The Chassis OC 500 RF.

One platform. Many options.

Mercedes-Benz
The standard for buses.
Underneath is always a true Mercedes-Benz.

There are chassis. And there are Mercedes-Benz chassis. In today's tough competition, the Star makes the difference. It gives you a decisive edge — and the good feeling of having made the best choice for your company.

Beside integral buses like the Citaro and Tourismo the chassis are also a real success story: bus chassis account for two thirds of Daimler Buses’ production worldwide. The chassis with the star covers the entire spectrum of widely different requirements and applications. The close partnership between Mercedes-Benz and body manufacturers in all regions of the world ensures that passengers on all continents can enjoy the ride comfort and safety of the Mercedes-Benz brand.
OC 500 RF highlights.

Surprisingly flexible, superior quality throughout, consistently economical: Designers around the world value the OC 500 RF chassis for coaches as the basis of their project ideas. The Euro VI generation brings further convincing arguments.

The very best in technology. Mercedes-Benz has traditionally been a pioneer in the development of environmentally friendly, innovative drive technologies. With BlueEfficiency Power technology, Mercedes-Benz has once again set new standards. The top-class technology from complete bus development is now also being used in the OC 500 RF and ensures fewer emissions and greater economy, because thanks to the efficient, powerful BlueTec® engines, fuel consumption has not increased, despite Euro VI, and the life and maintenance intervals have been extended. This provides particularly high overall economy throughout the life of the bus.

The basis for your ideas. You need the maximum possible freedom for your vehicle body. The OC 500 RF therefore simply adapts to fit your ideas. The secret to the practically unlimited options is its modularity. You can choose between body widths from 2.50 to 2.60 m and body lengths up to 13.50 m, or even 15 m with the 3-axle option. To implement your individual ideas, you also have various engine options, as well as different transmission types and ratios. Even the driver’s workstation, instrument panel and second door can be arranged in various ways. And the size of the tank is also determined by your requirements. With the OC 500 RF, your project ideas become reality.

The result of good partnership. The OC 500 RF is the result of a close partnership between Mercedes-Benz and body manufacturers. Shared experience and requirements have been included in the development of the chassis and are reflected in a sophisticated vehicle concept. For example, uniformly defined interfaces ensure the straightforward and fast connection of the body electronics. The transport module ensures easy and safe handling. Attention was paid to the details, as they facilitate day-to-day work. And if a problem should arise, the Mercedes-Benz body consultants are available to provide you with expert support.

Your technical advantage

- Blue-Efficiency Power technology
- Powerful BlueTec® engines
- Lower emissions, greater economy
- Various engine variants
- Different transmission types and ratios
- Different emission levels available for many applications and markets (including Euro III and Euro V)

A good basis

- Realisation of customer-specific coachwork solutions (RH, RHD, SHD)
- Body widths from 2.50 to 2.60 m
- Body lengths from 10.7 to 15.0 m (for 3-axle vehicles)
- Variable arrangement of driver’s workstation, instrument panel, and second door
- Different fuel tank sizes

Down to good collaboration

- Close partnership between Mercedes-Benz and body manufacturers
- Transport module ensures easy and safe handling
- Quick integration of body electronics thanks to use of standard interfaces
- Body consultancy from Mercedes-Benz
Configure buses to the current state-of-the-art. The front axle module of the OC 500 RF offers you innovative components from Mercedes-Benz that have already been tried and tested in the complete bus.

The buggy centre section connects the rear and front components for transportation. It protects the individual components, while at the same time ensuring that transfer costs are kept as low as possible.

The drive axle of the OC 500 RF has already earned top marks in the complete bus. The steered trailing axle for the 3-axle variant is an ideal addition. It makes manoeuvring and reversing considerably easier.

Low operating and maintenance costs are an important argument for the subsequent bus operators. With the OC 500 RF you will be establishing the foundation for consistent economy.
Five modules. More flexibility.

The modular concept of the OC 500 RF from Mercedes-Benz, based on a mature, tried and tested vehicle design, allows great flexibility, thereby ensuring variant diversity. With a gross vehicle weight rating of 19 t, the chassis can meet quite different market requirements, ensuring maximum flexibility with various body solutions, widths and lengths.

With the „unification“ the chassis is provided with efficient, powerful, reliable, and proven engines with Euro III, Euro V, and Euro VI emission standards. A large number of tried and tested bus transmissions, and a new drive axle complete the power train.

In addition, the OC 500 RF impresses with its low fuel consumption, long maintenance intervals, and wide range of applications. The active safety technologies (ABS, ESP®, AEBS, SPA), and comfort provided for the driver by new display instrumentation, and for passengers by the level control system complete the chassis.

Not one kilogramme too heavy. Lower emissions do not need to mean added weight: Mercedes-Benz has been able to implement Euro VI without increasing the vehicle weight. The new rear axle is one of many measures taken by the development engineers to compensate for the unavoidable additional weight of Euro VI. Additional savings are achieved by the lighter water retarders, engine encapsulation, more lightweight and powerful alternators and, not least, the use of high strength steels for the optimised frame. The result: not one kilogramme too heavy – but just as stable.
Mercedes-Benz OM 470

Mercedes-Benz OM 457

Mercedes-Benz OM 936
Ensure your competitive edge.

Now more than ever, economy is a key argument for bus operators. With the Mercedes-Benz chassis OC 500 RF, you establish the foundation for maximum efficiency – and ensure your bus has a decisive competitive edge.

A milestone in engine development. Development of the chassis generation focused on the new drive train for Euro VI, which was achieved with the new BlueEfficiency Power engines from Mercedes-Benz. The drives, which already meet the Euro VI emission class in all performance levels, do not just impress through their high environmental compatibility, but also through extremely high economy. No increase in fuel consumption in spite of Euro VI.

Clean performance. Maximum efficiency is a matter of course in the new engines, whether for OM 936 LA or OM 470. They all combine impressive driving performance with forceful acceleration even at low speeds, and very quiet running with low consumption as well as exemplary protection of the environment. The strict requirements were met by combining Common Rail injection, on-demand exhaust gas recirculation, downstream oxidation catalytic converter, particulate filter and SCR technology with AdBlue injection for exhaust gas treatment.

High performance, low fuel consumption: OM 457 LA. All over the world, the star of Mercedes-Benz on an engine counts as a seal of quality. This means that the OC 500 RF will also reassure your customers. But first you have a choice between various Euro V engines with trailblazing Mercedes-Benz BlueTec® diesel technology. For the 2-axle chassis this means either vertically installed units with 260 kW or 315 kW, or a horizontal variant with 260 kW. The vertically installed version with 315 kW is also envisaged for the 3-axle chassis. The powerful engines are extremely frugal when it comes to fuel consumption. This conserves both the financial resources of your customers and the environment, as correspondingly fewer pollutants and particulates are emitted.

Less is more. Mercedes-Benz has not only been able to keep fuel consumption at the usual low level, but to also reduce the AdBlue consumption by up to 40 % as well as oil consumption by up to 50 %. The oil change intervals, extended to up to 120,000 km depending on the engine, also provide more overall economy. The first change of the diesel particulate filter is only required after 360,000 km or 3 years and then at intervals of 2 years / 240,000 km.

An innovative cooling system. The designers at Mercedes-Benz are always striving to find groundbreaking solutions. One result: integration of the new water retarder in the innovative cooling concept of the chassis. In the OC 500 RF this is used in combination with all manual transmissions. It uses the engine cooling water as the braking and cooling medium. This means the oil and water heat exchanger previously used is no longer needed. And while the weight is reduced by around 30 kg, the continuous braking power increases. All that’s left to mention is that, with the maintenance-free retarder, overall economy is increased even further.

Comfortable in all gears. The transmission technology of the OC 500 RF is specially designed for use in a coach. Both the standard 6-gear manual transmission and the automatic transmission, optionally available for many variants, offer high ride comfort. Maximum efficiency and an extremely comfortable driving experience with easy operation via the steering wheel stalk shift lever is made possible by a new transmission generation, which has already been tried and tested in the complete bus: the automated 8-speed GO 250-8. This means the driver can fully concentrate on the traffic - the transmission control system takes care of the rest. And incidentally, the innovative transmission also helps save on fuel. For the Euro III ad Euro V chassis the tried and tested ZF AS-Tronic and GO 240 transmissions continue to be available.
Build on ride quality.

Ride quality is a top priority at Mercedes-Benz. The OC 500 RF provides you with an excellent basis for coach designs that impress both drivers and passengers.

**Advanced axles.** The OC 500 RF ensures top-class ride comfort. The front axle with independent wheel suspension keeps the bus safely on track, provides stabilisation against rolling motion and allows extremely large steering angles. A 21 m turning circle on a 12 m long two-axle vehicle and around 24 m for a 15 m long triple axle vehicle (depending on body) speaks for itself. The new rear axle is ideally matched to this, because thanks to a further improved axle location, it provides highly efficient drive power on the road, and with smooth and quiet running ensures excellent ride comfort. On the three-axle vehicle, this is rounded off with a hydraulically steered, active trailing axle. This makes it more manoeuvrable and extremely stable when driving in a straight line.

**Driving Flexibility.** The chassis is equipped as standard with electronic level regulation, thus ensuring maximum protection from damage to the underside of the vehicle. With its ‘kneeling’ function, passengers can board and exit with ease.

**A talent on three axles.** With a three-axle chassis, you have a lot of flexibility when defining the body length: from 13.50 m – the maximum length of a two-axle body – to 15 m. This results in significantly more seats and greater passenger carrying capacity, which the triple-axle body can manage with ease. The 3-axles give the chassis a higher maximum payload. This makes them ideal for heavy structures, like double-decker coaches or super high deckers.
Make no compromises.

The expectations on a coach are high, and rightly so. The flexibility of the OC 500 RF makes it even easier to incorporate individual requirements seamlessly.

Ease of steering. Drivers need buses that make their job as easy as possible. The steering gear with variable steering ratio in the OC 500 RF meets this requirement. It reacts more effortlessly the harder the driver turns the steering wheel. As a result, the vehicle can be steered easily, directly and safely. This means greater driving safety, and particularly high economy, because the steering does not have to be lubricated, meaning it is practically maintenance-free.

Concentrated intelligence. The OC 500 RF is also superior to other chassis with regard to the electronics, because it has a central "brain": an IES-CAN (Integrated Electronic System-Controller Area Network), within which all electronic components are integrated. With the help of the IES onboard diagnostic system, you can quickly check all the control units. In the event of maintenance or repair, faults can therefore be found quickly and in a targeted way, which later reduces the idle and maintenance times, and therefore costs, for the bus operator.

Uniform interfaces. The uniform interfaces for your electronic equipment and a modular electrical compartment on the driver’s workstation with standardised slots are further advantages of the raised-floor chassis. All systems are subdivided into code numbers so the chance of confusion is very low. You can therefore connect up the electrical equipment of your body flexibly and seamlessly – and at the same time have free choice regarding the location and installation of your electronic components.

Time is money. The buggy centre section has also been further improved, so that you save valuable time and transfer costs even before the first work step. The transport module makes the OC 500 RF capable of being manoeuvred and steered with its own drive, protects the valuable components against damage during transportation and enables simple and safe handling. Quick release couplings on the cable lines ensure that you can start construction quickly.
Comfort you can count on. For drivers and passengers.

A safe workplace. A new instrument panel has been added to the modern cockpit for this chassis generation. This enables on-board diagnosis for AEBS (Advanced Emergency Braking System) and LDWS (Lane Departure Warning System). Adapted to the electronic structure and information requirements of Euro VI, it supports the driver with enhanced features such as the language package or the voltmeter. If required, it is also possible to call additional information, such as route data or fuel consumption. This means the driver has access to all information at a glance and has everything safely under control.

A host of options. The driver’s workstation in the OC 500 RF can be adapted flexibly to many requirements. For example, the height and angle of the steering column can be adjusted. Instead of a conventional gearshift lever, a joystick with pneumatic shift assist (PSH) is located next to the driver’s workstation and can be positioned in various locations. It is easy to reach and operate, and offers the same ease of gear shifting as in a car. This places less stress on the driver who can then concentrate fully on the road – an important contribution to road safety.

A real comfort zone. In a coach, appearance is important, but inner qualities are even more crucial. The OC 500 RF has a lot to offer in this respect. For example, electronic level control means that passengers are comfortable the moment they start boarding, because it makes the entry height always the same regardless of the load. The low-noise drive axle makes the journey much more relaxing for passengers: no wonder it has already earned top marks for use in the complete bus.
New Cockpit
| Multifunction steering wheel
| Steering column adjustable for height and tilt,
| New instrument panel
| Enhanced information; e.g. route data and fuel consumption

Safer workstation
| Joystick can be positioned in various locations
| Pneumatic shift assist (PSH)
| Makes driver's job easier
| Greater driving safety

Electronic level control
| Automatic vehicle height adjustment at each wheel
| Entry height always the same

Low-noise drive axle
| Interior pleasantly quiet
| Proven technology from the complete bus

The bus is seen as one of the safest and most comfortable forms of transport in the world. Innovations from Mercedes-Benz have played a decisive part in this – and also make the OC 500 RF a pioneer on the roads.

We are the standard bearers for the safety of buses and coaches. Many of the safety features which come as standard today were first launched in a vehicle bearing the Star. For example, the Anti-lock Braking System (ABS), or the Electronic Stability Program (ESP®).

Responsibility is a serious matter. That is why we at Mercedes-Benz pursue the vision of accident-free driving with the integral safety concept. The concept covers all phases of automotive safety to systematically meet this striving for safety: from driving safety and safety in hazardous situations, protection in the event of an accident, through to minimising the consequences of accidents.

**A safe brake system.** Safety has traditionally been a priority at Mercedes-Benz. A fast-reaction, electronically controlled brake system with disc brakes is therefore just as natural for all bus chassis as the Anti-lock braking system (ABS) and brake assist system (BAS) as standard. In emergency braking situations, it builds up maximum braking power in fractions of a second and therefore allows a shorter stopping distance. The Electronic Stability Program ESP® with ASR (acceleration slip regulation) helps you deal with dynamic driving situations. Greater lane safety, however, is provided by the AEBS (Advanced Emergency Braking System) and LDWS (Lane Departure Warning System) now available as standard. With guardian angels everywhere, your vehicle will reach its destination safely.

**SPA and AEBS.** New features in the OC 500 RF travel coach chassis include the Lane Assistant (SPA) and the Advanced Emergency Braking System (AEBS). While the SPA warns the driver - by means of seat vibration - of an unintended crossing of the lane markings, the AEBS reduces the danger of driving into slow-moving vehicles or stationary obstacles ahead. If danger threatens, it initiates partial and full braking as part of an ascending scale of warnings, so as to avoid a rear-end collision or to reduce damage in the event of an accident. In this way, it reliably complies with the European regulations on automatic emergency braking.

**A good feeling.** Of course, Mercedes-Benz has subjected the new chassis to intensive testing. These include endurance tests or the testing of components on the Hydropuls rig, such as axles or tanks. And the engines have also been tested under the harshest conditions, from the icy polar circle to the heat and dust of South Africa for use in complete buses and for operation in commercial vehicles with a total traction weight of up to 40 t. The tests also involved maximum loads that would never occur in actual public service bus use. All with one goal: giving you a good feeling, a safe basis for your demanding, economic and environmentally friendly coaches.
The Advanced Emergency Braking System (AEBS) initiates partial and full braking as part of an ascending scale of warnings, so as to avoid a rear-end collision or to reduce damage in the event of an accident.

ABS

The ABS (Anti-lock Braking System) distributes the braking forces acting on the individual wheels so that even in an emergency braking situation no wheel is locked for any length of time, and the steerability of the bus is largely maintained.

ASR

The ASR (acceleration skid control) prevents wheelspin when driving away on a slippery surface. It provides no more power than the drive wheels are able to transfer to the road surface.

AEBS

An unanticipated obstacle on the road. Thanks to the Electronic Stability Program the evasive manoeuvre is successful without the bus swerving.

ESP®

The Lane Assist continuously monitors the distance of the bus from the lane markings. As soon as the vehicle crosses any of the markings, the driver is alerted by a pulsation in the seat on the relevant side.

SPA
Important for you. Important for us. Technical data stored in the vehicle.

Electronic vehicle components (e.g. Airbag Control Unit, Engine Control Unit) contain data storage for vehicle technical data, including but not limited to Diagnostic Trouble Codes in the event of a malfunction, vehicle speed, braking force, or operating conditions of the Restraint System and Driver Assistance Systems in case of an accident (no audio and no video data recording). This data is either stored volatile, punctual as snapshot e.g. Diagnostic Trouble Codes, over a short period of time (a few seconds only) e.g. in case of an accident or in aggregated form e.g. for component load evaluation. The data can be read using interfaces connected to the vehicle. Trained technicians can process and utilize the data to diagnose and repair possible malfunctions. The manufacturer can use the data to analyze and improve vehicle functions. When requested by the customer, Technical Data can form the basis of additional optional services. In general, data from the vehicle is transferred to the manufacturer or a third party only according to legal allowance, or based on a contractual customer consent in accordance with data protection laws. Further information regarding storage of vehicle technical data is provided in the vehicle Owner’s Manual. Mercedes-Benz Buses and Coaches always handles customer data confidentially.

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