

PRESS-INFORMATION

German automobile manufacturer builds catering vehicle for Airbus A 380



To be invited to join the Airbus A 380 working group is both a great distinction and a great challenge. This aeroplane, termed by Jacques Chirac as a “European success”, sets very high standards and requirements: An example of this is the specification for supplying in-flight catering for up to 550 passengers. To achieve this it is necessary to design special catering vehicles for the A 380 that are able to manoeuvre between fuselage, wing and turbine with millimetre accuracy to deliver their freight to the upper deck loading doors. Eleven globally operating manufacturers of special vehicles were brought into this working group committee in Toulouse, four of whom are currently developing prototypes that will then be tested and approved on a mock-up of an A 380 in Toulouse.



Innovations for Europe out of Oppenau

DOLL Fahrzeugbau in Oppenau is one of the companies currently implementing the Toulouse requirements with a great deal of innovative energy. DOLL can draw on a 125-year history of designing and building specialised vehicles. Our Mobile Systems Division develops and manufactures machines and vehicles that provide solutions for the most sophisticated and varied tasks. For almost a quarter of a century we have also been making ground support equipment, the equipment used on the airfield apron, including catering vehicles. Today there are over 250 DOLL catering trucks in use at various airports throughout the world and for a great variety of aircraft types.



With so many years experience and the solid foundation of the company's core expertise in special steel construction, hydraulics, pneumatics and electronics, DOLL was virtually predestined to develop this special “Upper Deck High Loader” for the A 380. Because DOLL also has existing partnerships worldwide that carry out the final assembly of prefabricated modules on site, i.e. in the country where it will actually be used, the DOLL X-Cat L promises to provide an economical solution with numerous handling advantages.

A special challenge facing the development department is the fact that the upper deck doors on the A 380 are at a height of 8.40 metres. The catering and storage sections are located behind these doors thus requiring a catering vehicle that can manage such a great transfer height. Another design challenge is that since the doors are located somewhat to the rear, directly over the wing, they cannot be accessed vertically from the ground as is usual.

DOLL is solving this challenging task by designing a longer and stronger single-scissor lift that can raise a crate with a payload of more than 4.5 tons and up to nine metres in length – enough for over fifty standard high-capacity trolleys!

Because the trolleys are transferred at the front, the whole van body, i.e. the crate unit and the front platform, can also be extended horizontally for up to three metres to bring it right up to the fuselage. The front van body platform can then be moved laterally so that it can reach the loading door, which is positioned slightly to the rear. And this is all completely protected by a projecting roof that extends right up to the aeroplane. This construction ensures continuous dry and safe access to the doors above the wing for both the goods being transported and also the operator, and everything is also additionally secured by high sidewalls on the gangway. Since the platform is open to the front and also has windows in the sidewalls, it ensures that the operator always has a perfect view of the aeroplane – a navigational aid for safe handling at the fuselage that is just as simple as it is rare.



High safety standards in high-end technology

Safety is a very important for DOLL Development: A camera with cross-sights helps in the tricky task of positioning the catering truck exactly under the machine by locking onto an identical cross on the wing of the A 380 and telling the driver it is in position.

Safety bumpers and a hydraulic limit switch stop the aeroplane being rammed: a sensor registers even the slightest contact with the fuselage and prevents any further movement of the catering crate. Loading causes every fuselage to sink down very gradually – and, using its extraordinarily sensitive sensors, the hydraulic scissor lift follows this extremely slow-motion movement so exactly that it is hardly noticeable. DOLL also ensures that there is back up for all this high-end technology: in an emergency the whole system can also be operated manually, including the use of hand pumps for the complete hydraulic system. DOLL leaves nothing to chance: the DOLL engineering processes also includes static stability calculations and extensive risk analyses.

The approved base unit that supports the hydraulic scissor lift and crate can be mounted on every standard truck chassis with an overall weight of more than 20.6 tons. The DOLL prototype also has a useful, if not absolutely necessary, second rear axle with active secondary controls – this enables faster manoeuvring that in turn ensures faster service and reduced tyre wear.



The DOLL catering van bodies are optionally available as insulated superstructures and DOLL vehicles are also licensed for regular road traffic. All the catering truck components are standard DOLL components, which means guaranteed availability for at least the next 20 years. All in all it would appear that DOLL is generating a product here that fulfils all the standard DOLL premises: reliability, long technical and structural life, easy handling, attractive prices. And in Oppenau we can be just a little proud to be one of those very select few companies involved in developing the A 380 Catering Truck – part of a journey into what is technologically and economically a highly promising future.