

Plumbing Service 101



Finding and Developing Great Plumbing Technicians

Module 3 of 5

LEARNING OBJECTIVES

At the end of this module, you will be able to:

1. List the three skill sets required of plumbing service candidates.
2. Identify recruiting sources for finding quality service plumbers.
3. Determine the pros and cons of recruiting from non-union sources.
4. Examine the ideal training curriculum for newly hired plumbers.
5. Incorporate leadership actions that will maintain the culture of service and make the plumbing work environment more enjoyable and productive.
6. Identify safety and training resources available through MCAA and MSCA.





IMPORTANT

MSCA provides member contractors with management and marketing skills, training and educational programs, and government and labor relations.

The Mechanical Service Contractors of America (MSCA) produced this module on “Finding and Developing Great Plumbing Technicians.” The module addresses the difficult and challenging task of finding suitable plumbing service technicians. It identifies possible recruitment sources, outlines recommended training, and offers suggestions on how to fit new technicians into an existing work environment. It is the third of five (5) Plumbing Service 101 modules designed to review all aspects of adding plumbing service to an existing HVACR service operation, including ways plumbing service can complement existing business, recognizing and understanding markets for plumbing services, identifying possible recruiting sources for finding quality service plumbers, identifying costs and expenses associated with the startup of a new plumbing service division, and highlighting a workable organizational structure and key roles needed to create a successful plumbing service operation.

The modules are designed to include fundamental industry concepts, presented in a thorough, real-world way that will help you to better understand the plumbing service business.

MSCA PLUMBING SERVICE 101 MODULES

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|--|--------------------------------------|
| #1 Plumbing Service Business Basics | #4 Financial Tools and Profitability |
| #2 Markets for Plumbing Services | #5 Operations |
| #3 Finding and Developing Great Plumbing Technicians | |



INTRODUCTION

Anyone posting an ad like the one to the left would surely find few candidates applying for the job. However, the characteristics described are typical of what it takes to succeed in the world of plumbing services. It is evident that certain aspects of the job pose significant demands, but the plumbing occupation can offer an excellent career path, which many incumbents find highly rewarding. For those businesses looking to grow through the addition of plumbing services, attracting and retaining qualified people capable of providing excellent services can present real challenges.

The U.S. Bureau of Labor Statistics, which compiles annual information on a wide range of jobs and industries, projects the demand for plumbers, pipefitters, and steamfitters to grow 12 percent from 2014 to 2024, faster than the average for all occupations. Two factors

will drive demand for these workers: 1) new construction will require new plumbing systems, and 2) existing buildings will need updating and continual maintenance.

While companies in other fields have met staffing shortages with technology, robotics, and even outsourcing to other countries, most plumbing services will continue to require onsite support that must be handled by a qualified professional. Just as doctors are always going to be needed to repair and maintain our bodies in good health, plumbers will always be needed to ensure that our plumbing systems work safely and effectively.

The good news is that the demand for quality plumbing services is high and will continue into the foreseeable future. The not-so-good news is that in the world today, there is a shortage of trained plumbing professionals available to meet the demand for quality services.



IMPORTANT

People want to work in occupations where they see potential for growth and the future looks good.

TYPES OF PLUMBERS

When adding plumbing services to your business, it is important to note that there are two types of plumbers to consider. They are service plumbers and project plumbers.

- Service plumbers handle service calls, preventative maintenance, troubleshooting, jetting, backflow certification, and repair.
- Project plumbers handle anything beyond service calls, such as equipment change outs, retrofits, site utility repairs, and specialty work in medical facilities.

No matter which type of plumber is being hired, it is essential from the beginning to identify the required skill sets needed to perform each role.

PLUMBER SKILL SET

A highly qualified plumber needs to possess three different skill sets.

1. Technical Skills — A prime requirement is fundamental technical knowledge, skills, and abilities needed to do the job, which includes a baseline proficiency in plumbing technology, equipment operation, and safe practices.
2. Interpersonal and Customer Service Skills—Due to the nature of the work environment and direct customer interface commonly involved, plumbers must also possess good interpersonal and customer service skills. This is especially true for service plumbers because in most cases they deal directly with customers. Project plumbers mostly communicate with sales representatives, project managers, and/or office staff; consequently, their customer service skills are not required to be as refined as service plumbers.



3. Creativity and Self-Management Skills — Often plumbers are empowered to solve the customer's problems in the most cost-effective, efficient way that does not compromise quality or safety. This often requires creativity along with good problem-solving and self-management skills, as well as the ability to operate on their own initiative. It is noted that the most successful service plumbers are self-starters and self-motivators.

TECHNICAL REQUIREMENTS

The technical requirements for a service plumber are extensive. The knowledge required may be acquired from on-the-job training along with more structured classroom learning leading to formal certifications, such as medical gas or backflow testing certification. Areas in which plumbing expertise is desirable and which can lead to licensure include the following:

- Plumbing fixture repair and maintenance
- Plumbing piping system repair and maintenance
- Natural gas piping, including exhaust and flue pipe sizing
- Understanding gas pressures and the use of a dual-stage manometer
- Understanding sizing and capacities of gas regulators
- Plumbing codes and regulations

BACKFLOW TESTING CERTIFICATION



In addition, any of the following skill sets will make a service plumber more well-rounded and a more valuable asset to any service organization:

- Electrical, controls, and low-voltage concepts
- Specialized training on various equipment such as A.O. Smith, State, Bradford White, and PVI for commercial and residential troubleshooting, maintenance, and repair
- Training on commercial domestic hot water boiler systems such as Loch-invar, Laars, and A. O. Smith Burkay Genesis including installation, piping, troubleshooting, maintenance, and repair
- Going beyond just testing by understanding exactly what the operation of a backflow assembly is and specifically how it works
- Advanced electrical device troubleshooting, including pump panels, pumps, and VFDs
- Domestic water booster pump troubleshooting, maintenance, and repair
- Commercial sewage ejector systems troubleshooting and repair, including panel, pump, and float knowledge
- Design, troubleshooting, repair, and maintenance of solar systems, rainwater harvesting systems, and water treatment systems

It is also important that service plumbers be skilled with training in the operation and care of machinery or equipment considered “tools of the trade” which are used on the job, such as the following:

- Jetting equipment
- Forklifts
- Drain machines
- Manlifts
- Sewer snakes
- Sewer cameras and locators
- Backflow testing
- Pipe threaders

SAFETY

Safety practices serve as a vital component in an individual's skill set and in any training curriculum. The importance and implications for a plumber in considering the health and safety of customers and the end-users' well-being is paramount and cannot be overstressed.

Minimally, training in the following areas is required to maintain a safe working environment for the technicians and those around them:

- Personal protective equipment and clothing such as hats, eye protection, gloves, and shoes
- First aid, CPR, and fall protection



IMPORTANT

A list of MCAA/MSCA safety resources is provided in the Appendix.



- Procedures for working in hazardous environments, containing noxious gases, hazardous chemicals, and even bloodborne pathogens or other life-threatening chemicals
- Requirements for working in confined spaces, such as tanks, pits, manholes, tunnels, or pipelines

Information and training materials for these areas and many more are listed in the Appendix under the title “MCAA/MSCA Safety Resources.” Again, being well grounded in all safety skills and related matters is a must.

CUSTOMER SERVICE ATTITUDE

It would seem that the technical skills of a plumber would be enough to guarantee a good employee. However, another area that deserves a close examination is the customer service attitude of the future hire. More than anything, an effective employee needs to have a good customer service attitude and be able to communicate effectively while taking care of the client’s needs. That means being friendly, approachable, and customer oriented. The ability to build a relationship with the customer goes a long way in ensuring positive outcomes and future business success.



Plumbing issues are often disruptive and urgent in nature, making them major sources of frustration to most customers. Usually, the need for a plumber is immediate and customer patience is already exhausted, which can lead to difficult situations for the plumber to handle. These situations mean that

good listening and communication skills are essential to reassure the client about the work to be done and to soothe frazzled nerves. The plumber who can go above and beyond to exceed customers' expectations with technical competency and a great customer attitude is one who is truly valued.

PAPERWORK/DOCUMENTATION REQUIREMENTS

Written communication skills are also important. It would be nice if our employees' writing skills were just as strong as their technical skills. However, with today's limited educational focus on writing ability, that is often not the case. Solving the paperwork dilemma is a problem facing almost every company offering plumbing and mechanical services. Spelling, penmanship, and how to properly write up an invoice or work ticket are important communication skills. What do you do with someone who has good technical skills, but falls short when it comes to accurately completing needed paperwork?

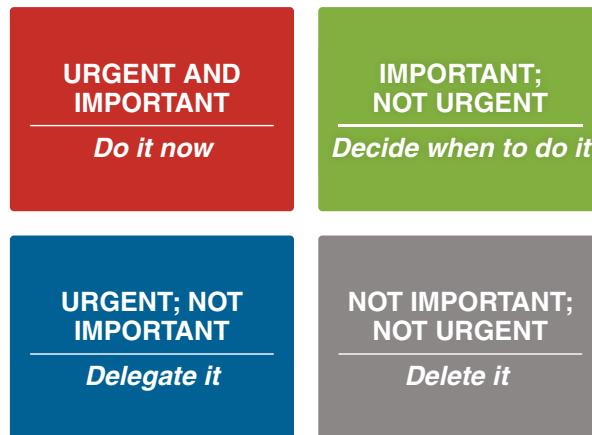
The move to a paperless work environment in many cases makes it easier to compensate for poor writing skills, but plumbers still need to be able to write legibly. In many work environments, transitioning to tablet PCs and software has helped with poor spelling (spell check) and bad penmanship issues. Some systems and devices even allow the plumber to record or deliver their notes verbally for electronic transcription instead of typing them.



Today's smartphones and tablets can handle and automate a portion of many office functions, including dispatch communication, recording time, filling out tickets, and documentation. If these assist tools fail and written communication is still not adequate, managers can always use the carrot of "paperwork accuracy" as a measurable key performance indicator that can help motivate technicians for better performance.

SELF-MANAGEMENT SKILLS

One of the greatest challenges faced by many employees is self-management or the ability to prioritize and complete tasks to achieve a specific outcome within a particular time frame with little oversight. Plumbers often face the additional pressure of having to patiently troubleshoot seemingly impossible problems that are sometimes hidden or do not readily present themselves.



Using good judgment and demonstrating critical thinking are essential parts of self-management. The ability to work through issues without giving up cannot be overlooked. When dealing with customers, plumbers need to show the highest levels of integrity by explaining exactly what needs to be fixed to solve a problem and not overselling the customer with a speculative fix or an additional, unneeded service.

RECRUITING PLUMBERS

Companies whose primary business is plumbing typically recruit from a variety of available sources with non-union competitors with residential and commercial construction being the most viable options. In fact, one plumbing company found that almost 98% of their new employees came from a non-union company with the other two percent switching from construction.

So as a predominately unionized workplace, what are the “pros” and “cons” of hiring a non-union plumber?

Pros of Recruiting from Non-Union Shops

- These plumbers usually do not receive many benefits besides wages, so additional benefits such as health care or pension may prove very enticing. Most have worked very hard for much less compensation in the non-union world.

- They are generally more loyal employees because they don't have a network of other union workers at other companies to compete for their skills. Once they are on board and become acclimated, they usually stay.
- Residential plumbers tend to have excellent customer service skills.
- Many have experience working on commission and get tired of the selling aspect and pressure.
- Sometimes you find a gem.

Cons of Recruiting from Non-Union Shops

- Normally they haven't gone through a formal apprenticeship training program so they may be lacking some skills which they otherwise would have learned during their apprenticeship, particularly knowledge of safety programs such as OSHA 10, OSHA 30, and confined spaces training.
- Many are skeptical of being union as they may not understand what it means or the full range of benefits and opportunities they will receive.
- They often lack experience with the requisite skill set needed for large buildings and facilities because they have primarily worked in the residential/light commercial field.
- The biggest issue is if they come from a commission-based arrangement. They may have developed a "used car salesperson" mentality to upsell the customer with high pressure or unethical methods. To combat this, it is useful to have a zero-tolerance policy that technicians will be immediately let go if they try to sell the customer any product or service they don't need.



Because the available pool of qualified plumbing candidates is relatively small, it may take some creativity to find potential new hires. Paying referral bonuses to existing employees who recommend and/or bring people on board is one way of attracting new plumbers. Reaching out to vendors or suppliers to see if they will allow "now hiring" flyers at their counters is another strategy for obtaining candidates. Moreover, brainstorm ideas with existing employees; their creativity may surprise you.

HIRING PITFALLS

Often in their quest to find a qualified plumber, hiring managers will compromise their standards and hire an individual who is "almost" acceptable. It is most important to remember that "no hire is always better than a poor hire" because a poor hire can hurt your reputation, cost you good customers, and demoralize other employees.



IMPORTANT

Don't sell a candidate on your company until you are sold on the candidate.

When hiring a new plumber, make sure they have critical customer service skills, present well, have a well-written resume, and understand and subscribe to the company's core values. Try to ask questions that will give some indication that the candidate's service orientation and values are a good fit with those of your company.

Personal characteristics that align with company core values may include:

- Service ethic
- Accountability
- Craftsmanship
- Diligence
- Perseverance

It is difficult to do any kind of personality testing prior to hiring, so it may be useful to have the new hire shadow the service manager or other lead technicians during a probationary period. This allows management and the service team time to evaluate his or her skills in the field and assess the individual's personality. The objective is to ensure the new hire is a good fit with the company's culture when working with other associates and customers.

CREATING AND MAINTAINING A CULTURE OF SERVICE

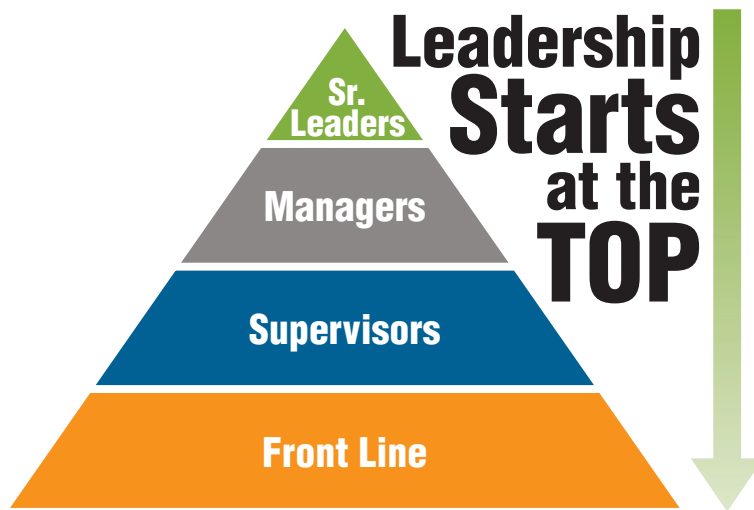
A great service culture comes from customers seeing the entire team work together as one cohesive unit. If the entire office team is not focused on supporting field personnel and trying to make their efforts easier in satisfying the customer, you will certainly not succeed.

Moreover, service leadership in the plumbing industry starts at the top and is very hands-on. You must build leaders who are prepared to throw on the mud boots, jump in, and teach as well as help technicians in a very hands-on way.

Here are some leadership actions that will promote a thriving service culture:

- Explain – don't just implement – any new rules, processes, or procedures. Sharing the reasoning behind the change usually helps with the implementation and getting everyone on board.
- Service managers and leaders must be qualified to ask the right leading questions to help plumbing service employees figure out problems.
- Hold weekly technician meetings to discuss any issues that have arisen in the field and share praise coming from customers as well. Moreover, this is a good opportunity to reinforce safety issues.

- To keep the focus on service to customers and to the other people in the organization, reinforce and ritualize the company's core values with the entire service team during all training and company meetings.
- Encourage the plumbers to interact with each other when it comes to problem solving.
- Constantly reinforce with all employees that the customer is the most important person to the organization. Nobody gets paid if the customer is not happy.
- Offer examples of great customer service.
- Be honest, open, and fair.



PUTTING THE FUN IN PLUMBING

Just like HVACR technicians, plumbers have a dangerous job with long demanding hours in a not-so-inviting environment. This can create high-stress situations. Support from leadership or office personnel can help reduce stress and increase focus on the task the plumber is performing. Leadership can create a work climate that is inviting, respectful, and fun. Some appropriate actions include the following:

- Begin by hiring people who love plumbing. Plumbing may be hard work, but it is a valuable service requiring specialized skills to resolve difficult problems and leave appreciative customers highly satisfied. You can only have fun at work if you enjoy your job.
- Encourage plumbers to share their stories and experiences during service meetings so others can gain an appreciation for what they do.
- Point out quality service successes by all members of the service team so that the new plumbers can see what success looks like.



IMPORTANT

Employees have more fun when they feel appreciated.

- Set up little competitions that will not only break up boredom but also drive those behaviors that need reinforcing.
- Recognize those that go above and beyond.
- Occasionally provide a “free” lunch or breakfast for all service team members just to let them know how much they are appreciated.

SUMMARY

For any business, finding and keeping quality employees is an essential activity that is critical to success. This is especially true for the HVACR provider who is expanding into plumbing services where they do not yet have an established presence and reputation to help draw quality talent from an already-limited pool of candidates.

It is important to maintain high standards and use a systematic approach with good hiring practices to make sure your company can identify and recruit the skilled employees needed. The skilled professionals you find through this process will help you build a highly skilled and motivated team that can exceed plumbing customer expectations and ensure your success in this new market area.

This module covered the skill sets required of plumbing service candidates and sources where qualified candidates may be found, including the pros and cons of hiring from non-union sources. It follows on Modules 1 and 2, which covered the basics of adding plumbing services to an existing HVACR company and potential markets. Modules 4 and 5 are designed to expand your understanding in the areas of establishing financial tools for profitability and implementing effective plumbing operations.

Click here for
MCAA/MSCA
Safety Resources

Or visit:
www.mcaa.org/safety

NEW SAFETY RESOURCES

- NFPA 70E Model Electrical Safety in the Workplace Program (NFPA 70E – 2021)
- NFPA 70E Model Lockout/Tagout for Electrical Safety Program (NFPA 70E – 2021)
- NFPA 70E Worker Safety Training Video (NFPA 70E – 2021)
- Safety Manual for Mechanical Construction Workers
- Safety Manual for Mechanical Service Technicians
- Safety Manual for Mechanical Fabrication Shop Workers
- Refrigerant Safety Training Video for Mechanical Service Technicians
- Hand and Power Tool Safety Training Video for Mechanical Industry Workers
- Aerial Lifts (MEWP) Safety Training Video for Mechanical Industry Workers
- Microlearning Safety Video – Workplace Violence Protection
- MCAA/CNA Microlearning Safety Video – Proper Lifting Techniques
- MCAA/CNA Microlearning Safety Video – Proper Materials Staging
- MCAA/CNA Microlearning Safety Video – Worker Wellness to Prevent Musculoskeletal Injuries
- MCAA/CNA Microlearning Safety Video – Distracted Driving Prevention/Stopping Distance

COMPLETE LIST OF SAFETY RESOURCES

Videos for Worker Safety Training

Hand & Power Tool Safety	2021
Refrigerant Safety for Mechanical Service	2021
Aerial Lift (MEWP) Safety	2021
Electrical Safety for Service (NFPA 70E – 2021)	2021
Workplace Violence Protection (Microlearning Safety)	2021
Excavation Safety	2019
Workplace Violence Prevention & Protection	2017
Musculoskeletal Wellness for Mechanical Construction Workers.....	2017
Safe Pressure Testing of Steel & Copper Piping Systems	2017
Silica	2016
Respiratory Protection	2016
Confined Spaces in Construction	2015
Radio Frequency Radiation Safety Awareness for Service.....	2015
Fall Prevention and Protection	2014
Electric Arc Welding Safety	2014
Workplace Distractions.....	2013
Ladder Safety	2013
Hazard Communication (GHS).....	2012
Line Breaking Safety	2012
Hazard Recognition (Part 2).....	2009
Rigging Safety	2008
Mechanical Service Safety	2008
Fire Safety	2008
Hazard Recognition (Part 1).....	2007
Hexavalent Chromium	2007
Inspecting Materials Handling Equipment	2005
Lockout/Tagout	2005
Electrical Safety (Construction).....	2004
Welding and Cutting Safety	2004
Asbestos Awareness.....	2003
Forklift Safety	2002
Heavy Equipment Safety.....	2002
Scaffold Safety	2002
Bloodborne Pathogens.....	2001

Videos for Supervisor Safety Training

Motion is Money and Safety.....	2019
Fleet Safety for Supervisors	2018
Safety Conflict Resolution.....	2011
Pre-Task Safety and Health Planning	2010
Safety Leadership	2010
Preparing for and Handling OSHA Inspections	2006
Safety Management	2009
Accident Investigations	2002

Toolbox Safety Talks & Tailgate Safety Talks

Tailgate Safety Talks on Refrigerant Safety.....	2020
Fabrication Shops	2016
NCBWB	2012
Mechanical Construction Workers - 6 Volumes.....	2017, 2010, 2007, 2004, 2001, 1997
Mechanical Service Technicians - 2 Volumes.....	2007, 1998
Plumbers.....	2000

Model Safety and Health Programs

Electrical Safety for Service (NFPA 70E – 2021)	2021
Lockout/Tagout for Electrical Safety (NFPA 70E – 2021).....	2021
Model Fall Rescue Plan	2020
Safety and Loss Prevention for Construction	2020
Safety and Loss Prevention for Service	2019
Silica Exposure Control	2018
Confined Spaces in Construction	2015
Hearing Conservation.....	2015
Hazard Communication (GHS).....	2012
Cranes and Derricks.....	2011
Hexavalent Chromium	2006
Job Safety Analysis	2005
Accident Investigation	2005
Mold Prevention	2004
Excavation Safety	2003
Fall Protection	2001
Lead	2000
Bloodborne Pathogens.....	2000
Lockout/Tagout.....	1999
Respiratory Protection	1999

Safety and Health Guides

Pressure Testing	2020
RF Radiation Safety	2019
Safe Line Breaking.....	2019
Safety Incentive Programs.....	2019
Recordkeeping	2019
In-Person Safety Training	2018
Subcontractor Safety Management	2016
Silica	2013
Safety Planning.....	2012
Job Hazard Analysis	2012
Distracted Driving Prevention.....	2011
Qualified Signal Persons	2010
Qualified Riggers.....	2010
Rigging Safety.....	2009
Hazardous Materials Transportation Guide for Service	2005

Safety Manuals

Safety Manual – Construction	2021
Safety Manual – Service.....	2021
Safety Manual – Fab Shops	2021

MCAA COVID-19 Safety Resources

Model COVID-19 Return to Work Exposure Control Plan	2020
Model Plan Checklist.....	2020
Critical Industries Requirements	2020
Jobsite Screening Questionnaire	2020
Person Screening Questionnaire.....	2020
Worker Safety Training PowerPoint with Instructor Notes	2020
Worker Safety Training Test with Answer Key	2020
New OSHA Guidance on Returning to Work.....	2020
Screeener Training PowerPoint with Instructor Notes.....	2020

Supplementary Safety Resources

OSHA Construction Safety Standards..... Most Current Version

General Industry (Service & Fab Shop) Safety Standards..... Most Current Version

OSHA Poster Most Current Version

Hazard Communication Poster..... 2012

Eye Injury Prevention Poster 2000

Eye Injury Prevention Brochure..... 2000

Eye Injury Prevention Fact Sheet..... 2000

Jobsite Inspection Checklist 2000

PowerPoint Safety Training Programs

Refrigerant Safety Training Program (PowerPoint with Notes) 2020

MCAA/CNA Microlearning Safety Video Series

Proper Lifting Technique 2021

Proper Materials Staging to Prevent Musculoskeletal Injuries 2021

Worker Wellness to Prevent Musculoskeletal Injuries..... 2021

Distracted Driving Prevention..... 2021