

show business



BOEING BUSINESS JETS HAS A NEW AIRCRAFT CREATED SPECIFICALLY TO DEMONSTRATE THE CUSTOMIZED WORKING AND SOCIAL ENVIRONMENTS THAT CAN BE IMPLEMENTED ON BOARD

Words by Christine Velarde



AMAC is celebrating its 10th anniversary in 2017



LIVELY LIVERY

The livery design, The Helix, was painted by RUAG in Munich, Germany. The design incorporates BBJ branding on the tail, with a main wave line in Boeing blue and further waves in BBJ gold. "It was a difficult paint job, especially the taping of the lines," says Borges. "You want them to look straight from every direction, but the body of an aircraft isn't straight. You need a lot of experience to compensate for that."

PHOTOS: BOEING

Equipment including chinaware, cutlery, glasses, bed linen and blankets was supplied by Boutsen Design

People interesting in buying a BBJ can now get an idea of the interior possibilities with a tour of a cabin outfitted by AMAC Aerospace. It is Boeing Business Jets' first demonstrator aircraft in more than a decade. The company says it will be used primarily as a sales tool at air shows and customer meetings. It has already been presented at the Paris Air Show 2017 and EBACE 2017.

The completion contract was awarded to AMAC in June 2015, and the aircraft arrived at the company's facility in Basel, Switzerland, in March 2016. The concept engineering, design and production engineering phases were performed almost simultaneously, enabling AMAC to complete the aircraft within the agreed 12 months. The engineering and production work totalled more than 200,000 hours.

Boeing Business Jets had two main requirements: the BBJ had to offer a private and quiet working environment for day-to-day users, and be a flagship to attract prospective customers. "To meet these two requirements, we had to reduce the noise level, balance the cabin air distribution and develop and implement a customized lightweight concept," says Christian Schirlin, director of VIP completions and head of project management at AMAC. "In addition we paid special attention to making full use of the cabin space to offer the highest levels of comfort during long flights."

Warja Borges, interior architect and owner of Unique Aircraft, was responsible for the interior design. Her brief was to create a comfortable cabin suitable for long-distance business flights for 2-10 passengers and crew, and to create a VIP look. "I imagined the passenger traveling to important meetings and needing to concentrate and prepare, and after a stressful day, needing to relax and recharge, so I wanted to create surroundings giving energy and tranquility," says Borges.

This focus on serenity begins in the entrance area/galley. "From the first step on board I wanted a feeling of calm," says Borges. "I put a lot of thought into creating an open and inviting space – providing a sincere welcome on board, even though many functionalities are integrated in this area."

DOMESTIC SETTING

The galley/bar area was inspired by open living spaces in residential designs. "Food preparation and service activities are centered on the large countertop/bar surface, which has additional pull-out tables and an extra table in front of left-hand door one," says Borges. "We used the latest galley equipment, including induction ovens for fresh food preparation, an espresso maker, two coffee makers, a huge fridge and a microwave."

The area also includes the BBJ insignia displayed prominently on the side of the galley/bar.

The curved hallway guides the passenger into the main passenger cabin. "The idea of the curve is to ease passengers into calmness after a stressful day," says

TOP LEFT: THE TEAM AT AMAC COMPLETED THE PROJECT IN 12 MONTHS

ABOVE AND INSET: THE ENTRANCE GALLEY/BAR AREA

Borges. Stowage space is integrated into the walls on the left. The door to the lounge has a 31.5in (80cm) opening.

The crew area can be separated from the entrance by a cross-aisle curtain. On one side is a two-place divan, and on the other a crew rest with a bunk bed that converts into two sleepers. The crew rest with the bunk bed can be split off with a bifold door.

HIDDEN AMENITIES

The forward lounge can be used as a social or working space. Outlets and ports are hidden behind flaps or in the armrests. Borges worked closely with Stéphane Bibler, AMAC's project manager, and Larry

Hinebaugh, BBJ's completion manager/customer representative, to design a mechanism that would enable the table to rotate, slide and go high or low. All the tables are deployable, giving convenient working surfaces or an additional dining area. The right-hand cabinet features a 42in (106cm) pop-up monitor, while a telephone and remote control are hidden under flaps in the left-hand sideledge. Between the forward lounge and dining area is an office cabinet with an integrated printer/fax machine.

PAC's FS1400 seat structure forms the basis for a customized seat design by Unique Aircraft. "Every little detail in my sketches was translated into a mock-up at AMAC's workshops to make it look exactly like my design," comments Borges. "The seat has my favorite detail on the aircraft – the piping around the armrest and backrest. It's

ABOVE: A CUSTOM DESIGN WAS BUILT ON A PAC SEAT STRUCTURE



FAR LEFT: BOTH SHOWERS ON BOARD HAVE A RAINFALL SHOWERHEAD AND A WAND

LEFT: THE MASTER BEDROOM HAS A 63IN-WIDE DOUBLE BED

AMAC developed a camera system to aid pilots in determining the location of the wings and wingtips during taxi and parking operations

VIRTUAL TOURS

ACA-3D developed an online application to enable people to have a virtual walkthrough of the completed cabin. "The entire interior was created in the Virtual Cabin App by ACA-3D," says Warja Borges of Unique Aircraft. "This tool was very helpful during the preliminary and critical design reviews to verify the cabin interior with the customer."

"This application was very helpful for us as well as for the client, as you have a better sense of space and you can already see the end product, even though you are still in the middle of the completion process," says Christian Schirlin of AMAC Aerospace.

not round but square, which looks so much more elegant and sophisticated and emphasizes the design of the seat."

The dining area can also be used as working area; outlets and ports are integrated under the table and in armrests. All the cabinets in this area were designed to store dining equipment – for example, glasses can be stored in drawer trays. For ease of cleaning, the entire unit can be taken to the cleaning area like a tray.

WATER FEATURES

Next up is the guest lavatory, which has a shower. The one-tone interior is intended to give a spacious feeling, bolstered by the transparent corner of the shower. In both this and the main shower there is a rainfall setting and a handset.

The next area, accessed via a double sliding door, is the multifunctional room, which can be used as a guest bedroom thanks to a berthing divan, or as a private office or

lounge. Power outlets and ports are hidden behind flaps on the front of the divan armrests, and the desk hosts a telephone and outlets behind a top flap. The room has a 32in (81cm) screen, with a remote control behind a flap in the sideledge. Stowage space is integrated in the aft desk table leg. All these touches are designed to make the room seem very open. "When the double sliding door is left open, the room has a more spacious feel," says Borges.

PRIVATE SANCTUARY

The bedroom is dominated by a double bed that is 63in (160cm) wide and has stowage space underneath. Ambient lighting is provided by the decorative nightstand lamps, which sport the BBJ logo, and are supplemented by snake lights for reading. Integrated stowage in the aft bulkhead is accessible from the bathroom as well.

In the master bathroom the main monument is the washstand, flanked by stowage space in left- and right-hand drawers, apothecary cabinets and mirror stowage. The shower has the maximum number of transparent surfaces.

Schirlin says the main challenge of the completion was to find the right balance



LIGHT TOUCHES

Another special focus on this project was the cabin lighting – besides the usual indirect wash lights and spotlights, several non-standard solutions were found. For example, the lounge table is illuminated with huge lightbulbs instead of standard spotlights, and the normal upper wash light was eschewed in favor of a light strip that creates an area of soft light.

“In addition, inspired by a living room atmosphere, we integrated five bespoke floor lamps in the lounge/dining area,” says Borges.

ABOVE AND INSET RIGHT: INSTEAD OF NORMAL UPPER WASH LIGHTING, A LIGHT STRIP RUNS THROUGH THE CABIN

RIGHT: THE BEDROOM FEATURES A NIGHT STAND WITH AMPLE STORAGE



AMAC used 3D printing to develop special custom hardware

size by pushing the ceiling height and sidewall panels up and out to the limit,” says Borges. “The one-piece sidewall panel extends from windows to ceiling, and the light stripe above raises the ceiling visually. We kept the surrounding colors light, with a tone-in-tone color selection – for example, the doors and monitor frames blend into their surroundings.”

UNIFIED DESIGN

The design incorporates repeated shapes, patterns, materials, colors and details for a unified aesthetic throughout the aircraft. Wood was used minimally and there is only one colored monument per area, which is blue.

“The carpet design runs throughout and it only alternates in terms of pattern density – there’s no threshold,” adds Borges. “Stowage areas are integrated in bulkheads and walls, and there are no material changes on the doors, making them nearly invisible.”

Another element supporting this unified feeling is the metal trim, which runs uninterrupted through the whole cabin, continuing even on doors and door frames. “One’s eyes shouldn’t get caught on any interruption, disharmony or mismatch, but pleasantly wander, guided by the ‘endless’ metal trims,” says Borges. “We also focused on sophisticated design details such as the seat backrest and armrest design, floor lamps, magnetic cupholders, hidden details and other special features, to make the design glamorous as well as calming.”

between weight saving and noise reduction. The company developed weight-saving techniques for various cabinets, parts and systems. “For example, lightweight and robust standalone floor lamps were customized for this project,” says Schirlin. “They were developed, certified and produced by us. Our engineering department worked closely with our subsidiary, JCB Aero, on the certification and production of these lamps, which are distinguished by a modern and pure design.”

One challenge was to keep the cabin feeling open and airy, with a clean design. “We highlighted the BBJ’s generous cabin