

*Bet you didn't
know this
about your
GMC!*



Welcome to the fun group of GMC nuts!

I'm Jerry Work

We have a 26 foot 1978 Royale and we live and work in a 1907 Masonic Temple building in rural southern Oregon so we must be nuts enough to make this presentation!

In the next hour or so I will try to.....

- Introduce you to some things you may not know about your new coach
- Then, if we have time, dispel some myths & answer some questions
- Hopefully set you on a course of years of enjoyable ownership and camaraderie

Sources.....

In putting together this talk I have drawn from many sources including the authors of articles from several different magazines, an impromptu presentation by Michael Lathers (chief designer), internet research, & chance encounters with people originally involved with the project. Most, but not all, of what is discussed here has been vetted by at least two sources.

One such chance encounter came when I met Kent Mandell wandering around the 2004 Albuquerque, NM, GMCWS rally. He was one of the original designers whose name appears on the original design patent. He filled in a bunch gaps in the story.

Now to that story.....

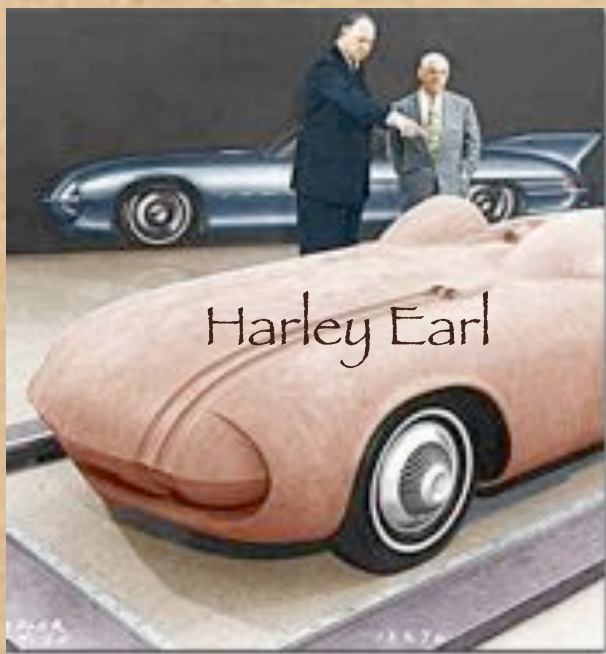
In the late 1960's GM was flush with success

- They dominated most of the market segments where they competed
- Were considered innovation leaders world wide
- America was booming and people were on the move
- Recreation via vehicle was an integral part of that boom time
- And GM wanted to lead this market as well

The Chevrolet and GMC divisions already had a thriving business selling truck chassis to a variety of RV manufacturers including some 10,000 units a year to Winnebago so GM knew the RV business was good.

Several GM Design centers had sketches and models of advanced multi purpose vehicles on the drawing boards but there was no internal leadership to really make anything happen until 1969. Several insiders credit then CEO Ed Cole as the one who brought the whole idea of a GM branded motorhome to life.

But, it all really started by
connecting a few dots.....



Harley Earl

Gordon Buehrig



Cord 810



E. L. Cord

Ed Cole



Cord twice appeared on the cover of Time magazine in the 1930s.

Harley Earl

head of GMC styling during the 30s, 40s & 50s commissions
four teams to design an advanced FWD auto in the 30's



Gordon Buehrig

headed up one of these teams. He designed a car with a coffin nosed horizontal grill quite radical in a world of vertically grilled cars. His design was not selected.

His design called for a front wheel base narrower than the rear wheel base by almost the same % as was later employed on the GMC Motor Coach





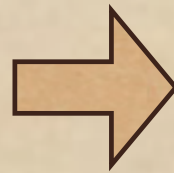
E. L. Cord

Built a transportation empire in the 30's that included Auburn & Duesenberg automobiles and Lycoming engine company

The Cord 810

was the result and was considered by many the best looking & best handling car of that era. It was not a market success and faded from the market.

But Buehrig's design apparently lived on in the GMC design studio archives.



Harold Ames

headed up Duesenburg and hired Buehrig away from GMC to design a state of the art new fWD "baby Duesenburg" based on the rejected GMC design. Cord wanted a car bearing his name and directed Ames and Buehrig to merge the "baby Duesenburg" design with a new Lycoming V-8 engine and an updated fWD chassis.





But Buehrig's design apparently lived on
in the GMC design studio archives....



Ed Cole

Remember him? He designed the 1949 Cadillac engine, the first modern high compression OHV engine upon which all future GMC V8 designs would be based. He went on to design the 1955 Chev "small block" engine, made sure it found its way into the floundering Corvette putting it and the whole Chevrolet line-up on the high performance map. During the 50's & early 60' he is a rising star who moves up to head of Chevrolet Division. Insiders of the time credit him with convincing GMC to take another look at developing advanced FWD vehicles, including a multi-purpose vehicle that became our GMCs.

But, GMC has no suitable drive train. Enter.....



Yup, Ford!

It seems they developed a front wheel drive system with an internal chain drive to the differential. They couldn't make it work quietly so sold the patent to GM in the early 60's.

GM engineers figured out how to make it quiet so they mated it to a stump puller 455 cu in engine, wrapped it in a stylish body and introduced it as the 1966 Olds Toronado.



1966 Olds Toronado



The car was a hit and Ed Cole, by then head of the Chevrolet Division thought it would make a great drive train for the Multi Purpose vehicle he had in mind that we know today as the GMC Motorcoach.

Now, back to our story.....

Shift forward a few years and Ed Cole becomes CEO of GM. He still wants the upscale motor home using that FWD.

His old Chevrolet Division lobbied hard to become the home for this new vehicle but because of a long standing internal agreement that vehicles over 10,500 pounds would go to the GMC truck and bus division, they got the nod.

From that point forward insiders say the Chevrolet division made sure the project received no favored treatment. That squable, along with a number of other factors eventually led to the demise of what became the GMC Motorcoach.

In spite of the inter-division rift the project moved forward.....

The team included

- engineers with both truck and car expertise,
- designers from Frigidaire with home and kitchen design expertise,
- human factors experts, and
- specialists in the physical, psychological and behavioral aspects of product design.

Some 75 people in all.....

Michael Lathers was assigned the lead. He was the head of the GMC T&B design center at that time.

John Locklin from that center was responsible for body engineering, Roger Crispell headed up the interior team.

Ralph Merkle from the GMC T&B chassis design group (located in a different plant) was responsible for the chassis and running gear. These two groups cooperated - and at times competed - with one another according to those close to the effort.

The truck guys wanted slab sides and easy to make while the designers wanted curves and wrap arounds.

Our coaches might have looked like.....

The slab sided look
favored by the TraVoy
engineers...

Which had the slab sides with simple end caps design favored by the GMC T&B engineers....



Or the approach taken by Clark Eqpt.....



But the design center staff favored the flash and dash of their concept models.

In the end, and with a lot of help from Michael Lather, style won out over “practicality” and the new GMC was the style leader for the whole industry.

Some think it still is.....



The challenge this team faced was to design a vehicle that was.....

aerodynamic

spacious

with lots of power



April 1999

While at the same
time....

being right for full
timers

with lots of room

and able to
expand to meet
many different
needs....



The advertisement consists of three vertically stacked panels. The top panel shows a motorhome parked in a cluttered outdoor area with various items like a cooler and bags around it. The middle panel shows the side of the motorhome with text overlays. The bottom panel shows the front of the motorhome with more text overlays.

travel and rest for the full timer!!

Extra room? How about an upstairs
and a basement?

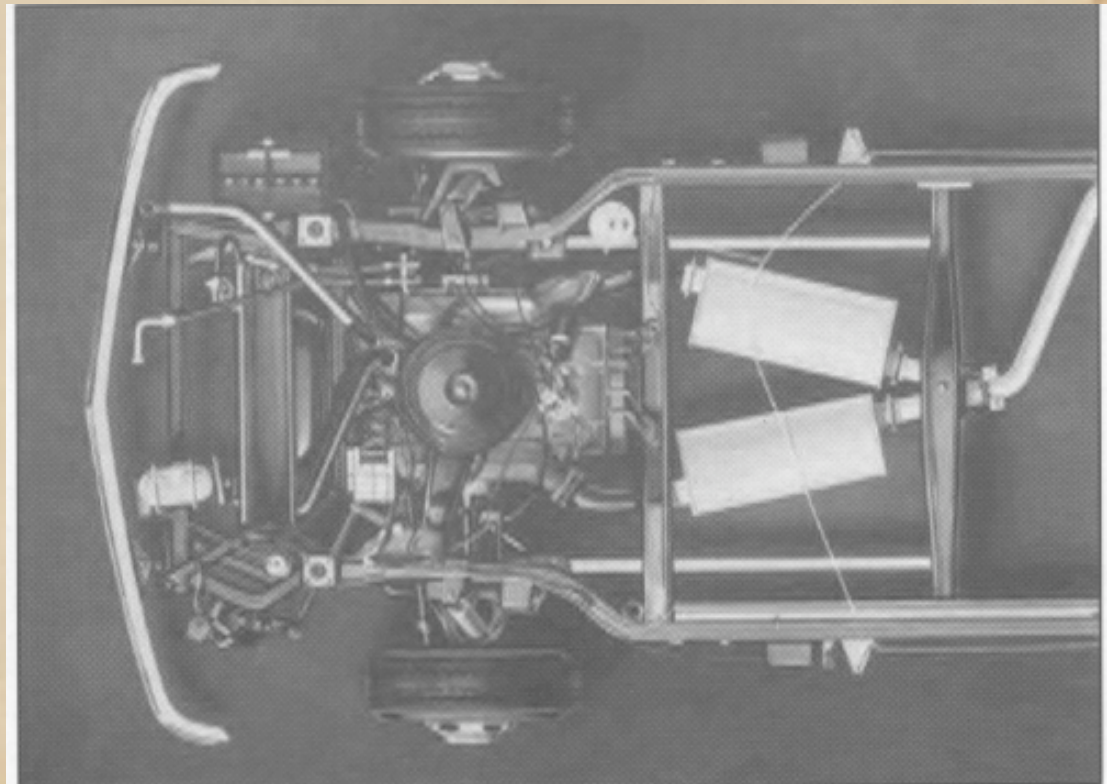
Who knows? Maybe someday,
someone will even figure out how to
make it more spacious!

Until these new ideas get perfected, we know it'll be
gangbusters with what you've got.

April 1991

The 1966 Toronado drive train was a natural.....no drive shaft meant a low center of gravity for a car like ride.

The front track to rear track difference is the same as Buehrig's Cord 810 of the 30's. Coincidence? I think not.....

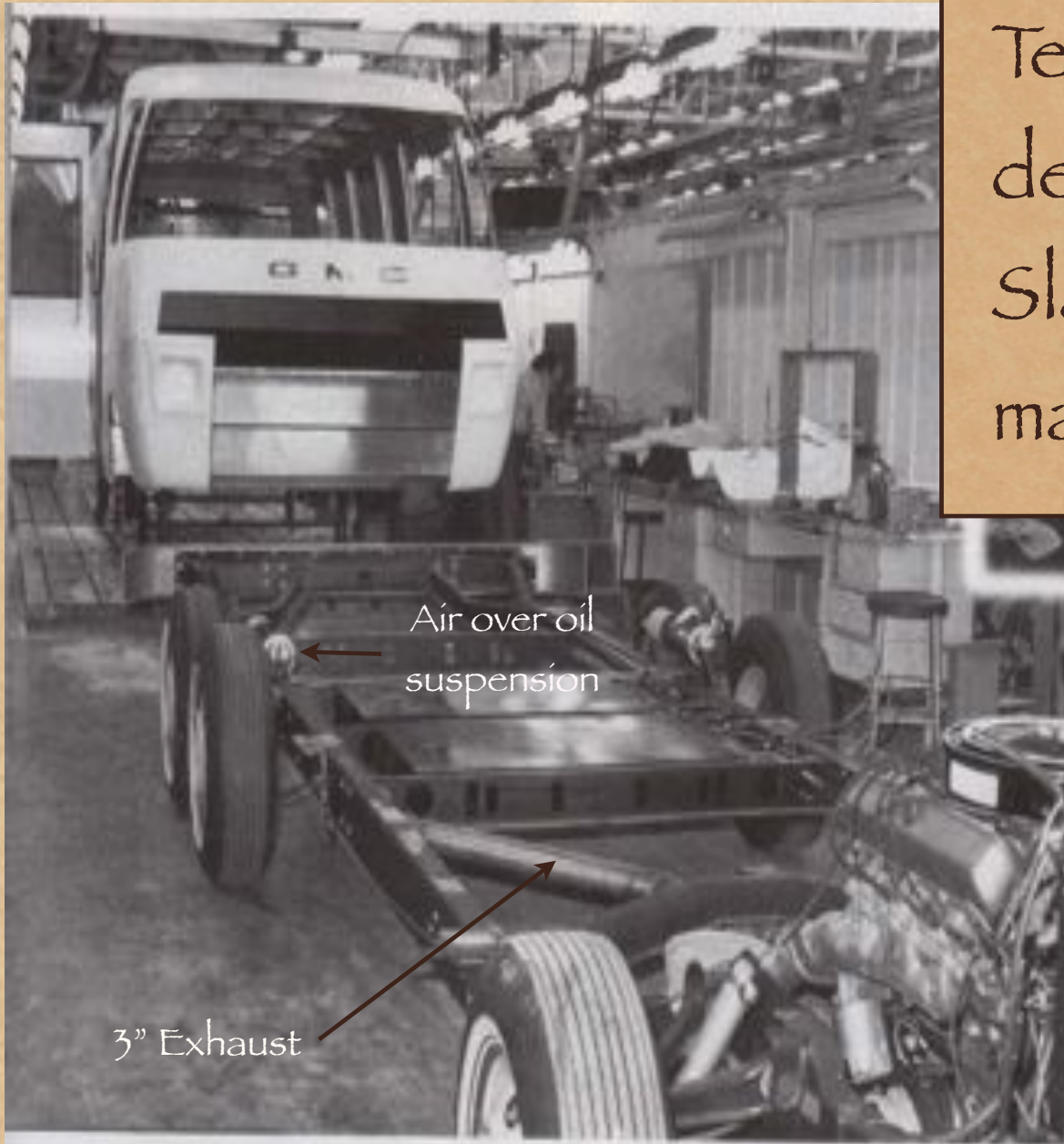


Test mule in T&B
development lab.
Slab sides didn't
make it, thankfully!

Air over oil
suspension

3" Exhaust

Notice the 3" exhaust
& oil/pneumatic
rear suspension
later replaced with
air bags to save
tooling cost.



They started by studying 115 different motor home floor plans offered by 75 manufacturers ranging in size from 20 to 28 feet

From that study they developed a series of "ideal" floor plans and chassis designs which they then tried out in scale models

Only then did the exterior of the motor home began to take shape.

From there full size mock ups were done for a variety of plans that looked good in scale. For each mock up they did computer models to make sure the result would achieve the balance and chassis dynamics they sought.

Size, originally planned for 20 and 24 feet became 23 and 26 feet, the two sizes they felt they needed in order to provide the right amount of living space for their final configurations.

even our kids chipped in.
These ideal plans were then tried out in scale models, which represented the chassis that Kurt has described.
At this point, the exterior of the Motor Home began to take shape in scale models shaped and sized around the developing interior architecture.
Next more experimentation... the building and trying out of full size mock ups with a variety of plans that looked good in scale.



All were done with the goal to improve things - provide more space or additional convenience.



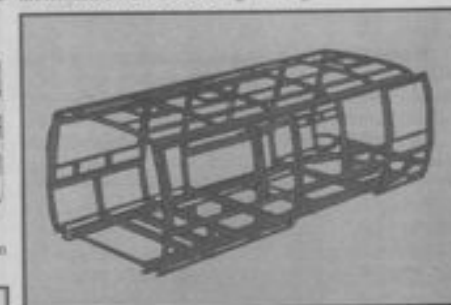
Full size studies in cardboard and plywood are fast and they enabled us to actually experience the results of various arrangements. But, we did not experiment in the usual way.

The chassis and body in combination were very much a part of every study. Everytime a major component was



16 GMC Motorhome Marketplace

moved, its effect on weight distribution was carefully considered. Necessary adjustments - were determined by computer and every mock up represented the balanced motor home we were seeking to design.



Once we had finally determined interior layout and arrangement, we were ready to begin the final development of the exterior.

Size, originally planned for 20 and 24 feet, became 23



feet and 26 feet. These two sizes were necessary to provide the correct amount of living space - to give most people what we knew they wanted in their motor homes.

Their desire for privacy, for example, led to the development of our mid bath and dressing room.



Our bath is located to accommodate families of two

April 1999

When they thought they had it right they invited about 50 women and their husbands, all owners of motor homes, in to spot where minor adjustments might improve things

- The final step - that of interior decor - was done in consultation with the staff of House and Garden magazine whose color research and merchandising program was followed by hundreds of manufacturers of home furnishings.
- That would assure the owner that accessories to coordinate each interior would be available in the right colors and textures.
- Each interior was designed to present a different look, designed specifically for a particular segment of the motor home market
- Their goal was an interior that would appeal to to almost every personal taste. No single customer would like them all, but every customer would become excited by at least one of them.



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."

The result was a sensation.....

Whispering Willard Reed
Baltimore, Maryland



**Announcing a Motorhome
so advanced, only somebody like
GMC could have developed it.**

When we decided to build a motor home, we went back to the very beginning to find what would make the ideal unit. We wanted a low roofline for maximum clearance. And a low floor for passenger comfort. With a low center of gravity for better handling. But we still wanted plenty of headroom and the ground clearance a real outdoor vehicle needs. So, we designed our Motorhome around the proven 400 V-8 front-wheel drive unit. With all the machinery up front, the rear suspension didn't need conventional axle running from side to side. We designed unique support arms for the tandem rear wheels and mounted the arms to the outside

of a specially designed chassis. That gave us the low, wide floor, tall headroom and still a low, low roofline. Above the chassis is a complete cage of heavy-gauge aluminum die and phingers. On top of this tough sub-structure are bonded skin panels using the same techniques as the jumbo jets. The roof and upper side panels are mangle-smooth aluminum, the lower skin panels, side and rear sections are molded fiberglass. But if you're more interested in the inside story, have a look at the back of this sheet.



The Motorhome People from General Motors

The ads of the time said it all.....

And, oh
those
wonderful
colors.

Yet.....





Here we are 30 years or so later still celebrating,
enjoying & modernizing these marvelously
engineered and designed motor homes.

Who'd a thunk it back then?!

The Motor Home that resulted from all this engineering and design effort had.....

- Everything you would find in a car or truck
 - Engine, drive train, suspension, brakes, cooling, steering.....
- Everything you would find in a small city
 - Electric power, water systems, sewer systems.....
- Everything you would find in a fine home
 - Furniture, heating & AC, bath & kitchen fixtures, appliances.....

And, it has lived its life ever since in
an earth quake zone!

Earth quake zone?

Well take all these systems and shake the crap out of them for three decades and what happens?

Something will need maintenance or replacement every year - a good rough estimate in today's \$ would be \$400 to \$700 per year.

The question for our grand old ladies is who did/paid for this maintenance every year for the last three decades?

- If the POs did the maintenance each year then you only need to keep it up plus making your own “modernizing” changes.
- If the POs did not do the maintenance, and instead deferred it to you, then you will have some catch up to do.

The newest of our coaches is 28 years old

During that time someone needed to invest between \$11,200 and \$19,600 in normal maintenance and replacement costs

$(28 \times \$400 = \$11,200, 28 \times \$700 = \$19,600)$

How much of that you will pay is a function of what your PO did and how rapidly you wish to catch up

If catch up/keep up on the normal maintenance and replacements is so important, how do we learn enough to do it right?

- Rallies like this one are a great source. If you are new here make it a point to introduce yourself to your neighbors and ask them to walk through your coach explaining to you how everything is supposed to work
- Other sources include:
 - Specialty vendors like the ones here at this rally
 - Several internet chat, archive and photos sites like our own gmcws.org
 - The "Black List" ~ owners who offer help and assistance at their homes if you have problems while traveling
 - And don't overlook your local mechanics ~ at least those old enough to have worked on 60s and 70s GMC vehicles

Now to dispel some myths....

Myth #1 - GMC Motor coaches are temperamental, unreliable and will leave you stranded by the side of the road.....Nonsense!

- How many of you owned a 60s or 70s GMC vehicle? Were they temperamental or unreliable?
 - No - they were almost boringly reliable - more like an appliance.
- Did they regularly leave you stranded by the side of the road?
 - No - oh, a tire could fail now and then, or vacation strains might overheat a high mileage engine, but for the most part they were so reliable that we didn't even think twice about taking off for the other side of the country.

Once you catch up on the normal maintenance and replacements your
GMC motor coach will be just as reliable as any other
70s GMC vehicle.

Myth #2 - GMC motor coaches are a hole in the ground into which you throw money.

- They certainly can seem that way if your POs deferred a bunch of maintenance to you.
- Once you catch up they are no more expensive to operate than any new motor home.
- We full timed for four years in a high end diesel pusher.
 - Fuel consumption was 8 to 10 MPG
 - Maintenance and replacement costs were about \$600 to \$900 per year in today's dollars.

Myth #3 - You have to tinker with them all the time

As we have seen it is a matter of catching up on the maintenance and then keeping current with normal maintenance and replacements. Do it all at once, or do it as you need to, it is your choice. One way or another you will do the maintenance and normal replacements if you intend to actually use your motor coach.

Since you will be adding your own updating ideas you may well tinker a bunch, but that is part of the fun of owning something like this.

Myth #4 - Rallies are just a bunch of guys standing around doing tech talk

- The reality is that rallies are first and foremost times of fun, friendship and fellowship.
- They offer a unique time for everyone to share experiences, ventures, passions, interests and to learn from one another what works and doesn't work in terms of maintaining and modernizing GMCs.

You will come to your first one or two rallies to get info. After that you will come for the FUN.....

.... and because you want to help the next "first timer" learn to enjoy their "new" grand lady of the road.

Myth #5 - I heard it from ten different people so it must be true

- Like “news”, check your sources. There is a big difference between ten independent experiences that all result in the same conclusion, and ten reportings of the same one experience retold by different people.
- Even well meaning people can get caught up in retelling the same misinformation they heard from someone else.

Reader/listener beware!

Myth #6 - What were those factory designers and engineers thinking of anyway? We better re-engineer and replace many of the systems on this coach just to be "safe".

- Even well informed people can turn out to be wrong when it comes to trying to reengineer a vehicle of this complexity.

Lots of people will sell you "improvements". Just make sure those things really are improvements before committing your \$\$

My advice, keep it simple and keep it stock until you have a really good reason to try to out-engineer the original GMC designers.

Enough talk about myths and realities.

Let's all just remember rule #1 -

Having fun! And fun is what this bunch of GMC crazies is all about!

Now I will open it up for questions.....