DUMP TRUCK

HD325-3

FLYWHEEL HORSEPOWER: 438 HP @ 2100 RPM
MAX. PAYLOAD: 32,000 kg (35 U.S. tons)
OPERATING WEIGHT (UNLOADED): 26,000 kg (58,640 lb)

U.S. Specifications

Model shown may include optional equipment

- Powerful Cummins KT-1150-C diesel provides rated power at altitudes up to 2700 m (8860 ft) without adjustment.
- Exclusive Komatsu TORQFLOW transmission for smooth shifting through 6 forward speeds.
- Automatic torque converter lockup system gives the best rimpull performance at all speeds.
- Unique A-frame front suspension mechanism gives the HD325-3 a 7.2 m (23.6 ft) turning radius making it just as maneuverable as dump trucks that are a class smaller.
- Easy maintenance: filters are gathered on the left side for easy replacement; grease fittings are arranged to allow for remote grease filling.
- Fully sealed and oil-cooled multiple disc rear brakes provide superb retarder force on downgrades and won't fade even with continuous use.
- Hydropneumatic suspension on all four wheels provides a smooth ride on the roughest terrain.
- Low center of gravity, long wheelbase, and wide tread make the HD325-3 exceptionally stable.
- Small loaders that cannot load other trucks in the class can load the Komatsu HD325-3 because of its exceptionally low loading height.

KOMATSU

HD325-3 SPECIFICATIONS

ENGINE

Cummins KT-1150-C 4-cycle, water-cooled turbocharged diesel engine. 6 cylinders with 159 mm (6.26") bore x 159 mm (6.26") stroke and 18.8 ltr. (1147 cu. in.) piston displacement.

- Flywheel horsepower* . . . . . 438 hp @ 2100 rpm
- Max. torque* . . . . . 186.7 kg-m (1350 lb-ft) @ 1500 rpm

Direct injection for fuel economy, mechanical all-speed governor. Gear-pump-driven forced lubrication with full-flow and bypass filters (double filtering system). Dry and horizontal type air cleaner. Cooled through forced circulation by centrifugal water pump and suction fan. Electrical 24-volt starting system, with 11kW starting motor, 50A alternator, and 200 Ah battery.

*Performance of a standard engine equipped with fan, air cleaner, alternator, water pump, lubricating oil pump and fuel pump, under SAE standard ambient temperature (29.4°C-85°F) and barometric conditions (745 mmHg, 29.39" Hg).

TORQFLOW 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 optimal heat dissipation. 6 forward speeds and 1 reverse. A lockup system of wet, single-disc clutch is automatically actuated in forward shifts, resulting in better fuel economy. Neutral safety switch prevents machine from starting accidentally.

Max. travel speed . . . . . 65 km/h (40.4 mph)

AXLE AND FINAL DRIVE

Independent suspension type front axle and full-floating type rear axle. Hydropneumatic suspensions are installed on the lateral ends of these axles. Planetary gear final drive.

Reduction ratio:

- Differential 3.87:1
- Final 4.74:1

TIRES

18.00-33-36 PR tubeless tires are standard equipment.

- Inflation pressure . . . . . 5.0 kg/cm² (71 PSI)

STEERING

Separate, full-hydraulic power steering with follower. Tandem gear pumps power the steering and hoisting circuits. A demand valve between these two circuits adjusts oil flow to supply sufficient oil to the steering circuit regardless of engine revolution for light-touch steering. Exclusive A-frame offers large wheel turning angle, thus assuring a small turning radius. Emergency steering button actuates electric motor to drive steering/hoist pump in the event of engine stoppage.

BRAKES

Front: Air-over-hydraulic, internal-expanding shoe.
Rear: Air-over-hydraulic, oil-cooled multiple disc type. Sealed from water and abrasive materials and maintenance-free between overhauls. Independent front and rear brake pipings for sure stops.
Retarder: The rear brakes also act as retarders. The retarders have their own cooling system for ample braking performance. They automatically actuate when the travel speed exceeds the rated standard to prevent the engine from over-running.
Parking Brakes: Spring-loaded and external-expanding type.
Emergency Brake: Automatically applied to service brakes should pressure in air tank drop below rated standard.

MAIN FRAME

Ladder type, box-sectioned construction for maximum rigidity. In addition, the main frame is made of 60kg/mm² (85,340 PSI) high-tensile-strength steel.

BODY

Employment of 130 kg/mm² (184,900 PSI) high-tensile-strength steel, box section rib reinforcement for body sides, rounded corners and welded steel top rails provide maximum body strength. V-shaped body design and straight bottom floor facilitates dumping. Exhaust heating of the body aids in the dumping of sticky materials, even in cold climates. Rubber pads between the body and main frame absorb shock loads during loading.

- Max. body depth . . . . . 1420 mm (4'8')
- Max. payload . . . . . 32,000 kg (35 U.S. tons)
- Struck capacity . . . . . 18 m³ (23.5 cu. yds)
- Heaped (2:1) capacity . . . . . 24 m³ (31.4 cu. yds)

HYDRAULIC SYSTEM

For sure control, steering/hoisting and retarder cooling circuits are independently designed.

Hydraulic pumps

Circuit	Type	Discharge flow
Steering/body hoisting	Tandem gear pumps	276 ltr (72.9 U.S. Gal./min)
Retarder cooling	Tandem gear pumps	307 ltr (81.1 U.S. Gal/min)
Torque converter charging	Gear pump	154 ltr 40.7 U.S. Gal/min)

- Hoist control valve positions . . . . . raise, hold, lower and float

Hydraulic cylinders

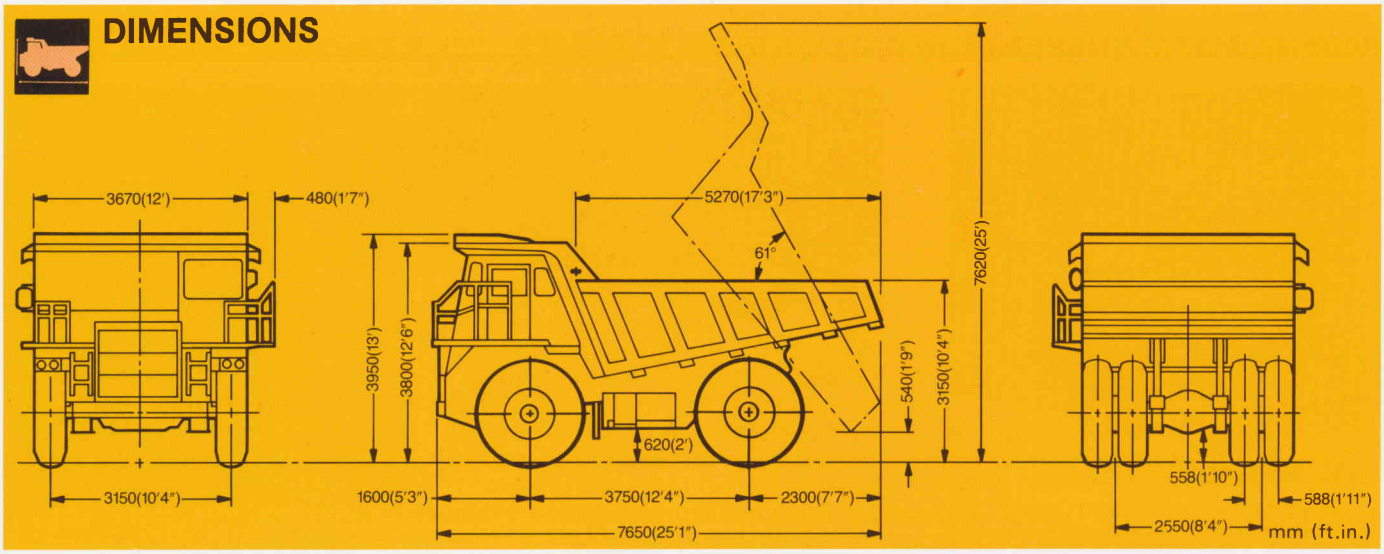
	Type	No. of cylinders	Bore x stroke
Hoisting	2-stage piston, double-acting	2	1st: 140 mm x 1428 mm (5.5" x 56.2")
			2nd: 120 mm x 1428 mm (4.7" x 56.2")
Steering	double-acting piston	1	100 mm x 380 mm (3.9" x 15.0")

- Max. oil pressure . . . . . 21 kg/cm² (2990 PSI)
- Hydraulic tank type . . . . . left-side-mounted, equipped with built-in control valve
- Hydraulic filter . . . . . full-flow type

REFILL CAPACITIES

- Engine coolant . . . . . 125 ltr (33.0 U.S. Gal)
- Fuel tank . . . . . 500 ltr (132.0 U.S. Gal)
- Engine crankcase . . . . . 35 ltr (9.2 U.S. Gal)
- Torque converter/ transmission/retarder brakes . . . . . 95 ltr (25.1 U.S. Gal)
- Differential . . . . . 45 ltr (11.9 U.S. Gal)
- Final drive . . . . . 26 ltr (6.9 U.S. Gal)
- Hydraulic oil . . . . . 105 ltr (27.7 U.S. Gal)
- Suspension . . . . . 39 ltr (10.3 U.S. Gal)
- Steering gear box . . . . . 0.9 ltr (0.24 U.S. Gal)

DIMENSIONS



CAB AND CONTROLS

Cab guard protects the cab from falling objects. Short nose engine room assures increased front underview. Steering wheel is adjustable up to 5 degrees in both an upward and downward direction. Operator seat with a reclinable backrest is fore/aft and up/down adjustable. All meters and gauges lit from behind for easy reading.

OPERATING WEIGHT

- Net weight (unloaded) . . . . . 26,600 kg (58,640 lb)
- Front axle distribution . . . . . 12,700 kg (28,000 lb)
- Rear axle distribution . . . . . 13,830 kg (30,490 lb)
- Gross weight (including full load and operator) . . . . . 58,655 kg (129,310 lb)

STANDARD EQUIPMENT

- Assistant operator's seat
- Backup alarm
- Dumping positioner
- Dust indicator
- Emergency steering and brake system
- Engine and transmission underguard
- Fire extinguisher
- Heater
- Mirrors, side-and-underview
- Operator's seat, reclinable
- Radiator curtain
- Radio
- Rock ejector
- Seat belt
- Tiltable steering wheel
- Tool kit
- Transmission, automatic
- Windshield wiper/washer
- Vandalism protection kit

OPTIONAL EQUIPMENT AND ACCESSORIES

- Air conditioner
- Alcohol injector
- Automatic centralized grease fitting device
- Battery, large capacity (wet and dry)
- Body extension
- Body wear plate
- Cabin fan
- Electronic display panel
- Engine side covers
- Fog lamps
- Front brake control system
- Jack, 50-ton
- Non-spin differential
- Radiator auto-shutter
- ROPS cab
- Side lamps
- Tachograph
- Tires, various optional sizes
- Tire chains
- Yellow rotating lamp

EASY CONTROL FEATURES

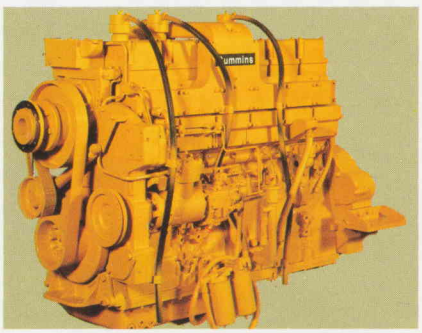
Easy gearshifting: Depending on travel speed and road conditions, the operator can select the optimum shift position simply by manipulating a single lever.

Centralized warning lamp: Cautions when air pressure lowers below the rated value, when brake oil temperature surpasses the limit, when truck is started with the parking brake on, when the machine is started with the dump lever in the "raise" or "lower" position, and when radiator coolant level lowers abnormally.

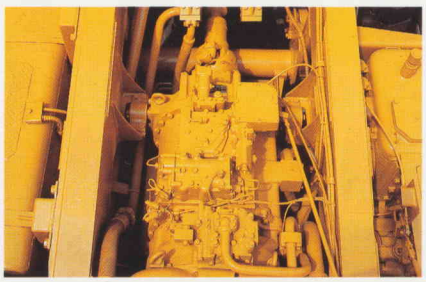
The pilot lamp lights when the hydraulic filters are clogged and when the filters of a torque converter and transmission are clogged.

Dump control lever: Body movements are completed with a single lever. By placing the control lever to the "raise" position, the dump 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 Cummins KT-1150-C diesel engine delivers 438 FHP (327 kW), which is well matched with machine weight for maneuverable ascending performance and low fuel consumption.

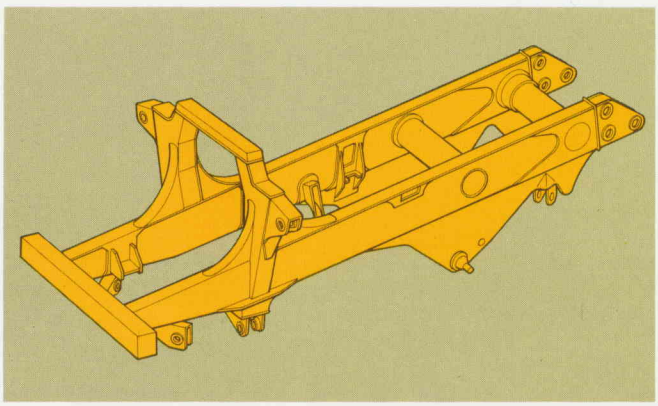


Smooth, efficient transmission: Komatsu's unique TORQFLOW transmission consisting of water-cooled, 3-element, 2-stage, single-phase torque converter and planetary-gear, multiple disc clutch transmission. Automatic lockup system for efficient power flow.

Exclusive Komatsu A-frame: Each Komatsu hauler has a one-class-lower turning radius when compared to other makes. The secret of the shorter turning radius lies in the unique design of the front wheel assembly. The A-frame positioned between the main frame and front wheel assures a wider wheel-to-main frame clearance, resulting in a larger front wheel turning angle for a remarkable turning radius of 7.2m (23.6')

HIGH STURDINESS FOR TOUGH HAULING

Tough body construction: The Komatsu body is made of 130 kg/mm² (184,900 PSI) high-tensile-strength steel for sturdiness that outclasses the competition. This, plus the rounded corner design, box-sectioned rib reinforcement for body sides, and welded steel top rails enable the Komatsu body to withstand excessive stress and impact. V-shaped body design and flat-bottom floor assure smooth dumping. In addition, body exhaust heating prevents soil from sticking to body. The body is rubber-pad-mounted on the main frame to absorb shock and stress during loading.

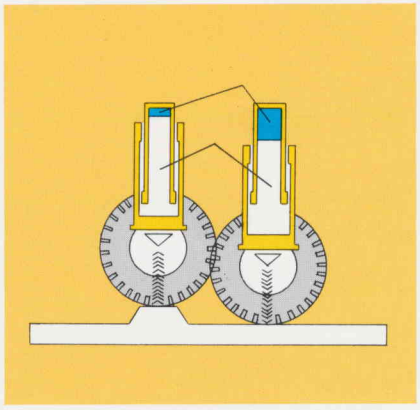


Sturdy main frame: Since the main frame is the backbone of the machine, it must be especially rugged. Ladder-type box-sectioned construction and the use of 60 kg/mm² (85,340 PSI) tensile-stength steel provide maximum frame strength.

HYDROPNEUMATIC SUSPENSION AND HYDRAULIC PUMPS

Hydropneumatic suspension: Employed on all four wheels. As the load from the body and the ground increases, the displacement difference gets greater. When the heavy loads are added, the hydropneumatic system oscillates with longer strokes to absorb the extra shock. This efficient cushioning function contributes to greater comfort, higher stability and extended durability.

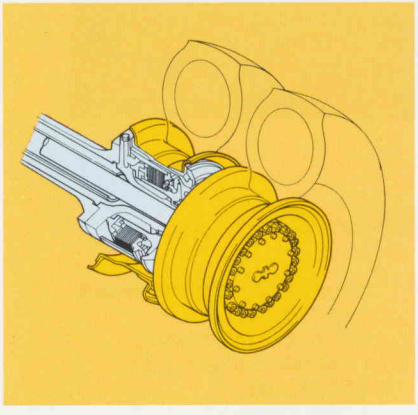
Wide treads, long wheelbase and low center of gravity assure further stable operation on rough terrain. Lower loading height in this class enables the smaller loaders to load onto the HD325.



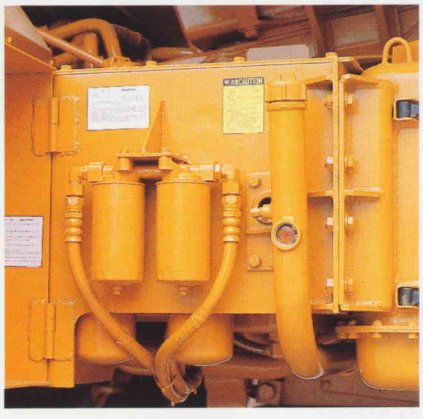
Operation: Each hydropneumatic suspension has a sealed chamber containing a quantity of nitrogen gas under high pressure. A lower displacement chamber is filled with fluid. When the wheel hits a bump, the fluid is pushed upward, compressing the gas. This change of gas displacement acts as a cushion.

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

EASY MAINTENANCE FEATURES



Fully-sealed, multiple disc brakes: The air-over-hydraulic multiple disc brakes are sealed for longer service and are adjustment-free to minimize maintenance. The slack adjuster maintains the optimum clearance of the rear brake discs to reduce time lag. The brakes also act as retarders. Due to an independent cooling system and ample braking capacity, braking is always positive to maintain continuous traveling on the descent. The retarders automatically actuate when the travel speed exceeds the rated standard for each shift range to prevent the engine from overrunning.



Full-flow filters: Bypass and fuel filters are the cartridge type and are gathered on the machine's left side for easy replacement. Self-adjusting-type radiator fan belt. Low location of fuel and hydraulic tanks for easy servicing and refilling.

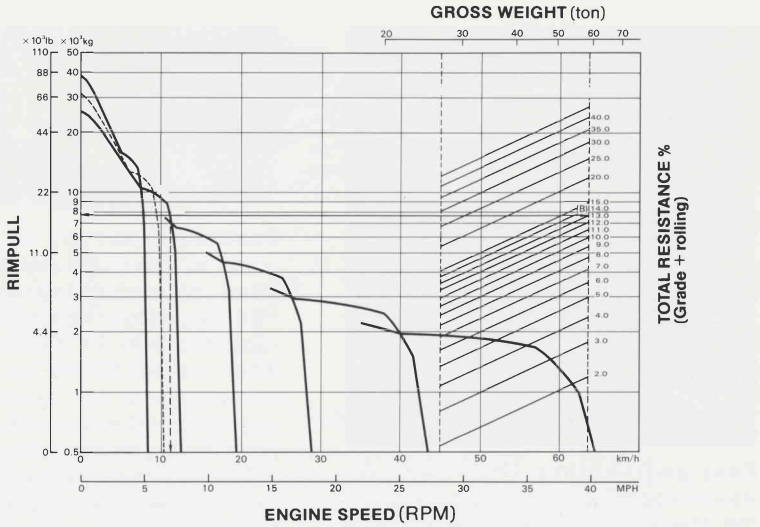
Remote grease refilling: Grease fittings are gathered on the front tire housing and behind the rear axle housing, enabling you to conduct grease refilling remotely for easy maintenance and service.

TRAVEL PERFORMANCE

Use this chart to determine vehicle gradeability, travel speed, rimpull, and the most appropriate gearshift position. To learn how to use the chart, track the following example, shown in red:

Example: What is the rimpull, travel speed, and most appropriate gearshift position of a fully-loaded truck traveling on an 8% grade with 5% rolling resistance?

1. Draw a vertical line down from Point A on the Gross Weight scale (70,500 lb payload + 58,500 lb net weight = 129,000 lb.)
2. Locate Point B on the appropriate Total Resistance line (8% grade + 5% rolling resistance = 13%).
3. Draw a horizontal line from Point B to the Rimpull scale and read 16,500 lb rimpull.
4. The horizontal line intersects the appropriate gearshift position at Point C (Forward, 2nd gear).
5. Draw a vertical line down from Point C to determine travel speed (7 mph).



BRAKE PERFORMANCE

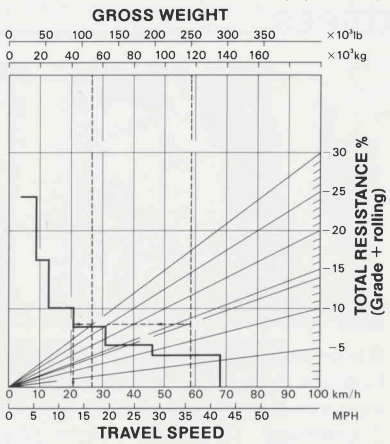
Use these charts to determine the maximum speed and best gearshift position for a safe descent on a downgrade. To learn how to use the charts, trace the following example, shown in red.

Example: What is the best speed and gearshift position for a fully-loaded truck descending 5000 feet on a 16% downgrade with 2% rolling resistance?

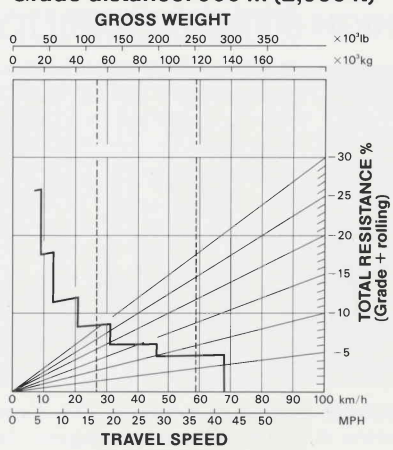
1. Choose the chart that represents the distance of descent most closely (5000 feet).
2. Draw a vertical line down from Point A on the Gross Weight scale (70,500 lb payload + 58,500 lb net weight = 129,000 lb).
3. Locate Point B on the appropriate Total Resistance line (-16% downgrade + 2% rolling resistance = -14%).
4. Draw a horizontal line from Point B until it intersects the gearshift "stair" curve at Point C (Forward, 3rd gear).
5. Draw a vertical line down from Point C to determine Travel Speed (13 mph).

Materials and specifications subject to change without notice.

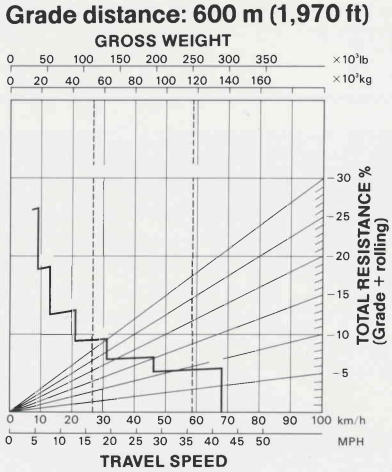
Grade distance: 1500 m (4,920 ft)



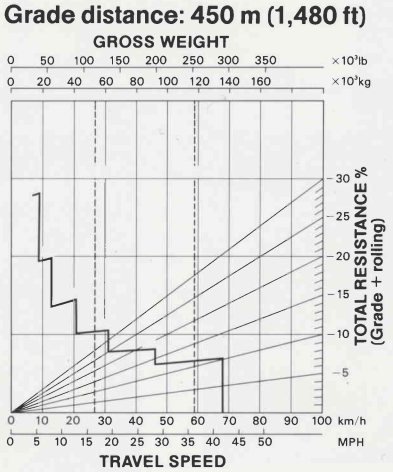
Grade distance: 900 m (2,950 ft)



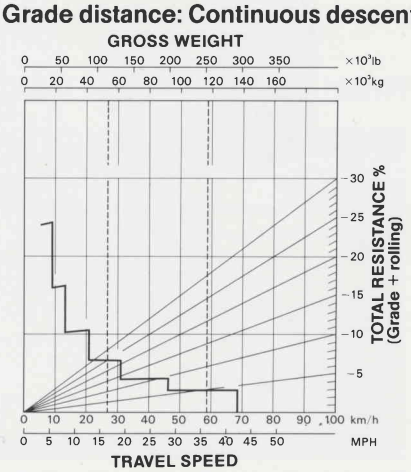
Grade distance: 600 m (1,970 ft)



Grade distance: 450 m (1,480 ft)



Grade distance: Continuous descent



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