KOMATSU
THE QUALITY IS STANDARD

PC180LC-3

HYDRAULIC EXCAVATOR

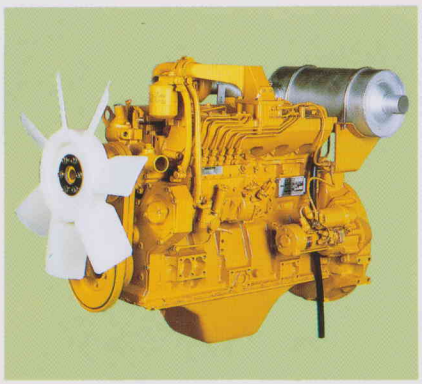
Model shown may include optional equipment.

KOMATSU VANGUARD SERIES

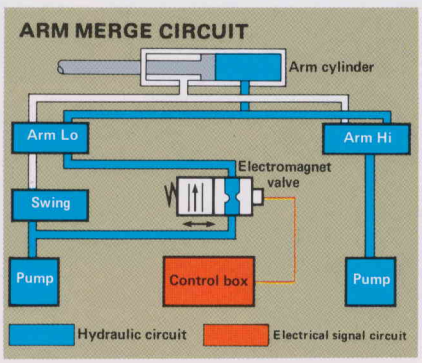
- Two-mode selection system for high excavation efficiency.
- Komatsu OLSS system minimizes various types of hydraulic loss.
- Powerful and fuel-efficient Komatsu S6D95L direct-injection diesel engine.
- Arm merge circuit shortens cycle time.
- Straight traveling assures safer lifting operation.
- Long tracks assure high machine stability for heavy excavation.
- Newly designed cab provides plenty of workspace and excellent visibility.
- Monitoring system and full-open type machine covers.

Designed for Smooth Powerful Operation

Komatsu S6D95L diesel engine: delivers an ample 105 HP (78 kW) power. Engine power is fully used thanks to the sophisticated power-efficient hydraulic system, making easy work out of heavy-duty digging and loading. The turbo-charger allows the S6D95L to attain high performance even on high-altitude jobsites.



Arm merge circuit: combines smooth bucket movement with quick cycle times. This feature is especially valuable in leveling, slope-finishing, or other applications where frequent arm action is required. When arm and swing action occur simultaneously, oil normally used in the arm's "Lo" circuit shifts to the swing system for high-speed swing action. When only the arm is actuated oil flow from two pumps is merged and sent to the arm circuit, accelerating arm speed.



Straight travel valve: automatically interlocks the left and right hydraulic circuits allowing the machine to always travel straight, even when work equipment is being simultaneously operated.

Long 4065 mm (13'4") tracks and wide shoes: keep the PC180LC stable as it carries out heavy excavation work on rough terrain. Its low ground pressure enables it to maneuver in relatively soft terrain, thus diversifying applications.

Cushion mechanism: in the arm cylinder absorbs operating shocks from arm extension and retraction. This mechanism increases both operating comfort and component life.

Operator Comfort for Maximum Productivity

Human engineered cab: is both roomy and efficient. The large area of tinted glass allows the operator excellent visibility. Comfortable seat with armrests, short-stroke wrist control levers, pull-up front window and travel pedals with levers work together to help your operator maximize production.

Wrist control levers: for easy work equipment operation. The armrest-mounted wrist control levers have a maximum stroke of only 75 mm (3") and Komatsu's Proportional Pressure Control System reduces operating effort, for precise control of work equipment.

Travel/steering controls: are foot pedals with detachable lever controls. Either can be used depending on application and operator preference.

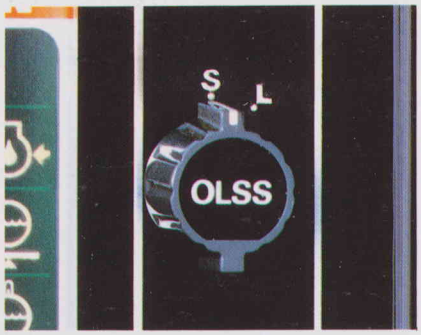
Low-noise operation: Advanced OLSS hydraulics, a closed engine room and rubber-mounted engine all contribute to a low decibel level inside the cab.

Smooth swing action: is assured with a control valve-operated swing system. Swing stops and starts are smooth and firm.

Swing holding brake (optional): automatically prevents hydraulic drift of the machine even when it's parked on a slope. The operator is no longer required to physically maintain a braking device during work equipment operation.

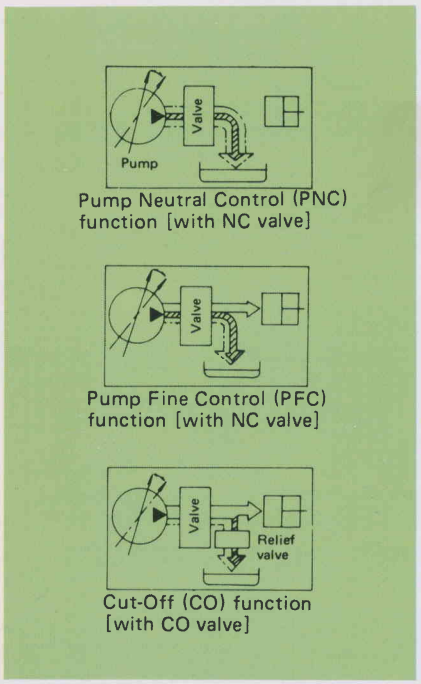
Advanced Hydraulic System Minimizes Fuel Consumption

Mode selection system: prevents undue fuel and power loss by matching the driving horsepower of the pumps to the specific task at hand. The operator may set the excavator in any one of two modes by simply setting the mode selection switch on the monitoring panel. The Standard-Duty mode is for general digging and loading and the Light-Duty mode enables the operator to maintain quick cycle times and save fuel during light operations (such as slope finishing).



Komatsu OLSS system: minimizes hydraulic loss during operation. This hydraulic sub-system functions to reduce three types of hydraulic loss.

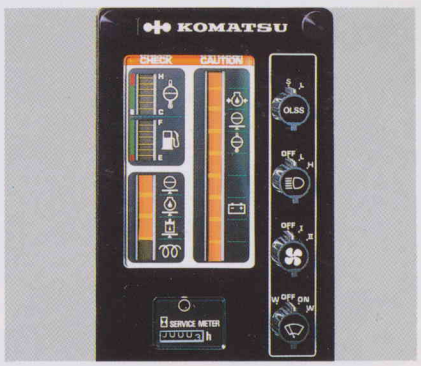
- Reduction of neutral loss:
  When control levers are positioned in neutral, the amount of oil discharged from the hydraulic pumps is reduced to a minimum.
- Reduction of fine control loss:
  When precise operations such as finishing, hoisting, centering, or loading into a dump truck are required, a large volume of oil flow is usually wasted. The OLSS detects such unused oil and minimizes oil generation from the pumps.
- Reduction of relief loss:
  When the work equipment hits a hard obstacle, oil is drained to protect it from damage. In such a case, the OLSS senses the status and regulates oil output from the pumps in response to the amount of unused oil.



An optional auto-deceleration system: reduces fuel consumption and operating noise.

Simple Maintenance Reduces Operating Cost

Monitoring system: is a display panel which continuously monitors all operating systems. If a malfunction should occur, the operator is immediately warned which system is experiencing trouble, saving valuable time lost searching for the problem. Also, gauges constantly monitor service hours, engine water temperature and fuel level.



Open-type machine covers: Hinged hood and side covers allow quick access and easy maintenance to internal components such as the engine and hydraulic equipment.

Travel motors: are always protected from external damage since they are in-shoe-type motors: Also, all hydraulic piping is safely routed through the rolled box X-leg center frame.

SPECIFICATIONS

ENGINE

Komatsu S6D95L, 4-cycle, water-cooled turbocharged diesel engine. 6 cylinders, 95 mm (3.74") bore × 115 mm (4.53") stroke and 4.89 ltr. (298 cu.in) piston displacement.
Flywheel horsepower:
105 HP (78 kW) at 2200 RPM (SAE J1349)
106 PS at 2200 RPM (DIN 6270 NET)
Direct-injection fuel system. All-speed mechanical governor. Force-lubrication driven by gear pump. Full-flow filter for lube purification. Dry-type air cleaner with automatic dust evacuator and dust indicator. 24 V/5.5 kW electrical starter motor. 24 V/25 A alternator. 2 × 12 V/110 Ah batteries.

HYDRAULIC SYSTEM

Two variable-capacity piston pumps with Open-center Load Sensing System (OLSS).

Hydraulic pumps

- Two variable-capacity piston pumps power boom, arm, bucket, swing and travel circuits.
  Capacity (discharge flow) at rated engine RPM
  Maximum flow . . . . . 2 × 144 ltr. (38 U.S. gal)/min.
- One gear pump powers pilot control circuits.
  Capacity (discharge flow) at rated engine RPM . . 54 ltr. (14.2 U.S. gal)/min. at 30 kg/cm^2 (430 PSI/2.94 MPa)

Hydraulic motors

Travel . . . . . Two axial piston motors with brake valve and parking brake
Swing . . . . . One axial piston motor

Relief valve setting

Implement circuits . . . . 330 kg/cm^2 (4,690 PSI/32.4 MPa)
Travel circuit . . . . . 290 kg/cm^2 (4,120 PSI/28.4 MPa)
Swing circuit . . . . . 230 kg/cm^2 (3,270 PSI/22.6 MPa)
Pilot circuits . . . . . 30 kg/cm^2 (430 PSI/ 2.9 MPa)

Control valves

4-spool and 5-spool valves with a service valve.

Hydraulic cylinders

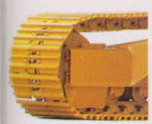
Cylinder	Numbers	Bore × stroke
Boom	2	110 mm × 1150 mm (4.33" × 45.3")
Arm	1	120 mm × 1275 mm (4.72" × 50.2")
Bucket	1	100 mm × 1025 mm (3.94" × 40.4")

STEERING

Steering/traveling controls are activated with either hand levers or foot pedals. Pushing both levers (or pedals) moves machine forward. Pulling them back makes machine go into reverse. Setting one lever (or pedal) in neutral and the other in forward enables machine to make a pivot turn. Pushing one forward while pulling the other backward makes machine counterrotate on the spot.

DRIVES

Fully hydrostatic type. Each track is independently driven by an axial-piston motor. Power goes through planetary single-reduction gear to track. Travel motors are neatly installed within track shoe's width (in-shoe design).
Max. drawbar pull . . . . . 13000 kg (28,670 lb/127.5 kN)
Max. travel speed . . . . . 3.0 km/h (1.9 MPH)



BRAKES

Hydraulic lock-type travel motors equipped with brake valve. When travel/steering levers are positioned in neutral, brakes automatically lock. Brake valve limits travel speed during descent. Spring applied and hydraulically released oil disc parking brakes are built into each travel motor.

SWING SYSTEM

Hydraulic motor-driven through spur and planetary reduction gears. Single-row shear type ball bearings with induction-hardened internal gears are built into swing circle. Grease-bathed swing pinion. Pin-lock type swing lock is provided. Swing speed is proportional to swing control lever stroke.
Swing speed . . . . . 12 RPM
Tail swing radius . . . . . 2445 mm (8')
Min. swing radius . . . . . 3390 mm (11'1")
(work equipment, fully retracted)

UNDERCARRIAGE

X-leg type center frame is integrally welded with reinforced box-section track frames. Sealed track. Lubricated rollers and idlers. Hydraulic track adjusters with shock absorbing springs. Assembled track-type tractor shoes with triple grousers.
Number of shoes . . . . . 45 each side
Number of carrier rollers . . . . . 2 each side
Number of track rollers . . . . . 7 each side

COOLANT & LUBRICANT CAPACITY (refilling)

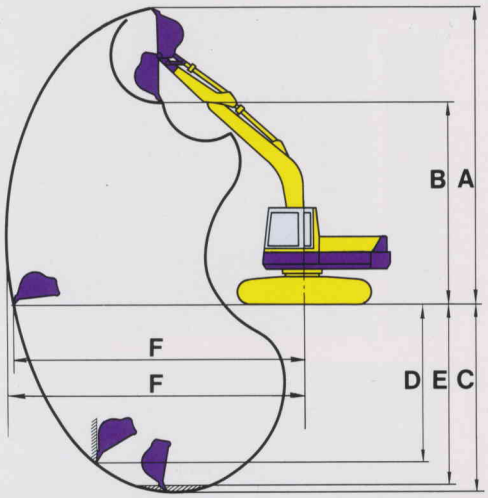
	Liter	U.S. gallon
Fuel tank	230	60.8
Radiator	18.5	4.9
Engine	10.5	2.8
Final drive, each side	4	1.1
Swing drive	4	1.1
Hydraulic tank	134	35.4

OPERATING WEIGHT (approximate)

Operating weight, including 5150 mm (16'11") one-piece boom 2250 mm (7'5") arm, SAE heaped 0.8 m^3 (1.05 cu.yd) backhoe bucket, operator, lubricant, coolant and full fuel tank and the standard equipment.

Type of shoes	Width	Operating weight	Ground pressure
Triple-grouser shoes	610 mm (24")	16680 kg (36,770 lb)	0.39 kg/cm^2 (5.55 PSI/38.2 kPa)
	710 mm (28")	16950 kg (37,370 lb)	0.34 kg/cm^2 (4.83 PSI/33.3 KPa)
	810 mm (32")	17210 kg (37,940 lb)	0.30 kg/cm^2 (4.27 PSI/29.4 kPa)
	910 mm (36")	17480 kg (38,540 lb)	0.27 kg/cm^2 3.84 PSI/26.5 kPa)

WORKING RANGE



		1.85 m (6'1") arm	2.25 m (7'5") arm	2.61 m (8'7") arm	2.90 m (9'6") arm
A	Max. digging height	8230 mm (27')	8340 mm (27'4")	8570 mm (28'1")	8730 mm (28'8")
B	Max. dumping height	5650 mm (18'6")	5820 mm (19'1")	6020 mm (19'9")	6160 mm (20'3")
C	Max. digging depth	5270 mm (17'3")	5650 mm (18'6")	6010 mm (19'9")	6310 mm (20'8")
D	Max. vertical wall digging depth	4340 mm (14'3")	4450 mm (14'7")	4940 mm (16'2")	5330 mm (17'6")
E	Max. digging depth of cut for 8' level	4980 mm (16'4")	5390 mm (17'8")	5780 mm (18'12")	6100 mm (20')
F	Max. digging reach	8320 mm (27'4")	8610 mm (28'3")	8950 mm (29'4")	9100 mm (29'10")
F'	Max. digging reach at ground level	8130 mm (26'8")	8430 mm (27'8")	8780 mm (28'10")	9240 mm (30'4")

BUCKET AND ARM COMBINATIONS

Bucket Capacity (heaped)		Width		Weight	No. of teeth	Arm			
SAE, PCSA	CECE	Without side cutters	With side cutters			1.85 m (6'1")	2.25 m (7'5")	2.61 m (8'7")	2.90 m (9'6")
0.57 m^3 (0.75 cu.yd)	0.50 m^3 (0.65 cu.yd)	900 mm (35.4")	1025 mm (40.4")	440 kg (960 lb)	4	○	○	○	○
0.69 m^3 (0.90 cu.yd)	0.60 m^3 (0.78 cu.yd)	960 mm (37.8")	1085 mm (42.7")	490 kg (1,080 lb)	5	○	○	○	□
0.80 m^3 (1.05 cu.yd)	0.70 m^3 (0.92 cu.yd)	1050 mm (41.3")	1175 mm (46.3")	550 kg (1,210 lb)	5	○	○	□	△
1.00 m^3 (1.31 cu.yd)	0.90 m^3 (1.18 cu.yd)	1350 mm (53.1")	—	600 kg (1,320 lb)	6	□	□	△	—

* These charts are based on over-side stability with fully loaded bucket at maximum reach.

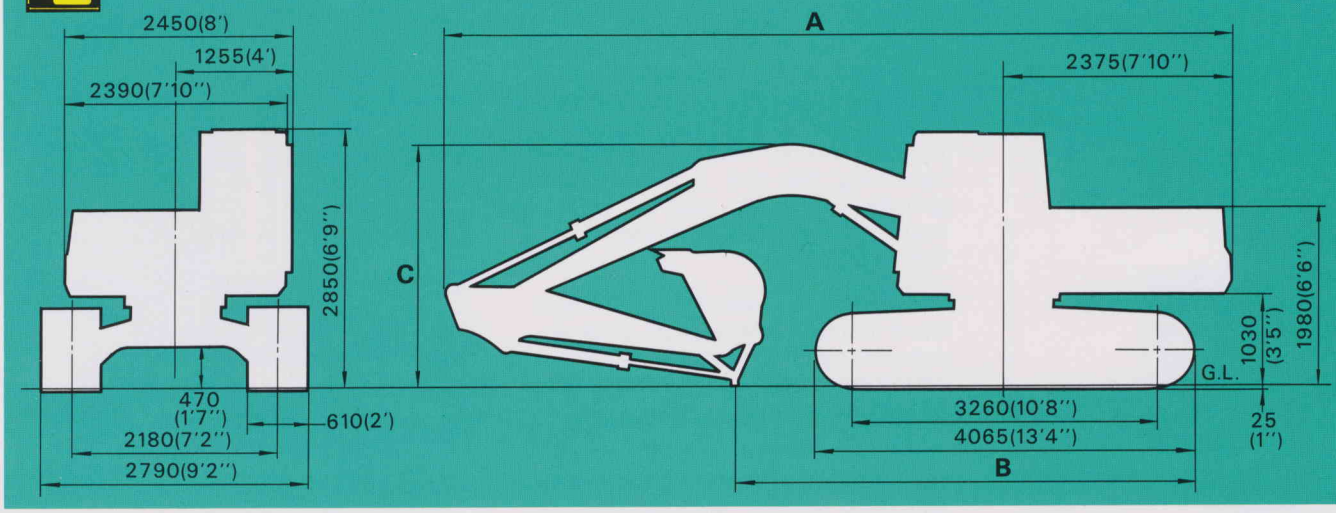
○ Material weight up to 1.8 t/m^3 (1.52 U.S. ton/cu.yd)
□ Material weight up to 1.5 t/m^3 (1.26 U.S. ton/cu.yd)
△ Material weight up to 1.2 t/m^3 (1.01 U.S. ton/cu.yd)

BUCKET AND ARM FORCE

	1.85 m (6'1") arm	2.25 m (7'5") arm	2.61 m (8'7") arm	2.90 m (9'6") arm
Bucket digging force (STD)	8750 kg (19,290 lb)	8750 kg (19,290 lb)	8750 kg (19,290 lb)	8750 kg (19,290 lb)
*Bucket digging force (OPT)	10590 kg (23,350 lb)	10590 kb (23,350 lb)	10590 kg (23,350 lb)	10590 kg (23,350 lb)
Arm crowed force	9700 kg (21,380 lb)	7600 kg (16,750 lb)	7000 kg (15,430 lb)	6460 kg (14,240 lb)

*Optional large-bore cylinder is required

DIMENSIONS



	1850 mm (6'1") arm	2250 mm (7'5") arm	2600 mm (8'6") arm	2900 mm (9'6") arm
A	8535 mm (28'0")	8470 mm (37'9")	8450 mm (27'9")	8480 mm (27'10")
B	6180 mm (20'3")	5040 mm (16'6")	4680 mm (15'4")	4480 mm (14'8")
C	3045 mm (9'12")	2810 mm (9'3")	2820 mm (9'3")	2910 mm (9'7")

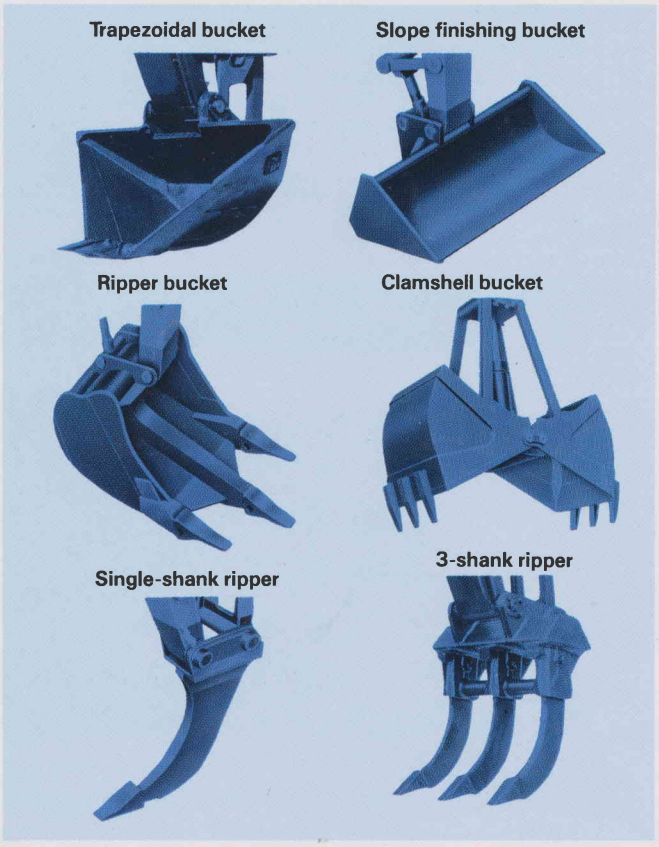
Standard Equipment

- 24 V/5.5 kW electric starting motor.
- 24 V/25 A alternator.
- Dry-type air cleaner.
- PPC hydraulic control.
- OLSS system.
- 610 mm (24") triple-grouser shoes.
- Hydraulic track adjusters.
- Full hydrostatic drive.
- Suction fan.
- 2 x 12 V/110 Ah batteries.
- Front lights (2).
- Bolt-on sprocket.
- Counterweight.
- All-weather steel cab (with safety glass windows, pull-up type front window, lockable door, window wiper, electric horn, room lamp and adjustable pillow-type seat with reclining device).
- Monitor system.
- Air cleaner service indicator.
- Fuel level sight gauge.
- Hydraulic oil level sight gauge.

Attachments

Backhoe bucket selection: Backhoe buckets of different capacities are available, so you can choose on the basis of specific job requirement.
Trapezoidal bucket is ideal for digging ditches and for drainage works. 0.50 m^3 (0.65 cu.yd.) capacity.
Slope finishing bucket for scraping slopes or banks. 0.35 m^3 (0.46 cu.yd.) capacity. 2000 mm (78.7") width.
Ripper bucket for hard, rocky ground. 0.56 m^3 (0.73 cu.yd.) capacity. 990 mm (39") width.
Clamshell bucket is recommended for vertical digging. 0.60 m^3 (0.78 cu.yd.) capacity. Two types available; digging and loading types.
Rippers. Choice of single-shank or three-shank ripper. For rock-digging and crushing, hard-soil digging, pavement-removal work, etc.

(Bucket capacity: JIS heaped)

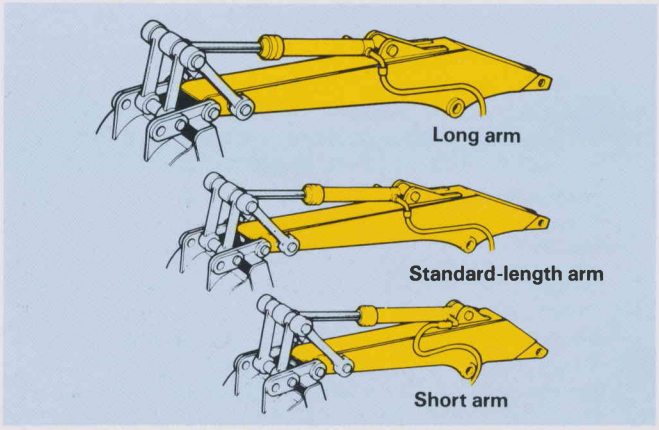


1850 mm (6'1") arm is recommended for heavy-duty excavation. Weight. 580 kg (1,280 lb)

2250 mm (7'5") arm is recommended for general excavation. Weight: 730 kg (1,610 lb)

2610 mm (8'7") arm is recommended for light-duty operation. Weight: 760 kg (1,680 lb)

2900 mm (9'6") arm is recommended for light-duty excavation. Weight: 805 kg (1,770 lb)



Other options: Windshield washer. Cooler for cab. Air conditioner. Electric fuel pump. Additional piping for hydraulic breaker and other attachments. Seat belt. Track guiding guards (center section). Heater. Ashtray. Cigarette lighter. Radio. Rearview mirror. Floor mat. Vandalism protection. Tool kit. Ordinary spare parts.

This specification sheet may contain attachments and optional equipment that are not available in your area. Please consult your local Komatsu distributor for those items you may require. Materials and specifications are subject to change without notice.

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