

KOMATSU®

D475A-5E0

HORSEPOWER

Gross: 671 kW 899 HP @ 2000 rpm

Net: 664 kW 890 HP @ 2000 rpm

OPERATING WEIGHT

108390 kg 238,960 lb

**D
475A**

CRAWLER DOZER



Photo may include optional equipment.

WALK-AROUND

SAA12V140E-3 turbocharged after-cooled diesel engine provide an output of **664 kW** 890 HP with excellent productivity. This engine is EPA Tier 2 emission certified.
See page 6.

Extra-low machine profile provides excellent machine balance and low center of gravity.

Preventative maintenance

- Centralized service station
 - Enclosed hydraulic piping
 - Modular power train design
 - Oil pressure checking ports
- See page 9.

Simple hull frame and monocoque track frame with pivot shaft for greater reliability.

Large blade capacities: **27.2 m³** 35.6 yd³ (Semi-U dozer) and **34.4 m³** 45.0 yd³ (U dozer) See page 7.

The **dual tilt dozer** (option) increases productivity while reducing operator effort. See page 7.

Automatic lockup **torque converter** saves fuel and increases speed and power transmission efficiency on long pushes. See page 9.

Unique and unrivaled noise-suppression.

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.

Hydraulic drive radiator cooling fan controlled automatically, reduces fuel consumption and operating noise levels.
See page 6.

New hexagonal designed cab includes:

- Spacious interior
- Comfortable ride with new cab damper mounting and K-Bogie undercarriage
- Excellent visibility
- High capacity air conditioning system
- PCCS (Palm Command Control System) lever controls
- Pressurized cab
- Adjustable armrest
- Travel control console integrated with operator seat

ECMV (Electronic Controlled Modulation Valve) controlled steering clutch/brake system facilitates steering operation.
See page 5.

Low noise

- Operator noise: 70dB(A)
(Engine at Hi, cooling fan at 70%, and air conditioner OFF.)
 - Dynamic noise (outside): 110dB(A)
As per ISO 6395
- See page 8.

VHMS (Vehicle Health Monitoring System)
See page 9.



Rippers (option):

- Variable giant
- Multi-shank

See page 7.

New track link design reduces maintenance cost by making turning pins easier, with improved pin reuse. See page 9.

Low-drive, long-track, eight roller undercarriage ensures outstanding grading ability and stability.

Track shoe slip control system (option) reduces operator fatigue. See page 7.

K-Bogie undercarriage system improves traction, component durability, and operator comfort. See page 6.

PCCS (PALM COMMAND CONTROL SYSTEM)

Komatsu's new ergonomically designed control system "PCCS" creates an operating environment with "complete operator control."

Human-Machine Interface

Palm command electronic controlled travel control joystick

Ergonomically designed palm command travel joystick provides the operator with a relaxed posture and superb fine control without operator fatigue. Transmission gear shifting is simplified with thumb push buttons.

Left-hand joystick



Blade and ripper control joystick



Fully adjustable suspension seat and travel control console

For improved rear visibility during return part of cycle, the operator can adjust the seat 15° to the right. The transmission and steering controls move with the seat for best operator comfort. The operator seat is also tiltable for facilitating down hill dozing. The travel control console has adjustments fore and aft, and for height. With an independently adjustable armrest, each D475A operator can adjust control positions to his individual preference, providing optimum operational posture for all operators.

Facing front



When turned 15°



Fuel control dial

Engine revolution is controlled by electric signals, providing ease of operation eliminating maintenance of linkage and joints.

Palm command PPC controlled blade control joystick

Blade control joystick uses the PPC (Proportional Pressure Control) valve and the same palm command type joystick as travel control joystick. PPC control, combined with the highly reliable Komatsu hydraulic system, enables superb fine control. (Dual tilt and pitch operation are enabled by depressing switch with a thumb. This is available when installing optional dual tilt dozer.)

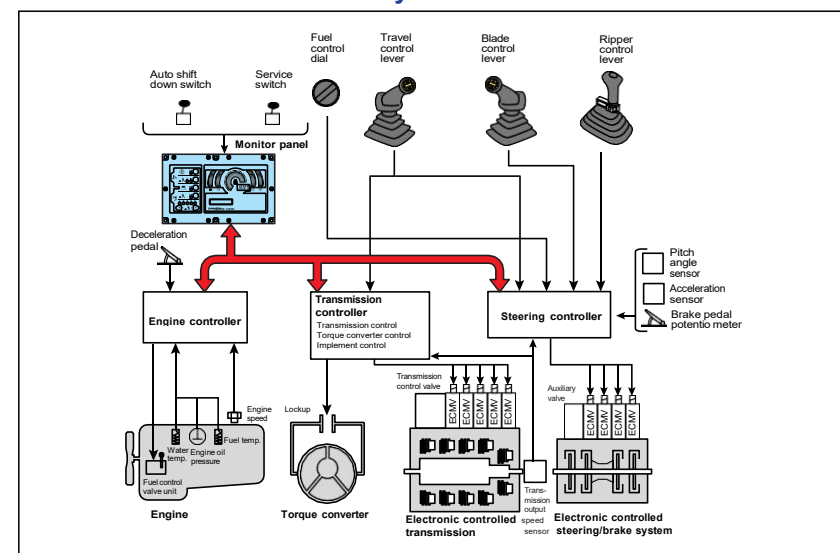
Height adjustable blade control armrest

Blade control armrest is height adjustable without any tools in three stages, providing the operator with firm arm support and ideal armrest positioning.

Position adjustable ripper control lever

Ripper control lever is position adjustable, providing optimum operation posture for all operators during ripping operations facing front or watching ripper point.

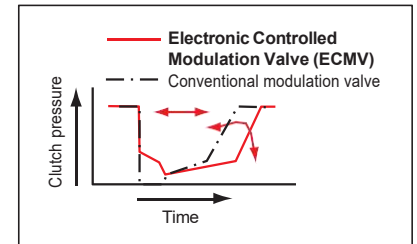
Outline of electronic control system



Power Train Electronic Control System

Smooth and soft operation

D475A-5E0 utilizes a newly designed power train electronic control system. The controller registers the amount of operator control (movements of lever and operation of switches) along with machine condition signals from each sensor to accurately calculate the control of the torque converter, transmission, steering clutches and brakes for optimized machine operation. The ease of operation and productivity of the new D475A-5E0 is greatly improved through these new features.



ECMV (Electronic Controlled Modulation Valve) controlled transmission

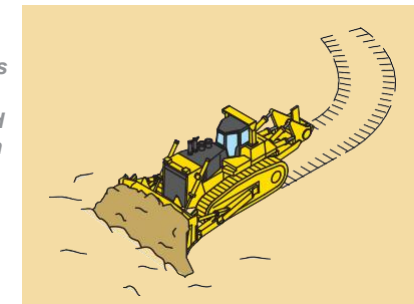
Controller automatically adjusts each clutch engagement depending on travel conditions such as gear speed, revolution and shifting pattern. This provides shockless smooth clutch engagement, improved component reliability, improved component life and operator ride comfort.

ECMV (Electronic Controlled Modulation Valve) controlled steering clutches/brakes

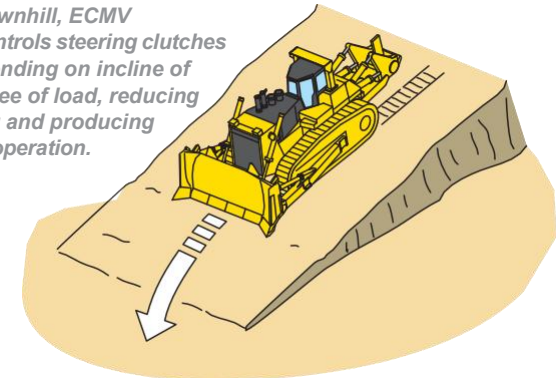
Sensors monitor machine operating conditions, and electronically control steering clutches and brakes depending on type of job, such as size of load during dozing, incline angle of slope or load, providing smooth and ease of operation by reducing counter-steering on downhill travel, etc.

Effect of ECMV steering clutches/brake control

When dozing and turning, ECMV automatically controls stroke ratio of steering clutches and brakes depending on degree of load, enabling smooth dozing and turning.

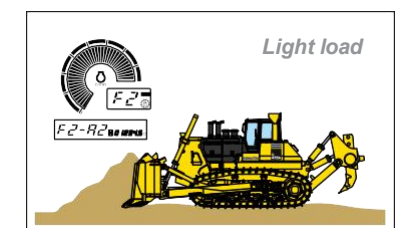
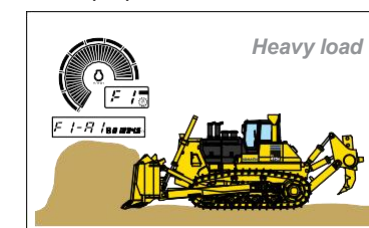
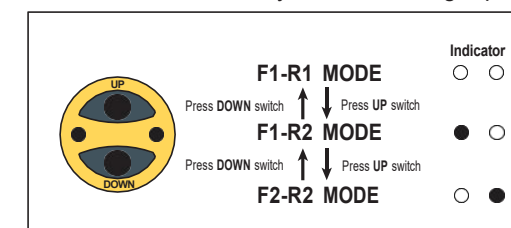


When dozing downhill, ECMV automatically controls steering clutches and brakes depending on incline of machine or degree of load, reducing counter-steering and producing smooth dozing operation.



Preset travel speed function

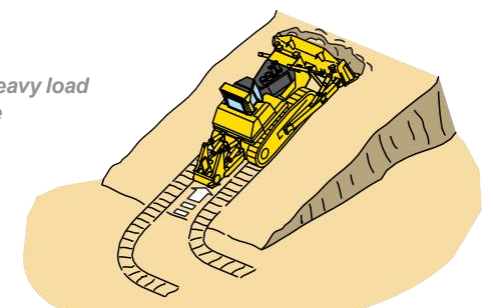
Preset travel speed selection function is standard equipment, enabling the operator to select fore and aft travel speed from three preset patterns; F1-R1, F1-R2 and F2-R2 by using the UP/DOWN switch. When the F1-R2 or F2-R2 preset pattern is selected and the travel control is moved into forward or reverse, the machine travels in the preset gear range automatically. This function reduces manual gear shifting frequency during machine operation, enabling the operator to focus on directional and hydraulic control. Preset travel speed selection is especially helpful when used in combination with the Auto-Downshift Function and reduces cycle times during repeated round trip operations.



Auto downshift function

Controller monitors engine speed, travel gear and travel speed. When load is applied and machine travel speed is reduced, the controller automatically downshifts to optimum gear speed to provide high fuel efficiency. This function provides comfortable operation and high productivity without manual downshifting. (This function can be cancelled with cancel switch.)

Actuated on heavy load or steep slope



PRODUCTIVITY FEATURES

Engine

The Komatsu SAA12V140E-3 engine delivers **664 kW** 890 HP at 2000 rpm. These features, together with the heavy machine weight, make the D475A-5E0 a superior crawler dozer in both ripping and dozing production. The engine is EPA Tier 2 emission certified, and features direct fuel injection, turbocharger, and air-to-air aftercooler to maximize fuel efficiency.

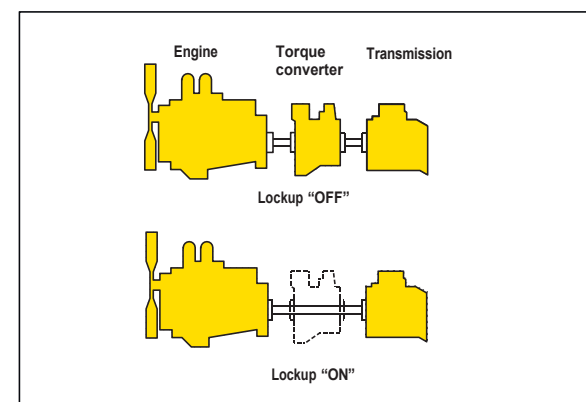
To minimize noise and vibration, the engine is mounted to the main frame with rubber cushions.

Hydraulic drive radiator cooling fan

Fan rotation is automatically controlled depending on coolant and hydraulic oil temperature, saving fuel consumption and providing great productivity with a quiet operating environment.

Automatic torque converter lockup system

For greater efficiency during long pushes, the lockup mode allows the system to automatically engage the torque converter lockup clutch. Locking up the torque converter transmits all the engine power directly to the transmission, increasing ground speed thus achieving efficiencies equal to a direct drive. The result is efficient use of engine power, less fuel consumption, and faster cycle times.



K-Bogie undercarriage system

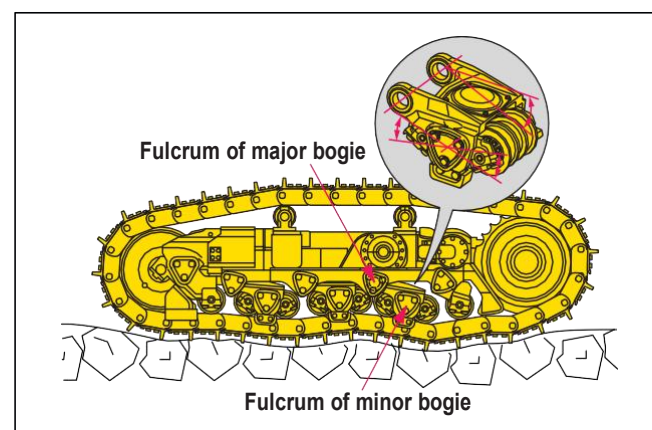
New K-Bogie Undercarriage System combines prior advantages with new additional features.

Current features:

- K-Bogies that oscillate with two fulcrums assure large amount of track roller vertical travel. Impact load to undercarriage components is minimized and durability of components is improved since track rollers are always in contact with track link.
- Track rollers follow track link movement to extend the undercarriage life.
- Excellent riding comfort is provided due to less vibration and shock when traveling over rough terrain.

Features on new K-Bogie undercarriage system:

- New K-Bogies with front and rear single bogies are utilized providing increased length of track on ground to improve machine stability.
- The oscillating idler and increased sprocket lead angle improve riding comfort when travelling over rough terrain.



Large blade

Capacities of **27.2 m³** 35.6 yd³ (Semi-U dozer) and **34.4 m³** 45.0 yd³ (U dozer) yield outstanding production. High-tensile-strength steel has been incorporated into the front and sides of the blade for increased durability.

Dual tilt dozer (option)

The dual tilt dozer increases productivity while reducing operator effort.

- Optimum blade cutting angle for all types of materials and grades can be selected on-the-go for increased load and production.
- Digging, hauling, and dumping are easy and smooth with less operator fatigue.
- Dozer tilt angle and tilt speed are twice that of a conventional single tilt system.

Rippers (option)

- The variable giant ripper features a long sprocket center-to-ripper point distance, making ripping operation easy and effective while maintaining high penetration force.
- The variable giant ripper is a parallelogram single shank ripper ideal for ripping up tough material. The ripping angle is variable, and the depth is adjustable in four stages by a hydraulically controlled pin puller.
- The multi-shank ripper is a hydraulically controlled parallelogram ripper with three shanks. The ripping angle is variable and depth is adjustable in two stages.



Track shoe slip control panel

Track shoe slip control system (option)

- Eliminates the need for the operator to constantly control engine power output with the decelerator while ripping. Operator fatigue is substantially reduced.
- Maneuverability is improved because the operator is free to focus on the ripping application without having to monitor the track shoe slippage.
- Repair costs are significantly lowered and undercarriage life is prolonged with the reduction in track shoe slippage.
- The track shoe slip control system will contribute to lower fuel costs, because the engine output is automatically controlled to optimum levels for operation.

WORKING ENVIRONMENT

Operator Comfort

Operator comfort is essential for safe and productive work. The D475A-5E0 provides the operator with a quiet, comfortable environment where the operator can concentrate on the work at hand.

Hexagonal pressurized cab

- The cab's new hexagonal design and large tinted glass windows provide excellent front, side, and rear visibility.
- Improved cab sealing, air filters and increased internal air pressure combine to prevent dust from entering the cab.
- The floor mat and door sill are the same height to facilitate easy cleaning.
- The high quality cab interior is fully lined with sound absorbing material.



Comfortable ride with new cab damper mounting and K-Bogie undercarriage

D475A-5E0's cab mount uses a new cab damper mounting which further improves viscous damper and provides excellent shock and vibration absorption capacity with its long stroke. The cab damper mounting, combined with new K-bogie undercarriage, softens shocks and vibrations while traveling over adverse condition that are impossible to absorb with conventional cab mounting methods. The soft spring cab damper isolates the cab from machine body, suppressing vibrations and providing a quiet, comfortable operating environment.



- Operator noise: 70dB(A) (Engine at high idle, fan speed at 70%, and air conditioner OFF)
- Dynamic noise (outside): 110dB(A) (As per ISO 6395)

Improvement of visibility in rear of blade

The shape of the blade heel and the position of the operator's seat are changed so that the operator can check the ground in the rear of the blade during dozing. Accordingly, the operator can work more accurately. In addition, the position of the exhaust pipe is changed for better front visibility.



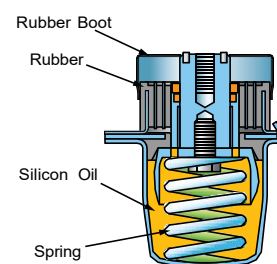
New suspension seat

D475A-5E0 uses a new air suspension seat. Fore and aft sliding rails and suspension spring increasing strength and rigidity and reducing play of joints. In addition to turning function for ripper operation, the seat is also tiltable to facilitate down hill dozing.

Relocated air intake ports of air conditioner

The air conditioner fresh air inlet is located above the fender to prevent dust from the undercarriage from entering the cab. The inside air recirculation inlet is located behind the operator's seat, away from the dirt and dust of the floor mat, to provide an increased cleaning/replacement interval.

Cab damper mounting



EASY MAINTENANCE

Preventative Maintenance

Preventative maintenance is the only way to ensure long service life from your equipment. That's why Komatsu designed the D475A-5E0 with conveniently located maintenance points to make necessary inspections and maintenance quick and easy.

Centralized service station

To ensure convenient maintenance, the transmission and torque converter oil filters are both arranged next to the power train oil level gauge.

Monitor with self-diagnostic function

If the monitor finds abnormalities, corresponding warning lamp blinks and warning buzzer sounds. When abnormalities occur during operation, user code and service meter are displayed alternately. When a high importance user code is displayed, a caution lamp blinks and warning buzzer sounds to prevent the development of serious problems.



Oil pressure checking ports

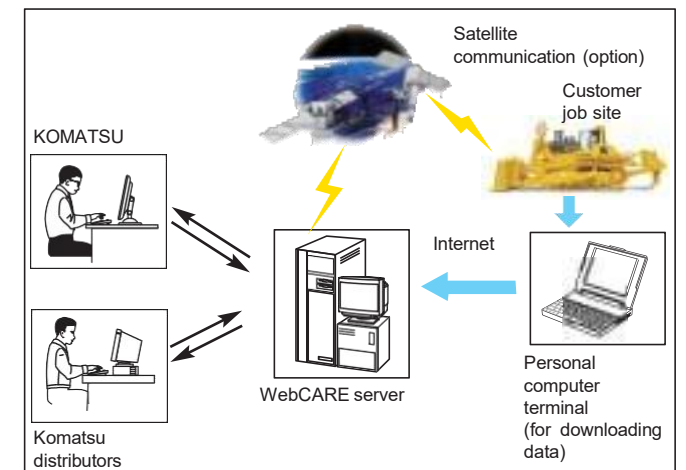
Pressure checking ports for power train components are centralized to promote quick and simple diagnosis.

Gull-wing engine side covers

Gull-wing engine side covers facilitate engine maintenance and filter replacement. Side covers are a thick one-piece structure with bolt-on latch to improve durability and reparability.

VHMS (Vehicle Health Monitoring System)

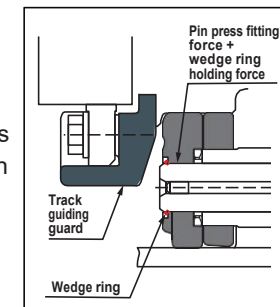
VHMS controller monitors the health conditions of major components and enables remote analysis of the machine and its operation. This process is supported by the Komatsu distributors, factory and design team. This contributes to reduced repair costs and to maintaining maximum availability.



Low Maintenance Costs

Track link with wedge ring

New D475A-5E0 track links feature reduced press-fit force and a wedge ring. Conventional track pins are retained only with a large press-fit force. This results in easier service with reduced pin damage when turning pins and bushings. The result is improved undercarriage life and reduced maintenance cost through reduced wear, greater pin reusability, and reduced maintenance man-hours.



Highly reliable electric circuit

The electrical circuit reliability is increased by utilizing dust, vibration and corrosion resistant "DT connectors". The reinforced electrical wiring harnesses include a circuit breaker and are covered with a heat-resistant material to increase mechanical strength, provide longer life, and protect the system from damage.

Flat face O-Ring seals

Flat face O-ring seals are used to securely seal all hydraulic hose connections and to prevent oil leakage.

Enclosed hydraulic piping

Hydraulic piping for the blade tilt cylinder is completely housed in the push arm protecting it from damage.

Modular power train design

Power train components are sealed in a modular design that allows the components to be dismantled and mounted without oil spillage, making servicing work clean, smooth, and easy.

Maintenance-free disc brakes

Wet disc brakes require less maintenance.

SPECIFICATIONS

ENGINE

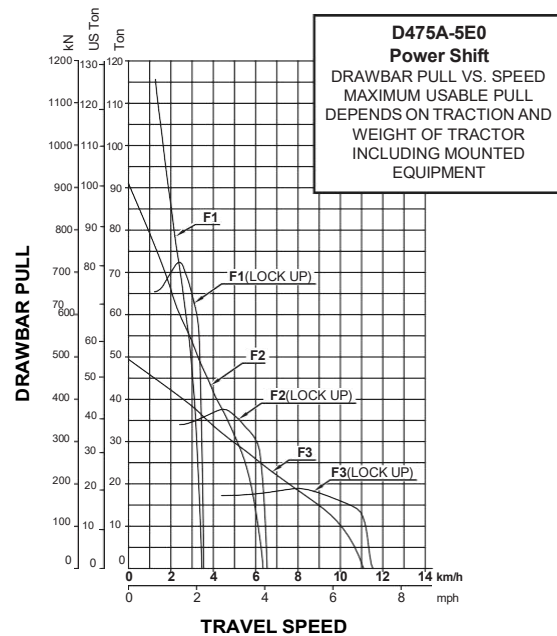
Model.....Komatsu SAA12V140E-3
 Type.....4-cycle, water-cooled, direct injection
 Aspiration.....Turbocharged, air-to-air aftercooled
 Number of cylinders.....12
 Bore x stroke.....140 mm x 165 mm 5.51" x 6.50"
 Piston displacement.....30.48 ltr 1,860 in³
 Governor.....All-speed, electronic
 Horsepower
 SAE J1995.....Gross 671kW 899 HP
 ISO 9249/SAE J 1349.....Net 664kW 890 HP
 Rated rpm.....2000rpm
 Fan drive type.....Hydraulic
 Lubrication system
 Method.....Gear pump, force lubrication
 Filter.....Full-flow and bypass combined

*Net horsepower at the maximum speed of radiator cooling fan.....641 kW 860HP
 EPA Tier 2 emission certified.

TORQFLOW TRANSMISSION

Komatsu TORQFLOW transmission consists of a water-cooled, 3-element, 1-stage, 1-phase torque converter with lockup clutch and a planetary gear, multiple-disc clutch transmission which is hydraulically-actuated and force-lubricated for optimum heat dissipation. Gearshift lock lever and neutral safety switch prevent accidental starts.

Gear	Forward		Reverse	
1st	3.3 km/h	2.1 mph	4.2 km/h	2.6 mph
2nd	6.2 km/h	3.9 mph	8.0 km/h	5.0 mph
3rd	11.2 km/h	7.0 mph	14.0 km/h	8.7 mph



FINAL DRIVES

Double-reduction final drive of spur and planetary gear sets to increase tractive effort and reduce gear tooth stresses for long final drive life. Segmented sprocket teeth are bolt-on for easy replacement.

STEERING SYSTEM

PCCS lever, joystick-controlled, wet multiple-disc steering clutches are spring-loaded and hydraulically released. Wet multiple-disc steering brakes are spring-actuated, hydraulically released, and require no adjustment. Steering clutches and brakes are interconnected for easy, responsive steering.

Minimum turning radius.....4.6 m 15'1"

UNDERCARRIAGE

Suspension.....Oscillating equalizer bar and pivot shaft
 Track roller frame.....Cylindrical, high-tensile-strength steel construction

Rollers and idlers.....Lubricated track rollers

K-Bogie Undercarriage
 Lubricated track rollers are resiliently mounted to the track frame with a bogie suspension system whose oscillating motion is cushioned by rubber pads.

Extreme Service Track Shoes
 Lubricated tracks. Unique seals prevent entry of foreign abrasives into pin to bushing clearances to provide extended service life. Track tension is easily adjusted with grease gun.

Number of shoes (each side).....41
 Grouser height:
 Single grouser.....105 mm 4.1"
 Shoe width (standard).....710 mm 28"
 Ground contact area.....64240 cm² 9,957 in²
 Ground pressure (Tractor).....kPa 1.30 kg/cm² 18.5 psi
 Number of track rollers.....8
 Number of carrier rollers.....2

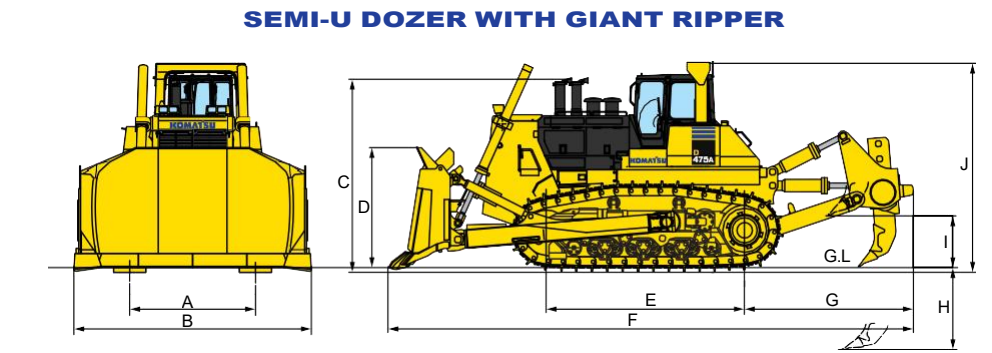
Extreme service shoes	Additional weight	Ground contact area	Tractor ground pressure
810 mm 32"	920 kg 2,030 lb	73290 cm ² 11,360 in ²	113 kPa 1.15 kg/cm ² 16.4 psi
910 mm 36"	1830 kg 4,030 lb	82340 cm ² 12,762 in ²	102 kPa 1.04 kg/cm ² 14.8 psi

COOLANT AND LUBRICANT CAPACITY (REFILL)

Fuel tank.....1670 ltr 441 U.S. gal
 Coolant.....210 ltr 55.5 U.S. gal
 Engine.....121 ltr 32.0 U.S. gal
 Torque converter, transmission, bevel gear, and steering system.....210 ltr 55.5 U.S. gal
 Final drive (each side).....75 ltr 19.8 U.S. gal

DIMENSIONS

A	2770 mm	9'1"
B	5265 mm	17'3"
C	4546 mm	14'11"
D	2690 mm	8'10"
E	4524 mm	14'10"
F	11565 mm	37'11"
G	3720 mm	12'2"
H	1744 mm	5'9"
I	1196 mm	3'11"
J	4646 mm	15'3"



Ground Clearance: 655 mm 2'2"

OPERATING WEIGHT

Tractor weight.....83590 kg 184,290 lb
 Including steel cab, rated capacity of lubricant, coolant, full fuel tank, operator, and standard equipment.

Operating weight.....108390 kg 238,960 lb
 Including strengthened Semi-U tilt dozer, giant ripper, steel cab, ROPS, operator, standard equipment, rated capacity of lubricant, coolant, and full fuel tank.

Ground pressure.....kPa 1.69 kg/cm² 24.0 psi

HYDRAULIC SYSTEM

Closed-center load sensing system (CLSS) designed for precise and responsive control, and for efficient simultaneous operation.

Hydraulic control units:
 All spool valves externally mounted beside the hydraulic tank.
 Plunger type hydraulic pump with capacity (discharge flow) of 542 ltr/min 143 U.S. gal/min at rated engine rpm.

Relief valve setting.....MPa 280 kg/cm² 3,980 psi

Control valves:
 Spool control valves for Semi-U tilt dozer and Full-U tilt dozer
 Positions: Blade lift.....Raise, hold, lower, and float
 Blade tilt.....Right, hold, and left

Spool control valves for variable digging angle multi-shank ripper and giant ripper.
 Positions: Ripper lift.....Raise, hold, and lower
 Ripper tilt.....Increase, hold, and decrease

DOZER EQUIPMENT

Blade capacities are based on the SAE recommended practice J1265.

	Overall length with dozer	Blade capacity	Blade length x height	Maximum lift above ground	Maximum drop below ground	Maximum tilt adjustment	Weight	
							Dozer equipment	Ground pressure*
Semi-U dozer	8705 mm 28'7"	27.2 m ³ 35.6 yd ³	5265 mm x 2690 mm 17'3" x 8'10"	1620 mm 5'4"	1010 mm 3'4"	770 mm 2'6"	16500 kg 36,376 lb	166 kPa 1.69 kg/cm ² 24.0 psi
U dozer	9205 mm 30'2"	34.4 m ³ 45.0 yd ³	6205 mm x 2610 mm 20'4" x 8'7"	1620 mm 5'4"	1010 mm 3'4"	905 mm 3'	18800 kg 41,446 lb	169 kPa 1.72 kg/cm ² 24.5 psi
Dual tilt Semi-U dozer	8705 mm 28'7"	27.2 m ³ 35.6 yd ³	5265 mm x 2690 mm 17'3" x 8'10"	1620 mm 5'4"	1010 mm 3'4"	1145 mm 3'9"	16950 kg 37,368 lb	166 kPa 1.69 kg/cm ² 24.0 psi
Dual tilt U dozer	9205 mm 30'2"	34.4 m ³ 45.0 yd ³	6205 mm x 2610 mm 20'4" x 8'7"	1620 mm 5'4"	1010 mm 3'4"	1350 mm 4'5"	19250 kg 42,439 lb	170 kPa 1.73 kg/cm ² 24.3 psi

*Ground pressure shows tractor, cab, ROPS, operator, giant ripper, standard equipment, and applicable blade.



STANDARD EQUIPMENT

- Air conditioner with heater and defroster
- Air-suspension seat
- Alternator, 90 A/24 V
- Auto-priming system
- Back-up alarm
- Batteries, 200 Ah/4 x 12 V
- Blower fan
- Decelerator pedal
- Dry-type air cleaner with dust evacuator and dust indicator
- Eight-roller track frames
- Final drive case wear guard

- Hinged underguard with front pull hook
- Hydraulic track adjusters
- Lighting system (including four front and two rear lights)
- Lockup torque converter
- Mirror
- Mirror, rearview
- Muffler with rain cap
- Perforated front mask
- Radiator reserve tank
- ROPS brackets
- Seat belt
- Segmented sprockets

- Shoes, **710 mm 28"** extreme service, single-grouser
- Starting motors, 2 x 7.5 kW/24 V
- Steel cab
- Steering control
- Sun visor
- TORQFLOW transmission
- Track roller guards
- VHMS (without orbcomm)
- Warning horn
- Water separator
- Wet steering clutches



ROPS*:

Weight.....**940 kg 2,070 lb**

Dimension:

Width.....**1940 mm 6'4"**

*Meets ISO 3471, SAE J1040 APR88, ROPS standards.

Steel cab**:

Weight.....**455 kg 1,000 lb**

Dimension:

Length.....**1790 mm 5'10"**

Width.....**1455 mm 4'9"**

Height from compartment

floor to ceiling.....**1530 mm 5'0"**

**Meets ISO 3449 FOPS standard.



OPTIONAL EQUIPMENT



Variable giant ripper:

Variable, parallelogram single-shank ripper ideal for ripping up tough material. Ripping angle is variable. Ripping depth is adjustable in four stages by a hydraulically controlled pin puller.

Weight (including hydraulic

control unit).....**7360 kg 16,230 lb**

Beam length.....**1477 mm 4'10"**

Maximum lift above ground . **1196 mm 3'11"**

Maximum digging depth.....**1744 mm 5'9"**

Multi-shank ripper:

Hydraulically controlled parallelogram ripper with three shanks. Ripping angle variable and depth adjustable in two stages.

Weight (including hydraulic

control unit).....**9720 kg 21,430 lb**

Beam length.....**3085 mm 10'1"**

Maximum lift above ground . **1196 mm 3'11"**

Maximum digging depth.....**1124 mm 3'8"**

- Additional cab heater
- Battery isolator
- Coal dozer
- Counterweight
- Double wiper
- Dual tilt dozer
- Fast fuel fill
- Fire extinguisher

- Hydraulics for ripper
- Lattice front mask
- Light for ripper
- Orbcomm
- Prelubrication
- Push plate
- Radio-AM/FM cassette
- Safety glass

- Shoes:
 - 810 mm 32"**
 - 910 mm 36"**
- Spill guards
- Strengthened Semi-U blade
- Strengthened U blade
- Track shoe slip control system

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