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RACING
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MVP AWARD
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ELECTRIFICATION OF
THE CLASSROOM
PG 20

NACAT NEWS

VOL 36

OCTOBER 2022

NO.5



PICTURED: 2022 NACAT CONFERENCE FIRST-TIMERS

Allied Members

NACAT
NORTH AMERICAN COUNCIL
OF AUTOMOTIVE TEACHERS



ELECTUDE



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NACAT News is Published SIX Times per Year!

DEADLINE DATES

December 2022 issue - November 10, 2022

February 2023 issue - January 10, 2023

April 2023 issue - March 10, 2023

June 2023 issue - May 10, 2023

August 2023 issue - July 10, 2023

October 2023 issue - September 10, 2023

The latest advertising size and rate information can be found at www.nacat.org.

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Warren Tech
13300 W 2nd PL, Auto Tech BLDG C
Lakewood, CO 80228

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2021 - 2023

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Vale School District
403 E Street West
Vale, OR 97918

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2022 - 2023

Steve Tucker

SUNY Delhi
2 Main Street
Delhi, NY 13753

Appointments

Business Manager

Sheri Hamilton / Heather Sebben

5950 North Oak Trafficway, Suite 201
Gladstone, MO 64118
Email: info@nacat.org
Office Phone: 816.766.1515

NACAT News Editor

James Curry

JasCor LLC
108 Carolinian Drive
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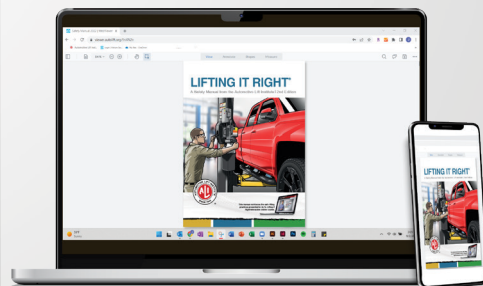
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NACAT PRESIDENT'S UPDATE

TOM MILLARD

WARREN TECH

Greetings all,

The 2022 NACAT Conference & Expo, in Covington, Kentucky, was a great time as we were able to meet again in person. It was really good seeing all who were able to attend. For me, it has been a great year of renewed feelings that I have as to why I became an automotive instructor, as I ponder the changes that are coming our way (electric cars, et al).

If you haven't heard, the 2023 NACAT Conference & Expo site location was announced. We will be going to San Jacinto Community College located near Houston Texas, July 10th to the 13th, 2023. If you are a new teacher, and have not attended one of our conferences, this is one of the best opportunities available. Click [here](#) to learn more.

We have also been working on coordinating more family activities for the conference. We have been adding more information on NACAT to the [NACAT Facebook page](#) and the [NACAT Family](#) Facebook page. Members of the NACAT board are updating activities and events frequently. We'll maintain updates on activities that members can choose to partake in while at the conference.

NACAT elections were held earlier this year. Our newly elected members are Martin Duvic, Todd Richardson, and Ronald Morris. If you are interested in participating as a member of the board, we will be recruiting experienced members to be nominated to the board for our 2023 elections.

Another great training activity is the [VISION Hi-Tech Training & Expo](#) which will be held March 2nd through the 5th, 2023. NACAT will be having a booth at the Expo and more information will be shared about the 2023 NACAT Conference & Expo, at San Jacinto College, as it becomes available.

Your NACAT Officers and Board are looking forward to future conferences and training opportunities, and look forward to seeing you in the near future.



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Mechanics Local 701 Training
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Ed Martin

Pickens Technical College
500 Airport Blvd
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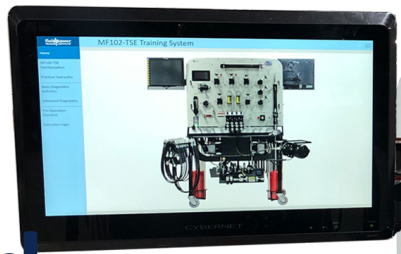
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Utah State University Eastern
451 East 400 North
Price, UT 84501

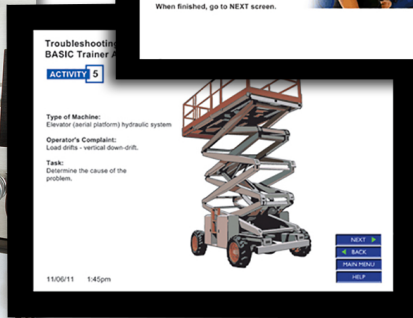
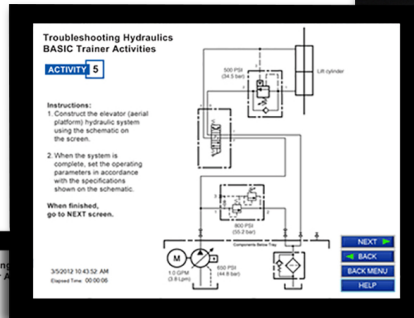
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Getting To Know...

...Steve Gibson, NACAT Board Chair

LAND SPEED RACING II

After working all winter and spring preparing to race, it was everything I could do to keep my excitement contained. The sound the small block Chevy engine made when it started up was absolutely intoxicating to me, as well as the smell of the 110 octane race gas. This Camaro had never really been a visually pleasing car. Charlie, the owner of the Camaro had painted it El Mirage tan to hide the dust. The years had taken a toll on the exterior of the car, the paint and aluminum spoiler and light covers were oxidizing and just looked dingy. I figured I would get a crash course in finish restoration and make the car look like the fast machine it was built to be. I used a fine cut cleaner on the paint to remove the oxidation, followed up with a hand buff with Meguiar's Mirror Glaze polish wax. I polished all the aluminum pieces, the chrome rear bumper, and cleaned the windows inside and out. The car looked perfect and I couldn't wait to get it back on the lakebed.



The Camaro, nicknamed "The Whale" by its builder, Charlie Miller, had never looked so good.

Race weekend finally arrived, and it was finally time to race. A friend of mine from childhood, Eric and I would tow the Camaro up to El Mirage, unload it and take it through tech inspection on Saturday, and Charlie (the owner) and Mike (the family friend who had driven the Camaro last year) would come up early on Sunday morning. We loaded the Camaro on its car trailer, made sure all the needed gear was packed, and at noon on Saturday Eric and I hit the road with a race car in tow. Almost 25 years ago, the drive to El Mirage was a relatively short journey from Riverside, CA, at a little over an hour even while towing. Eric and I arrived, unloaded the Camaro from the trailer, and took it to the tech inspection station where a long line of other race cars waited their turn.

The tech inspection process is very stringent, yet very simple. The Southern California Timing Association (SCTA) prides itself on having the toughest safety rules and regulations of all forms of motorsports, in part due to the speeds some cars can achieve but mostly due to the time required for emergency responders to reach a racer who is in trouble. The safety rules are many times an overkill but have saved countless lives due to the heavy abundance of caution to protect the racer. Items like your driving suit, helmet, fire extinguishers, and seat belts have black-and-white "no exceptions" requirements while other items on the car like aerodynamic devices, tires, brakes and/or parachute must only meet the minimum outlines of the rulebook. Fortunately, the Camaro had been competing for many years and the inspectors were familiar with the car, which made inspection a breeze. "Any changes?" the inspector asked as we finally pushed up into the front of the line after an almost 2 hour wait. "No, no changes, same as last race" I replied as the inspector started down his checklist. The car passed inspection with flying colors but we weren't quite clear just yet.

As a new "rookie" driver, there are additional requirements you must meet before you are allowed to be an official entry in the race. First, you must complete the "bail out test". The inspector will ask you to put on all of your safety gear, buckle into the car, and demonstrate that you know where all the controls are, where your parachute release is, that you can reach the fire extinguishers, then they will close the door and time

CONTINUED ON PAGE 8

you to see how long it takes you to get out of the car in the event of an emergency. There is no “passing grade”, but all drivers are encouraged to egress from the car as quickly as possible. Eric strapped me in the seat, put the window net up, closed the door, and the inspector waited a few seconds and then yelled FIRE! Fortunately, I had practiced this in the off season, and had the window net down, seat belts undone, door open, and got out of the car in under 10 seconds. I got a “good job” acknowledgement from the inspector, a certification signature on my entry form, and I was off to the next requirement, Rookie Orientation. All new racers meet at the starting line the evening before the race with the Sergeant of Arms of the SCTA. You learn about starting line procedures, go for a drive down the racecourse, what to do if there is an emergency during your run, all the way down to the timing trap and shut down area. If your run is normal, you turn off to the left. If you have an emergency or if anything happens which requires ambulance, paramedic, fire, or safety officials’ response, turn off to the right. It was exhilarating driving down the racecourse that I would be racing on in less than 24 hours. We finished Rookie Orientation, and I was presented with a large sticker with the letter R to place on my helmet to signify that I was a rookie.



The pride and accomplishment I felt formed a bond between this machine and myself.

The sun was low in the sky, but we had just enough daylight left to do something that I had been wanting to do, take pictures of the race car. Eric and I pushed the Camaro off to a corner of the lakebed, I put on my drivers suit, and we took pictures of the car. I wanted to have the moment captured as a remembrance of a dream about to come true. Eric had no photography skills whatsoever, and in 1999 we didn’t have digital cameras that showed you the picture you just snapped, so I was a bit nervous if any of the shots would come out. Fortunately, Eric turned out to have great photographic talent with a 35 millimeter SLR camera (as I learned when the roll of film was developed) and the pictures looked amazing. The Camaro’s paint had gloss, the polished aluminum reflected the natural light, and the sun low in the western sky made the colors rich and the shadows long. I will forever

remember that moment in time thanks to his talent.

The nights at El Mirage are spectacular. Pitch black darkness, no ambient light, and when the sky is clear the greatest view of the stars that you can imagine. I slept in the truck, well, tried to sleep anyway. It seemed like morning would never come. Complete and total darkness makes any hint of light on the horizon VERY noticeable. As soon as the sky in the east started to lighten, I was out of the truck and on my feet. Charlie and Mike arrived within 30 minutes after I got up, perfect timing. Eric on the other hand, had met some other racers the night before who had a campfire going, and stayed up a little too late, and was slower to get going than my adrenaline-rushed body. But we had work to do so he bounced back like a champ.

The plan for race day was simple. Charlie would drive the car in the morning to take advantage of the cooler air, better course conditions, and to earn as many points as we could. I would drive in the second round, since rookies are limited to a certain speed maximum and have to earn licenses in order to go faster. Charlie warmed up the engine while Mike packed the parachute, and I torqued the wheels and checked tire pressure. With everything set, we pushed the Camaro to the staging area where we took our place in line, then walked to the starting line where the pre-race drivers meeting was just getting underway. The drivers meeting is where the SCTA President addresses the racers with a final reminder of what to do/not to do, and gives last minute updates on the conditions (wind, dust/visibility, track condition, etc.) With the formalities out of the way, racers returned to their vehicles and roughly 10 minutes later the first car was underway.



Mike (wearing the hat) and Charlie (no hat) helping me put on my racing gear and get settled into the driver's seat.

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How the ACDC HEV-PHEV-EV-FCEV Book Was Created

I grew up in Ogden, Utah and moved to Worcester, Massachusetts at age 12. That was 60 years ago. I know I look young and do not act my age. My Father and my Grandfather were mechanics, so I have the right DNA. Typical education at public schools. College in my 30's. Independent and dealership mechanic, from 16 to 26. Full time, part time and no time. I drove a VW bus, rode a motorcycle and worked hard at my jobs, both auto and motorcycles. Now I drive a Tesla and a Zero sport bike, both pure EV. I started my first company 45 years ago. I still go to work every day. I am by most definitions a "Self-made man". It is my life story that created my path in life, that I will share someday on my website blog. Now, about that book and those that assisted.

I read a print article in Automotive News in the summer of 1999 about a hybrid from Honda that was going on sale in the USA in December. On October 15, 1999 I drove to the local Honda dealership in Worcester, Massachusetts and told the saleswoman that I wanted to order a Honda Insight. She replied, "What is a Honda Insight?" I explained it was a hybrid car. She asked again "What is a hybrid car?" I pulled out my wallet and answered, "Will you take my money?" That started my exploration into hybrids.



Early 2001, ten hybrids, mostly Insights leaving VBG, for a tour led by Deb Van Batenburg.

Before that day, I started and owned two companies, a repair shop called "Van Batenburg's Garage"- VBG (1977- 2004) and the "Automotive Career Development Center" – ACDC, a "Massachusetts Certified Emissions" (1999-2008) training center for technicians. VBG specialized in Honda (85% of our work) and other Asian brands. In the early days we also worked on Honda motorcycles as I was a Honda rider and still am today.

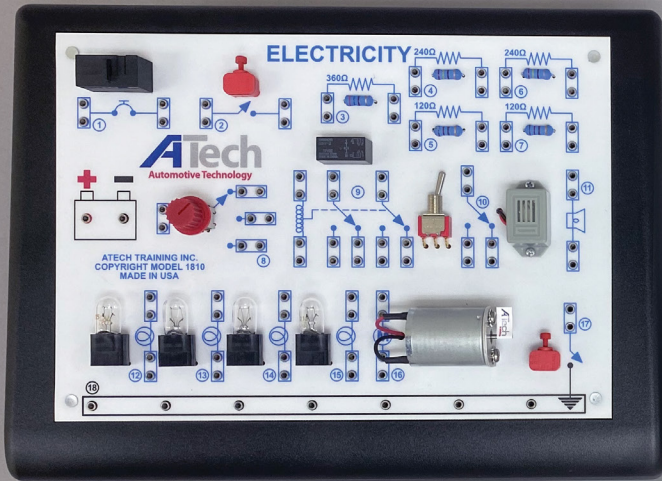
In 2000 I took delivery of the Insight and proceeded, with Doug Kort (a VBG tech), to take it apart, scan and scope it, and learn what we could. ACDC held our first hybrid class in the spring of 2000, a class about the single hybrid sold in America at that time. It was the start of my third career, devoted to hybrid and then electric cars. Later on, the Automotive Career

Development Center (ACDC) was transformed from a "Massachusetts Certified Emissions" training center to exclusively hybrid and EV training.

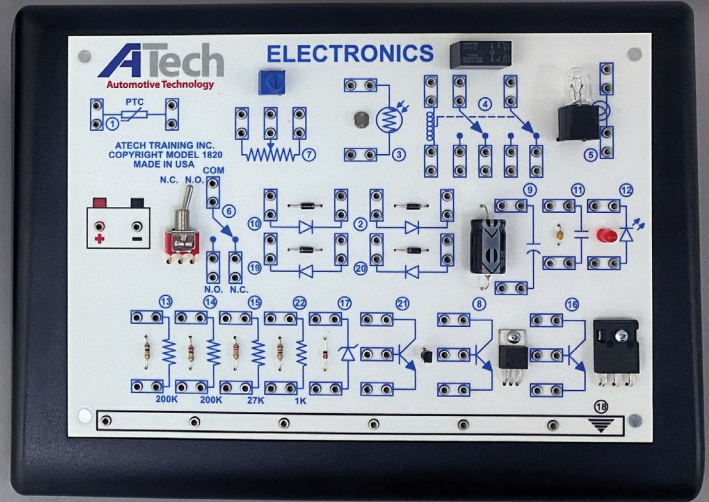
In the mid-2000s automotive teachers heard about ACDC and we started to offer classes and training materials to high schools and colleges. Soon, teachers from all over the globe were asking for help. Hybrids were a new type of driveline back then. Those automotive schools that offered hybrid technology classes when the Toyota Prius and Insight first hit the market (the Prius was introduced years ahead of the Insight in Japan) discovered later that moving into electric drive was a small bridge to cross. Some countries, like Bermuda, skipped right past hybrids and went directly to EVs. That was a big change.

As a motorcycle rider, ACDC acquired a Vectrix VX-2 electric scooter that we ride in the city, then ACDC bought a very fast Zero SR/F this year. It is pure electric. We redesigned an old EV scooter from China and a small boat to include modern Li-ion batteries a few years back. This is the fun part of my job. Keeping up with the latest advancements, new scan tools, regulations and all the new EMVs that are sold worldwide is in itself a full time job. How do we do it? ACDC has had many working technicians partner with us to do research, provide tech support and teach at our most popular hands-on class "Up Your Voltage". Over the last 15 plus years we have had many local technicians (some were shop owners as well) keep ACDC up-to-date. Today, that is Matt, George and Jamie. They work on EMVs daily at three different shops nearby. Without them, ACDC would not be able to keep up. In house, Aiden Neary is our up and coming wizard.

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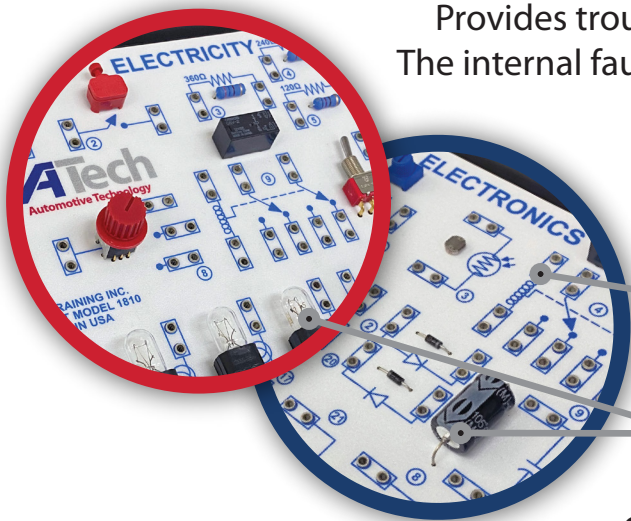


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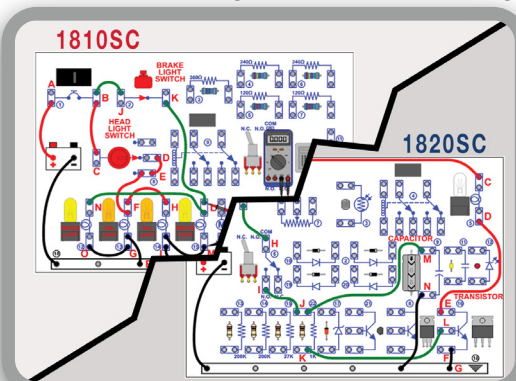


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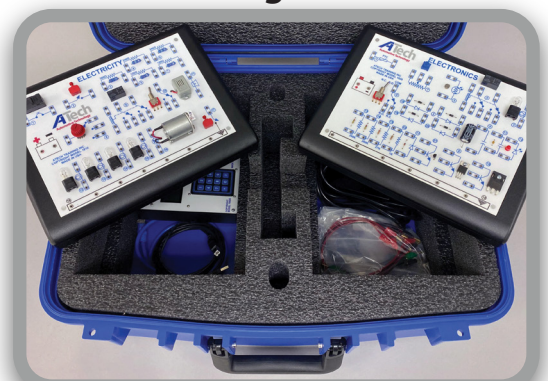
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Storage Case



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Thank you to those who have either joined or renewed
their membership since August 1, 2022.

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Michael Carretta
Rockville, MD

Richard Clark
Ft. Wright, KY

Brett Colston
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Jacob Craiger
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John Davis
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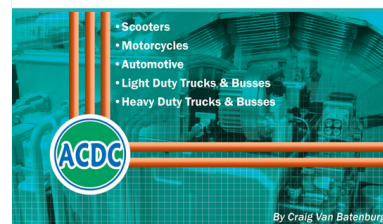
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NACAT RAISES \$2115 TO SUPPORT FUTURE AUTOMOTIVE SCHOLARSHIPS

Thanks to the generosity of the exhibitors and attendees of the 2022 NACAT Conference & Expo, NACAT was able to raise \$2115 to support future automotive scholarships. A special thank you for all who donated raffle prizes and purchased raffle tickets.

A special highlight of the week was the donation of the late Laurie Dwyer's valve cover racer. It drew great attention, as many of her friends wished to be able to pay tribute to her memory.

There could be only one winner of the raffle for Laurie's downhill daredevil. The honor fell to none other than Jim Voth. His ability at the track would become legend, at least for the night. He would not lose a single race. He tamed gravity like a man destined to honor a lost friend. Voth would not be denied. His guidance led Laurie's velocious valve cover racer to become the **2022 NACAT International Valve Cover Races Grand Champion**. The coalescence of the donation, raffle, and valve cover races proved a phenomenal way to remember a friend and put the generosity of her spirit forward through the funds raised.

Jim Voth explains the annual Valve Cover Races [here](#). (Special thanks to ConsuLab for the video.)

Watch the 2022 NACAT International Valve Cover Races [here](#). (Special thanks to Tamber Nellinger for the video.)



Laurie Dwyer
1961 - 2021

THANK YOU, EVERYONE!



Mike helping me get settled into the driver's seat.

The SCTA sets the running order by points. With our final standings from last season, we were 24th in points out of all cars, which gave us the number 24 spot in the lineup for the first race of the next season. It seemed to take forever for the line to move up, but in reality, it was just under 30 minutes and we were 3 cars back from the starting line. Mike and I got Charlie into his safety gear and belted into the driver's seat, gave all the safety systems a final check, and waited. Finally, the Camaro rolled to the starting line, nothing in front of us except 1.3 miles of hard packed silt. The starting line official came over to give his personal check on seat belts, fire extinguishers, and parachute, and with everything in order he gave us the OK to fire it up. Charlie hit the starter and the small block Chevy rumbled to life. We fixed the window net in the up

position, closed the driver's door, and ran back to the truck to give Charlie a strong push off the starting line. Charlie dropped it in gear, hit the gas, and drove away from the push truck with a contrail of dust behind. It didn't take long until we lost all visibility of him, so we waited for the official speed to be announced over the radio. "Car 8-4-4 with a speed of 181.738. 181.738." Amazing. I didn't realize it at the time, but that was the fastest the car had EVER been. Mike and I made the slow drive to the other end of the racecourse to meet Charlie in the turn out area. I knew that MY time was next.

We found Charlie and the Camaro a few hundred yards from the finish line, where he had turned out after his run after pulling the parachute. Mike told me later that Charlie looked like he had seen a ghost, and that he wasn't counting on the car going that fast. In the moment, I really couldn't pay attention to anything except getting the car back to our pit area and getting it ready for my chance to drive. We bundled up the parachute, reinstalled the safety pins in the fire extinguishers, got Charlie out of his driving gear and into a cold beer, and finally we were on the way back to the pits. Eric was already there waiting for us, he had been watching at the starting line as a spectator. We repacked the parachute, topped off the gas tank, adjusted the seat belts (Charlie was a few sizes bigger than me), and ran through my goals one last time. As a rookie, I just needed to make a nice smooth run at any speed between 125 and 149.999 miles per hour. We weren't going to change anything on the engine, it would be my job to modulate the throttle to keep traction, maintain RPM, and keep things pointed in a straight line. Mike did add 200 pounds of lead ballast to the car, and increased the angle on the spoiler to give me more rear downforce to help me get comfortable with the car. In order to run in my needed speed range, I would need to be in 3rd gear at 5500 RPM when going through the timing trap. We determined this using an old Moroso Power-Speed Calculator, which is just a slide rule designed for racers. Find the column with your tire size, then move the slide to change RPM and what speed that would equate to with a 1:1 drive ratio. There wasn't GPS available, and race cars certainly don't have speedometers! 5500 RPM would land me right about 135 miles per hour, a very respectable first run in a land speed race car.

Frustratingly, the one downside of having the #24 lineup position is you have to wait for everyone else behind you to take their run before you can get in line to run again. It seemed like an eternity, waiting for the other 120-130 cars and motorcycles to go through the line, one by one, some running much faster than others. Finally, just before lunchtime, the announcer on the radio squawked "Second Round! Vehicles 1-25 report to the staging area" and we dropped what we were doing (which wasn't much) and pushed the Camaro back to the staging area where the lineup was again forming. Slowly, inch by inch, the cars moved forward one by one. I'm not sure if it was a test of my psychological well-being, but Mike and Charlie decided to have me get suited up and sitting in the car several positions before I needed to. The anticipation was killing me as I sat in the driver's seat with my suit and helmet on, my only view being out of the windshield ahead of me as we crept closer towards the starting line. Once we were 3 cars back from the front of the line, one of the assistant starters came over to the car, and seeing my large "R" rookie sticker on my helmet, leaned in to the cockpit and gave me a small pep talk. "You can do this. Remember everything that was discussed in rookie orientation. Turn out to the right if anything goes wrong. The course is holding up

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We were fortunate to work closely with Honda R&D, Honda Manufacturing, John Deere R&D, Delphi, BMW, Porsche and many other well-known companies as they ventured into hybrids and EV over the years. In the mid 2000's I wrote my first hybrid vehicle specific book. It was easy as ACDC owned all the HEVs we wrote about; Honda Insight and Civic HEV, Toyota Prius I and II and the Ford Escape HEV. It was updated yearly until 2013, then in 2014 I wrote my second book, the ASE L3 study book with 2 one-hour training webinars. A few years later that test included EVs, so we added a supplement and more web based training. Both books sold well. My dream book was still waiting for my time to free up.

As a business owner, I have the pleasure a working with a great staff. For years, most of ACDC faces were/ are young. Worcester has eight colleges, so we seek out and hire college students. We provided them with a company car and an apartment, if they need one, at no cost. We have lunch together every day and they make their own hours. Starting pay is over 2 times the federal minimum wage. Paid vacations and holidays for part time staff. It is up close and personal here. After they graduate, we have other college students waiting for that job. It keeps me aware of the changing culture. This is all by design.

In early 2020 ACDC stopped traveling. The transportation industry kept up their R&D. We were told repair shops were "essential" businesses (we knew that all along). The heavy duty (HD) industry moved into EV trucks. During Covid-19, we had to close the training center for about 18 months. Good timing for us. We all got vaccinated and boosted and stayed busy. Finishing our 450 page book was the result. It was truly a team effort, with our star, Kena Dudac, taking the lead in layout and design. Aiden took scope captures, scan data, did all the graphic designs and worked closely with other ACDC employees. I started working on each chapter, in order, at 6am seven days a week.



Summer of 2022 Craig smiles as he now has his electric Zero Motorcycle that he loves much more than his Tesla.

Our new book was done entirely in-house with the printing in Tennessee. It was a labor of love with an unlimited budget. Our estimate was \$150,000 to produce just the book. We still have support work to complete. This book was not written by just myself, but a large group that included ACDC staff, interns technicians, students, engineers, other teachers and a host of people I have known, or came to know, because we all shared a common goal. Keep driving

wheeled vehicles but not at the expense of the planet we all inhabit. ACDC produced all our own pictures, charts, graphs, scan data, scope captures, and more. A word of warning, don't plan on doing much else and have an understanding spouse, if you decide to do the same. A free desk copy is yours. Send me an Email to Craig@fixhybrid and request one.

JORGE MENCHU AND DR. MARK QUARTO GIVE NACAT KEYNOTE ADDRESSES



Dr. Mark Quarto:
*"Today's Electrified
Vehicle Market."*

Jorge Menchu of AESWave and **Dr. Mark Quarto** of Quarto Technical Services / EVPRO+ provided rousing and informative keynote addresses during the 2022 NACAT Conference & Expo in Covington, Kentucky.

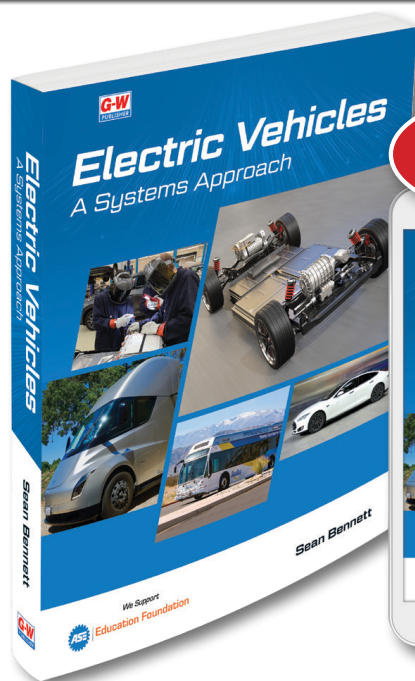


Jorge Menchu:
*"Engaging the Power of
Automotive Learning"*

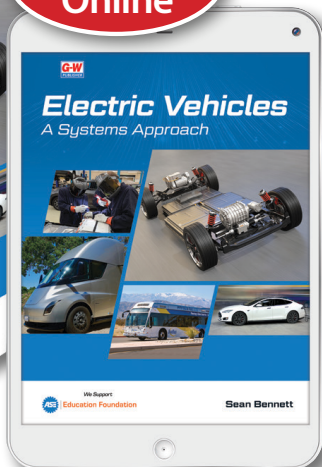
THANK YOU Jorge Menchu & Dr. Mark Quarto!

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Family Activities

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JASON BRONSTHER NAMED 2022 NACAT MVP

[Jason Bronsther](#) was named the 2022 NACAT MVP at the recently concluded NACAT Conference & Expo in Covington, Kentucky.

Bronsther has a long history of excellence within NACAT. Not only had he served on the NACAT Board of Directors from 2018 through 2022, he was also awarded the 2013 Cengage Jack Erjavec Innovative Instructor Scholarship for his integration of iPads in the classroom and shop environments. Bronsther strives for excellence.



*The Jason Bronsther family
celebrating his 2022
NACAT MVP award.*

“NACAT is truly thankful for members like Jason Bronsther,” said Tom Millard, NACAT President. “The MVP Award recognizes an individual NACAT member who has gone above and beyond for NACAT and the automotive industry. Not only was Jason a reliable and valuable participant in almost every board and committee phone or video call, he also provided, and continues to provide, valuable feedback which aids the organization's evolution and capacity to provide for the wants and needs of automotive educators. He challenges thoughts and ideas so that they might reach their full potential. He has donated his time and resources to help promote both NACAT and the annual conference.”

**2022 NACAT MVP,
Jason Bronsther**



NACAT would like to once again thank Jason Bronsther for his dedicated service and acts of inspiration.

Congratulations, Jason!

NACAT AND ACDELCO NAME ELISAA MCADAMS LARRY COTTEN MEMORIAL SCHOLARSHIP RECIPIENT



**Larry Cotten Memorial Scholarship
Recipient, Elisaa McAdams**

Elisaa McAdams was named the 2022 Larry Cotten Memorial Scholarship recipient during the NACAT Conference & Expo which was held August 7-11 in Covington, Kentucky. The \$1000 scholarship is sponsored by ACDELCO and is given in memory of Larry Cotten, a NACAT Charter member and former president. Cotten's wife and family established the memorial scholarship following his death in an accident in 2005 to help pass his passion into the next generation of collision repair technicians.

Elisaa is a 2022 graduate from New Horizons Education Center in Newport News, Virginia. She has been attending Lincoln Tech in Nashville, Tennessee as a collision repair student since the end of June.

“NACAT congratulates Elisaa as she embarks on her automotive career,” said Tom Millard, NACAT President. “We also would like to thank and congratulate the University of the Aftermarket Scholarship program for the automotive scholarship website, www.automotivescholarships.com, which helped facilitate the awarding 461 scholarships totaling \$731,350 for the upcoming school year. The platform makes it easy and enjoyable to rate and review applicants with information that is up to date and valuable. We are proud to be a part of helping students, like Alisaa, achieve their goals and dreams.”

Elisaa graciously provided a thank you video which can be viewed by clicking [here](#) or on her photograph. The following is an excerpt from her video:

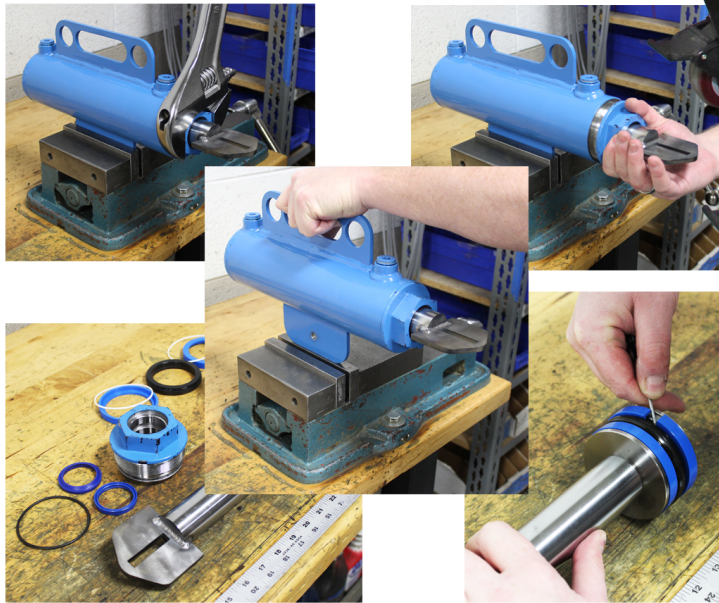
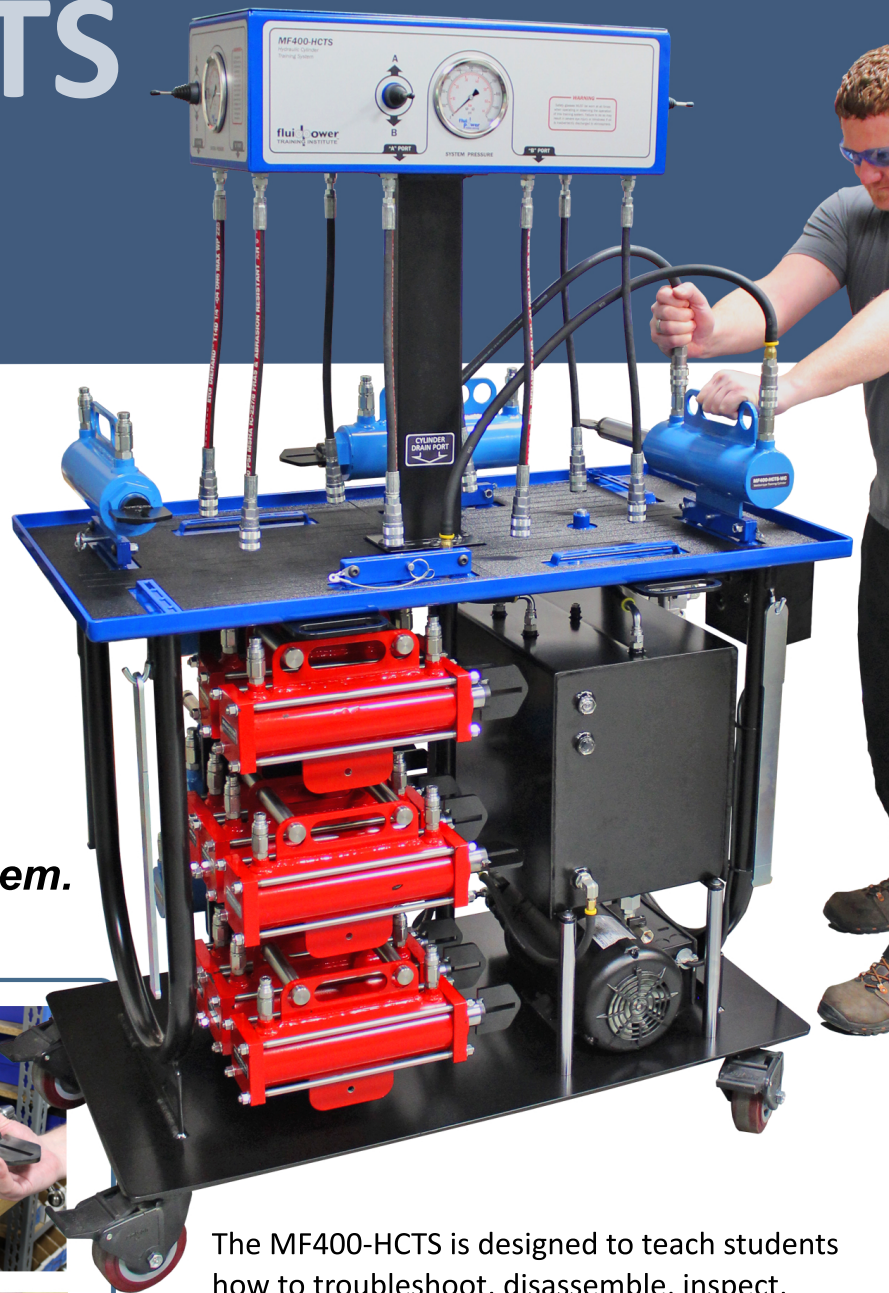
I am proud to carry on the legacy of Mr. Larry Cotten, and, as I am recording this video I have completed my first day at Lincoln Tech Nashville, also known as Nashville Auto-Diesel College. I am really looking forward to all these opportunities which have been given to me while I am in school and all the opportunities I will earn while in school. I cannot wait for the next few months or years, really, in this industry. I am so overwhelmed at the moment that I cannot put words together on how grateful I am for this.

Congratulations, Elisaa!

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PETE MEIER & MOTOR AGE MAGAZINE PRESENT 2022 NACAT CONFERENCE & EXPO INTERVIEWS

Pete Meier, from 2022 NACAT Conference Media Sponsor [Motor Age Magazine](#), provided numerous interviews during the 2022 NACAT Conference & Expo. While they are all available on the [Motor Age Magazine Facebook page](#) and shared to the NACAT Facebook page, you'll find each thumbnail linked below. Clicking on the thumbnail will open the video on the Motor Age Magazine Facebook page. If you have not yet "liked" the [NACAT Facebook page](#), please be certain to do so. The social media team is consistently adding content you don't want to miss!



**Carl Borsani of
Automotive Student Testing**



**Cardell Webster of
DYVO**



**Dr. Mark Quarto of
Quarto Technical Services / EVPRO+**



**Alice Willenbrink of
Cengage**



**Chad Schnitz of
Topdon**



**Chris Reynolds of
AESWave**



**Ethan Shipp of
ATech Training**



**Mike Alberry of
Mitchell 1**



**Lucas Ross of
Rousseau Metal**



**Jimmy Dinsmore of
ConsuLab**



**Heather Sebben of
NACAT**

Fall will be one of the most exciting times in ConsuLab's 50-year history.

We are moving into a new building (doubling our current facility), launching a new [website](#), and watch for our new brand and corporate image (coming soon)!



New Building



New Website



New Brand



MITCHELL 1 NAMES DAVID PATIENCE 2022 EDUCATOR OF THE YEAR



***Mitchell 1 Educator of the Year,
David Patience***

Mitchell 1 announced that David Patience, an automotive technology instructor at Metropolitan Community College – Longview in Kansas City, Missouri, has been named the 2022 Mitchell 1 Educator of the Year. Each year, Mitchell 1 recognizes one of the nation's top teachers for their commitment to educational excellence in the automotive repair industry.

“David was selected for this honor for going above and beyond to prepare students for a professional career in the auto repair industry. As an outstanding teacher and master automotive technician, he has inspired creativity and enthusiasm in the classroom and impacted the lives of countless individuals,” said Nick DiVerde,

senior marketing director, Mitchell 1. “We’re pleased to recognize David for his dedication to his craft – within the classroom and industry – and we extend our sincerest congratulations to him.”

As the 2022 recipient, Mitchell 1 says Patience received a one-year complimentary subscription to Mitchell 1's ProDemand diagnostic, estimating and [auto repair information software](#) for his school, a one-year membership in the North American Council of Automotive Teachers (NACAT), a check for \$500, and an expense-paid trip for Patience and a guest to attend the NACAT conference and awards banquet.

Patience's automotive career spans 37 years, including 19 years spent at Metropolitan Community College, where he also serves as the Ford ASSET coordinator. Among his achievements, he earned the highest score on the recent National Institute for Automotive Service Excellence (ASE) certification tests for U.S. and Canadian educators. In fact, he scored perfect grades on six of the nine tests, Mitchell 1 says.

Patience holds a bachelor's degree in applied science from Siena Heights University in Adrian, Michigan. He is an ASE Certified Master Technician and a Ford Senior Master Technician.



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HYBRID & ELECTRIC VEHICLE CORNER

CURT WARD

PROFESSOR AT JOLIET JUNIOR COLLEGE

The Electrification of the Automotive Classroom

Following my presentation at the recently completed NACAT conference in Northern Kentucky, I received several emails and phone calls asking how to get started on the task of adding hybrid and electric vehicles to the curriculum. I am more than happy to share my experiences, good and not so good, as we move towards a different look in the classroom. In this article, I will highlight some of the topics that were covered in the presentation and offer some suggestions for moving towards an electrified classroom.

The most common comments I hear are: "Where do I start?" and "We don't have any budget!" The answer to both is the same; begin with high-voltage safety and additional basic electrical in the areas of magnetism and AC voltage. It does not matter if the program is secondary or post-secondary, these two subjects are very important and key to the success of the students. There are several good programs available on high-voltage safety. At a minimum, high-voltage gloves and safely depowering the high-voltage system should be covered. Increasing the students understanding of AC voltage will increase their success when topics such as drive motors, inverters and converters are covered.

One of the first items many will struggle with is determining what vehicles to use in class. Your goal should be to find student friendly vehicles. Simply put, that means finding vehicles that you can easily teach the concepts with. In many cases, an older model will work better than something just released. For example, I have a first generation 2011 Nissan Leaf that is used for many of the electric vehicle tasks. The high-voltage components are separated, and the test points are relatively easy to access. I would suggest that the program try and obtain a full hybrid, a mild hybrid, and a fully electric vehicle as the core of their training fleet. **Figure 1** shows the core of our training fleet.



Figure 1: Training Fleet

The next task is accumulating the needed components for lab work and classroom demonstrations. Items such as transmissions, inverters, and high-voltage batteries can be difficult to locate. Some of the sources I use include the local Toyota dealer, the local Ford dealer, and an independent repair facility that specializes in hybrid and electric vehicle repairs. I also have an area auto parts recycler (salvage yard) who contacts me when they get damaged parts. The process is slow and requires some legwork on my part, but we have managed to acquire a great selection of components for demonstrations and lab work. The photo is a transmission that I received from the salvage yard (**Figure 2** on the facing page).

The case was cracked in a front-end collision and as a result it was saleable.

The second area of questions I receive is related to designing the curriculum. How did I decide what needed to be covered? I started by looking at the task list for the ASE L3 exam. The tasks for that exam create a great core for a class. I modified certain tasks to better include the fully electric vehicles. I also reviewed the ASE Education Foundation's Master program task list. I made sure to take any task that required the

CONTINUED ON PAGE 21

student to have “knowledge of” and incorporated it into a hands-on task. In many cases this was a task already on the ASE L3 exam task list. Additionally, I had great conversations with the dealerships and independent repair facilities that specialize in hybrid and electric vehicles on this subject. In addition to telling me about the repairs they were making, they also shared what they expected of a new employee coming to work in this area.

Lastly, I make the following suggestion: get enrolled in one of the great hybrid and electric vehicle hands-on training opportunities. There is simply no way you are going to be prepared to work with students on this subject after just watching webinars, completing online class work, and attending in-person classroom presentations. Most of us have been working on legacy automobiles for years and are quite comfortable exploring what is new with the students. The hybrid and electric vehicles are enough different, and there are enough safety concerns that you do not want to experience many subjects for the first time with your students.



Figure 2: Prius Transmission

I will finish this article with the same offer I make after each of my presentations. If you are interested in getting started and want more information, please feel free to [reach out](#). I am more than willing to sit down in-person or online and share my experiences. Are you looking for a classroom textbook? [Reach out to Pearson](#) and ask for a review copy of the all-new ***Electric and Hybrid Electric Vehicle*** text that Jim Halderman and I co-authored. It is a comprehensive text covering all the latest information on the subject.

NACAT'S NEW BUSINESS MANAGER SUCCESSFULLY LEADS HER FIRST NACAT CONFERENCE



Sheri Hamilton (L),
NACAT President Tom Millard,
& Heather Sebben (R)

NACAT's new Business Manager, Heather Sebben, and advisor Sheri Hamilton, both of ***H+A Events***, successfully led their first NACAT Conference & Expo.

The reviews from exhibitors, presenters, and attendees have been outstanding.

Erin Brennan, Senior Acquisitions Editor for Goodheart - Wilcox Publisher:
"Exceeded my expectations! Great job! What a comeback!"

Robert Gunn, West Kentucky Community and Technical College:
"Great experience! I was able to talk to other instructors and get their perspectives on teaching."

Nolan Miyahara, Leeward Community College:
"Great first time experience!"

After having the in-person conference on hiatus for two years due to Covid-19, they've set the new bar high! Of course, if you've ever been to [VISION Hi-Tech Training & Expo](#) you will know the standards and workrate they are putting into their stewardship of NACAT. They were only on-board for the last eight of the thirty-seven Covid enforced months the team had to plan of the 2022 Conference & Expo, so you can imagine what might lie ahead for the [2023 Conference & Expo](#) at [San Jacinto College](#) in Houston, Texas! The organization is in great hands with Sheri and Heather working with the dedicated NACAT officers and board of directors.

Watch a video, graciously shared by [Motor Age Magazine](#), where Heather Sebben sits down with Pete Meier to discuss the future of NACAT by clicking [here](#).

THANK YOU, Sheri and Heather!

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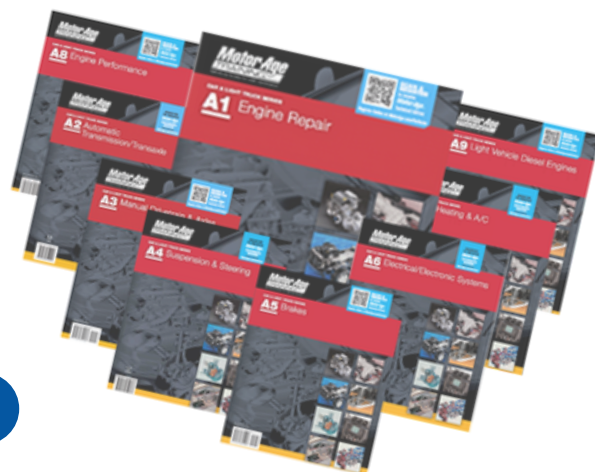
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MITCHELL 1 NAMES DANIEL ZIELINSKI 2022 AUTOMOTIVE TECHNOLOGY OUTSTANDING STUDENT



**Mitchell 1 Automotive Technology
Outstanding Student, Daniel Zielinski**

Daniel Zielinski, from Addison, Illinois, has been named **2022 Mitchell 1 Automotive Technology Outstanding Student**. Each year, Mitchell 1 recognizes one U.S. or Canadian student for outstanding achievement in automotive technology and auto shop repair scholastics. Zielinski will receive a \$2,500 scholarship for his accomplishments. The scholarship is administered through the University of the Aftermarket Foundation.

“Mitchell 1 is proud to recognize Daniel Zielinski for his outstanding achievements and dedication to pursuing a career as a professional service technician,” said Nick DiVerde, senior marketing director, Mitchell 1. “We know he will achieve his goals and have a very successful career in the auto care industry.”

As a recent high school graduate, Zielinski will attend the College of DuPage in Glen Ellyn, Illinois, in the fall of 2022 where he is enrolled in the automotive service technology program. After completing his studies, he plans to work as an automotive service technician with the hope of owning an auto repair shop in the future.

During high school, Zielinski qualified for SkillsUSA in 2021 and 2022, and also won second place in the Top Tech competition at Universal Technical Institute (UTI). In addition, he earned several ASE Certifications, including suspension and steering, manual drivetrain and axles, maintenance and light repair, heating and air conditioning, engine repair, engine performance, electrical/electronic systems, brakes, automobile service technology, and automatic transmission and transaxle.

To be eligible for the Mitchell 1 Automotive Technology Outstanding Student scholarship, applicants must be a current student majoring in automotive technology/auto shop repair course work and meet the following criteria: be nominated by his/her NACAT instructor, maintain a minimum overall 3.0 GPA, have plans to attend (or already be enrolled in) an accredited college or university and be a U.S. or Canadian citizen.

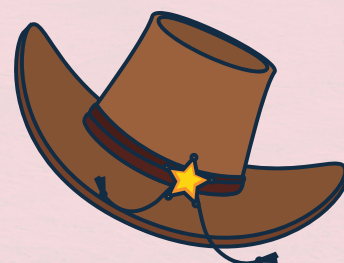
Congratulations, Daniel!

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— OF AUTOMOTIVE TEACHERS —

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HORIZON EDUCATIONAL: 2022-2023 H2GP SEASON BEGINS

With the arrival of September 1st Horizon Educational is pleased to announce that the [2022-2023 H2GP season](#) has officially kicked off!

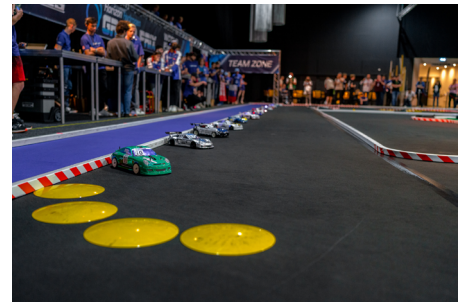


The H2GP program is the only school year-long initiative that teaches high school students about renewable energy, and it pairs that in-classroom learning with the world's only FCEV endurance racing series. As a result of that combination, students also gain effective skillsets like critical thinking and team work. After participating in the program for 2-4 years, students are workforce-ready for careers with BEV and FCEV manufacturers and other advanced career pathways.

Toyota Motor U.S.A. has also renewed its commitment to the H2GP initiative in California. Consequently, 67 teams in the state will be supported by Toyota's dedicated involvement in the program. Its sponsorship of the H2GP program remains essential to the continued success of the H2GP in California, and Horizon Educational unequivocally appreciates Toyota's sponsorship.

The H2GP program continues to expand and this year we are happy to announce that teams in Australia and Maine in the United States will participate in it. More information on the teams in Australia and Maine will be released in the coming weeks.

The 2022-2023 H2GP season is already shaping up to be the most exciting one so far, and Horizon Educational thanks its partners and all of the H2GP sponsors for their continued support. It is only by working together that successful workforce development can happen on a global scale, especially in new areas like BEVs and FCEVs.



If you have not signed up to participate in this new season it is not too late! Please click [here](#) to make your mark.

JAMES CURRY RECEIVES FRIEND OF NACAT AWARD



*2022 Friend of NACAT,
James Curry*

James Curry of JasCor LLC in Summerville, South Carolina was named the 2022 Friend of NACAT by President Tom Millard at the 2022 NACAT Conference & Expo in Covington, Kentucky.

"The Friend of NACAT award for 2022 goes to someone who has been a supporter of NACAT for just over fifteen years," declared NACAT President Tom Millard. "He has been appointed to many roles within the organization through which he has advocated for NACAT and the automotive educator. He has served as the NACAT News editor since 2011, producing 35 issues to date. He continues to assist NACAT through gathering automotive industry content, soliciting and confirming advertisers, and developing ideas on how to best support automotive educators through the NACAT News publication. I am pleased to recognize James Curry as 2022 recipient of the Friend of NACAT Award."

Curry remotely accepted while providing a thank you video which can be viewed [here](#). He expressed his surprise and gratitude at being recognized while taking time to emphasize how NACAT is an organization which he believes follows an unofficial policy of "You'll Never Walk Alone", as educators can always seek and discover assistance from other educators within the organization's framework.

The Friend of NACAT has been previously awarded to the late Fred Hines and ATech Training (2007), Cengage (2008), Mitchell 1 (2009), Snap-On (2010), MACS (2011), Gates (2012), ConsuLab (2013), CDX (2014), ACDC Hybrid/EV Training (2015), the late Bob Chabot (2018), and Southern Alberta Institute of Technology (2019).

Congratulations, James!

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good, you should have a good run. Remember to pull the parachute and be easy on the brakes when you're slowing down. Have fun!"

Before I realized it, I was next. The entire racecourse was visible in front of me. The chief starter came in to do his safety checks, and about sawed me in half when he pulled on the seat belts to ensure they were tight. The thumbs up was given, and it was time to go. I hit the switches for the fuel pump, then ignition, then the starter, and the Camaro was alive under my feet. I could sense a scurry of activity outside the car as Mike put the window net up and closed the door. Then a moment of stillness, with just the vibrations of the engine and me gripping the steering wheel. All of a sudden, a firm bump hit the car from the rear, with Charlie behind the wheel of the push truck shoving me out onto the course. I grabbed the T handle of the shifter and pulled the transmission into first gear, and eased down on the gas pedal. I was now out under my own power, driving away. I watched the needles on the gauges, water temperature, oil pressure, and RPM. The engine pulled smoothly, and when I hit 5500 RPM I shifted to second. I could begin to sense the sensation of speed as I approached the top of second gear, again shifting at 5500 RPM. The cones marking the course began to go by faster and faster. I was careful with the throttle, maintaining acceleration while not stepping out of my limits. I could see the red banners labeled "END" approaching out the windshield. A glance at the tachometer and the needle was exactly at 5500, right where we had planned. I took one hand and began moving it to the parachute release handle, and as soon as I entered the space between the red END signs, I gave it a hard pull. When the parachute blossomed, I felt like I slid forward 4 inches in my once-tight seat belts and the back of the car felt like it lifted up a foot. The sensation was unbelievable. I remembered to shift into neutral and shut the engine off once I was over the shock of the parachute, and remembered also to be easy on the brakes and let the parachute do most of the slowing for me. Once I felt like I had slowed enough, I made a wide arc to the left to turn out, signaling that there were no problems. I coasted to a stop in the shut off area, reached up and unfastened the window net, opened the door, unbuckled my belts and got out. It was just me and the Camaro, 1.3 miles away from Mike and Charlie. The smile on my face told the whole story, I was overcome with excitement and joy. Finally the push truck caught up to me, and I was greeted by Mike, Charlie, and Eric (who they stopped to get before coming to get me) all with smiles when they saw me and how happy I was. "How did it feel?" "How fast do you think you went?" I told them that I was at exactly 5500 RPM like we planned so probably really close to 135. Charlie said "Not bad! You were 134.503, I don't think you could be any closer! Good job!"

We all worked together to get the car back to the pit and loaded up on the trailer. I walked back to the starting line to visit the timing stand, where they can give you a timing slip with your speed on it. I needed this slip to show the registration trailer so they could grant me my first official competition license. I felt like I was smiling the rest of the day, the following week, and the rest of the month of May. I couldn't wait to come back again in June and go even faster.



*The view from the front of the line is something very special, almost like standing on the edge of reality.
The view from your windshield contains nothing but your future.*

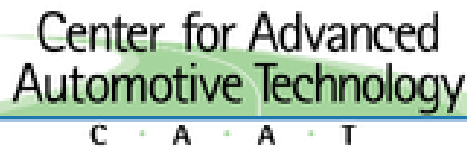
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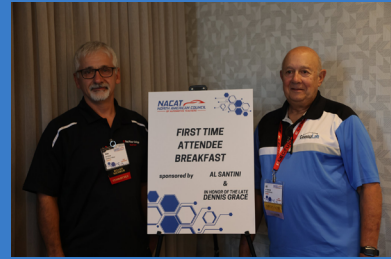
NEW NACAT CONFERENCE DELEGATES ATTEND FIRST-TIME ATTENDEE BREAKFAST



**First-Time Attendee
Breakfast Participants**

A staple event at every NACAT Conference & Expo is the orientation of new attendees through a sponsored "First-Time Attendee Breakfast" where NACAT officers, board members, and long-time members can help those who are just experiencing the conference make instant connections. Dialog often centers on what it means to be an automotive teacher, the composition of NACAT, and what to expect at the conference.

This year's breakfast was sponsored by Al Santini and in honor of the late Dennis Grace (NACAT Charter Member who passed in 2016). It was hosted by Al Santini and Jim Voth.



**First-Time Attendee Breakfast
Sponsor Al Santini (R)
and Co-Host Jim Voth.**

We would like to thank all the first-time attendees for coming to the 2022 NACAT Conference & Expo. We hope to see each of them as second-time attendees in 2023 at which time they'll be able to help the next group of first-time attendees.

THANK YOU to ALL who participated!!

*It is good to have an end to journey toward;
but it is the journey that matters, in the end.*

ERNEST HEMINGWAY

ATECH TRAINING RECEIVES NACAT AWARD OF APPRECIATION

ATech Training was recognized with the NACAT Award of Appreciation during the 2022 NACAT Conference & Expo in Covington, Kentucky.

"The Award of Appreciation is to give recognition to a company or individual who has gone above and beyond for NACAT and the automotive industry," said NACAT President Tom Millard. "ATech Training has been a huge supporter of NACAT since I can remember. They have helped countless hours with their time and resources to make the 2022 NACAT Conference a success. I am pleased to present this year's Award of Appreciation to ATech Training!"

ATech Training was founded in 1984 with a desire to develop products that aid instructors in presenting a hands-on approach to teaching and learning the skills of diagnosing and repairing vehicles. With this vision, ATech has become a world leader in the design and development of world class "Trainers" and courseware for the Automotive OEM, Secondary Education, Community College, Military, and Technical Schools.

Congratulations to everyone at ATech Training!



**Laura Lyons (R),
President ATech
Training, receives
NACAT Award of
Appreciation from
NACAT President
Tom Millard.**



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For Automotive Teachers...

...By Automotive Teachers

North American Council of Automotive Teachers (NACAT) members were recognized for their outstanding dedication to automotive education during the annual NACAT Conference opening meeting. Secretary / Treasurer Jim Voth (left most in each photo wearing the gray NACAT polo shirt) presented members with pins. One Charter Member, Fritz Peacock, was present.



5 Year Members (L to R):
Drew Barnes and Wade Johnson



15 Year Member:
Tom Millard



20 Year Members (L to R):
Jim Voth, Russ Ferguson, Keith Santini, and Craig Van Beatenburg



25 Year Member:
Mark Mitchell



30 Year Member:
Steve Tucker



Charter Member:
Fritz Peacock

JASON BRONSTHER AND JIM VOTH RECEIVE NACAT SERVICE AWARDS



NACAT President Tom Millard (L)
honors Jim Voth for his dedicated
service to NACAT.

North American Council of Automotive Teachers President Tom Millard honored outgoing secretary / treasurer Jim Voth and outgoing Board of Directors member Jason Bronsther with NACAT Service Awards during the 2022 NACAT Conference & Expo.

Red River College (Winnipeg, Manitoba) instructor Jim Voth has a storied history of passionate service to NACAT and automotive education in the United States and Canada. He has been directly involved in the facilitation of multiple NACAT Conferences, has served on the NACAT Board of Directors and as NACAT Board



NACAT President Tom Millard (R)
honors Jason Bronsther for his
dedicated service to NACAT.

Chair, has twice been awarded the NACAT MVP Award (2007 & 2017), and most recently served numerous consecutive terms as NACAT Secretary and Treasurer.

Western Quebec Career Centre (Gatineau, Quebec) educator Jason Bronsther has a distinguished history of service to NACAT and automotive service through the United States and Canada. He is the 2013 winner of the Cengage Jack Erjavec Innovative Instructor Award and the 2022 NACAT MVP Award. He served on the NACAT Board of Directors from 2018 through 2022.

It is due to the dedication of educators such as Jason and Jim that NACAT maintains its status as the only automotive education organization led by automotive teachers for automotive teachers.

Thank You, Jason and Jim!

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