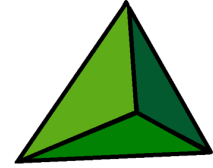




**ECONOMIC &  
WORKFORCE  
DEVELOPMENT**  
*through the*  
CALIFORNIA  
COMMUNITY  
COLLEGES

**BUSINESS AND WORKFORCE  
PERFORMANCE IMPROVEMENT INITIATIVE**



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**Occupational Profile Report  
Focus On: Orange County**

# **Motorcycle Mechanics**

**At-a-Glance**



**Center of Excellence**

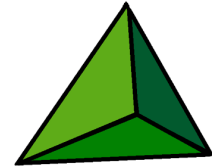
**Rancho Santiago Community College District**

**July 2007**



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# **Strategic Possibility Report for Orange County Community Colleges**

## **Motorcycle Mechanics**

**July 2007**

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THE BUSINESS AND WORKFORCE PERFORMANCE IMPROVEMENT INITIATIVE IS FUNDED IN PART BY THE CHANCELLOR'S OFFICE, CALIFORNIA COMMUNITY COLLEGES, ECONOMIC AND WORKFORCE DEVELOPMENT PROGRAM. THE TOTAL GRANT AMOUNT (GRANT NUMBER 06-305-010 FOR \$205,000) REPRESENTS COMPENSATION FOR MULTIPLE DOCUMENTS OR WRITTEN REPORTS THROUGH THE CENTERS OF EXCELLENCE.

OUR MISSION IS TO STRENGTHEN CALIFORNIA'S WORKFORCE AND ADVANCE ECONOMIC GROWTH THROUGH EDUCATION, TRAINING AND JOB DEVELOPMENT.

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**California is currently home to an estimated 3,117 Motorcycle Mechanics. Only a 7.43% increase is projected between 2006-2010 resulting in 232 additional jobs statewide – none of which are projected for Orange County.**

*– Source: CC Benefits, 2007*

## **Executive Summary**

When analyzing both public and private data sources, Orange County is home to an estimated 326 Motorcycle Mechanics. However, only a projected 326 mechanics will be needed in 2010 yielding a zero net increase, and only 40 replacement job openings within the region.

As expected, 72% of the 246 regional employers of Motorcycle Mechanics are small “mom and pop” garages with 3, or less, employees. Industry representatives stated that this occupation is primarily learned on-the-job within family-owned and operated businesses. Moreover, there are six existing certificate and degree programs for Motorcycle Mechanics throughout the state with a seventh emerging in Fall 2007 in San Diego (see Appendix D). At the printing of this report, these programs collectively enroll more than 400 students statewide. At this pace, the existing programs will supply more than the projected need of 326 mechanics by 2010 even when accounting for replacement jobs.

Thus, at this time, there is not a significant economic impact, industry need, nor concentration of employers to warrant a community college response in Orange County. However, if the sales of motorcycles increase along with the Orange County population in the years to come and/or if the new program at SD Miramar College becomes impacted, this program opportunity should be revisited. Any college seriously considering starting a Motorcycle Technician program should reference *A Blueprint for the Establishment of a Community College Motorcycle Maintenance Program* as discussed on page 17.



## **Introduction**

The purpose of a Strategic Possibility Report is to determine if the workforce needs of a particular industry or occupation warrant an organized response from local community colleges. Five main criteria are used to establish the value of a Strategic Possibility including: size, relevance, economic impact, high growth, and leveraging. A Strategic Possibility report identifies industries and occupations that meet some, but not all, of the aforementioned criteria. While a response may be appropriate for a specific college, a strategic response from multiple districts within a region is not warranted.

The focus of this study is solely the Motorcycle Mechanic occupation. This report does not take into account off-road vehicles, motorcycle safety classes, or agricultural vehicles (each of which may require specific, future investigation).

## **Occupation Description<sup>1</sup>**

Motorcycle Mechanics diagnose, adjust, repair, and overhaul motorcycles - but they also work on motor scooters, mopeds, dirt bikes, all-terrain vehicles and similar motor vehicles. Mechanics often service just a few makes and models of motorcycles, because most work for dealers that service only the products they sell.

Mechanics listen to engines, examines a vehicle's frame, and confers with customer to determine the nature and extent of a malfunction or damage. They connect test panels to engines and measure generator output, ignition timing, and other engine performance indicators. Mechanics dismantle engines and repairs/replaces defective parts, such as magnetos, carburetors, and generators. They remove cylinder heads, grinds valves, scrapes off carbon, and replaces defective valves, pistons, cylinders, and rings using both hand tools and power tools.

They may also hammer out dents and bends in frames, weld tears and breaks, and reassemble and reinstall engines. Mechanics repair and adjust clutches, brakes, and drive chains. They also repair or replace other motorcycle and motor scooter parts, such as spring forks, headlights, horns, handlebar controls, valve releases, gear levers, gasoline and oil tanks, starters, brake levers, and mufflers. Some mechanics may specialize in the repair of motor scooters and be designated as a Motor-Scooter Repairer. There is a distinction between a Motorcycle Mechanics and a small engine (e.g. lawn mower) mechanic or hobbyist.

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<sup>1</sup> Bureau of Labor Statistics

## Earnings<sup>2</sup>

Salaries for Motorcycle Mechanics and Technicians vary greatly depending on experience, location within the state, and level of responsibility.

Median annual earnings within Orange County were \$38,530 in May 2007. Hourly wages, however, vary between \$12.63 and \$30.07.

Location	Pay Period	2007				
		10%	25%	Median	75%	90%
United States	Hourly	\$9.00	\$11.21	\$14.16	\$18.05	\$22.71
	Yearly	\$18,700	\$23,300	\$29,500	\$37,500	\$47,200
California	Hourly	\$10.88	\$13.59	\$17.62	\$22.69	\$26.68
	Yearly	\$22,600	\$28,300	\$36,600	\$47,200	\$55,500
Santa Ana-Anaheim-Irvine (Orange County), CA MSA	Hourly	\$12.63	\$14.42	\$18.53	\$24.83	\$30.07
	Yearly	\$26,262	\$29,987	\$38,530	\$51,646	\$62,547

## California Employment<sup>3</sup>

When analyzing both public and private data sources (not just the state's Labor Market Information), California is currently home to an estimated 3,117 Motorcycle Mechanics. Only a 7.43% increase is projected between 2006-2010 resulting in 232 additional jobs.

From the 3,117 jobs in 2006, the largest concentration of jobs are located within Los Angeles County (766), followed by San Diego (305), and Orange Counties (326).

When evaluating which industries currently hire Motorcycle Mechanics, the top two industries are "Other Motor Vehicle Dealers" (North American

Motorcycle Mechanics 2006 - 2010	
2006 CA Jobs	3,117
2010 CA Jobs	3,348
Total Change	232
Total % Change	7.43%

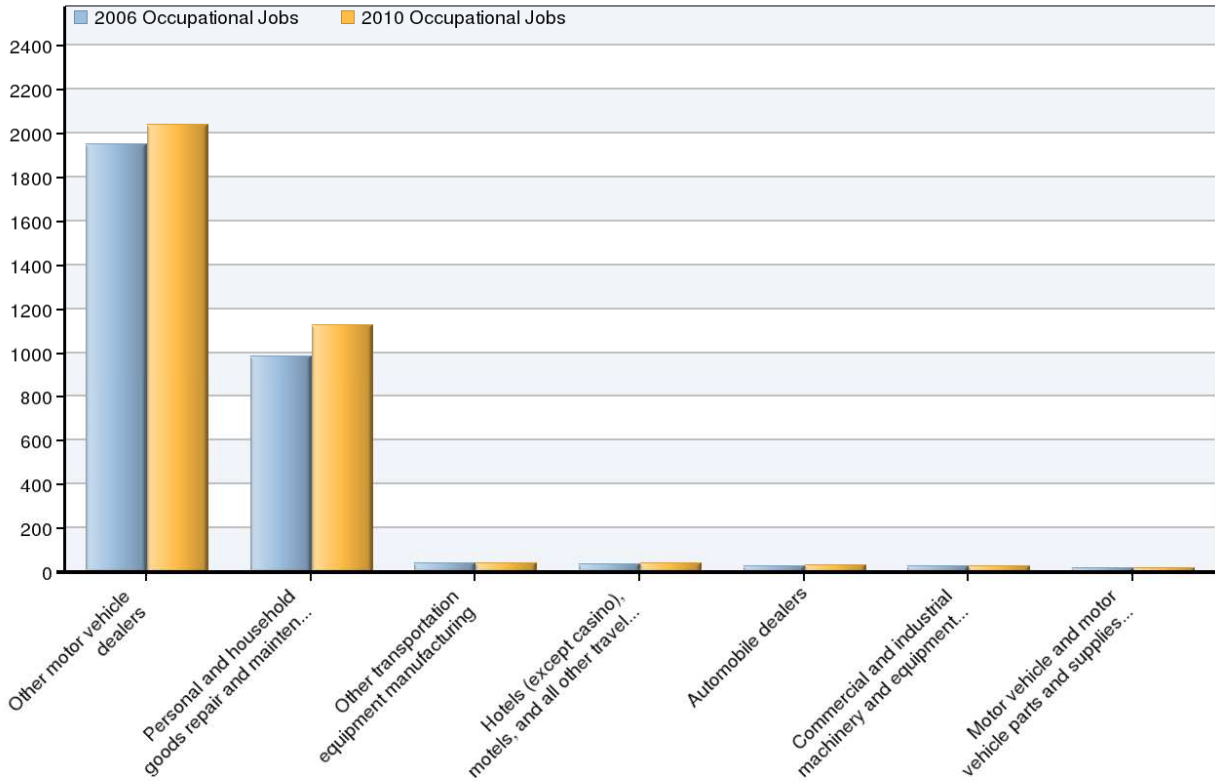


<sup>2</sup> Source: Employment Development Department, LMID

<sup>3</sup> Source: Occupational Employment Statistics Survey, LMID, and 65 other sources via EMSI's CC Benefits.

Industry Classification System #44120) and the “Personal and Household Goods Repair and Maintenance” sector (North American Industry Classification System #81140). The projections for both of these industries within California are very moderate within the next 4 years.

### Top Industries for Selected Occupation



Source: CCbenefits, 2007

### California Projections

NAICS Code	Industry Title	2006 Jobs	2010 Jobs	Change	% Change
44120	Other motor vehicle dealers	1,952	2,038	86	4%
81140	Personal and household goods repair and maintenance	989	1,127	138	14%
33690	Other transportation equipment manufacturing	41	42	1	2%
7211A	Hotels (except casino), motels, and all other traveler accommodation	34	39	5	15%
44110	Automobile dealers	28	31	3	11%
81130	Commercial and industrial machinery and equipment (except automotive and electronic) repair and maintenance	26	27	1	4%
42310	Motor vehicle and motor vehicle parts and supplies merchant wholesalers	16	16	0	0%

## Regional Employment Projections<sup>4</sup>

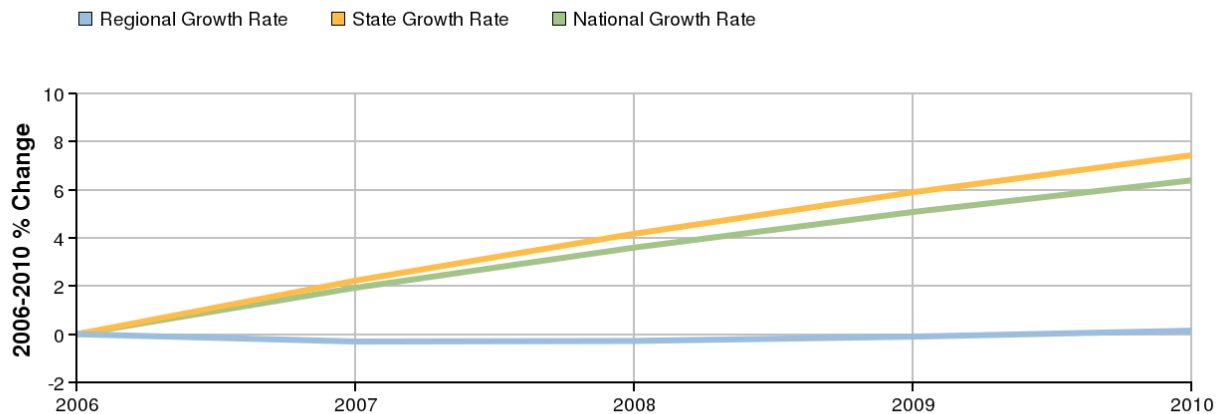
When analyzing both public and private data sources (in addition to the state's Labor Market Information), Orange County is home to an estimated 313 Motorcycle Mechanics.

Given population and aging trends, demographics, and even factoring for the increasing popularity of motorcycles within the baby boomer generation, only a projected 326 mechanics will be needed in 2010 in our region.

Motorcycle Mechanics 2006 - 2010	
Regional 2005 Jobs	326
Regional 2010 Jobs	326
Total Change	0
Total % Change	0%
Replacement Jobs	40

Even with the staggering population growth Orange County will experience in the future, the counties anticipated need for Motorcycle Mechanics is just 40 replacement openings. Perhaps if employment projections were to significantly change in the future, Orange County would be a justified location as opposed to other regions within California. However, with existing programs in Los Angeles and Glendora, with one program forthcoming in San Diego, a program in our region is not warranted nor recommended at this time.

### Occupational Change Summary



Source: CCBenefits, 2007

Region	2005 Jobs	2010 Jobs	Change	% Change	Hourly EPW
Regional Total	326	326	0	0%	\$17.89
State Total	3,075	3,348	273	9%	\$15.68
National Total	24,626	27,057	2,431	10%	\$13.20

<sup>4</sup> Source: Bureau of Labor Statistics, Occupational Employment Statistics Survey, LMID, and 65 other sources via EMSI.

## **Related Occupations**

Often times in developing a new program, the question of relatable and transferable skills arises. From what occupations could we find candidates that would make good Motorcycle Mechanics after some initial training? Into what occupations could a person advance after becoming a Motorcycle Mechanic? The research suggests that related occupational profiles and career paths with similar skill requirements include:

- Bicycle Repairers
- Bus and Truck Mechanics and Diesel Engine Specialists
- Electric Motor, Power Tool, and Related Repairers
- Heating, Air Conditioning, and Refrigeration Mechanics and Installers
- Home Appliance Repairers
- Locksmiths and Safe Repairers
- Motorboat Mechanics
- Outdoor Power Equipment and Other Small Engine Mechanics



## **Motorcycle Sales & Registrations**

One factor that will obviously influence the projected need of motorcycle mechanics is the retail sales figures of motorcycles within California. Naturally, more bikes on the road equates to more mechanics needed. Statistics reported by the Motorcycle Industry Council indicate that an estimated 166,280 new motorcycles were sold in California in 2005.<sup>5</sup> This represented 14.47% of all new motorcycle retail sales in the United States for that year. (Data from previous years was not available from the MIC for comparison).

According to the US Department of Transportation's Federal Highway Administration, 675,336 motorcycles (private, commercial, and publicly owned) were registered in California in 2005 compared to 532,053 in 1995.<sup>6</sup> Following a sharp decline in motorcycle registrations throughout the 1990s (See Appendix F) California has experienced a sharp increase in motorcycle registrations since 1998. This has resulted with increased motorcycles on the roads and highways. Assumedly, this is a combined result of population growth and increasing gas prices. The rate of motorcycle sales and registrations should continue to be monitored as an indicator of projected motorcycle technician needs.

<sup>5</sup> 2005 MIC Retail Sales Report, Motorcycle Industry Council, Inc. Irvine California, January 2006.

<sup>6</sup> Office of Highway Policy Information reports (<http://www.fhwa.dot.gov/policy/ohpi/qfvehicles.htm>)

## Employer Profile

When analyzing companies within Orange County that would potentially hire Motorcycle Mechanics, they primarily fall into two different industries:

### All Other Motor Vehicle Dealers (441229)

*This U.S. industry comprises establishments primarily engaged in retailing new and/or used utility trailers and vehicles (except automobiles, light trucks, recreational vehicles, motorcycles, boats, motor scooters, motorbikes, off-road all-terrain vehicles, and personal watercraft) or retailing these new vehicles in combination with activities, such as repair services and selling replacement parts and accessories.*

### Other Personal and Household Goods Repair and Maintenance (811490)

*This industry comprises establishments primarily engaged in repairing and servicing personal or household-type goods without retailing new personal and household-type goods (except home and garden equipment, appliances, furniture, and footwear and leather goods). Establishments in this industry repair items, such as garments; watches; jewelry; musical instruments; bicycles and motorcycles; motorboats, canoes, sailboats, and other recreational boats.*

According to InfoUSA (a private employer database) there were 246 employers in these two industries within Orange County in 2006. These companies employed 1,710 employees (within all occupations) and declared a combined \$317,369,000 in sales for 2005. However, as expected, most of these 246 employers are small “mom and pop” garages with less than 3 employees.

#### Size Distribution of Employers within Orange County

<i>Employee Size of Firm</i>	<i>No. of Firms</i>	<i>% of total</i>	<i>Total Number of Employees</i>	<i>Employment % of total</i>
1	66	26.8%	66	3.8%
2 - 3	112	45.5%	312	18.2%
4 - 6	25	10.4%	123	7.1%
7 - 10	13	5.2%	111	6.4%
11 - 50	27	10.9%	600	35.4%
50+	3	1.2%	498	29.1%
<i>Total</i>	<i>246</i>	<i>100%</i>	<i>1,710</i>	<i>100%</i>

Source: Info USA 2005 data (Issued 2006)

Within these industries, the 3 largest employers in the Orange County are:

Adams Rite Aerospace Inc.	Fullerton	222 employees
Driessen Aircraft Interior Systems	Garden Grove	200 employees
C-FAB	Costa Mesa	76 employees

## Education/Certifications

Motorcycle Mechanics usually need one or two years of training involving both on-the-job experience and informal training with experienced workers to be successful. The most common instructional program related to this occupation is entitled: *Motorcycle Maintenance and Repair Technology/Technician*.

### Distribution of Educational Attainment

Occupation	Percent of employees aged 25 to 44 in the occupation whose highest level of educational attainment is-		
	High School or Less	Some College	Bachelor Degree or More
Motorcycle Mechanics	59.6%	33.5%	6.9%
Vehicle and Mobile Equipment Mechanics, Installers, and Repairers	66.6%	27.5%	5.9%
Installation, Maintenance, and Repair	54.2%	37.3%	8.5%
Total, All Related Occupations	40.5%	27.4%	32%

There are no state certificates or licensing requirements to gain employment as a Motorcycle Mechanic. However, in addition to general training courses, there are Manufacturer-branded technician training program offerings that could aid in gaining employment. Dealers can send mechanics to gain certifications directly from the manufacturer; from which annual 1-2 classes are offered teaching model changes and providing upgrade skill training. These programs are sponsored by:

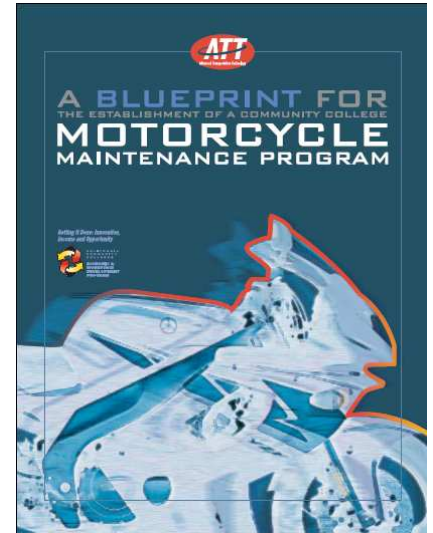
- American Honda Motor Co. Inc.
- American Suzuki Motor Corporation
- BMW Motorrad, USA
- Harley-Davidson Motor Co.<sup>7</sup>
- Kawasaki Motors Corp., USA
- Yamaha Motor Corp., USA

There are six existing training and degree programs for Motorcycle Mechanics throughout the state, and a seventh will begin in Fall 2007 (see Appendix D). Four are located throughout Southern California and three are located within Northern California. This provides a great geographical spread of programs for California residents. Personal interviews indicate that the number of existing programs is sufficient in light of the projected need. **There are over 400 students currently enrolled in Motorcycle Technician programs statewide.** At this pace, the seven existing programs will supply more than the projected statewide need of 237 motorcycle mechanics by 2010 (also accounting for those that enroll for personal use not for

<sup>7</sup> Harley-Davidson owns the Motorcycle Mechanics Institute, so while they may be supportive of new programs in California, they are in direct competition for students via MMI's Arizona campus.

career advancement). However, if motorcycle retail sales and the corresponding registration numbers increase in the years to come (and/or if the new program at San Diego Miramar College becomes impacted) this program opportunity should be revisited.

The Advanced Transportation Technologies and Energy (ATTE) Initiative through the California Community College's Economic and Workforce Development Program have experienced some success at Sacramento City College with their Motorcycle Maintenance Technology Program. In 2004, Peter Davis, Phil Cypret and Ed Gallup wrote a proposal called *A Blueprint For The Establishment of a Community College Motorcycle Maintenance Program*, or The Blue Book, which was sent to all the California Community Colleges. It is a step-by-step guide to setting up a Motorcycle Program parallel to SCC's. In 2005, they wrote another book, *The Motorcycle Curriculum Guide* or Red Book, which includes a completely upgraded and updated version of SCC's Motorcycle curriculum, our DACUM study and DACUM guide, and Approval Data was designed for use by any CCC interested in working with SCC to develop their own Motorcycle Program to provide their students with the best training and their local industry with qualified motorcycle technicians.<sup>8</sup> For more information or for a copy of the Blue Book or a Red Book, contact the ATTE Statewide Director, Peter Davis, at [outrchpd@mac.com](mailto:outrchpd@mac.com).



Note that there was an attempt to offer a Motorcycle Mechanic program through Community Education (at West Valley College) between 2004 - 2006. The program was discontinued due to difficulty filling classes. However, their administration suggests that Motorcycle safety classes could be a viable option for Contract Education units. For more information about motorcycle safety classes, reference the California Motorcyclist Safety Program at <http://www.ca-msp.org>.

## Conclusion

There are seven training and degree programs for Motorcycle Mechanics throughout the state to adequately support the projected need of 40 replacement job openings. While the scope of training is relevant for the Community Colleges and this opportunity should be monitored moving forward, the occupation is not projected to grow at a pace that outstrips the current supply chain of trained workers. Thus, a significant community college response within Orange County is not warranted at this time.

Further investigation of Motorcycle Safety classes may be a viable option for Contract Education units to consider.

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<sup>8</sup> EWD Newsletter. The Motorcycle Maintenance Technology Program at Sacramento City College Enjoying Success.

## References

2005 MIC Retail Sales Report. (January 2006). Motorcycle Industry Council, Inc. Irvine California

Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2006-07 Edition*

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Info USA 2005 data (Issued 2006)

Internet System for Education and Employment Knowledge

Labor Market Information: Employment by Industry Data. (September 2006).

Occupational Information Network (o\*net Resource Center)

Roadmap to Industry Clusters (2004) Los Angeles County Economic Development Corporation

San Bernardino County Comprehensive Economic Development Strategy (CEDS)

U.S. Census Bureau (2005) California's County Business Partners

U.S. Department of Labor ETA – Occupational Outlook

U.S. Department of Labor - Career InfoNet

U.S. Department of Transportation. Federal Highway Administration's Office of Highway Policy Information.

USWorks, a division of ERISS

## **APPENDIX A: How to Utilize this Report**

### ***About Us - Description of BWPI***

The Business and Workforce Performance Improvement (BWPI) initiative is focused on building the capacity of the colleges in the area of economic and workforce development to enhance their ability to deliver education and training services to businesses and workers in high growth industries, new technologies, and other clusters of opportunities.

The Centers of Excellence (COE) within BWPI provide information regarding workforce trends, increasing awareness and visibility about the colleges economic and workforce development programs and services, and building partnerships with business and industry.

The difference this will make to the colleges is that it will position them as THE workforce partners of choice to business and industry and ensure that college programs are current and responsive. This will contribute to the overall economic vitality of the communities in which they serve.

### ***How to Use This Strategic Possibility Report***

The Centers of Excellence within the Business and Workforce Performance Improvement Initiative of the California Community College Economic and Workforce Development Program have undertaken Industry Scanning to provide targeted and valuable information to community colleges on high growth industries and occupations.

This report, while not a full industry scan, is intended to assist the decision-making process of California community college administrators and planners in addressing local and regional workforce needs and emerging job opportunities in the workplace as they relate to college programs. The information contained in this report can be used to guide program offerings, strengthen grant applications, and support other economic and workforce development efforts.

This report is designed to provide current industry data that will:

- Define potential strategic opportunities relative to an industry's emerging trends and workforce needs;
- Influence and inform local college program planning and resource development; and
- Promote a future-oriented and market responsive way of thinking among stakeholders.

This Industry Scan included a review of the California Regional Economies Project reports and Employment Development Department (EDD) Labor Market Information (LMID) projections that cover the communities in this region, as well as many other sources as listed.

### ***Important Disclaimer:***

All representations included in this Environmental Scan product/study have been produced from a secondary review of publicly and/or privately available data and/or research reports. Efforts have been made to qualify and validate the accuracy of the data and the reported findings. The purpose of the Environmental Scan is to assist the California Community Colleges to respond to emerging market needs for workforce performance improvement. However, neither the Business and Workforce Performance Improvement Centers of Excellence, COE host college or California Community Colleges Chancellor's Office are responsible for applications or decisions made by recipient community colleges or their representatives based upon this study including components or recommendations.



## **APPENDIX C: Titles & Data Descriptors**

Motorcycle Mechanics are also reported to have job titles such as Motorcycle Technicians, Mechanics, Service Technicians, All Terrain Vehicle Technicians (ATV Technician), Motorcycle Service Technicians, Custom Bike Builders, Motor sports Technicians, or Scooter Mechanics.

### Data Descriptors for Motorcycle Mechanics:

DOT (Dictionary of Occupational Titles)	620281054 Motorcycle Repairer 620684026 Motorcycle Subassembly Repairer
AIM (Apprenticeship Information Management)	0356 MOTORCYCLE REPAIRER
CEN (1990 Census Occupations)	509 Small Engine Repairers
CIP (Classification of Instructional Programs)	470611 Motorcycle Mechanic and Repairer
GOE (Guide for Occupational Exploration)	051002 Crafts: Mechanical 050509 Craft Technology: Mechanical Work
OES (Occupational Employment Statistics)	85308 Motorcycle Repairers
SOC (Standard Occupational Classification)	49-3052 Motorcycle Mechanics

## APPENDIX D: Occupation Overview

### Knowledge, Skills, & Abilities<sup>9</sup>

The most important knowledge, skills, and abilities for Motorcycle Mechanics are:

#### Knowledge:

- **Mechanical** — Knowledge of machines and tools, including their designs, uses, repair, and maintenance.
- **Customer and Personal Service** — Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.
- **Design** — Knowledge of design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.
- **Computers and Electronics** — Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.
- **Mathematics** — Basic knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.
- **Production and Processing** — Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods.

#### Skills:

- **Repairing** — Repairing machines or systems using the needed tools.
- **Troubleshooting** — Determining the causes of operating errors and deciding what to do about it.
- **Equipment Maintenance** — Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.
- **Active Learning** — Understanding the implications of new information for both current and future problem-solving and decision-making.
- **Equipment Selection** — Determining the kind of tools and equipment needed to do a job.
- **Reading Comprehension** — Understanding written sentences and paragraphs in work related documents.
- **Complex Problem Solving** — Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.
- **Active Listening** — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

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<sup>9</sup> Source: O\*Net online

- **Installation** — Installing equipment, machines, wiring, or programs to meet specifications.
- **Critical Thinking** — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.



#### **Abilities:**

- **Manual Dexterity** — The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.
- **Arm-Hand Steadiness** — The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
- **Hearing Sensitivity** — The ability to detect or tell the differences between sounds that vary in pitch and loudness.
- **Problem Sensitivity** — The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- **Deductive Reasoning** — The ability to apply general rules to specific problems to produce answers that make sense.
- **Inductive Reasoning** — The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).
- **Near Vision** — The ability to see details at close range (within a few feet of the observer).
- **Oral Comprehension** — The ability to listen to and understand information and ideas presented through spoken words and sentences.
- **Control Precision** — The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.
- **Finger Dexterity** — The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.

## **Tasks and Activities<sup>10</sup>**

Specific tasks and the most important generalized work activities for Motorcycle Mechanics include:

### **Occupation Specific Tasks:**

- Repair and adjust motorcycle subassemblies such as forks, transmissions, brakes, and drive chains, according to specifications.
- Replace defective parts, using hand tools, arbor presses, flexible power presses, or power tools.
- Connect test panels to engines and measure generator output, ignition timing, and other engine performance indicators.
- Listen to engines, examine vehicle frames, and confer with customers in order to determine nature and extent of malfunction or damage.
- Reassemble and test subassembly units.
- Dismantle engines and repair or replace defective parts, such as magnetos, carburetors, and generators.
- Remove cylinder heads, grind valves, and scrape off carbon, and replace defective valves, pistons, cylinders and rings, using hand tools and power tools.
- Repair or replace other parts, such as headlights, horns, handlebar controls, gasoline and oil tanks, starters, and mufflers.
- Disassemble subassembly units and examine condition, movement or alignment of parts visually or using gauges.
- Hammer out dents and bends in frames, weld tears and breaks; then reassemble frames and reinstall engines.

### **Generalized Work Activities:**

- Operating Vehicles, Mechanized Devices, or Equipment — Running, maneuvering, navigating, or driving vehicles and mechanized equipment.
- Getting Information — Observing, receiving, and otherwise obtaining information from all relevant sources.
- Repairing and Maintaining Mechanical Equipment — Servicing, repairing, adjusting, and testing machines, devices, moving parts, and equipment that operate primarily on the basis of mechanical (not electronic) principles.
- Handling and Moving Objects — Using hands and arms in handling, installing, positioning, and moving materials, and manipulating things.
- Identifying Objects, Actions, and Events — Identifying information by categorizing, estimating, recognizing differences or similarities, and detecting changes in circumstances or events.

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<sup>10</sup> Source: O\*Net online

- Inspecting Equipment, Structures, or Material — Inspecting equipment, structures, or materials to identify the cause of errors or other problems or defects.
- Controlling Machines and Processes — Using either control mechanisms or direct physical activity to operate machines or processes (in addition to computers).
- Making Decisions and Solving Problems — Analyzing information and evaluating results to choose the best solution and solve problems.
- Performing for, or Working Directly with, the Public — Performing for people or dealing directly with the public. This includes serving customers in restaurants and stores, and receiving clients or guests.
- Analyzing Data or Information — Identifying the underlying principles, reasons, or facts of information by breaking down information or data into separate parts.

### **Detailed Work Activities:**

- adhere to safety procedures
- adjust or set mechanical controls or components
- align or adjust clearances of mechanical components or parts
- align or adjust clearances of vehicle body parts or components
- assemble, dismantle, or reassemble equipment or machinery
- conduct tests to locate mechanical system malfunction
- determine installation, service, or repair needed
- diagnose malfunctioning vehicle systems
- diagnose mechanical problems in machinery or equipment
- estimate time or cost for installation, repair, or construction projects
- fabricate, assemble, or disassemble manufactured products by hand
- follow safe waste disposal procedures
- follow vehicle repair procedures
- identify properties of metals for repair or fabrication activities
- inspect machinery or equipment to determine adjustments or repairs needed
- maintain repair records
- maintain welding machines or equipment
- move or fit heavy objects
- observe or listen to machinery or equipment operation to detect malfunctions
- obtain information from clients, customers, or patients
- operate vehicle engine electrical system test equipment
- overhaul vehicle major operating units, such as engines or transmissions
- perform safety inspections in industrial, manufacturing or repair setting
- read schematics
- read specifications
- read technical drawings
- read vehicle manufacturer's specifications
- read work order, instructions, formulas, or processing charts
- repair or replace electrical wiring, circuits, fixtures, or equipment
- repair or replace malfunctioning or worn mechanical components
- repair vehicle body parts
- service vehicle with water, fuel, or oil
- set up and operate variety of machine tools
- solder vehicle components

- test mechanical products or equipment
- test operate vehicles before or after repair
- understand service or repair manuals
- understand technical operating, service or repair manuals
- use 2-cycle engine technology
- use acetylene welding/cutting torch
- use arc welding equipment
- use auto or vehicular body repair equipment
- use combination welding procedures
- use electrical or electronic test devices or equipment
- use electronic calibration devices
- use engine diagnostic equipment
- use hand or power tools
- use knowledge of metric system
- use knowledge of welding filler rod types
- use machine tools in installation, maintenance, or repair
- use oral or written communication techniques
- use pneumatic tools
- use precision measuring devices in mechanical repair work
- use voltmeter, ammeter, or ohmmeter
- weld together metal parts, components, or structures
- write vehicle damage repair estimates

## **Work Style Requirements**

- **Attention to Detail** — Job requires being careful about detail and thorough in completing work tasks.
- **Dependability** — Job requires being reliable, responsible, and dependable, and fulfilling obligations.
- **Integrity** — Job requires being honest and ethical.
- **Initiative** — Job requires a willingness to take on responsibilities and challenges.
- **Persistence** — Job requires persistence in the face of obstacles.
- **Stress Tolerance** — Job requires accepting criticism and dealing calmly and effectively with high stress situations.
- **Achievement/Effort** — Job requires establishing and maintaining personally challenging achievement goals and exerting effort toward mastering tasks.
- **Adaptability/Flexibility** — Job requires being open to change (positive or negative) and to considerable variety in the workplace.
- **Independence** — Job requires developing one's own ways of doing things, guiding oneself with little or no supervision, and depending on oneself to get things done.
- **Analytical Thinking** — Job requires analyzing information and using logic to address work-related issues and problems.

## APPENDIX E: Training Providers in California

According to the US Department of Labor and the California Chancellor's Office, there are only a few motorcycle mechanic training facilities in the state of California. The listing below includes all training institutions in the nation as additional references.

Below are training providers currently producing Motorcycle Mechanics nationwide:

*Note: All certifications programs listed are awarded between 1-2 academic years unless otherwise noted.)*

### Programs in California

#### **Citrus College**

Motorcycle and Personal Watercraft Technology Program

(18 unit Associates Degree)

1000 W. Foothill Blvd.

Glendora, CA 91741-1899

Phone: 626-963-0323

[http://www.citruscollege.edu/apps/comm.asp?\\$1=281](http://www.citruscollege.edu/apps/comm.asp?$1=281)

#### **City College of San Francisco**

Custom Motorcycle Technician (29 unit certificate)

Motorcycle Technician (34 unit degree)

50 Phelan Ave.

San Francisco, CA 94112

Phone: 415-239-3000

<http://www.ccsf.edu>

Currently has a combined 100 students enrolled in both programs

#### **Los Angeles Trade Technical College**

Motorcycle Repair Mechanics

(23 unit Certificate)

400 W. Washington Blvd.

Los Angeles, CA 90015

Phone: 213-763-7000

<http://www.lattc.edu>

<http://www.lattc.edu/lattc/catalog/auto.pdf>

In Spring 2007, there were 80 students enrolled within 4 courses (8 sections) offered both on weeknights and Saturdays.

#### **San Diego Miramar College**

Motorcycle Repair Mechanics

(23 unit Certificate)

10440 Black Mountain Rd.

San Diego, CA 92126-2999

Phone: 619-388-7800

<http://www.sdmiramar.edu>

SD Miramar will be starting a Motorcycle Technician program in the Fall of 2007 based upon the Blue and Red Books (modeling Sacramento City College's program)

**Sacramento City College** (*this is considered to be the exemplary program within the State*)

Motorcycle Maintenance Technician

(32 unit degree or certificate)

3835 Freeport Blvd.

Sacramento, CA 95822-1386

Phone: 916-558-2111

<http://www.scc.losrios.edu>

<http://www.scc.losrios.edu/programs/mtrcl.html>

Their 9 month certificate program runs 4 nights per week in the evenings. It is impacted every semester graduating 25-30 per semester. Many students desire to start their own business although dealers hire most of the graduates resulting in a high job placement rate.

**Sequoia Education, INC. (DBA WyoTech)**

Motorcycle Technician

Diploma in Motorcycle Technology

420 Whitney Place

Fremont, CA 94539

(510) 490-6900

[www.wyotech.com](http://www.wyotech.com)

Program started in June 2006. Currently has 125-150 students enrolled in various stages of the program. First graduates complete the program in Oct/Nov 2007.

**Southwestern College**

Small Engine Service & Repair

(32 unit degree or certificate)

900 Otay Lakes Rd.

Chula Vista, CA 91910-7299

Phone: 619-421-6700

<http://www.swccd.edu>

This night program (taught in conjunction with their local ROP) enrolls an average of 50 students per/semester in the Small Motorcycle Engine Repair classes. Estimated yearly completion from discussing the program with SWCCD = 30.

**West Valley College - Discontinued**

Introduction to Motorcycle Maintenance

(12-hour course with emphasis on owners repairing their own vehicle)

Offered three times per year. Began in 2004, discontinued in Fall 2006 due to lack of consistent enrollment.

## APPENDIX F: Training Providers Nationwide

The listing below includes all Motorcycle Mechanic training institutions in the nation as an additional reference.

*Note: All certifications programs listed are awarded between 1-2 academic years unless otherwise noted.)*

### **Motorcycle Mechanics Institute (Universal Technical Institute)**

Motorcycle Maintenance & Repair Technology/Technician

Motorcycle Technician Specialist program

(Award of at least 2 but less than 4 academic years)

2844 W Deer Valley Rd

Phoenix, AZ 85027

(623) 869-9644

<http://www.uticorp.com/default.aspx?tabid=256>

### **Motorcycle Mechanics Institute (Universal Technical Institute)**

Motorcycle Maintenance and Repair Technology/Technician

(Award of at least 2 but less than 4 academic years)

9751 Delegates Dr

Orlando, FL 32837

(407) 240-2422

<http://www.uticorp.com/default.aspx?tabid=256>

### **Wyotech**

Motorcycle Maintenance and Repair Technology/Technician

3042 W International Speedway Blvd

Daytona Beach, FL 32124

(386) 255-0295 EXT:313

[www.amiwrench.com](http://www.amiwrench.com)

### **Dekalb Technical College**

Motorcycle Maintenance and Repair Technology/Technician

495 N Indian Creek Dr

Clarkston, GA 30021-2397

(404) 297-9522

[www.dekalbtech.edu](http://www.dekalbtech.edu)

### **North Georgia Technical College**

Motorcycle Maintenance and Repair Technology/Technician

1500 Georgia Hwy 197

Clarkesville, GA 30523

(706) 754-7700

[www.northgatech.edu](http://www.northgatech.edu)

### **Iowa Lakes Community College**

Motorcycle Maintenance and Repair Technology/Technician

(Associate's degree)

19 S 7th St  
Estherville, IA 51334  
(712) 362-0438  
[www.iowalakes.edu](http://www.iowalakes.edu)

**Fort Scott Community College**

Motorcycle Maintenance and Repair Technology/Technician  
(Associate's degree)  
2108 S Horton  
Fort Scott, KS 66701-3141  
(620) 223-2700  
[www.fortscott.edu](http://www.fortscott.edu)

**Hennepin Technical College**

Motorcycle Maintenance and Repair Technology/Technician  
9000 Brooklyn Blvd  
Brooklyn Park, MN 55445  
(952) 995-1300  
[www.hennepintech.edu](http://www.hennepintech.edu)

**Central Carolina Community College**

Motorcycle Maintenance and Repair Technology/Technician  
1105 Kelly Dr  
Sanford, NC 27330  
(919) 775-5401  
[www.cccc.edu](http://www.cccc.edu)

**Edgecombe Community College**

Motorcycle Maintenance and Repair Technology/Technician  
2009 W Wilson St  
Tarboro, NC 27886  
(252) 823-5166 EXT:255  
[www.edgecombe.edu](http://www.edgecombe.edu)

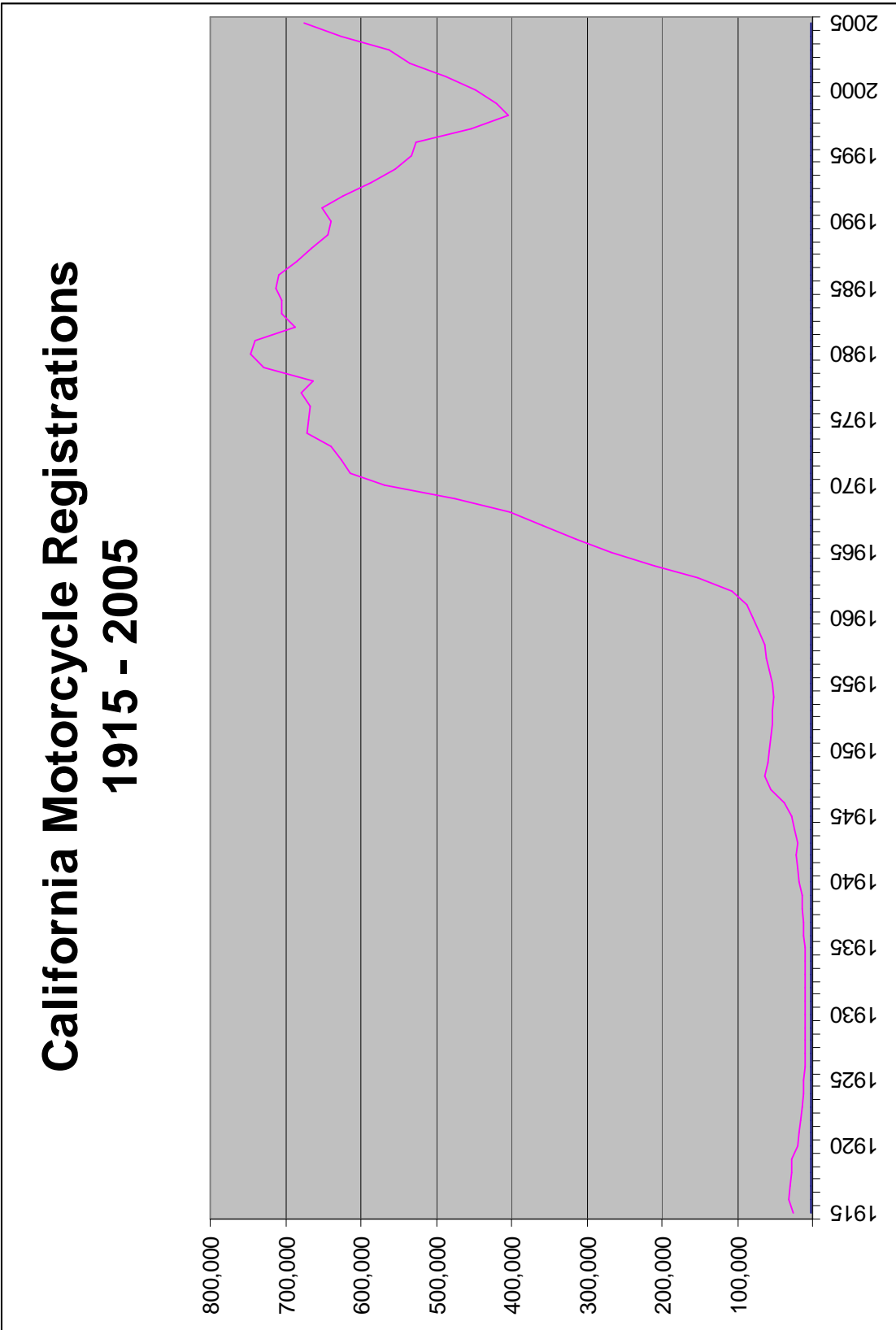
**Ohio Technical College**

Motorcycle Maintenance and Repair Technology/Technician  
1374 E 51st St  
Cleveland, OH 44103  
(216) 881-1700  
[www.ohiotechnicalcollege.com](http://www.ohiotechnicalcollege.com)

**Bates Technical College**

Motorcycle Maintenance and Repair Technology/Technician  
1101 S Yakima Ave  
Tacoma, WA 98405  
(253) 680-7000  
[www.bates.ctc.edu/](http://www.bates.ctc.edu/)

### APPENDIX G



Source: US Department of Transportation. Federal Highway Administration. Office of Highway Policy Information. Highway Statistical Series.

## **APPENDIX H: Regional Employer Analysis**



CONAME	SALES		ADDRESS	CITY	STATE	ZIP	LASTNM	FRSTNM	NAICS
	VOL	EMP							
SKYTOWER AVIATION SVC	2513	7	17220 NEWHOPE ST	FOUNTAIN VALL	CA	92708	YOUNG	DENNIS	44122904
ELECTRON BEAM INDUSTRIES	672	7	961 S VIA RODEO	PLACENTIA	CA	92870			81149058
IRVINE WELDING	672	7	6968 TRABUCO RD	IRVINE	CA	92618	OLSON	CLARE	81149058
AMERICAN METAL ENGINEERING	576	6	5362 BOLSA AVE # B	HUNTINGTON BE	CA	92649	EDWARD	SCOTT	81149058
GMDC	2154	6	17972 SKY PARK CIR # F	IRVINE	CA	92614	GHANDOUR	ZIAD	44122904
FLIGHT DECK	2154	6	19531 CAMPUS DR # 4	SANTA ANA	CA	92707	BIAZZA	SAL	44122904
ELECTRON BEAM WELDING INC	576	6	6940 HERMOSA CIR	BUENA PARK	CA	90620	ARNOLD	ROBERT G	81149058
CARDINAL AIR SVC	2154	6	3710 ARTESIA AVE	FULLERTON	CA	92833	STREET	CHUCK	44122911
RAY STANGLE'S EQUIPMENT SVC	576	6	1080 N BATAVIA ST # G	ORANGE	CA	92867	WEIR	DOUG	81149058
KEN JORDAN PRECISION	480	5	17653 CRABB LN	HUNTINGTON BE	CA	92647	JORDAN	KEN	81149058
J PENHALL FABRICATION	480	5	1660 BABCOCK ST # B	COSTA MESA	CA	92627	PENHALL	JERRY	81149058
CALIFORNIA WELDING	480	5	1902 W 4TH ST	SANTA ANA	CA	92703	LOPEZ	JOE	81149058
SARGENT METAL FABRICATION	480	5	29732 AVENIDA DE LAS BAN	RCHO STA MARG	CA	92688	SARGENT	ERIC	81149058
PARTS NETWORKS	1795	5	1701 E EDINGER AVE # E9	SANTA ANA	CA	92705	WINTERS	BOB	44122904
FLIGHT DIRECTOR	1795	5	18201 VON KARMAN AVE # 1	IRVINE	CA	92612	HANRAHAN	MICHAEL	44122904
GIRARD FASTENERS & SUPPLY CC	1795	5	605 S PALM ST # H	LA HABRA	CA	90631	GIRARD	EDWARD	44122904
THERMOCOUPLE USA	1795	5	5150 E LA PALMA AVE	ANAHEIM	CA	92807	CURTIS	STEVE	44122904
ADEX AEROSPACE	1795	5	130 S CHAPARRAL CT	ANAHEIM	CA	92808			44122904
STANLEY'S EXHAUST TECH	480	5	145 AVENIDA NAVARRO	SAN CLEMENTE	CA	92672	STANLEY	J R	81149058
KARTSUPERSTORE.COM	1795	5	21632 MONTBURY DR	LAKE FOREST	CA	92630			44122908
HELKA CORP	384	4	2053 SEA COVE LN	COSTA MESA	CA	92627	DIX	HELEN	81149058
BELLER WELDING & FABRICATION	384	4	11642 SALINAZ AVE	GARDEN GROVE	CA	92843	BELLER	BRIAN	81149058
B & C WELDING & IRONWORKS	384	4	11725 CARDINAL CIR	GARDEN GROVE	CA	92843	LEE	JOHNNY	81149058
CONSUMERS AIRCRAFT CO	1436	4	16842 HALE AVE	IRVINE	CA	92606	CONNOR	ROBERT	44122904
WINDSOCK AVIATION & PILOT	1436	4	3930 CAMPUS DR	NEWPORT BEACH	CA	92660	MANN	MICHAEL	44122904
TURBINE INDUSTRIES LLC	1436	4							44122904
PADILLA WELDING & CONSTRUCTI	384	4	PO BOX 1209	BREA	CA	92822	PADILLA	JASON	81149058
NATIONAL AEROSPACE SUPPLY C	1436	4	33155 CAMINO CAPISTRANO	SAN JUAN CPST	CA	92675	LENTZ	JOYCE	44122904
DSG METAL FAB	288	3	12850 WESTERN AVE	GARDEN GROVE	CA	92841	GONZALES	DIANE	81149058
DESIGNER WELDING	192	3	7566 PARK AVE	GARDEN GROVE	CA	92841			81149058
PRESTIGE METAL FAB	288	3							81149058
ECKLES CONSTRUCTION INC	192	3		HUNTINGTON BE	CA	92647			81149058
CHIPCO WEST	192	3	18366 GOTHARD ST	HUNTINGTON BE	CA	92648			81149058
MMM RACING	1436	3							44122912
BRANCA INTERNATIONAL AEROSP	1436	3	1670 SANTA ANA AVE	COSTA MESA	CA	92627			44122904
J C CARTER CO INC	1436	3	617 W 17TH ST	COSTA MESA	CA	92627			44122904
PACIFIC COAST WELDING	192	3							81149058
AIR-CAL AVIATION	1436	3		SANTA ANA	CA	92704			44122905
COLLINS GENERAL AVIATION DIV	1436	3							44122905
REAL PRODUCTS INTL	1436	3		NEWPORT BEACH	CA	92663			44122904



CONAME	SALES		ADDRESS	CITY	STATE	ZIP	LASTNM	FRSTNM	NAICS
	VOL	EMP							
PHILIP'S WELDING SVC	288	3	7506 SANTA RITA CIR	STANTON	CA	90680	STEININGER	PHILIP	81149058
SOUTH CALIFORNIA CONSTRUCTI	288	3	8191 PICKENS LN	STANTON	CA	90680	JOHNSON	MIKE	81149058
IN FLIGHT PRODUCTS	192	3		ANAHEIM	CA	92804			81149058
FERNANDO'S WELDING	192	3	1208 N DRESDEN PL	ANAHEIM	CA	92801			81149058
TRAILERS UNLIMITED	1077	3	701 E CYPRESS ST	ANAHEIM	CA	92805	TAYLOR	STEVE	44122916
FRED COOK	192	3							81149058
ROBERT SWENEY WELDING	192	3	229 W SANTA FE AVE	FULLERTON	CA	92832	SWENEY	ROBERT	81149058
FMH CERTIFIED WELDING	192	3	2479 E ORANGETHORPE AVE	FULLERTON	CA	92831			81149061
HERRERIA ARTISTICA	96	3	940 S PLACENTIA AVE	PLACENTIA	CA	92870			81149058
JIM'S WELDING	288	3	926 E ARLEE PL	ANAHEIM	CA	92805	HARLAS	JIM	81149058
L H WELDING INC	192	3							81149058
A M PORTABLE WELD & CUSTOM F	192	3							81149058
SANDCAR SPECIALITIES	1077	3							44122909
ADNIK INDUSTRIES	1436	3		FULLERTON	CA	92835			44122904
BETA MOTORSPORTS	192	3	637 S PALM ST	LA HABRA	CA	90631			81149058
GABE ALVARADO WELDING	96	3	363 CLIFFWOOD PARK ST	BREA	CA	92821			81149061
UPWIND CORP	1436	3	1342 E CHAPMAN AVE	ORANGE	CA	92866			44122904
AUSTIN AEROSPACE	1436	3	438 E KATELLA AVE	ORANGE	CA	92867			44122904
TEROSON USA	192	3	505 S VILLA REAL	ANAHEIM	CA	92807			81149058
CHUCK'S PORTABLE WELDING SVI	192	3							81149058
S & G FENCE WELDING REPAIRS	96	3		PLACENTIA	CA	92870			81149058
CHUCK'S PORTABLE WELDING	192	3							81149058
NIA INDUSTRIES INC	1077	3	22775 LA PALMA AVE	YORBA LINDA	CA	92887	NIA	STEVE	44122904
AIRCRAFT INFORMATION SVC INC	1077	3							44122905
GREG HOWELL WELDING & TRUCK	96	3		DANA POINT	CA	92629			81149059
ASIC INTERNATIONAL	1077	3							44122904
BILL MATHES WELDING	96	3							81149058
TNT WELDING & FABRICATION	288	3	1527 CALLE VALLE	SAN CLEMENTE	CA	92672	KOUTROULIS	TONY	81149058
MIL AIR LOGISTICS & MFG	1077	3							44122904
RAP'S FUSION WELDING	192	3							81149058
MAXIMUM METAL FABRICATORS	192	3							81149058
K & N ELECTRONICS INC	1077	3		LAGUNA HILLS	CA	92653			44122904
J & E WELDING	288	3	23222 OLIVE AVE	EL TORO	CA	92630	FLORES	JAIME	81149058
MALABAR INTERNATIONAL	1436	3		MISSION VIEJO	CA	92691			44122904
AVIATION EQUIPMENT INTL	1436	3		MISSION VIEJO	CA	92691			44122904
GULFSTREAM AEROSPACE CORP	1077	3							44122905
TWO SPOONS WELDING & FAB	192	2	1017 W 18TH ST	COSTA MESA	CA	92627	APOLINARIS	DELIA	81149058
TECALI WELDING	192	2							81149058
VIRTUAL E	718	2	3005 ORANGE AVE	SANTA ANA	CA	92707	STARY	PAUL	44122912
PACIFIC AVIATION SVC	718	2	1360 REYNOLDS AVE # 118	IRVINE	CA	92614	SANDERSON	ALAN	44122905

CONAME	SALES		ADDRESS	CITY	STATE	ZIP	LASTNM	FRSTNM	NAICS
	VOL	EMP							
ASA WELDING	192	2	1315 E SAINT ANDREW PL #	SANTA ANA	CA	92705	TOBIAS	JUAN	81149058
SPARTAN HELICOPTER SVC INC	718	2	1307 E SAINT GERTRUDE PL	SANTA ANA	CA	92705	POLIS	JAMES	44122911
ARCLYTE WELDING	192	2	12911 DEAN ST	SANTA ANA	CA	92705	VEGA	DANNY	81149058
ORION AIR INC	718	2	369 SAN MIGUEL DR # 300	NEWPORT BEACH	CA	92660	BERTEA	RICHARD	44122905
PRIVATAIR CORPORATE AIRCRAFT	718	2	19301 CAMPUS DR # 155	SANTA ANA	CA	92707			44122905
BOMBARDIER AEROSPACE	718	2	19531 CAMPUS DR	SANTA ANA	CA	92707	ENGELBRECHT	BRAD	44122905
BOHLER THYSSEN WELDING USA	192	2	11081 DALE AVE	STANTON	CA	90680	URBAN	JOE	81149058
AMES SPECIALIZED SVC	192	2	8180 ELECTRIC AVE	STANTON	CA	90680	AMES	GARY	81149058
A BROW FABRICATION	192	2	1889 W COMMONWEALTH AVE	FULLERTON	CA	92833	VITAK	RAY	81149058
MENDOZA'S ORNAMENTAL IRON	192	2	439 S RICHMAN AVE	FULLERTON	CA	92832	MENDOZA	JOE	81149058
WEST COAST PRECISION	192	2	950 E ORANGETHORPE AVE #	ANAHEIM	CA	92801	BUBOI	VASILE M	81149058
JAY'S WELDING	192	2	2211 E WINSTON RD # H	ANAHEIM	CA	92806	AUXIER	JASON	81149058
QUALIFIED AIR COMPONENTS	718	2	641 MAGNOLIA AVE	BREA	CA	92821	WEISTER	ROBERT	44122904
ACTION WELDING CO	192	2	1240 N LA LOMA CIR	ANAHEIM	CA	92806	MEDINA	ORLANDO	81149058
EXTREME KARTING	718	2	2781 E REGAL PARK DR	ANAHEIM	CA	92806	KUTSCHER	TOM	44122908
MURILLO WELDING	192	2	2448 N EATON CT	ORANGE	CA	92867			81149058
DESIGN PARK	192	2							81149058
BERKEY WELDING	192	2	34032 MAZO DR # B	DANA POINT	CA	92629	BERKEY	DAVID	81149058
A CERTIFIED WELDING	192	2	1517 N EL CAMINO REAL	SAN CLEMENTE	CA	92672			81149058
AFAKORI WELDING INC	192	2	15795 ROCKFIELD BLVD # D	IRVINE	CA	92618	SAKORI	AMIR	81149058
AUSSIE INDUSTRIAL	96	1	8532 WASHINGTON AVE	MIDWAY CITY	CA	92655	ENNOR	PAUL	81149058
SIMMONS WELDING	96	1	6341 INDUSTRY WAY	WESTMINSTER	CA	92683	SIMMONS	ED	81149061
JOSEPH WELDING & IRON WORKS	96	1	7802 SAMURA PL # 29	GARDEN GROVE	CA	92841	HYUN	LEE S	81149058
A D PORTABLE WELDING	96	1	6582 OAKGROVE CIR	HUNTINGTON BE	CA	92647	DIX	ANDREW V	81149058
ROBLES MINI BIKES & GO CARTS	359	1	7522 SLATER AVE	HUNTINGTON BE	CA	92647	ROBLES	JOHNNY	44122908
COLE'S CERTIFIED WELDING & MF	96	1	PO BOX 1108	GARDEN GROVE	CA	92842	VAN HORIK	DENNIS	81149058
RON GOEDEN WELDING	96	1	7132 GARFIELD AVE	HUNTINGTON BE	CA	92648	GOEDEN	RON	81149061
WELDESIGN	96	1	7405 MOUNTJOY DR	HUNTINGTON BE	CA	92648	MC LEARIE	DAN	81149061
SWITZER AVIATION	359	1	774 NEWTON WAY	COSTA MESA	CA	92627	SWITZER	JIM	44122904
PYRO WELDING SVC	96	1	961 SENATE ST # B	COSTA MESA	CA	92627	MILTON	KENNETH E	81149058
ROBERTS WELDING	96	1	2700 PETERSON PL	COSTA MESA	CA	92626	ROBERTS	TONY	81149058
AVCENTER AIRCRAFT SUPPLY	359	1	3000 AIRWAY AVE # 125	COSTA MESA	CA	92626	ROADS	AXEL	44122904
METAL WORKS	96	1	2430 W COAST HWY	NEWPORT BEACH	CA	92663			81149058
KAPPLER SPECIAL SVC	96	1	11142 SHERMAN AVE	GARDEN GROVE	CA	92843	KAPPLER	KEN	81149058
ORIENTAL WELDING IRON	96	1	9311 KRAMER AVE # G	WESTMINSTER	CA	92683	NGUYEN	LUAN	81149058
J L WELDING	96	1	2808 W 5TH ST	SANTA ANA	CA	92703			81149058
PRO WELDING	96	1	12212 COLLEGE AVE	GARDEN GROVE	CA	92840	VEINEKE	DAVID	81149058
NEW AUTOBODY	96	1	11611 SALINAZ AVE # R	GARDEN GROVE	CA	92843	PHU	LY	81149058
G C WELDING	96	1	1630 W AVALON AVE	SANTA ANA	CA	92706	CARRERA	GUSTAVO	81149058
ORANGE COUNTY MASTER TOW	359	1	1313 ENGLISH ST	SANTA ANA	CA	92706	PIAZZA	LOUIS J	44122916

CONAME	SALES		ADDRESS	CITY	STATE	ZIP	LASTNM	FRSTNM	NAICS
	VOL	EMP							
LEE WELDING	96	1	2000 S YALE ST # C	SANTA ANA	CA	92704	LEE	JIMMY	81149058
AEROWORKS	359	1	2727 S CRODDY WAY # D	SANTA ANA	CA	92704	ERKELENS	FRANS	44122904
RANDAL WELDING & MACHINE	96	1	3366 W HARVARD ST	SANTA ANA	CA	92704			81149058
HILL'S WELDING	96	1	631 PAULARINO AVE	COSTA MESA	CA	92626	HILL	GARIE	81149058
MASTER CRAFT WELDING CO	96	1	603 E ALTON AVE # A	SANTA ANA	CA	92705	MONACO	FRANK	81149061
TRUE TORCH WELDING	96	1	2291 S GRAND AVE	SANTA ANA	CA	92705	SEVERIN	JOHN	81149058
CAMPBELL'S WELDING SVC	96	1	2057 S LYON ST	SANTA ANA	CA	92705	CAMPBELL	CONROY	81149058
CUSTOM WELDING	96	1	921 LOGAN ST	SANTA ANA	CA	92701	PHAM	BINH	81149058
TUSTIN BLACKSMITH SHOP	96	1	245 S C ST	TUSTIN	CA	92780	ANDERSEN	VICTOR	81149058
KRAIG'S CERTIFIED MOBILE WLDN	96	1	10371 CRAWFORD CANYON RD	SANTA ANA	CA	92705	GOULD	JAMES KRA	81149058
DEBOER AIRCRAFT SALES	359	1	11821 CHERRY ST	LOS ALAMITOS	CA	90720	DEBOER	ARNOLD J	44122905
B & P PORTABLE WELDING SVC	96	1	7555 MEXICO WAY	BUENA PARK	CA	90620	DEGRAZIA	THOMAS	81149058
VIRGIL'S ORNAMENTAL IRON	96	1	6900 OSLO CIR # A	BUENA PARK	CA	90621	LACISTE	VIRGIL	81149058
YAMAHA RACE KARTS	359	1	6026 BEACH BLVD	BUENA PARK	CA	90621			44122908
LA VERNE WELDING & TRAILER SV	96	1	6165 MANCHESTER BLVD	BUENA PARK	CA	90621	LA VERNE	KATHLENE	81149058
CROWN WELDING	96	1	8341 ARTESIA BLVD # L	BUENA PARK	CA	90621	HUSTED	GLENN	81149058
STANTON WELDING	96	1	10563 CHESTNUT AVE	STANTON	CA	90680	RODNEY	TOM	81149058
CHUCK'S PORTABLE WELDING SV	96	1	221 N BROOKHURST ST	ANAHEIM	CA	92801	ROGERS	CHUCK	81149058
J LAWRENCE CO	96	1	3501 W OAK AVE	FULLERTON	CA	92833	LAWRENCE	J	81149058
TRI METAL WELDING	96	1	1224 E ASH AVE	FULLERTON	CA	92831	SCOTT	GREGORY	81149058
A 1 MACHINING & WELDING	96	1	2454 FENDER AVE # A	FULLERTON	CA	92831	BOYTE	DENES	81149058
BOB'S WELDING SHOP	96	1	501 S ROSE ST # A	ANAHEIM	CA	92805	BROOKMAN	GLEN	81149058
AM PORTABLE WELDING CUSTOM	96	1	200 E 2ND AVE	LA HABRA	CA	90631	METCALFE	ADAM	81149058
PACIFIC WELDING	96	1	948 S BRIANNA WAY	ANAHEIM	CA	92808	CHUHA	CRAIG A	81149058
PLANE POCKET ENTERPRISES INC	359	1	750 N BATAVIA ST	ORANGE	CA	92868	ROSS	JIM	44122904
FULL THROTTLE KARTING INC	359	1	1547 W STRUCK AVE	ORANGE	CA	92867			44122908
BLACKSMITH SHOP	96	1	930 N ELM ST # 7-8	ORANGE	CA	92867	COLLINS	RICK	81149058
SAND CARS UNLIMITED	359	1	2370 E ORANGETHORPE AVE	ANAHEIM	CA	92806	SLIWINSKI	DON	44122909
CENTER LINE WELDING	96	1	1141 N COSBY WAY # E	ANAHEIM	CA	92806	SHAVER	LEROY	81149061
BIG ELOYS WELDING	96	1							81149058
CANYON CUSTOM WELDING	96	1	3275 LAGUNA CANYON RD #	LAGUNA BEACH	CA	92651	AYRES	JIM	81149058
HONEY-DO MAN	122	1	27608 LA PAZ RD	LAGUNA NIGUEL	CA	92677			81149015
ANSTEAD WELDING	96	1	27324 CAMINO CAPISTRANO	LAGUNA NIGUEL	CA	92677	ANTEAD	ROBERT	81149058
HAVE WELDER WILL TRAVEL	96	1	PO BOX 211	SAN JUAN CPST	CA	92693	SUTTON	STEVE	81149058
CREATIONS	96	1	31362 ANDRES PICO RD	SAN JUAN CPST	CA	92675	MEEKER	GARRY M	81149058
PRECISION FABRICATION	96	1	530 CALLE DE INDUSTRIAS	SAN CLEMENTE	CA	92672	LEWIS	JEFF	81149058
HESS WELDING	96	1	1614 PLACENTIA AVE	COSTA MESA	CA	92627	HESS	GARY	81149058
PREP BY JAKE	96	1	1050 CALLE NEGOCIO	SAN CLEMENTE	CA	92673	BATULIS	JAKE	81149058
2 WILD KARTING	359	1	23242 VISTA GRANDE DR #	LAGUNA HILLS	CA	92653	BEACHNER	ROD	44122908
WELD TECH	96	1	23342 PERALTA DR # 12	LAGUNA HILLS	CA	92653	ROTH	JERRY	81149058

<b>CONAME</b>	<b>SALES</b>									
	<b>VOL</b>	<b>EMP</b>	<b>ADDRESS</b>	<b>CITY</b>	<b>STATE</b>	<b>ZIP</b>	<b>LASTNM</b>	<b>FRSTNM</b>	<b>NAICS</b>	
BRAD CALCATERRA WELDING	96	1	26326 VERDURA CIR	MISSION VIEJO	CA	92691	CALACTERRA	BRAD	81149058	
A D WELDING	96	1	6968 TRABUCO RD	IRVINE	CA	92618	DURA	ANDY	81149058	
TAZ'S FUSION WELDING	96	1	27 DROVER CT	TRABUCO CANYO	CA	92679	TARACHANOWI	KEVIN	81149058	
BOON PAY'S MOBILE ETC	96	1	26732 VIA ZARAGOSA	MISSION VIEJO	CA	92691	EZAWA	BUNPEI	81149058	
O C WELDING CO	96	1							81149058	
M & R MAINTENANCE	122	1	22 LA CUEVA	RCHO STA MARG	CA	92688	ROBLING	RICHARD	81149015	