

# Story Of A Classic: The GMC Motorhome

## Part One

By **BILL BRYANT, F65627**

*Produced by General Motors from 1973 through 1978, the innovative GMC Motorhome gained a following that is still as strong — if not stronger — today. This three-part series explores the fascinating history of a motorhome still considered by many to have been far ahead of its time.*

Following World War II and a lapse of auto production of nearly four years, former GIs and the general public longed for new cars. Once the pent-up postwar demand was satisfied, auto companies started offering innovative, attractive new designs in an effort to capture a greater market share. At auto shows and Motoramas we saw Thunderbirds and Edsels, Chrysler 300s, Corvettes, GTOs, and Eldorados. New V-8 engines were everywhere; small blocks, big blocks, Hemis; horsepower and cubic inches ruled. New styles were longer, lower, wider, with chrome everywhere and tail fins that soared.

Then came the energy crunch in October 1973, and it all changed. The automotive talk turned to cost and availability of fuel, more efficient cars

with new four-cylinder and V-6 engines, and downsizing. Cars became smaller, lighter, less powerful, and with increased fuel economy standards mandated by the federal government.

Automobile companies are always searching for ways to gain more sales, to build a greater market share, and to keep their assembly lines flowing. New ideas are constantly evaluated, but few see the light of day. Occasionally, however, a niche is found and a new market is developed.

Truck chassis were successfully marketed to the RV industry in the 1970s by the Big Three. In 1971 Dodge sold 28,000 chassis to 50 different

coach builders. Each RV manufacturer was building its version of what it thought a motorhome should be. There were lots of choices for the motorhome buyer, nearly all of them on a truck chassis. What if someone offered an attractive, advanced design on a custom chassis, unique and specifically made for just that purpose?

One of those niches GM was looking at in 1969-1970 involved ideas for a multipurpose vehicle — a vehicle that could be adapted for use not only as a motorhome, but as an ambulance, a small transit bus, an airport shuttle, a mobile medical clinic, or a display or service van. Evaluations began at the

*The “pie wagon” or “chicken coop” was used for initial demonstration of the hardware for the rear tandem suspension. The goal was improved ride and handling over a truck-type suspension.*



Photo by Ralph Merkle

GM Tech Center in Warren, Michigan. Competing motorhome specifications were scrutinized, and floor plans were evaluated. Initially, it was decided to go with 20-foot and 24-foot motorhome designs.

Relying heavily on interior designs by GM's Frigidaire Division, drawings of the numerous floor plans under evaluation lined the Tech Center's walls. A full-scale plywood (fiber-board) seating buck was built in the Tech Center's basement to evaluate the different interior designs. Seating bucks are used to define a vehicle's requirements for both internal and external packaging. Styling must not violate these requirements if their designs are to remain true for the final production version.

The first chassis built to demonstrate the unique vehicle design was assembled with the now familiar tandem-rear wheel assembly incorporating leading-trailing cast nodular iron arms at the rear, supported with a hydro-air spring from the Saginaw Division of GM. The power steering pump was used for hydraulic pressure for this suspension system. The engine and drivetrain used the Oldsmobile Toronado front-wheel-drive unit with its 455-cubic-inch engine, 425 Hydra-Matic transmission, and 3.07:1 differential gear ratio from the Toronado trailer-towing option.

The design of this "development mule" allowed for a low-profile chassis with its attendant handling and ride improvements. The front section of the frame made use of the Toronado design and bolted up to the center C-channel side rails. The rear frame extension was unique to the motorhome and was "kicked up" to allow for an adequate departure angle. A modified van body built by the Union City Body Company, of Union City, Indiana, was mounted on the frame. The chassis had been designed with only 4 inches of ground clearance.

Called the "pie wagon" or "chicken coop" by those working on the project, this development mule was outfitted with windows and bus seats, and sand bags were strategically placed inside to represent the weight of an equipped

motorhome. Since spy photographers often took pictures of test vehicles driving around the GM Proving Grounds, full fender skirts covered the wheels to hide the vehicle's unique suspension.

The major purpose of this vehicle was to demonstrate to GM management its superior handling and ride in comparison to the truck chassis normally used for motorhomes. It is reported that GM management was favorably impressed and approved further development of the project.

Initially, Chevrolet wanted the motorhome project, but the GM corpo-



Photo by author



Photo by author

*John Locklin (shown above at a GMC Motorhomes International rally in 1996) was the GMC employee responsible for motorhome body engineering. He retired in 1977 and was presented a 1/6-scale model of a GMC motorhome as a gift (shown above and at left).*

rate guidelines defined vehicles below 10,500 pounds gross vehicle weight rating (GVWR) as Chevrolet responsibilities and vehicles above that weight as GMC responsibilities. The project, therefore, went to GMC. This decision, however, did not stop the interdivisional rivalry, which continued throughout the motorhome's production years. Chevrolet was a major supplier of truck chassis for the RV industry and considered the GMC Motorhome another competitor. Chevrolet management made sure that the motorhome carried all of its cost burdens and received no special corporate advantages.

Early in these developmental stages, GMC Engineering was defining just what this multipurpose vehicle should be. The GMC styling idea was along the lines of the Sportscoach motorhome of the period, with styled front and rear fiber-

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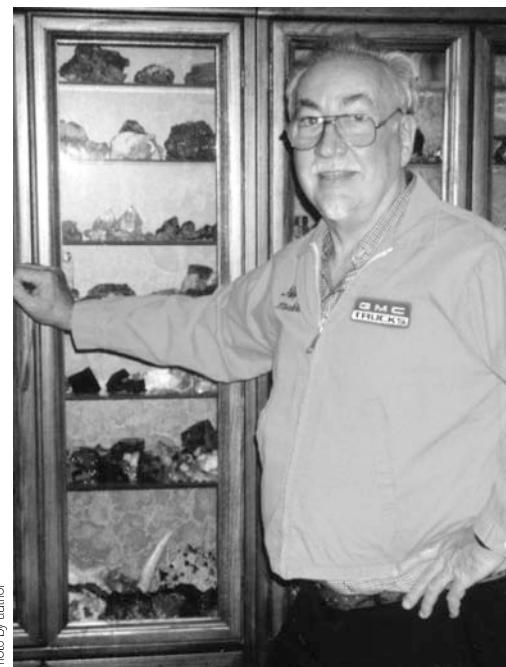


Photo by author

*Ralph Merkle (now deceased but pictured here with his rock and mineral collection in 1994) was the GMC engineer responsible for the chassis design.*

glass caps, but with straight side-walls. This type of design allowed for a reasonably attractive appearance, though ordinary, while minimizing tooling and manufacturing costs.

The GM Design Center had been at work for about two years at this point on various multipurpose vehicle designs. Not surprisingly, those designs looked much different from what GMC had in mind. There were three-wheeled designs that followed the arc of the sun while parked; panels that extended to add more living space; and scale models of attractive and futuristic designs, as well as numerous sketches and drawings that were . . . well . . . far out!

The use of the Oldsmobile Toronado front-wheel-drive unit should not have been a surprise. Four other motorhome

manufacturers were utilizing that same system during this time period: Revcon, Cortez, Travoy, and Tiara. The Revcon was the most successful of the group. Cortez had evolved from the Clark. Travoy was a Riverside, California, company. And the Tiara evolved from the Ultra Van, which had originally used the Corvair engine.

The individuals responsible for the development of the GMC Motorhome were members of a group of bright young professionals. Martin J. Caserio, General Motors vice president and GMC Truck and Coach general manager, envisioned a “Chevrolet” of motorhomes — that is, reasonably priced with a view toward large-volume sales. Caserio’s replacement in 1973, Alex C. Mair, wanted a vehicle more like the “Cadillac” of motorhomes,

more upscale than the early models. A bright, young, enthusiastic engineer, Kurt Stubenvoll, was in charge of product development for the motorhome. Ralph Merkle headed up chassis development and was responsible for everything from “the frame to the pavement.” Known as “the idea man,” Merkle had a number of patents to prove it. John Locklin came to GM with an aeronautical degree and had responsibility for the motorhome body engineering (he brought new assembly methods and ideas to the auto industry). Michael Lathers from the Design Center was in charge of the motorhome styling (it was to become obvious to all the fine job he did). Many other talented engineers contributed to what was to become a classic as well.



*Author Bill Bryant, F65627, has an incredible collection of GMC memorabilia, including motorhomes produced by HotWheels (he has 50 different ones), Frisbees, belt buckles, and hats, among many other items.*

ing in. Bill’s interest extends beyond the cars themselves and into their history and background.

Bill’s interest in GMC Motorhomes began in 1984 when he purchased his first GMC Motorhome, a 1976 Palm Beach, which he still drives to this day. He also owned a 1976 GMC Birchaven. His inquiries into GMC Motorhome history began when he started collecting everything in print that dealt with the subject. He had the good fortune of being able to contact and interview a number of GMC engineers who were responsible for the development of the vehicle and now has 32 cassette tapes filled with interviews. His collection of GMC Motorhome memorabilia includes 50 different sales brochures, 14 dealer sales films, 60 different magazine advertisements, 50 different GMC Motorhomes produced by HotWheels, three different Barbie GMC Motorhomes, Hess Training Vans, playing cards, Frisbees, belt buckles, clothing, ballpoint pens, flyswatters, and much more.

Bill and Nita joined FMCA in 1985 and are members of four GMC

Motorhome-related FMCA chapters: GMC Colonial Travelers, GMC Motorhomes International, GMC Nor’easters, and GMC Sunshine Statesmen. Bill served as president, vice president, and alternate national director of GMC Colonial Travelers; as Northeast vice president of GMC Motorhomes International; and as alternate national director of GMC Nor’easters. Nita is currently alternate national director of GMC Nor’easters and also has served as secretary of GMC Motorhomes International and as president of GMC Colonial Travelers.

Bill is a 1952 graduate of the State University of New York at Morrisville, New York. After graduating from college, he was drafted into the army where he spent two years stationed in Eniwetok, Marshall Islands, as a wheeled-vehicle technician during the Korean War. A month after being discharged from the military, he began working at IBM Corporation. He retired from IBM 37 years later in the position of advisory engineer. 🚐

## *About The Author*

Bill Bryant has had a lifelong interest in wheels and motors. He grew up on a farm in Lomontville, New York, and took ownership of his first vehicle when he was about 13. He enjoys antique autos, and currently owns a 1914 Model-T Ford Touring car that he’s had since high school, as well as a 1965 Corvette Sting Ray convertible that he and his wife, Nita, enjoy cruis-

On February 7, 1972, GM made official what had been rumored in the industry for some time. The national press reported that GM was to “play a role in the motorhome market.” By this time, the motorhome’s lengths had been identified as 23 and 26 feet. The increase in length was the result of additional interior content that designers and salespeople felt was necessary for a well-equipped motorhome. GM Sales had identified the need for the 23-foot motorhome as a price leader. Prices were reported to be between \$12,000 and \$16,000. Major motorhome competitors claimed they were not worried; still, their stock prices fell several points the next day. Smaller motorhome companies indicated immediate concern about the erosion of their market share with giant GM entering this field.

About this time the new vehicle was known as the TVS-4 (Travel Vehicle Streamlined model 4). Part of the reason this vehicle is so different from other motorhomes of the era is that it was not conceived as just a “camper,” but as a vehicle for comfortable travel as well. Slogans used later in GMC Motorhome advertisements demonstrated this; for example: “It doesn’t ride like a truck, it doesn’t look like a box.” “Our goal was to make getting there as much fun as being there.” “It’s

as easy to live with on the road as it is standing still.” “The show place that goes places.” All of these slogans placed great emphasis on the traveling aspects of motorhoming and not just how a motorhome functioned while parked at the campsite.

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*Next month, Bill discusses the evolution of the classic GMC Motorhome through the use of clay scale models.*



Photos by author

# Story Of A Classic: The GMC Motorhome



## Part Two

By **BILL BRYANT, F65627**

*Produced by General Motors from 1973 through 1978, the innovative GMC Motorhome gained a following that is still as strong — if not stronger — today. This three-part series explores the fascinating history of a motorhome still considered by many to have been far ahead of its time. Last month, Part 1, discussed how the GMC Motorhome was conceptualized and developed. This month's installment covers completion of the design, building of prototypes, and the beginning of testing.*

**D**esign of the GMC Motorhome continued to evolve in the two main areas of styling and chassis, with the Design Center concentrating on the external and interior designs. At one time, there were 12 designers working with sketches and 1/8-scale (called A-scale) clay models. Three or four of these clay models were made, each with distinct design characteristics, and each refining its shape closer to the final form.

Since only one side of a model could be viewed at a time, the first scale models were sculpted with two different designs, one on each side. Thus, a single clay model could be used to evalu-

ate two different designs at the same time. The final A-scale model, however, would be viewed as a completed single design.

Once these models were completed, evaluated, and approved, full-sized drawings were made using 1/4-inch tape to outline the front, rear, and side designs. These drawings would guide the designers in the next stage: a full-size clay model.

An important part in developing the shape of this motorhome was to determine just how efficient it would be moving through the air. While the design looked “clean,” tests would determine whether in fact it was. GM used various methods to determine this in its vehicle designs. One method was to put ink spots on a model and place the model in a wind tunnel to watch the directional flow of the ink. In another test method, small ribbons were fastened to the surface of a test vehicle and a camera car was driven alongside the vehicle to photograph the directional flow of the ribbons. While either of these methods may have been used, what is known is that a 1/16-scale model was built for the purpose of determining the coefficient of drag, known as CD. A mahogany block was modeled to the designed shape, and a fiberglass model was then made from this master.

Holes were drilled about one inch apart over the fiberglass body, and flush-mounted, hollow tubes were installed and connected to pressure-measurement devices. Time was purchased at the Guggenheim wind tunnel facility in California, and the test was performed. Was the shape clean? You bet! The CD was .310, better than that era's Corvette, which was .312.

A great deal of clay is required for a 26-foot motorhome, probably the largest clay model GM ever made. The clay had to be heated in an oven to 150 degrees Fahrenheit to soften it so that it could be applied to the substrate, which in this case was Styrofoam. It was then scraped and shaped by the modelers. The clay buildup continued until the dimensions of the design were achieved. This work was done in the basement of the Tech Center in an area without a well-controlled environment, and without air-conditioning. Each morning the room had to be brought up to temperature so that the clay could be worked. Once the shape was completed, the clay surface was “polished” with a sponge and cold water. This full-size clay model, now identified as RV-26, was finished with a silver-blue film of Di-Noc, replicating the painted surface of a vehicle.

Once the full-size clay model was

completed, plaster casts were made of it. Dimensional drawings of these casts were made for tooling and for building the early fiberglass parts for the first prototype bodies. The full-sized clay model existed for only about a month, after which it began to sag. Since it was no longer needed, it was destroyed.

Pictures of the scale models, the sketches and drawings, and finally the full-size clay model are most interesting. The evolution from the earliest designs, with pronounced fender flares, wraparound rear windows and taillights, and other eye-pleasing shapes, drifted toward a still pleasing but more “manufacturable at reasonable cost” design in the end.

Changes made to the clay model after being “finalized” were the incorporation of the parking lights below the headlights within the headlight bezel area and the use of four Suburban (production) taillights. The quad taillight idea, however, was quickly discarded as being too cluttered. Designer Mike Lathers proposed a couple of other features that didn’t make the cut; these included a crown (curve) in the rear window glass, which would have minimized reflections caused by a large window surface. Another of Mike’s novel ideas was to accent the rear suspension, instead of hiding it (a polished, plated, and painted suspension assembly, much like Harley-Davidson does with a motorcycle). The view of a “flashy” suspension in action would have been an impressive sight. Even though some of the suggested features didn’t materialize, I have yet to meet a person who doesn’t think that the GMC Motorhome is arguably the nicest design to ever come down the RV pike. When I look at the earliest renderings, I usually have a big smile on my face, thinking of what might have been.

In parallel with the exterior work at the Tech Center, six designers were developing the interiors. The plywood buck mentioned earlier helped to define space and floor plan requirements. An important consideration was the loading of the vehicle, distributing the weight as evenly as possible. Considerable effort was made in evalu-

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*During the GMC Motorhome design phase, clay models were created to test different ideas, among them the 1/8-scale model above, shown with a full-size tape drawing and various sketches in the background. These led to the production of a full-size clay model, known as RV-26 (pictured top and bottom); note the wraparound taillights and rear window styling of this model.*



Photos courtesy of GMC

ating competing interior features. At one point, it also was suggested that the Frigidaire Division might build RV appliances, stoves, and refrigerators. But with a limited market and very competitive pricing, Frigidaire decided there were better business arenas available.

*House and Garden* magazine was used as a consultant for the interior décor and exterior colors. This publica-

make room for the interior furniture and appliances. This displeased Ralph, who had envisioned using many existing GM passenger vehicle components to keep the motorhome price affordable. Now additional length and weight were going to compromise the use of these parts, as well as the front-wheel traction.

Ralph Merkle related a story about the frame design. When the design was

The rear tandem-axle hydro-air suspension designed by GM's Saginaw Division had been the key design element for this vehicle. It allowed for the low floor as well as a measured improvement in ride and handling. Another feature was less intrusion into the living area than dual wheels would have caused. Tooling costs for the hydro-air design had come in much higher than anticipated, however. A



*Above is a preproduction GMC Motorhome photographed at the GM Proving Grounds in 1972. GMC Motorhome history was made when the first vehicle exited the Gemini Corporation facility after completion of the interior (left). Pictured are GMC executives Bob Stelter, at the wheel, and Earl Maxwell.*

Photos courtesy of GMC

tion was the authority on the colors of that era. Ed Cole, GM president, suggested that bright colors should be used. One story — confirmed by several people — reported that during one meeting in which colors were discussed, Ed Cole pointed to the tie of chief engineer Wally Edwards and said, "One of the colors should be like Wally's tie." The tie was adorned with orange stripes; an orange color (bittersweet) was offered in 1973-74. Wally still has that tie.

The chassis design was continuing as well. The engine and drivetrain layout was progressing rapidly, since it required only minor changes to the existing Oldsmobile Toronado design. Ralph Merkle's original 24-foot design had been stretched to 26 feet in order to

nearly completed, Ralph asked John Locklin for the final body design details, because frame and body designs had to be coordinated. However, the body design was not yet finalized. Since lead times for the frame subcontractors were critical, Ralph was forced to make his best guess. His guess was off by about 2 inches. That is why the rear frame cross member sticks out about 2 inches beyond the body. The frame was made of 1/8-inch-thick steel by Midland.

Ralph and John enjoyed some good-natured ribbing during this process. Ralph kidded John that his frame was holding up John's body, and John would respond by saying it was his body holding up Ralph's frame. They were probably both right.

less costly design was requested as a backup, and work began on a replacement.

A full air spring was designed. A Goodyear model using a long cylindrical (air) spring, one piston, and one bag convolution had been found to have interference problems. A new full air spring design was started using the rolling lobe principle with two tapered pistons and a floating air spring between them. The tapered pistons kept the spring centered, and as the rubber spring rolled up and down the piston surface, the spring rate was changed. The first prototype spring was delivered by Firestone in March 1971 and became the production air spring with only a minor modification (slight-

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ly larger in diameter and slightly shorter in length).

In the Experimental Engineering area, five pre-test chassis were being built. The pre-test bodies would later be installed on four of them. The fifth chassis would be used for pictures and display. The completed units would be used for various purposes — some for testing, some for pictures and shows. We will hear more about these later.

roof. No body stampings were required, thus minimizing tooling and fabrication costs. John also had insisted on a flat driver's compartment floor. In driving a competitor's motorhome, he found that having to squeeze between the driver's seat and the engine cover was uncomfortable and, in his mind, unnecessary.

GMC Engineering was attempting to build the side window frames out of

and they were painted black. Those reviewing the design liked the black frames better, and that settled that.

The large body dies required for the SMC (sheet molded compound) fiberglass panels were in place at the vendor, Engineered Molding Systems of Lancaster, Ohio. Lumps of SMC "dough" were strategically placed in the molds, and with heat and pressure, it took 12 minutes to process each



*This preproduction GMC Motorhome (left) was built after the "pie wagon" demonstration unit and prior to the final design. Among the prototypes put through bench testing in the early 1970s was a 23-foot model called the Cape Cod (above).*

Photos courtesy of GMC

John Locklin, the body engineer, was spending most of his time at G.L. Bowen & Co., the job shop that was supplying the draftsmen charged with documenting the motorhome body. Measurements of the plaster casts made from the full-size clay model were translated into drawings to be used to make the dies, body structure, and skin. John's background as an aeronautical engineer was showing up in many of the design features — for example, the light weight of the aluminum and fiberglass body skin, the all-aluminum body framing, and the bonding of body panels with adhesives instead of rivets and screws. Another important design feature was the use of flat aluminum panels for body surfaces above the belt molding, including the

plastic. While windows with sharp corners were in vogue at the time, Mike Lathers felt this design resulted in stresses at the corners that could eventually cause cracks in the body skin. The rounded corner design reduced these stresses and provided a less dated look. The plastic frames couldn't be made to work, however, and a multi-piece aluminum frame was put in production. A few years ago I asked a GMC engineer why GMC changed to Hehr windows in 1976, and he said the anodizing on the earlier windows didn't match. He said they couldn't build them, couldn't seal them, and couldn't service them. GMC initially planned for the window frames to be "bright." At one of the design reviews, they hadn't yet gotten around to plating the frames

panel. This cycle time was reduced somewhat as experience was gained with the curing process.

At GMC, the first hardware that we would recognize as a GMC Motorhome was being assembled. The chassis with the Toronado front-wheel-drive assembly was pretty well defined. The rear suspension was still the tandem-axle hydro-air suspension, and many components were still passenger car parts, such as the five-bolt wheels and hubs. In viewing the body hardware, things were a little different from how they had appeared in the clay model. The front end was nearly the same, but the sides had become vertical and straight. This particular vehicle was to become known as "straight sides," not usually

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uttered in a complimentary tone. It turned out that GMC engineers thought the upper storage cabinets should be able to hold a 12-inch plate, and the tumble home (body side curve) design created by Mike Lathers didn't allow for that. At the rear of the body, the large removable back panel had not yet been implemented.

When Mike Lathers got a look at straight sides, it is reported that he "went straight up in the air." The design looked a lot like any other

motorhome of the era. In selling the design to GM management, the point had been made that anybody could make an ordinary-looking motorhome; what GM needed was "style" to sell. And style is what they got. Mike lobbied for and won the argument to have his design reinstated. That was the last of "straight sides."

GMC had decided to outsource the interior up-fitting. Bids were received from four manufacturers: Open Road, Sportscoach, Muntz Corp., and PRF

Industries. Muntz Corp. had returned the most attractive bid, but they were located in California. GMC officials desired someone closer to Pontiac, Michigan. Although its bid was not the lowest, PRF Industries received the nod, since its location was to be 22 miles from the Pontiac plant, and fur-

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**Plans for the manufacture of the motorhome were moving along rapidly. Plant No. 3 in Pontiac, Michigan, had been outfitted with equipment and tooling. This was one of GM's older plants, and it had a split-level floor plan.**

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ther negotiations brought its bid close to GMC's price point.

PRF Industries was owned by Peter R. Fink, the builder of Travco and Sightseer motorhomes. A new PRF division was formed to build the GMC interiors, Gemini Corp., located in Mount Clemens, Michigan. Rumor has it that Peter Fink named the new corporation "Gemini" because it was "GM & I." Rumor also has it that his zodiac sign may have been Gemini; take your pick on which (or both) you want to believe.

The Gemini facility designed and built all of the furniture; assembled all of the modules; applied the Texolite laminate; and installed everything, bringing it in through the motorhome rear access opening. A number of start-up concerns had to be resolved. Between the motorhome body manufacturing tolerances and the interior module tolerances, which were affected by temperature and humidity, changes had to be implemented to make things fit. Every wooden part had to have a drawing and a GM part number. The complexity of 15 different floor plans and the many available options contributed to a complicated interior assembly process as well. Approvals

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from the many individual states as well as from the federal government had to be submitted and granted also. Gemini had a target of completing the interiors of 32 coaches per day; the best they achieved was closer to 20 per day.

With the prototypes now being assembled, and their purposes defined,

through a determined number of test cycles. Hot-weather testing was carried out on the "Baker Grade," an 18-mile-long hill in the deserts of Southern California. This hot-weather testing resulted in an additional fan blade being added; use of the seven-bladed fan was now dictated.

was fixed. The rear crash test resulted in damage to the frame kick-up area and spare tire carrier. Changes in this area fixed this as well.

A rollover test was also performed. The proving grounds had a rollover ramp designed for just that purpose. This worked well for passenger-type vehicles, but long wheelbase vehicles usually had to be assisted. A forklift raised one side of the frame to tip it over, 1½ to 2 turns. The damage was reported to be not all that serious: a toilet had come loose along with a few other interior pieces, and the body was distorted to one side.

Plans for the manufacture of the motorhome were moving along rapidly. Plant No. 3 in Pontiac, Michigan, had been outfitted with equipment and tooling. This was one of GM's older plants, and it had a split-level floor plan. At the lower level, the chassis frame was collecting various sub-assemblies as it proceeded down the line: front and rear suspension, tanks, air lines, electrical wiring, and, finally, the engine and drivetrain.

The upper level of the plant was used for body assembly. Individual aluminum pieces of the frame were placed in manufacturing jigs, which assembled and aligned them; the pieces were then welded together as a unit. Three unique jigs were used: right side, left side, and the roof assembly. Next, these panels were assembled and welded together as the body cage. Separately, each of the body panels was very flexible. When welded together, they became a strong yet lightweight unit. Aluminum and fiberglass exterior body panels were fastened to this frame with a 3M adhesive. John Locklin had wanted to use an adhesive made by a small company called REM, but GMC wanted a larger, well-known supplier instead. This assembled body was then cleaned, prepped, and painted.

When completed, the body was lowered to the main floor, where it was mated with the assembled chassis.

\*\*\* To be continued \*\*\*

*Next month, Bill describes the mass production, marketing, and, sadly, the demise of GMC Motorhome manufacturing.* 



Photo by Ralph Merkle

*The first public showing of a GMC Motorhome prototype took place in May 1972 at Transpo 72, the U.S. International Transportation Expo, in Washington, D.C., where it was labeled as a "Multi Purpose Vehicle."*

their activities would begin. The first public showing would be at Transpo 72, the U.S. International Transportation Exposition near Washington, D.C. (Dulles), from May 27 through June 4, 1972. Many GM cars and trucks were on display there as well as a tan-colored 26-foot motorhome. The exterior was rather plain, with no stripes or trim. In a brochure it was described as "An experimental prototype of GMC Truck & Coach Division's complete motorhome, to be marketed in early 1973." The display was still labeled as a "Multi Purpose Vehicle," although this term would not be used again, as all efforts were now focused on developing and producing a motorhome.

Other motorhome prototypes were undergoing testing. A 23-foot motorhome model named "Cape Cod" was at bench test. Programmed testing with replicated Belgian blocks (cobblestones) cycled the suspension with hydraulic rams. Door latches were slammed, windshield wipers were cycled, brake pedals were pumped, all

Modified passenger vehicle test criteria were used, consisting of proving grounds roads for 25,000 miles (regular durability) and 5,000 miles of Belgian blocks (accelerated durability). During the "figure 8" road testing, an early failure was the five-bolt Toronado passenger car wheels. They were replaced with eight-bolt one-ton truck wheels. This also required replacing the hubs to match the eight-bolt pattern. Another failure was a cracked frame near the front cross member. The addition of a diagonal brace fixed this problem. The front suspension's lower A-frame and lower ball joint were other areas that required upgrades to the passenger vehicle parts.

Crash tests were performed at 30 to 35 mph as well. From Pennsylvania dealers, GM had purchased new Buicks that had been in a flood. The side crash test aimed the Buick at the motorhome's large side window area. The Buick's bumper penetrated the sidewall and came to rest above the floor. New aluminum vertical reinforcements were added, and this problem



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## Part Three

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The first few motorhomes moved slowly down the assembly line during the fourth quarter of 1972, and by the second week of November the first two dozen had been built. The first 100 were finished before the end of January 1973, and more than 1,750 orders were received by mid-February. In March 1973, Alex Mair, general manager of GMC Truck & Coach, reported, “The initial response has surpassed even our most optimistic expectations.” It was reported in June of that year that back orders totaled

3,000 units, and the rate of motorhome production was about 20 units per day.

As might be expected, there were some startup problems. A new group-assembly concept was developed, with a six-member team responsible for body and trim upfitting and a three-member team for assembling and upfitting the chassis. This team concept lasted a month or two, but then production reverted to the standard Detroit auto assembly method of individual job responsibilities.

With the complexities of a new facility, a new workforce, the assembly of a totally new vehicle, plus all of the living requirements (including the proverbial kitchen sink), GMC Motorhome production was indeed an ambitious and complex undertaking. Alex Mair was holding “design school” with the engineers each morning at 7:30 to address any concerns or problems and to review progress. He often would walk through the plant to discuss the day’s activities with line employees.

By June 1973 GMC had 64 dealers signed up to sell and service GMC Motorhomes. Company officials had hoped to have 200 dealers by the end of 1973 but decided not to sign up any more until adequate supplies were available. GMC Motorhome dealerships were separate, stand-alone entities,

and GMC truck dealerships didn’t automatically become GMC Motorhome dealers. The cost of a GMC Motorhome dealership franchise was reported to have been \$250,000.

The 1973 GMC Motorhome was available with a choice of four models, six exterior colors, 15 floor plans, and two body lengths. And then there was the long list of available options. The “Detroit” mentality of something for everyone had arrived full force in the RV industry. The first series of motorhomes were named for national parks — Canyonlands, Glacier, Painted Desert, and Sequoia — and the 26-foot and 23-foot coaches used the same model names. Three of the exterior colors were standard — white, camel, and pineapple yellow — and three others — bittersweet, sky blue, and parrot green — were optional for an additional \$34. A horizontal accent color stripe wrapped around the front of the body; continuing the stripe down the sides of the coach was an \$86 option.

The total of 15 floor plans was split between the two body lengths, 11 for the 26-foot coach and four for the 23-footer. Any floor plan was available in any of the four models. The model names defined the interior décor, colors, and upholstery patterns and *not* the floor plan.

Manufacturer's suggested retail base price was \$14,569.06 for the 26-foot motorhome and \$13,569.06 for the 23-foot motorhome. Almost everything was available as an option. Possibilities included auto air, \$482; AM-FM radio, \$217; chrome bumpers, \$75; wheel covers (7), \$52.50; suspension power-leveler, \$85; built-in vacuum cleaner, \$210; roof air, \$525; auxiliary 6-kw generator, \$1,675; factory-delivery drive-away prep, \$32; or customer drive-away prep, \$105.

A number of RV shows and demonstrations were used around the country to exhibit the features of the new GMC Motorhome. GMC even displayed the motorhome at a truck show in Frankfurt, Germany — the Germans loved it! During one of the most impressive demonstrations, a GMC Motorhome was driven over 4-inch-by-4-inch timbers spaced a few feet apart. It was followed by a different brand of motorhome, which was fitted with a cover to obscure its manufacturer's name. This demonstrated the difference in suspension abilities. The GMC handled the timbers with ease; its tires danced over the obstacles with the body barely bouncing. The covered motorhome with leaf-spring suspension on a competitor's chassis had its tires leaving the ground and appeared to be leaping in the air after the third or fourth timber was crossed — much to the crowd's delight.

Alex Birch, foreman of the Experimental Engineering shop, was the driver of the GMC in many of these demonstrations. At one demonstration, he completed the pass, pulled up smart-

ly in front of the grandstand, and was to open the door, wave at the crowd, and then drive off. All went well until the door latch jammed and the door could not be opened. Alex's quick thinking saved the day, however. He hopped back in the driver's seat, honked the horn, waved to the crowd, and drove off. That was not the last of the problems associated with the latch manufactured by Lake Center Industries, which was used in the 1973 motorhomes.

Dolly Cole, wife of GM president Ed Cole, and friends went to a charity ball one evening at the Detroit Orchestra Hall. They chose to arrive in the new GMC Motorhome to show it off. The driver pulled the coach up in front to discharge the passengers, and the door latch jammed again. The passengers disembarked with great difficulty, which the press attending the event duly noted in the morning papers. Early that next morning motorhome engineers were called into Alex Mair's office and told in no uncertain terms to fix the problem, immediately. That is why you see a stainless-steel patch with the replacement latch on 1973 GMC Motorhome doors up to approximately serial number 3V101850.

Starting in 1973 and continuing through 1977, a number of films were produced to promote the GMC. Walking into a GMC Motorhome dealership showroom, you might see what looked like a small TV with a number of film cassettes. GM called these units "Mini-Theaters," and films showing the many features of the motorhome could be viewed on one of these self-contained units. Fourteen films were produced, as

well as three more from a TV program of the time, "Holiday on Wheels."

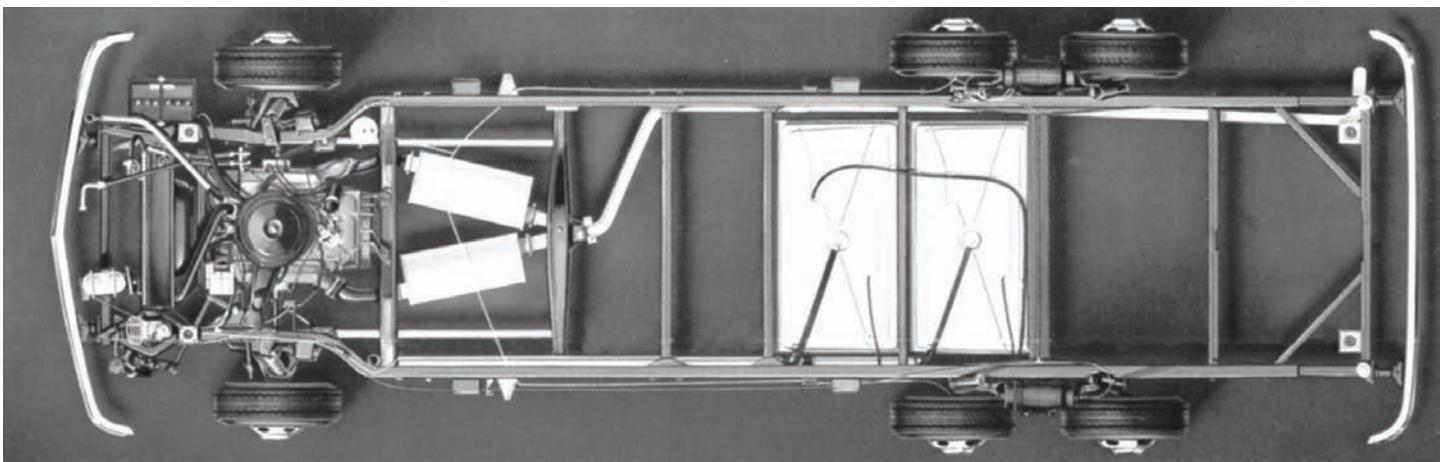
In late 1973, the 1974 models were introduced with little fanfare. They were a continuation of the previous year's models, incorporating running changes made to correct deficiencies in the early designs. Many of these changes and corrections can be found in the GMC Motorhome Service Bulletins and other publications. One change for the better with the 1974 models, in my opinion, was the discontinuance of the parrot green color.

The GMC plant was operating at one shift while the Gemini plant was at two shifts. The motorhome's body and chassis were being assembled more rapidly than the interior upfitting at Gemini. An early problem at the Gemini facility was plant layout: parts and assemblies were not properly placed for efficient manufacturing flow given the relatively large build volumes. Gemini plant personnel experience had been based on the one-at-a-time build practices at Travco. Employees from the GMC plant were able to provide assistance with this problem, thanks to their extensive background in large-volume manufacturing.

The parking lot at the Gemini facility in Mount Clemens was usually full of motorhomes awaiting interiors. Completed coaches were shipped from this location to dealers as well.

The GMC Motorhome assembly operations were shut down in early December 1973. The official reason was "to bring inventories in line with retail sales." However, the gasoline

*continued*



A bird's-eye view of the GMC Motorhome chassis.

Photos courtesy of General Motors

shortage had begun to seriously affect the RV industry.

In Las Vegas in January 1974, GMC announced a new series of vehicles for commercial, medical, and general transportation purposes, and nine Transmode concept vehicles were shown to the press. An Eleganza SE (RPO#696) “featuring customized interiors much more luxurious than those in current models” was displayed as well. This was the start of Alex Mair’s plan to make the GMC Motorhome the “Cadillac of motorhomes.” He had made the comment at one point that the GMC Motorhome was to GMC what the Corvette was to Chevrolet, its halo (image) vehicle.

GMC, now offering a motorhome rental program, conducted a fuel economy run with press representatives from *Automotive News*, *Motor Trend*, and *Trailer Life* magazines. A motorhome economy run could be very risky, and some reporters noted that GM should

get the “sheer courage award” and had “corporate guts” to propose an economy run on a 23-foot motorhome during the gas crisis. Over a 264-mile test from Los Angeles to Las Vegas, which included the well-known Baker Grade, which peaks at 4,751 feet, the reported mileage was 10.2 mpg using cruise control most of the way. The return trip provided an 11.2-mpg average, since this direction was slightly more downhill. Evidently, GMC was trying hard to revive sales during this period of gas shortages.

In March 1974 GMC announced that it had suspended production once again due to a lack of orders. Gemini still had a backlog of shells to upfit, but scaled back to a one-shift operation. Sales began picking up over the next couple of months, and by midyear inventories were depleted and production was resumed.

The 1975 model year brought many changes to the GMC Motorhome. New

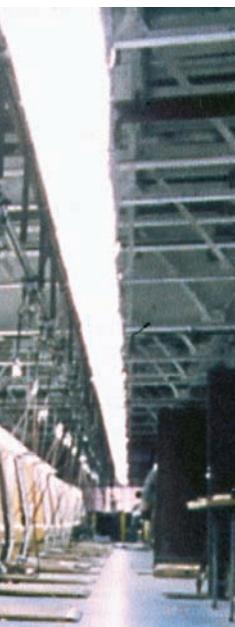
model names were announced; Eleganza II and Palm Beach replaced the previous models. New, better-quality woven fabrics supplanted the printed fabrics that had been used in earlier coaches, and Flexsteel seating was installed. Assembly of interiors at Gemini was discontinued, and all of the interior upfitting was brought in-house at the Pontiac plant (none of the Gemini employees were picked up by GMC for the in-house assembly). Grand Rapids Furniture Co. was now building the interior modules, and dovetail joints replaced glue and staples. While the quality of the interior fittings improved measurably, heavier weight and higher cost of the furniture was the downside. Exterior changes included new colors and stripes; exterior paint was now urethane (Imron) instead of the previously used synthetic enamel; raised “GMC” letters replaced vinyl decals on the motorhomes; and the fit and function



of exterior panels and doors were improved, as was the floor substructure. Stronger frame cross members were added; new Hehr side windows were installed; an HEI ignition system was added; and polybutylene (plastic) plumbing replaced copper. Gross vehicle weight ratings were increased to 11,700 pounds, and many other changes and improvements were incorporated as well.

The Transmode, an “empty motorhome” for those who wanted to build their own interiors, was available from 1975 through 1978. GMC no longer offered the 23-foot unit as a motorhome, although it could still be purchased as a Transmode and upfitted by others.

Many companies were upfitting the new Transmode as motorhomes and for commercial applications. Some of the motorhome upfitters were Avion, Coachmen, Carriage, LRP, Midas, Norris, Hughes, Landau, Roll-a-long, El Dorado,



*Motorhomes were conveyed sideways on dollies along the interior finishing line (left and below); these particular photos were taken in 1975.*



## GMC Motorhome Production Totals

### Model Year Production:

	1973	1974	1975	1976*	1977	1978
23'	461	168	~	~	~	~
26'	1,598	1,496	1,195	2,413	1,695	689
Transmode 23'	~	~	36	549	253	178
Transmode 26'	~	~	425	298	455	1,012
Total	2,059	1,664	1,656	3,260	2,403	1,879

\*peak production year

Foretravel, and Winnebago, plus a few others with very low build quantities.

Transmode upfitters for commercial purposes were many. These GMCs were used as ambulances/emergency vehicles, bookmobiles, mobile banks, airport shuttle buses, mobile showrooms, on-location radio broadcast centers, hearses, courtesy coaches for beer and soda distributors, and much more.

The 1976 GMC Motorhome models arrived with few changes from the previous year. Two new models were introduced in addition to the Eleganza II and Palm Beach carryovers: the Glenbrook and Edgemont. The Edgemont was the price leader with a base price about \$1,000 below the other three models. Running changes continued to be made, most starting with serial number 6V100878. They added an entry door strap; relocated the air compressor and solenoid valves to an inside compartment (Electro Level); and added a glass-lined hot water tank, cab floor support (stamping), radial tires/wheels, and body side rub molding (with adhesive replacing stainless).

In 1977 the Kingsley model debuted, replacing the previous year's Glenbrook model. The Eleganza II and Palm Beach

continued to be offered. The Edgemont was replaced by a new twin bed/dry bath floor plan in the Eleganza II. Other changes included a redesigned dash, which relocated the AC/heater outlets and moved the Electro Level controls to the left of the driver; a new Freedom battery; an entrance door rain cap; and an assist handle.

Another model, the Coca-Cola, was built in two versions. The first was the “standard” model, offered in cameo white with a red horizontal stripe, the same pattern as other GMC Motorhomes. It is believed these motorhomes were used primarily by Coca-Cola bottlers and distributors as courtesy coaches and at public events. The second Coca-Cola model was dubbed the GadAbout and equipped with all the bells and whistles. The exterior paint was white with a sweeping wedge of Coca-Cola red up the sides that blended to a yellow near the top rear of the coach. The GadAbout name appeared near the front, and a bottle-cap-shaped spare tire cover was at the rear.

Inside, the Coca-Cola red upholstery was the same in both coaches. In the GadAbout, refrigerator door graphics made the appliance look like a soda-dispensing machine — very impressive! Other extras were a Coca-Cola logo entry floor mat, clock, and mirrored picture, as well as a rear table with a Coke checkerboard pattern. On the dash above the glove box was an attractive pewter plaque with a GadAbout motorhome in profile and the slogan, “Coke adds life to . . . cruisin’ in a GadAbout.”

Five GadAbouts were given away to first-prize winners of a Coca-Cola

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## GMC Motorhome Phaseout

*A press release datelined Pontiac, Michigan, November 11, 1977, read as follows:*

GMC Truck & Coach Division of General Motors plans to discontinue producing luxury Motorhomes and similar Transmode multipurpose vehicles and convert those plant facilities to expand truck operations, a GM vice president said today. Robert W. Truxell, general manager of GMC Truck & Coach said, "As a result of this action, GMC will be able to utilize production facilities more effectively for servicing growing truck demands. The long-term outlook for greater truck activity is extremely bright and GMC production operations will be realigned to help meet expanding customer needs," he said.

"GMC will continue offering a wide range of trucks which are designed to meet a variety of recreational vehicle applications," Truxell emphasized.

He described the planned facility conversion program as "a continuation of major steps taken recently at GMC Truck & Coach facilities in Pontiac in response to growing truck needs. Van production will be doubled to more than 250 a day on two-shift operations, starting this month.

"With a continuation of strong sales, GMC van operations will be expanded throughout the 1978 model year," Truxell pointed out. He said another van production increase is anticipated in the spring of 1978 and facilities are being expanded to begin van interior installation operations in the spring.

The GMC van program has already added about 1,000 jobs in Pontiac, and another 1,200 new jobs could result within a year, Truxell said.

A high percentage of GMC's chopped van output is utilized for recreation vehicle applications with special bodies, such as mini-motorhomes, installed by independent companies. "While it is regrettable that luxury Motorhome and Transmode production will be discontinued, the action will assist GMC in serving other parts of the recreation vehicle business to a greater extent and help meet growing truck demands," Truxell explained.

He said industry truck sales in the United States in the 1978 model year should reach 3,750,000 units, and anticipates the growth trend will continue.

GMC Motorhomes have been built in Pontiac since their introduction in early 1973. Parts, service, and warranty provisions will continue through existing GMC Motorhome dealerships, Truxell said.

Termination of Motorhome production will be accomplished gradually and it is expected that approximately 325 persons currently involved in Motorhome activities will be transferred to other GMC Truck & Coach operations, Truxell said.

contest held in December 1977. Twenty-five second-prize winners each received the use of a GMC Motorhome for two weeks along with \$3,000 in cash. GMC records indicate that a total of 55 Coca-Cola models were built, most in 1977 and a few in 1978. It was originally believed that only five of the total were GadAbouts; however, more have been discovered lately, and as many as nine or 10 may have been built.

The 403-cid engine replaced the 455-cid engine by the end of January 1977 and was used for all remaining motorhome production. GM's downsizing had started and would soon have severe implications for the GMC Motorhome.

Plant No. 3 in Pontiac, Michigan, had been the site of GMC Motorhome production from the beginning in late 1972 through mid-1977. In August 1977 production was moved to Plant No. 29, also in Pontiac. This site provided a more efficient production facility and was used through the end of production in 1978.

On November 11, 1977, Robert W. Truxell, general manager of GMC Truck and Coach, announced the phaseout of GMC Motorhome and Transmode production (see the accompanying sidebar for the text of the announcement). According to the GMC engineers I have spoken with, no advance warning was given to the employees, and they were surprised at the news. In all probability, it should not have been too surprising. Carrying too much burden and overhead and never reaching the volumes needed to achieve real profitability, GM saw better ways to use its resources and achieve greater return on its investment.

The 1978 model year began with three models of GMC Motorhome interiors: Eleganza II, Palm Beach, and Kingsley. Production of the Transmode continued as well, with many upfitters participating. The major upfitter was Coachmen Industries (Jimmy Motors), producing the Royale (26-foot) and Birchaven (23-foot).

New GMC Motorhome two-tone body colors and a three-color horizontal

midbody stripe distinguished the 1978 models from other years. A number of features that were options in previous years were now standard, and many features were improved. Improvements included the Electro Level II, a larger bathroom skylight, a 36-gallon holding tank, integral refrigerator vents, new solid cupboard doors, new countertops, and woven window blinds. Chrome bumpers were finally standard. Among the new options were a glass and spice rack, a microwave oven, an overhead rear cabinet, a six-speaker sound system, a lighted visor vanity mirror, and a lockable overhead front cabinet.

On the Transmode, urethane foam floor insulation, previously an option, was now standard. The steering wheel, column, and hand brake were now saddle-colored, and the front-end GMC logo was now displayed in raised lettering instead of a decal.

With the end of production approaching, plans had to be made to phase out production in as orderly a manner as possible. Build-out plans

were made, i.e. matching parts inventories to dealer/customer orders. One example of this was the sale of surplus transmissions and final drives by GM to an Ohio GMC Motorhome dealer who purchased 1,361 units. These were initially offered at a sale price of \$495 each (the suggested list prices were identified as \$1,375 for the transmission and \$675 for the final drive). When the inventory got down to 500 units, the sale price was reduced to \$475. In 1983 the price was reduced again to \$295, at which time the remaining inventory was sold. GMC Motorhome and Transmode production ended in July 1978.

That being said, the rest of the story is as follows. An important consideration should be that Alex Mair, a very strong advocate for the GMC Motorhome, had gone to the Pontiac Division, and there was no one willing to fight for the program. There were, of course, other serious and obvious concerns with the program that needed to be resolved. The Oldsmobile engine and drivetrain would soon be gone from the Oldsmobile lineup due to GM's downsizing efforts. GMC would either have to build this unit on its own or design a new one involving new tooling and development expenses. Sketches of a rear engine/rear drive and front engine/front-wheel drive (using a transfer case) exist. A front suspension using a solid front axle and single leaf springs with an air spring at

the center, similar to the RTS bus design, was proposed. Apparently, one operational prototype of a transverse front engine/front-wheel-drive motorhome was built. None of these redesigns would support a business case. Motorhome build quantities were just too small to end up with positive results and, finally, the decision to terminate production ended all further development efforts.

GM announced additional details over the next few weeks. The GMC Motorhome Club, supported by GM, was discontinued, and in its place a new organization, GMC Motorhome Owners Association (GMC MOA) was formed. GM noted that it was independent and separate from GMC Truck & Coach.

GMC attempted to sell the GMC Motorhome assets for a reputed \$7 million to another manufacturer that would continue production. AM General, a Division of American Motors, took a look and built five prototypes using a 454-cid engine, with a transfer case to turn the drive back to the new front axle, much like Revcon actually did in subsequent years. On the inside, the front steps to the driving compartment had to be modified to allow additional room for the transfer case. This was as far as it went for AM General. After some testing, company officials decided not to pursue the purchase of the GMC Motorhome.

Eventually Donald Wheat purchased the motorhome manufacturing  
*continued*



At right, the cover of a 1978 GMC Motorhome sales brochure. The Royale and Birchaven were Transmode models upfitted by Coachmen Industries (Jimmy Motors). Above, a typical interior from the second series of GMC Motorhomes, produced from 1975 to 1978.

Literature from a 1974 press release package showed cutaway views of the GMC Motorhome and highlighted noteworthy features.



rights and tooling. Mr. Wheat organized the Wheat Motor Company (WMC) and several ex-GM officials served as corporate officers. The company was to be based in Rancho Cucamonga, California. It was reported initially that the use of a GM 454-cid engine was planned; that later changed to a Ford 460-cid engine. The WMC Motorhome was to be a 1986

model and retail for about \$60,000. The difficult and expensive redesign of a new engine and drivetrain by a company with fewer resources than GM doomed the effort, and no actual production took place.

**The end?** More than 25 years have elapsed since GMC announced the phaseout of motorhome production. It would seem reasonable to

assume that the GMC Motorhome would have faded away by now, not to be heard from again. That is not the case; allow me to give a few examples.

- There are currently 22 FMCA chapters devoted to GMC Motorhomes.

- Parts are readily available, both OEM and aftermarket. A large variety of new, improved, never-before-offered parts and tools are available as well. A few examples: fuel injection, rear disc brakes, carbon metallic pads/shoes, alloy wheels, many new suspension upgrades, new fiberglass body parts, new dash panels, new final drive ratios, better shock absorbers, special tools, etc.

- The Internet is abuzz with vast amounts of technical information, helpful assists, "how to" tips, sources for parts and service, and more.

- Current owners have restored, modified (built slideouts, driver doors, converted to diesel), stretched (typically 2 to 5 feet), or just maintained and enjoyed their coaches.

- Mattel has been making its HotWheels die-cast GMC Motorhome since 1977, in about 50 different versions to date. What is most interesting is that over the past couple of years, 10 new GMC Motorhome models have been issued.

Twenty-five years ago, it is unlikely that any of us would have conceived that any of the above would likely happen. I believe this is a strong indicator of the interest and longevity of this classic motorhome.

Long live the GMC Motorhome! 