



Diversify your business

BY DAVE METCHKOFF

Business is not healthy enough for pride and prejudice. The theory of “we only work on Fords, Chevys, automotive/race motors here” will only ensure the closing business hours from late evening to late lunch. Perhaps that strategy will even result in the closing of business altogether.

To add diversity to your business model is to create more money-making opportunities for you and your employees. Having pride will only limit one’s possibilities. Prejudice will only drive away those who are looking for a good machine shop. Just because some kid walks a single cylinder motorcycle into your shop, the attitude of a good foreman or service writer should be welcoming, not condescending.

Attitude must be as such: “How can we make money off this single cylinder motor?” The attitude should not be “How can we make money off of only a single cylinder motor?” If someone is willing to bring you money, why not accommodate them?

The mental makeup is the same for prospective customers regardless of motor size. Teenagers running a single cylinder shifter kart or motorcross motor share the same mental makeup of the forty-something racing dirt track. Kids racing ATVs share the same passion as their father running a pro stock drag car. Why not capitalize on the racers passion? Going fast at 25 mph is the same as going fast at 325 mph. IHRA World Champion Drag Racer Clay Millican has won numerous top-fuel races. In his off time,

he’s supporting (or shall we say “feeding”) his 14-year-old son’s ATV racing habit.

What most machine shops fail to realize is they’re fully capable of machining anything that burns gas. From a Ford or Chevy to Kawasakis and Harley-Davidsons. Limiting your shop to only V-8s will accelerate your shop’s premature demise. While the slowdown of this economy continues, the more successful machine shops and engine builders are finding new ways to keep the doors open and the employees busy.

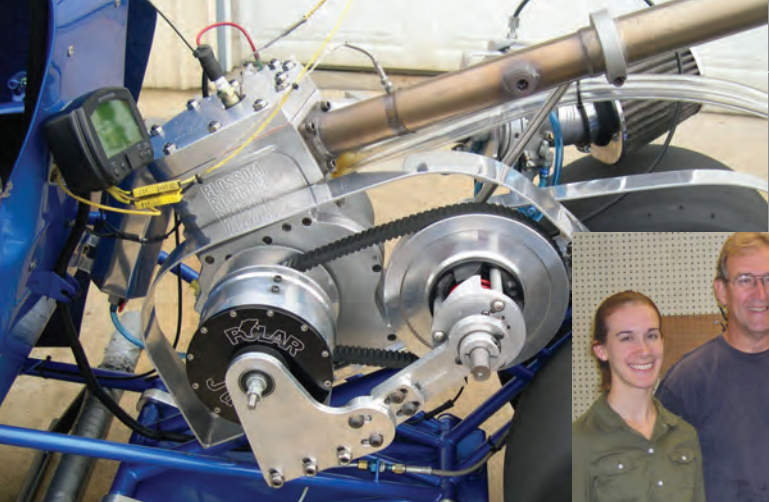
Boring bars, honing machines, vertical mills, fly-cutters, hydraulic press, carbide cutters and end-mills don’t discriminate. Your machinery knows not what it’s machining, it only machines what you want it to machine. Most machine shops already use the modern machinery and tooling necessary to machine V-8s or V-Twins. Although the machinery and tools are in place, many neglect an untapped market which is thirsty with alternatives.

The market known largely as the “PowerSports” market is desperate for alternative solutions of machine and repair work. MX, Dirt Bike, ATV, Snowmobile, Jet Ski, Shifter Kart, Scooter, Outboard Boaters and Harley-Davidson owners are searching for engine builders. And, repair shops and machine shops other than the original equipment franchise dealers. Why? The franchise dealers are usually biased with their repair and performance solutions, meaning they’d rather sell the customer a new

OEM manufactured factory part than rebuild the existing one. Varying reasons apply but most often their motivation is the factory kick-backs awarded to the franchise dealer for their volume of OEM parts and performance accessory sales.

Oftentimes consumers feel trapped into making the decision and settle with the franchise dealer rather than go elsewhere because they feel there are no alternatives. As with the automotive and automotive performance industry, there are numerous aftermarket alternatives to choose from, but consumers are generally uneducated in this area. They do not spend time researching their local machine shop alternatives. If they happen to see a local auto shop or machine shop, they’ll generalize in their mind that these shops as automotive only. To change that perception, these shops must promote themselves as all things to all people.

The fact is, even an automotive performance machine shop can set up with a PowerSports distributor and offer parts and performance accessories like most franchise dealers. One of the most tenured and prolific PowerSports engine parts distributors is L.A.SLEEVE. For the last 30 years, they’ve relentlessly promoted the crossover opportunities to the Automotive, Industrial and Performance machine shops throughout the USA. Since 1945, L.A.SLEEVE has been manufacturing cylinder repair sleeves for all engine markets. But, it wasn’t until the early ’70s that they realized the
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Competitive karts, junior dragsters and garden tractor pulling and racing have helped create a more secure and diverse future for Snyder's shop. Pictured below, from left: Gabrielle, Gaylon, Gene and Cale Snyder.



Small engines drive future of Snyder & Snyder Machine Shop

BY GALON SNYDER

If I said that the types of engines we build have been planned or organized, I would be lying. Even the machine shop itself stemmed from a three-bay service station. It has been critical to test different specialty areas in order to define potentially new markets for our business. This article aims to identify the four different types of small engine building, including competitive karts, junior dragsters, garden tractor pulling, and garden tractor racing, which have helped to create a more secure and diverse future for our machine shop.

We have been in business for 34 years and have seen the changes in our country's economic state affect our shop's standard line of work. Also, with the closer manufacturing machining tolerances and improved materials for internal parts, the cylinder head and block machining, which used to be the largest part of shop labor, has declined drastically. This is especially true since present-day cars have a life expectancy of more than double that of cars made 20 years ago. Our business has had to diversify because of these changes and small engine building has been a niche that we have comfortably positioned ourselves in.

We never planned to build small race engines, but when my son started racing competitive karts, it was not long until we started receiving work from other race teams. Kart engines

have numerous restrictions, making it a challenge to build a competitive engine.

We later moved into junior dragster racing when my son turned 12. Some of the karting engine development carried over to the dragster. As always, the basics apply, including clearances, cam timing, ignition timing, and general machining.

It seems that racers will find a way to race anything and small engines make it affordable for a number of different motorsports. Karting has to head up the list with flathead and overhead classes for 5Hp Briggs engines. Not only are there two engine designs, but restrictor classes that all require different combinations in order to be competitive. Also, kart engines provide a lot of repeat business because of heavy race schedules and require a typical refreshing every 10-12 races to stay competitive.

Junior dragsters are probably the second largest market for your shop. Again, these engines are based on the 5Hp Briggs, some blocks can be very exotic. The engines tend to be more expensive but do not require the frequent rebuilds as do the kart engines. An annual refresher is usually necessary.

Garden tractor pulling, as differentiated from garden tractor racing, has gained popularity and an altogether different type of engine is used in this sport. Kohler engines are the most prevalent engine used, with a number of specialty parts suppliers manufacturing custom cams, pistons, rods, and cranks to improve upon the stock pieces.

To further substantiate my remark that people will race anything, there is also garden tractor racing. This sport has seen some popularity at our local dirt tracks and I believe could yet be another area of small engine building. The types of engines are usually the Briggs or Tecumseh type.

The changes or additions to a normal, well-outfitted shop to produce these specialized

engines are minimal. Our shop still does the majority of its work in passenger car, agricultural, and industrial engines. We did not have to outfit the shop with a lot of additional specialty equipment to develop and maintain our small engine building division. However, to test or develop new engine combinations, I would suggest a flow bench and dynamometer. Track results are not always conclusive, so I have found that improvements on the flow bench or dyno usually translate to improvements in actual performance.

I do not think I would recommend building engines for all types of motorsports mentioned here. These sports are very technical and require extensive individualized development. Building engines for more than one type of competition would probably not yield a top-notch engine. My best results have been to select a class and work at an engine combination that is specific to that, and only that, class.

Also, if you have done any engine building before, you know you must be available for tech support. I call it "babysitting". As annoying as it may be, nothing upsets a good customer more than when problems occur after having paid for an engine.

It is my hope that these time-tested sentiments should help other AERA members try what could be an additional line of work that will help maintain income for shops when changes in normal shop work occur. ■

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DIVERSIFY YOUR BUSINESS

BY DAVE METCHKOFF

409cc big bore
2-cycle mono-block
cylinder made for
the 350 Yamaha
Banshee Quad by
L.A.SLEEVE.



limitations of the automotive market would soon depress their overall business model.

Well known in the automotive, industrial and performance markets for supplying ductile iron cylinder sleeves, L.A.SLEEVE has been able to provide an opportunity to their auto/industrial customers to also service the PowerSports market. It is warehouse distributors like L.A.SLEEVE who can broaden your customer base. If the opportunity is available, take advantage of it. Q&E Engineering, in Anaheim, California took advantage of L.A.SLEEVE's technical prowess and engine parts selection. Q&E is one of L.A.SLEEVE's most successful customers

To delve a little deeper into this market, we look to the guys at Q&E. They're a shop who've been able to service all engine markets. Vance Qualls is the president at Q&E. He tells us his shop has remained busy during this current slow economic period. "We're different than most shops. Currently, we're lining

up sleeve jobs, head and valve work for a Honda 250F dirt bike, a Kawasaki ATV, a Perkins 6.354 forklift, a GM LS-1, a Carlisle compressor, a V-6 Mercury outboard and a Chinese scooter cylinder. We take in almost anything. Our motto is: if it turns a crankshaft, screw, prop or pump, we'll build it. If it wasn't for our diversification we'd probably have been gone by now."

Although their shop isn't as organized as a NASCAR engine facility or a glamorous Harley-Davidson dealership, they've got work. In-between the confusion on the shop floor of engines, heads, cranks, dirt and grime, they've got work and money flowing through the business. And today, that should be every shop's concern.

Vance tells us, "Of all we do, it's hard to pass up the ATV and dirt bike cylinder and head work. Cylinders and new heads are extremely pricey; therefore the consumer will approach us looking for a less expensive alternative. The MX and ATV consumers will drop \$800 to \$1,500

for us to re-sleeve their cylinder, port the head, replace valve seats, supply new intake and exhaust valves and service their carburetor. All theories apply when producing horsepower on a V-8 head or a 5-valve Honda dirt bike head. The work is relatively easy and the profit is unmatched. The market isn't as diluted as the Automotive market so we know we're going to be able to mark up our pricing to somewhere in the 40% range. That's better than anything we can make on Automotive hard parts".

Of all the PowerSports motors, the 2-cycle motor is the most maligned. The 2-cycle will produce the most "pound for pound" horsepower of any motor ever made. In the past, the long time Drag racing engine builder would scoff at the notion of rebuilding those high pitched squeaky little motors. Frankly most shops are afraid to even look at a 2-cycle. But, in today's slow economy, one might reconsider. 2-cycle cylinders are being discontinued by most Japanese factories. Owners of these bikes crave to rebuild

them because they are still legal to ride in most forest and OHV trails. Newer bikes are being regulated and restricted to mostly MX tracks.

Consumers looking for new cylinders are now being gauged by high priced parts stores or dealerships. Some older 2-cycles are going for upwards of \$900.00. Therefore, the consumer has become very receptive towards having their 2-cycles re-sleeved or bored to larger bore pistons. All shop tools and machinery would be utilized in cylinder rebuilding. Boring bars, honing machine, vertical mills, press and some simple right angle porting tools would help finish off the port work.

As the 2-cycles are being eliminated from new sales, the 4-cycle dirt bike, snowmobile, PWC and ATVs are obviously dominating new sales. This has become a boon for the crossover market potential. Why? Again, the performance motor theories are relative to Automotive racing. The progressive thinking Automotive race engine shops are taking in the 4-cycle motors for repair and

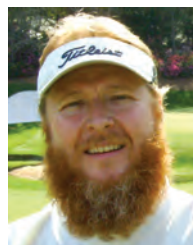
performance upgrades. These shops will re-sleeve the cylinder (which is not unlike a V-8 sleeve job) installing a big bore piston, top-end gaskets, porting the head and replacing the valves. Retail on a job like that is usually \$1,400.00 to \$1,600.00 not bad for only three to five hours of labor.

You may be thinking "can an old dog learn new tricks?" It's all up to the "dog"! Cylinder sleeving is the same across the board. If you can drop in a 4 inch bore Chevy sleeve, you can easily drop in a 3-1/2 inch bore Yamaha ATV sleeve. All methods apply. Can you port a LS-1 head? If the answer is yes, then you can port a 4-valve Honda dirt bike. And, as earlier stated, the profit margin is very good.

The worldwide internet is loved and hated by many in our industry. But, the fact is you can get almost all the information you need by searching the web for free performance tips. Many in the PowerSports markets will divulge their secrets openly on their websites. Why? Because they feel if they're open

with their technology the consumers will trust their motives. These tech tips can and will help the novice in the right direction. Then, old time experience and common sense will lead you and your shop towards integration of Big Blocks, dirt bikes, ATVs and scooters.

You can revive your business by thinking of these other industries. Don't let your pride get in the way. There is a huge potential waiting out there and only you can open it up. The possibilities are without limit. ■



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