

AMTECH/MCTINA Field Training Schedule

NOTE: ALL FEES LISTED ARE FOR NON-MEMBERS. AMTECH MEMBERS WILL RECEIVE THE APPLICABLE DISCOUNT OFF THE LISTED FEE DETERMINED BY THEIR MEMBERSHIP LEVEL

Location: NA Marine-MCTINA School - Wareham, Massachusetts

January 4, 2011 (Fee \$300)

OB 301-04A Outboard Direct Fuel Injection Technology (DFI) - Mercury Optimax

OB 301-04B Outboard Direct Fuel Injection Technology (DFI) - Yamaha HPDI

January 7, 2011 (Fee \$300)

OB 301-04A Outboard Direct Fuel Injection Technology (DFI) - Mercury Optimax

OB 301-04B Outboard Direct Fuel Injection Technology (DFI) - Yamaha HPDI

OB-301 Outboard Direct Fuel Injection (DFI) Technology

This course will cover the basic operation of the fuel, air, ignition, and lubrication systems of Mercury Optimax and Yamaha HPDI outboard motors. You will be able to then apply that knowledge to troubleshoot and test each system. Included in the course will be a discussion of the tools necessary to test and repair these engines. After taking this course, you will be confident to begin servicing and completing basic repairs to the engines. This is a fast paced course and students should already know the basic operation of the 2-stroke engine. The instructor for this course is **David Eastwood** AMTECH Vice President and instructor from Carteret Community College, Morehead City, NC

Location: NA Marine-MCTINA School - Wareham, Massachusetts

January 5, 2011 (Fee \$300)

OB-302-08 Outboard 4-Stroke Systems Technology

January 6, 2011 (Fee \$300)

OB-302-08 Outboard 4-Stroke Systems Technology

OB-302 Outboard 4-Stroke Systems

This workshop supports all 4-stroke outboard engines. Upon completion of the program the student will have a clear understanding of outboard 4-stroke systems. We will discuss the practical theory and unique 4-stroke function of each system as they relate to the engine and to each other. Systems covered include fuel systems, ignition systems, starting systems, various valve train systems, and others. Emphasis will be on finding engine failure faults, service procedures, and using test equipment. The instructor for this course is **David Eastwood**, AMTECH Vice President and instructor from Carteret Community College, Morehead City, NC.

Location: NA Marine-MCTINA School - Wareham, Massachusetts

February 1-2, 2011 (Fee \$450)

IO 201-08 Advanced Electronic Fuel Injection/Engine failure analysis (MerCruiser)

IO-201 Advanced Electronic Fuel Injection (MerCruiser)

This course is for the advanced technician who has had training in EFI or for the person who wants to

refresh his/her skills. The course will briefly cover Mercury Marine's EFI history with in-depth coverage of the components and their potential failures. It will cover the fuel system, ignition system, and the tools needed to check for proper operation. The MEFI (marine electronic fuel injection) and Motorola 555 systems will be covered. Also in the course, students will learn general maintenance and storage procedures. Students will work on running engines. You will complete troubleshooting tasks using the proper testing equipment. Students will learn the proper processes to effectively diagnose EFI running problems. Instructor for the course is **Bob Hoard**, former Marine Instructor at Oakland Tech Center in Pontiac, MI and a MerCruiser instructor.

Location: NA Marine-MCTINA School - Wareham, Massachusetts

March 1, 2011 (Fee \$300)

OB 102-08 Outboard Electronic Ignition Systems and Diagnostic Software

March 2, 2011 (Fee \$300)

OB 102-08 Outboard Electronic Ignition Systems and Diagnostic Software

OB-102 Outboard Electronic Ignition Systems and Diagnostic Software

Stumped on how to effectively troubleshoot outboard ignition system problems? This class will help you apply the fundamental principles of electronic ignition systems so you can troubleshoot outboard two and four stroke electronic ignition systems. You will gain a better understanding of the operation of electronic ignition systems and their components, and discover new tips and techniques that will build your confidence and greatly reduce your troubleshooting time. Detailed discussions and real engine applications are presented using M.E.D.S., the diagnostic software system from CDI Electronics. Find ways to increase your productivity by learning how to quickly determine if the problem really is ignition or electrical related. All this and much more! Instructor is Thomas "TJ" James, Sales Manager for CDI Electronics.

Location: NA Marine-MCTINA School - Wareham, Massachusetts

March 3, 2011 (Fee \$300)

SS 301-08 EFI Sensors; Function and testing

March 4, 2011 (Fee \$300)

SS 301-08 Engine Diagnostics and Lab Time

SS-301 Engine Diagnostic Equipment and Lab Time

This course is designed to provide the service technician with the options available for diagnosing marine engine problems. This course covers the different types of equipment used in the field. From manufacturer engine software to Engine Diagnostic Computers and Code Readers, interpreting this data has been challenging to understand. Good interviewing skills, that we will discuss, will provide you with helpful troubleshooting clues. We will also discuss the latest new tool on the scene a "Lab Scope". You will understand their role in diagnostics, and know their usage and benefits. Students can use this equipment on running engines to get some hands on experience with a variety of diagnostic tools available. John Bernier, instructor for NA Marine-MCTINA in Wareham, MA teaches this course.

Location: NA Marine-MCTINA School - Wareham, Massachusetts (3 day course)

We will run this course in March if there is enough interest... Sign up now..!!

C.D.I.'s O/B IGNITION SCHOOL (fee \$600)

Learn everything about outboard electronic ignitions from the early battery CD ignitions to the advanced systems used today. This is a good intermediate to advanced course taught by the instructors at the CDI/RAPAIR school in Alabama. Extensive hands on as well as “bugged” engine trainers will be part of the course.

Topics to be covered include:

Basic electrical

- a. Basic concepts of power, current, voltage
 - b. Resistance and wires
 - c. Diodes and components
 - d. Electronic test equipment
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2. Boat-tronics 101
 - a. Batteries, flywheels and stators
 - b. Ignition systems
 - i. Battery
 - ii. CDI
 - iii. TDI
 - c. Charging systems
 - d. Timing systems
 - i. Mechanical
 - ii. Electronic
 - e. Power packs and switch boxes
 - f. Ignition coils, plug wires and spark plugs
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3. Alternator Driven Ignition systems
 - a. Description
 - b. Operation
 - c. Component Testing
 - d. Troubleshooting
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4. Optical ignition system
 - a. Description
 - b. Optical sensors
 - c. Power pack functions
 - d. Troubleshooting