

2009

ENGINE BUILDER



Machine Shop Market Profile

PART 2

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Our story so far:

- GM declares bankruptcy.
- Chrysler emerges FROM bankruptcy.
- Congress passes the Consumer Assist & Save Act of 2009 (Also known as H.R. 2346. Also known as “Cash for Clunkers”).
- GM emerges from bankruptcy.
- Ford pledges millions to help auto parts supplier Visteon emerge from ITS bankruptcy.

Just another month in the automotive industry, eh? Since we published Part 1 of the Machine Shop Market Profile back in June (Engine Builder, June 2009, page 28), there has been excitement on all fronts of this business. Unfortunately, “exciting” doesn’t necessarily mean “positive,” as the Chinese curse “May you live in exciting times,” ominously declares.

Of course, for the past 20 years, machine shops and engine builders have been dealing with exciting times. As engine technology has improved over the years, your business has likely been affected. But as we declared last month, opportunity

still exists in this business because people need (and love) their cars and trucks and there’s really no better answer.

As we discussed in Part 1 of the Machine Shop Market Profile, engine builders continue to make adjustments they need to in order to participate in these exciting times. Some of those changes have been very difficult, for builders, suppliers and customers alike. Yet we continue to have the belief that many of the shops in business today have made or understand that they will soon need to make changes to remain viable in this tough market. There’s just no way to remain competitive in tomorrow’s industry using yesterday’s business model.

Part I of our annual Machine Shop Market Profile, presented information concerning all types of production data, looking at average monthly engine, head and crankshaft production, core sourcing, analysis of shop equipment ownership, previous equipment purchases and future buying intentions, as well as the percentage of production time spent in

specific areas of engine disassembly, cleaning, machining and reassembly.

In this issue, we’re taking a look, at financial data, size of shop, years in business, employee information and customer-base analysis of the typical custom engine rebuilder (CER).

As we stated last month, we feel the numbers generated by the 2009 Machine Shop Market Profile are as pristine and reliable as possible. For more than 20 years, we have been surveying this same segment of the engine rebuilding population. Consequently, data contained in this study reflects the most accurate trending information available to CERs and their suppliers.

Information contained in our study represents data for production year 2008. *Engine Builder* audited circulation figures show a total of 17,859 engine builder/rebuilder/remanufacturer locations. In our estimation, just under a third of these – or about 5,500 – are full-service automotive machine shops and engine builders capable of doing any type of machine work. The rest may be rebuilders with limited shop

2008 GROSS SALES VOLUME (PARTS & LABOR)

GROSS SALES VOLUME	2008	2007	2006	2005
LESS THAN \$250,000	55.7%	50.0%	50.0%	54.3%
\$250,000 - \$499,999	20.6%	22.0%	24.7%	18.5%
\$500,000 - \$749,999	9.8%	11.4%	7.2%	10.3%
\$750,000 - \$999,999	2.1%	6.4%	6.6%	4.1%
\$1 - \$1.5 MILLION	3.6%	5.3%	4.1%	3.7%
\$1.5 - \$2 MILLION	2.1%	2.3%	2.5%	2.1%
\$2 - \$2.5 MILLION	1.5%	0.4%	1.3%	2.5%
MORE THAN \$2.5 MILLION	4.6%	2.3%	3.8%	4.5%
AVERAGE	\$527,657	\$506,098	\$536,292	\$556,533

2008 GROSS SALES VOLUME COMPARISON

	2008	2007	2006	2005
INCREASED	28.5%	32.1%	40.2%	37.5%
REMAINED THE SAME	31.6%	37.0%	33.2%	33.3%
DECREASED	39.9%	30.9%	26.6%	29.2%

PERCENT CHANGE IN GROSS SALES VOLUME

THOSE REPORTING AN:	INCREASE	DECREASE
UP TO 10%	67.9%	49.3%
11 - 20%	22.6%	29.0%
21 - 30%	5.7%	13.0%
31 - 40%	1.9%	4.3%
41% OR HIGHER	1.9%	4.3%
AVERAGE 2008	10.9%	15.6%
AVERAGE 2007	12.3%	14.3%
AVERAGE 2006	13.0%	14.7%

GROSS SALES VOLUME ATTRIBUTED TO MACHINE SHOP PARTS & LABOR WORK

PERCENT OF SALES VOLUME	2008	2007	2006	2005
UP TO 10%	4.4%	5.5%	6.8%	7.2%
11 - 20%	8.3%	5.1%	6.5%	5.9%
21 - 30%	2.0%	7.9%	5.2%	3.8%
31 - 40%	3.9%	2.8%	4.2%	6.8%
41 - 50%	5.5%	7.5%	4.9%	6.3%
51 - 60%	5.0%	3.6%	5.2%	4.2%
61 - 70%	2.2%	2.4%	3.6%	5.1%
71 - 80%	7.2%	8.7%	5.8%	7.6%
81 - 90%	8.3%	8.3%	6.0%	4.6%
91% OR MORE	47.5%	48.2%	51.6%	48.5%
AVERAGE	71.9%	74.1%	74.0%	72.5%
PERCENT CHANGE	-2.9%	0.1%	2.1%	2.0%

equipment, buying and installing parts, doing the machine work they can while jobbing out other service operations that they can't easily perform.

Based on a universe of 4,000-5,500 full-service automotive machine shops, this market segment built 624,000 to 858,000 gas and diesel engines during production year 2008. During production year 2007 the national average for the CER market in gas and diesel engine production ranged between 720,000 to 1.08 million units.

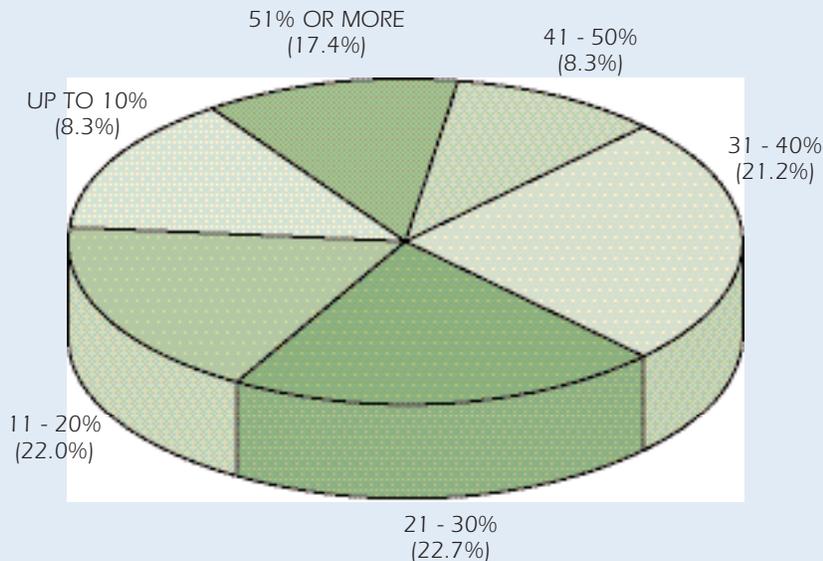
Adding in the estimated 450,000 engines remanufactured annually by approximately 30 U.S. production engine remanufacturers (PERs), would place the combined total number of engines rebuilt in 2008 by CERs and PERs at 1.07 million to 1.31 million units. This compares to approximately 1.32 million to 1.68 million engines produced by PERs and CERs during production year 2007.

At an average retail cost of \$2,600 per engine, that indicates the machine shop market generated between \$2.78 billion and \$3.43 billion in rebuilt engine sales in 2008.

While down from 2007, those numbers are still impressive. Even with the challenges this segment of the industry faces, it is still in the upper half of overall automotive industry sales numbers, according to the figures listed in the Automotive Aftermarket Industry Association's (AAIA) Industry Factbook.

Average total gross sales volume in 2008 was up about 4.3 percent from the year previous. Sales vol-

2008 GROSS PROFIT MARGIN ON MACHINE SHOP PARTS AND LABOR



2008 AVERAGE: 35.0% 2007 AVERAGE: 31.4% 2006 AVERAGE: 33.6%

ume (including parts and labor) for the average shop was \$527,657 in 2008, up from \$550,098 in 2005. However, celebrations about the increase are tempered by the realization that the 2008 figure is still below the 2006 figure of \$536,292 and well under the 2005 number.

2008 increases in sales volumes were seen at the lowest end of the scale – less than \$250,000 in sales – and at the highest end of the scale – \$2-2.5 million. Modest to significant decreases were seen at the other levels.

Across the board, the average increase in business for those shops reporting an increase tallied 11.0%, down from last year's survey. The average decrease (for those shops reporting a decrease in gross sales) also rose, however, jumping to 15.6 percent, continuing a trend that we have been watching for the past several years.

According to respondents, in 2008 machine shop parts and labor work accounted for an average of 72 percent of shops' gross sales volume. This is a decrease of about 3 percent. However, during the same period, the national average gross profit margin on machine shop parts and labor climbed from the previous year's number. The 2008 figure is 35 percent, up from 31.4 percent in 2007. This year, 16.7 percent of responding shops said their gross profits increased, the same as in 2007. The percent whose profits decreased was up about 3 percentage points from 2007.

Overall, the average increase in gross profit margins in 2008 (according to those who reported an increase) was nearly 14 percent; the average decrease in gross profit was about 13 percent.

2008 GROSS PROFIT MARGIN COMPARISON

PERCENT OF SHOPS WHOSE PROFITS:

	2008	2007	2006	2005
INCREASED	16.7%	16.7%	23.1%	21.5%
REMAINED THE SAME	57.7%	60.8%	57.8%	58.4%
DECREASED	25.6%	22.5%	19.0%	20.1%

PERCENT CHANGE IN GROSS PROFIT MARGIN*

RANGE	SHOPS SEEING:	INCREASE	DECREASE
UP TO 10%		60.0%	51.4%
11 - 20%		28.8%	37.8%
21 - 30%		8.0%	2.7%
31 - 40%		0.0%	8.1%
41% OR HIGHER		4.0%	0.0%
AVERAGE		13.8%	12.7%

PRETAX PROFIT

	2008	2007	2006	2005
AVERAGE	\$53,590	\$43,001	\$43,754	\$43,099
MEDIAN	\$27,932	\$28,000	\$25,000	\$25,000
PERCENT CHANGE	24.6%	-1.7%	1.5%	-18.7%

*While relatively few shops gave a profit figure (for the middle table above), about 60% of respondents who saw an increase in profit margin saw an increase of 10% or less.

SHOP SALES PROFILE

Pretax profits were a bright spot in the survey results this year. Better than they have been in at least 5 years, shops reported an average of \$53,590 in pretax profits in 2008, while average 2007 pretax profit was reported at \$43,001. The median pretax profit (the point at which the same number of shops fell above and below) fell to \$27,932, down from \$28,000 in 2007.

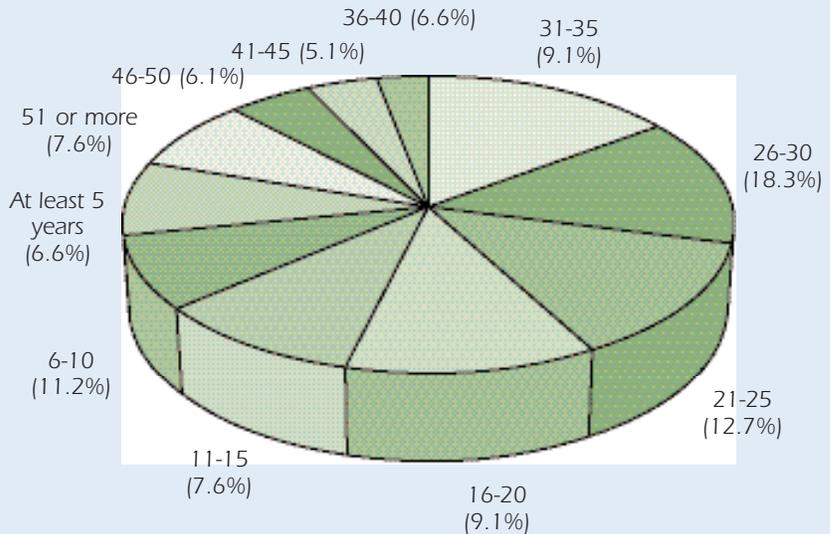
We must point out, however, that of all the questions on the survey forms, less than one-third of respondents answered this question. About 60 percent of those who saw a profit increase say it was of 10 percent or less.

The national average for the number of years a shop has been in business was 27.9 years – a positive aging trend we’ve watched for the past few years. Nearly one-third of shop owners (about 29 percent, actually) indicate they have been in business between 11 and 25 years. Collectively, 18 percent of shops have been in business for 10 years or less; and more than half of shops (52.8) have been in operation for more than 26 years.

When we asked shop owners and managers about the biggest problem they faced in operating and promoting their machine shops, the open ended question provided us a variety of answers. By far, the largest group of responses fell into the “employee relations” category. “We have a small crew,” one shop foreman explained. “Keeping workers motivated to complete large volumes of work without burning them out is always a challenge.”

Motivating employees is a real challenge because there are more distractions than ever. As any parent of a teenager can appreciate, complaints about cell phones in the work place were received for the first time this year.

YEARS SHOP HAS BEEN IN BUSINESS



The typical shop has been in business for 27.9 years.

SHOPS EMPLOYING SHOP FOREMAN

	2007	2007	2006	2005
YES	52.8%	38.2%	38.6%	51.8%
NO	47.2%	61.8%	61.4%	49.2%
If "Yes," is foreman a working machinist?			Yes 93%	No 7%

SHOP FOREMAN TYPICAL YEARLY EARNINGS

	2007	2007	2006	2005
EARNINGS	\$45,863	\$43,947	\$43,000	\$42,700
PERCENT CHANGE	4.4%	2.2%	1.0%	-11.5%

AVERAGE HOURLY WAGE OF EMPLOYEES

TITLE	2008	2007	2006	2005
EXPERIENCED MACHINE OPERATOR	\$17.70	\$18.36	\$17.30	\$15.80
NEWLY HIRED MACHINE OPERATOR	\$10.13	\$11.34	\$10.80	\$10.26
COUNTERMAN/SALES	\$12.43	\$12.81	\$12.70	\$12.43
CORE DISASSEMBLY PERSON	\$9.25	\$10.45	\$9.50	\$8.57

SHOP DESCRIPTION PROFILE

TOTAL NUMBER OF EMPLOYEES IN COMPANY

NUMBER OF EMPLOYEES	2008	2007	2006	2005
1-5	75.0%	72.7%	65.9%	76.6%
6-10	15.6%	16.4%	18.8%	10.6%
11-15	3.1%	7.3%	10.6%	8.5%
16-20	6.3%	1.8%	1.2%	0.0%
21 OR MORE	0.0%	1.8%	3.6%	4.3%
AVERAGE	4.4	4.4	5.9	5.3
PERCENT CHANGE	0.0%	-20.3%	11.3%	-7.0%

NUMBER OF MACHINE SHOP EMPLOYEES PER SHOP

MACHINE SHOP EMPLOYEES	2008	2007	2006	2005
1	30.3%	22.9%	20.7%	25.5%
2	30.3%	37.5%	39.0%	27.7%
3	12.1%	16.7%	15.9%	23.4%
4	24.2%	8.3%	8.5%	8.5%
5	0%	2.1%	6.1%	6.4%
6-10	0%	12.5%	7.3%	4.3%
11 OR MORE	3.0%	0%	2.4%	2.1%
AVERAGE	3.2	2.8	3.1	3.0
PERCENT CHANGE	14.3%	-9.6%	3.3%	-16.6%

AVERAGE LENGTH OF MACHINE SHOP EMPLOYMENT AT ONE LOCATION

NUMBER OF YEARS	2008	2007	2006	2005
1	3.2%	2.1%	1.3%	2.2%
2	6.5%	2.1%	3.8%	6.5%
3	16.1%	8.5%	7.6%	2.2%
4	3.2%	10.6%	6.3%	4.3%
5	9.7%	2.1%	1.3%	13.0%
6-10	16.1%	27.7%	29.0%	19.6%
11-20	29.0%	23.4%	29.0%	41.3%
21 OR MORE	16.1%	23.4%	21.5%	13.0%
AVERAGE (YEARS)	12.1	13.4	13.6	13.0
PERCENT CHANGE	-9.7%	-1.4%	4.6%	3.2%

SHOPS WITH SERVICE BAYS FOR INSTALLATION/REPAIR

PERCENT WHICH HAVE BAYS	2008	2007	2006	2005
YES	22.2%	23.2%	23.0%	26.7%
NO	70.4%	75.1%	77.0%	71.7%
NO ANSWER	7.4%	1.7%	0.0%	1.7%
AVERAGE (FOR THOSE THAT HAVE)	2.7	4.7	3.4	5.0

Paying for qualified help is another frequent complaint. With this economy, it's no different. This year, wages for shop foremen (where they are employed) typically averaged nearly \$46,000 annually. Other employees, most likely hourly, saw wage decreases.

The total average number of employees per business unit nationally remained steady in 2008, with increases seen in a few areas. The average number of machine shop employees climbed by about a half-employee (from 2.8 employees in 2007 to 3.2 in 2008), perhaps indicating that other shop personnel responsibilities are being handled by machinists as well.

The average tenure of today's machine shop employee has declined somewhat over the past few years. In 2006, the average length of machine shop employment at one location was just over 13.6 years. In 2007 that had fallen to 13.4 years. In 2008 the number was at 12.1 years. The good news is, we've seen percentage increases at nearly every level of experience, including the very newest and the "almost oldest" employees. Only at the "4 year" level and the "21 years and older" level did the numbers fall.

Survey respondents say over 70 percent of their employees have been with them for 5 years or more; 45 percent have been employed at the same location for at least 11 years and over 16 percent have logged 21 years or more at the same shop. Again, positive signs for interest in this industry, that nearly 40 percent of shop employees are fairly new to the business, with tenures of 5 years or less.

As we stated at the beginning, the number of engines being produced has declined. This is no surprise. The makeup of the market has changed, to



SHOP PURCHASING & CUSTOMER PROFILE

being more and more niche-oriented. When we asked survey participants what new market niches or new machine shop services they began in the past 12 months here were the results:

- Marine (9 percent);
- Restoration (9 percent);
- High performance (7 percent);
- Industrial (5 percent);
- Heavy Duty Diesel (4 percent);
- Small engine repair (4 percent).

The most common answer, however, given by 13 percent of respondents was “other,” with the clarification that this category includes: coatings, compressors and hydraulic hose.

When we asked what the most profitable market in which engine builders do business, the results were as follows:

- High performance (27 percent);
- Restoration (20 percent);
- Industrial (18 percent);
- Heavy duty diesel (10 percent);
- Other (10 percent);
- Automotive diesel (6 percent);
- Small engine (6 percent); and
- Marine (2 percent).

This survey and its results were performed by Babcox Research, the market research division of Babcox. Babcox Research is uniquely qualified to provide accurate research within the automotive aftermarket.

If you would like additional information about trends in the machine shop market through the years, you may contact Bob Roberts, Babcox Marketing Research manager, at 330-670-1234, ext. 252 (broberts@babcox.com) or Doug Kaufman, editor, at 330-670-1234, ext. 262 (dkaufman@babcox.com). **EB**

AMOUNT SPENT ANNUALLY FOR THE PURCHASE OF INTERNAL ENGINE COMPONENTS

	2008	2007	2006	2005
AVERAGE	\$78,884	\$93,104	\$87,858	\$126,587
PERCENT CHANGE	-15.3%	6.0%	-30.6%	3.0%

PERCENTAGE OF PARTS PURCHASED FOR REDISTRIBUTION OR RESALE

	2008	2007	2006	2005
AVERAGE	48.7%	36.7%	47.3%	46.5%
PERCENT CHANGE	19.1%	-22.4%	1.7%	1.1%

ENGINE COMPONENTS PURCHASED FROM ONE SUPPLIER OR MULTIPLE SUPPLIERS

	2008	2007	2006	2005
ONE SUPPLIER	35.2%	28.3%	24.6%	20.3%
MULTIPLE SUPPLIERS	64.8%	71.7%	75.4%	79.7%

ENGINE COMPONENTS PURCHASED IN BULK OR CUSTOM-ASSEMBLED KITS

	2008	2007	2006	2005
SEPARATELY OR IN BULK	55.9%	62.8%	57.9%	57.7%
CUSTOM-ASSEMBLED KITS	44.1%	37.2%	42.1%	42.3%

SALES OF ENGINE KITS TO DIY/PRO INSTALLERS

PERCENT WHOSE SALES TO:	DIY	PROFESSIONALS
INCREASED	9.3%	6.0%
REMAINED THE SAME	68.5%	78.0%
DECREASED	22.2%	16.0%
AVERAGE INCREASE %*	8.0%	4.0%
AVERAGE DECREASE %*	32.5%	37.4%

* Where an increase or decrease was noted, it averaged this percent.

PERCENTAGE OF REBUILT ENGINE SALES TO THE FOLLOWING

	2008	2007	2006	2005
DO-IT-YOURSELF CUSTOMERS	56.0%	45.8%	45.1%	53.6%
SERVICE GARAGE/INSTALLER	20.8%	27.4%	28.2%	19.4%
JOBBER	3.8%	7.2%	4.6%	10.0%
AUTOMOTIVE DEALERS	2.0%	4.3%	2.7%	2.6%
HEAVY DUTY FLEETS	6.0%	4.1%	6.1%	1.8%
AUTOMOTIVE FLEETS	3.5%	3.1%	1.4%	1.1%
WAREHOUSE DISTRIBUTORS	0.1%	0.5%	0.0%	0.4%
GOVERNMENT FLEETS	2.1%	0.8%	0.9%	1.8%
TRUCK DEALERS	0.8%	10.0%	0.5%	1.4%
MASS MERCHANDISERS/RETAILERS	0.0%	0.1%	0.1%	0.2%
OTHER	4.9%	5.8%	10.4%	7.7%