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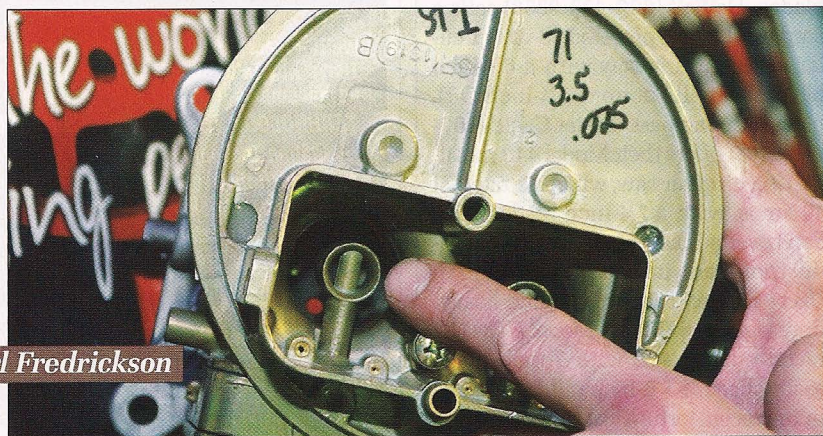


MURPHY'S MAGIC: SMI's Sean Murphy with a 350 cfm carburetor designed to feed a 355 c.i.d. oval-track engine with 9:1 compression.

To the Limit

Sean Murphy Induction carburetors go to the edge of the rules.

Story and photographs by Karl Fredrickson



Looking for a carburetor builder who understands that post-race inspection is a showdown between you and the tech man? Meet Sean Murphy of Sean Murphy Induction: "I understand it when a tech man wants to take an extra

ROUNDABOUT WAY: A tech official claimed the boosters in an SMI carburetor were tapered, but had no gauge to verify it. (New boosters are round, but usually aren't after being tapered—especially when viewed from the bottom, through the throttle blades.) "If tracks make specific rules regarding anything, they should have the necessary tools, equipment, and knowledge to prove whether a component is within the acceptable limits," says Murphy.

a showdown among several of the top brands in a local repair shop, all of the saws easily cut through ½-inch steel plate, and they sliced 1-inch-square solid steel bars with impunity.

"If the operator uses common sense and doesn't force the blade, these saws will do amazing things," says Tim Phillips, president of SteelMax, whose company specializes in metal-cutting circular saws. "Ours will cut bevels, and will cut ¼-inch [steel] plate about as fast as a regular circular saw cuts ½-inch plywood."

Folks, he's not kidding. Clamp a piece of plate steel in a vise and these saws slice through metal fast and smooth. The cut edges are cool to the touch and burr-free. Metal chips collect in special "chip collectors" on the blade shields, so the storm of sparks and dust associated with cutting metal with an abrasive chop saw is virtually eliminated. These saws are ideal for cutting floor pans, trimming frame tubes for repairs, and fabricating new components.

Milwaukee Electric (262-781-3600) offers an 18-volt cordless, battery-powered metal-cutting circular saw with a 6½-inch blade, and a 13-amp, 120-volt corded model with an 8-inch blade. SteelMax (303-690-9146) markets their ¾ hp, 12-amp saw with 7- and 7½-inch blades. DeWalt (800-433-9258) sells a cordless, battery-powered 18-volt circular metal cutting saw with a 6½-inch blade that will cut up to 2¼-inch O.D. pipe with one pass. Porter Cable (800-487-8665) offers their Model 440 metal-cutting circular saw, which is rated at 13 amps, with a 7¼-inch blade. Also, don't overlook an unusual source for industrial-grade tools at your local John Deere retailer: Farmers demand heavy-duty tools, and Deere's Model ET3410-J metal cutting saw with 7-inch blade easily sliced ¾- x 6-inch mild steel plate in the recent torture test.

Prices for metal-cutting circular saws range from \$250 to \$400. Most saws come with a carrying case, instructions, and eye and ear protection. Replacement blades range from \$40 to \$80, but will last for hundreds of cuts if used with common sense.

Don't be tempted to buy a metal-cutting blade and use it in your wood-cutting circular saw: Manufacturers use different-sized arbors to prevent accidental or intentional interchanging of wood and metal blades. Portable wood circular saws turn much faster than metal-cutting saws, and the higher

speed would quickly destroy metal-cutting blades and create a safety hazard.

If you don't know someone who has a metal-cutting circular saw that you can test, ask for a demonstration at an industrial tool supplier. Take your checkbook—these saws are the real deal. You'll want one in your shop. ☞

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look at one of my customer's carburetors, because I build them to the edge of the rule book and some of what we do is unconventional. That's fine. It's when an official says, 'It just doesn't look right' that I get wound up. Because that's not my problem. Nor is it my customer's."

Murphy has made a career out of carburetors since graduating from Southern Illinois University with a Bachelor's Degree in Automotive Technology. He moved to California and entered the Race Car Technology program at Chaffey College. While attending classes, Murphy was hired by Brad Urban's Carburetor Shop and a passion was born. Eventually he became a

lems relate to fuel delivery," said Murphy. "Carburetors like fuel volume, not excessive fuel pressure. I see racers running over seven psi of pressure, but if the fuel system had been properly designed, only four or five psi would be enough.

"I had a customer complain that he

was running lean no matter what he did, including running up to nine psi fuel pressure. After he described his setup to me, I told him that he needed a better flowing system—fewer 90-degree bends, a better regulator and filter, and a larger-diameter fuel line. He called back to say he was down to five

"I build them to the edge of the rule book and some of what we do is unconventional."

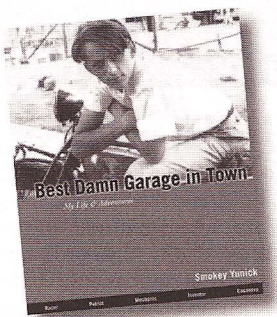
manager and built carburetors for every level of racing, including NASCAR's three top divisions.

His passion for short-track racing in part led him to open his own shop. "I find the 4412 [500 cfm] and [7448] 350 cfm carburetors to be the most challenging because you need to make the most power from the smallest size," Murphy told *Speedway Illustrated*. "And it's not all about airflow. There are other ways to make power and improve performance."

Murphy points to passenger cars: "Whenever a vehicle manufacturer designed a change to an engine, or even the drivetrain, they recalibrated or redesigned the carburetor to match. If cost-conscious car companies were willing to spend money to create and support a design change for passenger cars, imagine what a properly built carburetor does for your race car."

Nevertheless, most fuel problems don't lie in the carburetor. "Most prob-

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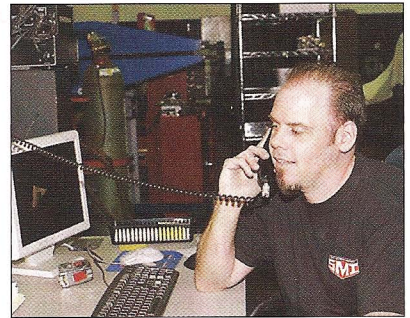
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TECH SHOP:



HE SAID WHAT?: Murphy's been on the telephone a time or two with racers and tech officials. He's ready for their concerns and says he wouldn't be on the phone if his carburetors weren't on the edge. Or in victory lane.

psi, had dropped six jet sizes, and was almost three-tenths faster."

Murphy applies his knowledge to your specific application to create a "ready to rock-and-roll piece that's been blueprinted inside and out." But you must give him accurate information for best results. "Racers often don't know their exact engine specs when they order [from me]. And if they guess or give roundabout answers, they end up with a carburetor that's not as good as it can be."

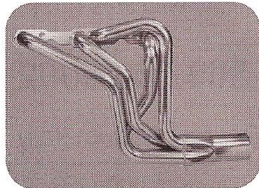
It's also important for Murphy to know how a customer gets teched. "Racers should pay close attention to how the carburetors are being inspected," he said. "By observing closely, they can answer the questions that I'll ask about tech procedures. That way, I know how far I can push the performance modifications without [crossing the line]." Murphy also advises racers not to offer up what they haven't been asked for: "I'm surprised that racers will bring a carburetor to a tech official for inspection without being prompted. If I were a tech official, this would make me extra suspicious. Don't give it to them. Make them find it themselves." 🍷

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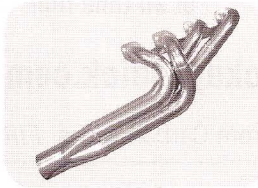
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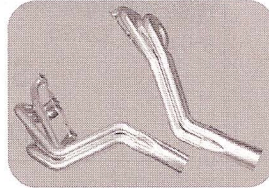
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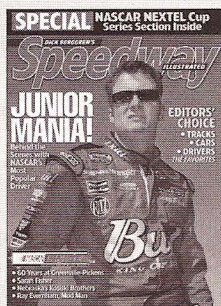
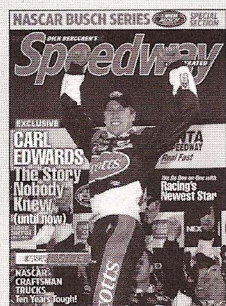
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