

BRAKE SYSTEM COMPONENTS:

Selling the 'Whoa' for the 'Go'

By Steve Cole

"For years, the tendency among racers was to put all of their money into the motor, and brakes were second or third on the list," said Jeff Smallwood of American Fabricating Co. (AFCO), Boonville, Indiana, the national distributor for Hawk Brakes. "But as rules change and there are smaller motors, there's a tendency to spend more money on brakes. More and more racers are becoming familiar with how important the brake system can be, allowing them to go deeper into the turns and run faster."

While awareness is, indeed, growing, some racers continue to underestimate the importance of brakes. "It is a contradiction," said Jerry Forystek of Raybestos, McHenry, Illinois. "They do and they don't understand the importance of brakes. They know they have to have brakes. What they don't understand is that a well-designed brake system is a performance advantage."

The word "system" is a big key in selling brake products. Pedal assemblies, master cylinders, proportion valves,

From calipers to brake pads, these products are rapidly evolving. We offer a look at trends and provide strategies for successfully selling these products to your racing customers.

bias bars, brake lines, calipers, rotors, pads and fluid, all must work in concert to be totally effective. The dealer must be in tune with the interrelationships of these products to be able to assist his customers. And, according to manufacturers and marketers of brake products, the dealer must be very aware of his customer, his experience level, and his type of racing in order to offer the advice and counsel which is needed to effectively sell brake systems and components.

Selling The Advantage

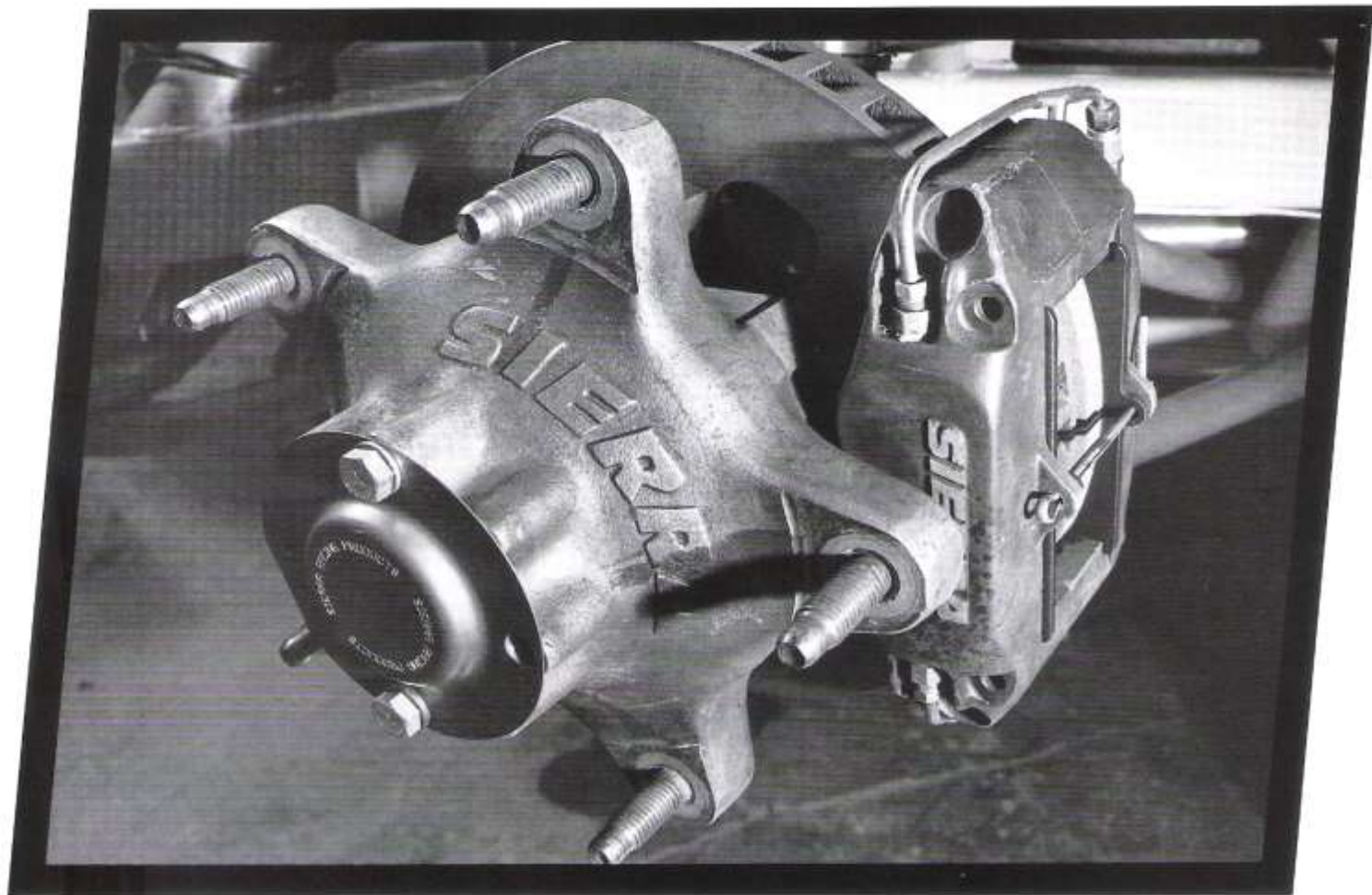
In order to successfully sell brake system components, the message that must be relayed to the racer is, "You can't go fast if you can't slow down," pointed out Camilo Fonnegra of DPI (Dan Press Industries), Vader, Washington, a distributor of brake systems for Sierra Racing Products. Based

in Carson City, Nevada, Sierra bought the tooling for the JFZ line about 18 months ago. Fonnegra feels that many good racers often fail to finish well because they overlooked their brakes.

According to Theresa Palang of Wilwood Racing Products, Camarillo, California, racers tend to think of their brake systems last when outfitting the race car. She noted that they tend to go toward the "minimum" when considering the brakes, while opting to go for the best their budgets can stand when buying engine parts, and other components.

"It's the same as buying the best stereo amplifier, tuner, CD, and cassette deck, then purchasing a budget-priced set of speakers," she explained. "They get it home and are disappointed in the quality of the sound. It's the same with cheating on the braking system of a

Performance Racing Industry



race car. That car won't go any faster than the brakes will allow—without stuffing it into the wall."

Rob Nelson of Performance Friction, Clover, South Carolina, said, "I can't tell you how many times we get panic calls from professional racing teams to get pads for a race at the end of the week. And if these guys aren't on top of it, you know that the amateur and semi-professional teams are not any better."

According to Chuck Neal of CNC Inc., San Diego, California, "There is really no exact science to brakes. Because drivers have different braking habits and driving styles, you really cannot tell a racer, 'This is what you need, and this is how to set it up.' All you can do is observe what is going on with your other customers, plus your own experience, give the racer the advice which will get him close, and the rest of the way, he's

going to have to be on his own. But you need to be there for him; you can't just sell him a system, then walk away."

Bruce Berentz of Hawk Brake, Medina, Ohio, agreed, "With the amateur or sportsman-type racer, you have

knowledge to the racer in a form that he can understand. You are not only selling the racer products, you are selling him a service—your expertise. You are, in a sense, a teacher putting brake knowledge in his head."

***"You need to be there for him;
you can't just sell him a system,
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to be the source of information. He is relying on you to provide him with the necessary information to do the job right. That means that as a dealer you must be technically knowledgeable, and you must be able to transmit that

Partnership in Handling

According to Kelly Falls of Hyperco, Ft. Wayne, Indiana, "The racer's goal is always to be as fast on the last lap as on the first. The combination of a well-tuned chassis and the proper brake

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set-up can help achieve that goal. The dealer's role when selling brakes is to help get the system mounted correctly, with the proper brake bias, the proper pad compounds and the pedals set correctly for both driver comfort and the best leverage."

Said Phil Stubbs of Chicago-based Alcon, "Our strength is in engineering complete systems for specific applications. We work very closely with the teams, especially when the cars are being built, to develop a complete system for a particular car. That kind of relationship with the car builders is the way to ultimately have the best system, because you're designing the brake system as you design the car."

Added Stubbs, "Our approach is to offer complete service rather than just selling components. We offer after sales service, spares, a lot of support at the race tracks; we really become a member of the teams using our equipment."

According to CNC's Neal, "If a racer puts \$20,000 to \$30,000 into the engine, then he must spend the same amount on the chassis and brakes." The advancement in tires has had more impact on braking performance than anything else in the past 20 years, Neal said, noting that tire diameters have stayed constant over the period, while horsepower has "probably increased threefold." Tire compounds and designs have improved, providing increased cornering speed, and brake systems have changed dramatically in order to handle the power.

Expanding Markets

Mark Cornwell told us that Brembo North America, Costa Mesa, California,



Brakes are getting increasing attention from racers—even on the ovals and the drag strips—so it's a good time to capitalize on this maturing market. Get up to speed on the latest components and provide your customers with the best the dynamic brake industry has to offer. It entails keeping on top of your racers' specific brake needs and constantly reminding them about the performance advantages of race-quality components and consumables such as pads and fluid. And it means providing the service and expertise that will make you the race brake specialist in their minds.



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is beginning to make inroads into the high end of professional racing, including IndyCar and NASCAR Winston Cup, Busch Grand National and SuperTruck series. "We are taking a very deliberate approach to the North American market," he said. "We've had a steady increase in the number of teams using our calipers and rotors in both the IndyCar and NASCAR series. But we are concentrating on these series to build our name recognition at this point, and when we have product geared to the racers at the levels of racing below these premier series, we'll do it. Right now, we haven't got the distribution in place, nor the manufacturing capacity, to be able to do it right for other series."

Cornwell, Nelson and Berentz all cited the Showroom Stock and World Challenge series in road racing as being markets ripe for upgrading of calipers, pads and rotors. And Cornwell

said Brembo's recent introduction of calipers for the late-model Chevy and GMC Suburban—often used as tow vehicles by racers—has been a big success.

There's also a good deal of potential among entry-level racers for better brakes, and Forystek from Raybestos

"That car won't go any faster than the brakes will allow—without stuffing it into the wall."

offered a strategy for weaning them upward. "What we have found most effective is to introduce the entry-level racer to improved braking performance gradually. We have product for the

grassroots racer, but if he's not ready for it, he can get in over his head.

"What I recommend is to take the guy running OE pads up the next level to our heavy-duty fleet materials and let him get used to the difference the higher-quality product can give him," said Forystek. "The next step would be our high-end street/performance line, and then finally get him into the outright racing pads. If a dealer is willing to work with this guy, and keep him graduating upward to better quality product, the racer will really begin to realize what a difference his brakes can make at the end of the race, and he'll want to upgrade his system to fully utilize the potential."

Said Falls, "My advice to any dealer is to give your customer the best system he can afford. Look at the rules for the track or series he races, and make your recommendations on that and the racer's budget. Get the largest rotor

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you can into the wheel, because the swept area of the rotor and pads is where the braking action is at. Then, work to refine that basis with advice and fine-tuning."

Brakes And Drag Racing

While drag racing may be a place where brakes aren't considered as much of a performance advantage as they might be in circle track or road racing applications, they do play an important role in performance gains, as well as safety.

Said Jeff Stange of Strange Engineering, Rockford, Illinois, "It is important to get the weight off the front of the car, even in the cars in the Stock and Super Stock classes. By installing drag racing-specific brake systems, a racer can remove up to 40 to 50 pounds from the front of the car, with the average being about 28 to 30 pounds. With these brake systems, the performance differential may be a

break-even deal, or a slight gain, but there are other areas, especially safety, where they really pay off."

Stange said that the drag racing brake systems show their advantage at the top end. "The horsepower that creates the momentum must go somewhere," he said. "When the racer lifts off the gas, and applies the brake, that energy is dissipated through the pad and the rotor, turning the energy into heat, which is transferred to the surrounding air. What frequently happens with a stock, cast iron rotor in these situations is that the rotor cannot withstand the thermal shock, and will crack or explode. A steel rotor will withstand the sudden thermal shock much better, though they do have a tendency to warp after a while, and must be replaced periodically."

Glen Okazaki said Lamb Components, Upland, California, offers a brake system that is very popular with



Stocking is a serious question in brake component sales. Have the products on hand and out from behind the counter, so when customers come in, they can put their hands on these components. A sales staff that is knowledgeable about the products, and can answer questions quickly and efficiently, is also critical to success in brake system sales. Be prepared to discuss differences in products on the market, and use the parts as sales aids. Also, put brake parts in the customer's hands to examine features. This will help you greatly in closing sales.

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Super Stock automatic racers, replacing the transbrake on the transmission. "The system locks the rear wheels in staging," he explained. "It pre-loads the chassis and doesn't shock the driveline. The result is an even release of the car from the starting line, less tire spin, and better elapsed times."

Both Stange and Lamb sell not only brakes, but front and rear suspensions as well. Okazaki said Lamb sells on the "systems" approach through chassis builders, and that includes the front struts with the brakes (rotors, calipers and pads), rear brakes and master cylinders. "It's a way to assure that the entire chassis/brake system will work together."

Sales Strategies

While some of our contacts noted that price is often the key issue in a brake sale, Marty Block of Rapco, Hartland, Wisconsin, stated, "Cheaper is not always better. A dealer really has to

work hard to show the customer why the pricier component or system offers advantages worthy of the price difference. In my mind, the key is the system approach. The racer needs to understand that all the components must work together. It is a matter of getting all of these parts to mesh together so they complement each other. That is why we have our own pads, calipers, rotors and hubs—they are designed for each other."

Palang emphasized the importance of good customer service in brake sales. "The dealer has to be very knowledgeable about the products he is carrying, as well what the competition has. You have to supply a very strong sales support effort to that customer, offer him expertise."

Hyperco's Falls said, "A good dealer has learned how to field his customers' questions. Being a good listener is critical. That racer has made a

commitment to racing. What he wants is dealer support—someone to turn to when there's a question or problem."

Stocking is a serious question. For Performance Friction's Nelson, "Got it" is the key to success. "We have found over the years that we had to keep a good database on product and demand," he said. "And it is true for the dealer and distributors. In our case, we anticipate the demand, and with a master schedule of production, we can keep abreast of what the demand is going to be. A dealer or distributor is going to need the same kind of program."

Said Mark Woods of Reb-Co, Simi Valley, California, "Have the products on hand and out, so when they come in they can put their hands on it. And, of course, be knowledgeable about the products, so you can answer their questions quickly and efficiently."



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Trends

The brake market is currently seeing some incredible advancements. Calipers and rotors are being lightened and strengthened, calipers are being offered with an ever greater number of pistons to apply the pads to the rotors more evenly, pads are being made of highly efficient new materials, and even brake fluids have been vastly improved to have much higher boiling points than they did just a few years ago. A number of suppliers described trends in the market and their latest advancements for us.

According to Ken Gordon, Essex Parts Service, Cumming, Georgia, which distributes AP Brakes, "Something new AP has invented is Balanced Braking, which is a multiple-caliper system with two calipers per wheel—one at the front and one at the back."

Ticking off some of the trends, Gordon said, "We've seen the move

away from carbon/carbon, primarily based on cost. It's certainly the best there is, but it's so expensive that it's been almost universally banned and most of the sanctioning bodies are correct about that, since the whole purpose is to have competitive racing."

There's also "a lot of excitement in

"The result is an even release of the car from the starting line, less tire spin, and better elapsed times."

caliper technology," noted Gordon. With the metal matrix, they can either remain the same size and weight and be four times as strong, or they can be

significantly smaller and lighter and maintain the same strength. We've also seen six-piston calipers, eight-piston, and also a lot of use of articulated brake pads, which are broken down into segments. It's the leading edges that bite into the discs, and these provide additional leading edges."

Finally, said Gordon, "The brake pad field has exploded with new things and there are some very competitive companies out there with some exciting new stuff, especially for the cars that aren't as heavy and fast—which is the greatest number out there. Pad technology is extremely dynamic right now."

The AFCO/Hawk team is working on a carbon pad designed to fit within the budgets of more racers. Smallwood said he's heard racer complaints about low-end carbon brake pads—"It doesn't work cold, it doesn't have consistent feel, and above all it's very expensive," he said. "We heard the



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demand and with Hawk are working on a carbon that will address all of those problems. It will be much higher in quality, but dramatically lower in cost. It may be up and running next season, but we feel it won't do justice to the industry unless we can offer it to every-one racing."

Stubbs at Alcon said they've developed a ceramic matrix caliper material over the last year with a high-profile Indy car team and is expanding its applications. "The performance advantage is that it's much stiffer for the same weight," he said.

Added Stubbs, "Our other new product is a 12-piston caliper—the only one on the market—which has 12 pistons and six pads. The benefits are improved bite and much better control and modulation for the driver."

Reb-Co offers a new line of brakes with the brand name Outlaw. Woods explained that the line offers calipers


for "Winston Cup, NASCAR SuperTrucks, all late models, northeast modifieds, sprint cars, drag racers—we have a caliper to pretty much address all forms of racing from the big guys down to the little guys." He said the brakes are manufactured from billet aluminum to provide a stiffer caliper "so the racer will feel more response and a harder pedal."

Added Woods, "A lot of features come standard on the calipers, such as staggered piston bores and bridge bolts. Heat shields are optional, but most customers are opting for them because they reduce the housing temperature upwards of 140°F, depending on the rotor temperatures."

Zero Tolerance, of Fortuna, California, offers a new piston-seal combination, called the Zero Tolerance O-Ring Piston. It is designed to eliminate corrosion and leakage problems with GM four-piston brake designs, and

upgrade the braking efficiency. "It is hydraulically superior," said Mike Pinsker.

Vintage racer Larry Narcus, of Carbotech Engineering, in Davie, Florida, has developed carbon-Kevlar brake pads. "I could not personally find or secure a dependable friction material—irrespective of costs—for these cars that wouldn't have negative effects on drums," he said. "Some of these drums are extremely hard to replace, if they even can be replaced."

It's a good time to capitalize on this maturing market, by getting up to speed on the latest components and providing your customers with the best the dynamic brake industry has to offer. It entails keeping on top of your racers' specific brake needs and constantly reminding them about the performance advantages of race-quality components and consumables such as pads and fluid. 

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