LP–LPS 2223

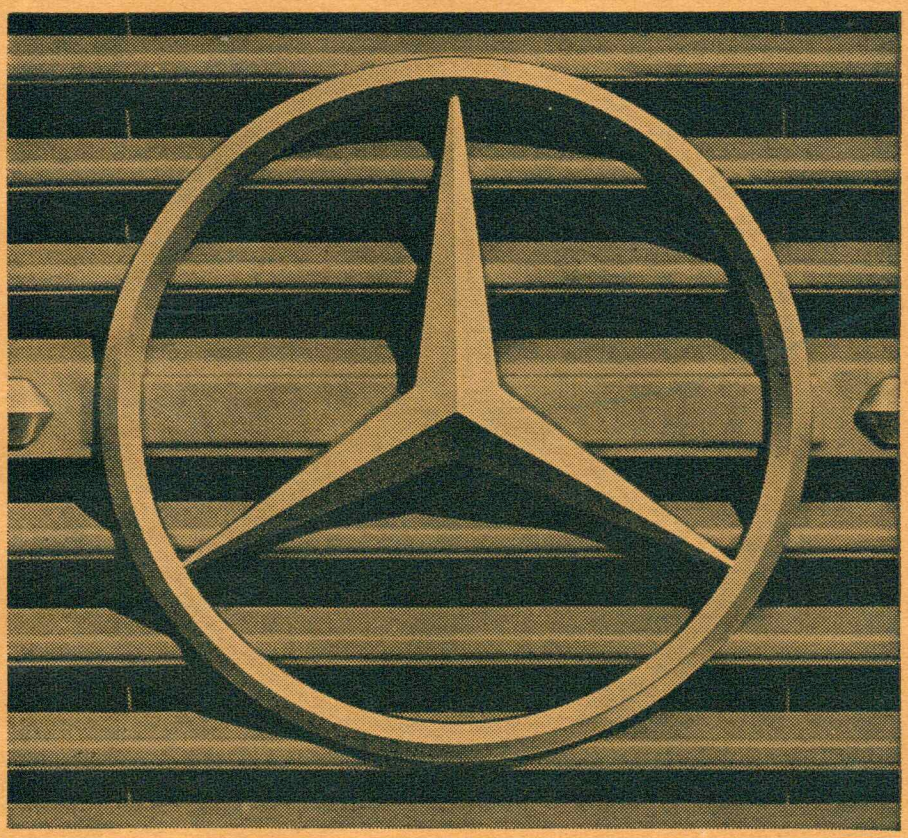
Mercedes-Benz

6 × 4
Forward-control three-axle truck
22 tons permissible gross vehicle weight
38 tons permissible gross combination weight
255 gr. H.P. (SAE) – 230 net b.h.p. (DIN)

Quality and Progress

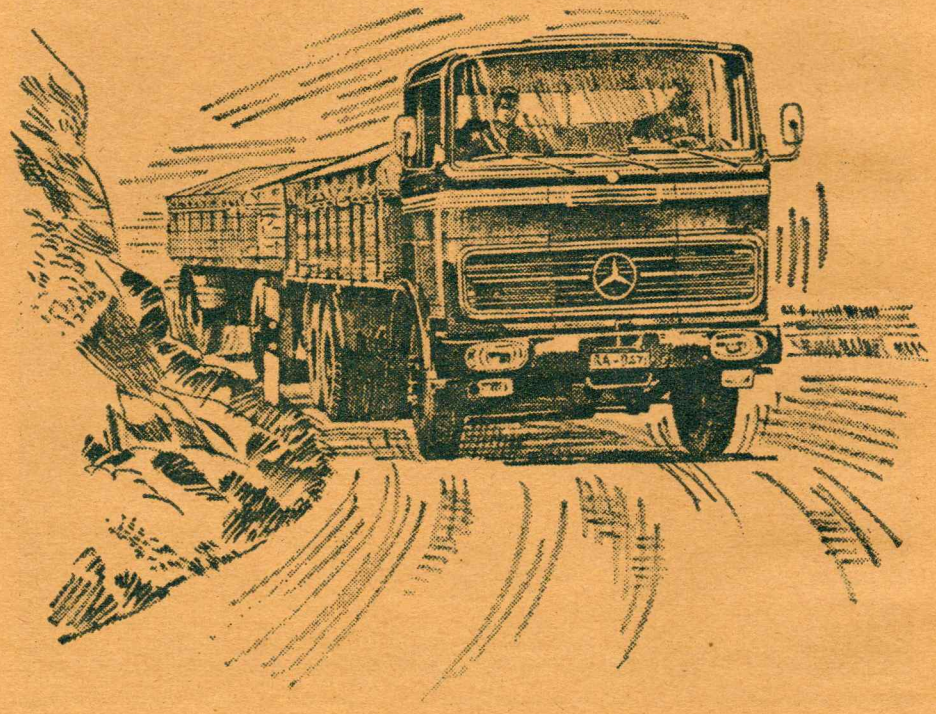
Just watch. You will see the Mercedes star everywhere. On motorways, on building sites, in towns and in the country. There must be a reason for it, for operators and drivers judge critically – and they are right. We make it easy for them to come to a decision – through Quality – Long service life – Absolute reliability – Economy – Excellent driving properties – Outstanding driving comfort – Maximum safety – Easy maintenance – Briefly put: "Quality and Progress", the characteristic features of every Mercedes-Benz truck.

The Symbol
of Quality and
Progress



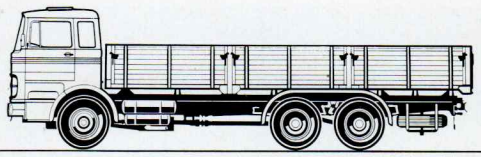
Thorough testing

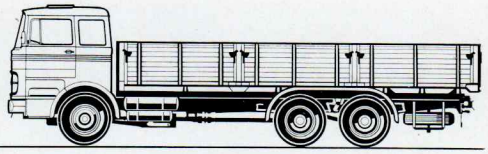
Nothing is left to chance. Everything is well planned, carefully considered, tried and tested. That is worthwile, above all for our customers. Each part – whether produced by us or our suppliers – is tested, on simulators, in cold chambers and on vibrators. When these "laboratory tests" have been passed, the vehicles are subjected to trials on the road. Day after day and month after month the vehicles are tested under extreme conditions – in open country, on motorways and difficult mountain routes. All trucks undergoing tests are additionally tried on the factory-owned proving grounds where they are subjected to severe, continuous testing. Through deep water, on boggy terrain, on cobbled roads which are worse than any that are to be found today, with gradients of up to 60 per cent and deep furrows incorporated in the track. One would think that would do. But not for us. We strip the test vehicles down to the last bolt, check each part and then start once more from the beginning. When the truck has stood this test, series production is taken up. Now we are sure: this truck deserves its star. The buyer can depend on this vehicle in every situation.

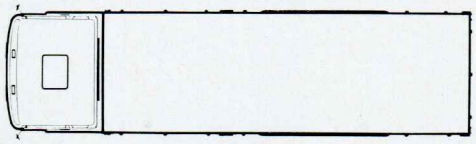


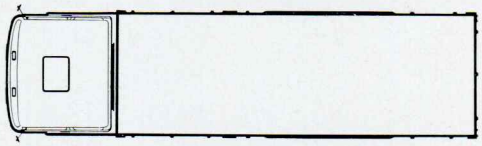
LP/LPS 2223 6×4
The new Mercedes-Benz three-axle trucks with two driven axles

These three-axle trucks have the typical advantages of all Mercedes-Benz commercial vehicles:
Reliability,
economy,
comfort.
In addition, there are the advantages of the three-axle truck:
High payload,
large loading space,
maximum driving safety.
Because of the large tyre contact area engine output and braking force are safely transferred to the ground.

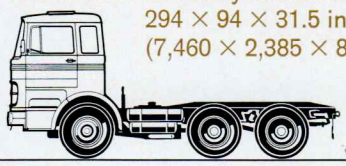




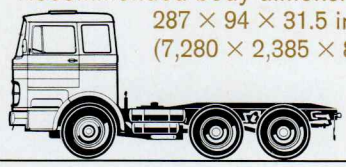


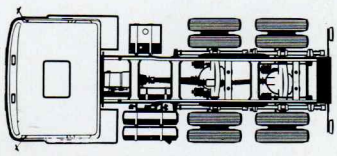


LP 2223 6 × 4 dropside-body chassis with normal driver's cab.
Wheelbase 169.3 + 52.8 in.
(4,300 + 1,340 mm)
Payload and body allowance 31,750 lbs.
(14,400 kg)
Recommended body dimensions
294 × 94 × 31.5 in.
(7,460 × 2,385 × 800 mm)

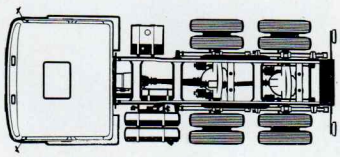


LP 2223 6 × 4 dropside-body chassis with long driver's cab.
Wheelbase 169.3 + 52.8 in.
(4,300 + 1,340 mm)
Payload and body allowance 31,590 lbs.
(14,330 kg)
Recommended body dimensions
287 × 94 × 31.5 in.
(7,280 × 2,385 × 800 mm)





LPS 2223 6 × 4
Tractive unit with normal driver's cab.
Wheelbase 102.4 + 52.8 in.
(2,600 + 1,340 mm)
Perm. fifth wheel load 32,740 lbs.
(14,850 kg)
Perm. gross combination weight
83,800 lbs. (38,000 kg)



LPS 2223 6 × 4
Tractive unit with long driver's cab.
Wheelbase 102.4 + 52.8 in.
(2,600 + 1,340 mm)
Perm. fifth wheel load 32,580 lbs.
(14,780 kg)
Perm. gross combination weight
83,800 lbs. (38,000 kg)

LP 2223 6×4
For heavy loads

High payload and large loading area are the advantages of these new Mercedes-Benz three-axle trucks. Drivers will appreciate the comfort, the excellent driving properties and the ease of control.
The straightforward design of the chassis facilitates the mounting of a large variety of special superstructures, for example, tank superstructures or box-type superstructures.

The chassis is ideally suited for mounti exchangeable platforms. The 276 in. (7 m) long exchangeable platforms can be mounted on the tractive unit, as we as on the normal two-axle trailers.


RA-C 631

LPS 2223 6×4

A new, heavy-duty tractive unit for the 38 ton combination. Two driven rear axles with double tyres ensure maximum side stability. Engine power and braking force are safely transferred to the ground, thus making for safe track holding. These vehicles have been specially designed and tested by our engineers for operation with semi-trailers.

The tractive units are available with
18 tons gross vehicle weight
19 tons gross vehicle weight
22 tons gross vehicle weight.

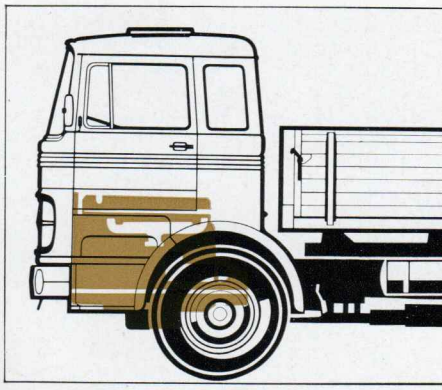

AK 48

Heavy-duty chassis assembly

The robust frame assembly is a vital factor in the reliability and long service life of Mercedes-Benz vehicles.
It is of extremely rugged design.
Strong channel-section side members with riveted cross members ensure high torsional rigidity.
The front cross member is equipped with a towing jaw.
The engine-gearbox-unit is mounted on sound-absorbing rubber pads.

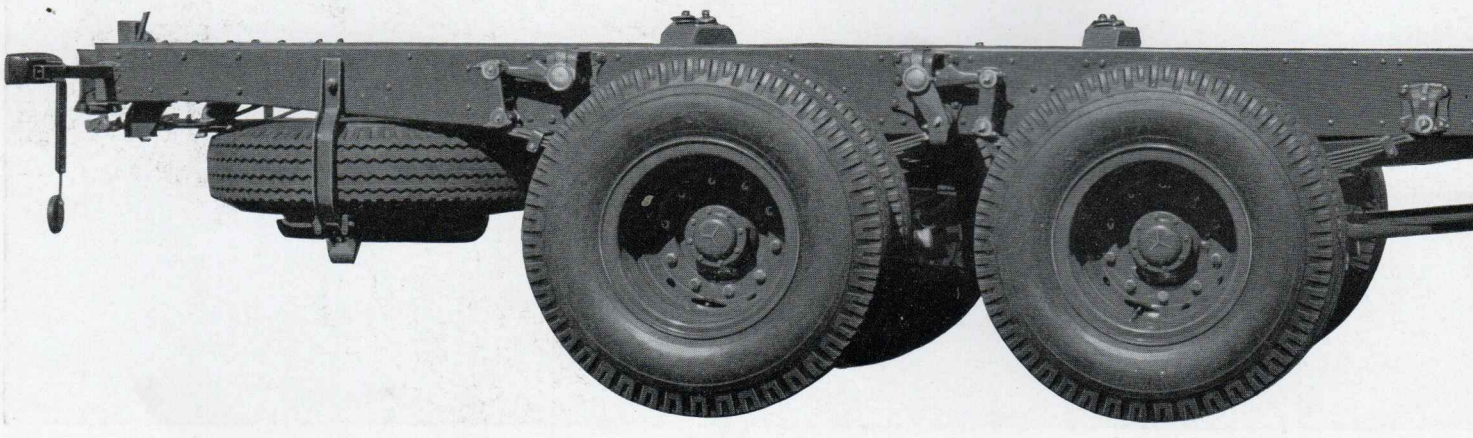
Steering

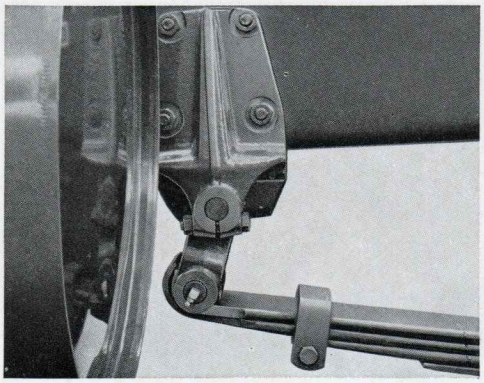
ZF hydraulically assisted steering, ensuring light and positive steering at all times.
Turning circle diameter of the dropside only 67.7 ft. (20.6 m).

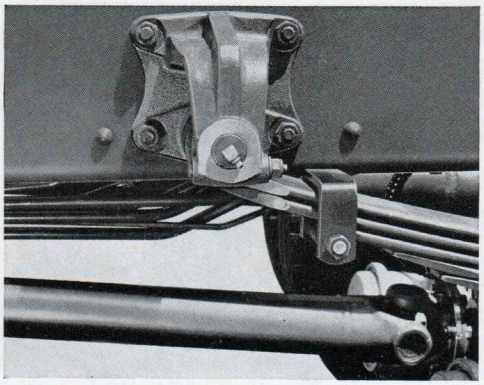


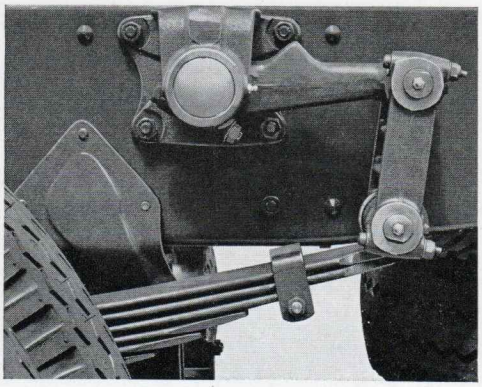
Underfloor engine location

The underfloor engine arrangement ha many advantages:
There is more space in the cab and the driver can enter or leave through either door.
Efficient noise insulation.
No heat radiation from the engine into the cab.
Installation of a third seat possible (optional).





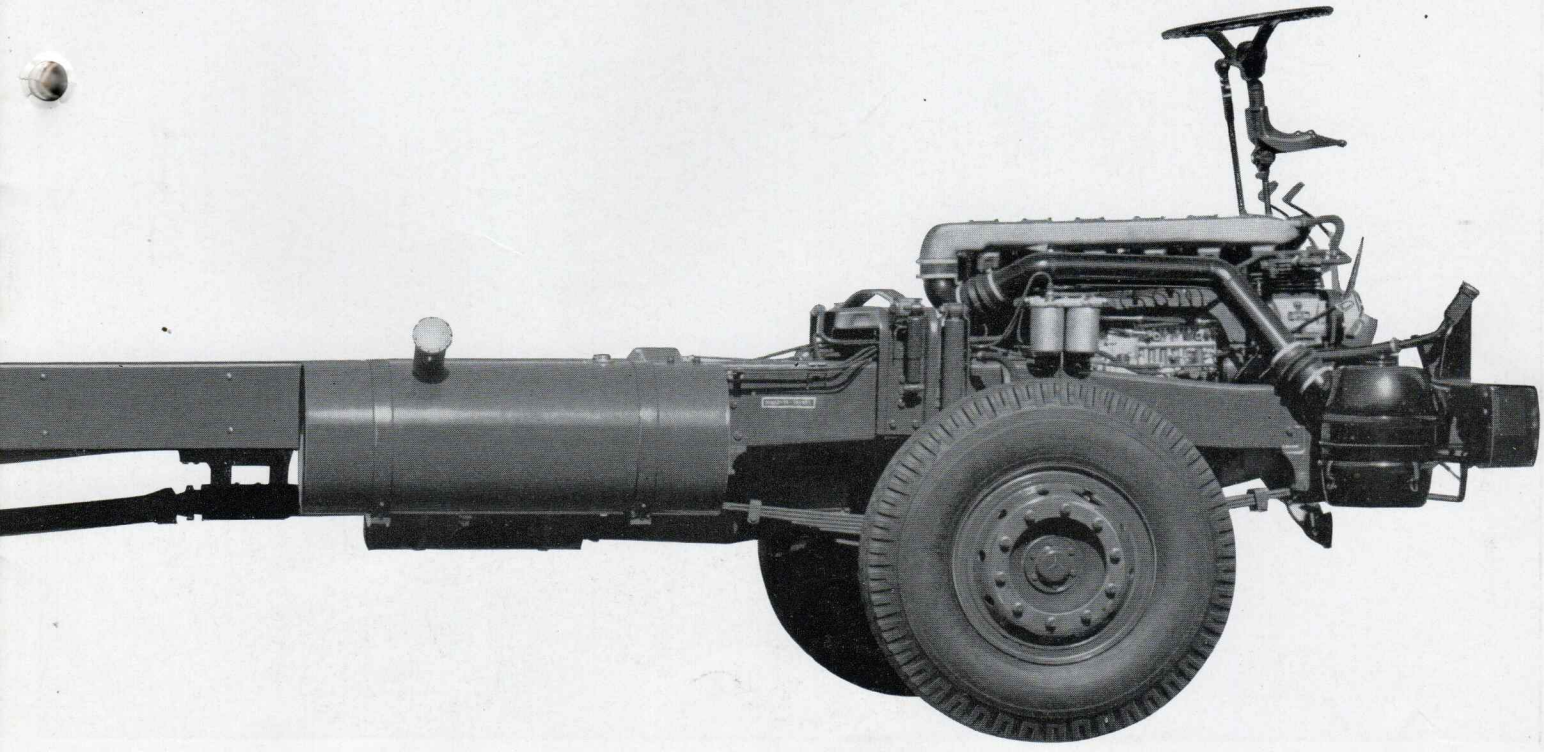




Built for a long service life

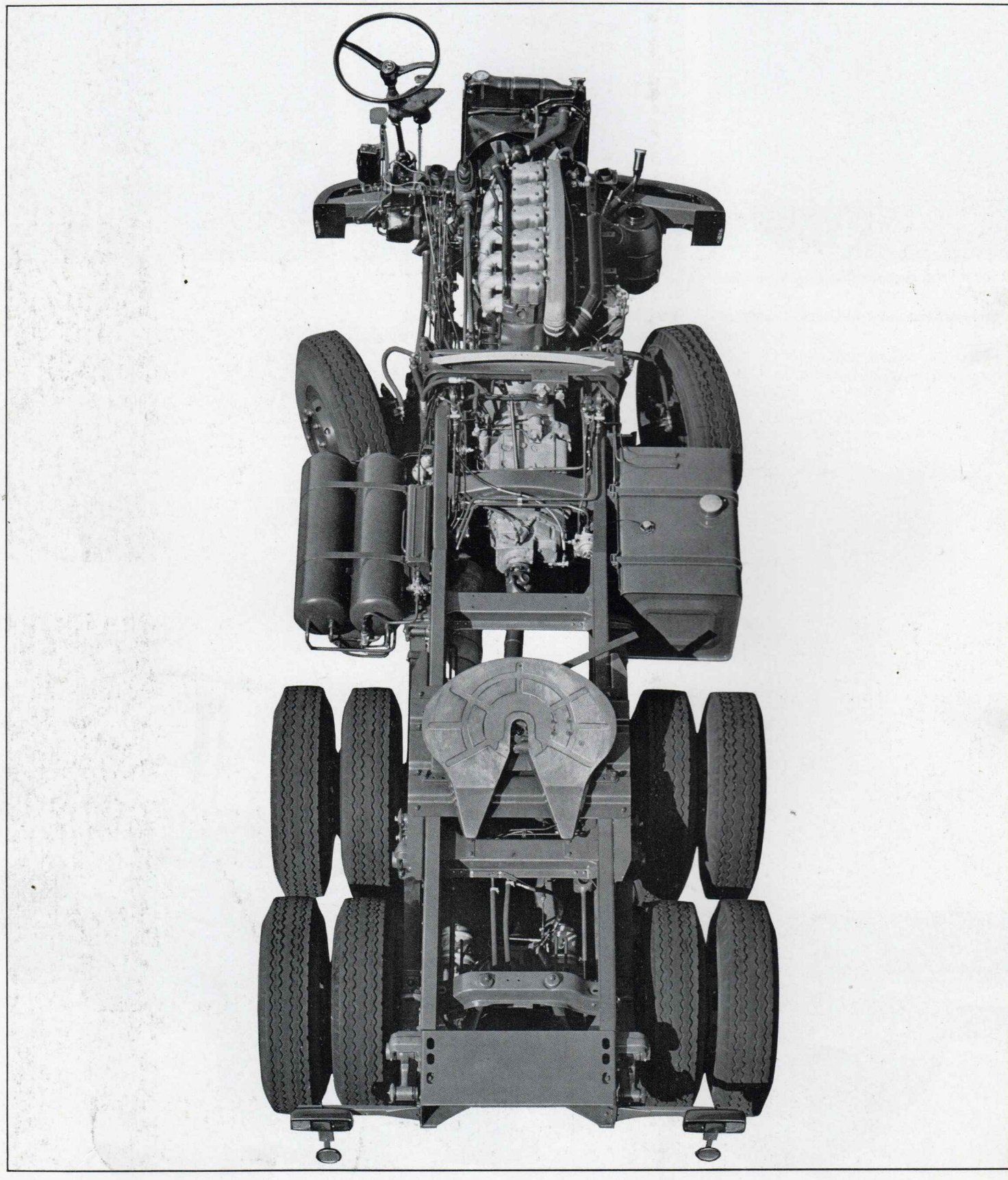
Quality is emphasized at Daimler-Benz.

The detailed photos show the robust spring suspension on front and rear axles.



LPS 2223 6×4
Special tractive unit chassis

Special suspension on both front and rear axle – expertly adapted to the particular requirements made in the operation with tractive units.
The reinforced double frame (with mounting bracket for the fifth wheel) increases torsional rigidity, ensures an even load distribution on the chassis frame assembly and eliminates the need for mounting a subframe.



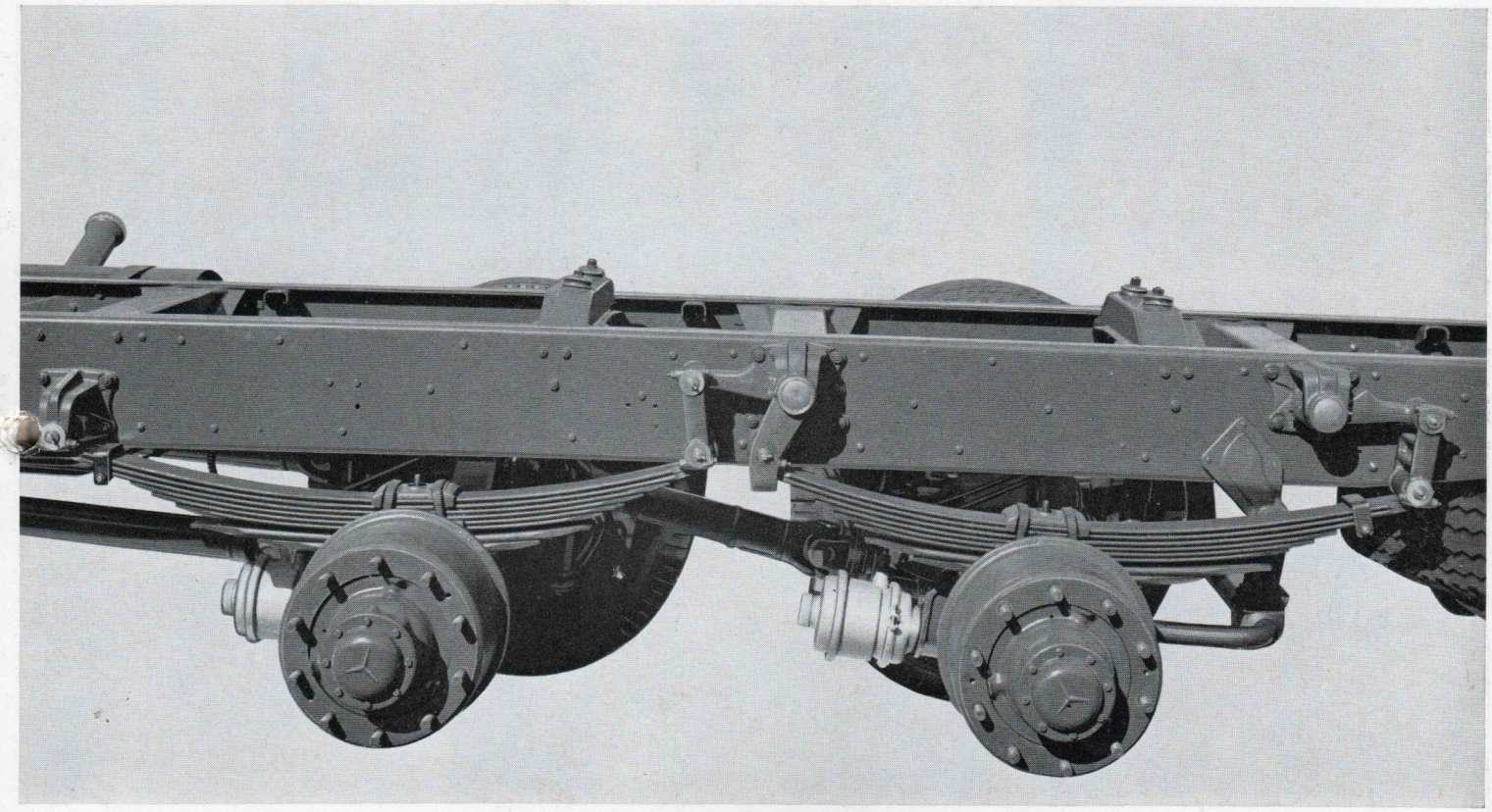
Excellent driving properties thanks to an ideal axle load distribution

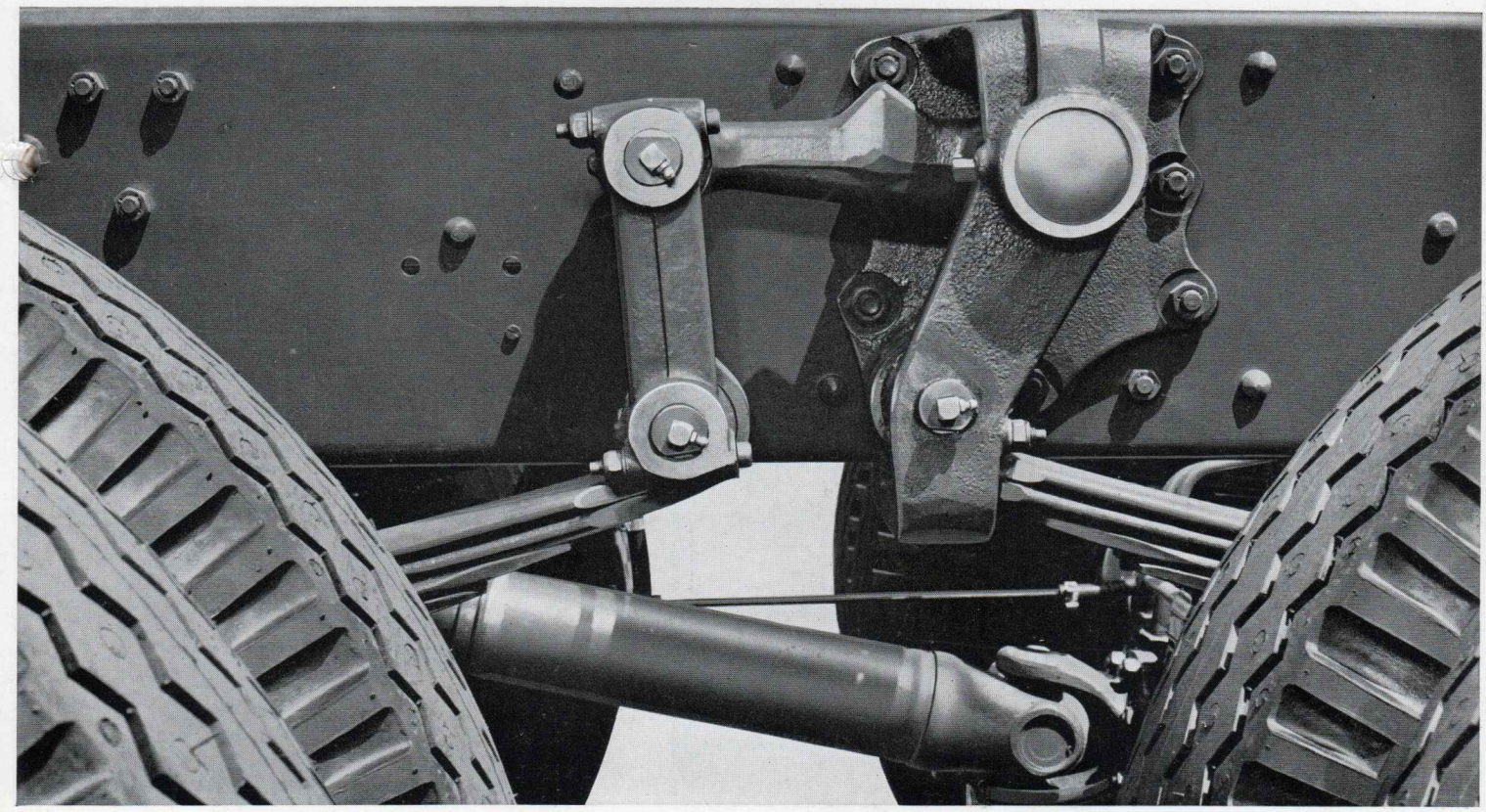
The suspension elements of the front axle and the automatic axle load distribution, the so-called "no-hop suspension" of the rear axle, make for the first-class driving properties of these heavy vehicles.

The springs of the two driving axles are supported at the rear on angular levers with pull rods. In conjunction with the shock absorbers and the stabilizer this construction ensures a driving comfort which has so far not been achieved in three-axle trucks with two driven axles.

Front axle
Two-stage spring, long leaf spring with additional supporting spring.
(LPS special spring for tractive units).
Double-acting telescopic shock absorbers.
Stabilizer.

Rear axles
Two-stage springs, long leaf springs with additional supporting springs.
Spring characteristics matched for all loads.
Double-acting, long shock absorbers on each rear axle.
Standard stabilizer on the second rear axle, therefore minimum side tilt.





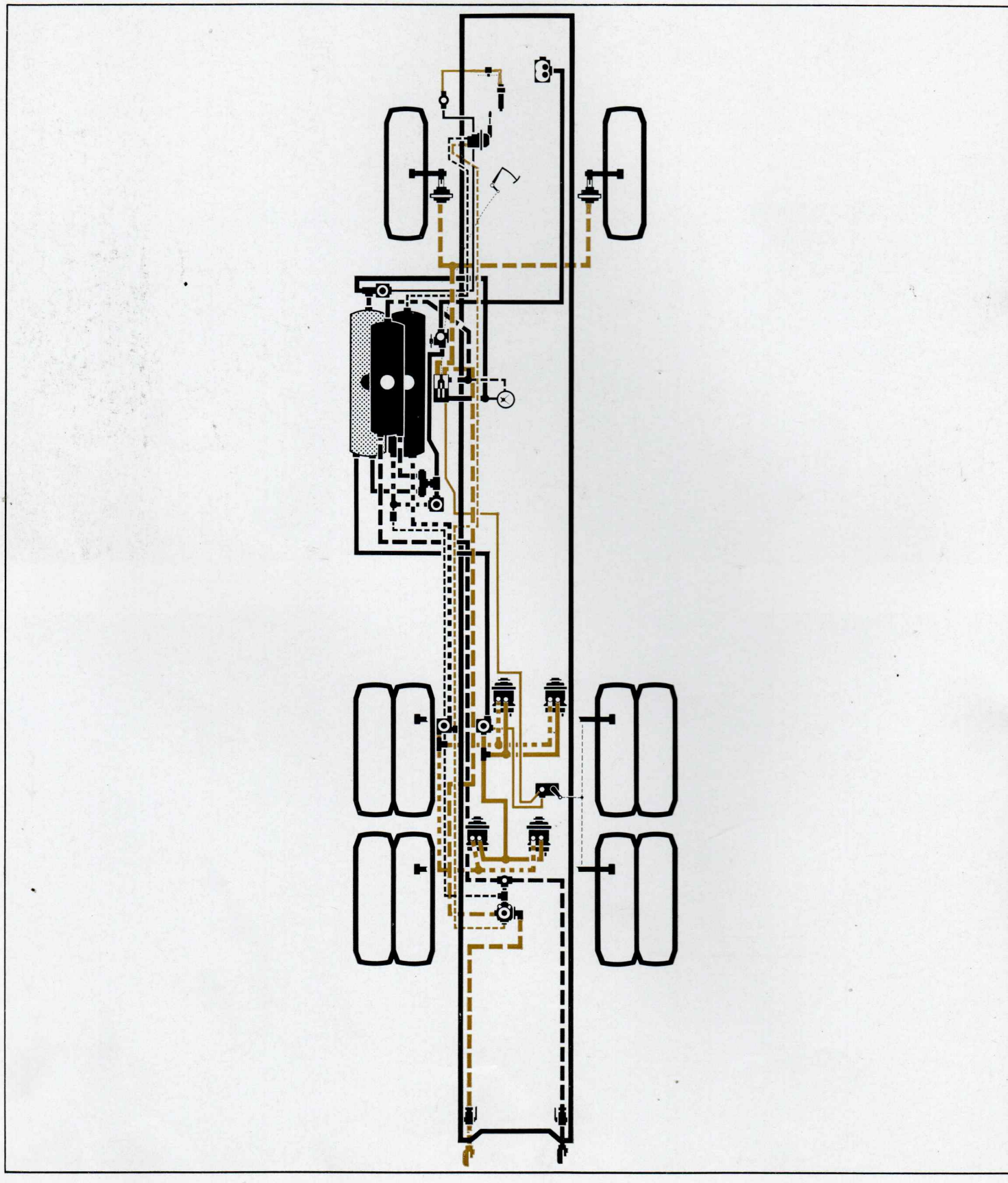
Triple-safety braking systems

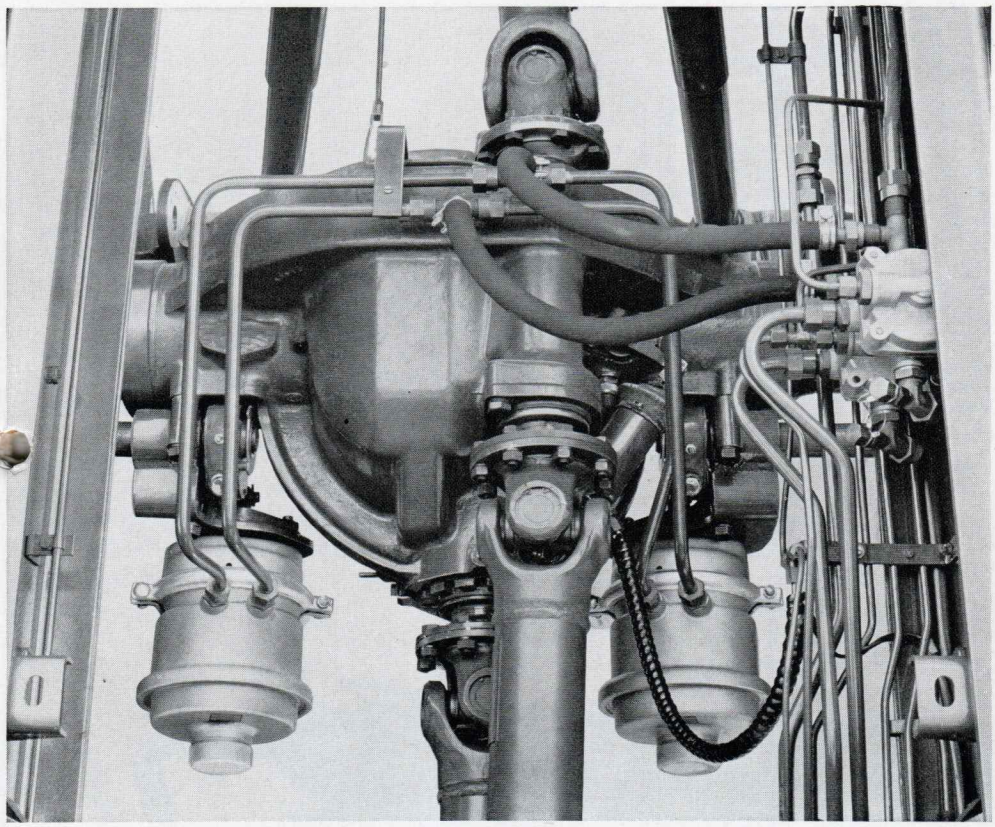
Three separate braking systems provide maximum safety – for the driver, for the vehicle and for the load.

Service brake
Load-sensitive compressed-air dual-circuit two-line brake.
A single-line brake connection is optional.

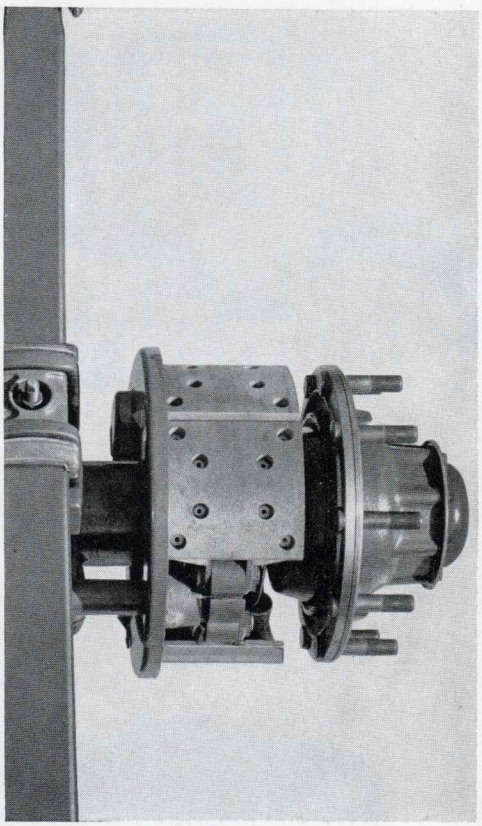
Parking brake
Spring-loaded brake acting on the rear wheels.
When actuating the parking brake the four spring-loaded brake-cylinders on rear wheels are bled. The rear wheels are braked by the force of a compress spring.

Exhaust brake
Pneumatically operated, with electrica controlled actuation of the trailer brak





Spring-loaded brake cylinders on the rear wheels
The photo shows the spring-loaded cylinders on the first driving axle.



Large braking area

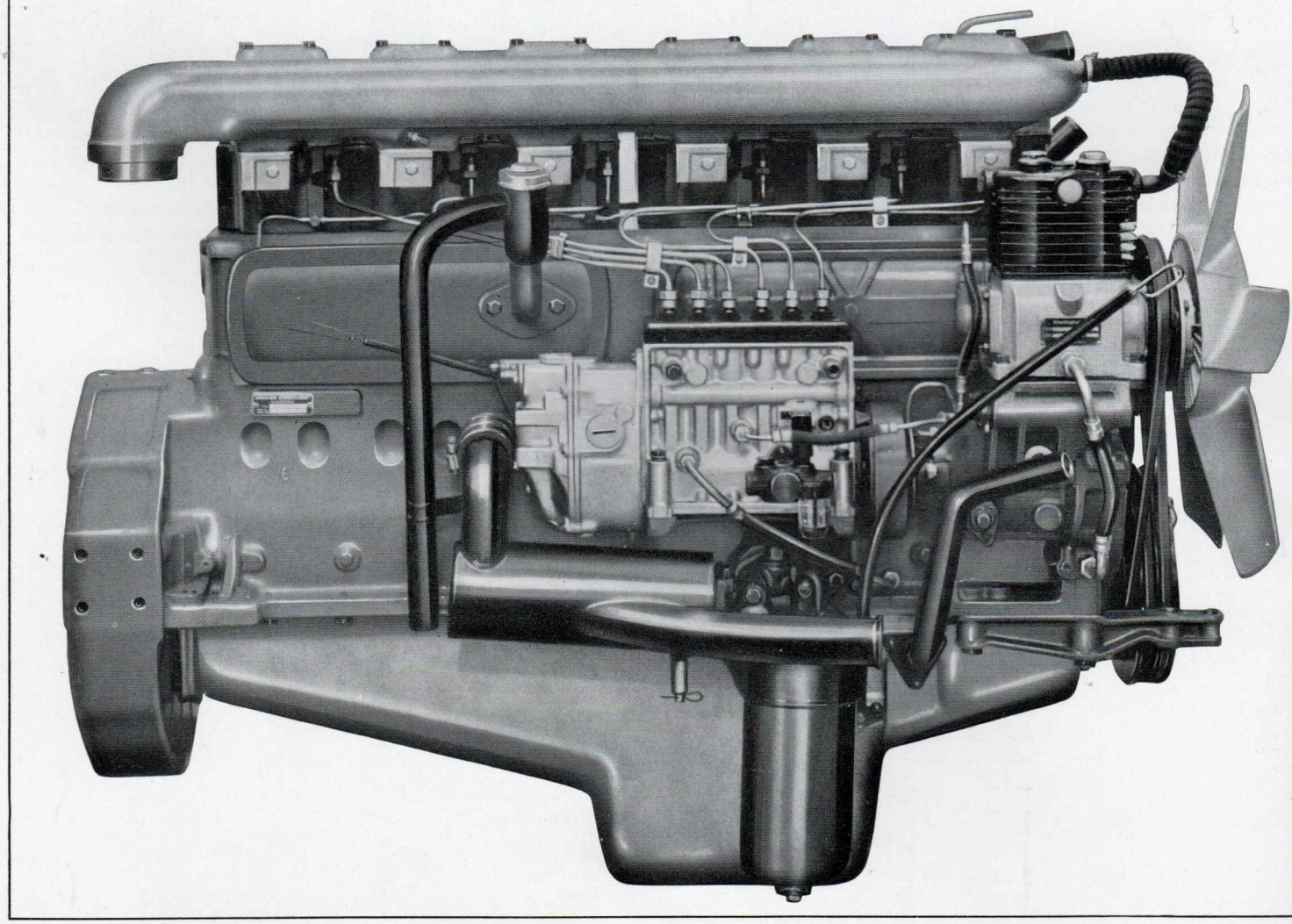
The brake linings are generously dimensioned. The effective net braking area is 862 sq. in. (5,561 cm²).

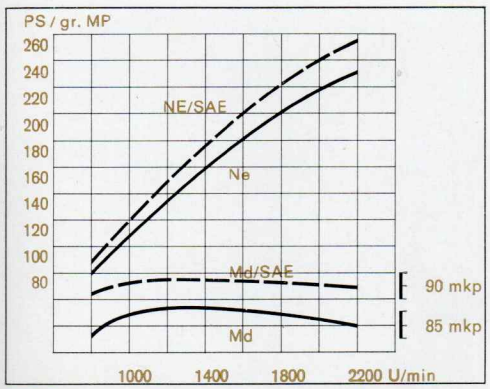
Reserve, 1st circuit
Reserve, secondary consumers
Reserve, 2nd circuit
Reserve, secondary consumers
Brake line, 1st circuit
Measuring or control line, 1st circuit
Brake line, 2nd circuit
Measuring or control line, 2nd circuit
Reserve, spring-loaded brake
Control and brake line, spring-loaded brake

OM 355
The new Mercedes-Benz diesel engine with 255 gr. H.P. (SAE) – 230 net b.h.p. (DIN)

The OM 355 engine has been developed for long service life and thrifty consumption.
In its design, it resembles the time-tested OM 346, except for its larger cubic capacity.
For this reason the new OM 355 is more powerful than its predecessor and yet just as rugged and reliable.
The six-cylinder diesel engine incorporates the Mercedes-Benz direct injection system which results in low fuel consumption – an important point for maximum operating economy.

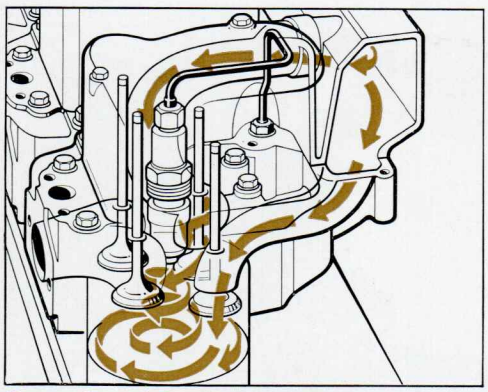
Clean, smoke-free combustion.
Easy starting.
High thermal efficiency.
Long service life.





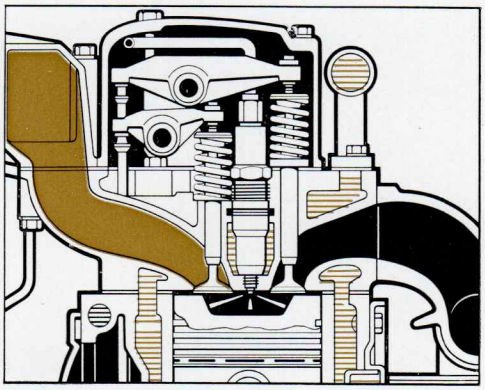
High torque, low fuel consumption

Advantageous torque characteristics
89 mkp maximum torque at 1,300 r.p.m.
(acc. to SAE), 81 mkp acc. to DIN.
Ne = effective output in b.h.p.
acc. to DIN 70020
Md = torque in mkp



Operation of the direct injection system

On the suction stroke of the piston, the inducted air is given a strong rotary movement. Whilst the inlet port causes the air to circulate around the cylinder axis owing to its special shape, the air flow from the other port acts tangentially to maintain the circulation. On the compression stroke, the air is driven into the piston cavity and the rotation effect is increased. The fuel is injected into this turbulent air, thus ensuring thorough mixing of fuel and air and therefore uniform combustion.



Principal design features
Individual cylinder heads.
Two inlet and exhaust valves per cylinder.
Valve seat inserts and hardened seats
on inlet and exhaust valves.

Crankshaft
Drop-forged.
Hardened bearing surfaces.
Seven main bearings.
Steel-backed tri-metal main and
big-end bearings.
Crankshaft vibration damper.

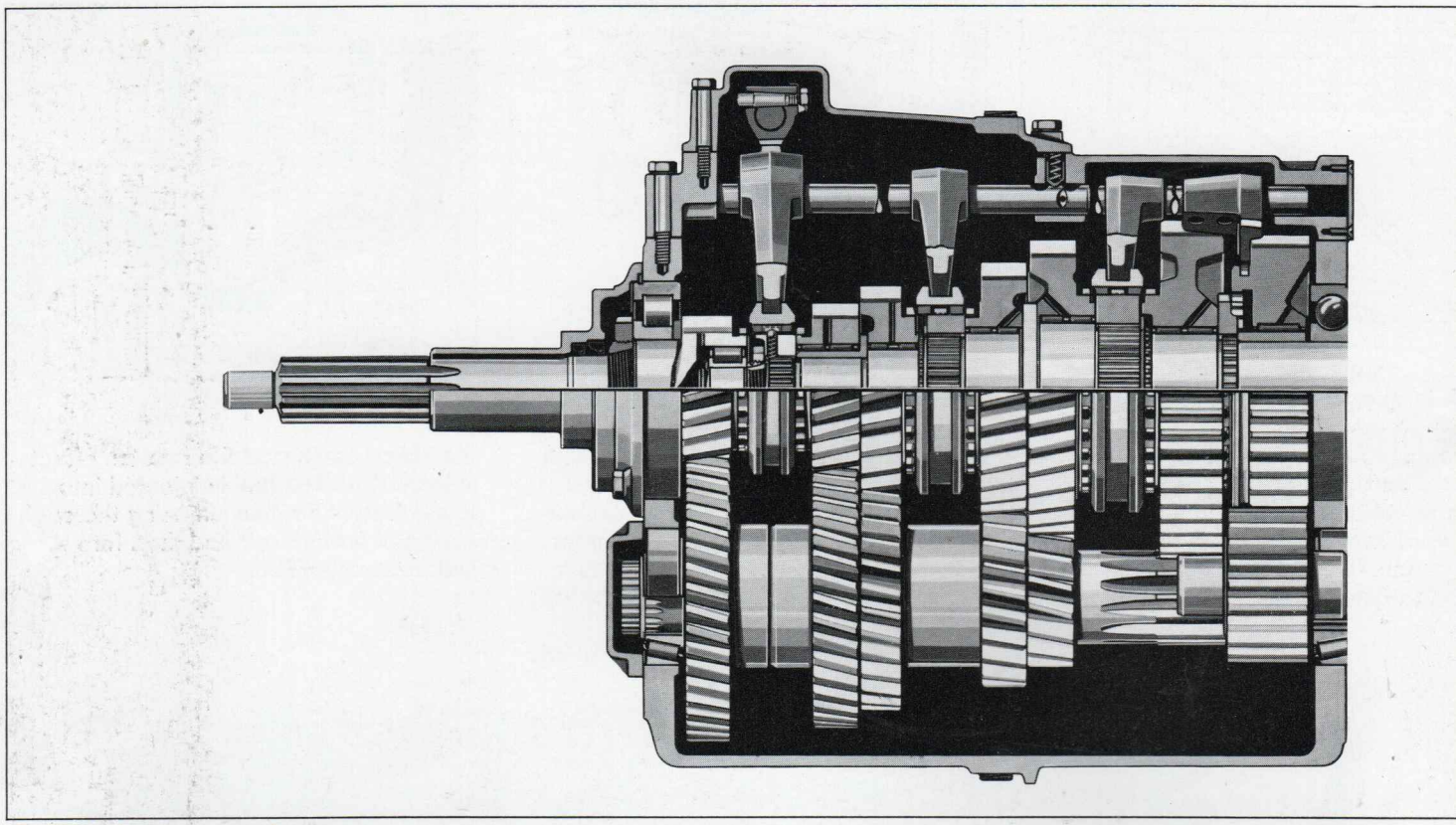
Thermostat for accurate control of
cooling water temperature.
Oil water heat exchanger.
Large full-flow oil filter.
By-pass microfilter.
Maintenance-free injection pump
lubricated by main engine-oil circuit.

Robust power transmission

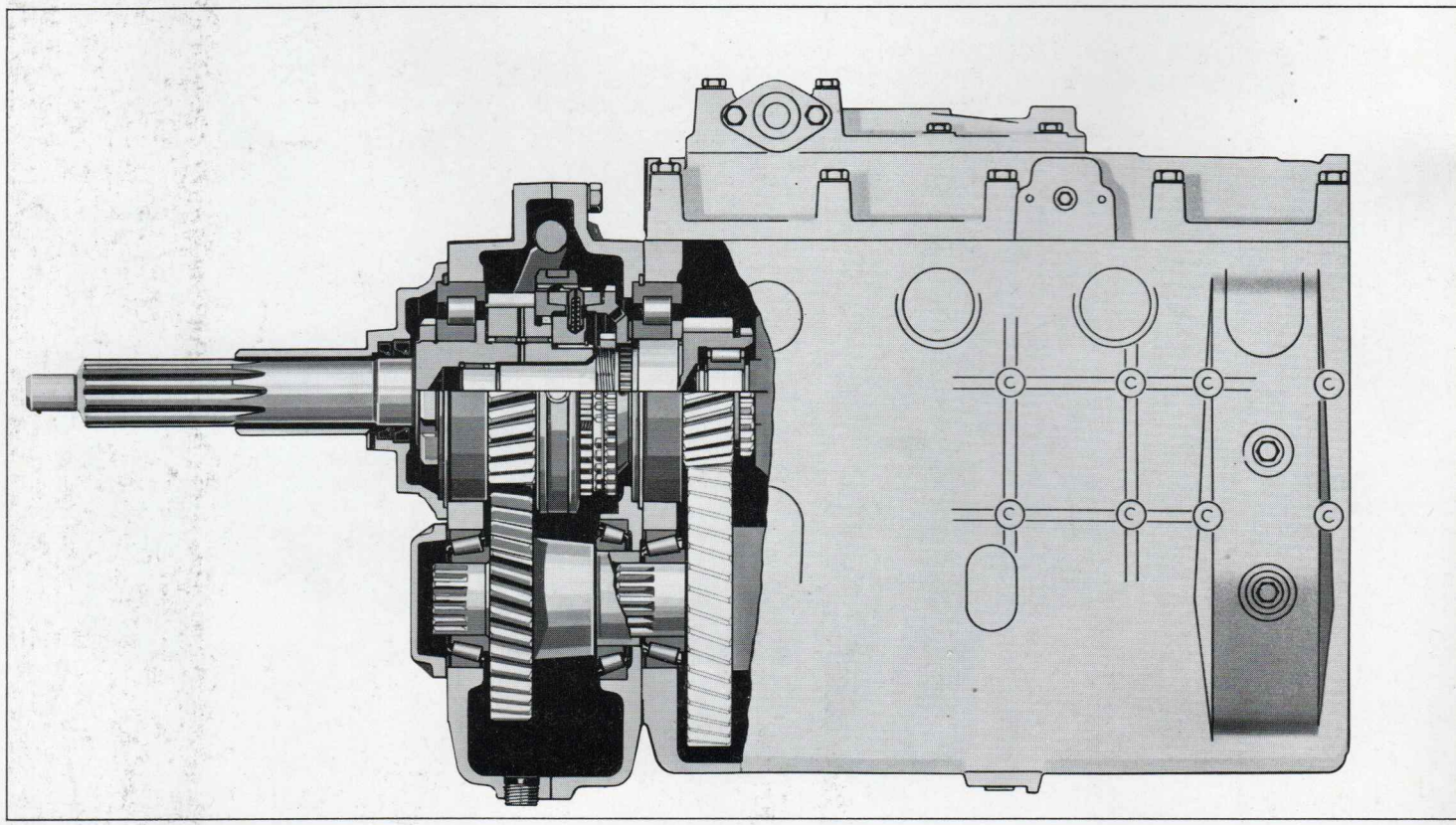
6-speed claw-type gearbox AK 6–80
Well matched to the engine's speed and performance.
Positive, light gearchanging to ensure smooth and economical driving.

Optional
Splitting group for standard gearbox resulting in altogether 11 forward speeds. The intermediate gears are engaged via a pull switch on the gearchange lever.

Axle drive
The transfer case mounted to the gearbox drives the rear axles via two universally-jointed shafts. The locking differential in the transfer case prevent wind-up between the axles and reduce tyre wear.



6-speed claw-type gearbox

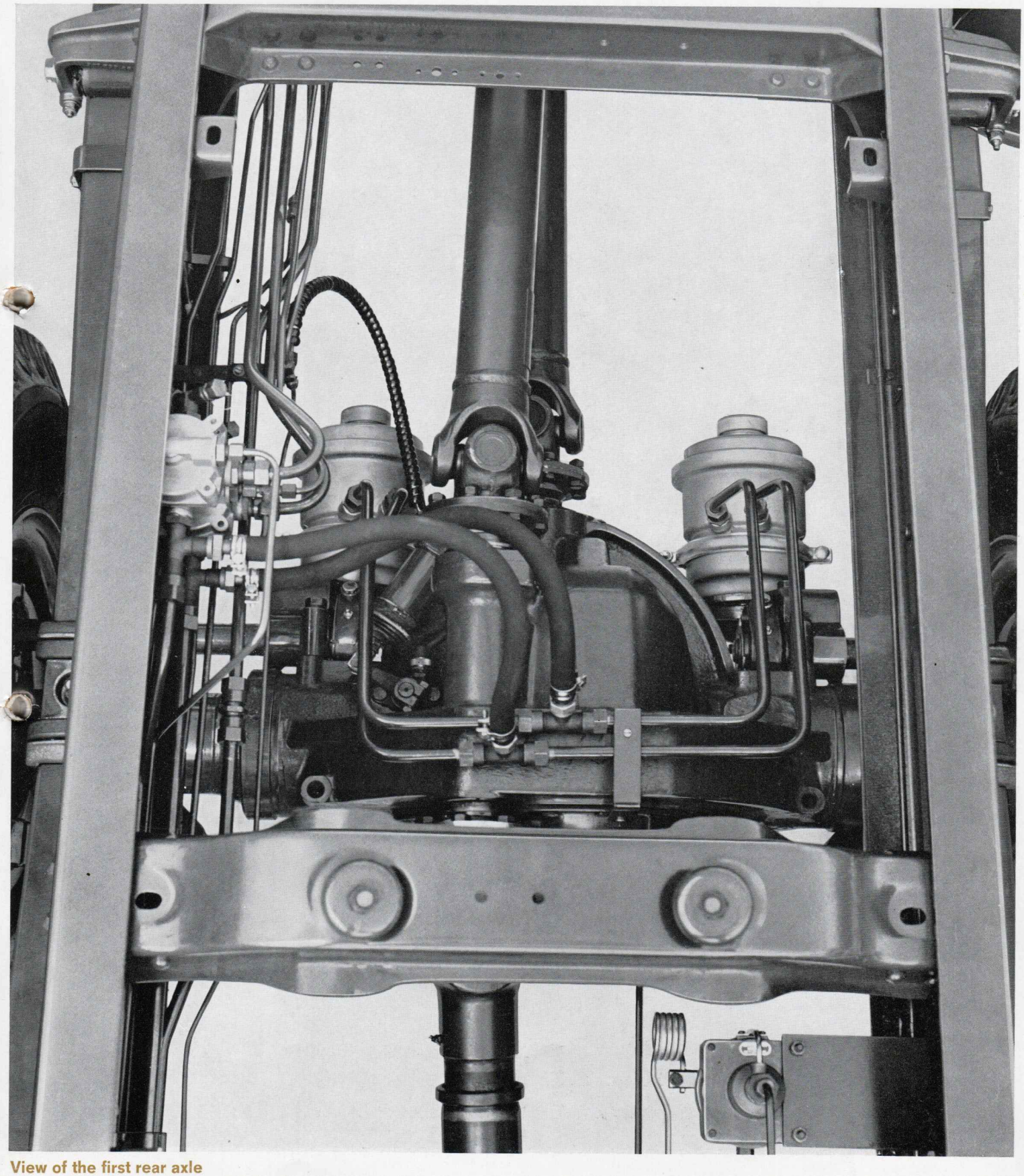


Gearbox with splitting group

Sturdy axles

Front axle: extremely sturdy forged knuckle-yoke axle, I-beam.
Driving axles: Mercedes-Benz banjo-type axles with hypoid gearing.
Optional: electro-pneumatically operated differential locks.

The photo shows the intermediate bearing of the universal shaft to the second rear axle.



View of the first rear axle

Modern and comfortable

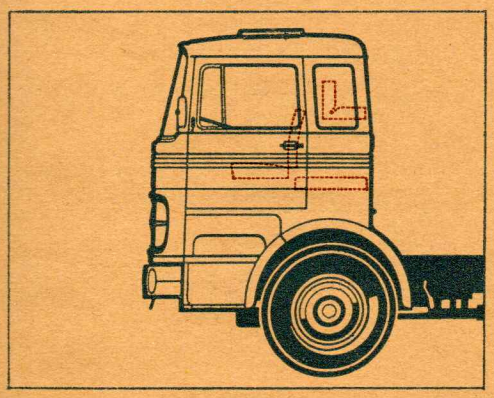
The Mercedes-Benz forward-control cab with its straightforward, sensible shape gives the LP and LPS 2223 trucks their modern appearance. Thus every 2223 acts as a visiting card for the operator and the driver. The forward-control cab sets new standards with respect to comfort and ease of control.

Safe and comfortable

Cranked steering column, therefore the driver can leave or enter through either door.
Direction indicator and headlight dip switches combined with horn and mounted on the steering column.

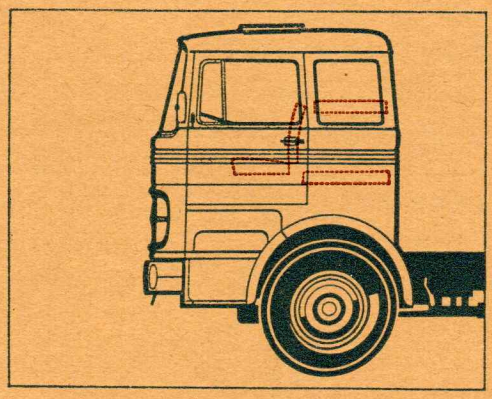
Spacious glove locker,
two door pockets, two ashtrays,
two coat hooks.
Adjustable instrument panel lighting.
Stowage tray between the seats or optional third seat instead of this tray.
Excellent vision towards all sides.
Large, vibration-free outside mirrors.
Three window wipers–large field of vision.
Standard windscreen washer unit.
Two padded sun vizors.
Safety steering wheel providing a firm grip.
Flexible impact padding on railing.

Flexible entry handles, opening quarter light handles and grab handles for the co-driver.
All tumbler switches recessed in instrument panel.
Roof flap with inside notch adjustment and grip mould.
Padded handles for wind-down windows.
Recessed inside door handles.
Outside door handle flush-fitted and with push-button operation.



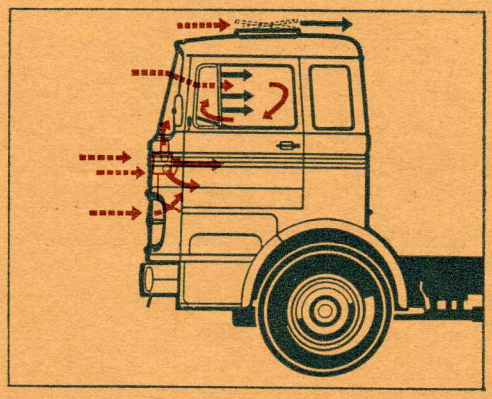
Normal driver's cab

Platform length 294 in. (7,460 mm).
Two sleeping berths, the upper one folding half way up.
Clothes locker, window curtains.



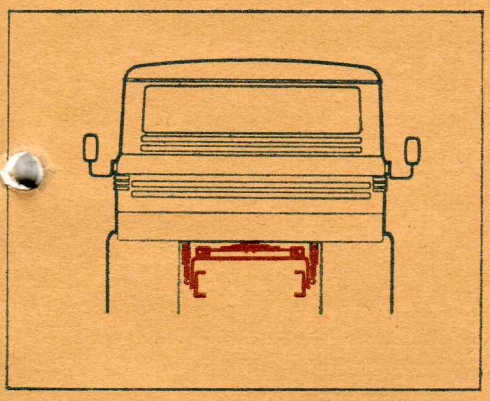
Long driver's cab

Platform length 287 in. (7,280 mm).
Two fixed sleeping berths.
Upper berth 24 in. (600 mm) wide.
Lower berth 28 in. (700 mm) wide.
Clothes locker, window curtains.



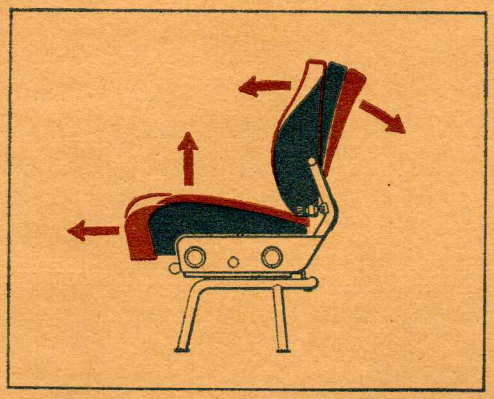
Heating and ventilation

In the shortest possible time the heating system gives a comfortable inside temperature even at extremely low ambient temperatures.
Separate adjustment of warm and fresh air.
Infinitely variable distribution between windscreen and floor.
Blower for air circulation when driving slowly or at a standstill.
Wind-down windows and opening quarter lights in doors.
Ventilation flaps at floor level.



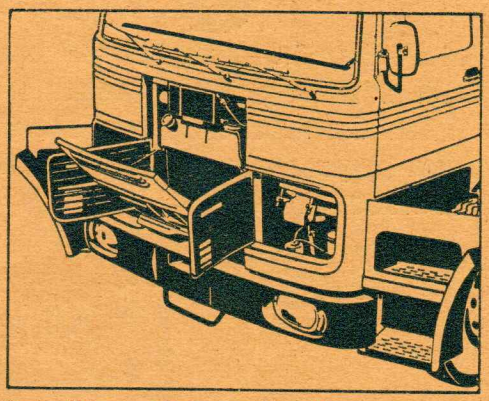
Cab suspension

Independent driver's cab suspension.
Large rubber mounts at front.
Leaf spring with two shock absorbers at rear.



Driving seat

Three separate adjustments: fore-and-aft, vertically and backrest angle.
Anatomically shaped seat and backrest.

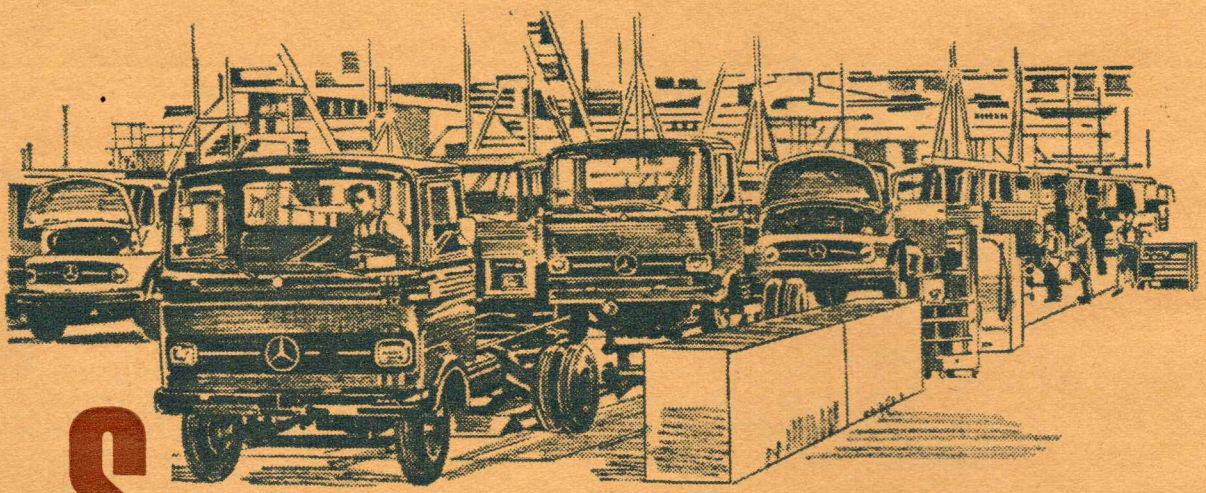


Swivelling entries, cowling flaps

The new Mercedes-Benz forward-control trucks are particularly easy to maintain. Servicing and maintenance work which is required at regular intervals is facilitated by swivelling entries and flaps incorporated in the front panelling.

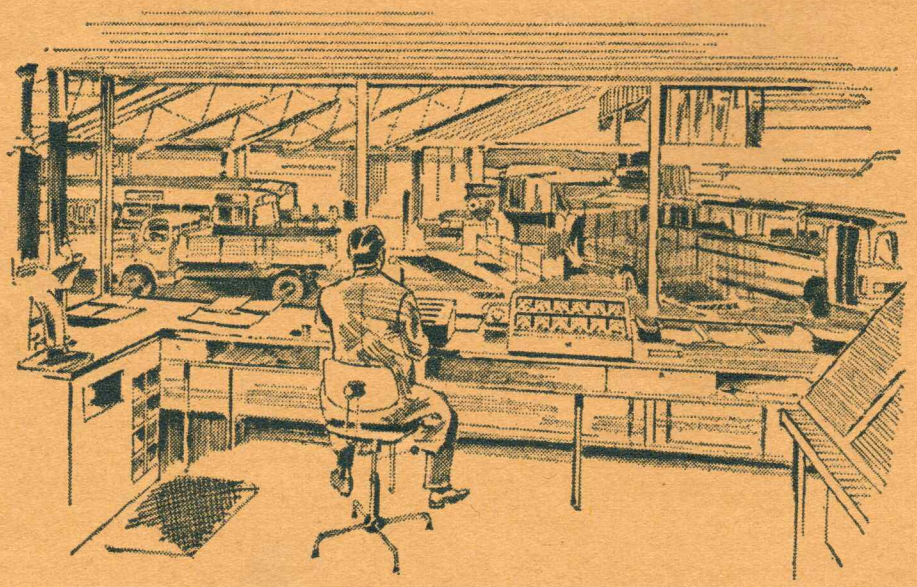
Here they are built

A few years ago hardly anybody knew the small town of Woerth near Karlsruhe. Today the largest and most advanced truck factory of the European continent is situated here. The new assembly hall is 2,460 ft. long. All Mercedes-Benz trucks are assembled here, from the manoeuvrable 6-tonners to the heavy three-axle vehicles; as semi-forward or forward-control trucks, dropsiders, tractive units, tippers or as bare chassis for special superstructures, more than 150 versions altogether.



Service – up to date

More than 3,000 service stations throughout the world are provided for our customers. We are still extending this organization in order to make for quicker service and to shorten waiting times. Our workshop staff consists of specialists who really know their trade. We do even more: year by year our service specialists receive further training and instruction in special training courses.



Daimler-Benz
Aktiengesellschaft

LPS 2223

Mercedes-Benz

Diesel engine

Type	Mercedes-Benz OM 355
Combustion method	Mercedes-Benz direct injection system
Number of cylinders	6
Bore	5.04 in./128 mm
Stroke	5.91 in./150 mm
Piston displacement	706.5 cu. in./11,581 ccm
Engine output SAE	255 gr. H.P. at 2,200 r.p.m.
Engine output DIN[1]	230 net b.h.p. at 2,200 r.p.m.
Max. torque SAE	89 mkp at 1,300 r.p.m.
Max. torque DIN[1]	81 mkp at 1,300 r.p.m.
Compression	16.1
Cooling system capacity	66.9 Imp. pts./38 litres
Crankcase oil capacity	max. 31.7 Imp. pts./18 litres
	min. 21.1 Imp. pts./12 litres
Starter motor	24 V
Generator	300 W/24 V

Chassis

Clutch	F & S single plate dry clutch
Gearbox	ZF AK 6–80 claw-type gearbox
Power transmission	divided drive shafts
Rear axle reduction	4.88
Steering	ZF hydraulic ball nut steering
Service brake	compressed-air dual-circuit two-line brake
Parking brake	spring-loaded brake acting on 4 rear wheels
Supplementary brake	Mercedes-Benz exhaust brake
Wheels	8.0–20
Tyres	10.00–20, front axle 16 PR (Super), rear axle 12 PR
Fuel tank capacity	44.0 Imp. gal./200 litres
Battery	2 × 12 V/88 Ah
Voltage of consumers	24 V
ubrication	individual nipples

Speeds

at max. engine speed

1st gear	6.0 mph	9.6 km/h
2nd gear	10.4 mph	16.7 km/h
3rd gear	17.1 mph	27.5 km/h
4th gear	25.8 mph	41.5 km/h
5th gear	37.2 mph	59.9 km/h
6th gear	53.6 mph	86.3 km/h

Gradient ability

at altitudes of up to 3,280 ft./1,000 m above sea level
at max. torque
without trailer

1st gear	29.2 %
2nd gear	15.5 %
3rd gear	8.7 %
4th gear	5.2 %
5th gear	3.1 %
6th gear	1.7 %

with trailer, gross combination weight 83,800 lbs./38,000 kg

1st gear	15.7 %
2nd gear	8.3 %
3rd gear	4.4 %
4th gear	2.4 %
5th gear	1.2 %
6th gear	0.4 %

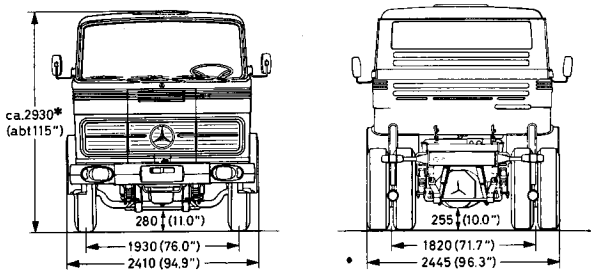
Options

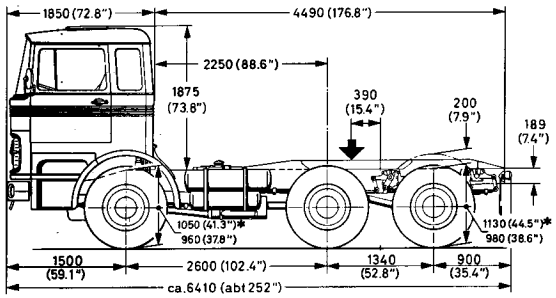
Rear axle reduction 5.63 and 6.14
Tyres: front axle 11.00–20/16 PR (Super)
rear axle 11.00–20/12 PR
Splitting group
(weight approx. 132 lbs./60 kg)
Gearbox with lateral P.T.O.
Trilex wheels

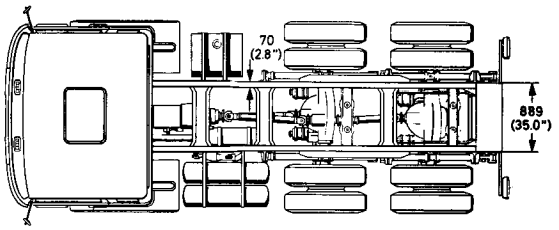
The stated output in net b.h.p./DIN is actually available at the clutch for operating the vehivcle as any other power consumption has already been deducted. The value given in gr. H.P./SAE includes the power used for additional auxiliary units not required for operating the engine.
Technical data acc. to DIN 70020 and DIN 70030.

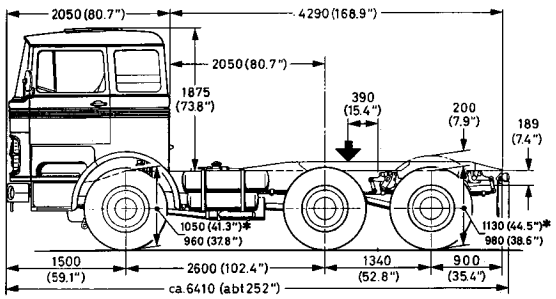
Daimler-Benz
Aktiengesellschaft

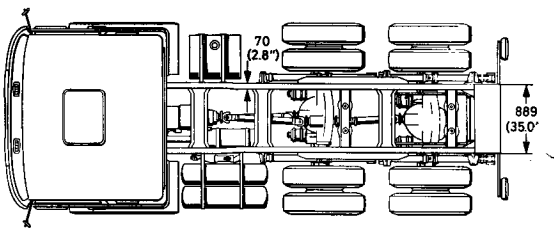
	Normal driver's cab	Long driver's cab
Wheelbase	102.4+52.8/ 2,600+1,340 in./mm	102.4+52.8/ 2,600+1,340 in./mm
Turning circle diameter	55.5/ 16.9 ft./m	55.5/ 16.9 ft./m
Chassis, carrying capacity	34,500/15,650 lbs./kg	34,500/15,650 lbs./kg
Chassis, ready for operation	14,000/ 6,350 lbs./kg	14,000/ 6,350 lbs./kg
Chassis with cab, one driver (without spare wheel)	15,760/ 7,150 lbs./kg	15,920/ 7,220 lbs./kg
Perm. fifth wheel load incl. anchorage and spare wheel	32,740/14,850 lbs./kg	32,580/14,780 lbs./kg
with coupling point in front of rear axle	15.4/ 390 in./mm	15.4/ 390 in./mm
Perm. gross vehicle weight	48,500/22,000 lbs./kg	48,500/22,000 lbs./kg
Perm. front axle load	13,200/ 6,000 lbs./kg	13,200/ 6,000 lbs./kg
Perm. rear axle load	2 × 17,650/ 8,000 lbs./kg	2 × 17,650/ 8,000 lbs./kg
Perm. gross combination weight	83,800/38,000 lbs./kg	83,800/38,000 lbs./kg











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Tyres: front axle 11.00–20/16 PR (Super)
rear axle 11.00–20/12 PR
Splitting group
(weight approx. 132 lbs./60 kg)
Gearbox with lateral P.T.O.
Superstructure: tarpaulin and frame
(approx. 550 lbs./250 kg)
Trilex wheels

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Technical data acc. to DIN 70020 and DIN 70030.

Daimler-Benz
Aktiengesellschaft

	Normal driver's cab	Long driver's cab
Wheelbase	169.3+52.8/ 4,300 + 1,340 in./mm	169.3+52.8/ 4,300 + 1,340 in./mm
Recommended platform length	294/ 7,460 in./mm	287/ 7,280 in./mm
Recommended platform width	94/ 2,385 in./mm	94/ 2,385 in./mm
Recommended height of side walls	31.5/ 800 in./mm	31.5/ 800 in./mm
Turning circle diameter	67.6/ 20.60 ft./m	67.6/ 20.60 ft./m
Chassis, ready for operation	14,680/ 6,660 lbs./kg	14,680/ 6,660 lbs./kg
Chassis, carrying capacity	33,820/15,340 lbs./kg	33,820/15,340 lbs./kg
Payload and body allowance	31,750/14,400 lbs./kg	31,820/15,340 lbs./kg
Dead weight with driver	19,250/ 8,730 lbs./kg	19,330/ 8,770 lbs./kg
Perm. gross vehicle weight	48,500/22,000 lbs./kg	48,500/22,000 lbs./kg
Perm. front axle load	13,200/ 6,000 lbs./kg	13,200/ 6,000 lbs./kg
Perm. rear axle load	2 × 17,650/ 8,000 lbs./kg	2 × 17,650/ 8,000 lbs./kg
Perm. trailer load	35,300/16,000 lbs./kg	35,300/16,000 lbs./kg
Perm. gross combination weight	83,800/38,000 lbs./kg	83,800/38,000 lbs./kg