



# Setra Buses and Coaches at the 2008 International Commercial Vehicle Show

**Press Information**

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Setra Buses and Coaches, a Daimler brand, is offering an exciting insight into its current product range by exhibiting a total of ten vehicles at this year's International Commercial Vehicle Show in Hanover (September 25 to October 2, 2008). Under the banner "Best in Class", the bus and coach brand based in Ulm, Germany is showcasing a selection of models in Hall 16, including a world premiere in the shape of the S 419 GT-HD – a 15-metre-long three-axle touring coach that gives customers the option of another body length in the ComfortClass 400 high-deck series. This year's show also sees the premiere of Active Brake Assist (ABA) in the TopClass 400. If there is an acute risk of the coach running into the rear of a slower-moving vehicle in front, the system automatically initiates emergency braking if the driver fails to react to an escalating series of warnings.

### **The new TopClass 400: premium vehicles that know almost no limits**

At the 2008 International Commercial Vehicle Show in Hanover, Setra will be exhibiting its first TopClass 400 touring coach to feature Active Brake Assist in the shape of the S 416 HDH. The system has proven a resounding success since being introduced for trucks in 2006, having now clocked up a combined total of more than 350 million kilometres on the road for our customers. ABA reacts to slower-moving vehicles in front by providing an escalating series of warnings and initiating emergency braking if there is a risk of a collision.

The system therefore actively helps to prevent rear-end collisions, meaning that it can save lives. Active Brake Assist only operates in combination with DISTRONIC, whose sensors are used to detect "obstacles" moving in front of the vehicle. These three radar beams detect moving objects within a defined range up ahead. If the traffic situation remains unchanged and there is a risk of a collision, an escalating series of warnings comes into play. Firstly the driver receives a visual warning in the shape of an illuminated red triangle with the outline of a vehicle on the instrument panel along with an audible alarm signal that gradually becomes louder. Page 3

If the risk of a collision becomes more acute, partial braking is initiated. The technology used in this instance takes account of the occupants on board by increasing the braking pressure smoothly. If the driver fails to respond, the system finally applies the full braking power of its own accord. Once the vehicle has been stopped in this way, the hazard warning lights are activated automatically. If a customer orders DISTRONIC, Active Brake Assist is included at no extra charge.

Buses and coaches equipped with Active Brake Assist benefit from a five-percent discount on liability insurance and fully comprehensive insurance, as do those equipped with Lane Assistant and DISTRONIC. If all three assistance systems are fitted, a discount of ten percent is granted.

Measuring 13.02 metres in length, with a vehicle body extended by 99 centimetres and equipped with a glass roof, the S 416 HDH offers four-star seating comfort for 50 passengers.

Exclusive, contemporary interior equipment and appointments have been a hallmark of Setra buses and coaches for many years. And the S 411 HD is no exception. In conference-bus guise – featuring a club corner and a specially extended galley aft of entrance II, including a convection oven, Jura coffee maker, worktop and ironing board – it proves itself to be an elegant and practical all-rounder.

With its exclusive bistro-style equipment and appointments, including a galley and bistro tables, the flagship model in the TopClass 400 series – the S 431 DT – leaves nothing to be desired when it comes to travelling in the highest standard of comfort. Setra's double-deck buses have also undergone a major facelift in recent months and now boast the same key features as the new TopClass 400 vehicles. These can be seen for the first time at the International Commercial Vehicle Show in Hanover. It was a year ago that the brand first unveiled its new TopClass 400 models in the shape of the S 411 HD, S 415 HD, S 415 HDH, S 416 HDH and S 417 HDH, with series production commencing at the beginning of this year.

In order to maintain the highest standards of quality, innovative technology, comfort and safety, the development engineers and designers worked closely together with the production and sales departments to introduce a wealth of technical solutions and modifications for all the European models in the TopClass 400 touring coach series, further adding to its sophistication and appeal.

### **FCG: three letters that stand for even more safety**

At the top of the list of priorities when implementing the many product-enhancement measures was an area to which the Ulm-based brand has always attached great importance: safety. At the beginning of the year, for instance, Setra started offering its TopClass 400 touring coaches with a module designed to push the entire driver's area rearwards in the event of a collision as well as with an integral absorber structure. Both are components of the Front Collision Guard (FCG) system, which also acts as an underride guard to ECE-R 93, offering protection for any other parties involved in a collision with the vehicle.

Whereas the FCG enhances passive safety significantly, Setra has also implemented new active-safety elements. These include a new light element in the front section, which illuminates the front crossing area when the vehicle is turning. At night, when the vehicle turns or the driver indicates at a speed up to 40 km/h, the fog lamp on the side of the vehicle concerned is switched on

automatically and performs a cornering light function. The light switch in the cockpit must be set to position "A" (automatic) to enable this functionality.

In addition, the new TopClass 400 touring coaches are equipped with light and rain sensors that react automatically to changing weather conditions and, if necessary, activate the headlamps or switch on the windscreen wipers.

Setra touring coaches are now stronger than ever. New, more powerful engines enable the new TopClass 400 to conquer the most arduous of uphill climbs with even greater ease and poise. Setra equips the S 415 HD, S 415 HDH, S 416 HDH and S 417 HDH models with the OM 457 LA six-cylinder in-line engine developing 315 kW (428 hp) with a peak torque of 2100 Nm or 335 kW (455 hp) with a peak torque of 2200 Nm. Special equipment for the HDH models includes the OM 502 LA V8 powerplant with an output of 370 kW (503 hp) and a maximum torque of 2300 Nm, although this powerplant comes as standard for the S 431 DT double-deck coach. Meanwhile the compact S 411 HD touring coach is powered by the OM 501 LA V6 engine with 300 kW (408 hp) and 1900 Nm. Another new product – the GO 240-8 PowerShift 8-speed automated manual transmission – is available as an alternative to the ZF-AS Tronic and can reduce fuel consumption by up to four percent. All of the engines meet the requirements of the Euro 4 emission standard. Euro 5 engines are available as special equipment.

As well as being more powerful, the new TopClass 400 models also provide a much higher standard of comfort for the driver and passengers thanks to a front section that has been extended by 200 mm. The extra 14 centimetres added to the length of the bodyshell structure give the driver even more adjustment options, while the additional seven centimetres in the tour guide's area make for legroom on a par with that offered by a 4-star seat.

The wheelbase of the S 415 HDH has been extended by 100 mm, meaning that the three-axle vehicle now measures 12.30 metres in length. Furthermore, the fact that the driver's rest area has been moved to a position aft of entrance II means that the S 415 HDH, S 416 HDH and S 417 HDH super-high-deck models

now offer enough space for a second tour guide's seat. And an additional entry/exit aid makes it even easier for passengers to board and alight in the rear door area.

Passengers on board a Setra touring coach travel in the highest level of comfort. The pitch and roll control system, available as special equipment, enhances this even further by counteracting any jerking movements to which the vehicle may be subject, ensuring that it cruises along smoothly, even when cornering or when driving on uneven road surfaces. Another factor contributing to excellent ride quality is the trailing axle with independent wheel suspension; integrated into the TopClass 400 for the first time, it gives the passengers a smooth ride and saves the operating company some 160 kilograms in weight.

Despite the weight added by some of the facelift measures, the overall weight of the buses has actually been reduced, thanks to factors such as the deletion of the luggage compartment flap on the left-hand side.

The rubber strip around the windscreen has also gone, a change which reduces wind noise, improves the vehicle's aerodynamics and lowers its fuel consumption.

Meanwhile the newly integrated cornering light function and the raising of the angle of approach give the front end of the Setra an even friendlier look.

Many of the facelift measures were also implemented with the driver in mind, of course. A wealth of exclusive new features designed to enhance wellbeing in the driver's area make the cockpit even more like that of a passenger car. These include a new-look joystick, a leather-trimmed multifunction steering wheel with integrated button functions and the new 3D-effect instrument cluster which is clearly arranged and incorporates a multifunction display.

When Setra unveiled the TopClass 400, it brought a new dimension to coach construction, ensuring top-class travel for the passengers and the driver. This is thanks in no small part to innovative comfort-enhancing features such as back-friendly seats, multimedia systems, versatile galley installations and the unique glass roof above the centre aisle. The ergonomically designed cockpit is a blend of elegant practicality and aesthetics. Wider adjustment ranges for the driver's seat, coupled with the more ergonomically arranged and easier-to-use instruments, switches and levers, enable the driver to concentrate fully on the job in hand and thus enhance passenger safety.

The TopClass 400 generation includes the S 411 HD and S 415 HD high-deck coaches as well as the three-axle S 415 HDH, S 416 HDH and S 417 HDH super-high-deck models. The flagship model in this range of Setra premium vehicles is the S 431 DT double-deck coach. Designed specifically for the North American market, the Setra S 417, first unveiled in the US in spring 2003, has been specially adapted to comply with local regulations and meet local customer requirements.

### **A wealth of safety systems**

All Setra touring coaches have long been equipped as standard with disc brakes, the Electronic Braking System (EBS), the anti-lock braking system (ABS), acceleration skid control (ASR), Brake Assist (BA) and the Electronic Stability Program (ESP), a system designed to enhance active safety and handling. Setra touring coaches have been available with DISTRONIC as an option since 2005. The system makes the driver's job easier on motorways and major roads. If DISTRONIC detects a slower-moving vehicle in front, it brakes the vehicle automatically until the safety distance pre-programmed by the driver is achieved and then maintains this distance. 2005 also saw Setra introduce the Continuous Braking Limiter as standard. This system brakes the vehicle automatically if it exceeds the statutory speed limit of 100 km/h due to the force of gravity when travelling downhill, for example. Meanwhile, the Lane Assistant uses a video

camera to detect any risk of the vehicle leaving its lane, permanently monitoring the distance between the side of the vehicle and the lane markings. Page 8

### **ComfortClass 400: world premiere of the S 419 GT-HD**

The version of the touring coach on show in Hanover, equipped with an MB OM 502 LA V8-engine developing 350 kW (476 hp) and the ZF-AS Tronic AS-2300 12-speed automated transmission, already meets the requirements of the Euro 5 emission standard due to come into force in 2009.

Fitted with 60 seats, the S 419 GT-HD touring coach represents an attractive business solution. Further equipment for this model includes three 19-inch monitors, fire detection systems in the luggage compartments, a video camera for monitoring the centre entrance, a powerful roof-mounted air conditioning system with an output of 39 kW and a galley with a 5-litre boiler. Passive safety systems such as the Lane Assistant and DISTRONIC provide an even higher level of protection than before for the driver and passengers.

### **Personal touches for every ComfortClass 400 model**

Further members of the ComfortClass 400 family on display in the capital of the German state of Lower Saxony include the 13.04-metre-long S 416 GT, the S 415 GT-HD high-deck bus with an integral wheelchair lift and airline-style rails and the two-axle S 416 GT-HD/2 with a rear entrance.

Although it is seen as Setra's "entry-level" touring coach, the S 416 GT exudes self-assurance and boasts a wealth of sophisticated features. The model appearing at the Hanover show is equipped with a heated windscreen, locking exterior mirrors and an immobiliser as well as a reversing camera with a cleaning system. Like the TopClass 400 and MultiClass 400 buses, all the models in the ComfortClass 400 series feature highly individual touches.

By way of example, Setra is supplying the 12.20-metre-long S 415 GT-HD complete with an exclusive instrument panel finished in high-quality carbon fibre this year, lending the front entrance area and the cockpit an extra-special lustre. The steering wheel, made from the same elegant-looking material, feels comfortable in the driver's hands and communicates a highly assured driving feel. Passenger wellbeing is also high on the agenda: the galley, located aft of the centre entrance, is equipped with a 40-cup coffee maker with a drainage bowl, an 8.5-litre hot-dog heater, drawers and a 5-litre boiler.

Measuring 13.02 metres in length, the S 416 GT-HD/2 with a rear entrance features a small galley module and also comes with an integral 40-cup coffee maker. The weight-optimised two-axle model has been developed to meet various customer requirements and comes with aluminium wheel rims as standard. In this case, the absence of a third axle is a major advantage for bus operators, especially in countries where motorway toll charges apply. Another plus point in favour of the S 416 GT-HD/2 is its high luggage compartment capacity of 12.6 m<sup>3</sup>, giving the fully-fledged coach more than enough payload reserves to be used for either touring or excursions.

#### **New: limited-edition comfort package for the ComfortClass 400**

To coincide with the 2008 International Commercial Vehicle Show in Hanover, Setra has put together a special limited-edition comfort package for the ComfortClass 400 touring coaches, including dark-tinted side windows in galaxy/venus grey, a wood or wood/leather trim for the steering wheel, shift lever and instrument panel, an iPod connection and LED corner marker lights.

Like the S 415 GT-HD, the S 416 GT-HD/2 is available with the new GO 240-8 PowerShift eight-speed automated manual transmission that has been developed specifically for buses and coaches and features a compact design as well as being light in weight. There is no need for a clutch pedal with this transmission. And its eight progressively spaced gears give the driver a wide range of options from precise manoeuvring to economical motorway driving. The automated transmission is easy to use, and the driver can intervene manually as

and when required. Smooth upshifts and downshifts are assured every time.

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Another defining characteristic of the ComfortClass 400 is the cockpit, incorporating controls that have been arranged in accordance with strict ergonomic principles. The driver's area has the look of a touring-coach cockpit and is equipped with a joystick gearshift and integral monitors. What's more, there is also space for additional bottle holders and further stowage areas for briefcases or maps, for example. In addition to this, a cash register can easily be installed in the cockpit if the ComfortClass 400 is to be used on rural regular-service routes. Bus operators can choose one of three air conditioning systems, each with a different output, depending on the length of the vehicle. The low-maintenance air conditioning system is quieter and impresses on account of its weight, being up to 30 kilograms lighter than the system fitted in the predecessor models.

### **MultiClass 400: a new dimension in cost-effectiveness**

The Setra S 415 UL and S 419 UL models and S 415 NF two-door low-floor bus from the MultiClass 400 series on show in Hanover are impressive proof of the outstanding levels of quality and cost-effectiveness that can be achieved in the rural-service segment.

The 12.2-metre-long S 415 UL model appearing at the show features a slanting front end, integral exterior mirrors, two outward-swinging doors and a pram area with a demountable platform.

The S 419 UL with a straight front end measures 15 metres in length and is equipped with two outward-swinging doors, while the "longest" of the MultiClass 400 models provides space for a total of 69 passengers when fitted with the full complement of seats, as is the case with the model on display, making it a true high-capacity vehicle.

The two-door S 415 NF model appearing in Hanover celebrated its world premiere at the same show two years ago. Setra introduced the new generation of low-floor models to expand its range of rural-service vehicles and include further custom-designed versions. The low-floor models are designed for regular-service routes where a high level of passenger comfort is called for. They are also ideal for carrying children, older passengers and wheelchair users.

Each of the models in the low-floor generation boasts flowing forms and dynamic lines. At the front end, the "face" of the S 415 NF is dominated by a low-edged panoramic windscreen. Reduced tolerances in the skeleton construction allowed the rubber windscreen surround to be dispensed with. The smooth design forms are reflected and continued inside the regular-service bus, creating a pleasant touring coach feel for the passengers – even on regular-service routes. This effect is further enhanced by the sweeping, open luggage racks below the vehicle ceiling.

The vehicle appearing at the International Commercial Vehicle Show in Hanover meets specific requirements for school buses, provides seats for 40 passengers and is equipped with an inward-swinging door at the front and an outward-swinging door at the rear. The cash register is integrated in the door of the driver's cab with its air-conditioned cockpit.

Following the introduction of the S 416 UL model, bus operators can now choose from a total of seven Setra MultiClass 400 models. Measuring just 10.80 metres in length, the S 412 UL is the most manoeuvrable vehicle in this product segment and, with 45 seats on board, has been designed specifically for regular-service and excursion work. Its compact length makes it ideal as a cost-effective double-earner in topographically difficult regions with narrow and steep passes.

Generously proportioned luggage compartments, comfortable seats and a wide range of equipment and appointments – including a galley, a toilet and air conditioning systems – make these vehicles an ideal combination of regular-

service bus and touring coach. And should the application demand a low-floor design, the entrance heights for the 12-metre-long S 415 NF and the S 416 NF measuring 13 metres in length are just 360 mm when 11 R 22.5 tyres are fitted all round. What's more, the entrances lead directly into the stepless interior. These two vehicles are simply made for regular-service routes with a high flow of passengers and offer an extremely wide range of possible uses, not least thanks to innovative door solutions and cockpit variations, as well as a choice of destination displays and a wide range of possible seating arrangements.

### **Setra "Best in Class" range in Hall 16**

A long-standing exhibitor at this industry showcase, Setra is once again presenting a line-up of vehicles which point the way to the future with their quality, comfort, technology and safety. The compact 2008 product family, appearing under the banner "Best in Class" at this year's show, is more complete and "at one" than ever, reflected in the fact that the vehicles in all three product segments are finished in "seashell grey metallic" to harmonise perfectly with the ambience of the show stand covering 2550 square metres.

Werner Staib, Head of Setra Buses and Coaches, is proud of the comprehensive, future-oriented Setra product range: "Our strength lies in our outstanding flexibility, versatility and model diversity, all of which have allowed us to stay ahead of the game for many years. Whether it be the powerful MultiClass 400 rural regular-service buses, economically attractive ComfortClass 400 touring coaches or our exclusive top-of-the-range vehicles in the luxury touring coach segment, bus companies can still count on us to more than live up to our premium claims. Together with them, we will continue to make the very most of our creativeness and powers of invention."

### **Advice from the Setra DesignCenter**

The Setra DesignCenter is again showcasing an extensive collection of fabrics and coverings at the International Commercial Vehicle Show in Hanover. Plus it is presenting a 3D bus designer that is unique in the bus and coach sector, allowing

the brand to further enhance the quality of design advice and assistance given to bus operators by using state-of-the-art computer technology. Page 13

### **"Busfinder" research project**

The "Busfinder" research project – based on a mobile navigation system that allows passengers to find their way back to their bus or coach in unfamiliar cities at any time – is another unique product being presented and demonstrated by Setra at the International Commercial Vehicle Show in Hanover.

## Setra S 415 NF Low-Floor Bus Chosen “Bus of the Year 2009”

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- **S 415 NF from the MultiClass 400 series impresses automotive journalists**
- **International jury praises the bus’ forward-looking passenger comfort**
- **New generation of Setra low-floor buses performing successfully on the market for two years now**

Ulm/Stuttgart – Setra Buses, a Daimler AG brand, has captured the renowned international “Bus of the Year 2009” award with a low-floor bus. The honor marks the second time the company has been presented the award, which it last received in 1996. The S 415 NF from the MultiClass 400 series finished well ahead of its rivals in the “Bus Euro Test 2008” competition that was held in Berlin. The judges focused on the vehicles’ suitability for everyday use, as well as their workmanship, design concept, and economy.

With the S 415 NF, Setra has succeeded in creating a bus that sets new quality standards for local public transport, according to the 19 European automotive journalists who served on the jury. The bus’ extraordinary finishing and forward-looking passenger comfort reflect the Setra brand’s competence and passion when it comes to buses, the judges added. A bright interior, clear design lines, and unrestricted views of the outside greatly impressed the panelists, as did the vehicle’s outstanding ride comfort and the harmonious interaction of its state-of-the-art engine and transmission technology.

Setra brand spokesman and managing director Werner Staib is proud of the award: “Winning the Bus of the Year 2009 award shows Setra is right up there on top in the segment for comfortable intercity buses as well. In addition, the award underscores the brand’s low-floor bus expertise.”

The intercity low-floor buses from the MultiClass 400 series celebrated their world premiere at the 2006 IAA Commercial Vehicles show in Hanover. The new low-floor buses ideally complement the MultiClass 400 UL high-floor buses. Equipped with state-of-the-art drive system technology that ensures outstanding fuel economy, as well as the latest high-tech systems for complying with Euro 4, Euro 5 and EEV-standard exhaust emission limits, these buses provide demanding operators of intercity lines with comfortable vehicles whose low-floor design makes it easy for passengers to easily enter and exit.

More than 570 units of the new-generation Setra low-floor buses have already been sold since the vehicles were launched on the market.