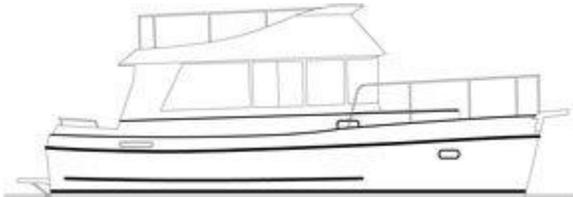


Camano 28/31

By Jack Hornor

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If you're looking for a small cruising boat with character, quality and economical performance you should take a look at the Camano 28/31.

Designed by Vancouver naval architect Bob Warman, the style of the Camano 28, with its high nearly plumb bow, radiused transom and prominent deck saloon is certainly influenced by Pacific Northwest workboats. Not so apparent are some of the innovative design features Warman incorporated. Below the waterline there is a broad, deep keel and double chine forward that, without going into a bunch of techno-talk, improve the efficiency and operational characteristics of the design.

The Camano 28 was built on a limited production basis (about 12 boats a year) by the company Warman founded in 1989 until the company was sold in 1997. The new owners moved to a larger facility in Delta, British Columbia and increased production capacity until there are now more than 250 of these models built. Although the manufacturer still specifies the length on deck as 28 feet, the model is now marketed as the Camano 31. This reflects the overall length of the vessel which includes the swim platform and stainless anchor davit at the bow. The beam of 10 feet, 6 inches, draft of 3 feet, 3 inches and displacement of 10,000 lbs. are all rather substantial for a 28-footer.

With no exterior wood trim and black vinyl rails at the deck edge and rub strake, Camano gives the appearance of being a stoutly built little workboat and although she is not a workboat, I would have to agree that she is stoutly built.



Photo by Don Martin

To help prevent water absorption and osmotic blistering, the outer layer of the fiberglass hull laminate consists of fiberglass matte and polyester resin. The vessel's bottom is a solid fiberglass and resin lay-up while the sides are reinforced with 3/8-inch Divinycell a closed-cell structural foam material. The bottom is reinforced in the area of the keel with carbon fiber. The bottom is supported by an all-fiberglass composite structural grid which is separately molded and then secured in place with structural putty. Structural bulkheads are a combination of foam cored fiberglass composites and plywood and are attached to the hull using foam fillets to prevent hard spots and cracks at attachment points. The decks are constructed of fiberglass composite with 1/2-inch balsa core. The deck and hull are joined in a shoebox fashion, fastened with screws and fiberglass throughout its length and protected on the outside by a hefty vinyl molding.

I have had a close look at several of these boats, including one which Hurricane Isabel dealt her best blow, and have found the quality to be well above average. However, on a boat of this quality I would like to see marine grade-metal rather than the plastic through-hull fittings above the waterline. The boats I have inspected have all had at least one broken fitting regardless of age.

The cockpit of the Camano is small - only a little over 30 square feet of useable space, but it's sufficient and offers three convenient boarding points - a center transom door from the swim platform and molded fiberglass steps along each side. There is a large center hatch with lots of storage room.

Outdoor entertaining and relaxation aboard the Camano is done on the flybridge which is as large and comfortable as you are likely to find on any small boat. There is a center helm seat flanked by two pedestal seats forward on the bridge and more than 50 square feet of open space aft. The area easily accommodates six adults for cocktails.

Like the cockpit, the foredeck is small but suitable for handling dock lines and ground tackle. The side decks are narrow although sturdy hand rails are provided along the side of the fly bridge.

Although only 28 feet on deck, the Camano has the interior of a larger boat. The designer and builders, to their credit, have arranged the interior with a cruising couple in mind. The main saloon, which features 360 degrees of visibility, has a dinette which converts to a double berth to port aft with chairs and a lower helm to starboard. The galley is down several steps to port with a head and shower opposite and there is a large comfortable V-berth forward.

I have long held that boatbuilders should be required to service and maintain the boats they design before they are ever allowed to build them. The builder of the Camano may not have serviced this boat but has some experience with service and the accessibility of machinery and systems; it brings a smile to the face of this aging surveyor.

Power is provided by a 210 hp Volvo diesel which will push the Camano to a top speed of a little over 15 knots and cruise at seven knots for nearly 800 miles at about eight and a half nautical miles per-gallon of fuel. A very large rudder and bow thruster aid handling in tight quarters.

Naval architect **Jack Hornor** was the principal surveyor and designer for Marine Survey & Design, Co., based in Annapolis, MD. He was on the boards of the American Boat and Yacht Council, the National Association of Marine Surveyors, and the Society of Boat and Yacht Designers. He and his wife sailed their Catalina 42, *Legacy*, based on Maryland's Eastern Shore.

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Story by Robert M. Lane on July 23rd, 2012

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In almost any discussion of the affordable Camano pocket trawler one of the first questions is: How do you pronounce it?

In Canada, where the boat is built, and in the Eastern U.S., people tend to say kuh-MAHN-noh. In the Pacific Northwest, where Camano Island has been well known far longer than the boat, it is pronounced kuh-MAY-noh.

You know what? That's probably the only matter of contention to be heard when the Camano is discussed. The boat gets respect no matter how your tongue twists the final A in Camano.

That's because despite being on the small side, this 28-foot West Coast workboat-style trawler is a stout, well-put-together, sea-going vessel that comfortably will cruise inland waters and coastal routes throughout the world.

In the Pacific Northwest, Camano owners routinely take their boats to Southeast Alaska and around Vancouver Island—journeys that owners of much larger yachts won't make. Others have cruised the Gulf of Mexico, followed the Great Circle Route up the Atlantic seaboard into the Great Lakes and down the Mississippi River, and some are reported prepping for a journey to the Bahamas.

And because of the unusual hull design by Bob Warman, a Vancouver, B.C., naval architect, the Camano will make those passages safely and efficiently at either displacement or planing speeds, at seven knots or 15.

With the curving transom of a fishing boat and its flared bow, the Camano shows the workboat styling that influenced Warman. The saloon windows hint boldly of vintage tugs and fishing boats, although there is more glass in a Camano than one ever would find in a classic workboat.

About 128 of these boats have been launched since 1989, when Warman began building Camanos in a yard in Delta, B.C., just south of Vancouver, and about 130 miles north of Seattle. He pushed about one boat a month out of his yard until 1997, when he sold his business to Brad and Jaslyn Miller.

The Millers, who had been working in Asia, moved the production line into a larger building facility on the shore of the Fraser River in Delta, effectively increasing production. They will build 24 this year and probably could go to 26 boats next year through additional efficiencies.

The tight, little family of Camano owners has grown larger under the new ownership, but the cult-like fascination with the boat has not faded.

The Boat

The distinctive thing about the Camano is that its appearance has not changed over a decade of production. The hull is a soft white and the window trim and boot striping are black.

There have been improvements and additions to systems, all tested rigorously in demo models before being adopted for general use, but the hull and deckhouse remain as Warman originally designed them.

Two models are available: The Troll, which has a flying bridge, and the Gnome, which has no bridge.

Originally, the Gnome was a stripped-down model, with a smaller engine and fewer standard systems.

Buyers, however, prefer the well-equipped Troll. Occasionally a Gnome will be ordered, but it will be a Troll without a bridge.

The Troll, with the flying bridge, is better looking. The added height gives it balance and minimizes the visual impact of so many black-framed windows in the saloon.

Let's take a closer look.

Instantly, it's obvious that the boat is clean, simple, traditional, and functional.

It is not cute, it has no features added only to improve aesthetics. The fiberglass work is high quality, there is no exterior brightwork, and the stainless hand rails are electro-polished for greater resistance to staining.

It is apparent that the old boat-sizing cliché—six for cocktails, four for dinner, and two overnight—was first pronounced for the Camano. She will sleep two owners comfortably forward; very good friends might be allowed to use the convertible settee.

The Camano has one head and a small holding tank. (Changing the tank would be difficult, so Camano switched to VacuFlush toilets, which use only a splash of water to flush, extending the time between pumpouts.)

There is no place for a washer-dryer. Storage is modest, and so is the supply of fuel and water. Owners should plan on stocking up on perishables every couple of days while under way.

Camano owners don't need a generator. They probably can get along without even an inverter. Camanos have good space for cruising electronics, but I'm not sure where to put the 100-plus paper charts needed for a trip to Alaska.

One trip to the factory clearly shows that the Camano is a complex product to build. Yet she remains a simple boat, and should be easy and enjoyable to own and operate.

Lots Of Light

Step aboard, either through a transom gate or over a bulwark, using molded steps. The cockpit, 54 inches deep and 100 inches wide, is large enough for line handling and sport fishing, but a little tight for serious lounging and sunning. A hatch opens to lazarette storage for deck and fishing gear.

A better place to flake out would be on the flying bridge, reached via a ladder from the cockpit. Seats and a full array of engine controls make it a good spot for cruising, too, with an unobstructed view in all directions.

A heavy powder-coated aluminum door opens into the saloon from the starboard side of the cockpit. The settee and a table are to the left.

Straight ahead to starboard is the helm. Amidships is a stairway down to the one-chef galley on the port side and the head (with shower) on the starboard. Forward is the master and only stateroom, which has a V-berth measuring 6' 4" head to toe. A hanging locker with two rods for clothing is between the head and the V-berth.

The master stateroom looks small. But Dr. Lewis Apter, a Treasure Island, Florida, physician, said he, his wife, and their young son sleep together in the V-berth.

"It's just perfect," he said. "It's like a king-sized bed."

The Apters cruise the west coast of Florida and dream about taking their Camano to the Bahamas.

The galley has good lighting, despite being down, through a port light above the sink and the generous flood of sun that comes in from the 14 windows in the saloon. The galley includes a Force 10 three-burner propane stove and a Nova Kool under-the-counter refrigerator.

The Camano is powered by a single 200-hp, six cylinder Volvo TAMD41 diesel. Pull open a hatch cover in the saloon and the turbocharged engine is revealed, packed tightly below deck. Daily checks and routine oil and filter changes should be easy, however, because the entire engine is exposed when the cover is lifted.

There are nooks and crannies in the engine room for storage of tools, filters, spares and other odds and ends.

Almost as noticeable in the engine room as the Volvo is the deep, high-volume keel. It is so wide and deep that the Volvo sets on shelves molded into the sides of the keel.

A bow thruster is standard equipment on the Camano. If landing single-handed in a breeze, veteran owners step to the dock and, if needed, lean through a saloon window and punch the thruster switch to keep the bow up against the dock while lines are secured.

The Millers gave up using teak for interior cabinetry and trim because of cost and quality problems, and switched to Honduras mahogany. The hardwood is finished as fine furniture.

After watching Camano shipwrights saw, plane, and shape mahogany planks into fiddle rails, drawers, cabinet fronts, and trim, I looked into the varnish shop. Surprisingly, the finish crew applies sealer and varnish with pads of cheese cloth, with outstanding results.

An employee, who makes guitars as a hobby, suggested they use the so-called French process, Miller told me during my tour of the yard.

Varnish is diluted 50-50 with thinner. The workers then don rubber gloves and use small pads of cheese cloth to wipe the varnish onto the mahogany. The cloth leaves no brush marks or overlap lines. The surface is sanded with ultra-fine paper between coats.

After several applications the wood is ready for installation. Screw holes are plugged and the trim is sanded and given several more coats of varnish with the cheese cloth applicators.

Miller uses a yardstick to check the quality and apparent depth of the varnish. The rule is placed perpendicular to the trim board. If the finish is good, one should be able to read the reflection of the numbers on the ruler in the varnish up to about 16 inches.

Building The Boat

Camano has 30 workers, who do a 4/40 shift, working on six boats that are backed up to a large platform loaded with equipment and parts. Overhead cranes, which Camano did not have in its first building, speed construction by simplifying movement of hulls and house sections.

Because of the huge volume of the building and its excellent ventilation system, the Camano factory smells less like fiberglass than any boat yard I have visited. The offices are aroma-free and even the molding areas contain only a hint of resin and other products.

The hulls are hand-laid of solid fiberglass below the water line. No chopper glass is used, and the resin is rolled into the glass with vibrating rollers to assure penetration and adhesion. Because the hull mold is split, workers are able to lay the glass without walking inside the mold—a benefit, I'm told.

Split molding has proved unnerving to some buyers. They arrive to see their boat under construction, and panic when they find the hull in two pieces on the factory floor. Miller and the crew calm them by explaining how the molds are joined and glassed together to insure a solid hull.

Above the water line, Camano uses CORE-CELL foam in hand-laid fiberglass for strength and stiffness. During my visit, workers on one boat had just installed metal backing plates for the windlass and other deck fixtures.

Around the perimeter of the factory, craftsmen were building cabinetry and the heavy, well-insulated saloon deck sections. Before the boat is finished, the floor will have two layers of sound-deadening insulation, which is why Brad Miller and I could talk easily while running a Camano at wide open throttle on the Fraser River later that day.

Other workers were cutting window and port light openings in the deck house and installing hand rails.

The house and deck are screwed and glued to the hull section, which is typical for fiberglass construction. At Camano, however, the crew goes a step further by using fiberglass internally to bond all sections together, providing greater strength and reducing the likelihood of leaks.

In the old factory, production was limited in part by the need to hoist the house and deck onto the hull using a forklift truck. With overhead hoisting gear in the new facility, boat hulls can be closer together in the production area and assembly of the main parts is much easier and faster. This improved lifting capacity, along with generous space and production efficiencies, mean more Camanos.

Fun At Any Speed

If it were a displacement hull, the Camano would putt along at less than seven knots while covering about 600 miles on its 100 gallons of fuel. If it were a planing boat, speed would be limited mostly by available horsepower and fuel availability. At a steady 12 knots, the fuel aboard will carry her about 350 miles.

But the Camano is not a displacement boat. Nor is it a planer. It is sort of both, but it is not a typical semi-displacement boat either.

Forward, her stem is deep as it would be in a displacement hull. Aft, the bottom flattens out into hard chines just like a planing boat. But then there's that huge keel hanging down that would never be found on a planing yacht.

The keel, which provides about 25 percent of the hull's displacement, is one of the elements in the Warman design that makes the Camano an adept performer at any speed.

As the boat accelerates, Warman's keel provides buoyancy that helps keep the transom from digging a hole in the sea and the Camano pops quickly onto a plane. The bow lifts only slightly as the boat approaches 20 knots and there is little bow wake at any speed. Trim tabs are not needed to keep the boat running true and level.

When a planing boat hits rough water it must slow down, often resulting in poor handling in stormy conditions. The Camano also must slow when the seas are too large. "But it will handle rough water really well," Warman explained.

Warman produced a boat buyers said they wanted.

“The hull was designed to run at the 12 knots everyone asked for,” Warman said. “But she is not a compromise.”

Calculations by Warman and Camano show that at seven to eight knots the Camano burns about as much fuel as a semi-displacement yacht of similar size and power. At 10 to 15 knots, Warman’s Keelform design burns significantly less fuel than semi-displacement or planing hulls. Warman’s calculations show the efficiency of a true planing hull betters a Camano only when speeds approach 20 knots.

Herb Voelcker, an Ithica, New York, engineer said the Keelform concept works, although he believes his own testing indicates some of the company efficiency claims are overblown. Despite that, the Camano “does a much better job than a planing boat,” he added.

“I can cruise affordably and comfortably at 10 knots, which in most boats is an impossible speed,” Voelcker said. In open water, he cruises at 13-14 knots and nets about two miles per gallon of fuel.

“Push it hard and ours will do 18 knots, but you’d better have her hooked up to an oil well,” he told me.

At six knots he has gone more than 400 miles without refueling, then discovered there was plenty of fuel remaining in the tank. Voelcker believes the 100-gallon fuel tank is too small, but can’t find space to add another tank.

Voelcker said he and his wife went to a boat show in the fall of 1996 that featured about 50 craft. “We saw 49 we didn’t want. We saw one we wanted,” he said. It was the Camano.

“We began poking around and looking behind panels and became convinced it was the one for us. She’s a lovely boat.”

The Voelckers have cruised their Camano in the New York canal system and through the Great Lakes. This summer will find her in North Carolina.

The shape of the Camano makes her a good sea boat. The engine is deep in the keel, making the center of gravity low and countering some of the buoyancy of the keel. She also has a high freeboard, which offers protection from big seas.

Another benefit of the Warman design: The Camano is dry—she takes no spray aboard when punching through chop.

In a demonstration run on the Fraser River, the only waves we found were those that we made. I ran the Volvo to its maximum speed of 4,000 rpm, and the boat zoomed down the river (aided by a couple of knots of current) toward Georgia Strait, which also looked calm.

Maintaining top speed, I spun the wheel hard over to the right and the Camano tracked easily around, heeling only slightly. We felt only a tiny thump as she smacked into her own wake.

A bigger thump came when we ran over a log floating just beneath the surface while running at about 12 knots. It banged against the hull, but caused no harm.

When he first drew the lines for the Camano years ago, Warman said his goal was to build a simple boat of the highest quality. “It is for those customers who are not looking for a lot of flash, but wanted what was done, done well,” he said.

“Our goal was to make it cheap and comfortable, so that on resale people would get more than they paid for it.”

The Millers obviously share Warman’s quest for quality, comfort and efficiency.

As it rolls out the factory door, the Camano is priced at about US\$145,000. In Seattle, a Camano equipped with Webasto forced air heat, a complete Raytheon electronics package, an autopilot, and an oak veneer sole (instead of the standard carpet) has an asking price of nearly \$175,000.

The Raytheon equipment fits neatly in the helm to the left of the engine controls and gauges, where it can easily be seen and adjusted by the person at the helm.

The New Team

Camano headquarters is in an office building that adjoins the huge shop in which the boats are built. As I wandered through the parking lot, a worker from another office sensed I was misplaced and asked if she could help.

I told her I was looking for kuh-MAY-noh. Her face went blank. “Oh,” she said finally, “you’re looking for kuh-MAHN-noh.” And she pointed the way.

Inside I found the husband-and-wife team of Brad and Jaslyn Miller, owners, proprietors, and managers of the boat-building enterprise.

Brad has been a boater, diver, and fisherman. But his professional work has all been in the oil and chemical industries. Jaslyn was a hotel executive.

Because of his work, Brad is expert in mechanical, hydraulic, and electrical systems. He knows about resin components, precursors, acrylics, polyolifins, plastics, and pigments. In his last 10 years in Asia he developed experience in starting new businesses.

It all was a basic education for a career he didn’t even know was coming.

A native of Illinois, Brad went to school in Kentucky and then worked in the Texas oil fields, before going to Asia more than 15 years ago. At the time, Jaslyn was a resident of Singapore.

“Having worked for others and traveling 180 days a year, I thought that if I was going to work that hard I should work for myself,” he recalled. Jaslyn felt the same.

So they began a search for a business to buy. They checked opportunities in Australia, New Zealand, England, the Pacific Northwest, and northern California. “We were driven by lifestyle choices,” he said. “We wanted to end up in a pleasant place to live.”

They visited British Columbia to look at business opportunities, but which weren’t quite right. As they prepared to leave, a broker called to tell them Camano Marine was for sale.

“We visited on a Saturday and came away with the decision that if the financials came out as well as the boat is built, it would be good,” Brad said. “We got an owners’ list and called randomly asking about the boat and the company. It was a lot like a religious experience.”

In July, 1997, they became owners of Camano Marine, Ltd. The timing was good: The market for inboard cruising boats was growing and the future looked positive. There was a demand for the company to build even more boats.

They were attracted to Camano because it was not a product with frequent fashion changes, so there was no need to retool frequently. They bought the business because the boat was well-built and its customers were great. The Millers know them all, through phone calls, letters, personal visits, and boating get-togethers.

The Millers have confidence in the future. The boating business will continue to grow, and even should it slump, they do not believe Camano would be hurt badly.

Miller believes the market for cruising boats will continue to be strong, that those who may suffer in a declining market are those building 60-footers.

“We figured there would be no problem in growing the business,” Brad said. “Even in a cyclical business, the maker of 24 boats a year is not exposed the way a maker of 5,000 is,” he said.

So they expanded production, signed agreements with new dealers, and qualified the boat for sale in Europe. At 24 boats a year, Camano has not saturated the market and now the Millers face new pressure to expand production again. They may be able to build 26 through additional production and schedule efficiencies.

Warman asked the Millers to build a new version of the Camano he has designed—a 45-foot offshore, ocean-capable boat. They declined, believing the time was not right for them.

To increase production of the 28-foot Camano, to build Warman’s larger version or some other model, the Millers would need to run the factory seven days a week, or add a second shift.

“Our decision to change (careers) was driven by lifestyle considerations. So that’s why we hesitate going to a seven-day schedule or to a larger boat,” Miller said.

“I sea trial every boat, I load each boat on the trailer and I know all the owners by name. I don’t know how I can do that while in effect starting a second boat company. We’re really happy doing what we’re doing.”

So Camano may remain a niche boat very much in demand.

A Final Word

In our telephone interview, Warman said he originally told his wife he was going to call the boat Acme. “She said ‘No way.’”

So he looked at a map of British Columbia and found the small town of Kemano, which is pronounced the way Northwest Americans say Camano—kuh-MAY-noh. The spelling was confusing, especially to Americans, so he changed it.

Warman puts some of the blame for the linguistic difficulty on a video Camano produced about the boat. The narrator/actor who appeared on camera had a British accent and kept calling the boat kuh-MAHN-noh.

Doesn’t matter. No matter how you say it, Camano is a darned nice boat.