
# MERCEDES-BENZ

*DIESEL DROP-SIDED TIPPING WAGON*

**TYPE LK-3500**

## A PERFECT EXAMPLE OF MODERN COMMERCIAL TRUCK CONSTRUCTION

The clear overall construction of the Mercedes Benz Diesel drop-sided tipping wagon Type "LK 320" is the culmination of fifty years of successful research in all branches of commercial truck construction.

**Tipping platform**

The floor consists of spruce wood planks covered with metal plates welded together or simply of metal sheeting. The sides are made from spruce wood planks held in by an endless welded angle framework and the inside surface covered with metal sheeting. The front side wall is fixed, the other three are drop sides which can be held in a horizontal position by hooking on the attached chains. The load stress in the lowered position is transferred to the chassis by way of the tipping parts and the strengthening frame.

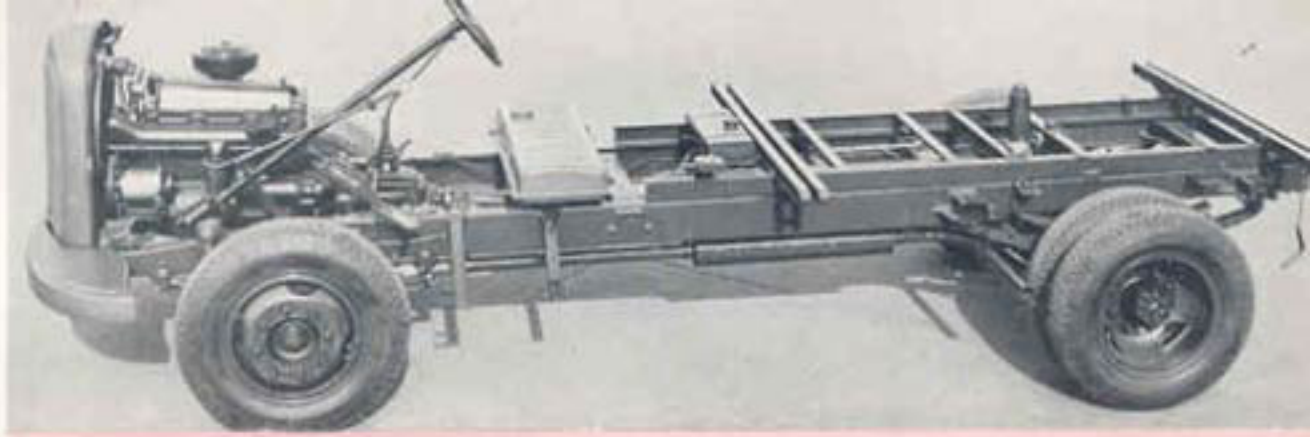
**Tipping operation**

To operate the tipping device the driver need not leave the truck, so that the unloading is carried out in the shortest time. Two pins of the tipping cantilever are inserted on the side on which it is intended to tip, the clutch is disengaged, the auxiliary drive engaged, the clutch re-engaged, and the recoil valve turned clockwise to the position "Tip". By turning anticlockwise the hand wheel on the recoil valve, the oil flows back into the oil reservoir and allows the tipping platform to return to the lowered position.

*The roomy three-seater driver's cab with heating system installed*

*All operating levers and instruments are so arranged*

*The fuel tank holding 20 gallons is placed under*



**Engine**

The quite newly developed six cylinder pre-combustion chamber Diesel engine of 279½ cu. ins. cylinder capacity and a brake horse power of 90 possesses an ease of running and a liveliness such as seemed attainable only with the fast-running petrol engines of private cars. The smaller cylinder units give a higher rate of revolutions per minute with reduced engine strain and therefore an unusual elasticity and a high maximum output. The automatic control of water and oil temperatures by means of a short circuit thermostat and a heat regulator guarantees a particularly high degree of safety of operation. The normal fuel consumption amounts to only 19.6 miles to the gallon (8.3 l/s.) The capacity of the fuel tank installed under the driver's seat is 20 gallons and is sufficient for a journey of over 370 miles. By fitting chromium plated upper piston rings in each cylinder it has been possible to increase the already considerable mileage that can be covered before a general overhaul is necessary.

**Chassis**

Just as with the engine so with the chassis all unnecessary excess weight was cut out by a careful selection of material and a well-conceived design adapted to the engine torque. Nowhere is there any redundant material; on the other hand no part of the structure is subjected to undue strain. In this way it was possible to combine an unusually favourable ratio of dead load to pay load and absolute reliability and maximum length of life. The springing adapts itself automatically to the changing load conditions by means of an auxiliary spring which comes progressively into play.

The steering, delightfully easy to handle even with a full load, and possessing a large steering lock, ensures splendid control and manoeuvrability. The easily operated gearbox has five forward gears, four of which are noiseless. The footbrake operates hydraulically on all four wheels, the pistol-grip hand brake operates mechanically on the rear wheels.

## Engine

Model . . . . . OM 321
No. of cylinders . . . . . 6
Bore . . . . . 5.14 in. (130 mm)
Stroke . . . . . 4.72 in. (120 mm)
Cylinder capacity
379.7 cu. in. (4180 ccm)
Output[1] . . . . . 90 hp. (800 r.p.m.

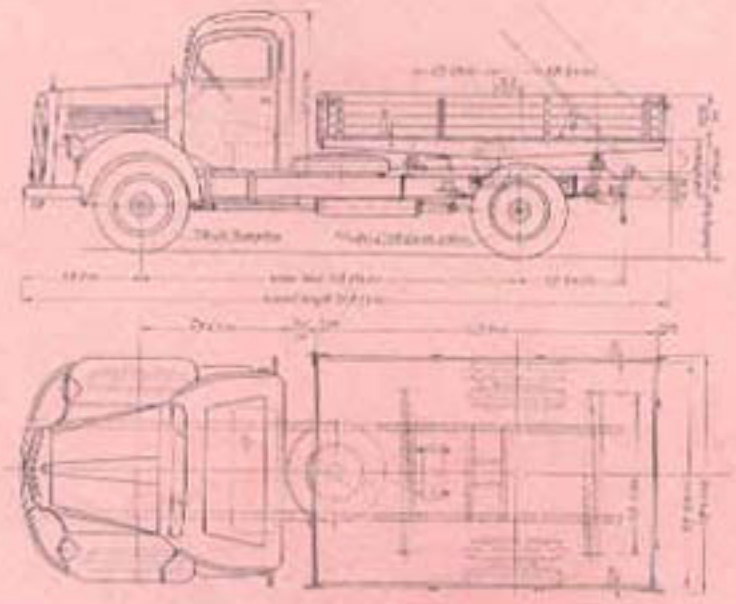
An oil cooler is fitted to the engine. The engine and gear assembly is suspended from rubber mountings in the frame.

## Chassis

Wheel base . . . . 141.7 in. (3600 mm)
Track, front . . . . . 57.91 in. (1700 mm)
Track, rear . . . . . 66.4 in. (1685 mm)
Platform floorspace approx. . . . . 12 ft.
6 in. x 6 ft. 10 ½ in.
(ca. 3400 × 2100 mm)
Height of sides
approx. 15.75 in. (ca. 400 mm)
Loading space
approx. 8 sq. yds. (ca. 6.7 qm)
Overall length of truck
20 ft. 1.5/16 in. (6134 mm)
Overall width of truck
7 ft. 4.1 in. (2240 mm)
Overall height unloaded
7 ft. 5 in. (2260 mm)
Loading height unloaded
4 ft. 2 ½ in. (1253 mm)

Loading height loaded
3 ft. 8 in. (1115 mm)
Ground clearance, front
10 in. (255 mm)
Ground clearance, rear 9 in. (230 mm)
Weight of chassis 4763 lbs. (2160 kg)
Weight of truck ready for operation with driver . . . 7496 lbs. (3400 kg)

Par load . . . . . 6834 lbs. (3100 kg)
Permissible total weight
14 330 lbs. (6500 kg)
Load capacity of chassis
9568 lbs. (4340 kg)
Tyres (single in front, double in rear)
7.50 – 20. Truck & Bus
Turning circle diameter
approx. 47 ft. 6 in. (ca. 14.5 m)



Maximum speed . . 50 miles (80 km/h)
Climbing capacity
in 1st gear . . . . . 1 in 2.83 (35 %)
in 2nd gear . . . . . 1 in 5 (20 %)
in 3rd gear . . . . . 1 in 9 (11 %)
in 4th gear . . . . . 1 in 16.7 (6 %)
in 5th gear . . . . . 1 in 33 (3 %)
Tank capacity
25 Imp. gal. or 29.4 US gal. (92 ltr.)
Capacity of cooling system
4.2 Imp. gal. or 5 US gal. (19 ltr.)
Oil capacity of crankcase
min. 1.14 Imp. gal. max. 1.58 Imp. gal.
min. 1.31 US gal. max. 1.58 US gal.
(min. 7 ltr. max. 9 ltr.)
Normal fuel consumption[2]
13.6 miles to the Imp. gal. or 16.3 miles to the US gal.
(ca. 14.4 ltr. = 12.2 kg/100 km)
Oil consumption
approx. 1400 miles to the Imp. gal. or 1180 miles to the US gal.
(ca. 0.2 ltr./100 km)
Battery . . . . . 2 × 75 Amp.-h

[1] The engine gives it also all vibration output figures, including the fan output for the cooling system, have been deducted, so that what is effectively available at the clutch for driving the truck.
[2] Determined at ¼ maximum speed with an addition of 20 %.

Subject to modification

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**DAIMLER-BENZ AKTIENGESELLSCHAFT**

MANNHEIM PLANT