KOMATSU
WA 250-1
WHEEL LOADER

Flywheel Horsepower @ 2500 RPM		
	144 HP	107 kW
Operating Weight	**25,181 lb**	11,420 kg
Bucket Capacities	**2.5-3.5 yd³**	1.9-2.7 m³

Photo shown may include optional equipment.

KOMATSU

Superior Visibility – 47% of the total cab area is tinted glass, giving the operator a clear and complete view of the working environment. This greatly increases the operator's confidence and productivity.

Efficient Layout of Controls – The cab of the Komatsu Wheel Loader is designed around the operator. The most critical controls, such as the transmission and work equipment controls, are conveniently located to allow low-effort finger tip operation. This ease of operation contributes to increased operator efficiency and greater machine productivity.

Two Door Walk-Through Cab – provides easy entrance and exit from either side of the machine.

Adjustable Suspension Seat – ergonomically designed and fully adjustable for maximum operator comfort.

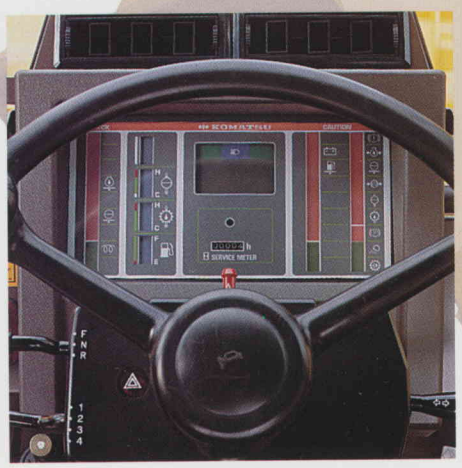
- Vinyl seat cover
- Adjustable suspension firmness
- Backrest angle adjustment
- Seat height and tilt adjustment
- 3.9″ 100 mm vertical suspension stroke
- 6.9″ 160 mm fore and aft adjustment

Efficient and Comfortable

Electrically Controlled Transmission – allows the operator to quickly and easily shift gears without removing their hands from the steering wheel. Directional and speed shift levers utilize electrical signals and control valves, so that gear changes are smooth and easy.

Tilt Steering Column – Has a 4″ 100 mm tilt range, allowing the operator to select the optimum position for greater comfort.

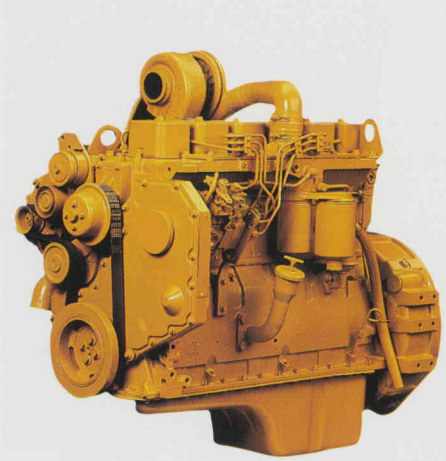
Direct Control Work Equipment – provides excellent fine control with minimal operator effort greatly increases efficiency and maximum performance.



Electronic Display and Monitoring System – is highly effective and reliable display/warning system which continuously monitors all operating systems. If a malfunction should occur the operator is immediately warned which system is experiencing trouble, saving downtime and repair costs. Also, gauges constantly monitor coolant temperature, transmission oil temperature, fuel level, service hours and speed. Komatsu's transmission monitoring system insures that the engine cannot be started unless the transmission is in neutral.

Full Hydraulic Steering System – ensures smooth, constant steering regardless of engine speed, which results in easy machine operation, fast cycle times and increased maneuverability.

KDC 610T Engine – is a water cooled four-stroke-cycle, 6 cylinder in line, overhead valve, turbo-charged, direct injection engine. Which offers outstanding power excellent fuel economy, easy servicing and high reliability.



Direct Injection – Coupled with high swirl intake ports in the head, the direct injection fuel system provides thorough mixing of the air and fuel in the combustion chamber for excellent fuel economy.

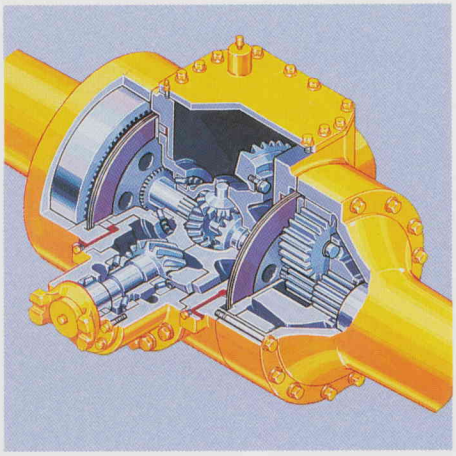
Crankshaft – The crankshafts are made of forged steel and designed for low stress and high torsional stiffness. Main and rod bearing journals are regrindable up to four times.

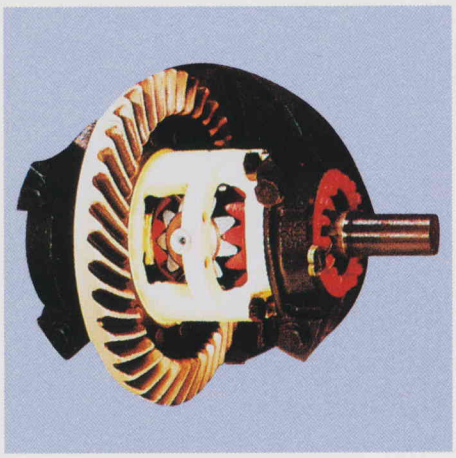
Rebuild Options – This engine does not require cylinder work at first major overhaul. If necessary, there is sufficient block material and available parts to rebore the cylinders twice.

Countershaft Power Shift Transmission – modulation valve provides smooth shifting with finger-tip control.

Torque Converter – The Komatsu three-element, single-stage, single-phase torque converter acts as a fluid coupling to effectively absorb drive train shock loads.

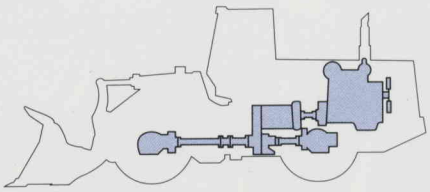
Wet Disc Brakes – Hydraulically controlled inboard mounted wet disc brakes provide excellent life and lower operating costs. The Komatsu adjustment-free design results in optimum performance throughout the life of the brake system.





Torque Proportioning Differentials – minimizes slippage and improves traction, resulting in higher production and increased tire life.

Proven Komatsu Components – are specifically designed to work together and provide the most reliable and durable power train system in the industry. This results in a machine that offers the highest productivity with the lowest operating cost.



Work Equipment

Z-Bar Loader Linkage – Single Z-bar design provides large breakout forces for heavy-duty work, even distribution of loads, a clear view of the bucket, and fewer wear and grease points.

Rugged Construction – is provided by a four plate loader tower and solid plate lift arms.

Coupler

Coupler System – a versatile optional coupler system provides fast, efficient tool changes without leaving the cab. An optional third spool valve is available for additional hydraulic functions.

Serviceability

Fast and Easy Servicing – is designed into all Komatsu Wheel Loaders to provide the owner with the least amount of down time and the greatest amount of production.

- Large service doors provide easy access to engine compartment.
- Ground Level Greasing – all grease points are easily reached from ground level and grease banks are provided in some areas to reduce maintenance time.
- Ground level fueling.
- Sight gauges for hydraulic tank and transmission case.
- Batteries are located on each frame side for ground level access.
- Sealed Loader Linkage Pins – designed to keep grease contained longer, prevent the entrance of dust, thereby lengthening greasing intervals.

Specifications

Engine

The Komatsu Dresser 610T is a 4-stroke, water-cooled, overhead valve, direct-injection turbocharged diesel engine. It includes six cylinders with a **4″** 102 mm bore x **4.7″** 120 mm stroke and a **359 in³**. 5.9 ltr. piston displacement.

Flywheel horsepower:
144 HP 107kW at **2500 RPM** SAE J1349

Direct-injection fuel system. All-speed mechanical governor. Gear pump-driven force-lubrication with full-flow filters. All filters are spin-on type for easy maintenance. Dry, cyclopack air cleaner with dust evacuation valve for longer element service. 24 V/7.9 kW electric starting motor. 24 V/45 A alternator. 2 x 12 V/150 Ah battery.

Transmission

Three-element, single-stage, single-phase torque converter. Full power-shift, countershaft type transmission. A modulating function assures shockless speed and directional changes without braking. A neutral safety circuit allows starting only when the directional control lever is in neutral.

Travel Speed	Forward		Reverse	
1st	**5.2 MPH**	0–8.3 km/h	**5.3 MPH**	0–8.6 km/h
2nd	**7.8 MPH**	0–12.6 km/h	**8.0 MPH**	0–12.9 km/h
3rd	**13.9 MPH**	0–22.4 km/h	**14.3 MPH**	0–23.0 km/h
4th	**24.7 MPH**	0–39.8 km/h	**25.2 MPH**	0–40.6 km/h

Axles & Final Drives

Four-wheel drive system. A semi-floating front axle is fixed to the front frame. Center-pin-supported, semi-floating rear axle with a large oscillation of ± 12.5°. A spiral bevel gear for reduction and planetary gear, single reduction final drive. Front and rear torque proportioning differentials minimize tire slippage on soft or wet terrain.

Brakes

Service brakes: Hydraulically actuated, inboard-mounted, wet, disc brakes actuate all four-wheels. Two pedals are provided. Both can be used for normal braking; however, the left pedal can be used for braking and transmission neutralizing simply by actuating a switch.

Parking brake: Dry disc type applied on front output coupling of transmission.

Steering System

Center-pivot frame articulation. Orbitol type, full-hydraulic steering independent of engine RPMs. A wide articulation angle of 40° on each side for a minimum turning radius of **18′9″** 5730 mm at the outside corner of the bucket.

Boom & Bucket

Z-bar loader linkages are designed for maximum rigidity and offer powerful excavation. Rap-out loader linkage design enables shock dumping for removing sticky materials. Sealed loader linkage pins with dust seals extend greasing intervals.

Bucket Controls

Minimal effort is required to operate the bucket/boom control levers, assuring smooth, responsive bucket/boom action. In addition, the bucket positioner and the boom kickout device (optional) facilitate repeated digging/loading operations.

Control positions:	
Boom	Raise, hold, lower and float
Bucket	Tilt-back, hold and dump

Hydraulic System

A gear pump for steering and loader control.

Capacity (discharge flow) at engine 2400 RPM

Loader	**51.3 U.S. gal/min.**	205 ltr.

Relief valve setting:

Loader	**2990 psi**	210 kg/cm²
Steering	**2700 psi**	190 kg/cm²

Control valves:

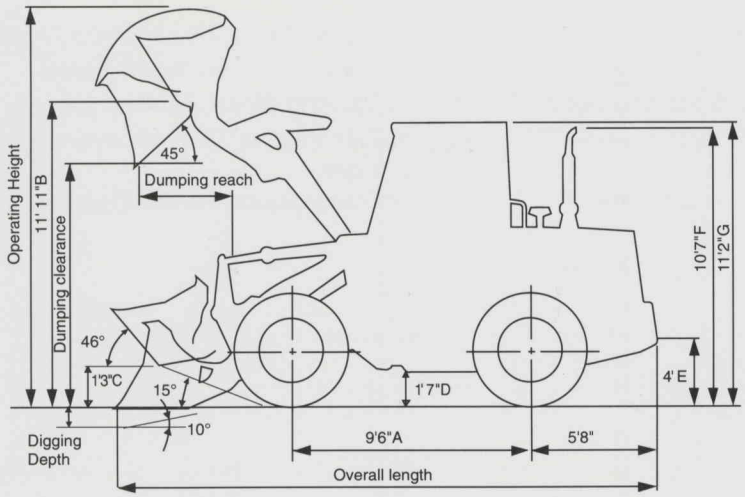
A 2-spool type control valve.

Hydraulic cylinders	Number of cylinders	Bore	Stroke
Boom	2	**5.12″** 130 mm	**2′4″** 704 mm
Bucket	1	**5.91″** 150 mm	**1′7″** 474 mm

Hydraulic cycle time (rated load in bucket):
Raise…**5.8 sec.**/Dump…**1.5 sec.**/Lower (empty)…**3.2 sec.**

Service Refill Capacities

Cooling system	**10.0 U.S. gal**	38 ltr.
Fuel tank	**44.9 U.S. gal**	170 ltr.
Engine	**5.0 U.S. gal**	19 ltr.
Brake oil tank	**0.3 U.S. gal**	1 ltr.
Hydraulic system	**25.9 U.S. gal**	98 ltr.
Differential and final drive case (each side)	**4.5 U.S. gal**	17 ltr.
Torque converter and transmission	**8.2 U.S. gal**	31 ltr.



	Tires	20.5-25-12 PR (L2)	
	Tread	6´4˝	1930 mm
	Width over tires	8´1˝	2464 mm
A	Wheelbase	9´6˝	2895 mm
B	Hinge pin height, max. height	11´11˝	3632 mm
C	Hinge pin height, carry position	1´3˝	381 mm
D	Ground clearance	1´7˝	483 mm
E	Hitch height	4´	1219 mm
F	Overall height, top of the stack	10´7˝	3225 mm
G	Overall height, ROPS canopy	11´2˝	3403 mm

Bucket Type		**General Purpose Bolt-on Cutting Edge**		**Excavating Bolt-On Cutting Edge**		**Light Material Bolt-On Cutting Edge**	
Bucket Capacity	SAE Rated	**2.75 yd³**	2.1m³	**2.5 yd³**	1.9 m³	**3.5 yd³**	2.7 m³
	Struck	**2.35 yd³**	1.8 m³	**2.25 yd³**	1.7 m³	**3.0 yd³**	2.3 m³
Bucket Width		**8´10˝**	2685 mm	**8´10˝**	2685 mm	**8´10˝**	2685 mm
Bucket Weight		**2,172 lbs**	985 kg	**2106 lbs**	955 kg	**2415 lbs**	1095 kg
Static Tipping Loads	Straight	**19,338 lbs**	8770 kg	**19,393 lbs**	8795 kg	**19,040 lbs**	8635 kg
	Full Turn	**17,056 lbs**	7735 kg	**17,111 lbs**	7760 kg	**16,758 lbs**	7600 kg
Dumping Clearance, max. height and 45° dump angle		**9´2˝**	2805 mm	**9´4˝**	2835 mm	**9´1˝**	2755 mm
Reach @ 7´ 2130 mm cutting edge clearance and 45° dump angle		**4´10˝**	1465 mm	**4´9˝**	1450 mm	**5´0˝**	1520 mm
Reach at max. height and 45° dump angle		**3´7˝**	1090 mm	**3´5˝**	1050 mm	**3´11˝**	1200 mm
Reach with arm horizontal and bucket level		**7´1˝**	2165 mm	**6´11˝**	2115 mm	**7´8˝**	2330 mm
Operating Height	(fully raised)	**16´1˝**	4910 mm	**15´11˝**	4850 mm	**16´9˝**	5100 mm
Overall Length	Bucket ground	**23´2˝**	7070 mm	**23´0˝**	7020 mm	**23´9˝**	7235 mm
	Bucket at carry	**23´0˝**	7005 mm	**22´7˝**	6870 mm	**23´0˝**	7015 mm
Turning radius (bucket at carry, outside corner of bucket)		**18´10˝**	5740 mm	**18´9˝**	5730 mm	**19´0˝**	5790 mm
Digging Depth	0°	**2.2˝**	55 mm	**2.2˝**	55 mm	**2.2˝**	55 mm
	10°	**9.3˝**	235 mm	**9.1˝**	230 mm		
Breakout Force		**27,695 lbs**	12,560 kg	**29,293 lbs**	13,285 kg	**23,748 lbs**	10,770 kg
Operating Weight		**25,181 lbs**	11,420 kg	**25,115 lbs**	11,390 kg	**25,424 lbs**	11,530 kg

- All dimensions, weights and performance values based on SAE J-732C and J-742B standards.

- Static tipping load and operating weight shown include lubricants, coolant, full fuel tank ROPS cab (option), 20.5 - 25-12PR (L2) tires, hydraulic adapter kit, heater, ground driven steering, front fenders, additional counterweight and operator. Machine stability and operating weight are affected by counterweight, tire size and other attachments. Add the following changes to operating weight and static tipping loads.

Weight Changes

Tires & Options	**Change in Operating Weight**		**Change in tipping load**			
			Straight		Full Turn	
Additional Counterweight (removed)	**-673 lbs**	-305 kg	**-1565 lbs**	-710 kg	**-1367 lbs**	-620 kg
ROPS Cab (removed)	**-1103 lbs**	-500 kg	**-1058 lbs**	-480 kg	**-1003 lbs**	-455 kg
ROPS Canopy (instead of ROPS Cab)	**-551 lbs**	-250 kg	**-496 lbs**	-225 kg	**-474 lbs**	-215 kg
Bucket Teeth (instead of bolt-on cutting edge)	**-232 lbs**	-105 kg	**-287 lbs**	-130 kg	**-287 lbs**	-130 kg
17.5-25-12PR (L2) tubeless tires	**-551 lbs**	-250 kg	**-397 lbs**	-180 kg	**-353 lbs**	-160 kg
17.5-25-12PR (L3) tubeless tires	**-309 lbs**	-140 kg	**-276 lbs**	-125 kg	**-254 lbs**	-115 kg
20.5-25-12PR (L2) tubeless tires	0		0		0	
20.5-25-12PR (L3) tubeless tires	**+353 lbs**	+160 kg	**+221 lbs**	+100 kg	**+176 lbs**	+80 kg

Standard Equipment

- Alternator, 45 amp
- Axles, Semi-Floating
- Batteries, 2 x 12V/150 Ah
- Brakes, Service, Wet Single Disc
- Bucket Positioner, Automatic
- Electronic Display/Monitoring System
- Fenders, Rear
- Horn
- Lights: stop & tail, turn signal (2 front, 2 rear) working (2 front, 2 rear)
- Seat Belt
- Seat, Suspension Type
- Starter, 24V x 7.9 kW Direct Electric
- Steering, Full Hydraulic Power
- Steering Wheel, Tiltable type
- Transmission Control Levers, Electric Type
- Transmission, F4-R4, Countershaft

Optional Equipment

- Additional Counterweight
- Air Conditioner with Heater/Defroster/Pressurizer
- Auxillary Steering Kit
- Boom Lift Kickout, Automatic
- Fenders, Front
- Heater/Defroster/Pressurizer
- Hydraulic Adapter Kit, includes 3-spool valve, lever and piping
- Lights, backup
- Lights, working (front cab mounted)
- Mirrors, rear view, outside cab mount
- Mono-type Control Lever for 2 spool valve
- ROPS Cab, includes windshield washer and wiper (front), inside mounted rear view mirror, floor mat, dome light
- ROPS Canopy, includes rear view mirrors
- Starting aid, ether type
- Tool Kit
- Vandalism Protection Kit
- Windshield Washer and Wiper, rear

Tires (Bias Ply)
- 17.5-25-12PR (L2)
- 17.5-25-12PR (L3)
- 20.5-25-12PR (L2)
- 20.5-25-12PR (L3)

Tires (Radial Ply)
- 17.5-R25 X HAT (L3)
- 20.5-R25 X GLAT (L2)
- 20.5-R25 X HAT (L3)

RIMS
- for 17.5-25 tires (3 piece)
- for 20.5-25 tires (3 piece)

Work Equipment
- **2.5 yd³** Excavating Bucket
- **2.75 yd³** General Pupose Bucket
- **3.5 yd³** Light Material Bucket
- Bolt-on Cutting Edge
- Bolt-on Bucket Teeth
- JRB Hydraulic Quick Coupler
- JRB **3.0 yd³** General Purpose Bucket for use with quick coupler only
- JRB **48"** Construction Forks

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