

DEADLINE SCHEDULE FOR PRI PRODUCT FOCUS:

June	Gaskets, Seals & Sealants	Friday, April 12
July	Oils & Lubricants	Wednesday, May 15
August	Power Adders	Friday, June 14
September	Off-road Racing Products	Thursday, July 18
October	Trailers & Accessories	Friday, August 16

ASSETS:

- Hi-res product photo (plus image of the product in use on a race car if possible)
- Hi-res company logo
- Product name
- Website
- Bullet points of technical product info
- Link to learn more about products and services

EXAMPLE OF PRODUCT FOCUS ON PISTONS IN MARCH ISSUE OF PRI MAGAZINE:

PISTONS

layers of checks. It's not as simple as, okay, this company's coming out with this type of car, let's offer a drop-in. There's a lot of thought put behind it."

Fons pointed us to Diamond's 2K line, a 2,000-horsepower-rated shell line for LS and modular engines. "We noticed a trend with customers calling and engine builders looking for a part that they could buy and be able to handle this power level. Everybody's got four-digit power levels in mind."

Even vintage OEM applications can spur new product development.

"An example of new products from a 50-plus-year-old idea would be our recently revamped Porsche air-cooled line," said DiBiasi. "With the resurgence and popularity of those engines, we saw a demand for performance pistons and rebuilds. We met that challenge to create a product that was above and beyond what the factory intended, while increasing performance and durability."

"If you'd asked me in the year 2000 if we were going to be able to do a 0.5-millimeter ring, I would have laughed at you. But yet, here we are..."

Diesel engines are driving new piston choices at many manufacturers, especially since engine builders have plenty of design ideas.

"They send us a lot of drawings—a lot of them have their own bowl designs that we do for them," said Madson, noting that the ideas are entered into a CAD program, and then test pistons are CNC-machined out of billet aluminum. "Then they do the dyno testing to see if it works."

"We're looking at some innovation in a mix of materials," added Fons. "A couple of years ago we were doing forged aluminum with a steel carrier for diesel, but [we] put that to bed for a little bit. We have cut full steel parts, but they're real heavy."

Piston manufacturers are not immune from the impact that crate- and spec-engine programs have had on the racing industry. And some have benefited, even as others have seen sales falter.

PRODUCT FOCUS

PBM Performance Products
Forged Aluminum Professional Series Pistons
pbm-erson.com

- Built for serious competition and designed with features that racers count on for enhanced horsepower and durability.
- They are hand-deburred so they are ready to run right out of the box.
- Features include 2618 high-strength forgings, superior skirt design, ultra flat ring grooves, lateral gas ports, dual forced pin oiling, CNC-machine finished pin bores, 300-inch intake valve pocket and much more.

Get more info: primag.com/pistons7

PRODUCT FOCUS

Performance Forge
Forged Aluminum Pistons
performance-forge.com

- Forged aluminum pistons are strong.
- Alloys available include 2618-T61 or 4032-T6.
- Features superior grain structure due to infrared heating technology and mechanical forging presses.
- Aerospace-quality heat-treatment performed in-house.
- Reduced tooling costs with short lead times.

Get more info: primag.com/pistons8

PRODUCT FOCUS

RaceTec Pistons
racetecpistons.com

- Shelf and custom pistons with 2618 material in many combinations, 4032 also available.
- Diamond tooling used throughout production including ring grooves and skirts for unrivaled tolerance control and finish.
- Applications from two-barrel low horsepower light weight to Top Fuel extreme duty.
- Bore sizes 3.189- to 4.750-inch.
- Standard features include accumulator groove, gas distribution groove, double pin oilers, wire locks and laser marking.
- No upcharge for Forged Side Relief (FSR) forgings.

Get more info: primag.com/pistons9

PRODUCT FOCUS

Ross Racing Pistons
5.3 Bore Spacing Pistons
rosspistons.com

- Bore up to 5.200.
- Forged from high-strength 2618.
- Unique robust high-strength design.
- Lightweight 3D profile milled.
- Drop-in ready CNC milled dome and valve reliefs to remove sharp edges.
- Dedicated skirt profile and cam for large strokes and heavy nitrous use.

Get more info: primag.com/pistons10

PRODUCT FOCUS

SRP Sportsman Racing Products
SRP Pro 2618
srpistons.com/brands/srp

- Affordable, American-made forging now with strong 2618 material.
- Modern forging design reduces friction and increases strength.
- Includes low-friction, carbon steel gas-nitrided ring sets.
- Moly skirt coating reduces friction and helps prevent dry starts.

Get more info: primag.com/pistons11

PRODUCT FOCUS

Total Seal Gas Ported Piston Rings
totalseal.com

- Gas ported rings feature more gas ports than the typical gas ported piston, so gas pressure is more evenly distributed, which produces improved ring sealing.
- By gas porting the ring instead of the piston, the top ring land of the piston is stronger, especially near the exhaust valve relief pockets.
- The gas ports in the ring are self-cleaning, resulting in longer lasting ring seal.
- Available in steel or ductile iron for top ring placements.

Get more info: primag.com/pistons12

A growing number of custom piston designs are finding their way into catalogs as off-the-shelf items—especially if there's a racing trend driving demand for a particular type of product.

"Our market seems to be shifting more each year to drag racing," said Adx. "Circle track seems to shrink every year a little bit. That's because more and more you keep seeing crate engines. Talking to the machine shops, they literally can't do much with them anymore. It's a shame, we used to sell a lot of pistons to them. Are we selling more pistons than we used to? Yes. But it would've been even better if the crate engine thing didn't mess it up."

Meanwhile, MAHLE Motorsport has worked with sanctioning bodies to produce certified pistons for spec-engine racing, including WISSOTA dirt track series and Mazda's with its Spec-MX5 cars.

"Mazda said they were looking for specific things: reliability and great performance for the race car driver," said Mayhew. "Also, on the other end of it, we had to make it friendly for the tech inspector at the track. Through correspondence with them and engine builders they were working with, we were able to develop a piston that is cost effective and high quality. Also, at the track the tech inspector can look and confirm the piston that's in there, so the other competitors don't feel like they're getting beat by something that's not spec."

Cylinder head development continues to drive new piston designs, too, especially in naturally aspirated applications. Most manufacturers have a process for custom orders, where a mold of the combustion chamber or the cylinder head itself is sent to the engineers who then can design the proper dome shape.

"We have a number of cylinder head manufacturers that, as soon as they come

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