KOMATSU®

D155AX-5

NET HORSEPOWER 231 kW 310 HP @ 1.900 rpm

> OPERATING WEIGHT 39.010 kg

BLADE CAPACITY

Semi-U: 8,8 m³ Full-U: 11,8 m³

D 155

Crawler Dozer



D155AX-5

WALK-AROUND

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 with components that are designed to work together to deliver higher production levels, greater reliability, and more versatility.

Hydrostatic driven engine cooling fan

Controlled automatically, reduces fuel consumption and operating noise levels. Reverse position for cleaning radiator.



NET HORSEPOWER 231 kW 310 HP

OPERATING WEIGHT 39.010 kg

BLADE CAPACITY

Semi-U: 8,8 m³ Full-U: 11,8 m³

New hexagonally designed SpaceCab™ cab includes:

- Spacious interior
- New cab damper for comfortable ride
- Excellent visibility
- High capacity air conditioning system
- PCCS (Palm Command Control System) lever for direction and blade control
- Pressurised cab
- · Adjustable armrests
- State-of-the-art highback seat
- · Heated rear window
- · Pre radio installation kit
- 12 V connector



Komatsu SA6D140E-3

231 kW 310 HP turbocharged, aftercooled engine provides ample power.

HSS (Hydrostatic Steering System)

provides smooth, quick and powerful turns on various ground conditions.



Low-drive undercarriage

Ensures outstanding grading ability and stability.

Rippers (option)

- · Variable giant ripper
- Variable multishank ripper

COMFORTABLE ERGONOMIC CONTROL

Komatsu's new cabin meets the needs of operators who work long shifts

PCCS (Palm Command Control System)

Komatsu's new 'PCCS' ergonomically designed control system delivers a work environment with complete operator control.

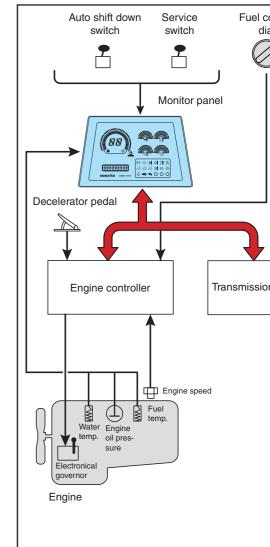
Human-machine interface

Palm command electronic controlled travel joystick

The palm command travel joystick provides the operator with an environment that supports a comfortable posture and precise machine control, without fatigue. Shifting gears is easily carried out with the gear shift lever's push button control.

The system's proportional steering controller increases safety and assists in precision operations. At the lowest speeds, the total range of steering directions is fully available, giving precise direction control. This makes counter-rotation turns possible when standing in the same space. The range of steering directions is proportionately reduced as the dozer's travel speed increases. This keeps turning manoeuvres within safe ranges, making sharp, unsafe turns at high speeds impossible.

All of the signals are transmitted via an engine and transmission controller, preventing overload of the hydraulic steering system and protecting hydraulic and mechanical parts. Because the controller linkages between the engine speed dial, decelerator pedal, and the engine are electrical, there is no wear of moving linkage parts.









Blade and ripper control joystick

Power train electronic control system

Smooth and soft operation controlled by the engine and transmission controller

The D155AX-5 utilises a newly designed power train electronic control system. The controller registers the amount of operator control (movement of lever and operation of switches) along with machine condition signals from each sensor, such as the engine speed and machine angle. This is then used to accurately control the torque converter, transmission, steering clutches and brakes, for optimised machine operations.

Power train electronic Control

Engine controller

By controlling the fuel injection system, the engine controller optimises fuel consumption in combination with the required power. It works on three levels:

- Passive: manages actual work condition information, provides an on-board operation manual, and reports machine history.
- Active: provides the error code and acts as a warning system, helping reduce expensive machine breakdowns
- Measuring tool: The service technicians can see
 the various machine parameters without a need for
 special, expensive hardware and software. This also
 makes technical information immediately available,
 optimising operating time.

Travel control lever **Outline** of the **Electronic Control System** Acceleration sensor Brake pedal n controller potentiometer Transmission control valve Pump servo valve Transmission output speed sensor Electronic controlled HSS transmission

Engine speed control dial

The rate of engine RPMs is continuously controlled and checked by the engine controller. This controls the fuel injection, when needed, saving on fuel. Because the controller linkages between the engine speed dial, decelerator pedal, and the engine are electronic, there is no wear of moving linkage parts.



When turned 15°

Fully-adjustable suspension seat and travel control console

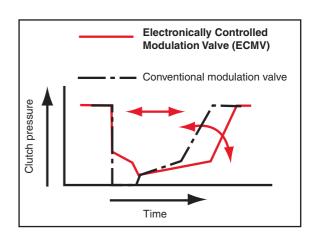
The driver's seat and console are amongst the most important components of the driver's equipment. The comfortable, heavy-duty, ergonomic seat, complete with headrest, gives the driver a secure and comfortable work environment. For reverse operations, the operator

can turn the seat 15° to the right and set it in that position, significantly improving rear visibility and reducing neck strain. The travel control joystick, with its complete console, can be moved forwards, backwards, and in height so that it's fitted to each operator.

PRODUCTIVITY FEATURES

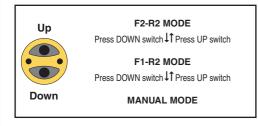
ECMV (Electronically Controlled Modulation Valve) steering clutches/brakes

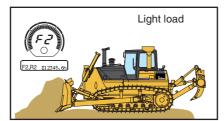
Using an innovative series of valves, the transmission controller automatically and smoothly makes each clutch engagement. The speed of each shift is based on travel conditions such as gear speed, engine RPMs and the current shifting sequence. This provides a smooth, shock-free clutch engagement, longer component life, and increased ride comfort. It also assists productivity because the ECMV manages the transmission, allowing the operator to concentrate on managing the blade position.



Preset travel speed selection function

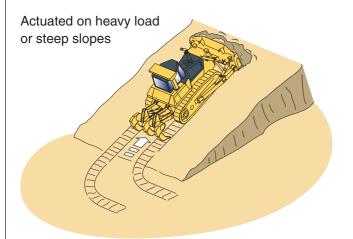
The preset travel speed selection function is standard equipment, enabling the operator to select forward and reverse travel speeds within 3 preset patterns such as F1-R2, F2-R2 and manual shift. When the F1-R2, or F2-R2 preset pattern is selected, and travel control joystick moves to a forward/reverse direction, the machine automatically travels forwards/backwards at the preset F1/R2 or F2/R2 speeds. This function reduces gear shifting time during repeated round-trip operations.





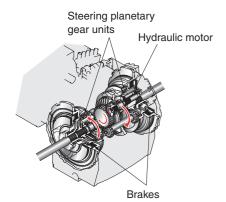


Auto-downshift function



Auto-downshift function

The engine controller monitors engine speed, travel gear and travel speed. When a load is applied and the machine travel speed is reduced, the controller automatically downshifts and optimises the gear speed to provide high fuel efficiency. This function provides comfortable operations and high productivity without manual downshifting. (This function can be deactivated by a cancel switch on the monitor panel.)



Hydrostatic Steering System – smooth, powerful turning

The Hydrostatic Steering System (HSS) is powered by an independent hydraulic pump with the engine power transmitted to both tracks, without an interruption of power to the inside track. When the machine turns, the outside track moves faster, and the inside track moves slower, for smooth, powerful turns. Counter-rotation is available for a minimum turning radius, providing excellent manoeuvrability. Shock-free steering reduces machine vibrations and minimises operator fatigue. The hydrostatic steering system reduces track damage to the ground to a minimum.



Blade control joystick (PPC)

The blade control joystick uses a PPC (Proportional Pressure Control) valve. The design of the blade control joystick is the same as the travel control joystick. The PPC control, combined with the highly reliable Komatsu hydraulic system, enables superbly fine blade control. It keeps the blade movement independent from the blade load and speed of the machine.

The PPC delivers a proportional response to the joystick, giving the operator essential sensory feedback of what the blade is experiencing, and improving the precision of the work that is being done.

The work equipment pump delivers force and flow only when needed. This saves on fuel and delivers maximum engine power to the tracks, thereby increasing performance.



Electrical outlets that match today's technologies

Good communications help ensure top productivity. To keep the driver in contact with the site management, the dozer's 60 W power supply provides a 12 V service for radio, walkie-talkie and mobile phone use.

POWER TRAIN

Engine

Clean powerful engine

The Komatsu SA6D140E-3 engine delivers 231 kW 310 HP at 1.900 rpm. This fuel-efficient engine, together with the heavy machine weight, make the D155AX-5 superior crawler dozers in both ripping and dozing operations. The engine is designed to surpass European Stage II and EPA TIER II regulations, and features direct fuel injection, turbocharger, and aftercooler to maximise fuel efficiency. To minimise noise and vibrations, the engine is mounted on the main frame with rubber cushions.

Improved efficiency with hydrostatic-driven engine cooling fan

Fan rotation is automatically controlled, based on the coolant and hydraulic oil temperature. This saves fuel and provides great productivity with a quiet operating environment.

Easy cleaning with hydraulic-driven engine cooling fan

The radiator core and the core on the front side of the oil cooler can be easily cleaned by running the hydraulic engine cooling fan in reverse. The cleaning intervals of these cores can therefore be increased, resulting in better cooling efficiency.



WORK EQUIPMENT

Komatsu blades

Komatsu uses a box blade design, offering the highest resistance for a low weight blade. This increases total blade manuevrability. High-tensile-strength steel has been incorporated into the front and sides of the blade for increased durability. The blade shape design makes it easy to handle a wide range of materials, offering good blade penetration, combined with a low blade rolling resistance. And finally, Komatsu blades help deliver very good, lower fuel consumption performance.

Semi-U blade

The Komatsu Semi-U blade is designed to stand up to the toughest applications. The shape of the blade gives excellent ground penetration. Its two side wings prevent material spillage, giving class-leading dozing performance.

U blade

The Komatsu U blade has been especially designed to doze large capacities of product with a minimum of spillage. Apart from the large capacity the excellent blade design also offers a good rolling performance, getting the best out of the dozer.



Komatsu rippers

Komatsu rippers have been designed to combine the highest productivity with a long lifetime. The shank is fitted with specially designed wear parts that increase longevity, and offer the best penetration in various types of materials.

Multishank variable angle ripper

The Komatsu patented multishank variable ripper design gives the ripper point ideal bolder removal action. This special design allows all cylinders to work together to get the best combination in ripper point movement and lifting out force. The angle of the ripper point can be placed in the best position to assure the highest penetration force in the material. The multishank ripper has 3 ripper shanks as standard, but can be easily converted to a giant or two-shank ripper, depending on the job conditions.

Giant variable angle ripper

The Komatsu patented giant variable angle ripper design gives the ripper point ideal bolder removal action. This special design allows all cylinders to work together to get the best combination in ripper point movement and lifting out force. The angle of the ripper point can be placed in the best position to assure the highest penetration force in the material. The effective shank length can easily be changed by an hydraulic pin-puller, directed from the operator's seat.



UNDERCARRIAGE

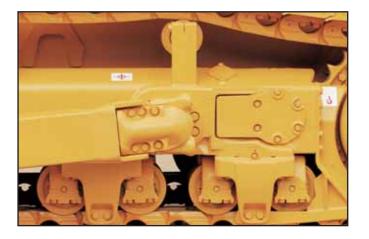
Low drive undercarriage

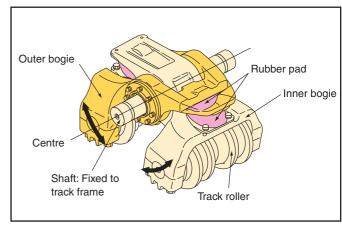
Komatsu's design is extraordinarily tough and offers excellent grading ability and stability. Heavy-duty link assemblies with large-diameter bushings, substantial track link height, and superior oil seals increase undercarriage durability and lifetime. Serviceability is also assisted by the remote greasing of the equaliser bar centre pin. And the segmented sprockets can be replaced individually, by hand, making it possible for one mechanic to carry out replacements at the job site. The design also gives the driver a perfect view of the blade tips, making work easier and more precise.

Advanced resilient equalized undercarriage (REU)

The Komatsu X-type bogie resilient equalized undercarriage (REU) performs independent see-saw movements. Tremendous traction can be achieved even on uneven ground, because the shoe always follows the contour of the ground.

A rubber shock absorber is mounted on the X-type bogie and decreases vibration and shock. The X-type bogie and rubber cushion provide different absorption characteristics, depending on the ground surface. When the machine travels on flat ground, the REU functions as a conventional rigid undercarriage. When the machine travels on uneven ground, the REU maximizes the suspension effect. The Komatsu REU system improves traction, component durability, and operator comfort.





OPERATOR COMFORT

Operator comfort

Operator comfort is essential for safe and productive work. The D155AX-5 provides a quiet, comfortable environment where the operator can concentrate on the work at hand.



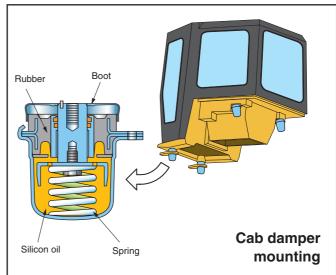
Comfortable ride with new cab damper mounting

D155AX-5's cab mounts use a newly designed cab damper that provides an excellent shock and vibration absorbtion capacity with its long stroke. Cab damper mounts soften shocks and vibrations that conventional mounting systems are unable to absorb, whilst travelling over adverse ground conditions. The cab damper spring isolates the cab from the machine body, suppressing vibrations and providing a quiet, comfortable operating environment.

Pressurised hexagonal SpaceCab™

- The cab's new hexagonal design and large tinted glass windows provide excellent front, side, and rear visibility
- Superior cab sealing, air filters and increased internal air pressure prevent dust from entering the cab
- The high quality cab interior is fully lined with soundabsorbent material





Superior blade visibility

The slim engine bonnet and well-located operator seat provide excellent blade visibility. This greatly increases grading efficiency and operator performance. Finish grading and rough grading can both be performed easily, significantly reducing cycle times.

EASY MAINTENANCE

Preventative maintenance

Preventative maintenance is the only way to ensure long service life from your equipment. That's why Komatsu designed the D155AX-5 with conveniently located maintenance points, to make required inspections and maintenance quick and easy.

Centralised service station

To assure convenient maintenance, all hydraulic and lubrication oil filters have been centralised to make

access to all service points safe and easy.



Modular power train design

Power train components are sealed in a modular design that allows them to be dismounted and mounted without

oil spillage. This makes servicing work clean, smooth, and easy.



Monitor with self-diagnostic function

The monitor panel has a multifunction purpose. It offers:

- Hour meter, engine RPM, fuel gauge and water coolant temperature information, in real time
- Preventative maintenance information such as the timing for the replacement of oil filters
- Service information to inform the operator when abnormalities occur
- Komatsu mechanics receive all available detailed information, without the use of any external service tools

Enclosed hydraulic piping

The hydraulic piping for the blade tilt cylinder is completely housed in the push arm, ensuring damage protection.

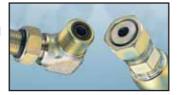
Maintenance-free disc brakes

Wet disc brakes require less maintenance.

O-ring face seal

The hydraulic hose connections use high quality O-ring

face seals. They provide improved sealing performance against vibrations and load shocks.



Reliable, simple structure

The simple hull structure main frame design increases durability and reduces stress concentration in critical areas. The track frame has a large cross section and utilises pivot shaft mounting for greater reliability.

Gull wing engine side covers

Gull wing engine side covers facilitate easy engine maintenance and filter replacement. The side covers are a solid structure with a bolt-on latch to improve durability and repairability.



SERVICEABILITY AND CUSTOMER SUPPORT

The Komatsu dealer network guarantees you the lowest operating costs

When you purchase Komatsu equipment, you gain access to a broad range of programmes and services that have been designed to help you get the most from your investment. These all support substantial productivity, long and useful equipment lifetime, low operating costs, and a high trade-in or resale value.

- Many of the vital components in the D155AX-5 have been installed and proven totally reliable in other heavy-duty Komatsu earthmoving equipment.
- Komatsu's extensive parts warehouses and logistics system across Europe and around the globe ensure unparalleled parts availability.
- Continuous training programmes for Komatsu service personnel guarantee that your equipment is serviced properly and maintained in top running condition.
- The Komatsu Oil Wear Analysis (KOWA) programme offers sophisticated oil analysis to identify problems to be followed up during preventative, scheduled maintenance.
- KFWP (Komatsu's Flexible Warranty Programme) is available, providing a range of extended warranty options on the machine and its components. These can be chosen, based on individual needs and activities. This programme is designed to help reduce total operating costs.
- A Komatsu Repair & Maintenance Contract is a way to establish a fixed operating cost and ensure optimal machine availability for the duration of the contract.







SPECIFICATIONS



ENGINE

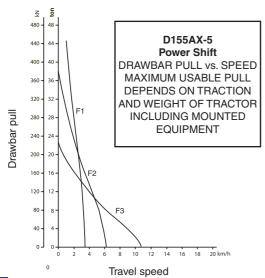
Model	
Type Direct inje	ction, water-cooled, emissionised,
	turbocharged, after-cooled diesel
Rated capacity	
SAE J1349	231 kW/310 HP @ 1.900 rpm
DIN 6270	231 kW/314 PS @ 1.900 rpm
Maximum torque	160 kg·m @ 1.250 rpm
No. of cylinders	6
Bore × stroke	140 × 165 mm
Displacement	15,24 ltr
Governor	All-speed, electronic
Lubrication system	
Method	Gear pump, force lubrication
Filter	Full flow



TORQFLOW TRANSMISSION

Туре	Komatsu TORQFLOW
Torque converter	3-element, 1-stage, 1-phase, water-cooled
Transmission	Planetary gear, multiple-disc clutch
	hydraulically actuated, force-lubricated
Gearshift lock lever and n	eutral safety switch prevent accidental starts.

Max. travel speeds	Forward	Reverse	
1st	3,5 km/h	4,8 km/h	
2nd	6,2 km/h	8,4 km/h	
3rd	10,8 km/h	13,9 km/h	





ENVIRONMENT

Engine emissions	Fully complies with EC Stage II
	exhaust emission regulations
Noise levels	
LwA external	113 dB(A) (2000/14/EC)
LpA operator ear	. 80 dB(A) (ISO 6369 dynamic test)



STEERING SYSTEM

TypeHydrostatic Steering System (HSS)
Steering control
Service brakes Wet, multiple-disc, pedal-controlled,
spring-actuated and hydraulically released
Minimum turning radius (counter-rotation)
(as measured by track marks on ground)2,1 m



UNDERCARRIAGE

Suspension Oscillating equaliser bar and pivot shaft Track roller frame Monocoque, large section, durable construction
Lubricated track rollers are resiliently mounted to roller frame through
a series of exclusive X-type bogies whose oscillating motion is cush-
ioned by rubber pads.
Number of track rollers (each side)6
Number of carrier rollers (each side)2
TracksLubricated tracks, fully sealed
Track tensionCombined spring and hydraulic unit
Number of shoes (each side)41
Grouser height
Shoe width (standard/others) 610/560/660/710 mm
Ground contact area (standard shoes)
Track gauge



OPERATING WEIGHT (APPR.)

Including strengthened semi-U tilt dozer, giant ripper, steel cab, ROPS, operator, standard equipment, rated capacity of lubricant, coolant, and full fuel tank

Operating weight 39.010 kg



COOLANT AND LUBRICANT CAPACITY (REFILLING)

Fuel tank	625 ltr
Radiator	107 ltr
Engine oil	37 ltr
Damper	1,5 ltr
Torque converter, transmission,	
bevel gear and steering system	60 ltr
Final drive (each side)	58 ltr
Dozer blade hydraulics	87 ltr
Giant ripper (additional capacity)	35 ltr
Multishank ripper (additional capacity)	35 ltr



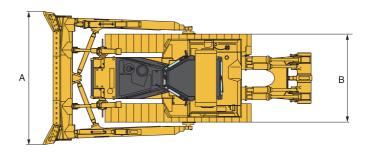
FINAL DRIVE

Туре	Planetary gear, double-reduction
Sprocket	Segmented sprocket teeth
	are bolt-on for easy replacement

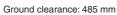


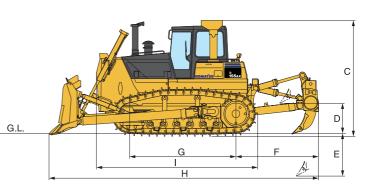
DIMENSIONS

	D155AX-5
Α	3.955 mm
В	2.710 mm
С	3.500 mm
D	925 mm
E	870 mm
F	2.510 mm
G	3.210 mm
Н	8.155 mm
- 1	4.865 mm











HYDRAULIC SYSTEM

Type CLSS (closed-centre los All spool valves externally mounted beside the hyd	0,,
Main pump	
Maximum pump flow	255 ltr/min
Relief valve setting	
Spool control valve positions for semi-U tilt dozer a	and U tilt dozer
Blade liftRaise, ho	old, lower, and float
Blade tilt F	Right, hold, and left
Additional control valve positions for ripper	
Ripper liftRai	se, hold, and lower
Ripper tiltIncrease, h	nold, and decrease
Hydraulic cylinders Do	ouble-acting, piston
No. of cylinders × bore	
Blade lift	2 × 120 mm
Blade tilt	1 × 180 mm
Ripper lift	2 × 160 mm
Ripper tilt	2 × 160 mm



RIPPER EQUIPMENT

Multishank ripper	
Type Hydraulically controlled	variable ripper
No. of shanks	3
Weight (including hydraulic control unit)	3.710 kg
Beam length	2.260 mm
Maximum lift above ground	925 mm
Maximum digging depth	870 mm
Giant ripper Type Hydraulically controlled	variable ripper
Ripping depth is adjustable in three stages by a hydrauled pin puller	ulically control-
No. of shanks	1
Weight (including hydraulic control unit)	2.760 kg
Beam length	1.535 mm
Maximum lift above ground	925 mm



DOZER EQUIPMENT

Blade capacities are based on the SAE recommended practice J1265.

	Overall length with dozer	Blade capacity	Blade width × height	Maximum lift above ground	Maximum drop below ground	Maximum tilt adjustment	Additional weight
Semi-U blade single tilt	6.300 mm	8,8 m ³	3.955 × 1.720 mm	1.250 mm	590 mm	1.000 mm	4.900 kg
Semi-U blade single tilt/pitch	6.300 mm	8,8 m ³	3.955 × 1.720 mm	1.250 mm	590 mm	1.000 mm	5.100 kg
Strengthened Semi-U blade single tilt	6.300 mm	8,8 m ³	3.955 × 1.720 mm	1.250 mm	590 mm	1.000 mm	5.710 kg
Strengthened Semi-U blade single tilt/pitch	6.300 mm	8,8 m ³	3.955 × 1.720 mm	1.250 mm	590 mm	1.000 mm	5.910 kg
U blade single tilt	6.695 mm	11,8 m ³	4.265 × 1.760 mm	1.250 mm	590 mm	1.080 mm	5.600 kg
U blade single tilt/pitch	6.695 mm	11,8 m ³	4.265 × 1.760 mm	1.250 mm	590 mm	1.080 mm	5.800 kg
Strengthened U blade single tilt	6.695 mm	11,8 m ³	4.265 × 1.760 mm	1.250 mm	590 mm	1.080 mm	6.450 kg
Strengthened U blade single tilt/pitch	6.695 mm	11,8 m ³	4.265 × 1.760 mm	1.250 mm	590 mm	1.080 mm	6.650 kg

CRAWLER DOZER

STANDARD EQUIPMENT

Cab

- Suspension seat: fabric, reclining, high backrest, turnable
- Seat belt
- Headrest
- High mount footrest
- Palm lever steering control (PCCS)
- Mono lever blade control
- Air conditioner
- Heated rear window
- Pre radio installation kit (12 V, antenna, loudspeakers)
- Decelerator pedal
- Electronic monitor panel
- Fenders
- Rear-view mirror (inside cab)
- Sun visor
- Cup holder
- · Lunch box holder

Undercarriage

- Single grouser heavy-duty shoes (610 mm)
- Heavy-duty link assembly, sealed and lubricated
- Segmented sprockets
- X-Bogie system
- Hydraulic track adjusters

Engine related parts

- · Cooling fan, hydrostatic driven
- Hard water area arrangement incl. corrosion resistor
- Intake pipe with rain cap
- Dry type air cleaner, double element with dust indicator and evacuator
- Locks, filter caps and covers
- Starting motor 24 V/11 kW
- Alternator 12 V/50 A
- Batteries 2 x 12 V/170 Ah

- · Gull wing engine side covers
- Hydroshift transmission
- Torque converter
- Damper
- HSS hydrostatic steering system

Attachments

- Front pull hook
- Rigid drawbar
- Counterweight
- Wiper rear window
- Wiper front window
- Wipers doors
- Tool kit

Work equipment

- Hydraulics for ripper
- Hydraulics for dozing blades

Safety equipment

- · Back-up alarm
- Warning horn
- Steel cab, meets ISO 3449 FOPS standards.
- ROPS canopy for cab, meets ISO 3471 and SAE J1040, APR88 ROPS standards

OPTIONAL EQUIPMENT

Undercarriage

- Single grouser heavy-duty shoes (560 mm, 660 mm, 710 mm)
- Full length track roller guard

Engine related parts

- Electric type engine oil and coolant heater
- Alternator 12 V/75 A
- High-capacity batteries 2 × 12 V

Attachments

- Ripper working light
- Additional working light, rear
- Additional cab lights, front and rear

Work equipment

- Semi-U blade single tilt 8,8 m³
- Semi-U blade single tilt/pitch 8,8 m³
- Strengthened Semi-U blade single tilt 8,8 m³
- Strengthened Semi-U blade single tilt/pitch 8,8 m³
- U blade single tilt 11,8 m³
- U blade single tilt/pitch 11,8 m³
- Strengthened U blade single tilt 11,8 m³
- Strengthened U blade single tilt/pitch 11,8 m³

- Multishank variable angle ripper
- Giant variable angle ripper

Safety equipment

- Fire extinguisher
- · First aid kit
- · Emergency steering



Komatsu Europe International NV

Mechelsesteenweg 586 B-1800 VILVOORDE (BELGIUM) Tel. +32-2-255 24 11 Fax +32-2-252 19 81 www.komatsueurope.com

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