

KOMATSU®

D39EX-21

D39PX-21



FLYWHEEL HORSEPOWER

71 kW **95 HP** @ 2200 rpm

OPERATING WEIGHT

D39EX: 8520 kg **18,780 lb**

D39PX: 8900 kg **19,620 lb**

D
39

CRAWLER DOZER



Photos may include optional equipment.

GALEO

D39EX/PX-21 Crawler Dozer

WALK-AROUND

The Komatsu SAA4D102E-2 turbocharged diesel engine

provides an output of 71 kW **95 HP**, with excellent productivity, while meeting Tier II EPA, EU, and Japan emissions standards.

Gull-wing engine side doors for easy and safer servicing.

Palm Command Control System (PCCS)

Left hand controls all tractor motion. Right hand controls all blade movements.

Radiator Nose

Sound deflection style for reduced ambient noise.

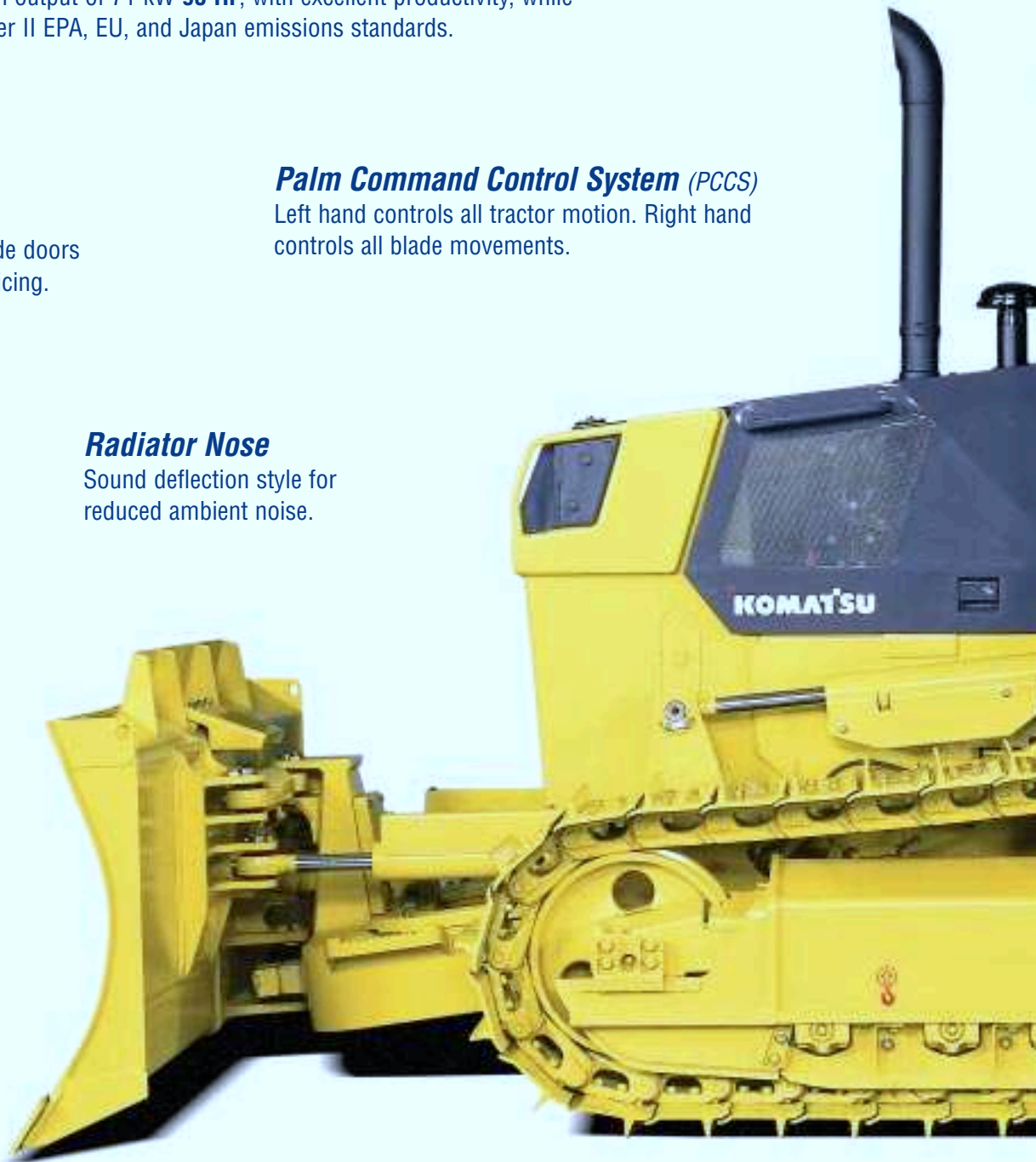
High capacity **Power Angle Tilt dozer**

combines the highest power in its class with outstanding productivity.

Blade tilt lines completely protected.

Komatsu Hydrostatic Transmission (KomStat)

offers palm control of speed (3 forward and 3 reverse), turn directional changes, and power steering with PPC valve control.



D39EX/PX-21

CRAWLER DOZER

Electronic Monitoring System

prevents minor problems from developing into major ones.

Optional quadrangle design, low noise pressurized ROPS cab

One-piece front glass window offers exceptional front, side, and rear visibility.

FLYWHEEL HORSEPOWER

71 kW 95 HP @ 2200 rpm

OPERATING WEIGHT

D39EX: 8520 kg 18,780 lb

D39PX: 8900 kg 19,620 lb

BLADE CAPACITY

PAT DOZER:

D39EX: 1.93 m³ 2.52 yd³

D39PX: 2.06 m³ 2.69 yd³



Hydrostatic steering

utilizes a PPC valve to ensure smooth shockless steering control, facilitating counter-rotation.

In-shoe design final drives and travel motors

are completely protected.

Bolt-on sprocket

for ease of maintenance.

Modular power train for increased serviceability and durability.



Komatsu's highly productive, innovative technology, environmentally friendly machines built for the 21st century.

Intermediate speed selection enables setting of optimum travel speed to job conditions, improving grading accuracy.

Photo may include optional equipment.

ENGINE AND HYDROSTATIC TRANSMISSION



Komatsu SAA4D102E-2 Turbocharged and Aftercooled Diesel Engine

Powerful Engine

A powerful SAA4D102E-2 turbocharged and air-to-air aftercooled diesel engine provides a massive output of 71 kW **95 HP**. And this engine also meets Tier II EPA, EU, and Japan emissions standards, without sacrificing power or machine productivity.

The engine power is transmitted via a high-efficiency KomStat Hydrostatic Transmission to the final drives.

KomStat Hydrostatic Transmission (HST)

3-speed HST

The D39-21 is equipped with Komatsu's exclusive KomStat Hydrostatic Transmission (HST). D39's HST consists of dual-path and closed-circuit with two variable displacement piston pumps and two 3-speed variable displacement travel motors. The 3-speed variable capacity travel motors allow the operator to select the optimum speed to match specific jobs.

Automatic Shift Between 1st and 2nd Speeds

It shifts automatically between 1st and 2nd speed depending on load or ground conditions for facilitating operation.

Counter-rotation

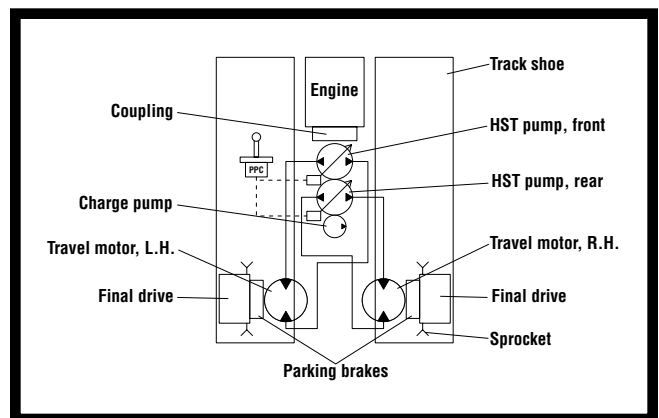
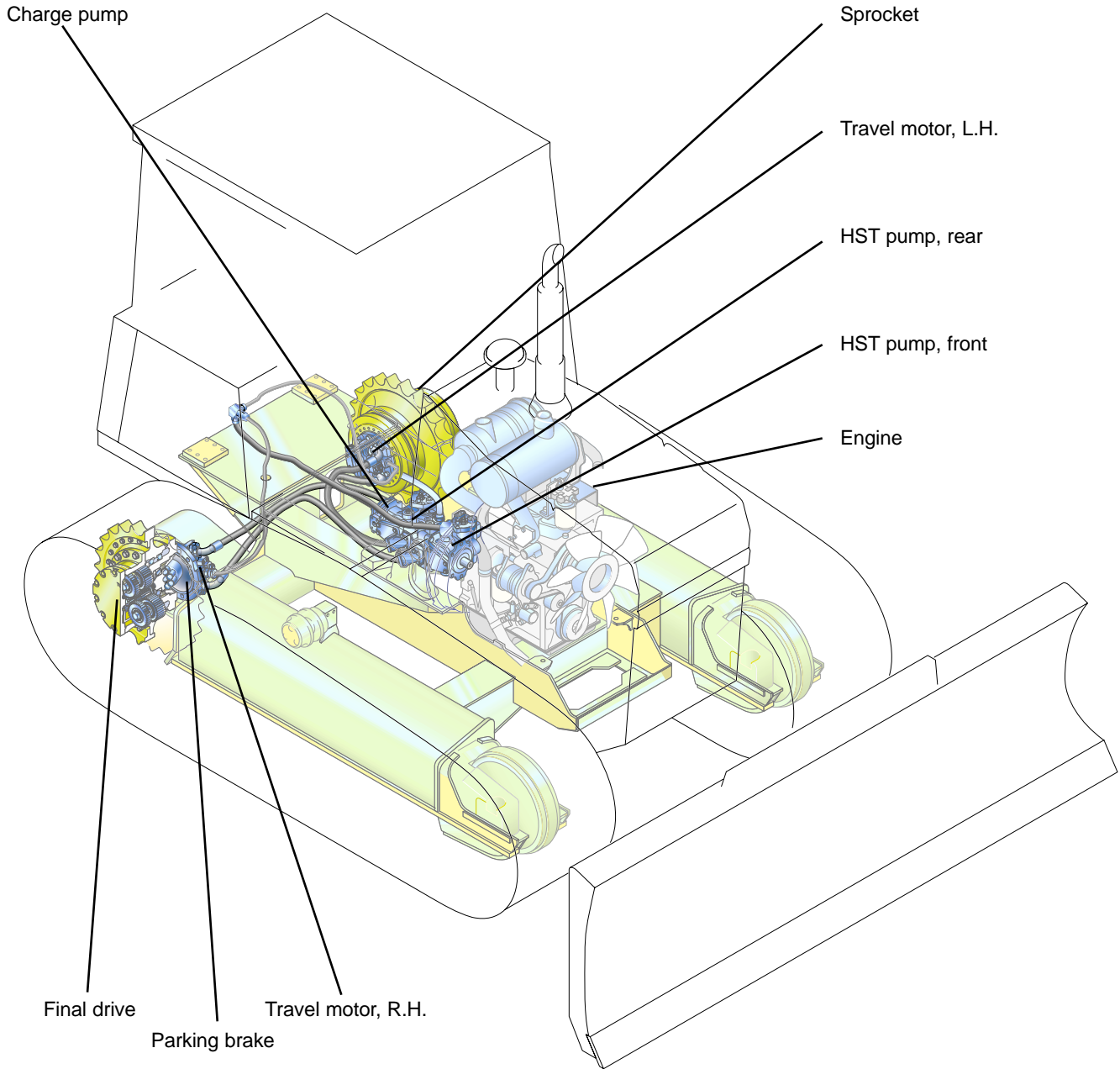
Allows the operator to correctly position the dozer when side loading the blade or working in a narrow environment.

Intermediate Speed Selection

Enables the setting of intermediate speed as operator desires or optimum travel speed to match job conditions. This means intermediate speeds of 1st speed (4.3 km/h **2.7 mph**), such as 3.0 km/h **1.9 mph** etc., are obtained by using the newly developed PPC valve with friction disc clutch. This contributes to increased job efficiency on fine or rough grading operation with optimum travel speed to match job conditions.

HST Dynamic Brakes

D39 uses HST dynamic brakes to ensure safe operation. Parking brake is wet, multiple-disc type with a unique drag-prevention control to keep hydraulic oil clean.



EXCELLENT GRADING ABILITY

Outstanding Stability

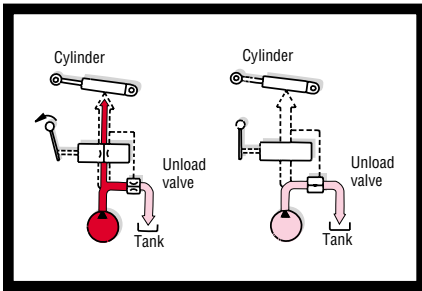
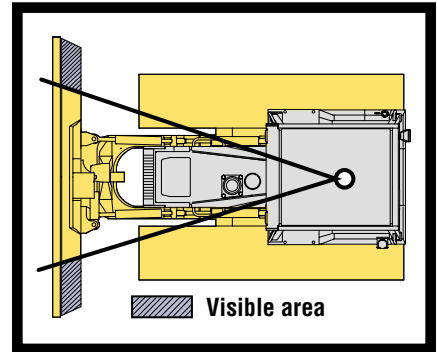
The large ground contact area created by the long tracks and wide track gauges combines with a low center of gravity to make D39-21 a stable and well-balanced machine that can perform precise grading work on rough or inclined terrain.

Exceptional Blade Visibility

The slim engine hood and well-located operator seat provide excellent visibility to the blade. This clear blade visibility greatly increases grading efficiency and reduces operator guesswork. Finish grading and rough grading can be performed easily, drastically reducing cycle times.

Easy-to-Operate, 3-Axis PPC Operated Implement Control Joystick

Newly developed 3-axis PPC valve and ergonomically designed joystick provide light operating effort and excellent blade response.



CLSS Hydraulic System

With the hydraulic Closed-center Load Sensing System (CLSS), blade lever stroke is directly proportional with blade speed, regardless of the load and travel speed. This results in superb, fine controllability.

Benefits of CLSS

- More precise and responsive operation due to the pressure compensation valve.
- Reduced fuel consumption by discharging only the required amount of oil from the pump.
- Compound operations such as blade raise, tilt, and angle are easy due to CLSS parallel circuit with pressure compensation valve.

Superb Steering Accuracy

The KomStat steering system offers smooth steering performance even in gradual turns, permitting the D39 to approach dozing objects accurately in corner grading and wall side operations.

Palm Command Control System

Palm Command Control System (PCCS) joystick controls for all directional movements. Pushing the joystick forward results in forward machine travel, while pulling it rearward reverses the machine. Simply tilt the joystick to the left to make a left turn. Tilt it to the right for a right turn. Tilting the joystick fully to the left or right activates counter-rotation. Hydrostatic steering eliminates steering clutches and brakes, providing smooth, powerful turns. The HST motor speed is selected by pressing the shift button on top of the palm lever. A PPC valve integrated into the steering circuit facilitates smooth, shockless control.



Left Hand

Steering Functions

- Forward and reverse
- Right and left steering plus counter-rotation
- First, to second, to third shifting



Right Hand

Blade Functions

- Lifting and lowering
- Tilting
- Left and right angling

OPERATOR'S COMPARTMENT

Low-Noise Design

For smoother riding comfort, power train components and hydraulic control valves are mounted to the frame with rubber pads to soften vibration and shut out noise. Since the D39 employs joysticks, the walk-through operator compartment is uncluttered for smooth entry and exit. A suspension seat with backrest and retractable seat belts is standard equipment.

Quadrangle Pressurized Cab (Optional)

This is another added comfort feature. Air filters and a higher internal air pressure combine to prevent external dust from entering the cab. In addition, the cab's design with a large one-piece front glass window provides excellent front, sides, and rear visibility. Viscous dampening cab suspension mounts soften shocks for operator comfort and extend component life. Cab features largest volume in its class, low noise 76 dB(A), and air vents arranged for optimum ventilation.

Fully adjustable suspension seat with retractable seat belt



Stepless Height Adjustable Armrests

Stepless height adjustable armrests and conveniently located fuel control lever provide comfortable operation and increase leg space.



ROPS cab



MAINTENANCE FEATURES

Electronic Monitoring System

An electronic monitoring system prevents minor problems from developing into major ones. All meters and gauges are controlled by a microcomputer, which provides a wide indication range for an easier, more precise reading.



- Charge Lamp
- Engine Oil Pressure Caution Lamp
- Engine Water Temperature Gauge
- Fuel Gauge
- HST Gear Indicator
- HST Oil Temperature Gauge
- HST Charge Filter Caution Lamp
- Intake Air Heater Lamp
- Service Meter



Gull-Wing Engine Side Covers

With a gas-spring cylinder that opens 140°, the engine and the auxiliary components can be checked easily.



Daily maintenance items are centralized on left side of engine.



Reservoir

A radiator coolant reservoir makes it easier to check the coolant level and eliminates frequent refilling.



Travel Motors

Travel motors are installed inside the rear of main/track frame for ease of removal and installation.

Tow Valve

Tow valve opens brake circuit manually to tow tractor when engine is stopped.

Large Battery Doors

for easy access to batteries.

HST Dynamic Brake

and wet type multiple-disc parking brake eliminate brake adjustment for maintenance-free operation.

Long Engine Oil Replacement Interval

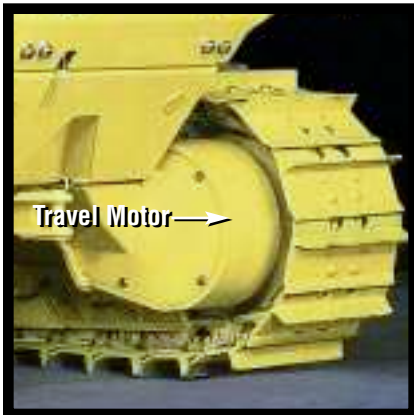
Engine oil replacement interval is extended to 500 hours using a high performance engine oil filter.

UNDERCARRIAGE AND FRAME

Frame

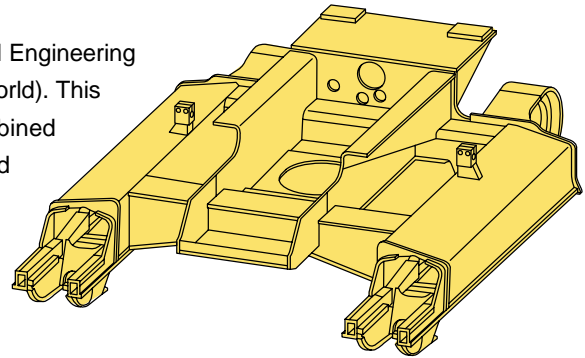
Durable and Reliable Main Frame

D39 main frame is designed by the same advanced Computer Aided Engineering (CAE) technology used on the D575A (the largest bulldozer in the world). This main frame structural feature is a main frame and track frame combined with connecting bars by welding, providing the ideal stiffness required in a small size crawler dozer.



In-shoe Mounted Travel Motors and Final Drives

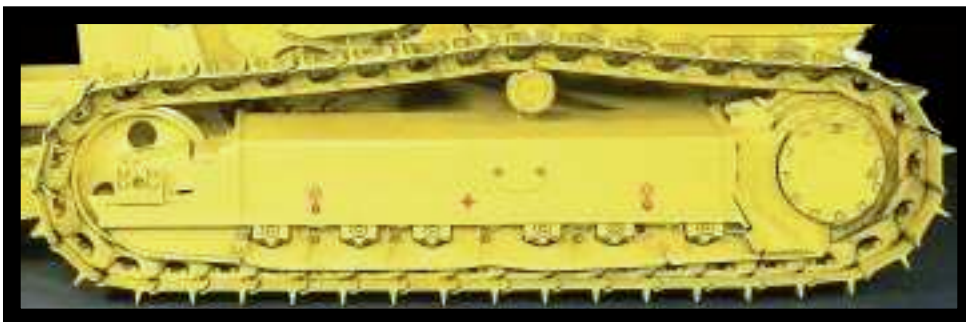
Travel motors and final drives are mounted inside the track shoe for protection from rocks and stumps, and for improving durability.



Undercarriage

Durable and Reliable Undercarriage

Life of undercarriage and reliability are greatly extended by use of large size links, pins, bushings, and unique dust seals.



O-ring Face-Seal

O-rings in hydraulic circuits are mounted with face contact to prevent oil leak from vibration.

SPECIFICATIONS



ENGINE

Model Komatsu SAA4D102E-2
 Type Water-cooled, 4-cycle, emissionized
 Aspiration Turbocharged and air-cooled aftercooler
 Number of cylinders 4
 Bore 102 mm **4.02"**
 Stroke 120 mm **4.72"**
 Piston displacement 3.9 ltr **240 in³**
 Gross horsepower 74 kW **99 HP** @ 2200 rpm
 Net flywheel horsepower*:
 SAE J1349 71 kW **95 HP** @ 2200 rpm
 DIN 6270 71 kW **96 PS** @ 2200 rpm
 Net maximum torque 431 N•m 44 kg•m **318 lb•ft** @ 1300 rpm
 Governor All-speed, mechanical
 Filter Full-flow

Direct injection fuel system. All-speed mechanical governor.
 Forced lubrication driven by gear pump. Full-flow for lube purification. Dry-type air cleaner with automatic dust evacuator and dust indicator. 5.5 kW/**24 V** electrical starter motor. 35 A/**24 V** alternator. 60 Ah/**2 x 12 V** batteries.

* Net flywheel horsepower output for standard engine (SAE J1349) including air cleaner, alternator (not charging), water pump, lubricating oil pump, fuel pump, muffler, and fan.



KOMSTAT HYDROSTATIC TRANSMISSION

Dual-path, hydrostatic transmission provides infinite speed change up to 8.5 km/h **5.3 mph**. The 3-speed variable capacity travel motors allow the operator to select the optimum speed to match specific jobs. Gearshift lock lever and neutral safety switch prevent machine from starting accidentally.

Travel speed	Forward	Reverse
1st	0–4.3 km/h 0–2.7 mph	0–4.3 km/h 0–2.7 mph
2nd	0–6.5 km/h 0–4.0 mph	0–6.5 km/h 0–4.0 mph
3rd	0–8.5 km/h 0–5.3 mph	0–8.5 km/h 0–5.3 mph

Maximum drawbar pull:

D39EX-21 135 kN 13800 kgf **30,430 lb**
 D39PX-21 135 kN 13800 kgf **30,430 lb**



STEERING SYSTEM

Palm Command Control System (PCCS) joystick control for all directional movements. Pushing the joystick forward results in forward machine travel, while pulling it rearward reverses the machine. Simply tilt the joystick to the left to make a left turn. Tilt it to the right for a right turn. Tilting the joystick fully to the left or right activates counter-rotation. Hydrostatic steering eliminates steering clutches and brakes, providing smooth powerful turns. A PPC valve integrated into the steering circuit facilitates smooth, shockless control. The PCCS utilizes shift buttons to increase and decrease speed.

Minimum turning radius:

D39EX-21 2.61 m **8'7"**
 D39PX-21 2.80 m **9'2"**

(As measured by track marks on the ground)



FINAL DRIVE

Two-stage planetary gear integrated into axial piston travel motors. Compact in-shoe mount reduces risk of damage by debris. Bolt-on sprockets for easy replacement.



UNDERCARRIAGE

Suspension Rigid type
 Track roller frame Box section, high-tensile-strength steel structure
 Rollers and idlers Lubricated idlers/carrier rollers, track rollers are sealed with floating seals
 Double flange rollers 3 per side
 Lubricated tracks:

Unique dust seals for preventing entry of foreign abrasive into pin-to-bushing clearance for extended service. Track tension easily adjusted with grease gun.

	D39EX-21 KomStat	D39PX-21 KomStat
Number of carrier rollers (each side)	1	1
Number of track rollers (each side)	6	6
Number of shoes (each side)	39	39
Grouser height	53.0 mm 2.1"	53.0 mm 2.1"
Shoe width (standard)	460 mm 18.1"	635 mm 25.0"
Ground contact area	21710 cm ² 3,365 in²	29970 cm ² 4,645 in²
Ground pressure	31.4 kPa 0.32 kgf/cm ² 4.55 psi	23.5 kPa 0.24 kgf/cm ² 3.41 psi
Track gauge	1650 mm 5'5"	1790 mm 5'10"
Length of track on ground	2360 mm 7'9"	2360 mm 7'9"



COOLANT AND LUBRICANT CAPACITY (REFILL)

Coolant 32 ltr **8.5 U.S. gal**
 Fuel tank 165 ltr **43.6 U.S. gal**
 Engine oil 12.5 ltr **3.3 U.S. gal**
 Hydraulic tank 47 ltr **12.4 U.S. gal**
 Final drive (each side) 3.5 ltr **0.9 U.S. gal**



OPERATING WEIGHT (APPROXIMATE)

Tractor weight:

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

D39EX-21 6950 kg **15,320 lb**
 D39PX-21 7230 kg **15,940 lb**

Operating weight:

Including power angle tilt dozer, ROPS canopy, operator, standard equipment, rated capacity of lubricant, coolant, and full fuel tank.

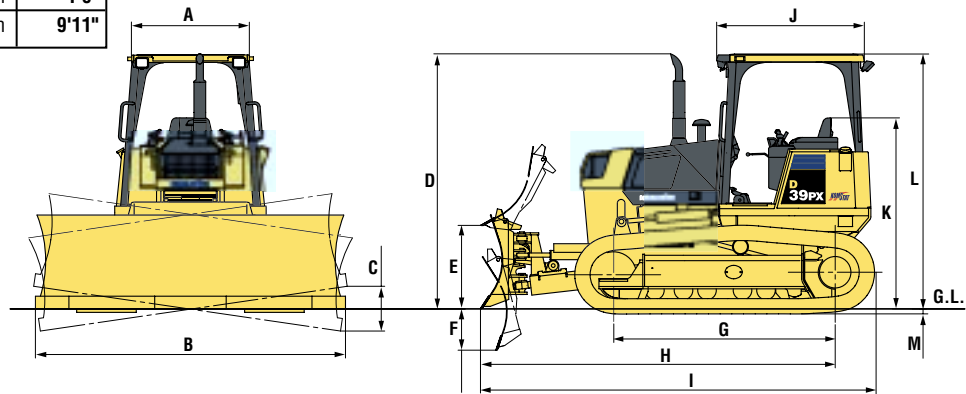
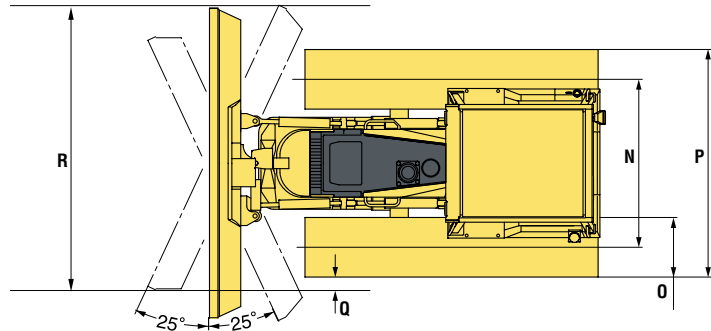
D39EX-21 8520 kg **18,780 lb**
 D39PX-21 8900 kg **19,620 lb**



DIMENSIONS (POWER ANGLE TILT DOZER)

	D39EX-21		D39PX-21	
A	1255 mm	4'1"	1255 mm	4'1"
B	2740 mm	9'0"	3330 mm	10'11"
C	395 mm	1'4"	475 mm	1'7"
D	2773 mm	9'1"	2773 mm	9'1"
E	890 mm	2'11"	890 mm	2'11"
F	440 mm	1'5"	440 mm	1'5"
G	2360 mm	7'9"	2360 mm	7'9"
H	3780 mm	12'5"	3780 mm	12'5"
I	4200 mm	13'9"	4200 mm	13'9"
J	1575 mm	5'2"	1575 mm	5'2"
K	2035 mm	6'8"	2035 mm	6'8"
L	2770 mm	9'1"	2770 mm	9'1"
M	53 mm	2.1"	53 mm	2.1"
N	1650 mm	5'5"	1790 mm	5'10"
O	460 mm	18"	635 mm	25"
P	2110 mm	6'11"	2425 mm	7'11"
Q	372 mm	1'3"	448 mm	1'6"
R	2515 mm	8'3"	3023 mm	9'11"

Ground clearance 384 mm 15.1"



HYDRAULIC SYSTEM

Closed-center Load Sensing System (CLSS) designed for precise and responsive control and for efficient simultaneous operation.

Hydraulic control unit:

All-spool control valves externally mounted beside the hydraulic tank. Gear-type hydraulic pump with capacity (discharge flow) of 93 ltr/min **24.6 U.S. gal/min** at rated engine rpm.

Relief valve setting 20.6 MPa 210 kg/cm² **2,990 psi**

Hydraulic cylinders Double-acting, piston type

	Number of Cylinders	Bore
Blade lift	2	90 mm 3.54"
Blade tilt	1	90 mm 3.54"
Blade angle	2	85 mm 3.35"

Hydraulic oil capacity (refilling):

Power angle tilt dozer 47.0 ltr **12.4 U.S. gal**

Control valves:

3-spool control valve for power angle tilt dozer.

Positions:

- Blade lift Raise, hold, lower, and float
- Blade tilt Right, hold, and left
- Blade angle Right, hold, and left

Additional control valve required for ripper.

Positions:

- Ripper lift Raise, hold, and lower



DOZER EQUIPMENT

	Overall Length With Dozer	Blade Capacity (SAE)	Blade Width x Height	Maximum Lift Above Ground	Maximum Drop Below Ground	Maximum Tilt Adjustment
D39EX KomStat Power Angle Tilt Dozer	4200 mm 13'9"	1.93 m ³ 2.52 yd ³	2740 mm x 1000 mm 9'0" x 3'3"	890 mm 2'11"	440 mm 1'5"	395 mm 1'4"
D39PX KomStat Power Angle Tilt Dozer	4200 mm 13'9"	2.06 m ³ 2.69 yd ³	3330 mm x 930 mm 10'11" x 3'1"	890 mm 2'11"	440 mm 1'5"	475 mm 1'7"



STANDARD EQUIPMENT

- Air cleaner, double element with dust indicator
- Alternator, 35 ampere
- Back-up alarm
- Batteries, 60 Ah/2 x 12 V
- Blower cooling fan
- Cup holder
- Decelerator pedal
- Electronic instrument monitor panel
- Engine hood and gull-wing side covers
- Fenders
- Front pull hook
- High-mount footrests
- Intake pipe with precleaner
- Integrated double flange rollers
- Lighting system (includes 2 front, 1 rear)
- Locks, filler caps, and covers
- Muffler with curved exhaust pipe
- Palm Command Control System (PCCS)
- Radiator core protective grid
- Radiator guard door, bolt-on
- Radiator reserve tank
- Rear cover
- Rearview mirror
- ROPS mounting brackets
- Seat belt, retractable
- Starting motor, 5.5 kW/24 V
- Suspension seat, reclining with headrest
- Track roller guard, end section
- Track shoe assembly
 - Sealed and lubricated track
 - 460 mm **18.1"** single grouser shoe (D39EX)
 - 635 mm **25.0"** single grouser shoe (D39PX)
- Underguards, oil pan and transmission
- Water separator



OPTIONAL EQUIPMENT

- Air conditioner
- Cab accessories
 - Additional lights
 - Sun visor
 - Lunch box holder
 - Radio, AM/FM
- Heater for cabless
- Hitch
- Hydraulics for ripper (D39EX)
- Multi-Shank Ripper (D39EX)
 - Additional weight (including hydraulic control unit): 810 kg **1,790 lb**
 - Beam length: 1555 mm **5'1"**
 - Maximum digging depth: 510 mm **1'8"**
 - Maximum lift above ground: 350 mm **1'2"**
- ROPS cab
 - Additional weight*, 650 kg **1,430 lb**
 - Meets ISO 3741, SAE J1040 APR88, and ISO 3449 FOPS standards.
 - All-weather, enclosed pressurized cab
 - Dimensions
 - Length: 1575 mm **5'2"**
 - Width: 1255 mm **4'1"**
 - Height: 1625 mm **5'4"**
 - Height from floor to ceiling: 1515 mm **5'0"**
 - *Including weight of air conditioner
 - ROPS canopy
 - Additional weight, 310 kg **680 lb**
 - Meets ISO 3741, SAE J1040 APR88, and ISO 3449 FOPS standards.
- Roof dimensions
 - Length: 1575 mm **5'2"**
 - Width: 1255 mm **4'1"**
 - Height from operator compartment floor: 1575 mm **5'2"**
- Suspension seat
 - Reclining with fabric material and headrest (cab only)
- Shoe, single grouser, 510 mm **20"** (D39EX)
- Shoe, swamp grouser, 700 mm **27.6"** (D39PX)
- Sweeps and screens
- Track guard, full length, segmented
- Vandalism protection cover for instrument panel

ROPS canopy or ROPS cab must be ordered for all machines.

KOMATSU®

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