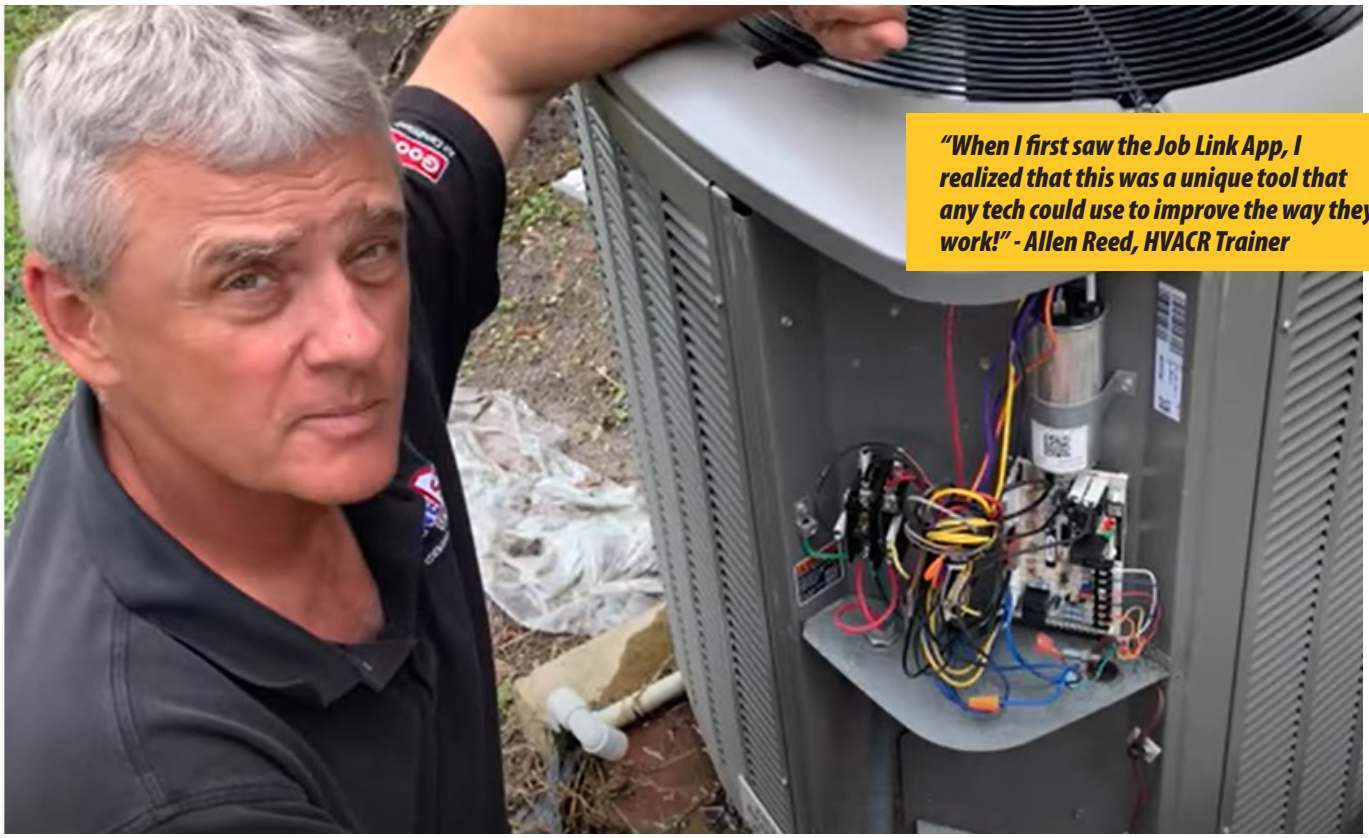

"When I first saw the Job Link App, I realized that this was a unique tool that any tech could use to improve the way they work!" - Allen Reed, HVACR Trainer

How One HVACR Trainer Used an App to Help His Techs Work Better and Smarter

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In the world of HVACR, there are industry standards, but the way that we each work can vary as much as the systems we work on and the tools that we use. This inconsistency can result in wasted time for techs and missed opportunities for additional revenue for contractors.

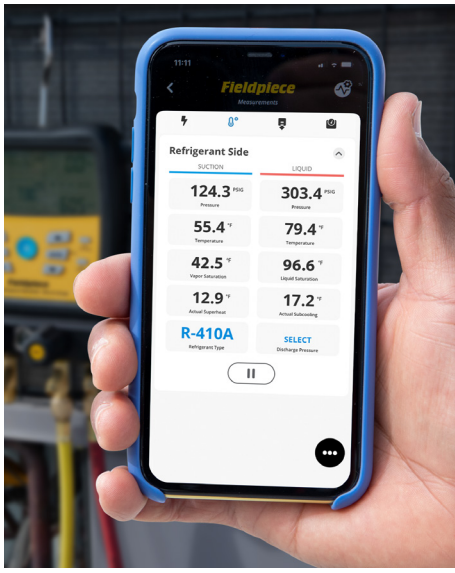
The solution is better training and better tools. Speaking of tools, there are apps on the market that connect directly with tools like manometers and psychrometers. They use the latest advances in Bluetooth and wireless technology to enable techs to get a bird's-eye view of the entire system in real-time through an app on their phone. As they work on the system, they see how it responds by viewing the system from the inside. With all this information, they can quickly understand the overall health of the system. Right away, as soon as the tools are set up, techs can completely diagnose big problems and they can see how the entire system responds immediately to even the most minor changes. This can illuminate latent performance problems. Better tools and training can also lead to service opportunities that are often are overlooked.

"Job Link reports are our spotlights – you can find diamonds in the dark!"

Allen Reed is one HVACR trainer who uses Fieldpiece wireless tools and the Job Link® System App to help owners, managers, supervisors, and techs work smarter, faster and better. He's mentored hundreds of technicians and numerous contractors; and he's taught them all to follow his proven methodology of technical opportunity management for diagnosing, repairing a system, and illuminating additional latent opportunities. He calls this technical opportunity management "free money."

"You don't need more calls. You need to look more thoroughly at each call to find your opportunities – or the diamonds beneath your feet."
"When we leave a jobsite without completing the work due to improper training, we're leaving money on the table," he says. When we train correctly, we turn the light on to find the diamonds. By working smarter, we reduce go backs for improperly or non-executed work. I've seen it myself. These repairs could easily have been found. In fact, some issues in the Job Link App were begging us to see them."

Some of these diamonds in the dark are minor warranty faults that every tech should catch if they follow the correct procedures. For example, a thermostatic expansion valve, TXV, could be operating at very low or high superheat. This is a leading cause of warranty compressor failures and can be spotted before the premature failure occurs. However, the tech needs to know what to look for and how to spot it the first time in the Job Link App.



By giving techs the tools, they need to proactively address smaller items when they're still onsite, Allen makes sure they don't miss revenue opportunities down the road. "By training our techs better, they find many more items needing our attention to quote and sell; or warranty items the customer deserves proactive service on," he added. "They're doing more than servicing a system. A properly trained tech helps build our bottom line."

"It's trainings fault until it's not."
How did Allen make sure he taught his techs correctly and that it would stick? First, he taught his managers and then taught the techs. By teaching from the top down, he ensured that everyone was on the same page and working the same way. He also established the need for the technology that these tools bring to techs.

In his classes, Allen walks techs and managers through each tool that's connected to the Fieldpiece Job Link App. He shows them how to use the Job Link Report from these connected tools, to truly understand how a system functions and includes how to use each Job Link tool report most effectively. "If you were to boil my training program down to its one primary goal, it's that we want to make more money by not spending money," Allen explained. "Also, my mindset for training is that we need to identify the need, provide the solution and execute." The techs have the tools in their hands to diagnose and service every system correctly the first time. We can improve our bottom line by identifying latent defects while systems are in, before failure status, and fix little problems before they become bigger problems in the heat of battle, when we should be generating revenue instead of reacting to failed unit warranty service calls.

Allen's training program consists of five key steps:

1 Owners buy in and commit long-term to the required operational challenges needed in order to reap the rewards of the training. Otherwise, it's a waste of time and money.

2 Managers, then supervisors, then the troops participate in regularly scheduled reviews of their Job Link reports.

3 Onboarding training is initiated through:
a. Job Link orientation on a live system to view reports that are attached to customer installs and service calls. Typically, about four hours.
b. An eight-hour "warranty demon" day which highlights common mistakes and pitfalls to look out for

4 Proactive reviews of Job Link reports, using our training assessment form to identify any missed technical opportunities and follow-up training requirements.

5 Follow-up training on live systems combined with quarterly reviews of past calls.

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With daily reviews of the Fieldpiece Job Link App reports, the centerpiece of his workflow, Allen can drive the right order of technical training needs. Now, they're able to work faster, smarter, and better because they all work through each system and service call the right way. They provide consistent service across customers. For every service call and installation, they follow the same procedures, take the same measurements, work through the same checklist, and track every step in the Fieldpiece Job Link App. They've learned to trust their instruments and trust their training. It's smart, efficient and it's definitely showing results. These techs know we belong to a "what gets measured gets done" organization that's always monitoring their system readings for training and opportunity management purposes.

"My techs know where to look for answers."
"When I first saw the Job Link App, I realized that this was a unique tool that any tech could use to improve the way they work," Allen said. "Once I got all of my techs working this way, I saw a real increase in productivity and a decrease in go backs. I also saw business increase by 20 percent. Any tech who wants to work better should have this in their pocket and any

HVACR contractor that wants technology to help their techs in the field should make this app the centerpiece of their workflow."

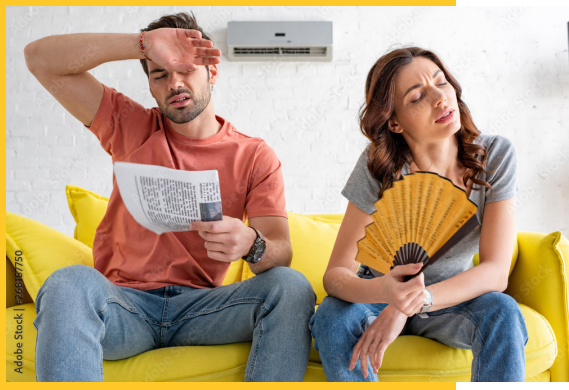
His techs agree. "Before training on the Job Link App, I'd speak to the homeowner first about their system and create a mental checklist of what could be the problem. Then, I'd start diagnosing the system based only on what they told me. I'd miss a lot of simple issues by ignoring steps," said Joshua Godwin, Senior HVAC Technician & Service Manager from Cocoa Beach, Florida. "Now, I still talk to the homeowner first, but I follow Allen's procedures and use the Fieldpiece Job Link App Before diagnosing and again after correcting challenges in the system. This serves to verify we made the correct Recommendations and repairs. It keeps my workflow focused and consistent." With techs following these best practices and use of the Job Link App, it's almost like Allen can work alongside all of his techs and help them stay on course throughout their day.

"Job Link brings it all together."

Allen sees the value in working smarter. He also sees the benefits that technology brings to field professionals. "When they're out on the jobsite, it's hard to remember every step and every procedure," he said. But the Job Link App, when combined with his technical opportunity management training, allows them to work their way through a problem and instantly see the data they need like air side/flow performance, super heat, sub cool and static pressures the blower motor is encountering. This helps them diagnose the system correctly and get the job done right the first time. The system not only pinpoints more issues upfront, it creates opportunities in taking better care of customers, saving time for the tech and making money for the contractor. That's all thanks to implementing his technical opportunity management philosophy and training, and has been made much more impactful with the reports from the Job Link App.

Allen Reed is the founder of Cool Change HVAC Services, LLC – a technical opportunity management training business located in Central Florida. Email him at CoolChangeSVCS@gmail.com or call 407-280-6386.

"Three Warranty Demons" is the focus of one of Allen's key training days and has resulted in enormous go back reduction. If techs want to make sure they're performing optimally, Allen wants them to use the Job Link App and keep an eye out for these three common mistakes he calls "warranty demons."



1. **Incorrect evacuations** – Allen has witnessed more than 90 percent of evacuations performed incorrectly, where he has to send techs back for installs or repairs to find a leak. As an expert in the industry, he knows the leak was there the day the repair was done, and it is obvious the techs didn't execute a decay test; otherwise, it would have been found and fixed. Now, this second trip is costing money which is simply unacceptable.

   This means that most of their first-year warranty repairs for leaks didn't need to happen. The leaks could have been identified by the tech on the day of installation. In Allen's training, he shows his techs three different manufacturer evacuation methods, and he clarifies his company standard of pulling to 250 microns, waiting 10 minutes for the system to equalize, and assuring the level doesn't rise above 1000 microns. He teaches them to use the Job Link App as well as the vacuum pump and vacuum meter in the correct way and follow a consistent process as outlined by the system's manufacturer.

2. **Not assessing airflow BEFORE checking refrigeration readings** – Most systems, when they're installed, have never had accurate airflow settings. So, before Allen has his techs charge a system, he ensures that they're using the Job Link App to make sure the airflow is between 350 and 450 CFM per ton. Remember your ABC's (Air Before Charge). If the airflow is too low, it causes a low superheat, makes a tech misdiagnose a faulty TXV, creates an environment where mold grows, and causes water damage from sweaty ducts. High airflow results in poor dehumidification and sometimes even leads to premature motor failures. "We have two airside report readings rules after a unit is running and stable here in Florida. The first is that I never want to see a supply temperature higher than the target at all, as it simply means were not working on humidity like I would like to see. The second is that we should never allow a stable system to have a supply temperature more than three degrees below the supply target."

3. **Actual interpretation of superheat on TXV systems** – "Seven out of 10 systems I've evaluated in my career are either under charged, over charged and or have TXV's not performing to an acceptable range. (These should never be less than five degrees or more than 15 degrees on a stable home). An unfortunate number of installations and repairs have TXV's damaged due to overheating and failing to flow nitrogen when brazing. Equally as troubling, we have a culture embedded in many manufacturers, educational institutions and HVACR contracting businesses that all espouse that if you have a TXV, ignore superheat/TXV operation, and just charge to correct sub cooling. When you observe a TXV superheat in the report before leaving a call, perhaps for something totally unrelated, you will be surprised by the amount of poor dehumidification/high superheat and compressor threatening valves are in systems that are delivering an acceptable supply temperature.

   We have a proper charge training where we adjust the TXV wide open to lower the superheat and subcooling and nearly all of the students incorrectly decide to overcharge the unit to increase the subcooling. This results in a lower cooling capacity, threatens flooding liquid back to and damaging compressors, and on heat pumps sets the stage for high pressure heating calls in the winter where the same techs will remove charge only to repeat the mistake during the next cooling season – a vicious cycle that results in a major loss of revenue that is completely avoidable. We have them not charge the training unit and simply adjust the over feeding TXV to get the "Aha!" moment, with lights going off in their heads. Most TXVs aren't adjustable and only after using Allen's technical cheat sheets in his training book to eliminate other causes of low and high TXV superheat, they can start identifying the valves acting poorly before causing other problems.