



On-the-job mentors are critical in intern and technician on-boarding. Here, Thompson Machinery trainer/mentor Josh Dabney (left) works with technician Mason Hudson.

ALL HANDS ON DECK

Dealers, OEMs, schools step up incentives, cooperation to fill growing technician gap.

by Marcia Gruver Doyle, Tom Jackson, Don McLoud

Everyone now knows: this is serious. As the technician shortage grows, cooperation among dealers, manufacturers, schools, trade associations and nonprofit groups is kicking into high gear.

“The industry itself won’t survive if we don’t all work together,” says Doug Hammond, department

chair for the Agriculture Engineering Technology Department at State University of New York at Cobleskill. “When I say ‘we,’ I mean the dealership groups, the equipment manufacturers, the educational facilities, and support for the kids coming up through the vocational training.”

The sense of urgency is underlining some longstanding programs, such as Caterpillar’s ThinkBig ef-

fort and the Associated Equipment Distributors (AED) Foundation’s diesel tech accreditation program, which accredited its first diesel technician program at Ferris State University in 2001.

As the shortage grows, the industry is building upon such programs and coming up with new ones. It is also working harder to get the word out to the high schools and even

Taking techs to the next level

With rapid advancements in construction equipment technology, diesel techs not only need a tech school degree or apprenticeship to get started but must remain willing to learn throughout their careers. No organization dedicates more time and effort to the advancement and professionalism of construction diesel technicians and heavy equipment fleet managers than the Association of Equipment Management Professionals.

“The value of AEMP is realized in the education and training we provide on workforce issues through our conferences, online university and committee work,” says association CEO Donte Shannon. “AEMP is committed to a thriving talent pipeline for the current technician workforce, as well as equipment management professionals of tomorrow.”

The association’s Certified Equipment Manager program for fleet managers with more than five years of experience covers such topics as financial management, procurement and acquisitions, parts management, and HR issues.

Tim Morgan, fleet manager for Branch Civil and a recent inductee into the AEMP Hall of Fame, has mentored more than 50 equipment professionals through AEMP programs and pulled wrenches for 20 years before joining the organization and earning his CEM designation.

“You learn about the iron and the dollars – that’s the easy part of the job,” Morgan says about AEMP. “The most important thing you will learn is about the people. You learn what it takes to manage people and surround yourself with people who are better than you, and you’ll learn to lead with a servant’s heart. If you do those things, you’ll have a very long and satisfying career.”

For contractors and shop managers looking to recruit more techs, AEMP recently created the Workforce Development Committee, which has created the *Guide for Hiring Veterans* workbook.

“We are developing roadmaps and a tool bag of resources to help members find experienced technicians coming out of the military,” says Keith Barrett, the committee’s past chairman. The committee is also creating a video on finding qualified technicians, as well as a series of webinars, podcasts and job posting portals.

“While technology is changing most jobs,” says Brett Faucett, current committee chair, “the need for skilled equipment technicians who are willing to learn and adjust to new technologies is going to endure – meaning skilled technicians have a great future.” —Tom Jackson



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younger grades that the profession offers good pay and advancement opportunities. Without further such cooperation, industry and school leaders say, the problem will only get worse.

■ Dealers joining together

In Colorado, construction equipment dealers got so concerned about the shortage they decided to combine forces to tackle the problem.

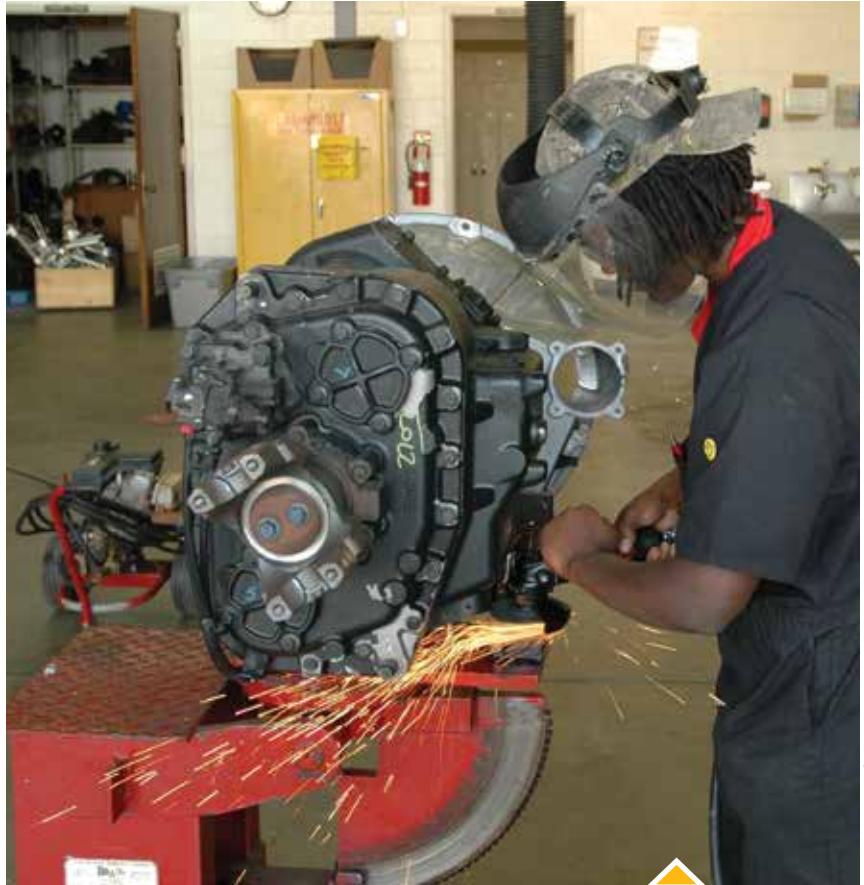
“We had tried a number of resources to find service technicians, and it almost got to the point there was no one left to even interview,” says Giles Poulson, president of Faris Machinery in Commerce City, Colorado.

Then in 2014, Poulson says, local Caterpillar dealer Wagner Equipment invited Faris and other dealers in the state to help grow a diesel power mechanics program at the Community College of Aurora. The one-year college program alternates on an accelerated four-week rotation of classroom instruction and paid internships.

“This gets them out in a year, and then it’s on-the-job training,” Poulson says.

The Colorado dealers now participate in two open houses each year at the college’s diesel tech building to give prospective students and their parents insight into career opportunities for technicians. A panel of dealers also interviews candidates for internships at their dealerships.

“It’s a way for all of the dealers to have all of the same questions answered at the same time,” says Marty Winters, service manager for Faris, which represents GOMACO, Gehl and Wacker Neuson, along with several other lines. “From that we determine which of the candidates we want to interview one on one and make offers to the ones we want. If they have multiple offers, they choose whichever dealership they feel would be a better fit.”



Source: CAT-North



High school students who graduate from the two-year Center of Applied Technology-North Diesel Power Technology program are heavily recruited for entry-level technician jobs.

Source: CAT-North



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“ You have to just dive in and get some stuff going with those guys. We have to engage with them about four to six times in order to get them to commit to our company. ” – Doug Mehner, RoadBuilders corporate service manager

■ Hitting the high schools

RoadBuilders Machinery and Supply has also found success in reaching out to high schools and offering scholarships and internships. The Komatsu dealer based in Kansas City, Kansas, employs about 85 technicians companywide.

“We’re taking the long approach, and we’re going to invest in high school and college kids and grow our own,” says Doug Mehner, RoadBuilders corporate service manager.

“We have the opportunity to mold them into who we want as techs.”

RoadBuilders’ approach involves grassroots work, including 20 to 30 recruiting events at high schools and seven to eight events at colleges each year. The dealer builds relationships with instructors, parents and students.

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order to get them to commit to our company.”

Such an aggressive approach is urged by the AED Foundation, which now has 45 accredited heavy technology programs at 34 colleges and universities in the United States and Canada. This includes Caterpillar’s ThinkBig, Komatsu’s Advanced Career Training and John Deere technician programs. Combined, the AED-accredited programs certified more than 400 technicians last year.

By the end of this year, the foundation plans to have more than 60 accredited programs at more than 50 colleges and for-profit entities, in addition to five high schools.

High schools are now integral to technician recruiting efforts. “We wanted to formalize some of the pipelines going from high schools into the college programs,” says Steve Johnson with the AED Foundation. “A lot of decisions are being made even early in high school about student career decisions. We actually recommend to our dealers they start working with the kids at the middle school level.”

In 2017, the Center of Applied Technology-North (CAT-North) in Anne Arundel County, Maryland, became the first high school diesel technician program to earn the foundation’s Certification of Recognition.

Students travel by bus from their home high schools and spend part of the day in intensive instruction and hands-on learning in CAT-North’s Diesel Power Technology Program. They can take a four-week introduction to the career as early as ninth grade. They can then take Level 1 starting in 10th grade and move on to Level 2 the follow-



High school students in the CAT-North Diesel Power Technology program take a field trip to John Deere construction equipment dealer JESCO.



ing year, giving them two years of instruction and training.

Graduates have the skills for entry-level technician positions, says Lori Chearney, the school's assistant principal.

"The majority of our kids in diesel are very interested in getting out and getting right into the workforce," she says.

■ Preparing tomorrow's techs

Those who seek diesel tech grads should be prepared to wait in line.

"I'm not joking when I say we have four or five jobs for each student," says Craig Kuehl, instructor at Milwaukee Area Technical College.

"People come in and recruit right from the school, and there are way more jobs than I have students."

It used to be that the top students got the best offers, Kuehl says. "But today, honestly, employers don't even ask what their grades are; they need them that bad."

There are a variety of college degree programs for budding technicians. Programs include those that graduate students within a year, while others require at least two years of instruction. Many integrate internships, while others require campus attendance for much of the day. Some programs are sponsored by manufacturers

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Job-ready students

SkillsUSA is the largest organization in the country dedicated to developing students with manual arts abilities. The career and technical student organization serves more than 395,000 high school, college and middle school students and professional members enrolled in training programs in trade, technical and skilled service occupations.

"If you work with your hands or you are in an industry that hires people who work with their hands, we have students who are studying occupations related to your business," says Eric Gearhart, the organization's director for partnerships.

"We are aiming for world-class workers, leaders and responsible citizens. Our graduates are job-ready on day-one."

SkillsUSA boasts a 98 percent graduation rate in the past five years – compared to 82 percent for kids in non-career/technical education.

More than 20,000 instructors teach members in 4,300 school chapters. There are currently 3,932 student members

enrolled in diesel technician training programs.

At the SkillsUSA National Championships, winners of state competitions come to Louisville, Kentucky, for a skills challenge. In the diesel equipment technology competition, contestants cycle through 14 stations where they test and troubleshoot engines, electrical and electronics systems, and powertrain systems, as well as demonstrate a variety of mechanical and general shop skills. They are then evaluated on their job interview skills and take a written test. Winners advance to a global challenge.

During the week of the national championship, students also participate in community service projects, such as building park benches, cleaning and painting, says Gearhart.

"I don't know of anyone who has participated in this and not come away inspired by the students and the corporate citizenship," he says. "Come to Louisville and find out what's right about America's youth." —Tom Jackson



Photo: Janet Cantore-Watson for SkillsUSA

In the diesel equipment technology competition, SkillsUSA students cycle through 14 stations where they're tested on engines, electrical and electronics systems, and powertrains.



Photo: Lloyd Wolf for SkillsUSA

Job interview skills and a written test are also part of the SkillsUSA National Competition for student diesel techs.



Photo: McClung-Logan

A CAT-North student gets a hands-on introduction to a Volvo L110H wheel loader at a middle school summer camp sponsored by Volvo Construction Equipment dealer McClung-Logan Equipment in Baltimore.

and are open only to those selected by dealerships, while others are college-sponsored and open to all students who qualify.

Most of the diesel tech degree programs are designed to prepare graduates for entry-level technician positions with contractors, fleet shops, dealerships and other businesses in need of diesel technicians.

Students who gain work experience before and during their college attendance can also start in positions with salaries above entry level. For instance, State Technical College of Missouri is heavy on internships, with four internships required for its five-semester Associate in Applied Science degree in heavy equipment technology.

“We work to marry a student

with an interning employer,” says the program’s department chair, Ed Frederick.

After completing the program, students can usually obtain the equivalent of an entry-level position plus two to three years of experience, he says.

The college is also one of 11 U.S. sites for Caterpillar’s ThinkBig program, in which local Cat dealerships sponsor students to undergo two years of classroom and hands-on instruction while also gaining experience in the dealership’s service departments. The program is based on Cat proprietary curriculum and focused on Cat equipment. Students have to be sponsored by a dealership to qualify.

John Deere is another construction equipment manufacturer that

has developed partnerships with technical colleges to offer diesel tech programs.

“These programs are at the forefront of recruiting students,” says Doug Hammond, of the Deere-sponsored construction and forestry program at SUNY Cobleskill, “because it connects with the student before they’re even here, and they know where they’re going when they’re done.”

■ Dealers finding what works

Dealers say their most successful recruitment efforts are close to home, seeking students for scholarships and internships within the surrounding community for nearby colleges and tech schools.

“We try to get our interns fairly close to our branches,” says Mike

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High school students get to compete for prizes in equipment-operation contests, among other activities, at the annual High School Day put on by SUNY Cobleskill. The event allows dealers to connect with prospective diesel techs before they enter the college's diesel technology program.

“When people hear that we have an internship program that will give you a degree in two years with zero student debt and a job, that’s attractive.”

—Tony Tice, training manager with Cat dealer Thompson Machinery

Bond, training manager with Komatsu dealer Roland Machinery out of Springfield, Illinois. “Sometimes we’ve had students that have to drive an hour to one of our shops. Those are the ones we typically end up losing because they don’t want to travel that far after they graduate.”

Dealers also find success in outlining the professional paths students can take, beyond working in the shop.

“I talk about career development from day one,” says Mehner, who started as a mechanic after graduating from a two-year diesel tech program. “You can start as a diesel technician, and this career will take you anywhere you want to go.”

Providing paid internships and scholarships to tech school students also gives dealers another selling point for attracting techni-

cians – no college debt.

“When people hear that we have an internship program that will give you a degree in two years with zero student debt and a job, that’s attractive,” says Tony Tice, training manager with Cat dealer Thompson Machinery, headquartered in the Nashville area.

In most cases, dealers require students to pay or finance their tuition upfront. Students can get reimbursed after they have graduated and worked with a dealer sponsor for an agreed upon period.

“They need to have skin in the game, especially in the diesel technician field where it’s not easy,” Mehner says.

Dealers approach tuition reimbursement on different time schedules; those we interviewed for this story paid out after two to five years of full-time employment.



However, Wagner Equipment, the Caterpillar dealer in Colorado, does provide upfront tuition and tools for its students, says Randy Myer, manager, Wagner Training Institute. “We go through an extensive interview and vetting process, and we ask them to sign a four-year contract,” he says. “We really don’t get our revenue offset – which we estimate to be around \$250,000 per student – until somewhere between 42 and 46 months of employment.”

Successful recruiting dealerships don’t stop with internships and scholarships. They match what students learn in the classroom with experience in the shop. They also link their students with experienced technicians who can serve as mentors.

“Mentors have got to volunteer,” Mehner says. “It’s got to be something they want to be a part of.” It also involves its own training,

especially on how to build effective relationships with younger people. “I tell my mentors that I want them to learn more from the younger generation than they teach them.”

■ Higher pay

Graduates are also earning higher pay than in previous years, with starting hourly wages ranging from \$20 to \$24, depending on the student’s experience and geographic area.

“Two years ago our students were leaving our program with effectively nine months of education and making about \$18 an hour,” Kuehl says. “Today that number is probably \$20 to \$21.”

Graduates are also finding increasing pay and advancement opportunities within a relatively short time.

One of Bill Kleman’s former students at Salt Lake Community College worked for four years in a

construction equipment dealership and is now a shop foreman at a large construction equipment rental store. Kleman, assistant professor in the Diesel Systems Technology program, expects his former student will move up to service manager or a similar position soon. He also has students who have been diesel techs for five or so years and are now making over \$100,000 a year with overtime.

“There’s just an immense amount of opportunity for somebody that’s entering this field that may not want to be a technician their entire life,” Frederick says. “This will give them the foundation and groundwork to move into other facets of the field.”

■ Business partnerships crucial

Today, technical colleges and schools have become the middle man between prospective high

school talent and employers.

All avenues are sought in the effort to attract students to the field. “We are trying a lot of different things to see what works,” says Hammond. “Right now, we don’t have anything where we’re saying, no, we won’t try.”

As a result, one of Hammond’s priorities is building relationships among everyone involved: students and their parents, high school personnel, companies needing diesel techs and SUNY Cobleskill.

Businesses are also getting into the act.

Shell Lubricants, for example, was hearing from its customers about their troubles in finding qualified diesel technicians and decided to form a partnership in 2014 with Universal Technical Institute, including its diesel technology program. Shell Pennzoil provides annual scholarships to young entering students as well as to military veterans transitioning into the civilian workforce, says Nancy Bruner, Shell Lubricants director of influencing marketing for North America. It also provides scholarships to students who have completed UTI’s core program and are ready for advanced education or OEM-specific training.

Concerned about students who may encounter unexpected hardships, Shell also formed a program with UTI in which students facing an emergency can receive prepaid Visa and Shell gas cards to help them through the crisis. Beyond helping students, the company donates its lubricants to UTI’s automotive and diesel programs and provides training to instructors on lubricant technology, fuel technology and future energy alternatives, Bruner says.

Such business/school partnerships are essential.



Source: Thompson Machinery

Jesse Morris, a recent Caterpillar ThinkBig graduate, on the job at Thompson Machinery.

Kleman recalls that when he first came to the diesel tech program at Salt Lake Community College, the hydraulics program was sorely in need of updated equipment. Having formerly worked at a John Deere construction equipment dealership, he called in some favors in the industry and got newer equipment for students.

“The students get around some of that construction equipment and think, ‘Wow, that would be fun to work on,’” Kleman says.

For dealers to have consistency in their technician pool, they need to start looking at recruiting and tech college partnerships as an ongoing effort, Hammond says.

That means sticking with these programs even during economic downturns.

“You’ve got to keep that pipeline full,” Kleman says. “Every time you have a recession, the economy booms after.” **EW**

OEM support for technician training

While schools and associations do their part to bring more young people into the equipment technician world, OEMs are also cognizant of the challenge, and most of the majors dedicate resources to promoting the industry. Some examples:

- The Caterpillar Foundation has worked with its dealers for more than 30 years to provide \$850,000 in cash grants to educational partnerships focused on developing entry-level technicians throughout North America. Caterpillar and its dealers also currently partner with 20 secondary-level educational institutions and 68 dealers in 10 countries to deliver its ThinkBig program.
- John Deere supports a number of educational programs and scholarships and engages its employees in volunteer opportunities in those areas. The John Deere Tech program creates a mechanism for dealers to prepare future technicians. It has also connected dealers with exiting military personnel through events hosted at military facilities.
- Volvo partners with SkillsUSA and Skills Competences Canada to promote awareness of the skills gap and encourage young people to consider training in the trades, including diesel mechanics. The company sold a commemorative gold-colored 50th anniversary A40G articulated truck at a Ritchie Bros. auction in Orlando, Florida, and donated the proceeds of the sale to the two organizations.

—Tom Jackson

Up next

This is the second installment of a four-part series that will appear throughout the year. Upcoming stories will examine:

- Best practices in recruiting and retaining technicians
- Future machines, future techs