A NATIONAL HISTORIC MECHANICAL ENGINEERING LANDMARK

THE LANDMARK PROGRAM OF THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS

The committee's overall objective is to promote a general awareness of our technological heritage among both engineers and the general public.

The American Society of Mechanical Engineers (ASME) reactivated its history and heritage program in September 1971 with the formation of the National History and Heritage Committee. The committee's overall objective is to promote a general awareness of our technological heritage among both engineers and the general public.

One of the committee's responsibilities is to gather data on all works and artifacts with a mechanical engineering connection that are historically significant to the profession. It's an ambitious goal, and one achieved largely through the volunteer efforts of the section and division history and heritage committees and interested ASME members.

Two major programs are carried out by the sections, under the direction of the national committee. One is a listing of industrial operations and related mechanical engineering artifacts in local historic engineering records, and the other is the national historic mechanical engineering landmark program. The former is a record of detailed studies of sites in each local area, while the latter is a demarcation of local sites which are of national significance — people or events which have contributed to the general development of civilization.

ASME also cooperates with the Smithsonian Institution in a joint project to contribute historic material to the National Museum of History and Technology in Washington, D.C. The Smithsonian's permanent exhibition of mechanical engineering memorabilia is directed by a curator, who also serves as an ex-officio member of ASME's National History and Heritage Committee.

Other Historic landmarks

The Evinrude outboard motor was the 60th landmark to be designated since the program began in 1973, and the first consumer product to merit the designation from the ASME. The others are:

Edison Experimental Phonograph
Port Washington Power Plant
Port Washington, Wisconsin
Cooperative Fuel Research Engine
Waukesha, Wisconsin

Saturn V Rocket
Cape Kennedy, Florida
Blood Heat Exchanger
Buffalo, New York
Rocky River Hydro Plant
New Milford, Connecticut
Kaplan Turbine, York Haven Hydro-Plant
York Haven, Pennsylvania
Pioneer Zephyr Winton 8-201-A Diesel Engine
Chicago, Illinois
Holt Caterpillar Track-Type Tractor
Stockton, California
Michigan-Lake Superior Hydro-Power Plant
Sault Ste. Marie, Michigan
SP #4294 Articulated Steam Locomotive
Sacramento, California
Jackson Ferry Shot Tower
Wythe County, Virginia
Hiwasse No. 2 Reversible Turbine
Knoxville, Tennessee
Watkins Woolen Mill
Lawson, Missouri
First All-Welded Steam Drum
Chattanooga, Tennessee
Georgetown Steam Plant
Seattle, Washington
Equitable Building Heat Pump System
Portland, Oregon
Shippingport Atomic Power Station
Pittsburgh, Pennsylvania
Jumbo Nine Engine-Driven Dynamo,
Greenfield Village
Dearborn, Michigan
East Wells (Oneida Street) Power Plant
Milwaukee, Wisconsin
Ferries and Cliff House Cable Railway Power House
San Francisco, California
Leavitt Pumping Engine, Chestnut Hill Pumping Station
Brookline, Massachusetts
A.B. Wood Low-Head High-Volume Screw Pump
New Orleans, Louisiana
Portsmouth-Kittery Naval Ship-building Activity
Portsmouth, New Hampshire
102-Inch Boyden Hydraulic Turbines
Cohoes, New York
5000 KW Vertical Curtis Steam Turhine-Generator
Schenectady, New York
Saugus Iron Works
Saugus, Massachusetts
Pioneer Oil Refinery
Newhall, California
Chesapeakc & Delaware Canal, Scoop Wheel and Engines
Chesapeake City, Maryland
U.S.S. Texas, Reciprocating Steam Engines
Houston, Texas
Childs-Irving Hydro Plant
Irving, Arizona
Hanford B-Nuclear Reactor
Hanford, Washington
First Air Conditioning, Magma Copper Mine
Superior, Arizona
Manitou and Pike's Peak Cog Railway
Colorado Springs, Colorado
Edgar Steam-Electric Station
Weymouth, Massachusetts
Mt. Washington Cog Railway
Mt. Washington, New Hampshire
Folsom Power House #1
Folsom, California
Crawler Transporters of Launch Complex 39
J.F.K. Space Center, Florida
Fairmont Water Works
Philadelphia, Pennsylvania
U.S.S. Olympia, Vertical Reciprocating Steam Engine
Philadelphia, Pennsylvania

Birmingham, Alabama

State Line Generating Unit #1
Hammond, Indiana
Pratt Institute Power Generating Plant
Brooklyn, New York
Monongahela Incline
Pittsburgh, Pennsylvania
Duquesne Incline
Pittsburgh, Pennsylvania
Great Falls Raceway and Power System
Paterson, New Jersey
Vulcan Street Power Plant
Appleton, Wisconsin
Wilkinson Mill
Pawtucket, Rhode Island
New York City Subway System
New York. New York
Baltimore & Ohio Railroad
Baltimore, Maryland
Ringwood Manar Iron Complex
Ringwood. New Jersey
Joshua Hendy Iron Works
Sunnyvale, California
Hacienda La Esperanza Sugar Mill Steam Engine
Manati, Puerto Rico
RL-10 Liquid-Hydrogen Rocket Engine
West Palm Beach, Florida
A.O. Smith Automated Chassis Frame Factory
Milwaukee, Wisconsin
Reaction-Type Hydraulic Turbine,
Morris Canal
Stewartsville, New Jersey
Experimental Breeder Reactor (EBR-1)
Idaho Falls, Idaho
Drake Oil Well
Titusville, Pennsylvania
Springfield Armory
Springfield, Massachusetts

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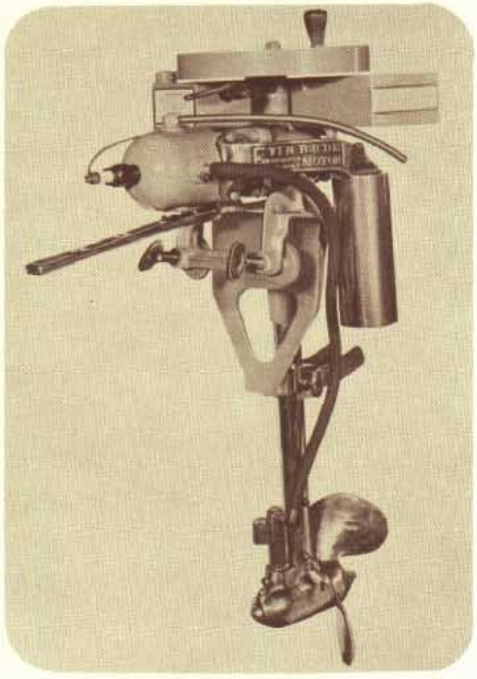


EVINRUDE'S DETACHABLE ROWBOAT MOTOR A NATIONAL MECHANICAL ENGINEERING LANDMARK

THE FIRST OF MILLIONS

Outboard "motors" to propel boats had been around, in one form or another, for more than 40 years when Ole Evinrude designed and built his first outboard in 1907.

Some were little more than foot-powered paddlewheels. Others were steam powered. Electric outboards powered by storage batteries in the boat, heavy four-cycle engines for outboards . . . all had been tried and, for one reason or another, had failed to win customer acceptance.

Ole Evinrude's 1907 outboard changed all that, and revolutionized recreational boating in the process. It was everything other outboards were not: light in weisht, easv to use. dependable, relatively powerful.

The landmark internal combustion two-cycle Evinrude motor developed 1½ horsepower at 1,000 rpm, weighed 62 pounds, and used an engineering design that has remained the standard for outboard motors ever since. The cylinder was horizontal, the crankshaft was vertical, the direction gears were housed in a submerged lower unit.

Today, just about *every* outboard motor, from little two-horsepower "kickers" to marine power systems developing 235 horses or more, have horizontal cylinders, and vertical crankshafts, and driveshaft power direction changing gears in the lower unit. Just like Ole Evinrude's very first.

After two years spent refining his prototype, Ole Evinrude and his wife, Bess, formed the Evinrude Motor Company in 1909 and began production of what almost immediately was the world's first truly commercially successful outboard motor. Overnight, it revolutionized the recreational marine market until today fishing and water skiing and just plain cruising (most of it with an outboard-powered boat) are some of the world's favorite forms of recreation. Outboards also help people around the world earn their livings on the water.

Now, seven decades later, Evinrude Motors is a flagship Product Group of Outboard Marine Corporation, the leading worldwide manufacturer of outboard motors (Evinrude and Johnson), as well as inboard power systems (OMC Stern Drive), marine products (OMC Parts and Accessories), lawn mowers (Lawn-Bey), industrial vehicles (Cushman) and professional turf care equipment (Ryan).

And Mr. Evinrude's original outboard, the 1909 model that was the inspiration for a new industry, has been designated a National Historie Mechanical Engineering Landmark. It's the sixtieth mechanical item to be so designated by the American Society of Mechanical Engineers, and the first consumer product ever to be declared a national landmark by the ASME.

The Evinrude landmark outboard motor. It was the first of millions.

IT'S A HOT AUGUST DAY IN THE EARLY 1900'S. Ole Evinrude, Bessie Cary and some of their friends are picnicking on Okauchee Lake, west of Milwaukee. Miss Cary suggests it might be nice to have some ice cream on such a warm afternoon.

THE GREAT ICE CREA

Great ideas often spring from small happenings. So it was with Evinrude's landmark outboard motor.

The small happening was, ironically, a gallon of melted ice cream. The great idea, of course, is the very first Evinrude outboard motor, the one that has been honored by the American Society of Mechanical Engineers as a National Historic Mechanical Engineering Landmark.

It's a hot August day in the early 1900's. Ole Evinrude, Bessie Cary and some of their friends are picnicking on Wisconsin's Okauchee Lake, west of Milwaukee. Miss Cary suggests it might be nice to have some ice cream on such a warm afternoon. Mr. Evinrude gallantly volunteers to row their boat to the ice cream store, "Schatz's," and get some. History has misplaced the flavor of that ice cream, but one thing remains clear: by the time Ole had rowed back, the summer heat had melted the ice cream to ice cream soup.

The melted ice cream did little to dampen the fun of the day, nor the romance between Ole and Bess (they were married a few months Later, in 1906), but it *did* spark an idea in his inventive mind: develop a new kind of outboard motor for a rowboat, one that wouldn't require bulky batteries, or weigh too much, one that would be dependable and quick enough to keep the ice in the ice cream the next time.

Ole Evinrude

Ole Evinrude was uniquely prepared for the challenge. Born in 1877, he was five years old when his family emigrated from Norway to America, eventually to settle on a farm in central Wisconsin. But his interest lay with things mechanical, not things agrarian, and in his late teens he moved to Wisconsin's capital city of Madison, where he became an apprentice in a farm machinery shop.

After Madison, he moved on to work the steel mills of Pittsburgh and the giant machine tool factories of Chicago, returning a few years later to Milwaukee where he opened his own pattern shop.

About this time, the internal combustion engine was coming into its own, so a few years later, Ole and another man formed the Motor Car Power Equipment Co., to build a standardized motor that could be installed in any "horseless" carriage. Bess Cary was the company's office manager.

Using his mechanical and engineering genius, spurred by the never-forgotten ice cream incident, in 1907 he designed and built the first prototype of an Evinrude outboard motor. This "coffee grinder," as Bess Cary Evinrude called it, moved a boat through the water better than any other outboard on the market . . . but Ole, more the inventor than the business man, at first had difficulty seeing its commercial promise.

Fortunately, though, his Bess did. At her urging, Ole made ten, then 20, then 25 "coffee grinders." These quickly were sold and, in 1909, the Motor Car Power Equipment Co. was in the past, the future was the Evinrude Motor Co., and Ole's outboard was about to usher in the modern world of recreational boating.

Ole and Bess were, as he was fond of saying, "the perfect partnership." Ole's place was the factory, where he designed, and built, and supervised, and motivated. Bess was at home in the office, handling the books, managing the sales (many a man was more than a little surprised when he discovered the "B. Evinrude" who signed the letter or the sales contract was a woman!) writing the ads.

DON'T ROW! THROW THE OARS AWAY! USE AN EVINRUDE MOTOR. This was the theme of the advertising campaign created by Bess Evinrude that proved so successful that, in 1911, the Evinrude company had to find new larger manufacturing facilities.

Three years later, the Evinrude outboard business had grown to more than 300 employees, with sales throughout the U.S. *and* Europe. But despite her enthusiasm and hard work for the company, Bess Evinrude was not a physically strong woman. Her

health was failing, and Ole wanted to devote his full time to her. In 1914, he sold the Evinrude Motor Co. and they retired.

As the Evinrudes motored around the pre-Interstate highway with their son, Ralph, the "modern" outboard industry that Ole had begun was growing, with companies like Caille and Koban and Arrow and Lockwood-Ash joining the competition. All, of course, used the basic Evinrude design concept.

When Ole sold the original Evinrude company, he agreed to stay out of the outboard business for five years. Still, once an outboarder, always an outboarder, and even as they enjoyed their early retirement, even as Bess was regaining her health, Ole was "mind designing" his second-generation outboard, one that would use two cylinders instead on one, weigh 50 percent less, yet develop 50 percent *more* power.

By 1921, "the perfect partnership" was back in business in Milwaukee, this time as the Elto (for *E*vinrude *L*ight *T*win *O*utboard) Outboard Motor Co. Aluminum had come into common industrial use during World War I, and the first Elto was the first outboard to substitute aluminum for the traditional heavier metals. As promised, it developed three horsepower instead of 1½, and weighed 47 pounds.

By now, the outboard industry had followed the trail blazed by Ole Evinrude, and innovation followed innovation: streamlined lower unit, full tilting, waterproof ignition system (Elto), full pivot steering (Johnson), underwater thru-the-prop-hub exhaust system (Evinrude), anti-ventilation plate on the lower unit for more efficient propulsion (Johnson), water-scoop cooling system (Elto), slip clutch propeller (Lockwood-Ash), auxiliary gas tank (Elto), combined steering tiller and throttle control (Caille), and remote outboad steering (Elto).

DON'T ROW! THROW THE OARS AWAY! USE AN EVINRUDE MOTOR. This was the theme of the advertising campaign created by Bess Evinrude that proved so successful that, in 1911, the Evinrude company had to find new, larger manufacturing facilities.

Under Ole Evinrude's leadership, Elto led the way in outboard engineering. In 1928, it broke the two-cylinder "barrier" when it introduced the four-cylinder outboard to meet the public's growing demand for more power and speed. Elto was the first outboard builder to completely enclose the powerhead in a water-resistant motor cover. In 1930, along with a few other outboard companies, it introduced electric starting on outboards.

Meanwhile, historic corporate restructuring was usnderway. In 1928, the Briggs & Stratton Corp. had acquired the original Evinrude Company, which had passed through several owners since Ole had sold out back in 1914. A year later, Evinrude merged with Elto and Lockwood-Ash to form the Outboard Motors Corp.

But as the outboard industry and Elto were growing, Bess' always-frail health again was failing. She passed away in Milwaukee in 1933. A year later, Ole Evinrude died suddenly in his Milwaukee home. He was just 57 years old.

The Evinrudes' only Child, Ralph, had been active in the business since he joined it after two years at the University of Wisconsin. With Ole and Bess gone, it was up to Ralph to continue the Evinrude tradition of innovation and leadership. He proved more than ready for the challenge.

In 1935, the Outboard Motors Corp. acquired the other major outboard company in the U.S., Johnson Motors of Waukegan, Ill., and formed the Outboard Marine and Manufacturing Co., with Ralph Evinrude as president.

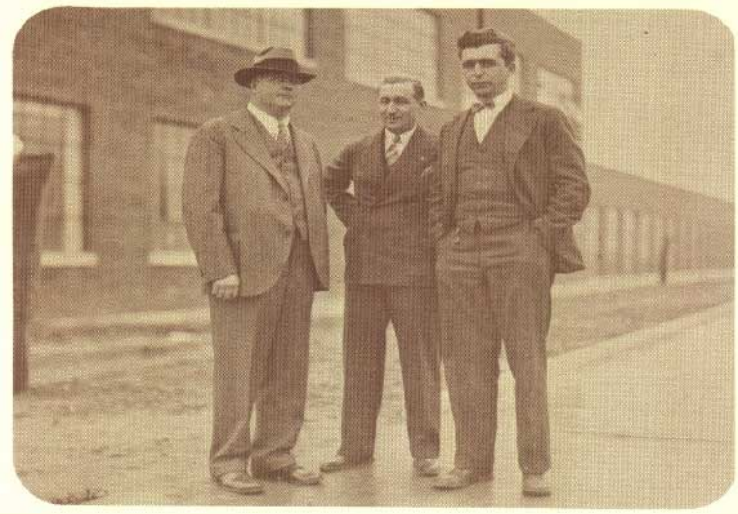
Today, it's known as the Outboard Marine Corporation, one of America's largest corporations with sales in excess of $700 million. It's a leader in every one of its product lines. It has manufacturing and marketing facilities in the U.S., Canada, Belgium, Australia and Hong Kong. It employs more than 10,000 people. Ralph Evinrude is chairman of its board of directors.

And it all started with a gallon of ice cream melting under a hot summer sun less than 80 years ago.

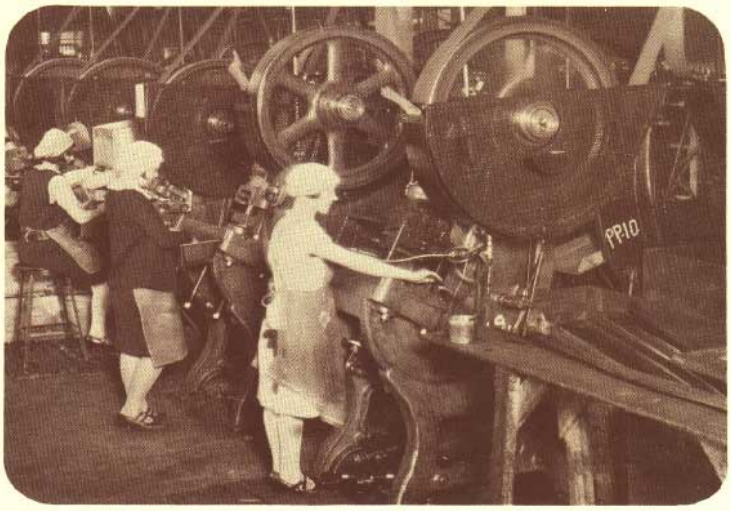
Bess Evinrude

DREAM COMES TRUE

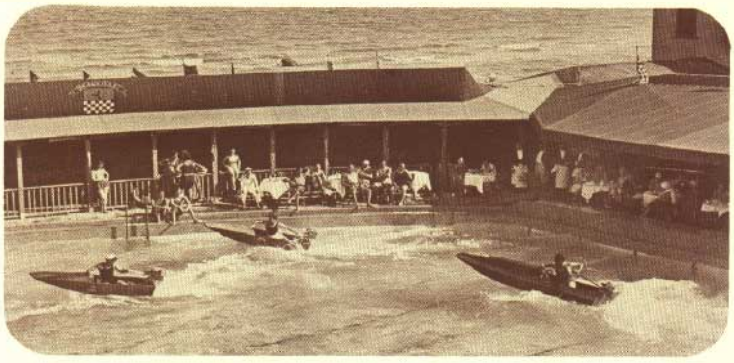
THE EVINRUDE EARLY YEARS PHOTO ALBUM



VISITORS — Ole Evinrude, left, and Finn Irgens, right, pose in front of the plant with Evinrude's London distributor, J.W. Shillan. Irgens, an engineering genius who held numerous U.S. patents, eventually rose to the highest levels of Outboard Marine Corp.

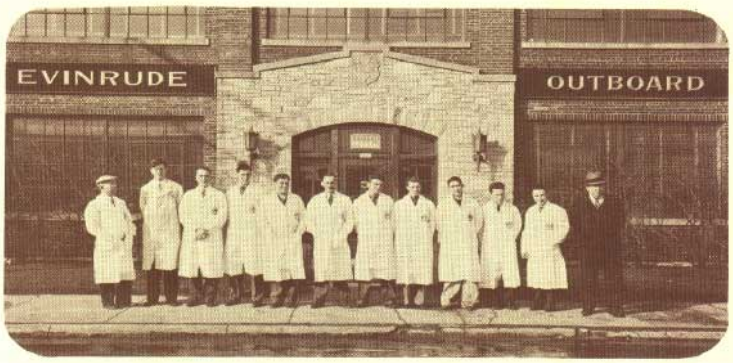


THE PLANT — Because of his great interest in things mechanical, Ole Evinrude always made sure his manufacturing facilities had the most modern and efficient machines available. And by the late 1920s, women had become a major part of the Evinrude factory work force.



POOL SHOW — By 1930, the public's interest in power boating that started with the Evinrude outboard more than 20 years earlier was booming. Here, a group of outboard-powered race boats stage a pool show at the famed Beauville Hotel in Miami Beach.

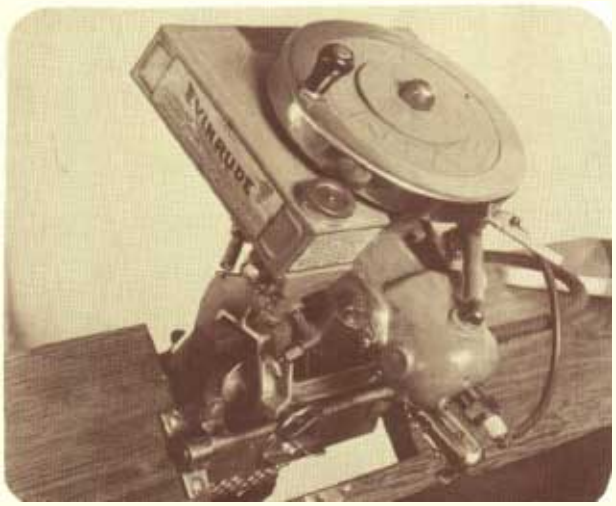
DOUBLE DUTY — Running boards served double duty on Evinrude salesmen's cars. They were a rack to carry the display motor from town to town (securely latched down, of course). And they kept the motor out in the open, where the curious could see it. After all, in the 1920s, an outboard as light and compact as the Evinrude was a curiosity indeed!



SERVICE TRAINING — A class of service school students poses with its instructors in front of Evinrude's main Milwaukee plant in the early 1930s. Evinrude Motors was one of the first in the industry to offer factory service training.

REMOTE CONTROLS — Evinrude was the first outboard builder to offer remote steering on its motors. This early 1928 model used two cables with handles to grip. Soon after, the handles were replaced by a single steering wheel — the same basic remote steering system used today.

MORE FUN — In the late '20s and early '30s, flying and boating were two favorite sports for the "thrill" seekers. It was a heday for the promoters . . . like this Racine, Wis., dealer whose trailer offers free boat demonstrations that he prmises will be "more fun than flying"

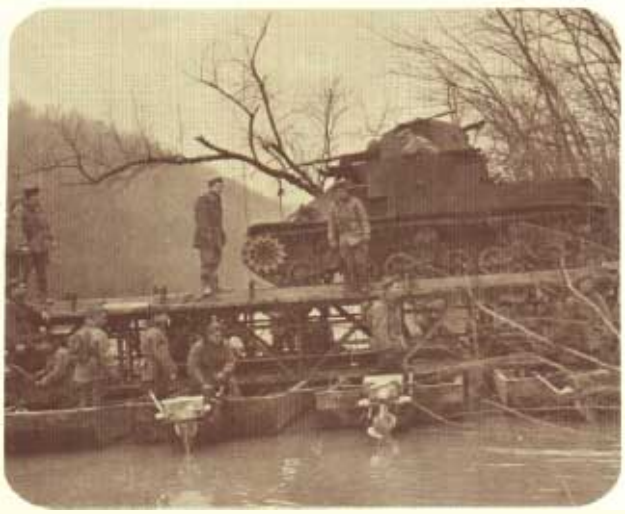


'R' — This 1917 model was the first Evinrude with 360-degree reverse steering and tilting too. Full forward-neutral-reverse shifting was to come later.

SAMPLE CASE — Every peddler had to have his sample case, and an Evinrude salesman was no exception. Date: 1926.

THE LONG, LONG TRAILER — The year was 1937, and Evinrude had become a part of the Outboard Marine and Manufacturing Co.Lawn-Boy lawn mowers were part of the family now, and shared display space with the outboards.

SKI BOOM — The landmark Evinrude outboard opened the exciting world of water recreation to everyone. This scene of a family enjoying aquaplaning was typical of lakes and rivers around the U.S. in the mid 1930s.



WARTIME — The world went to war in 1941, and Evinrude went with it. Until late 1945, when commercial production resumed, the company made only outboards and other military equipment for the war effort. Here, a flotilla of Evinrude-powered barges supports a temporary bridge over a European river. It was December 1944, victory was in sight, and soon America would return to more pleasant pursuits ... like boating.

THE WAY IT WAS

BY JIM WEBB

Note: Jim Webb, who retired in 1963 as vice president and general manager of Evinrude, knew Ole and Bess Evinrude well. He joined the Elto Outboard Motor Co. in 1926 as a sales correspondent, and spent his next 37 years with Elto and Evinrude. After his retirement, Jim Webb authored the book, "The Pictorial History of Outboard Motors," thus keeping a promise he had made to Bess Evinrude 38 years earlier. The following is excerpted from Mr. Webb's book.

. . .Ole never went beyond the third grade. At that point, his father needed more help on the farm. So the youngster left school at the ripe age of 10 and began farming. He was big and strong for his years, and was a willing and dutiful worker.

Ole was a shade different from most farmers' sons. From his maternal ancestors, he inherited an uncanny understanding of mechanical things. Somehow he was able to fix anything and make it run as it was supposed to. He saved his father and neighboring farmers many hours by devising repairs that ordinarily meant a trip to the blacksmith shop. When he was engaged in these tasks, the husky youth was really happy, but otherwise he longed to leave the farm and go to town where there were all kinds of machines.

. . . Bess was a fair-minded woman. She always thought things through, and so now she began to reconsider the outboard motor. Suddenly, the exciting possibilities of the coffee grinder came through to her. "Ole,", she said, "if that thing does what you say, people will buy it. Clean it up. Make it better. There are lots of pattern makers, but no one is making anything like this."

With constant needling from Bess, Ole . . . rounded the square corners, polished the brass, painted the iron parts and added a muffler with an aluminum manifold. When he finished, the coffee grinder image had vanished. In the building process, Ole bought and made 25 sets of parts. He didn't expect to need them in a hurry, but the foundries charged about as much for one set as for 25, so it made sense.

The new motor started easily and ran beautifully. Ole lent it to a friend one Sunday. He came back with orders for ten smotors and great stories about the excitement it caused at Pewaukee Lake.

Within a short time, the Evinrude success story attracted new firms to the motor-building business. Most of them copied Evinrude, but Ole disregarded the competition. He never consciously copied others and he didn't care who copied him. He and Bess believed the one who did the best job would prosper. The more people advertised and sold motors, the sooner the public would become conscious of low-cost boating. And as demand for outboards grew, Evinrude would get its share. Consequently, when a competitor came to them for help, he would get the best advice they could give.

To meet payrolls (during the Depression), Evinrude-Elto began to hold factory sales over weekends. Motors sold here were not current models, but leftovers or motors made out of overstocks of old spare parts. Competitors tried to make capital of it, but they did not survive, and Evinrude-Elto made it.

I well remember one Sunday night in the spring of 1933. Jake Stern (executive vice president of the Outboard Motors Corp.) came downstairs to the office showroom. I was just loading a motor into the car of a banker from a nearby town who had been chiseling for a better price for a couple of hours. After the man had gone, Jake said — "All right, old boy, you can close up now. With that one we can cover the payroll tomorrow."

There was, of course, suffering among our employees (during these years), but they were more fortunate than many because they still had their jobs. They learned how big Ole Evinrude's heart was. Often he stopped to chat with some old-timer who was particularly hard pressed, and during the conversation he would unobtrusively leave a well-folded, personal check. He did not want to be thanked.

It was characteristic of Ole Evinrude that from 1930 until his death, he drew no salary. Had he done so, the company probably could not have survived — things were that close.

Ole Evinrude was the most honest man I've ever known. Utterly without guile, he could not dissemble in a matter, large or small. He remembered every favor ever done him and, as far as I know, forgave every fault. He was extremely shy, but when he spoke

THE WAY IT WAS

BY HUGO BIERSACH

Note: Hugo Biersach retired in 1954 after a 42-year career with Evinrude Motors. Starting as a stock clerk,Biersach later became sales manager, advertising manager, a director, and a vice president. Today he lives on Pewaukee Lake, west of Milwaukee, not far from the place he first met Ole Evinrude.

I first met Ole Evinrude at an Evinrude company picnic at Waukesha Beach on Pewaukee Lake in 1911. I met Ole and his wife and Ralph, who was quite a small guy at that time. They brought out a number of outboard motors and rented a fleet of 15 or 20 boats and put motors on them and gave the employees turns at taking rides on the lake. I was very impressed.

But I didn't go to work for Evinrude until 1913 and by that time Ole Evinrude had sold out to Chris Meyer. I started as a stock clerk, and they appointed a new general manager, P.M. Tallon. He brought me upstairs to the sales department. This was 1914. When Mr. Meyer sold out his interest, Ole came back into the business. I was still there so I just continued on with the company.

There have been so many changes. The biggest change, of course, is with the outboard motors. Back then we didn't make many changes in the outboards. In fact, the model that Ole Evinrude sold in 1909 remained approximately the same until about 1912 when he added a skeg on the gearbox to ward off obstructions. Then, in 1913 I think, we made a big change. We changed the horsepower from 1½ to 2-horsepower.

We had, maybe, 250 employees. I remember when we were on Walker Street we got the first export order, an -order for 1,000 motors. That put a whole new perspective on the thing. Boy were we excited!

Ole Evinrude was a very genial, pleasant man, always with a smile. A very easy man to get along with. He was an easy man to be with. He loved the company, loved conviviality, loved the outdoors. He was just a very fine gentleman. He had a very fine and efficient wife, too. She managed the office and Ole ran the plant. It was a good partnership. I don't think one or the other alone could have done it. The two together made it work.

it was with persuasive conviction. Mr. Evinrude was quite a man!

Bess possessed the same integrity as did her husband. She had the natural instinct for designing an advertisement or a sales campaign as Ole had for engineering and production. While she ran the Office end of the business, she never thought of taking charge in such a way as to cast the slightest shadow on Ole. She discussed every important move with him. He practically always agreed with her suggestions, but she never took it for granted.

EVINRUDE: THE CHOICE OF PRESIDENTS

Note: Teddy Roosevelt, 26th president of the United States, also was an explorer and adventurer of note. In 1913, he led an exploration to the headwaters of South America's Amazon River. The following is excerpted from his personal log of that exploration:

"We had with us a three and one-half horsepower motor which could be attached to the stern or gunwale of a canoe or boat. It was made by the Evinrude Motor Company. Though the motor was left out in the rain and sun, often without a cover. . . it never failed us. We found it particularly valuable in going against the strong current of the Sepotubia River, where several all-night trips were made upstream, the motor attached to a heavy boat. For exploration upstream ... it was easily portable."

"You know you've chosen wisely when your new motor bears the name Evinrude. For that name is more than a mere brand, a maker's label. It's the master-mark of an industry's founder. It's the sign of forty years of true creative engineering. It's the index that implies: 'in this mechanism there is every feature that could contribute to your lasting enjoyment of outboard motoring.'" — from Evinrude Motors' 40th anniversary catalog, 1949.

THE OLE EVINRUDE TRADITION OF CREATIVE ENGINEERING

"Creative engineering" has been a way of life at Evinrude ever since Ole Evinrude built his first. prototype outboard motor in 1907. Under his leadership, at first, and his legacy since 1934, Evinrude — and Elto for a few short but significant years — has blazed the engineering trails of outboard technology, introducing innovation after innovation that, today, are, feature-after-feature, standard on modern outboard motors . . . features like water cooling, remote steering, and multi-cylinder powerheads, and separate fuel tanks, and quiet running.

Much of what's taken for granted in today's modern outboard motor owes its very existence to that tradition of creative engineering and quality manufacturing that was Ole Evinrude's way of doing business. Make it the best way you know how, he would say, then make it better.

The roster of Evinrude engineering "firsts" began with that first Evinrude outboard more than 70 years ago, and has grown ever since. Set aside that first Evinrude, the one that was the first lightweight outboard, *the first really dependable outboard,* the first convenient and easy-to-use outboard, the first outboard that was a marketplace success.

After that, start counting up the Evinrude engineering firsts.. and what that list is, is the history of modern outboarding.

The Evinrude sales van made stops in many neighborhoods.

Evinrude's Elto introduced lightweight aluminum to outboards, the first exhaust through the underwater propeller hub for more quiet operation, the first enclosed and streamlined lower unit, the first motor with full tilting, the first with a waterproof ignition system (especially important for an outboard motor, which tends to get somewhat wet in normal operation). (1921)

Elto pioneered a basic remote steering system, soon modified into the steering wheel design common today on most medium- and high-horsepower outboards. (1926)

Along with a few other manufacturers, Evinrude introduced electric starting to outboards, using an electric-starter generator that replaced the flywheel of the engine with an armature. (1930)

Evinrude introduced a rubber mounting system to isolate the powerhead, for less vibration, smoother running. (1932)

Evinrude helped quiet motor operation — and make modern outboard styling possible — by "hooding" the motor's powerhead for motor protection and noise reduction. (1934)

Evinrude introduced reed valves (still used in most outboards today) and the angled, weed-resistant propeller shaft for smaller outboards. (1935)

Evinrude converted its entire production to the war effort. Noise reduction knowledge learned here resulted in the much more quiet outboards of the post-war era (1941-1945).

Aquasonic silencing, using a rubber "cushion" between the engine and the stern mounting

Gertrude Ederle, the first woman to swim the English Channel (1926), with her Evinrude outboard motor.

The new shell molding process was introduced to the marine industry by Evinrude. The significant cost savings of this manufacturing process — with no reduction in quality — helped make outboards more affordable than ever to the average American boater.

bracket, reduced engine noise by 50 percent. (1954)

The new shell molding process was introduced to the marine industry by Evinrude. The significant cost savings of this manufacturing process — with no reduction in quality — helped make outboards more affordable than ever to the average American boater. (1956)

Evinrude introduced the first 90-degree, V-4 design outboard, a 50-horsepower model that, at the time, was the most powerful Evinrude ever. Today, that same basic V-4 design is used in outboards from 90- to 140-HP. (1958)

Evinrude introduced the 50-to-1, gas/lubricant fuel mix for its two-cycle outboards. Compared to the 24:l mix previously used, this new mixing ratio meant less lubricant used, less smoke and fumes. (1964)

The world's first mass-produced in-line three-cylinder loop-charged outboard motor — the 55-HP Triumph — was introduced by Evinrude, featuring a computer-designed lower unit and a computer-guided "transfer line" method of precise power-head production. (1968)

Overboard fuel drains were eliminated, so unburned fuel is recirculated in the engine, instead of discharged overboard. In the interest of cleaner waters, Evinrude made this drainless technology available to its competitors. Today, all major outboard motors have no overboard fuel drains. (1972)

Evinrude unveiled the world's first rotary combustion outboard motor, as an experimental racing engine. Developing up to two-thirds more power than the biggest piston outboards of the times, the rotary performed well on the top racing circuits of the world. It is still part of OMC's ongoing research and development program. (1973)

Evinrude introduced the most powerful outboard motor ever, the 200-HP V-6, designed for larger runabouts and blue-water boats. (1976)

To meet consumer demand for more powerful outboards to power larger boats, a 235-HP V-6 model, the world's most powerful outboard, was introduced, to complement the other V-6 Evinrudes: 150-, 175- and 200- HP models. (1978)

These, of course, are just a representative few of the many Evinrude engineering firsts. There have been many, many more . . . and they continue today, all in the Ole Evinrude tradition of engineering innovation and leadership.

Throughout the years and throughout the engineering triumphs, the Evinrude tradition first defined by Ole Evinrude continues. Ralph Evinrude, chairman of the board of Outboard Marine Corp. said, "In 1909, my father built the world's first commercially successful outboard motor. In the custom of the day, he placed his name on it; a proud craftsman's personal guarantee of integrity and quality. We are still a company of proud craftsmen. The name on the motor still attests to the quality of the workmanship inside."

Many of the innovations introduced by Evinrude Motors on its recreational outboards were tested and proven on the race course.

EVINRUDE'S DETACHABLE ROWBOAT MOTOR
A NATIONAL HISTORIC MECHANICAL ENGINEERING LANDMARK

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