KOMATSU®

WA470-5

WHEEL LOADER

BUCKET CAPACITY
3.6 - 5.2 m³
4.7 - 6.8 yd³

Photo may include optional equipment.
High Productivity & Low Fuel Consumption

- Powerful engine
- Dual-mode engine power select system
- Transmission mode select system
- Dual speed hydraulic system
- Superior dumping clearance and reach
- Long wheelbase and 40 degree articulation

See page 4.

Excellent Operator Environment

- Automatic transmission with selectable modes
- Electrically controlled transmission lever
- Fingertip control levers
- Pillar-less large ROPS/FOPS cab
- Easy entry/exit, rear-hinged doors
- Telescopic/tilt steering column

See page 8.

Harmony with Environment

- EPA Tier 2 and EU Stage 2 emissions certified
- Low fuel consumption
**Increased Reliability**

- Reliable Komatsu designed and manufactured components
- Sturdy main frame
- Maintenance-free fully hydraulic, wet disc service and parking brakes
- All hydraulic hoses use flat face O-ring seals

See page 6.

- Cathion electrodeposition process is used to apply primer paint
- Powder coating process is used to apply on main structure
- Sealed DT connectors for electrical connections

**Easy Maintenance**

- “EMMS” (Equipment Management Monitoring System)
- Reversible radiator fan (optional)
- Swing-out aftercooler and oil coolers

See page 7.

- Prolonged engine oil change interval
- Ground check for windshield washer tank and coolant tank
- Easy access gull-wing type engine side doors

**WA470-5 WHEEL LOADER**

**NET HORSEPOWER**

195 kW 261 HP @ 2000 rpm

**OPERATING WEIGHT**

22085–22315 kg
48,690–49,195 lb

**BUCKET CAPACITY**

3.6 – 5.2 m³
4.7–6.8 yd³
Powerful Engine
The electronically controlled fuel injection timing in the SAA6D125E-3 engine provides optimum combustion of fuel at both low and high speed/power applications. This system also provides fast throttle response to match the machine’s powerful rim pull and fast hydraulic response.

195 kW 261 HP
The common rail type fuel injection system provides maximum power with minimum emissions. This engine is EPA Tier 2 and EU Stage 2 emissions certified.

Low Fuel Consumption
The fuel consumption is reduced greatly because of the low-noise, high-torque engine and the large-capacity torque converter with maximum efficiency in the low-speed range.
Reduction of Fuel Consumption: 15% (compared with Dash 3 technology).

Dual-Mode Select System
This wheel loader offers two selectable operating modes—Normal and Power. The operator can adjust the machine’s performance by flipping a switch.

- **Normal Mode**: This mode provides maximum fuel efficiency for most of general loading.
- **Power Mode**: This mode provides maximum power output for hard digging operation or hill climb.

Transmission Mode Select System
This operator controlled system allows the operator to select manual shifting or three levels of automatic shifting (low, medium, and high).

- **Manual**: Transmission is fixed to gear speed selected with gear shift lever.
- **Auto. L**: This mode provides smooth gear change and low fuel consumption since gear shifting is performed at relatively low engine speeds, suitable for general excavating and loading.
- **Auto. M**: Gear is shifted at medium engine speeds between those of L and H modes.
- **Auto. H**: This mode provides large rim pull and short cycle time since gear shifting is performed at relatively high engine speeds, suitable for load and carry operation on uphill.

New Dual-Speed Hydraulic System
Komatsu’s dual-speed hydraulic system increases operational efficiency by matching the hydraulic demands to work conditions.

Oil from the switch pump is completely returned to the tank when digging and breaking out, therefore, hydraulic flow to the loader is reduced and pressure is increased. This reduces horsepower demand from the engine and makes the operation more efficient. Kick-down switch signal also controls the oil flow. This new technology is greater productivity at the lowest operating cost.

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When digging / scooping

- All the oil from the switching pump returns to the tank. Hydraulic load is reduced and large power flows to the tires.

When raising lift arm

- All the oil from the switching pump flows to the work equipment. The raising speed of the lift arm is increased.
Maximum Dumping Clearance and Reach

The long lift arms provide high dumping clearances and maximum dumping reach. The operator can even level loads on the body of a dump truck easily and efficiently.

Dumping Clearance: 3185 mm 10'5"
Dumping Reach: 1235 mm 4'1"
(4.2 m³ 5.5 yd³ bucket with B.O.C., 26.5-25 tires)

Long Wheelbase/Articulation Angle of 40˚

The longest wheelbase in class and the widest tread provide improved machine stability in both longitudinal and lateral directions. Since the articulation angle is 40˚, the operator can work efficiently even in the tightest job sites.

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tread</td>
<td>2300 mm</td>
</tr>
<tr>
<td>Wheelbase</td>
<td>3450 mm</td>
</tr>
<tr>
<td>Minimum turning radius (center of outside tire)</td>
<td>5900 mm</td>
</tr>
</tbody>
</table>
Komatsu Components

Komatsu manufactures the engine, torque converter, transmission, hydraulic units, electric parts, and even each bolt on this wheel loader. Komatsu loaders are manufactured with an integrated production system under a strict quality control system.

Wet multi-disc brakes and fully hydraulic braking system mean lower maintenance costs and higher reliability. Wet disc brakes are fully sealed. Contaminants are kept out, reducing wear and resulting maintenance. Brakes require no adjustments for wear, meaning even lower maintenance. The new parking brake is also an adjustment-free, wet multi-disc for high reliability and long life.

Added reliability is designed into the braking system by the use of two independent hydraulic circuits. Provides hydraulic backup should one of the circuits fail.

Fully hydraulic brakes mean no air system to bleed, or the condensation of water in the system that can lead to contamination, corrosion, and freezing.

High-rigidity Frames

The front and rear frames have high rigidity to bear twisting and bending loads applied repeatedly to the loader body. Both upper and lower center pivot bearings are tapered roller bearings having high durability. The structure is similar to those of large-sized loaders and the reinforced loader linkage also ensures high rigidity.

Flat Face-to-Face O-Ring Seals

Flat face-to-face O-ring seals are used to securely seal all hydraulic hose connections and to prevent oil leakage. In addition, buffer rings are installed to the head side of the all-hydraulic cylinders to lower the load on the rod seals and maximize the reliability.

Cathion Electrodeposition Primer Paint/Powder Coating Final Paint

Cathion electrodeposition paint is applied as a primer paint and powder coating is applied as topcoat to the exterior metal sheet parts. This process results in a beautiful rust-free machine, even in the most severe environments. Some external parts are made of plastic providing long life and high impact resistance.

Sealed DT Connectors

Main harnesses and controller connectors are equipped with sealed DT connectors providing high reliability, water resistance and dust resistance.
EMMS (Equipment Management Monitoring System)

Monitor is mounted in front of the operator allowing the operator to easily check gauges and warning lights. A specially designed two-spoke steering wheel allows the operator to easily see the instrument panel.

Maintenance Control and Troubleshooting Functions

- **Action code display function.** If the loader has any troubles, the monitor displays action details on the character display at the center bottom of the monitor.

- **Monitor function.** Controller monitors engine oil level, pressure, coolant temperature, air cleaner clogging etc. If controller finds abnormalities, all of these are displayed on LCD.

- **Replacement time notice function.** Monitor informs replacement time of oil and filters on LCD when it reaches replacement intervals.

- **Trouble data memory function.** Monitor stores abnormalities for effective troubleshooting.

Reversible Cooling Fan (Optional) and Swing-out Cooler Elements

If the machine is operating in adverse conditions, the operator can reverse the hydraulic cooling fan from inside the cab by turning on a switch on the control panel. The coolers can also swing out for easy cleaning.

Gull-wing Type Engine Side Doors Open Wide

The operator can open and close each gull-wing type engine side door easily with the assistance of a gas spring to perform daily service checks from the ground.

Lengthened Maintenance Interval

**Lengthened engine oil replacement interval:**
250 H → 500 H

**Lengthened drive shaft greasing interval:**
1000 H → 4000 H
Easy Operation

Automatic Transmission with ECMV

Automatic transmission with ECMV automatically selects the proper gear speed based on travel speed, engine speed, and other travel conditions. The ECMV (Electronically Controlled Modulation Valve) system engages the clutch smoothly to prevent lags and shocks when shifting. This system provides efficient machine operation and a comfortable ride.

- **Kick-down switch:** Consider this valuable feature for added productivity. With the touch of a finger, the kick-down switch automatically downshifts from second to first when beginning the digging cycle. It automatically upshifts from first to second when the direction control lever is placed in reverse. This results in increased rim pull for better bucket penetration and reduced cycle times for higher productivity.

- **Hold switch:** Auto shift is selected and if the operator turns on this switch when the lever is at the 3rd or 4th gear speed position, the transmission is fixed to that gear speed.

Electrically Controlled Transmission Lever

Easy shifting and directional changes with Komatsu two-lever electronic shifting. Change direction or shift gears with a touch of the fingers without removing the shifting hand from the steering wheel. Solid state electronics and conveniently located direction and gear shift controls make this possible. Automatic shifts in ranges two through four keep production high and manual shifting at a minimum.

Variable Transmission Cut-off

The operator can adjust the transmission cut-off connected to the left brake pedal with the switch near the operator’s seat to set the brake/cut-off point for easier operation and higher operating performance in variable operating conditions.

- High cut-off pressure for digging operations.
- Low cut-off pressure for truck-loading operations.

Telescopic/Tilt Steering Column

The operator can tilt and telescope the steering column to provide a comfortable working position.

Fingertip Work Equipment Control Lever

New PPC control levers are used for the work equipment. The operator can easily operate the work equipment with fingertip control, reducing operator fatigue and increasing controllability.
Comfortable Operation

**Low-noise Design**
The large cab is mounted with Komatsu’s unique ROPS/FOPS viscous mounts. The low-noise engine, hydraulically driven fan, and hydraulic pumps are mounted with rubber cushions, and the cab sealing is improved to provide a quiet, low-vibration, dustproof with pressurizing, and comfortable operating environment.

**Pillar-less Large Cab**
A wide pillar-less flat glass provides excellent front visibility. The wiper arm covers a large area to provide great visibility even on rainy days.

**Rear-hinged Full Open Cab Door**
The cab door hinges are installed to the rear side of the cab providing a large opening angle for the operator to enter and exit. The steps are designed like a staircase, so that the operator can get on and off the cab easily.

**Emergency Brake**
If the brake oil pressure drops, the warning lamp flashes and the warning buzzer sounds intermittently. If the brake pressure drops lower, the parking brake is applied providing a double safety system.

The cab area is the largest in its class providing maximum space for the operator.
**ENGINE**

- **Model**: Komatsu SAA6D125E-3
- **Type**: Water-cooled, 4-cycle
- **Aspiration**: Turbocharged
- **Number of cylinders**: 6
- **Bore x stroke**: 125 mm x 150 mm (4.9" x 5.9")
- **Piston displacement**: 764 mm (11.04 ltr)
- **Performance**:
  - Flywheel horsepower: 195 kW (261 HP)
  - Rated rpm: 2000 rpm
- **Fuel system**: Direct injection
- **Governor**: Electronic, all-speed control
- **Lubrication system**:
  - **Lubrication method**: Gear pump, force-lubrication
  - **Filter**: Full-flow type
  - **Air cleaner**: Dry type with double elements and dust evacuator, plus dust indicator
- **EPA Tier 2 and EU Stage 2 emissions certified.**

**TRANSMISSION**

- **Torque converter**:
  - **Type**: 3-element, single-stage, single-phase
- **Transmission**:
  - **Type**: Full-powershift, counter shaft type
- **Travel speed**: km/h mph
- **Measured with 23.5-25 tires**

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<th>2nd</th>
<th>3rd</th>
<th>4th</th>
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<tr>
<td>Forward</td>
<td>5.8</td>
<td>11.2</td>
<td>20.2</td>
<td>33.1</td>
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<tr>
<td>Reverse</td>
<td>6.1</td>
<td>11.9</td>
<td>21.4</td>
<td>34.7</td>
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</tbody>
</table>

**HYDRAULIC SYSTEM**

- **Steering system**:
  - **Type**: Articulated type, full-hydraulic power steering with orbit-roll system
  - **Steering angle**: 40° each direction
  - **Minimum turning radius at the center of outside tire**: 5900 mm (19'4")
- **Air cleaner**:
  - **Type**: Dry type with double elements and dust evacuator, plus dust indicator

**BUCKET SELECTION GUIDE**

- **Material density**: kg/m³ lb/yd³
- **Bucket fill factor**: 100% 100% 95% 90% 80% 70%

**SERVICE REFILL CAPACITIES**

- **Cooling system**:
  - *Light Material Bucket with BOC* (Loading and loading of light materials)
  - *Loose Material Bucket with BOC* (Loading of crushed stone and dry sand)
  - *Shovel Bucket with BOC* (Loading and excavating of soil, sand and variety of other commonly handled material)
  - *Excavating Bucket with Teeth* (Loading and excavating of crushed or blasted rock)
- **Engine**:
  - *Excavating Bucket with Teeth* (Loading and excavating of blasted rock)
- **Axle (each front and rear)**:
  - *Rock Bucket with Teeth* (Loading and excavating of blasted rock)
- **Torque converter and transmission**:
  - *60 ltr* (15.9 U.S. gal)

**AXLES AND FINAL DRIVES**

- **Drive system**: Four-wheel drive
- **Front**: Fixed, semi-floating
- **Rear**: Center-pin support, semi-floating, 30° total oscillation
- **Reduction gear**: Spiral bevel gear
- **Differential gear**: Conventional type
- **Final reduction gear**: Planetary gear, single reduction

**BRAKES**

- **Service brakes**: Hydraulically actuated, wet disc brakes actuate on four wheels
- **Parking brake**: Wet disc brake
- **Emergency brake**: Parking brake is commonly used
### General Purpose Buckets

<table>
<thead>
<tr>
<th>Stockpile Excavating</th>
<th>Bolt-on Cutting Edges</th>
<th>Teeth</th>
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<tbody>
<tr>
<td>Bucket capacity: heaped</td>
<td>4.2 m³</td>
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<tr>
<td>struck</td>
<td>3.9 m³</td>
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<td>3.8 m³</td>
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<td>4.1 yd³</td>
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<th>Bolt-on Cutting Edges</th>
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<tbody>
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<td>Bucket capacity: heaped</td>
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<td>4.6 m³</td>
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<td>struck</td>
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<td>5.1 m³</td>
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<tr>
<th>Loose Material Bucket</th>
<th>Bolt-on Cutting Edges</th>
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<th>Light Material Bucket</th>
<th>Bolt-on Cutting Edges</th>
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<td>5.1 m³</td>
<td>5.1 m³</td>
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</table>

### Dimensions

- **Tread**: 2300 mm (7'7'')
- **Width over tires**: 3010 mm (9'11'')
- **Wheelbase**: 3450 mm (11'4'')
- **Hinge pin height, max. height**: 4360 mm (14'4'')
- **Hinge pin height, carry position**: 585 mm (1'11'')
- **Ground clearance**: 525 mm (1'9'')
- **Overall height, top of the stack**: 3080 mm (10'1'')
- **Overall height, ROPS cab**: 3460 mm (11'4'')

### Measured with 26.5-25-20PR (L3) tires

**WA470-5 WHEEL LOADER**

*All dimensions, weights, and performance values based on SAE J732c and J742b standards.*

*Static tipping load and operating weight shown include lubricant, coolant, full fuel tank, ROPS cab, Air conditioner and operator. Machine stability and operating weight affected by counterweight, tire size, and other attachments.*

*Apply the following weight changes to operating weight and static tipping load.*

<table>
<thead>
<tr>
<th>Weight Changes</th>
<th>Operating weight</th>
<th>Static tipping load</th>
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</thead>
<tbody>
<tr>
<td>WA470-5</td>
<td>22165 kg</td>
<td>17215 kg</td>
</tr>
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*At the end of tooth or B.O.C.*
### WEIGHT CHANGES

<table>
<thead>
<tr>
<th>Tires</th>
<th>Operating weight</th>
<th>Tipping load straight</th>
<th>Tipping load full turn</th>
<th>Width over tires</th>
<th>Ground clearance</th>
<th>Change in vertical dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>kg</td>
<td>lb</td>
<td>kg</td>
<td>lb</td>
<td>mm</td>
<td>ft in</td>
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<tr>
<td>26.5-25-20PR(L3)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3010</td>
<td>9’11”</td>
</tr>
<tr>
<td>26.5-25-16PR(L3)</td>
<td>-70</td>
<td>-155</td>
<td>-50</td>
<td>-110</td>
<td>-45</td>
<td>-100</td>
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<tr>
<td>26.5-25-20PR(L4)</td>
<td>+355</td>
<td>+780</td>
<td>+270</td>
<td>+595</td>
<td>+335</td>
<td>+620</td>
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<tr>
<td>26.5-R25(L3)</td>
<td>+115</td>
<td>+235</td>
<td>+90</td>
<td>+200</td>
<td>+75</td>
<td>+165</td>
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<tr>
<td>23.5-25-20PR(L3)</td>
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<td>-1,015</td>
<td>-350</td>
<td>-770</td>
<td>-300</td>
<td>-660</td>
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<tr>
<td>23.5-25-20PR(L2)</td>
<td>-775</td>
<td>-1,710</td>
<td>-585</td>
<td>-1,290</td>
<td>-505</td>
<td>-1,115</td>
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<tr>
<td>Remove ROPS cab with A/C</td>
<td>-730</td>
<td>-1,610</td>
<td>-670</td>
<td>-1,475</td>
<td>-585</td>
<td>-1,290</td>
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<tr>
<td>Install additional counterweight</td>
<td>+400</td>
<td>+880</td>
<td>+1030</td>
<td>+2,270</td>
<td>+860</td>
<td>+1,895</td>
</tr>
</tbody>
</table>

### STANDARD EQUIPMENT

- 2-spool valve for boom and bucket controls
- Additional fuel filter with water separator
- Air conditioner
- Alternator, 50 A
- Auto shift transmission with mode select system
- Back-up alarm
- Back-up lamp
- Batteries, 150 Ah/2 x 12 V
- Boom kick-out
- Bucket positioner
- Counterweight
- Directional signal
- EMMMS (Equipment Management Monitoring System)
- Engine, Komatsu SAA6D125E-3 diesel
- Engine shut-off system, electric
- Floormat
- Front fender
- Lift cylinders and bucket cylinder
- Loader linkage with standard lift arm
- Main monitor panel with speedometer
- PPC fingertip control, two levers
- Radiator mask, lattice type
- Rearview mirror
- Rear window washer and wiper
- ROPS/FOPS cab
- Seat, suspension type with reclining
- Seat belt
- Service brakes, wet disc type
- Starting motor, 7.5 kW/24 V
- Steering wheel, tiltable
- Sun visor
- Swing-out aftercooler and oil cooler
- Tires (26.5-25-20PR, L3 tubeless) and rims
- Transmission, 4 forward and 4 reverse

### OPTIONAL EQUIPMENT

- 3-spool valve
- Additional counterweight
- AM/FM radio
- Brake cooling system
- Bucket teeth (bolt-on type)
- Bucket teeth (tip type)
- Counterweight for log
- Cutting edge (bolt-on type)
- Deluxe suspension seat
- Emergency steering (SAE)
- Engine pre-cleaner with extension
- Heater and defroster
- High lift arm
- Hydraulic-driven fan with reverse rotation
- KOMTRAX
- Limited slip differential (F&R)
- Log grapple
- Ordinary spare parts
- Power train guard
- Remote grease (lift arm pivot pin)
- Starting motor, 11 kW
- Tool kit
- Vandalism protection kit

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