

Newmar's multi-ton RVs glide through assembly on cushion of air

Innovative assembly with Aero-Caster air technology maximizes resources – producing more RV's at less cost

Company Background

North Central Indiana, around Elkhart County, is a part of heartland America where travelers from elsewhere in the country can still be surprised and enchanted by horse drawn Amish buggies clippity-clopping along the byways at a sedate six miles per hour.

In this part of the world, however, those picturesque one-horsepower vehicles share the road with not only automobiles, but also with an astounding number of recreational vehicles—almost all brand new. Elkhart County has been justifiably called “The RV Capitol of the World.” In fact, this single county bulges at the seams with 107 RV manufacturers, producing an incredible 50% of all the recreational vehicles sold in America.

With that many companies competing, it's not hard to imagine the level of competition and the drive to innovate and gain an edge. (And this in a land where even some Amish buggies now sport cup holders, digital clocks and halogen headlights.) Newmar Corporation, located in Nappanee, one of those 107 manufacturers and a leading player, is a perfect case of competitive challenge turned into opportunity.

Productive Practices

Newmar's bold move toward leadership started over a dozen years ago with a major plant expansion on the company's 168-acre site—and a breakthrough idea for putting the spurs to assembly line productivity. The expansion enhanced assembly capacity, but also created a work place that made tasks more comfortable for their employees. For just one example, the resulting new 112,000 square foot assembly line addition was fully air-conditioned to provide a temperate working environment despite climatic extremes typical throughout much of Midwest America. Another was the intent to alleviate much of the industry's labor-intensive nature of assembly line work.



Responding to Market Changes

That latter requirement sent then Maintenance Supervisor, Paul Troyer, on an extensive search to find a better way to move vehicles through the assembly system with less effort, less manpower, greater flexibility, and a greater cost effectiveness. He thought immediately of checking out automobile assembly line systems. But an automobile assembly plant moves a batch of chassis of a *single model* through the assembly process.

Newmar had a more complex system. The original assembly line met Newmar's requirement of handling as many as 16 significantly diverse models of varying weight, size and configuration through the assembly process, not in a one-after-another procession, but in a fashion company calls “indexing.”

Moving the vehicles down the line to other workstations comprised not just a huge chunk of assembly labor, but great physical effort with as many as 14 workers leaving their stations to shove and pull the extremely heavy chassis, rolling reluctantly on castered carts, to their next assigned spot in the process.



Clearly carts and casters weren't the answer and Troyer knew there had to be a better way. He kept researching and asking questions. According to one Newmar vendor, "Troyer was looking at every conveyor system known to man."

Maximizing Production

"We wanted to make work easier for our employees," Troyer said. He found his solution when one of Newmar's vendors told him how a large client of theirs moved heavyweight manufactured home modules through their plant. Troyer made an immediate visit and discovered that the manufacturer was using air casters instead of their industry's usual roller systems. He liked the idea and was well on his way to trying the same product, when he was introduced to AeroGo's Aero-Casters®.



"Unlike, what we were thinking of buying, AeroGo Aero-Casters were made of super-strong structural aluminum, not heavyweight steel," Troyer noted. "We sometimes need to move them when they aren't connected to an air source," he amplified. The steel air cushion pallet that Newmar first considered took as many as four men to move when not connected. Because of their lighter weight an off-line AeroGo pallet could be handled by a single person. Connected to an air source, the AeroGo Aero-Caster allow users to move huge loads with little physical effort as they are lifted by and glide on a frictionless cushion of air. "The air compressor gets tired, not the people," Troyer smiles. "The AeroGo air casters also enable us to easily move the heaviest chassis in any direction we want, to any part of our facility."

Pre-fabricated chassis frames are mounted on AeroGo pallets with an air caster on each corner enabling only four workers to easily move even Newmar's largest model, the luxurious 45-foot King Aire motor coach that weighs in at some 45,000 pounds and a near \$700,000 MSRP to match. A bare chassis coming into the assembly line consists only of frame, motor, drivelines, tires and steering wheel, but it gains weight as it goes along and all the items comprising a complex motor home as added—from a baggage storage "basement", framework for the chassis' front and rear ends, a main wood floor, ceramics, linoleum, carpet and more. At the end of the line a completed vehicle may weigh anywhere between 27,000 and 45,000 pounds, yet AeroGo's air caster equipped pallets handle the changing weight with ease. According to Sheldon Kresse, who succeeded Troyer as Maintenance Manager, despite the weight change during assembly, the same hoses, hose network, valving and all of the basic support infrastructure for the AeroGo system remain the same from end to end.

Productivity is a key issue for Newmar. Line workers are paid on a completed product basis. The more they can produce during the plant's daily single shift, the more take-home earnings they receive. Making it easier to keep the line moving with less labor (each unit spends about 30-40 minutes at a station) contributes to hiking each employee's individual income, and also frees up many workers from having to stop what they were doing to help move other units as they did in pre-AeroGo days. The company estimates that by using AeroGo Aero-Casters they have reduced assembly line labor costs by some 8,000 hours a year.

According to both Troyer and Kresse, the frosting on that cake is that labor savings paid for their entire AeroGo system *in just one year*. Those savings continue. Troyer maintains, "We not only got payback in one year, but we save so much we could afford to buy a whole new system every year if we wanted to." They don't want to or need to. "I still have AeroGo air casters that Paul bought 10 years





ago,” Kresse says.

In fact, for the company’s 450 AeroGo pallets, Newmar owns a total of more than 1,000 air caster units. “Maintenance is a piece of cake,” Kresse grins, but he also stresses the importance of regular maintenance and inspection. “You do that and your world’s good,” he says. Another important factor related to enduring product performance was a decision to keep assembly line floors clean. The company installed an under-the-floor conveyor system onto which all floor detritus is regularly swept, emptying into a dumpster below. To the production people it contributes both to the useful life of their important air casters and to safety underfoot. To company President Miller, who is proud to show visitors Newmar’s spic and span plant, it is a vital part of their corporate image and a contributor to workplace pride. To visitors who are often buyers that have come to see their motor homes built, it is an important statement that here is a place where people care.

Newmar builds both motor homes and towable fifth wheel models. Their motor home models are offered in gas and diesel configurations, front and rear engine driven, and with broad range of floor plans and levels of amenities, comfort and luxuries. According to Kresse, recreational vehicles, including even the towable units, are tending to increase in both size and weight across the board. Newmar’s AeroGo system provides all the assemble line flexibility needed to handle the mobility challenges of model innovation and on-going product development.

Newmar’s willingness to deploy innovative technology such as AeroGo Aero-Casters is an on-going demonstration of their continuing determination to deliver cost-effective quality at every price point. With 140 dealers across the US and Canada, the company is well positioned to satisfy the needs of their distribution system and ultimate end users, particularly in an era when rising gas prices create a demand for both choice and real value.