



# DUMP TRUCK

# HD465-3

MAX. PAYLOAD: 46000 kg (51 U.S. tons)  
CAPACITY (HEAPED): 34.2 m<sup>3</sup> (44.7 cu.yd)  
FLYWHEEL HORSEPOWER: 702 HP (524 kW)/2100 RPM



Photo shown may include optional equipment

- **High maneuverability:** The exceptionally small turning radius of 8.5 m (27'11") makes the HD465 just as easy to maneuver as dump trucks of one class lower.
- **Low loading height:** A low 3.35 m (11 ft) loading height facilitates easy load handling.
- **Ample power in reserve:** The Komatsu SA6D170 turbocharged diesel engine delivers a huge 702 FHP (524 kW), offering a powerful HP-to-weight ratio to make the HD465 highly maneuverable. Direct-injection system minimizes fuel consumption for maximum economy.
- **Efficient TORQFLOW transmission:** Featuring 7 forward and 1 reverse speeds with torque converter and automatic lockup mechanism, it assures responsive controls at all times regardless of load and road conditions.
- **Durable brakes:** Oil-cooled multiple-disc brakes on the rear wheels are fully sealed against dirt and water and require no internal adjustments. They also act as retarder brakes and automatically actuate when travel speed exceeds the rated speed of the shift gear to prevent the engine from overrunning. Two, independent brake lines are installed on all brakes for sure stops. The parking brake actuates automatically should air pressure drop abnormally.
- **Comfort and high stability:** The combination of hydropneumatic suspension, low center of gravity, long wheelbase and wide tread give you excellent traveling stability and comfort.
- **Extra sturdy construction:** High-tensile-strength steel rated at 130 kg/mm<sup>2</sup> (184,900 PSI) is used in the body construction for high resistance to impact and wear. The box type frame, also made from high-tensile-strength steel plate, offers rugged durability even under the severest operations.
- **Easy maintenance:** Since cartridge type filters (full-flow, fuel, transmission, hydraulic) are concentrated on the machine's left side, replacement of any one of them is quick and easy.

 **KOMATSU**

# HD465 SPECIFICATIONS



## ENGINE

Komatsu SA6D170 4-cycle, water-cooled, turbocharged diesel engine with aftercooler, 6 cylinders with 170 mm (6.7") bore x 170 mm (6.7") stroke and 23.1 ltr. (1,410 cu.in) piston displacement.

Gross horsepower: 730 HP (544 kW)/2100 RPM

Flywheel horsepower:

702 HP (524 kW) at 2100 RPM (SAE J1349)

712 PS (524 kW) at 2100 RPM (DIN 6270 NET)

Direct injection for fuel economy. Mechanical, max./min. speed control governor. Gear-pump-driven forced lubrication with full-flow filter. Dry and horizontal type air cleaner. 24/15 kW (7.5 kW x 2) electrical starter motors. 24V/50A alternator. 24V/170 Ah x 4 batteries.



## TRANSMISSION

Komatsu's unique TORQFLOW transmission consists of a water-cooled, 3-element, single-stage, 2-phase torque converter and a planetary-gear, multiple-disc clutch transmission which is hydraulically actuated and force-lubricated for optimum heat dissipation. A lock-up system, consisting of a wet, single-disc clutch, is hydraulically actuated in F1 ~ F7 gears for higher fuel savings. Neutral safety switch prevents accidental machine starts.

Max. travel speed

..... 62 km/h (38.5 MPH)/[65 km/h (40.4 MPH)]



## AXLES AND FINAL DRIVE

Independent suspension type front axle and full-floating type rear axle. The hydropneumatic suspensions are installed on the lateral ends of these axles. Planetary gear type final drive. Straight bevel gear for differential and spiral bevel gear for reduction gear.

Reduction ratio: Differential ..... 3.125:1

Final ..... 5.84:1



## TIRES

21.00-35-32 PR tires (front and rear) are standard equipment. [24.00-35-30PR large-diameter tires are also installable upon request.]

Inflation pressure ..... 4.9 kg/cm<sup>2</sup> (69.7 PSI/481 kPa)/  
[3.9 kg/cm<sup>2</sup> (55.5 PSI/382 kPa)]



## STEERING SYSTEM

A separate, full-hydraulic power steering. Tandem gear pumps power the steering/hoisting circuits. A demand valve between these two circuits assures the optimum oil-flow supply to the steering circuits regardless of engine revolutions for light-touch steering. Komatsu's exclusive A-frame offers a large wheel turning angle and small turning radius. Should the engine or pump malfunction occur, push the emergency steering button and the electric motor actuates the pump and supplies hydraulic oil to the steering circuits. Thus, your vehicle stays safely on course.

Min. turning radius ..... 8.5 m (27'11")/[9.5 m (31'2")]



## BRAKES

**Front:** Air-over-hydraulic, dry disc type.

**Rear:** Air-over-hydraulic, oil-cooled multiple-disc type brakes

act as both service and retarder brakes. They are sealed from water and abrasive materials and maintenance-free between overhauls. Retarder brakes automatically actuate when the travel speed exceeds the rated speed of the shift position. Two, independent brake lines are installed on all brakes for sure stops.

**Parking:** Spring-loaded and internal-expanding type parking brake. This brake automatically actuates when pressure in the air tank drops below its rated standard.

**Emergency brake:** An emergency relay valve actuates the brake automatically should air pressure in the brake circuit drop abnormally. Manual operation is possible with a lever.



## MAIN FRAME

Ladder type, box-sectioned construction for maximum rigidity. In addition, the main frame is made of high-tensile-strength steel.



## BODY

Use of 130 kg/mm<sup>2</sup> (184,900 PSI) high-tensile-strength steel and rib reinforcement for body sides provides maximum body strength. Target area . . .6450 mm x 3825 mm (21'2" x 12'7")  
Max. body depth . . . . . 1510 mm (4'11")  
Capacity: Max. payload . . . . . 46000 kg (51 U.S. tons)  
Struck . . . . . 24 m<sup>3</sup> (31.4 cu.yd)  
Heaped (2:1) . . . . . 34.2 m<sup>3</sup> (44.7 cu.yd)



## HYDRAULIC SYSTEM

The steering/hoisting and retarder cooling circuits are independently designed for sure control.

● Hydraulic pumps		Discharge flow
Steering/body hoisting	Gear, tandem pump	392 ltr. (103.6 U.S. Gal)/min
Retarder cooling	Gear, tandem pump	392 ltr. (103.6 U.S. Gal)/min
Torque converter charging and retarder cooling	Gear pump	244 ltr. (64.5 U.S. Gal)/min

● Control valve (for hoisting) . . . . Spool type control valve  
Position . . . . . Raise, hold, lower and float

● Hydraulic cylinders		No.	Bore x stroke
Hoisting	2-stage piston	2	1st 185 mm x 870 mm (7.3" x 34.3")
			2nd 150 mm x 850 mm (5.9" x 33.5")
Steering	Double acting piston	1	120 mm x 380 mm (4.7" x 15.0")

● Relief valve setting . . . 210 kg/cm<sup>2</sup> (2,990 PSI/20.6 MPa)



## SERVICE REFILL CAPACITIES

Coolant . . . . . 160 ltr. ( 42.3 U.S. gal)  
Fuel tank . . . . . 780 ltr. (206.1 U.S. gal)  
Engine oil . . . . . 53 ltr. ( 14.0 U.S. gal)  
Torque converter,  
transmission and retarder . . . . . 150 ltr. ( 39.6 U.S. gal)  
Differential . . . . . 45 ltr. ( 11.9 U.S. gal)  
Final drive (each side) . . . . . 43.5 ltr. ( 11.5 U.S. gal)  
Hydraulic system . . . . . 180 ltr. ( 47.6 U.S. gal)  
Front suspensions . . . . . 33 ltr. ( 8.7 U.S. gal)  
Rear suspensions . . . . . 26 ltr. ( 6.9 U.S. gal)

Note: Data shown within the square brackets [ ] are for the machine equipped with 24.00-35-30PR large-diameter tires.



## OPERATING WEIGHT

- Net weight (unloaded)
  - ..... 36770 kg ( 81,060 lb)/[37770 kg ( 83,270 lb)]
  - Weight distribution:
    - Front axle
      - ..... 17650 kg ( 38,910 lb)/[18130 kg ( 39,970 lb)]
      - Rear axle
        - ..... 19120 kg ( 42,150 lb)/[19640 kg ( 43,300 lb)]
  - Gross weight (including full load and an operator of 55kg)
    - ..... 82825 kg (182,600 lb)/[83825 kg (184,800 lb)]
    - Weight distribution:
      - Front axle
        - ..... 26500 kg ( 58,420 lb)/[26825 kg ( 59,140 lb)]
        - Rear axle
          - ..... 56325 kg (124,180 lb)/[57000 kg (125,660 lb)]

## STANDARD EQUIPMENT

Cab guard (left). Platform guard (right). Body heater. Quick engine starter. Headlights. Turn indicators. Side marker lamps. Brake lamps.

Tail lamps. Backup light and room lamp. Engine oil pressure gauge. Engine coolant temperature gauge. Tachometer. Ammeter. Air pressure gauge. Speedometer. Service meter. Retarder oil temperature gauge. Dust indicator. Torque converter oil gauge. Horn. Backup alarm. Centralized warning lamp and buzzer (for engine coolant level, air pressure, retarder oil temperature, gearshifts with parking brake, dumping caution). Pilot lamps (for parking brake, winker, headlight high beam). Emergency brake. Emergency steering. Engine overrunning protection. Rock ejector. Reclinable operator seat. Seat belt. Windshield washer and wiper. Side mirrors (left and right). Sun visor. Cab floor mat.

## OPTIONAL EQUIPMENT

Body spill guard. Body wear plate. Body extension. Radiator curtain. Yellow rotating lamp. Fog lamps. Side lamps. Large-capacity batteries (wet and dry). Tachograph. Rev/tachograph. Electronic display panel. Air conditioner. Vandalism protection kit. 50-ton jack. Tire chains. Car heater. Electric fan. Car radio. Fire extinguisher. Cigarette lighter and ashtray. Tinted glass windows. Underview mirrors. Transmission underguard. Automatic transmission control. Fuel quick charge. Pilot lamps (lockup clutch engaged, engine coolant level). Various types of optional tires. SA6D170B (613 HP) diesel engine. ROPS cab. Handrail on platform. Handrail on catwalk. Mud guard. Gas spring for engine hood. Body positioner. Pilot lamps (for filter logging, retarder). Engine underguard. Assistant operator seat. Tilttable steering wheel. Front lubrication piping. Exhaust muffler. Two steering cylinders. Ordinary Spare parts. Tool kit.



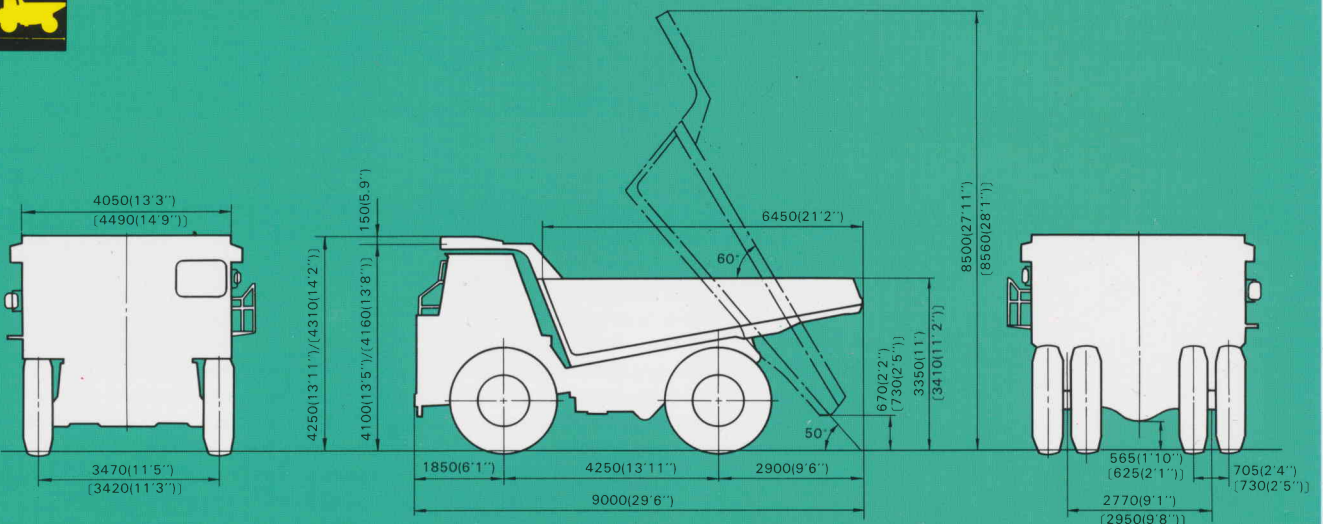
## CONTROLS

Cab guard protects the cab from falling objects. Short-nose engine room assures increased front underview. Human-engineered layout of instrument panel for smooth, easy control. All meters and gauges are illuminated by back-lighting for easy reading. Centralized warning lamp and pilot lamps warn the abnormalities of the vehicle. Engine starts only when the shift lever is positioned in neutral, to prevent accidental machine starts. Tilttable steering wheel can be telescoped in both an extending and retracting motion (optional). Its tilt angle is also adjustable. Operator seat with a reclinable backrest is fore/aft and up/down adjustable.



## DIMENSIONS

Unit : mm (ft.in)



Ground clearance ..... 565 mm (1'10")

## Easy control features



**Centralized warning lamp:** Warns operator when the air pressure falls below its rated value, when the brake oil temperature surpasses the limit, when the truck is moved with parking brake in position, when the machine is moved with the dump lever in the "raise" or "lower" position, and when the radiator coolant level falls abnormally. The optional pilot lamp lights up when the hydraulic transmission filters are clogged.

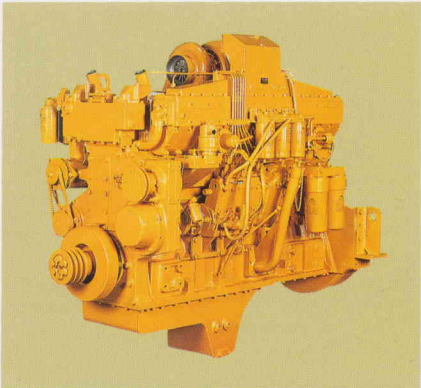


**Easy gearshifting:** Depending on travel speed and road conditions, the operator can select the optimum shift position simply by manipulating a single lever.

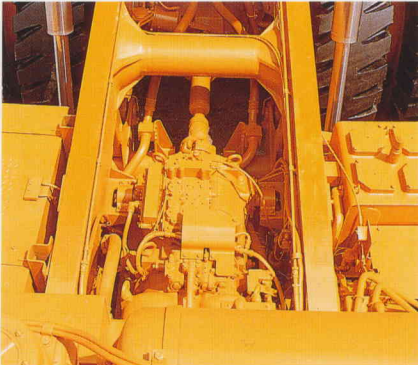


**Dump control lever:** Body movements completed with a single lever. Place the control lever to the "RAISE" position and the optional body positioner mechanism activates to lift the body to its preset dumping angle. A pushbutton type safety lock provided on this lever prevents misoperation.

## High maneuverability features



**Ample power in reserve:** The Komatsu SA6D170 diesel engine delivers 702 FHP (524 kW), a figure well matched with machine weight for maneuverability on the toughest roads and for low fuel consumption.



**Smooth, efficient transmission:** Komatsu's unique TORQFLOW transmission consisting of water-cooled, 3-element, single-stage, 2-phase torque converter and planetary-gear, multiple-disc clutch transmission. Automatic lockup system for efficient power flow.

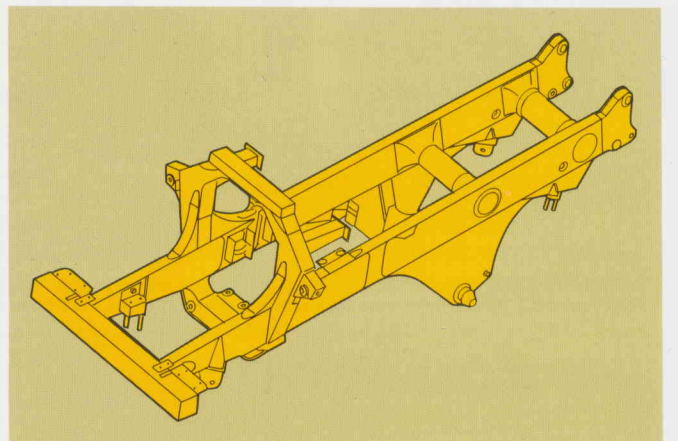


**Exclusive Komatsu A-frame:** All Komatsu haulers have a one class lower turning radius, compared to that of the competition. The secret of the smaller turning radius lies in its unique front wheel assembly design. The A-frame positioned between the main frame and front wheel has a wider wheel-to-main frame clearance, resulting in a larger front wheel turning angle and a smaller turning radius.

## Sturdiness for tough hauling



**Tough body construction:** The body is made of 130 kg/mm<sup>2</sup> (184,900 PSI) high-tensile-strength steel to achieve the sturdiness. Box-sectioned rib reinforcement for body sides, welded steel top rails and rubber mounting enable the body to withstand excessive stress and shocks for high durability. V-shaped body design, straight bottom floor and rounded-corner design assure smooth dumping. In addition, body exhaust heating prevents soil from sticking to the body for less vehicle dead weight.



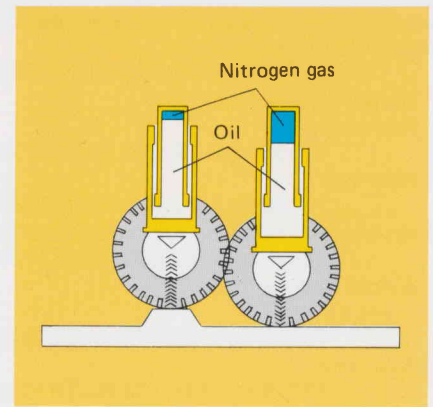
**Sturdy main frame:** Since the main frame is the backbone of the machine, it must be built tough. Ladder design and the use of tensile-strength-steel provide tough frame strength.

## Hydropneumatic suspension for stable operation

**Employed on four wheels:** As body loads and ground shocks increase, so does the displacement difference. The hydropneumatic system oscillates with longer strokes to absorb the extra shock as heavier loads are added. This efficient cushioning effect provides greater comfort, higher stability and greater overall durability.

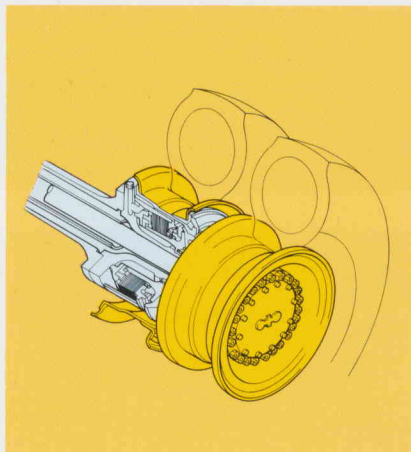
Wide treads, long wheelbase and low center of gravity further assure stable operation on rough terrain. Low loading height enables smaller loaders to load onto the HD465.

**Operation:** Each hydropneumatic suspension has a sealed chamber containing a quantity of nitrogen gas under high pressure. A lower displacement chamber is filled with fluid. When the wheel hits a bump, the fluid is pushed upward to compress the gas. The achieved gas displacement acts as a cushion.



## Other remarkable features

**Tandem hydraulic pumps:** The steering/hoisting circuits are separated from the retarder cooling circuit for safe operation. Since the gear-type tandem pumps are equipped, even if one should fail, the other supplies sufficient oil for sure control. To ensure smooth, light-touch steering, a demand valve is provided. It adjusts the oil flow from the pumps to the steering and hoisting circuits. When engine revolutions are low, all oil from the pump flows into the steering circuit to prevent starvation.



**Oil-cooled, multiple-disc brakes:** The air-over-hydraulic rear brake system of Komatsu haulers uses sealed and oil-cooled, multiple-disc brakes for longer service life. They are also adjustment-free. Thanks to ample braking capacity and forced lubrication, braking is always positive. These brakes also act as retarders and they actuate automatically when the travel speed exceeds the rated speed of shift position to prevent the engine from overrunning while descending. Two, independent brake lines are installed on all brakes for sure stops. A slack adjuster maintains the optimum clearance for rear brake discs to reduce time lag.

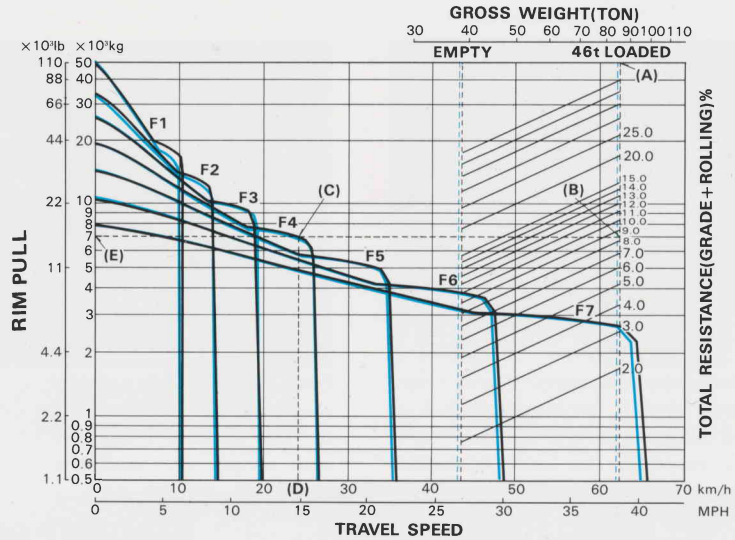


**Simple maintenance:** The full-flow and fuel filters are cartridge type and gathered on the machine's left side for easy replacement. Low position of fuel and hydraulic tanks for easy refilling. Grease fitting is gathered behind the rear axle housing to enable remote grease refilling and easy maintenance and service.

## Travel performance curve

To assess a vehicle's travel speed, rim pull, etc., first draw a vertical line (A) according to the vehicle's weight and mark point B corresponding to total resistance (the sum of grade and rolling resistance). Next, draw a horizontal line from B and mark C where the line intersects the rim pull curve. Read E for the rim pull. For travel speed (D), draw a vertical line downward from C. For instance, when traveling a 6% gradient and encountering a 2% rolling resistance, a vehicle with a 46-ton payload should have a rim pull of 7 tons (15,430 lb) and travel at a speed of 24 km/h (14.9 MPH) in forward 4th gear.

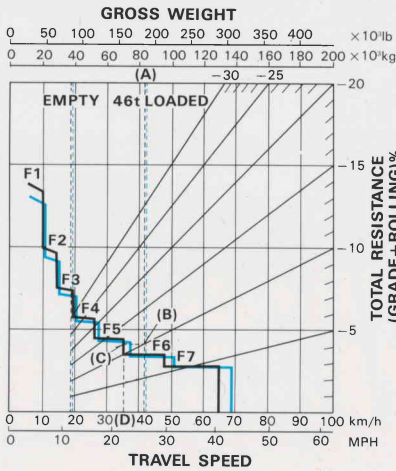
Blue lines indicate performance with a machine equipped with 24.00-35-30PR large-diameter tires.



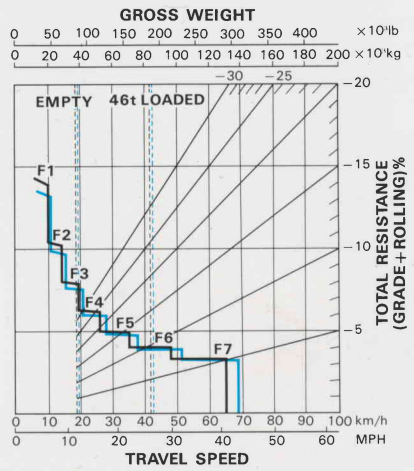
## Brake performance curve (with oil cooler)

This curve establishes the maximum speed and gearshift position for safe descents on roads with a given gradient at a given distance. For example, let's assume that total resistance is -10% (gradient resistance -12% plus rolling resistance +2%) on the "1500 m (4,920 ft)" graph. First, draw a vertical line from the total vehicle weight (A) so that it crosses the slanted line of -10% total resistance (B). From B, draw a horizontal line to the left and it will cross the stair curve (C). Finally, draw a vertical line from C and read D, the maximum speed for driving safely down the slope. In this case, a vehicle with a 46-ton payload should travel approximately 36 km/h (22.4 MPH) in forward 5th gear.

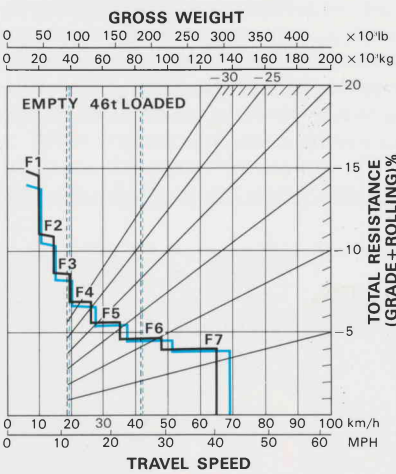
Grade distance: 1500 m (4,920 ft)



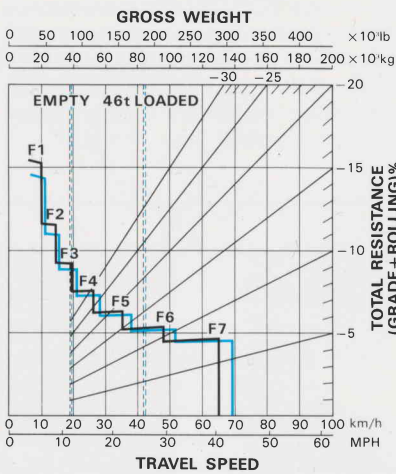
Grade distance: 900 m (2,950 ft)



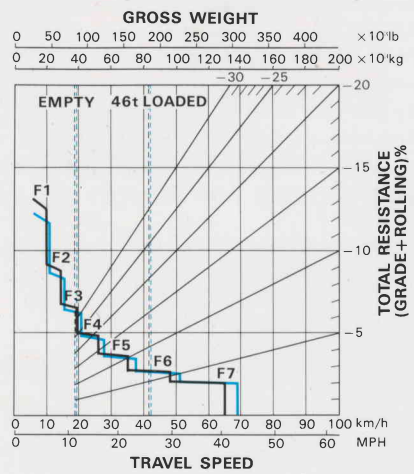
Grade distance: 600 m (1,970 ft)



Grade distance: 450 m (1,480 ft)



Grade distance: Continuous descent



Blue lines indicate performance with a machine equipped with 24.00-35-30PR large-diameter tires.

This specification sheet may contain attachments and optional equipment that are not available in your area. Please consult your local Komatsu distributor for those items you may require. Materials and specifications are subject to change without notice.

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