

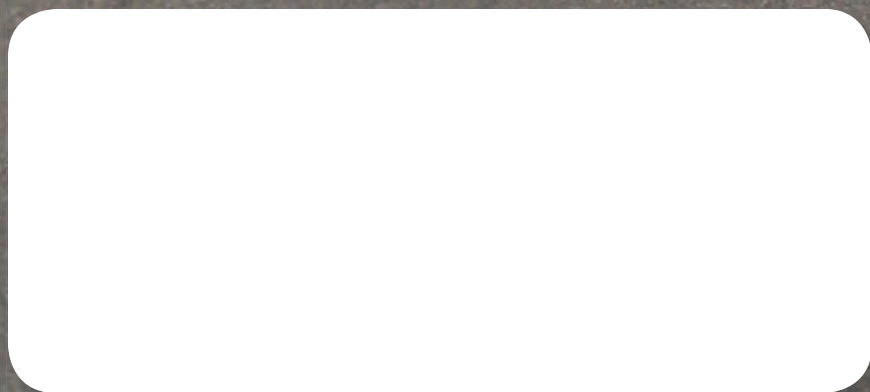
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The ARBOC Spirit of Equess UNVEILED

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With the launch of the *Spirit of Equess*, ARBOC Specialty Vehicles, LLC, Middlebury, IN, has unquestionably raised its own bar to a higher level. In the production of *Equess*, the manufacturer met its own challenges to conceptualize, build and deliver a purpose-built *Equal Access* solution for all transit passengers.

“We pride ourselves in generating transportation solutions that are needed most,” says Don Roberts, ARBOC president and CEO. “We found a gap in the market and were able to fill it with our innovative *Spirit of Equess*, which is sure to revolutionize the medium-duty industry.”



While ARBOC has always maintained that it would never engage in the heavy-duty bus market, the

Equess features the best of both worlds. It offers many of the capabilities of a heavy-duty bus, but retains all the benefits of a mid-level vehicle.

ARBOC says it has achieved this unique functionality through a blend of components and systems adapted from both small and large bus platforms.

“We have integrated industry leading (and proven) technology,” says ARBOC Marketing Manager Ami Sailor. “This collaboration with major worldwide companies has led to what we feel is the most groundbreaking transit solution available today.”

For example, the ZF axles feature a GAWR capacity rating of 28,500 pounds; with the GVW set at 24,000 pounds.

“We have taken a different approach with the Equess,” says ARBOC National Sales Manager Kim Yoder. “We are building the bus from the ground up; assembling all the familiar systems and components on our own purpose-built chassis in our own shop.”

The ARBOC Specialty Vehicles chassis features a Cummins ISB 6.7L Diesel or 6.7G CNG engine, and an Allison 2200 PTS six-speed automatic transmission. It is available in lengths of 29, 32 and 35 feet.

The air-suspension system with six airbags allows the bus to kneel as much as 3.5 inches, a feature which can lower the ramp to curbside level.

“We found that even in buses featuring ramps that meet the ADA requirement of 1:4, it is still often difficult for riders in manual wheelchairs to enter without assistance,” Sailor says. “We were able to achieve a ramp angle greater than 1:6 with the Equess, which creates an effortless entry for passengers of all mobility capabilities.”

With the transverse V-drive engine, the base model is diesel with the option of compressed natural gas (CNG). The fuel tanks for either diesel or CNG are in the back compartment, immediately before the engine. The CNG tanks lay stacked horizontally. The vertical diesel tank allows for a dual fuel fill from either side.

“This style of drive was popular 50 years ago, but gradually faded out of the picture,” Yoder says. “ARBOC decided to bring it back, and from what we are seeing so far, we think it is going to work very well.”

Electric options will also be available in the near future.

“While CNG and electric are desired by many transit agencies, few options exist to them,” Roberts says. “Our CNG model of the Spirit of Equess is available now and we are focusing on the electric model, which will be available soon.”

ARBOC is also offering the Equess with dual-entry doors, with the second entrance directly in front of the rear axle.

“As we move into any aspect of the heavy-duty transit market, that second door becomes imperative,” Yoder says.

Equal access for all

From its beginning, ARBOC has championed *Equal Access for Everyone*[®], while advocating more equitable transportation for passengers with disabilities. ARBOC’s proprietary accessibility features typically exceed ADA guidelines. They include, for example, a passenger cabin with no steps, and a greater than 1:6 ramp slope that leads to a wider 39-inch door opening. With the Equess, ARBOC brings numerous innovations that enhance the transit and shuttle experience for an even larger and more diverse rider demographic.

Yoder says the light curb weight of the Equess alone allows more space for a larger number of passengers, particularly standing passengers – a welcome feature on circulator and feeder routes. ARBOC says assisted living centers and nursing homes are also asking about the larger Equess that can accommodate up to six wheelchairs.

“Six wheelchair spaces are more than enough for a large transit bus, where two or three will suffice,” Yoder says. “But assisted-living homes are finding that the Equess offers an exceptional ride quality for their patrons.”



The Official BUSRide Road Test

To demonstrate the attributes of the new Spirit of Equess, and experience the ride, *BUSRide* met with ARBOC Specialty Vehicles in Phoenix, AZ, to conduct an Official *BUSRide* Road Test. Creative Bus Sales, ARBOC’s Equess distributor for the United States, hosted *BUSRide* and members of Valley Metro in its Phoenix offices.

“Creative Bus Sales is very excited about the new product, the Equess by ARBOC, because it represents a true low-floor, medium-duty transit bus that achieves everything a heavy-duty transit bus can,” says Dale Couturier, general manager of Creative Bus Sales. “The removable rear engine cradle configuration provides easy maintenance access for service needs. Along with the availability of diesel and CNG options, it’s exactly what our transit customers need.”

The 29-foot CNG-equipped Equess model served as the test bus. This vehicle was the focus of the ARBOC exhibit at the American Public Transportation Association (APTA) EXPO in Atlanta, GA, in October 2017. It was then delivered to Altoona for a grueling three to six-month, 10 year/350,000-mile test required for federally-funded transit vehicles.

Though not mandated, ARBOC says the Equess has already survived the company’s own test regimen that includes the FMVSS 214 side-impact test.

“One of ARBOC’s fundamental goals for all product lines is to build the safest buses on the market,” Sailor says. “In order to achieve this, we go above what is required for testing.”

Yoder says ARBOC conducts third-party testing to better measure overall performance and durability. This includes rollover, rear impact and brake testing — all going above and beyond federal requirements.

Scott Bradley, a Valley Metro senior driver and training director, took the wheel to offer his objective third-party appraisal, comments and observations. Bradley teaches driving classes and skills yard training, and helps new applicants earn their Commercial Driver’s Licenses. ➤




Safety and added comfort is standard

The Equess comes with a host of available safety features, including a lane-departure notification as well as a driver fatigue system. The system electronically observes the driver's eyes and blink patterns, and sounds an alert if they begin to drift off.

"Our hope is that we can make these safety systems standard," Yoder says. "The cost won't be exorbitant, so we think we will be able to do this."

For added comfort, the Spirit of Equess comes equipped with the new Minisphere by American Climate Control (ACC), a Spheros company – a true HVAC system that features a heat, cool and fresh-air blend. It eliminates the need for a floor heater and defogs windows in the morning.

ARBOC says it sees a bright future for the Equess, filling what it calls a large gap in rural and urban transit markets.

"We have designed and built this model as a 10-year transit bus that is less expensive and more versatile than many of the larger transit buses," Yoder says. "At the same time, it has all the features and capabilities to compete with the largest cutaway buses." 

"I enjoy driving buses," he says. "However, coming from a customer service and hospitality background, I really enjoy working with the drivers and new recruits. I've had opportunities to move up, but I've stayed with driving because I like what I am doing."

For his test drive, Bradley chose a route that emulated the normal circulator service around Arizona State University (ASU) in Tempe, as well as the burgeoning financial district along Tempe Town Lake and Rio Salado Parkway.

Asked about any preconceptions he may have had before we headed out, Bradley says the Equess quickly dispelled one of his concerns about bouncing and stability. While refueling CNG at the Valley Metro Transit Center in Tempe, he took time to put the bus through a few of his training drills in the bus yard, such as parallel parking.

"There is a lot to like about this bus, right off the bat," he says. "It has outstanding handling. Furthermore, I had no problems braking smoothly. The bus didn't jerk all."

The unique position of the engine creates a very short 68-inch overhang, which sets up an extremely tight turning radius. ARBOC says the bus turns within itself.

"The remarkable turning radius really caught me by surprise," Bradley says. "I feel I could turn this bus anywhere; get in and out of any tight situation. None of our buses, not even our circulators, turn this sharp."

He says the capabilities of the 29-foot model with its 191-inch wheelbase would perfectly serve any operating environment involving tight turns on narrower streets.

Bradley also appreciates that the Equess can accommodate many more passengers than a normal cutaway vehicle, noting that the weight capacity of the agency's current cutaways creates a significant issue on three particular routes.

"With our current buses, we are constantly forced to leave people behind," he says. "These are college students living in dorms, lining up for classes when we pull in. Typically, about 15 passengers are waiting for only two available spots. This is a problem for a circulator serving the ASU campus."

Bradley cites another benefit of the Equess – the capability to stay out in the field all day without having to come back to refuel. The diesel fuel tank capacity is 70 gallons and the CNG model holds 77 DGE.

"The driver wouldn't have to bring the bus back during release," he says, "like we do now."