

WA700-3

KOMATSU®

BUCKET CAPACITIES

11.4 – 12.3 yd³

8.7 – 9.4 m³



WA700-3

WHEEL LOADER
WA700-3

WA700-3 Wheel Loader

WALK-AROUND

Komatsu-integrated design for the best value, reliability, and versatility. Hydraulics, power train, frame, and all other major components are engineered and built by Komatsu. You get a machine whose components are designed to work together for higher production, greater reliability, and more versatility.

New easier access to engine for servicing. Large swing-out hood doors lock with cab key. Radiator grill is also hinged with radiator clean-out doors on both sides.

Underhood mounted muffler provides operator with great rearward vision.

Automatic transmission and kick-down switch are production enhancing, standard features. See page 7.

Rear lights have been moved up, out of harm's way.

Komatsu SAA6D170-E provides **641 HP @ 2000 rpm** for superior performance and productivity.



Sight gauge for hydraulic tank allows ground level check without opening the compartment.

Ground level bank lubrication reduces maintenance time. See page 8.

Rear-mounted fuel tanks allow for ground level fueling. Each fuel tank has been prepared to accept Wiggins fast fuel fittings.

Check battery easily. Low mount battery boxes for easy checking and servicing.

Designed for better value through improved reliability and enhanced versatility. That's why the WA700-3 means value, and anything less is just another Wheel Loader.

New cab for increased operator productivity.

New operator's cab provides improved visibility with a pillarless flat glass windshield and electric window lifts. A KAB air suspension seat with retractable seat belt keeps the operator comfortable.

Special rubber-mounted cab for productivity. Special silicone-filled rubber cab mounts reduce vibration and noise that can fatigue the operator and reduce his efficiency. See page 4.



Service monitor with diagnostics including an air cleaner sensor keeps the operator informed. True three level monitoring provides the operator with prestart level checks, cautions, and warnings.

New optional ESCO® Super V® bucket teeth and top lock wear shrouds meet the demands of the toughest applications while leaving a smooth quarry floor.

Spade nose bucket capacity increased to **11.4 yd³** 8.7 m³.

Fully-hydraulic brake system means less maintenance and more reliability.

Standard joystick and steering wheel combination gives improved cycle time in tight cycle applications while reducing operator fatigue.

It all adds up to more value and better return for your investment. It's what you should expect when you select Komatsu.

OPERATOR'S COMPARTMENT

Ask the man who runs one—he will tell you the operator's cab sets the Komatsu Wheel Loader apart from the others. That's a productivity feature you can't ignore. No matter how a machine specs out, or how much is promised for productivity, unless the operator can work a full shift without becoming fatigued, you will never get the full measure of promised productivity.

The cab improvements on the WA700-3 go beyond providing a large cab with a comfortable seat. Improvements include many production-enhancing standard features:

The WA700-3 has the largest cab ever offered on a Komatsu wheel loader by 15%.

New three-piece flat glass windshield provides the operator an unobstructed view of the working area and attachment.

Electric door window lifts offer ventilation at the touch of a finger.

Two-door walk-through cab. Good for ventilation as well as easy entry and exit from either side of the cab.

Silicone-filled rubber mounts dampen noise and vibration, reduces fatigue caused by noise. Helps keep the operator productive longer.

Low-effort brake pedals actuate fully hydraulic brakes. Parking brake provides effective braking with the touch of a finger.

Steer with ease. Komatsu's orbital, fully hydraulic steering provides fast response with low effort, at low engine rpm.

See the monitor through the steering wheel, not around it. A specially designed two-spoke steering wheel allows the operator to easily see the instrument panel.

Cloth covered high-back bucket seat features air suspension with its own self-contained air compressor.



Kick-down switch is conveniently located on the boom lever. A simple motion of the thumb actuates this valuable productivity feature.

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. Standard automatic transmission allows automatic shifts in ranges two through four, keeping production high and manual shifting at a minimum.

At-a-glance instrument monitor. Travel data is mounted in front of the operator and is tilted for easy view, allowing the operator to easily check gauges and warning lights.

Value Options

Value options for productivity and those little added touches that make work a little easier.

Keep cool, keep productive with a **five-mode air conditioner**. Thirteen strategically-located vents direct cool air to the operator, keeping him productive on the hottest days.

There's nothing more refreshing than a cold drink on a hot day. The **cool box** will help keep your lunch and beverage cool. That's something to look forward to at lunch or break-time.

Make the time go faster with an auto-tuning **AM/FM cassette radio** with a digital clock.

Five-mode air conditioner



Cool box



AM/FM cassette radio



KOMATSU DESIGNED POWER TRAIN

Engine

The Komatsu SAA6D170-E delivers the power and efficiency to get the job done quickly and cost effectively while meeting off-road emission requirements.

The **SAA6D170-E** is an electronically controlled, water-cooled, four-stroke cycle, six-cylinder in-line, turbocharged and aftercooled direct injection engine that produces high performance and excellent fuel economy.

Komatsu electronically controlled fuel system features continuously variable timing and higher injection pressure to control emissions and white smoke, improve cold-start performance, and allow higher torque rise.

SAA6D170-E improvements include:

- Dual aftercoolers
- Individual cylinder heads and valve train componentry offer improved breathing and increased durability even with today's higher injection pressures.

Large swing-out doors allow easy access to the engine and radiator for routine maintenance and cleaning.

Spin-on filters and easily accessible lubrication points mean reduced maintenance time and less chance of missing these important maintenance items.

With a piston displacement of 1412 in³ 23.15 ltr, the Komatsu SAA6D170-E has a net flywheel horsepower of 641 HP @ 2000 rpm.

Komatsu integrated design means components are matched to provide most efficient use of power whether you're working the face of a material bank or traveling with a loaded bucket.

Joystick/Steering Wheel Control

Four-Speed Transmission

Provides maximum forward speed in fourth gear of up to **18.6 mph** 30.0 km/h and in reverse of **20.1 mph** 32.3 km/h. The transmission is a full power shift, planetary transmission.

Other features include:

- Solid state electronic shifting control that reduces wear, increases reliability, and provides easy directional shifts.
- Fingertip-shifting from forward to reverse or from one gear to another.
- Four forward and four reverse gears to better match the cycle conditions. You get higher efficiency and better fuel economy.
- Standard automatic offers autoshift in ranges two through four to keep productivity high.

Consider this valuable feature for added productivity. Kick-down switch automatically downshifts with the touch of a finger from second to first when beginning the digging cycle. Automatically upshifts from first to second when direction control lever is placed in reverse. The result is increased rim pull for better bucket penetration and reduced cycle times for higher productivity.

Komatsu designed axles and final drives for rugged reliability and low maintenance. Axle shafts are full-floating, the front axle is fixed. The rear axle is a center-pin support design that provides a total oscillation of up to 22 degrees.

The differential reduction gear is a heavy-duty spiral bevel gear for strength and reliable performance. Rugged, outboard planetary final drives carry the total gear reduction of the drive train to the wheel which is mounted to the axle hub.

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 parking brake is also an adjustment-free, dry disc mounted to the front driveline for high reliability and long life. Added reliability is designed into the braking system by the use of two independent hydraulic circuits. Provides hydraulic back-up should one of the circuits fail. Full hydraulic brakes mean no air system to bleed, or the condensation of water in the system that can lead to contamination and corrosion.



Komatsu's exclusive joystick/steering wheel control system reduces operator fatigue and increases total productivity while achieving exceptional control in tight loading conditions. The seat-mounted controller allows a full range of adjustments for the most comfortable fit. The combination of a steering wheel and joystick provides a convenient, comfortable, efficient steering system for every operating condition. The steering wheel has full priority when used.

EASY MAINTENANCE

Servicing With a Smile

It would be better if most of us approached routine maintenance and service as something that made us smile. That's why Komatsu designed the WA700-3 Wheel Loader to make servicing as easy as possible. We know by doing this, 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 WA700-3.

- Large service doors provide easy access to the engine compartment.
- Ground Level Greasing—all grease points are easily reached from ground level, and grease banks are provided in strategic areas to reduce maintenance time.
- Sight gauges allow for easy hydraulic level checks without risking system contamination.
- Full hydraulic brakes eliminate air system maintenance.
- Batteries are located in the counterweight for ground level access.
- Sealed Loader Linkage Pins—designed to keep grease contained longer, prevent the entrance of dust, thereby lengthening greasing intervals.
- Swing-out rear grill facilitates radiator cleaning.
- Repositioned hydraulic breather mounting allows easy access for quick service while protecting breathers from contamination.



The WA700-3 can be configured to load 35–65 ton haulers with room to spare.

SPECIFICATIONS



ENGINE

Model Komatsu SAA6D170-E
 Type Water-cooled, 4-cycle
 Aspiration Turbocharged, aftercooled
 Number of cylinders 6
 Bore x stroke **6.7"** 170 mm x **6.7"** 170 mm
 Piston displacement **1,412 in³** 23.15 ltr
 Governor Electrical, all-speed control
 Horsepower rating @ 2000 rpm
 Gross horsepower **684 HP** 510 kW
 Net flywheel horsepower **641 HP** 478 kW
 Fuel system High pressure direct injection
 Lubrication system:
 Method Gear pump, force lubrication
 Filter Full-flow
 Air cleaner Dry-type with double elements, automatic dust evacuator, and dust indicator on monitor



TRANSMISSION

Torque converter Three-element, single-stage, single-phase
 Transmission Full power shift, automatic planetary gear

Travel Speed*	Forward		Reverse	
1st	4.0 mph	6.4 km/h	4.4 mph	7.1 km/h
2nd	6.9 mph	11.1 km/h	7.6 mph	12.2 km/h
3rd	11.6 mph	18.7 km/h	12.7 mph	20.5 km/h
4th	18.6 mph	30.0 km/h	20.1 mph	32.3 km/h

*Measured with 40/65-39, 36PR (L5) tires



AXLES AND FINAL DRIVES

Drive system Four-wheel drive
 Front Fixed, full-floating
 Rear Center-pin support, full-floating 22° total oscillation
 Reduction gear Spiral bevel gear
 Differential gear Straight bevel gear
 Final reduction gear Planetary gear, single reduction, oil bath



BRAKES

Service brakes: Hydraulically actuated, wet disc brakes actuate all four wheels.

Parking brake: Dry-disc, hydraulically-released, spring-applied on front axle input shaft.



BUCKET CONTROLS

Control positions:

Boom Raise, hold, lower, and float
 Bucket Rollback, hold, and dump



HYDRAULIC SYSTEM

Capacity (discharge flow) @ engine rated rpm:

Loader pump **107 U.S. gal/min** 405 ltr/min
 Steering pump **53.6 U.S. gal/min** 203 ltr/min
 Switch pump **53.6 U.S. gal/min** 203 ltr/min

Relief valve setting:

Loader **4,550 psi** 320 kg/cm²
 Steering **4,550 psi** 320 kg/cm²

Control valve:

A two-spool open center

Hydraulic cylinders	Number of cylinders	Bore		Stroke	
Boom	2	8.9"	225 mm	47.1"	1196 mm
Bucket	1	11.0"	280 mm	28.7"	729 mm
Steering	2	5.1"	130 mm	20.9"	532 mm



SERVICE REFILL CAPACITIES

Cooling system **50.2 U.S. gal** 190 ltr
 Fuel tank **290.6 U.S. gal** 1100 ltr
 Engine **14.3 U.S. gal** 54 ltr
 Hydraulic system **129.5 U.S. gal** 490 ltr
 Axle (each front and rear) **64.7 U.S. gal** 245 ltr
 Torque converter and transmission **27.7 U.S. gal** 105 ltr

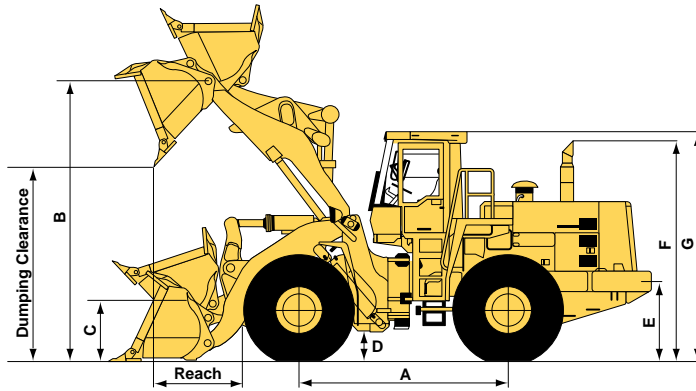


STEERING SYSTEM

Type Articulated, full-hydraulic power steering independent of engine rpm
 Steering angle 40° each direction
 Turning radius outside corner of bucket with teeth or BOCE **31'7"** 8280 mm



DIMENSIONS



Tires	40/65-39, 36PR (L5)
Tread	9'10" 3000 mm
Width over tires	13'3" 4040 mm
A Wheelbase	15'9" 4800 mm
B Hinge pin height, maximum height	19'8" 5990 mm
C Hinge pin height, carry position	2'4" 720 mm
D Ground clearance	1'9" 540 mm
E Hitch height	5'0" 1530 mm
F Overall height, exhaust stack	15'0" 4580 mm
G Overall height, ROPS canopy	15'9" 4790 mm

All specs are with teeth and 40/65-39, 36PR (L5) tires, steel cab, ROPS canopy, lubricant, full fuel, optional counterweight, and operator.

Bucket		Straight Edge Rock With Teeth		Spade Nose Rock With Teeth	
Bucket capacity	SAE rated	11.4 yd³	8.7 m ³	11.4 yd³	8.7 m ³
	Struck	9.9 yd³	7.6 m ³	9.9 yd³	7.6 m ³
Bucket width		15'0"	4570 mm	15'0"	4570 mm
Bucket weight		14,925 lb	6770 kg	15,760 lb	7150 kg
Static tipping loads	Straight	102,290 lb	46400 kg	101,520 lb	46050 kg
	Full turn (40°)	89,790 lb	40730 kg	89,070 lb	40400 kg
Dump clearance, maximum height and 45° dump angle		14'1"	4280 mm	13'3"	4040 mm
Reach at 7' 2130 mm and 45° dump angle		9'10"	2995 mm	10'7"	3210 mm
Reach at maximum height and 45° dump angle		6'2"	1890 mm	7'0"	2135 mm
Operating height	Fully raised	26'10"	8170 mm	26'10"	8170 mm
Overall length	Bucket ground	39'11"	12160 mm	41'0"	12500 mm
Turning radius*		31'7"	9620 mm	31'6"	9615 mm
Digging depth	0°	7"	170 mm	7"	170 mm
	10°	1'8"	510 mm	1'10"	560 mm
Breakout force (bucket cylinder)		142,640 lb	64700 kg	116,180 lb	52700 kg
Operating weight		155,250 lb	70420 kg	156,090 lb	70800 kg

- Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers. SAE standard J732 JUN 92 and J742 FEB 85.
- Static tipping load and operating weight shown include 40/65-39, 36PR (L5) tires, enclosed cab, ROPS canopy, lubricant, full fuel tank, optional counterweight, and operator.
- Machine's stability and operating weight are affected by counterweight, tire size, and other weight changes to operating weights and static tipping load.

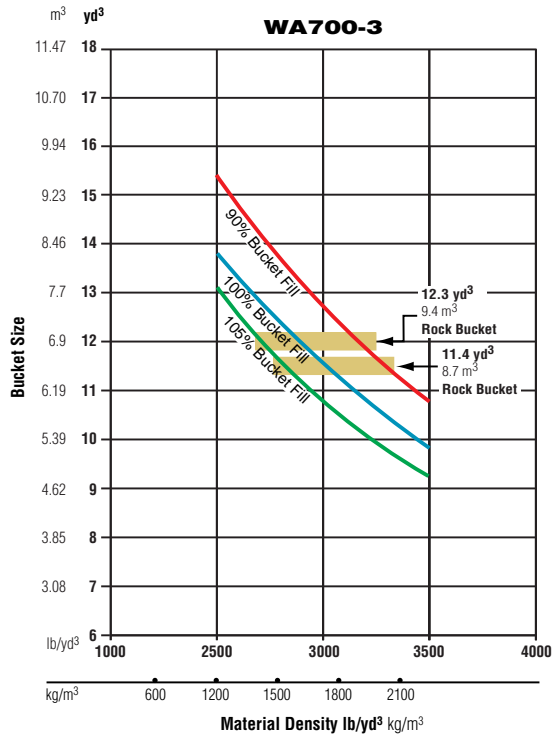
*Turning radius measured with bucket at carry position, outside corner of bucket with teeth.

Weight Changes

Tires/Buckets	Change in Operating Weight		Change in Static Tipping Load			
			Straight		Full Turn (40°)	
	S/E With teeth	S/N With teeth	S/E With teeth	S/N With Teeth	S/E With teeth	S/N With teeth
40/65-39, 36PR (L5)	155,250 lb 70420 kg	156,090 lb 70800 kg	102,290 lb 46400 kg	101,520 lb 46050 kg	89,790 lb 40730 kg	89,070 lb 40400 kg
41.25/70-39, 34PR (L5)	156,570 lb 71020 kg	157,410 lb 71400 kg	103,240 lb 46830 kg	102,470 lb 46480 kg	90,610 lb 41100 kg	89,840 lb 40750 kg



BUCKET SELECTION GUIDE



This guide, representing bucket sizes not necessarily manufactured by Komatsu, will help you select the proper bucket size for material density, loader configuration, and operating conditions. Optimum bucket size is determined after adding or subtracting all tipping load changes due to optional equipment. Bucket fill factors represent the approximate amount of material as a percent of rated bucket capacity. Fill factors are primarily affected by material, ground conditions, breakout force, bucket profile, and the cutting edge of the bucket used.

Material (loose weight)	lb/yd ³	kg/m ³
Clay and gravel, dry	2,400	1420
Clay and gravel, wet	2,600	1540
Coal, anthracite, broken	1,850	1100
Coal, bituminous, broken*	1,400	830
Earth, dry, packed	2,550	1510
Earth, loam	2,100	1250
Earth, wet, excavated	2,700	1600
Granite, broken or large crushed	2,800	1660
Gravel, dry	2,550	1510
Gravel, dry 1/2" to 2" 13 to 50 mm	2,850	1690
Gravel, pit run (graveled sand)	3,250	1930
Gravel, wet 1/2" to 2" 13 to 50 mm	3,400	2020
Limestone, broken or crushed	2,600	1540
Phosphate rock	2,160	1280
Sand and gravel, dry	2,900	1720
Sand and gravel, wet	3,400	2020
Sand, dry	2,400	1420
Sand, wet	3,100	1840
Stone, crushed	2,700	1600
Topsoil	1,600	950

* Use 12.3 yd³ 9.4 m³ bucket furnished by outside vendor. Contact Komatsu Sales Engineering.



STANDARD EQUIPMENT

ENGINE AND ITS RELATED ITEMS:

- Air cleaner, 2-stage dry type with auto dust evacuator
- Electric cut-off
- Engine, KOMATSU SAA6D170E turbocharged and aftercooled, direct injection, emission certified, diesel
Gross HP: **684 HP** 510 kW @ 2000 rpm
Net HP: **641 HP** 478 kW @ 2000 rpm
- Exhaust pipe with sound suppression, glasswool
- Fan, cooling blower
- Radiator, staggered core type

ELECTRICAL SYSTEM:

- Alternator, **24V**, 75 ampere
- Backup alarm
- Backup light
- Batteries, **2 x 12V**, 200 Ah
- Battery auto-disconnect switch
- Horn, electric
- Instrument monitor panel with speedometer
- Starting motor, **24V**, 2 x 7.5 kW, direct electric
- Lights:
 - stop and tail
 - turn signal (2 front, 2 rear) with hazard switch
 - working (2 front, 2 rear)

POWER TRAIN AND CONTROLS:

- Axles full floating with conventional differentials
- Brakes, parking, dry disc
- Brakes, service, wet, multiple-disc, axle by axle
- Transmission, planetary F4-R4
- Transmission control, electric with kick-down switch
- Automatic transmission shift control

OPERATOR ENVIRONMENT:

- ROPS canopy
- Cab, steel (RH and LH entrance)
 - Air conditioner, heater, defroster, and pressurizer
 - Cigarette lighter/ashtray
 - Dome light
 - Floor mat
 - Wiper/washer front and rear, front intermittent
 - Lunch box holder
 - Power windows
 - Rearview mirrors, inside cab mount/outside mount (LH and RH)
 - Seat, air suspension, reclining, with armrests (fabric)
 - Seat belt, **3"** retractable
 - Steering, full hydraulic power, steering wheel tiltable
 - Stick-steer, single lever controlled steering system
 - Sun visor

MAIN MONITOR—ELECTRONIC DISPLAY:

- Central warning lamp for check items
- Central warning lamp for caution items
- Head lamp high beam pilot

- Speedometer mph
- Service meter
- Transmission shift indicator
- Turn signal pilot

MAINTENANCE MONITOR—ELECTRONIC DISPLAY:

- Air cleaner check
- Battery charge
- Brake oil pressure
- Engine oil level
- Engine water level
- Engine water temperature
- Fuel gauge
- Parking brake warning light
- Torque converter temperature

HYDRAULICS AND CONTROLS:

- Two-valve for boom and bucket controls with Pressure Proportional Control (PPC)
- Lift cylinders and bucket cylinder

VANDALISM PROTECTION:

- Battery box lock
- Caplock and cover for fuel tank
- Radiator, filler lock, and cover

OTHER STANDARD EQUIPMENT:

- Auxiliary steering, ground drive with indicator
- Boom kick-out, automatic
- Bucket lever, automatic
- Counterweight, standard and additional, **7,418 lb** 3365 kg
- Front fenders (LH and RH)
- PM service kit
- Rear steps (LH) with partial fenders
- Tow hitch

NOTE: Tires and rims are not included as standard equipment.
Rims must be ordered as a required attachment.



OPTIONAL EQUIPMENT

TIRES ONLY (TUBELESS) SET OF FOUR:

- 40/65-39, 36PR (L5) Bridgestone
- 41.25/70-39, 34PR (L5) Goodyear
- 41.25/70-39, 36PR (L5) BS

RIMS ONLY, LESS TIRES:

- Rims only for 40/65-39 tires
- Rims only for 41.25/70-39 tires

BUCKETS:

- Spade nose rock, **11.4 yd³** 8.7 m³, bare
- Spade nose rock, **11.4 yd³** 8.7 m³ with Esco teeth and wear shrouds

Super V is a registered trademark of the ESCO Corporation.

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KOMATSU®

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