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PLENTY OF MACHINES, BUT WHO WILL KEEP THEM RUNNING?

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The AED Foundation While there may be a glut of machines out there, more evidence reveals that the scarcity of people needed to repair and maintain them is getting worse.

The shortage of service technicians in the construction equipment industry may be considerably greater than the numbers generally used to estimate the need, according to new information that includes recent data from AED Foundation surveys.

An ongoing AEDF study of selected trade areas in the United States reveals that 25,000 is a more realistic measure of the technicians who could be hired to fill jobs at all varieties of construction equipment distributors, including their branch locations, over the next five years. In other words, a building filled with 5,000 men and women trained for entry level technical work anywhere in the United States could be emptied every year.

Locations surveyed included the states of Florida, North Carolina and Ohio, and the metropolitan areas of Chicago, Dallas/Fort Worth and New York City. AEDF plans to continue gathering data from various parts of the nation to keep the industry abreast of the workforce situation, particularly in regard to the dearth of technically skilled people.

A projected five-year shortage of between 11,000 and 14,000 people, or about 2,500 unfilled jobs annually, are the numbers frequently heard at industry gatherings. But one source of information, the Bureau of Labor Statistics (BLS), has updated from 13,500 to 18,000 its estimate of the number of job opportunities available in the next five years for "mobile heavy equipment mechanics." However, that number is low because the BLS

says there are job opportunities for about 9,000 "diesel engine specialists" in construction between now and 2006. The two job categories are listed separately by the federal agency.

Pinpointing the specific need is difficult. A spokesman for the BLS explained that while it is easy to track doctors or lawyers entering the workforce after their professional schooling, technicians enter out of high schools, trade schools, internal promotions, other industries, etc. The trucking industry, to give another example, says that while it can accurately forecast how many drivers it needs, it hasn't found a good way to count the number of technicians truck dealers and service centers require.

But at least the burgeoning need is borne out by outside sources and the AEDF surveys. That the shortage is larger than most people thought was also suggested by a group of Equipment Manufacturers Institute (EMI) members who attended a special July meeting in Chicago to discuss workforce issues. Several said the need for technicians is deepening, and they described as "conservative" the figures typically used to quantify the shortage.

"We could use 100 people (technicians) right now," a spokesman for Wagner Equipment Co., the Caterpillar distributor in Colorado, is quoted as saying in a recent edition of the *Denver Post*. Caterpillar's construction equipment dealers alone say they could hire 2,000 people in the United States and Canada every year.

"We could hire 340 to 400 technicians per year on the construction side alone," adds Mick Sims, manager of product support marketing development at John Deere Industrial Equipment Co.

Distributors in Dallas would probably agree. In that particular metropolitan area 26 survey respondents (38% of all local equipment companies) say they will collectively need a bare minimum of 154 new technicians over the next five years, or about seven new hires per company (*surveys use median figures after omitting the smallest and largest figures*).

The need is apparently even greater in the New York City and Chicago metropolitan areas, according to survey respondents. Based on returns from at least 40% of the distributors in both cities, every company in and around the Big Apple needs 11 new hires over the next five years, while their counterparts in Chicago say they require eight new technicians per company.

Although it is difficult to find an average number of technicians per dealer because of the huge variation in the size of CE firms, we'll use the examples

above to project that a "typical" distributor needs eight additional technicians between now and 2005. That brings the total number of available jobs to 5,848 for the 731 AED distributor members, and to 20,544 for the 2,568 firms categorized as "contractors supply companies" by SIC code. Then add a few thousand more to include smaller businesses not covered by that SIC code. After all, small companies need technicians, too.

All of the numerical combinations seem to say that 5,000 is a reliable estimate of technical positions that are available in the construction equipment distribution industry each year for at least the next five years.

The large metropolitan areas no doubt will require the greatest numbers of new technical people. Extrapolating the AEDF survey information to include all equipment distributor companies, it appears that over 1,700 new people will be needed between now and 2005 to service, rebuild and repair equipment in the Chicago, New York City and Dallas areas combined.

Filling those positions will be difficult to do, knowing that the pool of workers for such jobs is being more aggressively tapped by automobile dealers and related industries including trucking, material handling and agriculture, not to mention construction contractors who have their own service shops.

Caterpillar engine dealers reportedly need 1,000 additional technicians every year.

The auto industry needs at least 112,000 mechanics, according to the BLS estimates, and it is gearing up for aggressive recruiting. Ford Motor Co. executive Peter Pestillo told a recent conference of manufacturers in Traverse City, Mich., that the auto industry faces "a potentially devastating shortage of talent worldwide and must change its image to attract the highly skilled workers it needs."

OTHER FACTORS

There are other influences on the eventual size of the shortage, according to an analysis of AEDF's survey data. For example, it suggests that equipment dealers may lose more of their veteran shop technicians than they expect.

In Dallas, New York and Chicago only 12%-14% of shop technicians are over the age of 50. Preliminary survey data from Florida show that only about 9% of technicians are 50 years of age or older. While a shortage of this kind may imply an aging workforce on one hand, on the other it appears that many technicians are leaving the equipment service trade long before they reach standard retirement age.

The demands of hard work, the need to learn new computer skills and the promise of longer hours seem to be pushing many of the most experienced veteran technicians into other occupations. An industry movement toward testing and certification may also work against the retention of older technicians, according to Sims.

"It's physically demanding work that people don't want to continue doing after 20 years on the job," says Steve Hitch of Caterpillar, Inc. He also worries that distributors who underestimate losses of technicians in the 40-60 years of age group will be even more hard-pressed to find replacements from the dwindling labor pool.

For instance, distributors in the Dallas/Fort Worth area expect to lose 65 technicians, or 10.6% of that particular workforce, over the next five years. Their peers in Chicago and New York City look for similar numbers of retirements. Distributors should be aware that their anticipated losses may include older members of the 41-50 age group who decide sooner rather than later that a less strenuous or time-consuming job is better for them.

More overtime requiring higher pay may be another manifestation of the technicians' shortage, according to AEDF survey results. As expected, responses show that there isn't much room for relaxation time in equipment service departments. In the Dallas area, for example, not one distributor shop was working less than 40 hours a week when the survey was taken earlier this year. In fact, over 63% of the distributors in that part of Texas keep their shops running for 50 hours or more each week. In Chicago and New York City, 83% and 76% of the shops, respectively, work between 41 and 50 hours per week. Areas other than Dallas did report small percentages of companies working less than 40 hours.

An additional job creator in this particular occupation is projected growth in business activity. In every trade area surveyed by AEDF, growth of about 5% or more in sales of equipment service and repair is expected by product support managers and executives. With that kind of expansion in billable hours, it's no wonder service managers are searching hard for more technicians to keep customers' machines moving in and out of the bays.

SOURCES OF WORKERS

While estimating the size of the shortage is one thing, filling the job vacancies is quite another task, and a far more daunting one. For distributors, finding skilled technicians could become as tough a job as that of baseball scouts searching the bushes for pitching talent.

When asked where they get new technicians, the overwhelming majority of equipment distributors say they hire them from related industries and competitors.

For example, in the Dallas/Fort Worth area, over 75% of entry-level techs are hired from other industries or other equipment dealers (34.7% and 40.9% respectively). In New York City the percentage is also 75% and in Chicago it is only slightly lower at 71%.

In these three parts of the nation only 11%-14% of new technicians are hired out of technical/vocational schools and an even smaller percentage are recruited after they complete junior college programs. The military, one of the most highly regarded sources for technicians, provides only about 5% of new technicians in these geographic locations.

Of course there are good reasons for preferring experienced workers brought in from the outside. Distributors want technicians who are already trained, or who are at least familiar with related products, rather than hiring technical school, community college or high school graduates who may require substantial training before earning dollars for the service department. It is also the reason why most construction equipment distributors haven't done much student recruiting in the schools. Waiting for other businesses to train technicians, or "mechanics" as they are still called by many, is still considered sensible strategy.

But there is evidence that hiring people away from the competition will become a tougher sell. That's because virtually all firms that service mobile or powered products of one kind or another are facing equally serious shortages of skilled personnel. Consequently, they are working harder to retain good people. Several of the equipment manufacturers at the EMI meeting in July agreed that as the competition pours more sugar on salaries, benefits, training opportunities and other perks, CE distributors looking to pry people away from their present jobs may find more of them saying thanks, but no thanks.

The AED Foundation is encouraging equipment distributors to work with secondary and vocational school students as a way to get more of them interested in the construction equipment industry before they commit to a career in one of the others.

Another reason for the low percentage of entry-level people hired out of school may be found in the quality of the education they receive. "That's another part of the problem," says Rob DeMuth of the Case Corp. "A

distributor may say he has three or four job openings for technicians, but then he tells you the whole staff of 20 could be replaced by quality technicians."

Even in the case of trade and technical schools with quality programs, distributors and manufacturers often complain to AEDF that students are proficient in one technical area, but not in the others. AEDF's Technical Training Committee members observe that trade school graduates are strongest in subjects where their teachers have had the most practical experience. If a school's faculty members have sparse background in hydraulics or electronics, the students will be predictably weak in those disciplines, according to committee members.

Survey information seemed to confirm this. Although today's construction machines rely heavily on electronics, vocational/technical schools either have been slow to incorporate new technologies into their programs, or they are relying on teachers from the pre-electronic age. When asked to identify the technical topic in which new technicians are the least prepared, electronics topped the list. For example, 51% of the New York City distributors surveyed said students were poorly prepared in electronics compared to basic engines/fuel systems. In Ohio students are the least prepared in electronics, followed by hydraulics.

Students finishing one and two-year technical programs seem best prepared in engines/fuel systems, according to the survey results. AEDF has sets of performance standards in disciplines, including electronics, to help schools update programs in line with industry needs.

A positive sign is that distributors are getting the message about the need to recruit people in the schools and to insist on quality training in all of the technical fields. Virtually all survey respondents indicated a desire to work more closely with local sources of future technicians, with vocational/technical schools coming up as the best place to mine technical people.

PAY ON THE RISE?

Comparing wages to what other industries pay their service technicians locally is an important step in future recruitment strategies, particularly in visits to schools because students always want to know what kind of punch their paychecks will deliver. TheIf the shortage intensifies even more, there will be pressure to boost hourly wages for entry-level technicians. But industry service consultant Al Morgan says a hike in hourly wages may not be the answer to attracting entry-level technicians, or even veterans looking

for more money. He believes that "pay for performance incentives" are far more attractive to technicians.

"I know a distributor who has a waiting list of people wanting to be shop technicians," Morgan said, explaining: "They know they'll have a basic salary, plus extra money based on the contributions they make to the dealership. They also know that the extra money can be substantial." Morgan has worked with scores of industry businesses on recovery rate improvement and other shop measurements.

Morgan, who conducts parts and service training programs for The AED Foundation, also thinks the next downturn in business will see sales people losing their jobs before shop technicians.

"Traditionally, service and parts people were the first to go when business declined," Morgan noted. "But because service people are so hard to find today, and because they have so much technical knowledge, it is the sales people who are now more expendable to the distributor business." The California-based consultant also remarked that the shortage of parts department people is also putting a crimp in the growth of product support profits.

Ironically, some people have argued that concern over the lack of technical people coming into the industry is exaggerated because the next valley in the industry's business cycle will erase the memory of the shortage that exists now. But the industry executives interviewed for this report believe that the shortage of people is all too real, that it is larger than first thought and that it won't go away anytime soon.

At the March meeting of AEDF's Task Force on Workforce Development, foundation President Jay Paradis, Bramco, Inc., Louisville, put it this way: "You have to think beyond the next business downturn and its short term easing of the shortage, to the next upturn and the inevitable re-emergence of the shortage." Paradis said distributors should act now to combat the dearth of technicians instead of waiting for the unpredictability of the business cycles to dictate the industry's efforts.

He advises distributors to implement AEDF's plan for increasing the number of technical people seeking careers in the CE industry. "There are three things we all can do," Paradis said. "First we have to improve our industry's image. Second, we have to establish partnerships with schools so they know we have opportunities to offer. The third thing is to take an active part in recruiting the students themselves for technical careers in our industry."

**Projected Shortage of Technicians
1999-2005**

Chicago Metro Area.....	683
Dallas/Fort Worth Area.....	405
New York City Metro Area.....	659
State of Ohio.....	1,094

Based on AEDF survey data.

Sources of Equipment Technicians

	Chicago	Dallas/Ft. Worth	New York City
High Schools	4%	3%	3%
Technical Schools	14%	11%	14%
Community Colleges	5%	2%	3%
Military	6%	8%	5%
Competitors	40%	41%	35%
Other Industries	31%	35%	40%

Based on AEDF survey data.

LANDERS REPORT

Changing Images

By Kirk Landers

Editors' Note: Following is a reprint of a column written by Kirk Landers, editor-in-chief of Construction Equipment magazine. His thoughts on the construction industry's need for collective and collaborative image repair are so compelling, CED found them well worth repeating. The technician shortage won't go away by itself or by wishful thinking. As Landers astutely notes, local recruitment programs are critical but they aren't enough. Nothing short of an all-out publicity blitz will change the way society views construction work. Our thanks to Kirk Landers for giving us the go-ahead to run his editorial in conjunction with CED's technician shortage articles.

In the early 1980s, the dairy industry had a problem. America was awash in milk and cheese. While dairymen were increasing herd production every year, growing tides of consumers were reducing consumption of dairy products, believing them to be fattening and unhealthy.

The dairy industry had an image problem, and after several years of hand wringing and internal debate, dairy farmers anted up the money for a national multi-media advertising campaign to restore a healthy image for milk and stimulate demand for dairy products. It worked. Initial gains were small, but the industry stayed with it and has flourished. Today even butterfat, the artery-choker you couldn't give away in the mid-80s, commands a premium price.

Fast forward to the late-90s.

The construction industry has a problem. There aren't enough young people entering construction today to fill the skilled labor positions available. There aren't enough equipment operators. There aren't enough mechanics. There aren't enough truck drivers.

As an industry, we have been wringing our hands about this for several years. We now understand that construction has a negative image with young people, that too many of them perceive a construction career as dirty and low-tech, and that being a construction worker is not something they think makes good cocktail party conversation.

Some of the industry's leading institutions have launched programs to attract youth to the construction field. The efforts range from high school visits to scholarships to coloring books for small children. These grassroots efforts are important and must be sustained. But let's be realistic. By themselves, they won't change the image that millions of early-adult Americans have about construction.

To change perceptions on that scale, we are going to have to do what the dairy farmers did. We are going to have to come together as an industry and fund a multi-media advertising campaign that plants a stronger, more positive image of construction work. We need to show that construction careers involve skill and brains; construction people employ advanced technologies, from computers to lasers; and construction careers pay well.

Most of all, we need to take a page from the armed forces image campaigns and show that construction is important work. It improves lives. It results in

something tangible. Unlike so many careers in our service economy today, construction gives people a chance to do something that makes a difference.

The construction industry has a lot to sell. The biggest challenge is finding the will and the means to unite. Let's start down that path now by making a cooperative ad campaign part of the deliberations of every industry association's annual meeting this year.