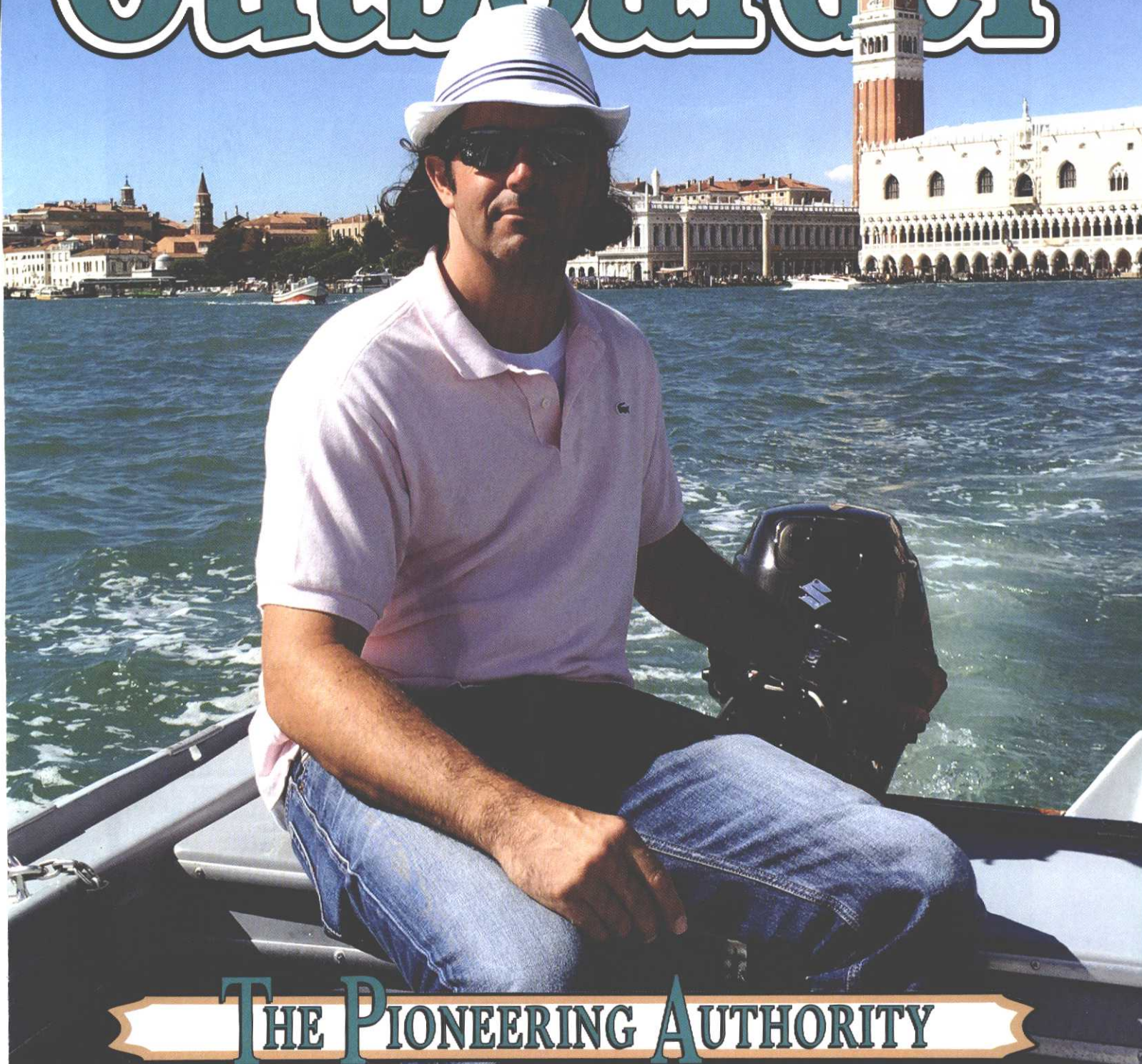


October 2018

THE Antique Outboarder



THE PIONEERING AUTHORITY



I want to thank Karen Dalle Ave and her registration crew at the Tomahawk meet. I don't have the numbers yet, but they did a lot of new member applications and renewals. Helps to make my job easier. Thanks again, Karen.

Ed



Richard L. Paquette
Vice President Publications,
The Antique Outboarder

Another great summer wrapped up, and while I was only able to attend one meet, in Tomahawk, WI, it was a great one! Thank you to everyone who took the time to speak with me about what we are doing and where we are going with the organization. It is your feedback that informs our discussions and guides our decisions. If you are not happy with the direction of the Club, you need to let us know. If you have an idea on where the Club should go, you need to share it: that is how things get done.

I was able to put some time into the Club's new website over the summer, which I hope will have launched before you get this issue; if not please have patience. The new website has been quite an undertaking and has been much more work for us volunteers than we anticipated. We expect this to be an ongoing, or evolving project; so again, if there is something you would like to see improved please let us know.

If you are reading this and have not visited the new site to see how it is progressing, please check it out. Specific instructions on how to access the Member Only section of the site should have been sent via email. If you have not begun receiving email from the Club, or have not been able to access the new site, visit www.aomci.org to subscribe to the mailing list or send our webmaster Travis Kerbrat an email at webmaster@aomci.org.

Work we had discussed undertaking on the Club's by-laws and Motor Classifications will have to wait as I am not sure there is time remaining in this term of the Executive Council to pull that project off. Motor Classifications are enshrined in the Club's by-laws and changes need to be ratified by referendum. I encourage you all to review the Club's by-laws, which can be found in the preface of your annual Membership Directory. If, like me, you have an interest in the rules and refining those rules feel free to reach out with your suggestions. While I have had some interest from volunteers to sit on a committee to start the revision process, we could use a few more.

On a personal note, I hope to put some work this winter into some motors, having picked up a new project under a new brand. As you may know, I am also the Special Interest Group leader for Eaton's Viking Outboards and have at least attempted to limit my collection to motors falling under that label. Eaton's, a department store chain and mail order house in Canada akin to Montgomery Ward in the United States, sold rebadged OMC motors from 1933 and Chrysler built motors from 1965.

Before Vikings, they sold name brand Evinrude, Johnson and Muncie Gear Works motors from 1930-32. I was

blessed to have had the opportunity to work with Steve Andres, aka Neptune Ned, on gathering all the parts for a Muncie (Neptune) Master Twin. These motors, while not branded by Eaton's as Vikings, appeared in the Eaton's catalogues in the early 1930s. I seem to have a rare 1931 version, which appears to be the same as what was advertised by Eaton's. Its discovery has apparently rewritten the history books as the motor I found was simply stamped OB-15 and did not exist in Steve Andres' Muncie Gear Master Catalogue. Pretty exciting stuff overall, and I hope to get this one up and running soon. While I have not brought the project to the test barrel, I had a lot of help moving it along from Steve Wood, George Emmanuel, and Richard White, who graciously agreed to take my pesky Eisemann magneto home to make it a new coil!

My 1954 Canadian Challenger, a 15 foot cedar strip run-about (see the Helm Section of the July 2018 *The Antique Outboarder*) needs to be refinished this winter. I have noticed a few structural repairs that need to be made, but I am sure that as with every other time I have begun to refinish her, there will be more work than I expect. Regardless I

CORRECTION

In the July issue, the Yankee Chapter president was mistakenly reported as Bob Grubb.

The correct Yankee Chapter president is:

Gary Mower
 362 Sir Walter Dr.
 Cheshire, CT 06410
Gdm362@gmail.com

Antique Motor Registration Stickers FREE



The Motor Registration Department serves a definite purpose in determining the rarity and survival rate of motors, not motor value. It helps to put members in touch with other members who have the same type of engine.

A S.A.S.E. is required for all inquiries and for receiving Motor Registration stickers.

Mike Newman
 101 N. Front St. #109
 Belding, MI 48809

Taking Meet Photos?

Make Sure You:

- Get *people's faces* in the picture. Someone's back is uninteresting.
- Avoid cluttered or ugly backgrounds. No garbage cans!
- Include *motor/boat description*, owner, and interesting details in the caption.
- Include *people's names* in the caption.
- Try to make *every shot good* enough for the color Gallery.



hope to also have that accomplished before the arrival of spring and to see you all out on the water next season!

Sincerely,
Richard L. Paquette



From the Editor

Scott Bogue

The Book with 45 Chapters

"Wow!" you might say. "That's a big book! Who wrote it, and what's it about?"

Well, we did, and it's about – us.

Every chapter in AOMCI has its own location, cast of characters, range of interests, and stories.

If you could read about just one chapter a day, it would take you over six weeks to travel from the Alberta Oil Country Chapter to the Yankee Chapter!

In a way, there is such a book. It's made up of the people, meets, motors, boats, skills, knowledge, and experience that make up the AOMCI. But like a book with some pages left blank, a lot of it isn't written down.

What is written down often appears in the pages of this magazine, but there's another extensive body of writing that only a few are able to see: chapter newsletters.

If your chapter puts out a newsletter, whether in print or electronically, give some thought to submitting articles, photos, and meet reports in the form of reprints in *The Antique Outboarder*.

Thanks,
Scott Bogue
editor@aomci.org
2400 Farm Gate Road
Browns Summit, NC 27214



Make Your Row Boat Into a Power Boat

By means of this durable Lockwood-Ash motor every row boat is easily made into a power craft economical to operate.

It is designed for fishermen, hunters, boat-livery men and vacationists.

Our 30-Day Trial Plan is Explained in Our Booklet. Send for it.

Lockwood-Ash Motor Company

2110 Jackson St. Jackson, Mich. (80)

LOCKWOOD-ASH
MARINE LA ENGINES

An ad from
May 1921.
Contributed by
Al Jarvis.



By Bob Zipp

In this Issue, let's discuss my family's "Maltese Magnum Missile 16" Tunnel Boat, and then we will follow up with a Critical Book Review. So sit back in your easy chair, fasten your seat belt, and let's begin.

In my "Of Historical Interest" Article that was in the April 2002 Issue of "The Antique Outboarder", we had a detailed discussion about our family's 1957, 15 foot 10 inch, molded plywood, Dunphy "Deluxe Muskie" Runabout. As a reminder, the last paragraph of that Article is:

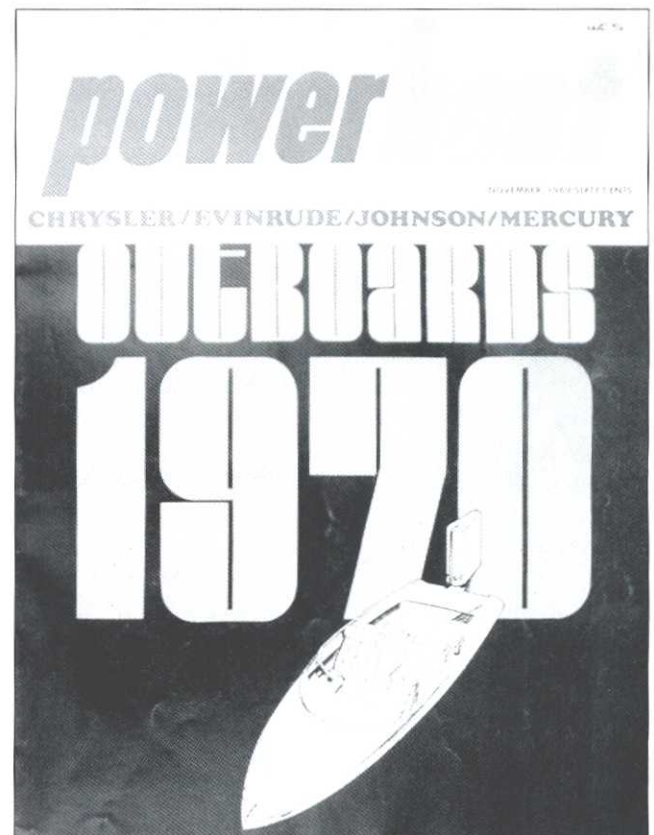
"Shortly after that I became interested in another boat. It was a sixteen and a half foot Tunnel Boat. It was called a Maltese Magnum Missile, and was produced by Don Aronow. What an absolutely fabulous boat. However, that will be another story for another time." *Well the time for that "another story for another time" has arrived, and it is now.*

Since I have had a life-long obsession with boats and outboard motors, and I mean obsession in the best possible way, I could not pass by a news stand without checking out the latest issue of the boating magazines. On one occasion at the start of a business trip, I stopped at an airport news stand and came across a magazine that I had not seen before. It was the November 1969 Issue (Vol. 2, No. 4) of "Powerboat" Magazine with the cover shown in OHI #1. After thumbing through the pages, which were loaded with information about outboards, I immediately bought it, and then read it cover to cover. Within the pages of that magazine was my first introduction to Tunnel Boats. For those not familiar with a Tunnel Boat, it is a very specially designed, high performance, catamaran, power boat.

After subscribing to "Powerboat", I developed an appreciation for Tunnel Boats. Subsequently, I found out that there was a brand new "Maltese Magnum Missile 16" Tunnel Boat for sale at Sandy's Marine, which was a Mercury Dealer located directly on the shore of Lake Pocotopaug in East Hampton, Connecticut. (While the complete Model Name for the boat is "Maltese Magnum Missile 16", for the remainder of this article except for a few instances, we will refer to the boat

less formally by its Brand Name "Magnum".) My wife Pat and I went out to see the boat, which had extraordinary beautiful lines. The Magnum is a high quality fiberglass boat with three naturally-finished wood panel inserts that are all flush with the fiberglass surfaces: one very large panel insert on the front deck, and two small wood panel inserts with one on either side of the boat near the stern. I took one look at it and really liked the boat. The single-sheet sales flyer for the Magnum is shown in OHI #2, and please note the historical background information given in this flyer. We decided to buy the boat. Since I was a die-hard Johnson Outboard Man, I planned to put the same 75 horse 1960 Johnson Model V4S-12 on the Magnum that I had on the Dunphy.

Since the dealer knew that I was not going to have a Mercury Outboard Motor on my Magnum, he asked me if he could keep the single-lever Mercury Remote Control that was mounted through the starboard side of the boat. Without giving it a second thought I said that he could have it. That turned out to be a very big mistake on my part, because at that time, I never gave a thought about this boat becoming a Classic and that I would have it for so long. I now bring the Magnum just to display at Antique Boat Shows, and would



OHI #1:
November 1969
Issue (Vol. 2,
No. 4) of
"Powerboat"
Magazine.

Magnum Marine
presents the
MALTESE MAGNUM 16
Finest High Performance
Outboard In The World



A RADICAL NEW DESIGN FROM THE BUILDERS OF THE WORLD'S FINEST HIGH-PERFORMANCE POWER BOATS

Smart, sharp, smooth... The Maltese Magnum 16 is a proud blending of the best qualities of the world's finest racing catamarans—a blending which has produced a finer boat than any of the champions from which it was created.

Don Aronow, 1967 U.I.M. World International Offshore Champion, APBA Offshore Champion, Republic of France Offshore Power Boat Champion and Bahamas National Power Boat Champion, knows a terrific boat when he sees one in action. While racing in Europe in 1966 and 1967, he watched the famous Molinaris, Shultze and other catamarans sweep race after race, including the Paris 6-Hour Marathon. He saw them outrun almost every other type boat ever made. Then he bought two of the best, to see if they were adaptable to pleasure boating and fiberglass construction.

In this same way the fiery Formulas, the fabulous "Damned Donzis" and the incomparable Magnum 35 came into being. Like the Maltese Magnum 16, they came from Don Aronow's capable designing, building and racing team.



\$1895
FOB MIAMI

WITH STANDARD EQUIPMENT

THE MOST EXCITING OUTBOARD EVER BUILT • THE FASTEST CUSTOM OUTBOARD EVER BUILT
HI-IMPACT FIBERGLASS CONSTRUCTION • SOFT RIDING, STABLE • PERFECT FOR RACING OR PLEASURE BOATING

STANDARD EQUIPMENT

- Foot throttle
- Cleat
- Coded electrical harness
- Inland running lights
- 17-gallon heavy-duty aluminum fuel tank, racing strength
- Heavy-duty, Kiekhafer racing steering wheel, foam covered and mounted, mechanical steering
- Tonneau cover
- Walnut deck insert
- 4 custom designed, deep-foam bucket seats (removable)
- Monza flip-cap gas fill
- Marine carpeting throughout cockpit
- Engine pad
- Decals
- Two open and two plugged through-hull stern drains
- 3 lifting rings
- Racing strength battery hold-downs

THE NEWEST PERSONAL OUTBOARD IN THE WORLD

The new Maltese Magnum 16 is so stable it turns as if on rails, it has higher top speed than any existing boat with the same power. It is as exciting to drive as a serious competition race boat. And of course Magnum has put into its construction, as only Magnum can, the world's finest fiberglass craftsmanship and meticulous attention to every detail.

She's built to carry today's larger motors—the 125 HP Mercury 1250 or its equivalent—and is capable of sustained speeds in the 60's. If you're interested in competition events, the Maltese Magnum 16 really gives you a built-in advantage! The high performance of this beautiful machine is due to the tunnel effect of the unique hull design—the same configuration, except for subtle refinements made by Magnum, that has put the Molinaris and Shultzes out front and kept them there.

Incomparable ski boat, thrilling personal play boat, born-to-win race boat... the Maltese Magnum 16 will play whatever role you ask her to play—as you've never seen it done before!

The MALTESE MAGNUM 16 was developed and engineered by the Magnum Marine Development Team, which includes Don Aronow, Farleton Trotter and Jim Breuil, Jr. Engineers, designers, research analysts, craftsmen and competition racing drivers, this team brings to the inshore Maltese Magnum 16 all the experience gained in achieving world-wide prominence in offshore racing and establishing new standards of power boat performance.

The only way to see how well they have achieved their aim of perfection in Magnum's "Three D's"—Design, Distinction and Dominance—is to see the Maltese Magnum 16 in action... to take the wheel yourself... to thrill to the tremendous performance hidden in this sleek, eye-catching hull. Do it soon!

DESIGN • RESEARCH • ENGINEERING • TESTING • RACING • CONSTRUCTION OF HI-PERFORMANCE POWER BOATS

COLORS

- White-white, Tangerine, Sparkling Burgundy, British race green

INTERIOR

- Carpet: Black and gold
- Bucket seats: Black and gold, matching carpet

CONSTRUCTION

- Radical new aerodynamic catamaran design
- Deck and center section of hull bottom of balsa core and foam fiberglass sandwich construction for maximum strength
- Walnut panel insert in deck (removable)
- Snag-free cockpit, carpeted and paneled
- Strong, shock-resistant multi-laminated fiberglass hull

SPECIFICATIONS

- Length over all 16'6"
- Including Mercury 1250 (125 HP) 18'3"
- Beam, maximum 7'1/2"
- Draft to keels 12"
- To bottom of Mercury 1250 18"
- Transom to keel 24"
- Transom width at chine 7'1/2"
- Top of wheel to keels 35 1/2"
- Top of deck (highest point) to keel 30"
- Gross weight complete, less engine App. 700 lbs.
- Fuel capacity 17 Gal.
- Speed with Mercury 1250 50-65 MPH
- Design horse power Merc. 125 or equiv.
- Steering Custom Mechanical
- Controls Foot Throttle
- Hardware Custom
- Hull is designed for short shaft motor.

The Maltese Magnum 16 is

BRED IN THE TRADITION OF RACING CHAMPIONS

PARTIAL RACE RECORD OF BOATS BUILT BY DON ARONOW, MAGNUM MARINE CORPORATION

- *Miami-Nassau, 1965-1967 First Overall
- *Miami-Key West, 1967 First Overall
- *Dauphin D'Or U.I.M. International 1967 (France) First Overall
- *Swedish U.I.M. International, 1967 First Overall
- *Around Long Island Marathon, 1966 First Overall
- *Sam Griffith Memorial, 1965-1967 First Overall
- *Miss America, 1967 First Overall
- *Houston Channel Derby, 1966 First Overall
- *Around Nassau Sweepstakes, 1964-1965 First Overall
- *Long Beach Hennessy Cup Race, 1965-1966 First Overall
- *Long Beach to San Francisco, 1966 First Overall
- *California Challenge Race, 1966 First Overall
- *Miami-Bimini-Miami, 1964 First Overall
- *Around Miami Beach, 1965 First Overall
- *Footes Bay Regatta (Canada), 1965 First Overall
- *Red-White Ribbon Regatta (Germany), 1965 First Overall
- *Gateway Marathon, 1964 First Overall
- *World Records
- **World's Offshore Speed Record 58.7 MPH
- **World's Diesel Record 64.16 MPH

MAGNUM MARINE CORP.

2900 Northeast 188th Street • North Miami Beach, Florida 33162
Telephone: 305 / 945-4292

PRICES, SPECIFICATIONS AND STANDARD EQUIPMENT SUBJECT TO CHANGE WITHOUT NOTICE

OF HISTORICAL INTEREST



OHI #2:
Single Sheet
Sales Flyer for the
"Maltese Magnum
Missile 16".



like to have the complete Mercury Remote Control back on the boat "just for show" even though it would not be connected to anything. If anyone out there has one of those original complete single-lever Mercury Remote Controls NOS (New-Old-Stock) or in like-new condition, Please, I would like to hear from you.

The Magnum did not come with a trailer. Since our Dunphy Runabout was very well maintained and in such beautiful shape, we "launched" it on blocks inside our garage so it would be out of the weather. We then went out to the dealer, and using an enormous fork lift truck, the Magnum was placed on our trailer, which I had modified to accept the Tunnel Boat. This boat was brand new and I was its first owner. Driving home from the dealership with our new Magnum is one of the great memories that I have, and I have Nostalgia every time I think about it.

Since I had garage space to store only one boat, I immediately put our Dunphy Runabout up for sale even though I didn't want to do it. A naturally finished wooden boat cannot be left outside in the weather even if it is covered with a canvas. However, I wanted to put our Magnum in the garage as soon as I would be able.

Everything about our new Magnum was of exceptional high quality. The Magnum had very heavily padded back-to-back bucket seats, and was perfect for our family of four. The

OHI #3A:
Center-fold of the
"Maltese
Magnum Missile
16" Sales Folder.

OHI #3B:
Kiekhaefer
Mercury Boat
House Bulletin
No. BHB 68-9-5
for the Magnum
Missile.



"floor" of the entire cockpit was covered with very durable black all-weather carpeting. The center-fold of the Magnum Sales Folder is shown in OHI #3A (see a color photo on page h) where Don Aronow proudly announced, "Introducing the first super speed boat...the Maltese Magnum Missile 16". The center-fold References the Kiekhaefer Mercury Boat House Bulletin No. BHB 68-9-5 for the

MERCURY

BOAT HOUSE BULLETIN

A factual report from the Mercury Proving Grounds

NO. BHB 68-9-5	TEST DATE	1-19-68	BRAND NAME	: Magnum	
Centerline Length	: 16' 6"	Beam	: 84"	MODEL	: Maltese Magnum 16
Net Hull Weight	: 725 lbs.	Material	: Fiberglass	MFG. BY	: Magnum Marine 2900 N. E. 188th St. North Miami Beach, Florida 33160

All tests are conducted over an accurately measured course and certified by a graduate engineer.

Motor:	Merc 1250E	Propeller:	A 48 46158A4
Transom Height:	23.3 4" Boat & Test	Pitch - No. Blades:	26" Pitch, 2 Blades
Tilt Pin Hole:	3	Material:	Bronze

LOAD A:	1277 lbs. Gross (1 person)	Measured Course Speed	60.3 mph
LOAD B:	1427 lbs. Gross (2 persons)		54.6 mph

Ride-Guide Cable Length: 14' Starboard (Dual)
Remote Control Harness Length: 12' Port
Remote Control Cable Length: 15'
11'

Glossy photographs and extra copies of bulletins are available for use in your own advertising program. Write, mentioning bulletin number, to Public Relations Dept., Kiekhaefer Mercury, Fond du Lac, Wis. 54935

Published by **KIEKHAEFER MERCURY** Fond du Lac, Wisconsin 54935
DIVISION OF BRIDGEMAN CORPORATION



Magnum Missile, which is shown in OHI #3B. According to the Manufacturer's Website approximately 30 Magnum Missiles were made. Standard equipment for the Magnum was Mechanical Steering, which I adapted to the Johnson Sea Horse 75 V-4. The Magnum also came equipped with a rugged specially designed and constructed 17 gallon welded gas tank that was mounted under the motor well. The inlet to the gas tank was through a large diameter, very rugged, very high quality flange-mounted filler pipe with a "Monza" Flip-Top Gas Cap that was mounted on the starboard side, aft corner of the cockpit coaming by the motor well. The boat did not have a gas level gage, so I always kept a yard stick in the boat to check the amount of gas in the tank. The boat also included a beautiful very-functional custom-made Tonneau Cover that covered the entire seating area. Don Aronow paid a lot of attention to detail and used the very best of materials, supplies, equipment and workmanship in the construction and outfitting of his Magnum Missile.

After completing the set-up of the Johnson Sea Horse 75, we took our Magnum out to Crystal Lake located in Ellington, Connecticut, and launched it at the Public Launching Ramp as shown in OHI #4 and OHI #5. Everything went perfectly. Our 75 horse Johnson started and ran flawlessly. My family and I had an absolutely great time. The boat planed off easily; however, it was obvious that the boat was significantly under powered. The molded plywood Dunphy runabout weighed 425 pounds (Mfg. Catalog Spec.), while the Magnum weighed 700

pounds (Mfg. Catalog Spec.). I estimated that the top speed of our previous boat, the 15 foot 10 inch Dunphy Runabout with the 75 horse Johnson, was about 38 miles an hour. I estimated that the top speed of the 16 foot 6 inch Magnum with the same Johnson Outboard Motor to be about the same. The 75 horse Johnson did not have enough power to air-out the Magnum to the extent required to lift it high enough on its sponsons. But that never bothered me. I really liked that boat, and since my family was having a lot of fun every time we used our boat, it didn't matter to me that we were not the fastest boat on the lake. However, since the Magnum had such sleek lines, on many, many occasions when we went out and were running along, the driver of a 6 cylinder in-line Mercury powered V-Bottom Boat would come over and "blow our doors off". And this happened time after time after time.

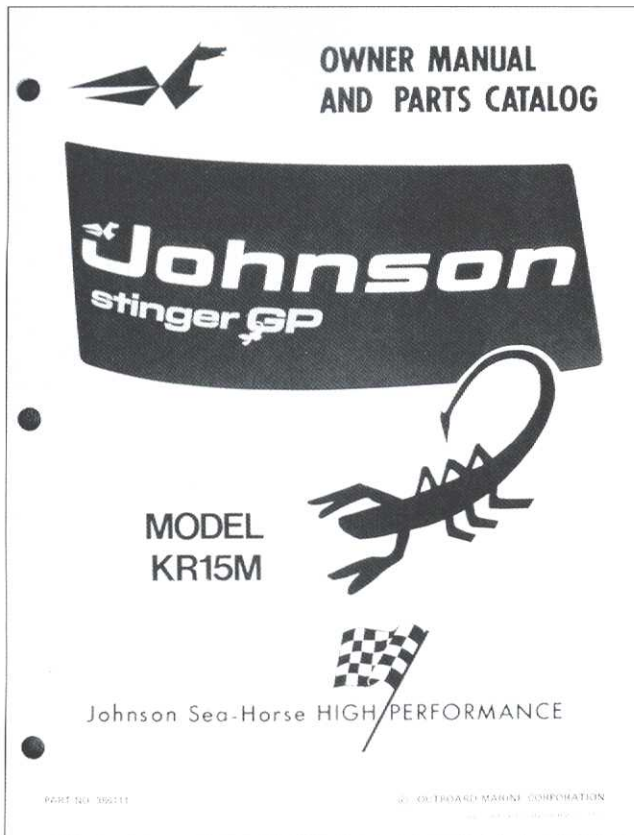
I subscribed to *Powerboat Magazine*, and while I was never a boat racer, I really enjoyed reading about the APBA (American Power Boat Association) Outboard Pleasure Craft (OPC) Category of Classes, and especially about the Tunnel Boats. There was only one local race where the OPC Boats competed and it was on Webster Lake in Webster, Massachusetts, which coincidentally is the same location where our Yankee Chapter of the AOMCI had a Meet for many years. One of the most popular Classes of boats that raced there was a V-Bottom boat powered by a stock 99 cubic inch, 6 cylinder, in-line Mercury. I would go to all of these races.

On one occasion, a Johnson Stinger GP V4 was



L: OHI #4:
Launching our
Magnum for the
first time at
Crystal Lake.

R: OHI #5:
At the Public
Launching Ramp
on Crystal Lake.



brought to the races that was on the transom of a racing Tunnel Boat. While I saw pictures of a Stinger GP V4, that was the first one that I saw in the “flesh”. It was the only one in its Class to show up at this race. Since this Johnson was not a stock over-the-counter motor, but was an out-and-out factory-made racing motor mounted on a Tunnel Boat, it was in a different Class. Since the APBA requires a minimum of three boats in a race, drivers are always eager to help other drivers put on a race. Several drivers of boats in the Class with V-Bottom Boats and 6 cylinder in-line Mercurys, volunteered to “step-up” to the Class of the Tunnel Boat to allow the Stinger GP V4 to race. When it came time for that Johnson powered boat to race, I went over to the sandy beach and sat down. The race course was rectangular (with four turns) and with one buoy per turn.

The race had a clock start with the clock located about midway between the 4th and 1st turns. All of the Mercury powered V-Bottom Boats that “stepped-up” were in a group and all made a great “legal” start just a moment after the clock reached zero. At the official start of the race, the Tunnel Boat with the Stinger GP V4 was far, far behind. What was unbelievable was that when the “stepped-up” group got to the first turn, the Stinger GP V4 pow-

ered Tunnel Boat had caught up to them and was right with them on the outside. At the second turn, the Johnson powered Tunnel Boat was ahead of the pack, and made a wicked left turn at the single turning buoy, and then started running away from the pack. I was sitting there and I could not believe what I was seeing. It was absolutely incredible. The Johnson powered Tunnel Boat then backed off and “made” a race of it from then on. As I sat on the beach witnessing this, I said to myself, “I’m going to get one of those motors”. And I did.

The Johnson Stinger GP V4 is an eight carburetor, 99 cubic inch, out-and-out Race Engine. The cover of the combination Owner’s Manual and Parts Catalog is shown in OHI #6. Every single thing about the motor was made so it would “win” the race. If something was not required to be there to “win” the race, then it wasn’t there. The “rules” did not require a gear shift, so the Charlie Strang designed, extremely durable, dual pinion shaft, 14/23 gear case was direct drive only, and featured a water pickup that was located on the very bottom of the gear case. The Stinger GP V4 came equipped with a very specially designed, very rugged, very quick acting, “power trim” feature. However, there were no provisions for “tilt” because it was not necessary to be there to “win” the race, i.e. the motor could not be tilted up. The motor also had a power up-and-down feature built into the swivel bracket.

The Stinger GP V4 motor mounted on to the boat unlike any other factory-made motor made previously. The interior below the motor well of our Magnum had to receive modifications to include a “wet well”. The Stinger GP V4 motor was trimmed using a large, very specially mounted hydraulic cylinder with its rugged housing extending completely through the transom. The unit had a separate hydraulic pump that was mounted in the boat, and was actuated using push buttons mounted on the steering wheel. A full-size Mylar engineering drawing came with the motor and was used to locate the large hole in the transom to allow for the “trim” housing plus all of the mounting bolt holes for the motor and the “trim” housing. The wet well actually made the aft end of our Magnum significantly stronger, and much more capable of handling the power of the Stinger GP V4. The Magnum came

OHI #6:
Cover of the
Stinger GP V4
combination
Owner’s Manual
and Parts
Catalog.

with a transom plate made of thin aluminum which I had used with my 75 horse Johnson; however, I wanted something more rugged. I had a heavy duty transom plate made out of stainless steel.

I obtained a very special three blade Cleaver Prop that was specially prepared by Don Henrich. I always kept my prop in its shipping box while I was towing the boat, so the prop would not get dinged from a stone or piece of road debris. I always installed my prop at the launching ramp just before launching, and would remove it immediately after taking the boat out of the water.

It was at this very point in writing this article, which was originally intended for the July 2018 Issue of "The Antique Outboarder", when I got the news of Charlie Strang's passing. I immediately stopped, and put this article aside. I then gave my full attention to writing my tribute to Charlie. It is now late May 2018, and I am back to writing this article.

I bought a helmet and a Life-Line Racing Life Jacket that I always used when I was testing the Magnum with the Stinger GP V4, which was all done locally on the Connecticut River at East Hartford, Connecticut. I did a lot of "testing" to get the boat and motor set-up "dialed-in" the way I wanted it. The Magnum was now ready to go with the Johnson Stinger GP V4.

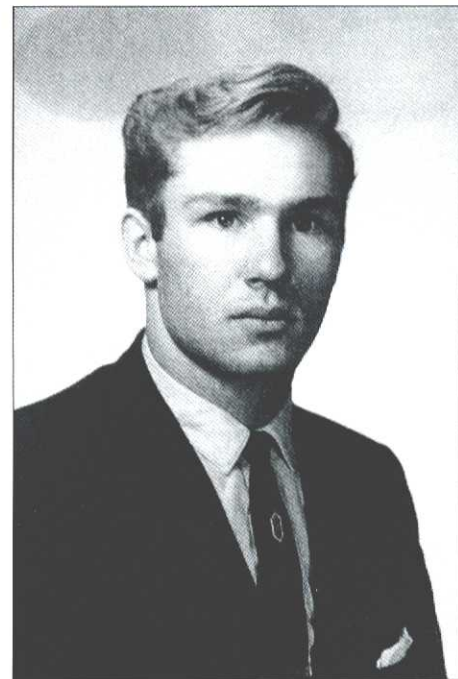
I trailered my Magnum up to Lake Mascuppic in Dracut/Tyngsboro, Massachusetts, which has a Public Launching Ramp. Since it is just outside my home town, I had spent countless hours on that Lake over the years with my Dunphy. After Launching my Magnum and heading out on the water, when the Merc Guys came out after me, they were the most astonished guys in the world, when without any effort; I would just run away from them. The situation was that the Merc Guys had never seen a motor like mine, and did not realize what it was. In my "Of Historical Interest" Article in the July 2017 Issue of "The Antique Outboarder", I showed images of the Stinger GP V4 that were taken from the Johnson Model Year Sales Catalogs, but I don't believe the Merc Guys at that time were interested in the details of the Johnson Model Year Sales Catalogs.

Just one of the things that is absolutely awesome about the Stinger GP V4 is the sound of the motor. It is fabulous!!! However, there is no question that not

everyone appreciates the sound of my motor. So I placed a self-imposed rule on myself that if I went anywhere that had dwellings bordering the lake or river, I would not run my motor before 12 o'clock noon.

I have had the Magnum for so long that I have many, many stories that involve boats powered by Mercurys. One time when I went out to the lake by myself, I was getting my Magnum ready to launch, which includes putting on my prop. As I was getting the boat ready, I noticed that there were two guys in a V Bottom boat with a tall 6 cylinder Mercury going very slowly at idle making very large circles just off of the ramp. While I was working, they kept going slowly around and around at idle. I launched my boat, parked my car/trailer, and then pushed my boat away from shore. Since the Stinger GP V4 does not have a gear shift, I had to paddle away from shore and turn the boat around so it would be facing toward open water. I then got behind the wheel, and looked to my left, and who was there next to me but the two guys in the V Bottom boat with their Mercury running in neutral. By then it was obvious they were going to run me. I placed the plug that was fastened to my life jacket with a lanyard, on to the kill switch, and then went through the starting sequence. When the motor started, since there is no gear shift, the boat immediately started to move. As soon as the motor starts, I keep the motor at idle and I always look over my right shoulder until I see the heavy stream of water coming out of the cooling water discharge. Then with my Magnum now moving slowly, I immediately looked to my left, and saw that the two guys in the Mercury powered boat had veered their boat off to the left going away from me at idle, and I never saw them again. The only thing I could imagine was that they were intimidated by the sound of my motor. The sound of the Stinger GP V4 is incredibly awesome even at idle.

My family had an absolutely great time with our Magnum. We would go out on weekends, and every Wednesday. In fact, on Wednesdays during the Summer Time when the days are long before sunset, my Wife Pat would have a picnic dinner all prepared and packed in a cooler, and my Son Dave and Daughter Chris (shown in OHI #7) would have our boat ready, so when I got home, we would connect the trailer to the car, and we would be off. We



had a very large inner tube, and along the way, we would stop at a gas station and fill the inner tube. We would go to the lake, and go out to the middle, and have a great time. The Magnum makes a great swim platform because it drifts very slowly in a breeze due to a combination of the boat's low profile, the inclined sides of the boat not acting like a "sail", and the sponsons being deep in the water when the boat is at rest.

In my "Of Historical Interest" article in the October 1999 Issue of *"The Antique Outboarder"*, I wrote about my Memories when I was a teenager. One segment of that article went into detail about my vacations over many years with Jo Wyman (as shown in OHI #8) and her family at their home on Lake Nabnasset in Westford, Massachusetts, during the 1950s and early 60s. It was during those wonderful carefree times that I spent at the Wyman home

that I became obsessed with outboard motors, and I mean obsession in the best possible way, and I owe the start of it all to the times that I spent with Jo's son, Buzzy Wyman, shown in OHI #9. Buzzy was a couple of years younger than me.

Back in the 1950s, Buzzy's boat was a short, decked over, "one person at a time" type of boat powered by a Martin "75" outboard motor, and the driver had to kneel while driving it. Many times, Buzzy would let me take a ride in his boat to go diagonally all the way across the lake to Sandy Beach (without stopping) and then come directly back. It was a very exciting ride, and I savor the Memory of those rides with Nostalgia every time I think of them. In fact, many years later, I bought a Martin "75" for my collection for that very reason, and have it in a very handy location so I can turn it over every once in a while.

The last time I visited Jo was sometime in the mid 1970s with my son Dave. I had my Magnum powered by the Johnson Stinger GP V4. Since Lake Nabnasset is a completely private Lake, and there is no public launching ramp, Jo again readily made arrangements with one of her neighbors for me to launch the Magnum from their property. Buzzy was not there, and I asked Jo if she wanted a ride, and she did. Dave pushed the Magnum off of the trailer and I pointed the boat toward open water as the motor has direct drive with no gear shift. By the time when we were ready to start the motor, it was just a few minutes after noon, so I was complying with my

L: OHI #7:
Our Daughter
Chris and our
Son Dave in the
Magnum.



R: OHI #9: Brian
"Buzzy" Wyman
(1943-2015).

OHI #8:
Esther "Jo"
Wyman (1919-
2014).

self-imposed rule. After starting the motor, I checked to ensure that cooling water was circulating. We planed off and let the motor warm up. Then we went



for a ride that I will never forget. We went around the lake a few times and each circuit seemed like it took no time at all. Then I took the route that Buzzy let me take in his boat years earlier, diagonally all the way across the lake to Sandy Beach and back. The Magnum just flew across the lake, and at each end I would lower the sponsons and the boat would make wicked 180 degree turns as if it were on rails. I kept driving that diagonal route continuously making several “laps” to the beach and back as I wanted to “burn” that ride into my memory while using my Magnum and did not want to forget it. And after about 40 plus years, I haven’t and it is just as if I had made those “laps” yesterday. After that one ride, Dave and I put the boat back on the trailer and that was it for the day.

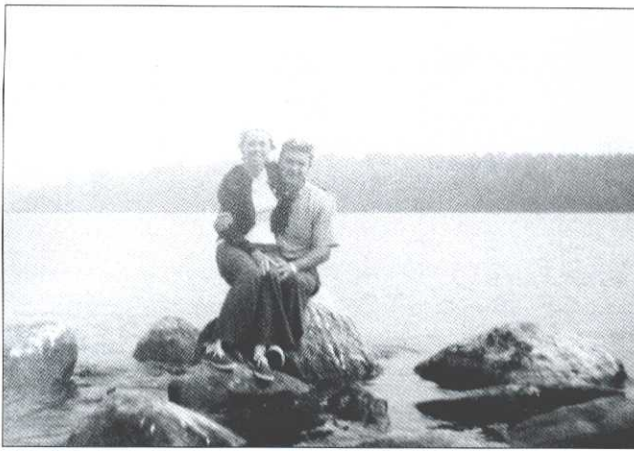
I want to especially thank Jo’s daughter Linda for her kindness and graciousness in sharing her Wyman Family photos. Linda is shown in OHI #10 as I remember her in the late 1950s, and now in OHI #11 in June 2018.

For just a very few years, we took our Magnum up to Lake Winnepesaukee, which is a 22 mile long lake in New Hampshire. While there are many large areas of open water, the Lake has many, many inhabitable islands. The Lake is an absolute paradise for boaters; however, the Lake has many extremely treacherous locations. Boat operators must know where they are at all times by using a marine chart of the Lake. While I absolutely like the Magnum, I also like to explore the entire Lake, and the Magnum cannot be used for that purpose. So eventually my Son and I went back to using my 14 foot Sea-Nymph aluminum boat powered by a 1950s Johnson or Evinrude to explore every nook and cranny of the Lake. If the marine chart indicated that an area was not navigable, then that’s where we went, and if necessary we would turn the motor off, tilt the motor up, and pole the Sea-Nymph through all of the shallow areas while dodging the rocks. My Son Dave has said many times referring to any location on the Lake. “It’s not if we have been there, but when was the last time we were there.” OHI #12 shows me sitting on one of the rocks of the “Witches” with my Wife Pat sitting on my lap. The “Witches” is a cluster of very large rocks and is an extremely hazardous area that is located far from



📍 OHI #10:
Linda (Wyman)
Previte as I
remember her in
the late 1950s.

📍 OHI #11: Linda
(Wyman) Previte in
June 2018.



any shore. As you can see, we always had a lot of fun every time we went out in our boat.

When we first brought our Magnum up to Lake Winnepesaukee, it was powered by our 75 horse Johnson V4. There were a very few other Magnum Missiles up there and all were powered by an in-line 6 cylinder Mercury. When we would go out, our Magnum would be a magnet for every owner of a go-fast boat with an in-line 6 cylinder Mercury. And of course, each and every time they would come over to us while we were cruising along with our 75 horse Johnson, we would get our doors blown off. However, it was an entirely different matter after we had the Johnson Stinger GP V4 on our transom. We were able to easily run away from anyone who came after us, eventually even to another Magnum Missile powered by a Mercury 1500XS.

One of the things that I wanted to point out was that while I was anywhere with my Magnum and did not have my family with me at the time, if anyone who I was talking with expressed an interest or complimented my Magnum Missile, without exception I would offer them a ride. The offer of a ride was automatic, because I have always remembered that as a teenager and did not have a boat, how grateful I was to be offered a boat ride.

This reminds me of a story that took place while we were up at Lake Winnepesaukee. I was over to the Public Docks at the Weirs, which is a commercial area at the foot of Meredith Bay. On the other side of the dock was a Correct Craft "Ski Nautique", which is a conventional inboard utility. The driver had the motor box tilted up as he was having trouble starting the large V-8 Inboard Engine. I went over and offered to help him. We got the motor started. So I said to him that I had never ridden in a "Ski Nautique" before and asked for a quick ride.

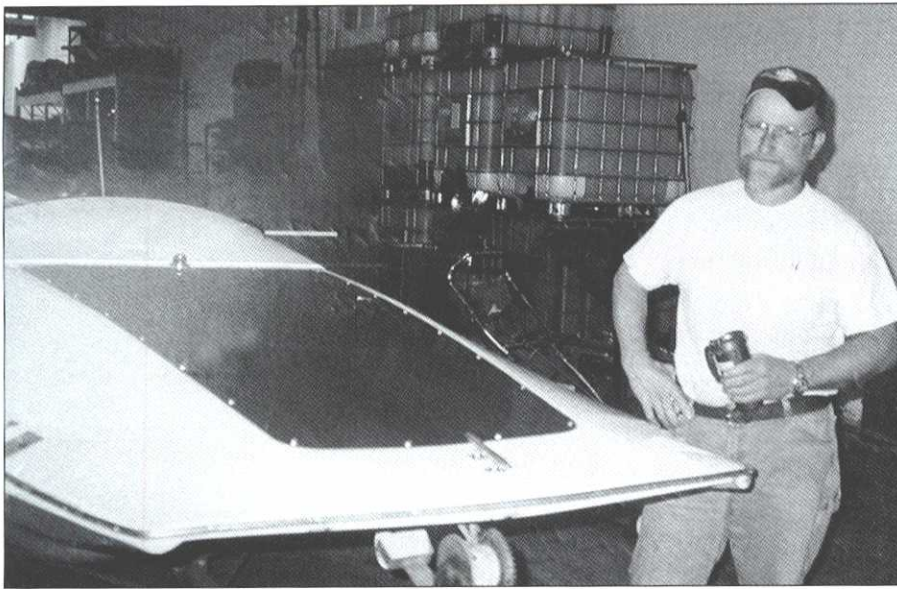
*OHI #12:
My Wife Pat
and I sitting on
a rock at the
"Witches".*

It was in the early afternoon and the prevailing wind had been coming down Meredith Bay, and while there were no white caps yet, it was very choppy at that end of the bay. The "Ski Nautique" is a beautiful Tournament Class waterskiing boat. The bench seat next to the driver is for the observer and faces aft, which was where I sat. After the boat planed off, and we were going over the chop, I could not believe how extremely rough the ride was. I was bouncing around like a ping pong ball in a lottery number machine. There are twin speedometers mounted by the steering wheel, so hanging on, I managed to look over to see how fast we were going, and both speedometers read 45 miles per hour. The other thing I noticed was that at full speed, we were very close to the surface of the water. Apparently, since tournament skiing is done in very calm water, the boat must have been designed to not rise very much at speed ensuring that much of the bottom of the boat is still in contact with the water so a tournament skier cannot make the boat yaw while completing hard turns far to the side of the boat.

When we got back to the dock, I offered him a ride in my boat. After planing off, there was an absolute world of difference in the smoothness of the ride. While the Magnum was much, much faster, the ride even at the significantly higher speed was as if we were on a Magic Carpet by comparison. Please don't get me wrong, we still went over the chop, but the Magnum rides very high and most of the two sponsons are completely out of the water, and the air being compressed when rammed down the tunnel acts like a shock absorber to smooth out the ride.

Talking about riding high out of the water. There were many people that I have given a ride, who did not like riding that high out of the water, and would immediately ask me to slow down and bring them back to the dock, which of course I did.

We stopped using our Magnum Missile in 1996. Since our boat had become a Classic, I wanted to have the wood deck inserts replaced as they had a lot of use over the years. We are extremely fortunate in that Jim Murdock who is a World Class Boat Restorer, has a large shop close by in Bristol, Connecticut. He only does restoration work on wooden boats. I talked with Jim and he agreed to replace the wooden deck inserts. He is so much in



demand that I had to wait two years before I got the call to bring our boat into his shop. He did an absolutely magnificent job, and is shown in OHI #13. The following year, Jim Murdock replaced all of the wood paneling in the interior of the Magnum, and that included the two wood panel bulkheads, one in each sponson.

I now bring the Magnum for static display at Antique Boat Shows such as the 2008 Lake Winnepesaukee Antique Boat Show in New Hampshire as shown in OHI #14 (*see a color photo on page h*).

Epilogue:

There is an old saying, “Two of the happiest times for the owner of a boat are, the day you buy the boat, and the day that you sell it.” Let me tell you right now from my experience, that old saying is absolutely and completely false! Our entire family was very much attached to our 1957 Dunphy 15 ft. 10 in. “Deluxe Muskie” as it gave us great service year after year, and we made a lot of really great memories using it. We hated to see it go. Later on, I deeply regretted selling the Dunphy. And from that experience, I have never even considered selling our 16 ft. 6 in. “Maltese Magnum Missile 16”.



OHI #13:
World Class
Boat Restorer
Jim Murdock with
our Magnum.

OHI #14:
Our Magnum
on display
at the Lake
Winnepesaukee
Antique Boat
Show.



Book Review #115:

Our Critical Book Review is Audel's *Outboard Motors and Boating* by Edwin P. Anderson and revised by George Uskali. The book is hard cover, and is shown in OHI #15. The book does not have a dust jacket. The book is Copyright 1969 by Howard W. Sams & Co. The title page credits Theodore Audel & Co., New York, a division of Howard W. Sams & Co. Inc., Indianapolis, Indiana.

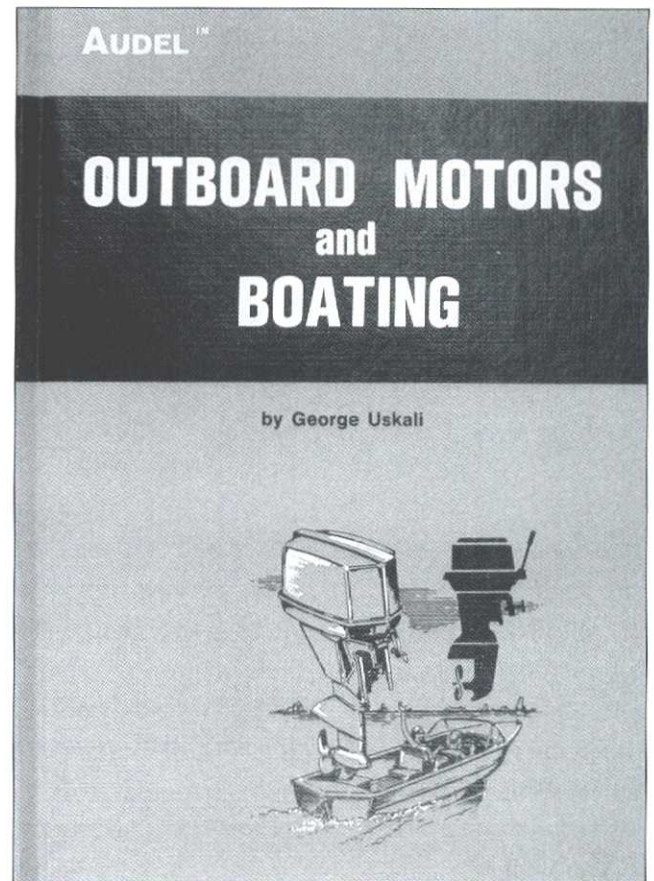
In our *Book Review #25* that was published in the January 1988 Issue of "The Antique Outboarder", we reviewed an Audel's published book with a slightly different title: "Outboard Motor & Boating Guide" by Edwin Anderson. The edition for this review is a much larger book dimension wise, but has significantly fewer Chapters and Pages.

This book measures 5⁵/₈ inches (approx. 14.3 cm) by 8¹/₂ inches (approx. 21.6 cm), and has 357 pages. The front cover has a cluster of three small sketch illustrations, two of which are outboard motors and the third with what seems like a strange choice since this is a book about outboard motors as it is a stern-drive runabout, and all three are made with artistic license and without detail. The cover and spine primarily have a medium green background color. This book is loaded with outstanding illustrations along with several photos all with captions that are located on almost every page throughout the book. The printing of the text and the illustrations and photos is of very high quality, and shows detail very well.

The book has a Foreword, a three page Table of "Contents" that is very detailed, 14 numbered and named Chapters, a Glossary, and an Index. This is a technical book and as such is not easy enjoyable reading; however, the book starts off with the very basics and is extremely well written and is supplemented by very well made detailed illustrations for the complete novice to understand. The book provides outstanding technical details using text and illustrations as to how each separate area of the outboard motor functions and operates, and is written in such a way that it will not intimidate anyone. The book includes a section on performing tune-ups, and very detailed trouble-shooting information of the various problems that may arise.

One of the features of this book are the Tables of Information that are included: a three-page Gasoline-

OHI #15:
Audel's *Outboard Motors and Boating* by George Uskali.



to-Oil Mixture Chart for various brands/models starting on page 153, a nine-page very comprehensive listing of Type of Champion Spark Plug and Gap for various Outboard Motors starting on page 244, and a two-page listing of Recommended Additional Equipment starting on page 298.

The book is not a service manual, and does not show how to perform repairs. We have reviewed other books that give that information; however, this book will help you understand what is happening in your motor, how to diagnose problems, and would be a great supplement to any service manual.

See you in the next issue of *The Antique Outboarder*.

For color photos
for this article, see:

PAGE *h*



PAGE *h*



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The How-to Guide to Modifying Your F Class Racer

By Jay T. Walls



In racing, you are only as good as the last heat you ran. If you had a gas tank painted purple and won the race last weekend you might come to the next race and find two or three more engines entered with purple gas tanks. As you might imagine, the 60 cubic inch Class F engine went through lots of transformations when it was raced back in the day.

The first 460s could have come from the factory back in 1930, entered a local race, and run off with a victory. Back then no-one had ever seen anything wind up like a 460 could and the speeds were just unbelievable.

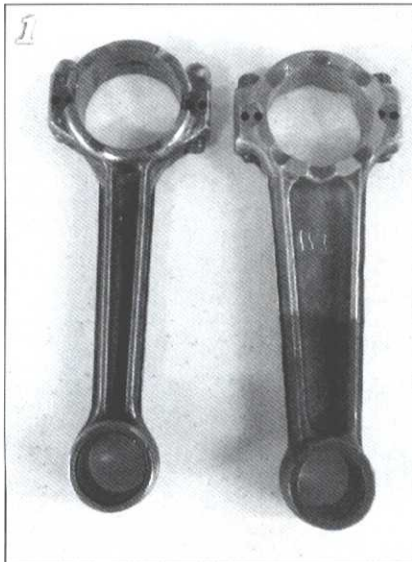
As in any speed contest some were faster than others so the modifications started. I'm sure that at some point someone was thinking about weight being a factor and unbolted everything they could do without on their 460, and in most cases that guy would have been right. 460s came with external oilers through most of their production and also came with mufflers. Water cooled stacks became available as an option and lots of racers went that route. Today it's rare to find an oiler or a muffler with a 460 and that's because everyone took them off and hung them on a nail in the garage.

The horsepower-to-weight ratio is a factor in racing so more weight theoretically slows a racing rig down. Many 460s are found now with the rim cut off the flywheel to get rid of what racers felt was excess rotating weight. "The lighter the better" is a good rule of thumb but the balance of the whole rig, including the driver, does also come into play.

There is some cleanup one can do on cylinder ports to help an engine breathe but from what I have found, it's all in the castings, way back when

they were molten iron going into the mold. What I mean is that the shape of the bore in cylinder castings changes when the engine is running and the castings efficiency changes too. The best cylinders are the ones that retain their shape, as they were machined, while the explosions of combustion are taking place.

Back in the 1930s when the 460 was being manufactured, all those parts were under the supervision of a racing department of engineers. More attention was given to the cylinder pattern equipment and core box by this racing group, making sure that the core stayed put while the molten iron flowed into the cylinder molds. This doesn't mean that all original 460 cylinders are good. What it does mean is that the chances of having good cylinders are better with original 460 castings. Good cylinders are the ones that have the most consistent cylinder wall thickness all the way around the circumference of the cylinder or maybe if the cylinder wall is slightly thicker on the exhaust side the cylin-



der will be good as well. The cylinders to avoid are the ones that are thinner on the exhaust side. If the cylinder wall is thinner on the exhaust side of the bore, the round cylinder will deform under the stress and heat of combustion and the possibility of burning a piston down the exhaust side greatly increases.

The 460 is an alcohol/castor oil burning motor if the combustion chamber volume is less than 32 cc measured to the top of the 18 mm sparkplug hole. If the volume is greater than 32 cc the motor could possibly run on a mixture of gas and oil. Motors that were built to run on alcohol usually have tighter clearances with the piston/cylinder fit and simply running them on gas/oil will result in the pistons sticking. The factory set the piston skirt clearance at .006" and most engine builders that built alcohol motors set the piston clearance at .004". I know the difference is only .002" but the heat put into the piston by running gas/oil is enough to swell up a piston and stick the engine.

The retaining spring clips for the piston wristpins should be removed and replaced with buttons that are pressed into the ends of the wristpins. Doing this makes them free floating and helps in the quest to minimize friction.

Stock connecting rods simply have to be changed if you are going to run a 460. When the OMC V4s came out in the 1960s anyone still running a 460 changed the rods to the V4 rods. The V4 rods (*photo 1*) can be from the 75 horsepower OMC up through the 100. The rod style and part numbers change all through production and care has to be taken in selecting them but any of these rods can interchange. The 75 horsepower rod is the closest to the original weight of the stock rod.

If the larger 100 horsepower style rods are used, the skirts of the pistons have to be modified for clearance.

Using either rod eliminates the problem of rod failure. I will devote a later article to the connecting rod modifications to enable the use of V4 rods in a 460, Big Four, or Stormboat motor.

Horsepower can be gained and friction further reduced by having the

Photo 1:
OMC 75 hp (left)
and 100 hp
connecting rods.



cylinder bores chromed. Chroming also has a secondary benefit, which is that the chrome bores last much longer than the original cast iron finish.

460s came with $\frac{1}{8}$ " rings and the greatest horsepower gain can be made by going to $\frac{1}{16}$ " rings or even thinner millimeter rings. To go to thinner rings requires machining new pistons with thinner ring grooves. It is also possible to save the original pistons by machining out the $\frac{1}{8}$ " ring grooves on a lathe into one big groove, filling that groove with weld (*photo 2*), and then cutting $\frac{1}{16}$ " ring grooves.

Slightly more top end horsepower can be achieved by changing the original closing event of the internal rotary valve on the center main bearing of the crankshaft, which stock is approximately 1" after TDC, to somewhere between $1\frac{1}{8}$ " after TDC to a maximum of $1\frac{3}{16}$ " after TDC. Any more than this takes away a lot of

torque and makes it very hard to start the engine.

As with any engine, if the parts rotate or reciprocate they need to be in perfect balance and engine life will be increased when this is done right.

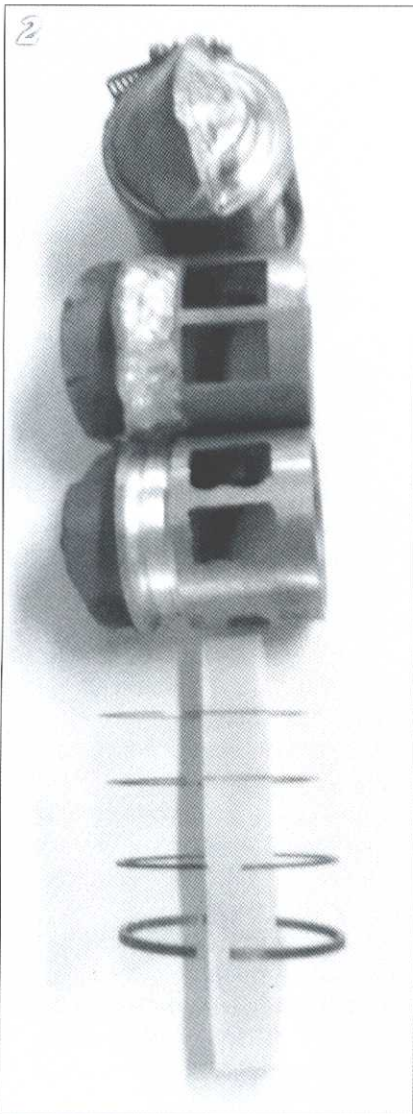
Modern ignition components can really help with the F class motor's reliability and a hotter spark can mean easier starting. In today's racing the F class no longer runs but guys still run the Johnson PR and Evinrude Speeditwin which are basically half of an F class motor. These racers have adopted the Perlex pickup to replace the old points and condensers. The magnet and Perlex pickup greatly increase ignition reliability. Other ignition components, including modern sparkplug wires and hotter coils, aid in this quest for a hotter spark (*photo 3*). Today's sparkplugs have a more forgiving heat range and are more resistant to fouling, so reducing bushings can be fitted into the 18 mm sparkplug holes, reducing them to 14

mm to allow the use of these new sparkplugs.

As I've said in previous articles about these engines and will say once again, racers put engines together from what they could get their hands on. There are 60 cubic inch 460 F class motors with components from pumpers, Stormboat motors, and Big Four service engines out there as well as motors having aftermarket parts on them.

In previous articles I talked about parts and how to identify what they are, and also talked about aftermarket parts and what was available back in the day. I'd like to hear from any of you out there who have an "F" who are getting interested in doing something with it after reading this series of articles and am willing to help with identification or advice on how to proceed.

Next time the discussion will be about an improved 460 that never made it to production.



L: *Photo 2:* Pistons showing ring grooves cut out for welding and installing new thinner rings, which could be done on any motor. These are PR pistons.

R: *Photo 3:* Modern ignition components that could be adapted to an F class motor.





Water Skiing on the Delaware

By Charles Scudder

In 1950, when I was a junior in high school, my family moved to River Drive in Titusville, New Jersey because my mother's sister Jean and her family lived there. The village of Titusville is located on a high bluff overlooking the Delaware River, about 6 miles upstream from Trenton.

Most people who live on River Drive have a dock on the water in front of their house during the summer months. The water level and the current vary with the amount of rainfall that the watershed receives. Under normal conditions, boats could be driven about 3 miles south to Scudder Falls just downstream of Yardley, PA and about 4 miles north to the falls at Lambertville. Low water levels due to drought conditions would limit the range from the shoals 400 yards north of the Washington's Crossing bridge in Titusville to the rapids near Snuffy's Restaurant, about 2 miles total.

Under most conditions except flood stage the river bottom is mostly small rocks with an occasional big boulder that must be avoided. In normal conditions the river is about 600 feet wide but the boaters from Titusville seldom ventured beyond the channel in the very center, avoiding the Pennsylvania side altogether because of the rocks. A visitor unfamiliar with the river once sped down the river in a small hydroplane powered by a hot Mercury Hurricane. He did not know about the rock that he hit, and the impact sheared off the tower housing and lower unit, leaving behind just the transom clamps and powerhead.

In spite of this relatively small operating area, on any Sunday in the summertime there was a lot of water skiing going on in Titusville. It was centered at my Aunt Jean's dock because of her husband Johnny's love for the sport. My uncle Johnny liked to slalom, which required a fast boat and a strong motor to get him up out of the water on just one ski. Johnny bought a Mercury KF-9 from the Mercury dealer in Lambertville, NJ; I think his name was Teal. I had been raised on a farm and liked to work with machinery, especially outboard motors. I was a strong young high school senior. My job was to run the boat and pull Johnny or anyone else who wanted to ski. The KF-9 had a chrome flywheel and a rope start. It had high compression and required a strong tug on the rope to get it to fire.

The remote gas tank meant that unlike the four cylinder Evinrude Speedifours with integral tanks, we could take the Mercury tank to the gas station and fill it there, with no spillage going into the boat.

The KF-9 had no gearshift, so when it started you were moving whether you were ready or not. It was a balancing act to stand up, face the rear, wind the rope, give a mighty heave, and then sit down behind the wheel while still maintaining your balance as the boat tried to run out from under you. This process was also hazardous to any passenger who might be in the front seat. They had to duck to avoid the knot at the end of the rope snapping toward them.

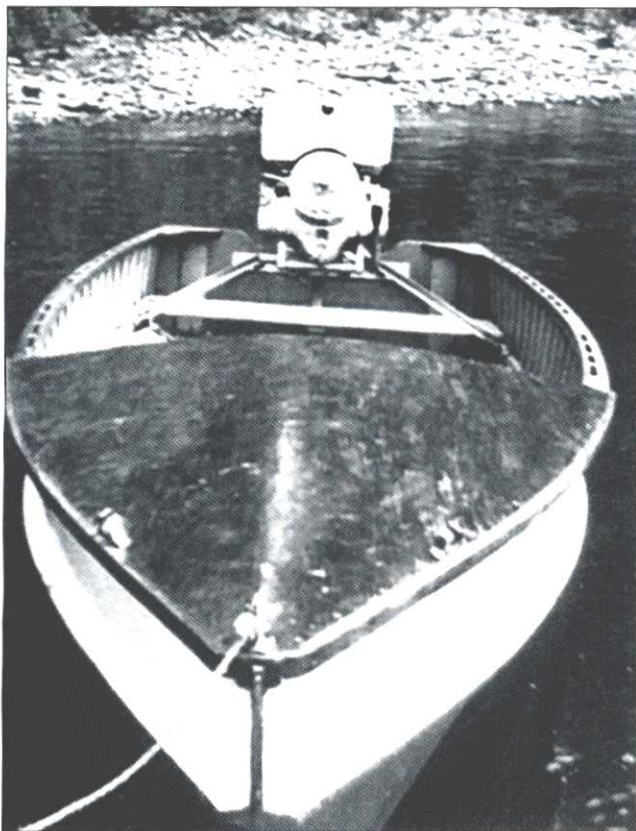
We tried to avoid picking up a downed skier out in the river. While the motor was shut down to bring them into the boat, the relentless current would carry the boat downstream toward the bridge, or toward the shoals when the water was low. It was much better to circle slowly around them in the water and idle upstream until they had the handle (or two handles in the case of a slalom skier) and then take up the slack. When the rope was tight they would nod their head for the start.

Starting from the dock required the skier to be sitting on the upstream edge with the rope held coiled up in his or her hand while the operator (usually me) started the motor, untied the boat from the dock, sat down, steered away from shore and watched the rope. If your timing was just right, you could open the throttle and pluck the skier off the dock right into a full stand-up position with no wallowing. Of course there were variations in technique due to different current speeds and the size, weight, and experience level of the skier. I drove the boat a lot and got to be proud of how well I could do it.

Dropping off a skier required driver skill as well. While heading upstream, the boat had to pass far enough from the dock so the skier could get outside the wake but not beyond the length of the rope. When it was done right, the skier could land smoothly in a sitting position on the side of the dock.

The king of the river was Dick Abbott, whose brother Jimmy was an Evinrude dealer right there in Titusville. Dick had an Evinrude Big Four on a 14 foot Thompson wooden boat (*photo 1*) that was the fastest at about 44 miles an hour. To get that much speed, Dick's steering wheel was as far back in the boat as possible and he ran a high pitch two bladed propeller, which was unsuited for any kind of water skiing. One day Dick was trying to start the Big Four out on the water. It appeared to be flooded so he pulled the rope with the throttle wide open. The motor came to life and the boat moved ahead so fast that Dick

Photo 1:
King of the river, Dick Abbott and his mighty Big Four in the late 1940s at Titusville. He was running a Trimmer built boat at that time.



was thrown out over the transom. Without Dick's weight, the torque of the Big Four steered the wallowing boat around him in ever smaller circles. Jimmy came to the rescue, coming alongside in his boat and reaching over to close the throttle. It was a close call for Dick but just one of many rescues Jimmy made. Rescue squads from Trenton to Lambertville and beyond would call for "River Jim" whenever they needed expert help on the water.

The more I ran the KF-9 for Johnny, the more I wanted a boat of my own. Eventually my Mom went to talk to my good friend Jimmy Abbott and bought me a used boat and motor (photo 2). It was a 14 foot wooden hull much like a Thompson but built by a man named Trimmer right there in Titusville. The previous owner had mounted a Big Four on it which had too much power. He had welded up angle iron braces that went from beside the motor to the gunwale about 3 feet up on each side to prevent hull flexing under load. Jimmy sold it to Mom with an Evinrude Speedifour for \$200. I was so excited to have a boat of my own that I disregarded Jimmy's warning about the hull needing to be soaked for a few days with a hose in the yard. I put it in the water immediately with my motor on it and tied it up to Johnny's dock. I checked later that night and found my boat partially sunk, with just the motor and the gunwales showing above the water. I had to pump the water out before I could use the boat for a few days but it eventually swelled up pretty tight. Evinrude had been making Speedifours for many years and had produced a reliable, smooth four cylinder cast iron motor of 50 cubic inches with adequate power and speed. I loved that motor (photo 3) and adjusted the spark and high speed needles every time I ran it. It had a strange looking propeller with swept-back blades that was called a "weedless."

I always shut off the gas and ran the carburetor dry

Photo 2:
Trimmer boat
and Speedifour
in 1953.

Photo 3:
The Trimmer's
proud owner.

before tilting it up but it always leaked fuel into the hull. The gasoline would evaporate, leaving a nasty coating of heavy oil all over the bottom in the back of the boat.

Johnny weighed about 180 pounds and the KF-9 had to work hard to get the 14 foot boat and him up out of the water and on plane. Sometimes I had to lean my body forward over the steering wheel to help the motor get the boat up on plane. He had a standing order with Mr. Teal, the Mercury dealer, for any stronger motor that he might be able to sell him. In 1957 Mr. Teal told Johnny about a powerful new motor that had just been introduced, and he bought one. It was a tall inline six cylinder Mercury. It developed 60 hp and was a magnificent advance over all the other motors in Titusville. The top and bottom covers were painted red, with a beautiful polished stainless steel wrap-around in between. The lower unit was cream colored. Inside the cover were three carburetors and an electric starter. What a beauty! It revolutionized how we were able to water ski; it had enough power to pull three skiers up out of the water and enough speed that we learned a new signal from the skier: "thumb down" meant to slow down.

Johnny bought a new 16 foot Yellow Jacket boat for the big motor. It was made of molded plywood, very light and strong, and it did NOT soak up any water and become heavier. Johnny bought an extra gas tank so we could run all afternoon by just switching tanks. The Yellow Jacket had a comfortable front seat and I could take one or two passengers along without sacrificing any speed for the skier.

The remote control for this big new motor had only one lever. In "neutral," nothing was happening. Moving the lever forward a few degrees and pushing a button started it in forward, with the rest of the travel being all throttle. Pulling the lever back slowed it down and then killed the ignition as the lever approached neutral. Moving the lever back toward reverse rotated the magneto and pushing the button again reversed the starter, starting the motor running backwards. The amount of throttle available in reverse was limited and we seldom used it, relying instead on the steady river current we always had. The big Mercury had a small flywheel, which enabled it to stop quickly when



the driver moved the lever back to neutral. It was a strange new gear shift but quite practical when mastered. Combined with the electric starter, it was much better than the KF-9.

When I graduated from Rutgers and went to work full time on our family farm, the first thing I bought was a brand new Studebaker V8 Starlight Coupe. I ordered it special with a four-barrel carburetor, 8.5:1 compression, dual exhausts, and a 3.90 rear axle ratio—all intended to make it hard to beat in a drag race on the street. The second thing I bought was a new boat and motor. Jimmy Abbott sold me a 1956 Evinrude 30 hp Big Twin. It was made of die cast aluminum and was some 30 pounds lighter than the cast iron Speedifour. It had intake silencers and was cushion mounted to make it much quieter than older motors. It had reed valves and a lot more low end torque than my old Speedifour, which made it much easier to get a skier up out of the water. Jimmy mounted it on a new 14 ft Yellow Jacket hull—smaller than Johnny's but with all the advantages his had. I traded the leaky old Trimmer and Speedifour and never looked back. Jimmy mounted my steering wheel on the back side of the rear deck beside the walk-through on the right side. My throttle and gear shift were mounted at my right hand—a big improvement over the tiller steering and throttle of the Speedifour. I didn't need electric starting. I was strong enough to reach around from a sitting position and start the motor with the recoil starter.

With my new Stude and Evinrude, I had the world by the tail and I knew it!

I put my new Evinrude in the water in the very early spring when the water was still cold (*photo 4*), breaking it in slowly as per Jimmy's instructions. I was very careful with my oil and gas mixture and adjusted the main needle valve every day. The motor responded with a few more RPM than most at top speed. It drove the smooth, light Yellow Jacket hull to a top speed that I estimated was over 30 mph. I could beat all the Speedifours and all but one of the other twins: Smokey Van Horn had a 1951 Evinrude 25 Big Twin on a light aluminum boat that could just outrun me.



One of the best features of my 30 was the full gear shift. The Mercury six had a reversible starter but not a true neutral, which meant I had to take it for a quick spin to bring it up to operating temperature before we could do any skiing. I didn't mind; feeling that power with an empty boat was a thrill, but it kept the skier waiting while I did it. My Evinrude 30 could be warmed up at the dock in neutral while the skier was getting ready.

The Titusville Boat and Ski Club put on a water show every July 4th. Johnny's big Mercury enabled us to pull more skiers for bigger and better acts, but he still wanted more power. He traded in the Mercury and Yellow Jacket for an American Water Ski Association approved 16 foot Correct Craft inboard. The beautiful mahogany boat had a full deck, comfortable seats, a special center pole for ski ropes, and a 6 cylinder, 110 hp Graymarine motor with two explosion protected carburetors. It was heavy and drew more water, but it was VERY powerful. Top speed was 44 mph; Dick and his Big Four could stay with him but not pull away.

I learned to drive the new boat and found it well adapted to skiing. Because of the central post for the ski rope, the actions of the skier had little effect on the boat; it just kept right on trucking. There was a long handle for forward and reverse with neutral in between. The steering was heavy but the motor was very responsive to the throttle. Pulling skiers up out of the water required careful moderation of the throttle and was made easier by having a rear view mirror.

On one memorable occasion, I was pulling my Aunt Jean and made a wide sweeping turn at the north end of town. There was a slight bump near the shore but I paid it no mind, thinking I had run over a floating stick. I dropped Aunt Jean off at her dock and went down to Jimmy Abbott's dock to refuel. As I arrived, Jimmy looked down and said, "This boat is sinking!" I drove back to Johnny's dock with water tickling my feet, pulled it into shallow water to keep the motor from getting wet, and watched it settle to the bottom. Investigation showed that the bump I heard was the self-bailer pipe on the bottom of the hull hitting a boulder, which punched it up through the bottom. The boat sat on the rocks while Johnny arranged for a portable chain hoist that our local plumbers used to pull pumps out of wells. Their hoist lifted the Correct Craft up out of the water. I made a patch for the self-bailer and Johnny bought a new shaft and propeller. We were back skiing the next weekend.

The power of the Correct Craft enabled new acts like four dancing ballerinas and our five man pyramid. Johnny bought the materials and I built a 28 foot adjustable ski jump following AWS Association plans.

Our best and my final show was in 1956.

To satisfy my military obligation, I went into the USAF. I sold my boat to my cousin, Jim Maddock, and paid back my mom the \$200 she had spent for my first boat.

Today, I have in my barn a beautiful KF-9, just like the one I ran for my Uncle Johnny. I am looking for a 1956 Evinrude 30 but I also have a magnificent Big Four, just like the one Dick Abbott had when he was the king of the river in Titusville.

*Photo 4:
The author takes
his new Big Twin
and Yellow Jacket
for a spin
in early spring.*



Walker-Baumann Tractor Gearcase Patent

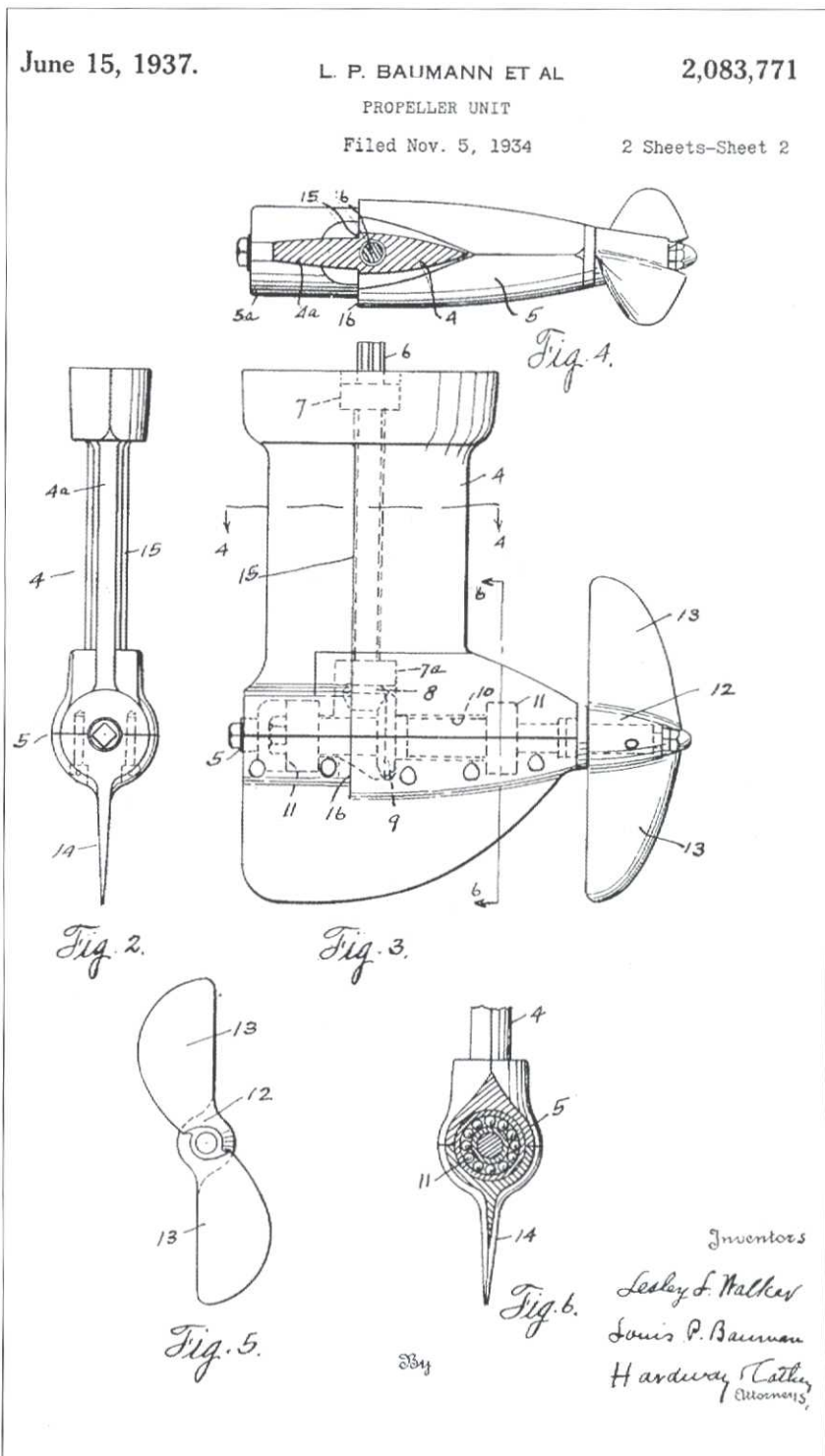
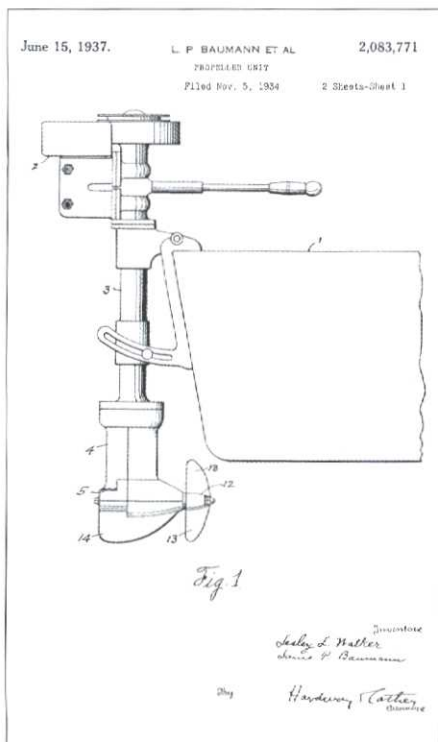
By Joe McCauley

In April 2011 my article on the Walker-Baumann tractor gearcase appeared in *The Antique Outboarder*. The article opened with Charlie Strang's comment "Finding a Walker-Baumann lower unit would be a real feat" from his article in the January 1998 issue. My article is long, and includes a technical description of the gearcase parts provided by Louis Rothermel, who owns four of these gearcases. I also included Louis Baumann's guess as to why the gearcase was unstable against turning, along with the basis in hydrodynamics for the correctness of Louis's guess based on the center of pressure.

The gearcase was patented in June 1937, but for various reasons the patent could not be located for inclusion in my April 2011 article. Years later, Louis Rothermel found a copy of the original Walker-Baumann patent in his files and gave me a copy. A digital image of that copy is shown here (please contact me if you also want an image of the claims pages).

In my original article I included Louis Baumann's story of how a man borrowed Louis's only tractor gearcase, a red-anodized one, sometime before 1977 to "take measurements" but never

returned it. I expressed the hope in writing that my article might cause the gearcase to surface and be returned to Louis Baumann. Indeed, an unidentified person contacted me saying that he had a red-anodized gearcase in his possession and asked how much it was worth. I responded that the gearcase belongs to Louis Baumann and should be returned to the owner. That was the last I heard from that individual. The gearcase is still missing and Louis Baumann, the rightful owner, would like to have it returned to him for exhibition at Baumann Marine.



YOU CAN'T TAKE IT WITH YOU

By Charlie Marks

I have a challenge for each of you and for every chapter: give a motor away to a young person.

Many clubs are facing the problem of growing or maintaining their membership and there is a ton of knowledge that will be lost if it is not passed on soon. It seems harder to get younger people involved and to keep them involved. So here is the challenge!

Most of us have an excess of motors in our collection, motors we have acquired but there isn't much demand for them, so they sit in the back of our collections. Maybe they can be repurposed to do recruiting. If at a meet you start to talk to a family with a youngster who shows interest in the outboards, keep one of these motors handy and give it to them.

Make sure it is a motor that can be fixed easily. You can even supply some of the basic parts that may be needed, such as coils or plugs. The parts do not need to be new, just as long as they are good.

Make sure the family knows where they can get support if needed. If the family lives close to a member, invite the family to bring the motor to the member's house and offer guidance to complete the necessary repairs.

Challenge the young person to bring the motor back to a meet running. If they do this, make sure there is a test barrel or a boat for them to run it on. I guarantee the younger person will have a sense of reward when the motor starts, requires some adjustments, and begins to run well. This could be the hook that will help build confidence for them to try to fix another motor. It could also create a mushroom effect by one young person sharing their experience with another.

We must do something to encourage new membership, and at least we will not be out much when we give away a Johnson TD or an equivalent motor. Just try to give away a Buick or a boat. I belong to these clubs also and they are having the same membership problem. We have the advantage of collecting a smaller, portable item.

Johnson Made What?

By Jon Koranda

✿ ARTICLE 1: ✿ WATER HEATERS and REFRIGERATORS

This is the first in a series of articles called "Johnson Made What?" about non-outboard products that Johnson made along with the outboard motors. I'm not going to go into great depth with the products but from a historical standpoint it's fascinating what the Johnson company ventured into.

The first product we are going to discuss is water heaters. I have a 1933 flyer for a Johnson water heater called the Johnson Oilway (figure 1). It was fueled by kerosene. There were four different models to choose from with weights ranging from 235 lbs to 440 lbs. (I feel sorry for the guy who got to carry one down to the basement.) You could get accessories with your Oilway, including a 55 gallon kerosene storage container, a stand, and gauges. I do not know how many years Johnson was into water heaters or when they started. This flyer is the only dealer piece I own.

The second product we are going to discuss is refrigerators. Believe



**JOHNSON
OILWAY**

Kerosene Water Heater
Fully Automatic
Economical

●

Kerosene—one of the cheapest fuels—is put to use scientifically in the Johnson Oilway to heat water *automatically*.

The cost of operation is but a fraction of the cost of any other automatic system—making constant hot water making so thoroughly inexpensive that it may be enjoyed by everyone.

This modern water heater may be used wherever there is running water. No gas is required—no electricity—no motor.

Its construction is simplicity itself—insuring thorough dependability and a constant, abundant supply of hot water at any minute of the day or night.

It is efficient—designed to utilize all the heat from the kerosene—burning the oil in a clear, blue flame—without any odor.

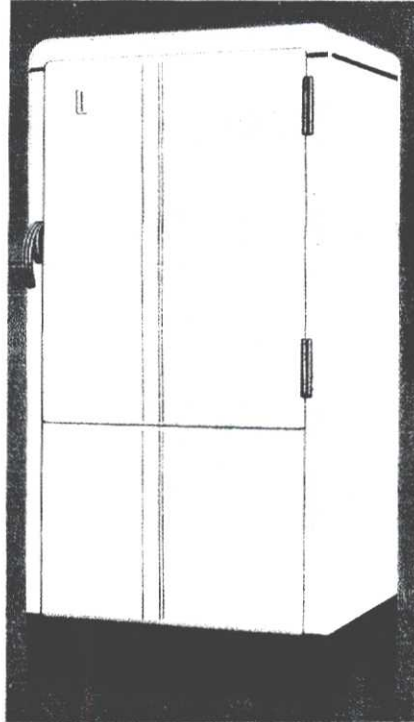
The Johnson Oilway, because of its unprecedented fuel economy, plus its efficiency and dependability, is being used in the nation's finest homes to replace other types of automatic water heaters. Commercial installations in barber shops, beauty parlors, restaurants, soda fountains, sandwich stands, garages, oil and service stations, tourist camps, offices and factories, testify further to its cost-saving and reliable service.

And to home owners in localities without gas or electricity it represents the *only* type of system that provides *automatic* hot water!

Figure 1:
1933 Johnson
Oilway water
heater.

TO MEET THE MOST EXACTING DEMAND

Johnson Electric Refrigerator



Model JR-80T
Six Cubic Feet Capacity

SPECIFICATIONS

CABINET

Finish—Dulux exterior, Porcelain interior.

Insulation—Balsam Wool, 2½" in top, sides and back, 3" in bottom, 2¾" in door.

Overall Dimensions—Width 29", Depth 21½", Height 58½".

Interior Dimensions—Width 23¾", Depth 16", Height 31½".

Net Food Storage Capacity—6.2 cu. ft.

Food Storage Shelf Area—13.4 sq. ft.

MECHANICAL EQUIPMENT

Condensing Unit—"Jomoco," manufactured by the Johnson Motor Company.

Location—Bottom of cabinet.

Compressor—"Jomoco," twin cylinder, reciprocating type.

Refrigerant—SO₂.

Electric Motor—1/5 h.p. General Electric, Capacitor type, 110 V., 60 Cy.

Evaporator—"Jomoco" continuous tubing for high efficiency.

Number of Ice Cube Trays—3.

Number of Ice Cubes—63.

Temperature Control—Full temperature range, with defrosting button and automatic overload. Mounted on evaporator front.

Electric Light—Yes, in food chamber.

Approximate shipping weight—400 pounds.

JOHNSON MOTOR COMPANY

WAUKEGAN • ILLINOIS

it or not, Johnson made these. In the 1920s and 1930s the first Johnson refrigerators were nothing more than an icebox. They were made of hardwood, with cabinet doors and compartments. You'd keep your food cold by placing a block of ice in a waterproof tray in the icebox. On the front of one of the doors is a tag that says "Jomoco." Jomoco was an abbreviation for Johnson Motor Company.

In 1937 Johnson came out with another line of refrigerators (figure 2). They had an electric refrigerating unit and were called "Briggs" (figure 3). Johnson made three models. The inte-

rior was made of porcelain. The problem with porcelain is that it breaks easily and you have shards all over the place when it is broken. It also had a classic aluminum freezer compartment, which wasn't big enough to fit a 12" pizza in it.

You could upgrade from one of the three basic models to a Deluxe model. With the Deluxe model you would get some baskets, shelf adaptors, dishes, a glass butter dish, a water bottle, and a hydrator pan. With all that in the fridge, there was not a lot of room for food.

I have a 1937 Johnson outboard motor ad that shows outboards and



the Briggs refrigerator (figure 4). Back then, they used sulfur dioxide as nowadays we use Freon, but Freon was not available then. One thing about sulfur dioxide is that if you breathe it, it's toxic.

Back then the husband could buy a boat motor and the wife could buy new fridge or water heater, all from Johnson. I believe that a Johnson dealer could order any Johnson product. I do not know how long Johnson was producing refrigerators. I'm guessing production halted in 1940.

Notice the model numbers of the products. Johnson used letter designations in their models like they do in the outboards.

If you have any literature on Johnson water heaters or refrigerators I would like to have a copy to update this article.

Email me:
johnsonseahorse2@yahoo.com
or call (715)896-4844.

I hope you found this article interesting. These were simple products for simple times. I feel we need more history about the outboard companies. It's not just about the motors, it's the history too. Thank you for reading.

L: Figure 2:
1937 Model
JR-80T
refrigerator.

R: Figure 3:
Briggs
Refrigerator logo.



ACE...
Alternate...
Reverse...
Exhaust...
Dual Intake...
Synchro...
Control...
Patented...
Co-Pilot...
everything...
for super...
performance...
Develops...
4.2 h.p. at 3000 r.p.m.
All for only \$95.00

SINGLE SHAFT

THE SIGN OF ADVANCED OUTBOARD MOTOR ENGINEERING

SIX of Johnson's nine great models for 1937 give you underwater exhaust with *Single Shaft*. Look for it!

The *Single Shaft* identifies one of the most important combinations of features in outboard motoring—advanced design found *only* in Johnson Sea-Horses. No two-shaft motor gives you both underwater exhaust and 360° steering, with reverse!

The nine new Johnson All-Star Sea-Horses are packed with performance features. Everything you want is there—power, quiet, flexibility, smoothness, throttling control, easy starting—and most important of all, Johnson **DEPENDABILITY**! You've got a real thrill waiting for you when you first drive one of the new All-Stars. Phone your dealer for a demonstration. You'll find his name listed under "Outboard Motors" in your classified telephone directory.

All prices f.o.b. factory. Subject to change without notice. All power ratings are N.O.A. CERTIFIED ratings.

JOHNSON MOTORS, 1600 PERSHING ROAD, WAUKEGAN, ILLINOIS
Johnson Motors of Canada, Peterboro, Canada

JOHNSON ALL-STAR

DEALERS: Good territories still open. Write for details . . .

ALL-STAR MODEL "DS"
DeLuxe Single. Develops 2.1 h.p. at 3000 r.p.m. A streamlined beauty with power, flexibility, stamina. Ready-Pull Starter and 24 other big features . . . \$95.00

ALL-STAR MODEL "LS"
Light Single. Develops 2.1 h.p. at 3000 r.p.m. Full Pivot Reverse, Underwater Exhaust, Synchro-Control, Dual Intake, everything for superior performance . . . \$72.50

ALL-STAR MODEL "DT"
DeLuxe Twin. Develops 4.2 h.p. at 3000 r.p.m. The great "all feature" motor, with Integral Streamlined Power Head and Ready-Pull Starter \$130.00

Other Models As Low As \$59.50



Sea-horses

OTHER JOHNSON PRODUCTS



Iron Horse 4-Cycle Gasoline Engine, used on leading makes of washing machines, power mowers, etc. Noted for its power, compactness. **DEPENDABILITY.**



Iron Horse Generator, a **DEPENDABLE**, low priced electric plant for lights and radio—with double the usual capacity: 300 watts, 12 volts!

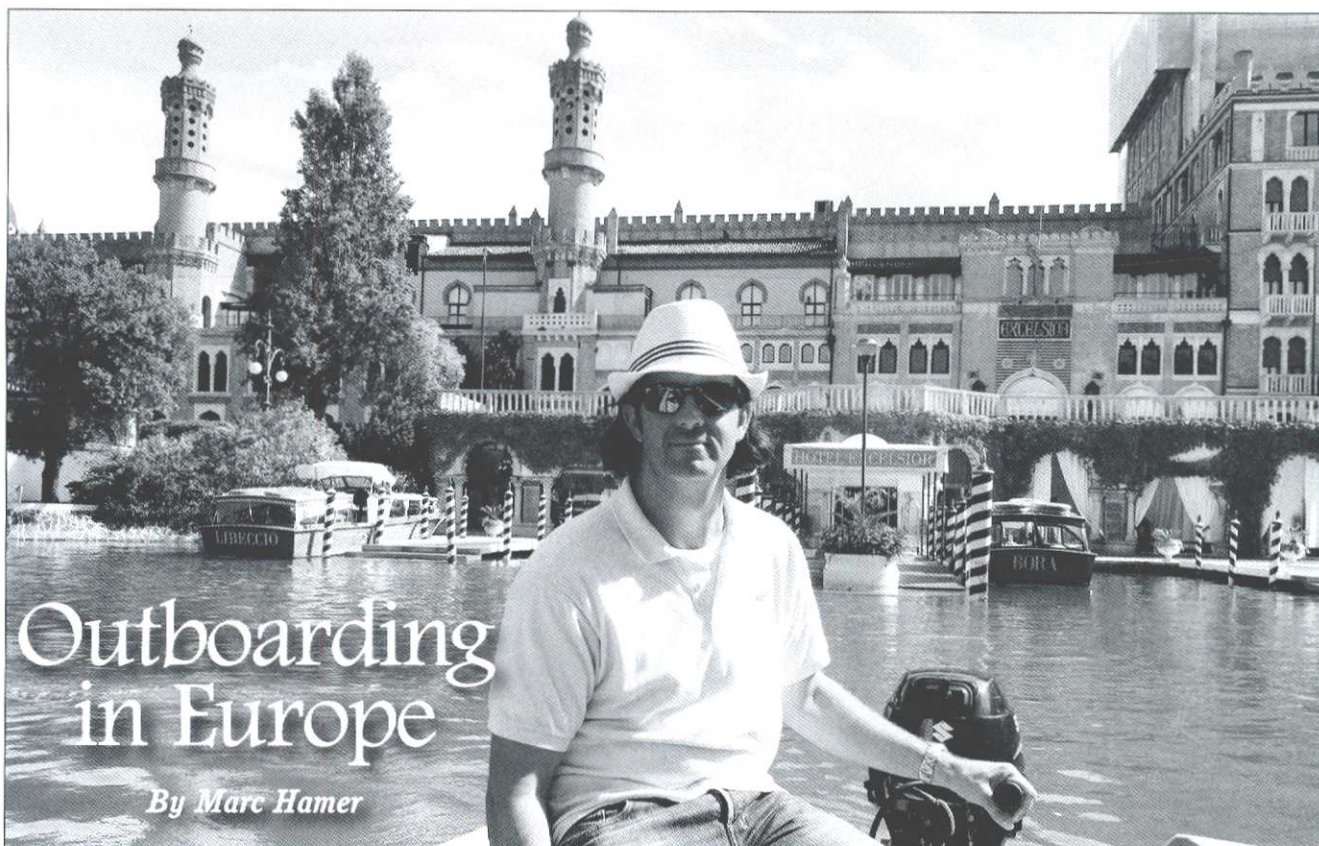
Briggs Refrigerators, built for **DEPENDABILITY**. Merchandised to give you the finest quality at a low price. Made in 8 ft., 9 ft. and 9 ft. sizes.



Write for FREE LITERATURE

Write for the special fully illustrated literature for...





Outboarding in Europe

By Marc Hamer

What does that mean? Anyone can do that. To me, being born there means that I get to reconnect to the birthplace of my outboard passion. *Photo 1* shows my boat house in the background with a basement and a boat rail ramp. The rail ramp is seen in *photo 2*. To make a long story short, Lac Léman (Lake Geneva) is where I got my first outboard, a 1987 Johnson 8 hp (Belgium made). The thing was fast on our Elan 410T which weighed 200 lbs. That seeded the outboard thrill for me.

My first antique was a Johnson AL-50 that my neighbor gave to me in 1988 and I have about 30 antiques now, mostly European made engines.

Ever since I left Switzerland I missed boating on that lake so during the summer of 2017 I got a chance to reconnect to what I remember as a child. It is complicated to register a boat in Switzerland, and forget about getting a trailer, which can only be towed by certain vehicles with certain

tires. I use a duffel bag size Yam240 STi (240 cm long) (*photo 2*). Registration, tag, and a biennial inspection are not required for vessels under 250 cm of length.

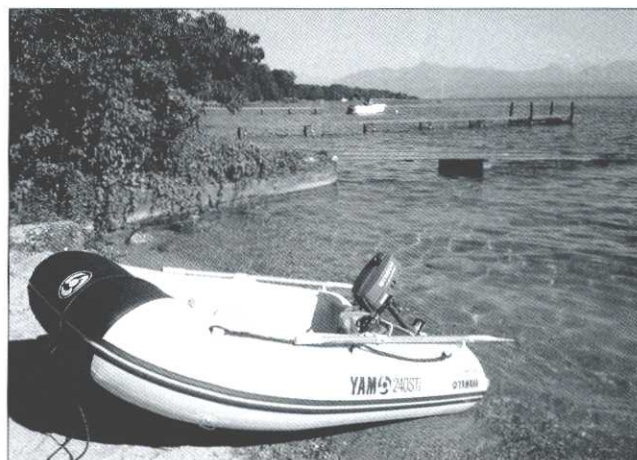
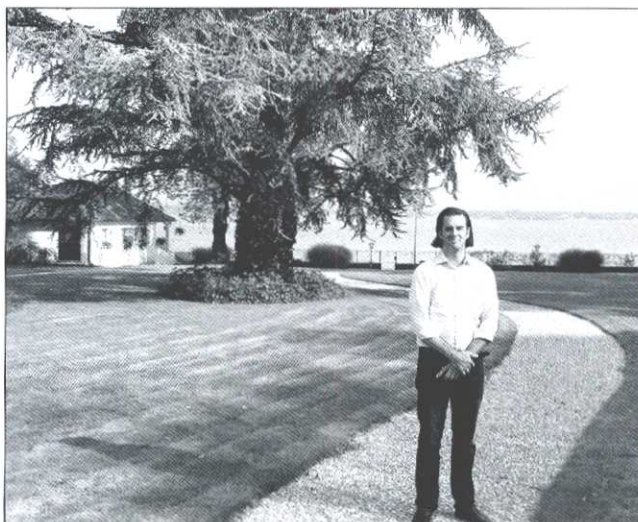
The Yam240 STi can accommodate a motor up to 3.7 KW (5 hp) but for convenience reasons I wanted the lightest new two-stroke outboard out there. Unfortunately none are available anymore in Europe or North America so a new 20 lb Yamaha 2CMHS from Harbourside Marine, New Providence, Bahamas fulfilled the powering aspect. After picking up this gem in Nassau I hauled it to the USA as carry-on luggage (it does fit in the overhead bin of the MD-88) and then shipped it to Switzerland for the inflatable. It is really the best boat/motor combo I have ever owned. Simple, light, fun and convenient, it takes 15 minutes to set up and 8 minutes to wrap it up. Anytime, anywhere, if you travel through Europe you can take this combo across borders without any worries.

Next stop the Venice lagoon. As I flew in, I had to leave the Yam behind and had to settle for a 21 ft rental with a

Photo 6:
Hotel Excelsior.

L, Photo 1:
The author and the boat house in the background.

R, Photo 2:
The Yam240STi on Lake Geneva.



15 hp four stroke Suzuki from Brussa Is Boat (www.brussaisboat.it) (photo 3, color page d). The rentals aren't too expensive and are a must if you ever decide to go to Venice to navigate some interesting waterways. It's not easy to navigate the traffic and tide currents of the lagoon but manageable. The dredged channels are well marked (photo 4).

My Venice tour consisted of getting the boat near the train station, navigating the Cannaregio Canal (photo 5, color page d) to Murano Island (where they used to make genuine Venice glass), to San Clemente Island (our hotel) for a break, to Hotel Excelsior at the Lido (Beach) for lunch (photo 6), and then back towards St. Mark's Square (photo 7, color page d) to return the boat.

Included for your enjoyment (color section, page d) are some photos of the beautifully restored motors from Marc's collection back home.

For color photos for this article, see:

cover

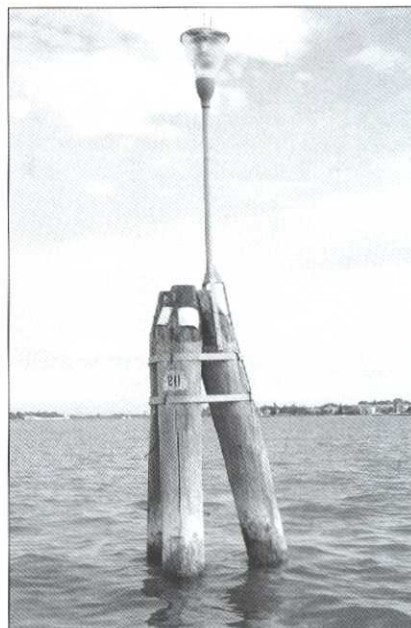
PAGE d

PAGE d

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MEET THE SEA-HORSE Streamliners!

● America's "all-deluxe" motor. All the features you could wish for, brought together in one beautiful package of streamlined power! And built in seven models!

The Starter Deluxe Streamliner pictured here gives you Perfected Alternate Firing . . . Dual Carburetion . . . Reverse . . . Underwater Exhaust . . . Patented Co-Pilot . . . Synchro-Control . . . new Rubber Rotor Force Pump . . . new Oversize Gas Tank . . . new Stainless Steel Propeller Shaft . . . and a dozen other quality features.

And with all this, it costs LESS than last year's famous deluxe models! Besides, you can buy on easy time payments.

This is the year to get your Sea-Horse. See your Johnson dealer. You'll find him listed under "Outboard Motors" in your classified phone book. Prices as low as \$52.50 f.o.b. factory (subject to change).

FREE! Brand new Sea-Horse Handy Chart describing all 10 models of the 1941 Johnson line. Complete specifications. Fully illustrated. Write.

JOHNSON MOTORS, 1200 Pershing Road, Waukegan, Ill.
Johnson Motors - Cincinnati, Pittsburgh, Cleveland

FREE!

AMERICA'S REALLY BEAUTIFUL OUTBOARD MOTORS

Photo 4:
Channel marker.

An ad from
"Hunting and
Fishing,"
February 1941.
Contributed by
Bill Vanderman.



Tinkering Tips

6 hp OMC Carburetor Remove/Install

By Scott Bogue

This 6 hp Evinrude had recurring carburetor problems that required pulling the carburetor multiple times. On the forums I had read that holding the starter out of the way was tricky because one false move could release the spring. I needed three hands! This little bracket (*photo 1*) kept the starter securely in place with just enough clearance to get at the nut.

When reinstalling the carburetor, to get the nut started I placed it on the end of the stud with a telescoping magnet, then used a bent brass rod (*photo 2*) to hold the nut square and straight, pulled away the magnet, then placed the magnet on the next flat, turned the nut $\frac{1}{6}$ turn, went to the

next flat etc. until the nut was started onto the threads.

I may be the last person to know about this, but after struggling to open wire hose clamps with pliers and having the clamps slip in the jaws, I ground off-set grooves into an old pair of pliers (*photo 3*).

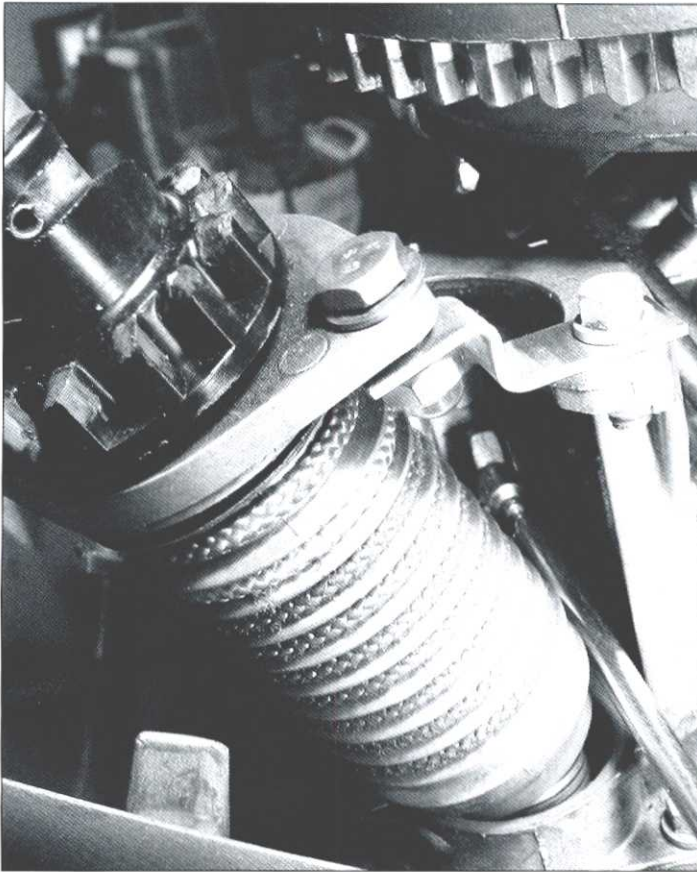
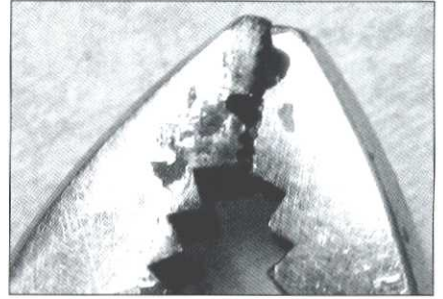
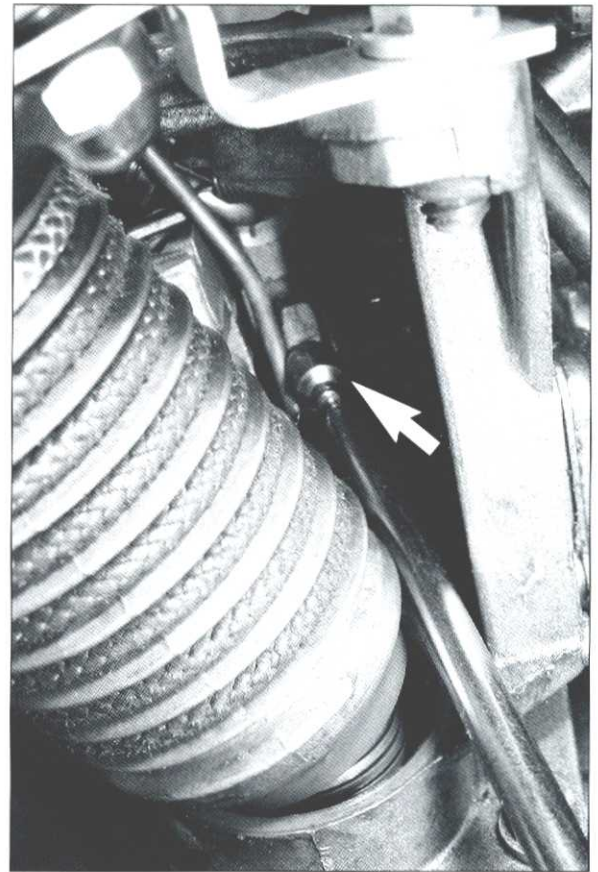


Photo 3:
Modified pliers
for opening wire
hose clamps.

L, Photo 1:
Temporary starter
holding fixture.



R, Photo 2:
Starting the nut
with a telescoping
magnet and
brass rod.

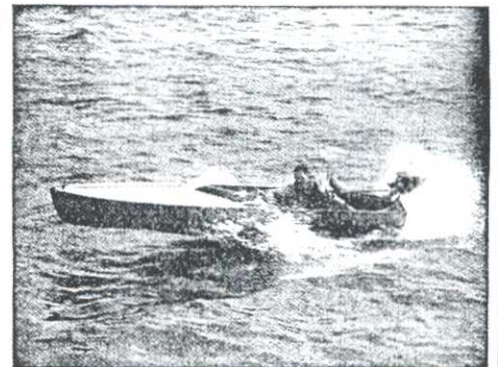
The Curtis De Luxe 13' Outboard Hydroplane FOR THOSE WHO CARE

SPECIFICATIONS

Length—13' 0". Beam 46"
Keel—1" x 2". Spruce Frames (17) $\frac{1}{2}$ " x $\frac{5}{8}$ " x 2"
Planking— $\frac{5}{16}$ " Mahogany
Stem—Mahogany
Stern—Mahogany
Deck—Canvas Covered
Fastenings—Brass screws and bolts
Finish—Varnish

BABY BILLY II
Winners
Baltimore
World's Record
Savannah
Norfolk
Virginia Beach

Gas Engine & Boat Corporation, Norfolk, Va.
Builders of all types of Outboard Motor Boats



An ad from
"Motor Boat"
magazine,
September 25,
1928.
Contributed by
Donald Peterson.



MOB
Sonny Clark Meet:

L: Steve Shaltry's
1950 TN-26 and
Sonny Clark's
1955 Wizard
Super 5.

R: Greg Clark's
original 1947
Evinrude Lightfour.

L to R:

A nice original
1958 Johnson
Sea Horse 35.

Greg Clark's
Elgin 2.5 hp.

Greg Clark's 1941
Johnson HD-20.

L: Rear view of
Scott Parish's
1924 Evinrude
Model N.

R: Motors on
display inside
Sonny's shop.



Clockwise from top R:

Great Lakes Big Fish Meet:



Joe Brincat checking out a Sea King Midget under the pavilion.

Clarke Trollers getting wet.

A line of boats ready to go in the water.



Orvin Ferguson's flying Mercury.

1951 25 hp Evinrude needing a sea trial.



Great Lakes Dossin Meet:

Members Travis Kerbrat (L) and Bob Lafayette with a portion of the display motors.

Members Dave Bush (R) and John Gavasso enjoying the day alongside Dave's nice 90V Speed Liner.



McCorvey Article: Yes, those Mercury Outboards cleats had indeed once been yellow.





**Great Lakes
Dossin Meet:**

L, top:
Kevin Van Oirschot
presenting
Bill Guenther with
the first place Zephyr
Time Trial award that
he won this year at
Constantine.
That's our neighbor
Canada across the
Detroit River.

L, below: A
historic model Baby
Gar with a handmade
four-cylinder gasoline
engine. The model is
shown with Garfield
(Gar) Wood and his
son Gar Wood, Jr. in
1929 photos. The
display is by owner
Bill Wood (L), with
John Sanderson
looking on.



R: Kent Lund with a
display of antique
tether boats. Racing
these hand-built boats
was popular in the
1920s and 30s on
Belle Isle. The boats
have hand-built
engines, gasoline as
well as flash steam.

L: Jeff Bahr's two
Ducktwins sure
attracted a flock of
ducks; they could be
related!



R: A rare 1958 Clyde
boat. Clydes were
made in Detroit from
1925 to 1971.
Construction was of
molded plywood,
rather lightly built.
They were very
popular in the day
around the southeast
Michigan area, but
unfortunately not
many have survived.

**Great Lakes
Big Fish Meet:**
Evan DeHate's
Glen-L boat with a
Mercury Mark 55.



Hamer Article:

L: A Penta V2, made in Sweden. Produced 1932-1936, displacement 350cc, 7-10 hp, 2500 rpm. From Marc's collection.

R: Photo 3: The rental from Brussa Is Boat.

L: A Penta Z2, made in Sweden, produced 1935-1939. Only 1000 were produced.

R: A Seagull Twin Long Shaft, made in England 1935, displacement 340cc, 10 hp. Very rare.

Photo 5: The Ponte dei Tre Archi (Venice) on the Cannaregio Canal.





L, Texas Lake Houston Meet:

Tom Oncken and his miniature Indian (which runs) with Gary Keeney (Morten Lovstad photo).

R, MOB Sock's Meet:



Jack Campbell's Johnson P-50.

L: Two Clarke Trollers from JJ Walls.

R: 1968 Johnson 1.5 owned by Richard Dykeman and 1951 Mercury KF-5 owned by Dan Cassidy.



L: Motors in the display area.

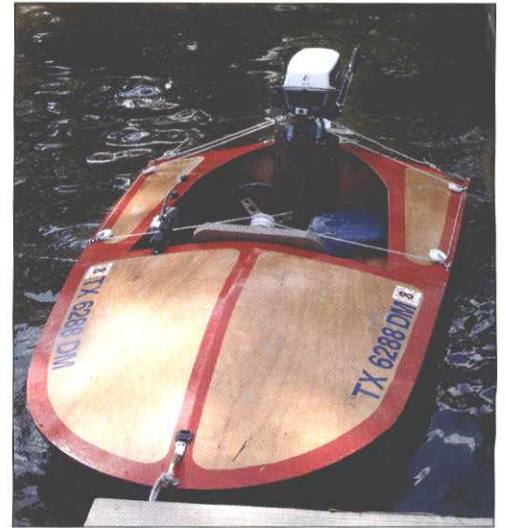
R: Lockwood-Ash RBM owned by Richard White.



Texas Lake
Houston Meet:



New member
James Sengele
with his dad's
original 1968 9.5
that James rebuilt
(Adam Finn
photo).



L: The Oncken
kids decorate one
of John Platou's
boats built by kids
(Morten Lovstad
photo).



R: John Platou's
granddaughter's
MiniMost (Morten
Lovstad photo).

Lee and Glenn
Seureau take a
cruise in their duck
and fishing boat
(Morten Lovstad
photo).



Texas Lake Houston Meet:

David Coffey and Joe McCauley idling out for a cruise (Morten Lovstad photo).



Peter Schultz motoring (Morten Lovstad photo).

Great Lakes Dsossin Meet: Charlie Schmidt (L), the meet organizer, and our host Joel Stone, Detroit Historical Society Senior Curator, with a display of antique inboard boat motors. The red one all the way on the left side of the photo is an unidentified motor. If anyone recognizes it, please speak up!



Introducing the first super-speed boat... the **maltese magnum missile 16**

Built for Dan Aronson, 1967
A 178 and USR Offshore Champion... a radically new boat from the hulls of the world's finest, high performance...
A new concept in design...
A new concept in speed...
A new concept in maneuverability...
A new concept in safety...

Short Takes

A 1956 Evinrude Sportwin, advertised as a "quiet" outboard motor.



A Division of Outboard, Marine and Mfg. Co., In Canada, Mtd. by Evinrude Motors, Peterborough

quiet Outboard Motors

Honorary Lifetime Member
Louis Rothermel
and his
Big Four at the
Texas Chapter's
April 2015
Lake LBJ meet.

OHI #3A:
Center-fold of the
"Maltese Magnum
Missile 16"
Sales Folder.

OHI #14:
Our Magnum
on display
at the Lake
Winnepesaukee
Antique Boat
Show..





How Outboard Motor Ignition Systems Work, Part 3

Ignition with No Battery: the Magic of the Magneto

By Bill Mohat

Battery / Points vs. Magneto / Points Ignition

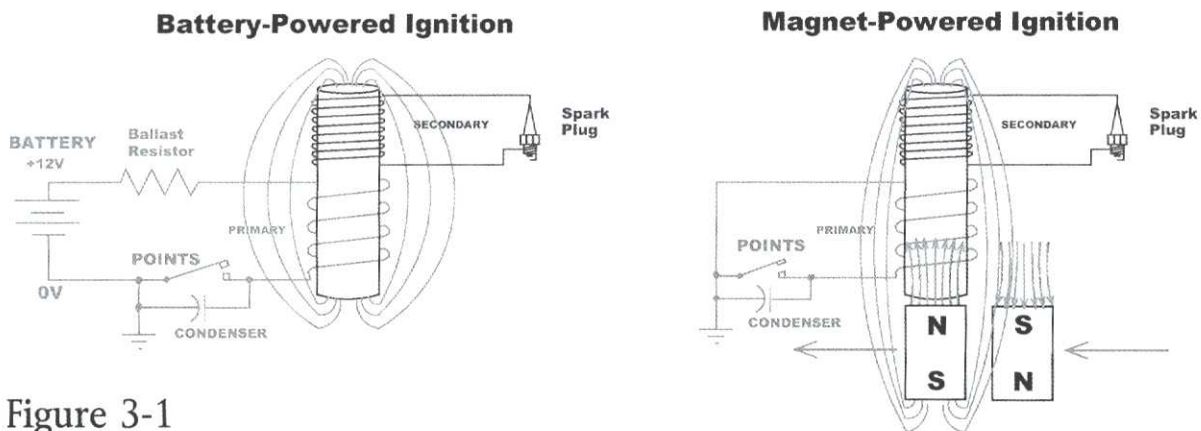


Figure 3-1

However, looks can be deceiving. In a battery-based system, the battery voltage is used to create current in the primary winding of the spark coil, whenever the points are closed. In a magneto, the magnets spinning in the flywheel are used to generate the voltage needed to create current in the primary winding. (Try to visualize this as the magnetic field creating a tiny battery inside the windings in the spark coil, and you'll have the right idea!)

In the battery-based system, you can measure +12 volts across the primary winding of the spark coil when the points are closed, and it is this voltage that drives the current in the spark coil. In the magneto-based system, you will measure almost zero voltage across the primary when the points are closed – and yet you get the same levels of primary current as you do with the battery-based system. The reason is that when the magnets spin past the primary of the spark coil, there IS a voltage generated – but it's generated inside the windings of the spark coil itself, where you can't

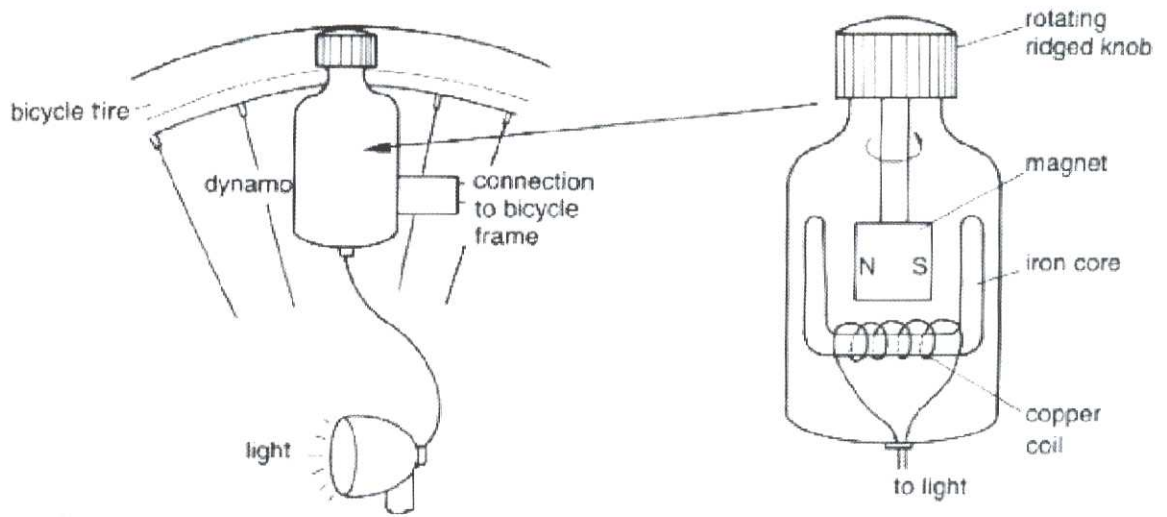
measure it. By then connecting both sides of the magneto's primary together, this completes the circuit, and allows the voltage inside the coil to create the maximum current possible.

However, this is not the only difference we have to deal with. A battery provides direct current; that is, the +12 volt power is available all the time. In contrast, a simple generator or dynamo will create alternating current (AC), with the voltage alternating between positive and negative. (This looks like a "sine wave," where the positive voltage you want is only available half of the time.) So, now you have to synchronize the AC voltage output to coincide with when you want the spark to be generated. By itself, that's not a difficult challenge to overcome. However, magnetos produce a very odd output voltage pattern, where the positive and negative halves don't look like each other at all. The positive voltage pulses generated are **much** higher in amplitude than the negative voltage pulses. In addition, the voltage pulses are all ex-

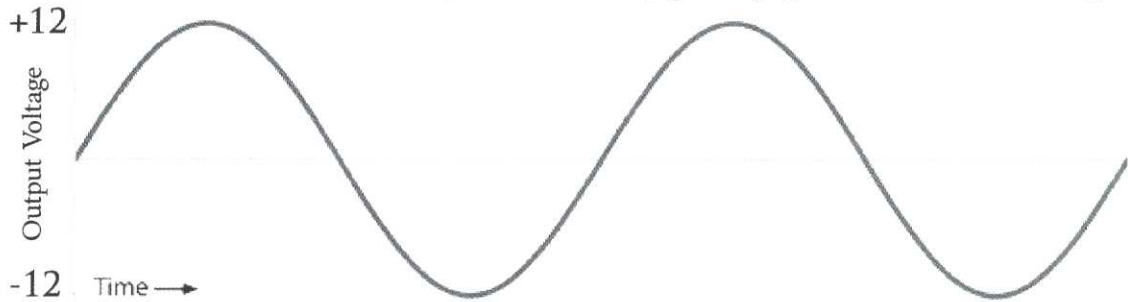
tremely narrow; the positive pulses we want to use only exist about 10% of the time. (See figure 3-2 for details. Compare the output voltage waveform you get from a bicycle generator to what is generated by a magneto. The magneto's output voltage waveform looks very odd, but there are good reasons for this!)

So, why do magnetos produce such an odd output voltage waveform? Well, here are the reasons:

1) Magnetos were designed before solid-state diodes were invented. Back in the 1920s and 1930s, only AC voltages could be easily generated. (Well, you COULD use a commutator and brushes system to give you only positive voltage pulses, creating a DC generator, but commutators and brushes are expensive to produce and a serious maintenance problem. Magnetos, especially in cheap devices like lawn mowers and chain saws, have to be inexpensive and very reliable. So, they have to deal with the AC voltage somehow.)



An AC Generator or Dynamo will typically produce an AC output.



AC Generator in Magneto Systems.

This is NOT a sine wave, and there's a reason for it!

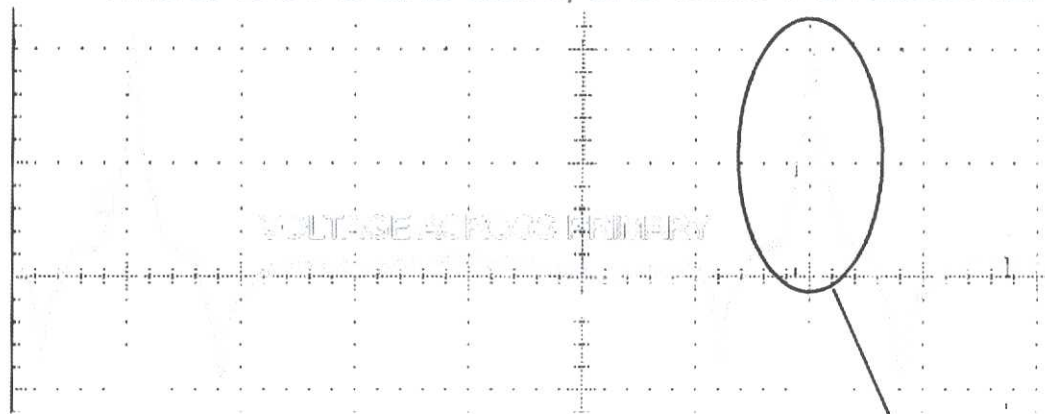


Figure 3-2

These large, positive voltage spikes are what is used to power the spark coil.

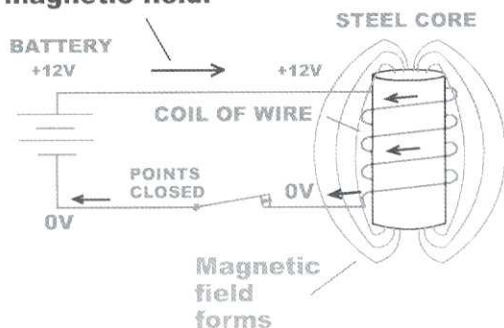
2) The magneto only uses the positive voltage pulses to create spark. The negative output pulses are not used (or worse, they can interfere with the positive voltage that we do want to use, so negative voltage output must be minimized if possible). Refer to figure 3-2 to see which portion of the magneto's output voltage is actually used to create the spark. (Key point: this picture of the AC voltage created by the magneto is with the magneto's generator not connected to any load. You can see this if you disconnect the points and measure the AC voltage with no load. When the points are functioning, you will not be able to see this voltage across the

magneto's primary winding).

3) We want the positive voltage generated to be at the maximum level possible, at exactly the time when the spark needs to be generated. When spark is **not** being generated, the voltage is of no use to us so magnetos are designed in such a way that they concentrate the positive voltage generated into a narrow, tall "spike" of voltage, to maximize the energy possible right at the exact instant when the coil needs to produce a spark. At the same time, negative voltage spikes are minimized as much as possible, so they won't interfere with the positive voltages that we want to use.

Faraday's Law: Current Flow Creates Magnetic Fields, (and Vice Versa!)

Current flows in the wire, and this creates a magnetic field.



Current flow

Moving the magnet past the core generates a voltage in the windings. Connecting the ends of the windings together allows current to flow.

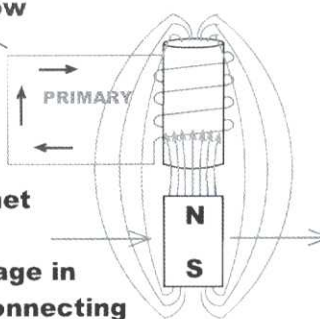


Figure 3-3

And now for the two really big questions: First, how is this odd waveform created, and second, how is it used to drive the spark coil? The “overview” answer to the first question is that the armature core in the spark coil and the pole pieces on the magnet(s) in the flywheel are specifically designed to produce this odd waveform. (“Poles” on magnets and armatures are pieces of metal from which the lines of magnetic force are directed.)

If you look closely at the magneto in an outboard motor, you will find that there are more magnets in the flywheel and poles in the armature cores than would seem to be necessary. Johnson and Evinrude magnetos have two magnets in the flywheel, and three poles in the armatures. (Refer to figure 3-4 for details.) Other systems may have three magnets in the flywheel and two poles in the armatures. It is this difference between the number of poles in the magnets and in the armature cores that is responsible for the creation of this odd waveform, with two small negative voltage pulses around every large, positive voltage pulse that is generated.

The “overview” answer to the second question is that when the output voltage is positive and the points are closed, the circuit is completed and current is driven through the primary winding in the magneto’s primary coil. This appears identical to the battery, points, and coil based systems except that the “battery” here is voltage generated inside the coil (where you can’t measure it) instead of being provided by an external battery, where it’s easy to measure the voltage across the coil.

Now, to understand exactly how magnetos produce this output power waveform, it’s necessary to first understand the basics of magnets, inductors, and transformers along with how a battery, points, and coil ignition system works (if you have not already done it, go back and review Parts 1 and 2).

Faraday’s Law states that if you apply a voltage to a coil of wire, current will start to flow. As this current increases, it will create a magnetic field around the coil, forming an electromagnet. As the field increases in strength, it increases in size, causing the field to appear to move. However, the opposite is also true: if you take a magnet

(with the magnetic field that surrounds it), and you move it past a coil of wire, then a voltage will be created in that coil of wire. If that voltage is connected to a load of some sort, current will flow (figure 3-3). It is the MOVEMENT of magnetic fields that creates voltage!

Also according to Faraday’s Law, the faster the rate of change in the magnetic field, the larger the output voltage you will get; if the field changes VERY quickly, you can create very high voltages in the coil windings. (Remember the bicycle generator? The faster you pedal, the faster the generator spins and the brighter your bicycle’s headlight will shine because of the increased output voltage.)

Always remember that in a magneto, the magnetic field applied to the coil’s primary winding must be changing in size (or appearing to move) in order for any output voltage (and, hence, current) to be generated. If the magnetic field is not changing (specifically, if there is no magnetic field present, or if the magnetic field is at some maximum value but is NOT increasing or decreasing in strength), then no output voltage will be generated. This is an important concept, and is absolutely key to understanding how a magneto generates that odd output waveform.

So, now that we have reviewed the basic principles, let’s see how magnetos use them to create their rather odd AC voltage output. We’ll start by looking at the Johnson/Evinrude 3-pole armature system, since it’s a little easier to explain.

Note: in the figures that follow, the points will be held open, so the voltage generated will not be affected by the spark coil’s normal operation. For now, we just want to visualize how a magneto functions as an AC generator. Note also in these figures that the cam, which normally operates the points, is not shown because that’s not important right now. And finally, the piston in the engine is at top dead center (TDC) when the magnets are just past the 12 o’clock (0 degrees) position in these figures.

Top dead center is when the piston is all the way up at the very top of the cylinder, at maximum compression, where we usually want the spark to occur. In figure 3-4, this condition will be met when the TDC arrow on the flywheel aligns with the Center pole on the 3-pole armature.

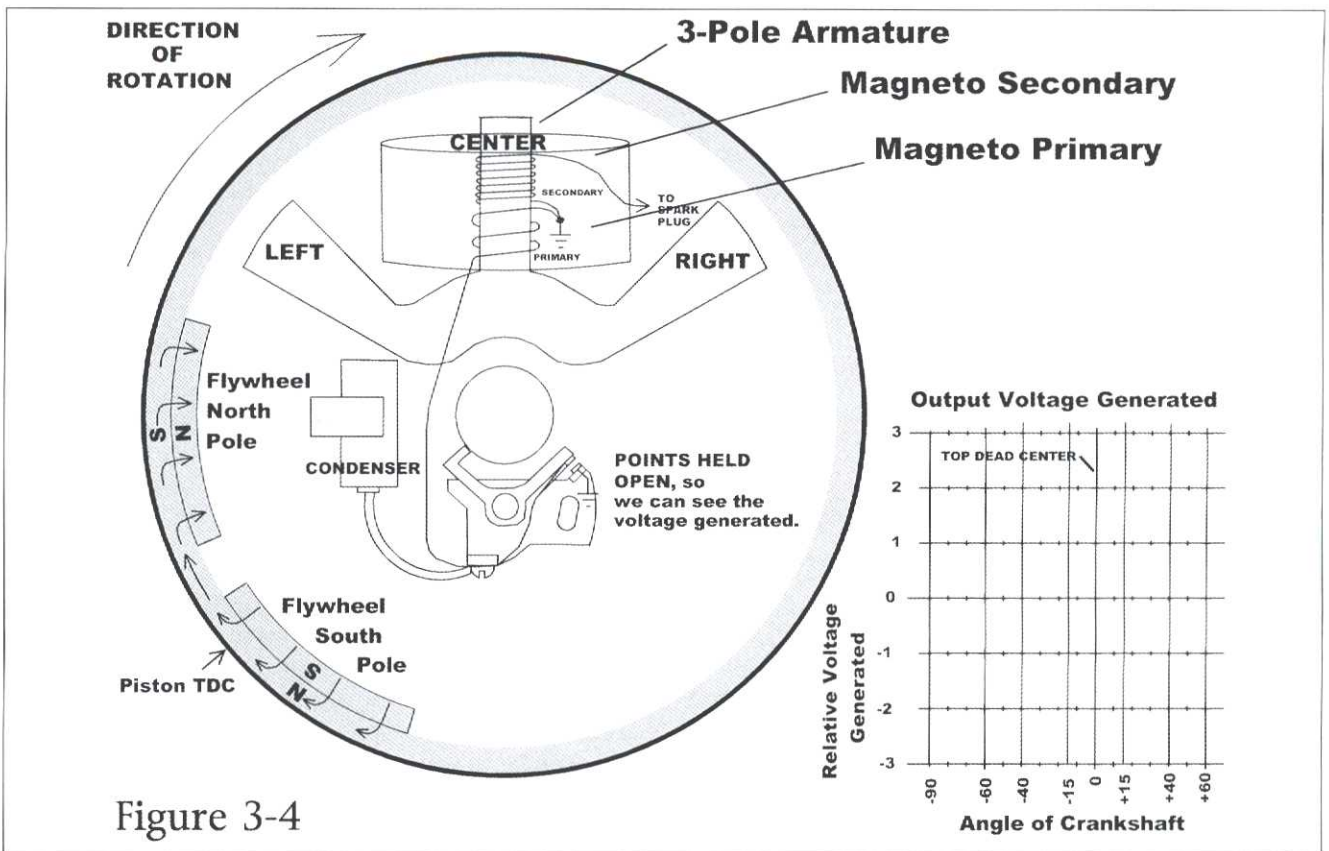


Figure 3-4

Some outboards have timing marks on the flywheel to show where this is, but many do not.

Note in figure 3-4 that there is one magnet in the flywheel, with two pole pieces (a North pole and a South pole) pointing in toward the armature. The armature has three poles on it, which we will simply name Left, Center, and Right.

For about $\frac{3}{4}$ of the flywheel's rotation, the magnets are nowhere near the poles on the armature, so no voltage is generated at all. Let's keep rotating the flywheel, and see what happens!

Before we begin, let's look at figures 3-4 through 3-11. In these drawings, we have a graph of the output voltage

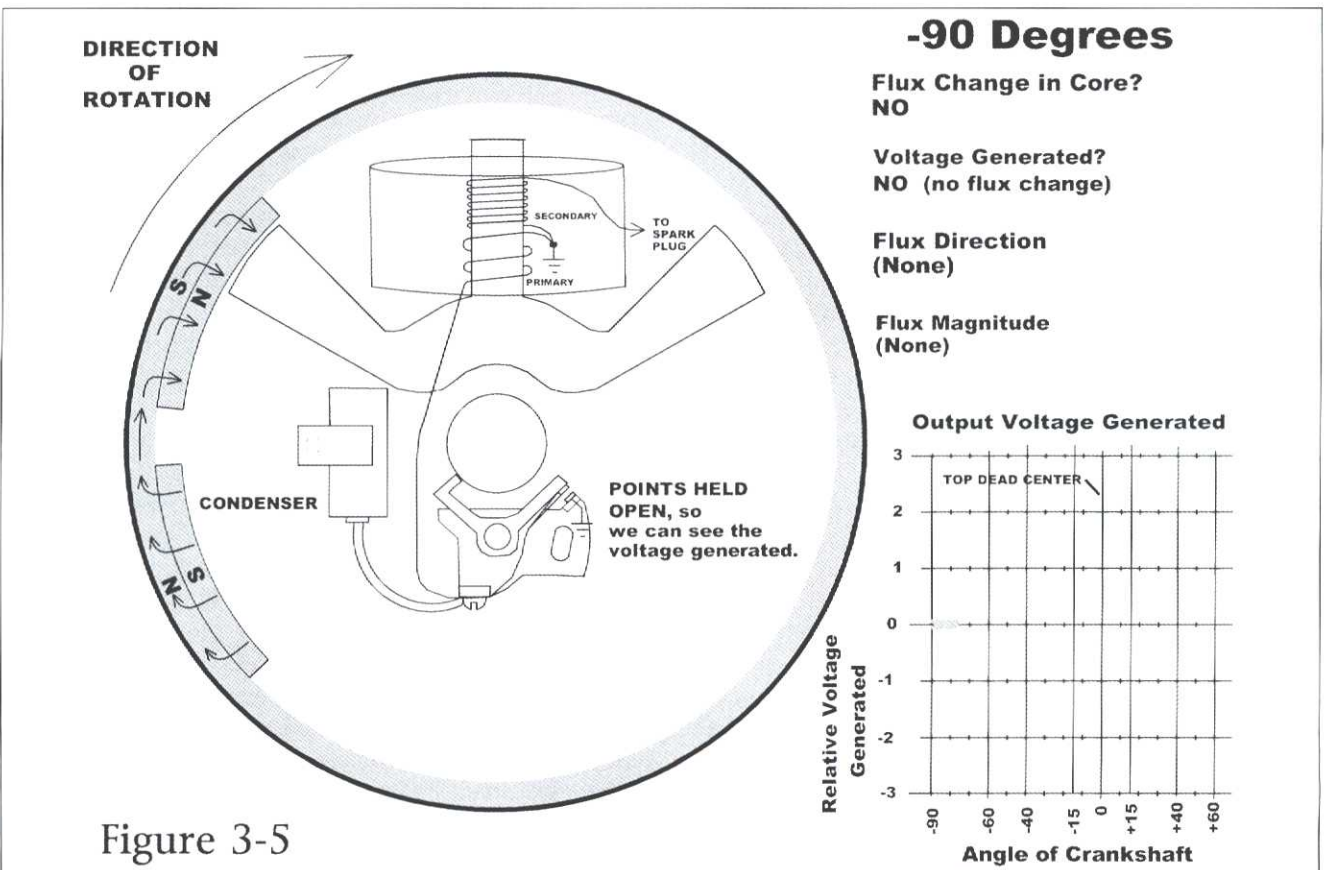


Figure 3-5

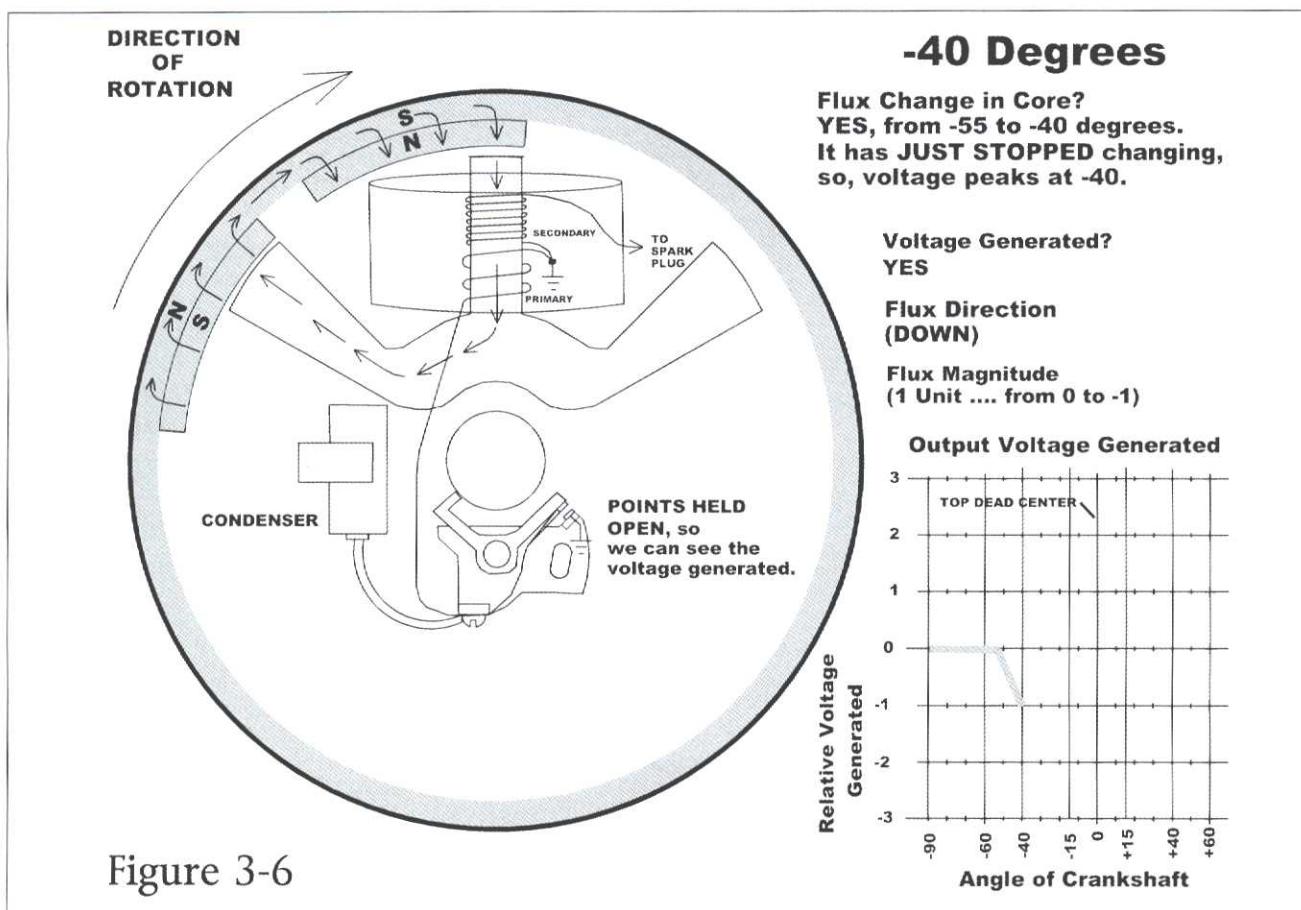


Figure 3-6

that will be generated. However, we are not showing specific output voltages, just “relative voltages.” The reason is that a relative voltage of 1 on this graph might represent an actual voltage of 1 volt (if the flywheel is turning slowly) or it might represent 10 or 20 volts or more, if the flywheel is spinning much faster. This is just like the higher voltage output you will see when you spin a bicycle generator faster.

In figure 3-5, the flywheel is at -90 degrees before the piston reaches TDC. The North flywheel magnet pole is aligned with the Left armature pole. While the North pole would like to direct magnetic flux into the armature, there isn't any return path for the flux to get back to the South pole so no output voltage is generated, as indicated by the short mark at the left end of the “0” voltage line on our Output Voltage Generated graph. This “lack of flux through the core” condition will continue from -90 to about -40 degrees, so no voltage is generated over all this time.

At -40 degrees before TDC (figure 3-6), the flywheel has rotated a bit. The North magnet pole is now aligned with the Center pole of the armature, while the South magnet pole is now aligned with the Left armature pole. Magnetic flux is now traveling DOWN the center pole of the armature and out the Left pole. This represents a change in magnetic flux in the armature of 1 “relative unit” from 0 to maximum. (As with voltage, I am using “relative units” because we don't know the strength of the magnets, so I can't indicate a specific magnetic field strength in terms of gauss per square inch. The actual field strength doesn't matter for this discussion of basic principles.)

The key point is that we now have a change in the magnetic flux going through the armature core, so an output

voltage will be generated and will have a maximum value of 1 relative unit of voltage at -40 degrees. (Right now, we are only interested in the relative magnitude of the magnetic flux changes. It's not possible to tell exactly how many volts will be generated, as that is a function of the strength of the magnets, the number of turns in the windings in the primary coil, and the speed the flywheel is turning. Since we don't know those details, we will only describe things in terms of “relative units.” Not to worry, this will make sense very soon!) Let's keep turning the flywheel.

At about -15 degrees before TDC (figure 3-7), the flywheel has moved a bit, but the North magnet pole is still aligned with the Center armature pole and the South magnet pole is still aligned with the Left armature pole. Nothing has changed, so there is NO CHANGE in the magnetic flux. Remember that if there is no change in the flux, then NO voltage will be generated and our output voltage will now drop back to 0 volts. (See the voltage diagram for details.)

However, notice that the alignment of the poles is about to shift, and rather dramatically! Let's turn the flywheel a bit more, and see what happens.

Here (figure 3-8) is where some of the magic happens! As we swing from -15 degrees before TDC to +15 degrees, the alignment of the poles completely changes. The North magnet pole is now aligned with the Right armature pole and the South magnet pole is now aligned with the Center armature pole. The magnetic flux that was going DOWN the Center armature pole has completely reversed direction, and is now going UP the Center armature pole. This is a rapid, 180 degree shift in direction from DOWN 1 unit to UP 1 unit, a relative magnitude change of +2 units so

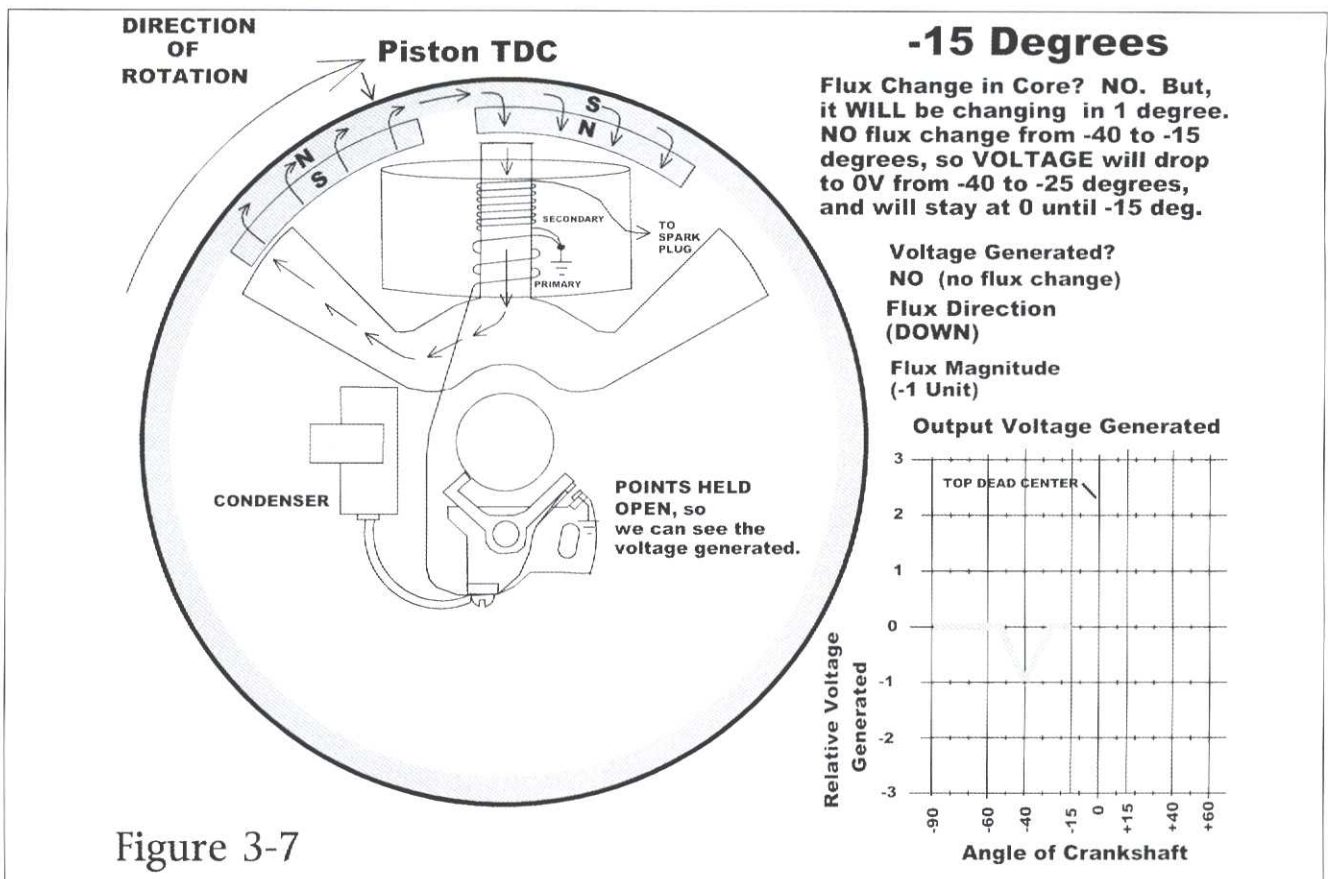


Figure 3-7

we **WILL** have voltage developed here, but it's going to be twice as large as the negative spike generated earlier because the **relative change** in the flux is twice as large as before. This voltage spike will be centered right at TDC (between -15 degrees and +15 degrees.)

Note that piston TDC happens either right at the peak of this voltage spike or just a few degrees later. This is when we want the spark to be generated!

Let's keep turning the flywheel and see what happens. From +15 degrees to about +40 degrees (figure 3-9), the

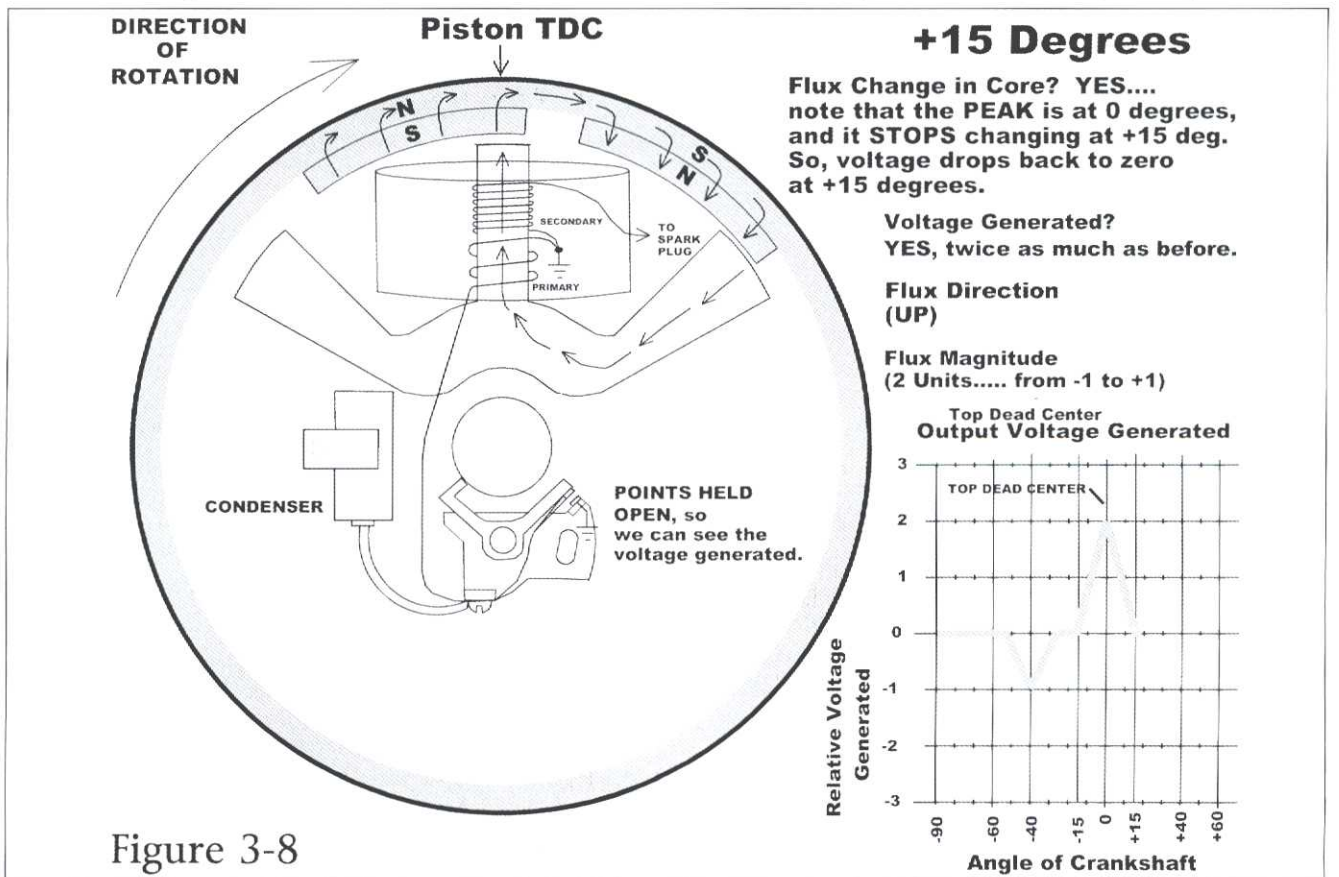


Figure 3-8

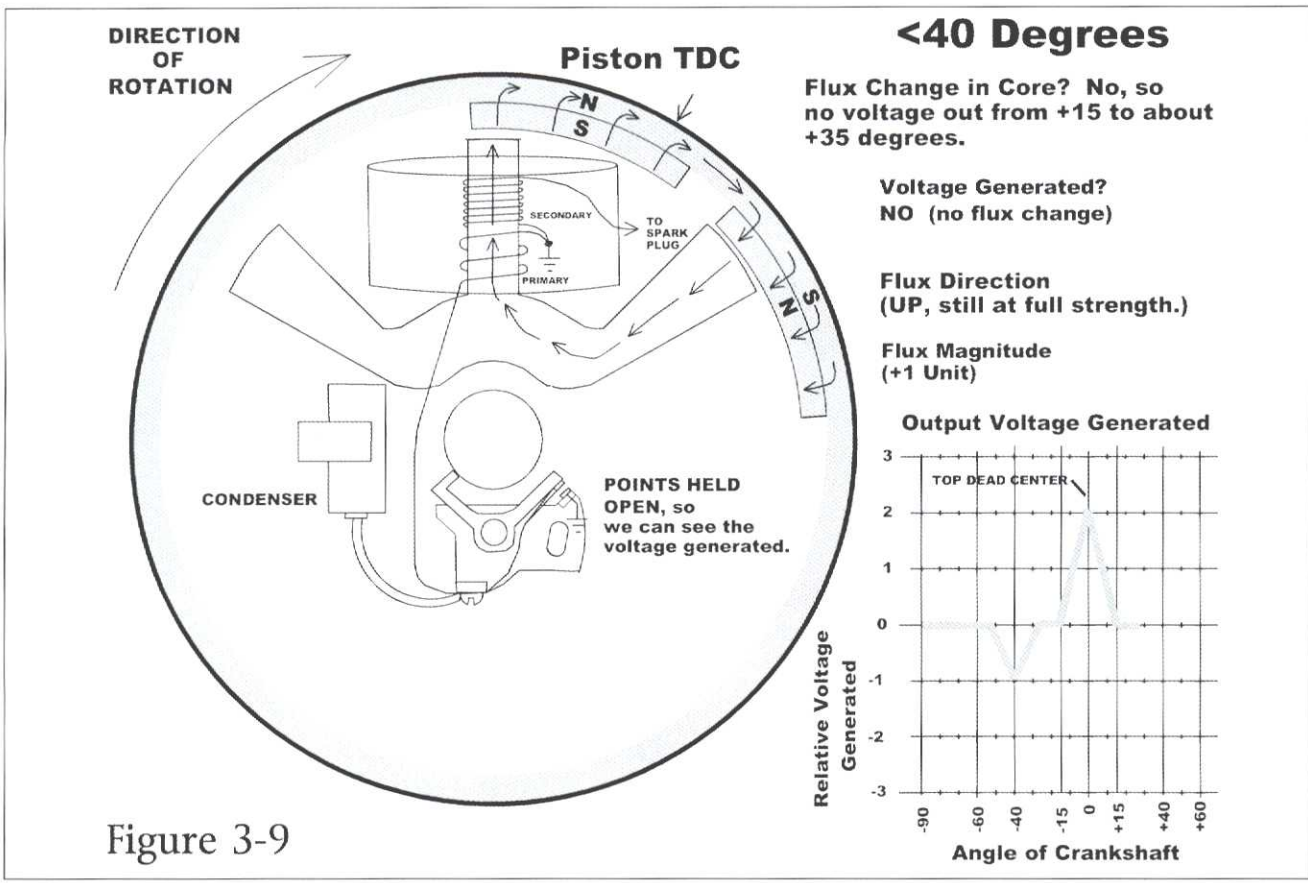


Figure 3-9

magnet and armature poles still have the same alignment. There's no change in flux, so the output voltage stays at zero.

At about +40 degrees (figure 3-10), the magnet and armature pole alignment changes again. The North magnet pole is now not aligned with anything, while the South

magnet pole is aligned with the Right armature pole. Just like before, the South magnet pole would like to force magnetic flux through the armature, but because there's no way to get back to the North magnet pole, the flux in the armature drops back to zero. This is a change of flux

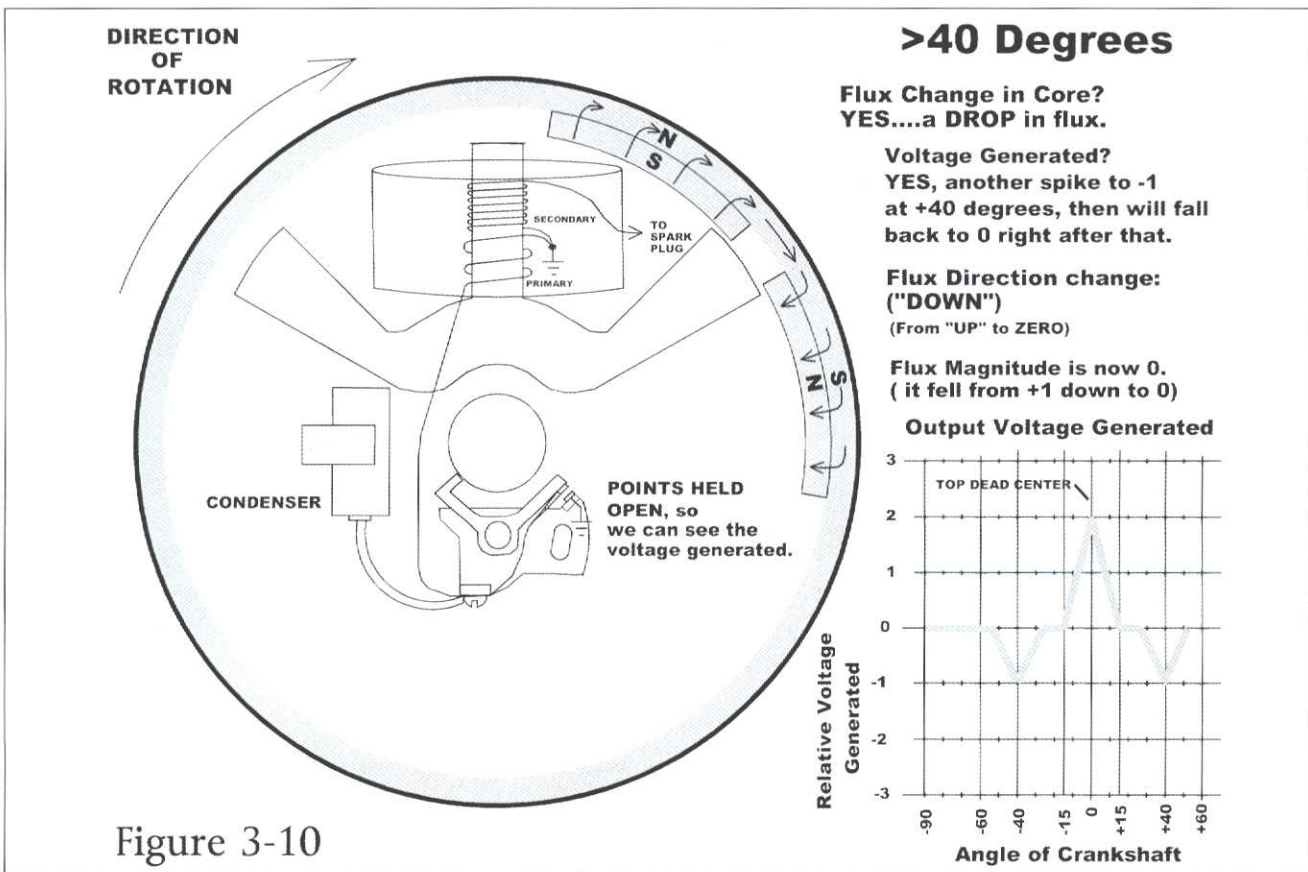


Figure 3-10

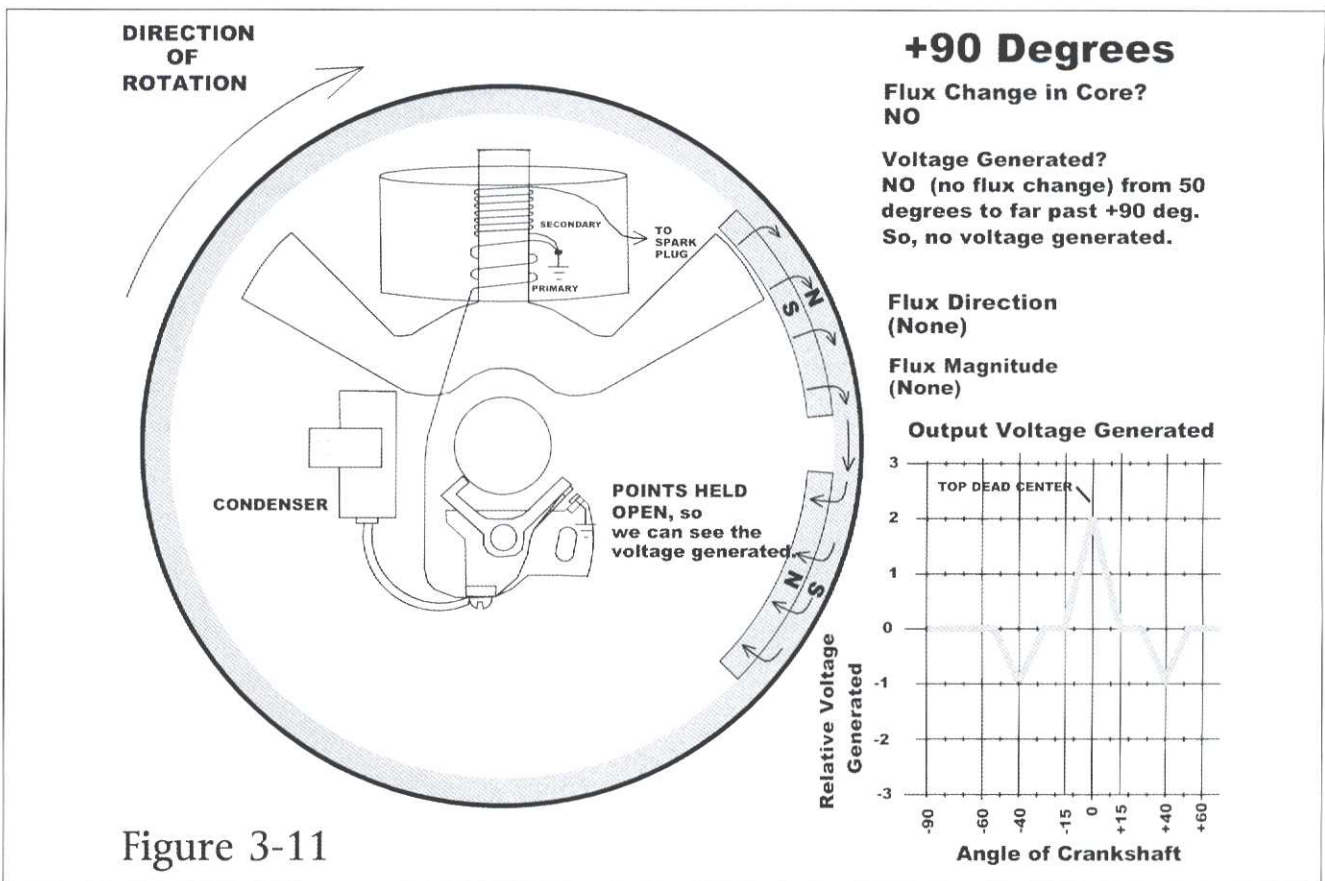


Figure 3-11

in the armature core, from 1 in the UP direction down to zero, which is a relative change of -1. This will create a negative voltage spike again, centered at +40 degrees after TDC, at a relative level of -1.

From +40 degrees to +90 degrees after TDC (figure 3-11), there is still no flux change, so the output voltage stays at zero. This pattern repeats every 360 degrees.

Compare the final voltage waveform in figure 3-12 with the actual voltage waveform from a magneto, shown at the bottom of figure 3-2. Look familiar? It should!

So we now have a big positive voltage spike available, right when the spark needs to be generated. What we now

have to do is insert a set of points to connect this positive voltage spike to the spark coil primary at the correct time. Just like in the newer battery, coil, and points systems, this is done with a cam on the crankshaft. The shape of this cam closes the points at the correct time to turn the positive voltage into current, and then opens the points to interrupt the current flow, creating the inductive kick that produces about 50 to 100 volts across the primary winding of the magneto's spark coil. Due to the turns ratio of 200 to 1, this produces about 10,000 to 20,000 volts across the secondary winding of the spark coil, creating the spark for our spark plug.

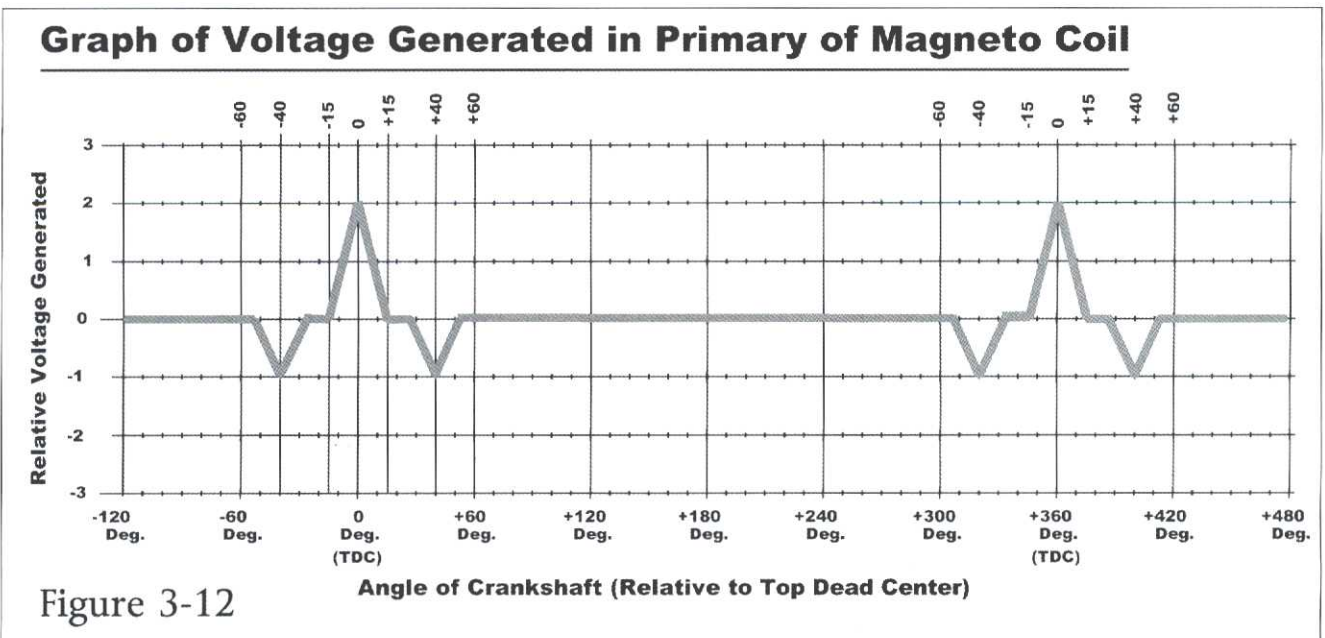
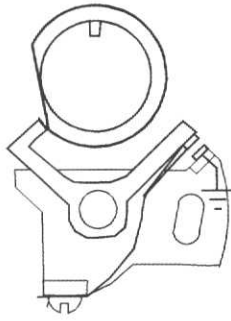


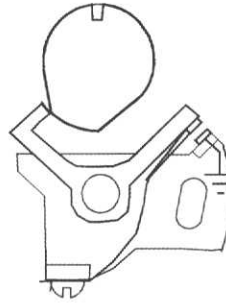
Figure 3-12

CAM Shapes Used in Magnetos

"D" Shape: Points Closed From -30 to 0 degrees.



"Egg" Shape: Points Closed From +30 to 360 degrees.



In both systems, the cam opens the points at 0 degrees (or just a little later), when primary voltage and current are at a maximum.

Figure 3-13

Cam Shape

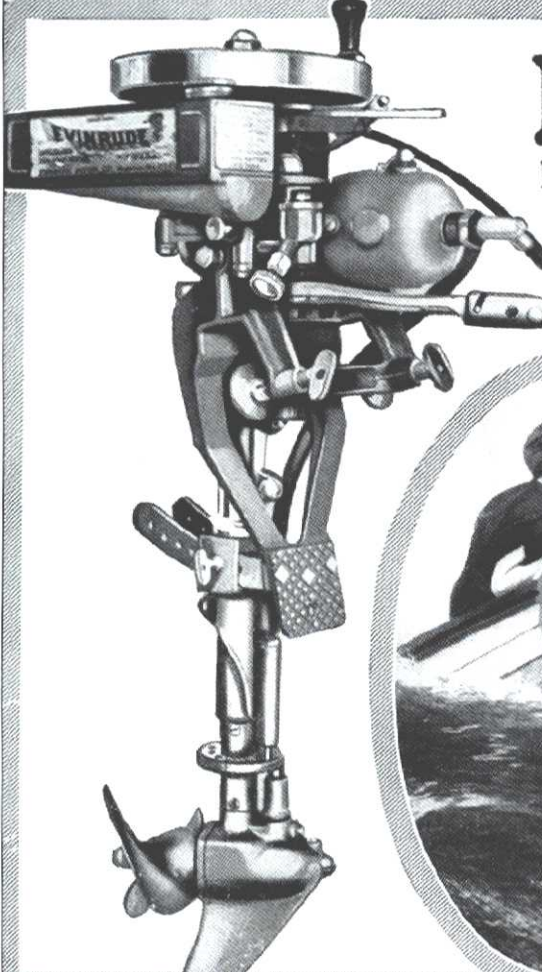
The experienced reader will likely be aware that there are two completely different cam shapes used in outboard motors. One looks like a letter D, and the other looks more egg shaped (figure 3-13).

These systems seem to be completely opposite! However, note that in both arrangements, the points open up right at

top dead center of the piston, or just a few degrees later, right when the voltage and current in the magneto's primary coil are at maximum.

Let's look at the voltage graphs in figure 3-14 to see the complete, functioning magneto in action!

continued ➤



EVINRUDE

DETACHABLE ROWBOAT & CANOE MOTORS

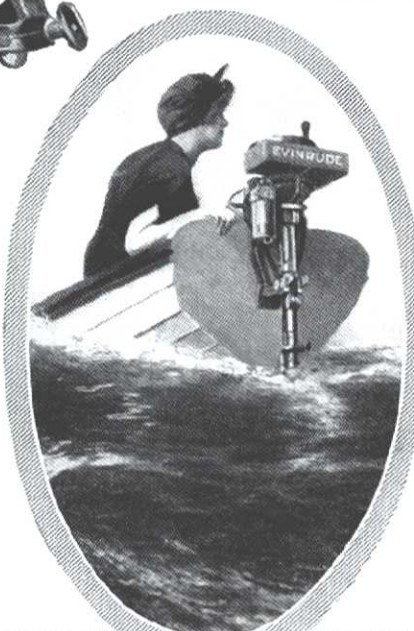
enable you to instantly convert any kind of craft—rowboat, sailboat, houseboat or canoe—into a power boat. The Evinrude drives an ordinary rowboat 7 to 8 miles an hour—a canoe 10 to 12 miles—and runs four hours on less than a gallon of gasoline.

So light that it can be carried with you anywhere. So strong that it is practically unbreakable. So simple that women and children find no difficulty in operating it the first time they try.

Write today for booklet describing the 1915 model—the last word in portable marine motors.

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436 Market St., . . . San Francisco, Cal.
182 Morrison St., Portland, Ore.
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An Evinrude Ad from "National Geographic", June 1915.

A note about figure 3-14: Please remember that these graphs are showing relative voltage, not actual voltage. This is because all of these voltages will depend on how fast your motor (and flywheel) are turning. At idle, you might only see a few volts across the primary winding. At 1,000 RPM, you might see 10 volts (just like with a battery-points based ignition system). At 5,000 RPM, you'll see much higher voltages. (Remember, the faster an engine runs, the stronger the spark generated by a magneto. This is why

many racing engines today still use magnetos.)

The key to understanding magnetos is to remember that it is the **reversing of the direction of the magnetic field in the spark coil armature core that creates the large positive voltage spike**. This positive spike produces the highest current peak in the primary winding. The points opening up at ④ (figure 3-14) converts that current to a 50 to 100 volt spike in the primary winding and the turns ratio between the primary and the secondary magnifies this by another factor

Graph of Voltage Generated in Primary of Magneto Coil: POINTS FUNCTIONING

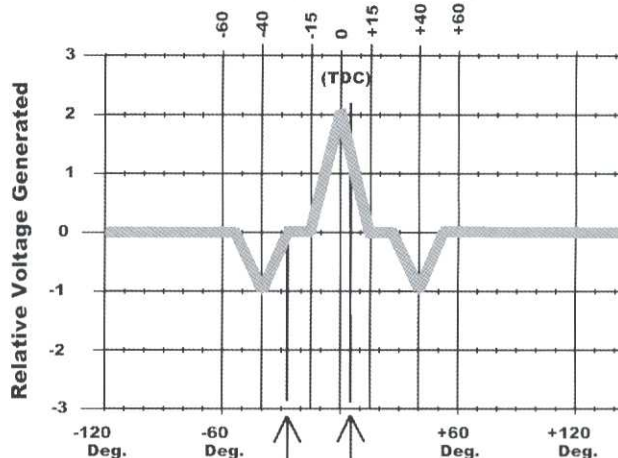
If the points are held **OPEN**, we can see the voltage being generated in the primary winding by the magnets spinning past the spark coil armature poles.

This graph is not showing specific voltages, because the actual voltage generated will depend on the speed that the flywheel is moving. The faster the flywheel magnets are turning, the more voltage you will get. At idle, you might only see the positive spike reach 4 to 5 volts. At 1000 RPM, you might see the positive spike reach 10 volts (very close to what you see in battery-points based systems).

With the points **FUNCTIONING**, the voltages get a lot larger! (Note the change in the scale on the graph; it's displaying 10 times more relative voltage per grid line than before).

- ① Points are **OPEN** here, so you will see the negative voltage spike.
- ② The points close just before the positive voltage spike.
- ③ Because the points are closed here, the primary windings are connected. This converts the positive voltage spike into **HIGH CURRENT** in the primary winding.
- ④ When the primary current is at absolute maximum, the points open. The inductive kick then converts this into a 50 to 100 volt spike (just like in battery-based ignition systems).
- ⑤ With the points now open, you will again be able to see this small negative voltage spike as well.

Angle of Crankshaft (Relative to Top Dead Center)



"D" shape cam: points close here.

"D" shape cam: points open here to cause spark.

Angle of Crankshaft (Relative to Top Dead Center)

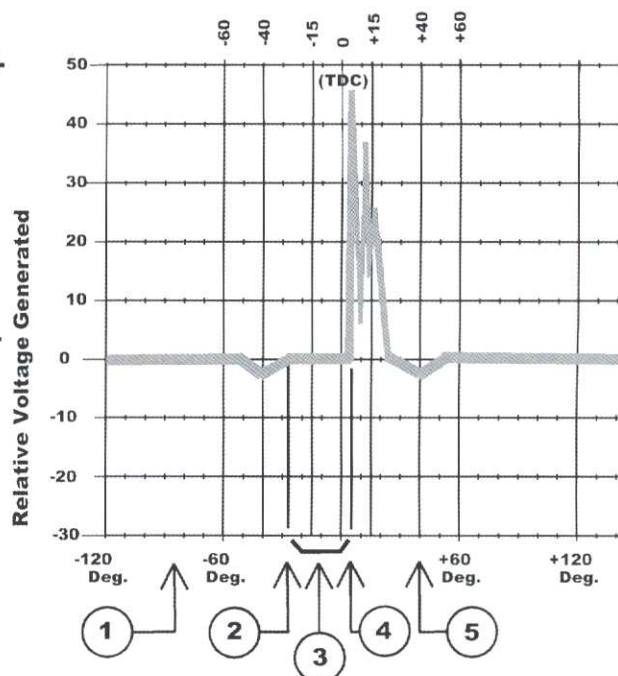


Figure 3-14

Between 0 (TDC) and +15 degrees, the current in the primary winding is at maximum. The points open up at this instant in time.

Interrupting the large current flow causes the "inductive kick", which converts the high current into high voltage (50 to 100 volts).

The 200 to 1 "turns ratio" between the primary and secondary windings magnifies this voltage up to 10,000 to 20,000 volts. SPARK !

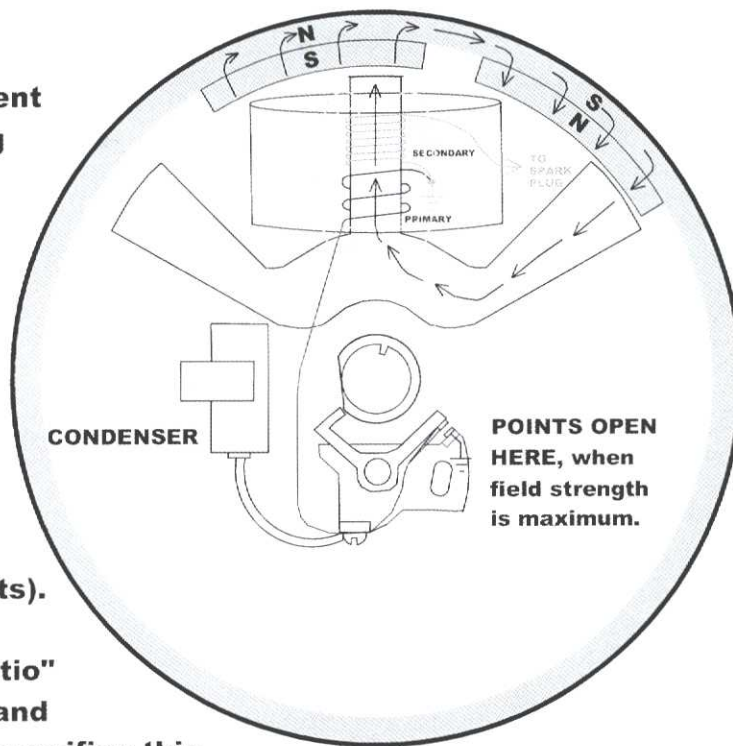


Figure 3-15

of 200 to 1, creating the 10,000 to 20,000 volts needed to jump your spark plug gap.

Figure 3-15 illustrates the exact moment when the points open, with a "D" type cam. If you understand what is going on in this picture, then you understand magnetos!

Now, you are probably wondering if the voltages you would see in a real outboard motor with a magneto will look as I have described here. Not to worry! Domenic Durda, Gary Orloff and I did a little experiment with a real outboard motor (figure 3-16, left) to prove that theory and reality do match up. For our test case, we chose to look at the magneto on Domenic's Wizard WA3.

REAL WORLD TEST CASE

The Wizard WA3 was chosen because it was simple to work on, and because it has the 3-pole armature that's typically also seen in Johnson and Evinrude outboards. The 3-pole system is a bit easier to understand than the 2-pole armature system so we'll look at this system first.

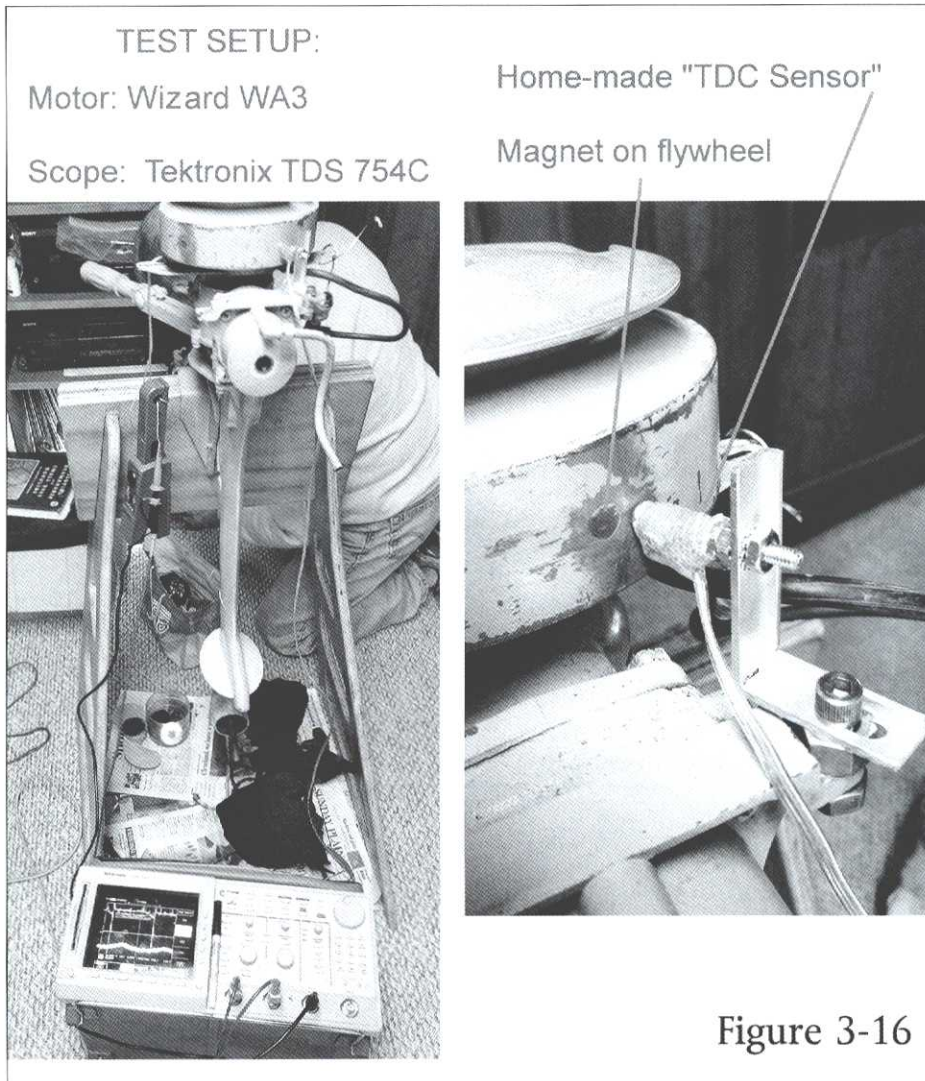


Figure 3-16

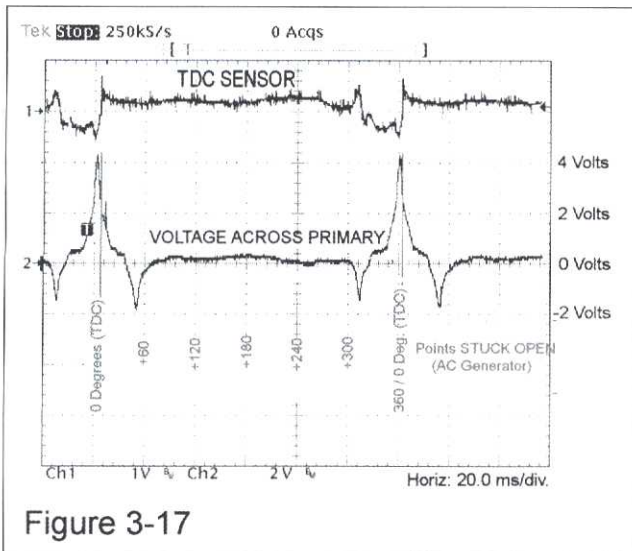


Figure 3-17

We planned to measure voltages and currents in the magneto in this outboard motor, but we also wanted to know **when** these voltages happened with respect to the position of the magnets in the flywheel relative to the position of the piston. To do this, we needed to be able to “take pictures” with the oscilloscope, with some indication of crankshaft position included. We decided to build our own magnetic pickup, made out of a screw and a few turns of wire, and position it (*figure 3-16, right*) so it would give us a pulse every time the piston was at Top Dead Center. This would allow us to see when the points open and close and when the magneto generates the spark with respect to the position of the piston and flywheel.

The Wizard WA3’s magneto structure looks just like *figure 3-15*, so the voltages should match the theoretical relative voltages we have been discussing so far.

To begin the experiment, we put some paper between the points, so the points could not close. This, of course, turned the magneto into a simple AC voltage generator. We were curious as to what voltages were generated, and at which crankshaft angle, with respect to TDC. Our results can be seen in *figure 3-17*. Note the high positive voltage pulse, just before the piston reaches TDC. It is this large pulse of energy that creates the initial primary current and the field in the core.

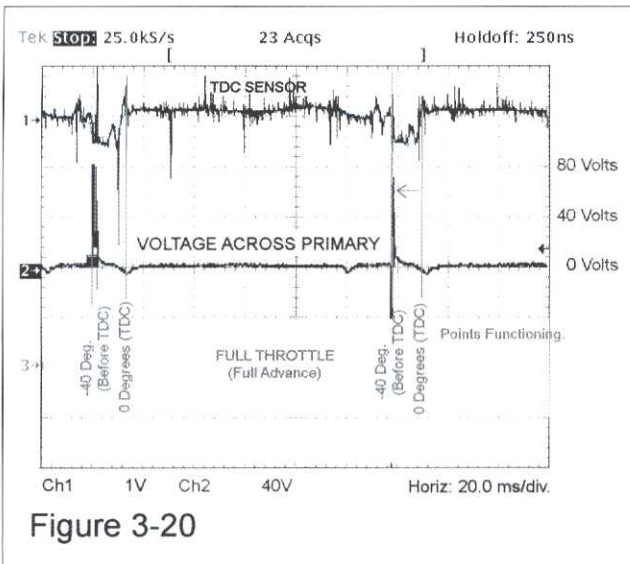


Figure 3-20

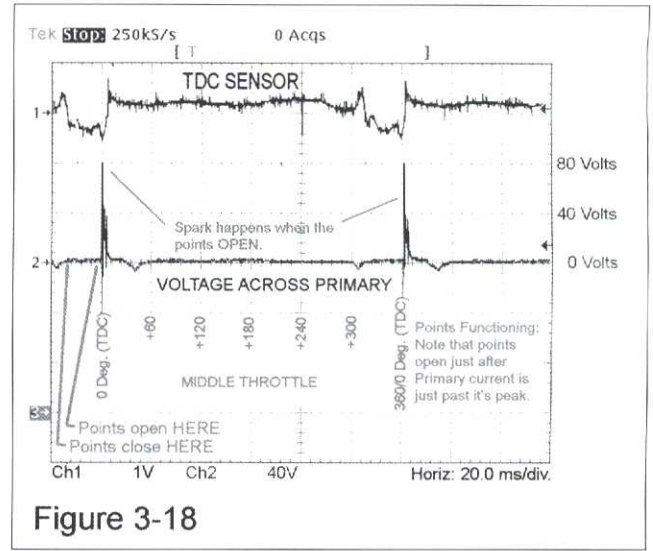


Figure 3-18

Again, this is just a test case with the points disabled. Initially, we were surprised that we were only generating about 4 volts here, not 12 volts like battery-powered systems. However, this is because we were turning the flywheel fairly slowly, so the output voltage was low. Spinning the flywheel faster generated higher output voltages.

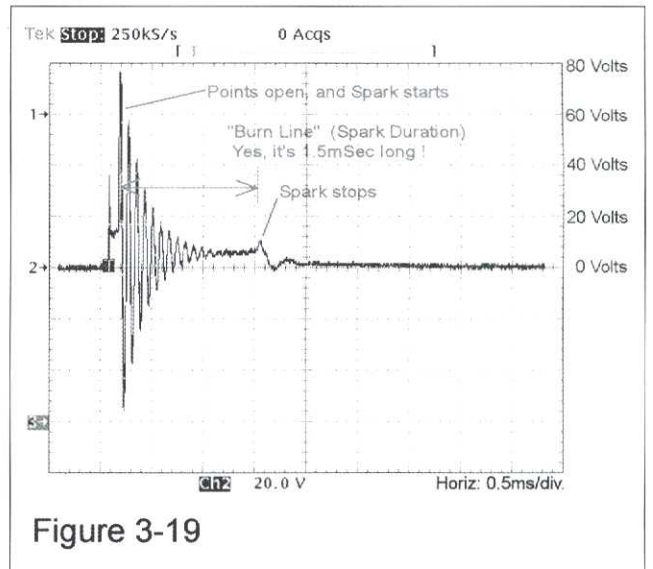


Figure 3-19

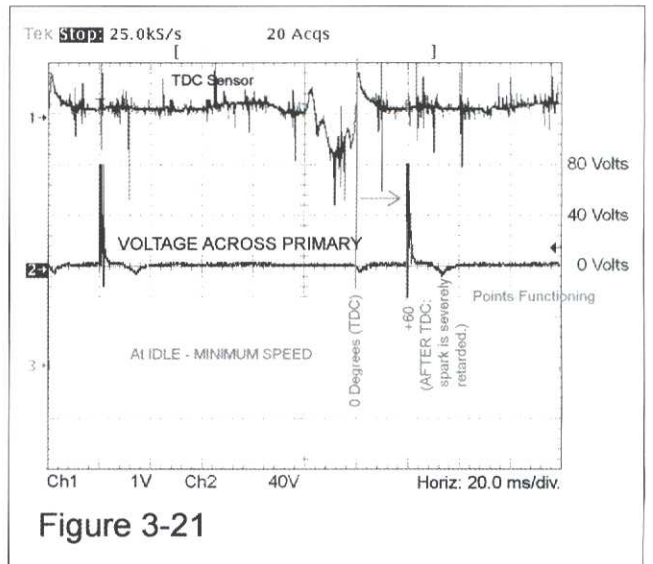


Figure 3-21

Removing the piece of paper from the points allowed the magneto to function normally. See figure 3-18.

(Note that on this Wizard motor, at mid-throttle the spark fires exactly when the piston is at TDC.)

Figure 3-19 shows a greatly magnified view of the primary voltage, when the spark occurs.

The oscilloscope is measuring 20 volts per division (10x probe), so the primary voltage is jumping from 4 volts to about 80, when the points open. With a turns ratio of 60:1, this means the Wizard's spark plug is firing at about 4,800 volts. The spark voltage instantly drops to about 600 volts (still jumping across the ionized gas in the spark plug gap) and this continues for 1.5 milliseconds. While these voltages seem low, it's because we had the spark plug firing in open

air. (The engine is a lot easier to spin when the spark plugs are not in the cylinders!) When the spark plugs are installed in the engine, the denser air/fuel mixture is harder to penetrate, requiring higher voltages to jump the gap. In all ignition systems, the inductive kick will cause the spark coil voltage to rise as high as necessary, until the voltage jumps across the spark gap.

Note in figure 3-19 that the arc continues for a duration of 1.5 milliseconds. That is what makes this a really hot spark!

Out of curiosity, we moved the spark advance/throttle setting from middle to full throttle, and then to idle, to see the spark advance and retard produced by this system (figures 3-20 and 3-21). Our goal was to see how much the spark timing

would change, based on the throttle setting.

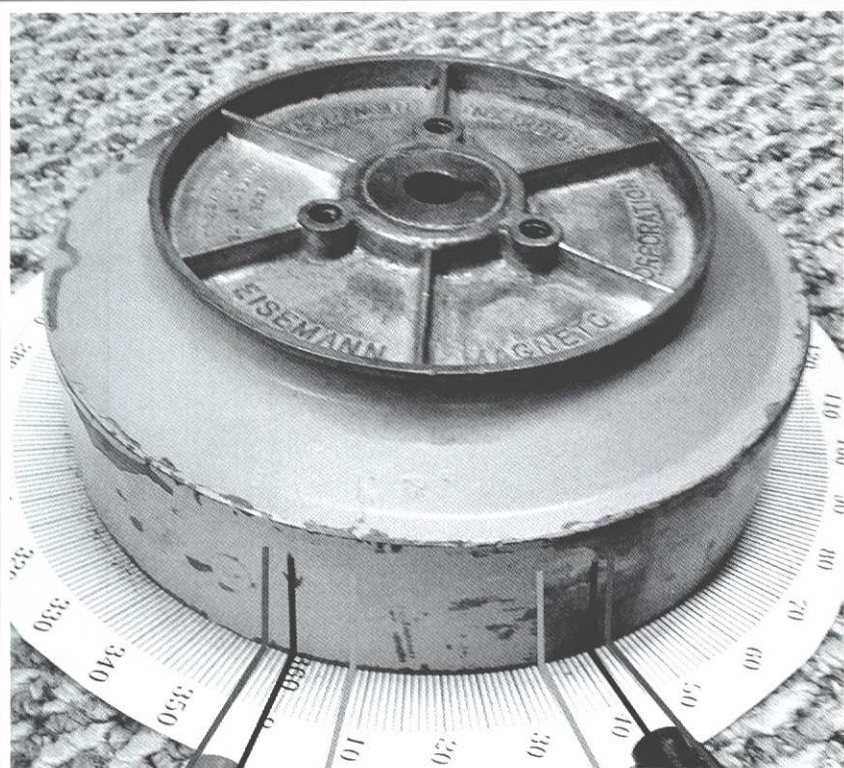
Analysis: At full throttle, we saw the spark advance to about 40 degrees before TDC. At idle, the spark was retarded to about 60 degrees after TDC. This seems excessive, but in our test case the mechanical linkage between the carburetor throttle arm and the magneto baseplate was not connected; it's likely that the carburetor linkage would limit the advance and retard to some angles smaller than this.

For one last test, we deliberately mis-adjusted the points, to see what effect that would have on the ignition timing. We wanted to know if an outboard motor's points are slightly mis-adjusted, would it have serious effects on the ignition timing or not? To find out, we set the points at 0.015", 0.020" (nominal), and 0.030" to see how much of an effect each would have. Results are shown in figure 3-22.

Analysis: With the points set correctly at about .020", the spark will fire at the correct angle with respect to TDC. At a gap of .030", the dwell angle will decrease a bit, but the plug will fire 7 degrees early. Seven degrees of extra advance will cause the fuel to be ignited early, causing stress on the engine, reducing horsepower, and possibly making the engine hard to start. If the points are closed too much (.015"), then the spark will fire 2 to 3 degrees late. This isn't terribly serious, which is why an outboard motor will run even with the points misadjusted rather badly in either direction. The result will be hard starting and poor power, along with bad fuel economy. So, keeping your points adjusted is important, but not so much that you have to check the timing every few weeks. (Unless you are racing, of course!)

Two related topics of interest:

1) **MAGNETS.** Modern magnets (Alnico, Samarium Cobalt and Neodymium) hold their magnetic strength for many years. They typically lose less than 10% of their strength over 100 years – but this is not true of the magnets used in antique outboards. Back in the 1930s and 1940s, most outboards were built with steel magnets.



Points at (.030")
This gives 27 degrees of "points closed", and points open 7 degrees early.

Points set correctly (.020"): this will give about 42 degrees of "points closed".

Points closed too much (.015"): this will give about 48 degrees of "points closed", and will open the points about 2 or 3 degrees late.

Figure 3-22



These magnets lose about 1% of their strength every year. After 50 years or more, their strength can be very low, often not enough for the magneto to work properly. Your coils and points may be fine, but you won't get any spark if the magnets in your flywheel are too weak.

- 2) THE DIFFERENT TYPES OF CAMS. This article discussed D-shaped cams in detail. They are only closed for about 30 out of 360 degrees of the flywheel rotation. The points are open when the negative voltage pulses occur, so these pulses can be seen with an oscilloscope if you look for them. (Think of this as a "mechanical rectifier," if you wish, because that's exactly what it is doing!)

In contrast, egg-shaped cams are closed for 330 out of the 360 degrees. Notice that they are closed during the negative voltage spikes, so they send these negative voltage pulses to the spark coil primary along with the desired positive pulses. When the points controlled by an egg-shaped cam are closed during the negative voltage pulses, they get current going in the wrong direction in the spark coil's primary windings. The higher positive voltage pulse then has to stop, then reverse the direction of the current flow in the

primary winding before the spark can be generated. This wastes a bit of energy, and isn't the most efficient way to create spark with a magneto.

From an electrical point of view, D-shaped cams allow the magneto to create a hotter spark with weaker magnets, while running the coil cooler. Egg-shaped cams are less efficient, electrically speaking, but they experience less wear at the point of contact between the points and the cam. There are strengths and weaknesses with each of the different cam systems, but both of these cams open the points at the exact same time, when the positive voltage is at its peak value, or just a few degrees later.

And a final note:

This article only discussed the 3-pole armature system in detail. The 3-pole magnet, 2-pole armature style of magneto also produces the same odd "W" shaped voltage waveform, but its principle of operation would take another 10 pages to explain. All you need to know is when the direction of the flux in the armature core changes direction, the spark should be generated at that point or just a few degrees later.

"Our" Dock

By John McCorvey

One of the things that I enjoy the most about being an AOMCI member and in particular, an active member of the Carolinas Chapter is the exchange of information, ideas, and sometimes lively banter that we have online among the chapter members who are active on our Google group. (Great bunch of guys and gals, by the way).

Some time back we were kicking around the subject of heavy-duty dock cleats. If my memory serves me correctly, one of our chapter members had located a good deal on some substantial dock cleats and was bringing this information to everyone's attention. I took one look at those cleats and was immediately reminded of the robust "Mercury Outboards" cleats that my dad installed on our dock at Lake Allatoona, north of Atlanta, when we had a cabin there in the late 1950s (that tale appeared in the April 2017 issue).

When I mentioned those dock cleats



to the group, someone replied that they had noticed an ad for the same style cleats on eBay, and posted the ad for us to check out. I took one look at the ad and commented back that the 1950s cleats were originally yellow as opposed to the blue ones shown in the eBay ad. In addition, I thought the blue ones looked a bit strange, having block lettering as opposed to the "flowing script" style of lettering that I remembered.

As our discussion progressed, I volunteered to make the trek to Lake Allatoona and cruise over to where the cabin was located. I would then check

out the dock my dad built in 1958, and verify that those Mercury Outboards cleats he had mounted on the dock 1) were still there, 2) were painted yellow, and 3) had cast-in script lettering. (Big deal, right? Well, yeah, actually.)

I had some idea of what to expect, having seen on Google Maps that the dock appeared to be intact, was still in the same location, and was apparently doing well.

On a Friday afternoon in mid-June, my wife Carol and I made the trek. We towed our 1959 Sea King 14 with its 1958 Evinrude 35 up to Lake Allatoona, put it in the water, and pro-

ceeded to do some major league sightseeing, with me pointing out things she had never seen as well as my recalling my time spent there, so far back when I was a kid.

Our arrival at the dock (*photo 1*) revealed that indeed, it was still intact, as was its 80 ft long walkway. That walkway had been my dad's ultimate attempt to extend the time the dock would remain in the water each fall, but the Corps of Engineers' determination to "deprive us of lake access at the dock," as my father considered it, always eventually prevailed. The Corps would start dropping the lake's water level every year, beginning around Labor Day, in anticipation of winter and spring rains. Thus, for the duration of the time we had the cabin, the dock (despite having the longest walkway of any dock around) would be sitting on the mud or in very shallow water by early October. Obviously my dad was not pleased about that.

OK, but what about the cleats? Yes, those Mercury Outboards cleats had indeed once been yellow (*photo 2, color page b*). Actually, the one pictured is one of only two still displaying most of its original color, as 60 years of being exposed to sunlight and rain have pretty much bleached the yellow paint away. Of the original six cleats, though, all still remain and all are still firmly attached to the dock where my dad mounted them a long time ago. The lettering wasn't script as I was sure I remembered, but two out of three ain't bad.

I gave in to temptation and took the liberty to disembark onto the dock and record for posterity just how solid and enduring my dad's engineering and execution had been. Having not stood on that dock since the winter of 1963, I was immediately taken by the remarkable condition the dock is in. It is still almost all original except for having a few of the walkway's decking planks replaced. It has been

updated a bit; its original Styrofoam flotation has been replaced with flotation enclosed in polyethylene (which is required now by the Corps). Double-ugly vinyl bumper material has replaced the two rows of surplus fire hose that my dad and I carefully attached to the dock's sides in a neatly scalloped pattern during the summer of 1958. A modern swim ladder and dock box have also been added, but the dock and walkway stand today as a true testament to what my dad was capable of. He designed it to go the distance and it has. "Our" dock outlasted his lifetime and probably will mine. Families have been mooring their boats there for six decades. Astounding.

I do have to say that the cabin never looked that nice when we owned it. Its current owners have done a beautiful job of remodeling it, even adding a second story, as well as apparently engaging in a LOT of lawn care, so much so that it currently reminds me of a golf course. If the grass had looked that nice when we owned the place, I would have had to spend most of my weekends taking care of it. I would never have been able to sneak off down to the lake long enough to kindle my lifelong love of outboard motors.

Oh, and one last thing. Tying up our 1959 Sea King aluminum boat (*photo 3*) with its 1958 Evinrude motor to the same dock my father built in 1958 was a pretty special occasion. Thanks, dad.

For a color photo for this article, see:

PAGE *b*





Modifying a Chrysler Outboard Motor Stand

By Jay Walls

After collecting for several years I have acquired a couple of the cast Chrysler stands (*photo 1*). They are big and probably for their large 105 HP motor that was popular in the early 1970s. The stands have a nice big cast aluminum base and then a piece of rectangular tube steel that measures 2½ by 5 inches. That goes up to another cast aluminum transom piece that makes up the stand.

I've tried to put several of my antique engines on these stands but they are very tall to accommodate a long shaft Chrysler motor so putting anything on them is a lifting nightmare. Another problem is how the lower unit hits the rectangular tube every time. The only way a motor can be put on these stands is to change the tilt and kick it out as far as it will go and even then the lower unit still sometimes hits the tube. I've had these stands in my shop for years and it's really irritating to not be able to turn a motor on the stand because of clearance.

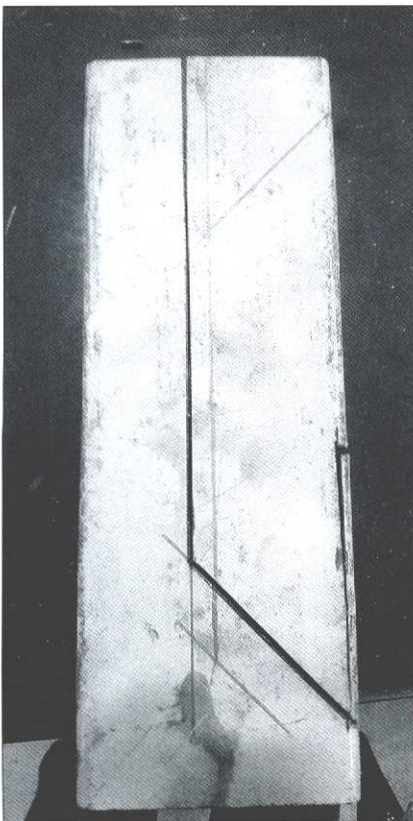


Photo 1:
Original
Chrysler stand.

L: Photo 2:
Tube laid out.

R: Photo 3:
Saved sides of 8
inch scrap piece,
2½" wide
and ½" high.

Another problem with kicking a motor out like that is now the center of gravity of the motor makes the stand tipy.

Well, after threatening to melt these stands down to make something useful, I decided instead to fix them and here is what I did. First I took a stand apart by turning it upside down and removing the ½-13 NC nut that is on a threaded rod that goes from one cast aluminum piece, through the tube, to the other cast aluminum piece. With the nut removed the three pieces came apart. The cast base would not be modified, so I set it aside.

I decided to take 8 inches off the total height of the stand so first thing I cut 8 inches off the tube. Whatever you decide to take off is fine but remember to also cut that dimension off the ½ inch rod that ties the stand together and re-thread the end you cut off. The piece of tube I had left after shortening was about 16 inches long.

I wanted the tube to fit the cast base like factory so I moved up on the bottom of the tube about an inch and marked it at a 45 degree angle using a combination square. I then also marked along the total length of the tube 2 inches from the side opposite the bottom of my 45 degree mark (*photo 2*). After marking one side of the tube I turned it over and made matching marks on the other side but did not cut the tube at this time.

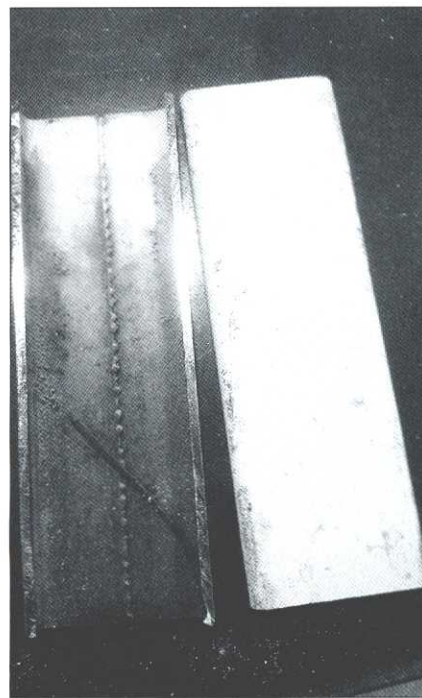
Now let's go back to that 8-inch piece I cut off the tube to shorten the stand. It was important to me that when it was finished the stand would look as if it was originally made the way I was going to modify it. To do this I needed the rounded edges of the 8 inch piece to go back on the tube I was using. I marked ½ inch in on both sides of the length of the 8-inch tube and cut two 2½ inch wide x ½ inch high pieces off the rectangular tube (*photo 3*). This can be done with a jig saw, a Sawzall or a grinder. I used a 4½ inch grinder with a thin cutting disk. I set these aside for later.

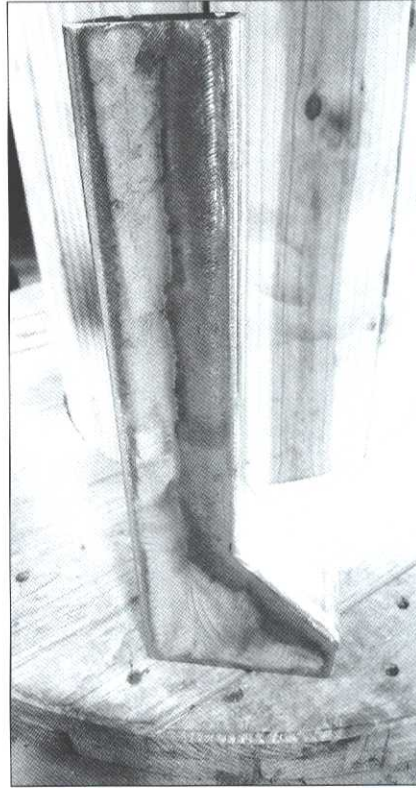
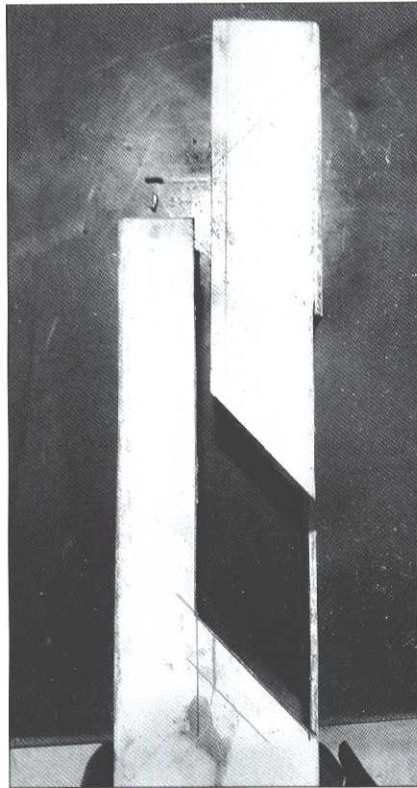
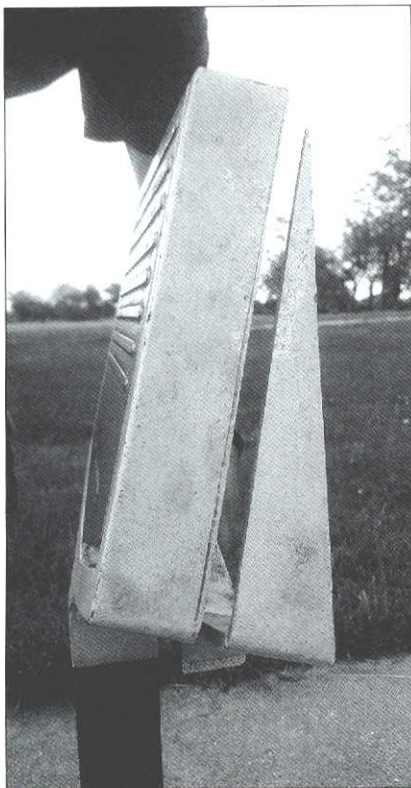
The top cast piece was a little hard-



er to lay out because of the curves in the casting. I placed my combination square on top of the stand and let the rule lie parallel with the front of the cast top piece. I marked the sides parallel with the front about 2 inches wide.

If you look at the bottom of the cast top piece of the stand you'll notice a pilot that is part of the casting so that the tube almost presses over that pilot, which locates the tube. The pilot is 2½ by 5 inches so that the tube fits.





I decided early on in this project to make the top of the tube $2\frac{1}{2}$ inches square. Knowing that, I laid out the bottom of the cast top piece of the stand so that it would pilot into the tube just like before.

With the bottom and sides laid out you can kinda connect the lines through the curves of the casting so that you have a line to follow while cutting. I used a Sawzall to cut the top cast piece and followed along my line from the top down to the bottom but just outside the line so I would have material to sand down. It's been my experience that it is much harder to put cast aluminum back on than to sand and file it off (*photo 4*).

On this top cast piece the pilot or shoulder for the tube needs to be put back in on the side that was cut and this can be done with a $4\frac{1}{2}$ inch grinder with a grinding disk. It's just a $\frac{1}{8}$ inch ledge for the tube to fit onto.

Now it was time to cut the tube. I used a $4\frac{1}{2}$ inch grinder with a thin cutting disk but again a jigsaw or Sawzall could be used. I followed my layout lines and cut the 45 right to the edge of the tube but no further so I could cut up along the side of the tube (*photo 5*) and then bend the resulting flat piece in and weld it, which formed a sloped transition from 5 inches down to $2\frac{1}{2}$ inches.

I filled the remaining opening in the tube by welding in the pieces cut out of the scrap 8 inch piece of tube. I had to cut one of the pieces to length and also cut one end off at 45 degrees. Remember that we want the upper end of the tube to be $2\frac{1}{2}$ inches square when finished, so hold the pieces up and measure first before welding them on (*photo 6*). You may have to grind some off the thickness to get the tolerance right both inside and outside to fit the pilot on the cast top piece.

With the tube modified, the tie rod shortened and the top cast piece modified, the stand can now be re-assembled (*photo 7*).



L to R:

Photo 4:
Top cast piece cut.

Photo 5: Tube cut.

Photo 6: Finished tube.

Photo 7:
Modified stand.



Profile Member

Honorary Lifetime Member Dennis Evinrude

By Mark Lodge

Says Dennis: "This is a photo of me preparing to start a 1915 Evinrude Row Boat Motor mounted on a 1915, 16 ft Round Bottom Evinrude Boat at the 11th Annual Pewaukee (WI) Antique & Classic Boat/Car Show. It was 100 years old at this event. The boat is original and unrestored and will remain so for as long as we own it."

I'm sure that you all recognize the name Evinrude! But were you aware that Ole and Bess Evinrude, founders of the Evinrude Outboard Motor Corporation, were Dennis Evinrude's great-uncle and great-aunt?

I take great pride of introducing our newest Honorary Member of the AOMCI, Mr. Dennis Evinrude! Dennis joined the club back in 1984 at the 75th Anniversary of Evinrude Motors. The following is from our recent interview.

1. In your time with our club, what are a couple of your favorite stories you tell?

My wife and friends will tell you that I have many stories and claims that they question. They have become very good at fact checking me on Google. One event at Tomahawk actually resulted in T-shirts being printed as well as an award for my friend Tom Kozelsky. Tom was a passenger in my Boyd-Martin when she rolled up on a heavy wake and inverted in front of a huge crowd. We had to be rescued with an inverted tow to shore.

The second event was when Tom was operating my Elto "Special Speedster." The front of the timer link fractured and sent a piece of metal directly at Tom's stomach. Thankfully it did not enter him but it definitely left a sore spot on him! At the banquet that year, Tom received the "Hard Luck" award due to his involvement with me. I am not sure if he will ride with me anymore!

2. How many motors and boats do you have in your collection?



If you count the boat hanging above the bar at home, I am at seven. The outboards number somewhere above one hundred and twenty.

3. What motor in your collection do you feel is your greatest achievement acquisition wise?

Over the years I have traded and sold some of the best ones (Oldest Koban, Commercial Wisconsin and Caille Liberty Drive). Currently, the two most dear to me are the 1910 Evinrude in our home office and the 1939 Evinrude electric start Speedifour with the original "three lever" controls. I am also quite fond of three engines from 1956 as they are brand new yet, having not been run since they left the factory test tank. I am also proud to be the owner of a 1915 Evinrude 16 ft wooden boat.

4. Who inspired you to become the Outboarder that you are today?

I have always been a "gear head," but did not start playing with antique outboards until a dear friend gave me a

Dennis Evinrude and his wife Cindy receiving an ACBS award for the Best Original Boat that evening.

1940 Elto Pal that had belonged to his grandfather. Once I brought that little guy back to life, I was hooked. Of course, the family association and sharing the name of a significant outboard brand have helped me stay interested all these years.

5. How would you say that others in the club would characterize you?

This is a tough question. I would like to think they would see me as a person who would relate any technical knowledge to someone at a meet if needed. I would caution that there are many members of this club that are far more knowledgeable of certain makes and model than I am. I would like to think my image is that of the person who wanted to meet as many of his fellow members as possible. The camaraderie of this club is the glue that holds it together. Without our friendships, these motors would lose meaning for us.

6. What direction would you like to see the club take in the future?

I have been a member of a number of clubs but I think the most successful is the Experimental Aircraft Association. Their success is due to strong youth programs. I believe for the AOMCI to flourish, we need to concentrate on building a base of youthful members. If we do not foster that segment of our "club society," there will be no-one that cares about the outboards and boats that older members currently own. I am especially sensitive to this as I have recently become a cancer survivor. When you contemplate your own mortality, you look at all these boats and motors and start thinking about sharing them with others. There are no U-Haul trailers behind hearses!

7. In a couple of sentences, why do you think you were nominated for this honor?

I served six years as national Treasurer and 12 years as national President. During that time, there were some political challenges within the club. Most people will tell you that politics sucks! They would not be wrong. I would assume this honor has something to do with 18 years of service to the club. I would also like to think it has something to do with me being that guy who likes to take friendly strolls down the swap meet just to visit with people. That is the way I hope to be remembered.



fishermen-campers-motorists

EVERY lover of the out-of-doors should have this book. If yours is the wholesome hobby of following new water trails—of camping along the shores of lake or stream; if new fishing haunts lure you; if you are interested in the winding waterways of this country and Canada—this book should prove invaluable.

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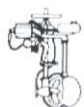
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WORLD'S LARGEST MANUFACTURERS OF OUTBOARD MOTORS

An ad from "National Sportsman" magazine, April 1926. Contributed by David Budd.



Profile Member

Honorary Lifetime Member Louis F. Rothermel II

By Joe McCauley

Louis Frederick Rothermel II was born in 1938, one year after a Walker-Baumann tractor gearcase last set a world outboard speed record at over 78 mph. Louis owns four of those gearcases and also has an excellent collection of Martin outboards and Storm Boat Motors. He restored one Storm Boat Motor re-decaled as a Big Four. He runs that motor regularly at AOMCI meets. He also restored a Speeditwin beautifully. That motor has appeared in the Houston Boat Show. His well-stocked shop, lathe, milling machine, arbor press, parts washer, bead blaster, gasket makers, condenser tester, and nearly every other tool that one needs, is available to all our club members.

I don't know anyone who's done as much for the AOMCI as has Louis, nor do I know anyone who is simultaneously as friendly, knowledgeable, mechanically gifted, and helpful as Louis Rothermel. Louis, an expert on OMC motors from the 1930s and 1940s, once served very competently as Tech VP from Jan. 1, 2000 through Dec. 31, 2007. Louis also served as First VP under Dennis Evinrude from Jan. 1, 2008 through Dec. 31, 2009.

Louis has a family name crest on his office wall. The original German name was perhaps Rotärmel, "red arm," referring to the color of an arm after battle, but you will be hard-put to find a more peaceful person than Louis.

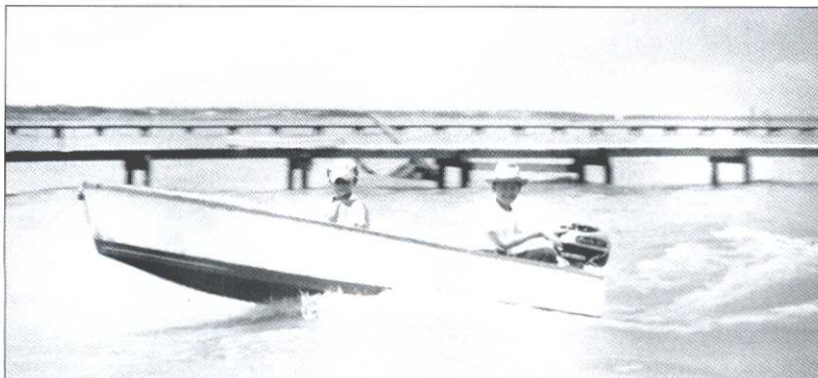
I had belonged to the AOMCI ca. 1979-83. There were not many Texas members back then. Louis told me that he was operated on (successfully) for cancer in 1982, then joined the AOMCI in 1983. He recalls phoning me in 1983 to ask if I'd like to get together with him and some other members. I don't recall that phone call, but Louis remembers that I told him that I wasn't interested and that I was "getting out." I was still deep into OPC racing, although I had bought two antiques from a Johnson dealer in my hometown in KY.

I rejoined the club in 2008 and attended the fall 2009 Lake LBJ meet but Louis wasn't there, so unfortunately I didn't meet him until fall 2010, when I had decided to write my Baumann tractor gearcase article.

*Louis in 1951
with his 11'
Kay-Pat Kraft
powered by his
Martin 60 with
high speed
powerhead.*

*L: Louis and his
brother Bill in
1951 with Louis'
Kay-Pat Kraft
and Martin 60.*

*R: 1954 photo of
Louis with his
open exhaust
Martin High
Speed 200,
set up by
Bill Holland.*

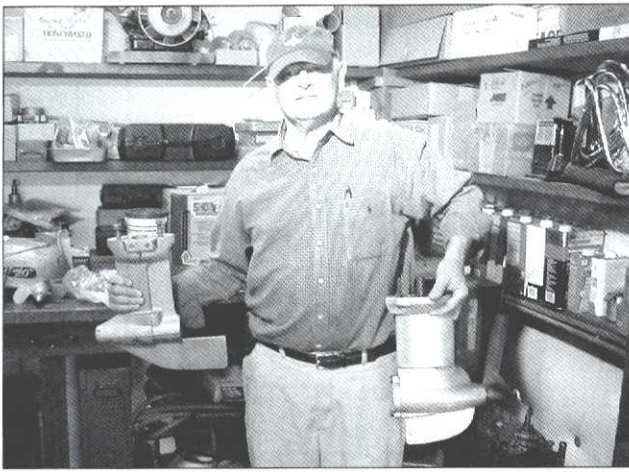


Meeting Louis was a major event in my outboarding life. We rapidly became fast friends and I became one of many beneficiaries of Louis' knowledge and workshop.

Having said that, let's go back to the beginning of Louis' outboarding life. Some history that I wrote about Louis and his father, Louis Sr., in my April 2011 Walker-Baumann gearcase article will not be repeated here (that issue can be purchased from the Ship's Store).

Louis was seven years old when WWII ended. Louis Sr. had stimulated and encouraged the little boy with motorboats and motorized gadgets. Louis owned several Martin outboards and different boats at an early age. He launched and ran all of those rigs from the family's Crested Shores bay house near Sylvan Beach in LaPorte, TX. In 1947 or 1948 Louis Sr. ordered a Storm Boat Motor and had a boat built for it. When the motor arrived he looked at the size of the crate and told Louis that it was too big, and they never unpacked it. But that event may have whetted Louis' appetite for Storm Boat Motors.





After Louis Sr., an architect by training, died at an early age in 1955, Louis' mother sold the bay house. That ended Louis' boating career as a teenager. He and his younger brother Bill later restored two 1933 Chevys as hot rods with mid-1950s era V-8 motors. Shipped off to military school in Kerrville, TX, the Schreiner Institute, Louis began what he calls his "Roads Scholarship" with his hot rod 1955 Chevy with a Power Pack, a 4.11 rear end and overdrive. He drove that car between Houston and Kerrville.

After joining the AOMCI in 1983, Louis began to look for a Storm Boat Motor. Unable to find a complete motor, he then started looking for parts. He finally got a motor from member George Jacobs in Sherman, TX and later found enough parts to repair it. That's the motor that Louis runs today. He had been in Mobile, AL, as a boy and saw Stauter Boats there (that business has existed since 1947), so he ordered a Stauter. The rig that Louis runs regularly at the Texas Chapter Lake LBJ meets is his Storm Boat Motor powered Stauter. Louis also owns an unrestored Speedliner runabout.

Louis started collecting Martins parallel to Storm Boat Motors. He got a Martin High Speed 60 from former racer Clyde Lackey as boxes of parts. His fastest rig as a kid had been a High Speed Martin 200 on an 11 1/2' Arkansas Traveler, with the motor set up by Bill Holland.

Louis organized the first annual Rothermel Swap Meet in 1993. Present were Tom Oncken, Tom's son Mike, and two other members along with Louis. Louis' swap meet, along with the Texas Chapter's semi-annual Lake LBJ meets, is now a supporting beam of our club.

Even when I'm not using his shop I like to drop by Louis' office from time to time to talk over anything and everything about old boats and motors. Louis owns a Feather Craft, which he plans to restore for use with one of his antique Evinrudes. He also encouraged me to buy and restore a 1956 Vagabond II. Much of the Vagabond restoration was done at Louis' shop with his help, and Louis provided the classic Kainer steering wheel to match the age of the boat.

Louis' most recent acquisition is a motor that he tried for years to buy from Bob Witt, a long time Baytown, TX Johnson dealer who once raced for OMC (including driving a Wankel). Bob called Louis a few years ago and told him to come and pick up the motor for free. When Louis got the motor onto his workbench he discovered that the bore was larger than he'd expected. Both he and Bob had previously mis-identified the motor, which is a rare Johnson XR55 made in 1931, 50 cubic inches and 50 hp.

Bob Witt recently died.

Louis owns four Storm Boat Motors, four Speeditwins, four Speedifours, five Martin 60s, four Martin 200s, and a multitude of other motors. He is still active in business and has not yet retired, so he still can't devote himself to restoring some of the many enticing old outboards in his collection like the XR55.

I cannot think of a more deserving Honorary Lifetime Member than Louis Rothermel.

 For color photos
 for this article, see: **PAGE h**



Louis provided the old photos.
 They were touched up by Chip Rathbun.

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 OPPOSITE PAGE



Louis with two of his four Walker-Baumann gearcases in fall 2010.

Page from the 1949 Kay-Pat Kraft brochure. Provided by Louis Rothermel.

Big Fish Lake AOMCI Event

June 9, 2018

Submitted by Dale DeHate, Great Lakes Chapter

It had to happen sometime. This wet meet was really wet! The sky opened up and washed us out. It didn't dampen our spirits, though. There was plenty of outboard talk in the parking lot. Umbrellas and rain gear were being used all over the meet area. Everyone was hoping for a little break in the weather.

We had several new boat and motor combinations to try out including a gorgeous Glen-L kit boat that came all the way from New York State. The Glen-L boat happened to belong to my son Evan. He came home to Michigan with the expectation of making some smoke on Big Fish Lake with his old man! We did get three boats on the water, but the weather would not yield. We only had

a few minutes on the water.

The Duggan boys, Ian and Austin, had a show for us: two Clarke Trollers on one boat. They were going to run two at once! I have seen a few of those little motors, with a lot of people cranking on them and not many running, and never in the water. These guys didn't wait for a break in the weather. They headed their boat for the ramp and it wasn't long before they had both little motors purring away. I wonder if that has ever happened be-

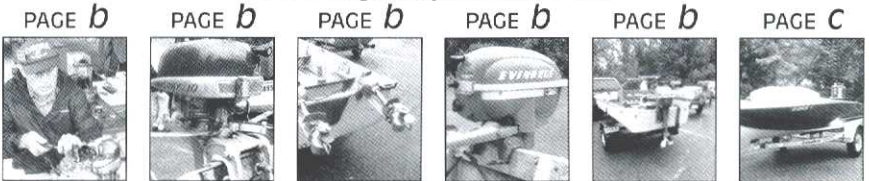
fore, two Clarke Trollers running at one time on one boat. Could be a new chapter in mankind's history! At Big Fish Lake, Michigan, in the rain!

Over at the pavilion Jeff Bahr had the wienies going on the grill. Maybe food tastes better when it's raining. Well, it was darn good anyway!

Hope the fall wet meet manages to stay dry. We can't have two wash-outs in one season!

Good company beats bad weather any day.

For color photos for this meet, see:



More Great Lakes News

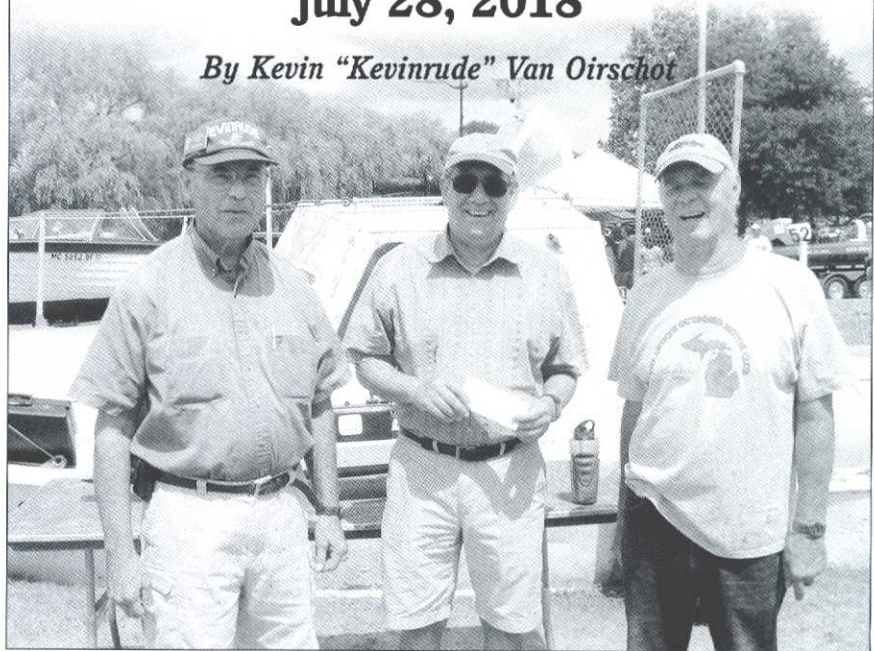
On July 28, for the fourth year in a row, the Great Lakes Chapter sponsored a meet at the Dossin Great Lakes Museum on picturesque Belle Isle in the Detroit River. This year's event was about more than just outboards. Also present were vintage gasoline powered marine propulsion units as well as engines powered by steam, electricity and even by hand! Displays included vintage racing boats and their respective racing records and trophies, model boats, vintage pleasure boats, tether boats, and pond yachts (model sailboats). And, of course, there is the fantastic Dossin Great Lakes Museum (www.detroithistorical.org/dossin-great-lakes-museum). Operated by the Detroit Historical Society, the museum is dedicated to showcasing the story of the Great Lakes, with a special emphasis on Detroit's role in regional and national maritime history.

Regarding outboards, Jeff Bahr brought two Ducktwins, each having a different decal and one being a folder! We're not sure if it was the Ducktwins

Marine Engine and Boat Expo

July 28, 2018

By Kevin "Kevinrude" Van Oirschot



or the decoys hanging on the motor stand, but about a dozen REAL ducks came over to check things out.

Our hosts were gracious enough to

allow a test tank for operating outboards, which was a real hit with visitors. Test tank engineer Roger DiBiasi kept things running smoothly.

Great Lakes Chapter president Joe Brincat (L) and meet organizer Charlie Schmidt (R) presenting Joel Stone, Detroit Historical Society Senior Curator with a cash donation to the Dossin Maritime Museum on behalf of the chapter.



Old outboards and classic boats were well represented, including Dave Bush's Speed Liner. The meet also provided an opportunity to finish up some old business, with the author presenting the First Place Zephyr Time Trial award to Bill Guenther, which he won at the Constantine Super Meet earlier in the month.

There were also a number of very interesting non-outboard displays! Bill Wood brought his model boat "Baby Gar." In case you are not familiar with him, Garfield (Gar) Wood was an American inventor, entrepreneur, and motor boat builder and racer who held the world water speed record on several occasions. He is probably best known for being the first man to travel over 100 miles per hour on water. In the photo, owner Bill Wood is talking with John Sanderson.

Speaking of John Sanderson, he is working on a very interesting project. He is doing research for a book and exhibit on the Detroit Public Schools Model Yacht Program, which ran from the 1920s into the new millennium. Students in the 6th through 9th grades built model sailboats to an A.J. Fisher or Sharpie design in school shop classes. If you can assist John in acquiring or borrowing any memorabilia about the program, the students, or the boats, or even sharing your own personal stories, please get in touch with him at OldCarMan@comcast.net.

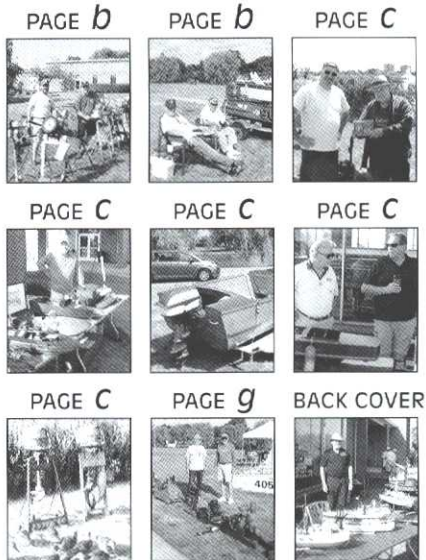
Other "smalls" at the meet included a large display of Gold Cup Unlimited Hydroplane race memorabilia, other model boats, and antique tether boats. In order to be a member of the tether boat club, you had to build your own engine from scratch!

Moving on to the full sized displays, there was a rare one-owner Clyde boat. This boat is now the property of the Dossin Museum as it was donated by the original owner's family upon his passing. There was even a steam powered tugboat!

At the end of the meet, GLC President Joe Brincat and meet organizer Charlie Schmidt presented Detroit Historical Society Senior Curator Joel Stone with a donation to the Dossin Great Lakes Museum on behalf of the GLC.

All in all, the meet was a fascinating collection of maritime memorabilia. The date for next year's Dossin meet has been set for Saturday, July 27, 2019. Hope to see you next year!

For color photos for this meet, see:



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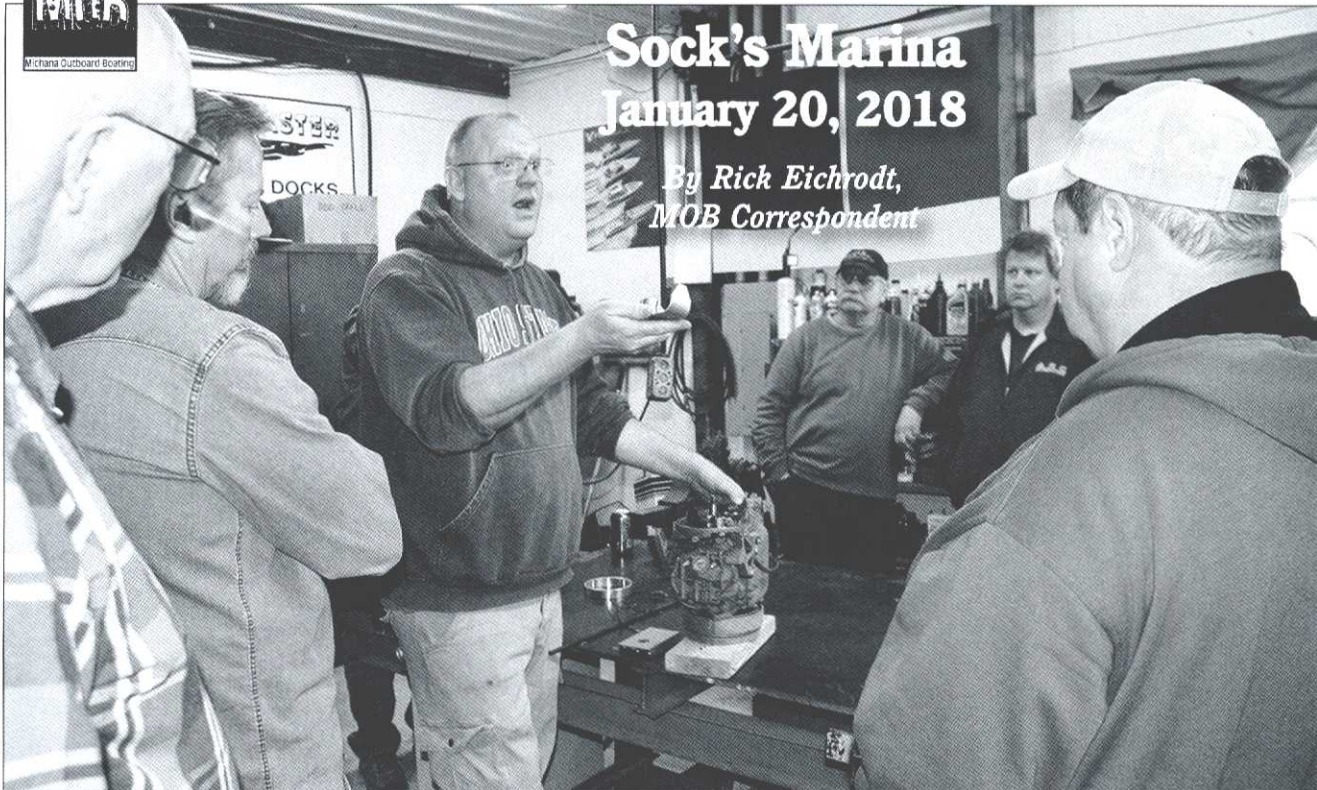
Michael Terry had a large display of historic Gold Cup Unlimited Hydroplane race memorabilia. All this is of great interest to race fans here on the Detroit River.

A Neptune ad from "Popular Mechanics," April 1941.



Sock's Marina January 20, 2018

By Rick Eichrodt,
MOB Correspondent



The MOB's 2018 season started off on January 20 with a tech session and dry meet at Dino Coverstone's Sock's Marina, located on Lake Webster, Indiana. Members started to arrive around 8:00 and were greeted with coffee and donuts.

The display motors were set up in the shop area, with several members taking advantage of Sock's Marina's test tank. Jay Walls ran a 1913 Evinrude Rowboat Motor and Jack Campbell ran a P-50 Johnson.

Later, after the lunch of pizza and the business meeting, chapter president Richard White held a tech session about the OMC timing tools he manufactures. He demonstrated the timing locating ring for setting OMC coils and his crankshaft seal removal tool. You might say this turned out to be almost a comedy routine as Richard was grilled by all the bystanders asking question after question. Some of the questions were "What is that for?" "Where does it go?" and "Does it come in different colors?" Richard took the kidding

Chapter president Richard White instructing on the advantages of proper timing tools.

Members working on a motor at the test tank behind the display area.





like a champ and everyone had a good laugh at this tech session. Truthfully, some new members had never seen the reproduced OMC tools before and they could see how they actually worked.

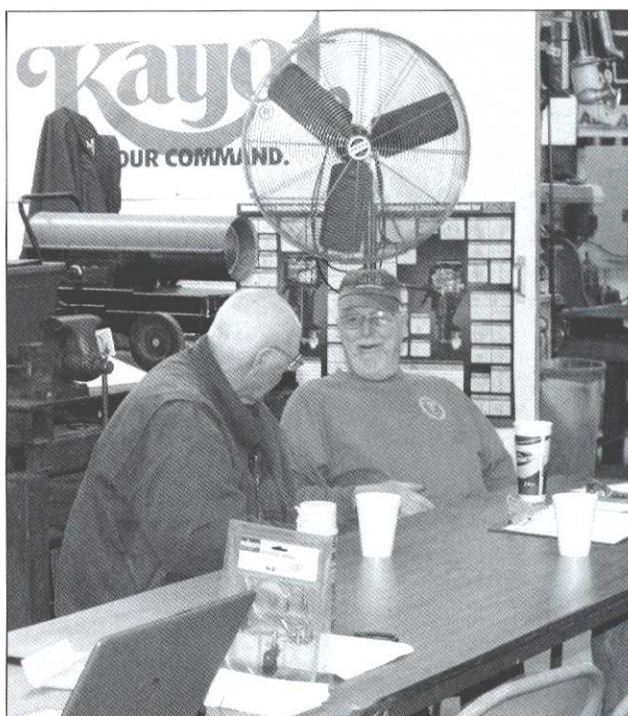
Not much was for sale at this meet, but it was great to see everyone after a long winter and with the anticipation of spring right around the corner, we were all in good spirits. Early in the afternoon everyone started packing up and headed home around 3:00 pm.

 For color photos for this meet, see:

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MOB Sock's Meet:

More MOB News



On Saturday, March 17, the MOB held its second 2018 meet at Sonny Clark's Greenville, Ohio residence, which we named "Sonnyland"! Sonny Clark rebuilds and restores Lyman wooden boats and he opened up his shop for the MOB to set up and display motors. About 26 MOB'sters came from Indiana, Ohio, and parts in between. Twelve motors were displayed inside Sonny's shop, with Mark Majcher bringing a trailer full of motors for sale. Greg Gardner brought some motors in the back of his truck for sale as well. Several motors exchanged hands. Inside the shop was Sonny's latest project, another Lyman boat restoration.

The ladies from Ohio provided the lunch. There was a huge variety of food, including pulled pork, chicken and noodles, and baked beans along

L: MOB members arriving at the meet. (L-R) Scott Parish, unidentified, Richard Dykeman.

R: 1913 Evinrude Rowboat Motor running in the test tank.

Two MOB'sters discussing the day's events.

Sonny Clark's Meet: MOB president Richard White (R) and Greg Jones (L) at the business meeting.



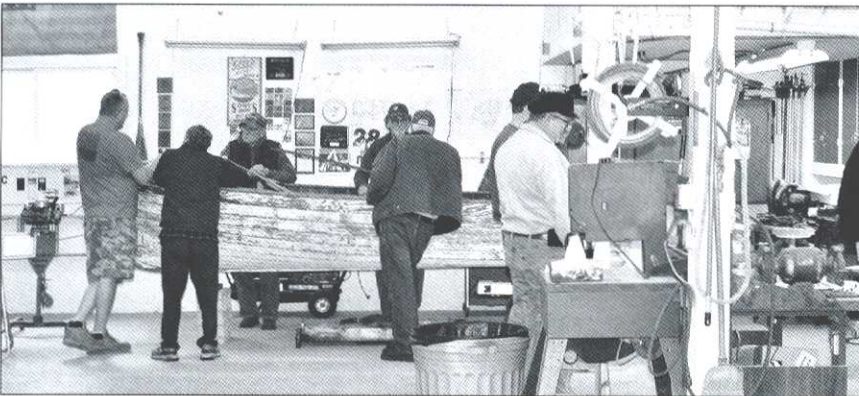
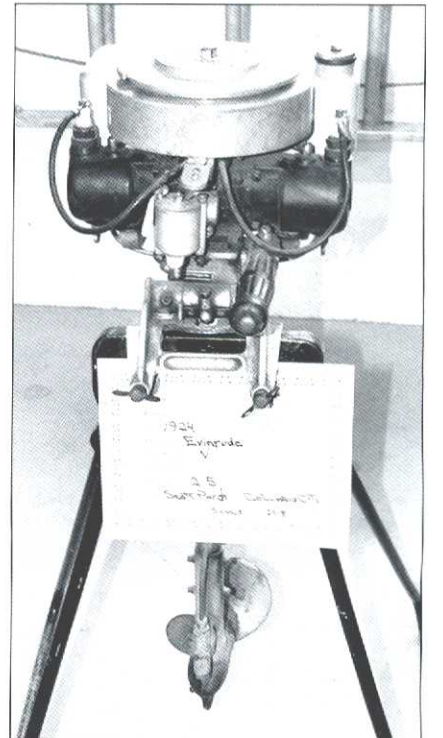
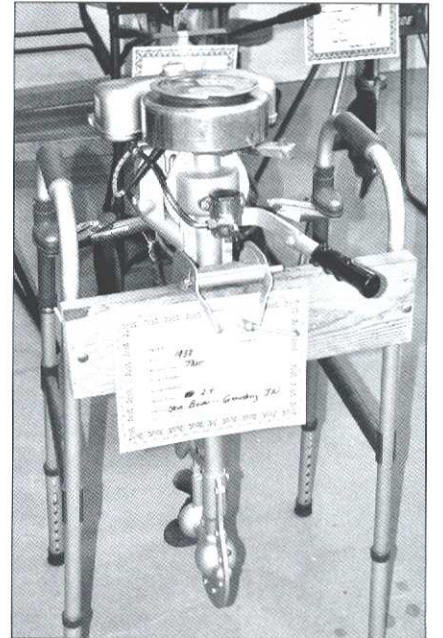
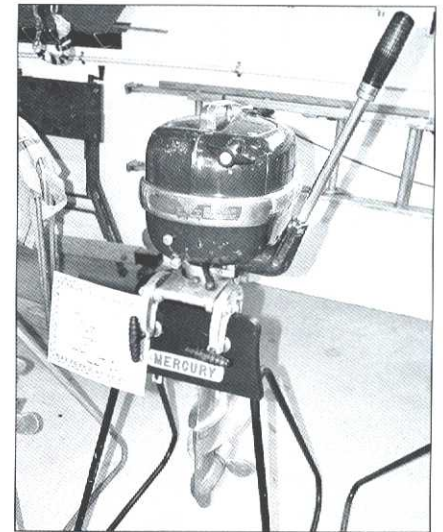
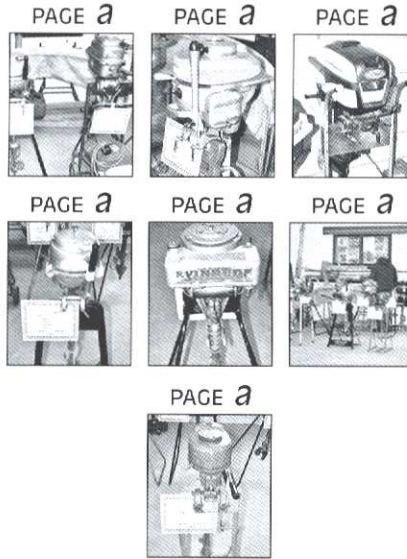
with meatballs, chili, and mac and cheese. Nobody went away hungry.

Something of interest was the way some GPS systems had directed members to Sonny's address, which is outside of Greenville in the middle of the country. To add to the difficulty was the fact that in the morning the roads were somewhat icy and dangerous. Nobody got lost or had any accidents but to hear the stories about which way they all arrived was quite funny.

After the delicious lunch, MOB president Richard White conducted the business meeting and outlined all the upcoming meets for 2018. He also announced that Sonny Clark will be hosting the March meet again next year at his shop.

See Ya On The Water!

For color photos for this meet, see:



Clockwise from top R:

1952 Mercury KH-7 owned by Greg Clark.

Steve Brown's 1938 Thor.

Scott Parish's 1924 Evinrude Model N.

(L-R) Steve Brown, Mark Majcher, and Hershel Lassiter checking out Mark's trailer full of motors.

MOB'sters checking out Sonny Clark's latest Lyman project boat.

Lunchtime at Sonnyland!

John Platou again hosted this wet meet, held since 2013. The weather was hot and humid. The Houston temperature had been in the high 90s but the turnout was very good. John, who sponsors "Kids Build a Boat" at the annual Houston Boat Show, has also offered "Kids Tear Down an Outboard" (an Evinrude Fisherman) at the last several boat shows. At the meet, several of the kids got to decorate one of the boats.

Several boats were launched and run. Morten Lovstad took several passengers, I took one, and we ran our rigs "a fur piece" north up one branch of the lake ("a fur piece" is Appalachian English for a long distance). Lake Houston is fed by three separate branches, the main one being the San Jacinto River.

Our chapter president, Adam Finn, provided the grilled weiners while Susie Finn made for us a big tasty pot of homemade chili. This is a one day wet meet, where members participate for a few hours and then head for home.

For color photos for this meet, see:

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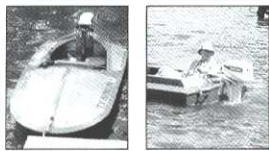
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BACK COVER



Clockwise from the top:

Tom Oncken with his grandkids. In the background are (L-R) Morten Lovstad, John Slator, Mark Betner, Royce Strickland, and Mike Oncken (Adam Finn photo).

Dan Peoples with his Gale 40 and DuraCraft (Joe McCauley photo).

Morten Lovstad's self-designed and built wooden bay boat, with Gary Keeney and friend (Joe McCauley photo).

Partaking of the hot dogs and chili (Morten Lovstad photo).



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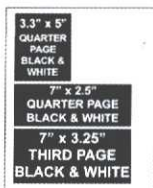
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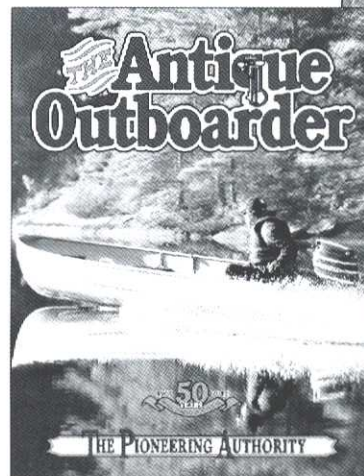
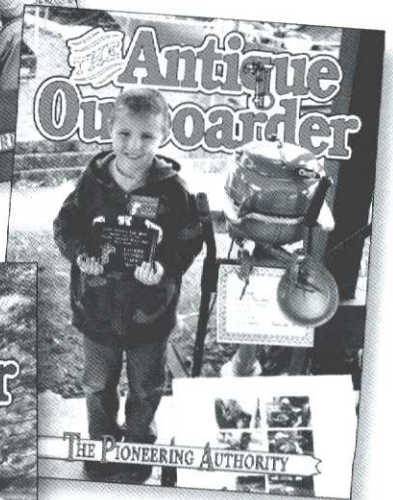
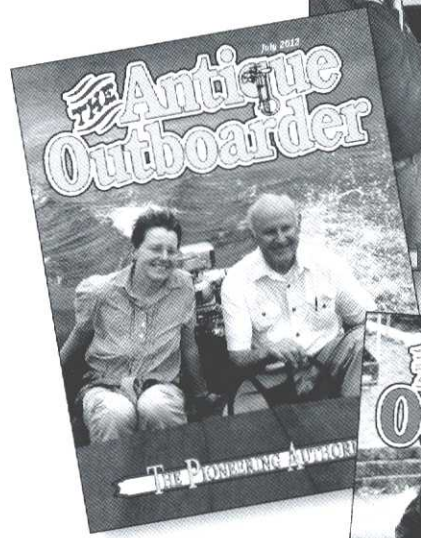
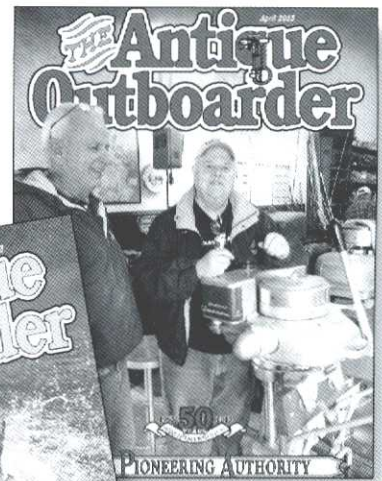
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Antique boat and motor free to good home: vintage 1962 blue and white LIDO Glasspar boat with a 1970 40 hp Big Twin Evinrude. Boat is in pretty good condition but motor will probably need some work. Was last run around 2004. Initially was going to restore these myself but wife has other ideas. Hope to find someone that will enjoy getting them back on the water. You will need a trailer. Call **Rick Riesgraf** (Minneapolis, MN) at 612-868-8081 and I can text you pictures. 01/19

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A Johnson Sea Horse ad from "Popular Mechanics," April 1941.

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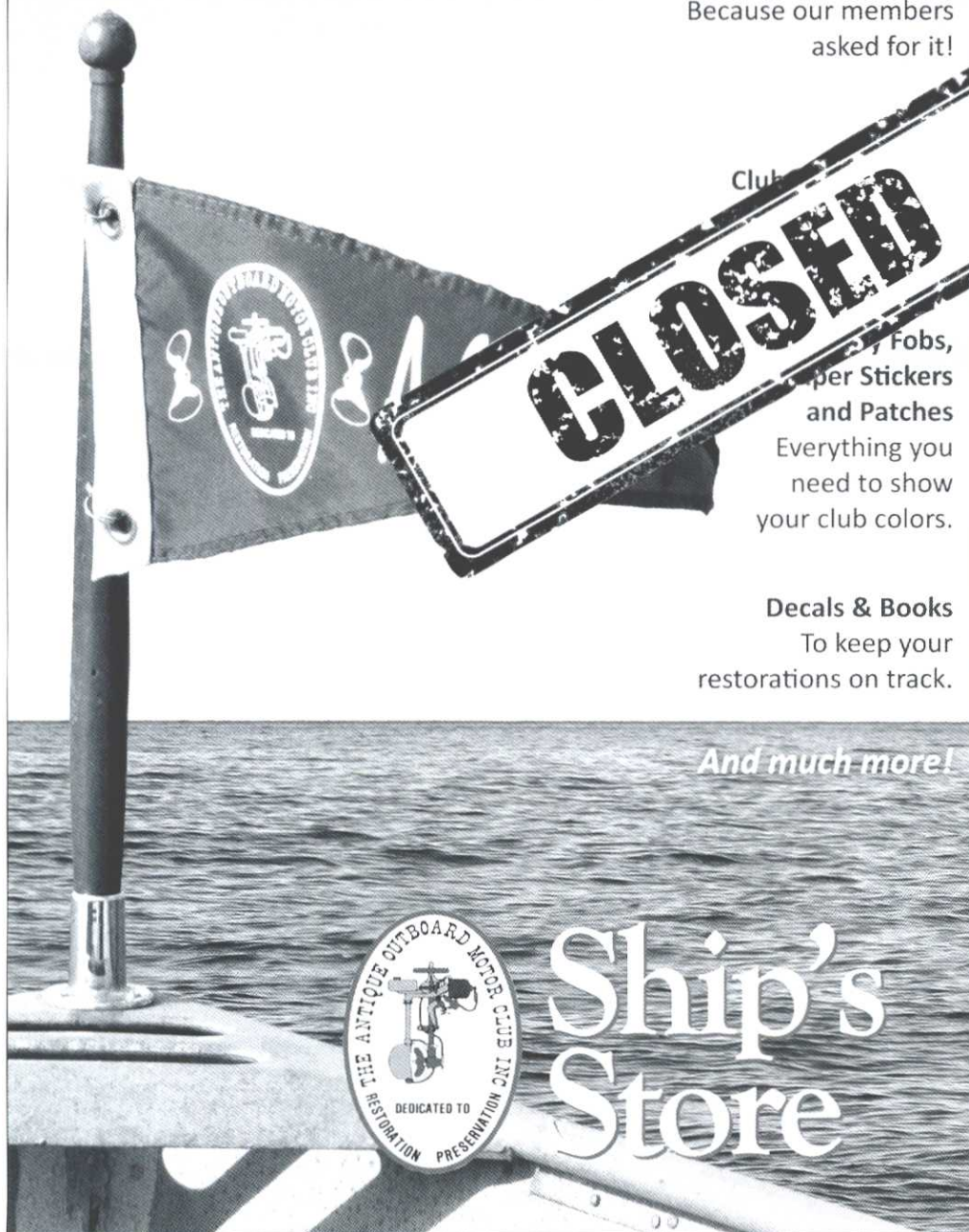


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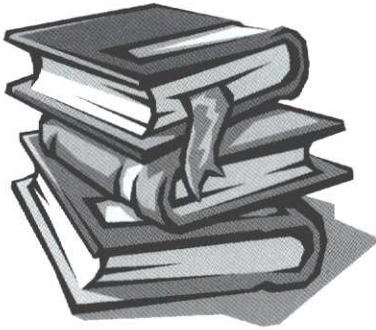
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X	X	X	X	X	X	X	X	X	X	O	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	O	O	O	X	X	O	X	O	April
X	X	O	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	O	O	O	*	O	O	X	O	July
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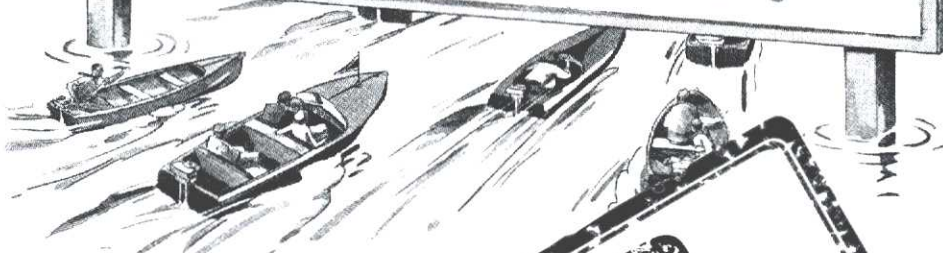
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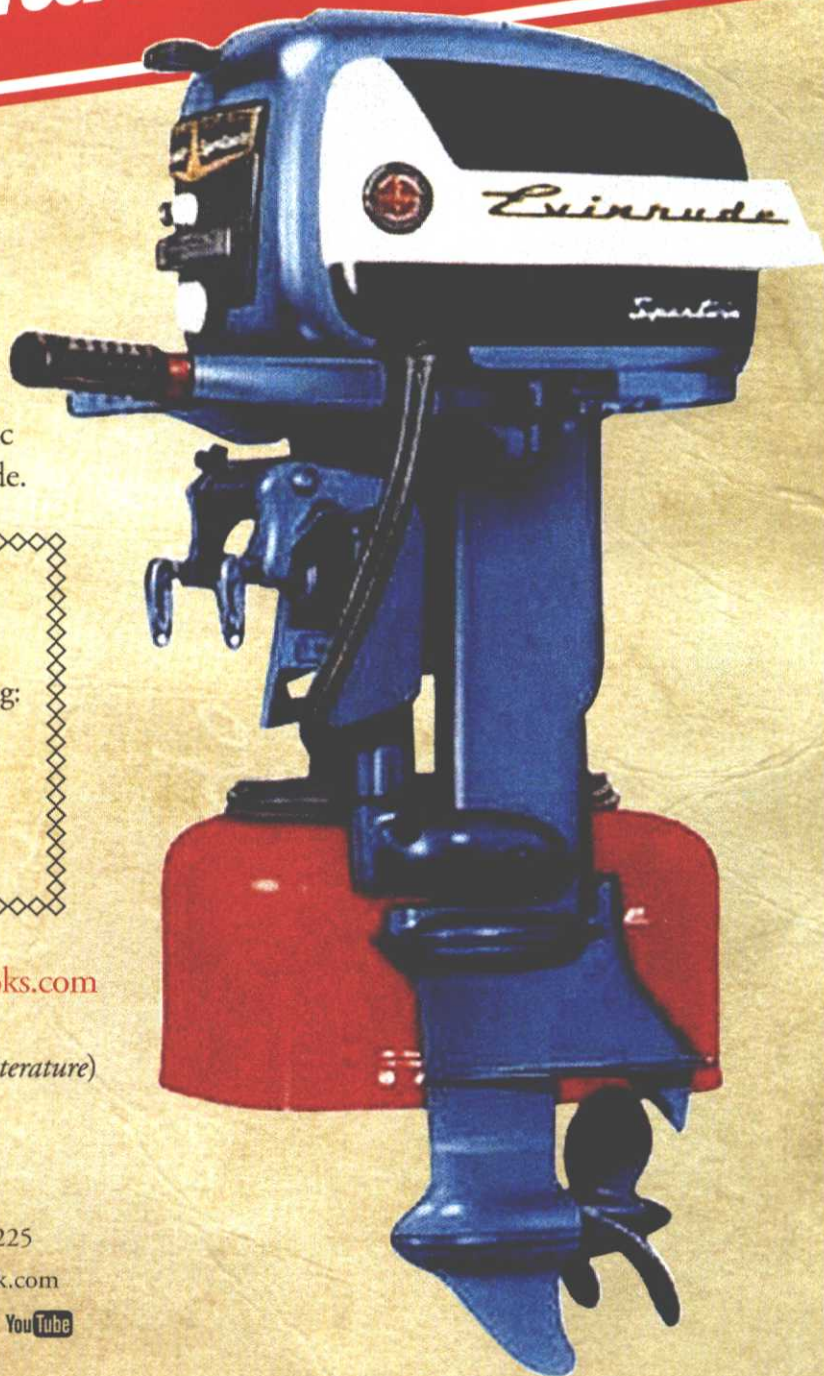
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Jim Carnegie from Ontario, Canada with a portion of his display of fantastic boat and ship models at the Great Lakes Chapter Marine and Boat Show. Read more on this meet on page 54.



Jeff Kubosh with his Mercury and renamed Wizard (Adam Finn photo). Read about the Texas Chapter Lake Houston Meet on page 59.