



Buying Behavior

New study reveals what factors influence professional engine builders and their brand preferences

Exclusive to *Engine Builder*

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The foundation into and around which all of the other components are fastened, blocks are a key investment.

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Who Buys What & How

Survey Reveals Key Factors Driving Engine Builder Buying Habits

By **Doug Kaufman**, Editor
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With more vehicles on the road, more engine configurations under hoods and more parts on the shelves, the process of getting engine parts from manufacturer to end user has never been more complicated.

The traditional two- and three-step distribution model has been disrupted in many segments of the performance parts business, and who buys what from whom and how, is more than just a great title for a country song – it's a very complex part of an increasingly tangled market.

Engine Builder magazine has, for more than 50 years, sought to bring parts and equipment manufacturers, warehouse distributors and engine building professionals together in order to maximize profits and productivity of all parties. As this market continues to adapt to a wide variety of external stimuli, we recognize that the expectations of our readers' customers have a huge impact on how those parts are selected, sold and inventoried.

We asked our readers to help us focus on the changing face of customer service these days. With the help of many manufacturers and suppliers we have been able to ask the most compelling questions regarding the buying behaviors of *Engine Builder* readers and their preferences for and satisfaction with products and brands.

We profiled a variety of engine parts and types of equipment. We asked readers what their primary reason is for choosing a particular product as well as where and how they like to buy parts. What are the factors that influence our readers' decision making processes most significantly and how do THEIR customers influence those purchasing decisions?

Some interesting conclusions can be



This "word cloud" shows the most important words engine builders use when describing their parts purchasing challenges.

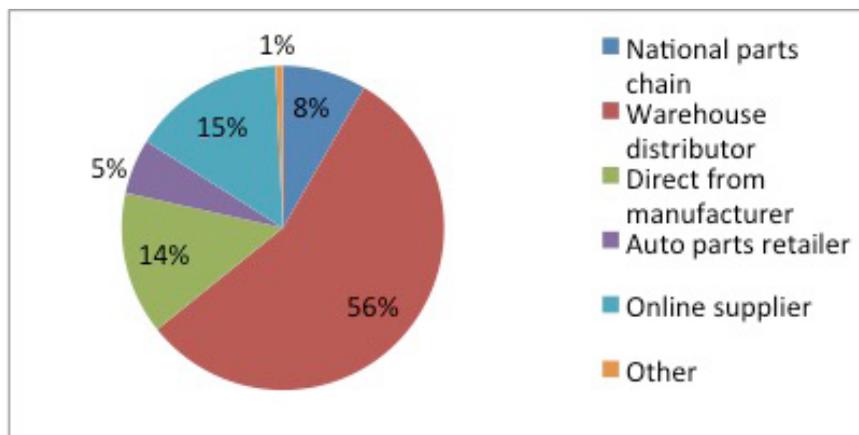
drawn about the factors engine builders consider when buying parts. Overall, the primary reason (the average across all categories) for choosing a product is Reputation For Quality (51 percent), followed by Experience With The Product (28 percent), Best Price (8 percent), Technical Support (7 percent) Relationship With Sales Rep/Counterperson (3 percent), Customer Request (2 percent) and Fastest Delivery Time (1 percent). Overall, a Liberal Return Policy didn't resonate at all as a reason to buy.

Over the next several pages, you'll find detailed reports on several of the individual product categories, spelling out why our readers choose a particular product or brand. Additional reports on other specific product categories will be released in print and online as well, but this report focuses on general buying behavior. In addition, we plan to make this an annual report, so moving forward we will be able to offer forecasts and look at how trends have developed within the parts distribution industry.

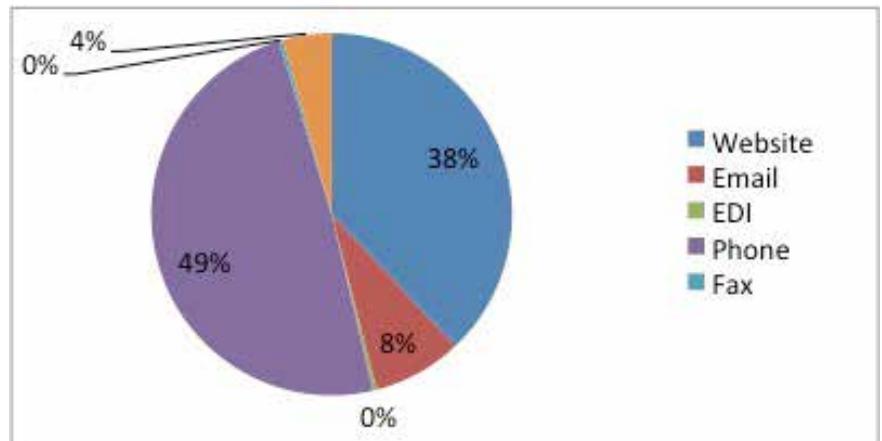
Suppliers say they are constantly addressing requests from their customers in order to best deliver the parts that are expected. These requests – or in many cases, demands – range from the simple to the extreme...but they all fall under the heading of "customer service."

"You know, customer demands haven't really changed the way we distribute parts," explains Ron Sledge, Performance and Technical Manager for King Engine Bearings. "We get asked everyday if they can buy direct from us, but our management wants to maintain the traditional two-step distribution process of getting parts to the end users."

According to our survey, the majority of professional engine builders continue to prefer to buy from a warehouse distributor (56 percent), but online suppliers (15 percent) and buying direct (14 percent) are very popular as well. National parts chains (8 percent), auto parts retailers (5 percent) and "other" (1 percent) are



What is your primary reason for choosing a brand? Average across all categories.



How do you prefer to place engine parts orders?

sources as well.

When it comes to placing engine parts orders, engine builders prefer to reach out and touch someone – nearly half of respondents say they prefer to place an order on the phone, while a somewhat surprising amount say they prefer to shop online. Not just for Black Friday holiday sales, web ordering accounts for 38 percent of the

activity while email adds another 8 percent. Face-to-face isn't dead, as 4 percent say in-person sales is their preferred method of conducting business. Fax and EDI combined for less than 1 percent of the responses.

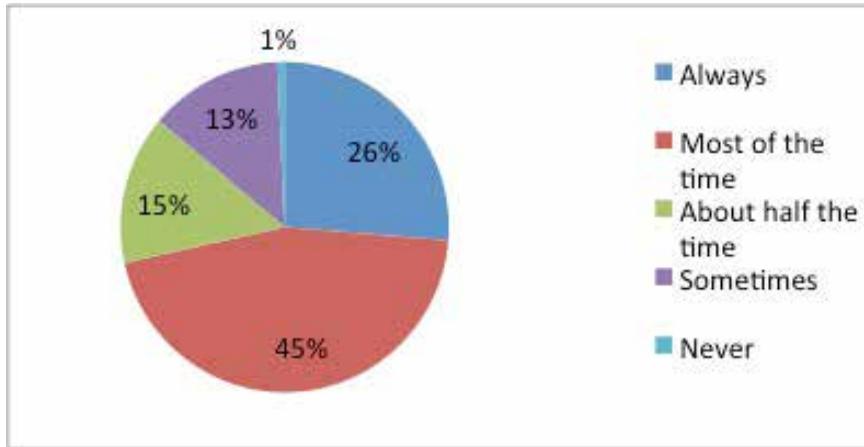
Our research suggests that where you like to shop determines how you prefer to order. The favorite combination of supplier and order method is calling up your warehouse distributor – 34 percent of all respondents prefer that. 18 percent prefer to use the WD's website, while 11 percent prefer an online supplier's website.

Whatever the source, ideally, engine builders stress the importance of one-stop shopping. 78 percent say it's extremely important or important to be able to buy what they need at once. 21 percent say it's not important and 1 percent says one-stop shopping means absolutely nothing. For those who DO want one-stop shopping, that one-stop is overwhelmingly a warehouse distributor.

“One of the challenges we face these days is that there are so many different engines today, from four- to six to eight, even 10 cylinders,” says Tom Lieb, president of Scat Manufacturing. “In days gone by if a guy had a small block Chevy, well then he had a small block Chevy – it was no big deal. There was a certain handful of parts and that was it. But in today’s world, parts proliferation means we have to up on all those different configurations. That puts the pressure on us to make sure that we ask the right questions so we send them the right parts.”

Even though technical support isn’t the primary reason engine builders buy a particular brand, you’d better be darn sure you offer it. 83 percent of survey respondents say tech support is an important or extremely important factor in their purchase decision.

Support can come in many ways, of course, whether during the shopping process (detailed catalogs, sell sheets, technical documentation), during the sale (a knowledgeable customer service rep, counterperson or sales representative) or after parts delivery (installation, maintenance or follow up questions).



Does "Made in the USA" affect your buying decisions?

	Does "Made in the USA" affect your buying decisions?				
	Always	Most of the time	About half the time	Sometimes	Never
Extremely important	5%	6%	0%	1%	0%
Important	12%	21%	4%	5%	0%
Not important	8%	15%	9%	5%	0%
Not at all important	1%	3%	1%	2%	0%

How important is ISO-certification to a "Made in the USA" buying decision? If you think ISO certification is important, you are also more likely to have "Made in the USA" affect your buying decision.

	National parts chain	Warehouse distributor	Direct from manufacturer	Auto parts retailer	Online supplier	Other
Website	4%	18%	3%	1%	11%	0%
Email	0%	2%	5%	0%	1%	0%
EDI	0%	0%	0%	0%	0%	0%
Phone	3%	34%	6%	2%	3%	1%
Fax	0%	0%	0%	0%	0%	0%
In-person	1%	1%	0%	2%	0%	0%

Where you like to shop determines how you prefer to order. The favorite combination of supplier and order method is calling up your warehouse distributor – 34% of all respondents prefer that.

In fact, “after sale support” is important or very important to 96 percent of our survey respondents. It may involve public questioning and debate thanks to the increasing presence of social media. Not necessarily a bad thing, however.

“I like social media mainly because people can talk to me and tell me what the problem is or send me pictures,” says Russ Yoder of Erson Cams. “It’s live customers, too, lots of times they just send me pictures of something and I can see what happened. You know in all my years as an engine builder if I needed to speak with somebody like me in my position now it was impossible – wasn’t going to happen. I could complain to the salesman till the cows come

home – it wouldn’t do me any good.”

And a lot of times, Yoder says, that’s purely what people want. “They just need their issue to be heard. As long as you listen to them and they see that you’re going to address it and try to take care of it, they’re usually pretty happy.”

Delivery is always an important factor in the automotive industry – though for installer shops looking to get vehicles in and out of bays immediacy is often more critical than price. For engine builders, who typically have more time to spend with a project (especially if you’re not buying parts until the customer comes up with the cash), same-day delivery versus one- or two-day delivery is usually not a key factor. Only 46 percent of readers say same-day delivery is important or extremely important – an equal amount say it’s not important. The key, they tell us, is having the right part for the application.

The 800-lb. gorilla in most rooms that sell things these days seems to be Amazon. A lot of time spent worrying about the future of parts distribution – and with good reason, says Hastings’ Jay Kedia.

“Automotive is supposed to be Amazon’s next big thing after groceries and I do believe that when it comes to bolt-on parts – the things consumers can get to like filtration, spark plugs and the like – we’ll see Amazon penetration,” Kedia, Senior VP Marketing Sales and Strategy, says.

However, he says thanks to many factors, including parts proliferation, internal engine parts might not be affected that dramatically.

“You’re faced with many questions you won’t be able to address until you open up the enigne. I think because the specifications are so late in the process of sourcing parts that it will be tough for Amazon to meet those requirements,” Kedia says. “In addition, parts don’t necessarily carry over from year-to-year and so I think it would be difficult to maintain inventory unless they start working with the WD network – and then you’re

just adding one more step to the distribution chain.”

As we pointed out, the majority of our readers tend to prefer buying from a knowledgeable WD and would stay with that WD if their regular customer service rep or sales person were to leave and go to another company. When asked “If your WD sales rep left today and went to another company, would you follow that sales person and show loyalty to them or would you remain loyal to your WD?” 53 percent of respondents said they would stay with the WD while just 7 percent said they would follow the sales rep. What’s interesting, however, is that 39 percent tell us they’re not sure what they would do, implying that they’re not so enamored with their parts relationship that they couldn’t be influenced by another supplier, all things being equal.

When sourcing a part, its country of origin has a strong impact on the purchasing decision. When asked “Does ‘Made in the USA’ affect your buying decisions?” 26 percent of respondents said “Always” and 45 percent said “Most of the Time.” Another 15 percent said it is a factor about Half the Time and 13 percent said Sometimes. Only 1 percent of respondents said it Isn’t a Factor.

Of course, this is a touchy subject because in our global economy, some parts are not available from U.S. suppliers.

“It’s a fact that the manufacturing processes required for certain parts are just not available in the U.S. anymore,” says Scat’s Lieb.

In a similar vein, we asked if it’s important for parts manufacturers to be ISO-certified. About 55 percent say it’s important or extremely important, while 45 percent say that’s not an important buying consideration.

However, ISO certification and “Made in the USA” tend to go together. If you think ISO

certification is important, you are also more likely to have “Made in the USA” affect your buying decision.

Dave Sutton, professional parts peddler and contributor to *Engine Builder* magazine for the past nine years, has written numerous columns about the relationship between engine builders and their customers, particularly as it relates to parts sales. His column, Profitable Performance on page 6 of this month’s issue, in fact, hits that subject very well.

Dick Boyer, from World Products agrees with Dave, in that missed parts sales are missed profit opportunities. “I think educating our customers on engine blocks, short blocks and complete engine kits is very important, because they don’t have to second guess and worry about being wrong. They maybe reluctant until I tell them, ‘Look, how long does it take you to make a profit? You can order the right kit in 10 minutes and make \$2,000 or you can let your customer bring in the wrong parts and waste time.’ We have great opportunity to educate them.”

But what influence does your customer have on your purchasing decision?

In this business of course, thanks to a broad spectrum of resources for your customers to be educated about parts, it may seem like everyone is an expert. From Google to YouTube to fan forums and magazines, customers often think they know more than they actually do. 11 percent of survey respondents say customers influence the purchase decision “a great deal;” 19 percent say “a lot;” 43 percent say “some;” 15 percent say “a little;” and 12 percent say “none at all.”

And when customers have the ability to make purchasing decisions or buy their own parts? Their influences are similar to those of a professional, to a degree.

While 39 percent say quality is the most

important factor, 33 percent buy on price.

Product performance is cited by 22 percent as the primary factor. Brand reputation (5 percent) and support (1 percent) close out their influences.

Private label and house-brand products are often a very important part of an engine builder’s arsenal when it comes to building a customer’s perfect engine. How do customers perceive these parts?

We can report that 10 percent see them as better value than brand name; 26 percent see them as equivalent to brand name products; 52 percent characterize them as acceptable economic products; and only 12 percent perceive them as “cheap knockoffs.”

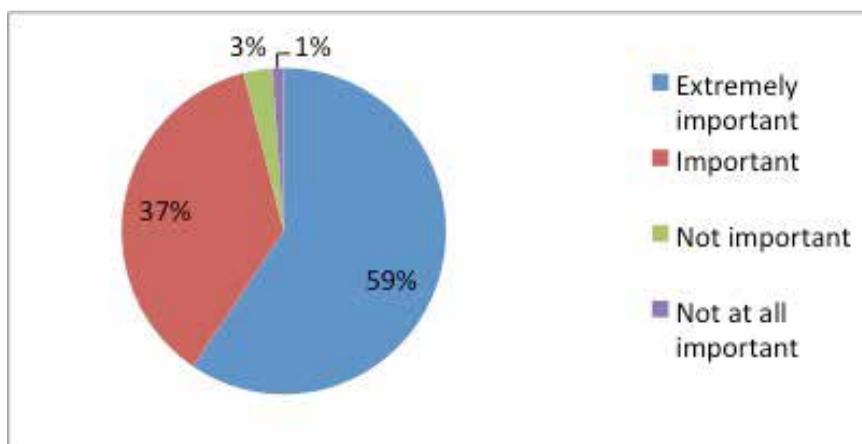
Of course, education is a key part of the buying relationship, so how do professionals get information about new products? To us at *Engine Builder*, the results of this question couldn’t be better. An impressive 78 percent of respondents say they learn about parts and products through print magazines; 60 percent use internet searches; 52 percent visit manufacturers’ websites; 50 percent get information from parts suppliers; and 46 percent use tradeshow for their information gathering needs. More resources are highlighted in the chart above, but we in the magazine business appreciate the vote of confidence!

On the opening page of this report, you can see a “word cloud” that answers the question “What is your greatest buying or sourcing challenge today?” This word cloud represents the most-used words in our respondents answers, with the size of the word indicating how often that word was used.

Interestingly, although price is only the third most important criterion of engine builders’ purchasing decision, it is the most commonly referenced in an open-ended setting. Engine builders recognize the difficulties of competing against internet sales and crate engines and ask their vendors to work with them more closely to maximize their profits.

This industry continues to change and how and why people buy and from whom they buy them are no exceptions. These are volatile times, explains Scat’s Lieb.

“You know there’s a tremendous amount of consolidation and we’re going to see some people come and go and we’re going to see some people join forces. I think in the next two years, the speed industry’s going to change,” he says. “But it’s still very strong and it’s still going to be a business that we all can enjoy and be proud to be a part of.” ■



How important is “after sale support” in making a purchase decision?

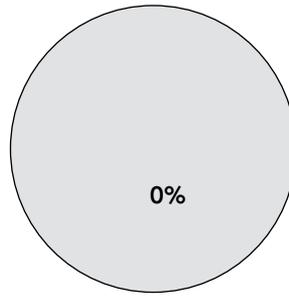
Engine Blocks

"We're starting to see much more call for LS engines and for 4.6L and 5.4L Ford Modular engines from professional engine builders than in the past. There's always been a large hobbyist interest in these engines, but now professionals are recognizing the opportunities too.

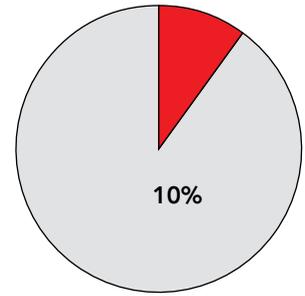
"We don't sell to the hobbyist or to the tuner shop – and let's be honest, an engine block is a very pricey investment and if they get the wrong part and machine on it, they'll be eating some significant profit. So the partnership and the educational process is as important as it's ever been, even for the seasoned professional engine builder." - Dick Boyer, World Products.

The relationship with sales reps or counter pros has a greater degree of importance than for any other product category. Customer request has no bearing whatsoever on a block purchase decision.

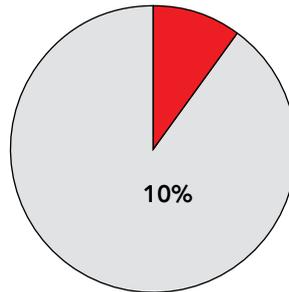
Fastest Delivery Times



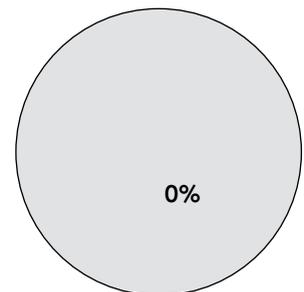
Best Price



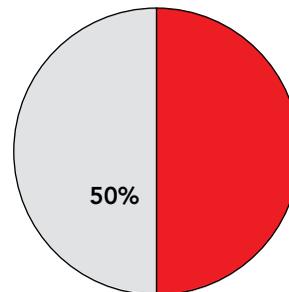
Relationship with Sales Rep/Counterperson



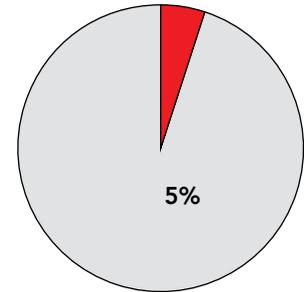
Liberal Return Policy



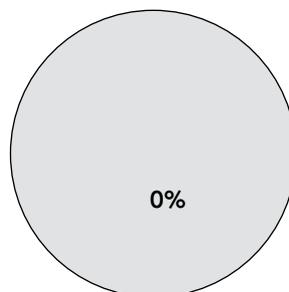
Reputation for Quality



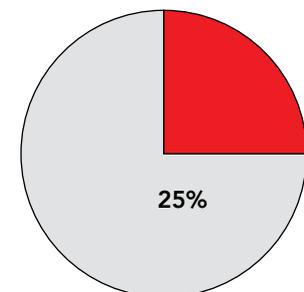
Technical Support



Customer Request



Experience with Product



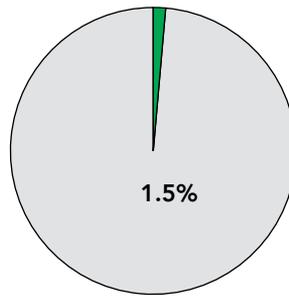
Crankshafts

"To cast a crank requires the shell core method, which is different than greensand – it's the only way to get a intricate casting that has integrity. It's extremely difficult to find steel mills that manufacture alloy steel needed for crankshafts and connecting rods, a steel with nickel and chrome and vanadium in it.

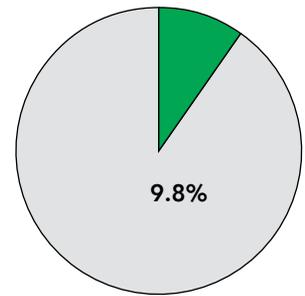
"Our business model is to touch everything – we make sure it's what it's supposed to be. We check all the material because we heat treat here. Working with steel is a little like baking a cake – you put all of this stuff in a pot, you heat it up and you pour it. The heat treating process is based on that content. We treat the crankshaft three different times using three different processes, and if we treat it and it comes out bent or cracked or swollen, we know we have a problem with the steel. If it comes out the way it went in, except it's been transformed due to hardness, then you know the steel is good." - Tom Lieb, Scat Crankshafts.

Analysis shows that customer input is significantly more important than average when engine builders buy a crankshaft.

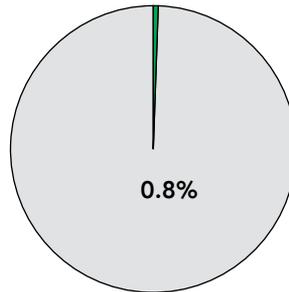
Fastest Delivery Times



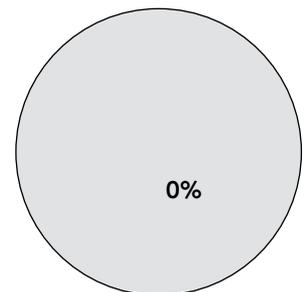
Best Price



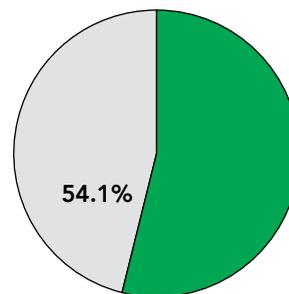
Relationship with Sales Rep/Counterperson



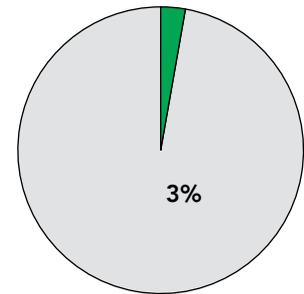
Liberal Return Policy



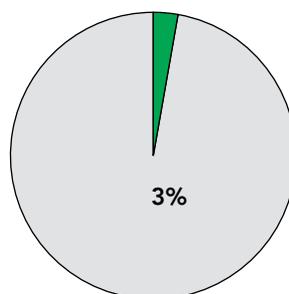
Reputation for Quality



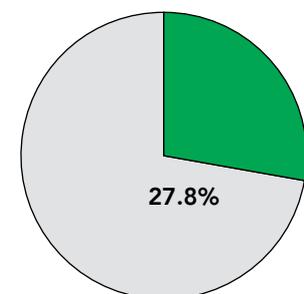
Technical Support



Customer Request



Experience with Product



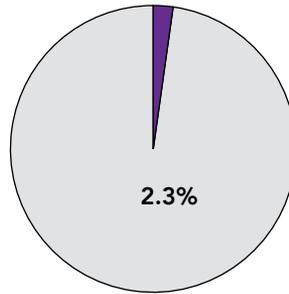
Camshafts

Especially with camshafts, suppliers say the combination of salesman, teacher and friend is crucial to customer service.

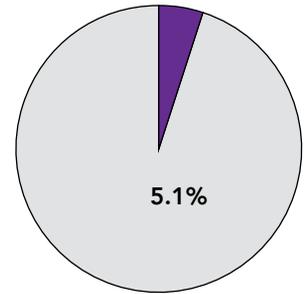
"If it's something that's hidden from me the customer is going to see it before I do – but while they may think they know what they're looking at they may not be totally knowledgeable. We keep our quality as high as possible, be as productive as you can and communicate with as many customers as you're able. We find that usually, complaints are just customers wanting to have their issues heard." – Russ Yoder, Erson Cams.

Even though they were not considered to be the most important factors, fastest delivery time was much more important with camshaft purchases than with most other categories; and price was much less important than average.

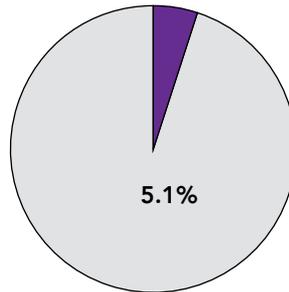
Fastest Delivery Times



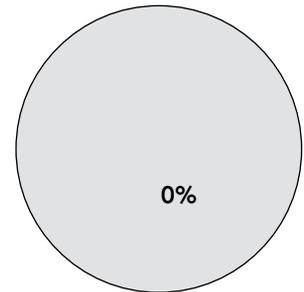
Best Price



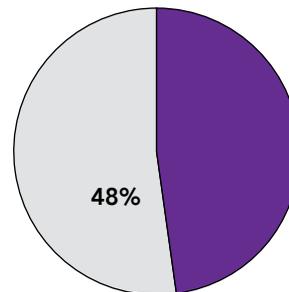
Relationship with Sales Rep/Counterperson



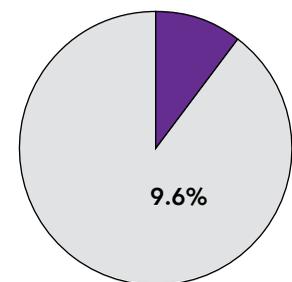
Liberal Return Policy



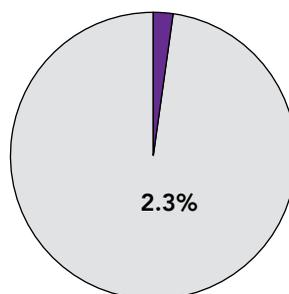
Reputation for Quality



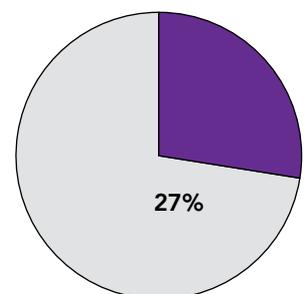
Technical Support



Customer Request



Experience with Product



Engine Bearings

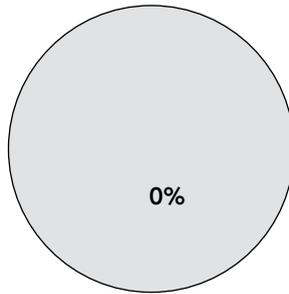
The bearings that support the crankshaft play a critical role in handling the power the engine produces as well as engine durability. Because of this, bearing selection, fit and installation can make or break your engine build.

If a bearing is not strong enough to handle a high horsepower application, it may fret or fatigue and fail. The last thing you want to see are little flakes of metal in the oil pan and filter. A spun bearing is even worse, especially if it happens at high RPM because it will usually break a rod and destroy the engine.

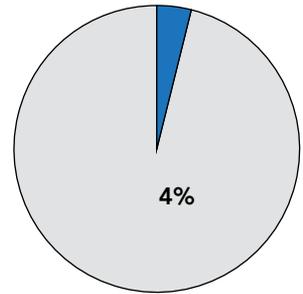
Rule #1 when building a high performance engine is to follow the recommendations of the bearing manufacturer as to which type of bearings to use in a particular application. Don't try to second-guess their recommendations.

Cross-tabulation analysis reveals that experience with an engine bearing is more important than average, and price is less important than average.

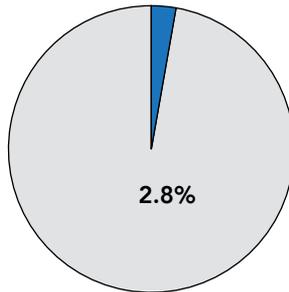
Fastest Delivery Times



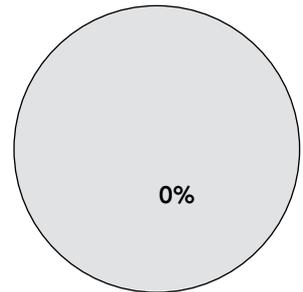
Best Price



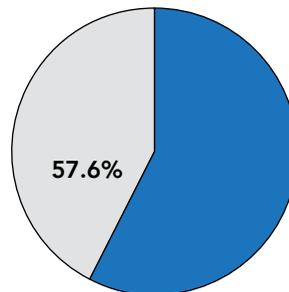
Relationship with Sales Rep/Counterperson



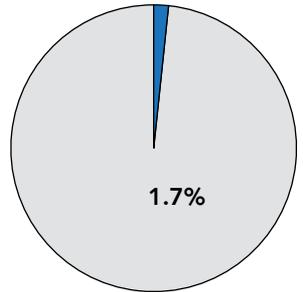
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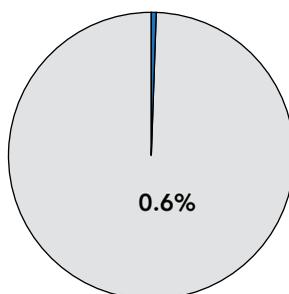
Reputation for Quality



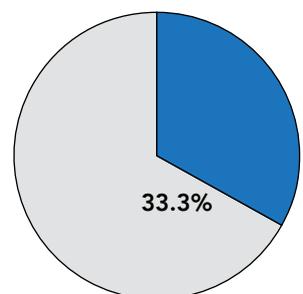
Technical Support



Customer Request



Experience with Product



Connecting Rods

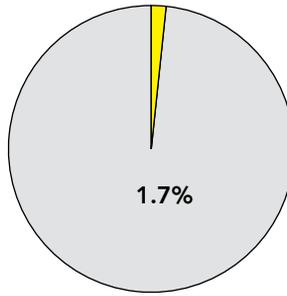
The choices in connecting rods may seem overwhelming. The strength of a rod will depend on the alloy, heat treatment, design, thickness, dimensions, and weight. Using finite element analysis software, rod designers can remove weight in areas that are not critical to maintain a rod's strength, allowing it to maintain stiffness in the beam section, and still have the strength to prevent it from bending under load or pulling apart at high RPM. The rod cap and big end of the rod also have to be designed in such a way that the big hole stays round and doesn't distort out-of-round at high speed.

H-beam rods are typically stronger than I-beam rods, especially when it comes to resisting twisting loads. The trade-off is that the H-beam rods tend to cost more than comparable I-beams, and are somewhat heavier. H-beam rods can also create a little more windage inside the crankcase in a high revving engine.

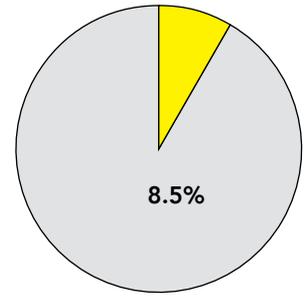
When choosing a rod for a particular application, the rod supplier can help tell which of its products is best suited for the engine you want to build – match horsepower needs and rod design to maximize profits and performance.

In addition to being the number one reason for purchasing, reputation for quality had a much higher level of importance than average.

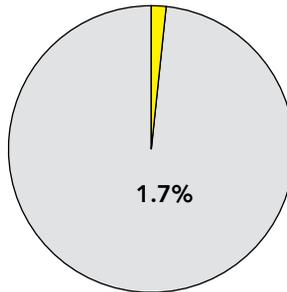
Fastest Delivery Times



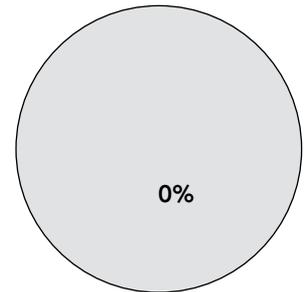
Best Price



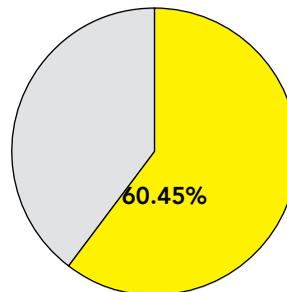
Relationship with Sales Rep/Counterperson



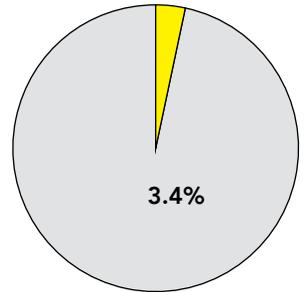
Liberal Return Policy



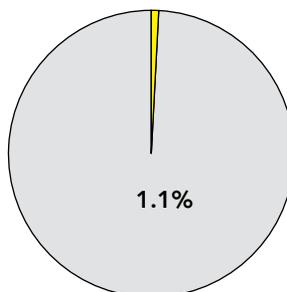
Reputation for Quality



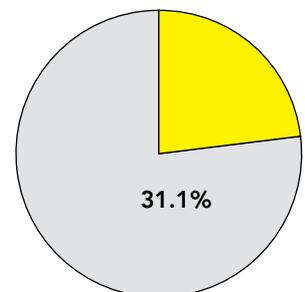
Technical Support



Customer Request



Experience with Product



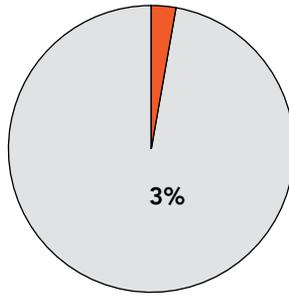
Aqueous Cleaners

Cleaning is a time consuming, expensive process for most rebuilders. But it's also critical to the rebuilding process. Whether it is due to government regulation or recognition that some types of "traditional" cleaning aren't good for the environment and employee health, attention paid to the cleaning processes used in engine rebuilding facilities has sharpened. Safer, less toxic methods continue to gain a foothold in today's professional shops.

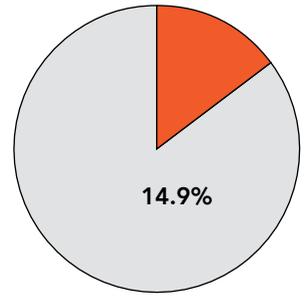
Shops must balance the three Es – shop efficiency, business economics and environmental impact. Shops tell us they don't always understand what works best and why, so a cleaning solution's reputation is often very important.

Customers of cleaning equipment say price is very important relative to other rationale while actual experience with the product is less important.

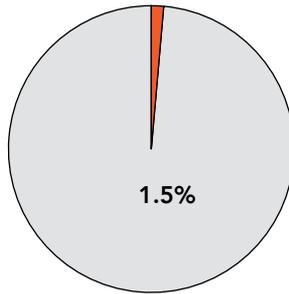
Fastest Delivery Times



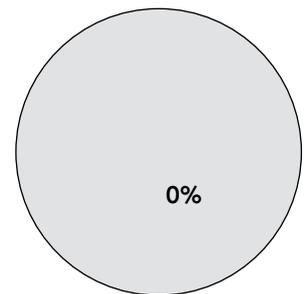
Best Price



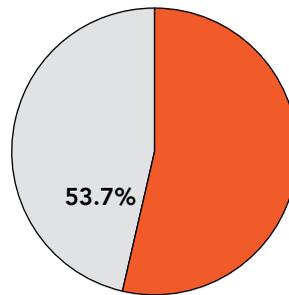
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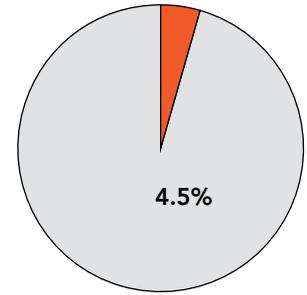
Liberal Return Policy



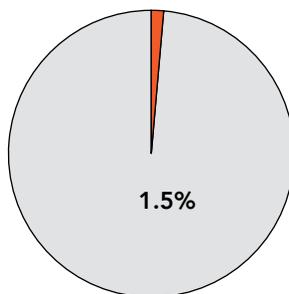
Reputation for Quality



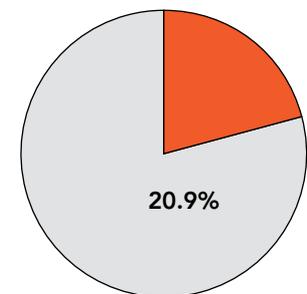
Technical Support



Customer Request



Experience with Product



Lifters

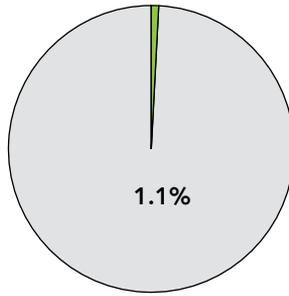
There are two basic lifter designs, a flat bottom and a roller lifter. The flat bottom lifter requires the use of a specially developed material that will endure the constant wiping pressure of the rotating cam lobe. The roller lifter converts that wiping force into a rolling force using a roller bearing resulting in a design that has less friction and a wider acceptance range of camshaft lobe profiles. Within both of these designs there are hydraulic and mechanical versions. Depending on the engine's oiling system design, either type is capable of supplying oil to the upper valve train components.

Mechanical lifters have no internal moving parts and have zero effective loss in camshaft lobe lift. This type of lifter requires there to be some initial valve lash to allow for thermal growth in the valve train. This valve lash will change over the life of the engine and usually has to be readjusted to maintain the correct amount designated by the engine manufacturer.

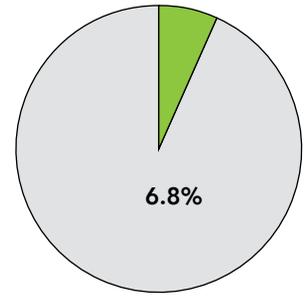
Hydraulic lifters have an internal piston assembly that is free to move within the outer body. This piston assembly moves to accommodate thermal growth and component wear to keep a net zero lash in the valve train. Once adjusted to the prescribed preload these usually never have to be adjusted again over the life of the engine.

Cross-tabulation analysis reveals that, with lifters, the product's reputation matters more than average for other parts.

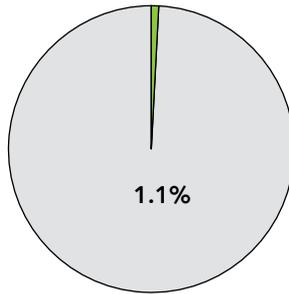
Fastest Delivery Times



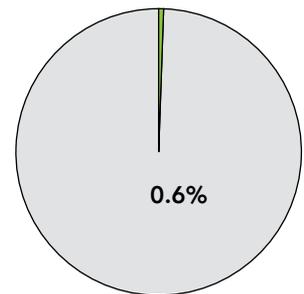
Best Price



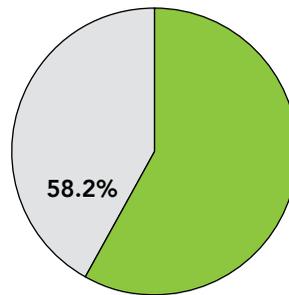
Relationship with Sales Rep/Counterperson



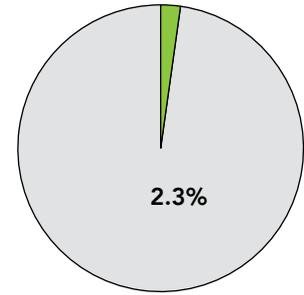
Liberal Return Policy



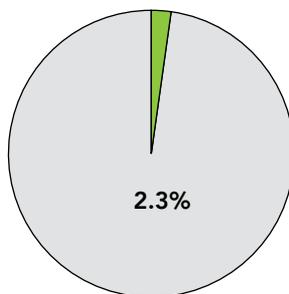
Reputation for Quality



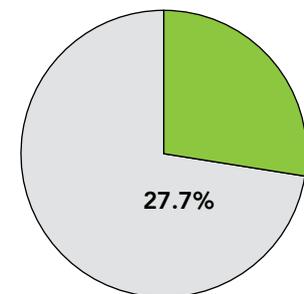
Technical Support



Customer Request



Experience with Product



Piston Rings

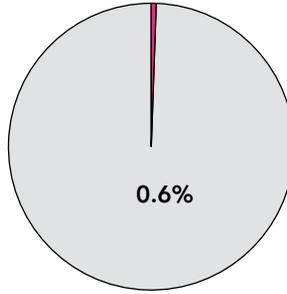
"As engines are becoming more complex and you've got a lot more product proliferation, the required specs are being pushed later in the process. And there's tighter tolerances so you can't use the exact same ring across as many applications as in the past. And then you've got advanced coatings and technologies that speak to the materials actually working together between the pistons, the cylinder wall and the ring itself.

"So we're seeing our customers needing a broader breadth of product inventory by us and a much quicker reaction time.

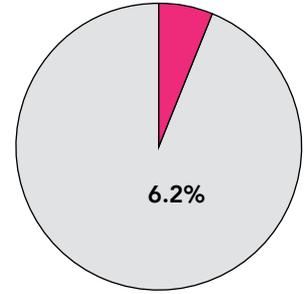
"It's moving more to a 'Just in Time' setup, because the clock's ticking as soon as that engine opens up. It requires us to carry more inventory across a broader product line." - Jay Kedia, Hastings Manufacturing.

When making a piston ring purchase decision, experience with the product is more important than average. The product's reputation for quality is closer to average.

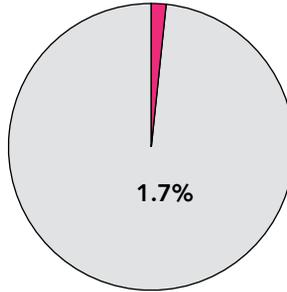
Fastest Delivery Times



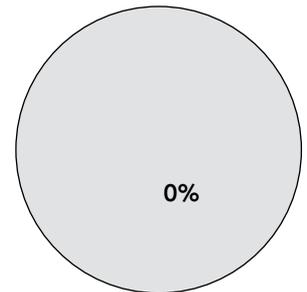
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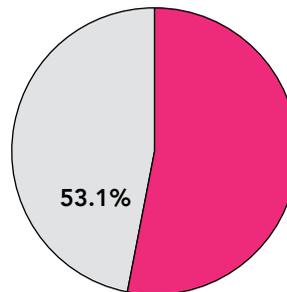
Relationship with Sales Rep/Counterperson



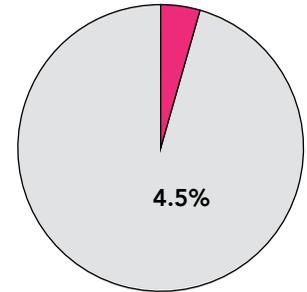
Liberal Return Policy



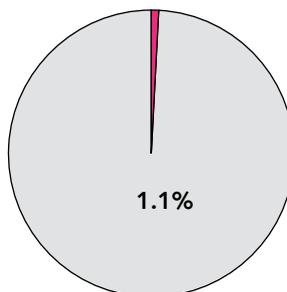
Reputation for Quality



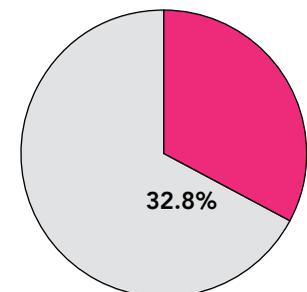
Technical Support



Customer Request



Experience with Product



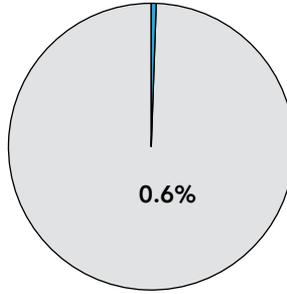
Engine Valves

At an average rotational speed of 3,600 rpm, the valves of a gasoline engine open and close 30 times a second. The mass of the valves is accelerated and again decelerated with every revolution of the camshaft. Lighter valves allow the engine to rev higher, pump more air and produce more horsepower with less stress on the other components.

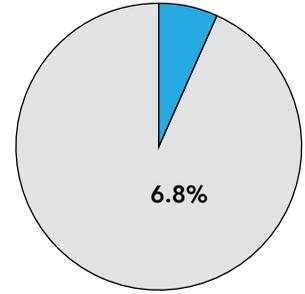
But it's what's inside the valve – metallurgically speaking – that really matters. And unless you have X-ray vision, beauty may only be skin deep. A relationship with a trusted supplier can help ensure the right product is specified and purchased for any application.

Readers indicate that technical support from a supplier is somewhat less important than average – but that doesn't mean that product quality and availability can suffer. Both are critical factors to purchasing decisions.

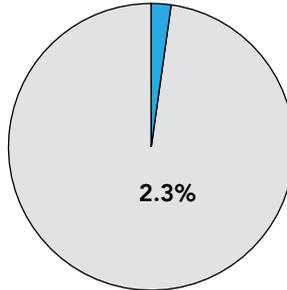
Fastest Delivery Times



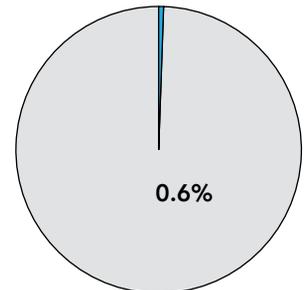
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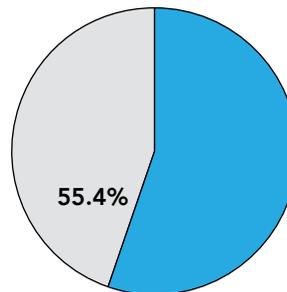
Relationship with Sales Rep/Counterperson



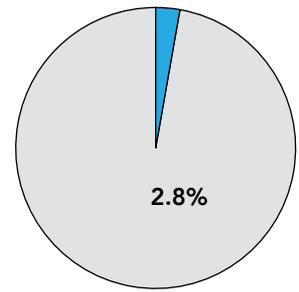
Liberal Return Policy



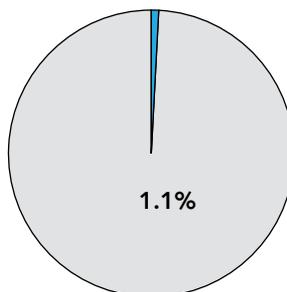
Reputation for Quality



Technical Support



Customer Request



Experience with Product

