KOMATSU

D85ESS-2A
WITH STEERING CLUTCH/BRake SYSTEM

HORSEPOWER
Nets 149 kW 200 HP @ 1950rpm
OPERATING WEIGHT
20670 kg 45,570 lb

D
85ESS

CRAWLER DOZER

Photo may include optional equipment.
The Komatsu S6D125E-2 diesel engine provides an output of 149 kW 200 HP with excellent productivity.

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

Gull-wing engine side covers for easy and safer servicing. (optional)

High capacity Straight tilt dozer combined the highest power in its class with outstanding productivity.

Blade tilt lines completely protected.

Komatsu Torqflow transmission offers single lever control of speed (3 forward and 3 reverse) and directional changes.

Forward mounted pivot shafts isolate final drives from blade loads.
Electronic monitoring system prevents minor problems from developing into major ones. (optional)

Optional hexagonal, low noise cab with viscous damping mounts provides unsurpassed operator comfort and visibility.

HORSEPOWER
Net: 149 kW 200 HP @ 1950 rpm

OPERATING WEIGHT
20670 kg 45,570 lb

BLADE CAPACITY (SAE)
Straight Till Dozer:
4.4 m³ 5.8 yd³
Angle Dozer:
3.4 m³ 4.4 yd³

Wet, multiple-disc brakes eliminates brake-band adjustments for maintenance-free operation.

Modular power train for increased serviceability and durability.

Bolt-on segmented sprocket teeth for easy in-the-field replacement.

Photo may include optional equipment.
All steering, direction, and speed changes are made by a left-hand single joystick control. If the operator wants to move the machine forward and to the left, he simply moves the joystick forward and to the left. If he desires a gear change, he merely twists his wrist. The machine responds to the movement of the lever providing the operator with the feeling of natural control with Komatsu's joystick.

**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 D85ESS employs joysticks, the walk-through operator compartment is undulated for smooth entry and exit. An adjustable seat with backrest is standard equipment.

**Three-stage height adjustable armrests**

Three-stage height adjustable armrests and relocated fuel control lever provide comfortable operation and increased leg space.

**Easy-to-operate work equipment control lever**

With the Closed-center Load Sensing (CLSS) hydraulic system, 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.
- The work equipment moves smoothly for operations such as side-cutting even when priority is given to steering.

**Hexagonal pressurized cab (optional)**

Air filters and a higher internal air pressure combine to prevent external dust from entering the cab. In addition, the cab's hexagonal design provides excellent front, side, and rear visibility. The viscous damper cab suspension softens shocks for operator comfort and extends component life.

**Electronic monitoring system (optional)**

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.
RELIABILITY FEATURES

Field-proven engine
Powerful 6D125E-2 diesel engine provides a massive output of 149 kW 200 HP. The engine power is transmitted smoothly to the final drives via a high-efficiency torque converter.

Modular designed power train units
The modular design allows easy removal and installation of any individual unit for shorter downtime.

Flat bottom frame
A flat bottom frame, the monocoque track frames and forward-mounted pivot shafts provide good maneuverability in muddy terrain by preventing mud from building up under the frame.

Sturdy design
Because fewer components mean greater reliability, we've designed a simple hull frame made of a thick, single plate. Track frames have a large-section construction for maximum rigidity. Even the box-section construction of the blade back beam is reinforced, all with durability in mind.

Tough undercarriage
Large-diameter bushings, increased track link heights, and improved oil-seals help to increase undercarriage durability. Serviceability has also been improved with the addition of remote greasing of the equalizer bar center pin.

Low drive and long track undercarriage
Komatsu's design is extraordinarily tough and offers excellent grading ability and stability.

EASY MAINTENANCE

Wet, multiple-disc brakes
Eliminate brake-band adjustments for maintenance-free operation.

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

Oil pressure check ports (optional)
Oil pressure check ports for the power train are centralized on the right hand side of the operator platform for easy access.

Gull-wing engine side covers (optional)
A gas-spring cylinder opens the gull-wing engine side covers widely, allowing the engine and auxiliary components to be easily checked.
**ENGINE**

Model ................................ Komatsu S6D125E-2
Type .................................. 4-stroke cycle, water-cooled, direct injection
Aspiration .......................... Turbocharged
Number of cylinders ................. 6
Bore x stroke .......................... 125 mm x 150 mm x 4.92" x 5.91"
Piston displacement .................. 11.04 ltr 64/1 in³
Governor .............................. All-speed, mechanical
Horsepower .......................... ISO 9249 / SAE J1340: Net 149kW 200HP
Rated rpm ............................ 1050rpm
Fan drive type ......................... Mechanical
Lubrication system ............................ Gear pump, forced lubrication
Filter .................................. Full-flow
Net maximum torque ................... 981 N·m 1080 kg·m 723 lb·ft @ 1200 rpm

**TORQFLOW TRANSMISSION**

Komatsu's TORQFLOW transmission consists of a water-cooled, 3-element, 4-speed, 1-shaft, 3-shaft torque converter and a planetary gear, multiple-disc clutch transmission which is hydraulically actuated and force-lubricated for optimum heat dissipation. Joystick control of gears (3 forward and 3 reverse) and directional steering changes. Gearshift lock lever and neutral safety switch prevent machine from accidental stalling.

<table>
<thead>
<tr>
<th>Travel speed</th>
<th>Forward</th>
<th>Reverse</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>0–3.9 km/h 0–2.4 mph</td>
<td>0–5.0 km/h 0–3.1 mph</td>
</tr>
<tr>
<td>2nd</td>
<td>0–6.8 km/h 0–4.2 mph</td>
<td>0–8.6 km/h 0–5.3 mph</td>
</tr>
<tr>
<td>3rd</td>
<td>0–10.6 km/h 0–6.6 mph</td>
<td>0–13.4 km/h 0–8.3 mph</td>
</tr>
</tbody>
</table>

**FINAL DRIVES**

Double-reduction final drives of spur gear and planetary gears to minimize transmission of shocks to power train components. Segmented sprocket are bolt-on for easy in-field replacement.

**STEERING SYSTEM**

Joystick controls for all directional movements. Pushing the joystick forward results in forward machine travel, while pulling it upward reverses the machine. Simply tilt the joystick to the left to make a left turn. Tilt it to the right for a right turn.

Wet, multiple-disc steering clutches are hydraulically loaded and hydraulically released. Wet, multiple-disc brakes are spring-actuated and hydraulically released. Steering brakes also function as service and parking brakes. Minimum turning radius* .................. 3.4 m 11'2"

*As measured by track marks on ground.

**UNDERCARRIAGE**

Suspension .......................... Oscillation with equalizer bar and forward mounted pivot shafts
Track roller frame .................... Monocoque, large section, durable construction
Track shoes .......................... Lubricated tracks. Unique dust seals for preventing entry of foreign abrasives into pin-to-bushing clearances for extended service. Track tension is easily adjusted with a grease gun.
Number of carrier rollers (each side) .................. 2
Number of track rollers (each side) .................. 6
Ground contact area .................. 30400 cm² 4,710 in²
Ground pressure ....................... 0.50 kPa 0.50 kg/cm² 7.25 psi

**COOLANT AND LUBRICANT CAPACITY**

<table>
<thead>
<tr>
<th>Component</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coolant</td>
<td>52 ltr   13.7 U.S. gal</td>
</tr>
<tr>
<td>Fuel tank</td>
<td>406 ltr  107.3 U.S. gal</td>
</tr>
<tr>
<td>Engine oil</td>
<td>36 ltr   10.0 U.S. gal</td>
</tr>
<tr>
<td>Damper</td>
<td>1.7 ltr  0.4 U.S. gal</td>
</tr>
<tr>
<td>Transmission, bevel gear, and steering system</td>
<td>48 ltr  12.7 U.S. gal</td>
</tr>
<tr>
<td>Final drive (each side)</td>
<td>27 ltr   7.1 U.S. gal</td>
</tr>
</tbody>
</table>

**OPERATING WEIGHT**

Tractor weight: Including rated capacity of lubricant, coolant, full fuel tank, operator and standard equipment. 16420 kg 36,000 lb

Operating weight: Including angle dozer, multi-shank ripper, FRP canopy (optional), operator, standard equipment, and rated capacity of lubricants, coolant, and full fuel tank 20070 kg 45,570 lb
## HYDRAULIC SYSTEM

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

**Hydraulic control units:**
All spool control valves externally mounted beside the hydraulic tank.

**Type of pump:**
Gear pump

**Capacity (discharge flow at rated engine rpm):**
100 l/min 47.0 U.S. gal/min

**Relief valve setting:**
20.6 MPa 210 kgc/m² 2,990 psi

**Hydraulic cylinders:** Double-acting, piston

<table>
<thead>
<tr>
<th>Number of cylinders</th>
<th>Bore</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blade lift</td>
<td>95 mm 3.74&quot;</td>
</tr>
<tr>
<td>Blade tilt</td>
<td>140 mm 5.51&quot;</td>
</tr>
<tr>
<td>Ripper</td>
<td>140 mm 5.51&quot;</td>
</tr>
</tbody>
</table>

**Control valves:**
Spool control valve for semi-U tilt dozer and straight tilt dozer.

- Positions: Blade lift .................... Raise, hold, lower, and float
- Blade lift .................... Right, hold, and left

Spool control valve for angle dozer.

- Positions: Blade lift .................... Raise, hold, lower, and float
- Additional control valve for multi-shank ripper

- Positions: Ripper lift .................... Raise, hold, and lower

**Hydraulic oil capacity (refilling):**
- 55.0 ltr 14.5 U.S. gal
- 55.0 ltr 14.5 U.S. gal

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## DOZER EQUIPMENT

Use of high tensile strength steel in moldboard for strengthened blade construction.

<table>
<thead>
<tr>
<th>Overall length with dozer</th>
<th>Blade capacity</th>
<th>Blade length x height</th>
<th>Maximum lift</th>
<th>Maximum drop</th>
<th>Maximum tilt adjustment</th>
<th>Angling angle</th>
<th>Additional weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>AngleDozer</td>
<td>5630 mm 19&quot;</td>
<td>3.4 m² 4.4 yd²</td>
<td>4370 mm x 1670 mm 14&quot; 4 x 36&quot;</td>
<td>1256 mm 41&quot;</td>
<td>485 mm 17&quot;</td>
<td>400 mm 14&quot;</td>
<td>25 degree</td>
</tr>
<tr>
<td>Straight Tilt Dozer</td>
<td>5615 mm 18.5&quot;</td>
<td>4.4 m² 5.8 yd²</td>
<td>3620 mm x 1295 mm 11&quot; 11 x 43&quot;</td>
<td>1070 mm 36&quot;</td>
<td>590 mm 19&quot;</td>
<td>460 mm 19&quot;</td>
<td>2226 kg 4,800 lb</td>
</tr>
<tr>
<td>Semi-U Tilt Dozer</td>
<td>5773 mm 18.11&quot;</td>
<td>6.8 m² 8.9 yd²</td>
<td>3940 mm x 1565 mm 11&quot; 11 x 52&quot;</td>
<td>1070 mm 36&quot;</td>
<td>590 mm 19&quot;</td>
<td>460 mm 19&quot;</td>
<td>2520 kg 5,560 lb</td>
</tr>
</tbody>
</table>

**Reminders:**
- Blade capacities are based on the SAE recommendation practice J1265.

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## DIMENSIONS

Ground clearance .................. 400 mm 1 1/4"

Dimension with straight tilt dozer and multi-shank ripper:

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>2050 mm 6 1/2&quot;</td>
<td>5630 mm 11 1/2&quot;</td>
<td>1295 mm 4 3/4&quot;</td>
<td>2930 mm 9 1/4&quot;</td>
<td>1070 mm 3 3/4&quot;</td>
<td>590 mm 1 1/4&quot;</td>
<td>2930 mm 9 1/4&quot;</td>
<td>5615 mm 18 5/8&quot;</td>
<td>3160 mm 10 5/8&quot;</td>
<td>65 mm 2 3/8&quot;</td>
<td>1220 mm 4 5/8&quot;</td>
<td>2170 mm 8 1/8&quot;</td>
<td>950 mm 3 1/4&quot;</td>
<td></td>
</tr>
</tbody>
</table>
STANDARD EQUIPMENT FOR BASE MACHINE

- Air cleaner, double element with dust indicator
- Alternator, 35 amperes/24V
- Battery, 140 Ah x 12V
- Blower cooling fan
- Decelerator pedal
- Engine hood
- Fenders
- Lighting system, (includes 2 front, 1 rear)
- Mono-lever steering
- Muffler with curved exhaust pipe
- Radiator guard door, flat
- Radiator reserve tank
- Rear cover
- ROPS mounting brackets
- Starting motor, 7.5 kW/24V
- Swat, adjustable
- Track roller guard, end sections
- Track shoe assembly
  - Sealed and lubricated track
  - 510 mm 20" single grouser shoe
  - Undergaurds, oil pan and transmission
  - Wat, multi-disc steering clutch/brake

OPTIONAL EQUIPMENT

- Air conditioner
- Backup alarm
- Cab
- Cab accessories:
  - Cup holder
  - Rear view mirror
- Cooling fan, reversible
- Electronic instrument monitor panel
- Engine side covers, gull-wing
- Front pull hook
- Heater and defroster
- Hitch type drawbar

ROPS CANOPY

- Additional weight 420 kg 930 lb
- Roof dimensions:
  - Length: 1930 mm 6'0"
  - Width: 1606 mm 6'0"
  - Height from operator compartment floor: 1700 mm 5'6""}

ROPS CANOPY FOR CAB

- Additional weight 340 kg 750 lb
- Roof dimensions:
  - Length: 1976 mm 6'2"
  - Width: 1499 mm 4'11"
  - Height from operator compartment floor: 1705 mm 5'7"

STEEL CAB

- Additional weight 285 kg 630 lb
- All-weather, enclosed pressurized cab
- Dimensions:
  - Length: 1765 mm 5'9"
  - Width: 1720 mm 5'8"
  - Height: 1625 mm 5'4"
- Height from floor to ceiling: 1515 mm 5'0"

SHOES

<table>
<thead>
<tr>
<th>Shoe</th>
<th>Additional weight</th>
<th>Ground contact area</th>
</tr>
</thead>
<tbody>
<tr>
<td>560 mm 22.0&quot;</td>
<td>-120 kg +260 lb</td>
<td>33380 cm² 5.170 in²</td>
</tr>
<tr>
<td>single-grouser shoe</td>
<td></td>
<td></td>
</tr>
<tr>
<td>610 mm 24.0&quot;</td>
<td>+230 kg +510 lb</td>
<td>36360 cm² 5.640 in²</td>
</tr>
<tr>
<td>single-grouser shoe</td>
<td></td>
<td></td>
</tr>
<tr>
<td>660 mm 26.0&quot;</td>
<td>+350 kg +780 lb</td>
<td>39340 cm² 6.100 in²</td>
</tr>
<tr>
<td>single-grouser shoe</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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