

Cylinder Head and Machinist Certificate Program

In the 1970s, following a love of engines, Gary Lewis began developing an Automotive Machining Program at De Anza College in Cupertino, California. With this assignment, he learned that he had to develop his own teaching materials with an appropriate mix of machining and engine technologies. Other materials at the time were either entirely academic or limited to parts replacement and assembly. Nothing addressed engine machining requirements in depth as needed for engine building. Slowly, materials developed for instruction in this program accumulated to become the current book, *Automotive Machining & Engine Repair* (used as a syllabus for this program).

From the start, the book has been regularly updated as technology and applications develop. Part of Lewis' role in education was apprenticeship-related training. However, over time, not only have apprenticeship programs diminished, shop programs in high schools have been reduced or eliminated. The challenge for our time is to offer training for those seeking to enter careers in our field in the absence of widespread training opportunities in schools or on-the-job.

We need apprentice training for the 21st century. To this end, on AERA's initiative and with help from Gary Lewis, we now offer the related training via the internet. This makes training developed specifically for engine builders available according to their personal schedules and regardless of local education opportunities.

The information in this program is presented from the view of engine machine shop operations. Basic procedures are selected from those with wide industry acceptance and represent well-balanced and competent "state of the art" practice. Also included are principles that relate to both rebuilding to original specifications and performance engine building.

What is unique about this training? Lewis has found in his experience that many apprentices and machinists missed out on fundamentals that would help them understand the mechanisms and processes that they work with everyday. A better understanding of fundamentals helps them solve on-the-job problems and better understand new technologies as they cross their paths.



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AERA ONLINE TRAINING

Cylinder Head and Machinist Certificate Program



About the Program

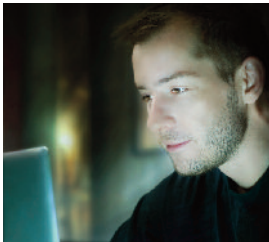
Each program is an online, self-paced course with up to one year to complete. Gary Lewis' book, *Automotive Machining & Engine Repair*, will be included with the \$150 registration fee. Everything a technician will need is contained in the program with video clips and supplemental readings at key locations within the program. The book will be used as a syllabus when not online. Each chapter will be followed by a multiple choice test. There will be a final exam for each certification, Cylinder Head and/or Engine Machinist.

All interested in finding out more about this exciting, new certificate program, please call AERA at 815-526-7600, extension 202 and ask for Karen Tendering — or email karen@aera.org. Karen can answer all your questions and when ready, register you to begin the program.



BENEFIT TO THE SHOP OWNER

Knowing that a prospective employee holds an AERA Certificate of Completion in Cylinder Heads and/or Engine Machinist increases your likelihood of hiring a productive and trainable shop technician. A new hire with an AERA certificate improves your chance of hiring and keeping qualified shop personnel.



BENEFIT TO THE TECHNICIAN

An AERA Certificate of Completion means you have successfully finished a difficult program designed to teach and test detailed skills and practices of an operating engine machine shop. It elevates your status and chances of hire with prospective employers looking for qualified, teachable employees.

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— Gary Lewis,
Instructor and Author

CERTIFICATE PROGRAM

AERA has long wanted to construct a program that offers shop owners and technicians something that not only tests knowledge and understanding, but could also fill information gaps along the way. AERA now offers a comprehensive online training program (not just a test) leading to diploma-quality certificates in Cylinder Heads and Engine Machinist. Technicians who successfully earn either certificate will hold proof that they have an elevated understanding of machining fundamentals, measuring tools, shop safety, fasteners, engine theory, engine diagnosis, engine disassembly, component cleaning, inspection, crack detection and repair, component reconditioning and cylinder head and block resurfacing.

Successful completion of one or both certificate programs benefits technicians and shop owners alike. Shop owners looking at prospective employees holding an AERA Certificate of Completion in Cylinder Heads and/or Engine Machinist increases the likelihood of hiring a productive and trainable shop technician.