

KOMATSU

D61EX-15

D61PX-15

NET HORSEPOWER
127 kW 170 HP @ 1.850 rpm

OPERATING WEIGHT
D61EX-15: 17.350 kg
D61PX-15: 18.260 kg

D
61

CRAWLER DOZER



D61EX/PX-15

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.

Extra-low machine profile

Provides excellent machine balance and low centre of gravity.

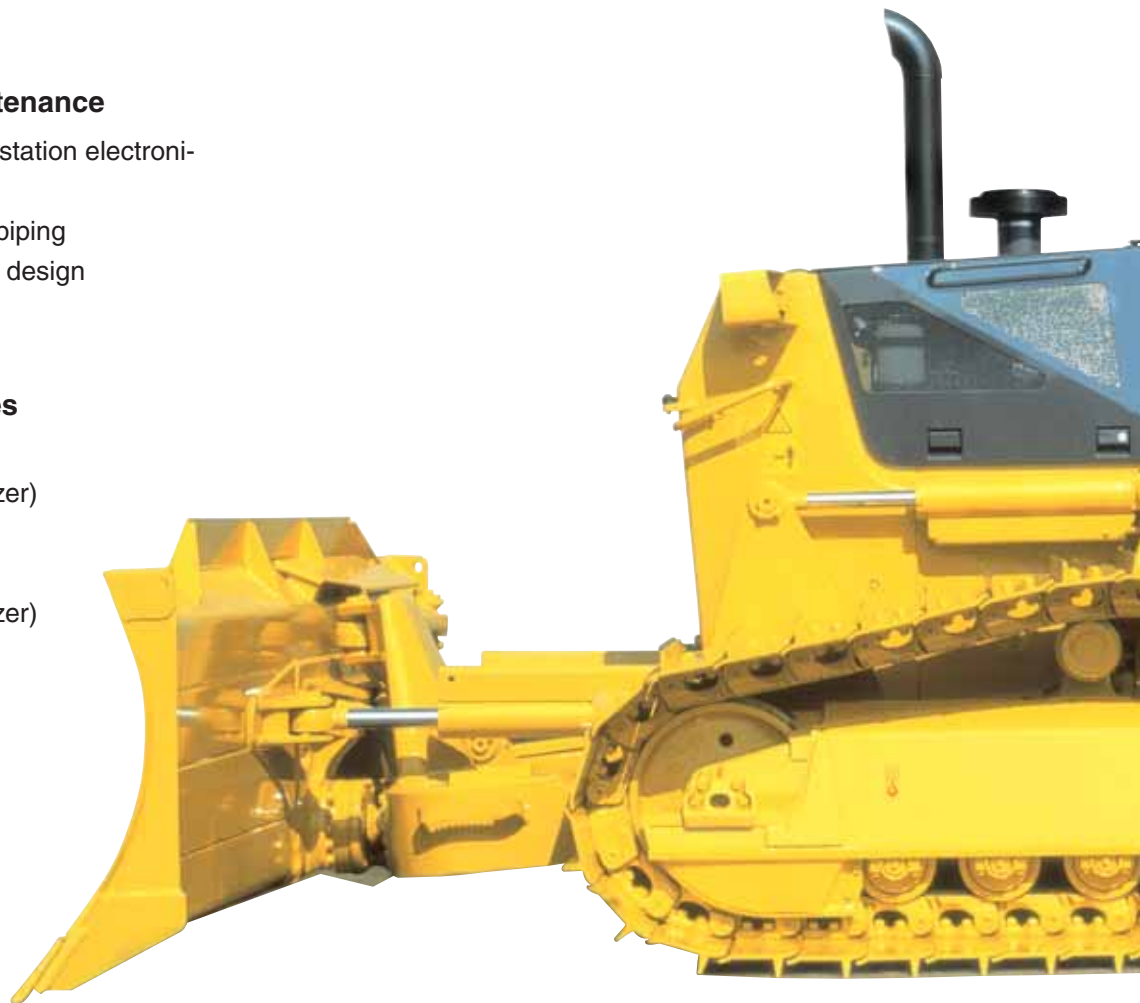
Preventative maintenance

- Centralised service station electronically controlled
- Enclosed hydraulic piping
- Modular power train design

Large blade capacities

D61EX:
3,40 m³ (Straight PAT dozer)

D61PX:
3,80 m³ (Straight PAT dozer)



Simple hull frame

and monocoque track frame with pivot shaft for greater reliability.

NET HORSEPOWER
127 kW 170 HP

OPERATING WEIGHT
D61EX-15: 17.350 kg
D61PX-15: 18.260 kg

New hexagonally designed SpaceCab™ 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



Low-drive, long-track undercarriage

Ensures outstanding grading ability and stability.

ecot3

ecology & economy - technology 3

Komatsu SAA6D107E-1

engine with high pressure common rail injection delivers ample power in a fuel efficient way.

The engine meets EU Stage IIIA and EPA Tier III emissions regulations.

HSS (Hydrostatic Steering System)

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

Power train

Modular power train for increased serviceability and durability.

KOMTRAX

Komatsu Tracking System

Track and monitor your machine anytime, anywhere for total peace of mind.

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.

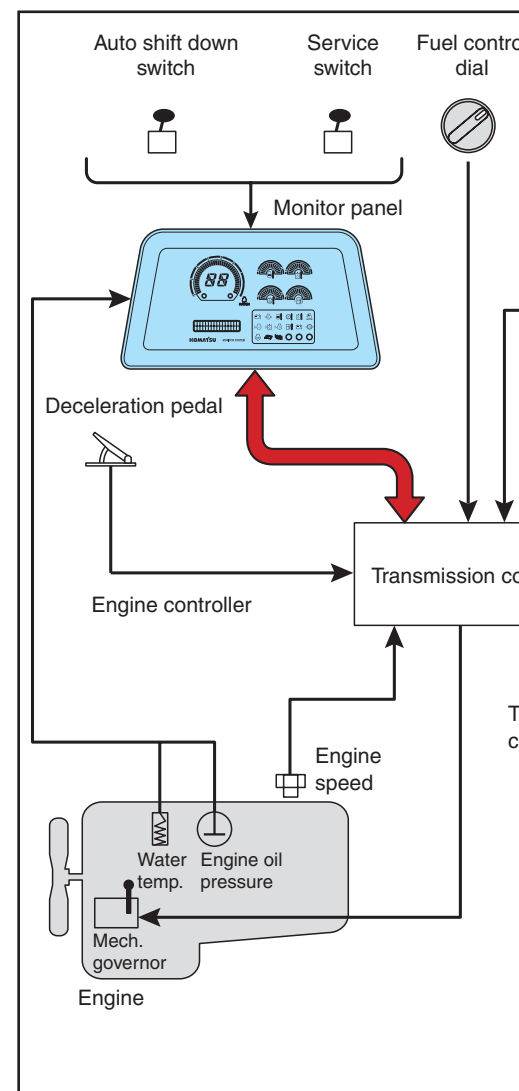
All of the signals are transmitted via an engine and transmission controller, preventing overload of the hydraulic steering system and protecting hydraulic and mechanical parts. Because the controller linkages between the engine speed dial, decelerator pedal, and the engine are electrical, there is no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



Left hand joystick



Blade and ripper control joystick



Power train electronic control system

Smooth and soft operation controlled by the engine and transmission controller

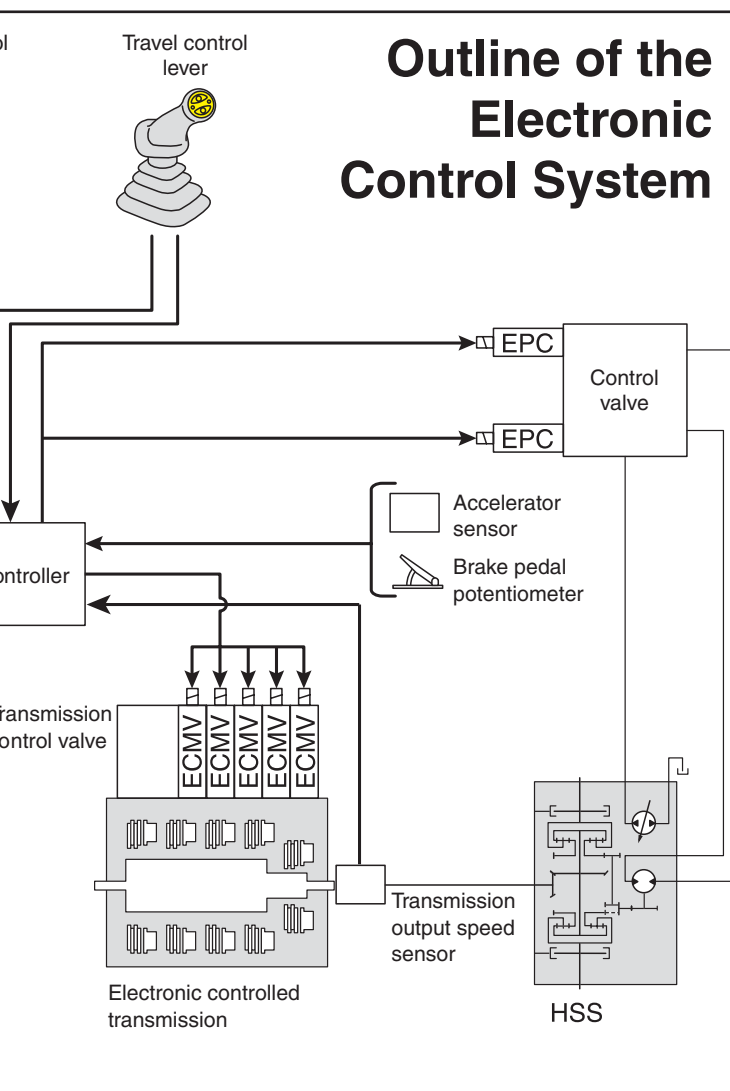
The D61EX/PX-15 utilises a newly designed power train electronic control system. The controller registers the amount of operator control (movement of lever and operation of switches) along with machine condition signals from each sensor, such as the engine speed and machine angle. This is then used to 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.



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.



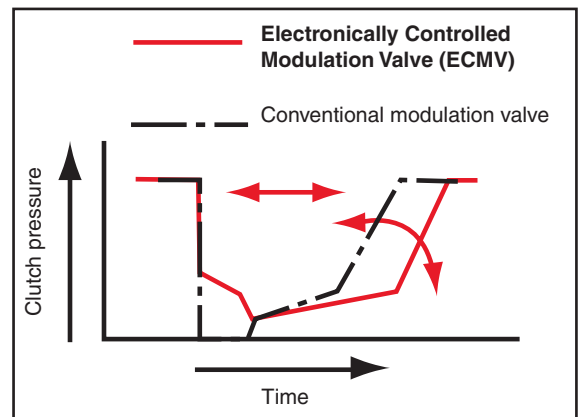
Fully-adjustable suspension seat and travel control console

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. 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



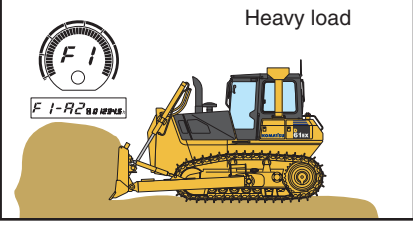
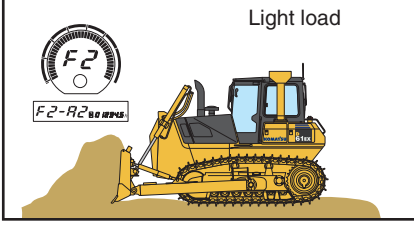
Using an innovative series of valves, the transmission controller automatically and smoothly makes each clutch engagement. The speed of each shift is based on travel conditions such as gear speed, engine RPMs and the current shifting sequence. This provides a smooth, shock-free clutch engagement, longer 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.



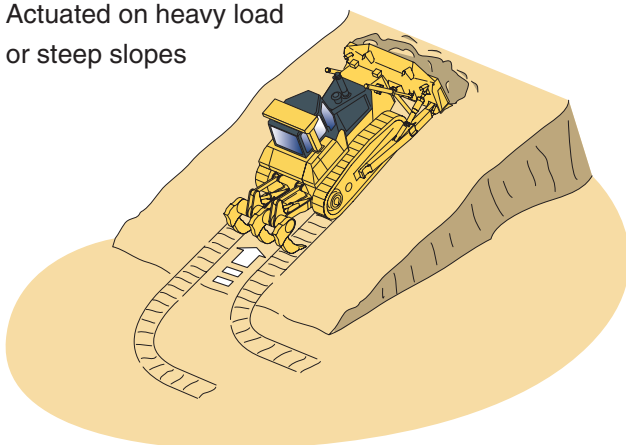
Preset travel speed function

Preset travel speed selection function is provided as standard equipment. The preset switch enables the operator to select forward and reverse travel speeds within 4 preset patterns: F1-R1, F1-R2, F2-R2 and F2-R3, by using UP/DOWN shift switch on the PCCS steering joystick.

When the F1-R2 or F2-R2 preset pattern is selected, and the PCCS steering joystick moves from forward to 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.

<p>Up</p>  <p>Down</p> 	<p>F2-R3 MODE Press DOWN switch ↓ ↑ Press UP switch</p>	<p>Heavy load</p> 	<p>Light load</p> 
	<p>F2-R2 MODE Press DOWN switch ↓ ↑ Press UP switch</p>		
	<p>F1-R2 MODE Press DOWN switch ↓ ↑ Press UP switch</p>	<p>Auto-downshift function</p>	
	<p>F1-R1 MODE</p>		

Actuated on heavy load or steep slopes

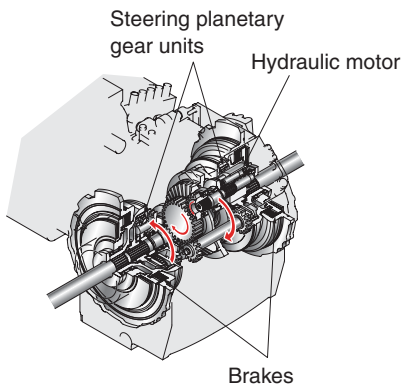


Auto-downshift function

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.



PRODUCTIVITY FEATURES



New ECOT3 engine

The Komatsu SAA6D107E-1 engine delivers 127 kW/170 HP at 1.850 rpm. This fuel-efficient engine, together with the heavy machine weight, make the D61EX/PX-15 superior crawler dozers in both ripping and dozing operations. The engine is designed to surpass EU Stage IIIA and EPA TIER III regulations, and features common rail 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.

Work equipment



Unfolded blade (for operation)



Folded blade (during transport)

The D61PX-15 can be equipped with a folding blade to facilitate a transport width of just 3.000 mm



Locking

Easy folding, unfolding procedure

WORK EQUIPMENT

Komatsu blades

Komatsu uses a box blade design, offering the highest resistance for a low weight blade. This increases total blade manoeuvrability. 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.

Straight Power Angle Tilt blade

The Straight Power Angle Tilt blade (PAT), offers a wide range of working modes. With a combination of available blade positions: hydraulically angle, tilt and lift, the operator can move the blade to an optimal position, using the PCC joystick.

The new centreball design, with a large ball diameter, offers a strong and durable solution for the blade attachment to the Inpat frame. The straight PAT blade is always combined with a long track design, offering the best machine stability for grading applications. The PAT blade is available for the EX and PX models.



Foldable type Straight Power Angle Tilt blade

The Straight Power Angle Tilt blade (PAT) can also be delivered as foldable type for the PX version. As a result, the blade does not have to be removed to achieve transportation width of less than 3 meters. During operations, the blade has a width of 3.860 mm.



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 parallelogram ripper (EX)(Option)

The multishank parallelogram ripper has 3 ripper shanks as standard, but can be easily converted to a giant or two-shank ripper, depending on the job conditions. The strong parallelogram design offers straight shank movement, adapted for small and medium-size dozers.

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.

The Komatsu undercarriage design provides stable operations with very low vibration levels.

The reasons for this are:

- Two upper carrier rollers prevent the link assembly from jumping up and down.
- The track rollers are double flanged, thus supporting the link assembly in the best way and reducing wear to a minimum.
- The distance between track rollers has been modified to obtain a smooth, stable drive.



EX arrangement

The front idler is moved forward to increase the track length on the ground. This improves the dozer's balance, as well as providing better ground traction. This arrangement enables best dozer grading performance. The shoe width is small-to-medium, to gain the longest lifetime in various working conditions.

PX-arrangement

The front idler is moved forward to increase the track length on the ground. Also, the shoe width is increased to have a larger ground contact area. This is specially designed to work in soft, unstable ground conditions.

OPERATOR COMFORT

Operator comfort

Operator comfort is essential for safe and productive work. The D61EX/PX-15 provides a quiet, comfortable environment where the operator can concentrate on the work at hand.

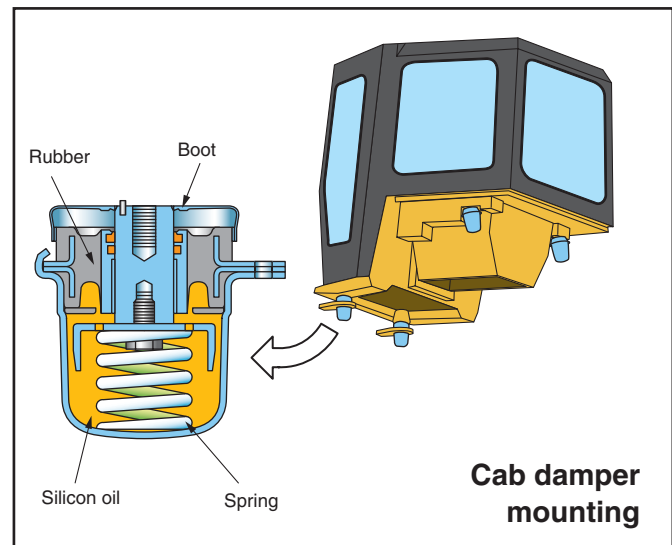


Comfortable ride with new cab damper mounting

D61EX/PX-15's cab mounts use a newly designed cab damper that provides an excellent shock and vibration absorption capacity with its long stroke. Cab damper mounts soften shocks and vibrations that conventional mounting systems are unable to absorb, whilst traveling 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 sound-absorbent 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 D61EX/PX-15 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.



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.

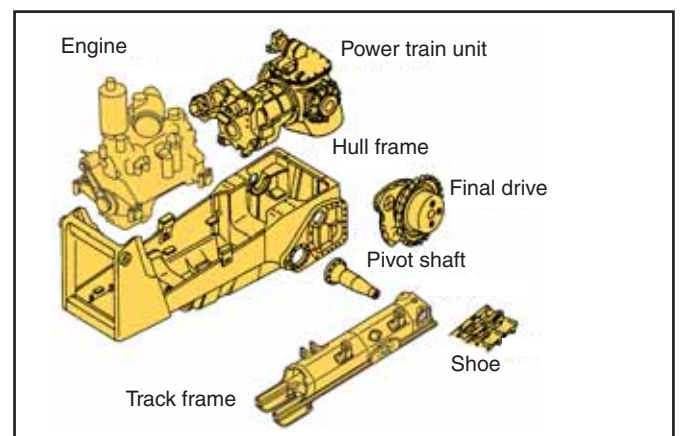
O-ring face seal

The hydraulic hose connections use high quality O-ring face seals. They provide improved sealing performance against vibrations and load shocks.



Modular power train design

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



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.

Maintenance-free disc brakes

Wet disc brakes require less maintenance.

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

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 D61EX/PX-15 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.
- Komatsu Repair & Maintenance Contract is a way to establish a fixed operating cost and ensure optimal machine availability for the duration of the contract.



KOMTRAX™ Komatsu Tracking System

The Komatsu Tracking System, KOMTRAX™, provides a revolutionary new way to monitor your equipment, anytime, anywhere. It lets you pin-point the precise location of your machines and obtain real-time machine data. Using GPS transmitter and satellite technology, it's designed to be future proof and will meet your demands today and tomorrow.



SPECIFICATIONS



ENGINE

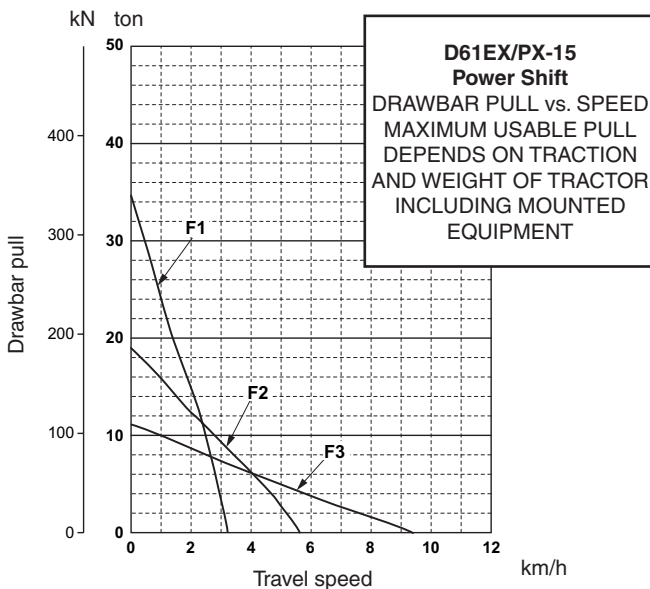
Model.....Komatsu SAA6D107E-1
 Type.....Common rail direct injection, water-cooled, emissionised, turbocharged, after-cooled diesel
 Engine power
 at rated engine speed1.850 rpm
 ISO 14396.....127 kW/170 HP
 ISO 9249 (net engine power).....125 kW/168 HP
 No. of cylinders6
 Bore x stroke.....107 x 124 mm
 Displacement.....6,69 ltr
 Governor.....All-speed, electronic
 Lubrication system
 Method.....Gear pump, force lubrication
 Filter.....Full flow



TORQFLOW TRANSMISSION

Type.....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 neutral safety switch prevent accidental starts.

Max. travel speeds	Forward	Reverse
1st	3,2 km/h	4,3 km/h
2nd	5,6 km/h	7,2 km/h
3rd	8,7 km/h	11,0 km/h



FINAL DRIVE

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



STEERING SYSTEM

Type.....Hydrostatic Steering System (HSS)
 Steering control.....PCCS-lever
 Service brakes.....Wet, multiple-disc, pedal-controlled, spring-actuated and hydraulically released
 Minimum turning radius (counter-rotation).....2,2 m



UNDERCARRIAGE

Suspension.....Oscillating equaliser bar and pivot shaft
 Track roller frame.....Monocoque, large section, durable construction
 Rollers and idlers.....Lubricated track rollers
 Tracks.....Lubricated tracks, fully sealed
 Track tension.....Combined spring and hydraulic unit

	D61EX-15	D61PX-15
Number of track rollers (each side)	8	8
Type of shoes (standard)	Single grouser	Single grouser
Number of shoes (each side)	46	46
Grouser height	57,5 mm	57,5 mm
Shoe width (standard)	600 mm	860 mm
Ground contact area	38.037 cm ²	54.520 cm ²
Track gauge	1.900 mm	2.140 mm
Length of track on ground	3.170 mm	3.170 mm



COOLANT AND LUBRICANT CAPACITY (REFILLING)

Fuel tank.....390 ltr
 Radiator.....45 ltr
 Engine oil.....23,1 ltr
 Torque converter, transmission, bevel gear, and steering system.....69 ltr
 Final drive (each side)
 D61EX-15.....28,5 ltr
 D61PX-15.....28,5 ltr
 Dozer blade hydraulics.....55 ltr
 (includes the additional capacity for the optional ripper)



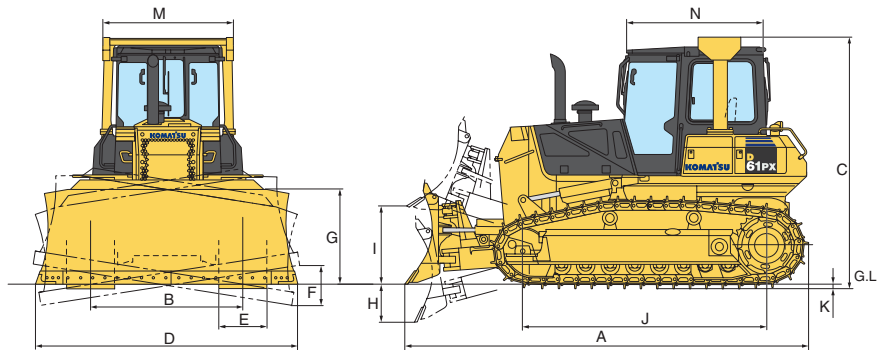
ENVIRONMENT

Engine emissions.....Fully complies with EU Stage IIIA and EPA Tier III exhaust emission regulations
 Noise levels
 LwA external.....107 dB(A) (2000/14/EC)
 LpA operator ear.....79 dB(A) (ISO 6396 dynamic test)



DIMENSIONS

	D61EX-15	D61PX-15
A	5.450 mm	5.440 mm
B	1.900 mm	2.140 mm
C	3.150 mm	3.150 mm
D	3.275 mm	3.860 mm
E	600 mm	860 mm
F	510 mm	600 mm
G	1.200 mm	1.160 mm
H	580 mm	580 mm
I	1.025 mm	1.025 mm
J	3.170 mm	3.170 mm
K	57,5 mm	57,5 mm
M	1.650 mm	1.650 mm
N	1.760 mm	1.760 mm



Ground clearance: 395 mm
 Max. blade angle (PAT blade): 25° left/right

Machine transportation	Blade capacity	Transport width
Straight PAT blade (EX)	3,40 m ³	2.995 mm
Straight PAT blade (PX)	3,80 m ³	3.540 mm
Straight PAT blade (PX) foldable	3,80 m ³	2.995 mm



OPERATING WEIGHT (APPR.)

Including steel cab, ROPS, operator, standard equipment, rated capacity of lubricant, coolant, and full fuel tank.

D61EX-15 Straight PAT blade..... 17.350 kg
 D61PX-15 Straight PAT blade..... 18.260 kg



RIPPER EQUIPMENT

Multishank ripper

Type Hydraulically controlled parallelogram ripper
 No. of shanks 3
 Weight (including hydraulic control unit) 1.645 kg
 Beam length 2.170 mm
 Maximum lift above ground 565 mm
 Maximum digging depth 665 mm



HYDRAULIC SYSTEM

Type CLSS (closed-centre load sensing system)
 All spool valves externally mounted beside the hydraulic tank.
 Main pump Variable displacement piston pump
 Maximum pump flow 195 ltr/min
 Relief valve setting 210 kg/cm²
 Spool control valve positions for tilt dozer
 Blade lift Raise, hold, lower, and float
 Blade tilt Right, hold, and left
 Additional control valve positions for multishank ripper (EX)
 Ripper lift Raise, hold, and lower
 Hydraulic cylinders Double-acting, piston
 No. of cylinders × bore
 Blade lift 2 × 110 mm
 Blade tilt 1 × 130 mm
 Blade angle 2 × 110 mm
 Ripper lift 1 × 140 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
Straight PAT blade (EX)	5.450 mm	3,40 m ³	3.275 × 1.200 mm	1.025 mm	580 mm	510 mm	2.540 kg
Straight PAT blade (PX)	5.440 mm	3,80 m ³	3.860 × 1.160 mm	1.025 mm	580 mm	600 mm	2.700 kg
Straight PAT blade (PX) foldable	5.440 mm	3,80 m ³	3.860 × 1.160 mm	1.025 mm	580 mm	600 mm	2.700 kg

CRAWLER DOZER

STANDARD EQUIPMENT

Cab

- Suspension seat: fabric, reclining, high backrest
- Seat belt
- 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)
- Deceleration pedal
- Electronic monitor panel
- Viscous cab mounts
- Fenders
- Rear-view mirror (inside cab)
- Sun visor
- Cup holder
- Lunch box holder

Undercarriage

- Single grouser heavy-duty shoes (EX: 600 mm; PX: 860 mm)
- Heavy-duty link assembly, sealed and lubricated (EX)
- Heavy-duty, abrasion resistant link assembly, sealed and lubricated (PX)
- Track roller guard, centre and end section
- Segmented sprockets
- Fixed track rollers
- Hydraulic track adjusters

Engine related parts

- Heavy-duty radiator mask
- Cooling fan, hydrostatic driven
- Water separator
- Fuel tank inlet strainer
- 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/7,5 kW
- Alternator 24 V/60 A
- Batteries 2 × 12 V/170 Ah
- Gull wing engine side covers
- Hydrosift transmission
- Torque converter
- Damper
- HSS hydrostatic steering system
- Auto-downshift function
- Quick shift selection system

Attachments

- Hitch
- Front pull hook
- Wiper rear window
- Wiper front window

- Wipers doors
- Tool kit

Work equipment

- Hydraulics for ripper (EX only)
- Hydraulics for dozing blades

Control systems

- Komtrax™ Komatsu tracking system

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

- Full length track roller guard (EX/PX)

Engine related parts

- Intake pipe with pre-cleaner

Attachments

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

Control systems

- Komatsu-Topcon machine control systems

Work equipment

- Straight PAT blade (EX: 3,4 m³, PX: 3,8 m³)
- Straight PAT blade foldable (PX: 3,8 m³)
- Multishank parallelogram ripper (EX only)

Safety equipment

- Fire extinguisher



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