

# KOMATSU WA 180-1

**WHEEL LOADER**



Flywheel Horsepower @ 2500 RPM

**118 HP**      88 kW

Operating Weight    **20,639 lb**      9360 kg

Bucket Capacities    **2.0-2.9 yd<sup>3</sup>**      1.5-2.2 m<sup>3</sup>

Photo shown may include optional equipment.

# KOMATSU

## The Comfort Zone



**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
- Arm rest
- 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

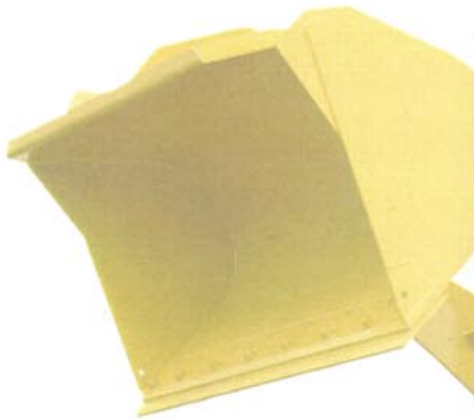
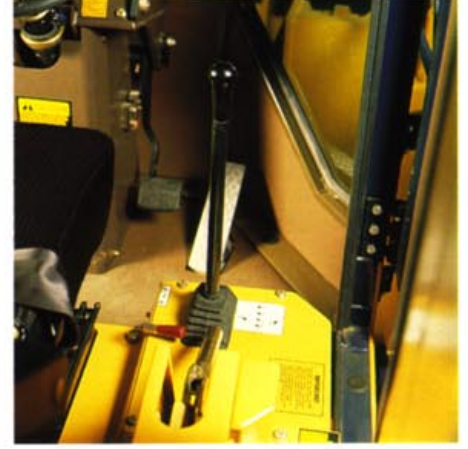
**Transmission Control** – separate speed and direction levers allow the operator to quickly and easily shift gears without removing his hand from the steering wheel.



**Full Hydraulic Steering System** – ensures smooth, constant steering regardless of engine speed. The result is easy machine operation, fast cycle times and increased maneuverability.



**Single Lever Work Equipment** – provides the operator with precise control and low effort, for greater efficiency and maximum production.

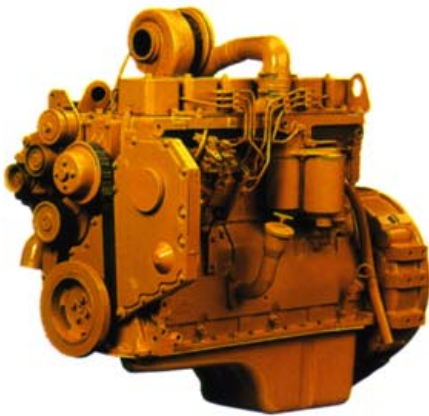


**Centralized Gauge Panel** – conveniently located directly in front of the operator for easy reading and continuous monitoring of machine conditions.

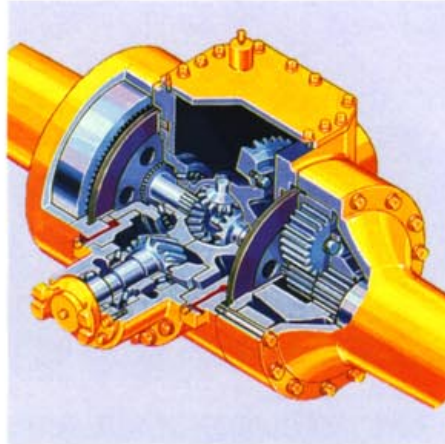


## Power Train System

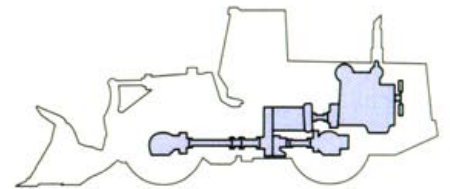
**KDC 610T Engine** – is a water cooled four-stroke-cycle, 6 cylinder in line, overhead valve, turbo-charged, direct injection engine. Which offers outstanding power excellent fuel economy, easy servicing and high reliability.



**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.



**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.



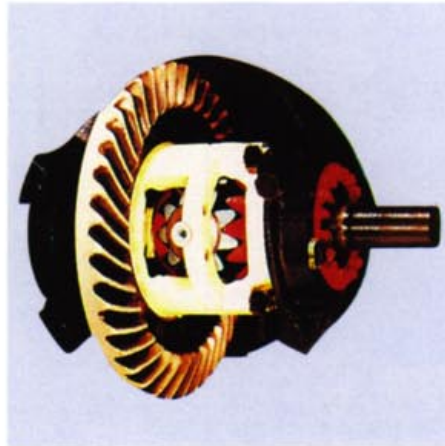
**Direct Injection** – Coupled with high swirl intake ports in the head, the direct injection fuel system provides thorough mixing of the air and fuel in the combustion chamber for excellent fuel economy.

**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 fingertip 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.



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



## Work Equipment

## Coupler

## Serviceability

**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.

**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.

**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.



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

- 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 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.



# Specifications

## Engine

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

Flywheel horsepower:

**118 HP 88kW 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/7.5 kW electric starting motor. 24 V/45 A alternator. 12 V/110 Ah battery.

## Transmission

3-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	<b>4.2 MPH</b> 0-6.8 km/h	<b>4.3 MPH</b> 0-7.0 km/h
2nd	<b>8.5 MPH</b> 0-13.7 km/h	<b>8.7 MPH</b> 0-14.0 km/h
3rd	<b>21.4 MPH</b> 0-34.5 km/h	<b>21.7 MPH</b> 0-35.0 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°. 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 17'4" 5290 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

Light 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, and lower
Bucket	Tilt-back, hold and dump

## Hydraulic System

A gear pump for steering and loader control.

**Capacity** (discharge flow) at engine 2400 RPM

Loader **42.3 U.S. gal/min.** 160 ltr.

### Relief valve setting:

Loader	<b>2990 psi</b>	210 kg/cm <sup>2</sup>
Steering	<b>2700 psi</b>	190 kg/cm <sup>2</sup>

### Control valves:

A 2-spool type control valve.

Hydraulic cylinders	Number of cylinders	Bore	Stroke
Boom	2	<b>4.72"</b> 120 mm	<b>1'11"</b> 595.5 mm
Bucket	1	<b>5.12"</b> 130 mm	<b>1'5"</b> 423 mm

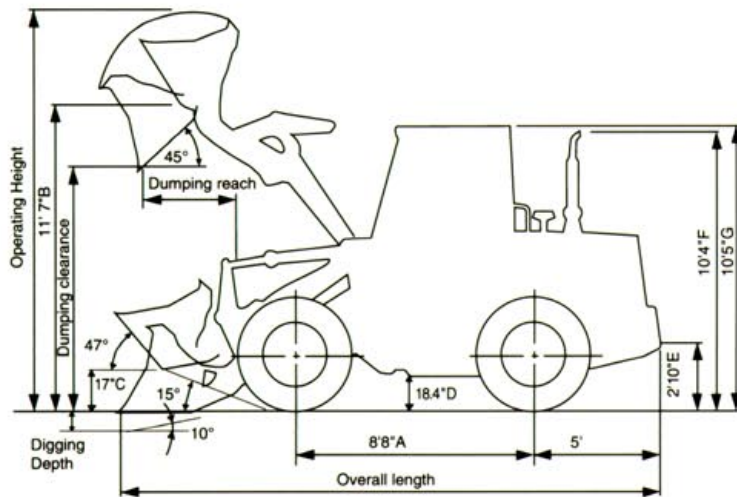
Hydraulic cycle time (rated load in bucket): Total **9.2 sec.**

Raise...**5.1 sec.**/Dump...**1.1 sec.**/Lower (empty)...**3.0 sec.**

## Service Refill Capacities

Cooling system	<b>4.8 U.S. gal</b>	18 ltr.
Fuel tank	<b>37.0 U.S. gal</b>	140 ltr.
Engine	<b>2.8 U.S. gal</b>	10.5 ltr.
Brake oil tank	<b>0.3 U.S. gal</b>	1 ltr.
Hydraulic system	<b>12.9 U.S. gal</b>	49 ltr.
Differential and final drive case (each side)	<b>4.2 U.S. gal</b>	16 ltr.
Torque converter and transmission	<b>4.9 U.S. gal</b>	18.5 ltr.





Tires	17.5-25-12 PR (L2)	
Tread	<b>6' 4"</b>	1930 mm
Width over tires	<b>7' 9"</b>	2362 mm
A Wheelbase	<b>8' 8"</b>	2641 mm
B Hinge pin height, max. height	<b>11' 7"</b>	3530 mm
C Hinge pin height, carry position	<b>17"</b>	432 mm
D Ground clearance	<b>18.4"</b>	467 mm
E Hitch height	<b>2' 10"</b>	863 mm
F Overall height, top of the stack	<b>10' 4"</b>	3149 mm
G Overall height, ROPS canopy	<b>10' 5"</b>	3175 mm

Bucket Type		General Purpose Bolt-on Cutting Edge		Excavating Bolt-On Cutting Edge		Light Material Bolt-On Cutting Edge	
Bucket Capacity	SAE Rated	<b>2.25 yd<sup>3</sup></b>	1.7m <sup>3</sup>	<b>2.0 yd<sup>3</sup></b>	1.5 m <sup>3</sup>	<b>2.9 yd<sup>3</sup></b>	2.2 m <sup>3</sup>
	Struck	<b>2.0 yd<sup>3</sup></b>	1.5 m <sup>3</sup>	<b>1.7 yd<sup>3</sup></b>	1.3 m <sup>3</sup>	<b>2.5 yd<sup>3</sup></b>	1.9 m <sup>3</sup>
Bucket Width		<b>8' 0"</b>	2440 mm	<b>8' 0"</b>	2440 mm	<b>8' 0"</b>	2440 mm
Bucket Weight		<b>1710 lbs</b>	775 kg	<b>1580 lbs</b>	715 kg	<b>1670 lbs</b>	757 kg
Static Tipping Loads	Straight	<b>15,435 lbs</b>	7000 kg	<b>15,545 lbs</b>	7050 kg	<b>14,972 lbs</b>	6790 kg
	Full Turn	<b>13,395 lbs</b>	6075 kg	<b>13,528 lbs</b>	6135 kg	<b>13,021 lbs</b>	5905 kg
Dumping Clearance, max. height and 45° dump angle		<b>8' 11"</b>	2710 mm	<b>9' 0"</b>	2750 mm	<b>8' 6"</b>	2595 mm
Reach @ 7' 2130 mm cutting edge clearance and 45° dump angle		<b>4' 5"</b>	1350 mm	<b>4' 4"</b>	1330 mm	<b>4' 7"</b>	1400 mm
Reach at max. height and 45° dump angle		<b>3' 3"</b>	990 mm	<b>3' 1"</b>	950 mm	<b>3' 8"</b>	1105 mm
Reach with arm horizontal and bucket level		<b>6' 8"</b>	2040 mm	<b>6' 6"</b>	1980 mm	<b>7' 3"</b>	2200 mm
Operating Height	(fully raised)	<b>15' 5"</b>	4700 mm	<b>15' 3"</b>	4640 mm	<b>15' 7"</b>	4760 mm
	Bucket ground	<b>20' 6"</b>	6260 mm	<b>20' 4"</b>	6200 mm	<b>21' 1"</b>	6420 mm
	Bucket at carry	<b>20' 6"</b>	6250 mm	<b>20' 4"</b>	6185 mm	<b>20' 10"</b>	6360 mm
Turning radius (bucket at carry, outside corner of bucket)		<b>17' 5"</b>	5305 mm	<b>17' 4"</b>	5290 mm	<b>17' 6"</b>	5345 mm
Digging Depth	0°	<b>3.1"</b>	80 mm	<b>3.1"</b>	80 mm	<b>3.1"</b>	80 mm
	10°	<b>9.8"</b>	250 mm	<b>9.4"</b>	240 mm	<b>10.8"</b>	275 mm
Breakout Force		<b>20,290 lbs</b>	9200 kg	<b>21,805 lbs</b>	9890 kg	<b>17,000 lbs</b>	7710 kg
Operating Weight		<b>20,639 lbs</b>	9360 kg	<b>20,595 lbs</b>	9340 kg	<b>20,870 lbs</b>	9465 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), 17.5 - 25, 12PR (L2) tires, additional counterweight, front fenders and operator. Machine stability and operating weight are affected by counterweight, tire size and other attachments. Add the following weight 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)	<b>-680 lbs</b>	-310 kg	<b>-1200 lbs</b>	-545 kg	<b>-1050 lbs</b>	-475 kg
ROPS Cab (removed)	<b>-882 lbs</b>	-400 kg	<b>-684 lbs</b>	-310 kg	<b>-595 lbs</b>	-270 kg
ROPS Canopy (instead of ROPS Cab)	<b>-430 lbs</b>	-195 kg	<b>-331 lbs</b>	-150 kg	<b>-287 lbs</b>	-130 kg
Bucket Teeth (instead of bolt-on cutting edge)	<b>-99 lbs</b>	-45 kg	<b>+143 lbs</b>	+65 kg	<b>+143 lbs</b>	+65 kg
15.5-25-12PR (L2) tubeless tires	<b>-232 lbs</b>	-105 kg	<b>-176 lbs</b>	-80 kg	<b>-154 lbs</b>	-70 kg
15.5-25-12PR (L3) tubeless tires	<b>-11 lbs</b>	-5 kg	<b>-11 lbs</b>	-5 kg	<b>-11 lbs</b>	-5 kg
17.5-25-12PR (L2) tubeless tires	0		0		0	
17.5-25-12PR (L3) tubeless tires	<b>+176 lbs</b>	+80 kg	<b>+132 lbs</b>	+60 kg	<b>+110 lbs</b>	+50 kg



## Standard Equipment

- Alternator, 45 amp
- Axles, Semifloating
- Batteries, 2 x 12V/110 Ah
- Brakes, Service, Wet Single Disc
- Bucket Positioner
- Fenders, Rear
- Horn – Electric
- Lights: stop & tail, turn signal (2 front, 2 rear) working (2 front, 2 rear)
- Seat Belt, 3" wide
- Seat, Suspension Type
- Starter, 24V x 7.6 kW Direct Electric
- Steering, Full Hydraulic Power
- Transmission Control Levers, Mechanical Type
- Transmission, F3-R3, Countershaft

\* Note: Unit must be equipped with ROPS Canopy or ROPS Cab

## Optional Equipment

- Additional Counterweight
- Air Conditioner with Heater/Defroster
- Auxillary Steering Kit
- Boom Lift Kickout, Automatic
- Fenders, Front
- Heater/Defroster, (40,000 BTU)
- Hydraulic Adapter Kit, includes 3-spool valve, lever and piping
- Lights, backup
- Lights, working (front cab mounted)
- Mirrors, rear view, outside cab mounted
- ROPS Cab, includes windshield washer and wiper (front), inside mounted rear view mirror, floor mat, dome light
- ROPS Canopy, includes rear view mirrors
- Speedometer
- Starting aid, ether type
- Tool Box, Bolt-on
- Tool Kit
- Vandalism Protection Kit
- Windshield Washer and Wiper, rear
- Tires (Bias Ply)
  - 15.5-25-12PR (L2)
  - 15.5-25-12PR (L3)
  - 17.5-25-12PR (L2)
  - 17.5-25-12PR (L3)
- Tires (Radial Ply)
  - 15.5-R25 X TLAT (L2) Michelin
  - 15.5-R25 X HAT (L3) Michelin
  - 17.5-R25 X TLAT (L2) Michelin
  - 17.5-R25 X HAT (L3) Michelin
- RIMS
  - for 15.5-25 tires (1 piece)
  - for 17.5-25 tires (1 piece)
- Work Equipment
  - **2.0 yd<sup>3</sup>** Excavating Bucket
  - **2.25 yd<sup>3</sup>** General Purpose Bucket
  - **2.9 yd<sup>3</sup>** Light Material Bucket
  - Bolt-on Cutting Edge
  - Bolt-on Bucket Teeth
  - JRB Hydraulic Quick Coupler
  - JRB **2.25 yd<sup>3</sup>** General Purpose Bucket for use with quick coupler only
  - JRB **48"** Construction Forks For use with quick coupler only

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Materials and specifications are subject to change without notice.

# KOMATSU

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