

MAN Europa bus EL 202



An intercity bus concept in
keeping with the times



EL 202 Europa bus: The considered alternative



As a leading European manufacturer of city buses, MAN has for many years now been directing its competence and innovativeness towards further optimisation of the bus as a transport system and towards increasing the bus's attractiveness in local public transport.

With the EL 202 Europa bus MAN is presenting a new class of bus designed specifically for operation on overland routes close to towns and cities. It is also particularly suitable for use on commuter routes. With the many possible combinations of different engines, gearboxes and rear axle ratios it is a bus superbly equipped to cope with all conditions on the roads of Europe.

The EL 202 moves on the latest technology and offers the passengers all the comfort they could possibly wish for. This includes the powerful, environmentally compatible engines, advanced running gear designed with safety and masterful driving in mind and above all the passenger-friendly configuration all round: from the easy entry via the completely level floor to the generous interior with functional yet comfortable fittings. And there is the driver's station too, with its exemplary ergonomics, a cockpit from which the driver will have any situation under control.

The EL 202 Europa bus has all the qualities that one has come to expect of an MAN: a trendsetting bus concept – and an optimum synthesis of economy, comfort, safety and environmental compatibility.

**Cutting a new profile on
overland routes**



The modular thinking behind the EL 202 makes it obvious that the new bus belongs to the same family as the familiar MAN low-floor buses. And yet it has a style all of its own. Its bodywork design is elegant and forward-looking, a harmonious union of form and function with a striking front section, two-piece windscreen (one-piece version available on request), generously dimensioned

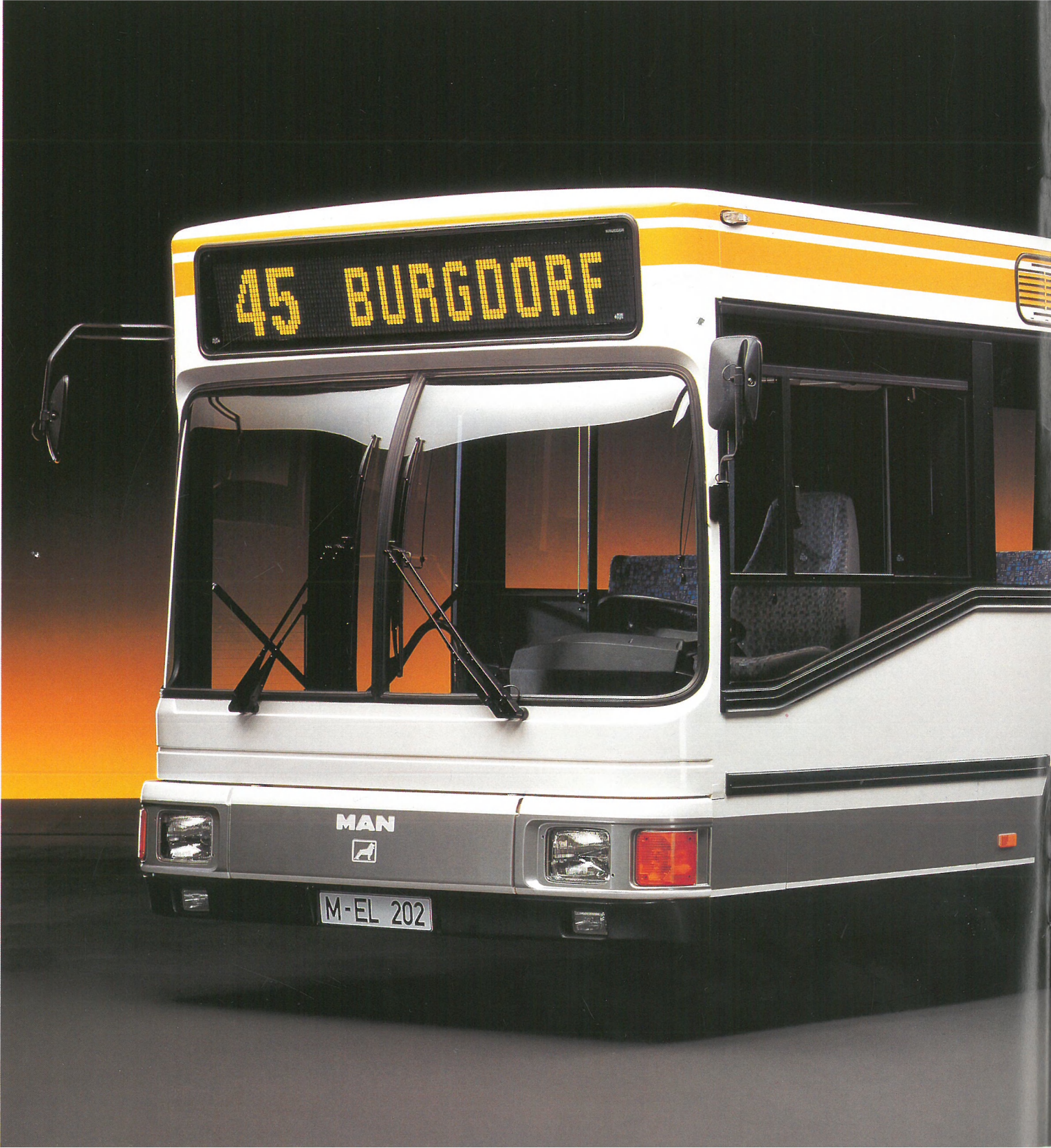
destination boxes and large, uniform-size window areas on both sides.

The EL 202 – a new face that we will be seeing more and more frequently on overland routes in future, as this is the sector where the strengths of the Europa bus come into full play. With a floor height of 595 mm and its optimised angles of approach and departure (both 8°),

the EL 202 is good on the road at all times. Other deployment-related features: a 290 litre fuel tank and the possibility of 100 km/h registration for express bus routes. The two-door version for occasional use also has the necessary spare wheel.



A good ride on all roads



With a total length of 11,675 mm and a width of 2,500 mm, the EL 202 offers space for 99 to 104 passengers depending on the number of doors. These capacities make it a practical model for the passenger volume in overland transport or in commuter service. And just as much thought has been put into the driveline too.

The horizontal 6-cylinder engine is available in three rating classes: 157, 169 and 184 kW (214, 230 and 250 hp). This innovative MAN engine is a state-of-the-art model; the 214 and 250 hp versions, for example, feature the MAN air injection system, which minimises the blast of smoke generated as the vehicle moves off.

The EL 202 meets European exhaust gas standards, is low in consumption and thus contributes automatically to environmental relief because of its low CO₂ output.

And thanks to the capsule round the engine, the EL 202 has no difficulty in complying with statutory noise regulations either.



Top-class comfort for boarding and alighting

The passengers are welcomed aboard by either two or three wide, two-wing doors which swing inwards under electropneumatic control and close flush with the external contour of the bus. All doorways are fitted with grab handles, and the doors feature an anti-trap device active in the opening direction.

Two steps bring the passenger comfortably and safely into the EL 202, the comfort in boarding being improved by the low floor height of 595 mm. Boarding is made even more simple by the MAN electronically controlled air suspension system (ECAS) with an integrated kneeling device for lowering the vehicle on the right-hand side.

This brings down the boarding height to an extremely convenient level, the first step then being almost level with the kerb.

The generously proportioned entry area around the second door can be left free as a parking area for wheelchairs or prams. Alternatively two additional removable seats can be fitted there instead.



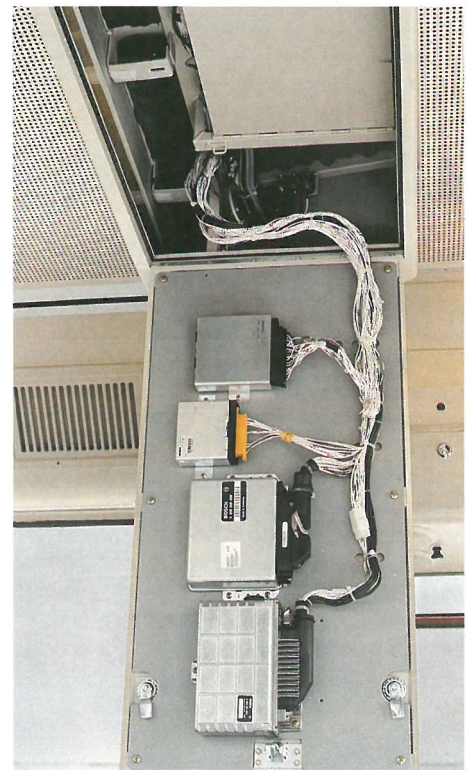
Perfect cockpit ergonomics

In the control centre of the EL 202 everything has been done to keep the driver alert and prevent his tiring en route.

His body-contoured, hydraulically damped seat can be raised and lowered and moved backwards and forwards to suit individual requirements. The steering wheel too features height and inclination adjustment. In the dashboard anti-glare displays and clearly arranged instruments are within easy reach. A good view all round is guaranteed by the large windscreen and side windows and by the practically sized mirrors inside and out.

Mounted on a rotating arm with height adjustment, the cash desk can be moved by the driver to any required position.

The switch cabinet with central electrical system is located in the rear wall of the driver's station. An excellent arrangement and easily understandable coding make it possible to eliminate faults within minutes. The rear wall also houses the operating systems for the gearbox electrics. A flap in the ceiling opens by a simple flick of the wrist to reveal the electronic control components, e.g. for ABS, ECAS, air injection and central lubrication.



Exemplary in comfort



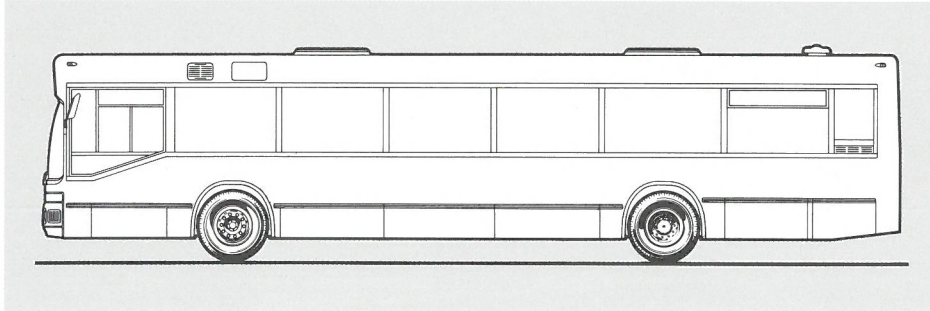
Inside the bus, the passenger area offers a pleasant atmosphere characterised by spaciousness and comfort. The passengers have a full view of the surroundings outside, and inside it is cheery and bright. There is so much space that anyone can feel at ease.

The seating leaves ample room for moving along the vehicle and ensures that no congestion occurs as passengers get in and out. The city bus seats are large and also comfortably upholstered, with Dralon velours covering and protective padding on the seat backs. The seat spacing of 720 mm guarantees comfort not only in sitting but in taking and leaving the seats too.

A particularly comfortable note is added by the completely level floor, which is a great help to disabled or elderly passengers as it affords greater safety. Conveniently positioned handrails give the standing passengers a firm hold during cornering and braking, as do the handles on the aisle-side seats. Good insulation against noise ensures that the passengers are not disturbed and thus complements the congenial atmosphere.

Lastly, the efficient heating and ventilation system guarantees a pleasant climate in the EL 202, whatever the time of year, and also a supply of good fresh air. Two roof hatches not only provide additional fresh air but are also designed as emergency exits.

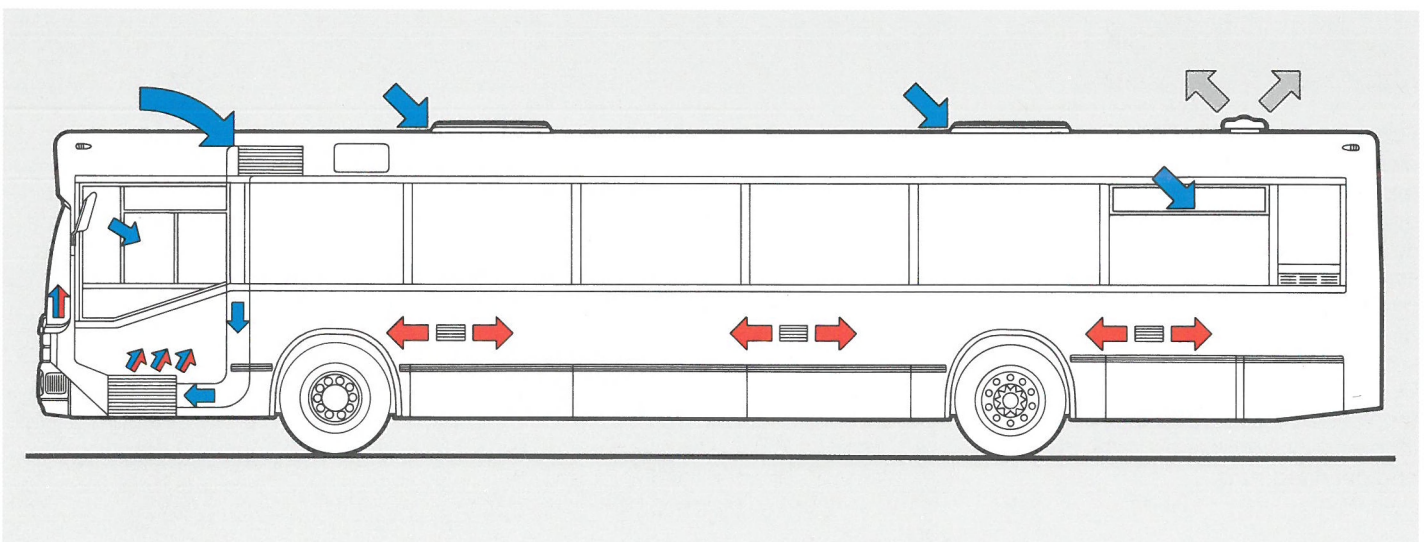
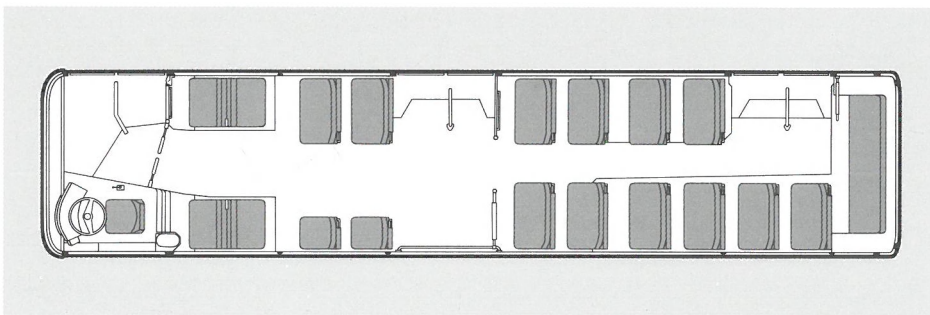
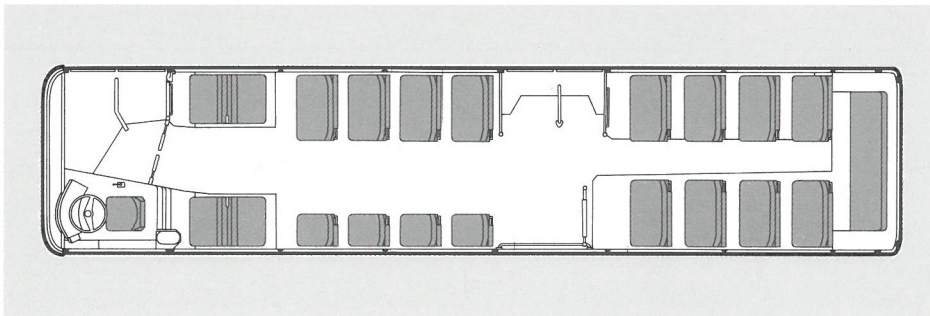




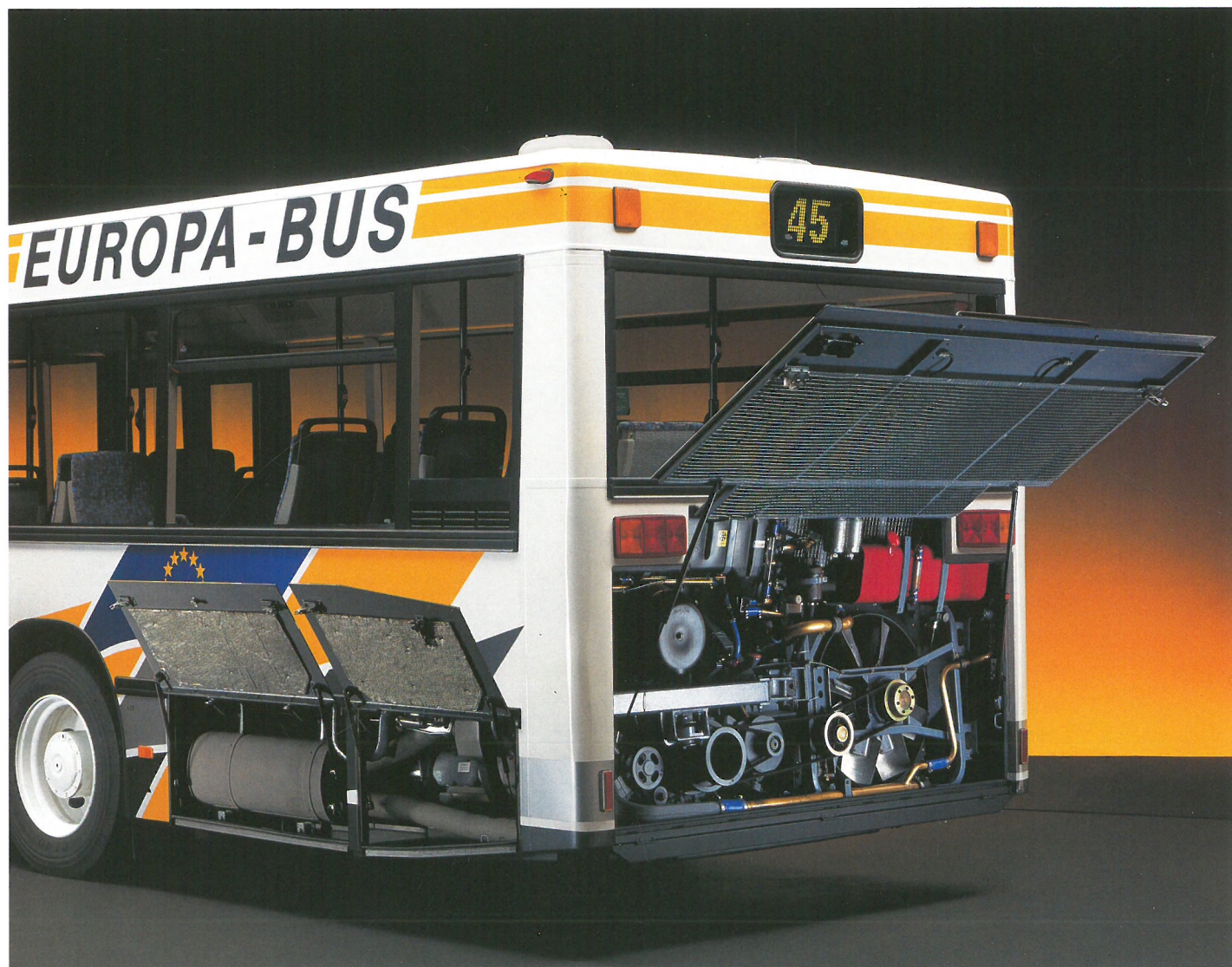
MAN delivers the EL 202 with either two doors, 36 seats and standing room for 68 passengers or with three doors, 34 seats and standing room for 69 passengers.

All seats except those on the rear wheel housings face the front.

Other special seating options are available on request.



**Top-flight technology
from MAN**

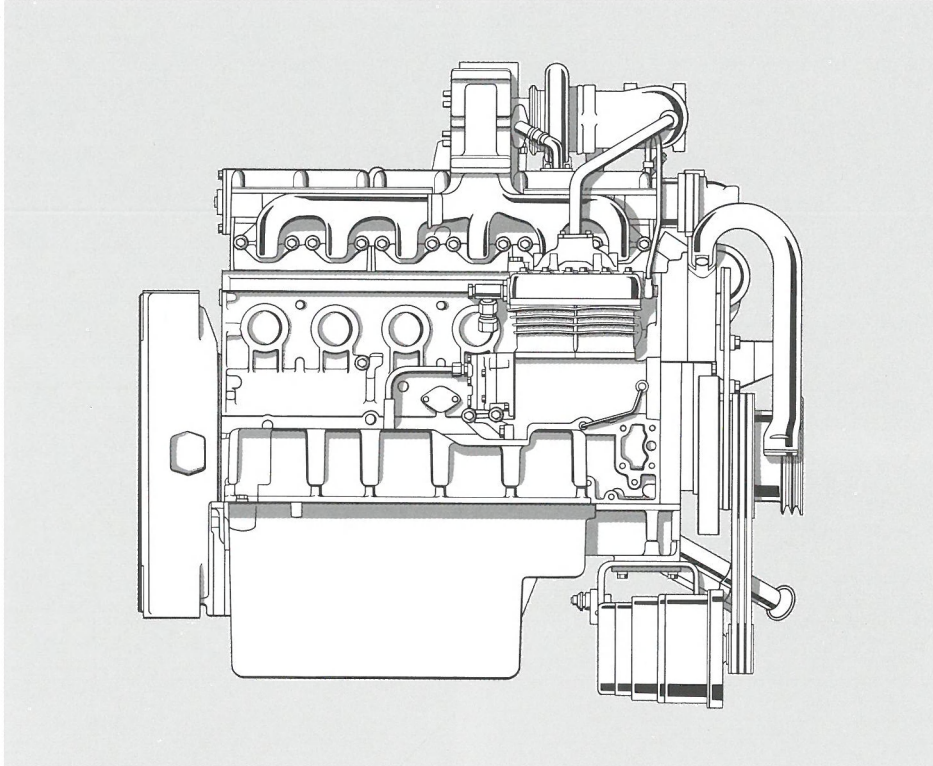


Further trump cards of the EL 202 are its outstanding driving performance and excellent handling. The sophisticated driveline and the modern running gear combine with the MAN air suspension system to provide superb running dynamics, comfort and safety. With the ZF Servocom steering the driver has his vehicle safely under control, and so the EL 202 is optimally equipped at all times for pleasant journeys, whether in dense stop-and-go traffic or on longer suburban and overland runs.

But in terms of daily routine checks and minor repairs too the EL 202 has everything needed. Ease of maintenance is apparent everywhere, in the good access to the main components and supply connections, for example, or in the sensibly located check and maintenance points.

Engine and gearbox

High output, high torque over a wide engine speed range and 25% torque increase are inherent characteristics of the low-consumption, low-pollution MAN 6-cylinder engines which power the EL 202.

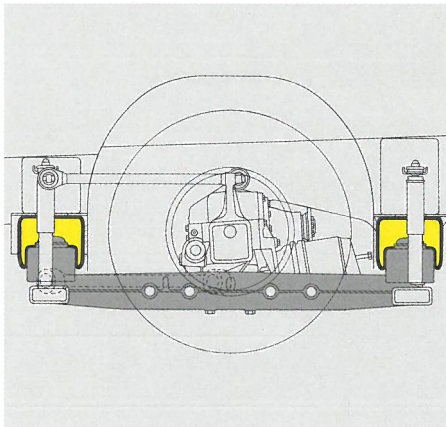
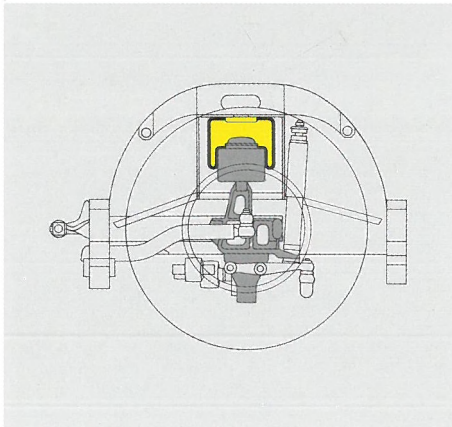


The customer can choose from engines with ratings of 157, 169 and 184 kW (214, 230 and 250 hp). Direct fuel injection, turbocharging, intercooling and E-Gas are standard. In the 214 and 250 hp engines the MAN air injection system is used to prevent the blast of smoke during moving off, thereby improving the environmental compatibility in stop-and-go traffic even more.

The Voith 3-speed automatic gearbox ensures optimum power transmission. The EL 202 with 230 hp engine has a ZF S 6-85 manual gearbox.

Safety-conscious running gear

The EL 202 Europa bus has a dropped, rigid front axle mounted on two upright-leaf longitudinal arms for stabilisation and a transverse control arm for lateral location. Positioned well towards the ends of the axles, the air suspension bellows and shock absorbers result in soft vehicle suspension and a high roll stability.

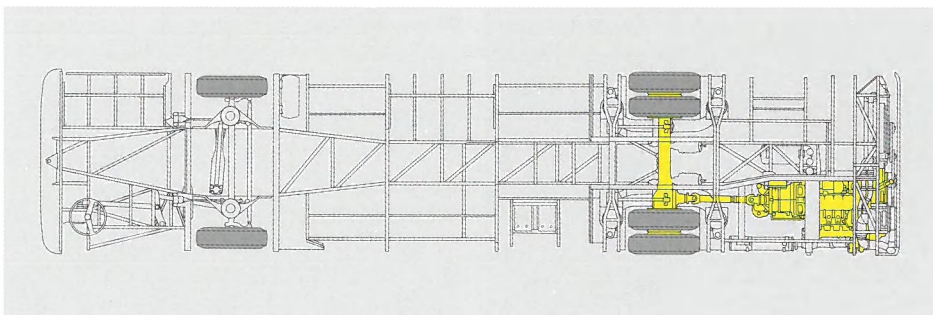


The drive axle is a rigid axle. This is a MAN planetary design in which the differential housing has been moved to the left. The low-maintenance axle location system is made up of longitudinal arms with a wishbone for lateral location.

Brakes

The front and drive axles are fitted with Simplex drum brakes. Brake shoe adjustment is automatic.

The bus-stop brake acts with limited pressure on the service brake part of the double brake cylinder, the parking brake without linkages on the drive axle via a spring-loaded mechanism. The brake shaft bearings and automatic slack adjusters on all axles are maintenance-free.

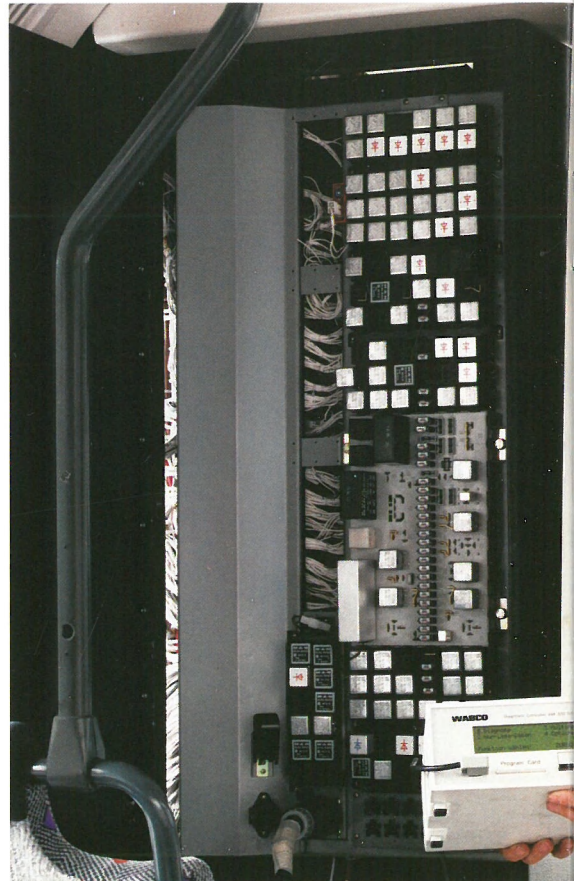


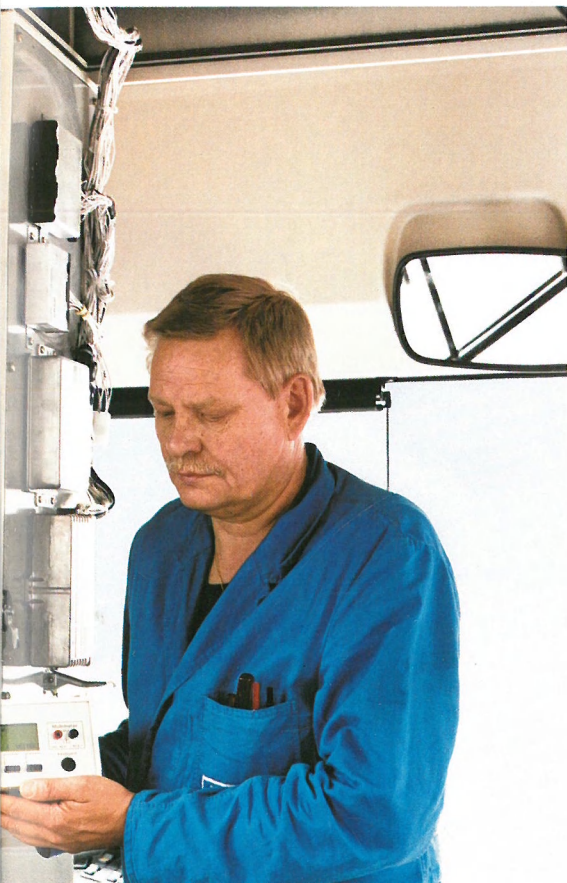
In addition, the automatic transmission with integrated retarder guarantees optimum deceleration and cuts down wear of the service brake system.

Quality – made by MAN

Quality planning and quality assurance in busbuilding are comprehensive, ongoing processes. Up-to-date information is obtained from market studies and customers' requests. Research and development provide the basis for top-grade products, while advanced manufacturing and testing techniques assure high product quality.

Precise and systematic production methods are of decisive importance for high quality, and nowhere is this more true than in busbuilding. The sense of responsibility, motivation and conscientious approach so typical of MAN's employees, quite apart from their high professional qualifications, are the key to successful teamwork and to the high standard attained by MAN buses.





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