

The Origin of Eagle Coaches



by Larry Plachno
Photos from NBT Archives
unless otherwise indicated

Trailways had been around for 45 years and Eagles had been around for 25 years when this photo was taken in April of 1981. The occasion was a Robert Redden photo shoot commemorating the 45th anniversary of Trailways. We are looking east from the hills west of San Francisco overlooking the city. NBT / ROBERT REDDEN.

What with the 85th anniversary of the Trailways organization being celebrated, it was not unusual to have industry people talking about Eagle coaches that were identified with Trailways for many years. We found it interesting that many younger members of the bus industry were unaware of the story behind the origin of Eagle coaches. Admittedly this now goes back 60 years to a different era of the motor-coach industry when scheduled service dominated, when Greyhound dominated scheduled service, and when General Motors dominated bus manufacturing. Moreover, it is interesting that the production of Eagle coaches both starts and ends with Greyhound. While many of us old-timers in the bus business remember this, it is worth repeating for the younger bus people to give them a window into the bus industry's past.

The best place to start is probably with World War II. Bus riding was up significantly while bus production was down because of the war effort. In late 1943 the old Yellow

Coach company became a division of General Motors. The main bus production line at Pontiac, Michigan was given over to production of amphibious ducks for military applications. This explains why some of their parts were similar to contemporary GM buses. The War Production Board did authorize the building of a handful of coaches, but for the most part the bus operators struggled with keeping their old fleets running to meet high transportation demands.

As bus production resumed after the war, bus operators began updating their fleets. In 1948, Greyhound placed an order with General Motors for 2,000 coaches. It was the largest motorcoach order ever. While part of this order introduced the new "41" series as the PD4151, the entire order was for "Silversides" models that had originally been introduced in the late 1930s.

Greyhound was already thinking ahead about developing a more modern coach design for the post-war years. In 1945, Grey-

hound let design contracts to both General Motors and Consolidated Vultee to develop a radically new intercity coach. Both dropped out of the project the following year and turned over what work they had done to Greyhound.

Undaunted, Greyhound continued the project in-house. Raymond Loewy (known for his design of the Pennsylvania Railroad's GG-1 electric locomotive) was commissioned to do the styling while a Greyhound subsidiary in Chicago (what remained of the old C.H. Will Motors Company) did the actual fabrication.

What they ended up with was a double-deck bus called the GX-1 that could seat 50 passengers in three-across seats with a side aisle. Two things are noteworthy. One is that it was known as the "Highway Traveler," the name that would later be given to the PD4104. The second is that it required using two engines because a single engine large enough was not available. This would also



Greyhound's initial attempt to develop a new post-war bus design was the double-deck GX-1. It proved to be too radical and languished around Chicago until it was scrapped many years later.



The GX-2 became the prototype for the Scenicruisers and was driven to state capitols to get permission for the 40-foot length. It was eventually sold to an entertainment group as shown here.

be a problem when the Scenicruisers were built. The GX-1 design proved to be too radical. It never saw revenue service and sat around in Chicago for a decade until it was scrapped. Greyhound then turned to General Motors for help.

What emerged from the Loewy design and the GM engineers in 1949 was a 40-foot, deck-and-a-half, three-axle coach that was named the GX-2 or Scenicruiser. While the design seemed workable, the length was a concern since most states only permitted a length of 35 feet. In this pre-interstate era, the states still controlled length and width so the GX-2 made trips to state capitols to seek legislation permitting 40-foot buses on state highways.

All of this design and engineering work was used to develop three different models

at GM. The PD4104 emerged as the next and somewhat advanced model in their "41" series. With a length of 35 feet, an inline 6-71 diesel engine, power steering and an optional restroom, it became the most popular motorcoach model to date. Next was the PD4501 deck-and-a-half, 40-foot Scenicruiser for Greyhound. It was originally built with dual 4-71 engines. The third model offered was the PD4901 Golden Chariot that retained PD4104 styling in a three-axle, 40-foot coach for the general industry. Like the Scenicruiser, it was built with dual 4-71 engines. The PD4901 was the only flat-roof, 40-foot production coach ever offered by GM. The first PD4104 coaches were built in 1953 and Greyhound began receiving deliveries of the PD4501 Scenicruiser in 1954. The lone PD4901 appeared soon after Scenicruiser production started in 1954.

To give you some idea of the dominance of scheduled service at this time, and Greyhound's dominance of that part of the industry, we can add up GM coach production from 1953 to 1960. Included were 5,065 of the PD4104 model, 1,000 Scenicruisers for Greyhound and the lone PD4901 for a total of 6,066 coaches. Of these 3,000 went to Greyhound (49 percent) while other scheduled service operators also bought PD4104 models.

An interesting side note to this is that about a decade later the smaller bus operators founded their own organization in 1971 called the United Bus Owners of America (UBOA) that later became the United Motorcoach Association (UMA). The smaller owners felt that the National Association of Motor Bus Owners (NAMBO), later the American Bus Association (ABA), was dominated by Greyhound and the larger bus operators.

Reports suggest that the early Trailways visit to Flxible led to the later development of their VL-100 Vista-Liner model with a roof window in imitation of the Scenicruiser. This model was built with rubber spring torsilastic suspension that was later used on the Eagles.



The Trailways people were also looking for a new model at an early date. Records indicate that there was a meeting between Continental Trailways and Flxible of Loudonville, Ohio in 1949. This was a logical move since Flxible was the second-largest bus builder and had sold several coaches to Trailways operators over the years although Greyhound had also purchased some. There are several suggestions that this meeting prompted Flxible to develop their 35-foot Vista-Liner model that was announced in 1954 and put into production in 1955.

Their smaller Clipper model in its variations was popular on numerous lines that did not require a larger coach. While it was used by some Trailways operators, even Greyhound operated some on its lighter and branch lines. The higher level 35-foot VL-100 Vista-Liner put luggage under the passengers and hence had a higher passenger capacity than the Clipper and was similar to other 35-foot coaches of that era. In common with the Scenicruiser, it had two passenger levels, a window in the roof and silversiding; although the difference between the two levels was less than on the



The two companion models to the Scenicruiser were the 40-foot PD4901 (left) and the very popular 35-foot PD4104 (right). Given the Michigan license plates and the destination signs, this photo was taken while the PD4901 was running for North Star Lines.



The Aerocoach was considered underpowered by many larger bus operations but was an economical charter coach for smaller companies. This one operated for Barans Transit Lines and is now part of the museum collection in Hershey, Pennsylvania.

Scenicruiser. Some of these were purchased by Trailways operators.

It has been suggested that the Trailways people never could convince Flexible to produce a 40-foot coach. However, they did like the rubber spring torsilastic suspension used on the Vista-Liner. This type of suspension had been previously used in the Fageol Twin Coach transit bus and some military vehicles.

The introduction of the modern new bus models into the Greyhound fleet caused some consternation among competing scheduled service operators. Several operators who could afford it simply purchased some new PD4104 coaches to compete. Others with tighter budgets stayed with their older fleets or other manufacturers. Gasoline-powered coaches rapidly went out of fashion. Trailways members showed renewed interest in having a bus model of their own to compete with Greyhound. The most obvious first choice was the new PD4901 from GM. Greyhound tried it out in their Pennsylvania Greyhound operation and it also made a trip to Dallas to see if Continental Trailways was interested. But no orders developed. The sole PD4901 was eventually sold to North Star Lines in Michigan and later passed on to other bus operators.

In retrospect, GM had done a great job in improving its product line of both coaches and transit buses. Four major areas I can think of included integral construction, use of aluminum, diesel engines and financing – and there are probably more. GM hired Dwight E. Austin who had developed integral construction with the NiteCoach for Pickwick. He went on to develop the 719 and 743 SuperCoaches for GM while improving their transit line. While tubular steel was still in the future, GM's use of angle irons and engineering developed integral construction to new levels. Their extensive use of aluminum also cut down on corrosion.

Meanwhile, in 1937 GM began developing the Detroit Diesel engine that effectively moved the bus industry from gasoline to diesel power. They also offered financing to those who needed it. The result was that most other bus builders could not offer what GM was offering and were being left behind.

Continental Trailways, the operator of the longer routes that were the "backbone" of the Trailways system, took the lead in seeking a unique model for Trailways to compete with Greyhound. In their search, two problems became obvious. The first was that Greyhound had an advantage in being a single company that could invest in new products and buy in quantity. With Trailways being an association of smaller, inde-

pendent operators it was difficult to guarantee sales of a new model or find a way to help cover costs of engineering, tooling and jigs that some manufacturers demanded.

A second problem is that most of the United States coach manufacturers were increasingly unable to compete with GM and were leaving the market. Could Trailways count on long-term availability of buses from these companies? As things turned out, only Flexible survived into the 1960s.

It would have been interesting to go along with the people from Continental Trailways on their quest for a new coach model for Trailways to compete with Greyhound's Scenicruiser. This probably primar-

The introduction of the Greyhound Scenicruiser and its companion models caused other bus operators to look for competitive coaches and some bus manufacturers to throw in the towel. While there were several bus models built with similar styling, none of them survived for very long. Shown here is a restored Scenicruiser belonging to Tom McNally while on a photo shoot along Route 66.





In the late 1950s, Mack developed their own MV-620 model. In spite of the Greyhound lettering, no orders were received and the coach became a one-of-a-kind like the PD4901.



In earlier years, Mack had established a good reputation for reliable coaches. This 1931 Mack model BK operated for Greyhound and became part of its historical bus collection.

ily took place in 1954 and 1955, when some of the major bus builders had already quit.

The Aerocoach, built in East Chicago, Indiana by General American Transportation Corp., originated from the Gar Wood bus. Designed by William Bushnell Stout, an aeronautical engineer who developed several planes including the Ford Tri-Motor, the Gar Wood incorporated an integral tubular frame with an aluminum skin. This was expanded into the well-known Aerocoach that was popular with smaller bus companies. However, Aerocoach never did offer a diesel-powered coach and was the first of the larger integral bus builders to cease production in 1952.

Another popular coach builder was ACF-Brill, a combination of the American Car and Foundry Company, J.G. Brill of Philadelphia and Fageol Motors of Kent, Ohio. Their most modern units offered an air-operated passenger door behind the front wheel and a passenger seat across from the driver. Powered by an underfloor Hall-Scott gasoline engine, the coach had a reputation for fast running and found its way into both Greyhound and Trailways fleets. An optional Cummins diesel engine was offered in 1952 and some were ordered by Continental Trailways. However, faced with the new air ride GM transit buses and coaches, ACF-Brill ceased bus production in 1953.

One possible option for Trailways was the FitzJohn Coach Co. Their 37-passenger Roadrunner model introduced in 1954 looked remarkably similar to the GM PD4104 with silversides and a rear-mounted Cummins diesel engine. Greyhound bought some for sightseeing and some did go to a Trailways operator. This model was also available with a Waukesha gasoline engine and several were delivered; probably the last use of gasoline power in a larger intercity coach. Production ceased in 1958.

Located in Sidney, Ohio, Beck was a smaller builder with a larger coach product

line that included their B-29 that competed with the Flxible Clipper. Beck's popular Mainliner model was offered with a Cummins diesel engine and silversiding. Beck also produced several deck-and-a-half coaches of 35- and 40-foot lengths in imitation of the Greyhound Scenicruiser. Included were 12 40-foot models with Cummins diesel power. Mack Truck purchased the Beck operation in 1956 and delivered existing orders but soon discontinued the existing models.

Mack did build a few additional orders including five deck-and-a-half coaches. Their own model 97D was introduced in 1958. It looked much like the PD4104 with silversiding and a rear engine but only 26 were sold. Mack then developed a new 40-foot, three-axle coach known as their MV-620. Greyhound did run this coach as a

demonstrator for several months but no orders developed. Like the PD4901, it became a one-of-a-kind and ended up transporting people around Mack's Allentown, Pennsylvania plant.

All of these companies discontinuing bus manufacturing could have been a factor in the U.S. Department of Justice filing an antitrust suit in 1956 against GMC buses that also named Greyhound and three other companies. In particular, the complaint charged that GM had built 84 percent of intercity and transit buses in the United States in 1955 and Flxible had built another seven percent. The charges were never proven and the suit was settled by consent decrees years later. While I am often on the side of the little guy, I would have to suggest that GM's biggest offense may have been being good at what they did.

Kässbohrer in Ulm, Germany developed integral construction in 1951 that they called "selbsttragend" or "self-supporting." It was originally used in their short S-8 model and started their Setra line. This historic photo has six Kässbohrer staff members holding the frame structure to show its light weight.





To their credit, the Kässbohrer staff took the first Eagle out on the German autobahns for substantial testing. Note the S-8 to the rear as a "chase bus" during the trials.



This photo was shot from the rear window of the first Eagle during the autobahn trials in Germany. Note the two following buses with Kässbohrer engineers pacing the Eagle.

The Continental Trailways people continued to look for a bus builder. Both MCI and Prevost were regional Canadian builders in 1954 and hence would not have interested Trailways. However, we might mention that Greyhound, seeking an alternative to GM because of the anti-trust suit, saw potential in MCI. They had the time and money to develop MCI into what they wanted.

Having apparently exhausted options in the United States, the Trailways people began looking at Europe. This presented an additional problem since integral construction had taken longer to become popular in Europe than in the United States. Hence, in searching for a suitable European builder the question of integral construction and durability was important. Records indicate that the Trailways people contacted bus builders in England, Holland, Belgium, France and West Germany.

The Trailways people made the decision to work with Karl Kässbohrer Fahrzeugwerke GmbH in Ulm, Germany. Located in the Bavaria area of southern Germany, the company's history goes back to the 1800s when the Kässbohrer family built boats for use on the nearby Danube River. In retrospect, it appears that two things prompted this partnership. One is that Kässbohrer was already familiar with integral construction and the second was that European coach sales were down and they were anxious to find customers for bigger buses.

By 1951, Kässbohrer had developed web frame construction and had a small, short bus called the S-8 in production in 1952. A famous 1951 photo shows six Kässbohrer employees holding the web frame for the S-8 to show its lightweight design. The company called the concept "selbsttragend" or "self-supporting" from which the Setra name was derived.

While the new small S-8 model had proven to be popular, Kässbohrer was anxious to move into larger coaches. The Trailways need for coaches provided Kässbohrer with a ready market for a larger coach. Hence, the company was willing to underwrite a portion of the tooling costs. After

substantial negotiation and discussion, a contract was signed in 1955 by a Continental Trailways vice president with Kässbohrer.

As a result, these first Eagles were somewhat of a composite design from different sources. From Kässbohrer came the basic construction techniques that were developed for their integral design Setra series. This provided a somewhat European look. The Trailways people provided the basic dimensions, particularly a length of 40 feet. Greyhound's Scenicruiser influenced a second front windshield set back only a few feet on the roof from the front. Because of the use of a second level windshield, this came to be called a triple windshield.

From the Vista-Liner came the concept of a wrap-around rear lounge and torsilastic suspension. Since GM engines were not available at this time, the decision was made to use the M.A.N. diesel engine. The M.A.N. engine was popular in Europe and dated back to the initial experiments of Dr. Rudolph Diesel. ZF provided the transmis-

sion which was a pre-selector semi-automatic type. Interesting unique features included four baggage doors on each side, a galley, card table and a restroom over the right tag axle instead of the traditional right rear. The front design included an inverted "V" arrangement that came to be called the "mustache design." Originally there was a "K" for Kässbohrer under the mustache although this was later changed to an eagle after the coach was named.

The original coaches had the tag axle at the rear although was changed in later models. Several later Eagle models, starting with the Model 05 in 1968, would have the tag axle in front of the drive axles. This increased luggage capacity but decreased turning radius.

To Kässbohrer's credit, they put in a lot of work to make sure that the new coach model would meet the need. They started by putting a great deal of effort into the tooling and construction of the original prototype. Several photos survive of this first Eagle being tested on Germany's autobahns, often accompanied

This is from a posed photo taken during the Kässbohrer autobahn testing of the first Eagle in Germany. It was soon named the "Golden Eagle" because of the gold-colored aluminum siding and the Eagle logo of American Bus Lines, a predecessor to Continental Trailways.



by a Kässbohrer engineering crew following in a smaller S-8 bus. Hence, there was some adjustments and minor changes before the prototype was shipped to Trailways.

The original prototype was brought to the United States and delivered to Continental Trailways in mid-1956. It was almost immediately named the Golden Eagle. The "golden" came from the gold-colored aluminum siding. The "eagle" came from the logo of American Bus Lines, a Continental Trailways predecessor that had been retained by the new company. Trailways got as much publicity as it could in newspapers, magazines and on television with their new model. This coach was given fleet number 1800 and was operated in service in Texas.

Continental Trailways put this first Eagle through some tests of its own. They were pleased with the coach other than having a preference for an American engine and transmission. Although this could not be resolved immediately, they placed an order for 50 coaches that were delivered in 1957 with the last two arriving in 1958.

The only significant change from the prototype on this order was moving the second windshield to being more vertical and less horizontal. When they arrived, these coaches were assigned to Golden Eagle Hostess Service with Trailways companies throughout the United States. These coaches included a galley with beverage service and snacks, carpeting, tray tables and pillows. Trailways had previously offered similar special service using IC-41 Brill and GM PD4104 coaches.

The first Eagle was delivered to Continental Trailways in 1956. Management felt that it was a suitable competitor to the Greyhound Scenicruiser and soon placed an order for 50 similar coaches with only modifications. It is interesting to note that later Eagle models remained in production decades after the last Scenicruisers were built.



An interesting variation on the original Eagles were four 60-foot articulated Golden Eagles built in 1958. There are suggestions that Continental Trailways was thinking about using them in transcontinental service, but the 60-foot length proved to be a problem. This example was photographed after it ended up in the fleet of Wilson Bus Lines in East Templeton, Massachusetts.

Bus historians will get upset if I do not mention that Trailways also ordered two articulated coaches that became known as Academy Express buses. They were assigned to Denver-Colorado Springs-Pueblo Motor Lines. Because of their length, lack of luggage space and lack of air conditioning, they were less than totally successful and no similar units were ordered.

In 1958, a second major order placed with Kässbohrer consisted of 41 Silver Eagles. These were of more conventional design, without a galley or rear observation lounge, and would be used in regular service replacing conventional coaches. Major changes from the previous order included the use of silversiding instead of gold, and a single "Z-bolt" design on the side in place of the "double Z-bolt" design on earlier models. Other changes included new tail-light styling, a simpler front with four headlights instead of two and a destination sign below the windshield. When delivered, these coaches went into regular service replacing older models like the PD4104 and Vista-Liner.

Also produced in 1958 were four articulated Golden Eagles. These were similar in design to the 1957 Golden Eagles but were 60 feet long, seated 63 passengers and were powered by underfloor Rolls Royce engines. Presumably, they would correct the problems of the Academy Express buses by offering air conditioning and luggage space. There were suggestions that Continental Trailways planned to use them in transcontinental service, but their length made this problematic. Instead, they were assigned to Denver-Colorado Springs-Pueblo Motor Lines where they proved to be more successful than the Academy Express buses.

An upswing in the German economy found Kässbohrer busy building buses for European operators. As a result, no Eagles were built in 1959 while Continental Trailways looked for another source for their Eagle coaches. This is another story for another time. □

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