



American V-Twin Specialist

The American V-Twin Specialist program provides students with learning experiences which will enable them to learn industry job functions and attain service, maintenance and diagnostic skills on the American V-Twin motorcycle. The program covers core information on motorcycle internal combustion engines, primary drive operation, transmission power flow, fuel system operation, electrical and suspension systems. Utilizing service center environment methods, the course prepares the student to understand and practice multiple roles and job functions used in the field. Students will focus on V-Twin engine technology, chassis service and repair, and engine management systems. The course covers model specific maintenance procedures and drivability diagnosis skills, as well as fuel systems and electrical troubleshooting. The successful student will be able to build a custom motorcycle from a variety of engines, frames, wheels and suspension components and will tune and test on a motorcycle dyno.

<u>Course</u>	<u>Course Title</u>	<u>Clock Hours</u>	<u>Weeks</u>	<u>Quarter Credit Hours</u>
PSI-101	Engine Systems – Core Skills	75	3	4.5
PSI-102	Fuel Systems Maintenance & Repair	75	3	4.0
PSI-103	Intro to Electrical Systems	75	3	4.5
PSI-104	Chassis & Suspension Systems Service	75	3	4.0
PSI-105	Advanced Electrical Systems	75	3	4.5
PSI-106	Periodic Maintenance and Tire Service	75	3	4.5
VTS-101	V-Twin Technology	450	18	26.0
VTS-102	Victory Technology	75	3	4.5
VTS-103	Custom Motorcycle Building	225	9	13.0
		1200	48	70.00

PSI-101 Engine Systems – Core Skills

This module is designed to provide students with an understanding of 4-stroke and 2-stroke engine operation, part/component identification, disassembly and assembly of an engine to working order and manufacturer specifications. Students will develop basic engine service procedure skills while properly utilizing the textbook/workbook, shop resource materials, and the Resource Center. Students will learn hand tool identification and use, fastener identification, shop manual usage, measuring tools, and will be able to measure engine parts during disassembly.

PSI-102 Fuel Systems Maintenance & Repair

This module is designed to provide students with an understanding of power sport vehicle fuel systems and carburetion. Students will learn mechanical diagnostics including compression and leak-down tests and valve adjustments. Students then continue with carburetor fuel circuits in mechanical slide and CV carburetors and include carburetor disassembly, component identification, cleaning, and rebuilding to manufacturer specifications and perform carburetor synchronization and idle drop tests on running vehicles while utilizing his textbook/workbook, shop resource materials, and the Resource Center.

PSI-103 Intro to Electrical Systems

This course provides experiences which will enable the successful student to learn electrical systems operation, test equipment usage, electrical system testing procedures and properly utilize the resource material and Resource Center. Accessories, lighting, starting systems, and batteries are studied along with an introduction to electrical troubleshooting and diagnostic procedures.

PSI-104 Chassis and Suspension Systems Service

This course prepares students for chassis service, and final drive operations, and repair procedures including general maintenance procedures on motorcycle chassis and suspension systems. A focus on suspension technology will be presented to provide core skill information and hands-on workstations to become familiar with suspension adjustments and service, repair procedures, and properly utilize the resource material and resource library. Successful students will be able to perform general maintenance procedures on steering head bearings, swing arm bearings and or bushings, brakes systems and suspension systems.



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PSI-105 Advanced Electrical Systems

This course provides experiences which will enable the successful student to gain further knowledge of electrical systems, advanced test equipment usage, electrical system testing procedures and proper utilization of the resource material and Resource Center. Ignition and charging systems are studied as well as the troubleshooting and diagnostic procedures for vehicle electrical systems.

PSI-106 Periodic Maintenance and Tire Service

This course prepares students for manufacture periodic service procedures and tire change procedures on motorcycle and ATV vehicles. A focus on manufacture periodic service procedures will be presented to provide core skill information and hands-on workstations to become familiar with service, repair procedures, and properly utilize the manufacture service material and resource library. The course will also prepare students to tire changing procedure for tube and tubeless style wheels and to how to properly balance a tire. Successful students will be able to perform periodic maintenance procedures and tire changes on various powersport vehicles.

VTS-101 V-Twin Technology

This course consists of six 75-hour regiments covering V-Twin Engine, Fuel, Electrical, Driveline/ Suspension, Vehicle Maintenance & Assessment. This manufacturer course supported by Victory motorcycles and S&S Cycles provides students an opportunity to complete the requirements for Victory Manufacturer Service Dealer Training (MSD) recognition. This course introduces students to V-Twin engine technology, which enables the successful student to develop the skills and knowledge required to service and repair Harley-Davidson, Victory, and S&S engines. Harley-Davidson and V-Twin electrical system testing, and troubleshooting is practiced to be able to diagnose V-Twin charging, ignition, starting and lighting systems issues. Students will perform general maintenance procedures on V- Twin motorcycles, including fuel system which provides a solid understanding of motorcycle engine management systems fuel injection software operation information and diagnosis procedures.

VTS-102 Victory Technology

The course focuses on Victory fuel system technology so that students will gain a solid understanding of fuel injection engine management systems operations and diagnostic procedures. Given services maintenance procedures the successful student will be able to perform maintenance service intervals procedures including changing oil, valve adjustments, cable adjustments, and final drive adjustments on Victory motorcycles. Utilizing Victory fuel injection software and equipment, students gain experience on troubleshooting fuel and electrical drivability issues.

VTS-103 Custom Motorcycle Building & Performance

This course focuses on understanding the methods and procedures of building and assembling a custom motorcycle. The successful student will build a rolling chassis; install an engine, primary and drive systems, an electrical system wiring harness, fuel system and lighting system.