

# WA380-3

# KOMATSU

BUCKET CAPACITIES

3.4 - 4.0 yd<sup>3</sup>

2.6 - 3.1 m<sup>3</sup>



# WA380-3

WHEEL LOADER  
**WA380-3**



# H u m a n F i r s t



## WA380-3 WHEEL LOADER

**Flywheel Horsepower:**  
189 HP @ 2200 RPM

**Bucket Capacities:**  
3.4 - 4.0 yd<sup>3</sup>  
2.6 -3.1 m<sup>3</sup>

**Operating Weight:**  
38,765 lb  
17585 kg

- **Operator Comfort**

All controls are ergonomically designed so that operator fatigue is minimized. The new *Avance Dash-3* technology has the comfort of a luxury car with the productivity of a state-of-the-art wheel loader.

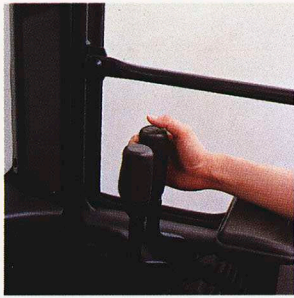
- **Comfortable Operator's Seat**

The fabric covered operator's seat has a reclining suspension design with headrest for support and maximum comfort.



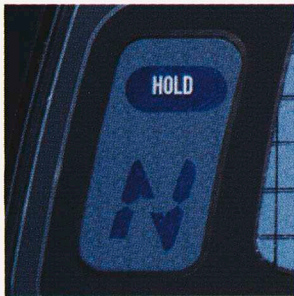


# E n g i n e e r i n g



- **Light-touch Operations**

The work equipment uses a hydraulic pilot *PPC* (Proportional Pressure Control) valve. When compared to the mechanical type, operating effort is lighter and lever travel is shorter. The boom lever is equipped with a quick kickdown switch allowing the operator to downshift from second to first gear. This provides loading operations with one-handed control for maximum productivity.



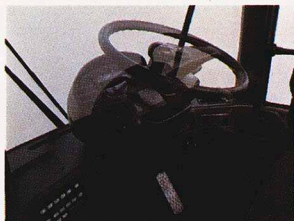
- **Automatic Transmission**

Automatic shift control gives the operator maximum control with minimum effort. The transmission hold switch allows the operator to select either automatic or manual shifting. The unique combination of the hold and kickdown switches, located on the hydraulic boom lever, offers the operator the optimum control in all conditions.



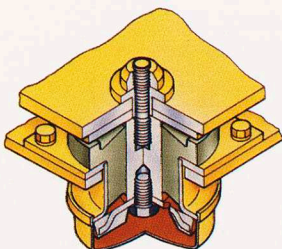
- **Unique Two-Lever Design**

Komatsu's two-lever design makes shifting gears effortless. The gear shift levers are designed to be adjustable in length and customized to the operator. Therefore, the operator can shift gears without removing a hand from the steering wheel; a feature unique to Komatsu.



- **Adjustable Steering Column**

The steering column angle can be easily changed to the most comfortable position with a lever. The two-spoke design ensures clear visibility of the monitors.



- **Low Vibration and Noise**

The floor is supported by viscous dampening hydro-mounts. Hydro-mounts feature a rubber housing filled with silicon oil to dampen vibration and noise. In addition, all hydraulic equipment is mounted on high-resistance rubber to further minimize vibration and noise.

- **Easy Maintenance**

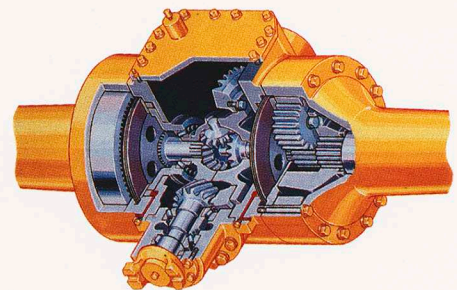
The *EDIMOS II* (Electronic Display Monitoring System) instrument gauge cluster has a well-equipped diagnostic display and a functional design. Main and maintenance monitors are conveniently located and highly visible on the instrument panels for a quick view of all critical machine functions.



- **Dependable Braking System**

The service brake system employs two independent hydraulic brake circuits. In addition, the service brake system and parking brake are the wet disc type. Wet disc brakes are fully sealed, locking out contaminants and are adjustment-free.

Since the braking system does not use air, water corrosion is not a problem. There is a reduction in pedal effort and charging time after engine start-up.





# Features at a Glance



## WA380-3 WHEEL LOADER

- APS - Automatic Power Speed Hydraulic System
- Low-Effort PPC Hydraulic Controls
- Cab - Full View with Integrated ROPS/FOPS
- Rear Opening Cab Door
- Halogen Lights
- Full Powershift, Countershaft Automatic Transmission
- Steering Wheel, Two Spoke, Tilttable
- Unique Transmission Controls - Two Lever Design
- New Digital Heater/Air Conditioner Controls
- Maintenance Monitor, Electronic Diagnostic Display – EDIMOS II
- Transmission Kick-Down Switch
- Cab Hydro-Mounts
- Komatsu S6D114E-1 8.3 Liter Direct-Injection Engine
  - Horsepower: 189 HP @ 2200 RPM
  - Meets 1996 EPA Emission Regulations
- Torque Proportioning Differentials (Standard)
- Limited-Slip Differentials (Optional)
- Z-Bar Loader Linkage

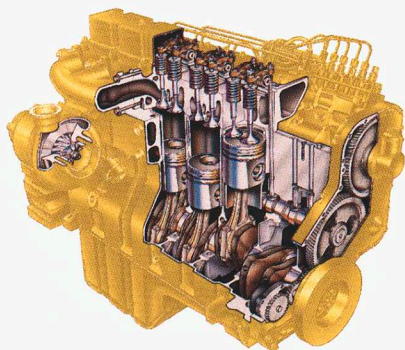


- **Komatsu Engine**

Komatsu's S6D114E-1 turbocharged engine has all the capabilities needed for today's tough operations, including meeting the 1996 EPA emission regulations in North America.

- **Engine Power**

The Komatsu S6D114E-1 is a 4-stroke, inline-6 cylinder, water cooled, overhead valve direct-injection, turbocharged diesel engine. The S6D114E-1 engine has been specifically designed with both performance and heavy-duty features to maximize power and reliability, and to minimize both operating cost and noise.



- **Reliable Power**

Engine and drivetrain components, such as torque converter, transmission, hydraulic equipment and electrical parts, undergo strict quality control checks to ensure reliability and durability. Komatsu-designed components are matched to ensure maximum performance.

Engine access and daily service checks are made simple by the gull-wing side covers which open and close in a one-touch operation. This allows the exposed engine and filters to be easily serviced from the ground.

- **High-Strength Frames**

The high-strength low-alloy, solid plate frames and loader linkages are designed with structural box sections to resist loading stress and shock, providing maximum rigidity and endurance in all operating conditions.

- **Z-Bar Loader Linkage**

Z-bar loader linkage is made of high-tensile strength steel to ensure maximum strength and life. Sealed loader linkage pins provide longer greasing intervals.

- **Torque Proportioning Differentials - Standard**

Torque proportioning axles are standard, front and rear, which provides better traction, and reduced tire slippage.

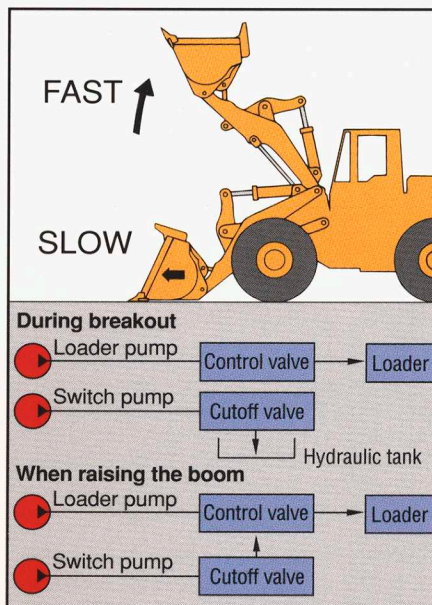
- **Limited Slip Differentials - Optional**

For the toughest operating conditions, there are optional limited slip differential axles, which are capable of maintaining maximum control and productivity by supplying power to both wheels.

- **APS - Automatic Power Speed Hydraulic System**

*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.





# Specifications



## ENGINE

- Model ..... Komatsu S6D114E-1
- Type ..... Direct-Injection
- Aspiration ..... Turbocharged
- No. of cylinders ..... 6
- Bore x Stroke ..... **4.5"** 114 mm x **5.3"** 135 mm
- Piston displacement ..... **505 in<sup>3</sup>** 8.27 ltr.
- Governor ..... All-speed mechanical

Horsepower Rating @ 2200 RPM

	HP	kW
Gross power .....	<b>205</b>	153
Net Power .....	<b>189</b>	141

SAE J1349

Meets 1996 EPA emission regulations.

Gear pump-driven force-lubrication with full-flow filters. All filters are spin-on type for easy maintenance. Dry, 2-stage Cyclopac® air cleaner for longer element service intervals. **24V/7.5 kW** electric starting motor; **24 V/50 A** alternator, 2 x **12 V/170 AH** batteries.



## TRANSMISSION

3-element, single-stage, single-phase torque converter. Full powershift, countershaft type transmission. An auto-shift countershaft transmission is standard. A modulating function assures smooth speed and directional changes. An electrically-controlled transmission allows fingertip control with speed and directional change levers. A neutral safety circuit allows starting only when the directional control lever is in neutral. The transmission kickdown switch allows the operator to downshift from second to first gear without taking a hand off the work control levers. The combination of the kickdown switch and the auto-shift allows the best load and carry operations.

Travel

Speed*	Forward	Reverse
1st	<b>4.8 MPH</b> 0- 7.7 km/h	<b>5.0 MPH</b> 0- 8.0 km/h
2nd	<b>7.6 MPH</b> 0-12.3 km/h	<b>8.0 MPH</b> 0-12.8 km/h
3rd	<b>13.3 MPH</b> 0-21.4 km/h	<b>14.0 MPH</b> 0-22.6 km/h
4th	<b>21.1 MPH</b> 0-34.0 km/h	<b>21.7 MPH</b> 0-35 km/h

\*with 23.5-25-16 PR (L3)



## AXLES & FINAL DRIVES

Four-wheel drive system. Semi-floating front axle is fixed to the front frame. Center-pin supported, semi-floating rear axle has 26° oscillation. Spiral bevel gear for reduction and planetary gear for final reduction. 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 brake pedals are provided. Either can be used for normal braking; however, the left pedal can also be used for braking and transmission neutralizing simply by actuating a switch.

**Parking brake:** Spring applied, hydraulically released, wet disc type, located inside the transmission case (adjustment-free).



## STEERING SYSTEM

Center-pivot frame articulation. Full-hydraulic power assisted steering independent of engine RPMs. A wide articulation angle of 40° on each side allows a minimum turning radius of **20'11"** 6370 mm at the outside corner of the bucket with bolt-on cutting edge.



## BOOM & BUCKET

Z-bar loader linkage is designed for maximum rigidity and offers powerful breakout. Rap-out loader linkage design enables shock dumping for removing sticky materials. Sealed loader linkage pins with dust seals extend greasing intervals. The bucket is made of high-tensile-strength steel.



## BUCKET CONTROLS

The use of a PPC hydraulic control valve offers lighter operating effort for the work equipment control levers. The reduction in the lever force and travel makes it easy to operate the work equipment.

**Control positions:**

Boom	Raise, hold, lower and float
Bucket	Roll-back, hold and dump



## HYDRAULIC SYSTEM

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 2200 RPM**

Loader Pump	<b>59.2 gal/min</b>	224 ltr./min
Steering Pump	<b>21.4 gal/min</b>	81 ltr./min
Switch Pump	<b>29.6 gal/min</b>	112 ltr./min
Pilot Pump	<b>15.1 gal/min</b>	57 ltr./min

(Gear Type Pumps)

**Relief valve setting:**

Loader	<b>3000 PSI</b> 210 kg/cm <sup>2</sup>
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**Control valves:**

A 2-spool type control valve and a steering valve with a demand valve provides the optimum flow.

**Hydraulic Number of**

	cylinders	cylinders	Bore	Stroke
Boom	2	<b>6.3"</b> 160 mm	<b>28.1"</b> 713 mm	
Bucket	1	<b>7.1"</b> 180 mm	<b>19.8"</b> 503 mm	
Steering	2	<b>3.1"</b> 80 mm	<b>17.4"</b> 442 mm	

Hydraulic cycle time (rated load in bucket): Total **10.6 sec.**

Raise ... **5.9 sec./Dump** ... **1.4 sec./Lower** (empty) **3.3 sec.**



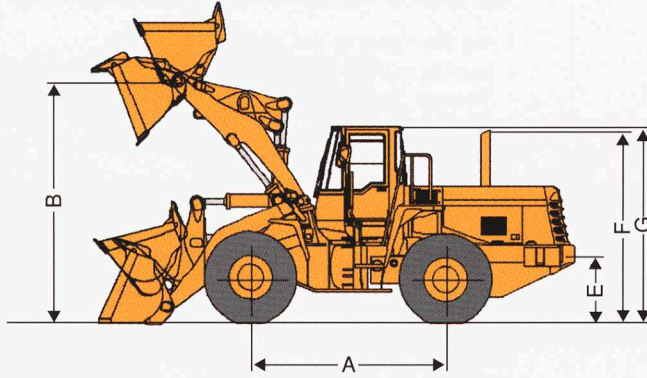
## SERVICE REFILL CAPACITIES

Cooling system .....	<b>14.0 gal</b>	53 ltr.
Fuel tank .....	<b>75.8 gal</b>	287 ltr.
Engine .....	<b>5.9 gal</b>	22.4 ltr.
Hydraulic system .....	<b>36.5 gal</b>	138 ltr.
Axle (each front & rear) .....	<b>9.8 gal</b>	37 ltr.
Torque converter and transmission .....	<b>11.1 gal</b>	42 ltr.

**WA380-3**  
WHEEL LOADER



# Dimensions



Tires	23.5-25-16PR(L3)	
Tread	<b>7'1"</b>	2160 mm
Width over tires	<b>9'1"</b>	2780 mm
A Wheelbase	<b>10'6"</b>	3200 mm
B Hinge pin height, max. height	<b>13'1"</b>	3988 mm
C Hinge pin height, carry position	<b>1'7"</b>	470 mm
D Ground Clearance	<b>1'6"</b>	455 mm
E Hitch Height	<b>3'9"</b>	1150 mm
F Overall Height, top of stack	<b>11"</b>	3345 mm
G Overall Height, ROPS Cab	<b>11'4"</b>	3460 mm

Bucket Type		General Purpose w/Bolt-on Cutting Edge		Excavating w/Bolt-on Cutting Edge		Excavating w/Teeth	
Bucket Capacity	SAE Rated	<b>4.0 yd<sup>3</sup></b>	3.1 m <sup>3</sup>	<b>3.7 yd<sup>3</sup></b>	2.8 m <sup>3</sup>	<b>3.4 yd<sup>3</sup></b>	2.6 m <sup>3</sup>
	Struck	<b>3.4 yd<sup>3</sup></b>	2.6 m <sup>3</sup>	<b>3.1 yd<sup>3</sup></b>	2.4 m <sup>3</sup>	<b>2.9 yd<sup>3</sup></b>	2.2 m <sup>3</sup>
Bucket Width		<b>9'6"</b>	2905 mm	<b>9'6"</b>	2905 mm	<b>9'7"</b>	2920 mm
Bucket Weight		<b>3,540 lb</b>	1605 kg	<b>3,770 lb</b>	1710 kg	<b>3,620 lb</b>	1640 kg
Static Tipping Loads	Straight	<b>32,075 lb</b>	14550 kg	<b>31,415 lb</b>	14250 kg	<b>31,615 lb</b>	14340 kg
	Full Turn (40°)	<b>27,775 lb</b>	12600kg	<b>27,160 lb</b>	12320kg	<b>27,360 lb</b>	12410 kg
Dump Clearance, max. height and 45° dump angle		<b>9'7"</b>	2915 mm	<b>9'8"</b>	2955 mm	<b>9'3"</b>	2830 mm
Reach at 7' 2130 mm and 45° dump angle		<b>5'3"</b>	1595 mm	<b>5'2"</b>	1570 mm	<b>5'4"</b>	1615 mm
Reach at max. height and 45° dump angle		<b>3'6"</b>	1060 mm	<b>3'4"</b>	1020 mm	<b>3'8"</b>	1120 mm
Height to hinge pin		<b>13'1"</b>	3980 mm	<b>13'1"</b>	3980 mm	<b>13'1"</b>	3980 mm
Operating Height	Fully raised	<b>17'9"</b>	5410 mm	<b>17'3"</b>	5260 mm	<b>17'3"</b>	5260 mm
Overall Length	Bucket ground	<b>25'3"</b>	7695 mm	<b>25'1"</b>	7650 mm	<b>25'6"</b>	7780 mm
	Bucket at carry	<b>25'3"</b>	7690 mm	<b>25'3"</b>	7690 mm	<b>25'7"</b>	7795 mm
Turning Radius*		<b>20'11"</b>	6370 mm	<b>20'10"</b>	6360 mm	<b>21'0"</b>	6400 mm
Digging Depth	0°	<b>2.2"</b>	55 mm	<b>2.2"</b>	55 mm	<b>3.0"</b>	75 mm
	10°	<b>10.8"</b>	275 mm	<b>10.2"</b>	260 mm	<b>1'0"</b>	305 mm
Breakout Force		<b>34,316 lb</b>	15560 kg	<b>36,090 lb</b>	16370 kg	<b>39,640 lb</b>	17980 kg
Operating Weight		<b>38,765 lb</b>	17585 kg	<b>39,000 lb</b>	17690 kg	<b>38,845 lb</b>	17620 kg

- Static tipping load and operating weight shown include lubricants, coolant, full fuel tank, ROPS cab, front fenders, optional counterweight, 23.5-25-16PR (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.** Add the following weight changes to operating weight and static tipping load.

## Weight Changes

Tire & Options	Change in Operating Weight				Change in Static Tipping Load							
					Straight				Full Turn (40°)			
	No Ballast		Ballast		No Ballast		Ballast		No Ballast		Ballast	
	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg
20.5-25-16PR(L2)	-2,555	-1160	-1,795	-815	-2,050	-930	-1,710	-775	-1,785	-810	-1,390	-630
10.5-25-16PR(L3)	-2,125	-965	-1,365	-620	-1,695	-770	-1,355	-615	-1,475	-670	-1,080	-490
23.5-25-12PR(L2)	-915	-415	+685	+310	-725	-330	+905	+410	-640	-290	+905	+410
23.5-25-12PR(L3)	-240	-110	+1,355	+615	-200	-90	+1,430	+650	-175	-80	+1,365	+620
23.5-25-16PR(L2)	-825	-375	+770	+350	-660	-300	+970	+440	-575	-260	+970	+440
23.5-25-16PR(L3)	0	0	+1,600	+725	0	0	+1,630	+740	0	0	+1,545	+700
23.5-25-20PR(L2)	-685	-310	+915	+415	-550	-250	+1,080	+490	-485	-220	+1,060	+480
23.5-25-20PR(L3)	0	0	+1,600	+725	0	0	+1,630	+740	0	0	+1,545	+700
Opt. Cwt. Removed	<b>-715 lb</b>		<b>-325 kg</b>		<b>-1,930 lb</b>		<b>-875 kg</b>		<b>-1,610 lb</b>		<b>-732 kg</b>	
ROPS Canopy (instead of Cab)	<b>-1,565 lb</b>		<b>-710 kg</b>		<b>-1,520 lb</b>		<b>-690 kg</b>		<b>-1,465 lb</b>		<b>-665 kg</b>	

- All dimensions, weights and performance values based on SAE J-732C and J-742B standards. \* Turning Radius measured with bucket at carry position, outside corner of bucket.

## Standard Equipment

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- Alternator, **50 amp**
- **APS-** Automatic Power Speed Hydraulic System
- Automatic Transmission, Full Powershift – 4F–4R, Soft-Shift, Countershaft
- Back-up Alarm and Light
- Batteries, **2 x 12V/170AH**
- Blower Fan
- Boom Kick-out, Automatic
- Bucket Positioner, Automatic
- Counterweight, Standard
- Dome Light
- Electric Horn
- Electrical Shut-Off (w/ key)
- Engine, Komatsu **S6D114E-1**  
**189 HP @ 2380 RPM** Turbocharged diesel
- Engine Shut-down System – (key-type)
- Engine Water Conditioner
- Ether Starting Aid
- Exhaust Pipe, Curved
- Floor Mat
- Front Fenders, Partial Rear w/Steps
- Hydraulic Oil Cooler
- Lifting Eyes
- Lighter and Ashtray
- Lights: Stop & Tail with Hazard Switch
  - Turn Signals (2 Front, 2 Rear)
  - Halogen Work Lights (2 Front, 2 Rear)
- Main Monitor Panel – Electronic Display
- Maintenance Monitor Panel –  
Electronic EDIMOS II Monitor
- Rearview Mirror (inside cab mount)
- ROPS/FOPS Cab w/ Inside Halogen Work Lights
- Seat, Suspension/Reclining Type w/Armrests and Headrest, Seatbelt, Retractable
- Service Brakes, Wet Multiple-Disc Type, Inboard
- Starting Motor, **24V**
- Steering Wheel, Tilttable
- Storage Box
- Sun Visor
- Tires and Rims (**23.5-25-16PR, L3**)
- Torque Proportioning Differentials
- Transmission Control, Electric w/Kickdown Switch
- 2-Spool Valve, Standard w/**PPC** Controls
- Vandalism Protection Kit
- Window Washer/Wiper, Front and Rear
- Z-bar Loader Linkage

\*ROPS Canopy or ROPS Cab must be ordered for all machines. (SAE J1040)

AESS401-02 C-10/96

# KOMATSU

Komatsu America International Company

## Optional Equipment

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- Air Conditioner w/Cold Box
- Auxiliary Steering
- Bucket Teeth
- Counterweight, Additional Options
- **ECSS**  
(Electronically Controlled Suspension System)
- **3.4 yd<sup>3</sup>** Excavating Bucket with Teeth
- **3.7 yd<sup>3</sup>** Excavating Bucket with BOCE
- **4.0 yd<sup>3</sup>** General Purpose Bucket with BOCE
- **5.25 yd<sup>3</sup>** Light Material Bucket with BOCE
- Fenders, Full Front and Rear
- Heater and Defroster
- Hydraulic Adapter Kit – 3-Spool with Piping
- JRB Coupler System
- Limited Slip Differential, Front and Rear
- Lubrication System, Automatic
- Mirrors, Outside Cab
- Mono-Lever, Loader Control for 2-Spool Valve
- Mono-Lever, Loader Control  
(plus one lever for 3-spool valve)
- Radio with Cassette Stereo, Auto Tuning
- Rearview Mirror (outside cab mount)
- ROPS/FOPS Canopy
- 3-Spool Valve (add-on type valve)
- Tool Kit

## Optional Tires

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### Bias Ply

- 20.5-25-16PR (L2)
- 20.5-25-16PR (L3)
- 23.5-25-12PR (L2)
- 23.5-25-12PR (L3)
- 23.5-25-16PR (L2)
- 23.5-25-16PR (L3)
- 23.5-25-16PR (L3)
- 23.5-25-20PR (L3)

### Radial Ply

- 23.5-R25 XHAT 1-Star (L3)
- 23.5-R25 XRDIAT 1-Star (L4)

BOCE – Bolt-On Cutting Edge.

Photos shown may include optional equipment.

Materials and specifications are subject to change without notice.