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# Technical Training

# **Electrical - Technical Service** & Troubleshooting Course









**Course Description –** The majority of field problems in the HVAC industry are the result of electrical system malfunctions. Properly identifying and correcting these malfunctions in a timely manner represents the greatest challenge to the skills of service technicians. This course was specifically designed to address these concerns and give attendees the "technical tools" and confidence necessary to fix the problem right the first time and reduce costly callbacks. The course takes a proven troubleshooting procedures and techniques. residential and light commercial HVAC equipment.

Electrical - Technical Service & Troubleshooting Studies of adult education have identified that the majority of adults learn by doing and our state of the art lab does just that. Technical lecture material taught in the classroom is re-enforced in our supervised troubleshooting lab where students will work on actual equipment and put to practice what was learned in the classroom by troubleshooting actual systems with electrical faults. Attendees are taught practical service procedures and troubleshooting techniques that will enhance their performance back on the job. This course was logical and practical approach in teaching wiring developed for maintenance personnel and service diagram interpretation and the application of time technicians who maintain, troubleshoot, and service

#### **Topics Covered**

Reading and interpretation of various electrical schematics for residential & light commercial heating and cooling systems. Find the sequence of operation

Applying factual ladder schematics and component location diagrams to various systems

Use and application of common electrical meters in electrical troubleshooting

Motor testing & replacement guide

Troubleshooting various printed circuit boards and solid state controls identifying function of boards and testing inputs/outputs

Troubleshoot common electromechanical safety & operating controls

Single and three phase motor theory and construction

Troubleshooting common single and Develop safe electrical troubleshootthree phase motors

Determining cause and failure analysis

Developing a logical approach to troubleshooting and timely correction of system malfunctions prevention of repeat failures

Troubleshooting single phase motor staring gear, hard and soft start kits

Three phase voltage and current imbalance determination

ing practices and procedures. "Hopscotch method of troubleshooting"

# **Course Location**

**Slakey Brothers Training Center** 2215 Kausen Street Elk Grove, CA 95758

### **Course Date and Time**

March 23rd - 27th, 2015 (5 day course) Time: 7:30am - 5:00pm

The 27th will be a half day.

\*Payment and Registration Information On Back

Please Fill Out Form and FAX to: (916) 478-2055

Contact: Merle J. Emmons PH (916) 478-2155 FAX (916) 478-2055 Email memmons@slakey.com

## **Please Note:**

The cost does not include overnight accommodations or meals. Lunch will be provided on the 27th.

Payment; The total due by March 13th, 2015. A payment by credit card can be arranged. Make checks payable to: Air Conditioning Training Specialists, Inc.

HVAC T	echnical S	Service Training Please Print C	Please Print Clearly and Fill in Completely				Registration Form	
Student		Name			Phor	Phone ( )		
		PO Box/Street						
Information		City	State Zip		Zip (	Code		
		Fax ( )	Email					
Company Information		Name			Phone ( )			
		PO Box/Street						
		City	State		Zip (	Zip Code		
		Fax ( )	Point of Contact					
PLEASE CHECK DESIRED COURSE, DATE AND LOCATION			ON	Location		Date	Tuition	
1.   Electrical – Technical Service & Troubleshooting			g Course	Elk Grove, C	CA	Mar 23rd-27th, 2015	\$1,195.00	



# About The Instructor, James P. Curley

President of Air Conditioning Training Specialists, Inc. (ACTS), a company that provides specialized training and services to the HVACR Industry. Prior to starting this company, Jim was a Master Instructor and Instructional Designer with over 35 years experience for the

Commercial Systems and Services Division of Carrier Corporation, a United Technologies Company. Jim's career at Carrier involved assignments based from Syracuse NY, Los Angeles CA, and Phoenix AZ. Jim grew up in the air conditioning business, as his father was a successful contractor in central New York specializing in commercial refrigeration and air conditioning. Jim majored in heating, ventilation, air conditioning, and refrigeration at Hudson Valley Community College and upon completion was hired by Carrier Corporation's headquarters in Syracuse, NY. His first assignment was a technician for the engineering test laboratories from 1969 to 1974. It was in these laboratories that concepts on a piece of paper for equipment design became a reality. Prototype machines were developed and built in a model shop and then tested to meet rigorous manufacturing and industry standards to ensure compliance. This assignment gave Jim the insight to component and system design to add to his practical and theoretical knowledge of air conditioning. From 1974 until his retirement from Carrier in January 2005, Jim was responsible for instructional course development, computer based training programs, scheduling, marketing and implementation of the factory training operations throughout the United States for the North American Operations of Carrier, Bryant, Day &

Night and Payne divisions of Carrier Corporation. Jim was also Carrier's Director of Customer Assurance for the Western United States for the Commercial Unitary Division. This position gave him responsibilities for service engineering and warranty administration on a variety of commercial products. He has designed and managed custom on-site training programs for diverse applications of cooling systems ranging from applications for nuclear power plants, coal mines, oil rigs, submarines, inter-continental ballistic missiles, the federal penitentiary system, water treatment and pumping plants, minesweeping ships and various industrial complexes. He has developed specialized training programs for technician development in air conditioning service, psychrometrics, heat pumps, gas heating, refrigerant management, and chilled water systems. He has conducted several hundred classes and trained several thousand people around the world. Jim has taught on four continents spanning 24 countries. Jim is dedicated to and has extensive training obligations for United States military bases located throughout the world for the US Air Force, US Army and the US Coast Guard. He has written and published training books for Carrier Corporation on product specific equipment, solar energy, air measurement, psychometrics, and advanced heat pump systems. Jim is the author of a technical publication titled "Air Flow Measurement" for the Refrigeration Service Engineers Society's SAMS manual. Jim has developed technical training programs for colleges, trade schools, unions, government agencies, end user customers, trade associations, utilities and air conditioning distributors throughout the United States and is committed to training excellence.