WA500-3 Wheel Loader



BUCKET CAPACITIES 5.6 - 7.2 yd³ 4.3 - 5.5 m³





WA500-3



WA500-3Wheel Loader



Designed for better value through improved reliability and enhanced versatility. That's why the WA500-3 means value, and anything less is just another Wheel Loader.

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

Optional Electrically Controlled Suspension System. Takes the bounce out of travel on rough ground surfaces. Provides greater comfort and confidence for the operator as well as increased travel speed and steering stability, while improving the material retention in the bucket.

Here's how it works. A switch in the operator's compartment initiates the electrical circuit that actuates the solenoid selector valves for the boom cylinders as well as pressure switches for the accumulators. This allows the accumulators to absorb the shocks during roading.

Ground level greasing reduces maintenance time. See page 8.

New easier access to engine for servicing. Large swing-out hood doors lock with cab key.

Komatsu limited slip differentials are optional. See page 7.

New sealed, wet multi-disc parking brake for better reliability and less maintenance cost. See page 7.

Automatic transmission with kick-down switch is another standard feature. See page 7.

WHEEL

LOADER



WA500-3

FLYWHEEL HORSEPOWER 315 hp 235 kW @ 2100 rpm

OPERATING WEIGHT* 65,164 lb 29620 kg * with bucket

BUCKET CAPACITY 5.6-7.2 yd3 4.3-5.5 m3

2

LOADER

WA500-3 WHEE



KOMATSU WA

New cab for increased operator productivity. New operator's cab provides better visibility, increased comfort, see-at-a-glance console, two-door walk-through and finger-touch shifting. See page 5.

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 5.

Cummins N14 diesel power for productivity and reliability. See page 6.

Underhood mounted muffler provides operator with great rearward vision.

Rear lights have been moved up, out of harms way.

Optional stick-steer gives improved cycle time in tight cycle applications while reducing operator fatigue.

Sight gauge for hydraulic tank allows ground level check.

Ground level fueling.

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

New hydraulically-actuated wet disc brake system eliminates air system maintenance.

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

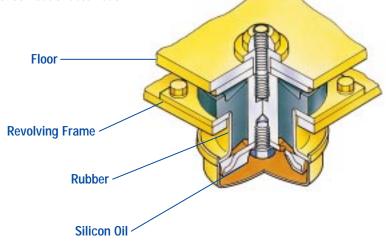
OPERATOR'S Compariment

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 Wheel Loaders go beyond providing a large cab with a comfortable seat. Improvements include these production-enhancing standard and optional features:

- Large curved glass front window provides the operator an unobstructed view of the working area and attachment.
- Two-door walk-through cab. Good for ventilation as well as easy entry and exit from either side of the cab.
- 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.
- Kick-down switch is conveniently located on the boom shift lever.
 A simple motion of the thumb actuates this valuable productivity feature.
 Hold button on side of boom lever allows lock-out of automatic.

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





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.

KOMATSU DESIGNED POWER TRAIN

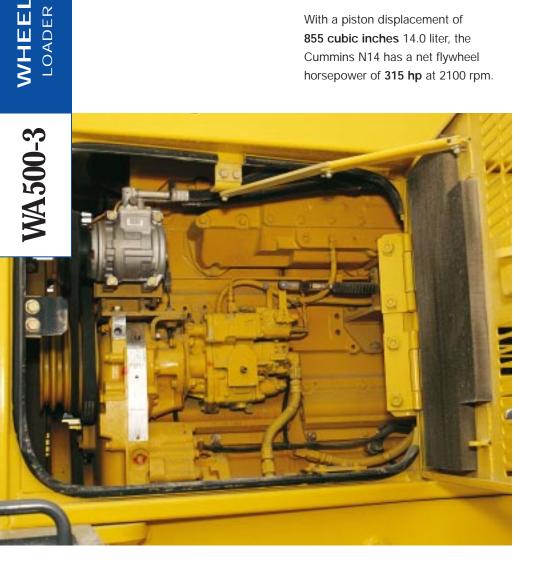
Komatsu integrated design means components are matched to provide most efficient use of power whether you're working the face of a material bank or travelling with a loaded bucket.

The WA500-3 Wheel Loader is designed to effectively match the engine, four-speed transmission, differentials, axles, and brakes to the applications for which this Wheel Loader is built to handle.

CUMMINS EMISSIONIZED N14 DIESEL ENGINE

The N14, Cummins 14 liter engine, has long been the standard of the industry for reliability and durability. Recent refinements to the new Cummins N14 engine, including articulated pistons, larger bearing areas and swirl port technology heads make it an even tougher engine.

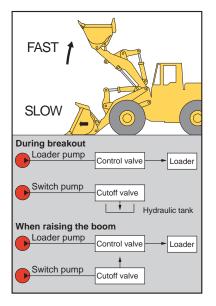
With a piston displacement of 855 cubic inches 14.0 liter, the Cummins N14 has a net flywheel horsepower of 315 hp at 2100 rpm.



Other power train features include:

- Large Diameter Camshaft
 - The single large diameter flangeless camshaft has a crowned design for both the camshaft journal and cam follower rollers, reducing contact roller stress. Forged and inductionhardened camshafts with crown rollers result in outstanding reliability and durability.
- Large capacity, double-wrapped muffler is mounted under the hood for lower engine noise and better operator visibility.
- Simple, rugged design for dependability and low service requirements.
- 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.
- Sealed wet disc service brakes. Resistant to foreign debris even when working in hostile environments.
- Maintenance-free parking brake is located in the transmission case and is a wet disc brake.

Transmission



APS—Automatic Power Speed Hydraulic System, is a dual-hydraulic speed system from Komatsu, which increases operational efficiency by matching the hydraulic demands to the actual 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. The result of this new Avance Dash-3 technology means greater productivity at the lowest operating cost.

KOMATSU FOUR-SPEED TRANSMISSION

Provides maximum forward speed in fourth gear of up to **21.6 mph** 34.8 km/h and in reverse of **23.7 mph** 38.1 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.

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.

Four-wheel drive with optional limited slip differentials for

reduced slippage and longer tire life. This improves the ability of the WA500-3 to maneuver in unstable conditions compared to a similar machine equipped with conventional differentials.

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 30 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 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 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.

-MAINTERIANCE

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 WA500-3 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 Wheel Loaders.

- 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 some areas to reduce maintenance time.
- Batteries are located in the counterweight for ground level access.
- Sealed Loader Linkage Pinsdesigned to keep grease contained longer, prevent the entrance of dust, thereby lengthening greasing intervals.



Komatsu design

means more

value

WA500-3 Wheel Loader





| Model | Cummins N14 |
|----------------------------|---|
| ТуреИ | later-cooled, 4-cycle, direct injection |
| Aspiration. | Turbocharged and aftercooled |
| No. of cylinders | |
| Bore x stroke | 5.5" x 6.0" 140 mm x 152 mm |
| Piston displacement | 855 in ³ 14.0 ltr |
| Governor | All-speed mechanical |
| Horsepower Rating @ 2100 r | pm (SAE J1349) |
| Gross nower | 335 hn 250 kW |

Gear pump-driven force lubrication with full-flow filters. All filters are spin-on for easy maintenance. Exhaust aspirated 34 tubes strata precleaner, dry air cleaner with primary and secondary elements and dust indicator. 24V electric starting motor; 24V/50A alternator, 2 x 12V/200Ah batteries.

Three-element, single stage, single-phase torque converter. Full power shift, automatic planetary gear transmission. An electronically-controlled transmission allows fingertip control with speed and directional change levers. A modulating function assures shockless range and directional changes.

| Speed* | | | Reverse | | |
|--------|----------|-----------|----------|-----------|--|
| 1st | 4.4 mph | 7.1 km/h | 4.9 mph | 7.9 km/h | |
| 2nd | 7.8 mph | 12.6 km/h | 8.6 mph | 14.1 km/h | |
| 3rd | 13.2 mph | 21.2 km/h | 14.6 mph | 23.5 km/h | |
| 4th | 21.6 mph | 34.8 km/h | 23.7 mph | 38.1 km/h | |
| | | | | | |

*Measured with 29.5/25 tires



4-wheel drive system. Fixed, full-floating front axle. Center-pin supported, full-floating rear axle has 30° total oscillation. Spiral bevel gear for reduction and straight bevel gear for differential. Final reduction through a single reduction planetary gear set in an oil bath.



Service brakes: 4-wheel, separate front-rear wheel, hydraulically actuated, multiple wet disc.

Parking brake: Wet disc brake.



Articulated, full-hydraulic power steering. 40° steering angle each direction. Minimum turning radius of **20'2"** 6160 mm at the center of the outside tire. Stick-steer control system is optional.



Dimensions comply with ISO 3471 and SAE J1040c ROPS (Roll-Over Protective Structure) standards, as well as ISO 3449 FOPS (Falling Object Protective Structure) standards. The cab is mounted on viscous dampening mounts.



Control positions





The dual hydraulic speed system makes it possible to reduce cycle times.

- Powerful rim pull is maintained when entering the pile, so the digging capacity is increased.
- Boom speed is increased while raising the boom to minimize cycle time.

Capacity (discharge flow) @ engine 2140 rpm

| Loader Pump | 88.2 gal/min | 333.8 ltr/min |
|----------------------|---------------|---------------|
| Steering Pump | 43.5 gal/min | 164.6 ltr/min |
| Switch Pump | 34.3 gal/min | 129.9 ltr/min |
| Pilot Pump | 15.6 gal/min | 59.1 ltr/min |
| (Gear Pumps) | | |
| Loader Total | 122.5 gal/min | 463.7 ltr/min |
| Steering Total | 77.8 gal/min | 294.5 ltr/min |
| Relief valve setting | | |
| Looden | 2000 m | ai 210 kalom? |

Control valve Spool

Unduculia Number of

| Hydrau | IIIC INU | mp | er | DI |
|--------|----------|----|----|----|
| | | | | |

| cylinders | cylinders | В | ore | Str | oke |
|-----------|-----------|------|--------|--------|--------|
| Boom | 2 | 7.9" | 200 mm | 33.03" | 839 mm |
| Bucket | 1 | 8.9" | 225 mm | 24.13" | 613 mm |
| Steering | 2 | 4.3" | 110 mm | 19.1" | 486 mm |

Hydraulic cycle time (rated load in bucket) Raise...6.4 sec/Dump...1.7 sec/Lower (empty)...3.5 sec

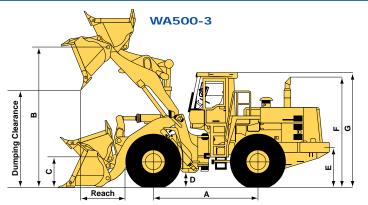
Total cycle time = 11.6 sec



| Cooling system | 81 ltr |
|--|---------|
| Fuel tank | 465 ltr |
| Engine | 35 ltr |
| Hydraulic system | 175 ltr |
| Differential, final drive (each axle) 20.6 gal | 78 ltr |
| Torque converter and transmission | 62 ltr |



Select ideal tires depending on job requirements. 29.5/25-22PR (L3) standard



| | Tires | 29.5/25-2 | 2PR (L3) |
|---|-----------------------------------|-----------|----------|
| | Tread | 7'10" | 2400 mm |
| | Width over tires | 10'6" | 3190 mm |
| А | Wheelbase | 11'10" | 3600 mm |
| В | Bucket pin height, maximum height | 14'9" | 4500 mm |
| С | Bucket pin height, carry position | 1'10" | 565 mm |
| D | Ground clearance | 1'5" | 450 mm |
| Е | Hitch height | 4'1" | 1240 mm |
| F | Overall height, top of stack | 12'2" | 3705 mm |
| G | Overall height, ROPS canopy | 12'8" | 3860 mm |

| Bucket | | General Purpose Straight Edge with Bolt-on Cutting Edge | | Excavating Straight Edge with Teeth and Segment Edges | | Loose Material Straight Edge with Bolt-on Cutting Edge | |
|--|-----------------|---|--------------------|---|--------------------|--|--------------------|
| Bucket Capacity | SAE rated | 6.5 yd ³ | 5.0 m ³ | 5.9 yd ³ | 4.5 m ³ | 7.2 yd ³ | 5.5 m ³ |
| | Struck | 6.0 yd ³ | 4.6 m ³ | 5.1 yd ³ | 3.9 m ³ | 6.6 yd ³ | 5.1 m ³ |
| Bucket Width | | 11'2" | 3400 mm | 11'4" | 3460 mm | 11'2" | 3404 mm |
| Bucket Weight | _ | 6,072 lb | 2760 kg | 5,667 lb | 2570 kg | 6,445 lb | 2923 kg |
| Static Tipping Load | Straight | 52,633 lb | 23870 kg | 53,118 lb | 24090 kg | 52,033 lb | 23598 kg |
| | 40° full turn | 45,181 lb | 20490 kg | 45,599 lb | 20680 kg | 44,681 lb | 20264 kg |
| Dumping Clearance, maximum height and 45° dump angle | | 10'5" | 3170 mm | 10'1" | 3070 mm | 10'2" | 3095 mm |
| Reach at 7' 2130 mm 45° dump angle | | 6'8" | 2025 mm | 7'1" | 2165 mm | 6'11" | 2108 mm |
| Reach at maximum height and 45° dump angle | _ | 4'6" | 1365 mm | 4'8" | 1425 mm | 4'9" | 1448 mm |
| Reach with arm horizontal and bucket level | | 12'4" | 3760 mm | 12'10" | 3910 mm | 12'9" | 3886 mm |
| Operating Height | Fully raised | 20'3" | 6175 mm | 20'1" | 6115 mm | 20'4" | 6198 mm |
| Overall Length | Bucket at carry | 29'10" | 9105 mm | 30'3" | 9225 mm | 30'2" | 9195 mm |
| Turning Radius* | | 24'0" | 7315 mm | 24'3" | 7390 mm | 24'2" | 7366 mm |
| Digging Depth | 0° | 6" | 150 mm | 5" | 135 mm | 3.7" | 94 mm |
| | 10° | 14.8" | 375 mm | 17.0" | 425 mm | 15.1" | 384 mm |
| Breakout Force | | 52,259 lb | 23700 kg | 59,535 lb | 27000 kg | 47,500 lb | 21542 kg |
| Operating Weight | | 66,282 lb | 30060 kg | 65,863 lb | 29870 kg | 66,655 lb | 30229 kg |

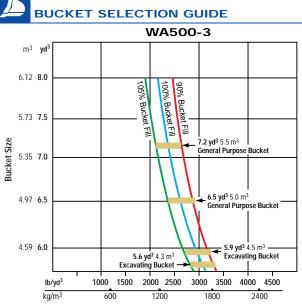
• Static tipping load and operating weight shown include lubricants, coolant, full fuel tank, ROPS cab, front fenders, optional counterweight, 29.5/25-22PR (L3) tubeless tires and operator. Machine stability and operating weight are affected by counterweight, tire size, and other attachments. Do not use tire ballast with optional counterweight.

 $^{\star}\,$ Turning radius measured with bucket at carry position, outside corner of bucket.

Weight Changes

| | Change in Operating Weight | | Change in Tipping Load | | | |
|---------------------------------|-------------------------------|----------|------------------------|----------|-----------|----------|
| | | | Straight | | Full Turn | |
| Remove Steel Cab | -670 lb | –305 kg | –570 lb | –260 kg | –550 lb | –250 kg |
| Deduct Additional Counterweight | -2,200 lb | –1000 kg | -5,280 lb | –2400 kg | -4,400 lb | –2000 kg |

WA500-3Wheel Loader



* 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, Ioam | 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 |

S 10 STANDARD EQUIPMENT

- · Air cleaner, 2-stage dry with auto dust evacuator
- Air conditioner, heater, defroster, pressurizer
- Alternator, 50A
- Axles, full floating with conventional differentials •
- Back-up alarm
- Batteries, 2x12V/200Ah
- Boom kickout, automatic
- Brakes, full hydraulic
- Bucket positioner, automatic
- Cooling fan, blower
- Counterweight, standard 2,820 lb/1280 kg Electronic display monitoring system
- Engine key stop
- Engine, 315 hp/2100 rpm Cummins N14 diesel
- Ether starting aid
- Exhaust pipe, curved
- Fan guard
- · Fenders, full front and partial rear with steps
- Floor mat
- Hand rails, front, LH and RH
- Horn, electric
- Hydraulic oil cooler
- Hydraulic system, two-stage, automatic power speed
- Ladders (right and left)
- Lifting eyes
- Lights
 - -Back-up light (rear)
 - -Stop and tail
 - -Turn signal with hazard switch (2F, 2R)
 - -Working lights in cab, halogen, inside, top windshield mount (2F)
 - -Working lights, halogen (2F, high/low beam with indicator, 2R) (outside)
- Parking brake, wet disc
- Rearview mirror, inside cab mount
- ROPS/FOPS canopy
- Seat belt, 3" width
- Seat, suspension, reclining, with armrests (fabric)
- Service brakes, hydraulic, wet multi-disc, axle-by-axle (outboard)
- Speedometer (mph)
- Starting motor, direct electric 24V 11.1 kW
- Steel cab with front and rear washer/wiper, sun visor
- Steering wheel, tiltable, full hydraulic power
- Tires, (29.5/25-22PR (L3), tubeless) and rims (4 each)
- Transmission, full power shift automatic (4F, 4R), soft shift, countershaft
- 2-spool valve for boom and bucket controls with PPC
- Vandalism protection kit



- Additional counterweight 2,200 lb/1000 kg
- Automatic greasing
- Auto-tuning AM/FM cassette stereo
- Auxiliary steering
- Bucket teeth (Esco Super V with segmented cutting edges)
- Cutting edge (bolt-on)
- ECSS (Electronically Controlled Suspension System)
- Fuel quick fill, Wiggins
- High pressure inline filter
- Highlift boom, bucket and CWT
- Hydraulic adapter kit
- LSD (Limited-Slip Differential)
- Lubrication system, automatic
- Power train guard
- Stick-steer controls
- Tires (bias ply)
- -29.5/25-22PR (L4)
- –29.5/25-22PR (L5)
- Tires (radial ply)
- -26.5/R25XHAT 1-Star (L3)
- -29.5/R25XHAT 1-Star (L3)
- -26.5/R25XLDD 11-Star (L4)
- -29.5/R25XLDD2A 1-Star (L5)
- -29.5/R25XMINE D2 (L5)

SUPPORT

Count on Komatsu and your local distributor for the support you deserve. Our success depends on satisfying your need for productive equipment and supporting that equipment. That's why we have one of the largest and strongest heavyequipment distributor organizations in North America. Their personnel are not only trained to help you select the equipment that is best-matched for your business but to support that equipment. Finance Through

its finance company, Komatsu can offer you a wide variety of financing alternatives designed to meet your needs. Programs include municipal leases for governmental agencies, conditional sales contracts, and leases with \$1 purchase options for customers interested in owning their equipment. Ask your distributor about Komatsu leasing. We offer finance and operating leases and the unique *Advantage Lease* which offers you predetermined purchase, return, and renewal options.

Parts Three computer-linked parts distribution centers provide fast access to anywhere in the U.S. and Canada. Most parts are available overnight. Plus, Komatsu distributors keep a large assortment of commonly used parts in stock for immediate access.

Remanufactured

still have the same warranty as new parts at a fraction of the cost with like-new remanufactured parts.

Maintenance Take advantage of the experience we have gained and ask your distributor about our factory-supported programs including: regular scheduled maintenance, oil and wear analysis, diagnostic inspections, undercarriage inspections, training, special service tools, parts programs, and even a special software program to help your distributor keep track of and manage service-related data.

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2/99 (EV-2)



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