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Commodore Homes of Virginia offers this 2-story, 2,992 sq. ft. sparkler for this issue's Luxury Homes Review

Thermally efficient steel studs combine with thin shell concrete by TMCP Building System to panelize fourteen 5,000 sf homes each day

Jay Fink shows business end of AeroGo Air Casters which allow modular movement in any direction at Heritage Homes Modular Plant

Building Components of Idaho jump starts sales from $1 to $14 million in six years thanks to multiple products and help from Deacom Software

Also in this issue:

Jay Fink, production supervisor at Heritage Homes, stands over the company's 100,000 sq. ft. plant.

The company's high-quality Stickley model. Per year, the company produces up to 200 homes & commercial units in its plant in Northeast Nebraska.

Heritage Homes Floats on Air to Market Expansion

Aero-Caster Technology Maximizes Facility Space and Produces More Buildings at Less Cost

WAYNE, NE—In this modest Heartland town (population 5,583), homebuilder Heritage Homes is one of the area's biggest businesses, employing some 110 people while building anywhere from 130 to 200 finely-crafted new homes a year.

They build not only single level ranch style structures, but also spacious Cape Cod two-story, appealing mountain chalets and dozens of other styles, some basic and some elegantly elaborate. Heritage Homes has been turning out sought-after, custom-quality residences for nearly thirty years, year after year, rain or shine.

A sample of the Heritage Homes offerings. The Wellington (top), the Worchester (middle) and the Dillon (bottom).

In fact, rain or shine doesn't matter because these houses are all built indoors and almost all end up somewhere else—in other parts of Nebraska, or in adjacent Colorado, Iowa, Kansas, South Dakota, Wyoming, Montana or New Mexico.

With annual gross sales in excess of $25 million, Heritage Homes' products also include bank and commercial buildings, school buildings and other non-residential structures all built with the same resource-saving state-of-the art technology.

Production Practices

Construction design and quality and a tenacious focus on efficiency and cost effectiveness drive the Heritage Homes production process. Delivering value is the company's reason for being. Production Supervisor Jay Fink describes it as "real orchestration." It's that and more, from the creation of templates and elaborate jigs that would not be found in typical outdoor construction, to the company's choice of the AeroGo Aero-Caster load moving system that gives their production line unparalleled mobility and an impressive list of other advantages.

The 100,000-plus sq. ft. plant houses an imposing assembly line that physically moves the large structural modular sections through the plant from start to finish, as a team of building specialists sequentially creates the floor deck, wall and roof framing, add wiring, plumbing, doors, windows, interior drywall, fixtures, trim, carpets, cabinets and painting.

Responding to Market Changes

According to Heritage Sales Manager Mike Mattison, the size of American homes has risen in past years and Heritage Homes' modular products have trended larger as well.

"When we started, our average home was defined as a two-modular unit structure of around 1,200 to 1,300 sq. ft. Now our average sq. footage is around 1,700 and some of the homes on the Heritage production line may be comprised of as many as three to five modular sections," he noted.

"All the modulars for an average three bedroom, two-

Mike Mattison, sales manager for Heritage Homes, stands inside a model in the plant. The framed home rests on a cushion of air provided by the AeroGo Load Beam system.

story home may be completed in as little as 21 days," he continued. "After the modular sections are delivered, on-site work may be completed in as few as five days, plus another three to four weeks for site work such as garages, sidewalks, porches and HVAC that will be performed by our authorized Heritage Homes builder," Mattison adds.

Heritage Homes' systems enable clients to have their home built in 10% of the time it takes to build traditional on-site construction. Timing like that adds to the appeal of the Heritage modular concept. The method also has some specific appeal because of natural conditions in Heritage Homes' marketplace.

"Building indoors eliminates weather issues that delay much of the construction process in many other areas of the country. Timely production coupled with meeting customer requests at a great value is what Heritage Homes offer," Mattison said.

Maximizing Production

One measurable key to cost-effectiveness has been their choice of the AeroGo Aero-Caster Load Beams to move the weighty home modulars through their production line system. When Heritage completed their last plant expansion they took a fresh look at their modular moving technology.

"The factory has been here since 1978," Fink explained. "At that time, the conventional way of moving modular units down our production floor was either on rollers or wheels attached to the house or a track system. Our system was similar, with six parallel rows of rollers running down the length of the factory. We mounted the units on top of I-beams at the time. Now we've gone to a square box beam and manually push the houses down the line on top of these rollers. When we expanded our facility, we had all this brand new concrete and it really bothered me that we were going to have to punch holes in it and bolt in rollers. Then I saw an AeroGo ad in a magazine," he adds.

Fink followed up and what he found was a revelation and a better way to move modular units from station to station. AeroGo engineers describe it as "compliant fluid film technology." It's like assigning one or more immensely powerful, miniature hovercraft to bear a load on a cushion of air.

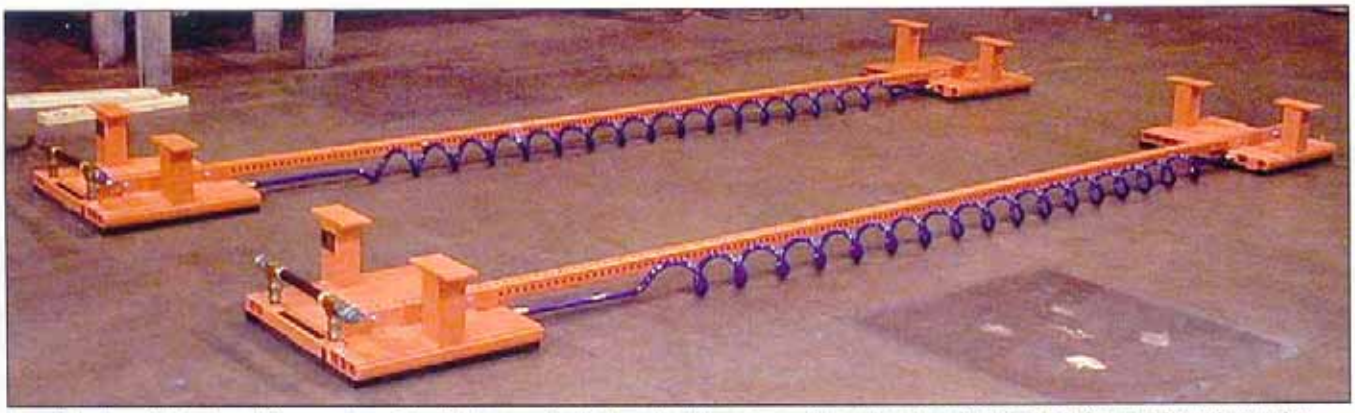
AeroGo Aero-Casters in their many forms are literally 'air bearings' that float heavy loads on a thin film of air, in any direction and virtually without friction, enabling objects to be moved with little physical effort compared to centuries-old technologies.

"Three people can move a 66' x 28' house without mechanical assistance," Fink asserts.

"Our factory already runs mainly on air," Fink pointed out. "All of our tools, routers and nailing tools are air driven. We already had the capacity to use air as a source of movement on these Aero-Casters and our air compressor was big enough to handle it.

"The cost of the Aero-Casters was probably 10% less than all of those steel rollers. We already had the capacity to use air as a source of movement on these Aero-Casters and it seemed like we could incorporate it with our other rolling system," he said.

"And I liked the idea of the floor being clear for housekeeping purposes and trip-hazard safety. A big effort of our company is to keep a clean factory—for a lot of reasons. Safety is one of those. We also do a lot of tours here and it's a pride thing. We want customers to know that we're treating their new home correctly and give them a sense of well-be-



AeroGo's Aero-Caster Load Beam system is typically comprised of two load beams - a primary beam at the building's front and another at the back. The clean, efficient system improves factory safety and eases the weight of transporting loads within the plant.

ing. If you go into somebody's house that is very messy, you start wondering how organized they are," Fink adds.

After exchanging information with AeroGo engineers, Heritage had the Seattle-based company custom-tailored the Aero-Caster Load Beams with risers designed to accommodate the understructure of their modular homes at the same height as the existing rollers, allowing a smooth transition. The company's move to the Aero-Caster system was quick and easy. Most of the initial post-installation tweaks were handled by telephone. The AeroGo Aero-Casters installed in the expanded and upgraded facility allow directional mobility that is not possible with rollers designed for linear movement.

"The unique mobility of Aero-Casters is of value to us because some of our units are multiple sections," Fink pointed out. "Some are small and some are big depending on how the house is designed. With the Aero-Casters we have the ability to push units off to the side, turning them in different directions and to take advantage of unused floor space and customer demands. On a conventional system of beams and rollers, they're pretty much where they're going to be until they go out the door," Fink added.

Reflecting the company's commitment to cost effectiveness Fink emphasized, "That kind of efficiency translated into money. The time frame is what's dramatic. AeroGo has saved us a lot of time in man hours and safety issues. The less people you have doing a line move, the more they are contributing toward working the house and creating value. We work in a lean manner where we try to save steps. Plus, we seek to maximize the use of our space as much as we can," he stated.

"Previously construction workers had to stop their work to push units down the line and it took a much larger workforce. With the flexibility of AeroGo's directional mobility and the new ease of movement previously wasted space can become productive while workers also can be freed for other functions such as pre-cutting materials or building sub-components that speed construction. Our throughput time becomes faster," Fink observed.

On the underside of each end of the Aero-Caster Load Beams is this DuraGlide Aero-Caster, creating up to a 2-½" lift on which the structure rests.

Fink shows one of the AeroGo Aero-Casters at the end of a Load Beam. The Aero-Caster Load Beams make it easy to move modulars in any direction.

AeroGo System

The AeroGo Load Beam System used by Heritage has a capacity of 14,000 lbs. per beam. Typically three to five Load Beams are used per house depending on total weight and desired support. The beams themselves are adjustable in length from 12' to 16', with a primary Aero-Caster at one end and a secondary at the other. The Aero-Caster provides an air cushion lift of up to 2-½" when inflated.

With the Load Beam System, friction is reduced to a very low level while the load weight is spread over a large floor area, preventing damage to concrete floors. The Load Beam's low profile enables a transportation system that moves the home modulars a scant 2-½" above floor level, which helps minimize worker strain injuries as they enter and leave the structures with tools, materials and equipment.

According to Fink, safety is an important by-product of the AeroGo system. "It's fairly easy to control these things," he asserted. "They're not only safer compared to pushing a modular along and having it fall off the rollers, but backs can be injured by the stress of pushing modular sections. In comparison to rollers, with AeroGo Aero-Casters the heavier a load is, the easier it is to move. The manpower effort is minimal. Once they start moving, they move very easily on their own and they stop just as easily. It's quiet, it's clean, and it's safe and easy," he adds.

The easy, gentle move through the factory enabled by AeroGo Load Beams floating on Aero-Casters is important not only to maintain the structural integrity of a home that may end up a thousand miles from Wayne, NE. It is also part of Heritage Homes' insistence on quality. "Our homes are probably what they'd call 'overbuilt' in the construction world," Fink states.

We have a complete sheathing around the exterior of the house for structural integrity, plus a banding system. We had an instance of a tornado going through a town, where the only house left standing was ours," Fink concludes.

For more information on Heritage Homes circle Reader Service No. 42.

For more information on AeroGo Aero-Casters circle Reader Service No. 43.