

## **37 RECORDS AT EL MIRAGE AND BONNEVILLE FOR AARDEMA BRAUN AN INTERVIEW WITH PETE AARDEMA**

**By Bill Hoddinott**

For about twenty years Aardema Braun has been a standout team at El Mirage and Bonneville with various cars, early on a roadster borrowed from Russ Eyres and another from Jim Lattin. Their next car was a streamliner which presently has a home at the Museum of American Speed in Lincoln, Nebraska. In recent times, their famous Lakester which has recently run in Streamliner class. Above all, Aardema Braun is noted for building their own racing engines from scratch, right down to the crankcases fabricated from aluminum billets with four-valve dohc cylinder heads mated to them. The most fabulous example being their current V-12 engine which has set three El Mirage lakester and streamliner records since June '21 up to 268 mph!

If you have the pleasure of talking with Pete Aardema for a while, the thought will presently come to your mind, "This man has forgotten more about racing engines than most of us will ever know!" Talking with him about racing is like drinking out of a firehose! Enthusiasm, stories and information POUR out of him! Team leader Pete, now 83, has a very interesting background. Born, raised and always lived in San Diego, and he grew up with the Southern California hot rod racing movement. I wanted to learn all I could about the team's history and the development of their engines. Thus I was glad when Pete kindly agreed to my request for an Interview for the SCTA. Without further ado, let's get into the story:

Bill Hoddinott: Pete, thank you for agreeing to an interview for SCTA about your life and your racing team. I see from the many videos by Greg Quirin on Youtube that your shop and racing activities are very extensive. But not only that, in talking with you I see you are a living historian of post-1940 San Diego, coming up in the birth of the hot rod racing movement, being friends with Joaquin Arnett of Bean Bandits fame, and seeing San Diego come up from very little to the eighth largest American metropolis it is today.

Pete Aardema: Sure, Bill, it will be a pleasure! I'm glad someone is interested.

Bill: Pete, I know, just like myself, you have spent a lifetime with people unable to spell or pronounce your surname. My own is pronounced "Hod-Not" which is simple enough. My name originated as one of a dozen variations of Hodnet, an old Norman town in Shropshire, England. My Dad's Mom was of the Irish, to add to the mix.

Pete: (chuckling) Bill, you're right about our names. Mine is pronounced "are-DEEM-uh". My Dad, Simon, was born in the Netherlands in 1891 and emigrated to this country in 1910 or 15. He first settled in the Midwest and then moved to the San Diego area in the 1930s, a time when lots of other European immigrants were coming here, too. My Mom, Rose, was born in Switzerland and came here as a young woman (she was much younger than Simon) in the '30s. The pair met and married in 1935. My older sister Marina came along first, then myself in 1941, and then my younger sister Hedy.

My Dad was an enterprising man, from a farming family and evidently earned a little bit of money here. About the first thing he did when he got to San Diego was look up the Tax Auctions. People getting into financial trouble and unable to pay their county property taxes, so the tax authorities had to take their property and auction it for the back taxes. Anyway, Dad went to one of these auctions and for \$200, bought a very nice 40 acre farm and built a house on it. At the farm, he went to raising lemons, which are

a profitable crop in this climate, and they also got some dairy cows and started to sell raw milk to the European immigrants who preferred it to the usual pasteurized. Before long they started to breed cows, selling heifers to other dairy farmers and the steers to the meat plants.

Bill: I see they were hard-working and ambitious, and that leads to success. But let's take a minute to talk about raw milk, because my professional career was in Public Health. If you have a cow that's perfectly healthy, raw milk is one thing, and the calves love it. BUT, and it's a big BUT, pasteurization came in way back in the 1890s because cows with unknown diseases can pass them on to people in raw milk. Some of the diseases are killers. 1940 was a long time ago, but I recently heard there is TODAY a lunatic movement on Social Media to encourage people to drink raw milk for some imaginary 'health benefits'! It's illegal in most States to sell raw milk and I sure hope no-one reading this would be STUPID enough to drink it!

Pete: (chuckling) I couldn't agree more, Bill. But in 1940 it seemed like a good idea to the European immigrants. Anyway, it was not long before my Dad looked further afield and started to buy real estate in San Diego when he saw a good opportunity, alongside his farming activity. Actually, with the rapid development of San Diego, residential projects appeared around his farm, and eventually the local authorities condemned the farm because of the SMELL of the cows! Ladene and I raised our kids and lived there for ten years. So I moved the house itself to a better location in the city, since it was still solid and livable. The 40 acres ended up covered with homes and commercial buildings.

I went through the public schools and graduated from high school in '59. Growing up I worked for my Dad on the farm and in high school I worked in a boat store part time. Not long after graduation I was in line for the Draft for two years in the Army, so instead of that I joined the Marine Reserves and went off for six months training and later on through the six years total obligation. Our unit was never called for Viet Nam.

I married Ladene in October '64 and we had two girls and a boy together, Nicole, Noell and Peter. My sisters also married and had families so my mom ended up with eight grandchildren all told.

In '62 I opened a boat store with a partner on some real estate my dad owned. After three years or so the business wasn't profitable so we ended the partnership. Next, I opened my own boat store selling Larson boats and Mercury outboards and this business prospered pretty well. We were selling maybe 100 boats a year for fishing and waterskiing. Small boats were a good market in the '70s, there were ten local dealers, but there are only three now. Boats and motors gradually got so expensive the average guy couldn't afford them.

By '75 I had 15 employees and was getting tired of the rat race. Managing employees, payroll, taxes, inventory, sales. Another boat store owner had been after me for a couple years to sell my store to him, so I did. Store values had been shooting up every year since San Diego real estate was RED HOT, the place EVERYBODY wanted to be! Business conditions were terrific and I sold my store and real estate for \$600K after originally putting \$100K into it a few years before.

My next business venture was to buy a very nice office building with good tenants for a good price and the tenants were solid, they had long leases and the means to pay the rent. I had very little to do other than attend to the maintenance and I kept this property for a long time, clear up to '96 when I sold it and went into a large industrial property in San Diego which I still have. Like the office bldg, this has good solid tenants with long leases and I have very little to do other than stay on top of maintenance. From

long experience I have plenty of contacts with the right tradesmen who can handle anything, and for a fair price.

So that's my professional career in a nutshell, long years of hard work but the good fortune to be in San Diego which has been booming ever since I first came along, and still is.

Bill: Very interesting, Pete. You had the advantage of a family that gave you good home training and traditional values. All this fits right into the best model of American life.

You showed me lots of engines of various kinds you made on a hobby basis over the years and in the late '80s you met Kevin Braun, and the two of you started to work together. In the early '90s you got interested in Bonneville and El Mirage racing. How did you team up with Kevin?

Pete: Kevin was working at a job machine shop in '88 when I first met him. He was an exceptionally talented master machinist. For a few years I hired him to work for me part time. He would pull his eight hours at the shop and then come over and work on our projects for three or four hours. In the early '90s I asked him to come and work for me full time and he agreed. I was always a good mechanic and loved motors, but Kevin is not only a master machinist who can make anything, but he can also design anything you want just like a professional engineer. He's a remarkably talented man and we have had a very close racing partnership for about twenty years so far. I feel very fortunate to have teamed up with Kevin as Aardema Braun.

Bill: You and Kevin made a lot of exotic engines before you turned your attention to El Mirage and Bonneville and we could really write a book about them all. But for our present purposes we'll have to limit ourselves to the Bonneville and El Mirage projects, that will be more than enough because there's a LOT to talk about! You started with Ford Model A engines and set a lot of V4 records with them. You bumped the original Model A 40 horsepower clear up to 300 with a turbo and a dohc four-valve head!

Pete: I always liked the dohc four-valve head as the ultimate for a piston engine. We went TOO FAR with one of the Model As because SCTA decided to BAN it! Then we built two more better matching SCTA's rules. We still have several Bonneville records with them in the book, though, including V4 GS in '11 at 214 mph and V4 BGS in '12 at 238! And right here I have to record my heartfelt thanks to our drivers, Scott Goetz and Cal Rothe, who have been a VITAL PART of our team effort!

Bill: This is a good place to break for Part 1, so in Part 2 let's delve into the exact details of how you built your Model A engines, Pete.

## **Part TWO**

Bill Hoddinott: Pete, what cars did you start out with for El Mirage and Bonneville?

Pete Aardema: Jim Lattin loaned us a rear-engine modified roadster he had, and Russ Eyres loaned us an old roadster. We used those for many years and got lots of records with them with various engines, which I'll tell you about. We also built our own front-wheel-drive streamliner with the engine in front and Jeep parts, plus a quick change for the open differential. We donated this streamliner with one of the Model A engines in it to the Museum of American Speed in Lincoln, Nebraska. Later on we built our lakester which we are still racing, and it can be converted to a streamliner for El Mirage. I might mention, Bill, that our

team absolutely LOVES to go to SCTA meets and we have never missed an El Mirage or Speed Week event since we started!

Bill: I see the Rules and Records Book is loaded with Aardema Braun V4 and lots of other records at Bonneville and El Mirage. But first let's look at this first Model A. Is it easy to get sound Model A blocks nowadays?

Pete: Surprisingly easy considering they were made by Ford between 1928 and 1934. Some years back I bought two good blocks for \$50 at a swap meet. You know I love to go to swap meets and car shows whenever I have a chance.

Our first Model A Kevin and I built with a 3-1/2" 6061 aluminum billet girdle on the bottom to form the lower main caps and add two more caps to make five total. The girdle was secured to the block by ARP 1/2" studs in the three main bearings and 5/16" ARP bolts into the original oil pan holes on the pan rails of the block. Kevin line-bored the block and girdle to use Chevy V8 main bearing inserts. Crower made a five-main crank for us and now we had a very strong bottom end. Carrillo rods and CP pistons with 14 to 1 compression completed the crank assembly. Under the girdle was a dry sump pump pan and we had a separate oil tank in the cars with a heater in it for our 20w-50 oil. We also used a big electric water pump for cooling all the engines, with plumbing to suit, and rather than a water tank in the cars we've always used a radiator inside them with a fan on it, and holes in the car bodies to let air in and out.

Bill: What about the cylinder head? V4 allows any kind of ohv head you want, since in the old days various aftermarket heads were made.

Pete: Hold onto your hat, Bill, because we adapted two Subaru dohc four-valve water-cooled heads to the original deck. You may know that Subaru made this rather exotic opposed four cylinder engine in production for years, and the heads were a good fit on the Model A block because the bore centers were almost identical to those of the Ford. But there is a space between the front two cylinders on the block and the back two to allow for the original center main bearing.

Bill: Omigod, Pete! What you are describing is dawning on me! You had to weld two of these Subaru heads together to make a single head for the four-cylinder. They would have to be in near-perfect alignment for the dohc to work, and aluminum is famous for wanting to warp and twist on welding due to the contraction of the aluminum beads on cooling.

Pete: All true, Bill, but Kevin set up some rigid jigs of steel to hold the heads flat while he welded them, and he put straight bars through all the cam main bearings to hold everything in line. It was impossible for anybody to prevent a few thousandths of warp, but he covered that by machining the decks of the heads to true them, and line-boring the cam bearings end to end. He made cam blanks of 8620 steel and sent them to Dave Schneider who ground cams with Offy timing and lift to use radius bucket cam followers with shims under them for clearance adjustment. We planned to run these Model As with a power band from 6000 to 8000, maybe 8500 to get the best out of them.

But this first Model A engine was a disappointment because the Subaru head bolt pattern didn't fit the Ford deck very well, and the deck was thin, only 3/8" or so apart from the original bosses for the original bolts. We tried it anyway, and we had trouble with the head gasket because there was too much pressure.

Bill: I have a local master machinist friend whose line-bored an original Model A block and he told me the bare block only weighs about 80 lbs. That's light! I have seen pictures of V4 race blocks that have cracked right in the middle from the internal pressure when pushed too hard.

Pete: Henry Ford, whom we all respect as one of the founders of the whole American automotive industry, had his engineers and pattern makers design for the true needs of each engine. He wanted to make hundreds of thousands of each type, or more and he didn't want to waste any material. Hence the lightweight Model A block, which was rated at 40 horsepower and completely successful in its day for a mass production engine.

Bill: What kind of intake and exhaust did you have for this first one?

Pete: Electronic fuel injection and electronic ignition is the BEST, and my preference for all our engines. BUT the V4 rules didn't allow it for any cars but streamliners. So, we made our own throttle body for mechanical fuel injection, using Hilborn and Kinsler parts, and an MSD distributor set to 32-33 degrees. We had timing belt drive for everything on the front of the engine, using Nissan and other timing belt pulleys. The distributor had an automatic retard in it for cranking the engine, to avoid kickback. We ran it and all our others on V-P C16 race gas. For fuel class we used nitrous, we never wanted to get into methanol and nitro.

On the exhaust side we made a four into two into one pipe system with a slow-taper megaphone on the end of it.

Bill: What about the rest of the powertrain?

Pete: We make our own aluminum plate to hold the starter ring gear and used a seven-inch multiplate track clutch into a Chevy T-10 or Muncie four-speed. These gearboxes were okay until we got into the really big powers with the later engines such as the V8s and V12, and then we switched to the Liberty 5-speed. It's easier for the driver, he can start with the clutch and after that change gears with the air shifter button.

Kevin and I studied how to reinforce the block for our second Model A. Our solution was to mill off the top two inches of the block and smooth around the edges so it was like an elongated cup, with the original cylinders left in it, but the deck was gone. Next, we designed a one-inch steel plate with a groove in it to fit the lip of the block and make a watertight seal. We had the same type of girdle on the bottom, but on one side it extended out sideways far enough to enable us to put studs into it for the plate on the top, to hold the whole assembly of block, head and girdle together. On the old valve lifter side, we installed eight 1/2" studs in the lifter bores, which went up through the plate with nuts on the top.

On the other side of the block, the steel plate overlapped the block far enough to take eight 1/2" studs which were threaded into tapped holes in the extended 3-1/2" aluminum girdle.

Bill: So, there was a mass of plumbing to feed pressure oil to each of these five main bearings, plus whatever you had for the new cylinder head.

Okay, I see all this. I know the practice is not to use any inserts for overhead cam bearings because each

one of them has pressure oiling, and the valve spring pressure is not very high. So, this has been successful for production engines built this way for years. It's just in your case a matter of providing more plumbing to get the right amount of pressure oil to each bearing.

How did your second engine, much stronger than the first, work out?

Pete: It was very successful, and set several records, but then SCTA decided it strayed too far from the design of the original Model A, and banned it. This was quite a disappointment to us. But we got busy and made some more Model A engines to meet the new rules.

The next one had all the bottom end of the first two, but we adapted a Brodix Chevy racing head to it with sohc for the two-valve chambers. We had to cut the Brodix head and weld a spacer in it to fit the block. This engine was successful for us and we also made a lot of Brodix heads with our overhead cam adaptation and sold maybe 40 sets to people for Chevy V8s.

The last Model A we made, Kevin made his own design of three-piece head of 6061 billet, one for each cylinder, with dohc and three-valves. These heads were set into the Model A deck.

Bill: Pete, all these engines are mind-boggling, and we haven't even gotten to the three-liter Four you made for F class, making the entire engine from scratch, or the V8s you made for D and E class. This article can't be but SO long! In the next Part we'll take a quick look at them, and then finish up with the fabulous V12!

### **Part THREE**

Bill Hoddinott: Let's take a look at the "Sheet Metal Engine" you made, now.

Pete Aardema: We wanted to build our own F Class, three liter, four-cylinder, three-valve, dohc engine this time and built it completely from scratch, from steel plates and sheets. Kevin machined a bottom crankcase for it from a billet, and steel tubes up to the top deck, with iron sleeves inside them. The water cooled the tubes, and needless to say everything had to be in perfect alignment top to bottom, which was a very challenging machine work project. Marlan Davis did a detailed study of this engine for one of his Hot Rod Magazine articles back about 2013. Kevin made the 6061 head in three pieces to create some water jacket spaces for it, and handle the ports and dohc and valves, etc.

Bill: Three valves per cylinder instead of four?

Pete: Four valves is the best, but the bore size in this one better suited a single exhaust valve. Two intakes and one exhaust is a very good combination, almost as good as two and two.

Bill: I recall back in the 1950s one of the British motorcycle factories made a 350cc TT race engine with this setup and it was very successful.

Pete: We designed and built everything ourselves with a strong girdle bottom end and Scat billet crank. Since it was F Class we could run electronic fuel injection and ignition and it gave 390 horsepower on our shop dyno unblown on gas.

We also ran it in Fuel Class and altogether we set 6 records with it. It did 180 mph in our Lattin Rear

Engine Modified Roadster. We always ran it on V-P C-16 race gas and we added nitrous when we ran it in Fuel. We used a turbo when we ran it in blown class. I might mention that right from the beginning we got a shop dyno to test our engines on. We also liked to test our whole car on a rear-wheel dyno at another shop, before taking it to a meet. This way you have a good idea that everything is working and you won't go all the way out there and have a failure on the first pass!

Bill: You didn't want to get into methanol and nitro...

Pete: No, that was a whole other world and we were happy with what we were doing.

Bill: Tell me about these two V8s you built next.

Pete: The first one was a complete Corvette LT5 dohc four-valve engine we located, and Scat made us a de-stroked crank to run in D Class at 300 cubic inches. We ran this engine in the Lattin car, and our present Lakester. Here again Schneider ground race cams for us on 8620 blanks. The engine had its original cam chain drive which we retained. We fitted our electronic fuel injection and ignition. However, later at Bonneville the cam chain broke and we fitted our timing belts.

Next, I happened across a good set of LT5 heads at a swap meet. We decided to build an E engine with them, 250 cubic inches with a 2-3/4" stroker crank. The LT5 heads used 10 bolts so I couldn't use a 17-bolt Chevy Smallblock block. At the time, Chevy was selling an iron racing block they called the "Rocket Block" which was bored, and the main bearings were machined, but not the decks. So, we were able to drill and tap the decks for the ten-bolt heads, using ARP studs. of course. Scat crank, Carrillo rods and high-compression CP pistons.

We fixed the engine up with all the dry sump system and plumbing we needed to cool and lubricate everything, and timing belt drive for the cams and we ran this engine in Gas class. It got six or seven records for us.

People might be interested to know on these V8s, we used Chevy Smallblock racing timing chains and sprockets and put a shaft out the front on which to mount our timing belt sprockets. So, we had a 1 to 2 drive and could use good-sized timing belt sprockets, same size on the idler and the camshafts.

Bill: Did you use your aluminum girdles on the bottom ends of these engines?

Pete: Yes, we have used our aluminum girdles under all our engines to form the lower main bearing caps for much greater strength than just caps. Under the girdles, all of them have shallow pans to collect the oil for the dry sump pump.

Bill: How much oil pressure do you use in the engines? With dry sump you can adjust the pump to any pressure figure you like.

Pete: 70-80 lbs works fine for us. You can visualize all the plumbing we had to get oil to each main bearing and each overhead cam bearing. We had drains in the heads to evacuate the oil to the intake side of the pump.

Bill: My late friend Elmo Gillette of Lattin-Gillette Red Head streamliner fame once told me, "Bill, 50 lbs of

oil pressure is plenty." But I know some of the blown fuel Hemi racers like 125 lbs or so.

Pete: No doubt Elmo was right, but we like our 70-80 lbs. People must remember the more oil pressure you have, the more power it takes to turn the pump.

Bill: Might note right here that Elmo and Jim rented the Red Head streamliner out to the production company for the Anthony Hopkins film "World's Fastest Indian" some years ago and the car can be seen and heard in the film. Later on Elmo told me it had a Flathead in it for the film and "It ran like ——!" Back in the '90s when I started to build my Ardun Roadster for ECTA, I joined BNI and got the Rules and Records book since ECTA was using SCTA class, construction and safety rules. At that time, Elmo and Jim had the Ardun streamliner records at Bonneville with the Red Head. A few years later on a visit to Jim and Elmo in San Diego I saw the car in Jim's Museum collection.

Okay, so far you have engines for Class D, E, F and V4 and the SCTA Rules and Records book is well-filled with your El Mirage and Bonneville records with various cars in all of the classes. Most recently you have added your famous V-12 scratch-built engine for C class, and congratulations, Pete! I see your team set the El Mirage CFS record at the June '24 meet at no less than 268 mph! The old record from 2012 was 258. Greg Quirin has a video of your success at the June meet on Youtube.

Now you have C, D, E, F and V4 covered, so for the next part, let's take a detailed look at your V-12 engine.

#### **Part FOUR**

Bill Hoddinott: Let's look at your V-12 now, Pete, but even before that I wanted to ask you, has the Gold Coast Roadster and Racing Club got you and Kevin in the Dry Lakes Racing Hall of Fame?

Pete Aardema: No, Bill.

Bill: Well, I have to say, with respect, that is a real oversight and you two certainly belong there based on your team's tremendous record at El Mirage and Bonneville! It was a peak experience of my life in 2013 when they elected me Historian of the Year. My wife Jerry and I went out to the event at Buellton and I got to meet lots of the Stars that I'd interviewed for Bonneville Racing News. At 84 now, I'm proud to look at that ring on my hand. On that trip Les Leggitt kindly took us out to see El Mirage which is one FABULOUS geological landscape on this planet! I'm going to suggest to the Gold Coast Club that you be considered for election, Pete. Covid has messed everything up the past few years but I feel sure they'll get those events going again soon.

Greg Quirin has some videos on Youtube of you and Kevin showing the V-12 in your shop and he did a fine job with it. Tell us about the basic approach.

Pete: Owing to it's size we wanted the V-12 to be fabricated of 6061 aluminum, not steel. Kevin machined the lower crankcase out of a 6061 billet to form the upper main bearings and with receivers for the iron sleeves which would form the cylinders. The upper crankcase was formed on both sides of 4 x 6 rectangular tubes of 1/2" wall 6061. The sleeves have flanges on the top and are a tight fit into the decks formed by the rectangular tubes and into the receiver bores in the lower crankcase. They are permanently secured and made water-tight with a Loctite product. All these parts are joined by tig welding. Obviously, the cylinder bores have to be true to each other, the deck and the main bearing centerline. And everything has to be water-tight to keep water out of the oil. None of this is easy. We followed our

standard practice with full girdle and dry sump pan and pump. On this engine we pumped the water into the block and it went up through the decks into the heads and out, back to the radiator.

There are 22 studs per bank and they go down through the decks and are threaded deeply into the lower crankcase around the main bearings

The two banks of six cylinders each are at 60 degrees to get an even-firing vee-12 engine. Like the V-8s we use a Chevy racing roller chain and sprockets on the front for an idler, on the front of which is a timing belt pulley that can be the same size as the camshaft timing belt pullies. The front end of the crankshaft has a vibration dampener on it. The engine has electronic fuel injection and ignition but we put the crank triggers for the ignition on the flywheel on the back so the front wouldn't be too cluttered.

Bill: VERY impressive, Pete! I assume you followed your practice with short-stroke Scat custom billet crank, Carrillo rods and CP pistons with the highest practical compression ratio.

Pete: That's right, Bill. With short-stroke engines you have to work closely around the valves to keep clearance, allowing a bit extra for valve bounce, and also you have to clear the dome of the chamber and the squish bands if any. CP will make any kind of piston you need. But I am sorry to report that Tom Lieb, the long-time owner at Scat, sold the business recently and I don't think the new owners are interested in custom crankshaft work. So we may have to find someone else.

Bill: I hear Marine Crankshaft will make any kind of custom crank from a billet.

Pete: That's one possibility.

Bill: I see the cylinder heads for the V-12 are four-valve dohc, and they appear to be made by cutting four-cylinder heads to eliminate one chamber, and welding two of these together. Tell me about this.

Pete: We made the heads by sourcing Indy Olds racing heads from Tony Peria, a friend of the Fergusons. Tony got a large number of them from Roush. These are real racing parts, based on the production Olds Aurora engine, but heavier and stronger. You know the Olds Aurora was a 4.0 version of the 4.6 Northstar V8.

Bill: I remember that about 30 years ago Indianapolis had a 4.0 liter engine formula and it was totally dominated by the Indy Olds engines. This was a very successful program for General Motors.

Pete: As with our earlier Subaru heads we welded together to make Model A Ford heads, for our V-12 we sawed one cylinder off of these Olds heads and welded two of them together to make a six-cylinder head.

The first time we ran the V-12 was in June '21 at El Mirage and we took the C G/L record with it at 228. The car was the same one we ran as a streamliner in June '24 to take the CFS record at 268 as you mentioned at the beginning of this story.

Bill: Greg Quirin's cockpit video from the June '24 meet shows the engine was running up to 10,000 rpm. This kind of racing proves the design and quality of every single part of this home-built engine. You and I both know every function of it has to be right, or something will go wrong. The scream of the exhaust in the video speaks volumes, too!

Pete: Thanks, Bill, we're proud of the way it turned out.

Bill: Pete, I think we have touched on the highlights of the great twenty-year run you and Kevin and your team have had. It would take a BOOK to do real justice to all you have accomplished with the many engines and cars, and here we have only so much space. I know all your friends in SCTA will enjoy your story, and I'm happy to think it will also be available on the Internet to anyone in the general public world-wide who's interested.

Thank you very much for taking the time to share this with us!

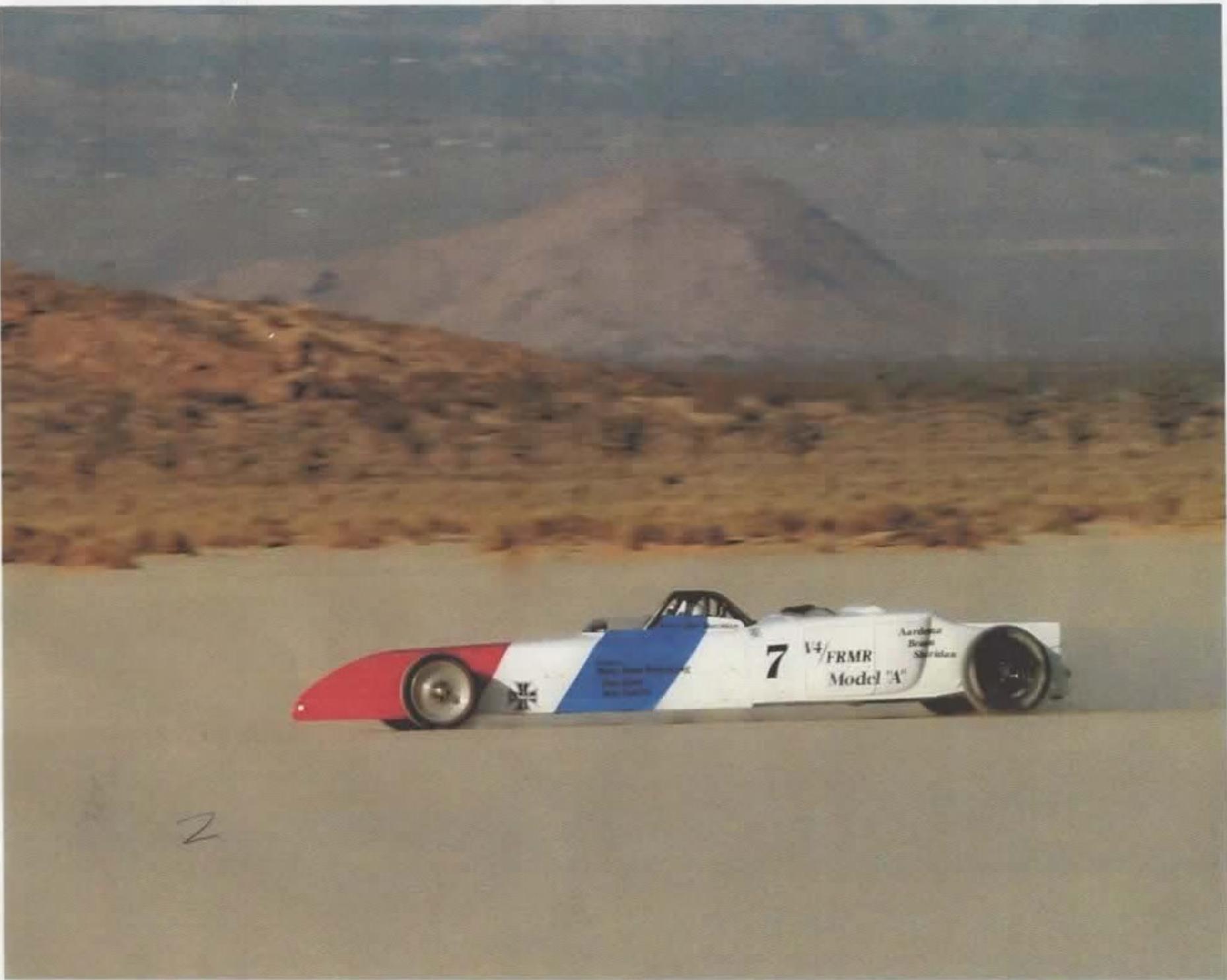
Pete: It was my pleasure, Bill. Thank YOU for your efforts. My friends and I on the team have had a world of fun building our equipment and going out to the meets all these years. The fellowship in the SCTA is WONDERFUL, the most interesting people I know!

The End

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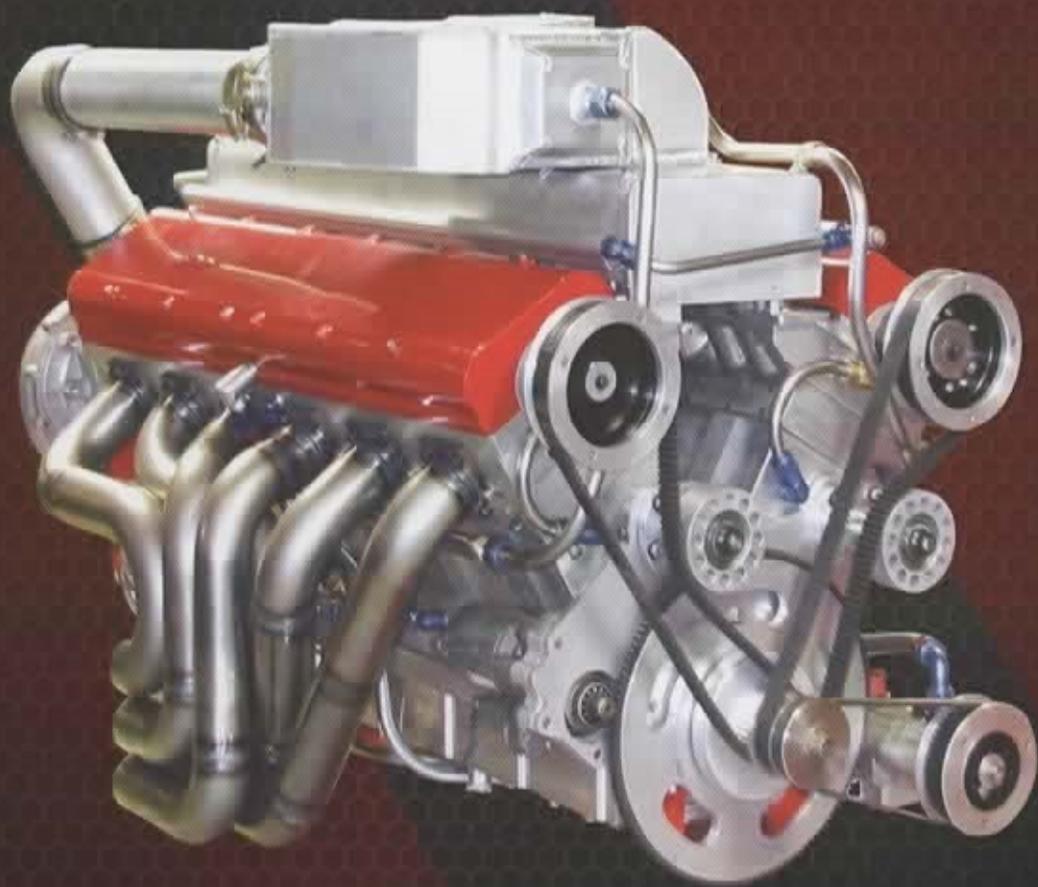
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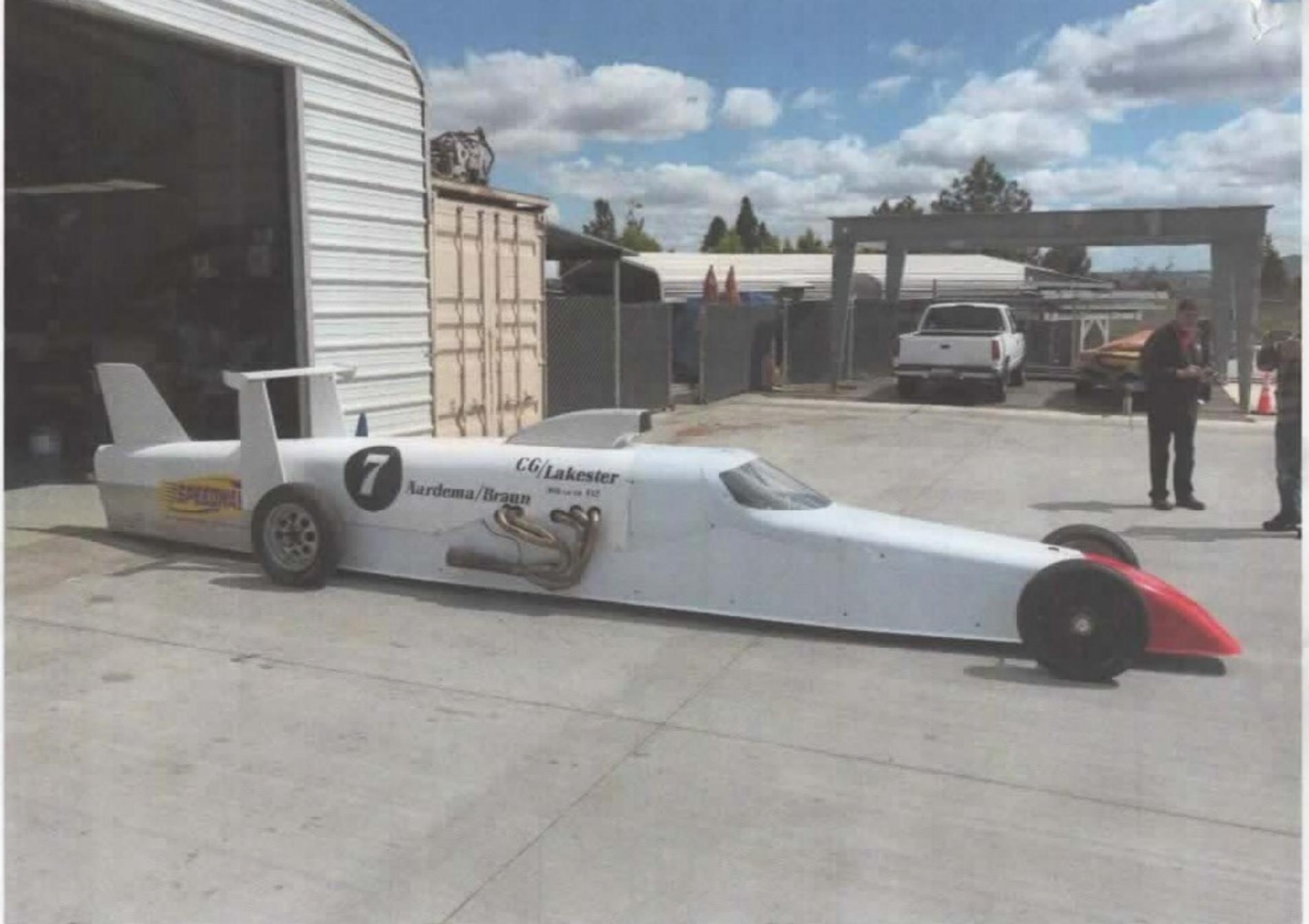
# V1200



◀ AARDEMA DEVELOPMENT ▶

**PROTOTYPE**

BY PETE AARDEMA • KEVIN BRAUN  
KEVIN AYLESWORTH • JEFF JOHNSON



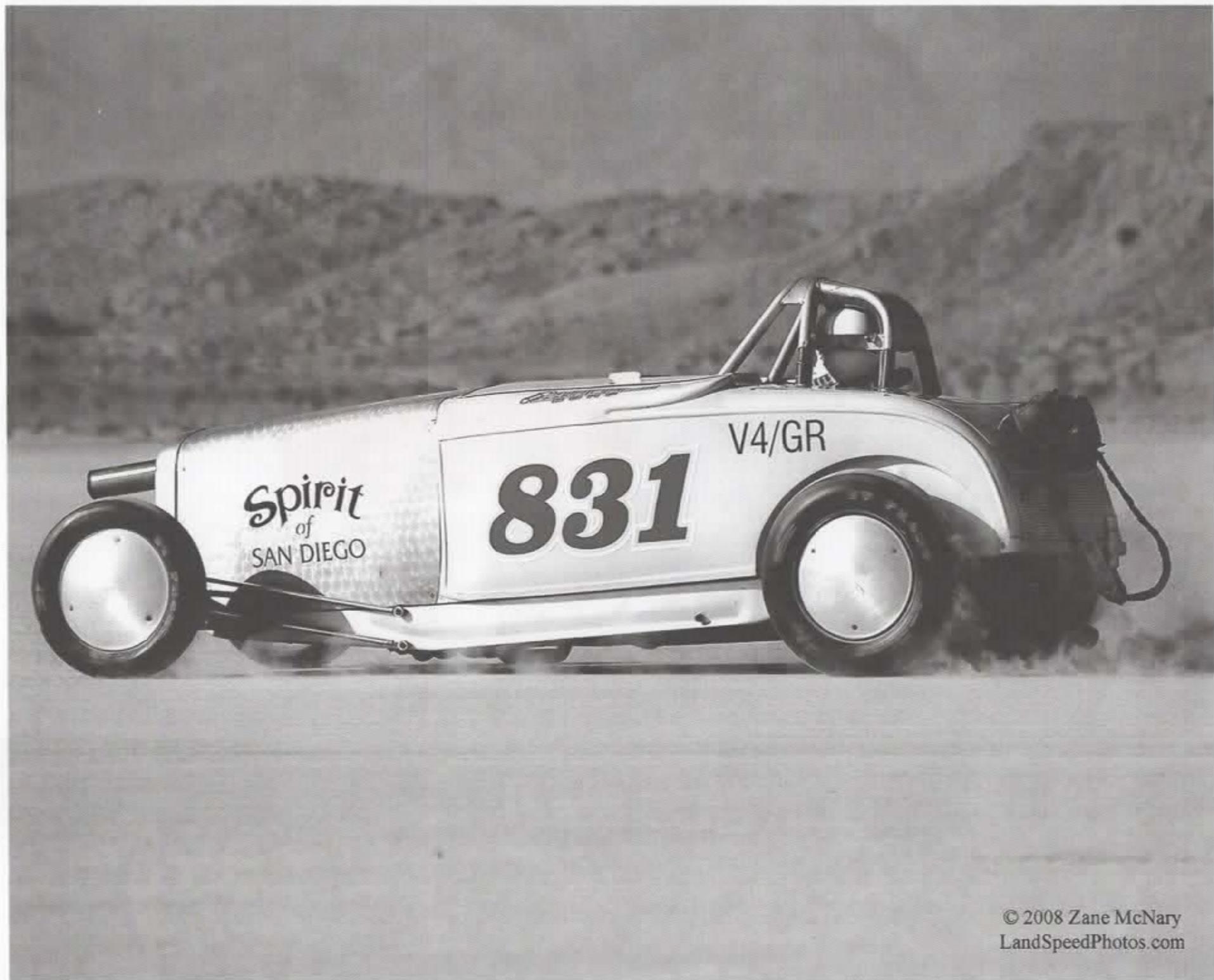
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Aardema/Braun

CG/Lakester

NO. 112

SPEEDWAY



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# *Pete's 34 Ford Porsch-Chalet*



**A pair of 928 4 Valve  
Porsche Cylinder Heads  
mounted to BB Chevy.**



**A 1934 Ford Chassis  
widened and lengthened  
3" and a 2002 Corvette  
Trans Axel**





# ARDEMA

DEVELOPMENT



*Hardley A Davidson*



