The Evolving MCI Product Line
The Impact of COVID-19 on the Transportation Ecosystem
Marijuana and Drivers
Among the more interesting recent industry developments is the evolving and expanding MCI product line. New models have gone in the directions of shorter coaches, a low-entry commuter coach and now battery-electric power. Taken at a recent gathering at the MCI facility in California, this photo shows current MCI models including the newest on the left – the battery-electric D45 CRLe LE.

Among the more popular questions and inquiries we have heard lately are those involving the emerging and evolving MCI product line. If you have fallen behind with keeping up with all of the improvements, developments and evolution at MCI in 2019, you are not alone. This seems to be a common, current situation as MCI has shifted into high gear with new developments and models.

Gone are the days when MCI, or most bus manufacturers, fielded a single model. For a few years, from 1981 to 1984, MCI offered only one model, the MC-9. The 35-foot MC-5C had been discontinued following a major order that went to Saudi Arabia and the new “letter” models like the 102A3 did not appear until 1985. Following years saw a movement to multiple models for different purposes – such as higher quality charters and tours – and more recently we have seen more movement to alternative fuels including hybrid systems, CNG and now battery-electric power. Add to this MCI’s revolutionary new low-entry commuter coach and you have an increasingly expanded product line.

Your staff here at National Bus Trader took the time to look into all of this in order to keep our readers up-to-date. Following are some of the highlights of current developments at MCI and where their product line is going in the future. We will split this information into several sections to make it more logical. Since MCI continues to offer both D and J models, we will cover them separately. We will briefly review the missing model letters and also provide special attention to MCI’s new battery-electric buses.

The MCI D Models

Historically, the D models trace their heritage back to MCI founder Harry Zoltok and the company’s early days in Winnipeg. Greyhound of Canada needed buses that could be reliable in Canadian winters and on often-questionable roads. Zoltok developed those buses, MCI built them, and Greyhound was so impressed that they bought the company.

Over the years this product line involved the various Courier models followed by the MC-1 through MC-9 from 1959 to the early 1990s. Greyhound began putting MCI coaches into its fleet in the mid-1960s with the MC-5 model. The newer “letter” models were introduced in 1985 with the 96A3 and 102A3, that followed through with the B and C models to the introduction of the D in 1991 as the 45-foot 102DL3. This series is regarded by most bus people as among the most reliable and durable coaches in the world. Some have called them the “workhorses” of the bus industry and today’s MCI’s gatherings are still called Reliability Rallies.

High-Floor D Models

The traditional D models are now often referred to as the “high-floor” models to distinguish them from the new low-entry model. Included is the 45-foot D4500 that was originally introduced as the 102DL3, was renamed the D4500 in 2001 and offered an updated design in 2006 as the D4505, primarily for private sector scheduled service applications. The D4500 name remains current for the public sector commuter coach.
A companion 40-foot model was originally introduced as the 102D3 in 1993, was renamed the D4000 in 2001 and offered an updated design in 2006 as the D4005.

This particular series of coaches has a lot going for it. It represents the largest number of coaches on the road and traditionally has been the best seller in previous years. It is offered with the Cummins ISX/X12 engine, a high-mounted cooling system with electric fans, and is available in either 45-foot or 40-foot lengths. The 45-foot coaches typically seat 57 to 61 passengers. These coaches are Altoona tested, Buy America compliant and have been proven in commuter operations.

Over the years, MCI’s D models have been very popular with private operators for scheduled service where their reliability is a major asset. Many operators also use them in charter and tour service. In addition, variations on these models were built as commuter coaches for numerous operations in both the United States and Canada. It should be mentioned that in addition to conventional diesel engines, they were also available with hybrid and CNG power. This series became the most popular commuter coaches on the highways.

MCI will upgrade these models in 2020. The new 45-foot high-floor D coach will be known as the model D4520 and will include some of the exterior design and features introduced in the D45 CRT LE. Eventually, a 40-foot D4020 model will also become available. A Cummins X12 engine will be offered as standard equipment. At a future date, both models will be available with battery-electric power, presumably designated as the D4520e and D4020e, with focus on the D4520e due to the ability to package more batteries and thus more range.

“In reality, the J4500e will be first to market, followed by the D45 CR1e LE. Our message of 100 percent battery-electric combined with MCI workhorse reliability is resonating with operators on the West Coast,” said Brent Maitland, MCI vice president of marketing and product planning. “MCI’s move into battery-electric is one of our most significant, and our all-electric J4500e and D45 CR1e LE models that inaugurate the MCI CHARGE product line-up are consistent with our sister company New Flyer brand of electric low-floor transit models.”

New D45 CRT LE

The latest addition to the MCI D series coaches is the revolutionary D45 CRT LE. Looking at the model number, we can see it signifies: D—D series coach, 45—45 feet long, CRT—Commuter Rapid transit and LE—low entry. It is basically a variation on the traditional D series coaches for public sector commuter applications. It recently passed Altoona certification, allowing the use of federal funds for procurement. The low-entry coach is both innovative and pioneering because it offers a second entry door for ADA applications. Designed with the help of organizations for people with mobility challenges, the D45 CRT LE is a breakthrough in technology by being the first high-level coach to offer simplified ground level entry and exit for mobility devices.

“This is the biggest model development for MCI since the E-Coach program in the late 1990s,” said Maitland. “The project engagement of end-users, which included volunteers from leading advocacy groups for people with disabilities, led to such a significant advancement in accessibility. The acceptance from the customer base continues to be amazing, both in the private and public sector.”

Alberta’s Bow Valley Regional Transit, the first operator to take delivery of the MCI
D45 CRT LE, was followed by SouthWest Transit, Eden Prairie, Minnesota. In the private sector, MCI also began delivering a custom order for a Silicon Valley employer which included flat-screen monitors and onboard workspace areas.

Although the D45 CRT LE has a traditional front entry door, it also has a low-entry door at the center of the coach. This allows simple and quick entry and exit to mobility devices via a ramp to a low-entry vestibule with seating area inside the coach. Two mobility devices can be accommodated in this area plus a seat for a companion. The remainder of the coach has conventional seating on a higher level including a single set of seats and an aisle going around the special low area. A major advantage of the curb level center door with a ramp that it allows passenger mobility devices to enter and exit the coach much quicker and with far less effort than using a wheelchair lift.

In addition to two passengers using mobility devices, the C45 CRT LE can seat another 50 passengers in regular coach seating. The coach can be configured with seating for up to 54 passengers. Overall length is about 45 feet while width is the expected 102 inches. With a height of 11½ feet, the C45 CRT LE can fit through a 12-foot garage door. A Cummins engine with an Allison transmission is the standard powertrain, but other options may be available.

A battery-electric version of the D45 CRT LE was introduced by MCI at its Bay Area sales and service center on October 1, 2019. It will soon be added to the MCI product line as the D45CRTe LE in the near future. More information on the electric coaches will be provided later. Other specialty coaches provided by MCI include coaches for colleges and universities with special features as well as Inmate Security Transportation Vehicles.

The Missing Alphabet Models

Since some people will ask, let me take a moment to answer questions about the missing alphabet models. MCI enjoyed much success with their earlier Courier and models 95 and 96 but started a numeric model numbering in 1959 when they began to develop a new design for Greyhound. This went from MC-1 to MC-9, with some extra variations on the MC-5, and continued into the 1990s when an MC-12 for scheduled service was added. In 1985, MCI switched to the alphabet and started with the A models. Models B and C followed in short order and the model D was originally introduced in 1991 as MCI’s first production 45-foot coach.

The question is: what happened to the letters between the D model and the new popular J model? Here are short answers.

Introduced in 1998, the E model first appeared as the 102EL3 and was known as the Renaissance. It was the first MCI model to use web frame integral construction rather than their traditional platform integral. This change allowed for a new and modern appearance more suited to the upscale charter and tour market. Renamed the E4500 in 2001, it remained in production until 2011 and fostered today’s popular J model.

Built in Mexico during the Dina years, the F model MCI F3500 was a 35-foot, two-axle coach that was in production from about 2001 to 2003. About a third of these were built as motor home shells. The G model was designed for scheduled service with the help of Greyhound and had several component differences from traditional MCI models. A G4100 model followed by the G4500 were built from about 1999 to 2004. Most of them went into the Greyhound fleet.

There is no MCI H model. This letter was skipped by MCI because it is used by another manufacturer. The letter I was also skipped, either because it looked like the number one or because it had become synonymous with Apple.
The MCI J Models

When MCI introduced its E model Renaissance coach in 1998, operators were delighted with the new attractive styling. Many of them asked for a model with similar upscale styling but more of a bread-and-butter coach. Hence, the J4500 was introduced in 2001. Within only a few years it eclipsed the D4500 as the best selling coach on the market as it became popular in scheduled service as well as charters and tours. What is noteworthy is that the MCI engineers continued to upgrade and improve the J4500 almost annually, thus increasing its popularity. E4500 operators began switching to the J4500 as it received improvements. This trend increased as the J4500 evolved until the E4500 itself was fully replaced by the J4500 in 2011.

Currently, MCI continues to offer the popular 45-foot J model as the J4500 and recently added a 35-foot J3500 model. A battery-electric version of the J4500 has been in testing for a year, and both an electric J4500e and J3500e model will be added to the MCI product line in the near future.

“The J3500 offers commonality and familiarity with the 45-foot version, the J4500,” said Maitland. “Our customers wanted the J3500 and we were able to deliver it with maximum parts commonality, while both drivers and passengers will have seamless transition to this coach in terms of look, feel and operations.”

The J4500 for 2020

Following an award-winning interior redesign in 2018, MCI has continued to make improvements in the J4500, the most popular model on the market. It now offers impressive legroom with the optional 60-passenger interior plus a new swing-out cooling module and e-Fan system that improves fuel economy while reducing maintenance time. The air conditioning belt drive system now has double belts while estimated fuel efficiency has been improved by up to four percent.

The J4500 has a length of 45 feet, a width of 102 inches and an overall height of around 11 feet, eight inches. For 2020, the J4500 will introduce the new Cummins X12 engine with 410 horsepower and 1,450 lb-ft of torque or an optional upgrade to 455 horsepower and 1,550 lb-ft of torque. These options provide lighter weight for even greater fuel efficiency. Detroit Diesel’s DD13 engine will continue to be an option based on customer demand while it is available. Operators get a standard 30-month warranty plus the Super 60 (five-year) extended coverage on selected parts and components.

Several systems on the J4500 will aid operators in monitoring performance and planning maintenance. The standard Allison Gen V transmission has prognostics capability. With the Cummins engines you can get the “Cummins Connected” option for enhanced engine diagnostics. Likewise, the Detroit engine has a “DD13 Virtual Technician” option for enhanced engine diagnostics.

In addition to enhanced interior ambiance, the J4500 features a new entry, a new driver dash and instrument panel, as well as pre-selected Blues, lounge and tech trim packages. Options include a rear window, upgraded trims and seating, a branded paddle and interior light, and color LED interior lighting. There is also an improved wheelchair lift door.

One of the best features of the J4500 is its Advanced Driver Assistance Systems (ADAS) that assists drivers in making the coach travel safer. Included is the latest generation Bendix Wingman Fusion Adaptive Cruise/Collision Mitigation system that integrates a forward-facing camera and...
radar with vehicle recognition software. This takes a major step forward with new options including Following Distance Alerts (FDA).

Adaptive Cruise Control with Braking (ACB), Collision Mitigation (CMT), new Stationary Vehicle Braking (SVB), new Lane Departure Warning (LDW), and new Traffic Sign Recognition (TSR).

Also available is the impressive 360-degree “birds eye view” camera system. Moving into the future, the next features in the planning stage include Automatic Emergency Braking, Pedestrian Collision Warning, Blind Spot Assistance and a Drowsy Driver System. Said Maitland: “As an industry leader, our goal is to be a leader in ADAS systems for our vehicles, often using technology proven in the passenger car and truck segments.”

Worth special mention is the new J4500 Livery Edition. An increasing number of limo operators have been moving up to coaches as their operations expand into larger groups. The J4500 Livery Edition combines the advantages and features of limos and coaches by providing a special interior that includes black diamond-stitched leather seating. This special interior has proved to be more and more popular in the livery market.

The J3500 for 2020

Originally introduced in 2018, the J3500 offers the same styling and many of the same features as the J4500. It has the same width and height as the J4500, but the length is 35 feet. It is primarily intended to provide the same high-class travel as the J4500 but for smaller groups. While the J4500 will typically seat 56 to 60 passengers, the J3500 is geared to groups of up to 44 passengers. An additional advantage of the J3500 is its fleet compatibility. In addition to some parts commonality with the J4500, the J3500 also makes it easier for your drivers and maintenance staff to transition.

The new J3500 proved immediately to be so popular that demand exceeded production in 2019. Moving into 2020, the J3500 offers several features. Noteworthy is the positive impact on passengers of an interior experience to match the J4500. Like the larger coach, the J3500 offers impressive legroom with interiors seating up to 44 passengers. It also provides a remarkable amount of passenger storage space in the enclosed overhead parcel racks while underfloor baggage bay space is impressive at 285 cubic feet without a wheelchair lift. In addition, the J3500 offers a turning radius of just under 33 feet, making it highly maneuverable for those trips that go into traffic and tight places.

Early operators of the J3500 included Tuscaloosa Charters, Gulf Coast Tours, Arrow Stage Line, Tri-State Travel and Cline Tours. Other companies have ordered the J3500 in order to provide big coach features to their smaller groups.

Moving Into Battery-Electric Power

MCI is moving towards a growing product line with the J4500, the J3500, two high-floor D models of different lengths, two Commuter Coaches of different lengths and the new D45 CRT LE commuter coach with low entry. Plans are to offer all or most of these models with battery-electric power in the future.
The transit bus industry is rapidly embracing battery-electric buses for several reasons. While the initial investment in a battery-electric bus is higher than a typical diesel bus, both regular operating costs and maintenance costs are lower. In addition, a battery-electric bus is essentially zero emissions in operation. Because of battery technology, the operating range of battery-electric buses is limited but may be suitable for many transit applications and can be enhanced with overhead or under pavement recharging systems at the end of the line although depot charging will likely be the standard for early adopters.

MCI has been able to tap into decades of electric bus manufacturing technology at parent company New Flyer. Their resulting electric drive system is specifically designed for coaches and will work on either the J or D45 CRT series coaches. It incorporates a high-torque Siemens electric drive system using a 2130 lb. ft. electric motor. Power storage is provided by a extended capacity Lithium Ion battery system, currently exceeding 450 KWH.

Major advantages of the battery-electric coaches are that they will be less expensive to operate and maintain. They will also be cleaner and will essentially have zero emissions. Negatives are that the battery-electric coaches will cost more to purchase, will have reduced underfloor luggage capacity and your operating range will have limitations unless you can recharge along the way.

While the state-of-the-art in batteries limits operating range without recharging batteries, it is workable for some coach applications including commuters and shuttles. The MCI electric coaches will be designed for highway speeds and are planned to have a range of more than 200 miles and greater if the operator can accommodate a midday recharge. Experts at the Vehicle Innovation Center in Anniston, Alabama will help customers in designing their battery-electric coaches and increase their understanding of the required infrastructure. They can be recharged in under four hours or options are available to recharge while away from the garage.

A prototype electric J4500, to be known as the J4500e, was already in testing in late 2018 [see the February, 2019 issue of NATIONAL BUS TRADER]. This coach is being put through some rather extensive tests including cold weather testing at Michigan’s Keweenaw Peninsula that is notorious for its heavy snow coming off Lake Superior. A battery-electric version of the new D45 CRT LE low-entry commuter coach was introduced at the MCI Reliability Symposium on Tuesday, October 1, 2019 at the Bay Area MCI Sales and Service Center. It will also be involved in testing in the months ahead. This will be follow by several more J4500e units in 2020.

“California is at the epicenter of the move to electric vehicles and we are excited to have showcased the first D45 CRT LE at our first Reliability Symposium at our Bay Area MCI Service Center on October 1,” said Maitland. “Full ESC brake certification is a development milestone and will now be showing the coach to customers throughout the area as we move to production units in 2020.”

All of this innovation and new developments will give MCI its largest and most diversified coach product line to date. We here at NATIONAL BUS TRADER will try to keep up with all of these new developments and directions from MCI.
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