### PC78US-8

**Compact Hydraulic Excavator**

**Specifications**

- **Gross:** 42.8 kW @ 1950 rpm
- **Net:** 41 kW @ 1950 rpm
- **Operating Weight:** 6945–7535 kg
- **Bucket Capacity:** 0.09–0.34 m³ @ 0.12–0.45 yd³

**Horsepower**

- **55 HP @ 1950 rpm**
- **Gross:** 41 kW
- **Net:** 42.8 kW

**Lifting Capacity**

- **B: Reach from swing center**
- **C: Lifting capacity**
- **Cf: Rating over front**
- **Cs: Rating over side**

**Bucket Capacity**

- **Rating at maximum reach**
- **Rating over front**
- **Rating over side**

**Photo**

- Photo may include optional equipment.

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### Table: Bucket Capacity

<table>
<thead>
<tr>
<th>Unit</th>
<th>kg</th>
<th>lb</th>
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<td>1190</td>
<td>2660</td>
</tr>
<tr>
<td><strong>B:</strong> Bucket hook height</td>
<td>4070</td>
<td>9100</td>
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<td><strong>C:</strong> Lifting capacity</td>
<td>3010</td>
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### Table: Performance

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**Materials and specifications are subject to change without notice.**

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PC78US-8  COMPACT HYDRAULIC EXCAVATOR

WALK-AROUND

Ecology and Economy Features

- **Low emission engine**
  A powerful, turbocharged and air-to-air aftercooled Komatsu SAA4D95LE-5 provides 41 kW 55 HP. This engine is EPA Interim Tier 4 and EU Stage 3A emissions certified without sacrificing power or machine productivity.

- **Low operation noise**
  See page 4.

Productivity Features

- **Tight tail swing**
  Excellent operation in tight tail swing radius design
  Tail swing radius: 1240 mm 4’1”

- **High mobility**
  Large drawbar pull and steering force are evident when operating on a slope or other rough terrain.
  Max. drawbar pull:
  66.9 kN 6820 kgf 15,050 lb
  The machine travel speed changes automatically to Hi or Lo at optimal points according to the travel load.

- **Mode selection**
  Five working modes designed to match engine speed, pump delivery and system pressure.
  Economy mode improves fuel consumption.
  Eco-gauge for energy-saving operations
  Extended idling caution for fuel conservation
  See page 5.

Safety Features

- Cab dedicated to hydraulic excavator for protecting the operator in the event of a roll over accident.
- Safety enhancement with large side-view and rear-view mirrors.
  See page 7.

Large Comfortable Cab

- Low noise design cab
- Sliding convex door facilitates easy entrance in confined areas.
- Large cab improves working space.
  See page 6.

Large TFT LCD Monitor

- Easy-to-see and use 7” large multi-function color monitor
- Can be displayed in 12 languages for global support.
  TFT : Thin Film Transistor
  LCD : Liquid Crystal Display
  See page 9.

Easy Maintenance

- Side-by-side cooling function enables only the cooling unit to be attached and detached.
- Easy access to engine oil filter, engine main fuel filter and fuel drain valve
- Equipped with the fuel pre-filter (with water separator)
- Equipped with the Equipment Management Monitoring System (EMMS) monitoring system.
  See page 8.
Komatsu Technology

Komatsu develops and produces all major components in house such as engines, electronics and hydraulic components. Combining ‘Komatsu Technology’, and customer feedback, Komatsu is achieving great advancements in technology. To achieve both high levels of productivity and economical performance, Komatsu has developed the main components with a total control system. The result is a new generation of high performance and environment-friendly excavators.

Low Emission Engine
Komatsu SAA4D95LE-5 is EPA Interim Tier 4 and EU Stage 3A emissions certified.

Low Operation Noise
Enables low noise operation using the low-noise engine and methods to cut noise at source.

Electronically controlled common rail type engine
- Multi-staged injection
- Low noise design
- Optimal arrangement of sound absorbing materials
- Partition between the cab and engine room

Electronic control technology

Hydraulic technology

Engine technology

Productivity & Ecology Features

Advantage even in Confined Job Site

Tight Tail Swing
The narrow swing area is well suited for operation in confined areas with only a 80mm (3.1”) protrusion over the tracks.

Road & bridge work

Short swing radius

Two Automatic Travel Speeds
High or low—whichever speed suits the ground and job conditions—can be selected with one touch. As terrain changes, travel speed will automatically shift up or down within the selected speed range.

Working Modes Selectable
The PC78US-8 excavator is equipped with five working modes (P, E, L, B and ATT mode). Each mode is designed to match engine speed and pump speed with the current application. This provides the flexibility to match equipment performance to the job at hand.

Working Mode | Application | Advantage
--- | --- | ---
P | Power mode | Maximum production/power, Fast cycle times
E | Economy mode | Good cycle times, Better fuel economy
L | Lifting mode | Engine rpm reduction
B | Breaker mode | Optimum engine rpm, hydraulic flow
ATT | ATT mode | Optimum engine rpm, hydraulic flow, 2way

Eco-gauge that Assists Energy-saving Operations
The Eco-gauge on the right side of the multi-function color monitor provides environment-friendly energy-saving operation. Allows focus on operation in the green range with reduced CO₂ emissions and efficient fuel consumption.

Idling Caution
To prevent unnecessary fuel consumption, an idling caution is displayed on the monitor, if the engine idles for 5 minutes or more.

High Mobility
The PC78US-8 exceptional travel performance is provided by large drawbar pull and single pump with double flow, and it demonstrates superb maneuverability while operating at its optimum travel speed. It exhibits a large drawbar pull for moving on job sites, traveling in rough terrain and climbing steep slopes.

Maximum drawbar pull: 66.9 kN 6820 kgf 15050 lb

Auto-decel
Engine speed automatically slows down when all control levers are set in neutral to minimize fuel consumption.

Photo may include optional equipment.
Large Comfortable Cab

Multi-position Controls
The multi-position, PPC (pressure proportional control) levers allow the operator to work in comfort while maintaining precise control. A double-slide mechanism allows the seat and controllers to move together or independently, allowing the operator to position the seat and controllers for maximum productivity and comfort.

Low Cab Noise
Cab is highly rigid and has excellent sound absorption ability. Thorough improvement of noise source reduction and use of low noise engine, hydraulic equipment, and air conditioner allows this machine to generate a low level of noise.

Large Cab
Large cab provides ample operation space. The cab has wide doorway for easy access.

Automatic Air Conditioner
Automatic air conditioner is utilized. The bi-level control function keeps the operator’s head and feet cool and warm respectively. This improved airflow function keeps the inside of the cab comfortable throughout the year. Defroster function keeps cab glass clear.

Sliding Convex Door
The sliding convex door facilitates easy entrance in confined areas.

Safety Features

New Cab Design for Hydraulic Excavators
The cab is designed specifically for hydraulic excavators and gains reinforced strength from the pipe-structured cab framework. The cab framework provides the high durability and impact resistance with very high impact absorbency. The seat belt keeps the operator in the seat of the cab in the event of a roll over.

Wide Visibility
Large cab and extended front glass enable operator to get better visibility.

Lock Lever
When lock lever is placed in lock position all hydraulic controls (travel, swing, boom, arm, bucket and blade) are inoperable.

Retractable Seat Belt
Easy-to-use retractable seat belt is employed.

Emergency Escape Hammer
The cab is equipped with an emergency escape hammer for breaking the rear window glass in case of an emergency.

Thermal and Fan Guards
Thermal and fan guards are placed around high-temperature parts of the engine and fan drive.

Side-view and Rear-view Mirrors
Large side mirror and rear mirror allow the PC78US-8 to meet the new ISO visibility requirements.

Pump/engine Room Partition
Pump/engine room partition prevents oil from spraying onto the engine if a hydraulic hose should burst.

Travel Alarm
An alarm is installed as standard equipment to give other workers a warning when the machine travels in forward or reverse.

Skylight
Skylight with window can be opened for overhead visibility.
**Easy Maintenance**

Komatsu designed the PC78US-8 to have easy service access. By doing so, routine maintenance and servicing are less likely to be skipped, which can mean a reduction in costly downtime later on. Here are some of the many service features found on the PC78US-8.

**Optimum Maintenance Layout**

With the engine hood, right side hood and side service doors, it is possible to access the major maintenance points from ground level. Furthermore, the fuel drain valve, engine oil filter and swing machinery oil filter are remote mounted, facilitating easy maintenance.

**Side-by-side Cooling**

Since radiator, aftercooler and oil cooler are arranged in parallel, it is easy to clean, remove and install them. Radiator, aftercooler and oil cooler made of aluminium have high cooling efficiency and are easily recycled.

**Equipped with the Fuel Pre-filter (with Water Separator)**

Removes water and contaminants in the fuel to prevent fuel problems. (with built-in priming pump)

**Air Conditioner Filter**

The air conditioner filter is removed and installed without the use of tools facilitating filter maintenance.

**Easy Access to Engine Oil Filter, Engine Main Fuel Filter and Fuel Drain Valve**

Engine oil filter, engine main fuel filter and fuel drain valve are remote mounted to improve accessibility.

**Long Greasing Interval**

All bushing lubrication intervals of work equipment except arm top bushings are 500 hours, reducing maintenance cost.

**Large TFT LCD Monitor**

Large Multi-lingual LCD Monitor

A large user-friendly color monitor enables safe, accurate and smooth work. Improved screen visibility is achieved by the use of TFT liquid crystal display that can easily be read at various angles and lighting conditions. Simple and easy to operate switches. Industry first function keys facilitate multi-function operations. Displays data in 12 languages to globally support operators around the world.

**Option**

**Roadliner**

Ideal performance has been achieved by combining the merits of rubber and the strengths of steel in the new Road Liner shoes.

**Blade**

Back fill blade can quickly and conveniently fill trenches and clear up job sites.

**Additional Counter Weight**

Additional weight is designed for increased lift capacity and easy installation.

**EMMS (Equipment Management Monitoring System)**

Monitor function

Controller monitors engine oil pressure, coolant temperature and battery charge etc. If controller finds any abnormality, it is displayed on the LCD.

Maintenance function

Monitor informs replacement time of oil and filters on LCD when the replacement interval is reached.

Trouble data memory function

Monitor stores abnormalities for effective troubleshooting.
SPECIFICATIONS

**ENGINE**
- Model: Komatsu SAA4D95LE-5
- Type: Water-cooled, 4-cylinder Turbocharged, and air-to-air aftercooled
- Horsepower: SAE J1995 Gross 42.8 kW 57 HP
- ISO 5043 / SAE J1995 Net 41 kW 55 HP
- Rated rpm: 1800
- Fuel system: Direct injection
- Lubrication system: Gear pump, force-lubrication
- Method: Full-flow
- Air cleaner: Dry-type with double elements and auto dust evacuator, plus dust indicator
- EPA Interim Tier 4 and EU Stage 3A emissions certified
- Starting motor: 4.5 kW/24 V
- Alternator: 35 A/24 V
- Battery: 55 Ah/12 V

**HYDRAULICS SYSTEM**
- Type: HydraMind (Hydraulic Mechanical Intelligence New Design) system, Closed-center system with load-sensing valve and pressure-compensated valve
- Main pumps: 1 each side
- Type: Variable displacement, axial piston Maximum flow: 63 l/min 16.6 U.S. gpm
- Type (for machine with blade): Fixed displacement gear
- Maximum flow: 120 l/min
- Hydraulic motors: Travel: 2 x piston motor providing parking brake
- Swing: 1 x piston motor providing swing holding brake
- Relief valve setting: Implement, travel circuit: 26.5 MPa 3900 psi
- Swing circuit: 20.6 MPa 3000 psi
- Blade circuit: 12.7 MPa 1850 psi
- (Lower): 10.0 MPa 1450 psi
- Hydraulic cylinders:
  - (Number of cylinders = bore x stroke x rod diameter)
  - Boom: 1 - 115 mm x 856 mm x 65 mm 4.5” x 33.9 x 2.6
  - Arm: 1 - 100 mm x 661 mm x 55 mm 3.9” x 26.2 x 2.2
  - Bucket: 1 - 90 mm x 710 mm x 55 mm 3.5” x 28.0 x 2.2
  - Blade: 1 - 130 mm x 135 mm x 65 mm 5.1” x 5.3 x 2.6

**STANDARD EQUIPMENT**
- Air cleaner, double element with auto dust evacuator
- Alternator, 35 A/24 V
- Automatic air conditioner
- Auto decelerator
- Batteries, 55 Ah/12 V
- Cab which includes: floor mat, intermittent front windshield wiper and washer, large ceiling hatch, pull-up front window, removable lower windshield
- Cooling fan, suction type
- Monitor panel
- Rear view mirrors (LH, RH)
- Seat belt 50mm 2”
- Shocks, —450mm 17.7” Triple grouser
- Starting motor 4.5 kW
- Suspension seat
- Travel alarm
- Working lights — 1 on cab — 1 on boom
- Standard equipment includes: floor mat, intermittent front windshield wiper and washer, large ceiling hatch, pull-up front window, removable lower windshield, cooling fan, suction type, monitor panel, rear view mirrors, seat belt 50mm 2”, shocks, starting motor 4.5 kW, suspension seat, travel alarm, working lights.

**SWING SYSTEM**
- Driven by: Hydraulic motor
- Swing reduction: Planetary gear
- Swing circle lubrication: Grease-bath
- Swing lock: Mechanical disc brake
- Swing speed: 10 rpm

**DRIVES AND BRAKES**
- Driving control: Two lever and pedal Drive method: Hydrostatic Maximum drawbar pull: 66.9 kN 15,050 lb
- Maximum travel speed: 5.0 km/h 3.1 mph
- Service brake: Hydraulic lock
- Parking brake: Mechanical disc

**UNDERCARRIAGE**
- Center frame: X-frame
- Track frame: Box-section
- Seal of track: Sealed track
- Track adjuster: Hydraulic
- Number of shoes: 39 each side
- Number of carrier rollers: 1 each side
- Number of track rollers: 5 each side

**COOLANT AND LUBRICANT CAPACITY (REFILLING)**
- Fuel tank: 125 ltr 33.0 U.S. gal
- Radiator: 10 ltr 2.6 U.S. gal
- Engine: 11.5 (11.0) ltr 3.0 (2.9) U.S. gal
- Final drive, each side: 1.1 ltr 0.3 U.S. gal
- Swing drive: 2.0 ltr 0.5 U.S. gal
- Hydraulic tank: 100 (56) ltr 26.4 (14.8) U.S. gal

**OPERATING WEIGHT (APPROXIMATE)**
- Operating weight including 3710 mm 12’’ one-piece boom, 1650 mm 6’’ arm, SAE heaped 0.28 m³ 37yd³ backhoe bucket, blade, rated capacity of lubricants, coolant, full fuel tank, operator, equipment, and standard equipment.

**BACKHOE BUCKET AND ARM COMBINATION**
- Bucket Capacity (heaped): 1.17 m³ 40 US gal
- Width: 2.67 m 8’ 9”
- Weight: 5365 kg 11,790 lb

**DIMENSIONS**
- Boom Length: 3710 mm 12’’
- Arm Length: 1600 mm 5’’
- Overall length: 10110 mm 33’’
- Overall height (to top of boom): 5500 mm 18’’
- Grouser height: 200 mm 8’’
- Machine cab height: 1835 mm 6’’
- Machine cab width: 1235 mm 4’’
- Hydraulic lock
- Seat belt 78mm 3”
- Shocks, —450mm 17.7” Road Liner
- Reinforced blade with BOC
- Seat belt 78mm 3”

**WORKING RANGE**
- Boom Length: 3710 mm 12’’
- Arm Length: 1600 mm 5’’
- Overall length: 10110 mm 33’’
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**OPTIONAL EQUIPMENT**
- Additional counter weight: 220 kg 485 lb
- Additonal working light on cab
- Arm: —1650 mm 5’’ arm assembly
- Blade
- Boom, —2250 mm 7’’ arm assembly
- Hydraulic control unit —1 additional actuator
- Long arm, —2250 mm 7’’ arm assembly
- Reinforced blade with BOC
- Seat belt 78mm 3”