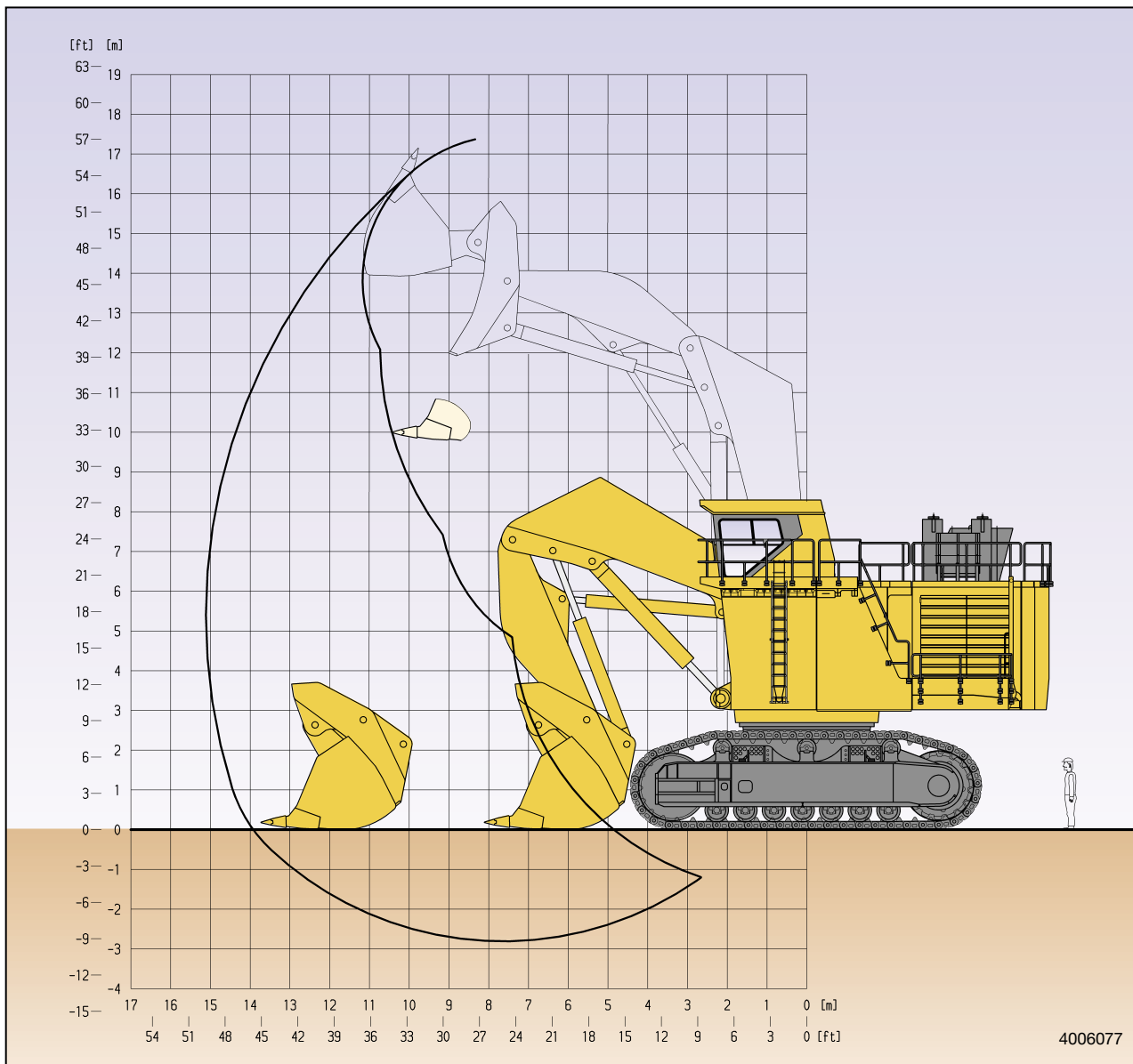
Maximum reach at ground level	16.650 mm	54'8"
Maximum digging depth	8.000 mm	26'3"



## BACKHOE BUCKET, STICK AND BOOM COMBINATION

Bucket Capacity	Width	Weight	Teeth	Boom Length
SAE Heaped 1 : 1	3790 mm 12'5"	including Wear package-2	6	9750 mm 32'0"
		22 m <sup>3</sup> 29 yd <sup>3</sup>		23.4 t 51,590 lb
				○ Material weight to 1.8 t/m <sup>3</sup> 3000 lb/yd <sup>3</sup>

Alternative buckets/wear packages are available



**DIGGING FORCES**

Break-out force	1250 kN	280,000 lb
Crowd force	1330 kN	300,000 lb

Level crowd at ground level	5700 mm	18'8"
Maximum dumping height	12.000 mm	39'4"



**SHOVEL BUCKET, STICK AND BOOM COMBINATION**

Bucket Capacity		Width	Weight including Wear package-3	Teeth	Boom Length
<b>SAE/CECE</b>	Heaped 1 : 1				4020 mm 13'2"
Heaped 2 : 1	Heaped 2 : 1	Stick Length			
22 m <sup>3</sup> 29 yd <sup>3</sup>	25 m <sup>3</sup> 32.7 yd <sup>3</sup>				4900 mm 16'1"
					○ Material weight to 1.8 t/m <sup>3</sup> 3000 lb/yd <sup>3</sup>

Alternative buckets/wear packages are available



## STANDARD EQUIPMENT

Hydraulic Mining Shovel with Diesel Drive will comprise:

### ● FRONT SHOVEL ATTACHMENT

7.15 m 23'6" boom and 4.9 m 16'1" stick complete with cylinders. 22 m<sup>3</sup> 29 yd<sup>3</sup> (SAE 2:1) shovel bucket with mechanical teeth and lip system.

OR

### ● BACKHOE ATTACHMENT

9.75 m 32'0" boom and 4.5 m 14'9" stick with 22 m<sup>3</sup> 29 yd<sup>3</sup> (SAE 1:1) bucket.

### ● CRAWLER UNDERCARRIAGE

Heavy-duty shovel type undercarriage consisting of a center carbody and 2 heavy box-type track frames, each having 7 bottom rollers, 3 top rollers, and 1200 mm 47" cast steel track shoes. Hydraulic track adjustment and parking brake provided.

### ● SUPERSTRUCTURE

Main frame mounted over an externally toothed swing circle carries the main drive module, including Komatsu SDA16V160 diesel engine, oil and fuel reservoirs, counterweight, operator's cab and base.

### ● LIGHTING

8 Xenon high performance working lights.  
11 service lights throughout platform.

### ● OPERATOR'S CAB

Fully enclosed steel cab which incorporates the ISO 3449 standard FOPS structure and CARRIER SÚTRAK air-conditioning unit. Mounted on viscous pads. GRAMMER fully suspended seat with lap-belt. Fold-away auxiliary seat. Full selection of controls, switches, and VHMS (Vehicle Health Monitoring System). Joystick and pedal-operated controls are electric over hydraulic. Windshield wash wipers with two speed and intermittent operation. (reservoir 7 ltr 1.8 gal).

AM-FM radio. Washbasin with running water (reservoir 50 ltr 13 gal). Refrigerator and storage cabinets. Left and right hand sliding windows. All windows tinted parsol green.

### ● LUBRICATION

LINCOLN central lubrication for basic machine, attachment, and bucket. 200 ltr 53 gal refillable barrel.

LINCOLN automatic pinion lubrication system for swing circle teeth with 200 ltr 53 gal refillable barrel.

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  
Engine oil management System.  
(Centinel, Reserve & Eliminator Systems)



## OPTIONAL EQUIPMENT

- 1500 mm 59" track shoes
- Electric drive
- Low temperature package
- Extra or alternative, lighting
- Cable reel (Electric Version)
- Fire suppression system

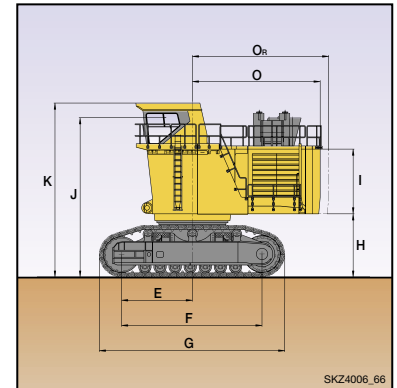
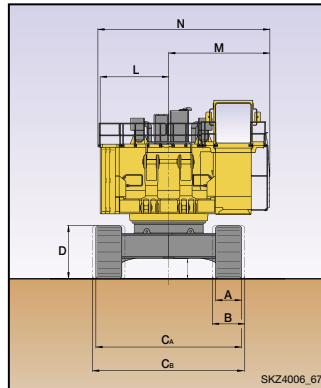


## DIMENSIONS

### BASIC MACHINE WITH COUNTERWEIGHT

A	1200mm	47"	H	3017mm	9'11"
B	1500mm	59"	I	3085mm	10'2"
C <sub>A</sub>	6750mm	22'2"	J	7600mm	24'11"
C <sub>B</sub>	7050mm	23'2"	K	8300mm	27'3"
D	2480mm	8'2"	L	3175mm	10'5"
E	3380mm	11'1"	M	4700mm	18'6"
F	6700mm	22'0"	N	7975mm	26'2"
G	8842mm	29'0"	O	6095mm	20'0"
			O <sub>R</sub>	6500mm	21'4"

Ground Clearance: 930mm 3'0"



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