DUMPER TAM 4500 K

TOVARNA AVTOMOBILOV IN MOTORJEV MARIBOR

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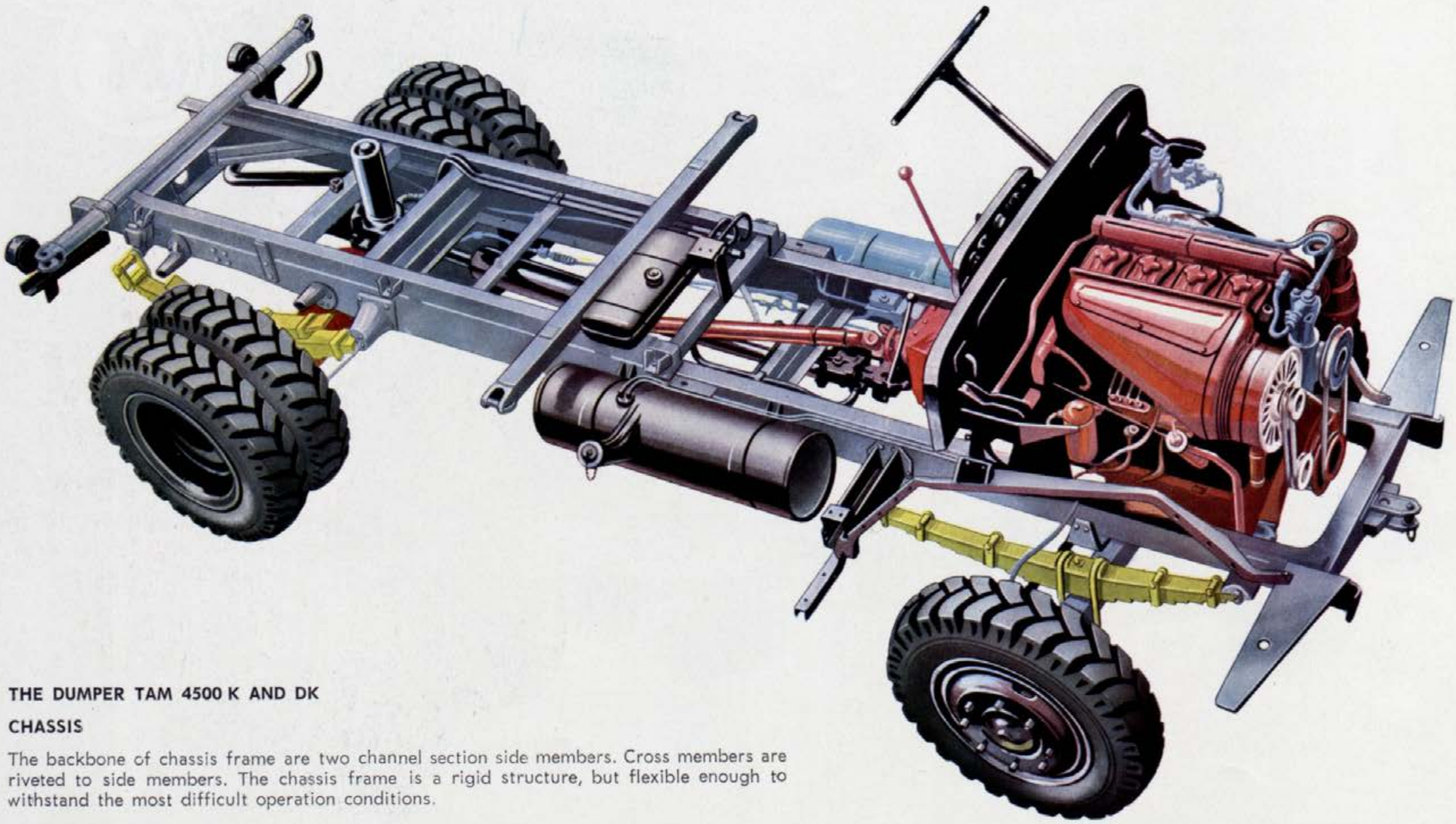
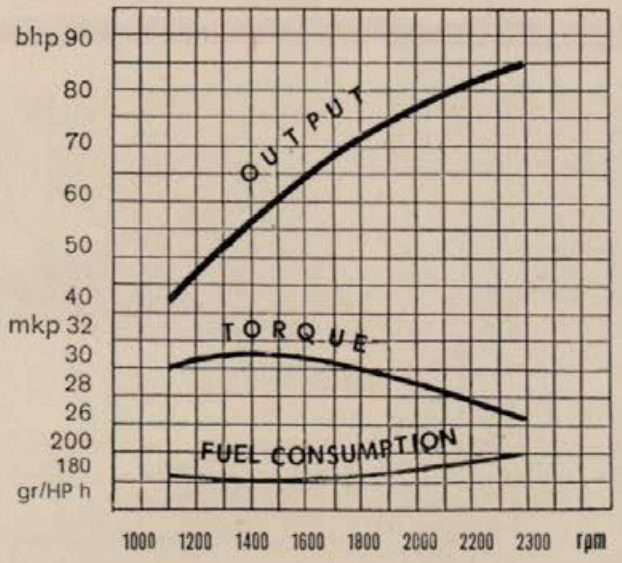


THE DUMPER TAM 4500 K AND DK

CHASSIS

The backbone of chassis frame are two channel section side members. Cross members are riveted to side members. The chassis frame is a rigid structure, but flexible enough to withstand the most difficult operation conditions.

PERFORMANCES OF VEHICLE ENGINE



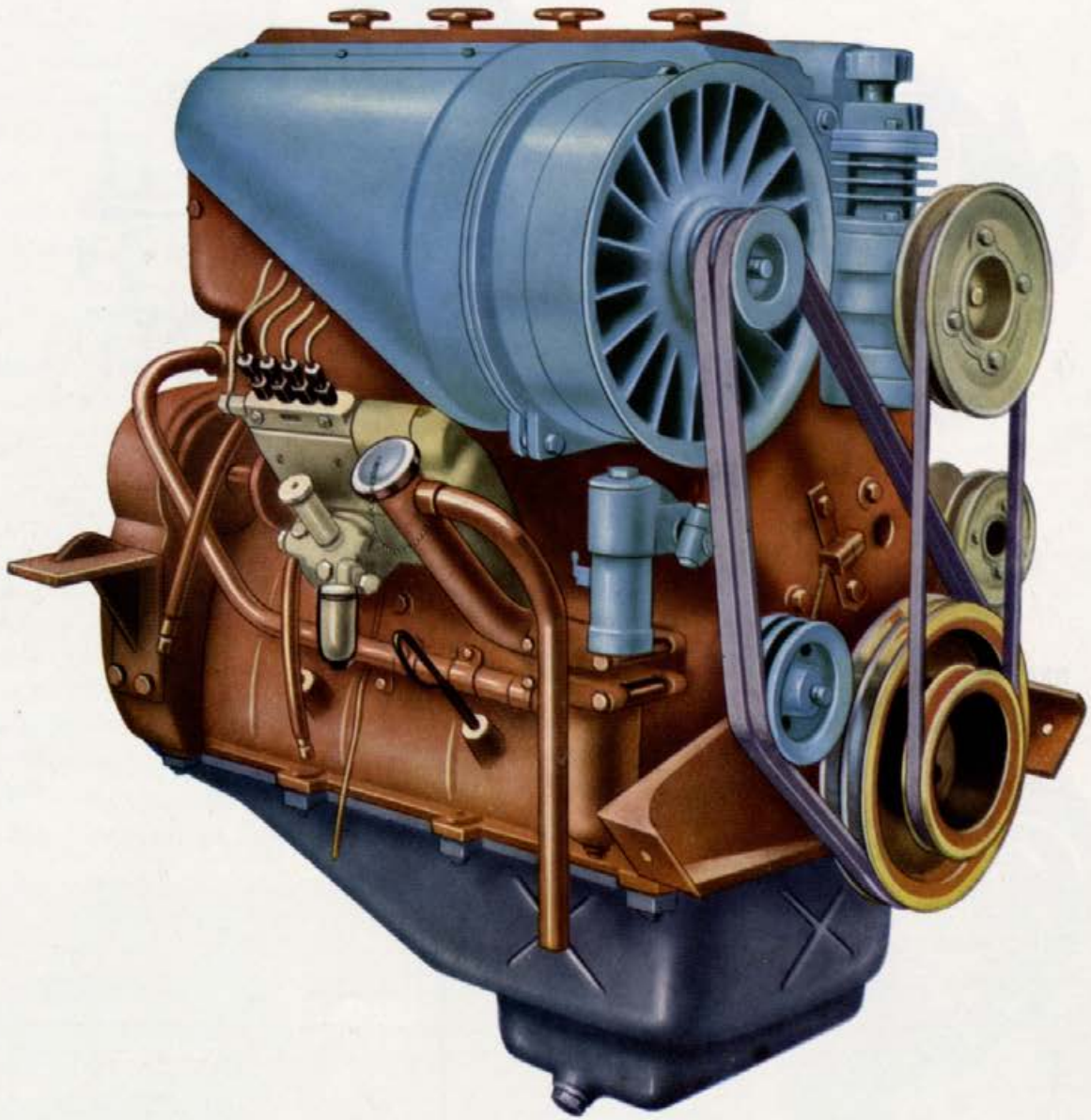
ENGINE

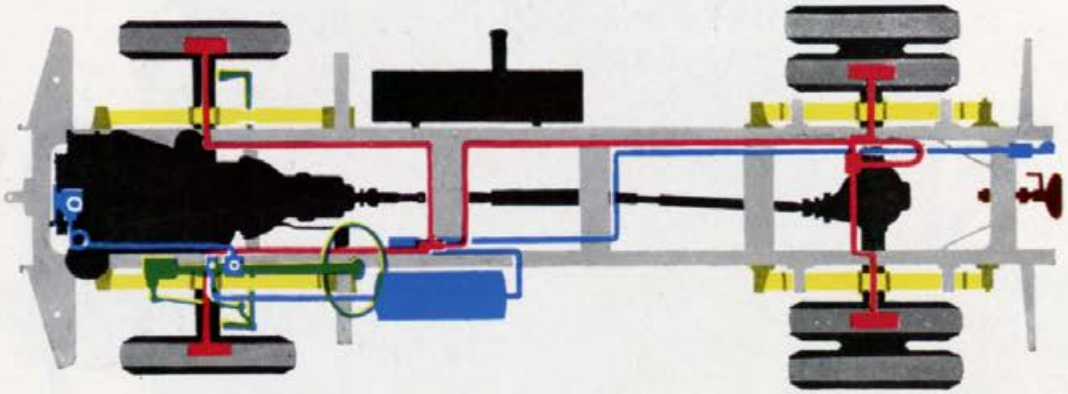
Engine F 4 L 514 is an air-cooled diesel engine with turbulence chamber. Its output is 84 bhp at 2,300 rpm and develops a maximum torque of 224 ft-lb (31 mkp) at 1,200 rpm. The engine is cooled by air which a special blower, through air ducts, blows onto the cylinder and cylinder head cooling ribs. The heat is being transferred to the air stream which gests out on the L. H. side of the engine. Engine lubrication is done by means of a gear type oil pump. The overheating of the lubricating oil is prevented by an oil cooler which in winter operation automatically switches off due to the higher viscosity of oil. The engine possesses a broad flexibility in operation and ability to run at extreme temperature ranges of -40° F (-40° C) bellow zero up to 140° F (60° C) above zero.

ADVANTAGES OF THE AIR-COOLED ENGINE

Air-cooled engines are the recent achievement of the modern automotive industry. A vehicle, powered by an air-cooled engine, is always ready for drive, and can be operated under extreme temperature conditions. Here are some of the advantages of the air-cooled diesel engines listed:

— No heating of the garage.
— No danger for cylinder and cylinder head failuer due to water freezing in winter.
— No drain and refilling of the water.
— No costs for anti-freeze additives.
— No deposition of scale and therefore no trouble in the waterflow.
— No troubles with sealing of radiator, water pump, and pipe connections.
— No danger for water to soak into cylinders and crankcase with all the detrimental consequences.
— No vapour locks in steep grade operation hot climates, or caused by grease, scale, or other impurities, or with stationary vehicles such as fire engines or tractors.



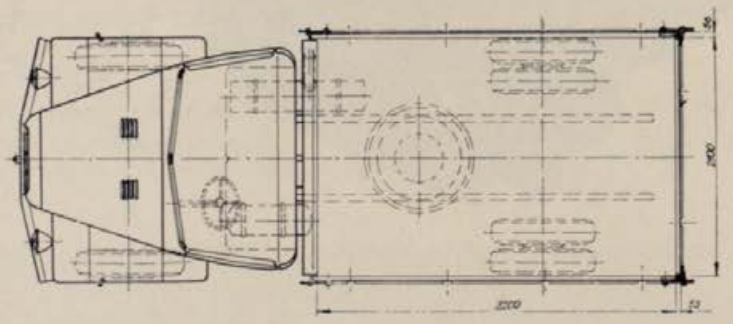


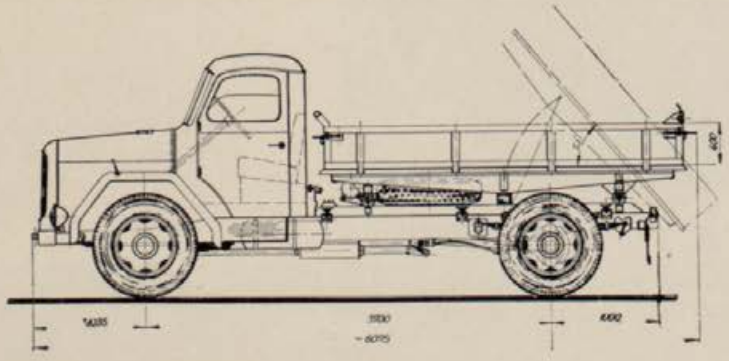
BRAKES

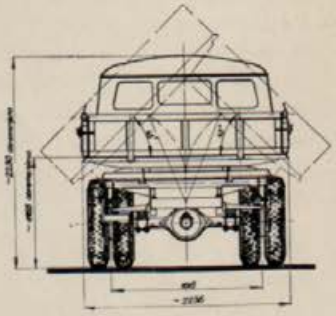
The service brakes are airpressure-hydraulically operated and act on all whells. In case of an airbooster failure, brakes are operated only by hydraulics. The hand brake acts on rear wheels only.

THE DUMP UNIT

The dump body is of steel design. Both body sides and the endgate fold down. The mechanism operating the dump body is installed on the chassis frame, under the dump body. This mechanism includes a hydraulic cylinder, a 3 cylinder piston pump, tubing etc. The piston pump is driven by the engine through clutch, transmission, power take-off with a ratio 1.37 to 1 and a drive shaft. The circulation of oil in this hydraulic circuit can be controlled in the way that the dump body stops in any desired inclined position. The load can be discharged to the left, to the right, or to the back. The tipping angle of the dump body backwards makes 50°, while the side tipping angle is 45°, which enables any load to be discharged from the dump body completely.







GRADABILITY

1st gear ratio **33 %**

2nd gear ratio **16 %**

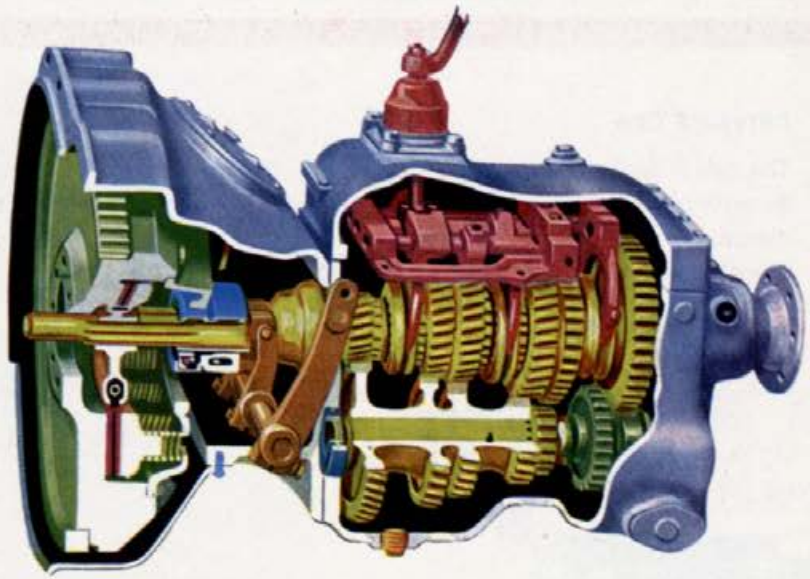
3nd gear ratio **8 %**

4th gear ratio **4%**

5th gear ratio **2 %**

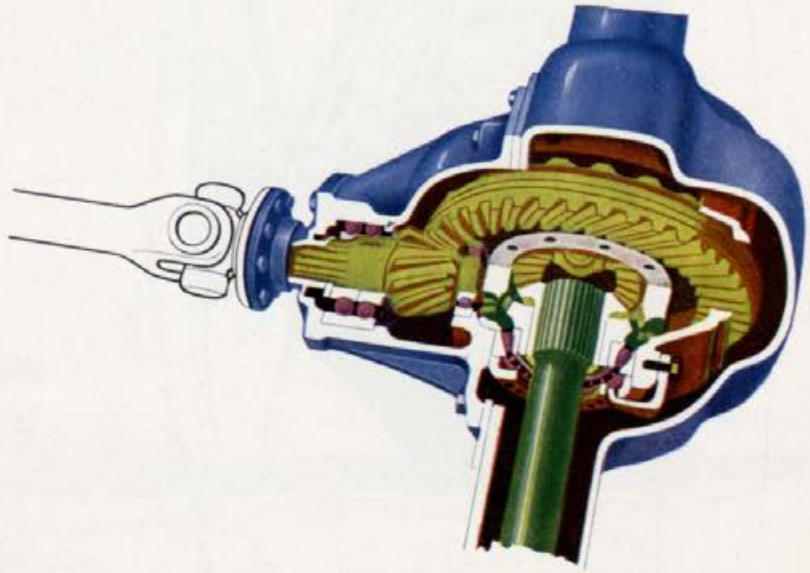
TRANSMISSION

The transmission is built as a 5-speed unit. Intermediate gear ratios are so chosen as to overlap widely, thus reducing the necessity of gear changing to the minimum. The transmission gear ratios cover a gradability of 2 up to 33 percent and ground speeds of 4.5 up to 75 kmph. All gears are constant mesh with 2nd to 5th speed gears with helical and ground teeth and first and reverse speed gears with spur teeth, thus ensuring a smooth and noiseless operation. Gears are running on rollers which minimize the gear wear and are engaged or disengaged by means of sliding pawl clutch rings which facilitate the speed control.



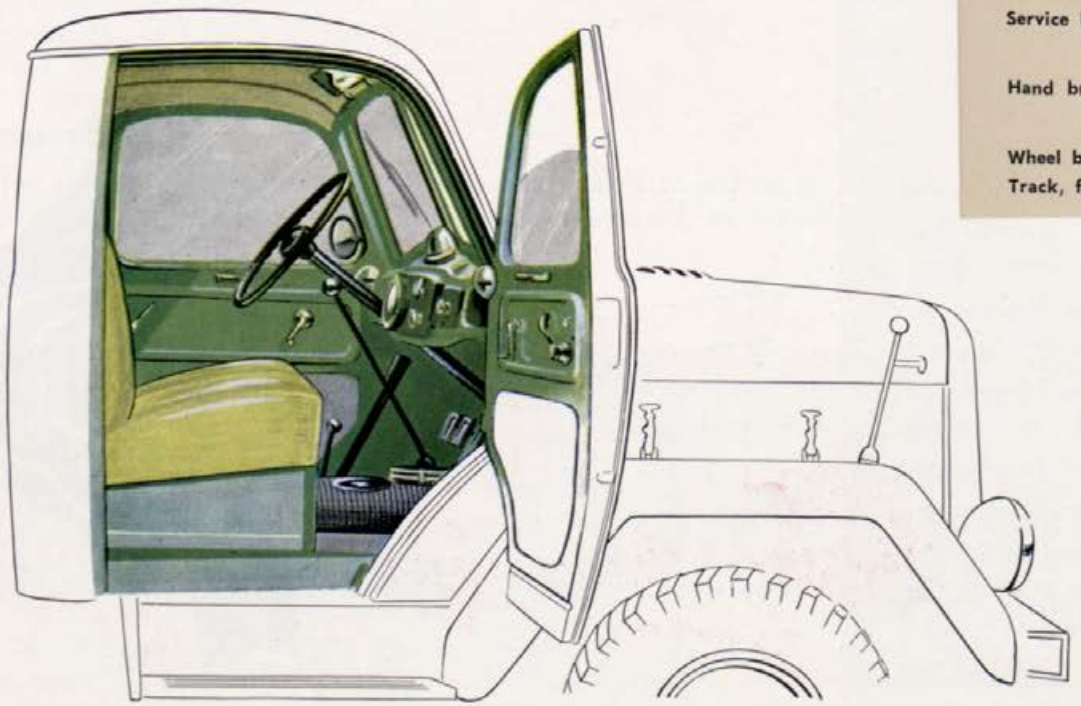
REAR AXLE

The axle housing is of Banjo type and made of pressed steel. Rear axle shafts are full-floating and are subjected to torsional loads only, the wheel bearings being mounted on the outside of the axle tubes which are bolted to both rear axle housing end flanges, and the inner ends of the axle shafts fit into the splined differential gears within the differential carrier, the axle shafts being connected to the driving wheel hubs by floating driving dogs. The drive from propeller shaft to the rear axle shaft is effected by means of a pair of spiral bevel, Gleason system, gears, giving a reduction ratio of 5.375 to 1.



DRIVER'S CAB

The cab is spacious and of all-steel design. The cab pannels are coated by an antinoise compound which reduces the noise inside the cab to a minimum. It will seat three peoples and is equipped with a heater which operates as a windshield demister as well.



TECHNICAL DATA OF THE DUMPER TAM 4500 K AND DK

Engine type	4-stroke, air-cooled, with turbulence chamber	Track, rear	63.6 in. (1615 mm)
		Tires	8.25-20 eHD reinf.
Engine model	F 4 L 514	Top speed	45 mph (73 kmph)
Bore	4.33 in. (110 mm)	Lowest speed	1.8 mph (2.9 kmph)
Stroke	5.511 in. (140 mm)	Overall length	239 in. (6070 mm)
Piston displacement	324.7 cu in. (5322 cu cm)	Overall width	88 in. (2236 mm)
Output	84 bhp at 2300 rpm	Overall height	87.8 in. (2230 mm) (K)
Max. torque	224.15 ft-lb (31 mkp) at 1200 rpm	of loaded vehicle	94.5 in. (2400 mm) (DK)
		Body floor height	45.8 in. (1165 mm) (K)
Transmission	5-speed forward, 1 reverse	of loaded vehicle over soil	51.3 in. (1305 mm) (DK)
		Dump body size	126×82.7×15.7 in.
Rear axle	Banjo type	(inside)	(3200×2100×400 mm)
Leaf springs	semielliptic	Loading area	72.4 sq ft (6.72 sq m)
Steering gear	cone drive, Gemmer type	Weight of unloaded	8708 lb (3950 kp) (K)
Turning diameter	571 in. (14.5 m)	vehicle, ready for drive	10038 lb (4450 kp) (DK)
Service brake	4-wheel hydraulic with airpressure booster	Payload	9920 lb (4500 kp)
		Perm. total weight	19400 lb (8800 kp) (K)
Hand brake	mechanically operating rear wheel brakes		20502 lb (9400 kp) (DK)
		Perm. vehicle and	
Wheel base	145.7 in. (3700 mm)	trailer gross weight	16.7 to. (17000 kp)
Track, front	72 in. (1828 mm)		

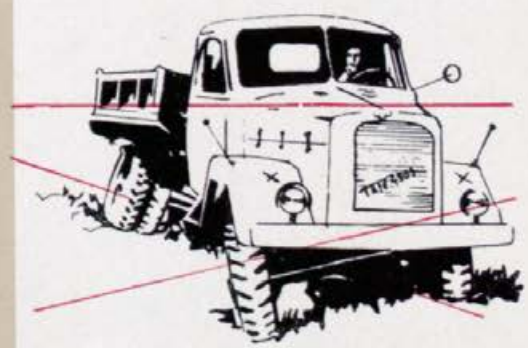
STEERING GEAR

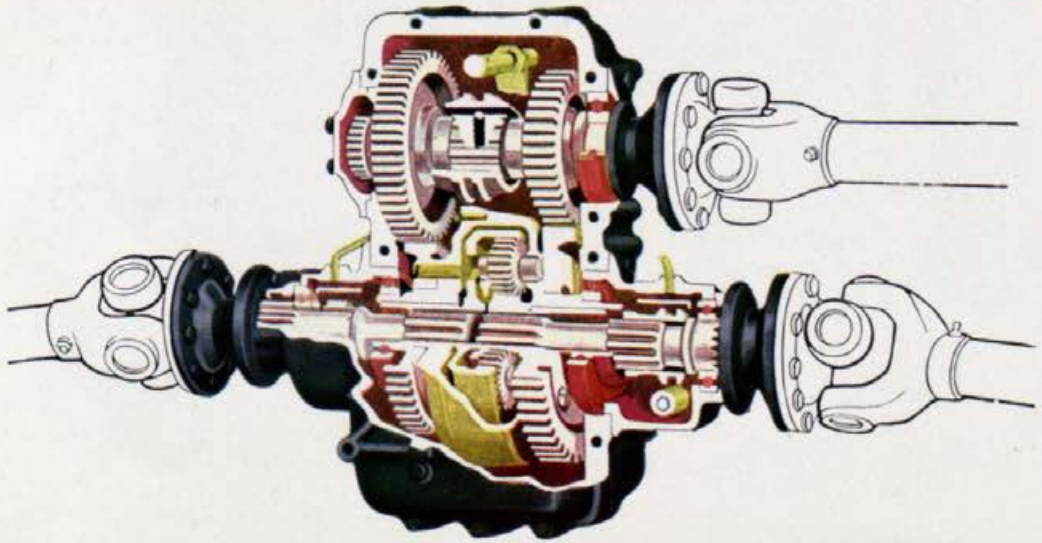
The steering gear is of Gemmer type and the applied gearing system is cone drive. The proper choice of the gear ratio and the design of the steering gear ensures a very easy steering control.

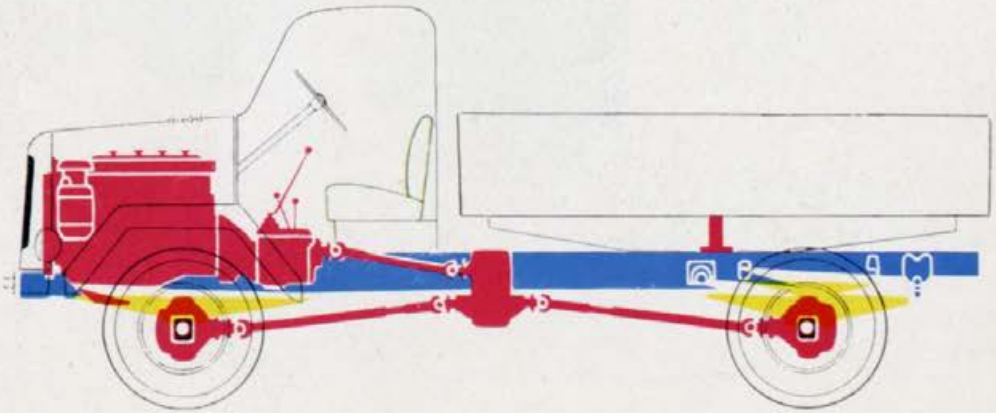
DUMPER TAM 4500 DK

TAM 4500 DK, 3-way dumper is a 4-wheel driven vehicle, designed mainly for trasport of gravel, sands, and similar building material to building sites on heavy terrains in the country, mountains, and woodland. Powered by an 84 bhp air-cooled diesel engine, the vehicle has payload of 4.4 to. (4500 kp) and develops a speed up to 47 mph (75 kmph). The vehicle is furnished with pintle hook for trailing. The trailer gross weight must not exceed 7.5 to. (7600 kp). When full-loaded the vehicle overcomes, in the first gear ratio, steep grades up to 49 percent and with trailer up to 24 percent. Power from the engine is transmitted to the 5-speed transmission by a single plate dry disc clutch. A short drive shaft transmits the power to the two-speed transfer case. The transfer case has a built-in differential drive of planetary gearing type to balance the differences in revolutions between front and rear axle due to non-uniform tire wear or because of curve drive. On boggy ground the differential drive in the transfer case can be locked by differential lock, thus insuring sinchronous rotation of both axle drives: front and rear, and reducing wheel spin. From the transfer case the power is transmitted by propeller shafts to front and rear axle differential drive. The differential drive gear ratio is 5.375 to 1 (43 to 8 gear teeth ratio). Both axle housings — front and rear — are of Banjo type.

The description of other units of TAM 4500 K apply for TAM 4500 DK as well.







TAM 4500 DK

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Propagandni odsek TAM-KT 10.000/63
Tisk ČZP »Pomurski tisk«